

DICK SMITH ELECTRONICS

ENTHUSIAST'S
CATALOGUE
1981-82

11th EDITION
75c



We're STILL 100% Australian Owned
...AND PROUD OF IT!

INCLUDES HUGE NEW
30 PAGE DATA
SECTION!



Let me introduce you to Australia's fastest selling personal computer

SYSTEM 80 third generation computer system

Here it is: Australia's most inexpensive
Level II Computer.

We now have a computer available in
Australia which is not only over 20%
cheaper than its nearest competitor:
it's also *far better!*

Better?

Like many things, the System 80 has
been able to benefit from experience
with earlier products on the market.
Shortcomings in design of early
machines, operator requirements,
technology improvements, etc, have
all been taken into account in the
design of the new System 80.

That's why we call the System 80 the
'Third Generation Computer System'.

And the features that make it stand
out from its nearest competitor?

- A built-in cassette deck
- A built-in power supply
- It will operate with any unmodified TV set
- It has S-100 expansion capability
- And it is compatible with almost all of the huge range of software written for the TRS-80.

*For more information about the
amazing System 80 computer,
please refer to the next few
pages of this catalogue.*



Welcome to my new 1981 catalogue.

You've probably already noticed the changes: apart from the fact that computers now have the prominence they deserve, I've re-arranged the other sections of the catalogue to make everything much easier to find.

And there's the all new data section. Over 30 pages, which I'm sure you'll find extremely useful. There's information for everyone interested in electronics: from the beginner through to the engineer.

A big thank you to all our customers of the past year. The company has grown enormously – over twenty stores now, and more coming. Plus a branch in New Zealand . . .

Tomorrow, the world!

Yet I'm happy to say that Dick Smith Electronics is still 100% Australian owned – and, as the head office staff on the front cover show: proud of it!

Once again, it's over to you . . .

Dick Smith
VK2ZIP

PROUD TO BE AUSTRALIAN!



DICK SMITH SYSTEM 80... NOW EVEN BETTER!

The Dick Smith System 80 hasn't become Australia's fastest selling home computer by mere accident...

Quite simply, it represents outstanding value for money. Look at the table below. You'll notice that the System 80 is quite similar (in fact slightly better) in specifications and performance to the TRS-80. Now look at the prices of the two computers.

Notice something staggering?

THAT is the reason the System 80 is far outselling all other personal computers in Australia! As we said, it is far better value for money.

Like most things new, we've even managed to make some improvements over the months.

Initially, the System 80 was set up for automatic tape reading, designed for the 'average' computer tape. We soon found out that many program tapes were anything but average!

So we've changed the tape loading circuitry to give you a manual level control - plus a level meter to show the optimum level. And we've changed the circuitry to accommodate a wider variety of tape formulations.

And we've also added a couple of extra keys to the keyboard, to make the System 80 even more compatible with other level II programs.

Australia's fastest selling computer is now going to be even faster!!!

WITH 4K MEMORY: \$695⁰⁰ Cat X-4003

WITH 16K MEMORY: \$750⁰⁰ Cat X-4005



- ★ 4K OR 16K MEMORY - expandable to 48K with S-100 unit
- ★ INCLUDES 12K MICROSOFT™ BASIC
- ★ COMPATIBLE WITH ALMOST ALL LEVEL II PROGRAMS: THOUSANDS AVAILABLE!
- ★ WORKS WITH ANY STANDARD TV SET: VIDEO MONITOR NOT REQUIRED (but you can use one if you wish!)
- ★ BUILT-IN CASSETTE DECK WITH LEVEL CONTROL, PLUS PROVISION FOR ANOTHER (EXTERNAL) CASSETTE
- ★ USES POWERFUL Z-80 MICROPROCESSOR: THE MOST POPULAR CPU CHIP IN THE WORLD!

Compare the features - then compare the prices!

PARAMETER	SYSTEM-80	TRS-80 (Level II)
1 CPU type	Z-80	Z-80
2 Speed	1.7MHz	1.7MHz
3 S-100 compatible (with expansion unit)	Yes	No
4 Amount of RAM (basic computer)	16K	16K
5 Built-in cassette recorder	Yes	No
6 Built-in video RF modulator (use with any TV)	Yes	No
7 Capacity of BASIC ROM	12K	12K
8 Cassette recorder ports (basic machine)	2	1
9 Motor control for cassette recorders	Yes (2)	Yes (1)
10 Cost of basic unit with 16K RAM including monitor and cassette recorder	\$899.50*	\$1169.00

* The basic SYSTEM-80 computer costs only \$750.00. As this computer has an output for direct connection to your TV set a video monitor, as a separate entity, is not required making the possible savings on Tandy prices even greater.

S-100 EXPANSION

'Those who wish to have a machine capable of getting the maximum benefit of microprocessors must go the S-100 route...'

BYTE magazine, October 1979



If all you're going to do with your System 80 is play games, read no further... But if you want to really use your System 80, sooner or later you're going to want to add extras. With the System 80, you're lucky. It has an expansion unit which uses the S-100 bus system. What this means is that you're not tied to any one supplier for your computer peripherals: S-100 is the industry standard expansion system, and hundreds of manufacturers all around the world make add-on devices to the S-100 standard. You might want to add EPROM programmers, Music synthesizers, Speech recognition, Mains interfacing controllers, Security control systems, Digital/Analog converters (and vice versa)!

The System 80 S-100 expansion interface allows any of these possibilities - and many more that haven't even been thought of yet! It provides as standard:

- Interface logic for the S-100 expansion bus
- A floppy disk controller capable of controlling up to 4 single density disk drives (such as our X-3230 drive).
- A full Centronics-type parallel printer port
- An RS-232C serial communications port, capable of communicating with modems, acoustic couplers, etc. at 10 different data rates: 110, 150, 220, 300, 440, 600, 880, 1200, 1760 and 2400 baud! This port may also be used for driving teleprinters or other serial printers instead of a parallel printer.
- Serial-type printers are at the same (normal) printer address as Centronics-type parallel printers - so they will respond to normal LIST and LPRINT commands!
- Two vacant S-100 card sockets, to plug in any further S-100 cards.

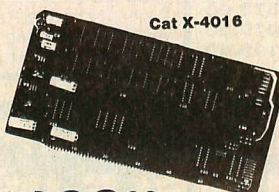
\$499⁰⁰
Cat X-4010

S-100 RAM CARD

Made to the S-100 standard, and specifically intended for the above Expansion Unit, this RAM card should also be suitable for other computers using the S-100 system. The card is supplied with 16K dynamic RAM actually fitted, with sockets provided for an extra 16K (see X-1186 16K RAM upgrade kit at right).

So your System 80 can be expanded to a total of 48K RAM: a very, very powerful microcomputer - far more than the average user will ever need!

Each of the two 16K banks may be programmed by means of wire links to occupy any of the four available 16K ranges of memory address (these links are already set for the X-4010 Expansion Unit).



\$199⁰⁰

COMPUTER VIDEO MONITOR...

ONLY NECESSARY IF YOU HAVEN'T A TV SET!

The System 80 doesn't need a video monitor: but can be used with one. A video monitor gives the sharpest, clearest image - and this one is really economical. It can be used with most computers on the market - and is much cheaper than other brands! Compare: and be surprised!

Cat X-1196

\$149⁵⁰



PROTECT YOUR SYSTEM 80

Dirt. Dust. Liquids. Your computer's worst enemies! Your System 80 is an investment in your future. Look after it now with a tight-fitting PVC cover. Your System 80 will reward you with longer, trouble free life.

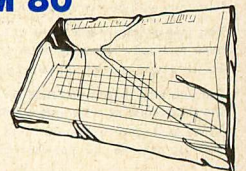
Cat X-4008

\$5⁹⁵

Now a protective cover for your monitor, too. Fits most small monitors.

Cat X-1197

\$5⁹⁵



16K RAM EXPANSION PRICES SLASHED!

Twelve months ago, you had to pay over \$200 for a 16K RAM expansion kit (and in some places, you still have to - believe it or not!)

Don't be misled into paying extra for no better quality: ours are the premium quality 200ns type 4116 dynamic RAMS used by most microcomputers. We even include instructions showing how to upgrade your Sorcerer, System 80, Apple or TRS-80! So there's no excuse for paying any more for RAM chips!

★ Upgrades an 8K to 16K ★ Or a 16K to 32K ★ Or a 32K to 48K

Pack of 8 4116 RAMS

Cat X-1186

\$59⁹⁵



PARALLEL PRINTER INTERFACE

The low-cost way to obtain a Centronics-type printer port from your System 80 computer without the need for an S-100 expansion unit. Plugs into the expansion interface connector on the rear of the System 80.

Cat X-4013

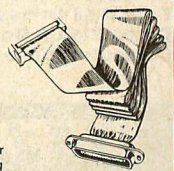
\$49⁵⁰



PRINTER CABLE

This is a universal cable, ideal for connecting a printer or other device to the printer interface or the S-100 expansion unit. Fitted with edge connector one end and 57N-36 plug the other.

Cat X-4014... **\$39.50**





SYSTEM 80 MK II: THE BUSINESS SYSTEM

Dick Smith Electronics is proud to announce the introduction of a microcomputer designed specifically for the small business: the System 80 Mk II

We've made a number of important changes to the famous System 80 personal computer to make it far and away the best value-for-money business computer available in Australia.

The individual components of the System 80 Mk II Business System are shown below, and are available as separate items.



How did we turn Australia's fastest selling personal computer into Australia's best value small business computer?

Simple. We listened to you – our customers.

You told us that cassette operation was really too slow for business usage, where time is money. So we removed the in-built cassette mechanism from the System 80 Mk II (even though we've still allowed for external cassette connection – just in case!)

You told us that you wanted a more 'professional' style keyboard & characters.

So we added circuitry to allow both upper and lower case characters, at the same time including a special 'anti-bounce' routine for extra reliability. And we added a numeric keypad for extra-fast figure input.

You told us you wanted a flashing cursor on the screen for instant position recognition. So we added a special ROM program to allow this.

You told us that, in a business, you wouldn't want to use the family TV as a monitor. So we removed the 'RF' output, simplifying the circuitry – at the same time improving the video output for the highest possible resolution. After all, you don't want to get tired eyes!

You told us you'd like to have some special keys for user-definable functions – for speed. So we added four new keys which can immediately access special functions. You define these functions with your software. Incredibly handy for the routines peculiar to your particular business.

You told us you might want to use the System 80 as a communications terminal for accessing data base services – allowing even greater flexibility. So we added another ROM program to allow you to use the System 80 MkII in this way.

But you also mentioned that you'd like to be able to 'play' with your computer after hours – with all the thousands of programs available for the 'personal' System 80 computer.

So we made the System 80 Mk II completely compatible with all of the programs for the System 80 Mk 1. Now you can use your business computer to earn you money during the day, then entertain you after hours!

Apart from these features which we know you'll appreciate because you asked for them, we added a couple of extra refinements of our own!

For instance, there's a special routine which allows you to tell your printer to print what is on the monitor screen at any given time. Very handy for sales histories, profit & loss accounts, etc. etc. . . . Imagine how impressed the bank manager will be next time you're summoned to appear before him. Show him your computer print-outs and he'll know you're in complete control of your business!

And we've made the System 80 Mk II even more reliable: we know how important it is to have your computer available all the time – without failures.

THE SYSTEM AS SHOWN ABOVE:

System 80Mk II: Cat X-4100	\$1495.00
S-100 Expansion Unit (inc. connecting cables & RAM card) Cat X-4010/4/6	\$737.50
RAM expansion to 48K Cat X-1186	\$59.95
Twin Disk Drives (inc. power supply & wiring harness) Cat X-3230/2/4	\$873.00
C Itoh 8300P Dot Matrix Printer Cat X-3255	\$970.00
Computer Video Monitor Cat X-1196	\$149.50

- ★ **Full 52 key typewriter keyboard PLUS 15 key numeric keypad PLUS 4 software-defined special function keys!**
- ★ **Full lower/upper case video display capability**
- ★ **Flashing Cursor**
- ★ **Inbuilt 12K Microsoft BASIC**
- ★ **High bandwidth direct video output**
- ★ **Screen print facility (obtain a print-out of any 'page' appearing on screen)**
- ★ **Inbuilt communications terminal facility (allows your System 80 Mk II to be used as 'terminal' for another computer, accessing data bases, etc).**
- ★ **Provision for full expansion to 48K of memory, up to 4 floppy disk drives, printer & RS-232 communications ports (via the System 80 Expansion Unit, as shown in the above photograph)**
- ★ **State-of-the-art Z-80 microprocessor**
- ★ **Will run ALL System 80 (Mk 1) programs and MOST TRS-80 model 1/level 2 programs.**

**COMPLETE SYSTEM
AS SHOWN ABOVE:
\$4285⁰⁰
TAX INCLUDED!**

TAX-FREE PURCHASERS:

If you are buying the System 80 MkII for certain business usage, you may be entitled to sales tax concessions. Ask your accountant or talk to the Australian Taxation Office in your capital city.

**BY FAR, THE LOWEST COST COMPLETE
BUSINESS SYSTEM AVAILABLE IN AUSTRALIA!**

... AND BRAND NEW BUSINESS SOFTWARE ...

DICK SMITH'S 'SCAP'

- Stock Control And Pricing System

It's so good, many of our major competitors are using this system for their complete operation!

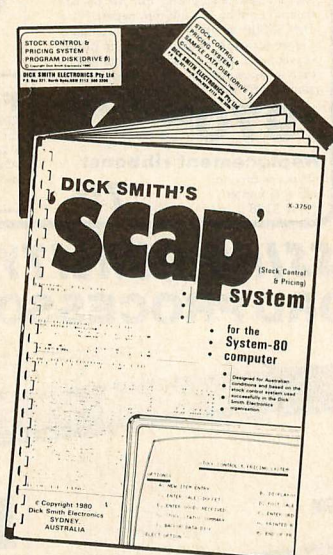
This program is modelled on the system used successfully by Dick Smith Electronics for the past five years on our IBM computer.

The major difference is that you don't have to spend \$100,000 or so buying a 'big' computer and having the programs especially written for you!

Here's what SCAP can offer you:

- ★ Control & management of up to 1200 stock lines.
- ★ Simple 'menu driven' operation, whereby the program itself asks you what you want to do, then guides you by telling you how to do it.
- ★ The ability to get up-to-date information for any stock item in seconds.
- ★ The ability to get an up-to-date summary of overall stock position in seconds (lines out of stock, below minimum levels, on order, etc, plus month-to-date & year-to-date figures, plus stock value & order value, etc etc)
- ★ The ability to produce up-to-date (and dated) printed price lists & stock status lists whenever you need them.
- ★ A simple code which lets you conveniently 'flag' any new, adjusted or discontinued items; plus automatic flagging of not-in-stock, below minimum & on-order items.
- ★ The ability to take Australian Sales Tax into account for each and every stock item!
- ★ Optional automatic adjustment of stock levels and status by keying in sales dockets, orders placed and stock received information.
- ★ The ability to print out stock item count sheets for easy stock-taking; plus the system will show any discrepancies when stocktake figures are keyed in.

- Up to 1200 stock lines
- Up to 999,999 units of any item
- Up to \$9999.99 item price
- Up to 1200 sales dockets can be entered at any one time (but no limit on overall number)



48 page 'SCAP' Manual plus program & data disks:
Cat X-3750
\$275⁰⁰

'SCAP' EXPANSION:

'SCAP' has been designed to allow easy expansion to your requirements - either by yourself, or by a small business systems analyst. And because the hard work (the basic program) is already done for you, customising 'SCAP' to your requirements should be very economical.

WORP-1: A low-cost mini word processor program

At last: a word-processing system that doesn't cost you an arm or a leg! This mini word-processor is ideal for all casual word processing - letters, reports, quotations, etc, etc.

FEATURES:

- ★ Automatic text wrap-around (You don't have to worry about where to end lines: it does it for you!)
- ★ Flashing cursor - so you can see exactly where you're up to.
- ★ Character orientated delete and insert editing
- ★ Converts computer keyboard to typewriter mode.
- ★ User-formatted text option for headings, tables
- ★ Right-justified printing option.
- ★ Prints any width from 1 to 60 characters, single or double spaced.
- ★ Disk version will work with a single drive, and includes inbuilt disk copying, disk directory and the ability to use file names of up to 24 characters..
- ★ Comprehensive user manual.

WORP-1 MINI WORD PROCESSOR
DISK VERSION: CASSETTE VERS:
Cat X-3759 Cat X-3758

\$79⁵⁰

\$59⁵⁰

COMING SOON: A FULL-BLOWN WORD PROCESSOR OFFERING EVEN MORE FEATURES THAN WORP-1 ...

ACCOUNTING PACKAGES



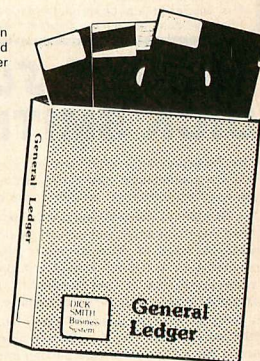
These are the first of a planned range of business software for the System 80 Business Computer. The main difference between these programs and the ones everyone else is selling is that these have been **written specifically for Australia!** So each program is particularly suited to your business - you don't have to discard great slabs of the programs because they're not applicable to Australian conditions.

GENERAL LEDGER

There are many general ledger system around but a few have been designed with the Australian businessman in mind. We have now produced a general ledger system which we believe to be far superior to any other system on the market.

It features: ● Automatic out-of-balance detection ● Automatic entry totalling ● Automatic well-defined audit trails. ● It handles up to 1975 accounts, with 315 entries/session and 2730 transactions/month. The system is supplied with a pre-written multi-purpose chart of 200 accounts - which should suit most businesses. This list can easily be added to or customized to suit specific requirements. ● The system is menu controlled, for simplicity - with password access - for security. It holds last year, this month and year-to-date values. ● It prints trial balance, posting summaries, transaction reports, profit & loss statements, balance sheet & chart of accounts. ● It calculates profit & loss as a percentage of revenue or any nominated account.

It is supplied with a comprehensive manual with working samples - ideal for beginners! And the system is completely interactive with our other new Accounting Programs: Accounts Payable (Creditors) and Accounts Receivable (Debtors).



Cat X-3752 **\$299⁰⁰**

ACCOUNTS RECEIVABLE

If you're going to stay in business for very long, you need to have a very accurate idea of who owes you money, how much they owe and for how long they've owed it (i.e. is it too long?)! This program gives you this information without the hours of labour normally associated with such a task. It features: ● Customer file maintenance, showing customer's a/c no., name, address & phone no.; and details of debts: on-screen and by print-out, if required. ● Allows for five types of transactions: invoices, credit notes, cash receipts, journal debits & journal credits. ● It will generate invoices & statements. ● Batch posting for audit trail - an excellent cross-reference facility ● Automatic end-of-month reset ● Aging report generated ● Debtors ledger report: showing opening & closing aged balances and all transactions during current period ● Completely inter-active with our General Ledger System



Cat X-3754 **\$299⁰⁰**

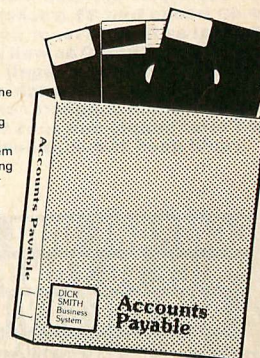
ACCOUNTS PAYABLE

The accounts payable program is a complete package, providing the following features:

- Automatic updating of supplier's records ● Complete vendor listing
- Transactions are matched against payments, not totals
- Can print your cheques for you (and we can tell you where to get them printed!)
- Full accounts payable analysis including ageing of outstanding invoices ● Complete invoice listing ● Totals can be posted to our General Ledger System

The program is 'menu driven' for simple operation: you select the operation required from the 'menu' on the screen, and the computer then asks you for the information it needs. It's so simple, you don't have to be a computer or accounting expert to use this system: it's just as viable for the corner store as it is for the manufacturing plant.

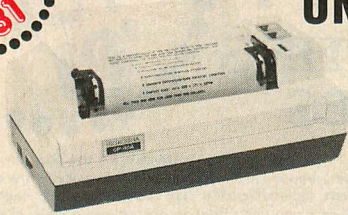
The system comes complete with a deluxe binder, containing the three program diskettes and a comprehensive operations manual.



Cat X-3756 **\$299⁰⁰**

NEW BUSINESS SOFTWARE NOW BEING PRE-PARED: ASK FOR OUR LATEST PROGRAMS LIST

QUALITY COMPUTER PRINTERS . . .

NEW
FOR
'81INCREDIBLE BARGAIN!
UNDER \$500
PRINTER!\$445⁰⁰

Cat X-3250

Fan-form paper:

2000 sheets continuous fan-form paper to suit above printer. 204mm wide with sprocket holes. Cat X-3254

\$27⁵⁰

Ribbons to suit:

Replacement ribbons for above printer. Cat X-3253

\$6⁹⁵

Dick's done it again! He's broken the \$500 for a computer printer! Imagine: a tractor-feed impact type dot-matrix printer for way under the cost of most thermal printers! Yes, it uses ordinary fan-fold sprocketed paper (up to 204mm wide) and it features an incredible single hammer print-head. This means very few moving parts – and fantastic reliability!

And you have to see the high resolution graphics to believe them – software selectable! This amazing printer is fitted with a standard Centronics-type parallel data interface, making it compatible with most current computers!

Yes, you read the price correctly: just \$495 including tax! But at this price, we don't expect any shipment will have time to hit the floor!

OUR BIGGEST SELLER!
ITOH 8300P DOT MATRIX PRINTER

We've sold more of these superb printers than any other type. The Itoh 8300P offers so many advantages over its competitors . . . not the least being the price!

It features high speed, bi-directional printing (125 characters per second), with a full upper & lower case character set. It accepts standard fan-form sprocketed paper, up to the wide 240mm size (minimum 115mm).

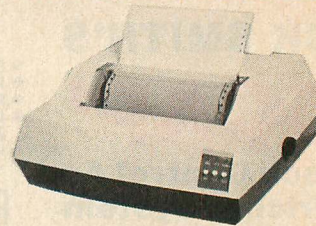
You can select normal, double or narrow width characters, giving 80, 40 or 132 column printing (on 240mm paper).

The 8300P is fitted with the 'standard' Centronics-type parallel port. Each printer is supplied with a technical manual, a maintenance manual and is fitted with the standard 57N-36 input connector.

\$970⁰⁰ Cat X-3255

Replacement ribbons:

Black ribbons, to suit this printer. Cat X-3258

\$7⁹⁵

FAN-FORM PAPER

2000 sheets fan-form paper ideal for use with this printer; size 24 x 28cm, with sprocketed sides. Also suits other tractor-feed type printers. Cat X-1189

\$35⁰⁰AND FOR SUPERB WORD-PROCESSING QUALITY . . .
DICK SMITH DAISY WHEEL WORD PROCESSOR PRINTER

Your correspondence often says more about your company than anything else. Your correspondence must show 'quality' . . . and when you must show quality, you need a printer that can deliver the goods.

The Dick Smith Daisy-Wheel printer delivers ultra sharp, clean copy – it is ideal for those important applications such as word processing.

It accepts standard office stationery (letterheads, etc) – or continuous stationery if required – up to 400mm wide. It can produce proportional printing for that 'professional' look. It uses standard (and economical) Diablo daisywheels & ribbon cartridges – so a wide range of fonts is available.

It prints at twice the speed of a golf-ball typewriter, with fewer moving parts than other daisywheels – so ours should be more reliable!

And it has a Centronics-type parallel interface – so it is suitable for most of the currently available microcomputers.

If you buy a daisywheel anywhere else – you're wasting money!

DSKCITOH/PPRINT
DISK DRIVER AND
PROPORTIONAL PRINT.
DRIVER DISK

A new program giving you the ability to save & load W/P files on disk, plus it gives proportional printing and bold face options. See 'Sorcerer Utilities' on page 9.

Cat X-3725 . . . \$99.00

\$1995⁰⁰

USES STANDARD PAPER:
LETTERHEADS, ETC –
OR CONTINUOUS FORMS!

Cat X-3265

DISK DRIVES FOR SYSTEM 80 & TRS-80
IF YOU WANT DISK DRIVES, READ THIS – AND SAVE A FORTUNE!

Our disk drives go so much further . . . for so much less!

This superb mini disk drive not only costs much less than the Tandy disk drive, it gives you more storage capacity as well: 128% more to be precise!

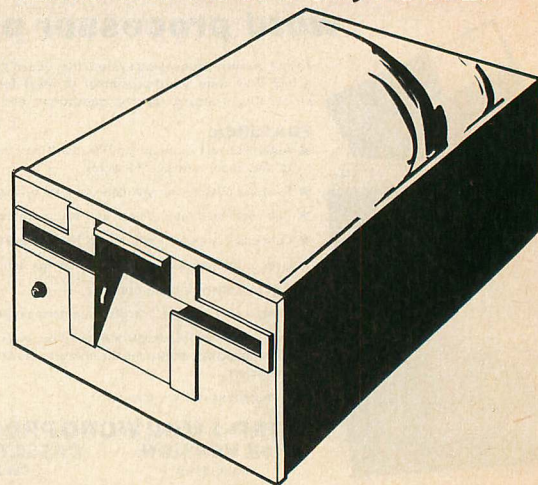
That's because our disk drive gives you 40 tracks instead of 35 tracks – AND you can record data on both sides of the disk: just like a cassette tape!

Check out the features, then look at the table below. If you're looking for disk storage, the choice is pretty easy . . .

FEATURES:

- 100K bytes per side storage – storage on both sides.
- 40 tracks (not 35 tracks) – 14% more storage each side
- Ideal as first drive, or add-on drive.
- Suits the TRS-80 as well as the System 80 (don't pay their prices for disk storage!)
- Drive number is switch selectable
- Daisy-chain connector cable runs from one to four drives
- Power supply unit runs two drives (for four-drive system you'll need two supplies)

DON'T BUY A DISK
DRIVE BEFORE YOU
READ THIS: YOU'LL
WASTE MONEY IF
YOU DO!

DISK DRIVES
ONLY\$379⁰⁰!COMPARE OUR
PRICE TO TANDY'S
– AND THE SAVING!

NOTE: These drives are equally suitable for use with the TRS-80: in fact, with our DOS patch, you get extra disk storage space! Why buy theirs?

Number of Drives:	1	2	3	4
Dick Smith Mini Disk Drive:	\$379	\$379	\$379	\$379
Power Supply	\$60	not req.	\$60	not req.
Wiring Harness	\$55	not req.	not req.	not req.
Microdos	\$35	not req.	not req.	not req.
Total cost of each drive from Dick Smith:	\$529	\$379	\$439	\$379
Total cost of equivalent Tandy drives, using their DOS*	\$699	\$679	\$679	\$679
CUMULATIVE SAVING BY BUYING FROM DICK SMITH:	\$170	\$470	\$710	\$1010!!!!

*All Tandy comparison prices taken from their current catalogue.

So for a typical 2-drive system, you save nearly \$500 by buying from Dick Smith. For a full 4-drive system, the saving is a massive \$1010 over Tandy's price*!

DISK DRIVE Cat X-3230 . . . \$379.00
POWER SUPPLY (runs 2 drives) Cat X-3234 . . . \$60.00
WIRING HARNESS (runs 4 drives) Cat X-3232 . . . \$55.00
MICRODOS (Operating System) Cat X-3555 . . . \$35.00

TRS-80 OWNERS: Why miss out?

Add our 'DOS PATCH' to your TRS-80 and take advantage of the full 40 tracks on this drive. It also enhances your existing TRSDOS in many ways!

Cat X-3550 . . . \$19⁵⁰

ACOUSTIC COUPLER/ MODEM

Use your computer or data terminal to access the big overseas data bases via OTC's 'Midas' service!!

Yes! Now you can really get into the big league. Your computer can 'talk' to computers on the other side of the world! Or transfer data and programs to other computers - anywhere!

This Australian designed and manufactured modem features:

★ Answer/Originate switching making it suitable for communicating with both data base services & other computers.

Full or half duplex . 300 baud

★ Standard RS-232C interface - suits all normal data terminals and computers like System 80, Sorcerer, TRS-80, etc

★ Powered from either 9V DC plug pack or terminal/computer

★ Meets CCITT spec V24, conforms to Australian Telecom Standard. Fully approved.

Special modem design allows virtually any style of telephone handset to be used; they just push into place! (Note: handset not supplied with Modem!)

Cat X-3270

\$399⁰⁰

LOW COST LIGHT PEN

You've seen those expensive light pens which allow you to interface your computer to the monitor screen itself. . . Here's our version - only it's not expensive!

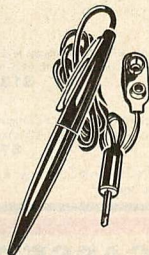
Yes! This amazing light pen uses a sensitive phototransistor to tell your computer which section of the monitor or TV screen the 'pen' is pointing to. It uses an external cassette recorder as a pre-amplifier.

- Runs equally well with the System 80 or TRS-80
- Operates from a 9V 'transistor' battery - incredibly long life.
- Comes complete with instructions and programming hints.

A must for the computer experimenter, hobbyist, etc - and the professional user: you can use the light pen with your own 'menu' programs plus many other types of program.

Cat X-3645

\$9⁹⁵



DEMO CASSETTE

This cassette has two demonstration programs to get you started with the light pen: One side has a noughts & crosses game ('Tic-Tac-Toe'), the other a simple 'Menu' program to show you how to use the light pen with your own programs.

Cat X-3647

\$11⁹⁵

SKETCH 80

Use your light pen to 'draw' on the screen of your System 80 or TRS-80. This machine language program lets you draw, modify it, store it, recall it - even save it on cassette or disk. Fascinating and educational.

Cat X-3646

\$17⁹⁵

SYSTEM 80 CASSETTE SOFTWARE (also suits TRS-80)

SYSTEM UTILITIES

OS/80 MICRODOS

A low-cost BASIC disk operating system for expanded System 80 & TRS-80 systems which are running from 1 to 4 disk drives (35 or 40 track). A really easy to use DOS, designed especially for business and professional use. Requires at least 16K and one disk drive.

Cat X-3555 (ON DISK) **\$35.00**

OS/80 MACHINE LANG. UTILITY

A utility which is used to adapt OS/80 (MICRODOS) so that it can save and load SYSTEM programs on disk.

Cat X-3560 **\$29.50**

TINY PASCAL

Sick of BASIC? Write and run your own programs in Tiny PASCAL. It has most of the basic statements & procedures of full PASCAL - currently all the rage with schools & universities. Comes complete with comprehensive and easy to follow user manual, also a sample graphics program to show how it's done. Requires 16K.

Cat X-3670 **\$49.50**

EDITOR/ASSEMBLER PLUS

A complete package for developing assembly language/ machine language programs for and on the System 80 or TRS-80. Has text editor, powerful macro assembler & flexible debug program. Requires 16K.

Cat X-3680 **\$39.95**

Z-80 DISASSEMBLER

Produces an assembly language listing from Z-80 machine code stored in memory. Very handy if you're trying to analyse machine language or 'System' programs, to find out how they work (or don't work!) Written in BASIC, provides ASCII decoding function as well as mnemonics. Requires a 16K machine.

Cat X-3690 **\$17.95**

EDUCATIONAL PROGRAMS:

TYPING TUTOR

An interactive program that teaches you to touch type. It is claimed to teach typing skills faster than any other method, and has been widely acclaimed by business colleges. Requires 16K memory.

Cat X-3682 **\$19.95**

SPEED READING COURSE

4 programs on 2 cassettes, designed to help readers of all ages improve their reading skills. Written by NSW primary school teacher, Wayne Richmond BA, Dip Ed. Reading speed can be set as high as 0.1 seconds per line. Requires a 16K machine.

Cat X-3692 **\$19.95**

SCURVE INVADERS (learning fun 1)

Unique program combines basic maths drill with ever-popular 'space invaders' game. Before being able to take a shot at the dreaded saucers with the laser gun, the player must feed in the correct 'data' to the spaceship computer. Sound effects plus three levels of difficulty. Requires 16K.

Cat X-3694 **\$9.95**

HANGMAN/CONCENTRATION (1.2)

Great fun to play; also help increase familiarity with words. Hangman is the computer version of the familiar game, complete with animated graphics. Concentration is a version of the famous TV game. Requires 16K.

Cat X-3696 **\$9.95**

ALPHABET COUNTDOWN/RHYME TIME (learning fun 3)

Practice in selecting and manipulating words. Alphabet countdown is a realtime game; words must be placed in alphabetic order. Rhyme time displays a series of unfinished rhymes, the player has to work out the missing word. Shows percentage correct. Req. 16K.

Cat X-3698 **\$9.95**

DISK PRICES TUMBLE!

Our price for 133mm (5-1/4in) minifloppy diskettes is \$1.00 less than last year - and you'll find they're superb quality. We think they're pretty hard to beat: if not impossible!

Both types - hard and soft sector, at the same low, low price. And the savings are even larger in quantity!

Hard Sektored: (Cat X-3505)

Suits Micropolis-type drives for Sorcerer, etc.

\$4⁹⁵

(10 UP \$3.95)

Soft Sektored: (Cat X-3510)

Suits System 80/TRS-80 drives and new Sorcerer disk system

\$4⁹⁵

(10 UP \$3.50)

DISK LIBRARY - HOLDS 10 DISKS

Even at our bargain prices, you should still treat your disks with care - especially if your company's financial records are on them! This disk library holds and protects up to 10 diskettes, in their jackets, in an upright position for easy use. Can be closed for storage. A cheap investment!

Cat X-3515

\$5⁹⁵



DISK DRIVE HEAD CLEANING KIT

Another area often overlooked is your disk drives. For longest life and absolute reliability, they should be cleaned at least once per week. This 'Scotch' brand kit makes head cleaning easy: comes with cleaning solution, two cleaning disks and full disk cleaning instructions. If you depend on your disks, don't let your disk drives let you down!

Cat X-3516

\$34⁹⁵

LOWER CASE MOD KIT FOR YOUR SYSTEM 80 MKI COMPUTER

★ Provides your computer with full lower and upper case letter display facilities: virtually essential for serious word processing and many other applications.

★ Includes character generator and EPROM containing all necessary conversion software!

★ As a bonus, you also get extra routines for flashing video cursor and removing any keyboard bounce!

★ Comes complete with full fitting and operating instructions.

Cat X-4018

\$69⁵⁰

SOUND OFF:

Give your System 80 (or TRS80) a voice!!!

Yes, your computer will actually be able to make sounds! Dick Smith's exclusive 'Sound Off' package provides all you need to enter the exciting world of computer sound effects and music synthesis!

In the 'Sound Off' package, you get a cassette with a sound effects demo program (some fantastic sound effects!), and a program to let you add sound effects to your existing programs. Plus there's a very detailed instruction manual which tells you just about everything you need to know about computer sound effects. Requires a 16K machine.

Cat X-3648

\$14⁵⁰



SYSTEM 80 CASSETTE SOFTWARE (also suits TRS-80)

MUSICAL COMPUTER

Finally, you can use your computer to learn music! In two parts, it covers the following topics: note reading on treble - note reading on bass - telling time - keyboard-note correlation - notes and rests - sharps and flats - signs and symbols - tempo definitions - 90 practice questions. A must for all ages who want to learn music: invaluable during the first two years of music education.

Cat X-3640 **\$34.95**

GENERAL PROGRAMS:

SOME COMMON BASIC PROG.

A companion to our Osborne book (B-2345 @ \$9.95) of the same title. This tape contains all the programs listed in the book: saves you having to list them yourself. 78 programs in all, from investment to mathematics to recipe costs! Highly useful, very popular.

Cat X-3665 **\$19.50**

GAMES:

RESCUE AT RIGEL

You're Sudden Smith, the intrepid space adventurer, and your beautiful friend Delilah has been captured. You have to rescue her from the evil Tollah. Very impressive, lots of action. Requires 16K.

Cat X-3649 **\$29.95**

PUNTER'S DREAM

Place your bets, please - the race is on! Study to m, pick your horses & place your bets. The program looks after the betting accounts - and can even cream off a 'percentage' for the house. Realistic racetrack simulation. Requires a 16K machine.

Cat X-3660 **\$12.50**

BANDITO

Like playing the one-arm bandits down at the club? But don't like doing your dough? Play this one in your own home... thrill as you hit a jackpot! Requires 16K.

Cat X-3661 **\$14.95**

POKER PETE

Like to play a game of poker with Pete? He's a pretty shrewd player: pretty hard to beat, in fact (but it can be done). And boy, does he get upset if you fold when he has a good hand! Incredible graphics! Requires 16K

Cat X-3664 **\$15.95**

INTERLUDE

A game for adults only. How's your love life? Dul? When the kids have gone to bed, run this program through: and see how much it improves!! Warning: not a program for those who are offended by explicit instructions of sexual behaviour. For sale to those 18 years or over. Complete with instruction manual. Requires 16K.

Cat X-3675 **\$22.50**

SIMUTEK PACKAGE ONE

Five fantastic space fantasy games in one. Grapic-Trek 2000 - Invasion Worg - Star Wars - Space Target - Saucers. Outstanding value for such a variety of games. Complete with instruction booklet, requires 16K.

Cat X-3685 **\$17.95**

DEATH TRAP

How's your co-ordination between eyes and hands? You'll find out in this fast-moving game. You have to avoid mines, your own trail, the sides of the screen, and escape into a 'window'. If you do escape, you get further tries. Only it gets tougher! Sound effects included. Very popular program. Requires a 16K machine.

Cat X-3688 **\$9.95**

WHEN YOU WANT THE BEST ... YOU WANT THE SORCERER! NOW: A 32K SORCERER FOR 16K PRICE!

Imagine ... a professional Sorcerer computer with an amazing 32K of memory

That's right: 32K of RAM — far more than the average user is ever likely to need — for exactly the same price as a 16K!

And it's nice to know that if you DO want more memory, the Sorcerer will take up to 48K of RAM — ON BOARD!

The Sorcerer has long been regarded by the experts as at the top of the small computer field. Why?

- ★ Its **unbelievable** graphics resolution (122,880 pixels!)
- ★ Its S-100 bus compatibility (with optional expansion interface)
- ★ Its **inbuilt** Centronics-type printer interface
- ★ Its **inbuilt** RS-232C communications interface

It all adds up to outstanding value for your computer dollar!!!

Features:

- ★ Based on the Z-80 CPU — one of the most popular microprocessor chips available.
- ★ **Memory** — Read only memory (ROM) of 4K byte, Power-on monitor program connection for 16K ROM PAC program cartridge; Random Access Memory (RAM) of 8 or 32K (expandable to 48K).
- ★ **Serial I/O** — RS-232 standard; 300 or 1200 baud rates; connected via 25 pin 'D' connector on rear panel.
- ★ **Parallel I/O** — 8-bit input and output latched and buffered port with handshaking; connected via 25 pin 'D' connector.
- ★ **Expansion** — S-100 Bus compatible through rear mounted edge connector.
- ★ **Cassette I/O** — provision for two recorders at speeds of 300 or 1200 baud. Remote control of motor on/off.

- ★ **Video I/O** — 30 lines of 64 characters or 1920 characters full screen. Full ASCII 128 characters set (including lower-case letters). 64 defined graphic characters and 64 user defined characters, alternatively all 128 characters may be user defined. 512 (horiz.) x 240 (vert.) graphic resolution. Automatic scroll, erase end of line and end of screen, delete character and erase screen. Cursor Up, Down, Left, Right. All on a professional data processing, typewriter style keyboard.
- ★ **Microsoft** — standard 8K BASIC in plug-in ROM PAC™ (included).



Video Monitor Unit and extra Rom Pacs™ shown are not included in computer price.

8K SORCERER: \$1340⁰⁰
Cat. X-3000

32K SORCERER: \$1395⁰⁰
Cat X-3002

THAT'S THE SAME PRICE AS A 16K!
(SORCERER WITH 16K RAM Cat X-3001 ... \$1395.00!)

VIDEO MONITOR: \$149⁵⁰
Cat X-1196

ROM PACS™

Rom Pacs™ give the Sorcerer its incredible versatility! One moment it's a word processor. Then it's a production controller. Or a standard computer running a program. All you do is plug in the Rom PAC™: the Sorcerer does the rest!

WORD PROCESSOR PAC™ (See details at right)

DEVELOPMENT PAC™

A powerful dedicated development tool: contains a debug, text editor, linking loader, assembler & I/O routines. Complete with 90p manual.
Cat X-3090 **\$139.50**

EPROM PAC™

Designed for users who want to use the Sorcerer for a dedicated job and can program their own EPROMs to do it. Up to 16K of ROM available.
Cat X-3095 **\$75.00**

STANDARD BASIC: (Supplied with Sorcerer Computer in basic price — not available as a separate item).

SORCERER WORD PROCESSOR

With a suitable printer, cassette recorder and the WORD PROCESSOR PAC™ in your Sorcerer, you will have a word processor system that is not only far more powerful than most other systems: it's far cheaper! It features automatic text wrap-around, automatic checking of drastic commands, a powerful search function, auto commands and macro programming. The Word Processor PAC™ comes with a very comprehensive instruction manual.

Word Processor PAC™: Cat X-3085 \$275.00

WORD PROCESSOR KEYTOPS:

A special set of red keytops to replace some of the keys on the Sorcerer numeric keypad, for use in word processing applications. (These keys take on new meanings with the W/P PAC™: these keytops display those meanings.)
Cat X-3086 \$14.95



SORCERER S-100 EXPANSION

\$575⁰⁰

including in-built power supply

Cat. X-3010

SORCERER + S-100 = VERSATILITY!

The Exidy S-100 expansion unit opens the way to almost unlimited expansion of your Sorcerer system, because more than 100 manufacturers world wide produce plug-in PCB card modules designed for the S-100 bus system. There are S-100 plug-ins available for almost every conceivable avenue of system expansion. Memory cards, floppy disc and hard disc controllers, EPROM programmers, special I/O interfaces and power control cards, colour video graphics controllers, D-to-A and A-to-D converters, music and speech synthesis cards, even speech recognition cards. And more are being announced all the time, so there is no risk that your Sorcerer system could become obsolete! Supplied complete with inbuilt power supply, ribbon cable and connector.

Specifications: ★ Designed to allow up to six S-100 plug-in cards ★ Contains full logic circuitry required to interface between Sorcerer's data address and control signal lines and the S-100 bus system ★ Connects directly to the Sorcerer's 50-way expansion socket via a ribbon cable and matching connector (supplied) ★ Card sockets are fitted to all six slots on the motherboard ★ Inbuilt expansion power supply delivers 8V @ 8A, +16V @ 2A and -16V @ 2A ★ All S-100 lines are fully buffered ★ Buffer drive capacity is 40mA ★ Separate 2.00MHz crystal clock provided for S-100 cards which cannot use the 01 and 02 clock signals derived from the Sorcerer's 2.106MHz clock ★ Provision for mounting up to six 25-pin "D" connectors for additional I/O ports, etc.

'Daisy Chain' DISK CABLE

Enables you to run up to 4 disk drives in a system. Ideal for applications requiring a system diskette in 1 drive & data diskettes in the other three.
Cat X-3232

\$55⁰⁰



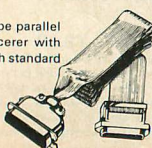
SORCERER CONNECTING CABLES

Printer Cable:

Connect any Centronics-type parallel printer directly to the Sorcerer with this cable: already fitted with standard plugs.

Cat X-3112

\$49⁵⁰

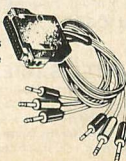


Serial Data Cable

Connect two cassette recorders to your Sorcerer with this cable — each with motor control.

Cat X-3110

\$34⁵⁰

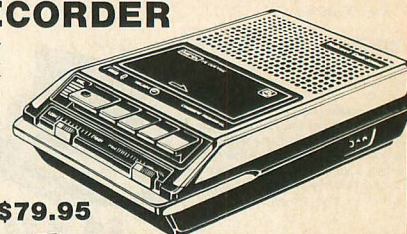


CASSETTE RECORDER

Famous 'National' brand cassette recorder for loading & recording cassette programs into your Sorcerer computer. There are cheaper machines, but we've found the National to give the reliable results all the time — and that's important when you're dealing with a computer! (Also great to use as a normal cassette when you're not using it with your computer...)

Cat A-4095

\$79.95



COMPUTER CASSETTE TAPES



A Dick Smith special high grade personal computer programming cassette tape in standard cassette case. Six minutes per side gives over 40K capacity per side.

Cat. X-3500

\$1.95

MICROPOLIS™ DISK DRIVES

YOU CAN HAVE MORE THAN A MEGABYTE OF STORAGE!

An incredible 315,000 bytes can be packed onto each disk in this system: that's four, to seven times the amount on other disks! These superb Micropolis drives give your Sorcerer the best in storage at surprisingly low price. We've selected this outstanding storage system because it not only gives you an incredible capacity, it sells for around half the price of other disk systems!

You'll need an S-100 bus, and then add drives as you need them: the first drive is the 1043/mod2, which comes complete with power supply, all connecting cables, MDOS, Microsoft Version 4.0 Extended Disk BASIC, a dynamic de-bugger, a line editor, printer drivers and various other utilities. With the first drive, there's a disk controller — which can also control up to 3 add-on drives. Plus there's a comprehensive user manual. The add-on drives don't need all of the above: so they're much cheaper. And remember, each time you add a drive, you're adding another 315K of storage. So 4 drives gives you a massive 1.26 megabytes!

Micropolis 1043/mod 2 Drive with controller

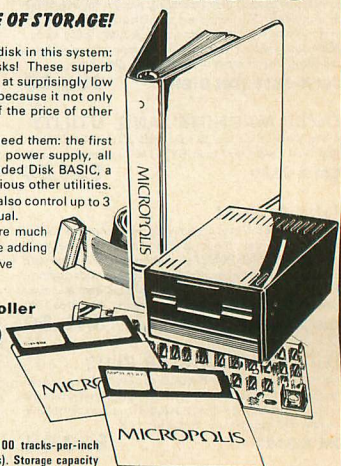
Cat. X-3205 **\$1149.00**

Micropolis 1023/mod 2 add-on Drive

Cat. X-3208 **\$649.00**

SPECIFICATION:

Micropolis 1043/mod 2: quad-density disc drive which uses 100 tracks-per-inch recording to give 77 tracks each of 16 sectors (hard sector discs). Storage capacity 315K bytes of storage per 134mm disc. Drive has built-in 240V power supply. Comes complete with controller board which plugs into S-100 bus system, comprehensive user manual, cables and two discs with MDOS. Extended disk BASIC, an assembler, editor, debugger and other utilities. 1043/mod 2 controller includes autoload ROM "bootstrap" to obviate tiresome button pushing. Controller will operate four drives. Micropolis 1023/mod 2: add-on drive with same storage capacity as the 1043/mod 2. Up to three 1023/mod 2 drives may be used with each 1043/mod 2, giving up to 1,260,000 bytes of storage. Add-on drive has own 240V mains power supply.



**SAVE \$\$\$
ON LAST
YEAR'S PRICE!**

A DISK DRIVE THAT DOESN'T NEED AN EXPANSION UNIT!



THE NEW EXIDY QUAD DENSITY FLOPPY DISK SUBSYSTEM (FDS)

Now there's a disk drive for the Sorcerer that doesn't need an S-100 expansion interface! It's from Exidy (the same people who make the Sorcerer) and it is designed to plug straight into the back of the computer. What's more, it is loaded with extra features that make it staggering value for money! Look at these, for example:

- Soft Sector Quad Density (308K bytes/disk) – formatted!
 - Has provision for second add-on Disk Drive!
 - Comes complete with the following system software/utilities:
CP/M – industry standard DOS (disk operating system) – worth around \$150.00!
Z-80 assembler, linking loader, editor, debug & conversion utilities (worth a whole lot more!)
- And it comes with comprehensive documentation and user manual!

\$1190⁰⁰

Cat X-3220

When you consider the price, consider what other drives cost: because with all other drives, you have to buy an expansion interface costing over \$500.00. With this floppy disk subsystem, the expansion interface isn't required – so \$1190 is all it costs. AND you get all the software 'thrown in'!!!
This drive offers outstanding value for money!!!

Sorcerer business software – on disk

GENERAL LEDGER PACKAGE

Performs the essential duties of dual entry book-keeping and the matching of revenues and expenses. Up to 884 accounts can be handled. Requires a 32K Sorcerer with dual quad-density Micropolis disk drives, and also a printer. Menu driven, comes with full source listing. Cat X-3700

HARD SECTORED: SUITS MICROPOLIS TYPE DRIVES!

ACCOUNTS RECEIVABLE

A package of programs which carry out the Accounts receivable functions for small businesses. Links with the General Ledger package via the JOURNAL file. Requires similar hardware to general ledger. Cat X-3702

ACCOUNTS PAYABLE

Similar to the accounts receivable package, but performs the accounts payable function. Also linked to the general ledger via the JOURNAL file; requires same hardware as above. Cat X-3704

ALL ONE PRICE:

\$169⁰⁰ EACH

Sorcerer Game Software (on cassette)

Our range of Sorcerer Game Software is not as extensive as the System 80, but the games themselves are mostly much higher quality, due mainly to the Sorcerer's much higher graphics resolution. In any case, the Sorcerer is a more 'professional' machine: most people buying Sorcerers do so for a particular job – and so write (or have written) their own software. Still, it's nice to know you can relax with your Sorcerer, too!

WUMPUS

Hunt the mythical Wumpus through 20 different rooms with a bent bow and arrow. Are you good enough to catch it?

Cat X-3604 \$9.95

MAGIC MAZE

Challenging Maze game. Ten levels of play. Holding a lantern you wander through a maze trying to stay on the right path and avoid pitfalls. Automatic scoring.

Cat X-3620 \$14.95

MARTIAN INVADERS

Very similar to the 'Space Invaders' game popular at amusement parlours. Very challenging game, requiring lots of skill.

Cat X-3626 \$17.95

NIKE II

You are controlling a missile base, charged with defending the local city from bombing attacks by enemy planes. If you don't destroy all the bombers, your city suffers heavy casualties. Very challenging.

Cat X-3627 \$14.95

TANK TRAP

A marauding enemy tank is on the rampage. Your job is to build a wall around it, to render it harmless – without getting run over yourself! To make things harder, your concrete may not harden immediately – or the tank may blast his way out. And there are unarmed civilians to protect! Fascinating!

Cat X-3628 \$14.95

GRAPHIC GAMES:

Six assorted video games which really take advantage of Sorcerer's high resolution graphics facility. Most fascinating one of all is the first – LEM. Here you are piloting a lunar lander module, controlling the rocket's thrust, etc. If you succeed in landing, two figures jump out, run up the flag, and take off again! Also pie lob, nuclear reactor, bounce, checkers & dodgem. Value!

Cat X-3631 \$14.95

VOODOO CASTLE

Count Cristo has a fiendish curse put on him by his enemies. There he lies, with you his only hope. Will you his only hope. Will you be able to rescue him – or is he forever doomed? Beware the Voodoo Man ...

Cat X-3636 \$12.50

WILDERNESS

Here you trudge through uncharted wilderness fighting foul monsters of many types, using swords & sorcery. Occasionally you venture into underworld catacombs and discover magical treasure. Hours of fun!

Cat X-3639 \$12.50

THE COUNT

One of the most challenging games ever written! You awaken in a bed in Transylvania. You don't know why you're there but you'd better solve the puzzle before it's too late! Half the fun is trying to work out HOW to play the game! It can go on for days!!!

Cat X-3638 \$12.50

SORCERER/FDS DISK UTILITIES

MICROSOFT EXTENDED DISK BASIC FOR FDS:

The most extensive version of BASIC available for Z-80 based computers: meets ANSI qualification BSRX3.60-1978. The outstanding features of this program include:

- Double precision variables, constants, maths
 - full line editing
 - All normal disk facilities & commands
 - Extra statements & functions: if-then-else ★ print using ★ randomise ★ tron & troff ★ defint/defsneg/defdbl/defstr ★ err, erl, error#, on error goto ★ def us ★ lprint, llist ★ string \$
- Cat X-3712 \$350.00

DSKCITOH/PPRINT (SOFT SECTOR)

The soft sector version of our X-3725 disk. It is a disk driver and proportional printing driver for the Sorcerer Word processor when used in conjunction with the FDS above. It gives the following features:

- The ability to save and load word processor files on disk (much faster and more efficient than cassettes).
- The ability to perform proportional spaced printing (an 'M' gets a much wider space than an 'I', for example), and bold face printing (with a suitable printer such as our X-3265 word processor printer). The FDS system is supplied with the CP/M system needed to run this program.

Cat X-3726 \$99.00

UTILITY SOFTWARE (on cassette)

Get the most from your Sorcerer. These utilities are NOT games: they are powerful programming & research aids. Ideal for the hobbyist or professional.

PLOT

A set of graphics plotting programs which let you plot lines and points on the Sorcerer monitor screen. LORES is a low resolution plotting program; HIREs is a package of machine language high resolution plotting sub-routines which may be called by BASIC programs. The HIREs routines really make use of Sorcerer's high resolution capabilities of 512 x 240 (or 122,880 pixels!)

Cat X-3621 \$17.95

Z-80 DISASSEMBLER

This program's 'disassembles' Z-80 machine language programs, i.e. it translates them back into easier to follow assembly language. It is a BASIC program, but may be used to examine any machine language program in the Sorcerer's memory – including the ROM PAC BASIC interpreter or the power-on monitor program.

Cat X-3622 \$17.95

SHAPEMAKER

A BASIC program which makes it much easier to take advantage of Sorcerer's programmable graphics facility. It lets you program individual graphics characters, reverse their video format, flip them vertically or horizontally and assemble whole groups of programmed characters to form more elaborate graphics. It also lets you save complex graphics on cassette.

Cat X-3623 \$17.95

DEBUG

A machine language debug package designed to make it much easier to troubleshoot Sorcerer machine language programs. It lets you run programs one instruction at a time, examine contents of processor registers and insert breakpoints into the program wherever needed.

Cat X-3624 \$17.95

DUMB TERMINAL

A machine language program which allows your Sorcerer to act as a 'dumb' communications terminal, for communication with a larger computer or with other terminals via the RS-232C serial port. Allows both full duplex & half duplex operation.

Cat X-3637 \$9.95

SORCERER/MICROPOLIS DISK UTILITIES

EXIDY CP/M

The well-known & widely-used Digital Research CP/M disk operating system (DOS) version 1.42, fully configured for a Sorcerer using Micropolis quad density disk drives, and at least 32K RAM. Utilities include: assembler, editor, linking loader, debug & disk conversion routines, etc. Includes full documentation.

Cat X-3715 \$149.00

EXIDY CP/M WITH EXBASIC

Identical with Exidy CP/M above, except that it also has EXBASIC, an extended disk version of Microsoft® BASIC 80. Again, this comes with very comprehensive documentation.

Cat X-3710 \$445.00

DSKCITOH/PPRINT (HARD SECTOR)

This is a disk driver and proportional printing driver for the Sorcerer Word Processor. It is a disk-based product, which is 'grafted' onto the ROM PAC program to give the following important features:

- (1) The ability to save and load word processor files on disk (much faster and more efficient than cassettes)
- (2) The ability to perform proportional spaced printing and bold face printing (with a suitable printer, such as our X-3265 word processor printer). This program must be run in conjunction with Exidy CP/M

Cat X-3725 \$99.00

FORTH: A NEW LANGUAGE FOR YOUR SORCERER . . .

If you're tired of BASIC and its limitations, you might like to try FORTH, a new language using postfix notation (RPN). Normally, FORTH is a disk-based system, using a 16K Sorcerer. This version of FORTH has been especially re-written to operate with a cassette system, and a 32K Sorcerer. Instead of storing text pages (which FORTH calls screens) on diskette, this version sets up simulated disk screens in RAM. Up to fifteen screens of about 1000 bytes each can be held in 32K RAM, and this data can be saved and loaded from cassette tape. If you have a 48K machine, there are some modifications you can make to the program to take advantage of this.

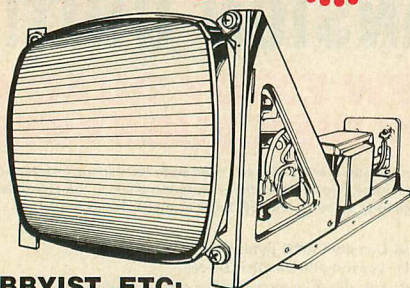
Cat X-3629 \$49.95

A GREEN SCREEN MONITOR WITH ULTRA-HIGH DEFINITION!

NEW FOR '81

ONLY
\$175⁰⁰
COMPARE THE PRICE
ELSEWHERE!

Cat X-1199



**IDEAL FOR THE HOBBYIST, ETC:
BUILD IT INTO A CONSOLE - OR MAKE A SIMPLE
WRAP-AROUND CASE: AND SAVE A FORTUNE!!!**

You've seen the prices being charged for green screen monitors . . . many of them without the ultra high resolution this one has! Now look again. We've searched the world for value in a green-screen monitor - and finally managed to locate this bargain. Absolutely complete and ready to go - we think it's ideal for hobbyists, etc., who want to build their own computer console or make a simple case from wood or aluminum, etc.

BUILDING A NOVA 80 COMPUTER? You won't find better value than this! Why not build your Nova 80 AND the monitor into the same case - for a really professional style computer!

We've only managed to get a limited supply of these monitors - and at our crazy price, we know that's not going to last long! So for a commercial quality green screen monitor at a fraction of the normal price - hurry!

SPEAKING OF THE NOVA 80 . . .

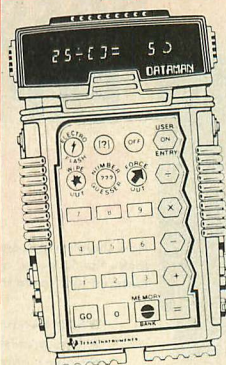
Have you seen our brilliant new kit computer yet? It's got to be the best value computer ever: up to 48K RAM on board, S-100 bus expansion on board, cassette interface on board, RF modulator on board, keyboard on board . . .

The Dick Smith Nova 80 kit computer is an ideal project for those who've always wanted to 'get into computers' . . . but couldn't afford it. The Nova 80 is the affordable computer: with all the features you'd want!

FOR FURTHER DETAILS SEE THE KIT SECTION!



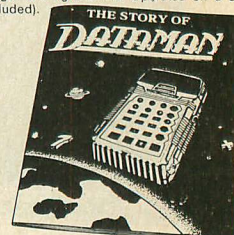
DataMan™ from Texas Instruments - math fun and games for kids 7 and up.



DataMan™ provides exciting practice drills and games like: Answer Checker: Youngster enters a problem and the answer. If the answer is incorrect, DataMan™ displays EEE and gives the child another try before displaying the correct answer. Missing Number Problems: DataMan™ presents a problem with missing numbers. The child supplies the answer. Electro Flash: Electronic flash cards for all four math tables (+, -, ×, ÷). Number Guesser: Player must guess a number known only to DataMan™ in the fewest guesses. Wipe Out: A "hot potato" match race for two or more, with players racing against DataMan's™ built-in timer. Scoreboard Spectacular: A stadium-type scoreboard light show signals top scores. The better the score, the bigger the light show. Operates on a 9V transistor type battery (not included).

Cat. Y-1320

\$28⁰⁰



○ Basic math drills with design-your-own practice sessions ○ Fun math games plus built-in timer and scorekeeper ○ DataMan offers multiple learning activities and math strategy games which can be adjusted to various achievement levels as children gain confidence and skill ○ Includes special 24-page illustrated activity book and iron-on decal ○ Memory bank for quizzes you design yourself. Key in up to 10 problems for selective practice with particularly troublesome problems ○ Scoreboard signals correct answers, errors, timer and score. Electronic display shows bull's eye when your answer's right, "EEE" when it's in error ○ Timer adds moving light and extra mental challenge. A moving circular timer allows you to compete against yourself or others. At the end of the exercises, DataMan displays time score as well as the number right ○ Battery-saver feature. DataMan will automatically turn itself off after about 5 minutes of non-use. Prevents accidental battery drain ○ Large, bright easy-to-read vacuum fluorescent display. Digits, function signs, timer, correct answer, "light show", error indication.

B&W TV GAME BARGAIN

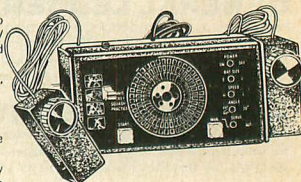
Enjoy home video games at this incredibly low cost.

Nearly one metre of lead on each hand control and over two metres of connecting cable between the main control and the TV set allow great freedom and flexibility of player position and movement.

- FOUR EXCITING GAMES — TENNIS, HOCKEY, SQUASH, HANDBALL.
- BAT AND BALL SOUND
- ON SCREEN SCORING

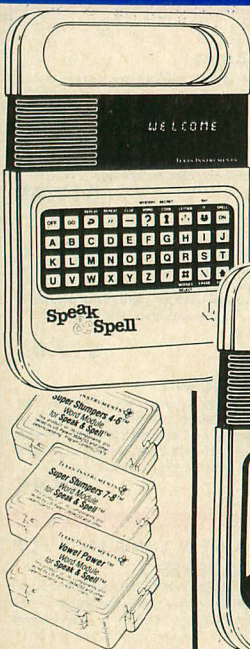
All this, plus manual or automatic service, two bat size's, variable speeds and angles.

Plugs directly into the 75 ohm aerial socket of your TV set. (If only 300 ohm aerial connectors are available we suggest you purchase our TV game balun - (L-4454 - \$1.95) to simplify connection). This fantastic TV game bargain requires only 6 penlight cells to operate (Cat. S-3003 not included).



Cat Y-1170 **\$19.95**

TALKING ELECTRONIC LEARNING AIDS FROM TEXAS INSTRUMENTS



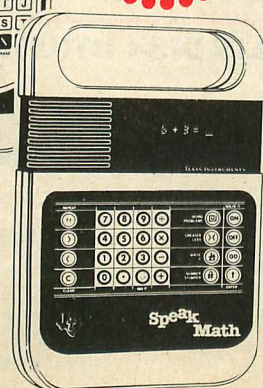
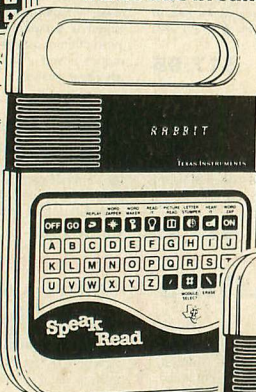
A new family of talking learning aids . . .

They use microprocessor technology to actually synthesize speech!

- No recordings ● No tapes
- No pull strings!

Only incredible advances in microprocessor technology have made this breakthrough possible

NEW FOR '81



PLUG IN MODULES to expand the 'SPEAK AND SPELL'

These modules plug into the Speak and Spell™ to expand its capabilities. Choice of three modules:

Super Stumper 1: Cat Y-1301

Super Stumper II: Cat Y-1302

Vowel Power: Cat Y-1305

ALL ONE
PRICE:
\$21⁹⁵
EACH

Speak & Spell™

Cat Y-1300

\$79⁰⁰

When study is more fun at home, achievement in the classroom is easier. That's why Texas Instruments got together with leading educators to design "Speak & Spell™". Speak and Spell helps develop skills in spelling, pronunciation and reading. It pronounces the word - the student keys in the spelling. It tells you whether you're right or wrong - and it tells you and displays your score. It has in its 'vocabulary' over 200 everyday words most often misspelled. They're the words most students have trouble with. It teaches by involving: the student hears the word, spells the word and sees the word. And it's fun! A colourful 32 page book 'Fun with Words' is included, which contains spelling games and activities for students plus easy-to-understand instructions. 'Speak and Spell' is ideal for all students, from beginners up. And it doesn't matter if they leave the unit on: it automatically turns itself off after a few minutes to save batteries! Operates on 4 C-cells (not supplied) or optional AC adaptor.

Speak & Read™

Cat Y-1310

\$89⁰⁰

**ALSO VERY USEFUL FOR
MIGRANT ENGLISH EDUCATION!**

The Speak and Read™ helps build beginning reading skills. It introduces more than 250 of the most basic English words. Bright, challenging activities develop vocabulary, word meaning and reading comprehension. A colourful 64 page book 'You can Read!' adds to the enjoyment of learning. Positive verbal reinforcement motivates students to improve their skills. And they can use the Speak and Read alone, or with friends - it offers six special games and activities to play. It is battery operated, with APD™ (automatic power down) feature in case they leave it switched on: it won't flatten batteries. And we have an optional AC adaptor available. Remember, with TI's Speak and Read, you're not just buying another electronic game or toy: it is a genuine learning aid, using the very latest technology. It offers incredibly good value for money, considering the years of development and research that it has taken to produce the circuits that can actually make up their own speech!

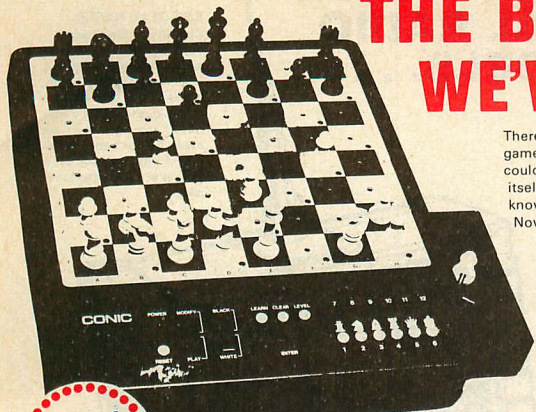
Speak & Math™

Cat Y-1313

\$99⁰⁰

No, it's not a calculator - nor is it a toy. It's the unique "Speak and Math™" talking learning aid from Texas Instruments. Inside this remarkable device, there is a microprocessor IC which can not only generate over one hundred thousand maths problems - it will also talk to you - telling you what the problem is, and whether you're right or wrong. This positive voice reinforcement of the problem helps to stimulate logical thinking - just as a teacher standing in front of a class would do. There are challenging activities and exciting games, which make learning maths fun. There are three levels of difficulty - and it also introduces beginning concepts in geometry! There's a colourful 32 page 'Math Talk' activity book to add fun to the learning, too. This unit is battery operated (batteries not supplied) and there's an optional AC adaptor. It includes the automatic power down (APD™) circuit just in case it is left on. In today's technological world, everyone needs a good, solid foundation of the basics. You owe it to your child to make sure they understand maths: Speak and Math™ is a great way to start!

THE BEST CHESS SET WE'VE EVER SEEN!!!



NEW
FOR
'81

Complete with chess men & power supply!

The chess computer is complete with all chess men – there are even drawers in the base to hold the men in! Each 'man' has a special plug on the base which tells the computer where it is – and all control is done with LEDs. If you like chess, you'll LOVE this outstanding chess computer. Especially at our bargain price: we've seen this type of set advertised for around \$1000 – and more! Now look at our price!

There have been computer chess games . . . and more computer chess games. But this one wins all the prizes, in our book! It does everything you could possibly want a computer chess set to do – including playing against itself! You can play 'straight' games, set up games in various stages (you know how you often think 'I wonder what would have happened if . . .') Now you can find out!

- Exclusive 'tracer' chess-board design: no co-ordinate entries required.
- 12 skill levels – unique level indications
- 'Learn' mode: the computer will give you a hint upon command!
- Verification: instant display of location of every piece on the board, at any time during the play.
- Modification: Setting up of an incomplete game or modifying board position at any time during the play!
- Plays ALL regular chess moves – including castling, en passant, etc
- Unique illegal move check
- Built-in timer: provides audio beep when time is up
- The computer will play against you or against itself if you want it to!

DON'T PAY \$1000 OR MORE:
OUR PRICE ONLY:

\$245⁰⁰

Cat Y-1256

Inc. computer, power supply, chessmen & instructions

The fantastic CHESS MASTER actually teaches you to solve chess problems!

Play chess? Want to improve your game? They try this: it's a superb electronic chess problem poser; you have to work out how to solve the problems in the least number of moves. The computer sets the men up, and it knows how many moves it should take you to checkmate. In fact, it won't let you make a wrong move: it flashes at you! No matter what level you play at, the Chess Master will make you a better player (Spassky & Fischer possibly excluded)

FEATURES:

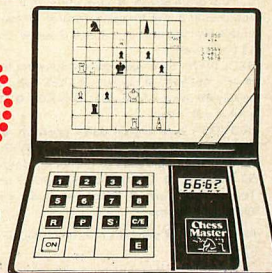
- Challenges players at all levels
- Easy to operate – even for a beginner
- Large liquid crystal display indicator
- Long-life battery operated
- Unlimited problem-solving capability
- Incorrect moves automatically indicated
- Built-in games scorekeeper
- On-going availability of problems

Supplied with detailed operating instructions for all levels – has seven levels of difficulty from novice through to grand master.

NEW
FOR
'81

\$35⁰⁰

Cat Y-1257



SPACE INVADERS

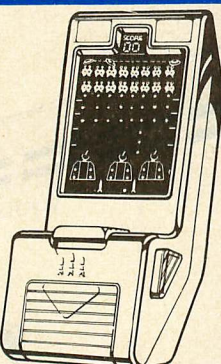
The world's most popular arcade game is now available in a personal model!

NEW
FOR
'81

You must have heard about the 'Space Invaders' craze: the arcade game which millions of people play every day. Many parents are worried about their children spending all their spare time, and all their money in amusement arcades playing these machines.

Here's the answer: a Space Invaders game that they can take anywhere with them – and it doesn't 'eat' twenty cent pieces! It requires the same types of skill to play as the 'real' machines – and is one electronic game they won't tire of in a hurry! Small enough to carry in the pocket or case, it's the ideal gift for any youngster who has been bitten by the 'invaders' craze. They can even play the game between friends – seeing who can get the best score!

Cat Y-1152



ALSO INCLUDES
'BLOCKBUSTER'
GAME!

\$29⁹⁵

AMAZING BREAKTHROUGH! Mini Organ not only plays its own tunes – it remembers tunes that you compose yourself – AND PLAYS THEM BACK TO YOU!

TUNE REPERTOIRE:

- Yankee Doodle
- Dixie
- Silent Night
- Oh Susanna
- Happy Birthday
- London Bridge is falling down
- Yellow Rose of Texas
- Coming round the mountain

Controlled by a microprocessor containing
the equivalent of thousands of transistors!



\$29⁵⁰

Cat Y-1158

What better way for your children to encounter the delights of music than with this superb microprocessor-based organ . . . It gives you the choice of three different modes of operation:

- (1) You can play tunes on it just as you would on any keyboard
- (2) Flick a switch, and you can select any of eight tunes the organ stores in its memory (ROM) – the tunes are listed above.
- (3) Or select another switch position and any tunes you play on the keyboard will be stored in another section of the organ's integrated circuit memory (RAM). Press the replay and your tune is played back to you – up to 96 notes and spaces long!

The technology to do this wasn't even dreamed of a few short years ago: now look at it – in an organ so advanced in microelectronics, but so simple it's a child's delight! Who knows: you might have another Bach or Handel – just waiting to be discovered!

ALL THIS IS POSSIBLE WITH
JUST ONE LARGE SCALE IC!

NEW
FOR
'81

TV GAMES

COLOUR TV GAME CONSOLE



\$49⁵⁰

Cat Y-1160

Console price only:
Cartridges extra

Why put up with some of the garbage the TV stations inflict upon us when they don't have to worry about ratings periods? Show your disgust – and enjoy yourself at the same time. Play colour TV games (on your colour set – unit works as b&w on b&w sets) with this superb colour TV game console and the game modules of your choice!

All the excitement of the big, expensive TV games – without the big, expensive TV game price! This colour TV game console allows you to decide which games you want to play – at surprisingly low cost. The console comes complete with two individual joystick controllers, and is ready to accept any of the plug-in microprocessor game modules (see right). All you do is connect the console to your TV antenna input, plug in the game module of your choice . . . and you're away!

This game is absolutely safe: it is battery operated so it cannot harm you – and it will not harm your TV in any way if used according to instructions – regardless of some of the 'scare' stories you might have read in the less responsible sections of the press!

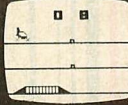
PLUG-IN MICROPROCESSOR GAME MODULES

Choose the games you want to play on your colour tv game console . . .



10 Game Supersport
Football, hockey, tennis, squash, basketball, gridball, twin target plus 3 solo games.

Cat Y-1162 . . . \$20.00



Motor Cycle:

Four games of skill for a single player: drag race, motocross, stunt & enduro (a combination of all 3).

Cat Y-1163 . . . \$29.00



Car Race:

All the thrills of the racetrack without the dangers: play it from your most comfortable armchair!

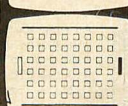
Cat Y-1165 . . . \$25.00



Submarine:

How many of the enemy's ships can you destroy without being wiped out yourself?

Cat Y-1167 . . . \$27.50



Superwipeout:

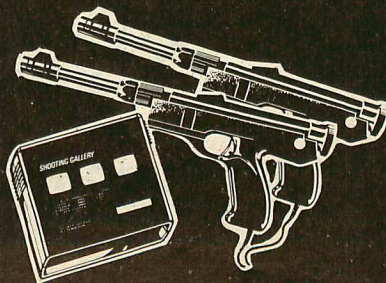
Six fascinating games of various complexity: Break-in I & II, plus Wipeout I, II, III & IV.

Cat Y-1168 . . . \$25.00

AND NOW: 'Shooting Gallery'

Twelve exciting games for one or two players. This game comes with not only the module, but two 'rifles' as well (with both short and long barrels). Also there is a comprehensive instruction manual. You get on-screen scoring, and full colour games (with a colour TV set)

Cat Y-1169 . . . \$35.50



NEW
FOR
'81

PUT A RADIO IN YOUR MODEL CAR, BOAT OR PLANE!

This is a superb 3 channel digital proportional radio control that will bring life to your models. Ideal for model planes, boats, cars, tanks – in fact anything that will take radio control – including yachts!

You receive, in a beautifully presented box, the transmitter, receiver, 3 servos (which have 3 different types of cranks depending on what kind of model you are running), wiring harness complete with on/off switch and battery container. Instructions plus coloured flag for attaching to antenna to identify the frequency being used.

All in all, a fantastic unit that would make every boy or dad the envy of fellow modellers!

Cat. Y-1230..... **\$99.00**

SPECIFICATIONS:

TRANSMITTER - transmitter frequency 29.865MHz. ● RF output 450mW ● Modulation 100% amplitude modulation ● Power supply 9V (6 x pencils Cat. S-3003) ● Current drain 80mA ● Operation on 3 channels - 2 stick controls and one function control ● transmitter neutral time 1.5m/sec plus or minus 0.3 sec ● Dimensions 159 x 111 x 50mm.

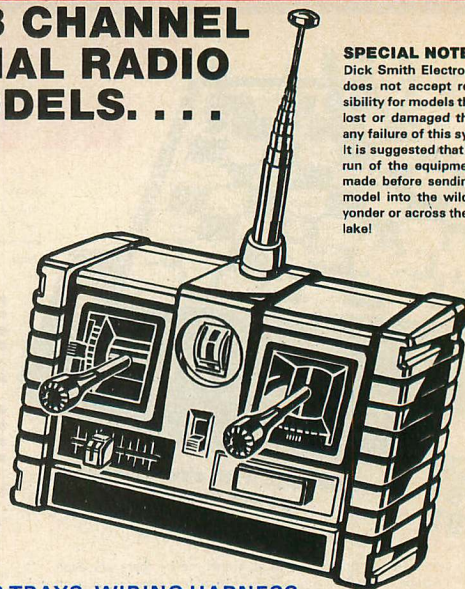
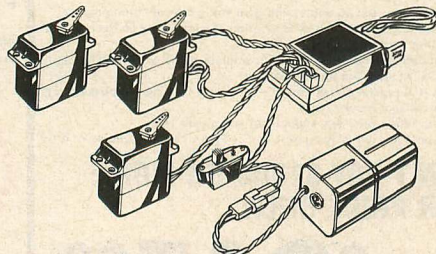
RECEIVER - type: superheterodyne double tune front end ● IF - 455kHz ● Sensitivity 5uV full control ● Power supply 6V (4 x pencils Cat. S-3003) ● Dimensions 68.4 x 44.4 x 21mm.

SERVOS - type digital pulse position ● Circuit 3-wire bridge motor drive ● Power supply 6V (from receiver) ● Operational angle plus or minus 45 degrees (full stroke 90 degrees) ● Current consumption normal 10mA ● Torque 2.2kg/cm ● Dimensions 45 x 42 x 23mm ● Weight 53 grams.

All of the above pencils may be replaced by 1.2V NiCads (Cat. S-3300).

THE DICK SMITH 3 CHANNEL DIGI-PROPORTIONAL RADIO CONTROL FOR MODELS. . . .

**ONLY
\$99⁰⁰**



SPECIAL NOTE:
Dick Smith Electronics does not accept responsibility for models that are lost or damaged through any failure of this system. It is suggested that a trial run of the equipment be made before sending the model into the wild blue yonder or across the local lake!

INCLUDES 3 SERVOS, SERVO MOUNTING TRAYS, WIRING HARNESS, RECEIVER, TRANSMITTER, FREQUENCY FLAG, BATTERY CONTAINER AND INSTRUCTIONS.

BLACK AND WHITE CCTV CAMERA FANTASTIC VALUE – DIRECT IMPORT HIGH QUALITY UNIT. . .

There are numerous cameras on the market today that can be used in surveillance systems, or with video cassette recorders etc. They are generally colour cameras which cost anything from \$1,000 for a very simple unit to \$20,000 or more for the more complex units. This is a brand new CCTV camera that will be ideal for nearly 99% of all general use and as such represents outstanding value for money – read on and just see how this unit could be of use to YOU. . . .

- ★ Monitor your swimming pool – keep an eye on the kids from the comfort of your living room.
- ★ Security monitoring in shops, banks, libraries, factories, around the home, outside the home, etc.
- ★ Reading aid for the visually handicapped
- ★ Amateur TV enthusiasts
- ★ Schools and colleges for teaching drama, TV acting, etc.

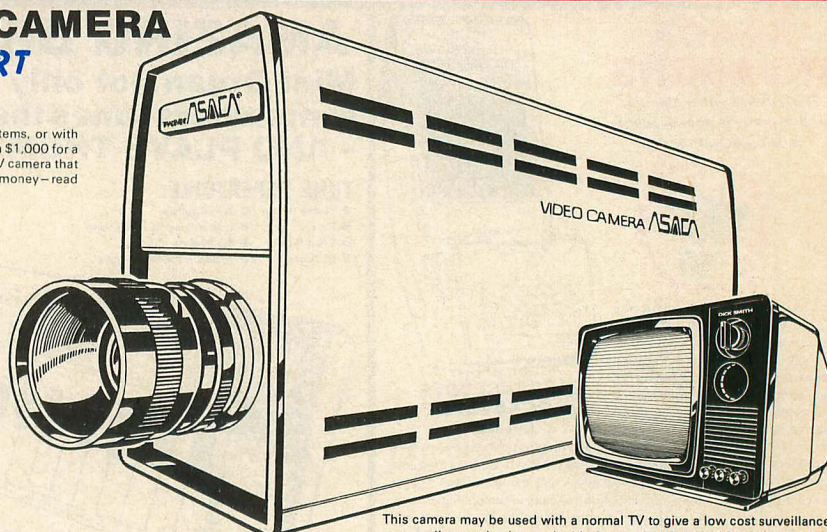
★ With video cassette recorders – just imagine, you can record the progress of your kids and even yourselves as you grow older – straight on to video storage cassettes.

Features: ● Uses modern solid state circuitry ● 2/3 inch SEPARATE MESH Vidicon tube for high quality pictures ● 7MHz video bandwidth ● 550 lines horizontal resolution ● SWITCHABLE VIDEO/RF output (Australian Channel 1) means it will work directly into a TV set or into a special TV monitor ● Wide range ALC (Automatic Light Control): 10,000:1 range – means it can be used in a wide range of lighting conditions, from very bright to very dull ● Low noise picture: 40dB S/N ratio ● Comes with a high quality f/1.8 lens of 16mm focal length in a standard 'C' mount. This is a fairly wide angle lens

Rear focussing adjustment of the Vidicon allows you to focus to within 10mm of the lens face – that's fantastic macro ● Plug-in PCB modules for ease of servicing, if this is ever needed!

Comes complete with instruction book, lens and co-ax connector.

Cat. Y-1195..... **\$299.00**



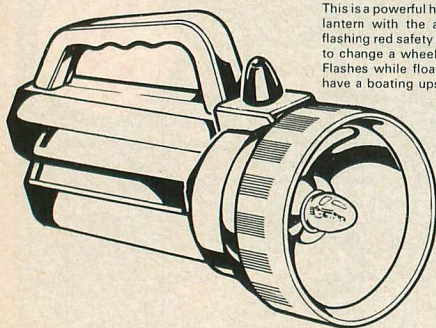
**LOW COST
SURVEILLANCE
SYSTEM**

**TOTAL COST OF THE SYSTEM
\$398.00**

Composed of CCTV camera and Y-1198 TV

This camera may be used with a normal TV to give a low cost surveillance system. (It may also be used with the monitor Cat. X-1196 @ \$149.50 to give a better picture). Why not protect your property by 'seeing' for an economical price!

SAFETY TORCH WATERPROOF



This is a powerful household, camping, vehicle or boat lantern with the added feature of a steady red or flashing red safety light. Flashes a warning if you have to change a wheel at night. Flashes while floating in water (we tested it) if you have a boating upset.

- TOUGH
- POWERFUL
- WATERPROOF

4 MODES OF OPERATION
'ON', 'ON PLUS STEADY RED',
'FLASHING RED', 'OFF'

Cat. Y-1088

\$4.50

4 x 'D' cells Cat. S-3001 @ 25c ea.
not included

3-WAY LIGHT



The ideal portable lamp for campers, or for use in the car, fishermen, in the home, in fact wherever you need light and do not have the benefit of AC mains. This unit is handheld, the handle being part of the main body of the lamp. It has a fluorescent light, a spot light (by removing the screw on red cap), and by leaving the red cap on and switching to the third position you have a flashing safety light.

Cat. Y-1084..... **\$14.95**

(Six 'D' cells Cat. S-3001 @ 25c each required extra)

**KEEP ONE IN THE CAR OR ON THE
BOAT – IT'S ALWAYS HANDY TO
HAVE!**

- FLUORO
- FLASHER
- SPOT

12 VOLT FLUORO LIGHT



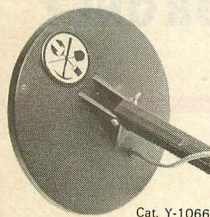
An attractive fluorescent light 304 x 76 mm with plastic diffuser. Can be mounted on walls or any position, can be semi portable. Requires 12V @ 8W. Complete with 3.65m cord with cigarette lighter plug on end, also has on/off switch. Has inbuilt protection for transistor circuitry if wrong polarity is

mistakenly applied. Uses standard replaceable tube. Complemented at each end by handsome teak ends. Can also be used in caravans and on boats.

Cat. Y-1082..... **\$12.50**

Most metal detectors sell for over \$400! Don't be fooled by this low price. . . .

The brand new Dick Smith MICROPROCESSOR controlled metal detector – and it's easy to use. . . .



Cat. Y-1066

**FANTASTIC
VALUE
AT**

\$149⁰⁰

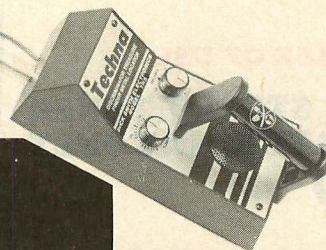
**YOU CAN'T AFFORD
NOT TO HAVE ONE!**

**LIGHTWEIGHT – HANDY TO USE –
DISCRIMINATES BETWEEN RUBBISH
AND TREASURE – AND IT'S EASY TO
USE.**

This is NOT a 'TOY' B.F.O. type metal detector

'This unit is so easy to use' – says Dick Smith. 'If you are like me and only want to use a metal detector on holidays and weekends – then this is the one. Don't be fooled into paying extra money unless you are prepared to spend many, many months in practice'

Our previous model was a top seller and hopefully gave many happy hours to the people who used it. This is the ideal unit to throw in the boot of the car when you go away for the weekend or even when you go on holiday. What better way to pay for a holiday than to find a hidden cache of treasure or a gleaming nugget of gold. You will have endless hours of fun and the whole family can join in as well!



**Made in the USA – by the
world's largest metal
detector company.**

**Includes an integrated
circuit discriminator
designed by a brilliant
U.S. ex-military engineer.**

Check out the book section for books on the subject of metal detecting.

**THIS UNIT IS HIGHLY
RECOMMENDED FOR
BEGINNERS**

FROM AMERICA THE AMAZING D-TEX Mk10 METAL DETECTOR

**200mm
COIL**

\$525⁰⁰

**250mm
COIL**

Cat. Y-1076

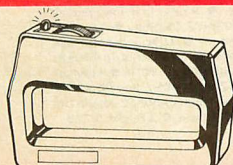
**With 2 Search
Coils!!**

You may start out metal detecting with just the idea of spending some enjoyable leisure time outdoors. You should think in the terms of your metal detector being able to return its cost in items found. Items found can range from gold nuggets through to coins, jewellery and treasure caches. Within a couple of months you should be able to pay for your detector but to do this you must put some effort into learning the full operating potential of the detector. If you want the best results and are willing to be patient and learn then the outcome will be satisfaction with your detector and the fascinating experience of the 'hunt'.

SPECIAL NOTE: Col Webster (Australia's King of Treasure Hunters) has written a precise instruction sheet for this unit – this allows you to operate this unit quickly – but don't buy this unit unless you are prepared to spend a minimum of 20 hours solid practice first. Although you will get excellent results from this unit, it is primarily intended for the serious prospector who is willing to spend many months getting used to the intricacies of this kind of unit!



FEATURES: ☐ VLF/TR discrimination circuitry and selector switch ☐ Push button retuning mounted in the handle ☐ Power through the high/low sensitivity control ☐ Tuning/volume control ☐ Full range discrimination control allows this unit to reject nails, bottle caps, pull-tabs, and even aluminium screwcaps ☐ Wide range VLF ground control through a ten turn knob which allows good penetration and easy operation over mineralised ground ☐ Wide range high a: 1 low pitch tone control enables you to set the detector to your hearing preference ☐ Dual circuit battery checker ☐ Easy battery access, uses 4 x 9V transistor type batteries ☐ Heavy duty 200mm and 250mm search coils that are waterproof (don't forget that the rest of the detector is NOT waterproof!) ☐ Adjustable dual stem locking system, no more 'slop' in the stem ☐ Large meter with 'Dayglo' needle to indicate discrimination and battery condition plus it even tells you where to dig! ☐ Stereo headphone jack for more precise detection (use stereo headphones with volume control as this unit emits a powerful sound) ☐ Lightweight, approximately 1.6kg with 200mm coil ☐ Balance - exceptional ☐ Durability - heavy duty (but lightweight) ☐ Precision "X" pinpointing - it's actually marked on the coils ☐ Frequency 15kHz.



**IDEAL FOR USE IN THE
HOME, OFFICE OR FACTORY**

ONLY \$9.95

Cat. Y-1060

SUPER SENSITIVE METAL LOCATOR

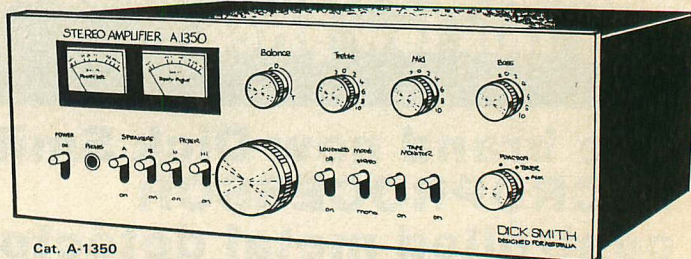
How often have you needed to find a nail in a wall or in a piece of timber, locate a water or gas pipe, reinforcing steel in a building, wires and cable behind plaster? This little beauty will do just that, and lots of other jobs requiring metal location. Has sensitivity control that can be adjusted from the smallest nail to the largest R.S.J. Indication light comes on in the presence of metal up to 6" or more. (Range depends on size, shape and type of metal). Operates from a single 9V transistor battery. Ideal for plumbers, electricians, builders, handymen etc.

DICK SMITH 55 WATT PER CHANNEL STEREO AMPLIFIER

This is the top of the range stereo amplifier from Dick Smith and a truly superb unit it is, with 55 watts r.m.s. per channel output. The front panel has many user controls to make the sound of your total Hi Fi system sound tremendous. Take for example the tone control network, not only do you have the usual bass and treble controls but there is also a midrange control, something that is found only on the very best amplifiers. The large volume control is immediately below the balance control so the job of balancing stereo for your speakers is made that much easier. Large illuminated power meters tell you the amount of power getting to your speaker system. Plus many more features and to top the lot the electronics are the very latest including dual power supplies to improve the stereo separation and stability. If you are after power and quality in the one package then you can't lose with the Dick Smith 55 watt amplifier.

SPECIFICATIONS: Circuitry direct coupled OCL • Semiconductors 37 transistors, 30 diodes • Continuous power 55 watts RMS into 8 ohms (both channels driven) • Total harmonic distortion less than 0.2% @ 55 WRMS • Frequency response @ plus/minus 1dB 20Hz to 30,000Hz • S/N ratio greater than 60dB (mag.), greater than 80dB (tuner and aux.) • Channel separation 46dB • Input sensitivity and impedance, magnetic cartridge 2.8mV/50k ohms, all other inputs 150mV/50k ohms • Tape A & B output level and impedance 30mV/50k ohms • Magnetic equalizer (NBF type RIAA standard) plus/minus 1dB • Magnetic phono overload greater than 100mV @ 1kHz • Tone control Bass plus/minus 10dB @ 10kHz, mid-range plus/minus 10dB @ 1kHz, treble plus/minus 10dB @ 10kHz • Loudness plus 10dB @ 100Hz • Filters high 10kHz -8dB, low 50Hz -8dB • Power consumption 160 watts • Power requirements 240V AC 50Hz • Dimensions 420(W)x150(H)x352(D)mm • Weight 10.5kgs.

- ☆ **DUAL POWER SUPPLY FOR IMPROVED STEREO SEPARATION**
- ☆ **INCLUDES MID-RANGE CONTROL**
- ☆ **55 WATTS PER CHANNEL**



Cat. A-1350

55 WATTS PER CHANNEL STEREO AMPLIFIER FOR ONLY \$229

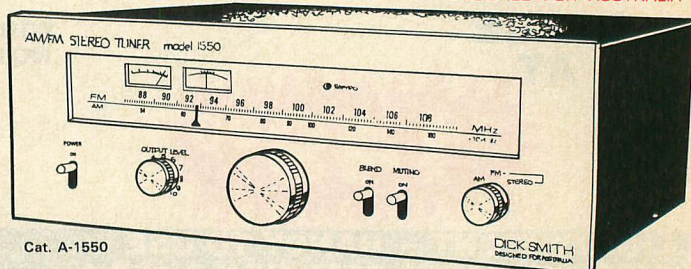
DICK SMITH AM/FM STEREO TUNER

Matches the above 55 watt amplifier. . . .

- ☆ **AM/FM STEREO TUNER FOR DISCERNING MUSIC LOVERS.**
- ☆ **SUPERB PERFORMER**
- ☆ **TWIN METERS FOR EASE OF USE**

TOP OF THE RANGE STEREO TUNER WITH ADVANCED FEATURES AT ONLY \$199

SAVE MONEY WITH DICK SMITH HI FI - QUALITY AND PERFORMANCE FOR LESS MONEY!!



Cat. A-1550

This is the superb tuner that matches the above amplifier. To appreciate how good this tuner is you will just have to switch it on! The tuning control lets you glide up and down the bands without effort and when you are on a station the illuminated signal strength and tuning meters will let you know exactly what your signal is like plus for FM stereo the LED stereo beacon will glow immediately you are on a stereo station. There is a output control to balance the output of the tuner with the volume of your amplifier plus a blend control for removing high frequency 'hash'. A quality stereo AM/FM tuner that will match with our own amplifier or most other amplifiers on the market.

SPECIFICATIONS
 FM SECTION: Circuitry 1 FET, 1 stage RF amplifier, 3-gang variable capacitor, 5 stage limiter. PLL MPX • Frequency range 88-108MHz • Sensitivity 1HF 1.9uV • S/N ratio 70dB (mono) • Total harmonic distortion 0.2% (mono) @ 1kHz, 0.3% (stereo) @ 1kHz • Frequency response 30Hz to 15kHz +0.2dB -2.0dB • Separation 40dB @ 1kHz • AM SECTION Frequency range 525-1605kHz • Sensitivity 200uV/m (1HF ferrite antenna) 15uV (IHF external antenna) • AUDIO 0-750mV variable • Semiconductors 1 FET, 2 IC's, 9 transistors and 7 diodes • Power requirements 240V AC 50Hz • Dimensions 420(W)x150(H)x352(D)mm.

See the antenna page for an FM antenna to suit the Dick Smith stereo tuners.

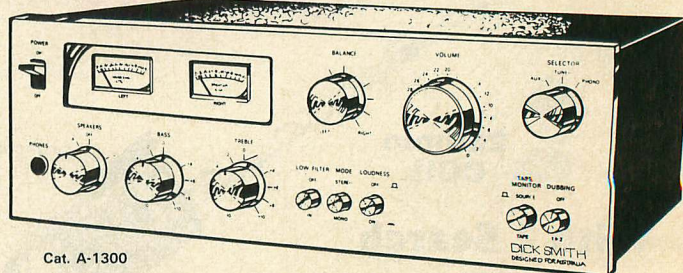
DICK SMITH 30 WATT PER CHANNEL STEREO AMPLIFIER

OUTSTANDING VALUE AT \$199

- ☆ **30 WATTS PER CHANNEL**
- ☆ **MODERN STYLING**
- ☆ **SUPERB VALUE**

MADE FOR DICK SMITH BY A FAMOUS JAPANESE MANUFACTURER. . .

A true Hi Fi amplifier with plenty of power for most people. If you require maximum control then this amplifier has it! Switch on and the twin power meters will light up ready to show you the amount of power going to your speakers when the volume is increased. The volume control is extremely smooth with click stops for every 2dB increase in volume. Balance up the stereo image with the balance control - right next to the volume control for ease of use. Select your particular program source - tuner, turntable, cassette or tape player etc., and you are ready for the brilliant output of this stereo amplifier. Other controls include bass and treble for setting the kind of tone that you like, a low filter to remove annoying low frequency sounds, a stereo/mono switch, loudness and a choice of switching between different speaker systems or just switching the speakers totally off for an evening of headphone listening - it all adds up to a superb listening experience.



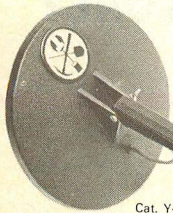
Cat. A-1300

SPECIFICATIONS: Continuous power both channels driven at 1kHz, 0.5% THD - A or B 30 watts r.m.s. per channel @ 8 ohms or A + B 30 watts r.m.s. per channel @ 4 ohms • Total harmonic distortion no more than 0.1% @ 3 watt output • Frequency response 30 - 20,000Hz, 1,000Hz = 0dB, -2dB down • Phono (moving magnet cartridge) 3mV/50k ohms output 30 watts • Tape in 100mV/50k ohms • Tape out 80mV/50k ohms • DIN connector in 100mV/50k ohms • DIN connector out 50mV/100k ohms • Bass control +10dB, -10dB at 50 Hz • Treble control +10dB, -10dB at 10kHz • Loudness control +5dB @ 10kHz and +8dB @ 50Hz • Low cut filter -8dB @ 50Hz • Minimum volume hum and noise 2mV @ 40Hz, low filter in • Semiconductors: 35 transistors and 12 diodes • Power consumption maximum 180W 50/60Hz • Dimensions: 400(W)x135(H)x 290(D)mm • Weight 6.2kg.

Cat. A-1300 **\$199.00**

Most metal detectors sell for over \$400! Don't be fooled by this low price. . . .

The brand new Dick Smith MICROPROCESSOR controlled metal detector – and it's easy to use.



Cat. Y-1066

FANTASTIC VALUE AT

\$149⁰⁰

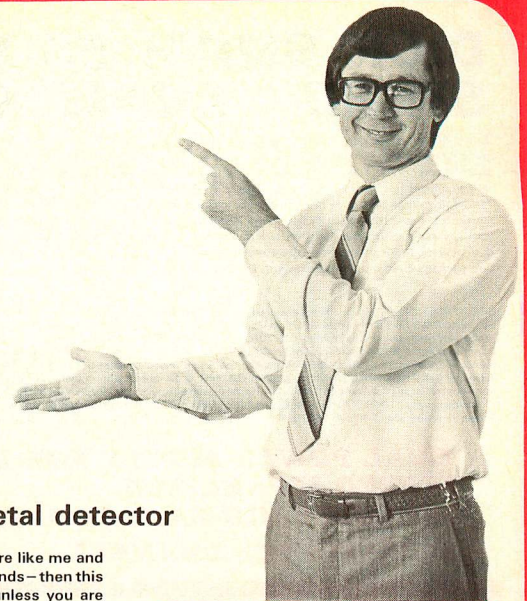
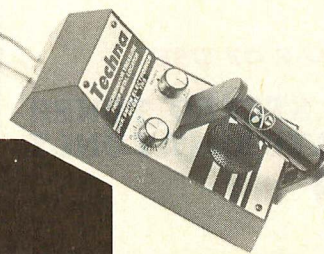
LIGHTWEIGHT – HANDY TO USE – DISCRIMINATES BETWEEN RUBBISH AND TREASURE – AND IT'S EASY TO USE.

This is NOT a 'TOY' B.F.O. type metal detector

'This unit is so easy to use' – says Dick Smith. 'If you are like me and only want to use a metal detector on holidays and weekends – then this is the one. Don't be fooled into paying extra money unless you are prepared to spend many, many months in practice'

Our previous model was a top seller and hopefully gave many happy hours to the people who used it. This is the ideal unit to throw in the boot of the car when you go away for the weekend or even when you go on holiday. What better way to pay for a holiday than to find a hidden cache of treasure or a gleaming nugget of gold. You will have endless hours of fun and the whole family can join in as well!

YOU CAN'T AFFORD NOT TO HAVE ONE!



Made in the USA – by the world's largest metal detector company.

Includes an integrated circuit discriminator designed by a brilliant U.S. ex-military engineer.

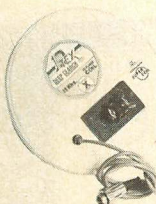
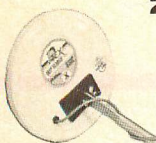
Check out the book section for books on the subject of metal detecting.

THIS UNIT IS HIGHLY RECOMMENDED FOR BEGINNERS

FROM AMERICA THE AMAZING D-TEX Mk10 METAL DETECTOR

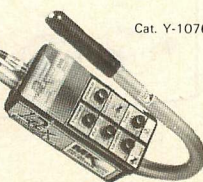
200mm COIL

\$525⁰⁰



250mm COIL

With 2 Search Coils!!



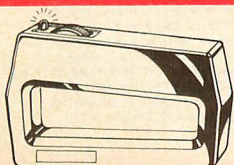
Cat. Y-1076

You may start out metal detecting with just the idea of spending some enjoyable leisure time outdoors. You should think in the terms of your metal detector being able to return its cost in items found. Items found can range from gold nuggets through to coins, jewellery and treasure caches. Within a couple of months you should be able to pay for your detector but to do this you must put some effort into learning the full operating potential of the detector. If you want the best results and are willing to be patient and learn then the outcome will be satisfaction with your detector and the fascinating experience of the 'hunt'.

SPECIAL NOTE: Col Webster (Australia's King of Treasure Hunters) has written a precise instruction sheet for this unit – this allows you to operate this unit quickly – but don't buy this unit unless you are prepared to spend a minimum of 20 hours solid practice first. Although you will get excellent results from this unit, it is primarily intended for the serious prospector who is willing to spend many months getting used to the intricacies of this kind of unit!



FEATURES: ☐ VLF/TR discrimination circuitry and selector switch ☐ Push button retuning mounted in the handle ☐ Power through the high/low sensitivity control ☐ Tuning/volume control ☐ Full range discrimination control allows this unit to reject nails, bottle caps, pull-tabs, and even aluminium screwcaps ☐ Wide range VLF ground control through a ten turn knob which allows good penetration and easy operation over mineralised ground ☐ Wide range high a: 1 low pitch tone control enables you to set the detector to your hearing preference ☐ Dual circuit battery checker ☐ Easy battery access, uses 4 x 9V transistor type batteries ☐ Heavy duty 200mm and 250mm search coils that are waterproof (don't forget that the rest of the detector is NOT waterproof!) ☐ Adjustable dual stem locking system, no more 'slop' in the stem ☐ Large meter with 'Dayglo' needle to indicate discrimination and battery condition plus it even tells you where to dig! ☐ Stereo headphone jack for more precise detection (use stereo headphones with volume control as this unit emits a powerful sound) ☐ Lightweight, approximately 1.6kg with 200mm coil ☐ Balance - exceptional ☐ Durability - heavy duty (but lightweight) ☐ Precision "X" pinpointing - it's actually marked on the coils ☐ Frequency 15kHz.



IDEAL FOR USE IN THE HOME, OFFICE OR FACTORY

ONLY \$9.95

Cat. Y-1060

SUPER SENSITIVE METAL LOCATOR

How often have you needed to find a nail in a wall or in a piece of timber, locate a water or gas pipe, reinforcing steel in a building, wires and cable behind plaster? This little beauty will do just that, and lots of other jobs requiring metal location. Has sensitivity control that can be adjusted from the smallest nail to the largest R.S.J. Indication light comes on in the presence of metal up to 6" or more. (Range depends on size, shape and type of metal). Operates from a single 9V transistor battery. Ideal for plumbers, electricians, builders, handymen etc.

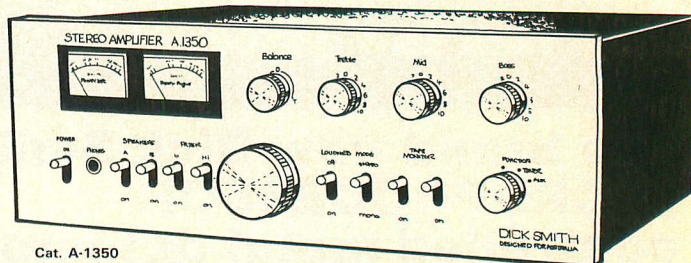
DICK SMITH 55 WATT PER CHANNEL STEREO AMPLIFIER

DICK SMITH
DESIGNED FOR AUSTRALIA

This is the top of the range stereo amplifier from Dick Smith and a truly superb unit it is, with 55 watts r.m.s. per channel output. The front panel has many user controls to make the sound of your total Hi Fi system sound tremendous. Take for example the tone control network, not only do you have the usual bass and treble controls but there is also a midrange control, something that is found only on the very best amplifiers. The large volume control is immediately below the balance control so the job of balancing stereo for your speakers is made that much easier. Large illuminated power meters tell you the amount of power getting to your speaker system. Plus many more features and to top the lot the electronics are the very latest including dual power supplies to improve the stereo separation and stability. If you are after power and quality in the one package then you can't lose with the Dick Smith 55 watt amplifier.

SPECIFICATIONS: Circuitry direct coupled OCL • Semiconductors 37 transistors, 30 diodes • Continuous power 55 watts RMS into 8 ohms (both channels driven) • Total harmonic distortion less than 0.2% @ 55 WRMS • Frequency response @ plus/minus 1dB 20Hz to 30,000Hz • S/N ratio greater than 60dB (mag.), greater than 80dB (tuner and aux.) • Channel separation 46dB • Input sensitivity and impedance, magnetic cartridge 2.8mV/50k ohms, all other inputs 150mV/50k ohms • Tape A & B output level and impedance 30mV/50k ohms • Magnetic equalizer (NBF type RIAA standard) plus/minus 1dB • Magnetic phono overload greater than 100mV @ 1kHz • Tone control Bass plus/minus 10dB @ 10kHz, mid-range plus/minus 10dB @ 1kHz, treble plus/minus 10dB @ 10kHz • Loudness plus 10dB @ 100Hz • Filters high 10kHz -8dB, low 50Hz -8dB • Power consumption 160 watts • Power requirements 240V AC 50Hz • Dimensions 420(W)x150(H)x352(D)mm • Weight 10.5kgs.

- ☆ **DUAL POWER SUPPLY FOR IMPROVED STEREO SEPARATION**
- ☆ **INCLUDES MID-RANGE CONTROL**
- ☆ **55 WATTS PER CHANNEL**



Cat. A-1350

**55 WATTS PER CHANNEL
STEREO AMPLIFIER FOR ONLY
\$229**

DICK SMITH AM/FM STEREO TUNER

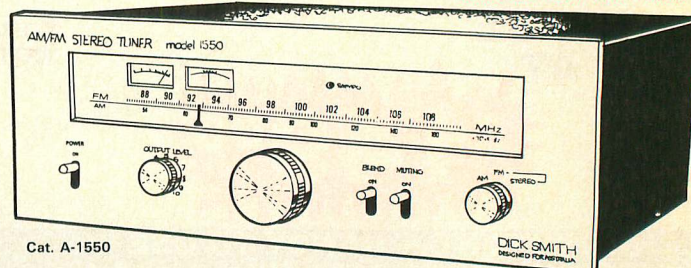
Matches the above 55 watt amplifier. . . .

DICK SMITH
DESIGNED FOR AUSTRALIA

- ☆ **AM/FM STEREO TUNER FOR DISCERNING MUSIC LOVERS.**
- ☆ **SUPERB PERFORMER**
- ☆ **TWIN METERS FOR EASE OF USE**

**TOP OF THE RANGE STEREO TUNER
WITH ADVANCED FEATURES AT ONLY
\$199**

**SAVE MONEY WITH DICK
SMITH HI FI - QUALITY AND
PERFORMANCE FOR LESS
MONEY!!**



Cat. A-1550

This is the superb tuner that matches the above amplifier. To appreciate how good this tuner is you will just have to switch it on! The tuning control lets you glide up and down the bands without effort and when you are on a station the illuminated signal strength and tuning meters will let you know exactly what your signal is like plus for FM stereo the LED stereo beacon will glow immediately you are on a stereo station. There is a output control to balance the output of the tuner with the volume of your amplifier plus a blend control for removing high frequency 'hash'. A quality stereo AM/FM tuner that will match with our own amplifier or most other amplifiers on the market.

SPECIFICATIONS
FM SECTION: Circuitry 1 FET, 1 stage RF amplifier, 3-gang variable capacitor, 5 stage limiter, PLL MPX • Frequency range 88-108MHz • Sensitivity 1HF 1.9uV • S/N ratio 70dB (mono) • Total harmonic distortion 0.2% (mono) @ 1kHz, 0.3% (stereo) @ 1kHz • Frequency response 30Hz to 15kHz +0.2dB -2.0dB • Separation 40dB @ 1kHz • AM SECTION Frequency range 525-1605kHz • Sensitivity 200uV/m (1HF ferrite antenna) 15uV (1HF external antenna) • AUDIO 0-750mV variable • Semiconductors 1 FET, 2 IC's, 9 transistors and 7 diodes • Power requirements 240V AC 50Hz • Dimensions 420(W)x150(H)x352(D)mm.

See the antenna page for an FM antenna to suit the Dick Smith stereo tuners.

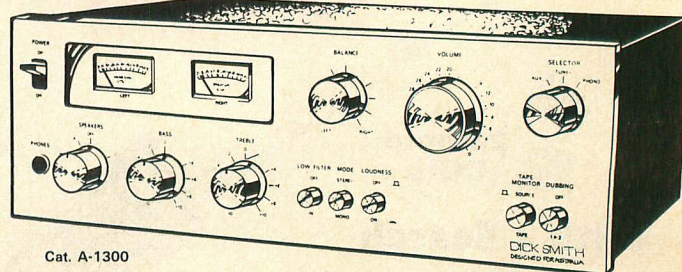
DICK SMITH 30 WATT PER CHANNEL STEREO AMPLIFIER

OUTSTANDING VALUE AT \$199

- ☆ **30 WATTS PER CHANNEL**
- ☆ **MODERN STYLING**
- ☆ **SUPERB VALUE**

**MADE FOR DICK SMITH BY A
FAMOUS JAPANESE
MANUFACTURER. . .**

A true Hi Fi amplifier with plenty of power for most people. If you require maximum control then this amplifier has it! Switch on and the twin power meters will light up ready to show you the amount of power going to your speakers when the volume is increased. The volume control is extremely smooth with click stops for every 2dB increase in volume. Balance up the stereo image with the balance control - right next to the volume control for ease of use. Select your particular program source - tuner, turntable, cassette or tape player etc., and you are ready for the brilliant output of this stereo amplifier. Other controls include bass and treble for setting the kind of tone that you like, a low filter to remove annoying low frequency sounds, a stereo/mono switch, loudness and a choice of switching between different speaker systems or just switching the speakers totally off for an evening of headphone listening - it all adds up to a superb listening experience.



Cat. A-1300

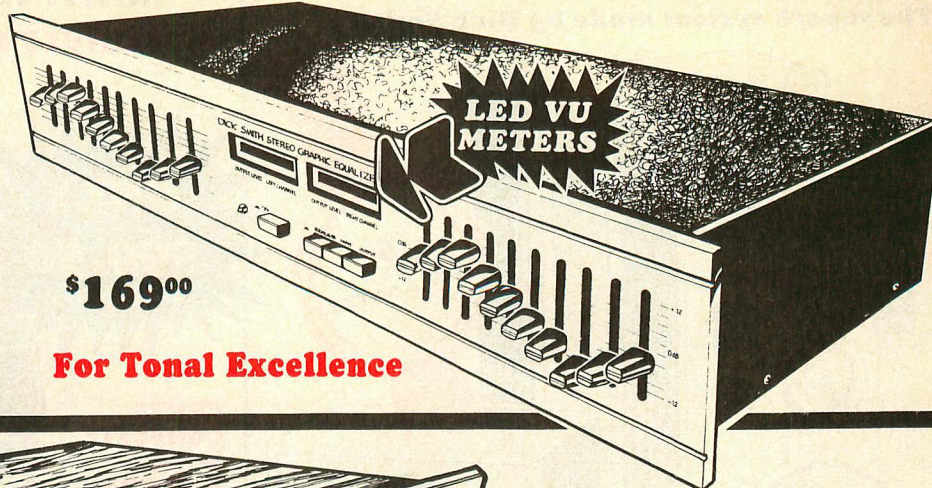
SPECIFICATIONS: Continuous power both channels driven at 1kHz, 0.5% THD - A or B 30 watts r.m.s. per channel @ 8 ohms or A + B 30 watts r.m.s. per channel @ 4 ohms • Total harmonic distortion no more than 0.1% @ 3 watt output • Frequency response 30 - 20,000Hz, 1,000Hz = 0dB, -2dB down • Phono (moving magnet cartridge) 3mV/50k ohms output 30 watts • Tape in 100mV/50k ohms • Tape out 80mV/50k ohms • DIN connector in 100mV/50k ohms • DIN connector out 50mV/100k ohms • Bass control +10dB, -10dB at 50 Hz • Treble control +10dB, -10dB at 10kHz • Loudness control +5dB @ 10kHz and +8dB @ 50Hz • Low cut filter -8dB @ 50Hz • Minimum volume hum and noise 2mV @ 40Hz, low filter in • Semiconductors: 35 transistors and 12 diodes • Power consumption maximum 180W 50/60Hz • Dimensions: 400(W)x 135(H) x 290(D)mm • Weight 6.2kg.

Cat. A-1300 **\$199.00**

THE DICK SMITH DELUXE GRAPHIC EQUALIZER

A fantastic new import for the Dick Smith range of hi fi. This is a 10 band graphic equalizer with advanced features. The 10 bands cover the following frequencies: 30Hz, 60Hz, 120Hz, 240Hz, 500Hz, 1kHz, 2kHz, 4kHz, 8kHz and 16kHz in steps from minus 12dB to plus 12dB! The design includes output LED meters for both channels and for added versatility there is two switchable inputs and outputs. The dimensions of the cabinet are 65(H) x 400(W) x 180(D)mm and the front panel 67(H) x 430(W)mm.

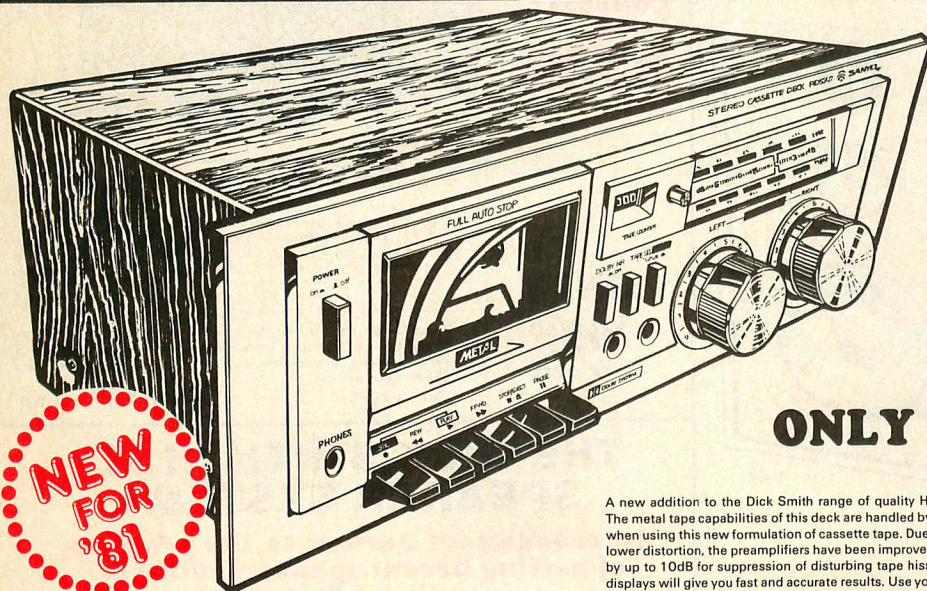
This graphic equalizer will add new dimensions of sound to your system, it will enable you to set up your speakers correctly for a balanced sound and with careful use of the frequencies you can bring out and emphasise any particular instrument or vocal that you want. In today's world of hi fi the graphic equalizer has found its place in many hi fi systems due to its versatility. Why don't you give your sound a shot in the arm - with the Dick Smith Graphic Equalizer. . .



\$169⁰⁰

For Tonal Excellence

Cat. A-1650 **\$169.00**



SANYO

**Stereo Dolby* Cassette
Deck with METAL Tape
Capability and LED
Level Meters. . .**

Model RD 5009

ONLY \$169

A new addition to the Dick Smith range of quality Hi Fi systems is this superb Sanyo Model RD 5009 cassette deck. The metal tape capabilities of this deck are handled by the Permalloy head and a stronger bias oscillator, necessary requirements when using this new formulation of cassette tape. Due to the increased dynamic range experienced with this tape and its inherent lower distortion, the preamplifiers have been improved upon earlier models. The Dolby* system improves the signal to noise ratio by up to 10dB for suppression of disturbing tape hiss and noise. To enable you to optimise on recording levels the dual 5 LED displays will give you fast and accurate results. Use your favourite tapes, not only Metal but Chrome and Ferric as well and be able to control bias and equalization for top class results. The model RD 5009 has a DC motor for stable tape transport with a low wow and flutter figure of 0.07%!! To protect your tapes from stretch there is a auto stop function in ALL MODES - no more the frustrations of finding your tapes damaged through cheap and nasty mechanisms. Other features include separate right and left level controls for recording, a three digit tape counter and a LED power on indicator. A top class stereo cassette deck for any Hi Fi system.

SPECIFICATIONS: ★ Recording system - AC bias ★ Erasing system - AC erase ★ Tape speed - 4.8cm/sec ★ Fast forward and rewind times - 100 seconds (C60 tape) ★ Motor - DC ★ Heads - Record/playback Permalloy, Erase Ferrite ★ Wow and flutter - 0.07% WRMS ★ Frequency response - Ferric 30-10,000Hz, Chrome tape 30-14,000Hz, Metal 30-16,000Hz ★ S/N ratio - Dolby on (Metal) 62dB, Dolby off (Metal) 54dB ★ Output level - Line 410mV (0VU) 10k ohms, Headphones 40mV/8 ohms ★ Semiconductors - 4 ICs, 13 transistors, 8 diodes and 11 LEDs ★ Dimensions - 400(w) x 136(h) x 190(d)mm ★ Weight - 4kg ★ Supplied accessories - patch cords and demo tape.

Cat. A-3510 **\$169.00**

- ☐ Metal tape handling capability
- ☐ Dolby* Noise Reduction system
- ☐ Dual 5-LED recording level displays
- ☐ CrO₂/normal tape selector
- ☐ DC motor and Permalloy recording/playback head
- ☐ Full auto stop system

DOLBY SYSTEM*

*Trademark Dolby Laboratories

DICK SMITH DIRECT DRIVE TURNTABLE

Complete, ready wired system includes base, cover, professional tone arm and Shure M70B magnetic cartridge.



**ONLY
\$199**

**Includes Shure
M70B magnetic
cartridge**

After searching for a very long time we finally found a superlative turntable that will add a touch of class to your Hi Fi system.

Everything you require is in the one package. From the acoustic feet to the deluxe base and clear acrylic cover this turntable turntable has been designed for the discerning Hi Fi buff. The heavy diecast turntable platter is full size, so your records will not hang over the sides and you can control any slight speed changes through the built in strobe unit. The professional 'S' tone arm has a detachable headshell for easy installation of the Shure M70B magnetic cartridge (supplied) or any cartridge of your choice. The oil damped lifting device will place the stylus very gently onto your record thereby preventing groove damage. At the end of the record the arm automatically returns to the rest so your stylus will not wear itself out trying to grind the centre of the record out!! The arm also features anti-skating and precise weight adjustment for whatever cartridge you use. All the time you are listening to your records the turntable will be silently revolving under the care of the state of the art electronics and direct drive motor. In a word this turntable represents CLASS.

SPECIFICATIONS: ● Drive system - direct drive ● Motor - DC servo ● Speed system - All electronic control with stroboscope timing device, 2 speed (33 $\frac{1}{3}$, 45) ● Pitch control range - plus/minus 3% ● Wow and flutter - less than 0.03% (DIN) ● S/N ratio - more than 65dB (J.I.S.), 75dB (DIN 45539B) ● Turntable platter - 12-5/32 inch solid diecast aluminium alloy (1.45kg) ● Tone arm - 'S' shaped static balance type with plug-in connector and direct reading stylus pressure ● Effective arm length - 222mm ● Over-hang - 15-15.5mm ● Tracking error - plus 3.5, minus 1 degree ● Useable cartridge weight - 4 grams minimum to 10 grams maximum ● Recommended stylus pressure - 1.5 - 3 grams ● Special mechanism - auto return, oil damped cueing device, spring type anti-skating device, anti-vibration rubber base, anti-vibration vinner-core cabinet ● Plastic dust cover - has semi free stop hinge ● Dimensions - 443 x 346 x 145mm ● Weight - 7kg.

Cat. A-3078 **\$199.00**

**NEW
FOR
'81**

PLAYMASTER SPEAKERS

The superb system made by Dick Smith



Cat. A-2364

5 YEAR GUARANTEE

The Dick Smith 5 year guarantee on the Playmaster ready built systems (3-75LC & 3-53LC) obligates Dick Smith to replace any speaker driver or crossover that proves faulty under normal usage. The cabinet is not covered under this guarantee.

Model 3 - 75LC & Model 3 - 53LC

This is the speaker system that first appeared as a kit and since then has been marketed both in kit form (see our kit pages) and ready built. Designed by Neville Williams M.I.R.E., the Editor in Chief of the superlative Electronics Australia magazine they are manufactured by Dick Smith Electronics under very strict conditions, for you! The two systems are both excellent, the major difference between the two is that the 3-75LC has 300mm woofers and the 3-53LC has 250mm woofers, the only other differences are in cabinet size and the 3-75LC has fader units built-in for both the midrange and tweeter speakers. Each speaker has a very durable simulated walnut vinyl covering and the front grilles are thick acoustic foam with a sculptured design. Why not enrich your musical life today with a Playmaster speaker system.

Specifications for the 3-75LC system: ★ Infinite baffle design ★ 80 watts peak power per speaker ★ 8 ohms impedance ★ Frequency response 28Hz to 20kHz ★ 3 speaker system - 300mm woofer, 125mm midrange and 64mm tweeter ★ High and low fader controls plus 2dB to minus 2dB ★ 75 litre enclosure ★ 3-way crossover (1.5kHz and 5kHz) ★ Dimensions: 71.7(H) x 47.5(W) x 29.3(D)cm.

Specifications for model 3-53LC: ★ Infinite baffle design ★ 60 watts peak power per speaker ★ Frequency response 35Hz to 20kHz ★ 3 speaker system, 250mm woofer, 125mm midrange and 64mm tweeter ★ 53 litre enclosure ★ 3-way crossover (1.5kHz and 5kHz) ★ Dimensions: 62(H) x 39.3(W) x 29.3(D)cm.

Model 3-75LC system Cat. A-2364 **\$399** per pair

Model 3-53LC system Cat. A-2362 **\$349** per pair

A 12" SYSTEM (3-75LC) FOR ONLY \$399

A 10" SYSTEM (3-53LC) FOR ONLY \$349

Other systems in the same class as the PLAYMASTER speakers could cost up to 2 or 3 times more!!!

SEE THE KIT SECTION FOR THE PLAYMASTER SPEAKER KITS AND THE SPEAKER PAGE FOR THE INDIVIDUAL COMPONENTS

MINI HI FI SPEAKERS

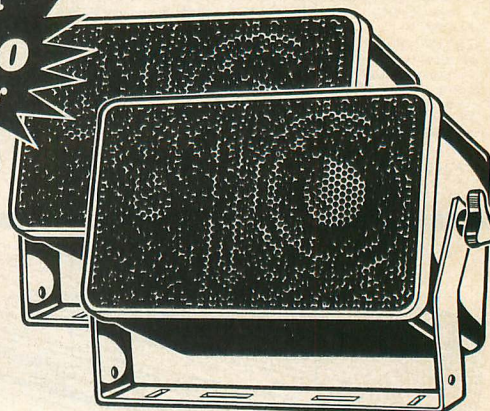
AMAZINGLY SMALL -

AMAZINGLY POWERFUL

NEW MODEL WITH 3 SPEAKERS PER CABINET

ONLY \$99.50 per pair

COMES COMPLETE WITH MOUNTING BRACKETS



These are the most amazing speakers to come on to the market in a long, long time! When hooked up to your hi fi system or even in your car they will give the most superb sound. All of the sound comes from a cabinet that measures only 120 x 120 x 190mm!! These speakers are very heavy for their size and are beautifully presented in a washable finish. Brackets are supplied for those of you who wish to mount them on a wall, in the car, caravan, truck, in fact just about anywhere. They are ideal for the unit owner who wishes for a top sound but is very restricted on space.

Specifications: ★ Die-cast aluminium cabinet ★ 8 ohms impedance ★ Input power 35 watts ★ Frequency response 35Hz to 20,000Hz ★ Three speakers per cabinet - 100mm woofer, 63mm midrange, and 25mm dome tweeter.

Cat. A-2375 **\$99.50** per pair

THE DICK SMITH HI FI SPEAKER SYSTEM

An economical answer to the problem of getting decent speakers without spending a fortune!!

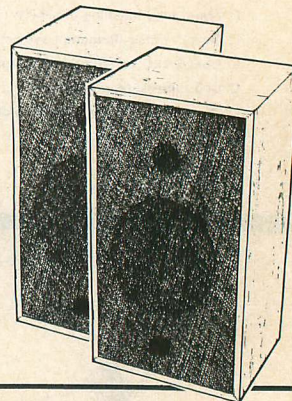
This is an impressive pair of speakers designed as bookshelf type speakers but can be used on the floor if you so desire. Each box contains a woofer 200mm in diameter and a tweeter for top end sound. Rated at 8 ohms impedance and 15 watts power handling, they are suited to most of the smaller hi fi systems on the market today. Why not buy a pair for the den or even as patio speakers for when you want to listen to music outside on those cool summer nights!

OUTSTANDING VALUE

Cat. A-2460 **\$45 EACH!!!**

HEY! THAT'S ONLY

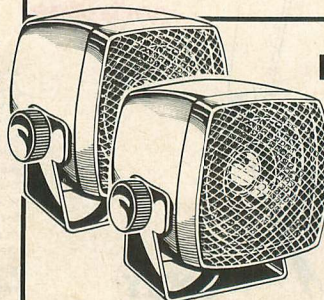
\$90.00 per pair



EXCITING MINIATURE SPEAKER

● For the Den ● For the Car ●
● For the Boat ● For the Caravan ●
● For the Home ● For the Office ●

In fact they can go virtually anywhere!!!



In fact wherever you place these speakers you'll be surprised by their outstanding performance. They are so small they can safely be held in the palm of your hand - dimensions are approximately 90(W) x 90(H) x 100(D)mm. The speakers are finished in grey with a superb mesh metal grille plus they come complete with mounting brackets with adjustable clamp screws and 3 metres of cable.

30 watts maximum per speaker into 4 ohms

Cat. A-2380 **\$39.95** per pair

2 SPEED MICRO CASSETTE RECORDER

THE VERY LATEST IN 'NOTEBOOKS'!

ONLY \$47.50



Research and development has produced this unit which has a normal and slow speed switch. This means that on a normal micro cassette you can expect 30mins per side instead of the more normal 15 minutes, or at the faster speed you get the 15 minutes per side. It uses a single 9V transistor type battery and there is provision for connecting an external AC adapter. The very small size, with built-in electret microphone, electronically controlled motor plus thumb operated, slide action record, playback and rewind controls, make this a top unit in both quality and performance.

Specifications: ● Semiconductors - 5 transistors, 2 thermistors and 1 diode ● Power output 150mW ● Size 63(w) x 125(h) x 35(d)mm ● Weight 285 grams ● Complete with battery, strap, micro cassette, earphone and instructions.

Cat. A-4040 **\$47.50**

Standard Micro Cassette

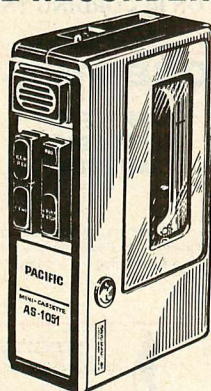
30 minute total play length (15 minutes per side) can be doubled in the above micro cassette.

Cat. C-3360 **\$2.95 ea.** **10 up \$2.50 ea**

MINI CASSETTE RECORDER

USES A STANDARD CASSETTE

ONLY \$45

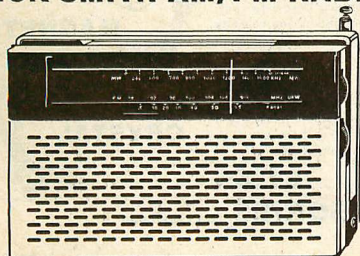


This is palm sized cassette recorder that is ideal for recording anything that would ordinarily be very difficult with a standard sized cassette recorder, this would include lecture notes, interviews, conference table matters etc. It uses a standard cassette which can be replayed in any other type of mono or stereo cassette recorder taking the standard compact cassette. It has thumb operated controls making it very easy to use and the microphone is inbuilt making the whole unit self contained. There is provision for connection of external power (6V DC), earphone and remote control. A big feature of this unit is the review button—if you are listening to music or a foreign language tape, you can press the review button and rewind the tape to wherever you wish without disengaging the play button, when you release the review button the tape will play immediately. There is also a fast forward button and pause control.

Specifications: ● Power 6V DC from 4 penlight batteries (supplied) ● Transistors 6, Diodes 2 ● Wow and flutter 0.35% ● S/N ratio 35dB ● Cross talk 45dB ● Frequency response 300 - 6,000Hz ● Terminals - earphone jack (earphone supplied), 6V DC jack, remote jack ● 3.7cm speaker ● Transistor governor DC motor ● Weight 560 grams ● Size 42 x 151 x 115mm ● Case and instructions supplied.

Cat. A-4050 **\$45.00**

DICK SMITH AM/FM RADIO



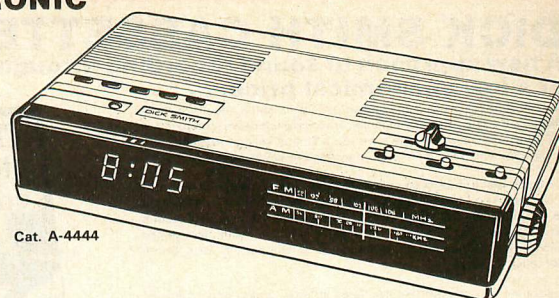
This is both an AM and FM radio with the choice of either battery operation (uses 4 penlight cells Cat. S-3003 - not supplied) or 240V AC, the AC cord and plug will actually tuck inside the radio when not in use. The large speaker gives a superb sound with clarity and very little distortion. The radio contains 10 transistors and 6 diodes and has a maximum power output of 400mW. Dimensions are 210(w) x 140(h) x 51(d)mm and weight is 600 grams.

Ideal for use anywhere, small enough to pack when going on holiday, take it to the beach, use it in the kitchen or on a picnic.

Cat. A-4325 **\$22.50**

DICK SMITH ELECTRONIC CLOCK RADIO

- full fidelity AM/FM radio
- green digital readout for clock
- wake to music or buzzer alarm
- 59 minute sleep timer with auto shut-off and touch sensor
- auto brightness control
- power failure indication

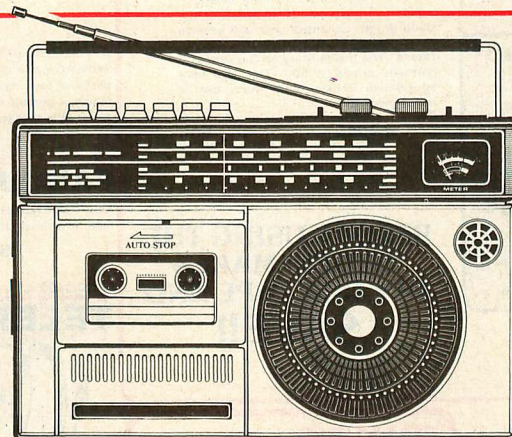


Cat. A-4444

ONLY \$45.00

Modern styling, electronic digital readout and above all else, quality make this unit a very desirable item. The large easy to read digits are as accurate as the day is long! When a power failure occurs the time digits will blink to let you know that the time may be incorrect. The tuning dial for the AM and FM bands is easy to use and the station of your choice is easy to locate. The complete time control adjustment knobs are aesthetically placed on top of the unit to facilitate the correction of time or for the setting of the alarm function, either a buzzer or radio turn-on. Complete with inbuilt antenna systems and full instructions.

Cat. A-4444 **\$45.00**



DICK SMITH AM/FM/SW RADIO CASSETTE

ONLY \$75.00

Besides the AM and FM bands you also get a short wave! The unit works on both 240V AC and 6V DC. The three-way meter provides indication of battery condition, plus record and playback levels as well. You can either record direct from the radio or use the built-in microphone for live recordings. For those of you wishing to record from a TV, another radio or external microphone there is provision to do this through the EXT MIC jack. A 'sleep' timer is provided which enables you to use a standard cassette in conjunction with the radio to provide a period of music before you go to sleep at night, the time depends on the length of tape used.

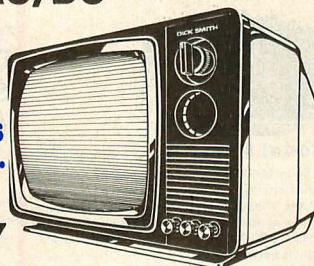
Specifications: ● Frequency range AM 540 - 1600kHz, SW 3.2 - 12MHz (90 - 25 metres), FM 88 - 108MHz ● Semiconductors: 10 transistors, 2 IC's, 11 diodes and 2 rectifiers ● Power output 3 watts maximum ● Wow and flutter 0.35% ● Dimensions 31.75(w) x 20.96(h) x 10.2(d)cm.

Cat. A-4016 **\$75.00**

30cm BLACK & WHITE TV - AC/DC

FOR THE DEN OR RUMPUS ROOM...

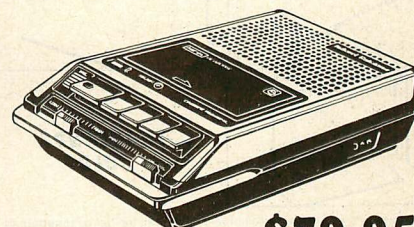
ONLY \$99



This is a superb quality black and white TV of 30cm diagonal screen measurement (12" in the imperial scale). The ideal take anywhere TV that can be used on the 240V AC mains or from the battery in your car. It also makes an ideal TV for use with the Dick Smith System 80 Computer. It even has an earphone socket for the late night movie fanatic - don't disturb the neighbours or your family.

Cat. Y-1198 **\$99.00**

National Panasonic Model RQ-2133



\$79.95

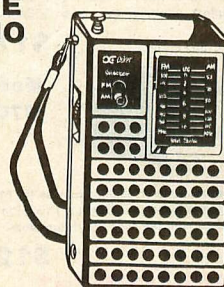
TOP QUALITY CASSETTE RECORDER

Although this unit has been recommended for use with the Sorcerer computer it makes an ideal home cassette player/recorder also. It can be used with the 240V AC mains or with 4 'C' type batteries. Piano key operation with single touch record function and a mechanical pause. The dimensions of the unit are: 14.9(W) x 7.4(H) x 26.2(D)cm and it weighs 1.3kg without the batteries. National - a top name for quality.

Cat. A-4095 **\$79.95**

POCKET SIZE AM/FM RADIO

SLIPS EASILY IN YOUR POCKET!

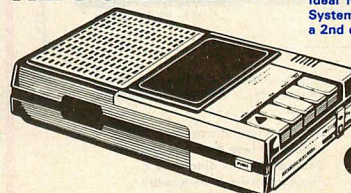


Put it in your coat pocket or slip it into your handbag - wherever you put this radio it will always be ready to give you superb sound on both AM and FM. The tuning dial and volume controls are easy to use and for reception there is a built-in ferrite rod for AM and a fully extending antenna for FM. Clear precise sound from the speaker will keep you in touch with the news and music of today! Uses a standard 9 volt transistor battery and comes complete with battery for instant use.

Cat. A-4364 **\$12.75**

DICK SMITH BATTERY/MAINS CASSETTE RECORDER

Ideal for use with the System 80 computer as a 2nd cassette source!



ONLY \$45

In-built condenser microphone, 240V AC mains or battery operation, piano key function controls, automatic stop at end of play, automatic gain control, slider volume control - all adds up to a top selling cassette recorder for your favourite music. Why pay the earth when Dick Smith can supply what you want at a reasonable price! It comes complete with instructions, batteries, earpiece and its dimensions are: 260 x 140 x 65mm and weighs 1.7kg.

Cat. A-4092 **\$45.00**

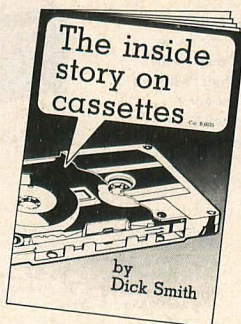
DICK SMITH CASSETTE TAPES

A new approach to sound recording through top quality tape at a low economical price. . . .

The Dick Smith cassette tape comes from a substantial manufacturer of bulk magnetic tape. This manufacturer is virtually unknown (compared to TDK, Hitachi, Sony etc) but he turns out a tape of very good quality and consistency. This tape is sold to countries the world over.

Dick Smith Electronics is supplied with this tape on 'webs' (large rolls) and we deliver it to our overseas assembly plant. There it is tested, slit and assembled into cassette shells manufactured for us to exacting specifications. After packing in the shells it is tested again, then sealed against dust and moisture, and then it is shipped to Dick Smith Electronics in Australia.

Because we do not advertise our tapes in large, glossy and expensive magazines, we have been able to offer these tapes substantially lower in price than competitive tapes, and even more, if you buy 10 or more cassettes you get an even greater saving!!!!



When you purchase 10 or more of the Dick Smith cassettes you will receive absolutely FREE OF CHARGE a copy of Dick's 'The Inside Story on Cassettes' - normally priced at 50c. This is a very informative booklet with many details about cassettes. Can be purchased separately. Cat. B-6035 50c

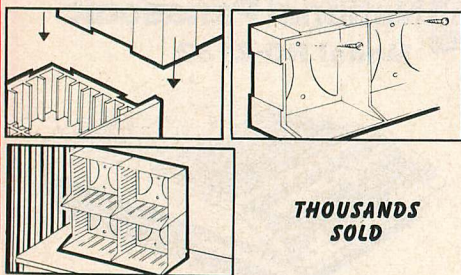
BEFORE USING THE 'OTHER' MAKES TRY OUR TAPE AND SAVE!!

C60 low noise
Cat. C-3350
Pay only **\$1.50** ea.
10 or more **\$1.00** ea.

C90 low noise
Cat. C-3352
Pay only **\$2.00** ea.
10 or more **\$1.20** ea.

C90 extended dynamic range
Cat. C-3354
Pay only **\$2.75** ea.
10 or more **\$1.90** ea.

CASSETTE LIBRARY

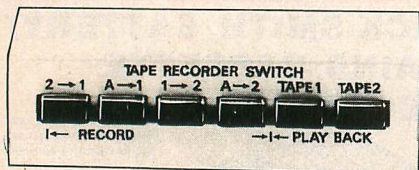


THOUSANDS SOLD

Each carton contains two cassette holders which can be locked together, in any design, and screwed to the wall or made free standing as shown in the illustration. If you store cassettes without their cases you will be able to have up to 32 cassettes stored horizontally and if they are in their cases 20 cassettes vertically. Great value for the avid cassette collector!

Cat. C-3800 Pack of two units. **\$6.50**

TAPE RECORDER DUBBING SWITCH



If you have the opportunity to dub tapes of any kind and don't have a dub-dub facility on your amplifier, then this is the ideal switching box. Just look at what this unit can do for you:-

- | | |
|-------------------|------------------------------------|
| 2 - 1 | Dub from tape 2 onto tape 1 |
| A - 1 | Record on tape 1 via the amplifier |
| 1 - 2 | Dub from tape 1 onto tape 2 |
| A - 2 | Record on tape 2 via amplifier |
| Tape 1 - Playback | Play tape 1 through amplifier |
| Tape 2 - Playback | Play tape 2 through amplifier |

A complete dubbing centre at your fingertips!

Cat. C-7220 **\$19.95**

Illustration could differ cosmetically from supplied unit!

HITACHI CASSETTES

The top quality Hitachi cassette tapes at less than recommended retail.

C60LN . . . Cat. C-3060 . . .	\$1.95
C90LN . . . Cat. C-3065 . . .	\$2.75
C60UD . . . Cat. C-3070 . . .	\$3.25
C90UD . . . Cat. C-3075 . . .	\$3.95

TOP VALUE



TAPE HEAD DEMAGNETIZER



This unit is ideal for use with all audio tape machines using magnetic tape. It simply plugs into the 240V AC mains and by using it like a wand you literally 'sweep' the excess magnetism from the heads of your machine. Full instructions are supplied. As a point of interest most heads would require a 'demag' after approximately 5-10 hours of use! If you are getting noisy recordings then it is possible that your heads need a 'sweep'!

Cat. C-7222 **\$6.95**

FAMOUS NAME REEL-TO-REEL TAPE

A top name tape at a realistic price. This is a 178mm reel complete with 732 metres of recording tape (low noise) that has been used by the experts for a long time.

SAVE ON RECORDING TAPE - NOW!!!

Cat. C-3406 **\$9.95**

TELEPHONE PICK-UP

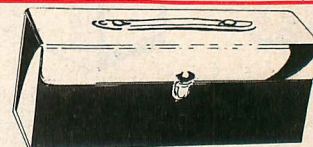


COMPLETE WITH LEAD AND PLUG

This accessory can be fitted to your intercom or any piece of equipment that has low output sound levels. Fitting is achieved via a suction pad. Record directly onto tape or feed into a more powerful amplifier. Comes complete with a 3.5mm plug and 1 metre of lead. Just attach and you are ready to record!

Cat. C-7300 **\$1.50**

CASSETTE STORAGE CASE



This is a deluxe vinyl cassette case complete with handle and fastener for storing up to 16 cassettes - ideal for the sound enthusiast on the move! The case helps protect your valuable cassettes from the environment. Put one or two in your car when going on long trips.

Cat. C-3810 **\$2.75**

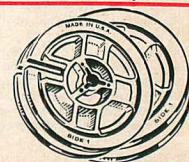
EMPTY REELS

These are high quality empty tape reels in tough plastic. 127mm spool

Cat. C-3482 **\$1.30**

178mm spool

Cat. C-3484 **\$1.45**



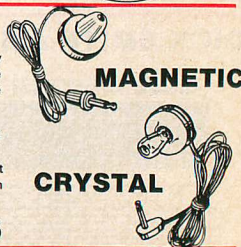
EARPIECES

Magnetic 8 ohm earpiece with 3.5mm plug. Used extensively in the consumer industry to go with radios and cassette recorders etc. Lightweight for easy listening and miniature cord for non-tangle use.

Cat. C-2760 **95c**

Crystal high impedance earpiece with 3.5mm plug. Use it with your crystal set or for monitoring from any high impedance output. Lightweight and easy to use.

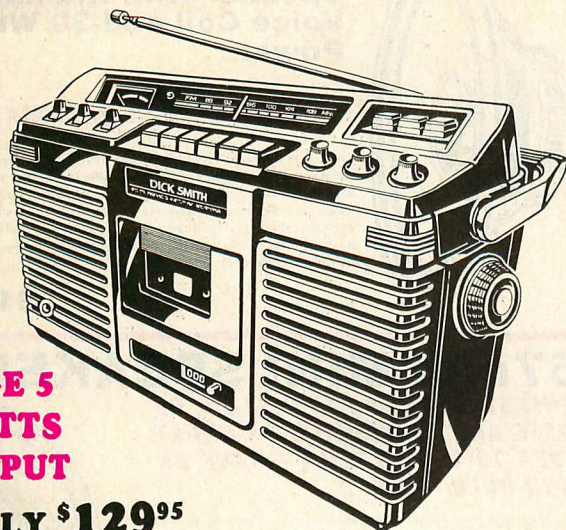
Cat. C-2765 **\$1.45**



AUDIO ACCESSORIES

Cassette Splicing Tape	Cat. C-7084	\$1.45
Cassette Labels and Sprocket Locks	Cat. C-7086	\$2.95
Cassette Head Care Kit	Cat. C-7088	\$2.95
Cassette Head Demagnetising and Cleaning Fluid	Cat. C-7090	\$4.50
Deluxe Record Cleaning Kit	Cat. C-7092	\$3.95
Deluxe Record Cleaning Arm and Brush	Cat. C-7094	\$4.95

AM/FM STEREO CASSETTE RECORDER



HUGE 5 WATTS OUTPUT

ONLY \$129⁹⁵

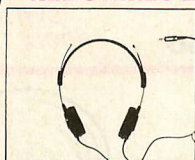
A top quality stereo cassette player with in-built AM radio and the delightful FM stereo. It has two large, 100mm, dynamic speakers for superb stereo reproduction over the frequencies 60Hz to 12.5kHz. It will record on normal Ferric tapes or Chromium Dioxide and when recording you can use either the in-built condenser microphones or record direct from the radio. Tuning is simple with the clear and precise tuning dial and meter plus for stereo FM broadcasts there is a LED stereo indicator. The condition of the batteries may be checked at any time as the tuning meter also acts as a battery checker. The output power is a huge 5 watts and if you require more stereo separation external speakers may be connected. Other features of this model include: 'sleep' function, stereo headphone socket, DIN socket for connection to external stereo amplifier, battery, AC mains or 9V DC adapter (optional) operation, auto stop on record and playback etc.

Cat. A-4020 **\$129.95**

THE GO ANYWHERE STEREO CASSETTE



FOR JOGGERS, GOLFERS, WALKERS, OFFICE WORKERS - IN FACT FOR ALL SITUATIONS AND ALL STEREO BUFFS...



INCLUDES SUPER LIGHTWEIGHT STEREO HEADPHONES

Listen to your favourite pre-recorded stereo cassettes wherever you are...!

ONLY \$99 GREAT VALUE

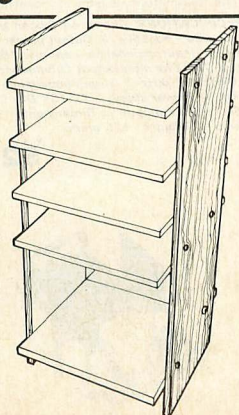
This stereo cassette player measures only 38mm deep by 113mm high by 146mm wide and has a strap that enables you to wear it over the shoulder or if you so wish on your belt. It can be powered by an optional 6V DC power pack (Cat. M-9525 see power supplies) or 4 penlight batteries. This is a cassette play only unit for listening to your favourite cassettes wherever you may be. It also incorporates a 'Talk' button; this lets you talk with other people whilst listening to your stereo cassette. The volume of the music is decreased and you will be able to hear both yourself and the other people through the headphones when the button is depressed. The frequency response is more than adequate for good clean sound and to protect your tapes from damage there is an auto shutoff mechanism in the play mode. One pair of headphones are supplied with provision for another pair to be used - see stereo headphones opposite.

Cat. A-4055 **\$99.00**

DON'T KNOW WHERE TO PUT YOUR HI FI?

The answer:

A DICK SMITH HI FI CABINET!



After buying your Hi-Fi system there is often the problem of where to put it. Dick has the answer with this beautifully prepared kit cabinet - it comes to you in knock-down form, so it is easy to transport home in the boot of your car, and then you follow the simple instructions to put it together. Actual construction should take less than one hour and the result will set off your system superbly! There are five compartments each one having a front to rear depth of 370mm and side to side measurement of 470mm. At a height of 940mm it does not intrude into your decor by being too large - it's just the right size. Finished in simulated walnut vinyl veneer on the sides, the shelves themselves are in a hard wearing black vinyl. What better way to show off your system than in a Dick Smith systems cabinet.

Cat. A-0105 **\$69.50**

STEREO HEADPHONES

ECONOMY MYLAR

ONLY \$5.95

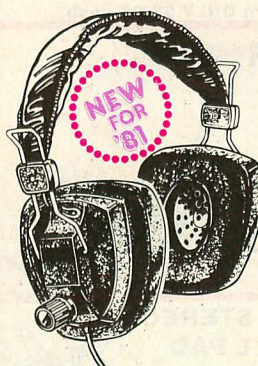


For less than \$6 you can have a pair of stereo headphones that will be a delight to listen to! Lightweight and comfortable to make your stereo listening that more enjoyable, they come complete with a lead and plug for direct connection to your stereo system. Rated at 8 ohms, they will match most of the Hi-Fi systems on the market today, and they will cover a frequency range of 20 to 20,000Hz.

Cat. C-4101 **\$5.95**

ECONOMY STEREO HEADPHONES WITH VOLUME CONTROL

ONLY \$9.95

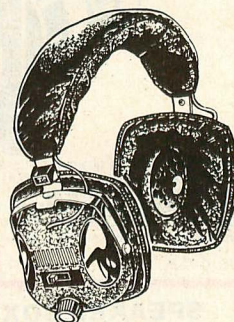


A new addition to the range of Dick Smith stereo headphones for 1981. These headphones feature a soft padded headband for more comfortable listening and they come complete with lead and standard stereo jack. To enable you to control the amount of volume to the headphones without having to get up and adjust the amplifier, there is a built-in volume control for both the left and right channels. Rated at 8 ohms and a frequency response of 20 to 20,000Hz. A great set of headphones at a low economy price.

Cat. C-4103 **\$9.95**

DELUXE STYLE WITH VOLUME CONTROL & MONO/STEREO SWITCH

ONLY \$17.50



These headphones go all the way in providing a comfortable sound. From the soft padded headband to the great frequency response of 20 to 20,000Hz. They provide total control over the volume of each earpiece and if you require them to be used in the mono mode it's simple, at the flick of a switch you can be listening to a Chopin piano concerto as it should be listened to, in mono! They are supplied complete with lead and stereo jack and with their 8 ohm impedance they will accommodate most Hi-Fi stereo systems on the market today.

Cat. C-4102 **\$17.50**

MYLAR HEADPHONES WITH VOLUME CONTROL

TOP VALUE \$22.50



Brand new for 1981 are these Mylar headphones with slider volume controls. The Mylar principle of operation enables a very slim and lightweight pair of headphones to be made that has a superb and very smooth frequency response from 20 to 20,000Hz. They are supplied complete with lead and stereo jack and they have soft padded earpieces for extra comfort. The headband is adjustable to suit any size head! Get into the great sound of stereo through a pair of Dick Smith Mylar headphones, today!

Cat. C-4105 **\$22.50**

TOP OF THE RANGE MYLAR HEADPHONES

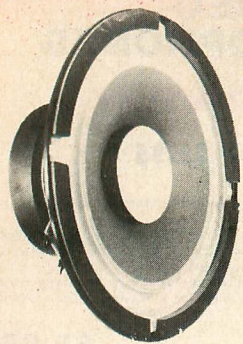
SUPERB SOUND \$29.95



These are a superb pair of stereo headphones that have been made to be ultra comfortable and give the best possible sound. They are a sheer delight to wear and the frequency is ultra smooth between 20 and 20,000Hz. The earpads are soft foam that is acoustically transparent so that every sound that is produced by your stereo is faithfully reproduced. They are complete with lead and stereo jack and they are rated at 8 ohms.

Cat. C-4124 **\$29.95**

SPEAKERS AND MODULES



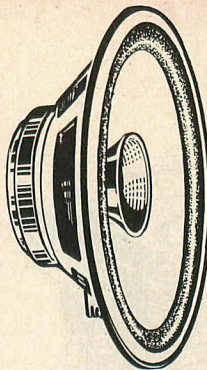
200mm Dual Cone Speaker with Dual Impedance

ONLY \$9.95

An ideal speaker for the smaller enclosures or PA work. You can even wire them in series and parallel for the really big PA jobs! This is a dual cone speaker which allows for a greater frequency range than the more conventional single cone speakers. Typically the frequency range of this speaker is 30Hz to 18kHz. The speaker has a heavy duty magnet and comes as a dual impedance speaker, 4 and 8 ohms, making it ideal for all jobs including car stereo systems. The heavy magnet coupled to the free edge suspension design allows for greater excursions of the cone under heavy audio passages.

Cat. C-2012 **\$9.95**

5 or more ONLY \$8.95 each



200mm Air Suspension Speaker with Aluminium Voice Coil and 30 Watts Power

MASSIVE 450 GRAM MAGNET!!

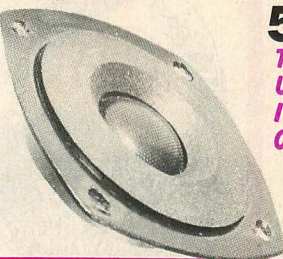
What a thumper! Powerful high compliance air suspension dual cone speaker with aluminium voice coil. Dual impedance of 4 and 8 ohms for almost any requirement. This is an amazingly powerful speaker but it is also pleasantly smooth in response. Can be used in bookshelf systems or in PA systems. It is rated at 30 watts with a free air resonance of around 35Hz. This speaker is so compliant that you could see the cone move up to 13mm on heavy audio passages.

Cat. C-2100 **\$19.75**

25mm DOME TWEETER

A superb dome tweeter that can be used as a replacement in many systems or as the basis for the development of a scratch built speaker system. The dome principle allows for an extra wide dispersion of high frequencies right up into the 20kHz region. The power handling rating of the speaker is in the region of 20 watts maximum power handling which makes it ideal for use with the Playmaster speaker systems in place of the conventional tweeter supplied. The response of this unit is very smooth over the entire upper audio frequencies. Mounting is via hole in baffle board and four screws.

Cat. C-2004 **\$14.50**



57mm MINI SPEAKER

THIS SPEAKER HAS THOUSANDS OF USES AND IT WOULD BE A GREAT IDEA TO BUY IN BULK - SAVE ON OUR BULK PRICE. . .

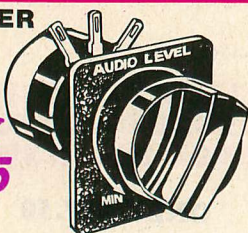
This 57mm mini speaker has performance - in fact we found that it offered more performance than speakers up to 75mm in diameter!!! Nominal impedance of 8 ohms makes it ideal for many purposes.

Cat. C-2222 **1-9 \$1.99 ea**
10 or more \$1.75 ea



HI POWER L PAD

ONLY \$5.95



CONSTANT IMPEDANCE. 15 WATTS CONTINUOUS - 30 WATTS PEAK. MONO USE 8 OHMS IMPEDANCE.

Ideal for controlling higher powered speakers placed outside for the BBQ or in a large play room. Can be mounted on a remote panel or in the speaker cabinet. Complete with instructions. Ideal for tweeter control.

Cat. C-7204 **\$5.95**

STEREO L PAD



Controls audio level (attenuation 30dB to 0.5dB) whilst maintaining constant impedance matching between amplifier and remote speakers to ensure distortion free power transfer.

PANEL OR SPEAKER ENCLOSURE MOUNTING. ESSENTIAL FOR CORRECT INSTALLATION OF REMOTE SPEAKERS.

Medium power rating into 8 ohms. Complete with instructions.

Cat. C-7205 **\$7.50**



7 WAY SWITCH

FILL YOUR HOME WITH SOUND!

Stereo selector switch enables you to select any combination of three sets of remote speakers.

TERRIFIC FOR WHEN YOU HAVE PARTIES IN MORE THAN ONE ROOM. HOW CONVENIENT TO SWITCH SPEAKERS AS YOU MOVE FROM ROOM TO ROOM - EVEN OUTSIDE

Attractive brushed gold finish steel wall plate fits any standard electrical box outlet.

Cat. C-7208 **\$6.95**



200mm GRILLE

CAN ALSO BE USED AS AN AIR VENT!!

This is a high impact, 200mm plastic grille that has thousands of uses! If you want to place speakers into the wall or ceiling of your home then this grille makes an ideal cover. Also ideal on boats and in vehicles. Has four screw hole fitting points.

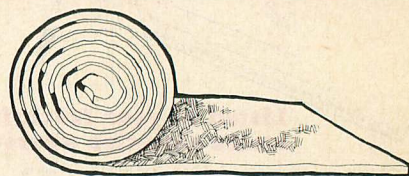
Cat. C-2646 **\$2.75**

SPEAKER BOX LINING FAMOUS 'INNERBOND' WONDER WOOL

Innerbond is light, clean, dust free and easy to handle. Fibre bonding ensures that this cellulose acetate insulation will remain resilient and not fracture or break down due to vibration. Weighs approximately 450 grams/sq. metre and is 25mm thick by 700mm wide - this is a recommended density for most speaker usage.

COMES IN A ROLL SO ORDER ANY LENGTH YOU WANT!

Cat. C-2662 **\$3.50/metre**



SEE SPEAKER FOAM IN PLAYMASTER KIT SECTION

Stereo Preamplifier FOR MAGNETIC CARTRIDGES

Complete ready to use RIAA pre-amp - simply connect power and input/output leads. Ideal for converting your present ceramic or crystal player to magnetic cartridge operation.

SPECIFICATIONS: ☆ Frequency response 15Hz - 15kHz ±2dB ☆ Equalization - RIAA ☆ Voltage gain - 35dB THD - 0.1% ☆ Input impedance - 47k ohms ☆ Output voltage - 4V max. ☆ Semiconductors - 4 transistors ☆ Supply voltage - 9-20V (1mA = 10V) ☆ Board size - 95 x 40mm (max. height 19mm).

Cat. F-4152 **\$9.75**

Microphone Preamplifier

A low impedance microphone pre-amp suitable for use with most high impedance mics. Can also be used with low impedance mics, by using M-0701 line transformer. Complete with volume control and knob.

SPECIFICATIONS: Frequency response - 20Hz to 20kHz ±1dB ☆ Voltage gain - 44dB ☆ Input impedance - 10k ohms ☆ Semiconductors - 2 transistors ☆ Output - 2 (mixed, ready for stereo amp input) ☆ Supply voltage - 9-25V (1.35mA = 10V) ☆ Board size - 50 x 40mm (max height 34mm).

Cat. F-4154 **\$9.50**

15 Watt Universal Audio Amplifier

Solid state amplifier with multi-tapped output transformer. Suitable for PA use, power intercom, megaphone, transmitter modulator, etc. Ideal for in-car use.

SPECIFICATIONS: Circuit - 4 Silicon transistors - ☆ Ground - negative ☆ Output power - 15 watts max. ☆ Input impedance - approx. 15k ohms ☆ Input - 10mV for rated output ☆ Frequency response - 200Hz to 10kHz ☆ Output impedance - 4, 8 & 16 ohms ☆ Power supply - 12-15V DC ☆ Current - 1.8A for max output ☆ Dimensions - 100 x 60 x 35mm ☆ Weight - 175 grams.

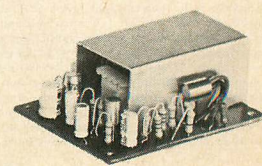
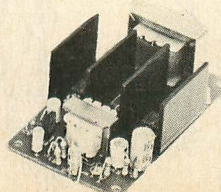
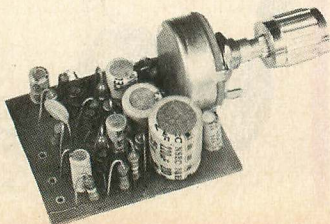
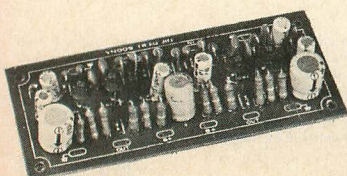
Cat. F-4115 **\$24.50**

5 Watt Universal Audio Amplifier

A four transistor amplifier with multi-tapped output transformer. Ideal for use with radios, intercoms, transceiver modulators etc.

SPECIFICATIONS: Circuit - 4 transistor push-pull output ☆ Output power - 5 watts max. ☆ Frequency response - 50Hz to 15kHz ☆ Input - 20mV for 3 watt output ☆ Input impedance - about 50k ohms ☆ Output impedance - 4, 8 & 16 ohms ☆ Power supply - 9V DC ☆ Current - 20mA no signal ☆ Dimensions - 75 x 55 x 30mm ☆ Weight - 120 grams.

Cat. F-4105 **\$15.95**



BUILD YOUR OWN KIT SPEAKERS AND SAVE A FORTUNE!!

There are three different ways of purchasing speakers from Dick Smith Electronics. The first way is to buy in the ready built form and these are shown in the Hi Fi section; they include ready built Playmaster speaker systems. The second method is to buy a complete kit of Playmaster speakers and details on this method can be found in the kit section along with the other Playmaster kits which includes amplifiers and a graphic equalizer etc. The third and last method is to start from scratch with component speakers, faders, crossovers etc., as shown on this page. You can buy boxes (cabinets) and put your own choice of speakers in them, or buy a woofer as a replacement for a blown woofer in your existing system, even add faders to an existing system. The possibilities are endless. The units shown on this page are the same as those used in the Playmaster kit systems and ready built systems.

300mm WOOFER

This is the same woofer as used in the Playmaster 300mm speaker system (3/75L). Superb reproduction of bass notes can be achieved by using this woofer and a suitable speaker box (i.e. the Playmaster 3/75L system). Features: ● 8 ohms impedance ● 80 watts maximum power handling ● Acoustic suspension design driver with a free air resonance of 35Hz.

Cat. C-2022.....\$39.00

250mm WOOFER

This is the woofer used in the Playmaster 250mm system (3/53L). It can be used with the other speakers on this page for constructing a great speaker system or it can be used as a replacement speaker for any system using a 250mm woofer. Features: ● 60 watts maximum power handling ● Free edge design ● 8 ohms impedance ● 35Hz free air resonance ● Capable of massive cone excursions without polling!

Cat. C-2024.....\$32.95

125mm MID-RANGE

A very smooth and quality conscious mid range speaker. This speaker is very important to any system as it fills the gap left between the woofer and the tweeter. Modern design has enclosed the rear of the speaker, therefore there is no need for a separate midrange enclosure in the cabinet. This unit can handle high power.

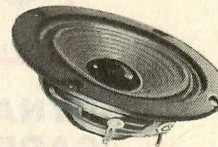
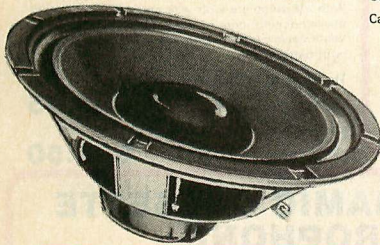
Cat. C-2028.....\$14.50

SUPERB SOUND SUPERB VALUE

64mm TWEETER

This superb tweeter features an aluminium dome directly over the voice coil so that the high frequencies can be dissipated more efficiently – especially those between 15kHz and 20kHz. A stiff curvilinear cone transducer handles lower frequencies down to 2kHz! Impedance is 8 ohms with a high power handling capacity.

Cat. C-2032.....\$9.75



SPEAKER KITS - drivers and crossovers

300mm The complete kit of speaker drivers as used in the Playmaster 3/75L system. Each box contains two each of the following: C-2022 300mm woofers; C-2028 125mm mid-range; C-2032 64mm tweeters; C-2513 3-way crossovers; C-7210 and C-7212 fader controls plus instructions and wiring harness. Design your own boxes or use the C-2622 box as shown on this page.

Cat. C-2042.....\$164.00

250mm As used in the Playmaster 3/53L speaker system. Two each of the following units are supplied: C-2024 250mm woofers; C-2028 125mm mid-range; C-2032 64mm tweeter, C-2513 crossovers, plus wiring harness and instructions. You can use the box kit C-2624 as shown on this page or design your cabinets. The faders C-7212 and C-7210 can be used with these drivers.

Cat. C-2044.....\$139.00

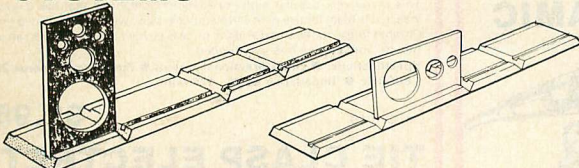
200mm As used in the Playmaster 3/26L speaker system. With each kit you receive two each of the following: 200mm woofers, 125mm mid-range, 64mm tweeters, crossovers, wiring harness and instructions.

Cat. C-2046.....\$80.00

SOLD AS A PAIR ONLY!



SPEAKER CABINETS FOR PLAYMASTER SYSTEMS



CAN BE USED WITH OTHER SPEAKERS OF YOUR CHOICE

KIT 1 (Playmaster 300mm)

Deluxe wooden box kit supplied in a flat pack. Covered in Walnut vinyl veneer that acts as a hinge so that the construction of the box is simply wrap around the baffle and glue! This is the same box as used with the Playmaster 3/75L system and each flat pack contains: two wrap around boxes, two baffle boards (with cutouts for the 3/75L), two rear panels, innerbond, velcro connections and two sculptured foam grilles. Capacity is 75 litres and the measurements are 71.7(H) x 47.5(W) x 29.3(D)cm.

Cat. C-2622.....\$134.00

KIT 2 (Playmaster 250mm)

This kit is the same as the 300mm kit except for the following details: it has 53 litre capacity with dimensions of 62(H) x 39.3(W) x 29.3(D)cm. Front baffle board is pre-cut for the Playmaster 3/53L system.

Cat. C-2624.....\$109.00

KIT 3 (Playmaster 200mm)

Same details as the 300mm and 250mm systems except for the following: 26 litre capacity with dimensions of 53.5(H) x 32(W) x 22.6(D)cm. The front baffle is pre-cut for the Playmaster 3/26L system.

Cat. C-2626.....\$79.50

CROSSOVER NETWORKS

3 WAY

As used in the Playmaster 3/75L, 3/53L and 3/26L speaker systems. Has 8 ohm impedance. Two inductor network with non-polarised capacitors. Crossover frequencies of 1.5kHz and 5kHz plus high power handling capacity. This unit may be used in conjunction with Faders C-7210 and C-7212.

Cat. C-2513.....\$12.50

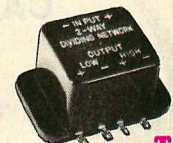
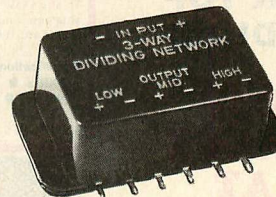
2 WAY

Impedance of 8 ohms and a crossover frequency of approximately 3kHz. The special inductor/capacitor circuit ensures good crossover characteristics. Can be used in your own designs for a two way speaker system.

Cat. C-2512.....\$8.50

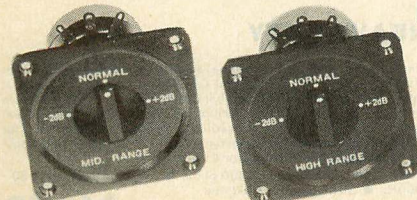
3-WAY \$12.50

2-WAY \$8.50



TOP VALUE

FADERS - High and Mid Range Level Controls



Whether you have ready-built speakers, or you are making your own speakers to your own design, or modifying the Playmaster 200 and 250mm systems these faders will improve your control over the sound from your speakers. Dual concentric, heavy duty wire wound elements ensure proper loading of the crossover and amplifier at all times.

● High power handling capacity ● Attractive and easy to mount ● Latest flush mounting design ● Fully sealed front and back - no air leaks! ● ±2dB calibration markings ● Available with either high or mid range markings.

Cat. C-7210.....MID RANGE.....\$7.50
Cat. C-7212.....HIGH RANGE.....\$7.50

Not just faders - but constant impedance networks!

ONLY \$7.50 each

SHOTGUN ELECTRET

For long distance recording



Complete with illustrated wind shield

TOP QUALITY

When trying to record something that is not close to you, there is always the problem of side noise, making the recording very difficult. Your problems are over with this shotgun microphone, similar to those used in TV and sound studios. The cardioid polar pattern makes this unit very directional plus the long 'shotgun' type tube enables you to point this microphone at the subject to be recorded without too many worries about rear interference. It comes complete with a wind shield and 6 metres of cord.

Specifications: • Impedance 600 ohms • Frequency response 40 - 18000Hz • Power source 1.5V pencil • Ideal for naturalists, surveillance work, plays etc.

Cat. C-1069 **\$59.50**

SEE PAGE 53 FOR OTHER MICROPHONES

CARDIOID - DUAL IMPEDANCE

2 GREAT MODELS



This illustration represents both Cat. C-1068 & C-1064

This is an electret condenser microphone that requires a 1.5V pencil to operate (supplied). The cardioid response pattern enables you to use this microphone away from the sound source as it is highly directional with very little side and no back interference which makes it ideal for performers. The frequency response is virtually flat over the entire audio frequency spectrum.

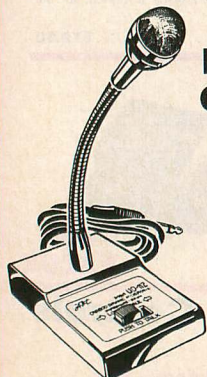
Specifications: • Impedance 600 ohms/50k ohms • Size 22(dia) x 195(l)mm • Frequency response 20 - 18000Hz • Supplied accessories 6 metre cord and battery.

Cat. C-1068 **\$37.50**

OMNIDIRECTIONAL DUAL IMPEDANCE

This microphone is an electret condenser unit very similar to the above model (Cat. C-1068), but unlike the C-1068 which has a cardioid pattern, this unit is omnidirectional. An omnidirectional must be used closer to the performer as it is susceptible to rear and side noises. If feedback or ambient noise is low, then this omnidirectional microphone would be preferred to the cardioid as it is less susceptible to mechanical shock and 'popping' and will usually have a smoother response. This microphone can be used with the Playmaster Graphic Analyser described in the kit section. Specifications as for C-1068

Cat. C-1064 **\$35.00**



DESK TOP CARDIOID

TOP VALUE AT \$29.95

For PA and Amateur Radio use. It has a push to talk and slide to lock switch for ease of use. A smart, modern looking microphone that is ideal for any high impedance usage.

Specifications: • Impedance 50k ohms • Frequency response 60 - 15000Hz • Size 200(h) x 75(w) x 110(d)mm • Complete with 3 metres of cable with phone plug fitted.

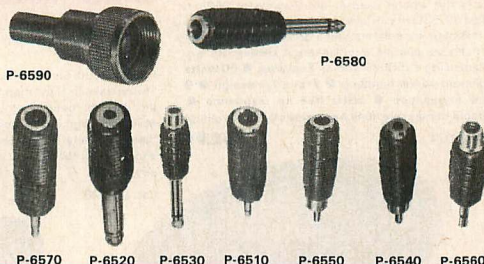
Cat. C-1075 **\$29.95**

AUDIO PLUG ADAPTERS

A fast, economical way of solving that plug and lead conversion problem.

Description	Cat. No.	1-9	10 up
6.5mm socket to 3.5mm plug	P-6510	85¢	75¢
6.5mm stereo socket to 3.5mm plug	P-6570	95¢	85¢
6.5mm socket to RCA plug	P-6550	\$1.00	85¢
3.5mm socket to RCA plug	P-6540	85¢	75¢
3.5mm socket to 6.5mm plug	P-6520	85¢	75¢
RCA socket to 6.5mm plug	P-6530	85¢	75¢
RCA socket to 3.5mm plug	P-6560	85¢	75¢
6.5mm socket to single conductor microphone connector	P-6590	\$1.35	\$1.15
6.5mm stereo socket to 6.5mm plug	P-6580	\$1.10	\$1.00

P-6570 and P-6580 are ideal for operating stereo headphones from mono cassette units and communications receivers.



FM WIRELESS MICROPHONES



Two superb omnidirectional FM wireless microphones. These microphones put out an FM signal that can be picked up by any Hi Fi system tuner or radio having FM. Tuning of the mics is possible via the tuning slug in the side of each unit - tuneable over 88-108MHz. Both are complete with wire antenna. Cat. C-1070, the handheld model can also be plugged into conventional mic inputs, lead supplied. Both are supplied with batteries.

Tie clasp model complete with clip.

Cat. C-1073 **\$29.95**

Conventional handheld model.

Cat. C-1070 **\$27.50**

DYNAMIC CARDIOID

VALUE AT \$27.50



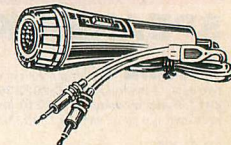
A dynamic cardioid microphone ruggedly constructed so it is ideal for bands and PA work. Because of its cardioid polar pattern it is less sensitive to rear noises. A very popular microphone and very reasonably priced.

Specifications: • Impedance 600 ohms and 50k ohms • Frequency response 60 - 15000Hz • Sensitivity -73dB (600 ohms) and -54dB (50k ohms) • On/off switch • 6 metres of cable with phone plug fitted • Microphone holder included.

Cat. C-1030 **\$27.50**

DYNAMIC CASSETTE MICROPHONE

ONLY \$4.95



The perfect replacement for your cassette recorder, can also be used with cassette recorders having a separate microphone input as well as the built-in microphone. The cassette must have a low impedance input (99% of those on the market) and the unit comes complete with main plug and remote switching plug. This unit will save your cassette recorder from becoming obsolete!

Cat. C-1015 **\$4.95**

BUDGET LAPEL MICROPHONE

CRYSTAL INSERT



This is the very popular high impedance microphone that has a crystal insert. It is ideal for use with valve amplifiers and will last a very long time. Chrome finish, looks smart and the price is so low! Experimenters can use this microphone as it is very rugged.

Specifications: • Omni directional pattern • Frequency response 200 - 8000Hz • Impedance 250k - 1M ohm.

Cat. C-1010 **\$2.95**

TIE CLASP ELECTRET

VERY SMALL



This is the type of microphone used by interviewers when they want to be inconspicuous, but pick up as much as possible with perfect clarity. The microphone is complete with tie-clasp and 6 metres of cord, terminated with a phone plug. Being a low impedance device it is also ideal for use with your cassette recorder for recording the family or lecture notes etc.

Specifications: • Impedance 600 ohms • Frequency response 50 - 16000Hz • Power source 1.3V mercury battery (Cat. S-3297 see battery page) • Size 14(d) x 31(l)mm.

Cat. C-1060 **\$17.50**

HEAVY DUTY

A professional quality microphone able to stand the rigours that professionals give their equipment. Cast in a heavy, durable metal it weighs 350 grams and comes complete with 7 metres of cable terminated in a standard Cannon microphone connector. For transportation between 'gigs' the unit is housed in a beautiful padded case for protection. The cardioid polar pattern results in a highly directional professional performers microphone.

Specifications: • Impedance 600 ohms • Frequency response 50 - 15000Hz • Size 50(dia) x 170(l)mm.

Cat. C-1050 **\$49.50**



DYNAMIC CARDIOID

Professional Quality

MICROPHONE AND PA ACCESSORIES

Floor Stand

this microphone stand has a large, 300mm diecast base that is heavy and will provide a stable platform for a microphone. The chrome finish tube has a clutch type mechanism allowing for easy height adjustment with a simple twist and lock action. The stand is adjustable from 76cm to 152cm. The top of the stand has a standard screw thread for the microphone attachment.

Cat. C-1220 **\$39.95**

Microphone Boom

This is a 79cm boom that features a large and heavy counterweight that is adjustable to allow for positioning of the microphone. The end of the tube has a standard microphone thread. Ideal for those positions that are awkward to get to!

Cat. C-1230 **\$19.95**

Microphone Desk Stand

For the person who needs both hands free whilst using a microphone. The base of the stand is heavy and finished in black. The chromed, 10cm tube has a standard microphone thread.

Cat. C-1240 **\$9.95**

Stand and Boom Clip

This clip will accept most microphones and has the standard microphone and boom fitting thread. The microphone simply clips into the cradle.

Cat. C-1264 **\$1.95**

Gooseneck

A bright chrome finish and 33cm long! Allows the microphone to be 'bent' into its required operating position. Can be used with floor stand and boom.

Cat. C-1226 **\$6.95**

Electret Insert

Making or repairing a microphone? Then this unit will fit most makes and has a high sensitivity with omnidirectional characteristics. Connection data supplied. Weight only 1.5 grams!!

Cat. C-1160 **\$2.45**

Microphone Line Transformer

Just plug-in! Input impedance is high, 50k ohms and the output is low, 100-250 ohms. Fully shielded metal construction, fitted with phone jack and socket.

Cat. M-0701 **\$6.90**

AUDIO ADAPTER CABLES

These are top quality shielded connecting leads of standard length.

5 pin DIN plug to 5 pin DIN plug	
Cat. W-1010	\$3.60
5 pin DIN plug to 2 x 3.5mm plugs	
Cat. W-1050	\$3.30
5 pin DIN plug to 4 x RCA plugs	
Cat. W-1040	\$4.50
1 x RCA plug to 1 x RCA plug	
Cat. W-1070	Not Illustrated \$1.10
4 x RCA plugs to 4 x RCA plugs	
Cat. W-1060	\$5.50
2 x RCA plugs to 2 x RCA plugs	
Cat. W-1180	Not Illustrated \$3.50
1 x RCA plug to 1 x 3.5mm plug	
Cat. W-1080	\$1.90
2 x RCA plugs to 1 x 3.5mm plug	
Cat. W-1250	Not Illustrated \$3.25
1 x RCA plug to 1 x RCA socket	
Cat. W-1280	Not Illustrated \$2.25
1 x 3.5mm plug to 1 x 3.5mm plug	
Cat. W-1090	Not Illustrated \$1.10
1 x 3.5mm plug to 1 x 3.5mm socket	
Cat. W-1150	\$1.60
4 metre lead with 6.5mm plug on each end.	
Cat. W-1110	Not Illustrated \$4.50
4 metre coiled lead with a 6.5mm plug on one end and the other has a 6.5mm line stereo socket.	
Cat. W-1120	\$4.50
2 metre coiled lead, 3 conductor plus shield, very flexible ideal for replacement microphone leads.	
Cat. W-1365	\$2.25 ea
10 or more	\$1.75 ea

MUSIC & PUBLIC ADDRESS

TURN YOUR ACOUSTIC GUITAR INTO AN ELECTRIC ONE!!

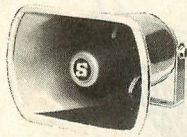


This fantastic guitar pick-up just clips on to the sounding board on your acoustic guitar and then you plug into a high impedance amplification source - and WOW! Comes complete with volume control and an extra long lead. The lead is terminated with a standard 6.5mm phone plug. The smart, black encapsulated unit has a strong spring for attachment to your guitar.

Cat. F-3080 **\$12.50**

RECTANGULAR REFLEX HORN

IDEAL FOR ALL PA WORK



This is a superior quality horn speaker that incorporates rubber edge clamping to eliminate resonances. Rated at 15 watts, 8 ohms impedance and a frequency response of 300 - 5kHz. The dimensions of the horn opening are: 127 x 200mm.

Cat. C-2718 **\$24.50**

Line Speaker Transformer

(Not Illustrated)

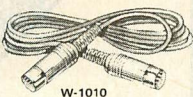
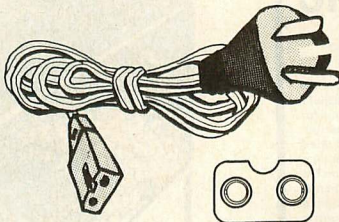
Ideal for PA applications. Multitapped for use with 100V or 70V lines. See TRANSFORMER page for more details

Cat. M-1100 **\$4.25 ea 10 up \$3.75 ea**

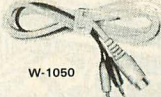
MAINS ADAPTER LEAD

Full 2 metres long and fits nearly any cassette player, radio etc. Complete with 2 pin mains plug one end and appliance plug the other.

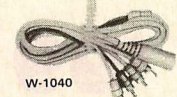
Cat. W-1360 **\$3.25**



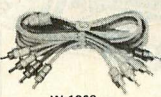
W-1010



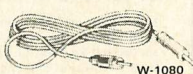
W-1050



W-1040



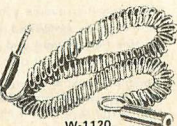
W-1060



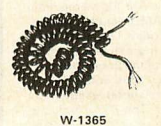
W-1080



W-1150

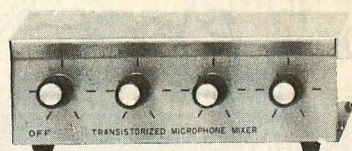


W-1120



W-1365

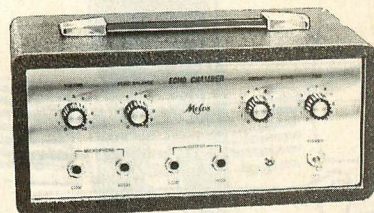
MICROPHONE MIXER AND PRE-AMP



This solid state microphone mixer is used to feed from 1 to 4 high impedance sources such as microphone, tuner, turntable, recorders etc., into the high impedance output for connection to a recorder or amplifier.

Cat. F-2272 **\$14.95**

Echo Chamber



Give your music 'presence' by using this unit in conjunction with a musical instrument, i.e. a guitar or connect it into your Hi Fi system for some very startling effects.

Features a plug in tape cartridge that has an endless loop of tape - the signal is recorded on to the tape and then replayed almost instantaneously, the echo effect is further enhanced by varying the drive motor speed without detriment to tonal quality.

The unit is fully solid state and has controls for volume, echo-balance, echo time and intensity plus it has an input for a remote foot control switch.

Input: High (50k), Low (500 ohms) to suit microphone or guitar.
Outputs: High and low impedance
Operates from 240 volts AC
Complete with one endless tape
Size: 267(w) x 152(d) x 127(h)mm

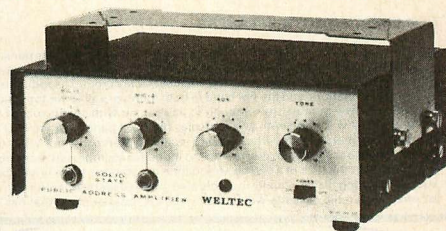
Cat. F-3010 **\$129.50**

Spare Cassette Tapes for Echo Unit

Cat. F-3012 **\$9.50**

PA AMPLIFIER

COMPLETELY VERSATILE PA AMPLIFIER CAN BE USED AS A FIXED UNIT WORKING ON 240V AC OR USE IT IN A MOBILE SITUATION ON 12V DC!!!



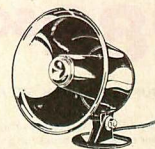
Whether your need is for a fixed PA amplifier such as in a church hall or civic centre OR for use in political rallies and fetes etc., then this is the amplifier for you! It features mixable inputs for two microphones plus an auxiliary input.

SPECIFICATIONS:
Output Power: 50 watts peak power
Inputs and sensitivity: Mic. 1. 3mV/600 ohms
Mic. 2. 3mV/50k ohms
Output Impedance: 4, 8, 16 ohm, 25 and 70 volts line output.
Controls: Mic. 1 Level Control
Mic. 2 Level Control
Aux 1 and 2 level control
Tone control

Operating Voltages: AC 240V or 12V DC positive or negative earth.
Dimensions: 241(w) x 85(h) x 185(d)mm
Weight: 3.8kg without mounting bracket.

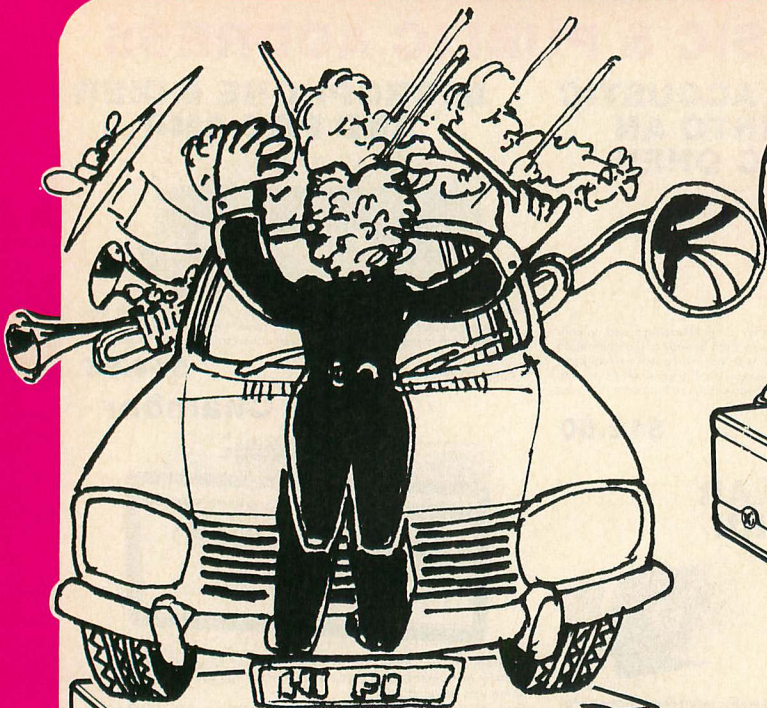
Cat. F-2034 **\$99.50**

HORN SPEAKER

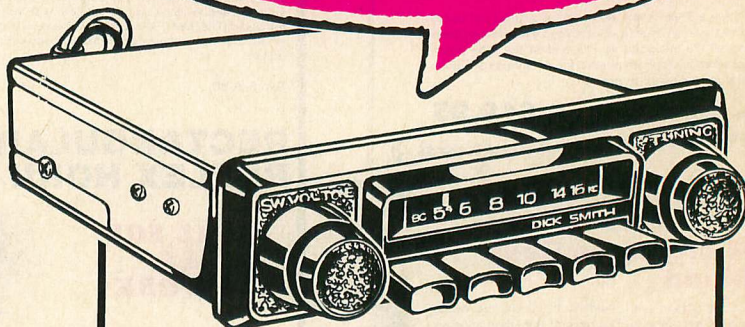


A miniature, rugged weatherproof horn with an impedance of 8 ohms and power rating of 5 watts. Ideal for PA work, in particular outside because of the weatherproof nature of the horn. The horn has a mounting bracket for easy installation and comes complete with lead. Also it can be used in vehicles for siren alarm systems or as PA speakers attached to CB radios.

Cat. C-2705 **\$9.50**



**PUT A CONCERT
IN YOUR CAR
WITH DICK SMITH
CAR STEREO**

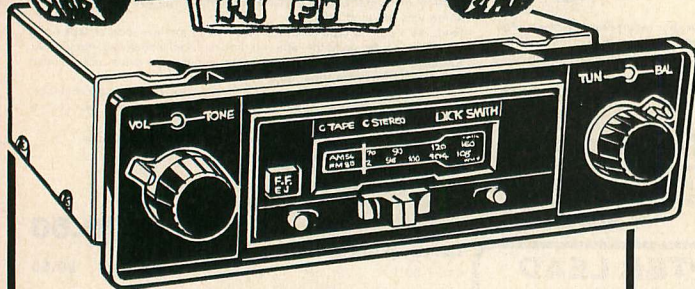


\$45

**AM PUSH BUTTON
RADIO...**

Cat. A-5980

This superb 8 transistor push button car radio has been updated every year since Dick first started his business - we now have the very latest radio still at our 1979 price of \$45 and still far cheaper than our 1976 model which sold for \$79.00!!! With the push button controls you can select up to 5 different stations and after setting them you only have to push a selected button to get the station of your choice. Manual dial tuning is also available at all times, which is very handy for travellers who need to be able to dial in a local station very quickly. Performance PLUS! This radio includes all nuts, bolts, fascia plates etc to make your job of installation very easy. The speaker supplied with the unit is a nice and large 12.5cm. The only item not supplied with this unit is the antenna, and they can be found by just turning the page. This radio works in any 12V DC negative earth vehicle, boat or plane and is very simple to install. If you're worried about power, forget it! This radio packs out a very healthy 5 watts - enough to blast anyone out of the vehicle.

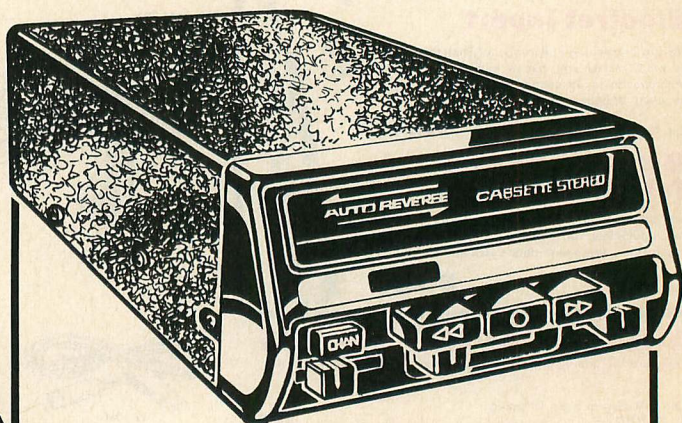


\$149 **AM/FM STEREO
CASSETTE RADIO**

NOT SUPPLIED WITH SPEAKERS

Cat. A-6480

The FM tuner section of the radio incorporates a FET front end for better signal to noise ratio and a more stable performance, for the great sound of today's FM. The size of this unit (120(d) x 180(w) x 44(h)mm) means that it will fit even the smallest fascia cutout. The radio features both AM band, for your favourite stations and the FM band in both mono or stereo for top quality music reproduction. The output power is more than enough to fill your car with sound and for the esthetically minded the front panel will blend with any car fascia. The front panel has two LED indicators, one for tape play and the other indicates when you are receiving stereo on the FM band. If the reception on FM stereo should become poor, then switch to mono for an improved reception. The AM or FM bands are selected at the flick of a switch and to tune the stations there is a large and easy to use tuning knob. The tuning dial is actually incorporated in the cassette opening flap which is why this unit is so small! This radio cassette will fit in any vehicle, boat or plane that has 12V DC negative earth.



\$99

**AUTO REVERSE
STEREO
CASSETTE**

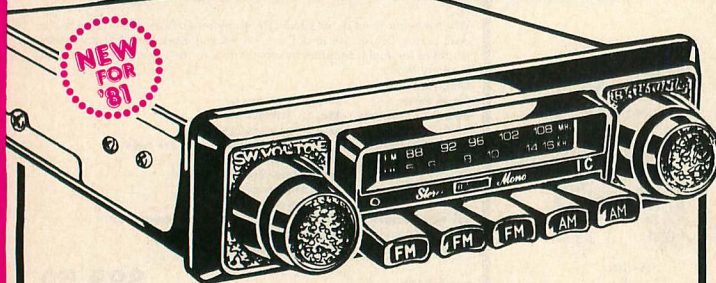
Cat. A-6486

NOT SUPPLIED WITH SPEAKERS

This is a top quality unit that is highly compact and provides reliability with your listening pleasure of paramount importance. It has an exclusive mechanism for which a total of 7 patents have been applied for! So if you are considering putting a stereo cassette player into your car just look at the fantastic features and specifications.

- ★ Operates in any car, truck, boat or plane with a 12V DC negative earth system - even if you have limited space under dash.
- ★ Automatic reverse system allowing continuous tape play.
- ★ Extremely simplified mechanism using no rubber belt for the reel drive.
- ★ Has fast forward and rewind push buttons with lock-up for your convenience.
- ★ Light touch eject button with exclusive pop out mechanism.

Specifications: ● Output impedance 4 or 8 ohms ● Power source 10.5V to 15V negative earth ● Frequency response 33 - 10,000Hz ● Output power 8 watts per channel maximum ● Wow and flutter less than 0.2% ● Channel separation better than 30dB ● S/N ratio better than 45dB ● Distortion less than 10% at 5.5 watts per channel maximum ● Semiconductors: 4 IC's and 2 diodes ● Net weight 1.5kg ● Dimensions 48(H) x 120(W) x 166(D)mm.



\$89⁵⁰ **AM/FM STEREO
RADIO**

NOT SUPPLIED WITH SPEAKERS

Cat. A-5985

A superb new addition to the range of Dick Smith in-car units. This is a five push button AM/FM stereo radio with three buttons for presetting your favourite FM stations and two push buttons for AM. Designed to fit in-dash or under-dash, the size of this unit makes it suitable for most cars on the market today. The dimensions are 158(w) x 120(d) x 48(h)mm. The output power is a maximum of 7 watts, which is more than enough for most people, but don't forget that if you want lots more power then you can use one of the power boosters shown opposite. The control knobs are dual ganged - one controls on/off - volume - tone and the other controls manual tuning and balance for stereo. There is an in-built LED for indication of stereo reception on the FM band. For poor reception on the FM band there is a mono/stereo switch. The semiconductor component of this unit comprises 4 integrated circuits, 6 transistors and 6 diodes and the unit must be used only on vehicles, boats or planes that have 12V DC negative earth. Weight 1kg. Tune in today to your favourite stations on a Dick Smith AM/FM stereo radio.

COAXIAL SUPERIORITY

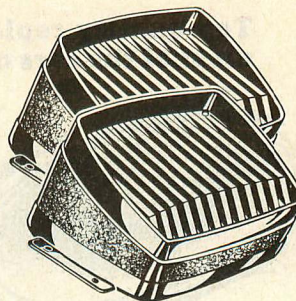


**TOP CLASS SOUND
ONLY
\$39⁵⁰
per pair**

Coaxial speakers have the excellent bass response of the dual cone PLUS a fantastic top end range achieved through a tweeter that is suspended across the main cone. They have a large 280 gram magnet and are rated at 4 ohms. They will suit most in-car systems. Hardware, mounting template and deluxe grille are included in the price.

Cat. A-7000 . . . **\$39.50
PER PAIR**

REAR SHELF TYPE



**USE AS BOX MOUNT
OR FLUSH MOUNT!
ONLY
\$16⁰⁰
per pair**

Box type speakers that can be placed on the rear parcel shelf of your car. The front grille and speaker can be removed from the box for flush mounting if required. Rated at 4 ohms they can be used with most of the car stereo systems on the market today. They have a 90 gram magnet and can handle power to a maximum of 8 watts.

Cat. A-6980 **\$16.00
PER PAIR**

DUAL CONE GREAT SOUND

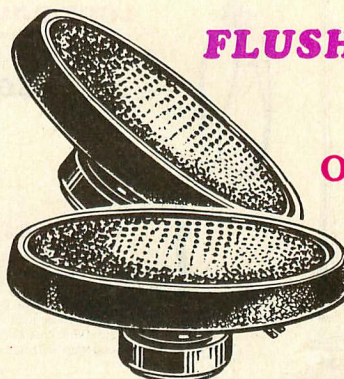


\$29⁹⁰ per pair

A pair of high quality dual cone speakers with extended frequency response. Dual cone speakers are the most popular speakers on the market today and these Dick Smith units are the equal to the big names! They have 280 gram magnet and are rated at 4 ohms. They are complete with a superb metal mesh grille and all of the hardware needed to mount them, including mounting template.

Cat. A-7080 . . . **\$29.90
PER PAIR**

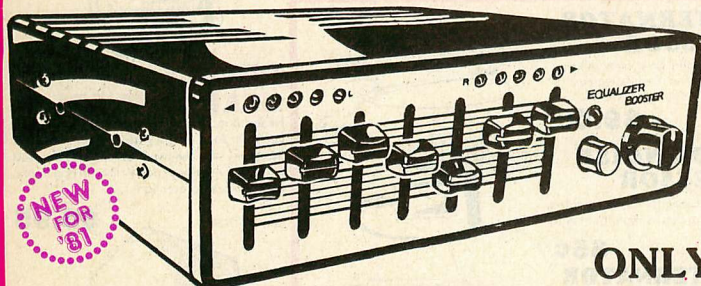
FLUSH MOUNT



**BLENDS IN WITH
ANY DECOR!
ONLY \$18⁰⁰ per pair**

A superb pair of speakers that can be flush mounted on the rear parcel shelf or even in the doors. They have a diameter of 130mm and because they are of high compliance they will handle 10 watts maximum or 5 watts nominal, into 4 ohms. The speaker grilles are of soft padded material that will blend in with most cars. Magnet weight is a large 140 grams.

Cat. A-6985 **\$18.00
PER PAIR**



STEREO BOOSTER/ GRAPHIC EQUALIZER

**NOW HAS LED POWER OUTPUT ARRAY FOR
LEFT AND RIGHT CHANNELS. . . .**

A new dimension in sound will be yours with this superb GRAPHIC EQUALIZER/BOOSTER. Connect to any in-car sound system for a boost in power to a maximum of 25 watts per channel. Just imagine the kind of sound you can obtain - it's great. To add to your pleasure you'll be able to control 7 different tone frequencies. There are slider controls for 60Hz, 150Hz, 400Hz, 1kHz, 2.4kHz, 6kHz and 15kHz and they give you control over plus or minus 12dB! When centred the controls are at 0dB (i.e. flat response). The unit is turned on by simply pushing a button. To use your car stereo without the booster is simple, don't turn the booster on! An inbuilt fader enables the sound to be controlled between four speakers (2 in the front of the car and two in the rear) but a two speaker system may be used without any problems. To indicate the power output the unit has LED arrays for both the left and right channels - ideal for equalizing power output.

SPECIFICATIONS: Frequency response 35Hz - 25kHz • Crosstalk 35dB • Speakers 4 ohms (2 speaker system 2 x 4 ohms or 2 x 8 ohms - 4 speaker system 4 x 8 ohms) • Power source 13.8V DC negative earth • Dimensions 155(w) x 45(h) x 140(d)mm.

Cat. A-6665 **\$79.00**

25 watts PLUS 25 watts per channel!

**ONLY
\$79⁰⁰**

**Add power, depth of sound and total
control of sound to your car stereo!**



BOOST CAR STEREO!

**THE POWER PACKAGE
WITH HUGE HEATSINKS FOR HIGH POWER. . .**

**ADD NEW DIMENSIONS IN SOUND TO YOUR CAR,
BOAT OR PLANE STEREO SYSTEM. . . .**

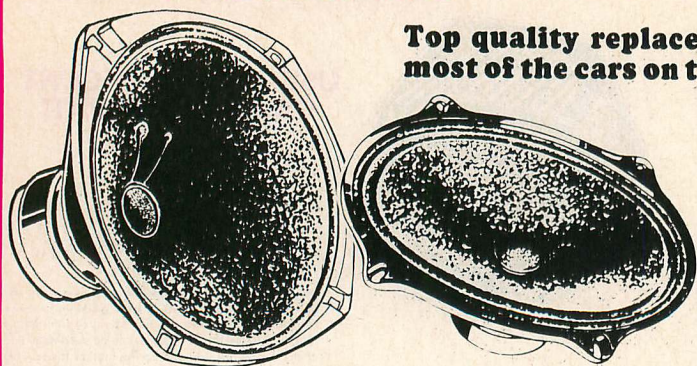
If you want more power from your car stereo at a reasonable price then you need the Dick Smith Stereo Booster with 30 watts maximum per channel. This unit can be hidden under your dash and simply connects into the speaker leads of your car stereo. It can be used with virtually every car stereo unit made and the frequency response of 25Hz to 20,000Hz will in no way detract from your car stereo performance. The front panel incorporates a LED to indicate on and off and this switch also acts as a bypass switch for switching the booster out of circuit but retaining the use of your car stereo. The unit is all solid state for reliability and has 4 IC's in the circuit which is also balanced transformerless. The unit connects into the power of the car and will work with all vehicles with 12V DC negative earth systems. It weighs in at 750 grams and the dimensions are 118(W) x 40(H) x 165(D)mm.

Cat. A-6660 **\$49.95**

FITS UNDER DASH!

**ONLY
\$49⁹⁵**

CAR SPEAKERS



Top quality replacements for most of the cars on the market

230 x 150mm OVAL

A large speaker for the rear parcel shelf or doors. The ideal speaker for wagons as the big size of the speaker coupled with the resonance qualities of wagons makes for a 'big - big' sound. Rated at 4 and 8 ohms.

Cat. A-7140 Not Illustrated **\$9.50**

130mm ROUND

The most popular speaker of them all. Used in many of the new cars from both Japan and elsewhere. Ideal as a replacement. Has both 4 and 8 ohms impedance.

Cat. A-7145 **\$6.25**

150 x 100mm OVAL

This speaker has a ferrite magnet and is ideal for use with both car radios and stereos. The speaker will accept up to 2.5W continuous and over 5 watt peak power. Dual impedance - 4 and 8 ohms plus it has a very good frequency response.

Cat. A-7130 Not Illustrated **\$4.50**
5 or more only **\$4.00 ea.**

180 x 130mm OVAL

A very popular oval speaker that can be used in cars such as Holdens and Valiants. Ideal as a replacement speaker and suits both 4 and 8 ohm systems.

Cat. A-7135 **\$7.25**



GUTTER GRIP AERIAL

Twin telescopic rods of about 950mm each pull in those weak signals. Attach to the gutter of your car very easily. Comes with about 1.9 metres of lead with plug. Very popular antenna in Europe.

Cat. A-7320 **\$9.50**

AM/FM MINI RUBBER

This is a very flexible rubber antenna that is ideal for both AM and FM. It is only 390mm high. This antenna will not rust or break. Mount on the cowl.

Cat. A-7345 **\$9.95**



LOCK DOWN

The ever popular lock down with 5 section telescopic antenna. Comes with key. Underhang is 330mm.

Cat. A-7300 **\$6.50**

ELECTRIC AERIAL

A dash mounted switch enables you to raise or lower this antenna from inside the car. Works on both 12V DC negative or positive earth. Requires 320mm clearance below cowl. Slipping clutch ensures no burn outs.

Cat. A-7360 **\$23.00**

MORE ANTENNAE

(Not illustrated)

Universal Top Cowl

Can be mounted virtually anywhere - requires 25.4mm mounting hole. Three section telescopic with lead and plug.

Cat. A-7340 **\$5.75**

Deluxe Roof Antenna

Just like those sporty Italian cars - you can have a roof mounted antenna. Has spring loaded base and adjustable length plus you can angle the antenna to suit your requirements.

Cat. A-7306 **\$9.55**

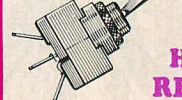
And yet more...

LV324	VW lockdown	A-7310	\$7.95
NCP314	Mazda Pillar	A-7325	\$7.95
NCP180B	Datsun Pillar	A-7330	\$7.95
Spring Base	Top Cowl	A-7335	\$9.95

SPST GLOW SWITCH

A single pole single throw automotive switch with illuminated toggle. Rated at 12V DC @ 16 amps. Three connections, battery, load and earth. Ideal for night use as the glow from the switch enables you to see where it is! Can be used for other purposes where a SPST is required.

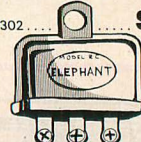
Cat. S-1214 **\$1.95**



HORN RELAY

Heavy duty relay for 12V DC use. Extremely heavy duty single pole contacts rated at 20 amps. Can be used for any purpose that requires a heavy duty relay i.e. burglar alarms.

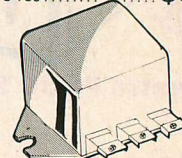
Cat. S-7302 **\$3.50**



DOUBLE HEADLAMP RELAY

Heavy duty relay in steel case for use in vehicles. Each single pole contact is rated at 30 amps - wire the two in parallel to switch 60 amps. Ideal for high power Q.I. driving lights. Has two fuse protection.

Cat. S-7304 **\$8.95**



INLINE DISTRIBUTOR SUPPRESSOR

Connect anywhere in coil wire to eliminate or reduce distributor noise. Simply cut centre (coil) distributor wire and push cut ends into suppressor.

Cat. A-7904 **50¢**

ALTERNATOR NOISE SUPPRESSOR

This capacitor type suppressor has three leads - one to earth and the other two between your alternator and car cassette, radio or CB. Reduces or eliminates the whine caused by the alternator.

Cat. A-7924 **\$2.50**

SPARK PLUG NOISE SUPPRESSOR

A spark plug cap with inbuilt 50k ohm resistor. Connect between plug lead and plug after cutting old plug cap off.

Cat. A-7908 **65¢**



DELUXE ALTERNATOR SUPPRESSOR

This is the coil type filter wound on a high density ferrite core. This will give excellent results especially with those very tenacious alternator whines.

Cat. A-7926 **\$9.50**

GENERATOR NOISE SUPPRESSOR

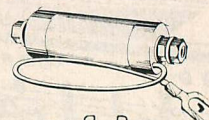
Heavy duty 0.5uF - 100 volt capacitor easily mounted directly on to the generator or coil. Simple to fit with only a screwdriver.

Cat. A-7902 **65¢**

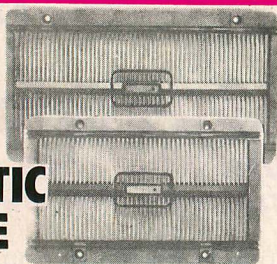
COAXIAL ALTERNATOR SUPPRESSOR

Heavy duty 0.5uF 50 volt coaxial capacitor for extreme cases of alternator whine. Connect in series with the output lead of the alternator and earth the case. Will handle 60 amps.

Cat. A-7928 **\$4.95**



FANTASTIC VALUE



STANDARD SPEAKER GRILLES

If you want a quality grille for your car speakers or even bulkhead mounted speakers on your boat, we have them. Made of a high heat resistant plastic, the 130mm grille has a metal rim for ease of fit. Quality at a low price.

230 x 150mm Cat. A-7815 **\$2.00 each**
180 x 130mm Cat. A-7816 **\$2.00 each**
130mm round Cat. A-7817 **\$2.50 each**

SPECIAL FADER POT

Economical wire wound pot, with 20 ohm impedance and power rating of 4.5 watts. Ideal for speaker fader control between front and rear speakers on your car radio. Suits 4 - 15 ohm systems.

Cat. R-1990 **\$1.25**



HIGH POWER SPEAKER FADER

This is very similar to the R-1990 but will handle up to 25 watts of power and comes complete with a fascia mounting plate and cable. No longer do you have to worry about your passengers hearing, just fade the sound down to them whilst keeping it high for yourself!

Cat. A-7834 **\$9.95**



STEREO FADER CONTROL

If you have four speakers in your car then you need our stereo fader. Control your sound so that it comes from either the front pair or the rear pair or all four speakers at once.

Cat. A-7832 **\$5.95**



CAR ANTENNA EXTENSION LEADS

4 metre

Fully compensated (low signal loss) 4 metre lead. Complete with plug on one end and socket on the other. Ideal for when your antenna has a lead that is too short! For rear mounted antennas.

Cat. A-7452 Not Illustrated **\$4.00**

1 metre

Exactly the same as the above lead only this one is 1 metre in length. Ideal for short runs.

Cat. A-7450 Not Illustrated **\$3.00**

DICK TRACER MkII RADAR ALARM

DETECT POLICE RADAR WITH THIS UNIT

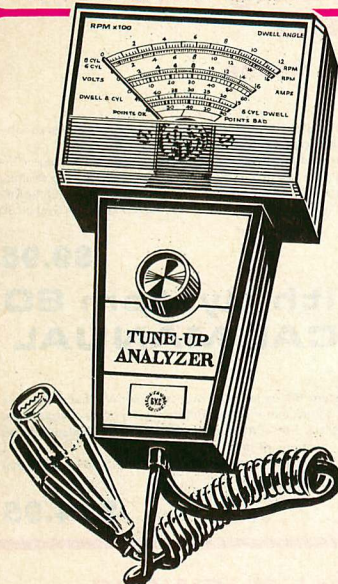
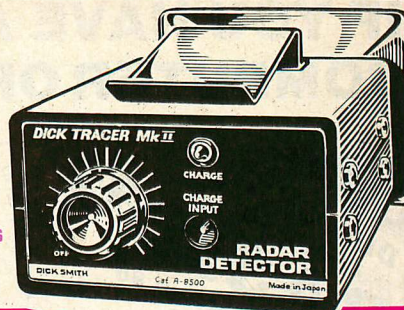
The Dick Tracer MkII continues to be our top selling radar detector. The detector has an in-built, rechargeable battery, which means that unlike other units on the market, it is completely self-contained. You charge the battery with the supplied lead which has a car cigarette lighter plug on one end. Simply plug-in overnight for charging from your car battery. Installation is so simple - the detector has a strong clip which goes on the sun visor of your car - no trailing leads! Radar emissions are detected by the horn receiver and when detected the unit will emit a loud chirping noise. Although this unit may be used with any vehicle, for the purpose of recharging it must be used with 12V DC negative earth vehicles.

SPECIFICATIONS: ★ Detection frequency 10.525GHz ★ Detection distance up to 1 kilometre ★ Power source internal rechargeable battery ★ On/Off control and sensitivity control ★ ★ Mounting clip in sprung steel for the sun visor ★ Complete with recharging lead and plug ★ Dimensions 104 x 65 x 50mm.

Cat. A-8500
\$39.50

**STILL ONLY
\$39.50**

**THOUSANDS
SOLD!**



ENGINE ANALYZER

**THE HANDY UNIT
FOR THE GLOVEBOX
IN YOUR CAR!**

Save money on costly tune-ups by
DOING-IT-YOURSELF!

Designed to fit the palm of your hand for easy use. It has a multi-coloured scale so that when you are making a particular measurement you will soon know what is what at a glance. Why pay out hard earned money for jobs that you can do yourself - for example with this unit you can measure the following:

- ★ HI TACH ★ LO TACH
- ★ DWELL ★ HI VOLTS
- ★ LO VOLTS ★ POINTS

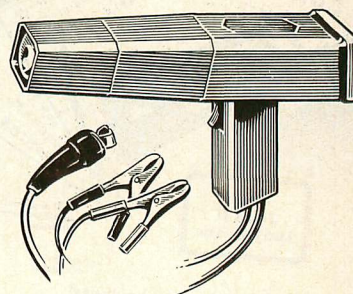
That is most of the electrical testing needed to keep your car in top condition. The unit comes complete with heavy duty leads and clips and can be used on all 4, 6 and 8 cylinder cars.

Cat. A-8514 **\$24.95**

XENON TIMING LIGHT

**ONLY
\$27.50**

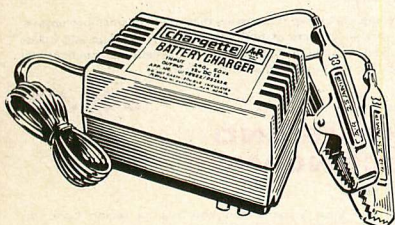
**THE BRIGHT,
WHITE
FLASH!**



You can actually cut down on fuel and maintenance costs with this timing light! Because it has an XENON flash, you get a brilliant light that makes the old neon type of light look like a dead match! To tune your car properly you will need a timing light so why waste money by having it done 'professionally' when you can do it yourself. Not sure how to use one? - no worries with this unit - it's complete with three leads, heavy duty clips and FULL INSTRUCTIONS.

Cat. A-6508 **\$27.50**

**TUNE YOUR CAR LIKE THE
'PROFESSIONALS'**



CHARGETTE

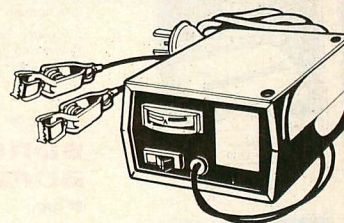
Not much larger than a three pin plug. Connect unit to AC socket and then connect the two, two metre long leads with heavy duty clips to your battery. Charge rate of 1 amp. Thermal cut-out protects unit if overloaded. Charge a dead flat battery in 48 hours, or trickle charge your battery overnight. Double insulated for safety.

Cat. M-9802 **\$17.95**

4 AMP CHARGER

Really want to give your battery a charge? This unit has a massive 4 amp rate - lets you charge your battery overnight. The output meter lets you know what's going on with the charge. Heavy duty leads with heavy duty clips. If you want your battery to live on and on, give it a chance by keeping it in tip top condition.

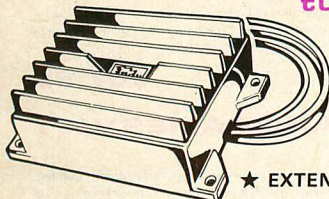
Cat. M-9800 **\$29.50**



KEEP YOUR BATTERY CHARGED!

INDY IGNITION SYSTEM

Helps save petrol by keeping your car in tune!

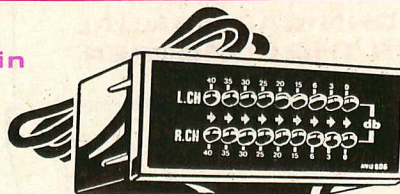


**SOLID STATE
ELECTRONIC IGNITION**

- ★ EASIER STARTS
- ★ EASY TO INSTALL
- ★ EXTEND THE TIME BETWEEN TUNE-UPS

This fully contained system can be fitted to your car in a few minutes and the savings can start from the next full stop! Fitted in the engine compartment, it is fully protected from the rigours associated with the engine compartment.

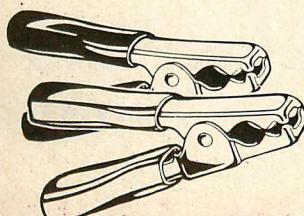
USES SPECIAL ULTRA HIGH GAIN, HIGH VOLTAGE TRANSISTOR
Cat. A-8530 **\$29.95**



**LED VU METER
FOR YOUR CAR
OR HOME
STEREO...**

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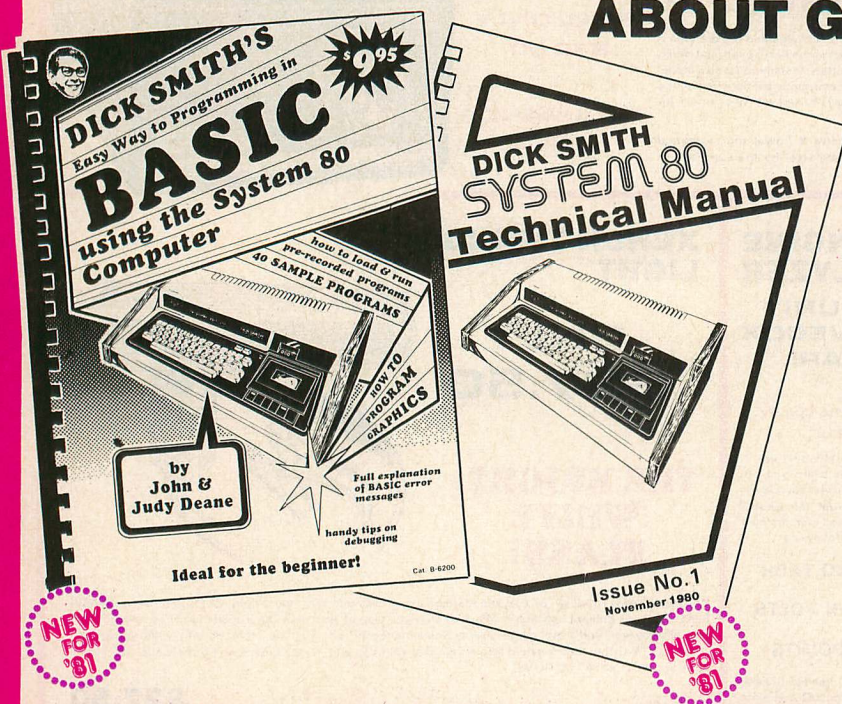


AUTO LIGHT REMINDER

When you get out of the car at night or even during the day, there is always the possibility of leaving your car lights ON! This gadget simply connects between the ignition switch and the light switch via the fuse box. When you turn the ignition off, a ten second beeping tone will remind you to turn your lights off. Instructions supplied - essential for the forgetful motorist.

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Dick Smith's Easy Way To Programming In BASIC Using The System 80

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107 pages

Although the instruction manuals supplied with the System 80 computer are very good - you really should not pass-up the opportunity of having this superb book. John and Judy's easy going style of writing make the understanding of BASIC - basic! The screen of your monitor will come alive as you progress through the book learning all about the different aspects of your System 80 computer and of course all about Level II BASIC. A highly recommended book for anyone about to buy, or having a Dick Smith System 80 Computer.

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Dick Smith System 80 TECHNICAL MANUAL

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By John and Judy Deane - 86 pages plus glossary.

This is a superb book that brings the intricacies of learning BASIC down to an easy to understand format. John and Judy take you through all of the routines, commands, graphics etc., and make learning FUN. Highly recommended book for everyone who owns or is thinking of buying a Sorcerer.

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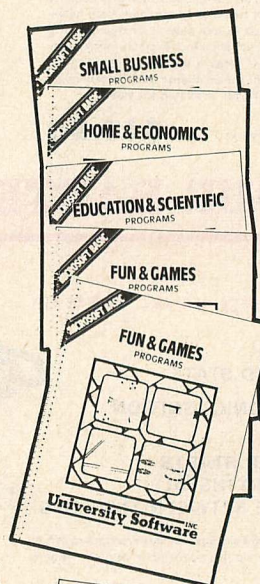
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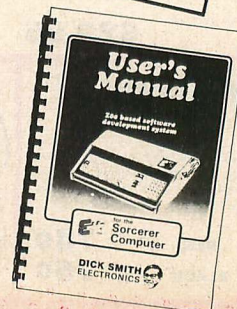
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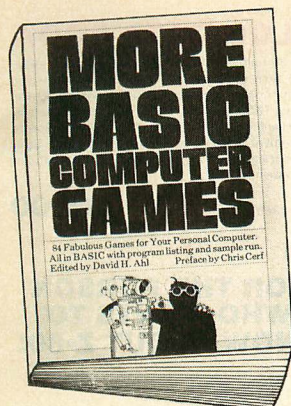
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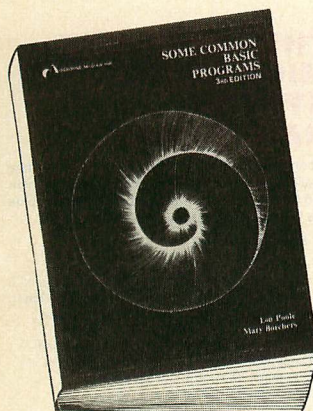
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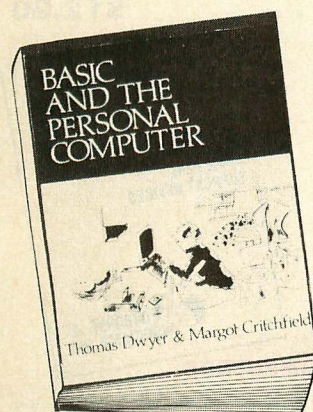
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Lon Poole and Mary Borchers - 193 pages

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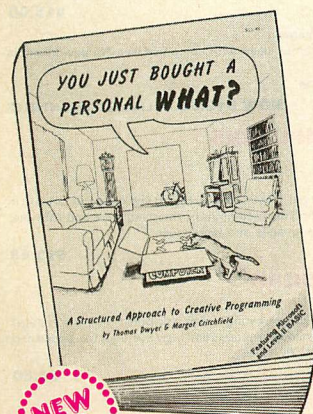
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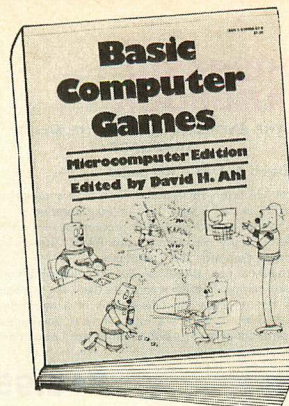
You just bought a personal WHAT?

By Thomas Dwyer and Margot Critchfield
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This big book takes you into Microsoft and Level II BASIC by structuring the chapters in a creative way. Each BASIC instruction is explained through creative programs. A flow-chart explains how the program is structured plus the new statements, commands etc. The end result is you learn through producing - not through some staid, old theoretical outline. It also explains how hardware peripherals can be added to your computer system to give added versatility and greater enjoyment of today's greatest electronic hobby.

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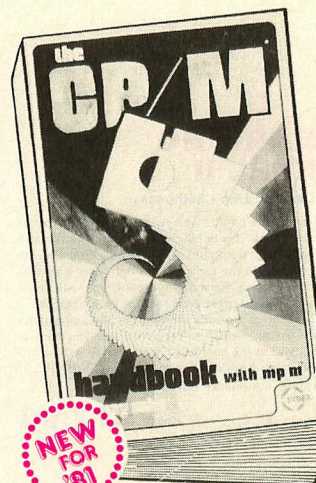
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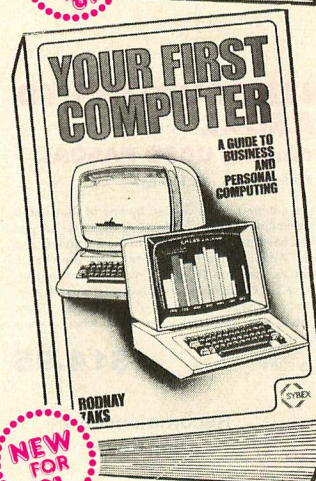
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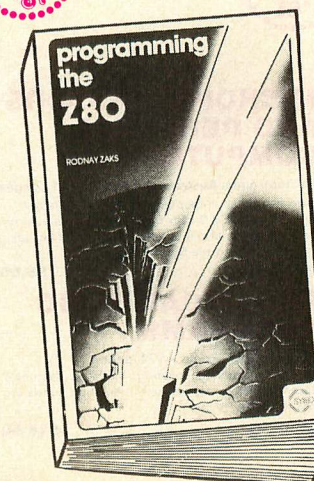
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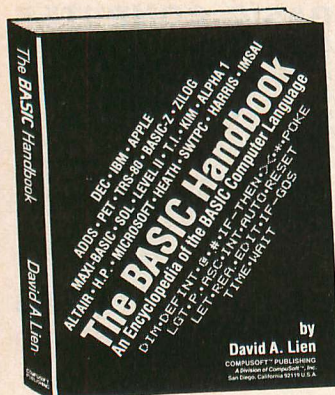
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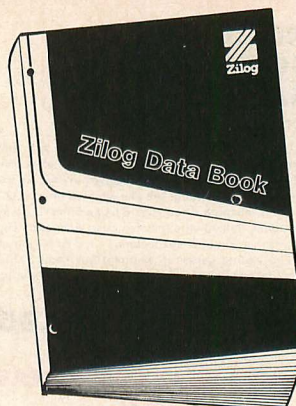
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THE ENCYCLOPEDIA OF THE BASIC LANGUAGE

By David A. Lien - 360 pages

A problem often encountered with programs written in BASIC is that it won't run on your computer! This handbook addresses that problem by discussing in detail every commonly used BASIC Statement, Function, Operator and Command. For the most part, BASIC words mean the same thing to every computer which recognizes them. If a computer does not possess the capabilities of a needed or specified word, there are often ways to accomplish the same function by using another word or combination of words.

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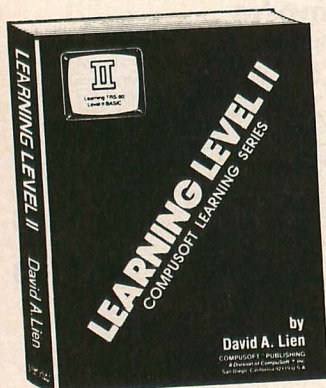


ZILOG DATA BOOK

The Z-80 family of MOS LSI microcomputer components form the nucleus of many popular personal computers, including the Dick Smith System 80, the Sorcerer, TRS-80 etc. This book gives the full details, with beautifully clear diagrams of components, boards, development systems and much more. Keen users will find it a great aid to understanding and expanding their systems.

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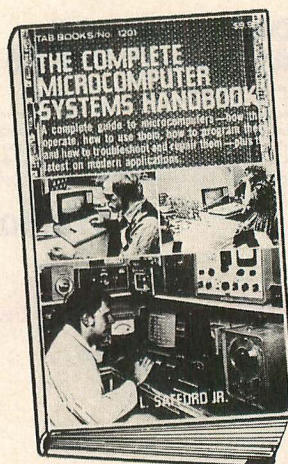


LEARNING LEVEL II

By David A. Lien - 360 pages

Written by the person who wrote the TRS-80 Level I user's manual. This book explains in easy going style the benefits of going to Level II BASIC. Programs are used to explain the progress through Level II so that when you have finished the book you will most certainly have a great command of Level II BASIC. The first part of the book explains the upgrading of the Level I user's manual, whilst part II tells you there is new power at the command level. Part III goes on to explain the advanced concepts of Level II BASIC. Enjoyable, informative book.

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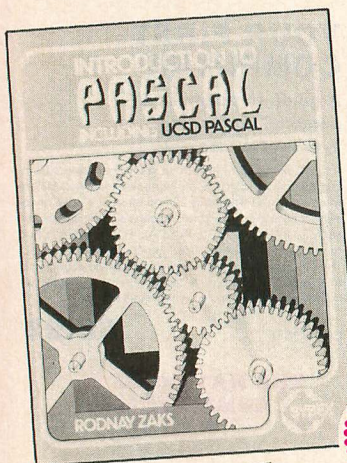
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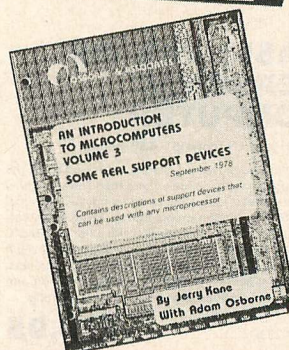
INTRODUCTION TO PASCAL

By Rodney Zaks - 421 pages

This is a superb book written by one of the United States leading experts. The first five chapters lead you into the basic definitions needed to use and understand Pascal. Although the book concentrates on what is known as standard Pascal, a more recent version called UCSD Pascal is mentioned where it is applicable. The more complex aspects of UCSD Pascal are described in a special chapter. If you wish to learn Pascal - this is THE book.

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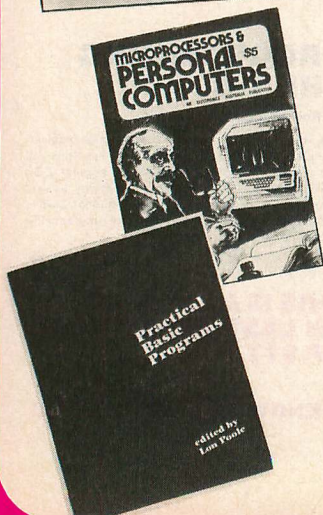
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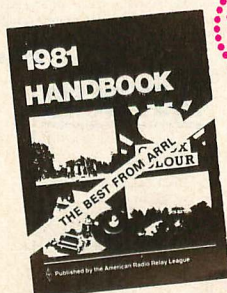
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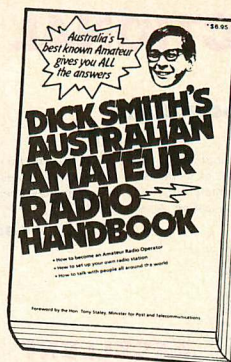


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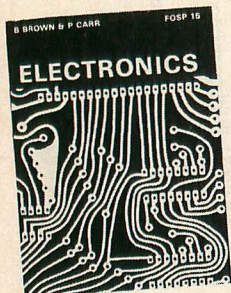
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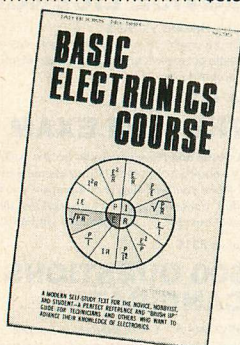
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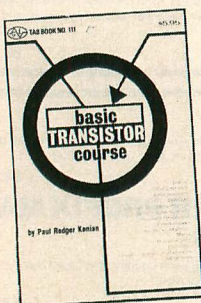
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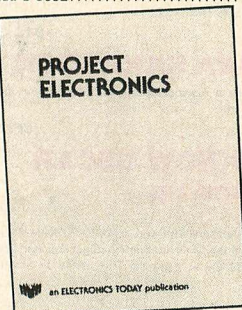
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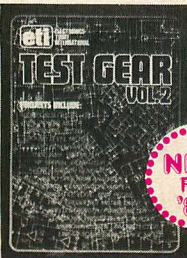
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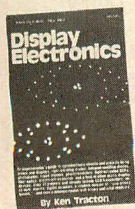
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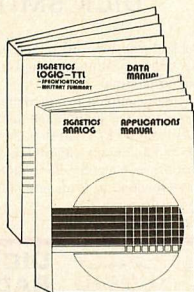
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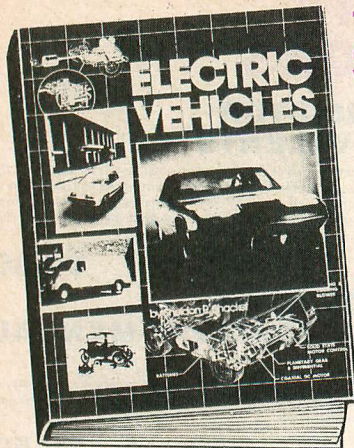
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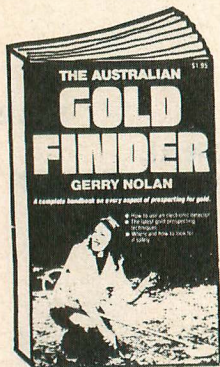
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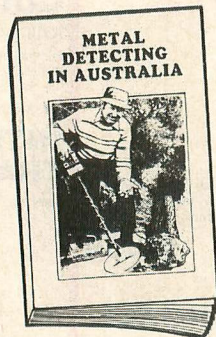


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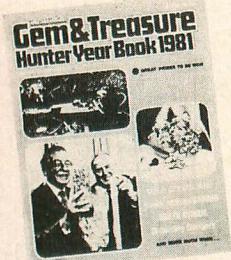


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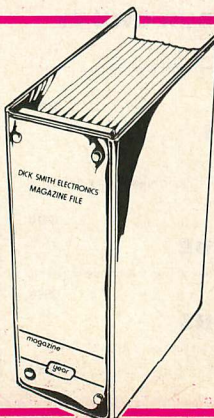
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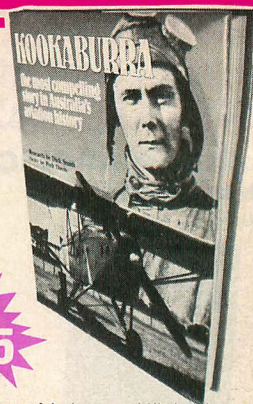


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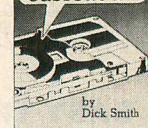
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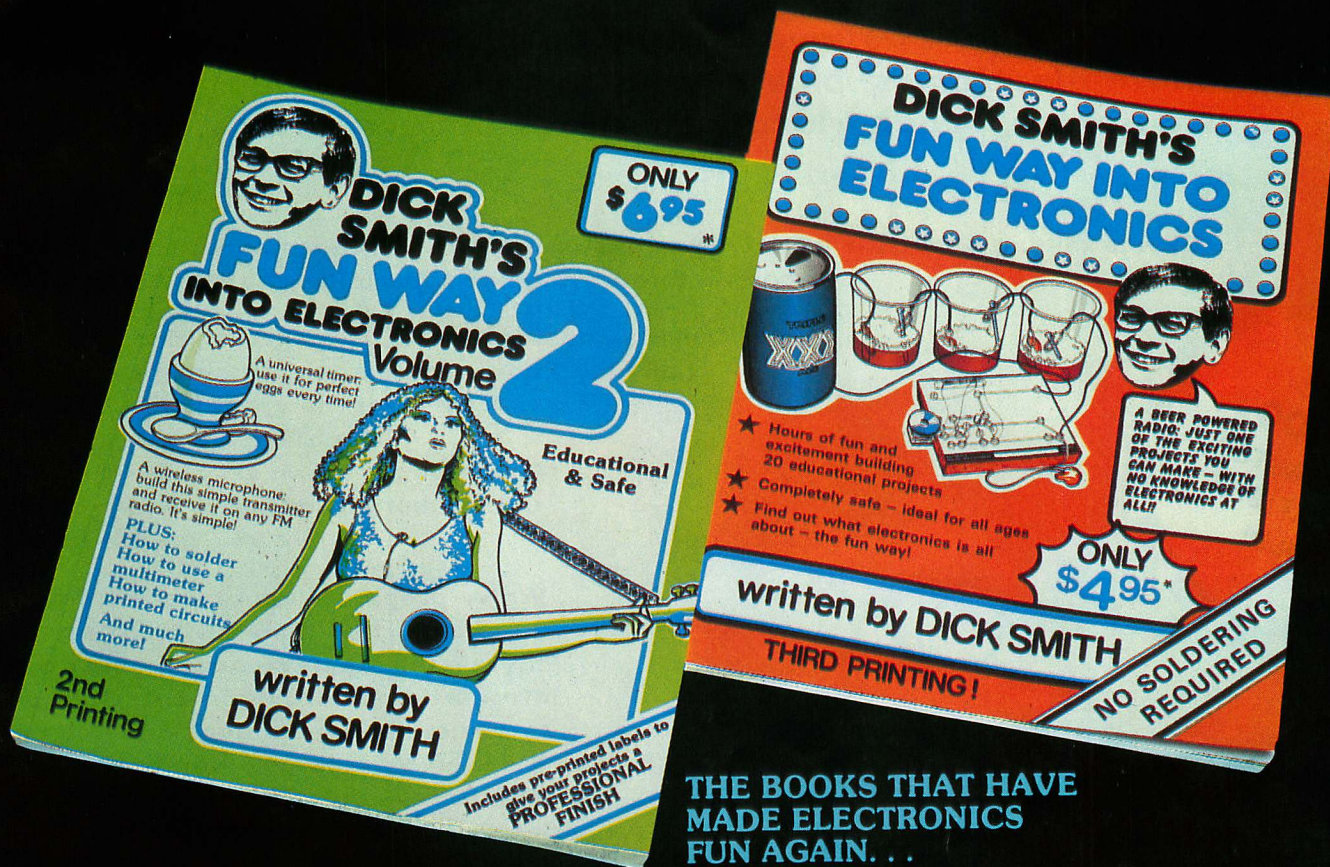
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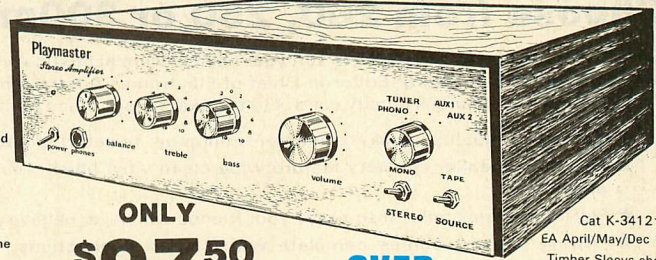
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Timber Sleeve shown is optional extra

Specifications for both Playmaster Amplifiers (Twin 25 & Forty Forty).

Power output: Forty Forty - 40 watts per channel into 8 ohms. 1 channel driven. Twin 25 - 25 watts per channel into 8 ohms. 1 channel driven. Frequency response: ± 1 dB from 20Hz-20kHz, tone controls level. Compensation: RIAA within ± 1 dB. Sensitivity: Phono 2mV into 56k for 40 or 25W output. Other inputs: 150mV into 36k minimum. Overload: 120mV (phone input). Signal/Noise ratio: 70dB @ 10mV (phone input). Other inputs: 70dB. Distortion: Less than 0.05% at normal listening levels. Bass/Treble controls: ± 13 dB nominal at 50Hz and 10kHz. Stability: Unconditional.

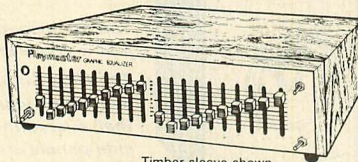
Playmaster Graphic Equaliser

Correct the mistakes in YOUR listening environment . . .

Room deficiencies colour your sound - and often not as you'd like it. You can correct all the problem areas in your listening room with this superb Playmaster Graphic Equaliser. 10 frequency bands in both stereo channels - you have total control over your sound.

Or maybe you like to thrill to the high highs - or the low lows: out of the range of normal tone controls. You can get highs and lows you'd never have believed with the Playmaster Graphic Equaliser!

Includes a 16 page step-by-step construction manual - fully illustrated so you shouldn't have any problems.



Timber sleeve shown is optional extra

\$99⁵⁰

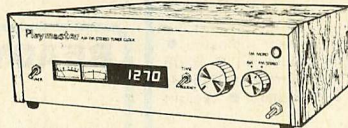
Cat K-3500★★

EA May 1979

Playmaster AM/FM Digital Tuner

Professional quality pre-built tuner module means all the hard part is already done for you . . .

A home-built tuner has been out of the question for many years, mainly because special test equipment is needed to align the FM section. Dick solved that problem by importing a pre-built and pre-aligned tuner module, ready to be built in to a project. Electronics Australia came up with the rest of the design, featuring a digital frequency readout, which doubles as a clock! Add the sections together, include a power supply - and you've got the Playmaster AM/FM Digital Tuner/Clock. It's easy to build - because all the hard work has been done for you - and comes with a superb instruction manual.



Also an accurate digital clock!

Timber Sleeve shown is optional extra

\$129⁵⁰

Cat K-3494 ★★

EA Nov/Dec 1978 & Jan 1979

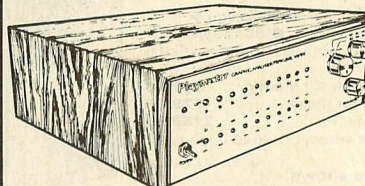
Playmaster Graphic Analyser

A must for serious audiophiles and music lovers . . .

Like the horse without the cart . . . A graphic equaliser is a fine - but for best use, you want to know exactly where your problem areas are. The graphic analyser tells you. So you end up with your music exactly as it was intended. Pure, unadulterated sound.

BUT IT'S MORE! When not in use as an analyser, this project doubles as a peak level meter. The rows of LEDs display the level of your music - see in an instant whether you're overloading the system!

Full instructions supplied - both for building the kit, and how to use it to best advantage.



Timber sleeve shown is optional extra

\$99⁵⁰

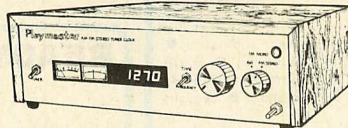
Cat K-3510★★

EA February 1980

Playmaster AM/FM Digital Tuner

Professional quality pre-built tuner module means all the hard part is already done for you . . .

A home-built tuner has been out of the question for many years, mainly because special test equipment is needed to align the FM section. Dick solved that problem by importing a pre-built and pre-aligned tuner module, ready to be built in to a project. Electronics Australia came up with the rest of the design, featuring a digital frequency readout, which doubles as a clock! Add the sections together, include a power supply - and you've got the Playmaster AM/FM Digital Tuner/Clock. It's easy to build - because all the hard work has been done for you - and comes with a superb instruction manual.



Also an accurate digital clock!

Timber Sleeve shown is optional extra

\$129⁵⁰

Cat K-3494 ★★

EA Nov/Dec 1978 & Jan 1979

9kHz Whistle Filter

Now we have 9kHz radio station spacing, inter-station whistles are much more evident. This amazingly sharp notch filter can be added to most tuners, and filters out that annoying whistle. Ideal for the Playmaster Tuner. Cat K-3496 ★

\$19⁷⁵

EA February 1979

Ideal for any Tuner!

Timber Dress Sleeve

Give your Playmaster amplifier, tuner, equaliser or analyser that really professional look with this superb timber dress sleeve. Imitation Teak finish, easy to fit. Cat H-3113



\$8⁵⁰

Does not suit new Mosfet Amplifier

Speaker Protector

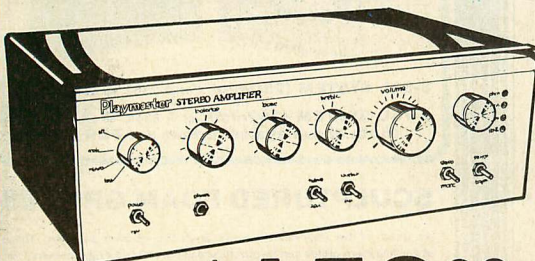
That 'thump' most amplifiers give when you turn them off is more than annoying: it's downright dangerous! Protect your valuable speakers with this kit: it disconnects the speakers before turning the amplifier off. Fits most amps. Cat K-3425 ★

\$13⁵⁰

EA June 1976

Add on to most amplifiers!

AND NOW: THE NEW PLAYMASTER MOSFET AMP HIGH POWER: 50 WATTS PER CHANNEL!



\$159⁰⁰

Cat K-3515★★

SPECIFICATIONS:

POWER OUTPUT (1 channel driven)
64W/4 ohms, 50W/8 ohms, 37W/16 ohms

Frequency Response:
Phono: within 1dB RIAA 30Hz - 20kHz
High level inputs: 1dB 25Hz - 20kHz

Channel Separation:
10kHz -40dB, 1kHz -47dB, 100kHz -50dB

Input Sensitivity:
Phono at 1kHz: 2mV (56k) Overload 120mV
High level inputs: 190mV (36k minimum)

Hum & Noise:
Phono (with respect 10mV): 73dB unweighted with typical cartridge.
Other inputs: 80dB unweighted with inputs o/c

Total Harmonic Distortion:
At full power, both channels operating from 25Hz to 20kHz: less than 0.2%
(Typically less than 0.05% at normal levels)

The very latest in audio engineering is designed into the all-new Playmaster Stereo Mosfet Amplifier, from Electronics Australia.

As its name suggests, this amplifier features the remarkable new 'Power Mosfets' in the output stage. These devices, only recently available to the hobbyist, offer a dramatic improvement over the power transistors used in earlier designs. Power Mosfets are much more reliable, have much better signal handling characteristics, do not suffer from 'thermal runaway' like transistors (so they can be driven much harder and much closer to their ratings), and use simpler circuitry to control them.

As a result, other areas of the new Playmaster circuit have been improved: it features both 'loudness' and 'muting' controls (not previously seen on Playmaster amplifiers.) It has speaker switching (switch between two pairs of speakers: either, both or none!). It uses LEDs to show the input selected. And it can be used with virtually any speaker load (4, 8 or 16 ohms) without any problems.

The all-new styling of the Playmaster Stereo Mosfet Amplifier will be immediately obvious: and in the Dick Smith kit, we've even had the front panel professionally designed and manufactured, to tone in with your present commercial stereo equipment.

Playmaster DO-IT-YOURSELF SPEAKERS OVERLEAF

Playmaster SPEAKER SYSTEMS

Dick Smith's amazing 'Playmaster' hi-fi speaker kits - you assemble them in just 2 hours
Choose from 200, 250 or 300mm systems:

Dick Smith offers you 3 systems to suit your needs all are acoustically designed by Neville Williams, M.I.R.E.E. (Aust), Editor-in-Chief of Electronics Australia magazine and manufactured under meticulous quality control to the exact Electronics Australia specifications.

- ★ Three high-quality speakers (woofer, midrange, tweeter) in each enclosure.
- ★ Beautiful speaker cabinets feature wipe clean vinyl finish - authentic timber appearance.
- ★ Full instructions make it so easy - your friends will never believe you built them.
- ★ Wiring harness comes complete with clip-on connections - no soldering required.
- ★ Super value - save hundreds of dollars on speaker systems of equivalent performance.



3-26L 200mm 3-WAY SPEAKER SYSTEM

\$159⁵⁰
pr



The perfect system for modern units where space may be restricted.
SPECIFICATIONS:

- 8" speaker system, 26 litre ● infinite baffle speaker enclosure ● 45Hz to 20kHz frequency response ● 8 ohms impedance ● 90dB sensitivity
- 40 watts maximum power rating ● 3-way crossover (1.5kHz and 5kHz)
- Dimensions 53.5(h) x 32.0(w) x 22.6(d)cm.

ORDER AS FOLLOWS: Cat. C-2046 Speaker Kit (Pair) **\$80.00**
 Cat. C-2626 Box Kit (Pair) **\$79.50**
Total System Price (Pair) \$159.50

Note: Box Kit (pairs) C-2626 are available without C-2046 if required.

▲ EA MAY 1978

Supplied with sculptured grilles, as shown

You don't need special tools, materials or skills: just a screwdriver and a tube of wood glue!

The Dick Smith 'Playmaster' Speaker Kits have everything you need. Precision manufactured so that everything just 'falls into place'. The four side panels are pre-joined by the vinyl cladding: they simply wrap around the front baffle board.

Even if you've never built anything in your life before, you can make a pair of these magnificent speakers in just 2 hours construction time. The 6 page, profusely illustrated brochure explains everything in a simple, step-by-step way.

They'll look and sound so good, your friends will never believe you built them!



\$248⁰⁰
pr

3-53L 250mm 3-WAY SPEAKER SYSTEM

Very similar to the 3/75L system but more compact. The ideal system where less volume is required.

SPECIFICATIONS:

- 10" Speaker system, 53 litre ● Infinite baffle speaker enclosure ● 35Hz to 20kHz frequency response ● 8 ohms impedance ● 92dB sensitivity ● 60 watts maximum power rating ● 3-way crossover (1.5kHz and 5kHz)
- Dimensions: 62.0(h) x 39.3(w) x 29.3(d)cm ● Weight 14kg/box

EA JUNE 1977 ▲

ORDER AS FOLLOWS

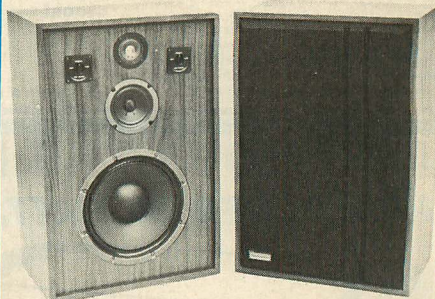
Cat. C-2044 Speaker Kit (pair) **\$139.00**
 Cat. C-2624 Box Kit (pair) **\$109.00**
Total System Price (pair) \$248.00

NOTE: Box Kits (pairs) C-2624 are available without C-2044 if required.

Supplied with sculptured grilles, as shown

READY-MADE SPEAKER SYSTEMS:

If you don't have the time to build your own speakers, we have the 75 litre & 53 litre systems, as described at left, in pre-built form. Same specifications as kit form, complete with both wood-grain finish baffle boards plus sculptured grilles.

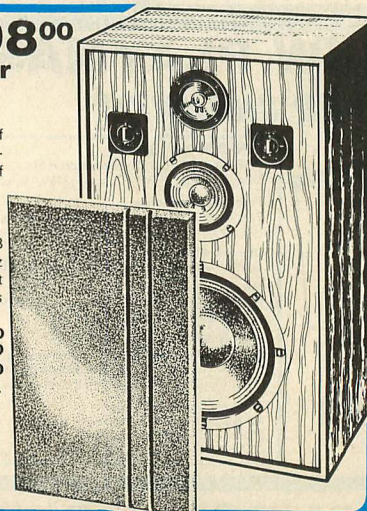


3-53L SYSTEM (250mm) Cat A-2362 \$349.00

3-75L SYSTEM (300mm) Cat A-2364 \$399.00
 (Both above system prices are PER PAIR)

3-75L 300mm 3-WAY SPEAKER SYSTEM

\$298⁰⁰
pr



This system consists of a pair of our C-2042 speaker kits plus a pair of beautifully made 75 litre speaker box cabinets Cat. C-2622. Full instructions are supplied and you need only a few hand tools and a small tube of wood glue to complete the system in less than 2 hours total work.

SPECIFICATIONS:

- 12" speaker system, 75 litre ● Infinite baffle speaker enclosure ● 28Hz to 20kHz frequency response ● 8 ohms impedance ● 93dB sensitivity ● 80 watts maximum power rating ● 3-way crossover (1.5kHz and 5kHz)
- Dimensions 71.7(h) x 47.5(w) x 29.3(d)cm ● Weight 17kg/box ● Facilities include mid-range and tweeter control networks

ORDER AS FOLLOWS: Cat. C-2042 Speaker Kit Pair **\$164.00**
 Cat. C-2622 Box Kit (pair) **\$134.00**
Total System Price (pair) \$298.00

Note: Box Kit (pairs) C-2622 are available without C-2042 if required.

**IDEALLY SUITED FOR
PLAYMASTER SYSTEMS**

Supplied with sculptured grilles, as shown

SCULPTURED FOAM GRILLES

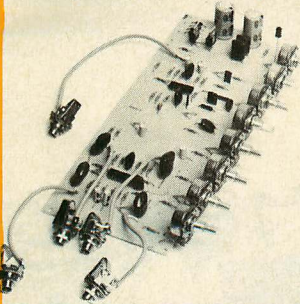
As used in the Playmaster 3/53L & 3/75L speaker systems. These attractive foam grilles can be purchased separately - for replacements, for those who want to build their own enclosures, etc. These grilles are heavy, non-sag foam with two vertical stripes sculptured into one side. The stripes may be on the left or the right side; simply turn the grille up-side down. The grilles are coloured chocolate brown, but may be re-sprayed to any colour with a tin of spray paint.

3-53L Size (365 x 595mm) Cat C-2640 \$14.95 ea

3-75L Size (670 x 440mm) Cat C-2642 \$14.95 ea

AUDIO MIXERS

4 Input Preamp/Mixer: for guitar, pa, hi fi, etc



This is the ideal mixer for all users – because it's completely adaptable to your requirements. Designed to suit the 300 watt amplifier (below), but just as suitable for use with the ET1480 100 watt or 50 watt power amplifier modules. Has 4 inputs, each with an impedance of 100k (suitable for most microphones, guitars, etc). This unit also provides bass, treble and presence controls, PLUS a master level control. This versatility makes it ideal for any rock band, guitarist, etc, as well as the home recording enthusiast, etc. Comes complete with all components, PCB, etc, plus instructions. Does NOT include power transformer, case or any mains wiring, etc; normally, power can be derived from the amplifier power supply, so it is a great module for 'building in' to other equipment.

Cat K-3035 ★ **\$29⁵⁰**

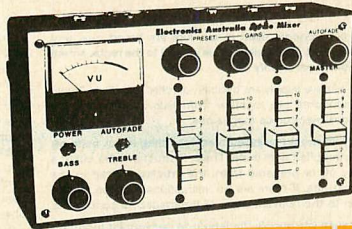
3 Input Universal Audio Mixer

At last: a portable audio mixer designed especially for the home recording enthusiast... with more features than many mixers selling for \$100 and more! Ideal for home movie buffs, rock groups, etc etc etc.

- Three inputs, with gain controls, PLUS a master control.
- Each with slider controls so you know exactly what your level is.
- Professional VU meter for accurate level checking.
- Full base & treble control for absolute control
- Autofade facility: automatic fade from one channel to another for voice over music dubbing, etc.
- Full instructions with all parts, including solder – complete this kit in just a couple of evenings
- Easy conversion to a superb hi fi mixer: full instructions supplied
- Designed by Jim Rowe: see Electronics Australia Sept 78

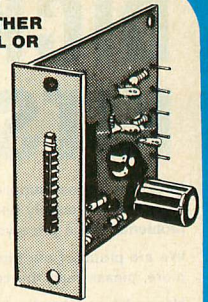
Cat K-3492 ★ **\$49⁵⁰**

RECORDING ENTHUSIASTS, HOME HI FI & MOVIE BUFFS – THIS IS FOR YOU!!!



LED LEVEL METER

ONE MODULE DISPLAYS EITHER MONO SIGNAL OR SUMMED STEREO!

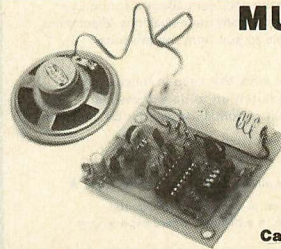


This fascinating project is very easy to build, and is a superb add-on to any audio system. It gives a striking display of relative power output from your amplifier – either by summing the stereo channels or, if you build twin LED level meters, by displaying both channels individually. Readout power is shown by 10 green, 1 yellow and 1 red LEDs: the yellow shows maximum power output and the red an overload condition. It simply connects across the speaker leads. By adding a few components, it can be used as a VU meter to replace older mechanical types. Power supply requirements are 10 – 16V AC or DC, at 50mA. Full instructions are supplied.

Cat K-3370 ★

\$14⁵⁰

MUSIC GENERATOR



A superb new kit from EA: this ingenious circuit can be the basis of many different projects. It basically operates as a warning device, with four different modes possible, depending on the inputs selected. It could be used as a door indicator, each door being wired to give a different sound. The circuit is very easy to build, and uses a special music generator IC. With a suitable low cost amplifier, it could easily be used as a doorbell, giving indication of where the call is coming from.

Cat K-3512 ★

\$12⁵⁰

GUIDE TO KIT CONSTRUCTION

All major Dick Smith kits are supplied with our exclusive 'Guide to Kit Construction'. Written especially for the beginner, it shows you how to identify components, what tools you'll need, how to solder the components and printed circuit boards, etc – in fact, everything the kit constructor needs to know to successfully build reliable kits.

There's a copy supplied FREE with most Dick Smith kits – or if not, there's a copy available for the asking at your nearest Dick Smith store. It makes construction a breeze!

Exclusive to Dick Smith!



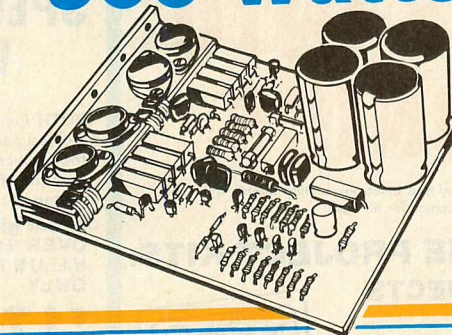
MASSIVE MUSIC POWER!

300W FOR AN INCREDIBLE 23 CENTS PER WATT!

300 Watts RMS Amplifier

(300 Watts into 4 ohms, 200 Watts into 8 ohms)

SEE Electronics Today Feb. 1980



This fantastic amplifier kit gives you tremendous scope for boosting the output of your existing sound system – use one module to produce 300 WATTS RMS (into 4 ohms), or two modules to give you a massive 600 WATTS RMS power!

This is the ideal amplifier for public address, rock groups, etc, or any other application where high power is required.

Kit comes complete with all components and instructions.

Simple and straight forward to build, this kit is ideally suited to mounting in the standard rack mounting case, either singly or in stereo pairs. You will require an M-0150 transformer and one or two H-3426 heatsinks depending on light or heavy use.

K-3444▲▲

\$69⁰⁰

100 Watt Amp Module

ET1 480 100W RMS POWER AMP MODULE

100 Watts RMS – 5kHz to 50kHz at 100dB signal to noise ratio. That's the ET1 480 amplifier! The ultimate in simplicity: even the power transistors mount on the one PCB. The PCB heatsink bracket is supplied, and the heavy duty fibreglass PCB has a silk-screened overlay to make construction even easier! The design is based on the time-proven reliable ET1422 power amplifier without the power transistor wiring hassles. Ideal for the home constructor or technician who wants to 'roll his own' amplifier system for home or professional use. Has on-board fuse protection. Input sensitivity: 1V. Use with K-3438 power supply

Cat. K 3442 ▲▲
SEE ETI DECEMBER 1976

\$25⁰⁰

50 Watt Amp Module

ET1 480 50W RMS POWER AMP MODULE

Ideal for home stereo systems. Same design simplicity as the 100 watt module above, but cheaper because of lower power. And there's added economy as two units can be run from the one K-3438 power supply. An economical solution for those who want to update their old system without a huge outlay of money. The compact design makes this module the obvious choice wherever a medium power general purpose amp is required. Input sensitivity is 500mV. Supplied with exclusive instruction booklet and rugged fibreglass PCB with silk-screened component overlay for easy assembly. Heatsink bracket is supplied, but heatsink itself is extra.

Cat. K 3440 ▲▲
SEE ETI DECEMBER 1976

\$19⁵⁰

General Purpose Stereo Pre-amp

This amazingly versatile unit can be built up as a magnetic cartridge pre-amp (for upgrading your stereo), a tape pre-amp or an auxiliary pre-amp with 40, 55 or 80dB gain. It is extremely simple: uses only one special IC and is very small – all parts fit on a PCB less than 55mm square. It does not need a special power supply as any reasonable power supply from 10 to 40V will do. Frequency response is well beyond 20kHz, and full instructions are supplied.

Cat. K 3427 ▲
REFER TO ETI JULY 1976

\$8⁵⁰

ETI 480 PS Power Supply

Full PCB & component kit for one K-3442 or two K-3440 modules. Supplied complete with speaker de-thump relay and Zener regulated plus & minus 15V pre-amp rails. Special assembly inst. supplied. Transformer extra. per extra

Cat. K 3438 ▲
SEE ETI DECEMBER 1976

\$19⁵⁰

Heatsinks for these modules

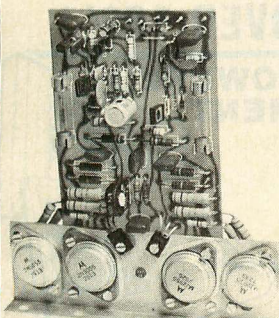
Imported just to suit these amplifier modules. Finished in matte black for optimum efficiency with radial pattern fins

Cat H-3422 75mm long, ideal for the 50 watt module

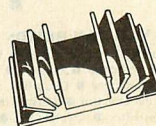
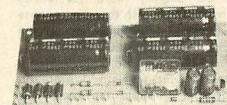
\$3⁵⁰

Cat H-3426 A whopping 225mm long, more than enough for the rigours of the 100 watt module

\$9⁵⁰



Exclusive Dick Smith construction guides give you the information the mags forget! Step-by-step guide to building with all parts identified. Real value: and free with either amp.



DICK SMITH KITS . . .



Being the largest supplier of kits in the Southern Hemisphere means having the expertise and supply back-up to make sure you get your kit quickly and without problems – at a price you'll find hard to beat.

We are proud of our kits and our service, but if you would like us to help you more, please read the comments below.

Happy kit constructing!

Building projects from kits is one of the best ways to save money and learn about electronics at the same time. Our range includes the most popular local designs from the magazines 'Electronics Australia' and 'Electronics Today International'. Kits are available to suit from the absolute beginner right through to the professional.

All the projects we have included are the most reliable of their kind. We keep in touch with the magazines and circuit designers to ensure that our kits are absolutely up-to-date. If we ever substitute parts (shortages sometimes force this) we ensure that performance will not be impaired, by checking with the author concerned.

KIT CODES

★ **BASIC** – A basic kit that any person with a soldering iron should be able to build. Look for the single ★

★★ **ADVANCED** – A kit where, because of complexity of construction or because of the limited instructions provided, a constructor must be more experienced (or be in a position where experienced assistance is available if needed). Look for the two ★★

If you've never built projects before, start with the simple projects until you gain the experience necessary for the harder ones. Simple projects are just as much fun (and are usually inexpensive), and they will help you understand how circuits work and simplify fault location.



A small section of our North Ryde kit preparation centre

EXCLUSIVE!

*SORRY, DICK - IT DOESN'T WORK!

It's never been so easy for kit builders . . . In most of our major kits, we now include a "Sorry Dick, it doesn't work" coupon. If, after following the step-by-step instructions you cannot get your kit working, you can return it to our service centre where, for a token fee, they'll find any errors, repair them and send your kit back to you as good as new!

The "Sorry Dick, it doesn't work" coupon is **ONLY** available with Dick Smith Electronics kits – available from Dick Smith stores and authorised re-sellers.

* We reserve the right to return the kit and the fee if, in our opinion, it is so badly constructed that effective repair is considered doubtful or impossible.

WARRANTY ON KITS

(Please read this before purchasing a kit)

All components used in our kits are brand new and guaranteed. **This guarantee is limited to the replacement of faulty parts only.**

The kits we supply are basically a collection of electronic components put together from lists supplied by the various electronics magazines.

Our kits should be assembled according to any instructions supplied with them. These instructions are either a copy of, or prepared from, the articles printed in the magazines. If there are no instructions supplied, please refer to the relevant issue of the magazine concerned.

Because you supply the labour to put your kit together, **we cannot make any guarantee that the kit will work when finished.** If you have any doubt that you can

complete the kit successfully, take advantage of our 7 day satisfaction guarantee and return the kit, in original condition and packaging, for a full refund. (Note: once construction is commenced, no refund is possible).

Our service centre cannot do general service work on kits (other than those with a 'Sorry Dick, it doesn't work' coupon). It is recommended that if a kit builder does not have enough knowledge to diagnose faults, the kit should not be started unless assistance can be obtained. (Unfortunately one small faulty solder joint can take many hours to find – and at normal service rates the charge could well exceed the total cost of the kit!)

Our kits do not include batteries, since they have a relatively short life. If the battery leaks, components could also be damaged.

DICK'S OWN

FUN WAY INTO ELECTRONICS

The books that make electronics FUN again: Dick Smith's Fun Way Into Electronics. Over twenty thousand copies sold – an ideal introduction to the wonderful world of electronics for all ages!

'This book does exactly what it says – shows a fun way into electronics for the raw beginner. And it does it right.'

Roger Harrison,
Editor,
Electronics Today International
December 1979



Cat B-2600

\$4.95

There are twenty interesting and exciting kits to build in this book: from a simple flashing LED to a simple radio transmitter – including the famous Beer-Powered Radio! All kits are built on chipboard bases – just screw the components together as shown, and that's it! The book contains all the instructions, plus pre-printed chipboard labels to make it o-o-o simple.

NOTE: ALL instructions to build the kits are contained in the above book. The kits themselves do not contain any instructions.

FUN WAY ONE PROJECT KITS:

KIT 1: FOR PROJECTS 1 - 10

You can build any of the first ten projects from 'Fun Way into Electronics' with this kit. It even includes the base board on which you assemble the circuit! Kit includes: 2 transistors, 7 capacitors, 2 LEDs, a diode, a light dependent resistor, 23 resistors, a speaker, battery clip, baseboard, wire & self-tapping screws.

\$6.90

KIT 2: FOR PROJECTS 11 - 20

This kit contains the slightly more specialised components which, together with the components from kit 1, will enable you to make any of the projects in the book. The kit includes:

An integrated circuit, 11 capacitors, including a variable type, a potentiometer, a resistor, a ferrite rod aerial, a crystal earphone, an audio transformer and 70cm of hook-up wire.

\$7.50

THE PROJECTS YOU CAN BUILD:

● Continuity indicator ● Transistor tester ● Water indicator ● Light/dark indicator ● Flasher ● Siren ● Dog & cat communicator ● Decision maker ● Morse code communicator ● Music Maker ● Sound effects generator ● Crystal Set ● One transistor amplifier ● Beer powered radio ● Two transistor radio ● Simple transmitter ● More powerful transmitter ● CB radio receiver ● Amateur radio receiver ● Radio booster amplifier



SPECIAL 'FUN WAY' VALUE PACK

BOTH Fun Way kits (so you can build ALL the projects) **PLUS** the book itself – at a saving of over 10%!

Great gift idea: OVER \$19.00 VALUE FOR ONLY

\$17.50

Cat K-2615



SAVE OVER 10%!

SOLAR-POWERED EXPERIMENT KIT

25 PROJECTS IN ONE KIT!



- No soldering, easy to use.
- Step-by-step instructions.
- All components included.
- Fascinating and educational for children and adults.
- NEW high efficiency Silicon solar cells (much smaller than Selenium cells but equal power).
- 25 projects most solar powered. (1.5 & 9V cells required for some projects are extra)

Solar power is in the news almost every day – now you can understand its use with this fabulous new electronics project kit from Dick Smith. Amaze your friends with a transistor radio powered by the sun.

Cat. K-2032

\$16.95

AND NOW: FUN WAY VOL. 2:

You've built the twenty projects in Fun Way and you're ready for something new. Something bigger & better. Something more exciting. . .

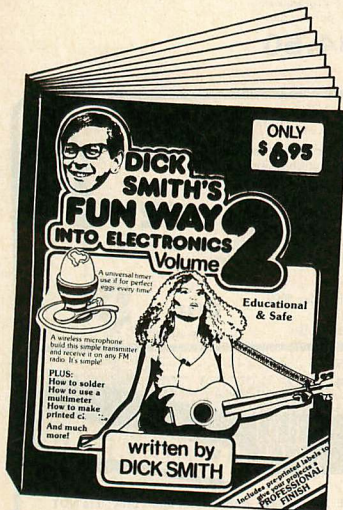
Here it is: Fun Way, Volume 2. Twenty exciting new projects to build.

These projects are at a higher level than those in Fun Way 1: for a start, they're all made on printed circuit boards. Don't know how to solder? No worries; we show you how. We also show you how to use a multimeter, how to actually make your own PCB's if you wish!

And there's lots of interesting information about the pioneers of radio & electronics - and about electronics itself.

And there are pages of specially printed labels to make your projects look really professional!

PLEASE NOTE: These kits do NOT include instructions. Including these in each kit would add considerably to the cost of the kits. We have printed all the instructions, plus useful data, etc, in 'Dick Smith's Fun Way into Electronics, Vol 2. (See below)



FUN WAY VOL. 2:

Cat B-2605 **\$6.95**

FLASHER

A really simple kit using two transistors and one light emitting diode (LED) to produce a flashing light that can be used to simulate a car burglar alarm or electronic brooch.

Cat. K-2621 **\$2.75**

DING-DONG DOORBELL

Delight your family and friends with this project designed around the NE555 timer.

Cat. K-2622 **\$4.00**

MORSE CODE TRAINER

This simple oscillator circuit coupled to a small speaker makes an ideal morse code trainer when used with a morse key and may also be used as an audible alarm by connecting it to an alarm output circuit.

Cat. K-2623 **\$4.00**

Note: Morse key not supplied with the kit but is available as a separate part. Cat. D-7105 \$1.95.

UNIVERSAL TIMER

Use as an egg timer, photographic, or process timer etc. For times from a few seconds to 15 minutes. May be used to switch ON or switch OFF and operate a relay, speaker or buzzer.

Cat. K-2624 **\$5.00**

ELECTRONIC DICE

This fascinating circuit uses six LEDs connected to the output of a 4017 IC which is pulsed by a NE555 timer IC to simulate electronically the roll of a dice. You'll have hours of fun building it and playing it. A simple change to the circuit converts it to a continuous sequential flasher which can be used imaginatively to make an electronic brooch.

Cat. K-2625 **\$4.75**

MONOPHONIC ORGAN

Understand the basics of music synthesis by making this simple two octave organ and then teach yourself to play. Printed circuit board has been designed to fit as the lid of a box to make a convenient and fully portable instrument.

Cat. K-2626 **\$7.50**

POCKET TRANSISTOR RADIO

Although very simple to build, the performance of this little set is as good as most of the small 'trannies' available in the shops. Building it will help you to learn about radio and give you hours of fun listening, combining it with an amplifier to produce greater volume and designing it to fit into smaller and smaller places.

Cat. K-2627 **\$7.50**

TOUCH SWITCH

Using the 7473 IC, this circuit introduces the basics of switching logic and has literally dozens of applications where touch switching, local and remote, is required. May be used as a touch on/touch off, or as on while touched only. Has industrial applications as well as novelty uses.

Cat. K-2628 **\$4.90**

MOSQUITO REPELLER

This ingenious device uses a unijunction transistor in a circuit designed to produce a frequency of 21 - 23KHz. This is outside of the human audio range but right on the frequency the male mosquito emits. As pregnant female mosquitoes, the only ones who bite, are repelled by males they will keep away from your repeller and you.

Great fun to build and use!

Cat. K-2629 **\$4.50**

INTERCOM AMPLIFIER

Although designed for use in the intercom project, this amplifier can be used in many places, from an amplifier for your radio to a public address amplifier or megaphone.

You'll have hours of fun finding new applications in addition to the uses suggested in the FUN WAY INTO ELECTRONICS VOL. 2.

Cat. K-2630 **\$6.00**

WIRELESS MICROPHONE

Make this one into a tiny package and slip it into your pocket to give you total freedom to move about while speaking or performing. May also be used to listen to baby by placing it near the cot and tuning in your FM radio in another room. Designed to work on the same principle as the well known spy 'bugs'.

Cat. K-2631 **\$6.50**

LIGHT ACTIVATED SWITCH

Designed around the light dependent resistor, this device has many uses to make your life easier and safer.

Use it to switch on an alarm when an intruder turns on the lights... or to switch on the lights at sunset so that your home looks occupied. Or as a shop door alarm, or a door protector - the only limit is your imagination! Fun to build and use.

Cat. K-2632 **\$4.90**

METAL/PIPE LOCATOR

Now you can join the gold rush and learn about electronics at the same time by building this metal detector using the CMOS4001 IC. Handymen will find it extremely useful for locating pipes and electric cables before digging holes or drilling in walls.

Cat. K-2633 **\$6.00**

SOUND ACTIVATED SWITCH

Designed to use a sensitive electret microphone, this device is ideal as an alarm pick up to actuate a bell or light at the first sound of intrusive noises. It may also be used as an extension bell for your telephone without breaking P&T regulations.

Easy but fascinating to build and use.

Cat. K-2634 **\$6.50**

HOME/CAR ALARM

This very practical circuit will teach you about electronics and at the same time provide you with an efficient alarm circuit for your home and car. May be used with any number of normally open or normally closed contacts.

Cat. K-2635 **\$6.00**

ELECTRONIC SIREN

The ideal project for providing the audible alarm for home or car circuits. Using two NE555 IC's this circuit can be easily modified to produce a variety of sounds.

Cat. K-2636 **\$4.50**

LED LEVEL DISPLAY

Build this project and obtain a graphic indication of the output of your radio or hi-fi system. You might like to build two - one for each channel of your stereo system. Power level is displayed by ten red LED's. Easy to build with direct practical application.

Cat. K-2637 **\$8.50**

INTERCOM UNIT

Now you can build your own home intercom using a simple circuit and the intercom amplifier described above.

Enables you to communicate between rooms or to out buildings.

An interesting and useful project that will increase your knowledge of electronics.

Cat. K-2638 **\$8.50**

LED COUNTER MODULE

This fascinating project will introduce you to the workings of the 7 segment digital display. Using 7490, 7475, and 7447 IC's, it is easily adapted for industrial applications such as component counting as well as numerous other counting applications. A reasonably complex circuit that will build your confidence and increase your enjoyment in electronics.

Cat. K-2639 **\$7.50**

SHORT WAVE RECEIVER

Now, using this circuit with the 4007 IC you can build a short wave radio that will enable you to tune into foreign radio stations or, with simple adjustments, to a variety of Amateur, Police, Marine or Air radio.

Easy and fun to build and will greatly expand your knowledge of radio.

Cat. K-2640 **\$6.50**

PROJECT ELECTRONICS KITS

CONTINUITY TESTER

This very effective, versatile circuit checks the continuity of electronic and electrical circuits and components over a resistance range from zero ohms to many thousands of ohms. A valuable tool to the hobbyist when fault finding in projects such as those within this series.

Cat. K-2041 **\$4.00**

HEADS AND TAILS

Learn about the laws of chance and various random phenomena with this interesting electronic multivibrator circuit. Fun and easy to build, a conversation piece, great at parties.

Cat. K-2043 **\$3.50**

TWO TONE DOORBELL

A simple circuit based on a single IC, uses both timing and oscillator modes of operation. An educational project that can be put to practical use.

Cat. K-2044 **\$4.50**

500 SECOND TIMER

This electronic timer is adjustable from a few milliseconds to approximately 500 seconds. At the end of the pre-set period, it sounds an alarm via a speaker.

Cat. K-2045 **\$4.50**

MORSE PRACTICE SET

Anyone embarking on a radio communications course or an enthusiast in amateur radio will at some time require a morse practice set.

Cat. K-2047 **\$3.50**

Note: Morse key is not supplied with this kit but is available as a separate part. Cat. D-7105 . . . \$1.95.

BUZZ BOARD

This project is a sophisticated version of an old game of skill in which the player attempts to pass a small metallic loop along a bent wire path without making contact with that wire. An adjustable time delay is built into the 'electronic buzzer' to vary the difficulty of the game.

Cat. K-2048 **\$3.90**

BASIC AMPLIFIER

This kit can be used with other projects in this series such as the ELECTRONIC BONGOS, AM TUNER or as a record player amp., headphone amp., general purpose.

Cat. K-2061 **\$5.50**

SIMPLE AM TUNER

One of the most exciting and rewarding projects for the beginner to build is a broadcast band tuner. Can be used with the basic amplifier project in this series.

Cat. K-2062 **\$6.50**

ELECTRONIC BONGOS

An electronic version of bongo drums, played like the real ones. In this case, the bongo skin is replaced by conducting plates which are coupled to the electronic circuitry.

Cat. K-2063 **\$5.00**

ELECTRONIC SIREN

An electronic siren kit with earshattering output. Sound can be selected to give either a slow rise and fall tone or a sharp 'hee-haw' effect. Can also be used with a burglar alarm system.

Cat. K-2065 **\$5.50**

Note: Speaker not supplied in kit. A suitable horn speaker C-2705 is available separately.

Cat. C-2705 **\$9.50**

SINGING MOISTURE METER

An audible soil moisture level meter. This takes the guessing out of watering, could save valuable plants.

Cat. K-2067 **\$4.90**

TEMPERATURE ALARM

It can be used in two different ways: 1 - to warn if the temperature exceeds a pre-set level, 2 - to warn if the temperature falls below a pre-set level. Many uses.

Cat. K-2066 **\$4.90**

LED DICE

Two integrated circuits and six solid state light emitting diodes (LED) form the base of this kit design. Assembled in minutes, gives an insight into integrated circuit counting or timing design, makes an ideal party game.

Cat. K-2068 **\$5.90**

TWO OCTAVE ORGAN

Cheap and simple to assemble, this monophonic kit is tuneable, covers a full two octaves and has the range from C262 Hz to C1047 Hz with 12 notes per octave.

Note: Keyboard materials are not supplied. Use your ingenuity to fashion your own.

Cat. K-2072 **\$8.50**

BATTERY SAVER

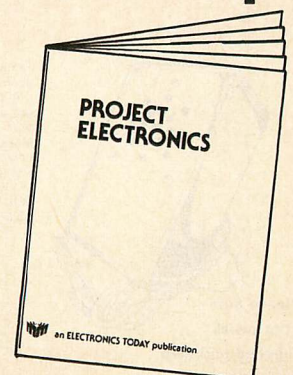
Here's a project that will enable them or other devices such as portable cassettes and radios to be powered from your car's 12 volt system. Easy to build, can be housed in just about any cabinet, from a matchbox upwards.

Cat. K-2511 **\$3.90**

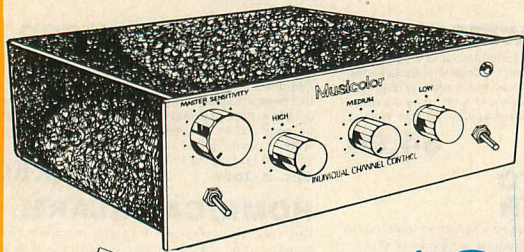
To build any of the 'Project Electronics' kits you will need a copy of the Electronics Today publication 'Project Electronics'. This contains all the instructions necessary to build these, and other kits. For more information refer to the 'books' section of this catalogue.

'Project Electronics' . . . Cat B-3652

\$4.75



MUSICOLOR MK III COLOR ORGAN



With your Musicolor Mk III kit, you get the exclusive 16 page construction and instruction manual. This manual has all the features of the Playmaster books, including the return service coupon facility.

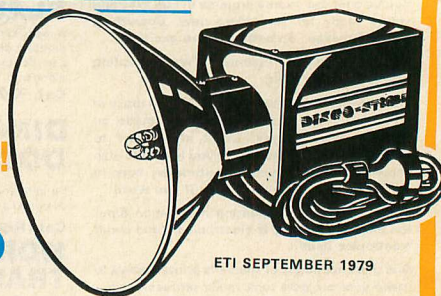
\$69⁵⁰

Turn your music into light! This incredible device accepts audio input from just about any amplifier and uses the information to control 3 channels of coloured lights. When the music is fast and jumpy — so are the lights. When the music is slow and soothing, so are the lights. Yet it does not affect your amplifier or music in any way! You can build this kit even if you have never seen a resistor in your life. The book that comes with it tells you what one looks like! Thousands of these devices have been built — think how your next party would go with a built-in disco!

Cat. K-3140 ★★ **\$69.50**

DISCO-STROBE

TURN YOUR
NEXT PARTY
INTO A DISCO!



ETI SEPTEMBER 1979

\$34⁵⁰

A must for parties, dances and disco's. This has been an enormously popular kit for some time. Now we have had a special printed circuit board made, which makes the unit ridiculously simple to build. Provision has been made on the PCB, so that extra parts for the optional second tube can be added simply and economically. Kit includes a new 180mm photographic type reflector, which is specially modified so that the perspex safety guard which is supplied can easily be fitted. Special new instructions are included. Kit is supplied with super long life heavy duty storage capacitors. Timing control allows flash rate to be varied between one and twenty flashes per second.

Cat. K-3152 ★★ **\$34.50**

NOW WITH
DELUXE
PRE-PUNCHED
CASE

'SHORT FORM' MUSICOLOR KIT

This kit contains all the components, the PCB, pots, etc, but no 'hardware'. Many hundreds of these short form kits have been 'built in' to lightshow boxes, displays, advertising devices, etc. As there is no case, you must be careful to fully shield the 'works' so that no-one can touch any components (remember that much of the Musicolor PCB, heatsinks, etc, are at mains potential).

\$39⁵⁰

Cat K-3141

COLOURED LIGHTS FOR MUSICOLOR & CHASER

\$3⁵⁰

Holder
Cat P-5620

\$7⁹⁵



100W PAR 38 coloured floodlights: great with M'color or Chaser. 4 cols:
Yellow (Cat S-3850)
Red (Cat S-3852)
Blue (Cat S-3854)
Green (Cat S-3856)

XENON FLASH TUBE

Buy direct from the importer and save! Quality xenon-filled flash tubes, as used in strobes, etc — at a bargain price!

Anode Voltage: 200 - 400 (300V nominal)

Maximum energy per flash: 40W.S.

Max. input power (W.S. x flashes/sec): 5W

Max. flash rate at max. input power: 100 flashes/sec.

Maximum trigger voltage: 4kV Minimum Life: 20 hours

Dimensions: 35mm L x 18mm W Material: Hardglass

\$2⁹⁵

Cat S-3882

SUITABLE TRIGGER TRANSFORMER

Discharge volts (primary): Max 300V

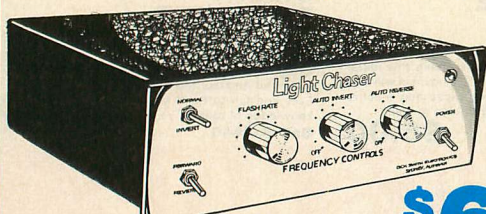
Trigger capacitor: .022uF

Output Voltage (secondary): 4kV

90¢

Cat M-0104

AT LAST! A CHASER



ONE OF OUR
MOST ASKED
FOR KITS!

\$69⁵⁰

Cat K-3145 ★★

Over the years, one of the 'most asked for' projects has been a light chaser: a device which makes lights appear to 'chase' each other along a row. You've probably seen them in shop windows, around awnings, etc.

Electronics Australia has come up with a beauty! A chaser design which not only makes the lights chase each other, it can also invert the action and make the 'shadows' chase each other. Or it can reverse the direction. Or invert and reverse automatically. And you can vary the flash rate to suit the particular application.

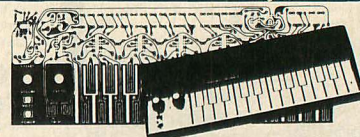
We expect this kit to be as popular as the 'Musicolor' — and we've sold thousands of those. Just imagine: your own lightshow. All you need is the Musicolor, the Disco Strobe and now the Chaser.

The Chaser is built into the same size case as the Musicolor: in fact, the front panel and the whole appearance has been designed to match the style. It's a beauty!

MINI ORGAN Very popular!

Have fun with this one: first when you build it and then when you play it! This project has a plated PCB — so the keys are actually part of the printed circuit tracks. All the components are identified on the PCB by a silk-screened positioning diagram, so it's easy to construct.

The organ has two switchable 'voices', plus tremolo and a built-in IC amplifier with variable volume. Operates from batteries, so you can take it anywhere.



NOTE: Above case is shown for ideas only: it is NOT supplied with the kit.

Cat K-3430 ★ **\$29⁵⁰**

LEDs & LADDERS GAME

One of our most popular kits of the past was the 'Leds & Ladders' game, described in EA in 1975. Now it's been completely up-dated with brand new circuitry and simplified controls, and we're glad to be able to re-release this fascinating kit.

All you have to do is climb out of the well by pressing the 'climb' button while a LED is on. Sounds easy? Have a go! See if you can make it without being plummeted back down again!

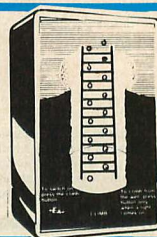
Kit is complete with front panel sticker and zippy box.

WAS \$16.57 IN 1976...

NOW CHEAPER DESPITE

4 YEARS OF INFLATION!

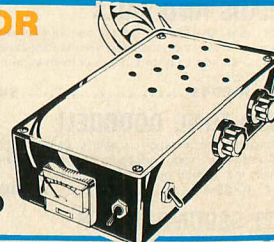
Cat K3390 **\$15⁷⁵**



ETI METAL DETECTOR

Incredible! An induction balance metal detector at a bargain price! Yes — you've waited a long time for a detector this good and this reasonable: but here it is. From Electronics Today International, this detector is the equivalent of many induction balance detectors in the hundreds-of-dollars bracket. You build it yourself — so you save. All electronic components are supplied, including the meter, the box, coil wire, etc, but the coil former and dowel for the shaft is left up to you (you've probably got something in the shed you could use as a former!). Are you ready to go out and find a fortune: you could with this little beauty!

Cat K-3100 ★ **\$35⁵⁰**

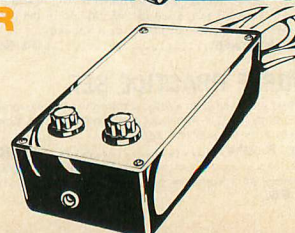


EA METAL LOCATOR

Want to make an economy detector? This must be the one. Designed by Electronics Australia, using the latest digital integrated circuitry, this detector is very simple to make and won't break the bank! Significantly simpler circuitry means significantly simpler operation, too. As above, all components etc supplied, but not the dowel or coil former. Make these yourself and save!

See EA November, 1979

Cat K-3504 ★ **\$19⁵⁰**



'AUTOCHIME'

Electronic
Door-Chime Kit



Please note
front panel
supplied undrilled.

Cat. K-3502 ★

\$29⁷⁵

Fantastic electronic doorbell based on the Texas TMS-100C microprocessor IC. In this exclusive design the unit plays one of 24 DIFFERENT TUNES every time you press the front door button. The unit automatically plays the next tune in sequence — not the same tune over and over again (although it will do this if you want it to). More, if you install a back-door button it will play a particular tune only (Beethoven's 'Fate Knocking') — to tell you which door to attend. The Dick Smith K-3502 'Autochime' doorbell kit contains all parts necessary to build the project. Whilst the kit costs you only \$29.75 the nominal parts value of this project is over \$35.00 — so it's great value.

Westminster Chimes • Greensleeves • Maryland • Oranges and Lemons • Twinkle Twinkle Little Star • Mendelssohn's Wedding March • Sailor's Hornpipe • Cookhouse door • Colonel Bogie • Beethoven's 9th • William Tell Overture • Soldier's Chorus (Faust) • Beethoven's 'Fate Knocking' • Bach • Mozart • Lorelei • Great Gate of Kiev • Oh Come All Ye Faithful • God Save the Queen • Rule Britannia • Land of Hope and Glory • Stars and Stripes • Marseillaise • Deutschland Über Alles •

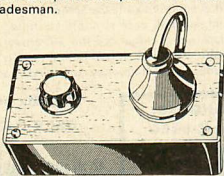
DRILL SPEED CONTROL Mk III Model

Get the most from your electric drill. This control enables your drill to be slowed down to the point where it can be used to drill large holes in thick metal, or even used as a screwdriver. It gives excellent torque at very low speeds. Suitable for all 240V 'universal' brush-type motors (except saws, jig saws, food mixers, etc. Kit is supplied complete down to the last nut and bolt: even with mains cord/plug and output 3-pin socket. Detailed assembly manual included. Easy to build; has rugged moulded case with special strong pre-punched panel front panel. It's a must for the home handyman and the tradesman.

**Thousands
Sold!**

Cat K-3080 ★

\$13⁵⁰



6 DIGIT 12 VOLT CLOCK

This superb digital clock is a particularly good project for the beginner: learn how digital circuits work, and end up with a highly useful clock. This kit includes all parts necessary to build the complete clock module, with 6 digits (hours, minutes and seconds). It operates from any 9 to 19 volt DC source or use a plug-pack to run it from the mains.

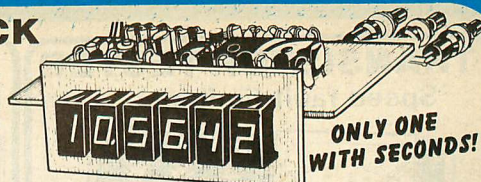
- ★ The only one with seconds display.
- ★ Amazing chronometer accuracy: quartz crystal controlled.
- ★ Extremely easy to build: only requires a steady hand and a fine tipped soldering iron.
- ★ Ideal for cars, boats, aircraft, home.
- ★ Bright red LED digital readout, each a huge 8mm high.
- ★ Display can be switched off to save power; timing circuit remains on.
- ★ Highly detailed instructions including details of a simple mains supply.

Cat K-3495 ★

\$19⁷⁵

Plug-pack mains adaptor to suit:

Cat M-9514 **\$5.95**



**ONLY ONE
WITH SECONDS!**

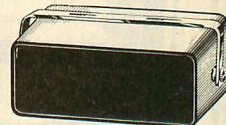
CASE TO SUIT

This clock was designed to fit into our popular 'LED project' case. This has a red translucent front panel which is ideal for use with any LED project. The PCB simply slides into the case for firm and reliable holding. Ideal for cars, boats, planes, etc.

Cat H-3194

\$3⁶⁰

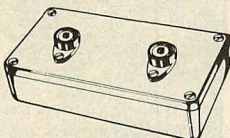
SIZE ONLY 108 x 44 x 68mm



TV Masthead Amp

\$32⁵⁰
INCLUDING MAINS
POWER SUPPLY

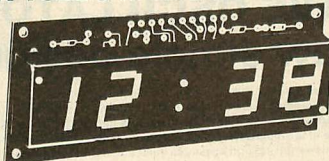
Cat K-3232 ★



Why put up with poor TV reception? Build this simple, low-cost mast-head amplifier and see the difference it makes to your picture!

- Can cut out or reduce snow effect in low signal areas.
- Can reduce ghosting effect caused by multiple signal reception or pick-up from feeder cable.
- Great for long distance reception
- Ideal for FM radio, too!
- Uses latest OM350 hybrid wide-band amplifier IC.
- Kit includes power supply as well as amplifier, plus instructions.

DIGITAL ALARM CLOCK MA 1022C MODULE



ALARM CAN EASILY
BE ADDED

**12.7mm High
Digits**

The MA1022C is a complete electronic digital clock module featuring four-digit LED display; only a transformer and setting switches are required to produce a low cost, full featured movement for use as an alarm clock. Advanced packaging techniques allow minimum overall size while allowing easy and flexible assembly.

Cat Y-1052

WAS \$13.50

\$12⁵⁰

MA1022 CLOCK KIT

Clock Kit? It's not really a kit at all: virtually all the work is already done for you! The PCB contains the clock chip, the display, and all the components required. All you do is connect the transformer and the setting switches – and presto: a clock! This 'kit' contains the PCB module, the switches, transformer and data sheets. Ideal for 'building in' to other projects: or put it in its own case.

Cat K-3434 ★ **\$19.75**

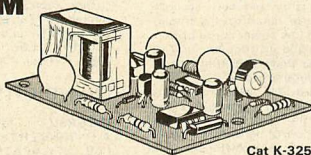
Functional features: ● Multiple 9-minute snooze counter ● 24 hour alarm with on-off control ● PM and alarm set switches ● Entire display flashes to indicate power loss ● Simple fast/slow setting controls ● Time set 'lockout' feature eliminates accidental timesetting without inhibiting alarm setting ● Seconds display mode ● User selectable 12/24 hour, 50/60Hz and fixed/flashing colon operation.

ELECTRONIC KITS FOR YOUR CAR

CAR ALARM

\$12⁵⁰

**CHEAP
INSURANCE!**



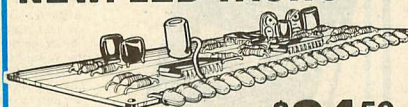
Cat K-3250 ★

This alarm senses the voltage drop in the electrical system whenever anything electrical is used: for example, when a car door is opened and the light comes on. Or when the key is turned. Or the engine 'jumpered' to start it. It also has provision for a mercury switch to be fitted for protection of the boot & bonnet areas – if these areas do not have light switches already fitted (see our 'burglar alarms' page).

There's also a visual warning that the alarm is on: most thieves will pick another car rather than attempt to break into yours if they know an alarm is on: you can put the LED warning on your dashboard to scare them off.

The alarm module is very easily installed – and it could save you a lot of trouble!

NEW! LED TACHO



Cat K-3240 ★

\$24⁵⁰

The trouble with most tachometers is that you have to watch them too closely: this can be dangerous if you have to take your eyes off the road. This tach uses LEDs for instant recognition of engine speeds – you can tell at a glance what it is without diverting your attention from the road for too long. There's also provision for an audible over-rev alarm. It operates on 12V, with either positive or negative earth systems, and only three wires are needed to connect it. Build it into your car instrument panel for reliability. Complete with instructions.

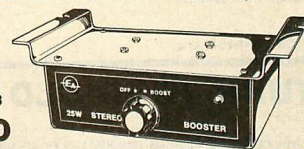
STEREO BOOSTER AMP

This easy to build kit can economically upgrade the power of your car's stereo radio or cassette to 12.5W RMS per channel. It is based on a rugged IC amplifier module and works with all negative earth electrical systems. Installed in the existing speaker cables, requiring only connection to 12V and earth. Fitted with a switch which allows the unit to be completely by-passed for comparison purposes. May be matched to a wide variety of stereo units.

- Distortion under 1% for full output
- Frequency response within 3dB from 50Hz to 100kHz
- Signal to noise ratio of 78dB
- Stereo separation of better than 51dB
- Maximum sensitivity 26mV

Cat. K-3493

\$29.50



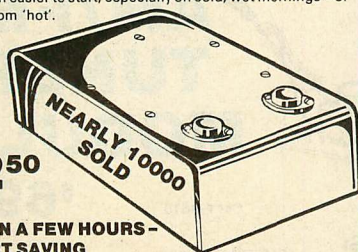
CAPACITOR DISCHARGE IGNITION KIT

The renowned Electronics Australia Capacitor Discharge Ignition System: one of the most popular kits we've ever offered!

This is a very simple kit to construct, and is equally as easy to fit. Works on all cars with conventional ('Kettering') ignition systems, and has a special quick-change feature just in case you have to change from CDI back to standard ignition (unlikely!).

While it is impossible to guarantee what results you can expect from CDI on your particular vehicle, here is a selection of results other customers have obtained:

- Plugs & points last much, much longer (sometimes up to 10 times as long!)
- Engine stays in 'tune' much longer, and effects of out-of-tune engine are not so pronounced.
- Car is much easier to start, especially on cold, wet mornings – or starting from 'hot'.



\$32⁵⁰

**BUILD IT IN A FEW HOURS –
AND START SAVING
IMMEDIATELY!**

Cat K-3280 ★

- ★ Coils are pre-wound: the hard part is already done for you!
- ★ An EXCLUSIVE heavy duty aluminium case for improved heat-sinking: pre-drilled for easy assembly!
- ★ Special resistors for reduced heat build-up
- ★ Special transistor heatsink compound & insulating covers
- ★ Special connector lugs for ignition coil connection: you can disconnect unit, or install on another car in a few minutes.

CDI VS TAI: THE GREAT DEBATE!

Much has been said about the advantages of Transistor Assisted Ignition (TAI) over the well-known Capacitor Discharge Ignition (CDI) systems. The debate has been closely followed by many electronics enthusiasts who, while keeping abreast of developments, may also hope to save some petrol!

Criticism of CDI seems to fall into two main categories:

- (i) Reliability;
- (ii) Possible problems of 'crossfire' (out-of-sequence ignition) in spark plugs.

Reliability: The reliability argument runs that the more components involved in the ignition chain, the greater the likelihood of one of those components failing. This is a fair enough assumption. One would imagine that a well designed simple ignition system would normally be inherently more reliable than an equally well designed, but more complex one.

The Dick Smith K-3280 CDI contains 19 internal electronic components, while the Dick Smith K-3300 TAI kit contains 32 electronic components.

Both ignition systems are well designed (in fact, both by the same person). We believe that both are reliable, notwithstanding the apparently simpler CDI design.

'Crossfire': CDI systems have been accused of causing crossfire because of the short rise time and high energy developed in the coil secondary winding and plug leads. In all automotive ignition distribution systems there is some capacitance between each plug, as well as some (however large) finite resistance between them.

The capacitance, small as it is, is sometimes sufficient to couple (capacitively) nearby plug leads, allowing the pulse from one lead to manifest itself in another.

This is a valid criticism of CDI, but it cannot be classified as a universal condemnation. Dick Smith Electronics has sold almost 10,000 CDI kits over 6 years. Only a tiny fraction of constructors have experienced crossfire problems (which, incidentally, can be reduced by spacing leads to minimise stray coupling capacitance). There have been virtually no problems with either 4 or 6 cylinder engines.

We acknowledge that both TAI and CDI are valid concepts.

If you require maximum performance from an engine or have an application where spark plugs foul, etc., then CDI is probably your best bet. It certainly gives the 'hottest' spark.

If you have experienced crossfiring problems before, you are probably better off with TAI.

The Dick Smith K-3280 and K-3300 Ignition kits are both high quality units, designed to give years of service when correctly assembled.

...Jamieson Rowe
Technical Director, Dick Smith Electronics Pty Ltd.

TRANSISTOR ASSISTED IGNITION KIT

If you think that transistor assisted ignition is more for you, here's a beauty! Once again designed by Electronics Australia magazine, this unit has some very worthwhile features: like

Dwell extension which gives you a longer spark making sure all the petrol in the cylinder is burnt. Why waste it – it's too expensive!!

Compatible with modern electronic tachometers: Some tachometers do not work at all with CDI: we've yet to find one that won't work with this TAI! So you don't have to replace your tachometer or adapt it to suit (important for competition work!)

Eliminates 'crossfire' problems: The TAI doesn't suffer from the same crossfire problems as CDI: so you can fit it to a V8 or competition engine without worries. And it's just as reliable in the family car: who wants an ignition failure or mis-fire overtaking a semi!!!



**COMPLETE
WITH
HEATSINK!**

\$35⁰⁰

Cat K-3300 ★

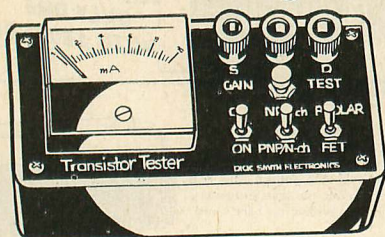
**SAVE PETROL!
SAVE MONEY!**

Our kit features an exclusive custom-made aluminium box for easy fitting to the vehicle. The box is pre-drilled, so that takes care of that one, too! The kit also includes a deluxe heatsink for optimum dissipation, plus full construction information.

TEST EQUIPMENT KITS

TRANSISTOR TESTER

Speed fault finding!



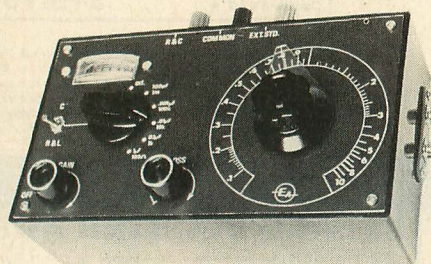
SEE E.A. JULY 1978

Not just another Transistor Tester! This one tests bipolar transistors, diodes, F.E.T.'s and even S.C.R.'s and P.U.T.'s. This practical low-cost test instrument is simple enough to be built by a beginner and then experience in building, then use it to learn about the operation of semiconductors, or use it for more serious checking. Ideal for the beginner and serviceman alike, or in schools. Battery operated and supplied with one of our new 50mm meters in a deluxe 'Zippy' case. S-3006 9V battery 45c extra

Cat. K-3052 ▲

\$19.75

R-L-C BRIDGE



Measure unknown components

Measure the values of new and used components easily & simply. You can measure resistance, (10 ohms to 10 Megohms), capacitance (10pF to 10uF) and inductance (down to a few hundred microhenries). The RLC bridge does more than a multimeter, and is easy to use. The complete kit of parts includes a specially printed front panel. Battery not supplied

Cat. K-3468 ▲

\$36.50

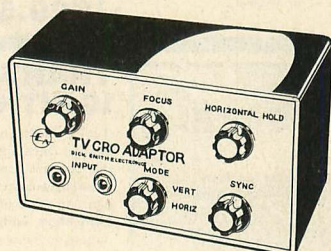
TURN YOUR OLD TV INTO A CRO!

If you're typical of most people, you've an old B&W television set gathering dust somewhere in a corner. It still works, so you can't bear to throw it away, but what can you do with it?

Turn it into an audio CRO! That's right: this remarkable kit turns any surplus B&W (or even surplus colour!) TV set into a 300kHz audio oscilloscope! It gives a good display at low frequencies, making it ideal for hi-fi and audio display applications. All it needs is 100mV to drive it to full screen deflection.

The large screen size means that it gives a dramatic display: just think of the non-technical applications of such a device: promotions, hi fi showrooms, etc etc.

If you can't afford a proper CRO - this could be the answer!



Cat K-3060 ★★ **\$29.95**

DUAL TRACE CRO ADAPTOR

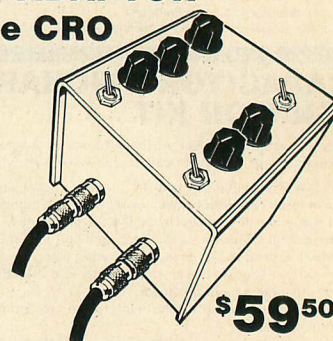
Turn a single trace CRO into a dual trace!

You know how much a dual trace CRO costs, don't you? Compare with a single trace. How would you like to be able to display two traces on an economical single trace oscilloscope?

It's easy with this new circuit from Electronics Australia. They've come up with a reliable, effective circuit - and we've come up with the reliable, effective kit! It features switched attenuators, sync selection, AC or DC coupling and selectable chop rates. Bandwidth is a very respectable 1MHz, and the input impedance is approx. 100k/30pF.

All in all, a superb kit for the average hobbyist who might need the advantages of a dual trace CRO, but who simply cannot afford one. Now you can.

Cat K-3065 ★★



\$59.50

13.8V POWER SUPPLIES



COMPLETE TO THE LAST NUT AND BOLT!

\$29.50

Cat K-3448 ★★

If you're at all technical, you can save money by doing it yourself. Take this power supply, for example. The closest equivalents sell for over \$40.00! You can make this for under \$30.00! You get all the components, the case, PCB, terminals, etc: in fact, everything you need. The supply is rated at nominally 2A continuous, or up to 4A surge. Ideal for running small amateur CB rigs, car cassettes & radios, etc etc, away from their normal power source.

SPECIAL 5 AMP SHORT FORM KIT

A big 5 amps continuous rating and 6 amps peak (depending on the heatsinks used) from this supply. Comes with all components, PCB, etc, but no 'hardware'. Build it into other equipment or make your own case to suit. Ideal for the slightly larger amateur transceivers: (FT7's, 2 metre rigs, etc).

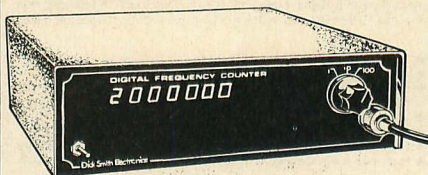
Cat K-3449 ★★

\$34.50

7 DIGIT FREQUENCY COUNTER

COUNTS TO 40MHz - or to 200MHz

PROFESSIONAL QUALITY!



EASY CONVERSION TO 200MHz:

To turn this 40MHz counter into a reliable 200MHz counter, all you do is add a single 95H90 pe-scaler ICI. There are no other parts to buy - everything needed is already in the 40MHz kit! So for a total of just \$114.50 you have a full 200MHz digital frequency meter!!!

95H90 IC:
Cat Z-5360

\$15.00

(40MHz version)

Cat K-3437 ★★

\$99.50

save with this one!

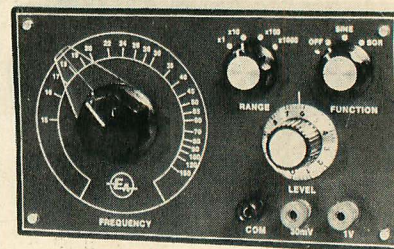
SINE AND SQUARE WAVE OSCILLATOR

New simple design!

An essential piece of test gear for the serious hobbyist. Covers frequencies from 15Hz to 150kHz in four overlapping ranges. Low distortion, ... less than 0.1% maximum between 20Hz & 20kHz. This is one of the most useful pieces of equipment on the experimenter's bench. This simple design is easy to build and a great performer. Runs from a 9 volt battery. All parts supplied including specially printed front panel, attractive 'Zippy' case and full instructions. Battery not supplied.

Cat. K-3469 ★★

\$36.50



LCD 3 1/2 Digit Panel Meter Module



See Electronics Today International October 1977 and also the December issue for a Thermometer kit using this meter. This is an economical, yet high quality and very accurate voltmeter using a large liquid crystal display for easy reading and low power consumption. Comprehensive data and instructions indicate the versatility of the single chip that this kit has been designed around. (The ICL 7106).

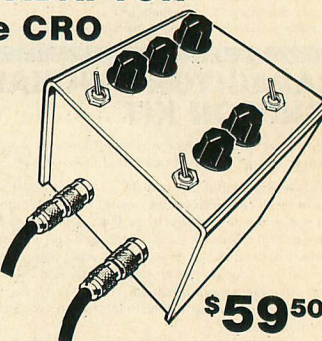
The instructions provided will enable any competent kit constructor to assemble and use this kit successfully. Once assembled the kit can be used as a normal panel meter for all the uses of an analogue panel meter but with the added advantage of non-ambiguous readings. Full scale reading is 200mV and data is supplied for this and conversion to full scale 2V and greater. The number of end uses is only limited by the inventiveness of the user.

FEATURES: * Guaranteed zero reading for 0 volts input on all scales * True polarity at zero for precise null detection * 1 pA input current typical * True differential input and reference * Direct display drive - no external components required - LCD ICL7106; LED ICL7107 * Low noise - less than 15uV pk-pk (95% of time) * On-chip clock and reference

12mm DIGITS

INTERSIL 7106
A/D CONVERTER,
PCB, all CAPACITORS,
RESISTORS
and INSTRUCTIONS
supplied. Requires 9 volt battery
Cat. K3450 ▲▲

\$42.50



\$59.50

13.8V POWER SUPPLIES



COMPLETE TO THE LAST NUT AND BOLT!

\$29.50

Cat K-3448 ★★

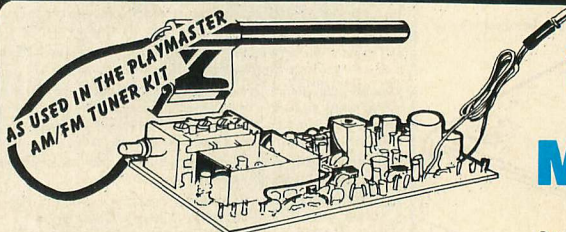
If you're at all technical, you can save money by doing it yourself. Take this power supply, for example. The closest equivalents sell for over \$40.00! You can make this for under \$30.00! You get all the components, the case, PCB, terminals, etc: in fact, everything you need. The supply is rated at nominally 2A continuous, or up to 4A surge. Ideal for running small amateur CB rigs, car cassettes & radios, etc etc, away from their normal power source.

SPECIAL 5 AMP SHORT FORM KIT

A big 5 amps continuous rating and 6 amps peak (depending on the heatsinks used) from this supply. Comes with all components, PCB, etc, but no 'hardware'. Build it into other equipment or make your own case to suit. Ideal for the slightly larger amateur transceivers: (FT7's, 2 metre rigs, etc).

Cat K-3449 ★★

\$34.50



**AM/FM
TUNER
MODULE**

Cat F-4610 **\$69.50**

JUST LOOK AT THESE FEATURES:

SPECIALLY PRODUCED FOR AUSTRALIAN CONDITIONS

● Loop stick antenna fitted for AM stage - complete with screws for chassis mounting ● Accepts 12V - 16V DC and has overload protection circuits ● Built-in FM muting, tuning and signal meter circuits ● Built-in 19kHz and 38kHz notch filters for MPX stage ● Built-in pre-amplifier for output stage ● Phase linear ceramic filters in the FM IF section ● Geared 5 gang (FM3/AM2) variable capacitor ● FM front end employs FET (2SK55), High Image Rejection - over 50dB What more could you ask?

SPECIFICATIONS:

AM SECTION
Frequency range 525 - 1605kHz
Sensitivity (IHF) 200uV (46dB)

Image Rejection 36dB
IF Rejection 35dB

POWER SUPPLY
+12V DC (12 - 16V DC)
Current less than 80mA

FM SECTION
Frequency range 87 - 108MHz
IHF 2.2uV (7dB)
50dB Quiet 4uV (12dB)
50dB
80dB

MPX SECTION
Separation 35dB
SCA Rejection 50dB

AT LAST! THE NOVA 80 COMPUTER

Yes, it's been a long time coming: but well worth the wait!

After many months of research and design, we're proud to announce the arrival of the NOVA 80 Computer – the first 'truly usable' 8 bit kit computer! Yes, there have been others on the market, but only the NOVA 80 offers you so many outstanding features: including a full standard BASIC interpreter!

Until now, you've either had to program home built kit computers with cumbersome machine language codes. Or if 'BASIC' was offered, it wasn't really very useful at all. The NOVA 80 computer changes all that. You can virtually talk to your computer in English through the keyboard! It understands a large number of single letter commands; making operating time much faster (and not straining the poor operator's memory!)

The NOVA 80 features on-board RAM of up to 48K, with on-board S-100 bus expansion! Plus there's an on-board VHF modulator (so you can use a standard TV set – saving cost!) and standard video output, too. And an on-board standard cassette interface (we've yet to find a cassette which won't load programmes properly – it's that reliable!)

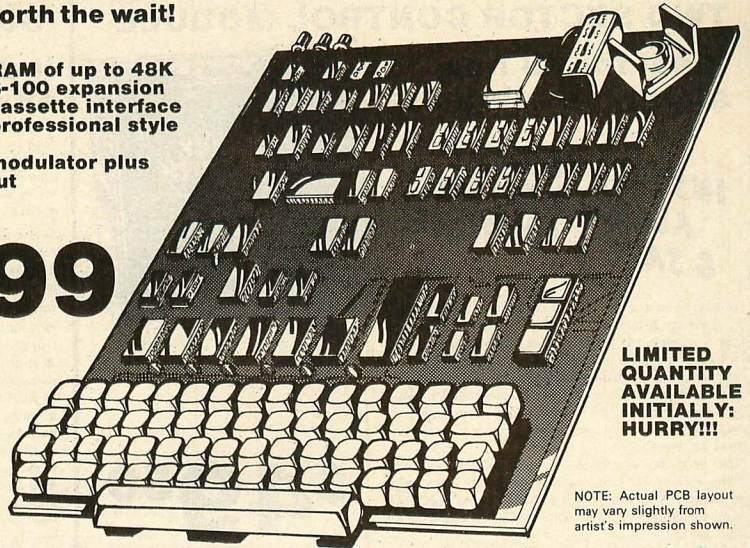
NOTE: this is NOT a project for beginners. However, anyone with average soldering ability and reasonable project experience should be able to build this computer. And just in case ...

Our 'SORRY DICK, IT DOESN'T WORK' return coupon will be available with this kit (see P40).

- ★ On-board RAM of up to 48K
- ★ On-board S-100 expansion
- ★ On-board cassette interface
- ★ On-board professional style keyboard
- ★ On-board modulator plus video output

\$399

Cat K-3600★★★



LIMITED QUANTITY AVAILABLE INITIALLY: HURRY!!!

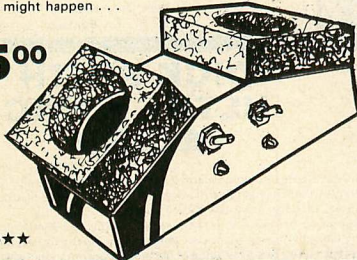
NOTE: Actual PCB layout may vary slightly from artist's impression shown.

ACOUSTIC COUPLER

A fascinating project for anyone involved with microcomputers. Imagine having your computer 'talking' to another computer, via the telephone lines. It's so easy with the Acoustic Coupler. You can have two computer across a room, across a street – even across the world – linked to each other, without any physical connection to the Telecom phone line (which is illegal). The computer is connected to the acoustic coupler, which sends and receives information by acoustically coupling to the telephone handset. All you do is dial the number, rest the handset in the special foam cradle (supplied) and that's it!

But don't leave the computer alone... you've heard the stories about computers taking over the world. Now they can talk to each other, it just might happen...

\$75⁰⁰



Cat K-3605★★

BUDGET KEYBOARD KIT



Amazing value! We searched the world to bring you this bargain keyboard kit. Full 60 keys, with individually switched contacts. Wire them up to any standard you wish! This is the keyboard used in the NOVA 80 computer. Ideal for all computer projects.

\$39⁹⁵

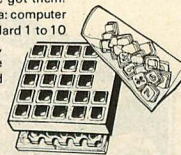
Cat K-3601★

NUMERIC KEYPAD KIT

Very difficult things to come by: but we've got them! Ideal kit for all projects needing numeric data: computer projects, combination locks, etc. Standard 1 to 10 digit keys, plus function keys (add, subtract, etc) – use them as they are or re-label the keys with 'Letraset' or similar for customised projects. And try to beat our price!

\$3⁷⁵

Cat K-2010★



MODULATORS

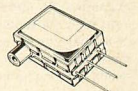
Video and audio modulators, ideal for a huge range of projects. As used in the Nova 80 computer, etc. Pre-built: ready to drop into any circuit. Output is set to Australian channel '0', but is easily adjustable to suit alternate channels.

Video Modulator Cat K-6040 ... \$4.95
Audio Modulator Cat K-6042 ... \$2.75

Video Modulator Kit:

Prefer to 'roll your own' modulator? This one was designed by Electronics Australia as part of their ASCII keyboard. It can be used with many computer-type projects, video games, etc etc, and the output can be easily set to any vacant VHF TV channel. It uses a single transistor, plus a sprinkling of other components. Instructions supplied.

Cat K-3462★★ ... \$4.50

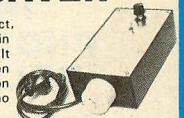


NASA POWER SAVER

For the energy conscious 80's! This project, designed by NASA, could save a fortune in running costs on typical induction motors. It reduces power consumed by these motors when operating with low loads (as many induction motors do for much of the time), with virtually no degradation of performance.

This is a short form kit: the Zippy box, etc, are not supplied. We imagine most people would build the kit in to existing control boxes, etc.

Cat K-3325



SHORT FORM \$16⁵⁰

SPECIAL COMPONENTS FOR PROJECTS:

PRINTED CIRCUIT BOARDS

Cat No	Ref.	Project: from 'ELECTRONICS AUSTRALIA'	Price
H-8215	75CD7	Capacitor Discharge Ignition	\$2.00
H-8275	75L11	Playmaster Speaker Protector	\$1.75
H-8302	76sa4	Playmaster Amplifier (F'glass board with screened overlay)	\$7.50
H-8318	76pc9	Musicolor MkIII	\$4.50
H-8330	77B7	Radar Burglar Alarm	\$1.50
H-8338	78u4	ASCII Encoder	\$4.50
H-8340	78ek5	Electronic Morse Keyer	\$2.75
H-8342	78ps5	Powermate	\$2.00
H-8344	78vbg7	Video Ball Game	\$3.95
H-8353	78vm8	AC/DC voltmeter	\$2.75
H-8356	78ab12	Car stereo power booster	\$3.50
H-8362	79m8	Masthead Amplifier	\$2.50
H-8365	79r8/r8	Infra Red Remote Control	\$5.95
H-8366	79md9	Metal locator	\$2.40
H-8367	79t11	Transistor Assisted Ignition	\$2.20
H-8369	80sa3	Playmaster Amplifier	\$4.60
H-8371	79fe11	Flash exposure meter	\$2.10
H-8374	80c4	Control Timer	\$2.50
H-8375	80tv8	TV CRO Adaptor	\$3.75
H-8377	80pc7	NASA Power Chopper	\$3.00
H-8378	80l17	Leds & Ladders	\$3.00
H-8379	80ch7	Light Chaser	\$5.95
H-8381	80mg9	Music Generator	\$1.90
H-8383	80tr11	System 80/TRS 80 printer interface	\$1.90
H-8384	80ls11	Selectatol	\$2.95
H-8385	80mv11	AC Millivoltmeter	\$2.25
H-8386	80sa10	Playmaster Mosfet Amplifier	\$9.95
H-8388	80ad10	Autodim	\$3.50
H-8389	81ga2	Playmaster Guitar Amplifier	\$7.95

Cat No	Ref.	Project: from 'ELECTRONICS TODAY INTERNATIONAL'	Price
H-8554	419	100W guitar amplifier pre-amp	\$1.75
H-8568	449A	Metal Detector	\$2.50
H-8591	480	100 watt amplifier (fibreglass board)	\$2.50
H-8603	445	Stereo Preamp	\$1.75
H-8612	484	Car burglar alarm	\$1.50
H-8615	810	Motorcycle stunt game	\$3.85
H-8621	451	50Hz hum filter	\$2.50
H-8623	573	Process timer	\$3.95

H-8625	452	Guitar Practice Amplifier	\$3.25
H-8626	466	300 Watt amplifier (F'glass pcb)	\$7.50
H-8627	563	Fast Nicad Charger	\$2.50
H-8628	324	Led Tacho	\$3.95
H-8629	467	Mixer/preamplifier	\$7.50
H-8630	326	Auto Voltmeter	\$1.50
H-8631	476	Series 3000 Amplifier	\$2.50
H-8632	247	Moisture Indicator	\$1.90
H-8633	477	FET Amplifier	\$9.95
H-8900	710	45W 2 metre linear amplifier	\$4.85
H-8896	DSE	80 metre 30 watt linear amplifier	\$3.00

BITS 'N' PIECES

B-4503	Construction manual for Playmaster 25/25 & 40/40 amplifiers	\$2.50
M-0146	Transformer as used in Playmaster Twin 25 Amplifier	\$12.50
M-0148	C-core transformer as used in Playmaster 40/40 Amplifier	\$22.50
H-3110	Case for Playmaster Amplifiers: includes cover (also great for other projects)	\$9.95
H-3112	Front panel for Playmaster Amplifiers	\$8.90
H-3113	Simulated Walnut sleeve for all Playmaster series except new Mosfet Amp (Suits 25/25 & 40/40 amplifiers, Graphic Equaliser & Analyser, and AM/FM tuner)	\$8.50
K-6036	Ferrite rod used for chokes in Playmaster Amplifier	50c
K-6034	2.304MHz crystal used in Playmaster Tuner	\$5.95
Q-2100	Signal Strength Meter for Playmaster Tuner	\$4.95
Q-2095	Centre-Zero tuning meter for Playmaster Tuner	\$4.95
H-3782	Black knob used in Playmaster Equaliser (20 required)	50c ea. 20 up 45c ea
K-6016	Reflector used in Disco Strobe	\$4.50
S-3882	Xenon flash tube as used in Disco Strobe	\$2.95
M-0104	Trigger Transformer for strobe tube	90c
K-6050	Coil for CDI (pre-wound on bobbin)	\$2.85
H-3107	Case to suit CDI (also ideal for any small projects – and economical!)	\$4.95
K-6001	Eyelet assembly for connecting up CDI to coil (needs two per unit)	30c ea
K-6031	3.58MHz crystal as used in Frequency Counter	\$3.00
H-3160	Case to suit Musicolor (also ideal for a huge number of other projects) includes cover	\$7.95
H-3162	Front panel for Musicolor	\$5.90
B-4504	Construction manual for Musicolor III	\$2.50
L-1900	Choke as used in stereo power booster: ideal for noise suppression in car stereo	\$1.50
M-2824	Transformer to suit MA1022 clock module	\$4.25

BURGLAR ALARM CONTROL UNITS

PROFESSIONAL QUALITY ALARMS – FOR HOME, OFFICE, ETC

TWO SECTOR CONTROL MODULE

Ideal for all new alarm installations

INSTALL YOUR OWN ALARM SYSTEM & SAVE A FORTUNE!

This composite alarm control unit is virtually identical in operation & circuitry to the alarm control units you pay a commercial alarm installer many hundreds of dollars to install! It features two sector operation – so you can protect two different areas on different circuits (a fail-safe feature: if one sector is successfully broken into without tripping the alarm sensors, the intruder still has to beat the second sector defences – if he knows they are there!)

This alarm control module also gives you variable entry time, variable exit time, variable alarm time (important to comply with local noise pollution laws) plus LED status indicators for each sector and a low battery/exit time indicator.

The Control Module can be operated in two ways (switchable): a 'lockout' mode where once an alarm is registered, no further triggering is possible. The LED indicating the sector of the alarm stays on, so you can investigate the source of the alarm attempt; and a 'reset' mode where after the alarm time has elapsed, the alarm resets itself for further attempts. The way you use your control module is basically up to you.

SPECIFICATIONS:

Supply voltage: 9.5 – 16V DC (12V nom).

Supply current: Less than 1mA @ 12V DC

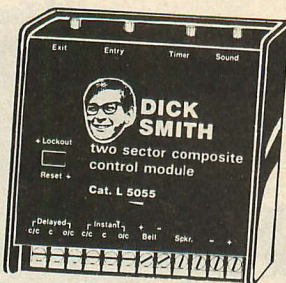
Entry Time: 5 – 60 seconds nominal

Entry Time: 2 – 50 seconds nominal

Alarm time: 5 seconds – 9 minutes nominal

Alarm Outputs: 3 speaker & 1 Bell output

Siren Output: (into optional horn speaker) 110dB @ 1m



Cat. L-5055

\$49⁵⁰

'BOOKSHELF' ALARM CONTROL UNIT

It doesn't look like an alarm . . .

This is the ideal alarm system control for the home, flat, etc – because it doesn't look like an alarm! So anyone entering your property could easily be fooled into thinking this was a small speaker: until they were caught!

This module has another big advantage, too: it's fully self contained. While there is provision for an external horn speaker, it has its own speaker built in, hidden behind the 'speaker grille' front panel.

FEATURES:

- Unit switches of siren after five minutes to comply with Australian noise pollution laws.
- Auto reset: if circuit has been restored, it readies itself for another alarm.
- AC/DC operation: optional AC adaptor can be fitted to use mains; unit automatically switches back to battery if mains is interrupted.
- Built-in test LED for checking that the system is working before you leave.
- Built-in remote switch terminals, allows for the installation of a switch that controls the alarm module from wherever you wish: great for the elderly, infirm, or nervous people!



Requires 8 'C' cells
Cat S-3002 @ 25c ea

Cat. L-5102

\$59⁵⁰

HOW TO USE THESE CONTROL UNITS:

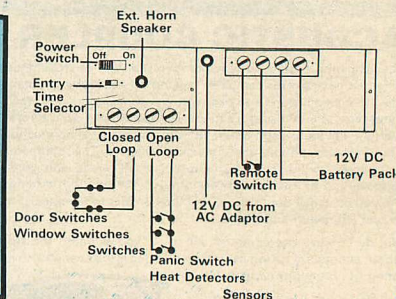
Your alarm system can be as simple or as complex as you wish to make it. All you do is add the necessary alarm sensing devices to protect the areas of interest.

Sensing devices fall broadly into two categories: 'normally open' (NO), and 'normally closed' (NC). These refer to the state of the device when no alarm is being detected. On a detection, the device switches to the opposite category (eg, a NO device closes, and a NC device opens).

Normally open devices are such things as pressure mats, heat switches, panic buttons, etc, which are connected to the alarm's 'instant' NO terminals – as all these devices are inside the building, one assumes the intruder has broken the first line of defence – so an immediate alarm is required.

Normally closed devices are such things as magnetic reed switches, window tape, shock switches, key switches, etc – perimeter defences where a short delay is often required to give the legitimate user time to turn off the alarm. These connect to the NC 'delay' terminals of the control module.

Many of these devices are shown on the next page.



INFRARED PHOTOELECTRIC RELAY SYSTEM

Can be used with any alarm module, or with simply with buzzer or bell.

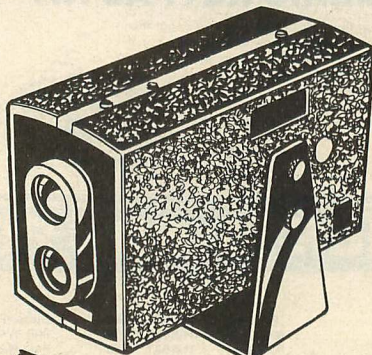
This exciting addition to the Dick Smith home or office protection systems allows you the opportunity of installing a professional type infrared beam unit at a fantastically low price!

The projector and receiver are both contained in the same housing and after installing the unit by its adjustable bracket across hallways, doors etc., you simply remove the protection from the adhesive back on the reflector plate and position it opposite the transmit/receive unit. The unit incorporates a sensitivity adjustment to suit different requirements and a three position selector for: INTERMITTENT - outputs signal for 5 seconds, ideal for notifying you of a visitor; INSTANT - outputs signal only whilst beam is actually 'cut', ideal for use as a counter; LOCK - outputs signal until you set to instant position, ideal for use with burglar alarm. The unit works on 240V AC and the 12V DC output @ 1 amp can be used to drive a counter, lamp, buzzer, siren, etc. As the beam is invisible this unit can be used for many purposes i.e. guest notifier during the day and at night switched over to an alarm function.

Specifications: ● Power source 240V AC ● Output power 12V DC @ 1 amp maximum ● Reaction time 5 seconds approximately at intermittent position ● Effective distance 0.8 to 15 metres ● Detection object 2.45cm x 2.45cm minimum (at the centre of set-up distance) ● Reflector angle allowance +/-10° maximum ● Stray irradiation less than 1000 Lx ● Working temperature -10°C to +40°C ● Dimensions 90(w) x 143(h) x 190(d)mm ● Net weight 1.55kg.

Cat. L-5050

\$89.00



GREAT SHOP MINDER, PEOPLE COUNTER, ETC, TOO!

DICK SMITH ULTRA SONIC ALARM

This versatile ultrasonic alarm system is an easy to install motion activated burglar alarm system designed to detect the presence of an intruder in your home, office or business etc.

Operating on a principle similar to radar, the unit sends out an inaudible, invisible harmless beam that detects any movement within its path. It's ideally suited to surveillance of hallways, corridors, doorways, stairs, areas storing valuable items, etc, where normal alarm systems are not practical.

Features include: ● Adjustable coverage area sensitivity control ● Covers distances to 5-6 metres ● Covers areas up to 27 sq. metres ● Normal N.C. and N.O. sensor wiring provision ● Auto turn-off and reset ● Provision for external horn speaker (optional [Cat. C-2705] extra) ● Provision for external relay switching (optional) ● Battery and/or mains operation via optional power pack ● Failsafe power operation.

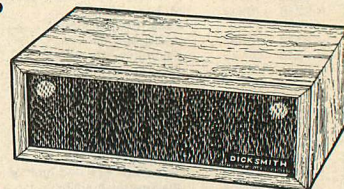
Cat. L-5108

\$99.00

Mains adapter power unit to suit:

Cat. M-9530

\$24.50



Requires 8 'C' cells
Cat S-3002 @ 25c ea

ECONOMY HOME ALARM CONTROL MODULE

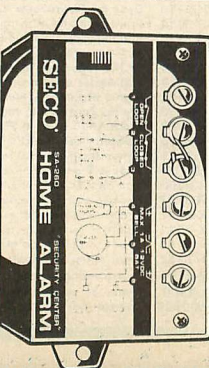
A complete home, business or factory alarm control module. This unit permits soundless entry and exit for added security and owner convenience. When leaving a protected area you have 20 seconds before the system is armed, and on entry you have 10 seconds to turn the alarm off.

The module has both N.C. (normally closed) circuit for doors, windows, etc., and N.O. (normally open) circuit for smoke, heat, vibration, panic button etc. After alarm triggers it will auto-reset after approximately one minute. 12 volt DC operation with low current drain and low cost maintenance.

Specifications: ● Exit delay 20 seconds ● Closed circuit 10 seconds delayed alarm ● Open circuit instantly triggers alarm ● Auto reset ● Temperature range 20°C to +60°C ● Current drain 1mA when system is armed but not triggered ● Power requirement 12V DC ● Dimensions 137(w) x 47(h) x 68(d)mm ● Net weight 150 grams.

Cat. L-5060

\$29.50



DOOR GUARD INTRUDER ALARM

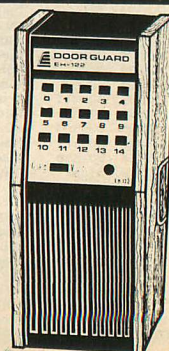
This is a superb dual purpose unit that protects your door by acting as an intruder alarm or welcomes visitors with a pleasant 'ding-dong'. Elegantly designed the unit has 15 touch keys for your 'secret' entry code. When you purchase this unit you set your own 3 digit code and when the unit is in the alarm mode you have 5 seconds to punch out your code - for the unauthorised 'visitor' the 5 seconds are not enough to punch out the possible 2730 different code variations, so the alarm goes off! The unit is easily switched over to the visitor function and provides the pleasant 'ding-dong' sound when the door is opened. The Door Guard alarm also incorporates a LED indicator for code and battery checking. Mounted on your door this unit will protect you at all times.

Specifications: ● Quiescent current 5uA maximum ● Supply voltage 7-9V ● Current consumed during 'ding-dong' 50mA with a sound level of approximately 65 dB at 3 metres ● Current consumed during alarm mode 200mA with a sound level of approximately 85 dB at 3 metres ● Dimensions 72(w) x 172(h) x 34(d)mm

Requires 1 x 9V battery Cat. S-3006 @ 45c

Cat. L-5100

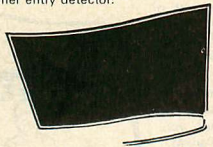
\$29.50



NORMALLY OPEN ALARM SENSORS

PRESSURE MAT HEAT SWITCH

An ultra thin mat for placing under carpets, in walkways, etc. N.O. in the standby state, goes closed circuit when walked on. Can be used in doorways of shops as customer entry detector.



Cat. L-5270 **\$14.95**

A small screw mounted dome placed in potential fire hazard areas such as above cooking appliances, heaters, boilers, etc. The mechanism triggers at 57.2°C (135°F). The contacts are N.O. on standby, going to closed circuit on detection. Contact rating is 120V AC maximum at 5A maximum.



Cat L-5254 **\$5.50**

NORMALLY CLOSED ALARM SENSORS

MAGNETIC REED WINDOW FOIL SWITCH

The reedswitch/magnet set is mounted so the magnet holds the switch closed. If the door is opened, magnetic effect is lost, and switch opens, triggering alarm. These sets are ready to screw onto surface.



Cat. L-5210 1-9 **\$1.95** each
10 up **\$1.70** each

ALSO AVAILABLE INDIVIDUALLY:
Magnet only in case: Cat L-5214 **\$1.25**
Reedswitch only in case: Cat L-5215 **\$1.50**

DRY REED INSERT:
No case; ideal for 'burying' in woodwork, etc. to make completely secret & tamper-proof installation.



Cat S-1946 **50¢**

A roll of very fine aluminium foil with adhesive backing designed to be stuck onto glass. If the window is broken or cracked, the foil fractures, setting off the alarm. It makes a good deterrent even if not actually connected to an alarm. Approx. 32m roll, 6.35mm wide tape.

PS: Also great for sticking onto sliding glass doors so you can see they're there; helps prevent accidents.

WINDOW PROTECTION



Cat L-5200 **\$5.95**

TAPE BLOCKS

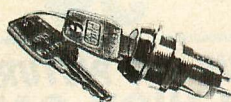
A terminating point for the L-5200 circuit tape. They are self adhesive with screw terminating points. Ideal for windows.



Cat. L-5205 **45¢**

BARREL SWITCH

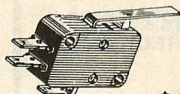
Barrel type key switch complete with two keys, used at entry-exit point for turning the alarm system on-off. Ideal for cars.



Cat. L-5290 **\$6.50**

MICROSWITCH

Where a minimum of action is required before switching takes place, use a microswitch. Great for protecting items of furniture, paintings, etc; or use with a trip-wire where a small pressure on the wire will actuate switch. Microswitches are both normally open and normally closed devices: pick the terminals for the job.



Cat S-1920 **\$2.50**

ALARM OUTPUT DEVICES

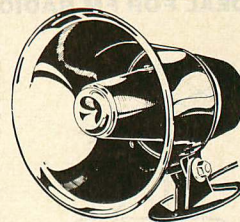
ELECTRONIC SIREN DRIVER

When used with the horn speaker (Cat. C-2705) or any other 4-8 ohm speaker, this unit will deliver an earsplitting wail, 103 dB @ 3M from 12 volts. Features a heavy duty output stage and operates from 6 to 12 volts. Could be used in association with the Bell Siren Timer Module (Cat. L-5110) or any control module.



Cat. L-5115 **\$11.50**

SIREN SPEAKER

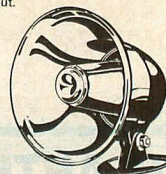


A neat horn type speaker with electronic siren module built-in. It delivers an earsplitting, penetrating wail that can be heard for blocks. It's weatherproof, so it can be mounted inside or out. Great for cars, trucks, caravans, boats etc. Operates on a low current from 12 volts. Ideal for use with our siren timer (Cat. L-5110).

Cat. L-7026 **\$24.50**

HORN SPEAKER

Ideal for use with most alarm systems. 8 ohms impedance, highly efficient. Use direct with alarms with inbuilt oscillator, use above siren driver for alarms with switched-type output.



Cat C-2705
\$9.50

SOLID STATE BUZZER

- ★ A TRUE ELECTRONIC BUZZER
- ★ SILICON TRANSISTOR AND DIODE
- ★ REVERSE POLARITY PROTECTION

Features:

- ★ Compact - 32mm x 14.5mm
- ★ Rich, clear tone - 450Hz
- ★ Wide operating voltage range 4-15V DC
- ★ Low operating current - 15mA @ 9V
- ★ High output level 70 dB min. @ 1M

Cat. L-7009 1-9 **\$1.75** each



AUDIO ALARM

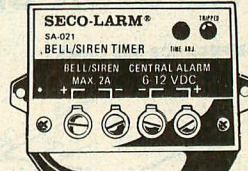
This is an incredibly loud audio alarm that works on a nominal 9V DC but can be used with voltages varying between 5 and 29V DC. It can be used in all manner of applications including: computer alarms, fire signalling equipment, telephone signalling etc., etc.



Cat L-7024 **\$4.95**

BELL/SIREN TIMER MODULE

A neat unit that can be added to an existing system or incorporated into a new installation. The unit is used with a lock-on control system to give an automatic turn-off after 15 minutes if an alarm condition is triggered. Operates from 6 to 12 volts. Features an indicator light to show an alarm state was triggered. Ideal for use with our siren speaker (Cat. L-7026).



Cat. L-5110 **\$12.50**

DETERRENT STICKER FOR YOUR PROTECTION

This printed sticker is ideal for your car, house, factory etc, to show you have an alarm system installed. A would be intruder seeing this sticker is not likely to attempt a break-in. Whether your property has an alarm system or not, this bright, easily read sticker will have a deterrent effect.



Cat. L-5310 **\$1.00**

CAR PROTECTION THE SIMPLE WAY!

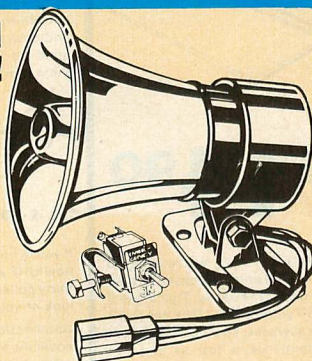
Your car is a pretty heavy investment. ... yet you leave it parked out in the street, unprotected from thieves. And car stealing is on the increase!

Most car alarms have been fairly difficult things to install: you almost needed an automotive electrician's certificate to work out how to put them in. Not any more. Hundreds of customers have found out how delightfully simple the Dick Smith car alarm is to install. And they're the ones who have peace of mind, knowing their car has a much better chance of being there when they return!

The alarm works on the 'current sensing' principle: when someone opens a door, or tries to start the car, the alarm senses a current being drawn - and sets off the alarm. By placing switches in the boot and bonnet, these too can be protected (you always wanted to put lights there, didn't you!)

The alarm is completely self-contained: it may be mounted anywhere it can be heard. It does not require any special tools, keys or switches, and works on all 12V negative earth vehicles. Installation should take the average handyman no more than about an hour (or less!).

There are two special circuits which can be fitted to this alarm: one is an emergency switch to turn the alarm on instantly to attract attention, and the other is a circuit which can be wired to protect car radios, CB's spot lights, etc.



Cat L-5090

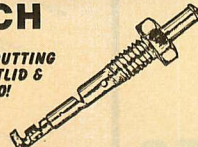
\$49⁵⁰

SPECIFICATIONS:

- Exit delay 20 seconds
- Entry delay 10 seconds
- Auto reset after 1 minute
- Output 5 watts, 106dB
- External protection by instant triggering
- Operates on all 12V negative earth vehicles
- 129mm diameter x 152mm long

VEHICLE ALARM SWITCH

IDEAL FOR PUTTING UNDER BOOTLID & BONNET, TOO!

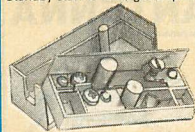


N.C. under spring tension, will go open circuit when vehicle door is closed. Ideally suited to vehicle alarm circuits or vehicles whose courtesy lights are not actuated by the doors (older vehicles). Simple to install - comes complete with bullet type connector.

Cat. L-5256 **\$1.65** per pair

SHOCK SWITCH

This is a mechanical switch used for detecting sudden movement, such as machinery moving parts, protection covers, etc. The sensitivity of the switch can be adjusted to detect even the slightest movement, e.g. movement of a motor cycle from its position. Standby state is N.C., goes open circuit when triggered.



GREAT FOR M/CYCLES!

Cat. L-5250 **\$3.75**

ALARM BATTERY

Heavy duty battery for use with any alarm requiring 12V DC. Under normal conditions of usage these batteries will last approximately 12 months. See also battery page.

Cat. S-3242 **\$6.35**

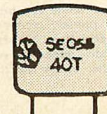
A suitable wire for the interconnecting of alarm systems and peripherals is the Mini 2 Core 'Fig 8'.
Cat. W-2010 **18¢/m**

ULTRASONIC TRANSDUCERS

This highly sensitive ultrasonic transmitter (L-7050) and the equally as sensitive receiver (L-7052) have been designed to transmit and receive ultrasonic sound through the air in the form of continuous waves and pulses. Applications include - burglar alarms, proximity switches, liquid level meters, TV remote control plus many more. Can be used in the ultrasonic transmit/receive article in E.A. February 1974.

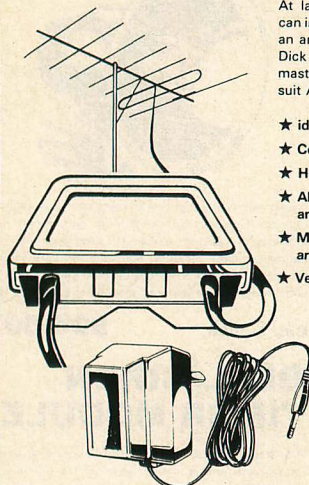
Transmitter... Cat. L-7050 **\$4.95**

Receiver... Cat. L-7052 **\$4.95**



MAST HEAD AMPLIFIER

IDEAL FOR FM RADIO AS WELL AS TV!



At last there's a masthead amplifier which can improve your TV reception without costing an arm & a leg! Dick Smith is proud to offer this outstanding masthead amplifier, designed specifically to suit Australian TV & FM characteristics.

- ★ ideal for fringe reception areas
- ★ Covers all Australian TV & FM frequencies
- ★ Helps reduce snow and ghosting
- ★ Allows up to 100m of co-ax between antenna & set: get the best location!
- ★ Maintains good signal levels when multiple are used (with a splitter)
- ★ Very easy installation (instructions supplied)

Complete Masthead Amplifier: Amplifier, supply & plug-pack -

**ANOTHER
DICK SMITH
BULK IMPORT
- YOU SAVE!**

\$39⁵⁰

Cat. L-4200



HELPS REDUCE SNOW AND IMPROVES PICTURE IN ALMOST ANY AREA.

SPECIFICATIONS:

BANDWIDTH: 40 - 230MHz
Gain: Approx. 18dB
Input Impedance: 300 ohms
Output Impedance: 75 ohms (co-ax cable)
plus 300 ohms (ribbon)
Power supply: 9V DC @ 200mA (supplied)

HOW TO INSTALL YOUR OWN TV/FM ANTENNA

Worried about the high cost of labour? Want to save a fortune by installing your own TV or FM stereo antenna? It's easy... with a little help from Dick Smith.

Dick has prepared this informative leaflet giving you all the tips, the pitfalls and the information you need to know to erect a TV or FM antenna - professionally.

We strongly recommend before you put up an antenna, you read this leaflet. At just 25c, it's a steal! And if you buy any outside antenna from us, we'll give you a copy - just ask!



25c

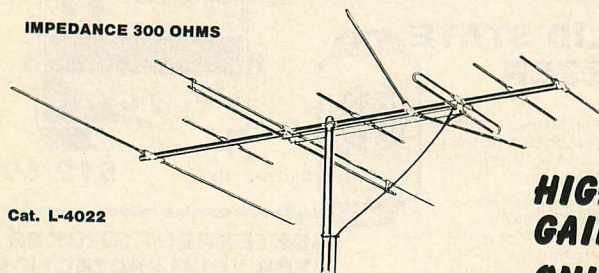
**DICK SMITH
EXCLUSIVE**

Cat. B-6010

**FREE WITH ANY OUTSIDE
ANTENNA PURCHASED**

THE DICK SMITH ANTENNA

IMPEDANCE 300 OHMS



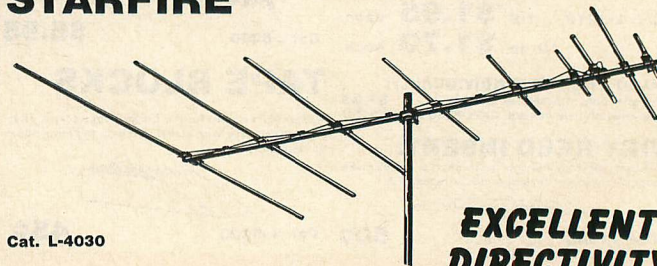
Cat. L-4022

This antenna has proven to be our biggest seller. Extremely popular in the metropolitan areas, and near fringe areas, because it has been designed to give maximum gain on channels 0-2-7-9 & 10. Complete with mast clamp; suits twin lead with its 300 ohms impedance. Use a balun (see next page) if you want to use 75 ohm coax cable with this antenna.

**HIGH
GAIN
ONLY**

\$39⁵⁰

STARFIRE



Cat. L-4030

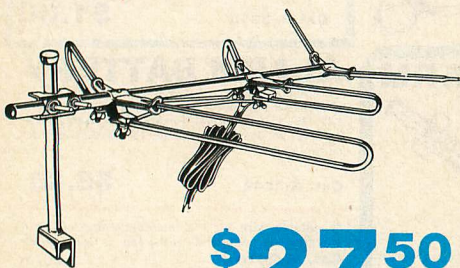
The largest model in our range. Of the enormously successful 'log periodic' design, this broad band antenna has high gain, and high front-to-back ratio (very important in cutting out unwanted signals or ghosts from the sides or the rear of the antenna). It's the ideal antenna for all channel reception in the most difficult areas - even on the fringe.

**EXCELLENT
DIRECTIVITY
ONLY**

\$54⁵⁰

THE GO-ANYWHERE TV/FM ANTENNA...

For home, boat, caravan, camper, etc!



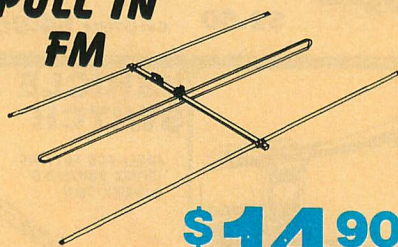
Cat L-4026

\$27⁵⁰

At last! There's a TV antenna which is truly portable! It's the perfect answer for all those people who like to be able to get good reception while they're away from home: in caravans, for example! This antenna is a dual folded dipole with director, offering a first-class reception on all Australian VHF channels. It can be used with either vertical or horizontally polarized transmissions. The antenna is supplied with a bracket designed to clip over the guttering, etc, or it can be used with a standard TV mast. 300 ohms impedance, suits most situations. Supplied complete with 300 ohm cable.

3 ELEMENT FM ANTENNA COVERS ALL FM STATION FREQUENCIES

**'PULL IN'
FM**



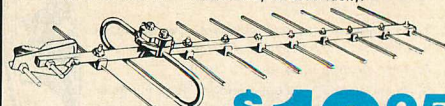
Cat. L-4064

\$14⁹⁰

If you want top performance from your FM tuner, you're going to need an outside FM antenna. But most FM antennas cost a fortune - so most people put up with the ribbon type below. That's fine if you live close to the transmitter, but if you don't... Dick has this 3 element FM antenna manufactured overseas, so it costs a lot less than most antennas. But its performance is just as good as antennas you'd pay twice as much for... and more! Very easy to erect, light weight, and with 300 ohms impedance, suits almost all FM receivers. Try it: you'll be surprised at how good FM sound can be!

HOW'S YOUR UHF PICTURE? SUPERB HIGH GAIN UHF TV ANTENNA!

UHF TV has started - and the stations are being flooded with complaints about poor reception! In the majority of cases, a good outside antenna would alleviate many of the problems viewers are finding at the moment. Many people do not seem to realise that the good old TV antenna they've had up for years simply will not give them a picture on UHF - unless they're dead lucky!



Cat. L-4028

\$19⁹⁵

If you're finding trouble picking up the UHF stations, try putting up a new UHF antenna. Your problems could be solved - for less than thirty dollars. And that's far less than 'getting the man out' to have a look at your supposedly crook TV set!

Another Dick Smith quality import, this UHF antenna is designed to cover the entire Australian UHF TV band - when it is fully utilised. It offers high gain (10.4dB), with a very high front to back ratio (24dB) - very important on UHF.

It also features a variable mounting clamp so the antenna can be aimed precisely at the transmitter - even from low down.

INDOOR RIBBON TV/FM ANTENNA

This is a simple flexible dipole antenna suitable for both FM and TV reception. It is best suited to primary reception areas where it is unnecessary for a full scale outside system. It is ideal for use in situations where space is at a premium, simply connects to your set's terminals, find the best reception position and then secure with thumb tacks or adhesive.

Cat. L-4060

\$1.50



SPIRAL INDOOR ANTENNA FOR TV

If you're lucky enough to live in a strong signal area, you'll probably get by with one of these spiral antennas, even with colour. Don't expect miracles if you're out of sight of the transmitter, then it is quite probable that you will require an outside antenna like one of those shown on this page.

Cat. L-4010

\$4.75



TV & FM CABLE:

300 OHM FLAT RIBBON

Low loss 300 ohm ribbon for good signal areas.



Cat W-2070 15¢/m
Bulk price for 100m rolls: \$10.00

75 OHM COAXIAL CABLE

Low loss coax, ideal for colour installations. Black coloured for long life.



Cat W-2080 40¢/m
Bulk price for 100m roll: \$30.00

TV CONNECTOR CABLE



2m 75 ohm coax, with plugs each end.
Ideal for connecting TV to wall outlet.

Cat L-4506 \$2.75

TV PLUGS & SOCKETS

PLASTIC COAXIAL PLUG

FROM 35¢

Cat. P-2021 1-9 40¢ ea. 10 up 35¢ ea.

COAX PANEL SOCKET

Standard type, as used in most TV sets. Ideal replacement socket, or for projects involving TV antenna plugs.



Cat P-2041 95¢ ea. 10 up 85¢ ea

75 OHM WALL SOCKET

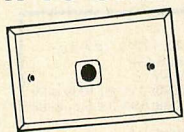
Mounts on wall or skirting board.
Mount a number around the house for portable television viewing.



Cat L-4504 \$2.75

WALL PLATE WITH 75 OHM SOCKET:

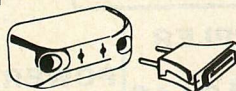
Standard size mounting plate, with coax connector built in.



Cat P-2042 \$2.95

RIBBON WALL PLUG AND SOCKET

Designed to mount on wall or skirting board. Complete with mounting screws and plug.



Cat P-2080 80¢

300 OHM PLUG

An individual plug as used in the above socket.

Cat. P-2082 40¢

TV ANTENNA CLIP

ONLY 45¢



Strong plated springs with screw terminals and coloured plastic handles. Quicker way to connect or disconnect antenna lead-in cable to TV set, FM or radios, etc. Ideal when using portable sets.

Cat. L-4236 1-9 45¢ ea 10 up 40¢ each.

BALUNS

These are special radio frequency transformers used for converting unbalanced or mismatched lines and terminations to balanced and matched operation. Used in aerial-set or set-aerial conversion from 300 ohms to 75 ohms (or vice versa).

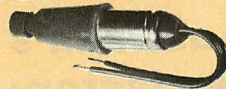
75 - 300 OHMS INDOOR



This balun correctly matches 75 ohms coaxial cable to the 300 ohm terminals of your TV set or FM tuner. Covers 50-890MHz with low insertion loss. This unit can be used as an outside aerial balun if made weatherproof with plastic tape etc.

Cat. L-4464 1-9 \$2.00 ea. 10 up \$1.50 ea.

OUTDOOR AERIAL BALUN



This balun is designed for outside use with your existing aerial to allow you to convert to coaxial cable. 300 ohm to 75 ohm. It comes complete with coaxial plug, cover and instructions.

Cat. L-4452 1-9 \$2.50 ea. 10 up \$2.00 ea.

TV GAME BALUN



Makes it easy to use your colour TV game with a black and white set. Spade lugs make connections simple - no soldering required. Excellent value.

Cat. L-4454 1-9 \$1.95 ea 10 up \$1.50 each.

UNIVERSAL BALUN

The universal balun - has 300 ohm screw terminals and 75 ohm coaxial plug - can be used either way round. Ideal for the person requiring a balun but not really knowing which type!



Cat. L-4456 \$1.95

SPLITTER/COUPLERS

If you want to use one antenna on several sets, or use two or more antennas on the same set, you need a splitter/combiner. Connected one way they act as a splitter (one antenna in, multiple out); reverse the connections for a combiner (several antennas in, single out).

SPLITTER/COUPLER FOR 4 TV SETS

FOR 300 OHM



Handles either colour or black and white TV with absolute minimum loss of signal strength even when all sets are operating at the same time. Compact plastic case can be mounted at any convenient location near antenna lead. 300 ohms input/output impedance.

NOTE: If all outputs are not being used at once, a 330 ohm resistor should be placed across the unused outputs. Covers 50-890MHz.

Cat. L-4220 1-9 \$4.50 ea. 10 up \$3.85 ea.

2 - WAY SPLITTER COUPLER

FOR 300 OHM



As above but 2 sets only. Covers 50-890MHz.

Cat. L-4218 1-9 \$2.50 ea. 10 up \$1.80 ea.

4 - WAY COAXIAL SPLITTER

FOR 75 OHM

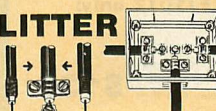


This splitter is housed in an attractive plastic box with snap lid. It features nickel plated easy to connect screw terminals. It can be mounted in any position. Used to operate up to 4 TV sets from one aerial when using 75 ohm coaxial cable. Covers 50-890MHz. Isolation 30 dB. Insertion loss 6.8 dB. **NOTE:** If all outputs are not being used at once a 68 ohm resistor should be placed across the unused outputs.

Cat. L-4474 1-9 \$4.75 ea. 10 up \$4.00 ea.

2 - WAY COAXIAL SPLITTER

(Coaxial Cable)

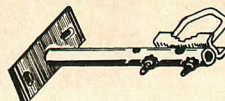


FOR 75 OHM

As above for 2 sets only. Covers 50-890MHz. Isolation 25 dB. Insertion loss 3.5 dB.

Cat. L-4472 1-9 \$3.25 ea. 10 up \$2.25 ea.

28cm WALLMOUNT



28cm long, can be used for wall or barge board mounting of vertical masts up to 5cm diameter. Complete with saddle clamp assembly.

Cat. L-4152 \$4.25

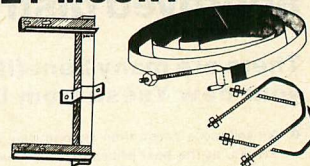
69cm WALLMOUNT



69cm long, used for wall mounting vertical mast sections up to 5cm in diameter. Complete with saddle clamp assembly.

Cat. L-4153 \$4.95

CHIMNEY MOUNT



This is a double arm, single strap, easy to mount unit. Complete mast mount assembly.

Cat. L-4154 \$9.75

BARGEBOARD MOUNT



Designed to mount any TV antenna from a vertical surface, barge board, wall, chimney, etc. 139.7cm long.

Cat. L-4150 \$6.50

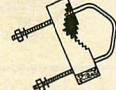
TV MAST PIPE (app. 2.4m)



This is a 2.44m mast section galvanized and rustproof. A convenient way of mounting your TV aerial.

Cat. L-4156 \$4.95

SADDLE CLAMP



For holding two pipes at right angles: eg, mast pipe onto mount, or antenna onto mast pipe. U bolt & V block clamp.

Cat L-4165 99¢

STANDOFF ASSEMBLY



Complete with standoff and strap assembly. Used for standing off mast sections. 8.9cm long. Holds ribbon or coax.

Cat. L-4512 1-9 75¢ ea. 10 up 66¢ ea.

WOODSCREW STANDOFF



Holds flat ribbon or coaxial cable off walls etc. 8.9cm long complete with grommet insulator.

Cat. L-4510 1-9 30¢ ea. 10 up 22¢ ea.

NAIL-IN CABLE CLAMP: RIBBON TYPE

Suitable for running flat ribbon cable on walls, skirting boards etc. Gives a neat professional job.

Cat. L-4514 1-9 12¢ ea. 10 up 10¢ ea.

NAIL-IN CABLE CLAMP: COAX TYPE



As above but suitable for coaxial cable.

Cat. L-4515 1-9 12¢ ea. 10 up 10¢ ea.

YAESU:

THE WORLD'S MOST POPULAR AMATEUR RADIO EQUIPMENT...

Dick Smith Electronics: Australia's largest supplier and Yaesu factory approved distributor & service centre

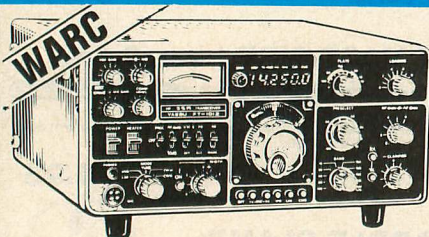
There are many benefits in buying your new Yaesu from Dick Smith:

- We sell more Yaesu than anyone else: so we have the best stocks, at the best prices (tell us if we're wrong!)
- We have the largest service centre: if something does go wrong with your Yaesu, we can fix it fastest!
- We honour Yaesu's 12 month guarantee - beware of others who may offer you only a 90 day warranty.
- Dick Smith Electronics have over 20 stores throughout Australia - plus over 200 approved re-sellers. You're never far from friendly help and service!
- We're the ones who keep amateurs informed and up-to-date with our Amateur Newsletters. (If you're an aspiring amateur who would like to receive a copy, drop us a line and ask to be put on our mailing list: it's FREE!)

**AND REMEMBER:
WE GUARANTEE TO MATCH OR
BEAT ANY GENUINE ADVERTISED
AUSTRALIAN YAESU PRICE *
AND WE GIVE YOU A
FULL 12 MONTH
GUARANTEE!!**

*** OUR POLICY ON YAESU PRICES:**
If you produce a copy of a current advertisement appearing in the national media, with a Yaesu price below our advertised price AND the advertiser has the goods in stock, Dick Smith Electronics guarantee to match or better that price. Verbal or written quotations are not acceptable.
NOTE: This offer does not apply to companies, distributors or re-sellers of Yaesu equipment or their representatives.

CHOOSE YOUR NEW YAESU STATION HERE...



101 SERIES

Remember the famous FT-101B? And the 101E? Here's the latest in the famous '101' family: the superb FT101Z. And what a transceiver! It includes variable IF bandwidth, built-in RF speech processor, all MF & HF bands - including the new WARC bands - and your choice of analog or digital & analog frequency displays! With 180W input (SSB/CW) and AM/CW/SSB operation, you're ready to take on the crowded bands... and win!

Cat D-2859

FT-101ZD:
\$889
FT-101Z (not illust.):
\$775

Cat D-2862



707 SERIES

What a performer packed into such a tiny package! The new FT-707 is one of our fastest sellers: and small wonder. It's a full power, all HF band (including WARC) multi mode transceiver not much bigger than an average 2 metre mobile! And you get digital display, LED S/power meter, push-button operation... all the things the amateur needs for safe, yet reliable mobile operation. But it's more than that: team it up with the FT-707 supply below and it's a superb base station, too. We've waited a long time for a rig like this: Yaesu brought it to you, of course! Cat D-2869

FT-707:
\$785

* Can be modified for novice use

SPECIFICATIONS:
Frequency coverage: 80, 40, 30, 20, 17, 15, 12 & 10m
Modes of operation: AM, USB, LSB & CW
Power input: 240W DC SSB, 80W AM, +
Sensitivity: 0.25uV for 10dB S/N (SSB); 1uV for 10dB (AM)
Selectivity: 2.4kHz (-6dB); 4kHz (-60dB) SSB; 3.6kHz (-6dB); 6.8dB (-60dB) AM
Image rejection: 60dB (80-12m); 50dB (10m)
Carrier Suppression: Better than 40dB
Spurious Emissions: at least 50dB down
Power Requirements: 13.5V DC @ 20A (240V AC with FT-707)
Antenna impedance: 50 ohms

ANTENNA COUPLER



Cat D-2875

Get the most from your FT-707: use the Yaesu FC707 antenna coupler and ensure your transceiver always delivers the power it should. Slim styling suits the 707 style, with all the features you need: large power/SWR meter, inbuilt dummy load, all band coverage (including WARC), less than 0.5dB insertion loss (you more than make up for that because of a better match!).

DIGITAL VFO



Long & slim - intended to sit under the 707. 12 memories, up/down scanning in 10Hz steps & receiver offset tuning. Powered by FT-707.

\$295
Cat D-2896

POWER SUPPLY (and external speaker)

The FT707 is a great mobile rig - but it's just as good as a base station. Just add the FT-707 mains power supply and you're away. You get a fully regulated 13.5V at 20A - just what your FT-707 needs. Plug in connections so you can't cause problems, plus you get an extra large speaker - for greater clarity.

13.5V @ 20A;
(50% duty cycle)

Cat D-2895

\$170

MOBILE BRACKET

Don't let your valuable 707 jump all around the car: fit it in a mobile mounting bracket for safety and security. Also holds the digital VFO. A must for the serious mobile operator.

Cat D-2897

\$35.00

SPECIFICATIONS:

Frequency coverage: 160, 80, 40, 30, 20, 17, 15, 12 & 10m
Modes of Operation: LSB, USB, CW & AM
Input power: 180W DC (SSB/CW); 50W DC (AM)
Sensitivity: 0.25uV for 10dB S/N (SSB/CW) 0.4uV (AM)
Selectivity: 2.4kHz (-6dB); 4.0kHz (-60dB)
Carrier Suppression: better than 40dB
Spurious radiation: better than 40dB below rated output
Operating voltage: 100-240V AC, (13.5V with optional conv).
Antenna output impedance: 50 - 75 ohms, unbalanced



ANTENNA COUPLER

More than just an antenna coupler - though it is a superb one of those! It's also an SWR/power meter, measuring up to 500W. Gives choice of 3 dipoles & one random wire antenna. All amateur bands, including WARC.

Cat D-2855

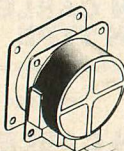
FC902:
\$255

YAESU FAN

If your 'rag chews' get a little long, give your FT-101Z a break by installing a cooling fan. Comes with all fittings, 110V operated (runs from a tap on the transformer). Now reduced in price, too...

Cat D-2865

\$29.50



DC-DC INVERTER

Want to go mobile? Add this superb DC/DC inverter to your 101Z and run it from your car battery. (13.5V nominal) Don't tie yourself to your shack and the 240 volt mains: get out to where the air is clean (and the DX is great!)

Cat D-2864

\$75

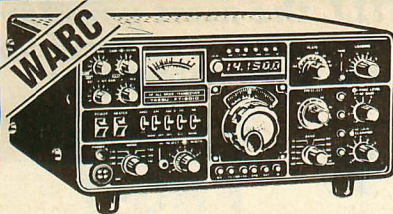
DIGITAL DISPLAY (Option for FT101Z only)

Want a digital display but can't afford it? Buy the FT-101Z, then later on when you can afford it buy the digital display and fit it yourself. It's easy!

\$139

Cat D-2861

SEE PAGE 53 FOR YAESU MICROPHONES



902 SERIES

In a word... WOW! The FT-902D has just about everything you've ever wanted in a transceiver! ALL modes (yes, even FM - great with transverters), and all bands from 160 to 10 metres (including WARC, of course!). You get digital as well as analogue frequency readout, RF speech processor, rejection tuning, 180W PEP input, etc, etc... Every ham's dream must be to own a transceiver like the FT902D: you've really got to see it to believe it. Or better still, ask at any of our stores or mail order centre for our free FT902D brochure: so you can take it home and drool a little!

Cat D-2853

FT-902D:
\$1175
Memory Unit:

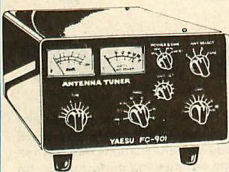
You can get even more use & pleasure from your 902 with the optional memory unit. Instant recall of often used frequencies, repeaters, etc. Cat D-2858 **\$139⁵⁰**

DC/DC inverter
Go mobile... with the FC902 12 volt inverter. Simple connection, gives 'base station' performance from your car. Cat D-2856 **\$69**

SPECIFICATIONS:

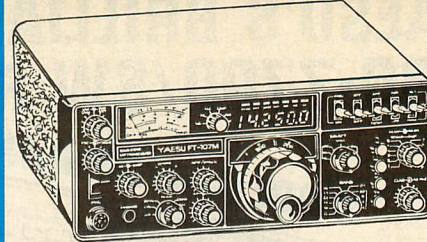
Frequency coverage: 160, 80, 40, 30, 20, 17, 15, 12 & 10m
Modes of operation: LSB, USB, AM, CW, FSK, FM
Input power: 180W PEP (SSB), 180W DC (CW), 80W DC (AM)
Sensitivity: 0.25uV for 10dB S/N (SSB)
Selectivity: 2.4kHz (-6dB), 4kHz (-60dB) SSB
Carrier Suppression: better than 40dB
Spurious radiation: better than 40dB below rated output
Power requirements: 240V
Antenna output impedance: 50 - 75 ohms unbal.

Antenna Coupler:



FC902: \$255

This coupler can feed anything from a random length of wire to a beam. Match the load perfectly so you can deliver more power up there where it's wanted! Suits all bands, has built-in SWR/power meter as well. 50 or 75 ohm system, 50 watt rating. Cat D-2855



107 SERIES

Yaesu's newest - and finest transceiver. A masterpiece of solid state engineering - you only have to take the cover off to see the care and thought that has gone in to the design! Full HF/MF band coverage, of course - in all normal modes (FSK included). A massive 240W PEP input, with features like an RF speech processor, variable bandwidth, superb noise blanker, PLUS 12 channels of memory: why try to rack your memory? And a scanning microphone is available to make life even easier!! The FT-107 is a great base or mobile rig: both 13.5V & 240V supplies are built in. Everything you want from a transceiver: and a little bit more!

Cat D-2871

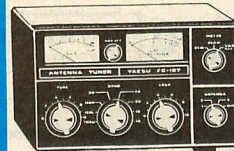
SPECIFICATIONS:

Frequency coverage: 160, 80, 40, 30, 20, 17, 15, 12 & 10
Modes of operation: LSB, USB, CW, AM, FSK
Input power: 240W DC (SSB), 80W DC (AM, FSK)
Sensitivity: 0.25uV for 10dB S/N (SSB/CW/FSK), 1uV (AM)
Selectivity: 2.4kHz (-6dB), 4kHz (-60dB) SSB, cont. variable from 300 to 2400 Hz
Carrier Suppression: better than 40dB
Spurious radiation: better than 50dB below rated output
Power requirements: 240V & 13.5V supplies built in
Antenna output impedance: 50 ohms for max output

FT107M/DMS:
\$1278

*Can be modified for novice use

Antenna Coupler



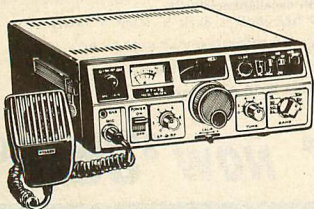
FC107: \$225

No problems with antenna mis-match on your FT107: not with this superb coupler. Designed to match the 107 styling, but just as home with any transceiver. Huge meters for power output & SWR. Cat D-2873

NOTHING MORE TO BUY

Remember, the FT-107 comes ALREADY EQUIPPED with memory unit, AC & DC power supplies, etc: you don't have to spend another cent!

YAESU FOR THE NOVICE:



FT-7B Base/Mobile HF Transceiver

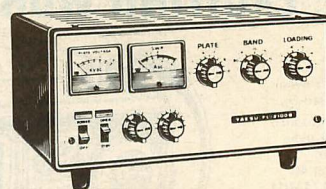
There aren't many transceivers available in Australia which are particularly suited to novices - but which won't disgrace themselves either. The Yaesu FT-7B suits the novice as well as the full call amateur. It gives you all current HF bands, so a continuously variable power output up to 50 watts: so novices can safely use the FT-7B knowing they're within the limits of their licenses. The broadband design means a single knob peaks all transceiver circuits for the frequency in use so it's delightfully easy to operate: an important consideration to use when mobile. You have the option of AM, CW or SSB, with the choice of VFO or a crystal locked channel. A 100kHz crystal calibrator keeps your transceiver within the band. The FT-7B is ready when you are: hook up your power and antenna, and away you go! Cat D-2866

FT-7B:
\$599

SPECIFICATIONS:

Freq. coverage: 80, 40, 20, 15 & 10m
Modes of operation: LSB, USB, AM & CW
Input power: 100W SSB & CW, 25W AM
Sensitivity: 0.25uV for 10dB S/N
Selectivity: 2.4kHz (-6dB); 4.0kHz (-60dB)
Carrier Suppression: Better than 50dB below
Spurious Emission: Better than -40dB
Power Requirements: 13.5V DC @ 10A (x)
Antenna output impedance: 50 ohms (nom)

YAESU POWER:



FL-2100Z 1.2kW All-Band Linear Amp.

For the amateur who really wants to push out a clean, strong signal, try the new WARC FL-2100Z. With its maximum output of 1.2kW PEP, Australian amateurs can be assured that at our maximum legal limit of 400W PEP the FL-2100Z is just 'coasting' - resulting in years extra life from the output valves, and less stress on other key components. The output bottles, by the way, are two rugged 572B's running in class B grounded grid. All you need for drive is any transmitter/transceiver capable of at least 30 watts. For full power operation (yes, you can obtain P&T approval for running 'power' in certain circumstances), you'll need around 100W of drive. The 2100Z features dual cooling fans for reliable operation, and gives you a plate voltage reading and a VSWR & DC A reading from its two meters. Easy to operate, suits virtually all amateur transceivers on the market. Cat D-2548

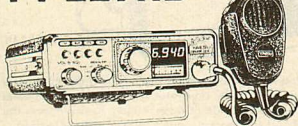
SPECIFICATIONS:

Drive: 30 - 100 watts
Output: 1200W PEP on SSB, 800W on CW at 50% duty cycle, 600W on AM & RTTY
Input impedance: 50 ohms unbalanced
Output impedance: Nominally 50 ohms unbal. with not more than 2:1 SWR
Distortion products: -31dB at 1200 watts
Noise Level: 40dB below single tone carrier
Power Requirements: 110 - 240 volts, 2.1kW

FL-2100Z:
\$559

YAESU AMATEUR RIGS FOR VHF...

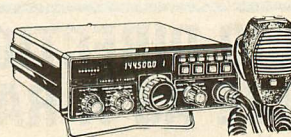
FT-227RB



\$330.00

One of the most popular Yaesu transceivers we have ever had the pleasure to operate: the incredible FT-227R. A PLL scanner will take you anywhere within the 2 metre band instantly - just press the scan button on the microphone. No need to worry about reaching for a selector switch in heavy traffic! And you have four memory channels to choose from, with a 600kHz repeater split if for working standard repeaters, or up to a 4MHz split for unusual repeaters or requirements. Power output is ten watts, and the receiver has better than 0.3uV sensitivity (10dB S/N). It operates 13.5V DC, with protection against reverse polarity and high antenna SWR. For value-for-money, it's hard to go past the FT-227RB. Cat D-2891

FT-480R



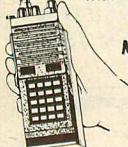
\$575.00

Yaesu's top 2 metre rig: FM, CW & SSB!

Yaesu call this their 'total performance VHF computerized transceiver'. And total performance it is! As the top-of-the-line Yaesu 2 metre family, you'd expect a lot. You get it: FM, SSB & CW over the full 2 metre band, with two VFO's which may be used for unusual repeater splits; four memory channels, scanning, 100Hz resolution on the digital frequency readout, a 'SAT' switch to make satellite operation easy (with an external receiver), a receive clarifier, a hi/lo power switch (30W PEP max), an effective noise blanker, tone burst, priority channels, optical selector coupling... If you want the best, you want Yaesu. If you want the best 2 metre Yaesu, you want the FT-480R! As they say: Magnifique! Cat D-2887

FT-207R

with 10kHz steps

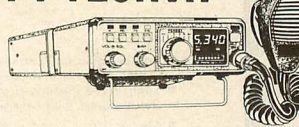


PRICE INCLUDES NICAD BATTERY PACK AND CHARGER (Cat D-957)

\$358.00

Imagine a hand-held 2 metre transceiver with all the punch of the big guns - with digital display, 800 channels, 4-bit CPU chip for frequency control, 4 memory channels, repeater splits, auto scan (up or down), weighing just 680g... You're imagining the unbelievable Yaesu FT-207R! How does it perform? How about 0.32uV sensitivity... or 7.5kHz selectivity (-60dB)... or a power output of 2.5W (min). If you've always wanted a 2 metre rig you can throw into a bag to take on holidays, this is it. But a word of warning: don't pick one of these up. You may never want to put it down again! Cat D-2888

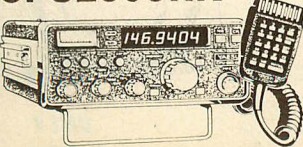
FT-720RVH



\$450.00

Yaesu brings you the flexibility and performance you need in today's amateur world. The FT-720RVH not only gives you top performance, it's also the most flexible Yaesu. It comes apart - so you can locate the microprocessor-controlled 'works' close by you, with the 'RF' end out of the way. Or, just as easily, snap the two sections back together again for a complete transceiver. That's versatility! But nothing is spared in performance: PLL circuitry for maximum stability, scanning, five memory channels, LED P.O.S meter, 25 W output, and full 144-148MHz operation. A superb transceiver, designed specifically for today's small cars which simply don't have much room to spare! Cat D-2890

CPU2500RK



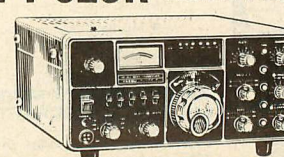
\$549.00 \$399.00

Hurry: this bargain won't last long...

As its name suggests, the heart of this a microcomputer - or CPU. It gives you complex control operations at the flick of a switch: Up/down scanning - Busy/clear channel search - simplex or 600kHz repeater splits - keyboard entry of frequencies or strange splits - tone call for repeater access - auto 5kHz up switching - and more! Plus the 'business end' gives you a massive 25W output, with a sensitive receiver (0.3uV) to back it up. A superb piece of engineering - bringing computer technology right into amateur radio. It may cost a little more - but look at what you get!! Note: limited stocks of this unit available at our very special price.

Cat D-2889

FT-625R LAST FEW!



\$795.00 \$550.00

All mode 6 metre transceiver

Yaesu's answer to the 2 metre pile-up: 6 metres! If you've wanted to get far from the madding crowd on 2 metres, why not try six? It's cleaner, and there's more DX down there! Get onto 6m with the Yaesu FT-625. You get ALL modes (AM, FM, USB, LSB, CW) so you won't miss a contact because he's working a different mode! There's also Yaesu's renowned RF speech processor, an effective noise blanker, repeater splits, variable power output (1-25W), provision for stat locked channels as well as VFO operation, built-in supplies for both 13.5V DC and 100 - 240V AC. Whatever your interest on the 6 metre amateur band, the FT-625R is ready for the action you want!

Cat D-288F

NEW FOR '81

YAESU'S BRILLIANT NEW FRG-7700/SW RECEIVER

WORLD-WIDE RANGE!

There's not much we need say about this outstanding receiver: let the features speak for themselves:

- 2MHz - 30MHz continuous!
- ALL mode - including FM (great for working with converters!)
- Digital frequency readout, with digital clock
- Superbly easy to operate: set pre-selector, then tune!
- Timer for turning receiver on/off plus control of external equipment (such as tape recorder).
- Optional memory unit gives 12 channel memory with backup (they stay memorized with the receiver turned off!)



EXCLUSIVE TO DICK SMITH!

Cat D-2841

\$495⁰⁰

OPTIONAL MEMORY UNIT

Gives you single button re-call of any of 12 chosen frequencies. Great for monitoring, 'skeds', etc. Simple connection, instructions inc.

Cat D-2842

\$145⁰⁰

Ask for a copy of our brochure showing you what the FRG-7700 can do for you!

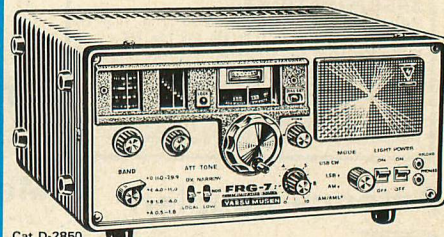
INC. BONUS 12V CONVERSION KIT!

STILL the most popular communications receiver IN THE WORLD!



YAESU FRG-7

0.5 - 30MHz COVERAGE!



Cat D-2850

20,000KM RANGE!

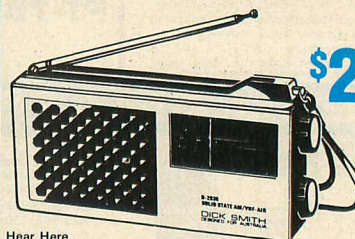
More Yaesu FRG-7's are in use throughout the world than any other general coverage communications receiver: and small wonder! No other general coverage communications receiver can offer the same features, the same outstanding performance, for anything like the same price!

- Features the world-renowned 'Wadley Loop' for rock-solid stability and minimal drift!
- Triple conversion superheterodyne circuit for extremely high sensitivity with excellent selectivity (better than 0.7uV; -6dB @ 3kHz & -50dB @ 7kHz)
- Operates from 100/120/220/240V AC or 13.5V DC
- Weighs only 7kg, size 34 x 15 x 29cm.
- 2IC, 22 transistor & 16 diode circuitry.

\$395 LAST YEAR

NOW \$350⁰⁰

AIR BAND (VHF) RADIO WITH AM BAND TOO!



Cat D-2836

Hear Here . .

You've probably wondered what goes on what pilots & air traffic controllers talk to each other about . . . Wonder no more! This budget aircraft band radio tunes the entire band, so you don't miss a thing. It also covers the normal AM broadcast band too: so you won't miss out there, either! Operates from 4 penlight batteries (supplied), with telescopic whip antenna for aircraft band & internal ferrite rod for broadcast band.

SPECIFICATIONS:

Ranges: 530 - 1600kHz & 108 - 174MHz. IF: 465kHz & 10.7MHz. Output power: 450mW max. Speaker: 6.4cm. Power Source: 6V DC (4 penlight cells). Circuitry: 10 transistors & 7 diodes. Size: 22 x 11 x 5 cm

SHORT WAVE ANTENNA KIT

EXCLUSIVE TO DICK SMITH!

Interested in listening to short wave radio? Why not put up a decent short wave antenna. Dick Smith had this easy-to-erect kit designed by a short wave expert to give you the best reception over the short wave bands.

- Complete - ready to assemble.
- No soldering required!
- Instructions supplied
- All you need is a tree, chimney or some other support.
- Ideal for all short wave receivers with high impedance inputs

Note: this antenna is NOT suitable for use on the 50 ohm input on the FRG-7 or FRG-7700. It is however suitable for use on the high impedance input.



Cat K-3490

ONLY \$95⁰⁰

COMMUNICATOR VHF RADIO

LISTEN IN ON THE EXCITING WORLD OF VHF RADIO . . .

There's a different world of radio you probably haven't even discovered yet. It's 'up there', on VHF (very high frequency).

This superb portable Communicator VHF Radio will introduce you to the world of VHF - without missing out on the radio stations you also want to listen to. Its six bands cover from the AM & FM broadcast stations, through the full 40 channel CB band, up to the VHF bands from 107 to 174MHz.

These bands include the entire aircraft band, plus the 2 metre amateur band, police, fire, ambulance frequencies, harbour control, two-way car radio, taxis, business, etc etc.

Check out these exclusive features:

- 6 bands with handsome 'military' look
- 240V AC and 6 volt DC (battery) operation.
- Complete with multi-section adjustable telescopic antenna, for vertical or horizontal polarization
- Unique tuning meter which also doubles as a battery strength meter.
- Earphone jack for private listening (earphone supplied).
- INCLUDES OUR EXCLUSIVE VHF LISTENING GUIDE - which tells you what to listen for on VHF!



Cat D-2833

STILL ONLY \$59⁰⁰

EXCLUSIVE! A RADIO DIRECTION FINDER YOU CAN ALSO USE AS A RADIO!

SUPPLIED WITH A COMPLETE LISTING OF ALL BROADCAST STATIONS & L.W. BEACONS FREE!

THOUSANDS SOLD!

WITH AM, FM, MB, LONG WAVE & VHF BANDS

One of the most popular receivers we've ever sold. Thousands of people now have the protection of a radio direction finder - just in case they ever need it. And until they need the RDF, they're using this high performance radio receiver for their listening pleasure!

Because it was designed for Australia, it receives the following Australian bands - not the useless overseas ones.

- Long Wave (Beacon & Weather) 150 - 400kHz: Covers all aircraft beacons, with continuous weather from some beacons.
- Medium Wave (Standard AM broadcast stations) 530 - 1600kHz: all your favourite commercial & ABC AM stations.
- FM Band (Frequency Modulation Broadcast) 88 - 108MHz: the new FM broadcast stations for fine music, news, public affairs, etc
- VHF Band (Very High Frequency) 108 - 174MHz: Covers all aircraft frequencies including emergency beacons, plus VHF marine channels, (harbour patrol), Maritime & Harbour Boards, etc.
- MB Band (Marine stations band) 1.6 - 4.0MHz: The band for ship to ship, ship-to-shore, and many other marine stations.

AN EMERGENCY NAVIGATION NECESSITY FOR ALL BOATS, AIRCRAFT & OFF-ROAD VEHICLES.

Remember: you can direction find on any LW or MW stations that you can hear: and you're NEVER out of range of a station SOMEWHERE!



Cat D-2820

CLOSEST EQUIVALENTS SELL FOR \$250 PLUS \$125



GENUINE YAESU AMATEUR RADIO MICROPHONES

Keep your Yaesu ALL Yaesu – with a genuine Yaesu microphone designed to work best with your Yaesu transceiver. Six models to choose from:

HAND-HELD TYPES

YE7A Standard Model

Impedance: 500 ohms
Mic plug pins: 4

Suits Models: FT101Z,
FT101ZD, FT7, FT7B,
FT901, FT902, FT301,
FT301S, FT825,

\$14.50

The favourite microphone for countless Yaesu operators! Simple, yet effective, supplied with standard 4 pin plug which suits not only the Yaesu models shown, but dozens of other Amateur & CB transceivers too. Cat C-1117

YM37 Standard Model

Impedance: 500 ohms
Mic Plug Pins: 8

Suits Models: FT707,
FT107

\$16.50

Similar to above microphone, but this one is supplied with the 'new' standard 8 pin socket – suiting the newer Yaesu models. Of course, this can be re-wired with the 4 pin plug, and the 4 pin re-wired with the 8 pin plug for the same effect. Cat C-1119

YM36 Noise Cancelling

Impedance: 500 ohms
Mic Plug Pins: 8

Suits Models: FT707,
FT107

\$26.00

A superb model from Yaesu – just the microphone for mobile QSO's – without giving your contact all the road & traffic noise! Works on noise cancelling principle, really effective. It's a beaut mic to hold, and great to use. Supplied with 8 pin plug; you can easily re-wire to 4 pin if necessary for your transceiver. Cat C-1115

YM35 with Scanning

Impedance: 500 ohms
Mic Plug Pins: 8

Suits Models: FT707,
FT107

\$29.00

Very similar to above microphone: same smart appearance, same 8 pin plug. But this one also has scanning push buttons: for use with transceivers equipped for this mode of operation. Shielded in a protected section at top of mic, so you aren't likely to knock them by accident – changing your frequency! Cat C-1116

BASE STATION TYPES

YD148 Dual Z Desk Type

Impedance: 500 ohms & 50k
Mic Plug Pins: 4

Suits Models: FT101Z,
FT101ZD, FT7, FT7B,
FT901, FT902, FT301,
FT301S, FT825,

\$44.50

Smart styling – great performance – and dual impedance versatility! That's the Yaesu YD148 desk microphone. Easy action P-T-T bar, with self-locking position for those long QSO's. Heavy base, so it won't slip around on the desk. Impedance is set by a switch on the rear of the mic base. Cat C-1118

YM38 Dual Z Desk Type with Scanning

Impedance: 500 ohms or 50k
Mic Plug Pins: 8

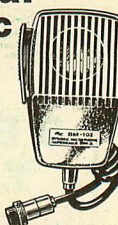
Suits Models: FT707,
FT107

\$49.50

Similar to above Yaesu desk microphone, also with switch for dual impedance. This one also has three extra push buttons for use on scanning transceivers. Supplied with 8 pin plug to suit these transceivers. May also be used on other transceivers by using different pins on plug. Cat C-1113

ECONOMY COMMUNICATIONS MICROPHONES FOR AMATEUR & CB

Universal dynamic mic



\$12.50

Designed especially for AM & SSB transceivers. This economy mic is supplied with a 5-wire (4 lead plus shield) 2 metre lead that can be adapted to any transceiver – even ones with electronic switching! Has a nominal 600 ohms impedance, can be re-wired to internal transformer for 50k. Supplied with a standard 4 pin socket. Cat C-1102

Noise Cancelling mic

Great for
mobile use; cut
out road noise!

\$17.50



Ideal for the amateur or CB'er. Noise cancelling is achieved by use of twin out-of-phase inserts. Fitted with a high quality PTT switch and coiled lead, impedance is 250-600 ohms, with a frequency response of 300-5000Hz. We've seen these mics advertised for over \$30.00 – but not at Dick Smith Electronics! Cat C-1105

Noise cancelling power mic

\$29.50



That's right: a noise cancelling power mic under \$30.00! Yes, you get both audio amplification and noise reduction – so you end up with a cleaner signal! This popular microphone allows the noise to enter both front and rear of the microphone – cancelling each other out. Because you speak into the front of the microphone, the diaphragm reacts only to your voice, not to the ambient sound. Simple – but effective. Supplied ready wired to a standard 4 pin socket. Needs a 9 volt transistor radio battery (not supplied). Cat C-1108

Modern base station power mic

\$75.00



This would have to be one of the smartest looking base mics we've ever seen! And it performs as well as it looks. Not just a volume control for varying your modulation, but a tone control too. And a level meter! The head angle can be varied, and there's a locking PTT bar with 'on air' LED. Complete with coiled lead & standard 4 pin mic socket. Cat C-1112

MICROPHONE/ EARPHONE HEADSET

**EVEN DICK
USES ONE
OF THESE
SUPERB
UNITS!**

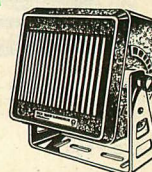


This very popular unit is similar to the type used in aircraft. It is ideal for all mobile situations and noisy environments. The design includes only one earphone as it is essential in most cases that the operator has an 'ear' for local noise and communication, i.e. car horns, sirens etc.. Supplied with a long length of lead and a separate 'push to talk' switch box. This unit can be used with virtually any transceiver. Headphone impedance is 8 ohms and the microphone 600 ohms. Supplied with speaker plug but without microphone plug. Cat. C-1120

\$29.50

REMOTE COMMUN. SPEAKER

★ **SPEAKER 10cm**
★ **5 WATTS**
★ **INCLUDES 3.5mm PLUG**



Great for the car, the home, – in fact, anywhere you need an extension speaker for your transceiver or receiver. 8 ohms impedance, supplied with cable and standard 3.5mm audio plug. Because of the larger (10cm) dia speaker, you'll probably get much clearer sound, too.

Cat. A-2451 **\$9.50**

HIGH EFFICIENCY HORN SPEAKER

**IDEAL FOR CB,
POOLSIDE SOUND
& MANY OTHER
USES!**



A miniature rugged weatherproof 'horn', rated at 8 ohms, 5 watts. Approximately 125mm in diameter. Ideal for installing in your car, truck, boat, etc., as an extension speaker for your CB or as a PA speaker. Supplied with mounting base and approximately 3 metres of cable with a plug.

Cat. C-2705 **\$9.50**

REPAIRING A MIC? Use this ELECTRET INSERT

Microphone no go? Probably one of two things: the lead or the insert. As an amateur, you can fix either – easily. The broken lead should be no problem; neither should the insert. Fit a new insert. Economical, reliable. 600 ohms impedance, each insert comes with connection data.



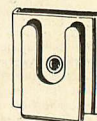
\$2.45

Cat C-1160

MOBILE MIC MOUNTING CLIPS

Magnetic Type:

A dangling, bouncing microphone can be really dangerous in traffic. Cure the problem with this clip. It attaches to the rear of most hand-held microphones, and holds the microphone securely to any handy ferrous surface by means of a strong magnet: it won't let go!



Cat C-1260 **90¢**

Screw-in type:

And a little simpler: this clip can be screwed to any convenient location, and the mic is held securely by a spring in the clip. The clip comes complete with mounting screws – ideal for cars where there is more plastic than steel on the dashboard!



Cat C-1262 **60¢**

**NEW
FOR
'81**

NEW AMATEUR ANTENNAS

HY-GAIN TH3JR:



3 BAND YAGI

\$265.00 Cat D-4304

V5JR: 5 BAND VERTICAL

If you're typical of most amateurs, you live in the suburbs where space is at a premium. You need an effective antenna, but there are objections to putting up a beam (the wife, the neighbours, the council, etc etc etc). You need our new V5JR vertical. Virtually unnoticeable in your backyard, you'll be able to pursue your hobby without worry!

The V5JR uses pre-tuned trap coil assemblies, enabling the one antenna and feedline to automatically operate on any of the chosen bands between 80 and 10 metres. The base of the antenna mounts on any pipe of roughly 25 - 31mm in dia. Full setting up instructions are provided, including details of radials/guys to optimise performance if the antenna is to be operated in an elevated position.

- Covers 80 - 10m
- 6.7m high, weight only 2.3kg
- Rated at 1kW PEP
- Fits up to 32mm dia. support pipe.

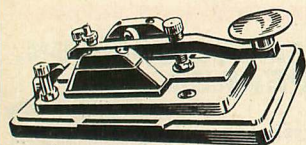
\$99.00 Cat D-4305

MORSE CASSETTES

Learn Morse the easy way. These Morse tapes will teach you the easy, convenient way. Speeds from 5 to 15 wpm in graduated, easy-to-learn steps. Ideal for novice licenses and Z calls. Give it a go!

Cat. D-7106 **\$7.90**

HI MOUND HAND KEY



The best hand key on the market! Double ball pivot rollers and adjusting springs to suit all fists. Strong and positive action. Contacts for break-in keying.

Cat. D-7104 **\$29.50**

NYE VIKING HAND KEY - Quality budget key

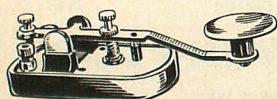
**MADE IN
U.S.A.**



This precision built key has been specially imported from the United States for the discerning amateur or novice. The professional quality will give hours of relaxed operation.

Cat. D-7101 **\$15.75**

ECONOMY HAND KEY

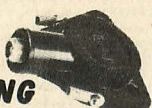


For the novice or any one who wishes to learn morse code, then this is the inexpensive key on which to start. The spring tension is adjustable to suit your fist. Ideal for use with the morse practice kit in the Dick Smith Fun Way Into Electronics Kits - see kit pages.

Cat. D-7105 **\$1.95**

RAK BL-50A BALUN

1:1 RATIO 1KW RATING



"T" shape design for use as centre support for dipoles or yagi antennas. I/P 52 ohms unbalanced, O/P 52 ohms balanced. Input RF power 1kW with an insertion loss of less than 1 dB and frequency range of 3 - 30MHz.

Cat. D-5310 **\$27.50**

ANTENNA BALUN KIT

**ROLL YOUR
OWN!**



Contains ferrite ring, enamelled copper wire and winding details for 1:1, to 1:9 ratio. Input power 2kW PEP and frequency range of 3 - 30MHz.

Cat. D-5350 **\$9.00**

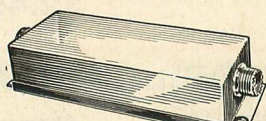
NOVICE LO-PASS FILTER



Neighbours giving you problems about TVI? If you're a novice running low power, this may be all that is necessary. Insertion loss is approx. 0.3dB at 30MHz, with the second & third harmonic at least 60dB down. Fit one of these, and your problems could be over!

Cat D-7082 **\$6.50**

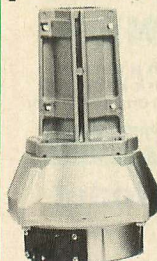
SHINWA FILTER - THE 'BIG GUN'



For the really stubborn cases of TVI (and BCI) it may be necessary to bring out the 'big guns'. This Shinwa filter is recommended in such cases. It has proven effective for thousands of customers. Suitable for power up to 500 watts. Cut off is around 30MHz, insertion loss less than 1 dB and maximum attenuation around 50 dB! Ideal for amateurs and CB'ers.

Cat. D-7080 **\$19.50**

ANTENNA ROTATOR with fully approved power supply . . .



**COMPLETE:
\$152⁵⁰**



Dick Smith brings you top value in an antenna rotator: and this one has a fully approved power supply. Don't take chances with many rotators being sold with non-approved supplies: they could be dangerous!

Here's what you get:

- ★ Ruggedly made rotator unit with massive disc brake
- ★ Control box, which also indicates direction of beam
- ★ One set mast clamps (additional sets available)
- ★ Fully approved mains power supply

Specifications:

Rotation period: 60 seconds. Rotation torque: 550kg-cm
Braking torque: 1500kg-cm Wind Load: 0.8m²
Mast size: up to 50mm O.D. Vertical Load: 200kg

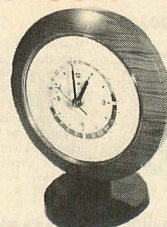
Separate parts if required:

Rotator & Control Box (Cat D-5000) **\$133.00**
Approved Power Supply (Cat D-5002) **\$19.50**
Additional mast clamps (Cat D-5001) **\$18.95**

CABLE TO SUIT: (Cat W-2042) . . . \$1.60/m

24 HOUR QUARTZ WORLD CLOCK

This is a fantastic new addition to the Yaesu range: the new 24 hour ham clock. It shows the time all over the world at a glance. It's ideal for keeping those 'skeds'. Uses one C cell (supp) that should last for one year.



Cat. X-1055 **\$49.50**

EQUIPMENT COVER

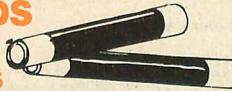
PROTECT YOUR GEAR



Protect your valuable Yaesu equipment from dust, stains and scratches. This heavy duty cover fits easily over your FRG-7, FRG-7000, FT101Z, FT901D and FL2100Z.

Cat. D-9050 **\$3.95**

HI POWER DUMMY LOADS 50 ohms

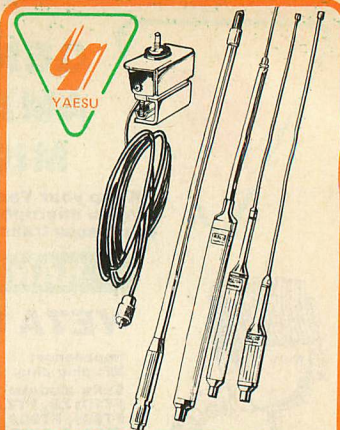


Non-inductive, ideal for the serious experimenter (see article in Dec 1975 EA). These resistors are normally found in high quality power meters selling for over \$100! High tolerance, high power devices with virtually no inductance. Large surface area to dissipate large amounts of power. The rating is continuous.

Cat. D-7015 . . . 50 watt **\$14.50**
Cat. D-7010 . . . 100 watt **\$29.95**

Special Yaesu items available only through our Mail Order Centre:

XF 8.9GA AM Filter (Suit FT-107, FT901) **\$33.00**
XF8.9HC 600Hz CW Filter (as above) **\$33.00**
XF8.9HCN 350Hz Filter (For FT101Z, FT901, FT107) **\$33.00**
LF-2A Narrow band filter for FRG-7, **\$15.00**
YM-24 remote speaker microphone (for FT-207R/FT202R) **\$28.00**
YE-17 microphone for FT227RA, FT227RB **\$17.70**
Yaesu Instruction Manuals . . . each **\$5.00**
Yaesu Service Manual for FT101, FT101ZD, or FT901DM . . . each **\$27.50**
Yaesu Service Manual for CPU2500R . . . **\$13.50**
Yaesu Service Manual for FT227RA/B including supplement **\$14.50**
FT7/FT7B crystals available - various prices.



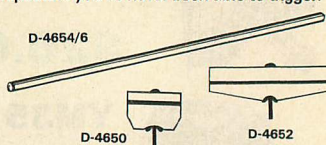
YAESU ANTENNAS

The fabulous Yaesu antenna system for HF and VHF. You buy the gutter mount base and 2 metre stub, and you're on the air on 2m immediately. As you want the HF bands, simply buy that band resonator/antenna whip and screw it into the 2m stub. You only have to buy the whips for the bands you want. Go mobile with Yaesu.

RSE - M - 2 GUTTER MOUNT
Cat. D-4100 **\$22.50**
RSE - 2A 2M STUB
Cat. D-4102 **\$14.50**
RSL - 145 6M/2M ANTENNA
Cat. D-4104 **\$26.50**
RSL - 3.5 80M ANTENNA
Cat. D-4110 **\$24.95**
RSL - 7 40M ANTENNA
Cat. D-4112 **\$24.95**
RSL - 14 20M ANTENNA
Cat. D-4114 **\$24.95**
RSL - 21 15M ANTENNA
Cat. D-4116 **\$24.95**
RSL - 28 10M ANTENNA
Cat. D-4118 **\$24.95**

Build Your Own 2 Metre Beams

Pull in those signals you've never heard before, work OSCAR or work through repeaters you've never been able to trigger.



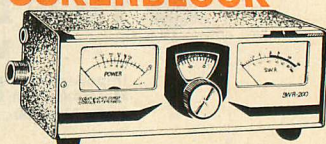
Aluminium Tube 2 metres long x 10mm x 1.2mm
Cat. D-4654 **\$2.50**
Aluminium Tube 2 metres long x 20mm x 1.6mm
Cat. D-4656 **\$5.00**
Insulating Nylon Brackets, high quality nylon elements brackets will accept 10mm elements, up to 17mm booms.
Cat. D-4650 **75c**
For Bigger Beams
Cadmium coated brackets will take up to 17mm elements and 20 mm boom.
Cat. D-4652 **\$1.25**
**WRITE IN OR ASK IN ONE OF OUR SHOPS
FOR THE FREE LEAFLET ON BUILDING
YOUR OWN 2 METRE BEAMS.**

EGG INSULATORS

Small insulator, unbreakable nylon construction. Ideal for smaller antenna installations.
Cat D-5300 **85c ea**
10 up: **70c**

Medium Size:
Made of the same material, but will handle much large installations: e.g. for extra long arrays or guy wires.
Cat D-5302: **\$1.45**
10 up: **\$1.25**

OSKERBLOCK



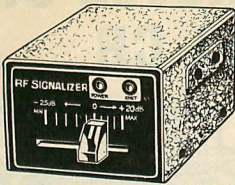
Power & SWR meter

One of the best power meters ever seen in Australia: famous Oskerbloc 3MHz - 200MHz, measures 0-2kW in 4 ranges: VSWR to 10:1. Through-line measurement. Cat Q-1340

SEE P60 FOR
FULL DETAILS

\$89.50

RF SIGNALIZER



ADDS RANGE TO YOUR 27MHz CB RADIO

One of the most popular signalizers around! This is a variable gain RF pre-amplifier that inserts in your antenna lead. Gain from -25 dB through zero gain up to +20 dB gain with a single knob. The gain side is to lift signals out of the mud whilst the loss side is used to cut down on very strong local signals. That's versatility! Automatically changes over when you hit the transmit button on your microphone from receive to transmit. Needs 12V DC @ 35mA.

Cat. D-3828 **\$39.00**

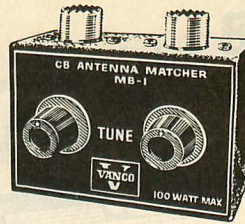
3-WAY ANTENNA SWITCH



If you want to use more than one antenna on your CB, you're going to need an antenna switch, alternatively you can run around madly changing antennas by hand! This economy switch will handle up to 150 watts at 30MHz. Ideal for base stations or mobile!

Cat. D-5206 **\$11.75**

ANTENNA MATCHER



Designed to be connected in the antenna lead. By adjusting the two controls virtually all mis-match between antenna and transmitter can be eliminated. Handles up to 100 watts, size only 82x55x38mm. 50 ohm impedance, PL-259 connectors are required.

Cat. D-5512 **\$15.00**

TVI TROUBLES?

MIDGET LO-PASS FILTER

WAS \$10.50 IN '77



The same size as our popular matchbox, this filter is all the TVI protection you need in many cases. It connects into the antenna lead close to the transceiver via PL-259 plugs. It has a low insertion loss, suits 50 ohm impedance units (virtually all CB units) and has a cut-off frequency of 30MHz.

Cat. D-7082 **\$6.50**

TV SET HI-PASS FILTER



Most TVI filters are installed in the antenna lead of the transmitter to help stop interference being radiated. This filter is different because it is installed in the antenna lead of the unit actually receiving the interference. It will heavily attenuate frequencies below 50MHz and is therefore ideal for TV and FM sets which are being affected by CB or amateur radio transmissions below 30MHz. Simply connect directly to the TV set or FM tuner antenna terminals.

Cat. D-7084 **\$2.50**

DUMMY LOAD LIGHTS UP!

SEE THE LIGHT?



A dummy load that lets you see what's happening! A standard PL-259 plug has built into it a lamp which shows carrier on AM when the microphone button is keyed. Varying modulation is shown by a variance in light intensity.

Cat. D-7024 **\$3.50**

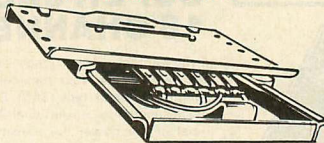
STATIC/HIGH VOLTAGE ARRESTOR



Prevents static high voltages damaging equipment. Arrestor connects between antenna lead-in and receiver/transmitter and grounds excessive potentials. One PL-259 plug and SO-239 type socket, and large grounding screw.

Cat. D-7152 **\$4.20**

SLIDE MOUNT



Heavy duty under dash slide mount or can be mounted on the transmission hump in your car. Ideal for mounting car stereo, radio or CB units as you can easily remove the units when you leave the car.

Cat. D-7210 **\$7.95**

CB CRYSTALS

Stock's almost gone! Last chance to buy at these crazy prices: Hurry-stock up now!

Channel 5 (9) D-6006 **\$2.50!**
Channel 6 (11) D-6008 **\$2.50!**
Channel 12 (16) D-6015 & 15 (19) D-6018 **ONLY \$4.00!**

MOBILE CB ANTENNAS

Helical CB Antenna

The largest selling mobile antenna in Australia. 1.5m long, very flexible. Comes complete with base & co-ax cable with PL-259 plug. Nothing else to buy!

Cat D-4076 **\$24.50**

1/4 Wave Whips

Your choice of stainless steel or fibreglass. Each is approx. 2.75m long, and is ideal for either marine or mobile 27MHz. Easy SWR adjustment, team with mounts below (particularly suited to swivel ball mount)

Stainless Steel: Cat D-4415 **\$14.50**

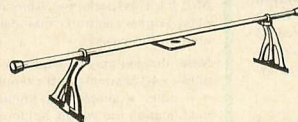
Fibreglass: Cat D-4416 **\$19.50**

MINI HELICAL REPLACEMENT 'RUBBER DUCK'

Perfect for hand held sets. These are virtually indestructible and very flexible. Length is only 300mm and they are attached over the normal telescopic antenna when it is retracted and secured by a thumb screw. Can also be used as a replacement for a damaged telescopic antenna.

Cat. D-4629 **\$7.90**

ROOF RACK ANTENNA MOUNT



Here is the ideal unit for the person who doesn't want to drill a hole in the vehicle roof and doesn't want the slightly directional effect sometimes obtained from gutter or bumper mounting. This fully plated bar mounts easily on virtually any car roof and will withstand high speeds and rough roads. Mounting plate with 16mm hole takes most available antennas and mounts.

Cat. D-4520 **\$9.50**

SWAMPER II: AUSTRALIA'S MOST POPULAR HIGH GAIN 27MHz ANTENNA!

Take a look around at CB antennas: you'll find that most of them you see are 'Swampers'. (Hint: look for the unique capacitive 'top hat') There are good reasons, obviously:

- Swamper is the easiest antenna to erect: just pull it up and lock it!
- High gain: 3.75dB - and no ground plane needed!
- Commercial quality: wind survival rating over 130km/h!
- Low noise: base of antenna is at DC ground potential.
- Included in the price is a 15m roll of co-ax with PL-259 plugs (worth over \$10.00!) and full instructions!

But the Swamper is far, far more than just a superb base antenna. For example, many people in caravans use the Swamper - because it can be instantly erected or dismantled for travelling. Many amateurs use the Swamper: it's easy to put it on 28MHz because it telescopes! And many surf clubs, boat clubs, etc. use the Swamper on the 27MHz marine band - because it is so rugged. No wonder it's Australia's most popular!

For top range, top performance & top economy, there is only one CB antenna: SWAMPER II!

D-4428



DON'T LEAVE YOUR CB BEHIND!

The bargain of the year: Dick's famous CB portable case: \$25.00 last year - now look at the price! Hurry, limited stocks. Note: this case also fits many of the new slim-line SSB CB's!

WAS \$25.00: **\$6.00**

Cat D-9010



Centre-loaded whip antenna: Cat D-9013 **\$14.50**

Battery Pack Cat D-9011 **\$4.50**

ADAPTOR CABLES

52 ohm adaptor lead - with PL-259 and spade lugs. Cat. W-1372 **\$4.50**

52 ohm connector lead with 2 x PL-259 plugs, 1 metre in length. Not illustrated. Cat. W-1370 **\$3.50**



Weatherproof Antenna Base



ONLY \$4.50

Weatherproof base designed for general purpose use. The load is spread by a large washer. The neoprene and nylon washer construction ensures weatherproofing. No soldering required and use with W-1372 lead. Requires 16mm hole.

Cat. D-4056 **\$4.50**

Antenna Adaptor



QUALITY AT A LOW PRICE!

The standard Australian female thread to 9.5mm x 24 tpi female, used for connecting Scalar or similar base to any of our antennas or accessories with 9.5mm x 24 tpi mounting. Cat. D-4504 **\$1.90**

Swivel Ball Mount



STILL THE LOW 1978 PRICE!!

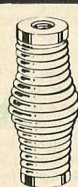
Heavily chrome plated. Slant split for greater strength. Ideal for boats, vehicles, trucks etc. Cat. D-4502 **\$8.90**

Antenna Adaptor



ONLY \$1.80

USA 9.5mm x 24 tpi male thread to Australian female socket. Used for connecting USA 9.5mm x 24 tpi base with Scalar or similar antenna. Cat. D-4505 **\$1.80**



Steel Spring

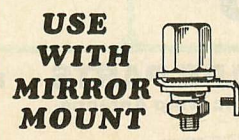
ONLY \$9.90

SUITS D-4502 BASE

Plated steel spring. Designed to take up to 3 metre whip. Will bend through 90° without breaking.

Cat. D-4503 **\$9.90**

Universal Stud Mount



USE WITH MIRROR MOUNT

Accepts 9.5mm x 24 tpi thread and comes complete with mounting plate and ground lug. Plated steel and nylon insulated bushings. Mount requires 12mm hole. Cat. D-4510 **\$2.50**

Quick Disconnect



Enables you to remove your antenna from its mount with an easy press and twist - saves your antenna being stolen.

Cat. D-4508 **\$6.00**

Antenna Layover



TOP QUALITY

Heavy duty unit allows antenna to be left in three separate positions. Vertical, horizontal or angled. Positions are easily obtained at the push of a button. Will not layover if hit. Cat. D-4506 **\$6.95**

Universal Mirror Mount



IDEAL FOR ROOF RACKS

Clamps to your car roof rack or mirror as a support for standard antennas. It has a 12mm hole for mounting the stud mount, D-4510, less centre plate. Made of plated steel.

Cat. D-4512 **\$6.50**

Gutter Grip



HIGH QUALITY LOW PRICE

A sturdy, easy to fit unit for your car. Made of non-corrosive alloy. Use with stud mount D-4510. Cat. D-5100 **\$9.50**

FULLY APPROVED 27MHz 18 CHANNEL CB . . .

MIDLAND 963: AM AT ITS FINEST!

What a magnificent set! Just imagine how superb this mighty Midland would look in your car. From a Mini to a Rolls, this set has the elegance to match just about any car interior. From its telephone-style handset, to its digital display, this set says . . . CLASS!

Of course, the outside is only half the story! Inside this set is a superb full power Midland transceiver, giving outstanding performance and range.

\$129⁵⁰



Cat D-1437

P&T APPROVAL NO: RB249100

**\$50 LESS THAN PRICE
TWO YEARS AGO!!!**

SUPER JAGUAR: 18 CHANNEL SSB

If you want the greatest range, the clearest signal, the best quality, your transceiver has to be a 'single side band' type (SSB). SSB is technically much superior to conventional 'AM' sets, because most of the power the transmitter puts out is actually used. In an AM set up to 2/3 is wasted. SSB sets may cost a little more – but then again, if you want the best, you always have to be prepared to pay a little extra . . .

You'll have to go a long way to match this value! Fantastic Super Jaguar gives you all the power, all the punch you need for those distant stations, yet remains one of the easiest transceivers to operate. And the really good news is that the Super Jaguar is tiny – only 150 x 210 x 55mm. It's small enough to suit even the smallest cars on the market! No more unsightly, ungainly transceivers looking out of place: they belong to yesterday!



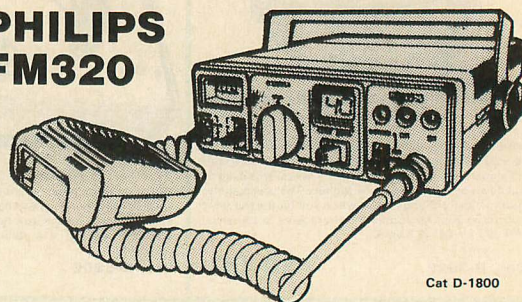
\$219⁰⁰

Cat D-1710

P&T APPROVAL NO: RB249183

FULLY APPROVED UHF 40 CHANNEL CB . . .

PHILIPS FM320



Cat D-1800

**A WHOLE NEW WORLD
OF COMMUNICATION:
UHF CB!**

\$346⁰⁰

P&T APPROVAL NO: RB250002

Escape . . . far from the madding crowd . . . to the quiet world of UHF. Even though UHF CB was legalised a few years ago now, still the channels are virtually free of the noise and jamming of the HF CB bands. So communication is clearer, easier, better . . . on UHF.

The FM320 is not just for the 'chatter' brigade. Many business, particularly outside the cities, are using UHF CB for business communications – at a considerably lower price than an equivalent commercial two-way installation.

Whether you buy your UHF CB for business or pleasure, you can be assured of its quality and reliability. It comes from the world-wide Philips organisation – who pioneered UHF CB in Australia. The Philips FM-320 UHF CB radio features a full 40 UHF channels, with push-button up/down channel scanning (makes changing channels much easier while mobile – the scanning button is repeated on the easy-grip microphone!) This outstanding transceiver will fit into virtually any vehicle: it operates from 11 – 15V positive or negative earth, and it measures just 160(w) x 55 (h) x 200(l) mm (weight 750g).

40 CHANNEL CB . . .

NOTE: These transceivers cannot be licensed, nor used legally, in Australia. They are ideal for export, experimental use, repairs/spares, amateur conversion to 10 or 6 metres, etc etc.



Cat D-1445

MIDLAND 100M

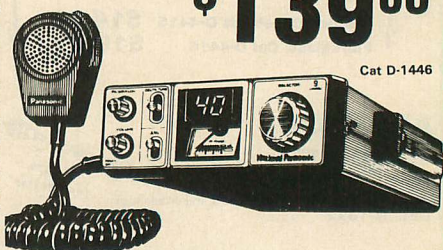
World-famous Midland brand in a sub-compact package. This set is only 200 x 50 x 130mm – almost as small as many hand-helds! Hide it away in your glove-box, etc, so you won't attract attention. It covers the full 40 channels, and is a delightfully simple set to operate. Bright LED display, latest style microphone.

\$129⁰⁰

NATIONAL PANASONIC RJ3150:

We bought a bulk shipment of these famous National CB's at a special price. It features a large, easy-to-read signal strength/power meter, digital display plus delta tune & ANL. It's a real performer, from one of the largest electronic manufacturers in the world.

Note: this set may be supplied as either a 40 channel or a 9 channel: if a nine, a simple two minute modification (no wiring, soldering or electronics knowledge required) will change it back to 40: you simply remove a couple of screws, take off the cover and remove a plate from the channel selector shaft. Full instructions are supplied



Cat D-1446

\$139⁰⁰

STALKER VIII

The Stalker VIII AM set is made by American Electronics – one of the largest names in CB in the USA. Has 'TX' or modulation light, and a slim-style microphone that's very easy to hold (remember the famous 'Hy-Range 5' CB back in the good old days . . . Same microphone!) Comes with mounting kit and full instructions. Compare our prices!



Cat D-1447

\$139⁰⁰

STALKER IX SSB

We were extremely lucky to get these sets: SSB is nowhere near as popular in the USA as it is here! The super Stalker IX (made by American Electronics) is really an incredible bargain, especially when you consider our 18 channel CB's were selling for a similar price twelve months ago!

The Stalker IX has everything you'd want from a transceiver: auto noise limiter & blanker (ANL & NB), a bright/dim switch, plus an RF gain control. A super transceiver – at a bargain price!



Cat D-1712

\$199⁰⁰

CB RADIO REPLACEMENTS & SPARE PARTS REPLACEMENT SEMICONDUCTORS:

2SC1096 Transistor	Z-2500	\$1.50
2SC1306/2SC2166 output transistors	Z-2501	\$4.50
2SC1307/2SC1969	Z-2502	\$6.50
TA72050 General Purpose CB Audio IC	Z-2503	\$4.50
TA7214P CB Audio Power IC	Z-2504	\$7.00
PLL02A phase-locked-loop IC	D-9003	\$7.50

Telescopic Whip Antenna



Ideal replacement whip for hand-held CB's, portable radio sets, etc.
Cat L-4902 . . . **\$3.95**

DC POWER LEADS:

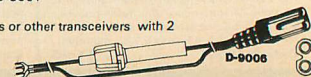


D-9001

DC Power lead for Midland transceivers (suitable for a huge range of other transceivers with 3 pin plug). Cat D-9001

DC power lead for Dick Smith transceivers or other transceivers with 2 pin plug. Cat D-9006

\$2.50 each



D-9006

27MHz TWO WAY RADIO FOR SMALL BOATS

ALL SETS FULLY APPROVED FOR 27MHz MARINE BAND OPERATION

Anyone who owns a boat needs a two-way radio. There can be no argument about that. But radio for small boats has been expensive – until the Government changed the rules and allowed small craft to operate in the 27MHz marine band. Now there are thousands of craft right around Australia equipped with radio – ready to hear your call for help. 'It will never happen to you . . .' **DON'T YOU BELIEVE IT!**



SIZE ONLY
162 x 200 x 57mm!

FULLY APPROVED
Cat D-1407

MIDLAND 100M MARINE 7 channels – with room for more!

The Midland 100M Marine transceiver is small enough to fit in just about any craft (we haven't seen one on a Windsurfer yet!) and is incredibly simple to operate. Just connect to your 12 volt boat power, connect a suitable antenna to the output jack on the back – and it's ready to go. Operates on all the currently available marine channels, with built-in capability for up to five more: there's no way this will become obsolete!

This set does not use plug-in crystals like many older marine transceivers. Instead, all 7 channels are obtained via a microcircuit 'phase locked loop', giving outstanding frequency stability. It is this microcircuit which also allows for future expansion.

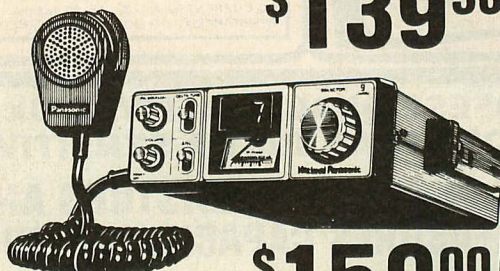
Each set supplied with mounting bracket, microphone, DC power lead and instructions.

\$139⁵⁰

NATIONAL RJ-3150 M

Another version of this world-famous transceiver: the National RJ-3150M 27MHz marine two-way transceiver. All the features of the 40 channel version – switchable delta tune and automatic noise limiter, brilliant power and signal strength meter, LED channel readout, etc – but this one is made to operate on the 7 marine channels between 27.860MHz and 27.960MHz. And there's also room for future band expansion in this set – up to 5 extra channels. Comes with mic, bracket, power lead & instructions.

Cat D-1410



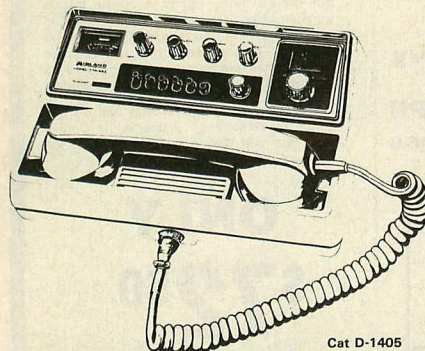
\$159⁰⁰

MIDLAND'S SUPERB 963M

Imagine how this would look on the bridge of your boat – or even under the seat of your row boat! It's Midland's outstanding 963M: a specially produced transceiver for the 27MHz marine band. True professional style operation with a telephone-type handset, with your choice of earpiece (private) or inbuilt speaker (public) listening. Apart from looking great, there's another outstanding feature of this Midland: it has a built-in SWR meter. So you can tell straight away if you have any problems in your antenna or lead – catching troubles before they catch you! There's also an RF gain control: you can cut down the signal received if there's another boat almost alongside.

LIMITED
QUANTITIES
ONLY!

\$169⁰⁰



Cat D-1405

NEW ZEALAND CUSTOMERS...

You haven't been forgotten! We have this superb National which has been tested and approved by the New Zealand Post office for use on the New Zealand CB band. We've modified every set in our laboratories so it cannot operate on more channels than allowable, nor with higher power. Each set carries our full 90 day guarantee – just in case!

If you're visiting Australia, you can buy this set to take 'home' free of Australian duty & sales tax

- Covers full 26.425 – 26.750MHz NZ CB Band
- 4W maximum power output
- LED channel readout
- Up to channel 14 available for approved users
- Has delta tune control, auto noise limiter & signal strength/power meter

FULLY APPROVED BY THE
NEW ZEALAND POST OFFICE



Cat D-1433

\$149⁰⁰
PLUS AUSTRALIAN
SALES TAX IF APPLICABLE

OUR SPECIAL MARINE TWO-WAY ANTENNA

'WHITE SWORDFISH'

There's simply no point in putting a two-way in your boat if you're not going to put a decent antenna in too . . .

This outstanding marine antenna features our famous 'any-which-way' base. It can be mounted on any surface (even vertically) and the antenna can be adjusted correctly. And there's a quick release lever to lower the antenna for bridges, trees, marinas, etc etc.

The antenna itself is made of tough, resilient fibreglass. This type of antenna can be used on any vessel – it does not need a metal 'ground plane' as some other types do. It is tuned with a simple in-line adjusting unit which gives peak performance. It comes complete with co-axial cable, already fitted with a PL-259 plug to connect straight into your two-way radio. Incredible value for such a fine antenna.

COMPLETE ANTENNA:
(Inc. deluxe base, whip
antenna & tuning box)
Cat D-4071

\$49⁰⁰

DELUXE BASE
ONLY:

Use this base with any 3/8"24TPI whip
antenna. (Spare whips available)

\$19⁵⁰

Cat D-4057



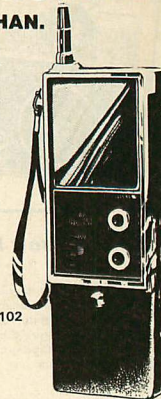
HAND HELD MODELS

DICK SMITH 1 WATT 3 CHAN.

For the weekend boatmen who don't want the more expensive full power transceivers, but who still need that reassurance of having a safety transceiver on board. Three channels, one fitted with 27.240MHz, the others left blank for your own choices. Crystals are very reasonably priced (see below) and are very easy to fit: they just plug in! This set will take 8 ordinary 'AA' or 'penlight' batteries, or 10 re-chargeable 'NiCad' batteries.

\$49⁵⁰

Cat D-1102

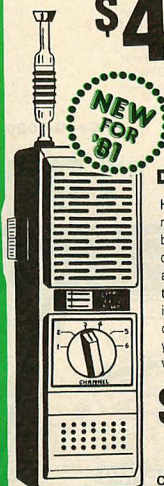


DICK SMITH 5 WATT 6 CHAN.

Here's a brand new transceiver offering the maximum legal power on the 27MHz marine band (5 watts) and a choice of up to six channels (unit is supplied with 27.88MHz already fitted). This transceiver offers you all the power of the fixed type, but you can take it home with you when you leave the boat. It operates on 12 volts, from either batteries or your boat's power (it has a socket to take 12 volts input). A real work-horse.

\$120⁰⁰

Cat D-1123

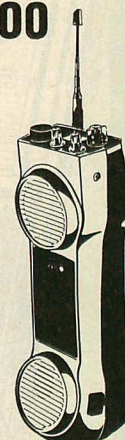


'APOLLO' 5 WATT 6 CHANNEL

One of the smartest looking sets around – and one of the most versatile. It features full legal output, up-to-the-minute electronics and a very smart appearance. Plus! This transceiver accepts external power, an external antenna (you can use the 'White Swordfish' below) plus an external microphone, if you wish, for increased clarity. (Takes standard 4-pin microphones) So with the Apollo you can have all the features of the 'built-in' sets, but retain complete portability. Each of the input connection points is covered to prevent water or moisture ingress, and it comes with a thick webbed carry strap. Outstanding!

\$120⁰⁰

Cat D-1122



HAND-HELD XTALS:

Standard transmit/receive pairs for the popular 27MHz marine channels. Simply plug into the hand-held (also suit older style in-dash transceivers).

ALL
\$5⁰⁰ PR



27.240 D-6024	27.880 D-6088	27.910 D-6091
27.270 D-6027	27.890 D-6089	27.940 D-6094
27.860 D-6086	27.900 D-6090	27.960 D-6096

SPECIAL 'HI-SIDE' RECEIVE ONLY XTALS

Some sets are prone to interference from hospital paging stations, 27MHz CB band, etc. By fitting 'hi-side' receive crystals (leave the transmit crystal as is) you effectively move further away from the source of interference. Note: ALL receive channels must be changed. You cannot have a mixture of 'hi-side' and conventional low side crystals in the one hand-held.

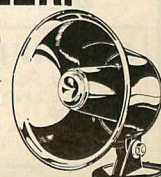
27.880 D-6123 27.900 D-6125 27.910 D-6126 **\$5⁰⁰ EA**

USE YOUR TWO-WAY AS A LOUD HAILER!

Many two-way radios have a 'PA' jack: by plugging in a horn speaker you can use it as a loud hailer. This horn speaker is ideal: 8 ohms impedance (matches the transceiver) and is highly efficient (for maximum 'shout power'). Complete with mounting base, cable & 3.5mm plug to match transceiver.

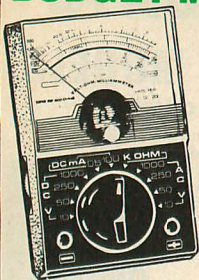
Cat C-2705

\$9⁵⁰



MULTIMETERS

BUDGET MULTIMETERS



POCKET MULTIMETER - FOR BEGINNERS & HANDYMEN

A fantastic multimeter for anyone starting out in electronics - and just as useful for those often-made checks around the house, car, etc. Is there power getting to that power point? Is that globe blown? etc. etc. - This is the multimeter to do it. Economical, reliable, and very simple to operate. Size is just 92 x 60 x 30mm, and it weighs only 168g.

WHY NOT BUY TWO: ONE FOR THE GLOVEBOX AND ONE FOR THE KITCHEN DRAWER!

AC & DC VOLTAGES: 10, 50, 250, 1000 (2k/V)
DC CURRENT: 0.5, 100mA
RESISTANCE: x1k (4.8k centre scale)

\$12⁵⁰

Cat Q-1010

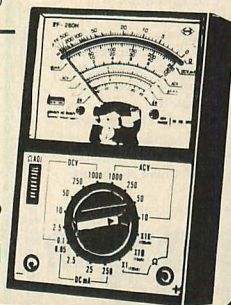
20kohm/volt MULTITESTER

It may be a budget multimeter, but this one has top performance for the price: an amazing 20,000 ohms per volt and its under \$20.00! Huge, easy-to-read scales with 20 ranges! Size is only 130 x 90 x 38mm, weight just 270g. Comes complete with batteries, test leads & instructions.

DC VOLTAGES: 0.1, 2.5, 10, 50, 250, 1000
AC VOLTAGES: 10, 50, 250, 1000
DC CURRENT: 0.05, 2.5, 25, 250mA
RESISTANCE: x1, x10, x1k (20, 200, 20k mid.)

\$19⁵⁰

Cat Q-1020



HANDYMAN MULTIMETER

- 34 RANGES!
- 20,000 ohms per volt
- Diode protected movement

If you're into electronics, whether as a hobby or as a business, and you want an economical, reliable multimeter which will do all normal measurements, this has got to be the one! We've sold thousands of these to students, to amateurs, to hobbyists, to technicians... even the repairmen who come in to fix our photocopiers and other plant use them!

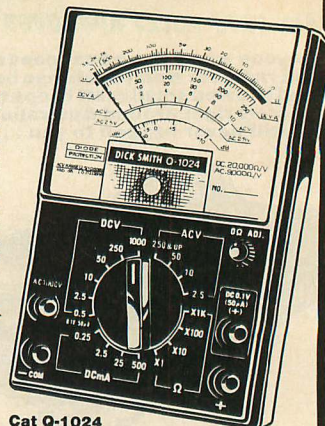
The Q-1024 is robust, offers high sensitivity, and is very easy to use with minimal error because of its large, mirrored scale. It uses the large 4mm 'banana'-type plugs, which give much more reliable connection, and aren't as liable to break off with rough treatment. And because the movement is diode protected, all a boo-boo is likely to cost you is a couple of diodes - not a whole new meter!

Comes complete with batteries, test leads and instructions.

OUR BIGGEST SELLER!

SPECIFICATIONS

DC VOLTAGES: 0.1, 0.5, 2.5, 10, 50, 250, 1000 (20k)
AC VOLTAGES: 2.5, 10, 50, 250, 1000 (9k)
DC CURRENT: 50uA, 0.25, 2.5, 25, 500mA
RESISTANCE: x1, x10, x100, x1k (5k, 50k, 500k, 5M)



Cat Q-1024

\$29⁵⁰

PROFESSIONAL QUALITY: 100k OHMS PER VOLT. MORE THAN JUST A SENSITIVE MULTIMETER...

IT CHECKS TRANSISTORS AND MEASURES CAPACITANCE TOO!

- High input impedance: 100k/ volt!
- Super sensitive 8.5uA movement
- Rugged, accurate & reliable
- Ideal for the workshop, laboratory or classroom.
- Checks transistor h_{FE} ; I_{CO} ; PNP/NPN
- Built in oscillator gives two ranges of capacitance!

SPECIFICATIONS

DC VOLTS: 250mV, 2.5V, 10V, 50V, 250V & 1000V (100k/V)
AC VOLTS: 5V, 10V, 50V, 250V, 1000V (10k/V)
DC CURRENT: 10uA, 2.5mA, 25mA, 500mA, 10A (250mV)
AC CURRENT: 10A DECIBELS: -10dB, +16dB, +62dB
RESISTANCE: x1, x10, x1k, x10k (centre scales 20, 200, 20k, 200k)
TRANSISTORS: h_{FE} 0 - 1000, I_{CO} 0 - 50uA
CAPACITORS: 50pF - 3uF, 0.01uF - 50uF

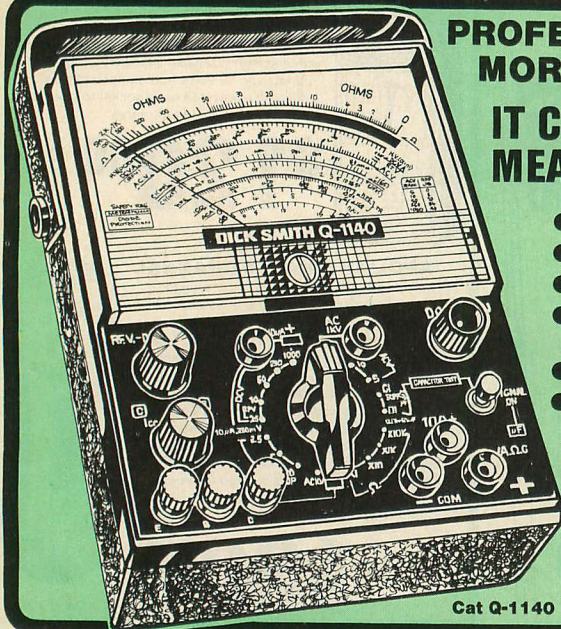
This is virtually a complete test bench in one small package...

Firstly, there's an ultra-high sensitivity multimeter. It features both fuse and diode protection of the movement. And because the meter is larger, the scales are much more easily read. And there's a mirror to help eliminate parallax errors.

But there's more: much more! An inbuilt transistor oscillator allows you to measure capacitance - in two ranges. From 50pF up to 50uF! There's also a transistor checker: you can measure gain and leakage on both NPN & PNP types, as well as check diodes.

If you want a multimeter that will do just about everything... this is it! Comes complete with batteries, test leads & full instructions.

**ONLY
\$72⁵⁰**



Cat Q-1140

HIGH IMPEDANCE M'METER

FET INPUT: 10 MEGS IMP

For the professional who wants the lowest circuit loading... you want the highest input impedance. This FET input multimeter gives you a massive 10M input impedance on DC volts, and a highly respectable 1M on AC volts. It features a reversing switch (saves you having to switch leads!) and the meter is diode protected. There is a centre zero range, too - for plus & minus voltages. It requires a 9V & 1.5V batteries (supplied), and also comes with leads & instructions.

**ONLY
\$69⁵⁰**

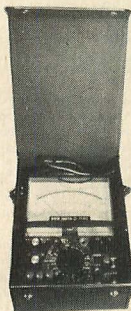
Cat Q-1200

SPECIFICATIONS

DC VOLTAGE: 250mV, 2.5V, 10V, 1000V (10M)
AC VOLTAGE: 2.5V, 10V, 50V, 250V, 1000V (1M)
DC CURRENT: 25uA, 2.5mA, 25mA, 250mA
RESISTANCE: x1, x10, x100, x1k, x10k (5k, 50k, 500k, 5M & 500M)
DECIBELS: -20 to +62dB

**25
RANGES
(plus reversal)**

METER CARRY CASE



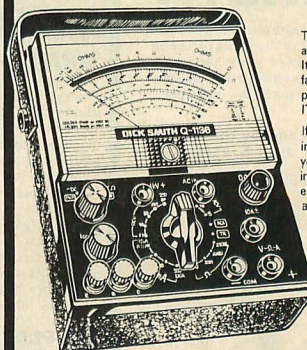
SUITS MODELS
Q-1136, Q-1140
and Q-1200

More than just protection for your valuable meter. It keeps your leads & instructions tidy, gives you room to store notes, circuits, etc. And it looks good!

WAS \$17.50 2 YEARS AGO!!

NOW \$14.50
Cat Q-1137

TRANSISTOR CHECKER/ MULTIMETER: 100k/V



Cat Q-1136

This multimeter is similar to the Q-1140 above, but there are a few differences: It doesn't have the capacitance checking facilities, nor does it have a 250mV DC position. Now for the good news:

IT'S CHEAPER!!!

If you don't need to measure capacitors (for instance, you might have an AC Bridge), you can save \$15.00 by buying this model instead of the Q-1140. Otherwise, everything else is pretty much the same: features, accessories, etc...

Isn't a \$15.00 saving worth making?

**ONLY
\$57⁵⁰**

SPECIFICATIONS

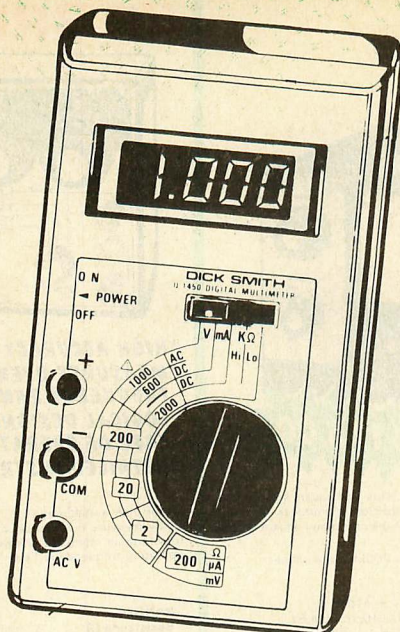
DC VOLTAGES: 0.5, 2.5, 10, 50, 250, 1000V (100k/V)
AC VOLTAGES: 5, 10, 50, 250, 1000V (10k/V)
DC CURRENT: 10uA, 25uA, 0.5mA, 5mA, 50mA, 500mA, 10A
AC CURRENT: 10A DECIBELS: -10 to +62dB
RESISTANCE: x1, x10, x1k, x10k (20, 200, 20k, 200k centre scale)
TRANSISTORS: h_{FE} 0 - 500; I_{CO} 0 - 50uA

**NEW
FOR
'81**

3.5 DIGIT LCD DISPLAY DIGITAL MULTIMETER

**UNDER
\$80.00!!!**

SIZE APPROX
90 x 170 x 25mm



We searched the world to find this superb 20 range digital multimeter . . . now we're proud to offer it to Australian hobbyists, technicians and engineers. It offers exceptional performance, together with a highly legible liquid crystal display for very low power consumption. And unlike most other digital multimeters on the market, this model has overload protection - so you won't 'cook' it if you make a few errors! It's very easy to use, and will give years of reliable service.

SPECIFICATIONS:

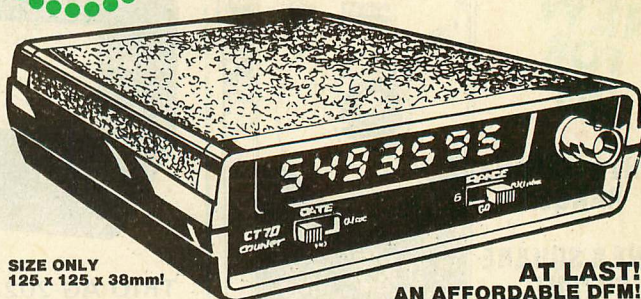
DC VOLTAGES: 200mV, 2V, 20V, 200V & 600V
AC VOLTAGES: 200V, 1000V
DC CURRENT: 200uA, 2mA, 20mA, 200mA
RESISTANCE: 200 ohms, 2k, 20k, 200k, 2M
ACCURACY: Plus & Minus 0.8%
POWER REQUIREMENTS: Single 9V battery (supplied)

\$75⁰⁰

Cat Q-1450

**NEW
FOR
'81**

600MHz 7 DIGIT DIGITAL FREQUENCY METER - UNDER \$200!



SIZE ONLY
125 x 125 x 38mm!

**AT LAST!
AN AFFORDABLE DFM!**

Sounds impossible to believe! Who could have imagined, even a few short years ago, that you would be able to buy a 600MHz digital frequency meter for less than \$200.00?

Incredible advances in large scale integration (LSI) IC's have made this counter possible. In a package that easily fits in the palm of your hand is all the electronics that until now would have occupied a large, rack-mounting case - if it could be done at all!

In this package, you get a full 7 digit counter, with variable gating times and 3 ranges - 6MHz, 60MHz and 600MHz. It is battery operated, so you can take it anywhere. A standard co-axial type socket connects your probe to the counter.

Despite its tiny size and very light weight, this counter is NOT a toy: it is an accurate piece of test equipment that every hobbyist can afford!

SPECIFICATIONS:

RANGES (FULL SCALE): 6MHz, 60MHz & 600MHz
SENSITIVITY: less than 50mV (6 & 60MHz ranges)
less than 150mV (600MHz range)
RESOLUTION: 1Hz on 6MHz, 10Hz on 60MHz, etc
INPUT IMPEDANCE: 1M/20pF (6MHz & 60MHz)
50Hz (600MHz range)
POWER REQUIREMENTS: 8-15V AC or DC @ 250mA

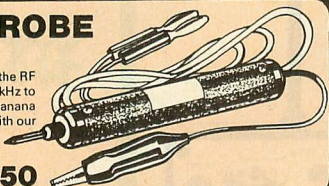
\$199⁰⁰

Cat D-3000

MULTIMETER ACCESSORIES

MULTIMETER RF PROBE

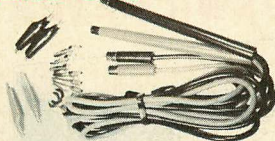
Extend the useful range of your multimeter way up into the RF region with this neat probe. Frequency response is 150kHz to 30MHz (ref. 500kHz), comes equipped with 4mm banana plugs for direct multimeter connection. Ideal for use with our Q-1140, Q-1136, Q-1200 or Q-1024 multimeters.



Cat Q-1138

\$14.50

UNIVERSAL 16 PIECE METER LEAD SET



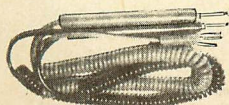
This set has everything you'll need for your multimeter. You get a pair of red & black test leads, with screw-in connectors on each end. Into these, you screw any of the 14 adaptor probes & plugs: 4 x 4mm plugs, 2 x 1.5mm meter plugs, 2 long probes, 2 spade lugs & 14 insulated alligator clips. As you can see, it is suitable for any meter, and is truly versatile. High quality - and cheaper than other sets on the market.

Cat W-4526

\$5.50

COILED TEST LEADS: SELF RETRACTING

You know the problem of meter leads cluttering up the bench? It won't happen with these leads: they're coiled, and return to their coiled shape after being extended. A red & black pair with 1.5mm meter plugs.



Cat W-4520

\$2.95

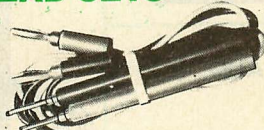
1.5mm PLUG TEST LEAD SETS

As supplied with most multimeters (and which are always getting lost!) 90cm long red & black leads with 1.5mm meter plugs, long insulated probes.

Cat W-4504

\$1.75

4mm PLUG TEST LEAD SETS



As above, but with 4mm banana plugs to suit larger dia. multimeter sockets.

Cat W-4508

\$1.95

IC TEST CLIP LEADS



Great for working with IC's (or any other components!) With insulated IC test clips (see right) one end, 4mm banana plugs on other. Leaves hands free while measuring.

Cat W-4509

\$3.50

TEST CLIPS, JUMPERS, ETC

ALLIGATOR CLIPS - MINI

Fully insulated with plastic shroud, easy to solder to. Two colours available:

RED: Cat W-4550 **20¢ ea**
BLACK: Cat W-4552 **10 up 15¢ each**

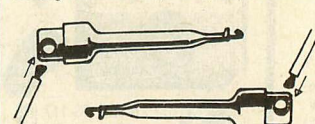
ALLIGATOR CLIPS: LARGE

With red or black insulated grips

RED: Cat W-4554 **30¢ ea**
BLACK: Cat W-4556 **10 up 20¢ each**

IC TEST CLIPS

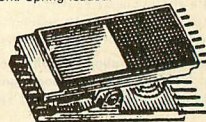
Similar to the popular E-Z hooks, but cheaper. Ideal for working with small components; easy to solder to.



RED: Cat W-4580 **95¢ ea**
BLACK: Cat W-4582 **10 up 75¢ each**

16 PIN IC TEST CLIP

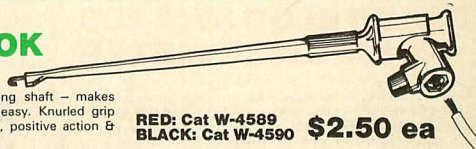
Makes connection to any DIL IC easy - without the danger of shorting out pins. Use on 8, 14 or 16 pin IC's. Often used as part of a test jig for production testing or service work. Spring loaded.



Cat W-4600 **\$3.50**

MIYAMA HOOK PROBE

With a 'spring' action and a long shaft - makes connection in tight corners very easy. Knurled grip screw for instant lead attachment, positive action & sure grip for all of your test work.



RED: Cat W-4589 **\$2.50 ea**
BLACK: Cat W-4590

JUMPER LEAD SET

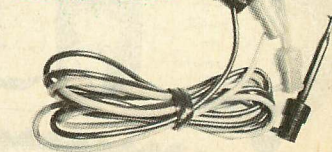
**10
LEADS**

Makes breadboarding easy! 10 380mm leads, with alligator clips each end. 5 different colours for easy identification.

Cat W-4570

\$2.95

IC JUMPER LEAD SET



A pair of red & black leads, one metre long, with matching IC test clip at each end.

Cat W-4572

\$3.80

SIGNAL GENERATORS

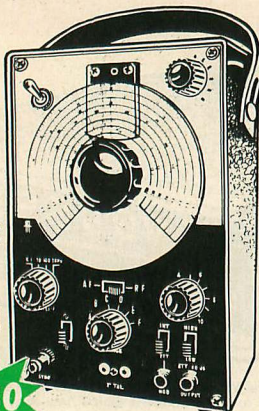
WIDE RANGE AF/RF SIGNAL GENERATOR

NEW FOR '81

18Hz - 200MHz RANGE!

SINE & SQUARE OUTPUT!

\$149.50



Two instruments in one! This new wideband signal generator is ideal for the service technician, development laboratory, the amateur and the hobbyist. Solid state, compact and light-weight, it gives you a selectable sine wave or square wave at any frequency from 18Hz to 200MHz. Supplied with co-ax output cable; 240V operated.

Frequency range: 18Hz to 220MHz
AF Section range: 18Hz - 220kHz, sine or square
AF Accuracy: Plus or minus 2% - 1Hz
Output: Sine 10V P-P, Square 4V P-P
RF Section range: 100kHz - 50MHz on 6 fundamental bands, 50MHz - 200MHz on harmonics plus/minus 0.05% with calibrator
200(H) x 130(W) x 100(D) mm

Cat. Q-1305 **\$149.50**



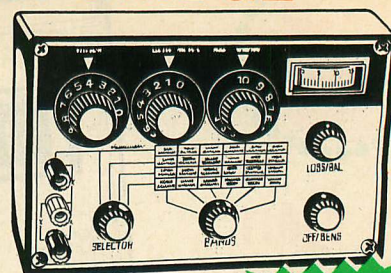
TRIO AG-202A

The AG-202 is a Wien bridge CR-type, sine and square wave audio signal generator. All solid state in construction, it produces excellent sine waves instantly with a minimum of distortion and square waves with fast rise time.

Frequency ranges: 20Hz to 200kHz in 4 ranges
Frequency accuracy: $\pm 3\%$
Sine wave characteristics:
Output voltage: 10V rms $\pm 10\%$
Distortion: 0.5% at 50Hz to 100kHz
1% at 20Hz to 200kHz
Square wave characteristics:
Output voltage: 10V p-p
Overshoot: 3%
Sag: 10% at 20Hz
Output impedance: 600 ohms
Output attenuation: High/Low (40dB) & variable control
Drift with line voltage: $\pm 10\%$ (variation)
Freq: $\pm 0.5\%$ Level: ± 0.5 dB
External synchronization:
Synchronization voltage: 1V/V approximately
Maximum input voltage: 3V rms
Input impedance: 10k ohms

Cat. Q-1220 **\$175.00**

AC BRIDGE



***HIGH ACCURACY**
***MEASURES OVER WIDE FREQUENCY RANGE**
***LOGICAL DESIGN ENSURES EASE OF OPERATION**
***DETAILED INSTRUCTIONS**

\$79.50

Better than a multimeter... With a bridge, you can accurately and easily measure inductance, capacitance, resistance, turns ratios on transformers, compare unknown components, etc etc. Easy to use - operating frequency is 1kHz (supplied by internal oscillator).

RANGE
Resistance (R) 0.1 ohm - 11.1M ohm
Inductance (L) 1uH - 111H
Capacitance (C) 10pF - 1110uF
1000pF - 111uF
Turns ratio (T) 1/10000 - 1:11100
Power requirement 1 x 9V dry battery (Cat. S-3006)
Weight 1kg
Dimensions 128 x 182 x 75mm

Cat. Q-1420 **\$79.50**

COMMUNICATIONS INSTRUMENTS

CITIZEN'S BAND 27MHz TX/RX TESTER

TREMENDOUSLY VERSATILE, COMPACT AND COMPLETELY PORTABLE - IDEAL FOR MOBILE USE.

This test set has been specially developed for the serviceman to facilitate the location of faults in hand held transceivers, etc. It can also be used on base stations up to 5 watts.

Just look at what it'll do.

1. Measure power output up to 5W.
2. Standing Wave Ratio, VSWR from 1:1 to 1:3
3. Modulation percentage 0 - 100%
4. Relative field strength
5. Generate 27MHz rf for receiver tuning
6. Check crystal activity
7. Generate af modulated 27MHz
8. Generate 1000 Hz for audio testing
9. Act as a dummy load for testing transmitters up to 5W

This portable unit is supplied with comprehensive instructions, test leads and telescopic antenna. Now anyone can tune up their own set and save a fortune on service.

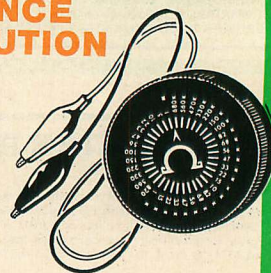
Cat. Q-1380 **\$49.50**

STILL \$49.50
\$10 LESS THAN '77/'78 PRICE



RESISTANCE SUBSTITUTION WHEEL

\$5.95

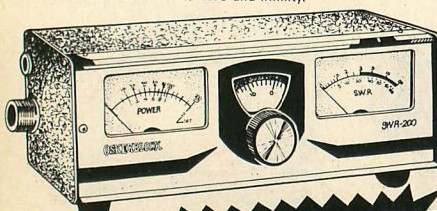


Convenient size with large, easy to read value selection that enables you to select values from 5 ohms to 1M ohm in 36 steps using most common divisions. Complete with leads and insulated crocodile clips.

Cat. Q-1410 **\$5.95**

OSKER BLOC SWR 200 SWR/POWER METER

A truly professional instrument for the keen amateur. Uses the THROUGH-LINE principle. Covers 3MHz to 200MHz (guaranteed) with in-built changeover for 52 or 75 ohms UHF connector. Each unit is individually calibrated with its calibration chart attached to the instrument. Four power ranges cover 0-2W, 0-20W, 0-200W and 0-2kW. Measures VSWR 1:1 to 1:10 and infinity.



TOP QUALITY
\$89.50

JOIN THE PROFESSIONALS!

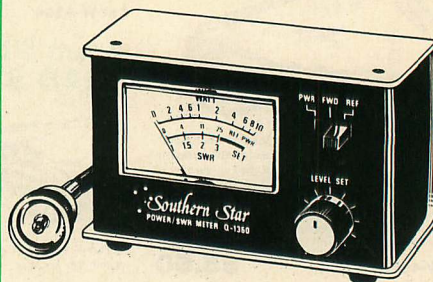
SPECIFICATIONS:
SWR METER.
Type: Directional coupler
Ratios: 1:1 to 1:10 & infinity
Frequency ranges: 3MHz to 200MHz/5W @ 21/28MHz (FSMP)
Impedance: 75 or 52 ohms
100W @ 3.5MHz (FSMP)
50W @ 7MHz (FSMP)
15W @ 14MHz (FSMP)
0-2W, 0-20W, 0-200W @ 50/144MHz (FSMP) - Full scale minimum power

POWER METER
Type: Through Line
Power Ranges:
0-200W, 0-2kW @ 3.5/7MHz
0-20W, 0-200W, 0-2kW @ 14/21/28MHz
0-2W, 0-20W, 0-200W @ 50/144MHz
Accuracy: 15% @ SWR 1:1 Dial setting zero
Safety Rating: 2kW @ SWR 1.1 - 1
750W @ SWR 1.5 - 1
200W @ SWR 3.0 - 1

Meters Sensitivity: 90uA DC.
Connectors: UHF type (SO-239)
Dimensions: 76(h) x 110(d) x 220(w)mm Weight: 1.25kg.

Cat. Q-1340 **\$89.50**

POWER/SWR METER



The function of this unit is to measure the output power of a CB transmitter and the matching conditions between transmitter and antenna. Superb to look at and functional, the unit comes complete with approximately 76cm of coax ready connected with a standard PL-259 plug for direct coupling to the transmitter. There is also a standard SO-239 socket to accept the antenna coax and PL-259 plug. Also included is a mounting bracket for installation in your mobile, so that the meter may be left in circuit for constant monitoring. Measurements are easy with a single slide switch for Power/Forward/Reflected and a calibration control. A large easy to read meter gives direct SWR and Power readings.

Measuring Power: 10W full scale
Frequency Response: 27MHz (CB Band)
SWR Indication: 1.0 - 3.0 and above
Impedance: 50 ohms
Dimensions: 98(w) x 62(h) x 46(d)mm
Weight: approximately 300 grams

Cat. Q-1350 **\$19.50**

DICK SMITH 6.5MHz 75mm LABORATORY CRO

What a success story! In the twelve months since we introduced our own laboratory oscilloscope, we have sold over **ONE THOUSAND** of them! Obviously, there must be some reasons for this success: here are just some of them...

- Retrace blanking: gives a much clearer display
- Lower threshold triggering: less than 1/2 division at 5MHz
- Sharper focus - especially at high frequencies
- Fibreglass pcb
- Colour coded input terminals
- AND A USEABLE RESPONSE TO BEYOND 6.5MHz!

SPECIFICATIONS:

Usable bandwidth: DC to 6.5MHz plus
Vertical deflection sensitivity: 10mV per division
Horizontal deflection sensitivity: 500mV per division
Time base sweep frequency: 10Hz to 100kHz in 4 ranges
Synchronisation: Internal & External
Size: 202(w) x 160(h) x 306(d) mm
Weight: Approx 3.8kg

This oscilloscope is ideal for the laboratory, the classroom, in field service, in bench service, in assembly centres and, of course, in hobby applications. Solid state electronics (apart from the tube!) ensures extremely low drift and fast warm-up.

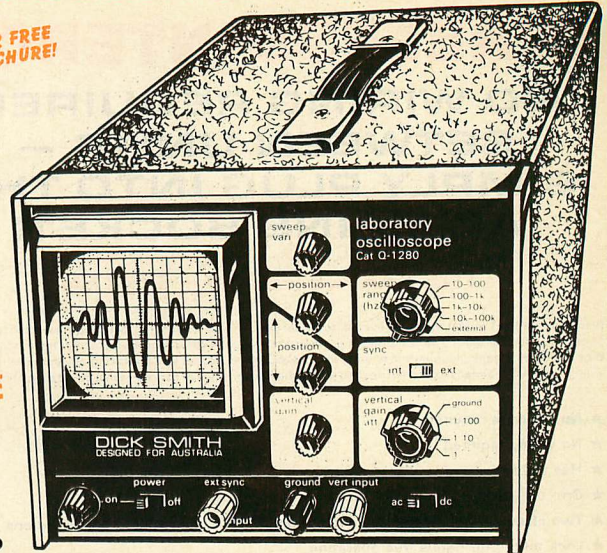
Here's what 'Electronics Australia' had to say:

'...this neatly styled little oscilloscope should be just the shot for the hobbyist who cannot afford an expensive CRO... now a CRO has been placed within the financial reach of most hobbyists... our overall impression is that it represents good value for money...'

...AN OSCILLOSCOPE EVERYONE CAN AFFORD!

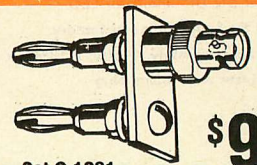
\$199⁰⁰

Cat Q-1280



DICK SMITH CRO BNC ADAPTOR

This smart little adaptor plugs into the input terminals on the Dick Smith Laboratory Oscilloscope, converting the 'banana' socket terminals to a BNC type, as used on more expensive Oscilloscopes. So the accessories from more expensive oscilloscopes can be used with the Dick Smith CRO.

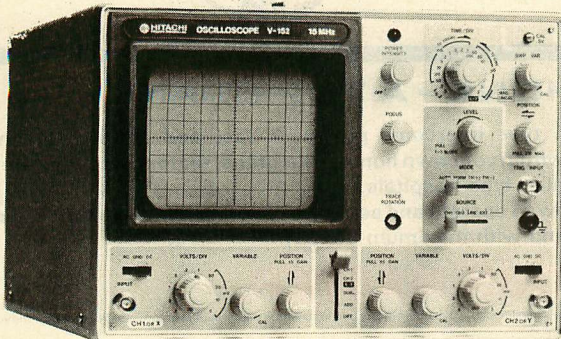


Cat Q-1281

\$9⁵⁰

HITACHI 15MHz DUAL TRACE CRO

MODEL V-152B: 125mm CRT



For the service bench, the development laboratory, the technical college, university or school - or even the serious hobbyist or amateur who simply wants a top-of-the-line CRO without breaking the bank, we now have the outstanding Hitachi V-152B 15MHz Dual Trace Oscilloscope. And it costs no more than previous CRO's we've sold which didn't have anywhere near the number of features of the Hitachi V-152B:

- Extra high sensitivity: up to 1mV/div (with x5)
- TV Sync-separator circuit for rapid video measurement
- 5 display modes: CH1, CH2, or dual, add & difference
- Trace rotation via front panel control
- Colour-coded panel layout for operating ease
- Z-axis input: use as CRT display
- One-touch 10x sweep magnifier
- One-touch wave-form shifting
- Very convenient X-Y operation
- Built-in delay line for fast rising waveforms

DETAILED TECHNICAL BROCHURE AVAILABLE - JUST ASK!

Hitachi Oscilloscopes are made in Japan to exacting standards by Hitachi Denshi Ltd. They are unequalled for reliability, operating ease, technical features & economy. You can confidently buy Hitachi test instruments and expect year after year of trouble-free use.

Cat. Q-1242

ONLY \$638⁰⁰

TAX-FREE PRICES AVAILABLE FOR APPROVED TAX-FREE PURCHASERS

SPECIFICATIONS:

Vertical Sensitivity: 5mV/div-5V/div
Bandwidth: DC - 15MHz, -3dB
Rise Time: 24ns
Non-dist. max. amplitude: More than 4 div. @ 15MHz
Input R & C: Direct 1M ohm, approx. 30pF
Maximum input voltage: 600V P-P (300V AC + DC pk)
Display Modes: CH1; CH2; DUAL; ADD; DIFF
Sweep time: 0.2us - 0.2s/div; 19 calibrated steps
Internal Trigger Sensitivity: 20Hz - 2MHz 0.5 div
2 - 15MHz 1.5 div
External Trigger Sensitivity: 20Hz - 2MHz 200mV
2 - 15MHz 800mV
Power requirements: 120 - 240V, 40W
Dimensions: 275(w) x 190(h) x 400(d) mm
Weight: Approx 8kg

100MHz x1/x10 CRO PROBE

This incredibly versatile probe set, will suit virtually any CRO and give you all the features of a probe set you would pay \$\$\$\$ more for!

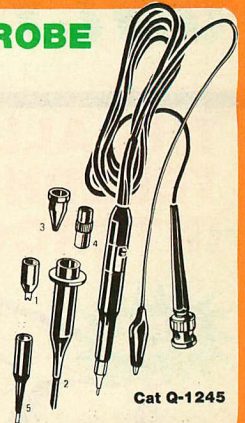
Here's what you get:

- Basic probe with inbuilt x1/x10 switch, 1.5 metres of cable, complete with co-ax type CRO connector & wandering earth lead with alligator clip.
- Plus these accessories:
- 1. IC Adaptor tip - insulates probe from adjacent IC pins
- 2. Spring clip - hooks on to keep your hands free
- 3. Insulating shroud - enables you to probe deeply into equipment without fear of shorting.
- 4. BNC Adaptor - allows you to plug straight into BNC sockets
- 5. Trimming tool - adjusts input capacitance over frequency range.
- 6. Plastic Wallet - all housed in a plastic wallet for safe keeping!

SPECIFICATIONS:

Working Voltage: 600V Pk (or 600V DC)
Bandwidth: 'x1' position: DC - 10MHz;
'x10' position: DC - 100MHz;
'x1' 1M ohm; 'x10' 10M ohm
Input resistance: 'x1' 40pF plus CRO capacitance.
Input Capacitance: 'x10' 11.5pF if CRO has 30pF input cap.
Risetime: ('x10' position) 3.5 nanoseconds
Compensation Range: ('x10' position) 10-60pF
'REF' POSITION: Probe grounded via 9M resistor; oscilloscope input grounded.

ALL THIS FOR MUCH LESS THAN YOU WOULD NORMALLY PAY FOR STANDARD OSCILLOSCOPE PROBES.



Cat Q-1245

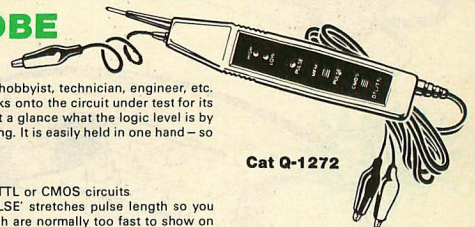
\$34⁵⁰

LOGIC PROBE

A superb time-saving tool for the hobbyist, technician, engineer, etc. This outstanding logic probe hooks onto the circuit under test for its power (5V DC), and you can tell at a glance what the logic level is by which of the three LEDs are glowing. It is easily held in one hand - so your other hand is left free!

FEATURES:

- ★ Adjustable threshold for DTL/TTL or CMOS circuits
- ★ Two modes of operation: 'PULSE' stretches pulse length so you can see pulses displayed which are normally too fast to show on LED indicators, and 'MEM': any level detected is displayed until it is reset.
- ★ Low circuit loading: approximately 30uA input
- ★ Tested to 12.6MHz
- ★ State indicated directly on probe: you don't have to refer to a manual to extrapolate results.



Cat Q-1272

\$27⁵⁰

WANT TO BUILD YOUR OWN OSCILLOSCOPE???

Well, not quite. How about an adaptor which turns any ordinary b/w or colour TV set into an audio oscilloscope? See our kit section for details of this exciting kit from Electronics Australia: it's simple to build, and it puts that old TV (the one you've got gathering dust in the corner) to good use!

This, and plenty of other interesting kits to build in the kit section of this catalogue.



TWO STATION FM WIRELESS INTERCOM

**NO WIRING REQUIRED
BETWEEN UNITS —
SIMPLY PLUG INTO THE
AC MAINS SOCKET!**

THE SIMPLE - EASY - SYSTEM

Brand new for 1981 model, with improvements on last years model. Handsome, yet unobtrusive, these units will perform as well as units costing much more and the great advantage is you can get them from Dick Smith. By simply plugging these units into the AC mains socket you are taking advantage of a wiring system that already exists! No need to rewire the house, office or factory — what could be easier?

- ★ No batteries required.
- ★ No wiring required
- ★ Has call tone
- ★ On - off/volume control
- ★ Two channels for 'master/slave' operation or two independent conversations.
- ★ Lock button for hands free operation.
- ★ Power ON/OFF indicator LED.
- ★ Ideal for home, office or factory.
- ★ Size approximately: 165(w) x 135(d) x 55(h)mm
- ★ Complete with mains plug.

Cat. F-1010 \$69.00 pair



ONLY \$34.50 EACH

THE ALL MASTER TELEPHONE STYLE INTERCOM SYSTEM

BY MYPHONE - A TOP BRAND

These telephone type intercoms provide a fast and efficient means of communicating within your own home, your office, factory etc., they are also ideal for the smaller type hospitals.

The system is easy to operate and separate conversations can be carried out simultaneously and with maximum privacy.

12 STATION MASTER

The 12 station master can have a maximum of 13 masters in any one installation with 6 separate conversations being conducted at any one time with total privacy.

6 STATION MASTER

The 6 station master can have a maximum of 7 masters in any one installation with 3 separate conversations being conducted at any one time with total privacy.

General specifications both systems:

Power consumption: 60mA at call
25mA on communication

Calling tone: Transistor oscillation

Cable requirements: Two wires plus number of stations to be installed.

SPECIAL NOTE: It is recommended that for either station system you use our power supply **Cat. M-9530** which has 3/6/9/12VDC @ 1 amp. (See power supply section). The 6 station model requires (with maximum number of stations installed) 12V DC @ 350mA min. The 12 station requires 12V DC @ 1amp. These units will also work on a battery supply, but the power supply would be highly recommended.

SPECIAL NOTE: To obtain absolute privacy on the 6 and 12 station units you must use the terminal box, Cat. F-1321 shown below.

DON'T SPEND BIG MONEY ON A PABX SYSTEM — THESE UNITS DO NOT REQUIRE A SWITCH BOARD!

12 STATION TERMINAL BOX

Can be used with 6 station as well!

To enable you to wire a 6 or 12 station system with the minimum of fuss, Dick Smith has imported this superb terminal box. The wiring to and from the box is logical and easy to do. The power supply is connected to the box. Once wired you can sit back and communicate with ease.

The box may be hidden in a cupboard or under the stairs or anywhere!

Cat. F-1321 \$59.00



12 STATION MASTER

Cat. F-1320 1-4 \$59.00 ea
5 or more \$47.50 ea

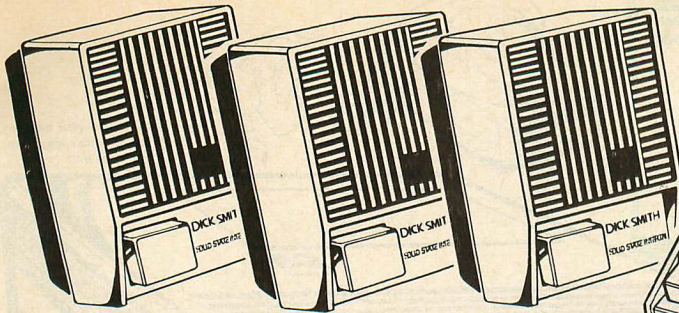
6 STATION MASTER

Cat. F-1310 1-4 \$45.00 ea
5 or more \$37.00 ea

\$59

NEW FOR '81

FOUR STATION INTERCOM



5 UP
\$33.75 each

Now is the time to put an intercom in your home – especially if you are building your home! As houses get bigger and bigger in size it is becoming a great strain on the voice, having to shout louder when trying to get someone's attention.

This four station intercom system is fully transistorised and comprises a master and three slaves. Each slave station has 21 metres of wire plus they can be wall mounted or placed on a bench or desk etc. The system is battery powered and even when the master is turned off the slaves can still call back to the master simply by pressing the call button. There is no need to press the button on a slave when talking to the master – they are 'hands free'.

This is the way to communicate between bedroom and kitchen, garage to kitchen, etc., etc.
Cat. F-1040.....1-4.....\$37.50
5 or more.....\$33.75

The economical home communication system.

TAKE ADVANTAGE OF BULK PRICES TO START YOUR OWN INTERCOM BUSINESS

MYPHONE 2 STATION TO 5 STATION

LOOK AT THESE FEATURES:

- ★ HIGH QUALITY FRENCH ISOSTAT SWITCHES
- ★ "HANDS FREE" REPLY FROM ANY STATION
- ★ MASTER TO MASTER OR MASTER TO REMOTE OPERATION
- ★ WALL OR DESK MOUNTING
- ★ INBUILT BATTERIES OR EXTERNAL 6V DC OPERATION
- ★ INEXPENSIVE
- ★ UP TO 300 METRE RANGE BETWEEN UNITS



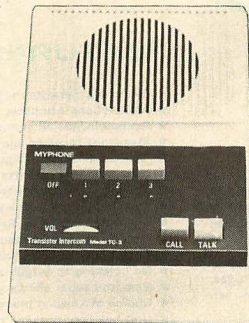
**TC-PR
REMOTE
UNIT**

\$13.50

10 UP
\$12.50 each

This unit can be used in conjunction with master units TC-3 and TC-5M and incorporates a privacy switch to prevent unauthorised listening by the master.

Cat. F-1201.....1-9.....\$13.50 ea
10 or more.....\$12.50 ea



**TC-3
MASTER**

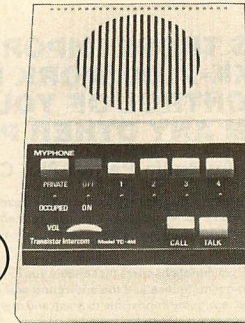
\$35.00

WITH LED CHANNEL INDICATOR

5 UP
\$28 each

This unit is used in conjunction with TC-PR remote units to make a system where the master and any remote may communicate but where remotes can not communicate with each other.

Cat. F-1230.....1-5.....\$35.00 ea
5 or more.....\$28.00 ea



**TC-5M
MASTER**

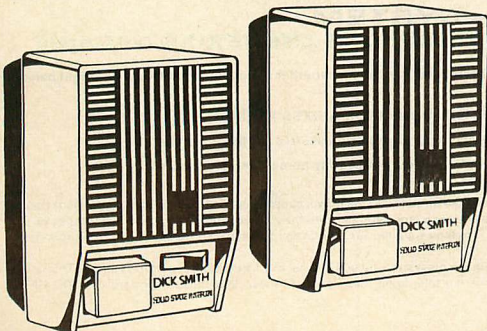
\$45.00

5 UP
\$36 each

Used in conjunction with up to four other TC-5M units giving a maximum of five 'all master' units. Requires three more wires than the total number of master units (i.e. a three station system would require six wires between each unit). Distances between units can be up to 300 metres. Also incorporates a privacy switch and the called unit can answer 'hands free'. The TC-5M system may be intermixed with TC-PR remote units so long as no more than four are connected to any one master.

Cat. F-1240.....1-4.....\$45.00 ea
5 or more.....\$36.00 ea

2 STATION INTERCOM



5 UP
\$14.50 each

\$15.95

**TOP
VALUE**

This is a highly efficient 2 station intercom that is fully transistorised and can be used over any distance up to 160 metres. Master unit has volume control and is supplied complete with slave, battery and 16 metres of connecting cable. Either station can call even if the system is turned off. Can be used in any situation, even as a baby minder between bedroom and lounge.

Cat. F-1020.....1-4.....\$15.95 ea
5 or more.....\$14.50 ea

Who's that knocking at my door?

Model TD-1A

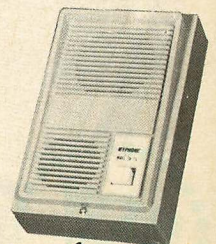
5 UP
\$10.50 each

**Be prepared with a -
DOORPHONE**

This doorphone can be used in conjunction with the Myphone master units TC-3 and TC-5M (Cat. F-1230 & Cat. F-1240). It enables you to screen callers to your home before opening the door to them. For use on the front door and why not put one on the back door as well! You can identify the call tone as being from the doorphone as it has a different tone to the TC-PR slave units.

You might believe that everyone is nice – BUT YOU NEVER KNOW!!! — BE SAFE WITH A DOORPHONE.

Cat. F-1200.....1-4.....\$12.50 ea
5 or more.....\$10.50 ea



\$12.50

WIRE

Look on page 81, WIRE AND CABLE for full information about suitable wire for intercom connection – W-2010 mini flexible speaker cable, W-2045 Rainbow cable and telephone cable W-2120 & W-2140.

ANSWERING MACHINES

UNBELIEVABLE PRICE BREAKTHROUGH

Telephone Answering
machine only **\$199⁰⁰**



How to use your beeper
to obtain messages from
the master unit.

Direct
import & latest
microprocessor
technology have
halved the cost of
telephone answering
machines

**DON'T
pay over
\$400!**

**DON'T MISS THOSE IMPORTANT CALLS
LET THE XK-2100 WORK FOR YOU —
REMOTE CONTROL OF YOUR MACHINE
FROM ANY OTHER PHONE**

Telecom Australia Permit No. C80/16/92

Traditional telephone answering units are enormously complex and expensive. In this revolutionary unit most of the components have been replaced by one 'microprocessor' integrated circuit which gives greater reliability. By purchasing this unit outright you'll probably spend less money and own the machine outright, than if you had leased a unit.

Many units (including this one) have remote beepers that enable you to retrieve messages by simply phoning your number. The beeper is held to the mouthpiece and the answering unit will rewind and playback any messages. However, with most other units it is virtually impossible to erase and rewind—not so with this machine as you can command it by beeper!

The telephone answering machine simply connects to your phone (Telecom install a socket for a nominal charge) and plugs into the power (240V AC mains). Microprocessor technology has reduced the size of this machine to 25.5 x 15 x 6cm, in fact your telephone can sit on top comfortably and it will record up to 45 messages with a standard cassette tape — other machines have special tapes costing up to \$20!!!

cat. Y-2173 **\$199.00**
Cat. Y-2174..... **REMOTE BEEPER..... \$39.00**

(COMPLETE WITH POWER SUPPLY)

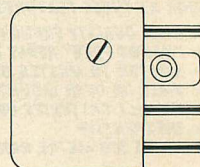


OPTIONAL BEEPER
Cat. Y-2174

**NEW
FOR
'81**

FEATURES:

- ★ Electronic cassette mechanism (patent pending)
- ★ All functions computer controlled
- ★ Acknowledges all commands
- ★ Messages received signal
- ★ "Fail safe" signal — signals if you forget to insert cassette
- ★ Uses standard cassette
- ★ Supplied with pre-recorded cassette tape — unit ready for immediate use
- ★ Supplied with microphone for personal recording of outgoing message
- ★ Computerised "Auto Record" — the computer does it for you
- ★ Monitor allows undetected screening of callers
- ★ Skip mode — automatically jumps to start of message
- ★ No listening to outgoing message. Only hear the message received
- ★ Remote beeper allows you to listen to your messages from any phone
- ★ Choice of keeping messages or resetting to fresh start, from any phone
- ★ Unit has "no message received" signal on remote call-in
- ★ Last message received signal
- ★ Signal to let you know when tape is full of recorded messages
- ★ Book size — fits under your telephone



SEE PAGE 87
FOR THE SPECIAL
'EXPERIMENTERS'
PHONE PLUG
Cat. P-5700
\$2.50

TRY IT YOURSELF - NO OBLIGATION

We are so confident of this computer controlled answering machine that we are happy for you to try it yourself for 14 days and if you are not completely satisfied, simply return it to us in its original condition and we will refund your money in full.



Call Jotter

**THE AFFORDABLE TELEPHONE ANSWERING
— SYSTEM —
EVEN MORE THAN A TELEPHONE ANSWERING MACHINE**

- ★ AS A PHONE MONITOR (screens calls so that you can decide whether or not you want to speak to that person — ideal for those of nervous disposition.
- ★ AS A DICTATION/TRANSCRIBER FOR THE MODERN BUSINESS PERSON.
- ★ AS A TAPE RECORDER — yes you can play your favourite cassettes on this machine.
- ★ USES STANDARD CASSETTES — the same as you put in your home cassette recorder.

This exciting machine connects to your telephone* and the power supply (supplied) then plugs into the AC mains. You can either use the pre-recorded message tape supplied with the machine or make your own messages up — this unit has an in-built microphone. The tape supplied can handle up to 30 calls with space to record 30 answers of 36 seconds duration each.

When not being used to record telephone messages the unit may be used for the other purposes above. This unit when used for the purpose of answering telephone messages will mean that those important calls DO GET THROUGH TO YOU.

SPECIAL NOTE: This machine is not Australian Telecom approved and therefore it cannot legally be connected to Telecom lines. The Y-2173 unit above is fully approved and therefore can be connected.

Cat. Y-2100 **\$99.00**

THE AMAZING CORDLESS TELEPHONE. . . .

NOW YOU CAN RECEIVE AND MAKE CALLS WHEN YOU'RE AWAY FROM YOUR HOME!

21st Century technology is all around us, yet you still rent a telephone that has hardly changed since the days of Alexander Graham Bell! It is now possible with this superb unit to:

- ★ Have complete freedom from trailing wires for a telephone extension in your home, office or factory. You can even use it by the pool.
- ★ Both receive and SEND telephone calls from a remote location.
- ★ Operates as a paging system as well. Use it to call the husband in from the garden for dinner!
- ★ Enjoy the convenience of push button dialling.
- ★ Use it for conference calls as it has a fairly loud output from the loudspeaker on the high volume setting. It has low volume as well, for privacy.
- ★ It has a re-dial function for numbers that are engaged - you simply push one button to re-call the last number dialled. Can re-call ISD.

The master unit simply plugs into a standard 240V AC mains outlet and the telephone wall socket. A small transmit/receive antenna is attached to the base unit. When not in use, the remote receiver/transmitter sits in a cradle built into the master base unit. The NiCad batteries in the remote unit are automatically recharged when seated in the base unit. The remote unit is simply left in a position convenient to where you are relaxing or working and when a call comes in the remote unit will ring instantly. Just think of the many locations and uses this phone can be put to and you will realise that you are indeed entering the 21st Century with the Dick Smith Cordless Phone.

Brief Specifications:

BASE UNIT - Transmit frequency 1.6 to 1.8MHz and receive 49.8 to 49.9MHz. Power Drain less than 10VA. Power requirements 240V AC 50/60Hz. Size 21.6(w) x 6.7(h) x 17(d)cm. Weight approximately 2.7kg.

PORTABLE UNIT - Transmit frequency 49.8 to 49.9MHz and receive frequency 1.6 to 1.8MHz. Power drain 12mA on standby and 60mA in use. Power requirements from internal NiCad batteries. Size 6.7(w) x 17(h) x 3(d)cm. Weight approximately 567 grams.

Cat. Y-1178..... **\$199.00**

SPECIAL NOTE: The range of this cordless phone is approximately 100 metres. It could be further or even less, depending on your particular situation.



THE CUTIE PHONE

The very latest in modern phones is the Cutie Phone. When not being used it sits folded, as shown in the illustration, but as soon as the phone rings and you pick it up the mouthpiece flips open, as shown in the main illustration.

The same happens, of course, when you pick the phone up to make a call - your number is obtained by pushing the touch keys and if by some chance the number you have called is engaged then after a few minutes you can push the memory re-dial and the phone will automatically call the number again!

Join the modern set TODAY and enjoy full phone facilities with a touch of Hollywood thrown in!

SPECIAL NOTE: Although this phone can easily replace the standard Australian Telecom phone, present regulations forbid them to be used for this purpose.

Cat. Y-1179..... **\$69.50**

SPECIAL NOTE: Although this phone can replace the standard Telecom Australian phone (no soldering required) present regulations forbid them to be used for this purpose.



SPEAKERPHONE

The Dick Smith Mytel Speakerphone, though not much bigger than a conventional phone handset, is a complete push button telephone with the extra convenience of "hands free" operation.

Unlike add-on telephone amplifiers and diallers, the speakerphone replaces the existing phone. A simple two wire connection is all that is required.

Other features include a re-dial button which will recall the last number called; a mute button which allows you to hear the other party without them hearing you. Speaker volume is adjustable and incoming signals are signalled by a pleasant electronic tone.

- ★ Hands free operation
- ★ Last number memory and re-dial at touch of one button
- ★ Touch buttons for Hi - Lo volume
- ★ Mute button for listener privacy
- ★ Replaces complete telephone

cat. Y-1177..... **\$99.00**

Although these phones easily replace the standard Australian phone, present Telecom regulations forbid them to be used for this purpose.



NOW SAVE \$10 PRESS BUTTON TELEPHONE DIAL WITH MEMORY WAS \$49.50 LAST YEAR



Converts rotary dial phones to push button type. Ideal for hobby use or private phone systems. Memory re-dial allows a previously engaged number to be recalled at the press of a button. Up to 16 digits can be retained in the memory.

SPECIAL NOTE: Although these fit perfectly into standard Australian phones (no soldering required) present regulations do not permit them to be used for this purpose.

Y-1175..... **\$39.50**

TELEPHONE AMPLIFIER

Are you the busy secretary or housewife who is forever sitting with a phone to your ear waiting for the person on the other end of the line to come back to the phone? Well now you can relax because this unit will let you know when there is a person on the other end of the line. A sucker (as shown in the illustration) is placed on the back of the phone and by simply turning the volume to the required level you can hear when the person on the other end wants to talk to you. It is also ideal for group calls i.e. a board meeting, when every one needs to know what is being said on the phone and the person holding the phone can give a group decision immediately!

Cat. Y-1174..... **\$12.50**

Telecom Australia forbid the use of this unit unless you have their written permission (Section 19 General By-Law).



PLEASE READ THIS INFORMATION CAREFULLY

ORDER FORMS

To speed delivery we have pre-printed Order Forms (see centre of this catalogue). All orders on this form receive preferential treatment. Extra forms are available free of charge if requested and one is enclosed with each order despatched.

CATALOGUE NUMBERS

To minimise the chance of error in your order please use the catalogue number as well as a description of the product.

PRICES

If prices vary, the new price will be shown on your delivery advice and a debit or credit issued. You may return the goods for a full credit under our satisfaction guarantee if you are not satisfied.

OVERSEAS SHIPMENTS

We are happy to sell to foreign countries and will send goods with Customs dockets attached. We cannot however, provide the full Customs documentation and we remind customers that our guarantees are 'ex-store'.

DAMAGED GOODS

All claims for damaged or missing goods must be filed with the carrier concerned - do not open parcel if you suspect that the goods are damaged.

MINIMUM MAIL ORDER VALUE

The minimum order amount is \$5.00 unless otherwise implied in "Special Offers" through advertisements.

PAYMENTS

Money order or crossed cheques to be sent with order. DO NOT SEND CASH through the post. Please make money orders payable at North Ryde Post Office, and cheques made payable to Dick Smith Electronics.

OPEN CHEQUES

If you are not sure of the total amount of your mail order and are paying by cheque, simply cross the cheque, having made it out to Dick Smith Electronics, and leave the amount payable blank. We will then fill in the exact cost of the goods and delivery charges. This eliminates charging for small balances or issuing credit vouchers. Many of our customers have been using this system for years and find it very satisfactory.

BANKCARD/MASTERCHARGE/VISA

For your convenience we accept orders for mail orders on Bankcard. The minimum order value for Bankcard purchases is \$5.00. New Zealand Bankcards welcome too.

PHONE IN BANKCARD MAIL ORDERS

To make your mail order purchases even easier you may phone in your order and use your Bankcard. Simply phone and ask for the mail order department and give them the following information: your name, Bankcard number, expiry date, address (NOT a P.O. Box No.) and, of course, what you wish to buy. This service enables us to get the goods to you very quickly.

REGISTRATION & INSURANCE

The customer may nominate registration and insurance for his goods. Where this is not specified the goods will be sent at the customers - your - risk!

DESPATCH OF ORDERS

All goods in stock are despatched promptly. Goods out of stock are "Back Ordered" and sent later at our expense (and it's an extremely costly job) unless we advise otherwise. All back orders are despatched immediately we receive the goods from our suppliers. When we send a copy of your order back to you, the delay times will be quoted, but because this information is given to us by our suppliers we can not guarantee their accuracy.

ENQUIRIES ON ORDERS

If you wish to enquire in any way about your order, please give **FULL DETAILS**. Give date of posting your order to us, your name, address and post code, a list of the products ordered, any relevant mail order/cash sale invoice numbers. If the above are not given, we have no way of checking your order.

PHONE ENQUIRIES ON ORDERS

You are welcome to enquire about your mail order by phoning in. Simply ask for 'Mail Order Enquiries'. When connected give the following information: your name, postcode and the information you require. You will then be asked to phone back in 15 minutes. You will appreciate that with over 48,000 mail order customers, it may take us a little time to locate your order. Phoning back saves time and expense, especially with STD calls. It also saves jamming our switchboard.

INSURANCE

We strongly advise that you insure your mail order. The cost is \$1.00 per \$100 face value of the goods to a maximum of \$300 face value. The maximum you pay is \$3.00.

MAIL ORDER INFORMATION

GENERAL INFORMATION

STOCK AND PRICES

This catalogue is produced to cover the year from April 1981 until March 1982. Because of this, plus the fact that this catalogue is in print production from February 1981, there may be items shown in this catalogue that are not in stock at the time of your receiving this catalogue, or could even be sold out. Likewise, prices are subject to revision during the life of this catalogue. We are aware of the inconvenience that this sometimes causes and would like to take this opportunity to ask you to bear with our problems and if you are not sure as to prices and stock availability please phone and check with us before making a long journey.

Thank you - the staff of Dick Smith

GUARANTEES

1. Manufacturer's guarantees.

(a) All Australian manufacturer's guarantees are fully valid on products we sell.

(b) Semiconductor guarantee policy. Most manufacturers will not replace semiconductors as all semiconductors shipped from their factories are computer quality controlled. However, in some cases when the value of the semiconductor is considerable (e.g. over \$5.00), a manufacturer's engineer will test the semiconductor if it is returned unsoldered to them. You can return your semiconductor to the manufacturer's agents either through our company, if purchased from us, or deal direct to save time.

(c) Periods of guarantee. Unless stated otherwise, items in this catalogue carry a standard warranty of 90 days from date of purchase. If you are not supplied with a guarantee card keep your sales dockets, including cash register receipt, in a safe place as the sales docket will become your guarantee card. If your purchase requires warranty service within the warranty period you will be requested to produce your dockets when returning the product under warranty for repair.

(d) Warranty service on items over \$50.00 retail. At our discretion we replace on the spot many goods returned under warranty for a new item from our inventory providing the item is in "as new" condition including packing and accessories. However on high value lines the item must be returned to our service department for inspection before being repaired or replaced under warranty.

(e) Freight. Although repairs under warranty are carried out free of charge the customer is required to pay the freight both ways. Therefore to save yourself money make absolutely certain that the unit is faulty before returning for repair.

SATISFACTION GUARANTEE

If for any reason you are not satisfied with your purchase return the goods to us within 7 days of purchase in the original carton and we will exchange or return your money less transportation costs. Goods returned must be unmarked and in the exact condition as supplied. You must include all sales dockets when you return the goods. This policy does not apply to semiconductors, valves, books and computer software.

COMPLAINTS

We take pride in our Australian owned business. If you have any complaints about our customer service or have any suggestions for improvements please contact:

Mr. I.E. BAIN
Managing Director
P.O. Box 321
North Ryde
NSW 2113
or telephone (02) 888 3200

COMPUTER HOTLINE

Because of the fantastic response to home computers and their peripherals we have instigated a 'COMPUTER HOTLINE'. This service is extended to customers who have purchased, or are thinking of purchasing, the Dick Smith System 80 computer or the Sorcerer and all of the hardware and software peripherals. We welcome your enquiries as we feel that the only way to a better understanding of the computers we sell is through your questions, please ring at any time from Monday to Friday between the hours 9am - 5.30pm. The number to ring is:

(02) 888 2002

PRICES ON PRODUCTS

All prices in this catalogue were correct at the time of compilation but are subject to change without notice. The price savings shown are either savings off our normal price or off our competitors' normal selling prices for equivalent goods.

QUANTITY PRICES

On many of our imported lines we can offer extremely attractive prices for large quantities. Please write your requirements to the Manager, D.S. Distributors, Cnr. Waterloo Road and Lane Cove Road, North Ryde NSW 2113.

SALES TAX

All prices shown in this catalogue include sales tax where applicable. Goods can only be supplied less tax if:

1. A sales tax number or exemption certificate is quoted on an official order, or
2. The goods are to be directly exported by us; and
3. In all cases the minimum total value of EACH ITEM is at least \$10.00.

Simply send in your order and we will deduct tax wherever possible.

SALES TO RESELLERS

To keep prices down to the hobbyist, who are our main customers, all sales tax is paid on our goods on the understanding that they are not to be resold. Resellers should contact our distribution company, D.S. Distributors, Cnr. Waterloo Road and Lane Cove Road, North Ryde NSW 2113 if they can purchase in large quantities.

CREDIT ACCOUNTS

We do not operate general credit accounts and we suggest that customers use their Bankcard whenever possible. However, credit will be extended to all Government departments and institutions, educational establishments and public companies. Simply send in your official order (no credit application is necessary) and the goods will be charged to you on a strict 30 day basis. Minimum invoice amount on credit accounts is \$10.00. Minimum Bankcard amount is \$5.00 for shop or mail order sales.

SCHOOLS

We are happy to supply you goods against your official order. No credit application is necessary. We will invoice you on a 30 day account. With the new electronics course in the curriculum we would like to be your supplier.

SPECIAL PURCHASES

We stock the goods shown in this catalogue and our regular advertisements in Electronics Today, Electronics Australia and other magazines, the daily press and on TV. New items are continually being added to the range to cater for as wide a range of needs as possible and a great deal of effort is put into searching for new products. For this reason it is impossible for us to purchase special items for individual customers.

SUBSTITUTION

When a certain product is no longer available we will substitute for an equal or better quality product on the understanding that a substitute is available. If our purchasing power makes this substitute cheaper then we will pass on the saving to the customer. If, however, we can improve on the product the price could either increase or remain the same as the original product. To reiterate, all prices and specifications are subject to change without notice.

QUOTATIONS

We do give written quotations if requested. We must emphasise however, that prices are subject to confirmation at time of order. This is because there are many factors in our price that are beyond our control and therefore responsibility.

NEW ZEALAND MAIL ORDERS

Simply send your order marked "NZ Dept." to our mail order address and we will deduct Australian sales tax wherever possible. On the more expensive items that normally include tax in Australia this saving could mean a large portion of the cost of airmail postage is covered. (Remember, you may have to pay customs and other charges at your end, if applicable). We can not supply a full customs invoice but all parcels will include the required customs docket.

NEW ZEALAND BANKCARDS

Remember - we are pleased to accept your Bankcard. Just complete the Bankcard space on the mail order form.

ARE YOU LOOKING FOR A WORTHWHILE JOB IN ELECTRONICS?

If you are interested in joining Australia's leading retail electronics company and you are dynamic, self-motivated, ambitious and looking for a big future, why not give us a call. Promotions are based on merit so the more you put into the job the more you'll get out of it.

Retailing experience and a basic knowledge of electronics are preferred. With 19 retail outlets around Australia and more to come you would be joining a company that is expanding and you could grow with us.

For further information write to:

The Personnel Manager
Dick Smith Electronics
P.O. Box 321
North Ryde NSW 2113.
or contact the manager of your local Dick Smith store.

TERMS

We can offer credit terms from BFC finance to customers who personally visit our stores. These terms are offered on condition that the customer is approved by BFC finance and that the value of goods is in excess of \$111.00. Terms are not available for Mail Order customers.

CHARITIES

We thought it might interest you to know that over the last twelve months the Dick Smith Electronics company has donated over \$100,000 in money and products to different charities. We thought you would like to know that at least some of the money that you have paid out for products from this company, has gone to worthy causes and in 1981-1982 more donations will be given to deserving and worthwhile charities.

THE FOLLOWING DICK SMITH STORES ARE OPEN FROM 9am UNTIL 5.30pm MONDAY TO FRIDAY

GORE HILL
YORK STREET
CHULLORA
PARAMMATA
BLAKEHURST
BROOKVALE
AUBURN
BROADWAY
WOLLONGONG
CANBERRA
MELBOURNE
RICHMOND
SPRINGVALE
PERTH

THE FOLLOWING STORES ARE OPEN FROM 8.30am UNTIL 5pm

BURANDA
CHERMSIDE
ADELAIDE

THE FOLLOWING STORES HAVE LATE NIGHT SHOPPING

YORK STREET - Thursday 8.30pm
BROADWAY - Thursday 8.30pm
WOLLONGONG - Thursday 8.30pm
MELBOURNE - Friday 7.30pm

SATURDAY - EACH STORE OPENS AT 9am AND CLOSES AT NOON EXCEPTING:

BURANDA, CHERMSIDE AND ADELAIDE - 8.30am UNTIL 11.30am

THE SYDNEY STORE AT AUBURN IS OPEN ON SUNDAYS FROM 10am UNTIL 2pm

NORTHRYDE - MONDAY TO FRIDAY ONLY - 9am UNTIL 5pm

DICK SMITH INTRODUCES SUBSIDISED **BELOW COST** **EXPRESS** **AIR FREIGHT**

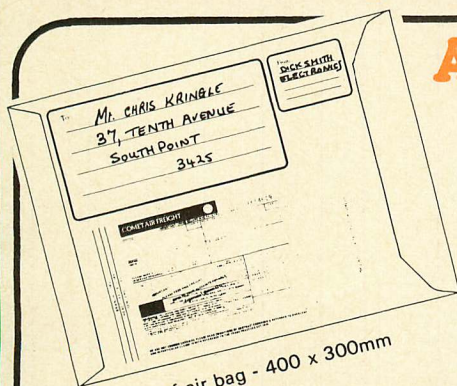
For Mail Order Customers
NOW YOU CAN HAVE QUICK
DELIVERY WITHOUT PAYING
THE EARTH!

Dick Smith Electronics has chosen Comet Overnight Transport and Airfreight to provide a delivery service second to none for our Mail Order customers. By providing this service we are adding a new dimension in getting the goods to you FAST. Comet has over 2000 scheduled road and air services throughout Australia plus an international service. We can now offer overnight delivery to most locations in Australia. Remote locations take a little longer. The deliveries to Papua New Guinea and New Zealand are handled by the international air service of Comet.

Examples of delivery times: Melbourne - by 9.30am next day; Perth - 9.30am next day; Port Hedland - 8.00am 2nd day; Rockhampton - 2.00pm next day; Broken Hill - midday next day; Ballarat - pm next day; Fregon, SA (via Alice Springs) - 2nd day, etc.

Dick Smith Electronics is proud to support Comet and their motto "We Go Everywhere"!

Look at these prices!



Size of air bag - 400 x 300mm

AIR ENVELOPE

(Maximum 3kg)

This is the most economical way to get small items such as components, books, cassettes etc. Please remember that this bag is made of paper so it will not stand heavy or bulky items.

\$5.50*

**ANYWHERE IN
AUSTRALIA**

SUPAPAKS

(Maximum 10kg)

These Supapaks are made of cardboard and come in various sizes. They take a variety of goods such as kits, boxes, antennas, instruments, amateur radio etc. So if you want anything fast why not try our Supapaks. Remember when ordering please keep the maximum weight of 10kg in mind.

ONLY \$9.50*

*This is **BELOW OUR COST** i.e. we subsidise your shipment!!!!

OVERSEAS AIRFREIGHT

Since the beginnings of Dick Smith Mail Order there have been many orders received from overseas and it is our proud boast that we have fulfilled these orders. Just look at the list of countries served by us:

Canada, Malta, Nepal, U.K., U.S.A., Philippines, New Zealand, Spain, Austria, Yugoslavia, Germany, Italy, P.N.G., Cook Is., Tonga, Fiji, Solomon Is., France, USSR, Republic of China, Poland, South Africa, Switzerland, Denmark, Hong Kong, Malaysia, Samoa, Chile, Israel and lots more.

BELOW COST TO NEW ZEALAND AND P.N.G.

If you live in either of these countries we can offer Comet Airfreight at below cost. Both countries can now have a quick and effective service.

(Maximum 10kg)

ONLY \$19.50*



DICK SMITH IN THE LAND OF THE LONG WHITE CLOUD

YES! Dick Smith has finally arrived in NEW ZEALAND at 98 CARLTON GORE ROAD AUCKLAND

Dick has crossed the sea and has opened a wholesale operation right in the heart of New Zealand's commercial centre, in Auckland.

No longer do you have to cross over to Australia to obtain the fantastic 'goodies' that Dick sells – just call into any of the retailers that have bought our products and you will be buying the same products that many Australians have bought from us, making Dick Smith Electronics one of the largest electronic retailers in the southern hemisphere.

Perhaps you are a manufacturer or retailer who would like to use our exclusive range of products. We offer the advantage of ex-stock inventory, direct import prices and generous quantity discounts for large volume users.

Perhaps you are not in business yet, but would like to make a career out of your hobby.

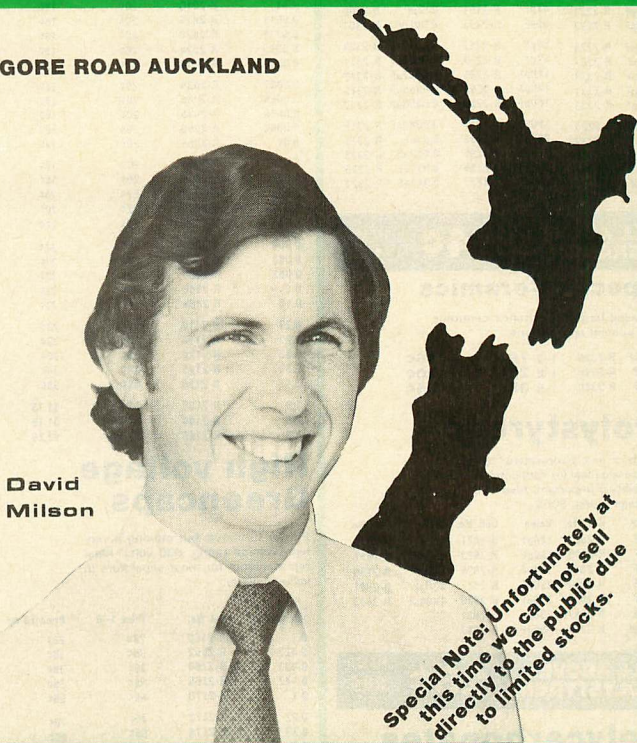
You, like dozens before can do this by setting up a store as a retailer of Dick Smith products. This is a very exciting and rewarding way of life – you are the boss!

Due to import restrictions in New Zealand there will only be about 500 lines in the beginning – but we hope that later on we will be able to bring you the whole range. And what a range! The now famous Dick Smith System 80 home computer and its peripherals will be just one of the superb lines available.

Our wholesale premises are situated at 98 CARLTON GORE ROAD, AUCKLAND where we have over 4,000 square feet of warehouse space. Being very central (near the Domain) and having easy access from the Southern Motorway puts it in the ideal position for New Zealand retailers to come and see our products and meet our New Zealand manager – David Milson – pop in and see David, he's an easy going person and he knows the Dick Smith product range backwards!

SO IF YOU ARE A NEW ZEALAND RETAILER AND YOU WANT TO KNOW MORE ABOUT OUR PRODUCTS AND WHAT WE CAN OFFER IN THE WAY OF INCREASED PROFITS – JUST CALL IN OR PHONE DAVID – TODAY!!!!

David
Milson



DICK SMITH ELECTRONICS GROUP

SYDNEY	145 Parramatta Road AUBURN Ph. 648 0558
SYDNEY	613 Princes Highway BLAKEHURST Ph. 546 7744
SYDNEY	818 George Street BROADWAY Ph. 211 3777
SYDNEY	531 Pittwater Road BROOKVALE Ph. 93 0441
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PERTH	414 William Street PERTH Ph. 328 6944

Head Office Cnr Waterloo Road and Lane Cove Road North Ryde
Distribution Centre NSW 2113 Australia. Phone (02) 888 3200
International Mail Cables: Diksmil Sydney Telex: AA20036
Order Centre

Postal address for P.O. Box 321 North Ryde NSW 2113
all Correspondence
and Mail Orders

Postal address for Cnr Waterloo & Lane Cove Roads North Ryde NSW 2113
D.S. Distributors
Correspondence

LOCAL RESELLERS WHO SELL DICK SMITH PRODUCTS

As they operate as completely independent businessmen, terms and conditions of sale will vary from one reseller to another. Prices will also vary as the reseller must pay freight costs and additional sales tax on most goods.

STOP PRESS

3 NEW STORES

OUR NEW STORE IN SPRINGVALE
IS OPEN – FOR THE ADDRESS SEE
STORE LIST.

TWO STORES OPENING SHORTLY

NEWCASTLE
(watch our ads for the address)

and
PERTH (OUR 2nd STORE)
Cnr. WHARF STREET & ALBANY
HIGHWAY CANNINGTON

AND MORE STORES TO
FOLLOW IN 1981



Ceramics

Use ceramics when low inductance is important—eg. in many RF circuits. They offer a huge range of values, and are rated at 50 volts or higher.

Value	Cat No.	Value	Cat No.	470pF	Cat No.
1pF	R-2215	27pF	R-2245	470pF	R-2299
1.5pF	R-2217	33pF	R-2247	560pF	R-2301
2.2pF	R-2219	39pF	R-2249	680pF	R-2303
2.7pF	R-2221	47pF	R-2251	820pF	R-2305
3.3pF	R-2223	56pF	R-2253	0.001uF	R-2307
3.9pF	R-2225	68pF	R-2257	0.0022uF	R-2309
4.7pF	R-2227	82pF	R-2259	0.0033uF	R-2311
5.6pF	R-2229	100pF	R-2285	0.0047uF	R-2313
6.8pF	R-2231	120pF	R-2287	0.0056uF	R-2315
8.2pF	R-2233	150pF	R-2289	0.0068uF	R-2317
10pF	R-2235	180pF	R-2291	0.0082uF	R-2319
12pF	R-2237	220pF	R-2293	0.01uF	R-2321
15pF	R-2239	270pF	R-2295	0.022uF	R-2323
18pF	R-2241	330pF	R-2296	0.033uF	R-2325
22pF	R-2243	390pF	R-2297	0.047uF	R-2327

ALL ABOVE CERAMICS: 14¢ 10 UP **11¢**

Special Ceramics

Special large capacitance ceramics for special applications.

0.1uF	R-2360	1-9	18¢	10 up	16¢
0.22	R-2370	1-9	22¢	10 up	20¢
0.47	R-2380	1-9	38¢	10 up	34¢

Polystyrene

With a low temperature coefficient, these are ideal for applications where stability is important. Also a very high voltage rating: 600V.

Value	Cat. No.	Value	Cat. No.	Value	Cat. No.
33pF	R-2807	120pF	R-2821	470pF	R-2835
39pF	R-2809	150pF	R-2823	560pF	R-2837
47pF	R-2811	180pF	R-2825	680pF	R-2839
56pF	R-2813	220pF	R-2827	820pF	R-2841
68pF	R-2815	270pF	R-2829	1000pF	R-2843
82pF	R-2817	330pF	R-2831		
100pF	R-2819	390pF	R-2833		

ALL ABOVE POLYSTYRENE: 28¢ 10 UP **23¢**

Polycarbonates

In two voltage ranges, with a high ripple rating. Ideal for use in high charge/discharge current areas.

Value in uF	Cat No	Price 1-9	Price 10 up
400 volt range			
0.027	R-2425	20¢	15¢
0.039	R-2435	20¢	15¢
0.056	R-2445	30¢	25¢
0.068	R-2450	30¢	25¢
0.082	R-2455	30¢	25¢
0.27	R-2485	50¢	45¢
0.33	R-2490	60¢	55¢
0.39	R-2495	70¢	65¢
0.56	R-2505	80¢	70¢
600 volt range			
0.015	R-2610	20¢	15¢
0.018	R-2615	20¢	15¢
0.039	R-2635	30¢	25¢
0.068	R-2650	50¢	45¢
0.12	R-2665	60¢	55¢
0.18	R-2675	60¢	55¢
0.27	R-2685	70¢	60¢

High Voltage Polycarbonate

High voltage capacitor with axial lead suitable for use in TV sets and in the suppression of mains interference.

Value	Voltage	Cat. No.	Price 1-9	Price 10 up
0.001uF	1600V	R-2740	75¢	70¢
0.01uF	1000V	R-2730	65¢	60¢
0.1uF	1000V	R-2720	98¢	90¢

Tag Tantalums

These are resin dipped electrolytic type. They offer very low leakage and a high capacitance in a tiny package. Ideal for PCB board mounting, see data section for marking codes.

Value in uF	Voltage Cat No.	Value in uF	Voltage Cat No.
0.1	35 R-4700	4.7	35 R-4740
0.22	35 R-4705	6.8	35 R-4745
0.33	35 R-4710	10	25 R-4750
0.47	35 R-4715	15	16 R-4755
1.0	35 R-4720	22	16 R-4760
1.5	35 R-4725	33	10 R-4765
2.2	35 R-4730	47	6.3 R-4770
3.3	35 R-4735	100	3 R-4775

ALL ABOVE TANTALUMS: 60¢ 10 UP **55¢**

'Greencaps'

More properly called 'polyester' these are known as greencaps because they often come in the colour green. These offer the best economy: rated at 100V they're ideal for use in most circuits. See data section for marking codes.

Values in uF	Cat No	Price 1-9	Price 10 up
0.001	R-2010	20¢	18¢
0.0015	R-2015	20¢	18¢
0.0022	R-2020	20¢	18¢
0.0033	R-2025	20¢	18¢
0.0039	R-2030	20¢	18¢
0.0047	R-2035	20¢	18¢
0.0056	R-2040	20¢	18¢
0.0068	R-2045	20¢	18¢
0.0082	R-2050	20¢	18¢
0.01	R-2055	20¢	18¢
0.015	R-2060	20¢	18¢
0.022	R-2065	20¢	18¢
0.033	R-2070	22¢	20¢
0.039	R-2075	22¢	20¢
0.047	R-2080	22¢	20¢
0.056	R-2085	26¢	22¢
0.068	R-2090	28¢	23¢
0.082	R-2095	28¢	23¢
0.1	R-2100	28¢	23¢
0.15	R-2105	28¢	23¢
0.22	R-2110	28¢	23¢
0.27	R-2115	35¢	30¢
0.33	R-2120	35¢	30¢
0.39	R-2125	39¢	34¢
0.47	R-2130	49¢	38¢
1.0	R-2135	\$1.25	\$1.15
2.0	R-2140	\$1.25	\$1.15
3.3	R-2145	\$2.50	\$2.20

High voltage Greencaps

Similar to above, but offering a very high voltage rating: 630 volts. Ideal replacements for most capacitors in valve circuitry.

Value in uF	Cat No.	Price 1-9	Price 10 up
0.1	R-2160	28¢	23¢
0.022	R-2162	35¢	30¢
0.033	R-2164	39¢	36¢
0.047	R-2166	39¢	36¢
0.1	R-2170	55¢	50¢
0.22	R-2172	85¢	70¢
0.33	R-2174	95¢	80¢
0.47	R-2176	\$1.05	90¢

Trimmers

Elmenco Mica

Value	Type No.	Cat. No.	Price 1-9	Price 10 up
1.5-20pF	402	R-2900	\$1.20	\$1.00
7-60pF	404	R-2905	\$1.30	\$1.10
15-115pF	406	R-2910	\$1.75	\$1.50

Ceramic

3-12pF	R-2920	52¢	42¢
4-15pF	R-2925	52¢	42¢
8-50pF	R-2935	52¢	42¢

Variable Tuning Gang

60pF to 160pF miniature solid dielectric transistor radio gang - suitable for standard replacement type, ideal for radio projects.

Cat. No.	Price 1-9	Price 10 up
R-2970	\$1.50	\$1.00

High Discharge Capacitor

Used in strobes, etc. where very heavy discharge currents occur. High voltage rating, with inbuilt discharge resistor.

6.5uF	250V AC	
Cat. R-2855		\$3.95

Ceramic Feedthrough

Ideal for feedthru bypass on DC supply lines, bypass in RF amplifiers, noise suppression on small AC/DC motors.

0.0012uF	350V	
Cat. R-2850		1-9 35¢ 10 up 25¢

Silver Mica Capacitors

Very high temperature stability—with 5% tolerance and 100 volt rating. These are being superseded by other types: the price has been slashed to clear! Hurry—stocks will not last!

Value in pF	Cat. No.	Price 1-9	Price 10 up
4.7	R-3027	12¢	10¢
5.6	R-3029	12¢	10¢
6.8	R-3031	12¢	10¢
68	R-3051	15¢	12¢
330	R-3067	15¢	12¢
820	R-3077	20¢	17¢

Electrolytics

Electrolytics come in different shapes and sizes; but (with the exception of the bipolar type below) they have one thing in common: they MUST be connected into circuits with their polarity correct. Electrolytics are used wherever high capacitance is required.

Standard (Axial)

Value in uF	Voltage	Cat No.	Price 1-9	Price 10 up
0.47	63	R-4010	28¢	23¢
1.0	350	R-4015	28¢	23¢
2.2	63	R-4020	28¢	23¢
3.3	25	R-4025	28¢	23¢
4.7	25	R-4030	28¢	23¢
4.7	63	R-4035	28¢	23¢
4.7	350	R-4040	48¢	45¢
4.7	500	R-4045	55¢	50¢
8	500	R-4050	72¢	67¢
10	16	R-4055	28¢	23¢
10	25	R-4060	28¢	23¢
10	63	R-4065	28¢	23¢
16	500	R-4070	\$1.10	\$1.05
24	350	R-4075	95¢	85¢
24	500	R-4080	\$1.10	\$1.00
25	25	R-4085	28¢	23¢
25	63	R-4090	35¢	30¢
33	350	R-4095	\$1.10	\$1.00
33	500	R-4100	\$1.30	\$1.20
47	16	R-4105	28¢	23¢
47	25	R-4110	32¢	28¢
47	63	R-4115	35¢	30¢
47	350	R-4120	\$1.10	\$1.00
100	10	R-4125	35¢	30¢
100	25	R-4130	35¢	30¢
100	63	R-4135	42¢	40¢
100	350	R-4140	\$1.85	\$1.60
220	16	R-4145	52¢	42¢
220	25	R-4150	84¢	72¢
220	63	R-4155	95¢	85¢
470	16	R-4160	79¢	73¢
470	63	R-4165	\$1.30	\$1.00
470	16	R-4170	85¢	75¢
1000	16	R-4175	95¢	85¢
1000	25	R-4180	\$1.10	\$1.00
1000	35	R-4185	\$1.30	\$1.20
1000	63	R-4190	\$1.75	\$1.55
2500	16	R-4195	\$1.20	\$1.10
2500	25	R-4200	\$1.70	\$1.50
2500	35	R-4205	\$1.85	\$1.70
2500	50	R-4210	\$2.40	\$2.30
4700	35	R-4215	\$2.75	\$2.55

Single Ended (PCB Mounting)

Value in uF	Voltage	Cat No.	Price 1-9	Price 10 up
2.2	25	R-4300	20¢	18¢
4.7	25	R-4310	20¢	18¢
10	25	R-4315	22¢	19¢
25	25	R-4320	24¢	22¢
33	10	R-4330	24¢	22¢
33	35	R-4340	28¢	23¢
47	25	R-4350	28¢	23¢
100	16	R-4360	28¢	23¢
100	25	R-4370	28¢	23¢
220	16	R-4380	60¢	55¢
220	25	R-4390	70¢	65¢
330	25	R-4400	75¢	67¢
470	16	R-4410	63¢	55¢
470	25	R-4420	75¢	65¢
640	16	R-4430	75¢	65¢
1000	16	R-4440	55¢	45¢
1000	25	R-4450	80¢	70¢
2500	25	R-4460	\$1.30	\$1.10

Metal Can type

Value in uF	Voltage	Cat No	Price 1-9	Price 10 up
200	350	R-4520	\$5.45	\$4.95
1000	100	R-4530	\$4.50	\$3.90
2500	80	R-4540	\$4.90	\$4.20
2500	100	R-4550	\$5.90	\$5.30
4000	75	R-4560	\$6.90	\$6.20
5600	40	R-4570	\$4.20	\$3.30

Bi-polar Electrolytics

These electrolytic capacitors are specially made so as not to be polarised. They are designed for use where the voltage polarity across them is continuously changing—for example, in speaker crossovers. They have a 50 volt rating.

Value in uF	Cat No.
2.2	R-4600
4.7	R-4610
6.8	R-4620
10	R-4630
22	R-4640

Worried about values?

We're often asked: why did you supply a 2200uF when the circuit calls for a 2000uF? Don't worry! Your capacitor is correct. Capacitors, particularly electrolytics, have a very wide tolerance—often as much as 50%! So providing your capacitor is close to that required, it should do the job equally as well. (A 2500uF would have been just as good!)

A WORD ABOUT OUR 1% METAL FILM RESISTORS

Why metal film?

- High Stability
- Very low temperature coefficient
- High reliability—ruggedly made
- professional quality
- And they're no dearer than other people's 5 & 10%!!!

BULK PACKS: THE SMART WAY TO BUY YOUR RESISTORS & CAPACITORS!

SAVE OVER 50% ON RESISTORS!

RESISTOR PACK: 300 computer selected 1/4W types worth \$12.00!

Ideal for the professional and the hobbyist. 60 values chosen by computer, quality 5% types. Huge savings on normal prices: less than 2¢ each! Cat R-7010

Using our easy resistor selection table . . .

Simply find the wattage you require from the top line, and the resistance value you want from either side column. Where the horizontal and vertical rows intersect . . . You've got your resistor!

VALUE IN OHMS	1/4 W Metal film 6¢ each 100 or more 5¢ each	1/4 W Carbon film 4¢ each 100 or more 3¢ each	1/2 W Carbon film 5¢ each 100 or more 3 1/2¢ each	1W Carbon film 8¢ each 100 or more 6¢ each	5 W Wire wound 50¢ each 10 or more 35¢ each	VALUE IN OHMS
0.1	1% METAL FILM TYPES			R-1580 *	R-1600	0.1
0.47				R-1584 *	R-1601	0.47
0.75				R-1586 *		0.75
0.82				R-1588 *		0.82
0.91						0.91
1.0		R-1002	R-1202	R-1402	R-1602	1.0
1.2		R-1004	R-1204	R-1404		1.2
1.5		R-1006	R-1206	R-1406	R-1606	1.5
1.8		R-1008	R-1208	R-1408		1.8
2.2		R-1010	R-1210	R-1410	R-1610	2.2
2.7		R-1012	R-1212	R-1412		2.7
3.3		R-1014	R-1214	R-1414	R-1614	3.3
3.9		R-1016	R-1216	R-1416		3.9
4.7		R-1018	R-1218	R-1418	R-1618	4.7
5.6		R-1020	R-1219	R-1419	R-1619	5.6
6.8		R-1022	R-1222	R-1422	R-1622	6.8
8.2		R-1024	R-1224	R-1424	R-1624	8.2
10	R-0526	R-1026	R-1226	R-1426	R-1626	10
12	R-0528	R-1028	R-1228	R-1428	R-1628	12
15	R-0530	R-1030	R-1230	R-1430	R-1630	15
18	R-0532	R-1032	R-1232	R-1432	R-1632	18
22	R-0534	R-1034	R-1234	R-1434	R-1634	22
27	R-0536	R-1036	R-1236	R-1436	R-1636	27
33	R-0538	R-1038	R-1238	R-1438	R-1638	33
39	R-0540	R-1040	R-1240	R-1439	R-1639	39
47	R-0542	R-1042	R-1242	R-1442	R-1642	47
56	R-0544	R-1044	R-1244	R-1444	R-1644	56
68	R-0546	R-1046	R-1246	R-1446	R-1646	68
82	R-0548	R-1048	R-1248	R-1448	R-1648	82
100	R-0550	R-1050	R-1250	R-1450	R-1650	100
120	R-0552	R-1052	R-1252	R-1452	R-1652	120
150	R-0554	R-1054	R-1254	R-1454	R-1654	150
180	R-0556	R-1056	R-1256	R-1456	R-1656	180
220	R-0558	R-1058	R-1258	R-1458	R-1658	220
270	R-0560	R-1060	R-1260	R-1460	R-1659	270
330	R-0562	R-1062	R-1262	R-1462	R-1662	330
390	R-0564	R-1064	R-1264	R-1464	R-1664	390
470	R-0566	R-1066	R-1266	R-1466	R-1666	470
560	R-0568	R-1068	R-1268	R-1468	R-1668	560
680	R-0570	R-1070	R-1270	R-1469	R-1669	680
820	R-0572	R-1072	R-1272	R-1472	R-1672	820
1k	R-0574	R-1074	R-1274	R-1474	R-1674	1k
1.2k	R-0576	R-1076	R-1276	R-1476	R-1676	1.2k
1.5k	R-0578	R-1078	R-1278	R-1478	R-1678	1.5k
1.8k	R-0580	R-1080	R-1280	R-1480	R-1680	1.8k
2.2k	R-0582	R-1082	R-1282	R-1482	R-1682	2.2k
2.7k	R-0584	R-1084	R-1284	R-1484	R-1684	2.7k
3.3k	R-0586	R-1086	R-1286	R-1486	R-1686	3.3k
3.9k	R-0588	R-1088	R-1288	R-1488	R-1688	3.9k
4.7k	R-0590	R-1090	R-1290	R-1490	R-1689	4.7k
5.6k	R-0592	R-1092	R-1292	R-1492		5.6k
6.8k	R-0594	R-1094	R-1294	R-1494		6.8k
8.2k	R-0596	R-1096	R-1296	R-1496		8.2k
10k	R-0598	R-1098	R-1298	R-1498		10k
12k	R-0600	R-1100	R-1300	R-1500		12k
15k	R-0602	R-1102	R-1302	R-1502		15k
18k	R-0604	R-1104	R-1304	R-1504		18k
22k	R-0606	R-1106	R-1306	R-1506		22k
27k	R-0608	R-1108	R-1308	R-1508		27k
33k	R-0612	R-1112	R-1312	R-1512		33k
39k	R-0614	R-1114	R-1314	R-1514		39k
47k	R-0616	R-1116	R-1316	R-1516		47k
56k	R-0618	R-1118	R-1318	R-1518		56k
68k	R-0620	R-1120	R-1320	R-1520		68k
82k	R-0622	R-1122	R-1322	R-1522		82k
100k	R-0624	R-1124	R-1324	R-1524		100k
120k	R-0626	R-1126	R-1326	R-1526		120k
150k	R-0628	R-1128	R-1328	R-1528		150k
180k	R-0630	R-1130	R-1330	R-1530		180k
220k	R-0632	R-1132	R-1332	R-1532		220k
270k	R-0634	R-1134	R-1334	R-1534		270k
330k	R-0636	R-1136	R-1336	R-1536		330k
390k	R-0638	R-1138	R-1338	R-1538		390k
470k	R-0640	R-1140	R-1340	R-1540		470k
560k	R-0642	R-1142	R-1342	R-1542		560k
680k	R-0644	R-1144	R-1344	R-1544		680k
820k	R-0646	R-1146	R-1346	R-1546		820k
1M	R-0648	R-1148	R-1348	R-1548		1M
1.2M		R-1150	R-1350	R-1550		1.2M
1.5M		R-1152	R-1352	R-1552		1.5M
1.8M		R-1154	R-1354	R-1554		1.8M
2.2M		R-1156	R-1356	R-1556		2.2M
2.7M		R-1158	R-1358	R-1558		2.7M
3.3M		R-1160	R-1360	R-1560		3.3M
3.9M		R-1162	R-1362	R-1562		3.9M
4.7M		R-1164	R-1364	R-1564		4.7M
5.6M		R-1166	R-1366	R-1566		5.6M
6.8M		R-1168	R-1368	R-1568		6.8M
8.2M		R-1170	R-1370	R-1570		8.2M
10M		R-1172	R-1372	R-1572		10M

*R-1580, R-1584, R-1586 & R-1588 are special wire-wound types, price 25¢ each or 20¢ each 100-up.

PLEASE NOTE:
The 100-up price shown for all these resistors is for 100 of the same type and value. We can NOT mix values to obtain a hundred up price. Refer to our bulk packs for mixed resistors at big savings!

NEW METRIC SHAFT POTS

Yes — we're going metric! Our range of 1/4in shaft (3/8in hole) potentiometers is being phased out and replaced with 6mm fluted shaft (9mm hole) types of the same value. And the good news is these new metric pots are actually cheaper than the imperial types: it's hard to buy imperial pots overseas at a good price, because everyone has gone metric. So we're doing the same: and you save!

We're also importing a brand new range of metric knobs to match these pots: so you won't be caught out!

NOTE: we will still have imperial pots in our stores until stocks run out. If you want replacement pots, now is the time to buy them — before stocks run out. For catalogue numbers of imperial pots, simply replace the first digit of the following catalogue numbers with a '1' — ie, a 1M log single gang would be Cat R-6828 in metric, and R-1828 in imperial. Note that stocks of some imperial pots are now quite low, and that they are more expensive than their metric equivalents (for more information enquire at your nearest store).

Single Rotary Pots 85¢ ea (10 up 75¢ ea)

LINEAR		LOG	
500	R-6802 50k	R-6809	1k R-6817 100k R-6824
1k	R-6803 100k	R-6810	5k R-6819 500k R-6826
5k	R-6805 500k	R-6812	10k R-6820 1M R-6828
10k	R-6806 1M	R-6813	20k R-6821 2M R-6829
20k	R-6807 2M	R-6814	50k R-6823

Single Rotary Switch Pots (log only) \$1.80 each (10 up \$1.60 each)

1k	R-6876 100k R-6884
5k	R-6878 500k R-6886
10k	R-6879 1M R-6888
20k	R-6880 2M R-6890
50k	R-6882

Dual Rotary Pots \$1.90 each (10 up \$1.70 ea)

LINEAR		LOG	
10k	R-6834 500k R-6842	10k	R-6849 500k R-6857
20k	R-6836 1M R-6843	20k	R-6851 1M R-6858
50k	R-6838 2M R-6844	50k	R-6853 2M R-6859
100k	R-6840	100k	R-6855

Wire Wound Pots \$2.65 each (10 up \$2.25 ea)

5 ohms	R-1901	100	R-1909	1k	R-1915	5k	R-1921
10	R-1903	200	R-1911	2k	R-1917	7.5k	R-1923
25	R-1905	500	R-1913	3k	R-1919	10k	R-1925
50	R-1907						

Mini Vertical Trimpots 35¢ each (10 up 32¢ each)

100	R-1929	2k	R-1937	50k	R-1945	1M	R-1953
200	R-1931	5k	R-1939	100k	R-1947	2M	R-1954
500	R-1933	10k	R-1941	200k	R-1949		
1k	R-1935	20k	R-1943	500k	R-1951		

Large Vertical Trimpots 39¢ each (10 up 34¢ ea)

100	R-1956	2k	R-1960	50k	R-1964	1M	R-1968
200	R-1957	5k	R-1961	100k	R-1965	2M	R-1969
500	R-1958	10k	R-1962	200k	R-1966		
1k	R-1959	20k	R-1963	500k	R-1967		

Replacement pots for transistor radios, etc

Miniature screw-mounted type
Ideal for use as a replacement type in small radios, etc. Thumbwheel adjust type, screw mounted. Complete with on/off switch, resistance 5k ohms. Cat R-1971

Miniature rotary type
As used in larger radios, cassettes, etc. With 25mm long fluted shaft and on/off switch. Resistance 5k. Grab some for the junk box you never know! Cat R-1974

65¢ ea (10 up 55¢ ea)

85¢ ea (10 up 75¢ ea)

Joystick pot \$3.50 ea

Assembly complete with 2x 100k linear pots with paddle movement allowed in all directions. Great for radio control, TV games, music synthesizers, X & Y analogue displays, etc. Sold for \$4.75 3 years ago; still only \$3.50! Cat R-1976

50k Slider Pot: 90¢

As used in the Playmaster Graphic Equaliser. Quality 50k linear pot, is 73mm overall with 45mm travel. (Knobs are available to suit.) Cat R-1980

(10 up price just 80¢ ea)

Thermistors: from only 65¢ each!

MINIATURE DISC TYPE

NTC mini disc, 3mm diam. x 2.5mm thick. Resistance is 47k at 25 degrees C, dissipation at 55 degrees is 0.5W. Operating temperature range is -25 to 125 degrees C. Cat R-1972

MINI GLASS TYPE: R-53

As used in many magazine projects, tiny glass thermistor is ideal for use in many thermal sensing circuits. Type R53, nominal resistance 5k at 25 degrees C, with 3mW dissipation. Cat R-1990.

65¢ ea (10 up 60¢)

\$6.95 ea (10 up \$6.55)

Who ever heard of

Transistors with a five year guarantee?

Imagine how confident you can feel if we're prepared to back our 'DS' brand transistors with a full five year guarantee?

That's right, a full five years! If one of our 'DS' brand transistors fails under normal conditions of usage anytime up to five years after date of purchase, we'll replace it - as long as it has been used within specifications!

Our 'DS' transistors came about because we weren't satisfied with the dozens of different brands, with all the different lead connections that were being offered in Australia. So we approached a huge US-owned semiconductor manufacturer, and asked them to produce for us a transistor with specifications at least as good as, or better than, the prime spec of similar transistors then available.

We got a better transistor: and you reap the benefit. Lower price, higher performance. And backed by our exclusive five year replacement guarantee!

Our five year replacement guarantee is offered on the following transistors:

**DS547
DS548
DS549
DS557
DS558**

* As long as they're used within specifications!

**SEE PRICES
BELOW...
SEE SPECIFICATIONS
IN DATA SECTION**

And they cost no more! Compare our price and see...

SMALL SIGNAL DIODES

Type No.	Type	Cat. No.	Price
DSOA91	Germanium G/P	Z-3042	12c
OA47	Gold Bonded	Z-3232	38c
OA90	Germanium G/P	Z-3030	18c
OA91	Germanium G/P	Z-3040	18c
OA95	Germanium G/P	Z-3050	18c
BB119	Silicon G/P	Z-3060	34c
BA102	Silicon Var. Cap	Z-3070	43c
OA202	Silicon Small Signal	Z-3100	34c
1N4148	(1N914) Hi-Speed Switch	Z-3120	5c
5082-2800	Hot Carrier (Schottky)	Z-3230	\$2.88

SILICON RECTIFIER DIODES -

Small Plastic Types

Type No.	P.I.V.	I(A)	Cat. No.	Price
1N4001 (EM4005)	50	1		
	(Use 1N4002)			
1N4002 (EM401)	100	1	Z-3202	6c
1N4004	400	1	Z-3204	8c
1N4007 (EM410)	1000	1	Z-3207	14c
1N5408 (MR510)	1000	3	Z-3228	43c
1N5404 (1N5624)	400	3	Z-3222	38c

Economy SO - 10 Stud Mount Types

MR110	100	10	Z-3240	90c
MR410	400	10	Z-3244	\$1.20

Automotive High Current Press Fit Types

BYX21L/200 (1N3492)	200	25	Z-3260	\$1.90
BYX21L/200R (1N3492R)	Reverse		Z-3262	\$1.90

RECTIFIER DIODE BRIDGES -

PC mount plastic encapsulation types

WO2	200	1.5	Z-3300	58c
WO4	400	1.5	Z-3304	68c

For 800 or 1000 volt bridge requirements use 1N4007 (EM410)

Metal Case Heavy Duty Types

PA60	600	8	Z-3326	\$5.50
PB40 (MDA3504)	400	25	Z-3334	\$4.50

LED's

Light Emitting Diodes

Type	Type	Dia	Cat. No	Price
RL-209-R	Small Red	3mm	Z-4010	20c
RL-211-G	Small Green	3mm	Z-4020	28c
TIL-220-R	Large Red	5mm	Z-4030	16c
TIL-220-O	Large Orange	5mm	Z-4036	55c
TIL-220-Y	Large Yellow	5mm	Z-4034	34c
TIL-220-G	Large Green	5mm	Z-4032	28c
TIL-220-C	Large Clear/Red	5mm	Z-4038	55c
	Rectangular RED		Z-4040	40c
	Rectangular GREEN		Z-4042	40c
	Rectangular YELLOW		Z-4044	40c

CQY89A/ LD271	Infrared		Z-3235	\$1.50
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FLASHING LED

Amazing! Inside this standard size (5mm) Red LED is a tiny microcircuit which causes it to flash! All you do is apply voltage. Think of the dozens of applications where a flashing warning is needed!

Cat Z-4000

\$1.50 ea

Ask for our FREE Flashing LED data sheet containing circuit ideas plus specifications!

7 SEGMENT LED DISPLAYS

Type No.	Char Size	Type	Cat. No	Price
LT303	8mm	Common Cathode	Z-4103	\$1.50
DL704	8mm	Common Cathode	Z-4110	\$2.30
LT302	8mm	Common Anode	Z-4117	\$1.50
DL747	16mm	Common Anode	Z-4127	\$3.48
FND500	13mm	Common Cathode	Z-4150	\$1.35

TRANSISTORS

Z-1054	AC126	95c
Z-1062	AC127	95c
Z-1064	AC128	95c
Z-1080	AC187	80c
Z-1082	AC188	95c
Z-1110	AD161	\$1.65
Z-1112	AD162	\$1.75
Z-1300	DS547 (BC547, BC182, BC207)	14c
Z-1308	DS548 (BC548, BC183, BC208)	14c
Z-1319	DS549 (BC549, BC184, BC209)	14c
Z-1329	BC109C (BC549C, BC209C)	34c
Z-1340	DS557 (BC177, BC212, BC557)	17c
Z-1348	DS558 (BC178, BC213, BC558)	17c
Z-1359	BC159 (BC179, BC214, BC559)	17c
Z-1388	BC639	34c
Z-1389	BC640	19c
Z-1241	BCY71	95c
Z-1443	BD139	55c
Z-1444	BD140	55c
Z-1460	BD682	\$1.26
Z-1462	BD681	\$1.26
Z-1560	BF115	75c
Z-1590	BF173	89c
Z-1602	BF180	73c
Z-1604	BF184	\$1.00
Z-1750	CL33 NPN Display Driver	\$1.00
Z-1752	CL34 PNP Display Driver	90c
Z-1780	D1371 (2N6027) PUT	59c
Z-1786	DS2646 (2N2646) UJT	95c
Z-1950	FPT100 (Photo transistor)	\$1.38
Z-1952	MEL12 (Photo Darlington)	95c
Z-1800	MJ2955	\$1.50
Z-1832	MPF102	59c
Z-1838	MPF105 (2N5459)	58c
Z-1840	MPF106 (2N5485)	58c
Z-1848	MPF131 (MPF121)	\$1.20
Z-1930	OC26 (AD149)	\$2.75
Z-1932	OC44	95c
Z-1941	OC71	75c
Z-2020	TIP31B	79c
Z-2024	TIP32B	79c
Z-2005	TIP2955 (MJE2955)	\$1.25
Z-2008	TIP3055 (MJE3055)	\$1.25
Z-2064	T8000 (2N4030)	89c
Z-2068	T8011 (2N3019)	89c
Z-2130	2N2053	53c
Z-2145	2N3055	83c
Z-1804	2N3055 (Motorola)	\$1.50
Z-2180	PN3563	30c
Z-2190	BC337	23c
Z-2242	BC328	17c
Z-2246	2N4360	22c
Z-2250	PN3642	45c
Z-2252	BC338	30c
Z-2256	PN3645	25c
Z-2320	PN4250 (BC557B)	48c
Z-2326	PN4258	38c
Z-1833	2N4342 P Channel FET	\$1.18
Z-2340	2N5484	58c
Z-2390	2N5590	\$8.48
Z-2391	2N5591	\$12.95
Z-2394	2N6084	\$16.20
Z-2150	BUX80 (MJ413)	\$7.50
Z-1808	MJ15003	\$5.00
Z-1810	MJ15004	\$5.00
Z-1815	2SK133	\$7.50
Z-1816	2SJ48	\$7.50
Z-2500	2SC1096	\$1.50
Z-2501	2SC1306 (2SC2166)	\$4.50
Z-2502	2SC1307 (2SC1969)	\$6.50

1W ZENER DIODES

Our 1W Zeners sell for about the same as everyone else's 400mW: so why not have the added margin of safety that 1W gives!

4V7 (1N4732)	Z-3523	5V1 (1N4733)	Z-3525
5V6 (1N4734)	Z-3527	6V2 (1N4735)	Z-3529
6V8 (1N4736)	Z-3531	7V5 (1N4737)	Z-3533
8V2 (1N4738)	Z-3535	9V1 (1N4739)	Z-3537
10V0 (1N4740)	Z-3539	11V0 (1N4741)	Z-3541
12V0 (1N4742)	Z-3543	13V0 (1N4743)	Z-3545
15V0 (1N4744)	Z-3547	16V0 (1N4745)	Z-3549
18V0 (1N4746)	Z-3551	20V0 (1N4747)	Z-3553
22V0 (1N4748)	Z-3555	24V0 (1N4749)	Z-3557
27V0 (1N4750)	Z-3559	30V0 (1N4751)	Z-3561
33V0 (1N4752)	Z-3563		

All values
29c each

SCR'S - Silicon Controlled Rectifier

Economy Plastic Packs

Type No.	Vdrn	I(A) rms	Use	Cat. No	Price
C103B	200	0.8	Small Current	Z-4310	\$1.38
C106Y1	30	4	Sensitive Gate	Z-4315	48c
C106D1	400	4	Sensitive Gate	Z-4320	85c
C122D	400	8	A.C. Switch	Z-4330	\$1.28
	(S4008RS2)				
C122E	500	8	A.C. Switch	Z-4332	\$1.58
	(BT151, TIC126E)				

Economy TO-48 Stud Packs

C164D	400	16	High Current	Z-4354	\$3.25
C168D	800	16	High Current	Z-4358	\$4.95



TRIACS - Silicon AC Switches

Economy Plastic Packs

SC141D	400	6	A.C. Switch	Z-4510	\$1.28
	(O4006L4 or 2N6343 - 8A)				
SC146D	400	10	A.C. Switch		
	(Use SC151D)				
SC151D	400	15	A.C. Switch	Z-4520	\$2.75
	(TIC246D)				

DIACS - AC Trigger Diodes

Type No.	Use	Cat. No	Price
BR100	Suitable trigger for S.C.R.'s	Z-4710	\$1.00
ST4	Asymmetrical A.C. trigger diode (Suitable trigger for SC141D & SC146D)	Z-4740	50c

PHOTO SENSITIVE DEVICES

Type No.	Type	Cat. No	Price
FPT100	Silicon photo transistor with lens. VCE 50 typ. @ ICE (It) 1.4mA typ. @ H = 5mW/cm ² with VCE = 5	Z-1950	\$1.38
MEL12	Silicon Darlington transistor with lens VCE 40 typ. @ IC (It) 3mA typ. @ H = 3mW/cm ² VCE with VCE = 5. Dark current maximum 100uA with VCE = 5 (Similar LDR03 or 2322-600-95001). Light dependent resistor. Dark value 10M ohms. Light value 75-300 ohms.	Z-1952	95c
ORP12	Double light dependent resistor. Dark value 200K ohms. Light value 330 ohms.	Z-4800	\$1.95
DS12	Double light dependent resistor. Dark value 200K ohms. Light value 330 ohms.	Z-4802	75c
BPW34/ BP104	Infrared photodiode	Z-1954	\$3.50

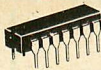
VALVES

We stock only top quality brand new valves from leading manufacturers. NOTE: If you have difficulty in obtaining a special valve that has been dropped from the manufacturers lists, please do not hesitate to enquire as to whether we have it - there are some valves left that we do not list here.

Type	Cat. No	Price	Type	Cat. No	Price
1S2	Z-9802	\$1.95	6GV8	Z-9926	\$3.95
6AL3	Z-9918	\$2.75	6GV8	Z-9928	\$2.50
6AL5	Z-9920	\$1.95	6X4	Z-9958	\$3.95
6AU6	Z-9830	\$2.95	12AT7	Z-9968	\$1.95
6BA6	Z-9836	\$2.95	12AU7A	Z-9970	\$1.65
6BL8	Z-9848	\$2.25	12AX7	Z-9972	\$2.95
6BM8	Z-9850	\$1.95	12BY7A	Z-9978	\$2.95
6BD5	Z-9852	\$1.95			
6CM5	Z-9884	\$3.25			
6ES8	Z-9918	\$3.50			

A SPECIAL NOTE ABOUT 400mW ZENERS: We've superseded our range of 400mW Zeners with 1W types, giving you much more margin for error at the same price. However, if you really want 400mW types, our stores may have some stocks left. Hurry: we've slashed the price to get rid of them!

DIGITAL IC's TTL



IC	Description (all dual-in-line packs)	Cat No	Price
7400	Quad 2 input NAND gate	Z-5010	23c
7401	Quad 2 input NAND gate open collector	Z-5011	30c
7402	Quad 2 input NOR gate	Z-5012	23c
7404	Hex inverter	Z-5014	35c
7405	Hex inverter open collector	Z-5015	35c
7408	Quad 2 input AND gate	Z-5018	35c
7410	Triple 4 input NAND schmitt trigger	Z-5020	30c
7413	Dual 4 input NAND schmitt trigger	Z-5023	75c
7414	Hex schmitt trigger	Z-5024	84c
7420	Dual 4 input NAND gate	Z-5030	24c
7430	Single 8 input NAND gate	Z-5035	28c
7437	Quad 2 input NAND gate/buffer	Z-5040	44c
7447	BCD to 7 segment decoder/driver	Z-5047	93c
7453	Expandable 4 wide 2 input AND/OR inverter	Z-5053	33c
7454	4 wide 2 input AND/OR inverter	Z-5054	44c
7473	Dual JK M/S flip-flop	Z-5073	58c
7474	Dual D-type flip flop	Z-5074	34c
7475	4 bit latch	Z-5075	60c
7476	Dual JK M/S flip flop	Z-5076	42c
7485	4 bit comparator	Z-5085	\$1.45
7486	Quad exclusive OR gate	Z-5086	38c
7490	Decade Counter	Z-5090	50c
7491	8 bit shift register	Z-5091	73c
7492	Divide by 12 counter	Z-5092	62c
7493	Binary Counter	Z-5093	56c
7495	4 bit right/left shift register	Z-5095	73c
74121	One shot multivibrator	Z-5260	75c
74123	Delay re-triggerable monostable	Z-5263	74c
74191	Sync. up/down binary counter	Z-5269	\$1.36
74192	Up/down decade counter	Z-5270	\$1.45
74193	Up/down binary counter	Z-5280	\$1.35

CMOS

IC	Description	Cat No.	Price
4000	Dual 3 input NOR gate plus inverter	Z-5600	48c
4001	Quad 2 input NOR gate	Z-5601	34c
4002	Dual 4 input NOR gate	Z-5602	48c
4007	Dual complementary pair plus inverter	Z-5607	38c
4009	Hex buffer/converter, inverting	Z-5609	47c
4011	Quad 2 input NAND gate	Z-5611	35c
4012	Dual 4 input NAND gate	Z-5612	38c
4013	Quad D-type flip-flop with reset	Z-5613	95c
4016	Quad bi-lateral switch	Z-5616	49c
4017	Decade counter/divider	Z-5617	\$1.20
4020	14 bit binary counter	Z-5620	\$1.48
4023	Triple 3 input NAND gate	Z-5623	30c
4024	7 stage ripple counter	Z-5624	\$1.20
4025	Triple 3 input NOR gate	Z-5625	38c
4027	Dual JK type flip flop with reset	Z-5627	95c
4028	BCD to decimal decoder	Z-5628	\$1.20
4029	Pre-settable up/down 4 stage counter	Z-5629	\$1.65
4030	Quad exclusive OR gate	Z-5630	85c
4049	Hex buffer/converter, inverting	Z-5649	75c
4050	Hex buffer/converter, non-inverting	Z-5650	43c
4051	8 channel multiplexer/demultiplexer	Z-5651	82c
4068	8 input NAND gate	Z-5668	50c
4071	Quad 2 input OR gate	Z-5671	24c
4081	Quad 2 input AND gate	Z-5681	40c
4511	BCD to 7 segment latch/decoder/driver	Z-5730	\$1.55
4518	Dual BCD up counter	Z-5740	\$1.95
4520	Dual 4 stage binary up counter	Z-5742	\$1.45
74C00	Quad 2 input NAND gate	Z-5410	35c
74C02	Quad 2 input NOR gate	Z-5412	29c
74C14	Hex schmitt trigger	Z-5413	\$1.75
74C926	4 decade counter	Z-5414	\$6.50

LOW POWER SCHOTTKY TTL

Type	Description	Cat No.	Price
74LS00	Quad 2 input NAND gate	Z-4900	35c
74LS01	Quad 2 input NAND gate open collector	Z-4901	28c
74LS02	Quad 2 input NOR gate	Z-4902	23c
74LS04	Hex inverter	Z-4904	40c
74LS08	Quad 2 input AND gate	Z-4908	28c
74LS10	Triple 3 input NAND gate	Z-4910	23c
74LS14	Hex schmitt trigger	Z-5282	88c
74LS20	Dual 4 input NAND gate	Z-4920	28c
74LS30	8 input NAND gate	Z-4930	28c
74LS73	Dual JK flip flop	Z-4973	65c
74LS74	Dual D-type edge triggered flip flop	Z-4974	36c
74LS76	Dual JK M/S flip flop	Z-4976	42c
74LS85	4 bit magnitude comparators	Z-4985	\$1.35
74LS90	Decade Counter	Z-4990	75c
74LS92	Divide by 12 counter	Z-4992	\$1.25
74LS93	4 bit binary register	Z-4993	94c
74LS95	4 bit L-R shift register	Z-4995	75c
74LS123	Monostable multivibrator	Z-4997	\$1.15
74LS138	Expandable 3/8 decoder	Z-5284	95c

SPECIAL FUNCTION LSI IC's

Type	Description	Cat No.	Price
MM5314	6 digit clock chip	Z-6814	\$4.90
TMS3834	4 digit clock chip with alarm, snooze	Z-6830	\$8.90
AY-3-8112	Clock, frequency divider	Z-6832	\$17.50
MM-5369	Oscillator divider	Z-5781	\$2.48
MM5369EYRN	Oscillator divider with 50Hz output	Z-5782	\$3.50
MM5440AAF	Keyboard Encoder	Z-9202	\$15.98
2102	1024 x 1 static RAM	Z-9302	\$1.30
2114	1024 x 4 static RAM	Z-9306	\$7.30
4116	16K x 1 static RAM	Z-9310	\$7.90
DS8629N	VHF prescaler	Z-5418	\$6.50
MM5837N	Noise Generator	Z-6130	\$3.90
TMS1000	Dedicated doormchime microprocessor	Z-6825	\$16.50
Z-80	Microprocessor IC	Z-8100	\$19.95
MM5303	UART (S1883, TMS5011, AY-5-1012)	Z-9204	\$5.25
XR-2206	Special effects synthesiser chip	Z-6820	\$5.95

ECL - DIGITAL IC

95H90	300MHz decade counter	Z-5360	\$15.00
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LINEAR IC's



Type	Description	Case	Cat No.	Price
LM709	High performance op amp.	14 DIL	Z-6352	78c
(UA709)				
LM741	Frequency compensated op amp	8 DIL or TO5	Z-6382	35c
(UA741)				
NE555	Wide range timer	8DIL	Z-6145	34c
LM301	General purpose op amp	8DIL	Z-6040	33c
(UA301)				
UA4136	Quad op amp	14DIL	Z-6105	\$1.88
CA3130T	FET operational amplifier	TO5	Z-6025	\$1.80
LM308	Super Beta op amp	14DIL	Z-6045	88c
LM317K	2-30V voltage regulator	TO3	Z-6542	\$3.90
LM380	5W power audio amplifier	14DIL	Z-6080	\$1.48
LM381	Dual Low noise preamp	14DIL	Z-6081	\$2.50
LM382	Stereo Preamplifier	14DIL	Z-6082	\$1.90
LM3900	Quad Op Amp	8DIL	Z-6100	93c
LM3909	LED Oscillator	14DIL	Z-6109	\$1.08
LM2917	Frequency/Voltage converter	14DIL	Z-6112	\$2.95
NE556	Dual Timer	14DIL	Z-6146	84c
OM802	Timer	TO18	Z-6190	85c
SAK140	Auto Tachometer	16DIL	Z-6230	\$2.28
UAA170	16 LED display line driver	16DIL	Z-6290	\$3.20
UAA180	12 LED display line driver	18DIL	Z-6292	\$3.20
LM3914	10 LED driver		Z-6295	\$4.25
ZN414	Complete radio chip	TO18	Z-6520	\$2.50
LM324	Quad Op amp	14DIL	Z-6102	\$1.20
TA7205P	Audio Power IC		Z-2503	\$4.50
TA7214P	Monolithic Amplifier		Z-2504	\$7.00
MC10116L	ECL triple diff. amp	16DIL	Z-5415	\$1.25
CA3140	Op Amp		Z-5417	\$1.48
CA3028A	RF/IF diff. amp	TO-5	Z-6020	\$1.45
(LM3028)				
OM350	VHF/UHF hybrid amp		Z-6185	\$9.95
UA78H05	5A/5V regulator	TO-3	Z-6570	\$6.95
UA723	Voltage regulator	TO5	Z-6360	\$1.14
LM723	Voltage regulator	14DIL	Z-6362	75c
XR-2206	Synthesiser Chip		Z-6820	\$5.95
7805	3 terminal positive 5V reg.	TO220	Z-6545	\$1.05
(LM34005)				
7812	3 terminal positive 12V reg.	TO220	Z-6552	\$1.05
(LM34012)				
7815	3 terminal positive 15V reg.	TO220	Z-6554	\$1.05
(LM34015)				
7905	3 terminal negative 3V reg.	TO220	Z-6555	\$1.68
(LM32005)				
7912	3 terminal negative 12V reg.	TO220	Z-6556	\$1.68
(LM32012)				
7915	3 terminal negative 15V reg.	TO220	Z-6557	\$1.68
(LM32015)				

4N28 OPTO COUPLER

A Gallium Arsenide LED optically coupled to a silicon photo-transistor designed for applications requiring electrical isolation high current transfer ratios. They are low package size and low cost, ideal for line interfacing and coupling systems, phase and feedback control, solid state switching and general purpose switching circuits.

Specifications:

Diode: Vr - 3 volts, If - 80mA cont. If - 3A peak Vf @ If=50mA - 1.5A maximum. Pd - 150mW.

NPN Photo Transistor: VCE - 30 volts, Vcb - 70 volts, Pd - 150mW. Ice dark current - 50nA max. (Vce=10 volt).

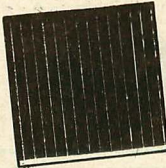
Total Device Ratings: Pd - 250mW, Isolation voltage - 500 min.

Cat. Z-4804

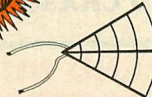


SOLAR ENERGY CELL

These blue energy cells were used by NASA for Space and telephonic communication, NASA was forced to sell when their budget was cut and Dick Smith has been able to purchase them for you at a very low cost. They are 10 times more potent than Cadmium cells in 10 times less space. From space project to hobbyist. Rectangular shape saves space. The most economical way to enter the fascinating world of solar research and experimentation. Voltage 430mV max., current 100mA max., size 2 x 2cm.



Cat. Z-4820 1-9 \$2.95 ea
10 up \$2.50 ea



SOLAR CELL SECTOR

A fantastic new addition for experimenters, etc, in the marvels of 'free power' power from light! These incredible cells have very high output for their size - 450mV @ 95mA (43mW per cell). Join them together for higher outputs - both voltage & current. These cells are 60 degree segments - join 6 together and form a 60mm dia. circle with over 2.5 volts output (or over half an amp in parallel!) Think of the applications! Easy to connect to: electrodes are solder! Get your share of 'free power' now (it's easy to make a trickle charge for Nicads with these cells).

Cat Z-4830 \$2.50 ea 6 up \$2.25 ea

BUY SIX TO MAKE A 60mm CIRCLE!

AMATEUR RADIO TRANSMITTER VALVES

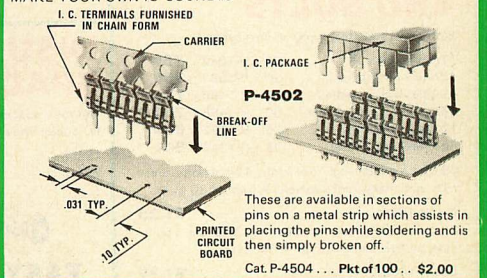
6146B	Cat D-7202	\$13.50
6SJ6C	Cat D-7204	\$13.50

IC SOCKETS AND PLUGS

P-4260	P-4160	P-4250
WIRE WRAP		
14 pin DIL WIRE WRAP IC socket Cat. P-4260	1-9 85c ea 10 or more 77c ea	
16 pin DIL WIRE WRAP IC socket Cat. P-4262	1-9 90c ea 10 or more 80c ea	
8 pin Mini DIP Cat. P-4080	1-9 30c ea 10 or more 25c ea	
14 pin DIL socket Cat. P-4140	1-9 35c ea 10 or more 30c ea	
16 pin DIL socket Cat. P-4180	1-9 40c ea 10 or more 35c ea	
18 pin DIL socket Cat. P-4180	1-9 65c ea 10 or more 60c ea	
24 pin DIL socket Cat. P-4240	1-9 90c ea 10 or more 85c ea	
40 pin DIL socket Cat. P-4250	1-9 \$1.10 ea 10 or more \$1.00 ea	
8 pin round socket Cat. P-4280	1-9 \$1.95 ea 10 or more \$1.75 ea	
14 pin DIL plug NEW Cat. P-4142 85c ea	
16 pin DIL plug NEW Cat. P-4162 95c ea	

MOLEX PINS

MAKE YOUR OWN IC SOCKETS



These are available in sections of pins on a metal strip which assists in placing the pins while soldering and is then simply broken off.

Cat. P-4504 ... Pkt of 100 ... \$2.00

TRANSISTOR SOCKETS

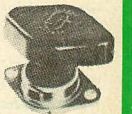
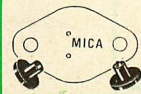
Type	Cat. No	1-9	10 up
TO-5 suit 2N3053 etc. Not illus.	P-4015	75c	68c
TO-3 suit 2N3055 etc.	P-4023	40c	35c

TO-3 INSULATORS

Standard TO-3 insulating kit consisting of a mica insulating washer and two heat-resistant insulating bushes (suits 6BA screws). Pack of 4 kits Cat H-1917

Each: 35c

Pack 4: 65c

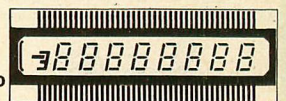


8 DIGIT LIQUID CRYSTAL DISPLAY

A very low cost liquid crystal display suitable for experimenters. It could be used with any equipment with digital readout requiring 7 segment display. Because of the inherent low current needs of liquid crystal displays, this component is ideally suited to battery equipment. Suitable IC driving component would be the Motorola MC14543 or RCA CD4056.

\$3.75

Cat. Z-4170



Specifications:	
Threshold voltage:	9V AC (peak to peak)
Operating voltage:	12V to 15V AC (peak to peak)
Maximum voltage:	18V AC (peak to peak)
Minimum frequency:	15Hz
Maximum frequency:	180Hz
Capacitance per segment:	270pF
AC current @ 12V:	20uA
Temperature range:	0° - 70°C
Contacts:	Gold deposited on glass
Contact spacing:	1.39mm
Dimensions:	71 x 21 mm

NYLON NUTS AND BOLTS

Precision moulded from '66' white nylon. Fully insulated, will not shake loose, can resist high temperatures and they are corrosion free. These items are hard to get but we have them and they are ideal for transistor and heatsink use. Tough but light.

Description	Qty.	Cat. No	Price per pack
12mm x 4BA cheese head	10	H-1012	75¢
25mm x 4BA cheese head	10	H-1022	80¢
4BA hex nut	12	H-1302	\$1.75
4BA washer	12	H-1452	75¢
12mm x 6BA cheese head	10	H-1032	75¢
25mm x 6BA cheese head	10	H-1042	80¢
6BA hex nut	12	H-1312	\$1.75
6BA washer	12	H-1462	75¢



STEEL NUTS AND BOLTS

1/2" Whitworth round head Zinc plated - just the kind of item that should be in your 'ready' box for future projects.

9mm long	25	H-1052	75¢
12mm long	25	H-1062	75¢
25mm long	20	H-1072	75¢
3mm hex nut	30	H-1322	75¢
3mm shake proof washer	50	H-1472	80¢
3mm metal washer	50	H-1482	75¢



BA SIZE NUTS AND BOLTS

Both brass and steel types in cheesehead.

12mm x 4BA bolt	25	H-1082	75¢
4BA hex nuts (brass)	20	H-1332	75¢
4BA flat washer (steel)	50	H-1488	75¢
4BA shake proof washer	50	H-1486	75¢
12mm x 6BA bolts	25	H-1092	80¢
6BA hex nuts (brass)	25	H-1342	80¢

6BA pack containing 12 of each - 12mm bolts, brass nuts and shakeproof washers. A total of 36 units.

Cat. H-1684 **\$1.25**

8BA pack containing 12 of each - 12mm brass bolts, nuts, and washers. A total of 36 units.

Cat. H-1682 **\$1.75**

SELF TAPPING SCREWS

Ideal for projects or as replacements for lost screws. These units are Cadmium plated steel.

No.4 x 12mm: Size 40	25	H-1612	80¢
No.4 x 6mm: Size 40	25	H-1611	80¢
No.8 x 12mm: Size 30	25	H-1632	85¢

SPECIAL NOTE:

Each product listing has four columns (unless otherwise shown), these are:
1st column - description
2nd column - quantity in the pack
3rd column - catalogue number
4th column - price per pack

HARWIN SPACERS



Made in England in high quality Nickel plated brass. To increase the length of spacers - just stack them.

6mm	12	H-1831	95¢
9mm	10	H-1832	95¢
12mm	8	H-1833	95¢
25mm	6	H-1834	95¢

The above units are 4BA (1/8") clearance hole 6mm OD.

The following units are hexagonal 4BA tapped 6mm OD.

9mm	6	H-1842	95¢
12mm	6	H-1843	95¢
25mm	4	H-1847	95¢

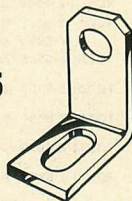


HARWIN BRACKETS

These brackets are made in England from mild steel with Cadmium plating. They are ideal for projects where right angle mountings have to be made. They have a 3mm clearance.

12mm	6	H-1895	\$1.75
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6 FOR ONLY \$1.75



INSULATED SPACERS

The ideal spacer for insulating the chassis from your PC board. They come complete with screws.

15mm	5	H-1862	\$1.75
25mm	4	H-1872	\$1.75

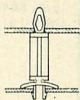


EASY TO ATTACH

CIRCUIT BOARD SUPPORT

Designed to hold printed circuit boards in position with sufficient clearance above the chassis. They snap into place and can be easily installed or removed by hand. They require a 4mm hole in the PC board and 4.75mm clearance hole in the chassis. Made of nylon.

9mm long	6	H-1981	80¢
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IDEAL FOR HOLDING PCB's TO CHASSIS

GROMMETS

Heavy duty grommets made of black rubber. Essential when cable passes through a metal chassis as they will prevent frayed cables and live chassis.

Hole size 8mm: Bore 5.5mm	10	H-1712	80¢
Hole size 16mm: Bore 6mm	10	H-1716	80¢
Hole size 12mm: Bore 9mm	8	H-1719	80¢



ESSENTIAL FOR SAFETY

CORD CLAMP GROMMETS

This is a self-locking grommet that maintains a secure grip on the cable without the use of separate clamps. Both - a grommet and clamp in one! Fits 3 core miniflex or equivalent cable size.

Hole size 12mm to 16mm	4	H-1724	80¢
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PLAY IT SAFE WITH AC!

CABLE CLAMPS

These are heavy duty Nylon cable clamps and are a must for terminating power cords and all cables, especially in projects.

Cable up to 5mm diameter	5	H-1964	75¢
Cables up to 6mm diameter	5	H-1965	80¢
Cables up to 8mm in diameter	5	H-1966	80¢



MAKES A NEAT JOB

CABLE TIES

When making any project that little extra professionalism will make the job look better. These units will handle up to 20mm diameter and down to 2 single wires.

Cat. H-1970..... 20 in pack.....	\$1.35
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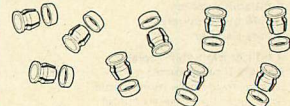
NOW IS THE TIME TO STOCK UP ON THESE ITEMS - YOU NEVER KNOW WHEN YOU WILL NEED THEM!

LED MOUNTING BEZELS -

pack of 15

When making up projects that have LED power indication or otherwise why not 'dress' your LEDs for that added professional touch. They work out at less than 4¢ each!

Cat. H-1910..... pack of 15.....	75¢
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TO-3 TRANSISTOR INSULATOR MOUNTING KIT

This kit consists of a quality mica insulating washer and two heat resisting insulating bushes. Suits 6BA screws. **Comes as a pack of 4 kits.**

Cat. H-1917.....	65¢
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4 in a pack ONLY 65¢

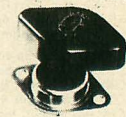


TO-3 TRANSISTOR INSULATOR CAP

This is a high quality plastic cap that fits over the standard TO-3 transistor affording it protection.

Cat. H-1918.....	35¢
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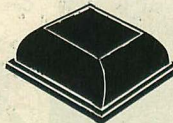
PROTECT YOUR TO-3's



RUBBER FEET SELF-ADHESIVE

Just think - no holes to bore in your chassis, you just stick these handsome black feet on! They have hundreds of uses including being used on store bought equipment.

15 x 5mm small square	4	H-1745	75¢
20 x 8mm large square	4	H-1749	85¢



THOUSANDS OF USES

RUBBER FEET MOUNTING

The conventional rubber feet that have a 3mm hole for screw mounting. Made of black rubber, they can also be cemented on to your project.

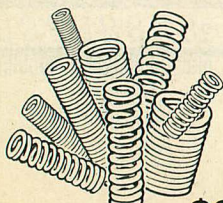
Cat. H-1736..... 8 in a pack.....	75¢
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SPRING PACK ASSORTED SIZES

Between 100 and 200 springs in assorted sizes from tiny ones through to big ones!

Each pack is made up of a mixture of compression and tension types. All are brand new manufacturer's overs, samples, etc. Some are worth over 30¢ each!

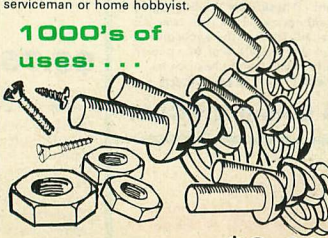


Cat. H-1994.....	\$3.50
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SCREW AND NUT PACK-ASSORTED

A fantastic collection of over 200 pieces of the most popular small sizes of screws, nuts and washers. Ideal to have on hand in your workshop - for the serviceman or home hobbyist.

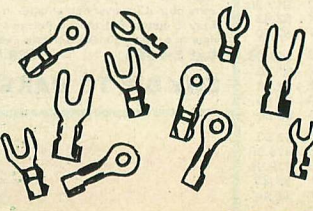
1000's of uses...



Cat. H-1680.....	\$3.90
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LUG PACK ASSORTED

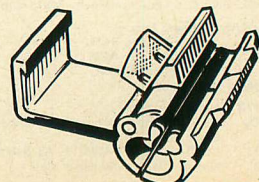
Approximately 100 solderless lugs in the most popular sizes. Although these are crimp lugs they can be soldered if required. They are ideal for speaker hook-ups, earth lugs, automobile use, etc. Plated finish.



Cat. H-1690.....	\$2.95
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CABLE JOINERS

How many hours have you spent stripping, soldering and insulating wires? Forget it in the future. These brilliant Scotchlok connectors join wires instantly. All you have to do is lay the two wires to be joined inside the Scotchlok and squeeze the Scotchlok together with pliers. Can be used in car wiring, trailer wiring, etc., hundreds of uses. 2 units per pack.



Cat. H-6720..... Pack of 2.....	50¢
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BLANK PRINTED CIRCUIT BOARDS

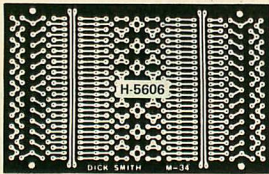
Pre-cut high quality PC boards with permanently bonded copper on one side - available in bakelite or heavy duty fibreglass.

Bakelite: 150x75mm	Cat. H-5500	75c
Bakelite: 150x150mm	Cat. H-5505	\$1.50
Bakelite: 300x300mm	Cat. H-5510	\$4.25
Fibreglass: 150x75mm	Cat. H-5540	\$1.45
Fibreglass: 150x150mm	Cat. H-5545	\$2.90
Fibreglass: 300x300mm	Cat. H-5550	\$6.20
DOUBLE SIDED 28 GRAM LAMINATE		
Fibreglass: 228x150mm	Cat. H-5560	\$4.50

DICK SMITH DESIGN BREADBOARD

This is an extremely useful board etched and drilled in such a unique pattern that it will accommodate almost all types of integrated circuits and transistor packages as well as passive parts. Each board has over 500 holes drilled on a 2.54mm grid and over 200 separate silver plated lands as well as in-built buss bars. It will even take the wide 24, 28, 36 and 40 pin DIL packages as well as the 8, 14 and 16 pin packages. **Size: 2.54mm spacing x 80mm x 127mm**

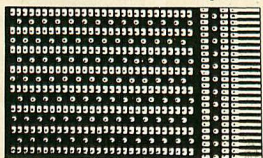
Cat. H-5606	\$2.50 ea
10 up	\$2.20 ea



PLUG-IN IC BOARD

Fantastic plug-in printed circuit board, 2.54mm pin spacing to accept directly up to 14 x 14 pin or 16 pin IC's, up to 20 'Mini-Dip' IC's. Lands are silver plated and a 24 way 2.54mm plug is etched into one end of the board so that it can be used with a 24 way edge connector. An excellent high quality board for the hobbyist or engineer.

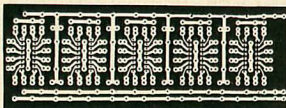
2.54mm spacing x 60(w) x 100(l)mm	
Cat. H-5610	\$1.60 ea
10 up	\$1.40 ea



DIL BOARD

Specially made for Dick Smith Electronics to take up to 5 DIL IC's up to 16 pin. Don't 'birdnest' anymore - makes assembly easier. Quality, predrilled board with deep etched copper lands.

170mm x 60mm	
Cat. H-5602	\$1.95 ea
10 up	\$1.65 ea

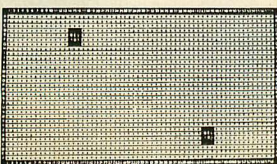


PRINTED STRIPBOARDS

DICK SMITH SPECIFICATIONS - PLATED STRIPS - ALPHA NUMERIC GRID

The most versatile board of the lot! Etched copper strips are predrilled and plated ready for solder. The alpha numeric grid facilitates positive pin identification. **2.54mm spacing x 76mm x 153mm**

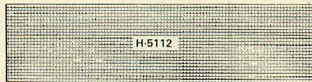
Cat. H-5612	\$3.45 ea
10 up	\$2.70 ea
2.54mm spacing x 76mm x 76mm	
Cat. H-5614	\$1.60 ea
10 up	\$1.40 ea



PRINTED CONDUCTOR STRIP BOARD

A quality silver plated copper strip board similar to the English Veroboard. Continuous predrilled stripping on a high grade insulator. Packed in plastic sheath to assure you an unmarred, easy-to-solder surface. **2.54mm spacing x 95mm x 304mm**

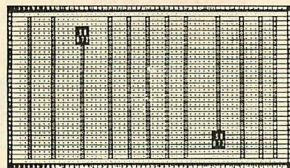
Cat. H-5112	\$4.50 ea
10 up	\$4.00 ea



VERSA STRIP BOARD

As H-5612 board, but with pre-cut short tracks making it ideal for multi IC work. Plated strips. Packed in a plastic sheath for protection. **2.54mm spacing x 76mm x 153mm**

Cat. H-5616	\$3.45 ea
10 up	\$3.05 ea



PRINTED MOUNTING STRIP

A handy 47 way mounting strip for resistors, capacitors and other components. Packs them in neatly. Terminals are numbered for easy circuit identification.

Cat. H-6610	\$1.50 ea
10 up	\$1.30 ea



MATRIX BOARD

Tough phenolic board with punched holes. Ideal for prototypes, bread boards, science or hobby projects. **2.54mm spacing x 76mm x 76mm**

Cat. H-5310	\$1.30
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BOARD PINS

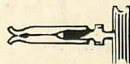
These pins push through 2.54mm pitch matrix board or Veroboard to form solder terminals on both sides of the board.

Cat. H-5590	Pkt 50 pins \$1.50
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CONNECTOR SOCKET

Fits the H-5590 board pins. Has many uses.

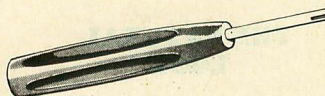
Cat. H-5592	Pkt 25 \$1.10
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SPOT FACE CUTTER

Remove copper quickly and neatly from all printed circuit board and Vero boards.

Cat. H-5176	\$3.50
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See the kit section for a list of project PC boards from **Electronics Today & Electronics Australia**

PRINTED CIRCUIT KIT



Contains everything you need to produce professional printed circuit boards. Complete detailed instruction manual, 150 x 100mm board, template, chemicals and tools. Supplied in a sturdy plastic case which also serves as an etching tray.

Cat. H-5660	\$8.50
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ETCHING KIT

(Not illustrated)

Manufacture your own printed circuit boards with this complete kit. Contains instructions, bituminous paint, Ferric Chloride, resin and brush. Full details are in the B-6005 booklet.

Cat. H-5650	\$3.90
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DALO MARKING PEN

Essential for precision marking of boards prior to etching. Unique press-to-mark feature ensures adequate dye when marking the board.

Cat. T-5170	\$2.25
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FERRIC CHLORIDE

Supplied as a 42% solution in a plastic bottle. The quantity contained is 250ml and this is made up to 600ml working solution by adding water. **WARNING:** This product is highly corrosive and must be handled with care.

Cat. H-5652	\$1.90
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BITUMINOUS PAINT

Tube of bituminous paint for use in the making of PC boards.

Cat. H-5654	99c
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PC BOOKLET

A guide to PC board making for the home constructor.



Cat. B-6005	35c
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PC BOARD TRANSFERS

This kit will enable you to fabricate PC boards of professional quality. The etchant resist, dry transfer sheets include linear patterns for conductor runs, T sections for junctions, ellipses, teardrops, lozenges, small arrows, and in addition there are images for common component symbols. Each package contains three pages. One page includes 3.2mm lines and two pages contain 1.6mm lines. Applied to the PC board by burnishing the face of the transfer with a pencil or ball point pen. This resist works well with all types of etchant.

Cat. H-5656	\$5.90 per pack
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WORD LETTERING SET

Each pack contains hundreds of words, letters, numbers and symbols for quick easy labelling of electronic equipment. These are transfer sheets that are easily applied by burnishing.

Size 1 (3.1mm high) Black lettering	
Cat. N-1800	\$4.75
Size 2 (2.3mm high) Black lettering	
Cat. N-1804	\$4.75
Size 2 (2.3mm high) White lettering	
Cat. N-1806	\$4.75



Give your project a touch of class!

SCOTCHCAL

Scotchcal is a photosensitive material of either thin plastic film or thin aluminium sheet. Exposure of the surface emulsion to ultra violet light hardens the material. See Electronics Today magazine September and December 1977, and Electronics Australia December 1977.

8500 DEVELOPER

This solution is necessary for the development of the exposed 8007 film or 8001/5 aluminium. The amount of developer is enough to process many sheets.

Cat. H-5696	\$1.00
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8007 PLASTIC FILM

This is a clear plastic film with an orange ultra violet sensitive emulsion on one surface. By using the normal development process given in the instructions, a negative image will result from original artwork. This film can be used to make your own PC board negatives from your own artwork or magazine artwork. Every sheet of film supplied includes a polyester base material for laying down by your own artwork, using Letratex, tape, circuit symbols, drafting aids, inks, etc. **Size of sheet 25cm x 30cm.**

Cat. H-5690	\$5.90 per sheet
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8001/5 ALUMINIUM SHEET

This is a 0.13mm thick self-adhesive aluminium sheet with an ultra violet sensitive surface emulsion. Exposure of this surface emulsion to ultra violet light through an original film artwork (i.e. 8007 film) will give a negative image of the artwork. The black area of the original artwork will result in a white area on the aluminium sheet. This material is ideally suited to fabrication of front panels for projects, etc. A sheet of polyester base is included for your artwork. **Sheet size 25cm x 30cm. In RED or BLACK**

Cat. H-5692	RED \$6.90 per sheet
Cat. H-5694	BLACK \$6.90 per sheet

POSITIVE PHOTO RESIST

CCPR12 RESIST is a positive working polyvinyl compound which, when exposed to ultra violet light through an artwork of dense black areas on a clear or translucent film, will leave the black areas as a pattern on the laminate when developed. The clear or translucent areas exposed to the UV light will wash away during the development leaving an image which will offer a strong resistance to a variety of etching solutions. Quantity supplied should cover an area in excess of 1500 square centimetres. See Electronics Australia December 1977 for further details.

Cat. H-5720	50ml \$4.50
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NEGATIVE PHOTO RESIST

CCNR204 is a negative acting photo sensitive solution for the production of PC boards, etched front panels in aluminium, etc. Exposure to UV light through an artwork of dense black or other UV light opaque areas on a clear or translucent film, will leave areas as a pattern on the laminate or panel. The clear areas of the resist exposed to UV light harden on development and remain, whilst the opaque areas wash away. This leaves a pattern offering strong resistance to a variety of etching solutions. Enough solution supplied to cover 1500 square centimetres. See Electronics Today December 1977 for further details.

Cat. H-5722	50ml \$2.75
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CCPD16 DEVELOPER Developer crystals for the CCPR12 photo resist. Quantity will make up a solution to develop in excess of 50 grams of resist.

Cat. H-5724	80g \$1.85
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CCND206 DEVELOPER

Developer solution for the CCNR204 resist solution, enough to develop 50 grams of resist.

Cat. H-5726	500ml \$3.50
-------------	---------------------

**PUT YOUR
PROJECT
IN A
19"
STANDARD**

RACK MOUNTING CABINET

TOP QUALITY
Supplied as a flat pack -
takes only minutes to assemble!

This is a professional rack mounting cabinet that will allow you to get your equipment off the bench. Rack mounting provides security for your equipment and easy access for maintenance. This Dick Smith rack mounting cabinet has all of the features you would expect from a professional unit.

★ Top, bottom and rear cover removable for access ★ Plates have heavy duty grey paint finish ★ Front panel is heavy gauge - 3mm aluminium ★ Strong, screwed, construction throughout - screws included ★ Heavy gauge chassis mounting plate is pre-drilled and has four mounting positions to choose from ★ Front panel is of brushed aluminium finish enhanced with heavily chromed handles ★ Size: cabinet 42.5(l) x 25(w) x 140(d)cm, mounting 46.5cm horizontal centres and 10cm vertical centres.

Cat. H-2480 \$49.50

METAL CABINETS

IDEAL FOR POWER SUPPLIES & GENERAL PROJECTS

These are beautifully manufactured cabinets with an aluminium base and 18 gauge steel covers. They come fitted with rubber feet (to please the wife!), louvred for ventilation and finished in an attractive two tone finish. They make excellent cabinets for power supplies, remote control units and many more projects.

Cat. H-2741 ... 102(d) x 56(h) x 83(w)mm ... 1-9	\$2.75 ea
10 or more	\$2.55 ea
Cat. H-2742 ... 150(d) x 61(h) x 103(w)mm ... 1-9	\$4.35 ea
10 or more	\$3.95 ea
Cat. H-2743 ... 150(d) x 76(h) x 134(w)mm ... 1-9	\$4.90 ea
10 or more	\$4.40 ea
Cat. H-2744 ... 184(d) x 70(h) x 160(w)mm ... 1-9	\$5.45 ea
10 or more	\$5.00 ea

DIECAST ALUMINIUM BOXES

Precision die-cast boxes have always been expensive but these boxes are low in price through Dick's direct import. They have exclusive channelled walls for sliding your PCB's into in any position. Ideal for projects involving RF as they are fully screened when the lid is on. Will withstand heat to 600 degrees centigrade! Complete with screws.

Cat. H-2201 ... 190(d) x 60(h) x 110(w)mm	1-9 ... \$12.50 ea
10 or more	\$10.50 ea
Cat. H-2206 ... 150(d) x 50(h) x 80(w)mm	1-9 ... \$8.50 ea
10 or more	\$7.50 ea
Cat. H-2211 ... 120(d) x 40(h) x 65(w)mm	1-9 ... \$4.90 ea
10 or more	\$4.20 ea
Cat. H-2221 ... 100(d) x 25(h) x 50(w)mm	1-9 ... \$3.00 ea
10 or more	\$2.55 ea

PROJECT CASE: Ideal for LED displays, etc

Superb case for any project using LED displays. PCB slots into case with LEDs showing through red front panel. Comes with mounting bracket. Ideal for clocks, meters, counters, etc. Great value!

Size approx.

104 x 44 x 68mm

Cat H-3194 \$3.60

PLASTIC CASE

This is a very tough and versatile case that splits into two halves to facilitate the installation of components and PCB's. The unit also has air vents which makes it ideal for power supplies. Also ideal for instruments and small PA's and so on. Has internal slots for mounting the PC boards.

Cat. H-2515 140(d) x 130(h) x 78(w)mm \$5.95

ONLY \$5.95

ALUMINIUM SHEET

This is blank 18 gauge aluminium sheet ideal for making your own heatsinks, brackets, chassis, boxes, etc.

Cat. H-2560 ... 305 x 305mm	\$2.95
Cat. H-2558 ... 152 x 152mm	\$1.50

ALUMINIUM BOXES

THE NATURAL LOOK

Extruded heavy gauge aluminium case with removable plates, very strong and beautifully made. There are holes drilled and countersunk to make your box look super smart. Because they are precision manufactured they have very effective screening properties.

Cat. H-2410 ... 102(d) x 76(h) x 25(w)mm	\$4.50
Cat. H-2415 ... 102(d) x 76(h) x 51(w)mm	\$5.00
Cat. H-2420 ... 102(d) x 76(h) x 76(w)mm	\$5.50
Cat. H-2425 ... 102(d) x 76(h) x 102(w)mm	\$6.00
Cat. H-2430 ... 102(d) x 76(h) x 153(w)mm	\$7.00

INSTRUMENT BOXES

FROM ONLY

Two piece boxes made up of 18 gauge natural bright aluminium. Each section forms 3 sides with flanges ready for drilling to suit your requirements. Versatile and useful - even come with screws.

Cat. H-2300 ... 102(d) x 51(h) x 70(w)mm	\$2.15
Cat. H-2305 ... 102(d) x 54(h) x 42(w)mm	\$1.95
Cat. H-2310 ... 102(d) x 58(h) x 58(w)mm	\$2.20
Cat. H-2315 ... 127(d) x 58(h) x 58(w)mm	\$2.35
Cat. H-2320 ... 127(d) x 102(h) x 76(w)mm	\$2.95
Cat. H-2325 ... 133(d) x 76(h) x 54(w)mm	\$2.50
Cat. H-2330 ... 152(d) x 130(h) x 102(w)mm	\$3.90
Cat. H-2335 ... 178(d) x 153(h) x 114(w)mm	\$6.50

\$1.95

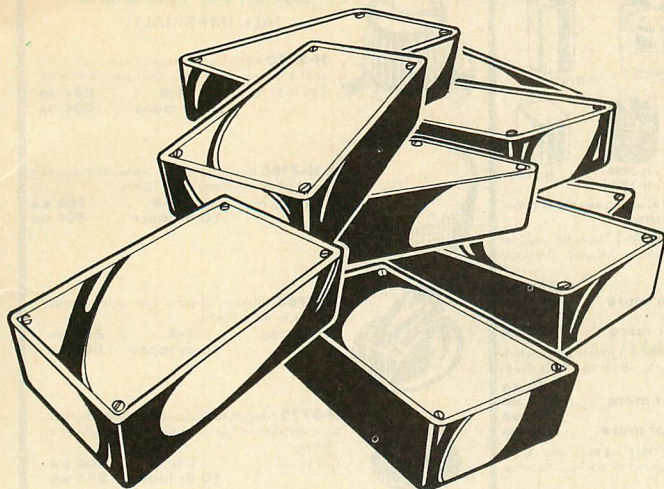
INSTRUMENT CASES

THE PROFESSIONAL LOOK

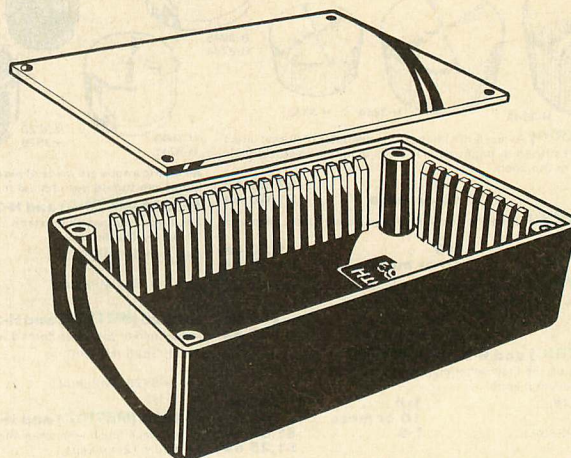
Constructed of marviplated steel with aluminium front and rear panels. They come supplied complete with smart handles that will complement any project you undertake. They are excellent for encasing amplifiers, instruments, etc.

Cat. H-2450 ... 203(d) x 102(h) x 153(w)mm	\$14.50
Cat. H-2455 ... 203(d) x 102(h) x 254(w)mm	\$16.50
Cat. H-2460 ... 228(d) x 76(h) x 203(w)mm	\$14.50
Cat. H-2465 ... 228(d) x 76(h) x 305(w)mm	\$17.50

THE ZIPPY BOX with all round ribbing



Ideal for manufacturers, design prototypes, projects, instrumentation etc. . .



THE ALL ROUND RIBBING ALLOWS PCB's TO BE MOUNTED EITHER WAY

These are the famed Zippy boxes that Dick searched the world for – and found. They are made in a very tough high impact styrene with moulded corner supports to take the self tapper screws (supplied). These screws hold in place the natural aluminium lid. The slots or ribbing is an excellent way of holding PCB's in the box and being all around the inside enables you to use either small boards across the box or larger boards down the length of the box – it covers your PCB's both ways!

WHEN BUILDING A PROJECT MAKE THESE ZIPPY BOXES YOUR 1st CHOICE!

*** THOUSANDS SOLD ***

AS USED IN THE FUNWAY INTO ELECTRONICS KITS AND THOUSANDS OF OTHER PROJECTS

Cat. H-2751	150(d) x 90(h) x 50(w)mm	1-9	\$2.50 ea
10 or more			\$2.00 ea
Cat. H-2752	196(d) x 113(h) x 60(w)mm	1-9	\$3.75 ea
10 or more			\$3.00 ea
Cat. H-2753	130(d) x 68(h) x 41(w)mm	1-9	\$1.95 ea
10 or more			\$1.60 ea
Cat. H-2755	83(d) x 54(h) x 28(w)mm	1-9	\$1.50 ea
10 or more			\$1.20 ea

MINIATURE LED BEZELS

**SMARTEN UP
YOUR
PROJECT!**

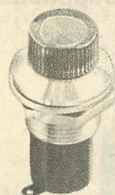


These miniature LED bezels have great reliability for their size. They are a low current drain device requiring only 20mA at 2 volts to operate. For a higher voltage operation you will have to use a series resistor (see data section for details). A 7mm hole is required for mounting.

Cat. S-3528	RED	1-9	\$1.50 ea
10 or more			\$1.20 ea
Cat. S-3529	GREEN	1-9	\$1.75 ea
10 or more			\$1.50 ea

12 VOLT BEZEL

**IDEAL FOR
BATTERY
POWERED
PROJECTS**

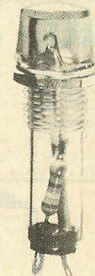


An extremely attractive medium sized bezel available in both GREEN and RED. Even though this bezel is round it features a flat top to the lens indicator making it look extremely modern. The surround is deep chrome plated. Comes complete with a 12V miniature globe. Requires an 11mm mounting hole. State colour when ordering.

Cat. S-3510	RED	80¢
Cat. S-3512	GREEN	80¢

NEON INDICATOR

**IDEAL FOR
INDUSTRIAL
INSTRUMENTS**



An attractive bezel complete with series resistor in the plastic housing. Requires 240V AC. Ideal for power indication on amplifier power supplies, in fact anything that uses mains power! Requires a 9mm mounting hole.

Cat. S-3550	1-9	\$1.10 ea
10 or more		\$1.00 ea

Sub miniature "Lilliput" type which suits S-3510 bezel and other applications. Size approximately 12mm long x 6mm diameter.

Cat. S-3836	6 volt	40¢ ea
10 or more		35¢ ea
Cat. S-3842	12 volt	40¢ ea
10 or more		35¢ ea

M.E.S. "LILLIPUT"

Miniature Edison screw (M.E.S.) "Dial Lamp" type globes.

Cat. S-3806	6.3 volt	1-9	40¢ ea
10 or more			35¢ ea
Cat. S-3812	12 volt	1-9	37¢ ea
10 or more			32¢ ea

Socket for M.E.S. globes.

Cat. S-3880	1-9	49¢ ea
10 or more		40¢ ea

NEON PIGTAIL

Small pigtail type neon with a multitude of uses. Striking voltage 70-90V DC at 600uA – use 270k resistor for 240V operation.

Cat. S-3862	1-9	40¢ ea
10 or more		35¢ ea

MINIATURE NEON BEZEL

**FROM ONLY
88¢ ea**

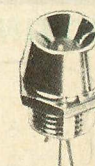


This is a 90 volt neon indicator that is so small there is no room for the series resistor in the case. For 240V AC operation the resistor can be externally added (approximately 220k ¼ watt for 240V AC). The chrome bezel has RED lens and the unit requires a 7mm mounting hole.

Cat. S-3552	1-9	98¢ ea
10 or more		88¢ ea

DUAL LED INDICATOR

**RED AND
GREEN
FOR 2 STATE
LOGIC**



TWO LED's in the one bezel! One RED and one GREEN. These are ideal for two state indication on solid state equipment. Chrome plated surround gives them a quality finish. Operates on 1.3 to 1.5 volts @ 25 to 30mA (50mA max.). Ideal for logic work on TTL.

Cat. S-3530	1-9	\$2.50 ea
10 or more		\$2.20 ea

SEE HARDWARE PAGE FOR LED MOUNTING BEZELS

COAXIAL & TV CABLE

TV 300 OHM RIBBON

Suitable for indoor use. 300 ohm feeder ribbon for connecting aerials to TV sets - low loss and maintains perfect balance.

Cat. W-2070 **15¢/m**
Bulk price 100m or more **10¢/m**

COAXIAL CABLE 3C2V 75 OHM COLOUR

Designed for TV feeder systems. Cable has excellent dielectric and is suitable for up to 400MHz. It has a 5mm diameter black insulation over braided shield.

Cat. W-2080 **40¢/m**
Bulk price 100m or more **30¢/m**

RG58RU 50 OHM LIGHT DUTY

For use up to 500MHz making it ideal for the marine radio installation, CB radio, amateur and two-way radio. Flexible with stranded centre conductor and black insulation. Diameter 5mm.

Cat. W-2090 **50¢/m**
Bulk price 100m or more **40¢/m**

UR67 50 OHM HEAVY DUTY

Ideal for long run feeder systems due to its very low loss. Ensures maximum operating range of transmitters. Insulation is coloured black and has a 10mm diameter

Cat. W-2095 **\$1.50/m**
Bulk price 100m or more **\$1.25/m**

50 OHM MINIATURE TEFLON INSULATION

1 metre pack

Able to handle up to 100 watts at 500MHz due to the Teflon insulation, this also means you can solder directly to the shield braid without melting the insulation. Incredibly small diameter, only 2.5mm! Ideal for wiring into transmitters etc., where space is a premium. High quality.

Cat. W-2088 **1 metre pack \$3.50**

TELEPHONE CABLE

This is the type of wire used by TELECOM Australia for internal telephone wiring. Ideal for intercoms or any other multi-wire circuit. Individually insulated and colour coded. Solid copper conductors, fully tinned for solder connection or good screw connection.

4 CONDUCTOR

Cat. W-2120 **45¢/m**
Bulk price 100m or more **35¢/m**

12 CONDUCTOR

Cat. W-2140 **75¢/m**
Bulk price 100m or more **60¢/m**

RESISTANCE WIRE PACK

Resistance wire suitable for the construction of wire wound resistors, small heater elements, shunts etc. Also ideal for emitter resistors in high power amplifiers. Wire size: 28 B&S (diameter 0.32mm). Solderable - yes. 1.852 ohms/FT. Non magnetic. Composition: 45% Nickel, balance copper. Corrosion resistance - good. Maximum continuous service temperature: 540 degrees centigrade.

Cat. W-3200 **4 metre length 75¢**

MAINS POWER CABLE TWIN CONDUCTOR FIG. 8

Ideal for use with extension lights, standard lamps etc., also ideal for use with speakers and intercoms if a lower resistance is required. Rated at 240V AC. Has white plastic insulation.

Cat. W-2020 **30¢/m**
Bulk price 100m or more **25¢/m**

3 CORE POWER CABLE

A standard power cable for use where an earth is required. Each wire is separately insulated and colour coded and all three cables are contained in a plastic sleeve to give double insulation. Rated at 240V AC and 7.5 amps continuous.

Cat. W-2055 **50¢/m**
Bulk price 100m or more **45¢/m**

SHIELDED AUDIO CABLE - SINGLE CONDUCTOR

PVC covered, light duty, very flexible cable that is ideal for patch cords, small microphones, etc. Colour - Grey

Cat. W-2030 **30¢/m**
Bulk price 100m or more **25¢/m**

TWIN CONDUCTOR

2 PVC covered twin shielded conductors. Ideal for microphones, audio patch leads, hook-up wiring, etc. Flexible, light duty. Colour coded.

Cat. W-2034 **50¢/m**
Bulk price 100m or more **45¢/m**

TWIN CONDUCTOR FIG. 8

The same as the single conductor audio lead but with two conductors separately shielded in fig.8 pattern insulation. Ideal for stereo connections. Colour - Grey.

Cat. W-2036 **50¢/m**
Bulk price 100m or more **45¢/m**

HEAVY DUTY TWIN

Two conductors individually shielded and colour coded surrounded by a heavy duty outer insulation sheath. Ideal for use where heavy handling could destroy light duty cables i.e. rock groups etc.

Cat. W-2037 **75¢/m**
Bulk price 100m or more **65¢/m**

4 CONDUCTOR

All 4 conductors are individually shielded and covered by grey PVC insulation. Ideal for use with stereo systems that have DIN type connections.

Cat. W-2038 **\$1.20/m**
Bulk price 100m or more **95¢/m**

HOOK-UP WIRE

FLEXIBLE LIGHT DUTY 10 x 0.12mm

PVC insulated wire that is ideal for the hobbyist. Ideal for home brew projects etc. 12 individual colours available - saves confusion.

W-2220	Red	W-2226	Dark Blue
W-2221	Black	W-2227	Purple
W-2222	Brown	W-2228	Blue
W-2223	Orange	W-2229	Grey
W-2224	Yellow	W-2230	Cream
W-2225	Green	W-2231	White

ALL COLOURS

10¢/m
Bulk price 100m or more **8¢/m**

10 x 0.2mm MEDIUM DUTY

Slightly thicker than the above wires, fully tinned and insulated. Available in Red and Black.

Cat. W-2240 **Red 15¢/m**
Cat. W-2242 **Black 15¢/m**

(Both colours)

Bulk price 100m or more **12¢/m**

24 x 0.2mm HEAVY DUTY

24 x 0.2mm (23/0076). Rated at 240V AC, 7.5 amps. Available in red, black and green.

Cat. W-2260 **Red 20¢/m**
Cat. W-2262 **Black 20¢/m**
Cat. W-2264 **Green 20¢/m**

ALL COLOURS

Bulk price 100m or more **17¢/m**

32 x 0.2mm SPECIAL HEAVY DUTY

32 x 0.2mm (40/0076). Rated at 240V AC, 10 amps. Available in brown and blue.

Cat. W-2280 **Brown 30¢/m**
Cat. W-2282 **Blue 30¢/m**

BOTH COLOURS

Bulk price 100m or more **25¢**

HOOK-UP WIRE PACK

24 metres in total of 12 different colours (that's 2 metres of each colour) of the 10 x 0.2mm hook-up wire. Ideal for the hobbyist, experimenter etc.

Cat. W-4010 **\$2.25**

INSTRUMENT TEST LEAD WIRE

Special 512 strand (YES 512!) very flexible wire that is ideal for test leads or for connection to something that is moving. Very low resistance and only 3mm in diameter. Expensive - yes, but it will last for years. Pack contains 2 metres each of red and black (4 metres total).

Cat. W-4016 **4 metre pack \$2.90**

HEATSHRINK TUBING PACK

Make professional terminations. Supplied as a pack of various lengths and sizes and includes (internal diameter) 1.5mm, 2.8mm, 6.3mm, 12.7mm and 19mm. On application of heat from a soldering iron or hair dryer will shrink up to 50% of original size. Retains flexibility after being shrunk - ideal as 'strain' cord on made up leads.

Cat. W-4060 **\$2.50**

SPEAKER CABLE MINI FLEXIBLE

Ideal cable for use with Hi Fi systems for speaker connections or with intercoms. Twin plastic insulated conductors, insulation marked with a trace to keep speakers correctly polarised.

Cat. W-2010 **18¢/m**
Bulk price 100m or more **15¢/m**

HEAVY DUTY

Ideal cable for connecting speakers to systems of up to 200 watts power. Heavy duty with low resistance for long runs with very low power loss. Colour coded for polarity reference. Conductors 14/0076.

Cat. W-2012 **20¢/m**
Bulk price 100m or more **18¢/m**

RAINBOW CABLE

12 colour coded strands of insulated conductor bonded together in a flat cable. Ideal for wiring looms or intercoms etc. Can be laid under carpets. Can be split and the individual wires used - same rating as W-2220 series of wire.

Minimum order 5 metres.

Cat. W-2045 **85¢/m**
Bulk price 100m or more **70¢/m**

RAINBOW CABLE PACK

Contains 2 metres of cable - equivalent to 24 metres of hook-up wire.

Cat. W-4012 **\$1.90**

SPAGHETTI PACK

Contains 30 lengths of assorted colours and diameters (each length being more than 150mm), that totals over 4.5 metres of spaghetti.

Cat. W-4040 **\$2.50**

TINNED COPPER WIRE

High quality 25 gram roll of 22 SWG (approx. 20 B&S) bright copper wire. Ideal for PC board links, hard wire jumper leads, chassis wiring etc. Approximately 8 metres to a roll.

Cat. W-3022 **approx 8 metres \$1.90**

IC WRAPPING WIRE PACK

This is a high quality insulated IC wrapping wire now in a convenient 5 metre pack - keep a couple of packs handy, you never know when you'll need it!

Cat. W-4018 **5 metre pack 75¢**

ENAMELLED WINDING WIRE

Coil winding, motor rewinding, transformer building are no longer a problem with these handy coils of enamelled wire.

NOTE: Where possible this wire will be supplied with "Biciflux" insulation. Simply heat wire with soldering iron and insulation will flow therefore requiring no stripping.

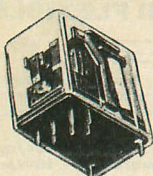
B&S Gauge mm	SWG Gauge	Approx. Length	Net Wt.	Cat. No.	Price
16	1.25	18	8m	100g	W-3116 \$2.95
18	1.0	19	12m	100g	W-3118 \$2.95
20	0.8	21	18m	100g	W-3120 \$2.95
22	0.63	23	24m	100g	W-3122 \$2.95
24	0.5	25	9m	25g	W-3124 \$1.95
26	0.4	27	20m	25g	W-3126 \$1.95
30	0.25	33	50m	25g	W-3130 \$1.95
32	0.2	36	170	25g	W-3132 \$1.95
36	.125	40	220	25g	W-3136 \$1.95

TOP VALUE

RELAYS, COILS & FORMERS

RELAYS

These are extremely small relays enclosed in transparent plastic cases. There are thousands of uses for these relays where low power switching is required. Insulation is effective up to 500V @ 50Hz. Operation time is typically 6-10ms and release time 3-4ms.



CRADLE RELAYS

Gold flashed silver contacts handle 30W (1A or 100V)

Catalogue Number	S-7012	S-7015	S-7020	S-7025
Price Each	\$6.50	\$6.50	\$7.50	\$7.50
10 or more	\$6.00	\$6.00	\$7.00	\$7.00
12 Volt	24 Volt	12 Volt	24 Volt	
D.P.D.T.	D.P.D.T.	4.P.D.T.	4.P.D.T.	
COIL VOLTS Min.	8V	11V	8V	16V
Nom.	12V	24V	12V	24V
Max.	17V	33V	12V	33V
COIL RESISTANCE	325 ohms	1600 ohms	185 ohms	700 ohms
CONTACT ASSEMBLY	2.C.O.	2.C.O.	4.C.O.	4.C.O.

It should be noted that a D.P.D.T. relay can be used in place of a S.P.D.T. In some cases a relay may be required to operate on a coil voltage that is not shown in our range. In many cases the closest voltage stated will operate successfully. If D.P.D.T. relay contacts are paralleled together, the normal current capacity may be doubled when in the operating mode but the switching capability may only be as for one set of contacts.

STANDARD CONTACT RANGE

CRADLE RELAY SOCKETS

Silver plated socket to suit Cradle relays.

2.C.O. Type	1-9	\$1.90 ea
Cat. P-4732	10 or more	\$1.80 ea
4.C.O. Type	1-9	\$1.90 ea
Cat. P-4734	10 or more	\$1.80 ea

4.P.D.T. PC MOUNT RELAY

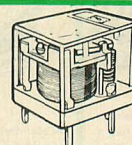


INCREDIBLE BULK PURCHASE

Limited stocks of this great buy—a PC mount relay with a 12 volt coil and a capacity of 1 amp @ 130V DC. The coil resistance is 120 ohms. Has many applications.

Cat. S-7000	1-9	\$2.90 ea
10 or more		\$2.50 ea

SHOP THE EASY WAY AT DICK SMITH ELECTRONICS — YOU MAKE YOUR CHOICE FROM SELF-SERVE BINS ON MOST OF OUR PRODUCTS!



MINI PCB RELAY

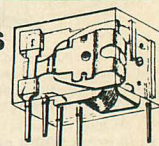
FROM ONLY \$1.50 ea

This relay will have many applications in your projects. Mounts directly on to your PC board. Silver S.P.D.T. contacts will handle up to a massive **2amps** @ 24V DC or 100V AC. Coil resistance 225 ohms. Operates between 8-12V DC (we tested 0.K. to 15V DCI).

Cat. S-7120	1-9	\$2.00 ea
10 or more		\$1.50 ea

ULTRA MINIATURE P.C. MOUNT RELAYS

FITS STANDARD 2.54mm MATRIX



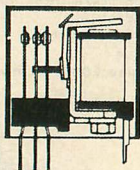
A low cost miniature lightweight relay in 2 voltage versions. Ideal for use with projects that have a low profile, i.e. model control, instrumentation, etc. Interfaces with suitable buffer to TTL IC's. Fits any 2.54mm matrix, i.e. Vero or DIL boards.

Size: 15mm (L) x 11mm (H). Weight: 3.5 grams. S.P.D.T. contacts rated at 24V DC 1amp maximum or 100V AC 0.5amp maximum with resistive load.

Cat. S-7105	5 volt coil 56 ohm	1-9	\$3.25 ea
10 or more			\$2.75 ea
Cat. S-7112	12 volt coil 320 ohm	1-9	\$3.25 ea
10 or more			\$2.75 ea

See the auto accessory pages for the horn relay (Cat. S-7302) and the double headlamp relay (Cat. S-7304).

MINI P.C. HEAVY DUTY RELAY

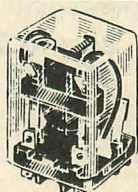


A miniature printed circuit board mounting relay enclosed in a plastic dustproof case. Has been used in many of the projects put out by Electronics Today and Electronics Australia.

Contact Current Max:	S-7125 5A	S-7130 1A
Contact Voltage Max:	240V	110
Nominal Coil Voltage:	12V	12V
Coil Resistance:	180 ohm	280 ohm
Cat. S-7125	SPDT	\$6.50
Cat. S-7130	DPDT	\$6.80

POWER RELAY

IDEAL FOR SWITCHING AC!



A small but high capacity relay that takes up less space than comparable types. It has a high contact rating of **10A @ 230V AC** (resistive load). Suitable for switching 240V AC powered devices from a transistorised control source. Specifications: 12V DC operation ★ Coil current approximately 74mA ★ Power 1.5W approximately ★ Maximum capacity 10A @ 230V AC and 10A @ 24V DC (both resistive load).

Cat. S-7200	\$9.50
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COAX RELAY

PCB MOUNT

IDEAL FOR AMATEURS



This is the ideal relay for the radio amateur — just look at the specifications.

Specifications:	1000MHz
Maximum Frequency:	500 watts
Maximum Power:	12 volts DC
Coil Voltage:	85mA
Coil Current:	S.P.D.T.
Contacts:	(change over)

Cat. S-7402	\$24.50
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Ferrite Cores

Packet of 4 Ferrite cores type F16

Cat. L-1302	pkt of 4	75c
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Packet of 4 Ferrite cores type F29

Cat. L-1307	pkt of 4	75c
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Ceramic Filter

SFD455B (SF455D) the modern replacement of the IF transformer. Two resonators are coupled by an external capacitance to give maximum selectivity with a flat response. Typical selectivity 20dB min at ± 10 kHz with 3dB bandwidth of ± 4.5 kHz.

Cat. L-1605	1-9	\$1.90 ea
10 or more		\$1.50 ea

Pot Core Assemblies



L-1437



L-1436

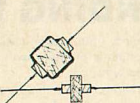
Philips P36 assembly consisting of 2 cup cores and former. Replaces FX2242 and is ideal for the CDI kit. 36mm core diameter.

Cat. L-1436	\$4.50
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Former to suit FX2242 core

Cat. L-1437	25c
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RF Chokes



100uH	L-1773	100uH	L-1795
15uH	L-1775	150uH	L-1799
22uH	L-1779	220uH	L-1803
27uH	L-1781	330uH	L-1807
33uH	L-1783	470uH	L-1811
47uH	L-1787	560uH	L-1813
68uH	L-1791	820uH	L-1817
82uH	L-1793		

ALL OF THE ABOVE VALUES AT **\$1.00 ea**

1mH Cat. L-1820	\$1.50
1.5mH Cat. L-1822	\$1.50
2.5mH Cat. L-1824	\$2.00
5mH Cat. L-1826	\$2.40
10mH Cat. L-1830	\$2.50

Coil Formers & Accessories

5mm former, subminiature (4mm core).

Code 722/1

Cat. L-1010	1-9	30c ea
10 or more		25c ea



6 pin base to suit above.

Code 5027/6PLB

Cat. L-1015	1-9	30c ea
10 or more		25c ea



Can to suit above 12.7x12.7x19mm high. Code 7100

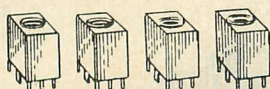
Cat. L-1020	1-9	30c ea
10 or more		25c ea

Balun Formers



1050/1/F14 (40 to 200MHz)		
Cat. L-1340	pkt of 2	\$1.25
1050/2/F29 (10MHz to 220MHz)		
Cat. L-1352	pkt of 2	\$1.25

Slug Tuned IF/OSC Coil Pack



Ideal for experimenters and service technicians. Set comprises 1st, 2nd and 3rd 455kHz standard miniature IF transformers and standard b/c oscillator coil.

Cat. L-0260	\$1.45
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R.F. Balun Kit

Contains a large, quality balun core (50.8mm dia.) with a quantity of heavy gauge wire, suitable for up to 1kW. Full instructions supplied. Can be used for a number of antenna types up to 30MHz. In most cases they will eliminate RF breakthrough from amateur and CB gear into audio amplifiers. If the speaker leads are wound through the core (as many turns as will fit) the core stops RF energy entering the amplifier in this way.

Cat. D-5350	\$9.90
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R.F. Toroid Kit

Contains two iron powder cores, enamelled copper wire, application notes, inductance chart and an LCF nomograph. Toroids are used to advantage in Tank circuits, Pi networks, RF transformers, T-Networks, floating tanks, band pass filters, baluns, multiband tuners, antenna loading coils, RF traps, IF networks and oscillator tanks. The two cores provide a useful high Q spectral range of 1MHz through 60MHz.

Cat. L-1410	\$3.50
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AMATEURS AND HI FI BUFFS — LOOK AT THESE!

Aerial Rods

Approximately 200mm long, and 9.5mm diameter.

Cat. L-1401	\$1.50
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Toroids and Beads



FX1115 Ferrite beads (as used in the Playmaster 25/25 and 40/40 universal stereo amplifiers).

Cat. L-1430	15c ea
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Philips bead 4312-020-31550.

Cat. L-1432	50c ea
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Power Choke

The same power choke as used in the stereo booster kit (see kit section). Ideal for use in vehicles to eliminate noise on your car radio.

Cat. L-1900	\$1.50
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Telescopic Antenna

Deluxe antenna, ideal replacement for radios or use in projects. Multi section, tight fitting, chrome plated.

Cat. L-4902	\$3.95
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Aerial Rod with Coil



Complete Ferrite rod with pre-wound standard b/c coil. Suits 140-160pF miniature tuning gangs. Ideal for replacements in transistor radios.

Cat. L-0520	\$1.25
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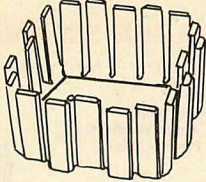
ROUND TO-5



Manufactured to exacting tolerances for a snug fit to give the best heat transfer. Massive body allows for rapid heat dissipation under any ambient conditions.

Cat. H-3412.....	1-9.....	55¢ ea
10 or more.....		30¢ ea

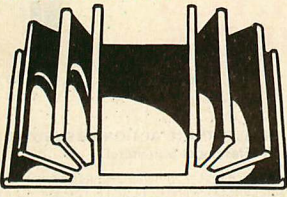
POWERFIN FOR TO-3



This TO-3 heatsink gives the greatest possible heat dissipation in the smallest possible space. It has a unique fin design that gives high air to metal ratio. The thermal rating is approximately 5°C/Watt and it measures only 50mm square by 25mm high. Black anodised finish and pre-punched for TO-3 case.

Cat. H-3400.....	1-9.....	\$1.25 ea
10 or more.....		\$1.10 ea

HIGH EFFICIENCY POWER HEATSINK

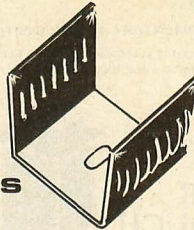


With its thick base and radial fan design this heatsink is able to dissipate huge amounts of heat. Thermal resistance, mounting surface to ambient -1°C/Watt (2.0ft/sec air velocity). Mounting surface temperature rise above ambient 60°C @ 30W heat dissipation level. Available in 75mm and 225mm lengths.

75mm Cat. H-3422.....	1-9.....	\$3.50 ea
10 or more.....		\$3.20 ea
225mm Cat. H-3426.....	1-9.....	\$9.50 ea
10 or more.....		\$8.50 ea

MINI ALUMINIUM

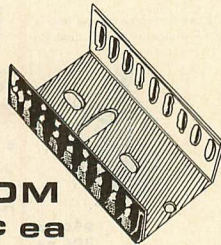
Ideal for SCR's & TRIACS TOO!



This low cost heatsink suits all flat plastic semi-conductors. Features vertical flutes for maximum thermal efficiency. Suitable for PC board mounting with transistors, SCR's, Triacs etc.

Cat. H-3402.....	1-9.....	75¢ ea
10 or more.....		65¢ ea

UNIVERSAL



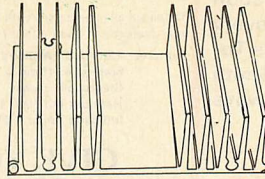
FROM 88¢ ea

Universal hole pattern allows the mounting of almost all 'power' semiconductors. Ribbed walls and black anodised finish make for maximum efficiency.

Cat. H-3401.....	1-9.....	98¢ ea
10 or more.....		88¢ ea

DICK SMITH - THE ONE STOP MAIL ORDER SPECIALIST
SEE MAIL ORDER FORM IN THE CENTRE OF THIS CATALOGUE

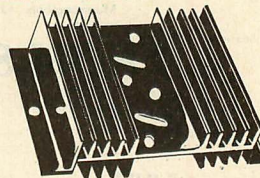
VERSATILE POWER HEATSINK



The ingenious design of this heatsink enables it to be used mounted flat for maximum heat transfer or end on for convenience. The side fins have tongue and groove so that strips may be joined sideways. They will accept 2 x TO-3's in the drilled configuration. Size 78(l) x 110(w) x 33(d)mm.

Undrilled Cat. H-3460.....	1-4.....	\$5.50 ea
5 or more.....		\$5.00 ea
Pre-drilled Cat. H-3461.....	1-4.....	\$5.95 ea
5 or more.....		\$5.45 ea

ECONOMY POWER HEATSINK



Flap mounting type with fins top and bottom. Available either undrilled or drilled to accept two power transistors of most types including TO-3, TO-126, TO-220, TO-66. Size 75(l) x 102(w) x 25(d)mm. Thermal resistance mounting surface to ambient -1°C/Watt (2.0ft/sec air velocity). Mounting surface temperature rise above ambient 60°C @ 30W heat dissipation level.

Undrilled Cat. H-3470.....	1-9.....	\$3.50 ea
10 or more.....		\$3.20 ea
Pre-drilled Cat. H-3471.....	1-9.....	\$3.95 ea
10 or more.....		\$3.55 ea

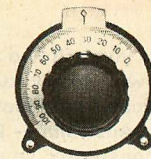


FLAG

Flag type heatsink to suit OC74, AC128, etc. TO-1 type transistor case.

Cat. H-3480.....	1-9.....	20¢ ea
10 or more.....		16¢ ea

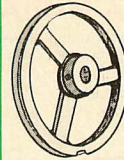
DIAL DRIVES AND VERNIERS



VERNIER DIAL

A precision vernier dial with a diameter of 50mm for front panel mounting.

Cat. H-3900.....		\$4.90
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DIAL DRUM

Ideal replacement for the non-digital tuners etc with a dial drum. 51mm diameter

Cat. H-3926.....		90¢
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DIAL SPRINGS



This is a RSG universal dial spring for adding tension to dial drive cord on tuning systems.

Cat. H-3940.....	1-9.....	20¢ ea
10 or more.....		15¢ ea



EXTENSION SHAFTS

Machined from brass this extension a normal 6.3mm shaft to 51mm. Ideal for those awkward situations where you need more room.

Cat. H-3950.....		\$1.30
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DIAL DRIVE SPINDLE



Spindle and bush assembly for dial drives. Has 6.3mm shaft.

Cat. H-3954.....		\$1.50
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BRASS DIAL PULLEYS

Solid brass dial pulley. 9.5mm in diameter with a 3mm hole.

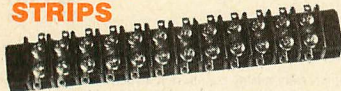
Cat. H-3922.....		19¢
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DIAL CORD

Spool of dial cord - 25 metres.

Cat. H-3934.....		\$2.95
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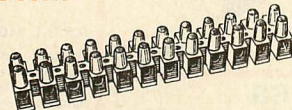
TERMINAL STRIPS BARRIER STRIPS



Each terminal has two screws and two pre-tinned solder lugs for greater versatility. Mounting screw holes each end of the tough plastic base. 4 & 8 way units not illustrated.

4 way Cat. H-6704.....	1-9.....	95¢ ea
10 or more.....		85¢ ea
8 way Cat. H-6708.....	1-9.....	\$1.95 ea
10 or more.....		\$1.75 ea
12 way Cat. H-6712.....	1-9.....	\$2.75 ea
10 or more.....		\$2.45 ea

MAINS TERMINAL STRIP



This is the ever popular 'chocolate' block, in nylon, mains terminal strip. It has two screws per terminal and can be used as a twelve way unit or by cutting the strip, any number of terminals. Each terminal section has two mounting holes. 240V AC rating.

Cat. H-6700.....	1-9.....	95¢ ea
10 or more.....		85¢ ea

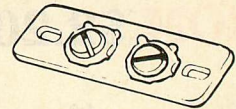
TAG STRIPS



These are very neat, small strips with pre-tinned solder lugs firmly attached to the phenolic board. The centre lug in each case extends to a screw bracket to make a convenient earth bracket, if required.

5 lug strip not illustrated.		
3 lug Cat. H-6403.....	1-9.....	15¢ ea
10 or more.....		12¢ ea
5 lug Cat. H-6405.....	1-9.....	20¢ ea
10 or more.....		15¢ ea
7 lug Cat. H-6407.....	1-9.....	25¢ ea
10 or more.....		20¢ ea

SCREW TERMINALS



Popular strips with convenient screw terminals on one side of the phenolic strip with a mounting hole at each end. Ideal for speaker terminals in cabinets.

4 way not illustrated.		
2 way Cat. H-6622.....	1-9.....	25¢ ea
10 or more.....		20¢ ea
4 way Cat. H-6624.....	1-9.....	50¢ ea
10 or more.....		45¢ ea

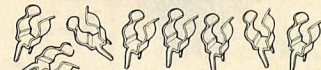
QUICK BLOW FUSES

Cat. No.	Type	Value	Mode	1-9	10 up
S-4412	M205	250mA	QB	25¢	20¢
S-4415	M205	500mA	QB	25¢	20¢
S-4421	M205	1A	QB	25¢	20¢
S-4423	M205	2A	QB	25¢	20¢
S-4425	M205	5A	QB	25¢	20¢
S-4449	3AG	100mA	QB	20¢	15¢
S-4451	3AG	150mA	QB	20¢	15¢
S-4453	3AG	250mA	QB	20¢	15¢
S-4455	3AG	350mA	QB	20¢	15¢
S-4457	3AG	500mA	QB	20¢	15¢
S-4461	3AG	1A	QB	15¢	10¢
S-4465	3AG	1.5A	QB	15¢	10¢
S-4467	3AG	2A	QB	15¢	10¢
S-4469	3AG	3A	QB	15¢	10¢
S-4471	3AG	5A	QB	15¢	10¢
S-4473	3AG	7.5A	QB	15¢	10¢
S-4475	3AG	10A	QB	15¢	10¢
S-4477	3AG	15A	QB	15¢	10¢
S-4479	3AG	20A	QB	15¢	10¢
S-4481	3AG	25A	QB	15¢	10¢
S-4485	3AG	30A	QB	15¢	10¢
S-4487	3AG	35A	QB	15¢	10¢

We hold a wide range of fuses - remember the lower the current rating of the fuse you use the greater the protection.

Size of M205:
20mm(L) x 5mm(D) approx.
3AG
32mm(L) x 6mm(D) approx.

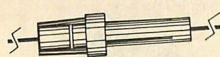
FUSE CLIPS PACK OF 8



These fuse clips are ideal for mounting on PC boards providing flexibility and extremely good value.

Cat. H-1700.....	pkt of 8.....	80¢
------------------	---------------	-----

IN LINE FUSE HOLDER



The ideal fuse holder for marine radio, car stereo, car radio, transceivers, etc. Takes standard 3AG fuse. Coil spring and plated contacts assure positive contact. 64mm long. Complete with 0.6 meter extension lead at no extra charge. All plastic casing.

Cat. S-4277.....	1-9.....	80¢ ea
10 or more.....		65¢ ea

SAFETY FUSE HOLDER



This is a professional looking black square panel mounting fuse holder with a coloured 'push-in' insert. The fuse carrying insert is released at the touch of a finger for easy replacement of blown fuses. The insert can not fall out of its own accord. Gives projects a modern finish.

Cat. S-4204.....	1-9.....	\$1.00 ea
10 or more.....		90¢ ea

3AG BAYONET FUSE HOLDER

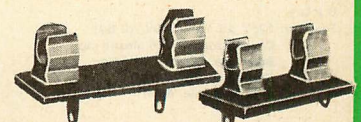


Chassis or panel mounting fuse holder, accepts standard 3AG fuse. 13mm mounting hole required.

Cat. S-4206.....	1-9.....	80¢ ea
10 or more.....		72¢ ea

FUSES AND ASSOCIATED HOLDERS

CHASSIS OR CIRCUIT BOARD FUSE HOLDERS



Easy to mount fuseholders in the two most useful sizes.

Cat. S-4257	Type 3AG.....	1-9.....	35¢ ea
Cat. S-4258	Type M205.....	1-9.....	35¢ ea
Both types for 10 or more.....			30¢ ea

SWITCHES

On these two pages you will find a selection of switches that will suit virtually every project including those from Electronics Today and Electronics Australia — Dick Smith adds to the range constantly, so you always have the best available.

TOGGLE ULTRA MINIATURE

The contact rating to size ratio is very high with this miniature toggle switch. Ideal for models, miniature portable instruments, or any use where a high quality miniature switch is required.

D.P.D.T. 125V AC 3A (240V AC 1.5A)
Chrome toggle with colour insert body.
Body size: 8mm x 9.3mm
Clearance: 13.5mm
Complete with 2 nuts and two washers.
Gold plated connecting lugs.



Cat. S-1245..... 1-9 \$1.50 ea
10 or more \$1.30 ea

MINIATURE TYPES

MOST POPULAR RANGE — SPECIALLY IMPORTED —
EXCELLENT QUALITY

Due to the quality of these switches they can be used in many applications, even the most demanding of applications.

All feature: 125V AC 3A (240V AC 1.5A)
Chrome toggle with colour insert
Complete with two nuts and two washers
Mounting hole size — 6mm

S.P.D.T.
Body 8mm x 13mm, clearance 17mm



FROM \$1.35

Cat. S-1173..... 1-9 \$1.45 ea
10 or more \$1.35 ea

D.P.D.T.
Body 13mm x 13mm, clearance 17.5mm



FROM \$1.50

Cat. S-1174..... 1-9 \$1.60 ea
10 or more \$1.50 ea

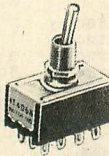
D.P.D.T. (Centre OFF)
Body 12mm x 12mm, clearance 20.5mm



FROM \$2.20

Cat. S-1286..... 1-9 \$2.30 ea
10 or more \$2.20 ea

4.P.D.T.
Body 13mm x 21.5mm, clearance 20.5mm



FROM \$3.05

Cat. S-1175..... 1-9 \$3.25 ea
10 or more \$3.05 ea

MINIATURE HEAVY DUTY

AMAZING CONTACT CAPACITY!

Although this switch is miniature in size, it offers an enormous contact to size ratio. Ideal for use where high power levels are involved and small size are of prime importance.

D.P.D.T.
Features: 125V AC 10A (240V AC 5A)
Chrome toggle with plastic cap
Body size: 12mm x 12.5mm
Clearance: 20.5mm
Mounting hole: 6mm



TOP VALUE

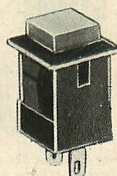
Cat. S-1168..... 1-9 \$2.25 ea
10 or more \$2.05 ea

SINGLE POLE ILLUMINATED PUSH BUTTONS

S.P. ILLUMINATED PUSH ON MOMENTARY ACTION SWITCH

These are all plastic body with red illuminated pushbutton bezel. To fit into your project just push into the right size hole and they will snap fit.

Features: 125V AC 1A (240V AC 0.5A)
body size: 18mm x 18mm
Clearance: 34mm
Hole cut out size: 18.5mm x 18.5mm
Indicator lamp: 6.3V



**GIVE YOUR
PROJECT A TOUCH
OF CLASS!**

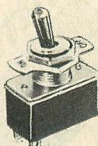
Cat. S-1078..... 1-9 \$1.95 ea
10 or more \$1.90 ea

ECONOMY STANDARD TOGGLE SWITCHES

S.P.S.T

A well designed switch in a bakelite case. It has a chrome toggle and is complete with two nuts and chrome ON/OFF indicator plate. Ideal for electric projects and automotive use.

Features: 125V AC 3A (240V AC 1.5A)
Body size: 14mm x 26mm
Clearance: 20.5mm
Mounting hole: 12mm

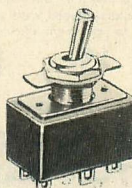


FROM 80¢

Cat. S-1215..... 1-9 95¢ ea
10 or more 80¢ ea

D.P.D.T.
Same general features as the above switch.

Features: 125V AC 3A (240V AC 1.5A)
Body size: 18mm x 29.5mm
Clearance: 23mm
Mounting hole: 12mm



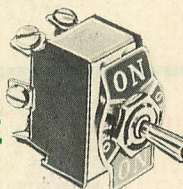
FROM \$1.50

Cat. S-1216 \$1.50 ea

D.P.D.T (Centre OFF)

Rugged bakelite case, chrome toggle, red and black ON/OFF/ON indicator plate and heavy duty solder lug terminals. This switch features heavy duty contact rating. Makes ideal motor reversing switch, e.g. electric aerial on cars.

Features: 125V AC 6A (240V AC 3A)
Body size: 20mm x 35mm
Clearance: 26mm
Mounting hole: 12mm



**IDEAL FOR
AUTOMOTIVE
USE**

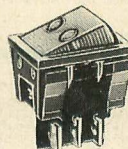
Cat. S-1217..... 1-9 \$1.95 ea
10 or more \$1.75 ea

ROCKER SWITCHES

D.P.D.T. ILLUMINATED (240V NEON)

Positive action, handsome black body, bright red illuminating rocker switches, 15 AMPS!!! The terminating lugs on this switch will accept standard utilux spade clips. Mounting is push in snap lock.

Features: 240V AC 15A
Body size: 23mm x 30.5mm
Clearance: 30mm
Hole cut out size: 22mm x 27mm



**RED
ILLUMINATION**

Cat. S-1506..... \$2.20

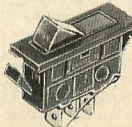
ALSO AVAILABLE IN A 12 VOLT VERSION

Cat. S-1507 12V VERSION \$2.20

S.P.D.T

Attractive oblong shape black switch with red illuminating rocker. Terminal lugs accept utilux spade quick connectors. Mounting is snap lock.

Features: 240V AC 12A
Body size: 19mm x 40.4mm
Clearance: 29.5mm
Hole cut out size: 12.5mm x 37.5mm



**RED
ILLUMINATION**

Cat. S-1503..... \$1.95

MAINS PUSH BUTTON

Has many, many uses but is ideally suited to replacement of desk light switches.

S.P.S.T. 240V AC 1 AMP

**IDEAL
REPLACEMENT**



Cat. S-1205..... 95¢ ea

DPDT TOGGLE SWITCH

Ideal for audio and electronic projects. Superbly engineered and has a white toggle.

Features: 240V AC 3A
Mounting hole: 18mm
Clearance: approximately 15mm
Body size: 20mm x 30mm



FROM \$2.55

Cat. S-1393..... 1-9 \$2.75 ea
10 or more \$2.55 ea

PUSH BUTTON SWITCHES

S.P. MINIATURE PUSHBUTTON — NORMALLY OPEN

These miniature switches are push-on momentary action. They feature a coloured plastic cap.

Features: 125V AC 1A (240V AC 0.5A)
Body size: 28.5mm x 10mm
Clearance: 15mm
Hole size: 7mm



**IDEAL FOR
PROJECTS**

Cat. S-1102..... 1-9 45¢ ea
10 or more 40¢ ea

D.P.D.T. MINIATURE ALTERNATE ACTION PUSHBUTTON
The Professional Miniature!

Ideal for equipment where space is very limited. It features a positive push on/push off action. The actuating black plastic button is 10mm in diameter.

Features: 125V AC 3A (240V AC 1.5A)
Body size: 11.5mm x 11.5mm
Clearance: 22mm
Hole size: 6mm



**PROFESSIONAL
PUSHBUTTON
FROM \$2.15**

Cat. S-1197..... 1-9 \$2.25 ea
10 or more \$2.15 ea

D.P.D.T. MOMENTARY ACTION PUSHBUTTON

This is an exceptionally high quality pushbutton switch featuring precise micro switch type action. The plastic actuator button is small to conserve space whereby you can stack these switches side by side etc. Ideal for computer program switch.

Features: 125V AC 3A (240V AC 1.5A)
Body size: 13mm x 13mm
Clearance: 14.5mm
Hole size: 6.5mm



**A QUALITY
PRODUCT**

Cat. S-1220..... 1-9 \$2.20 ea
10 or more \$2.00 ea

S.P. PUSH ON/PUSH OFF PUSHBUTTON

This switch features a beautiful red 11mm square actuating button in an all black plastic case. Makes an excellent mains switch for projects.

Features: 125V AC 6A (240V AC 3A)
Body size: 15mm square
Clearance: 28mm
Hole size: 12mm



**THE SQUARE
LOOK**

Cat. S-1198..... 1-9 \$1.80 ea
10 or more \$1.60 ea

S.P. MOMENTARY ACTION PUSHBUTTON

As above switch, Cat. S-1198, but with momentary action push-on.

Cat. S-1199..... 1-9 \$1.60 ea
10 or more \$1.45 ea

MINIATURE SLIDE SWITCHES

D.P.D.T. SUB-MINIATURE SLIDE SWITCH
COUNTLESS APPLICATIONS — AMAZING LOW PRICE!
Sub-miniature type suitable for many types of projects etc. So low in price it can be used for experimental projects without regard to cost! Actuator is in black plastic.

Features: Mounting: 19mm centre
Clearance: 12mm
Body size: 8mm x 23mm



Cat. S-2010..... 1-9..... 40¢ ea
10 or more..... 35¢ ea

D.P.D.T. SUB MINIATURE SLIDE SWITCH WITH DECORATOR ACTUATOR

Same as the S-2010 but features an attractive spun aluminium actuator with black insert.



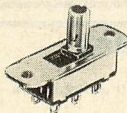
Cat. S-2020..... 1-9..... 50¢ ea
10 or more..... 45¢ ea

D.P.D.T. SUB MINIATURE SLIDE SWITCH WITH DECORATOR ACTUATOR

ATTRACTIVE — LOW COST

This miniature switch has a spun aluminium actuator with black insert. Larger and heavier duty than the sub-miniature range.

Features: Mounting: 28mm centres
Clearance: 14mm
Body size: 35mm x 13mm



FROM 55¢

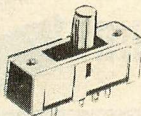
Cat. S-2040..... 1-9..... 60¢ ea
10 or more..... 55¢ ea

2 POLE 3 POSITION SUB-MINIATURE SLIDE SWITCH

SPUN ALUMINIUM ACTUATOR

A versatile switch ideally suited to audio applications and for instruments.

Features: Mounting: 19mm centres
Clearance: 13mm
Body size: 8mm x 24mm



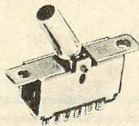
FROM 70¢

Cat. S-2030..... 1-9..... 80¢ ea
10 or more..... 70¢ ea

MINIATURE TOGGLE ACTION LEVER SLIDE SWITCH

This switch gives the smooth action of a slide switch but is actuated by an attractive spun aluminium toggle with coloured insert. Great for amplifier changeover switches because of their small size and attractive finish.

Features: 4.P.D.T.
Mounting: 27mm centres
Clearance: 19mm
Body size: 9mm x 34mm



FROM \$1.10

Cat. S-1301..... 1-9..... \$1.35 ea
10 or more..... \$1.10 ea

SCREWS TO SUIT SLIDE SWITCHES

Small Philips suits S-2010, S-2020, S-2030.

Cat. H-1674..... 4¢ ea

Large Philips suits S-2040, S-1301

Cat. H-1672..... 4¢ ea

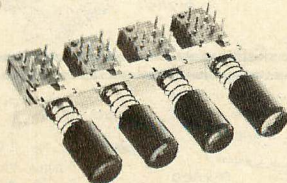
4-WAY PUSH BUTTON SWITCH BANK

HIGHEST QUALITY — HUNDREDS OF USES — LOW PRICE

This switch is ideal for audio switching in kit type amplifiers or similar applications. Each individual switch section is D.P.D.T. and is mechanically interlocked so that only the press button can be on at one time.

Features: Mounting centres: 75mm
Clearance: 22mm
Pushbutton size: 11mm, centres spaced at 17.5mm

Cat. S-1904..... \$4.40



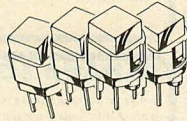
SINGLE SWITCH

Same high quality as the above switch bank, same features and functions. Just one of the above switches.

Cat. S-1906..... \$1.95

PUSH BUTTON PACK OF 4

Ideal for mounting on PCB's. These are momentary PUSH ON switches that have a positive click action. Ideal for alarm circuits, intercoms, custom keyboards etc.

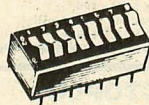


BUY A FEW PACKS!

Cat. S-1200..... up to 4 packs..... \$2.95 per pack of 4
5 packs or more..... \$2.45 per pack of 4

PCB DIL SWITCH

8 SPST rocker switches mounted in a DIL package. Designed for PCB mounting and may be placed in blocks or rows without wasting space. Use for pre-programming, changing circuit constants and many more uses.



IDEAL FOR MANY PROJECTS

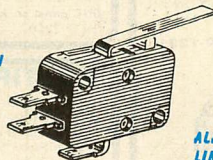
Cat. S-1608..... \$2.75

S.P.D.T. MICRO SWITCH

Being a micro switch action this unit is a must where a positive snap action is required. Great for burglar alarms or as machinery limit switches. Complete with 16mm actuator paddle.

Features: 240V AC 10A contact rating
Body size: 10.5mm x 28mm
Quick connect terminals.

HAIR TRIGGER OPERATION



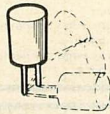
ALARMS LIMIT SWITCHES AUTO CONTROL

Cat. S-1920..... 1-9..... \$2.50 ea
10 or more..... \$2.25 ea

MERCURY SWITCH

LOW COST — VERY RELIABLE — PERFECT FOR ALARMS —

This is essentially a movement detecting switch. It is operated by changing the horizontal plane. A 'ball' of mercury runs from one end of the elongated tube to the other as the position is changed. One end has a set of contacts that 'make' with the mercury. It is basically a low current device but is suitable for such uses as movement detectors for car or bike alarms.



COMPLETELY SAFE ENCAPSULATION

Cat. S-1935..... 1-9..... \$1.20 ea
10 or more..... 95¢ ea

DPDT KNIFE SWITCH

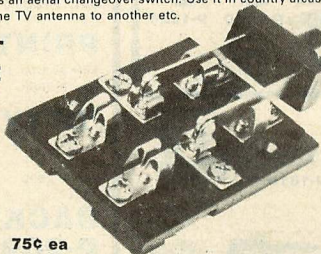
Popular in the old days for earthing 'wireless aerials' or disconnecting the aerial and earth system from the wireless set. It can be used for exactly the same job today as an aerial changeover switch. Use it in country areas for changing from one TV antenna to another etc.

GREAT VALUE ONLY 90¢

Cat. S-1930

1-9 90¢ ea

10 or more 75¢ ea



REED SWITCH AND COIL

These are a matched reed-coil assembly suitable for low level switching. The reed switch is unaffected by external environment conditions. Ideal for experimenters. 430 ohm coil operates from 6 to 15 volts DC.



Cat. S-1946 (REED ONLY)..... 1-9..... 50¢ ea

10 or more..... 45¢ ea

Cat. S-1948 (COIL ONLY)..... 1-9..... 90¢ ea

10 or more..... 75¢ ea

SPECIAL NOTE

During 1981, we will be replacing our range of imperial rotary switches with metric sizes. This means a changeover from the imperial 1/4" shaft size to the metric 6mm size.

The reasoning behind this changeover is not a bold deviation on our part, it is in fact the way everything is going today, and that is towards a standard metric sizing. If you wish to fit an imperial knob to a metric shaft it can easily be done by means of a small piece of shim brass inserted in the 1/4" imperial shaft mount.

Below you will find a listing of both imperial and metric rotary switches, please make sure you order the correct type - the imperial switches are prefixed with S-2*** and the metric with S-6***.

ROTARY SWITCHES IMPERIAL

FULLY IMPORTED — TREMENDOUS RANGE — EXCELLENT VALUE — GREAT FOR PROJECTS

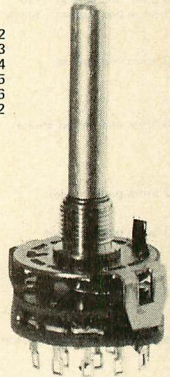
Well designed spring loaded gating gives positive action. Plated terminating lugs.

Body diameter: 32mm Shaft: 6.35mm dia. x 32mm long. All single section.

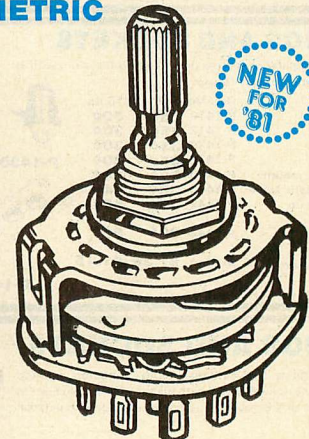
Poles	Positions	Cat. S-2302
6	2	Cat. S-2303
4	3	Cat. S-2304
3	4	Cat. S-2305
2	5	Cat. S-2306
2	6	Cat. S-2312
1	12	

1-9 \$1.40

10 UP \$1.20



ROTARY SWITCHES METRIC



POLES	POSITIONS	CAT. No.
6	2	Cat. S-6302
4	3	Cat. S-6303
3	4	Cat. S-6304
2	5	Cat. S-6305
2	6	Cat. S-6306
1	12	Cat. S-6312

Body size: 30 x 25mm. Shaft length 15mm. Shaft diameter 6mm

The fluted shaft accepts the new series knobs (see knob page).

1-9 \$1.40

10 UP \$1.20

SPECIAL NOTE: Two things to check — the number of contacts or poles ('ways' on a rotary switch) and its mode or throw, e.g. SPST stands for single pole single throw. 3PDT stands for triple pole double throw. Other points to remember 'NO' means normally open contact. 'NC' normally closed and relates to push button or spring loaded switches.

PLUGS AND SOCKETS

PHONE PLUGS AND SOCKETS

Literally hundreds of uses in most types of audio circuits and sound systems wherever simple, reliable connections and disconnects are required.

Type	Cat. No	1-9	10 up
Sub miniature 2.5mm phone plug - white	P-1125	30c	26c
3.5mm easy to solder phone plug - red	P-1132	40c	35c
3.5mm phone plug - Black/ grey Not illustrated	P-1134	40c	35c
PMG type 6.5mm phone plug	P-1160	65c	55c

Metal 6.5mm phone plug	P-1162	95c	85c
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Stereo 6.5mm phone plug	P-1166	85c	70c
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Metal stereo 6.5mm phone plug	P-1168	\$1.10	\$1.00
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3.5mm line socket - red	P-1234	38c	34c
3.5mm line socket - black	P-1236	38c	34c

6.5mm line socket	P-1264	55c	48c
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6.5mm line stereo socket	P-1286	75c	65c
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2.5mm panel socket	P-1220	25c	23c
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3.5mm panel socket	P-1231	35c	30c
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6.5mm panel socket	P-1261	60c	50c
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6.5mm stereo panel socket	P-1266	80c	70c
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6.5mm stereo panel socket with DPDT switch	P-1276	85c	70c
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P-1125

P-1132

P-1160

P-1162

P-1166

P-1168

P-1234

P-1236

P-1264

P-1264

P-1264

P-1286

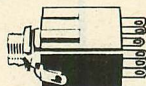
P-1286



P-1266

P-1261

P-1231



P-1276

P-1220

WHY NOT COME ALONG TO ONE OF OUR STORES AND SELECT YOUR PLUGS AND SOCKETS, KNOBS, HARDWARE, BOXES, BEZELS, AND NUMEROUS OTHER LINES FROM THE SELF SERVE SHELVES - WE MAKE YOUR SELECTION EASIER!!!

BANANA SOCKETS AND PLUGS

The 4mm banana socket is the standard terminal on all better quality instruments, power supplies, etc. They ensure a firm connection with extremely low contact resistance. The P-1730 terminal is particularly useful in that it combines the banana socket with a binding post to facilitate rapid connections.

Type	Cat. No	1-9	10 up
4mm standard plug red	P-1710	30c	25c
4mm standard plug black	P-1712	30c	25c
4mm standard socket red	P-1720	40c	35c
4mm standard socket black	P-1722	40c	35c
4mm banana socket with binding post - red	P-1730	40c	35c
4mm banana socket with binding post - black	P-1732	40c	35c



P-1730



P-1710



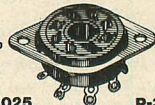
P-1720



P-1722

OCTOPLUS

Type	Cat. No	1-9	10 up
8 pin line plug without cover	P-3010	95c	90c
8 pin chassis socket	P-3025	95c	90c



P-3025



P-3010

BNC COAXIAL FITTINGS

BNC line plug suitable for RG58RU cable.

Cat. P-2210 \$2.50 ea 10 up \$2.00 ea

BNC panel socket accepts P-2210

Cat. P-2220 \$1.95 ea 10 up \$1.75 ea



P-2210

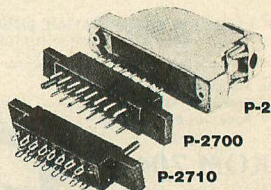


P-2220

MULTIPOL CONNECTORS

The new inexpensive Australian made connectors with gold plated contacts rated up to 5A and 10-00V. The ingenious design enables the connectors to be adapted from panel mounting for line use simply by fitting a cover.

23 way plug	P-2700	\$3.50
23 way socket	P-2710	\$3.50
Cover to suit both	P-2740	\$4.95
8 & 23 way plugs and sockets		



P-2740

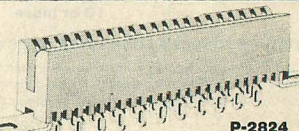
P-2700

P-2710

EDGE CONNECTOR

These are designed for the conventional "plug-in" connection of 1/16" thick PC or Dick Smith strip board. Contacts are of gold plated tantillate bronze, rated at 5A DC standard 0.1" spacing. Supplied complete with mounting feet and polarising key. May be mounted in line to increase contact number.

Type	Cat. No	1-9	10 up
16 way edge connector 0.1" pitch	P-2816	\$2.00	\$1.80
24 way edge connector 0.1" pitch	P-2824	\$3.50	\$2.70



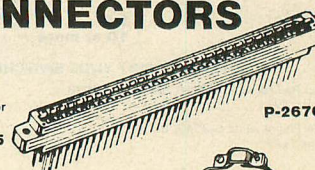
P-2824

COMPUTER CONNECTORS

EDGE CONNECTOR S-100 BUS

Standard 100 pin socket for S-100. High contact life for maximum efficiency.

Cat. P-2670 \$9.75



P-2670

PRINTER PLUG

57N-36 type, suits most printers. With cover.

Cat. P-2680 \$19.95

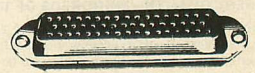


P-2680

'D' TYPE PLUG

25 pin plug for RS-232C port and Sorcerer parallel port.

Cat. P-2690 \$5.60



P-2690

BACKSHELL FOR P-2690

Cat. P-2692 \$2.60

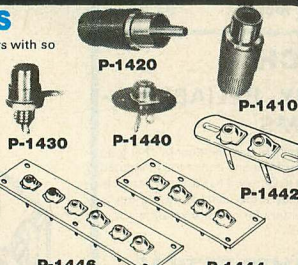


P-2692

RCA PLUGS AND SOCKETS

These are the ever popular centre pin and sleeve connectors with so many applications and so easy to use.

Type	Cat. No	1-9	10 up
Line socket - red	P-1410	35c	30c
Line socket - black	P-1412	35c	30c
Plug - red	P-1420	35c	30c
Plug - black	P-1422	35c	30c
Panel socket screw mount	P-1430	35c	30c
Panel socket on plastic base	P-1440	38c	34c
Twin panel sockets on plastic base	P-1442	65c	60c
4 way panel sockets on plastic base	P-1444	99c	80c
6 way panel sockets on plastic base	P-1446	\$1.38	\$1.15



P-1420

P-1410

P-1430

P-1440

P-1442

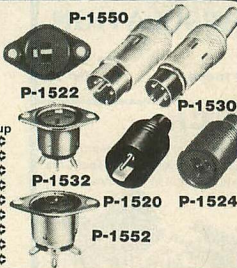
P-1446

P-1444

DIN PLUGS AND SOCKETS

Yes, these are the famous 'DIN' European audio connectors made to exacting specifications, fully shielded with plastic 'pull on' covers - to suit most of the big name European equipment and some Japanese.

Type	Cat. No	1-9	10 up
2 pin line plug	P-1520	55c	46c
2 pin panel socket	P-1522	40c	35c
2 pin line socket	P-1524	45c	40c
3 pin line plug	P-1530	60c	54c
3 pin line socket Not illustrated	P-1534	75c	70c
3 pin panel socket	P-1532	55c	50c
5 pin line plug - standard 180	P-1550	70c	63c
5 pin panel socket - suit P-1550	P-1552	55c	50c
5 pin line socket - suit P-1550	P-1554	80c	70c



P-1550

P-1522

P-1530

P-1532

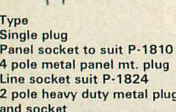
P-1520

P-1524

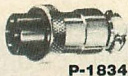
P-1552

MIC PLUGS AND SOCKETS

Type	Cat. No	1-9	10 up
Single plug	P-1810	\$1.00	85c
Panel socket to suit P-1810	P-1855	\$1.25	80c
4 pole metal panel mt. plug	P-1824	\$1.30	\$1.00
Line socket suit P-1824	P-1834	\$1.75	\$1.45
2 pole heavy duty metal plug and socket	P-1860	\$2.99	



P-1824



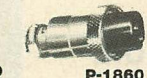
P-1834



P-1810



P-1855



P-1860

AUDIO CONNECTORS

The highest quality connectors available, essential for trouble free audio connections. Commonly known as Canon type connectors.

3 pin line socket	Cat. P-1620	\$3.60
3 pin panel plug	Cat. P-1622	\$3.50
3 pin line plug	Cat. P-1624	\$3.80
3 pin panel socket	Cat. P-1626	\$4.00

P-1626



P-1622



CAR RADIO ANTENNA

It is very often the case that a perfectly good car antenna needs to have the plug replaced due to some misfortune or that the socket in the car radio needs replacing, these two units will do just that job.

CAR CIG. LIGHTER PLUG

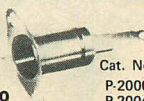
Extremely handy for operating recorders or any other 12 Volt appliances in your car.

Cat. P-1675 70c 10 up 65c

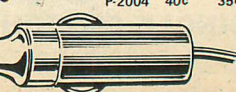
Antenna plug

Antenna socket

P-2004



P-2000

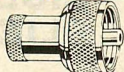


UHF AND CB COAXIAL FITTINGS



P-2310

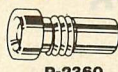
This is the PL-259 UHF/CB coax line plug used by amateurs and CB'ers for connecting the antenna or ancillary equipment to the rig.
Cat. P-2310 **\$1.45**



P-2312

The PL-259 that is easy to wire up. Suits RG-58 coax directly without the need for a reducer.

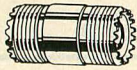
Cat. P-2312 **\$1.20 ea**
10 or more \$1.00 ea



P-2360

Reducing adaptor for use with PL-259 (Cat. P-2310). It reduces the cable entry to give a tight fit for 50 ohm coax; e.g. RG-58 (Cat. W-2090). Not required with large diameter coax.

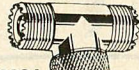
Cat. P-2360 **25c**
WAS 50c in 1979



P-2380

If you want to extend your coax without desoldering the plug then this joiner is the answer. Two sockets (SO-239) back-to-back for use with the PL-259 plug (Cats. P-2310 and P-2312).

Cat. P-2380 **\$1.95 ea**
10 or more \$1.75 ea



P-2384

T connector with a PL-259 plug and two SO-239 sockets to accept PL-259 plugs. Very handy where dual phased antennas are used.

Cat. P-2384 **\$3.95 ea**
10 or more \$3.25 ea



P-2382

This adaptor enables you to get into awkward places. The right angle lets you connect an antenna, for example, when there is little room at the back of the 'rig'. It has a SO-239 socket on one end and a PL-259 plug on the other.

Cat. P-2382 **\$1.50 ea**
10 or more \$1.40 ea
WAS \$2.85 in 1979



P-2342

Panel socket, SO-239, to accept a PL-259 plug (Cats. P-2310 and P-2312). Screw type mounting to the chassis.

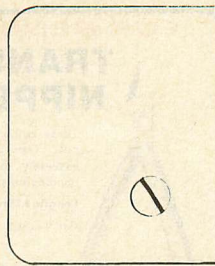
Cat. P-2342 **\$1.10 ea**
10 or more 95c ea



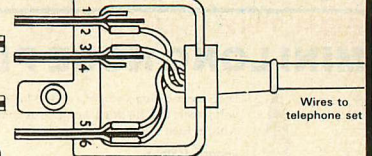
P-2340

Panel mounting SO-239 socket with squared flange to suit PL-259 plug (Cats. P-2310 and P-2312). Useful when making up ancillary equipment for 'in-line' operation.

EXPERIMENTERS 'PHONE' PLUG



IDEAL FOR EXPERIMENTS ONLY
\$2.50



Plug with cover removed

Illustration shows how to wire plug - wire not included in the price.

This plug is ideal for experimenters - it looks like and has the same pin configuration as the standard Telecom phone plug, but it is not type approved and as such may only be used in non Telecom phone installations. Set up your own private line at home or use it with intercom systems - has many uses. Finished in high impact, cream coloured plastic.

Cat. P-5700 **\$2.50**

11 WAY EDGE CONNECTORS



PACK OF 4 ONLY
\$1.00

PACK OF 4

IDEAL FOR HOBBYISTS

This is a superb pack of 4 connectors that have the standard 2.54mm spacing with 11 pins. The keyway can be moved and they can be placed in series up to 110 way. The pins are gold plated.

Cat. P-2812 **4 in a pack \$1.00**

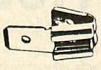
CONNECTORS

These are essential for most types of circuits where temporary and screw connections are required.

Type	Cat. No	Qty. in Pack	Price
Quick connector	P-5012	10	75c
Male connector for P-5012	P-5016	10	75c
Cover for P-5012 & P-5016	P-5022	10	75c
Double adaptor	P-5026	6	75c
Round lug 3/16" hole	P-5032	12	75c
Mini connector	P-5036	15	75c
Assorted solder lug pack 1/4" hole	P-5044	50	75c
Bullet terminal (male)	P-5006	10	95c
Bullet terminal (female)	P-5008	10	95c



P-5012



P-5026



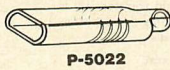
P-5032



P-5016



P-5036



P-5022



P-5044

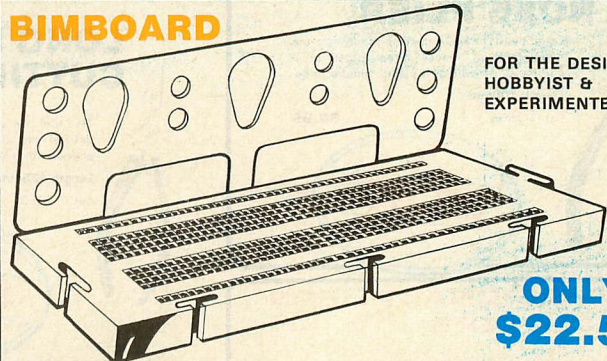


P-5006



P-5008 (not illustrated)

BIMBOARD



FOR THE DESIGNER, HOBBYIST & EXPERIMENTER

ONLY \$22.50

The modern way to build up circuits without resorting to PCB or tag strip. Over 500 sockets that will accept component leads of 0.25 to 0.85mm, spaced 2.54mm. Designed to carry up to 1 amp. The board is even supplied with a component mounting panel for pots etc. They can be connected together to make larger units.

Cat. P-4612 **\$22.50**

LOW COST COAXIAL FITTINGS

Type	Cat. No	1-9	10 up
TV, radio and instrument use. 75 ohms.			
Plastic line plug	P-2021	40c	35c
Panel socket suit P-2020	P-2040	95c	85c
Panel socket plastic	P-2041	95c	85c
PCB mounting socket suit P-2020	P-2060	40c	35c
Line on panel joiner suit P-2020	P-2070	\$1.10	\$1.00
300 ohm TV ribbon plug & socket	P-2080	80c	
Plug for P-2080	P-2082	40c	
Plastic line socket	P-2031	95c	80c



P-2021



P-2041



P-2060



P-2080



P-2082



P-2070



P-2031

CRYSTAL SOCKETS

Type	Cat. No	1-9	10 up
Type D LARGE	Cat. P-4710	50c	45c
Type K SMALL	Cat. P-4720	55c	50c



P-4720



P-4710

McMURDO "Q" RANGE

Excellent for heavy duty connections. Very rugged construction, extremely low contact resistance and pre-tinned terminals to make soldering easier.

Type	Cat. No.	1-9	10 up
2 pin line plug	P-3110	45c	40c
2 pin chassis socket for P-3110	P-3115	45c	40c
4 pin line plug	P-3120	45c	40c
5 pin line plug	P-3125	50c	45c
5 pin chassis socket for P-3120 & P-3125	P-3135	55c	50c
Cover for P-3120 & P-3125	P-3140	25c	20c



P-3110



P-3115



P-3120



P-3125



P-3135



P-3140

THE PROTO BOARD

Now circuit designing is as easy as pushing a lead into a hole.

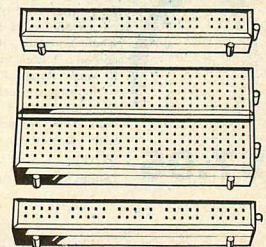
● No soldering ● No de-soldering ● No heat spoil components ● No wasted time

Designed to accept transistors, IC's, LSI packages, resistors, capacitors, LED's, trimmers, relays etc. Base board has 290 holes and pack includes two clip-on extensions each of 50 holes.

390 holes in all and you can add on as many more as you require.

Supplied with adhesive pad for ease of mounting.

Cat. P-4614 **\$9.00**



9 PIN PLUG & SOCKET ASSY.

9 PIN PLUG AND SOCKET ASSEMBLY Complete with covers.

Cat. No.	1-9	10 up
P-1910	95c	85c



DC PLUGS AND SOCKETS

Type	Cat. No.	1-9	10 up
2.1mm power plug	P-1641	40c	30c
2.5mm power plug	P-1645	40c	30c
2.1mm panel socket to suit P-1641	P-1661	60c	55c
2.5mm panel socket to suit P-1645	P-1665	60c	55c

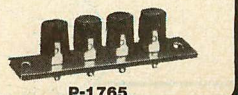
P-1661 & P-1665



QUICK CONNECT TERMINALS

Red and black plastic covered spring loaded terminals for instant connect and disconnect with solder lug on underside of phenolic mounting board.

2 way	Cat. P-1764	65c
4 way	Cat. P-1765	\$1.65

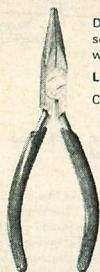


P-1765

QUALITY TOOLS FOR THE PROFESSIONAL OR HOBBYIST

FOR THE HOBBYIST

MINI LONG NOSE PLIER



Drop forged steel, chrome plated finish with soft plastic handle grips. Long nose complete with in-built cutter.

Length 100mm
Cat. T-3562 **\$3.95**

\$3.95

MINI DIAGONAL CUTTING NIPPER

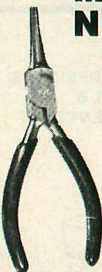


Drop forged steel construction. Cutting edge tempered and honed. Chrome plated finish with soft plastic handle grips.

Length 100mm
Cat. T-3561 **\$3.95**

\$3.95

MINI NEEDLE NOSE PLIER



Long slender needle nose to reach into the most confined spaces. Drop forged steel chrome finish with soft plastic handle grips.

Length 100mm
Cat. T-3568 **\$3.95**

\$3.95

PROFESSIONAL PLIERS AND CUTTERS



PRECISION CUTTERS

This cutter is of the highest quality for the person who wants the best. Ideal for situations where constant and precise work is to be carried out. Ideal for PC board, transistor and IC work. It has a fine, sharp and precise cutting edge and features spring loaded handles to relieve fatigue when doing continuous work. They are polished, fine quality steel with insulated handles and are of box construction.

\$7.95
Length 110mm, cutting edge 15mm.
Cat. T-3310 **\$7.95**

PRECISION FLAT NOSE PLIER



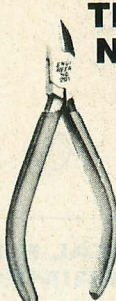
These pliers are of box joint type construction which every expert on tools knows gives more positive strength to the tool. They have flat smooth jaws for a good but protective grip. Ideal for work on delicate instruments etc.

Length 110mm, jaws 24mm.
Cat. T-3320 **\$8.95**

\$8.95

FOR GENERAL PURPOSE

TRANSISTOR NIPPER

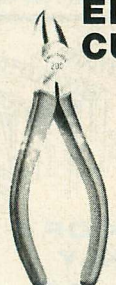


These cutters represent excellent quality to cost. They are ideal for PC board work, assembly and repair. They have insulated handles for protection.

Length 115mm, cutting edge 14mm.
Cat. T-3200 **\$5.50**

\$5.50

ELECTRONIC CUTTING NIPPER



This nipper has a large joint to prevent it twisting when cutting. The cutting edges are very fine and sharp to give a positive clean cut. Plus it has rigid handles for a good grip. Ideal for service work - has insulated handles.

Length 125mm, cutting edge 18mm.
Cat. T-3230 **\$5.75**

\$5.75

LONG NOSE CUTTING PLIER



This tool has a fine tip and serrated jaw for general use. Built in cutting edge, chrome plated with insulated handles.

Length 125mm, jaws 40mm.
Cat. T-3250 **\$5.75**

\$5.75

CUTTING NIPPER/STRIPPER



This nipper/stripper has sturdy insulated handles and a positive cutting edge. It features two very handy wire stripping holes, one of 1.2mm and the other 1.6mm making it a very versatile tool.

Length 125mm, cutting edge 22mm.
Cat. T-3220 **\$5.25**

\$5.25

FLAT NOSE PLIER

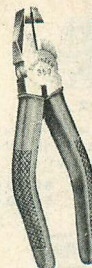


Has a flat, smooth pair of jaws which makes them ideal for work where a serrated edge would do damage. Gives a very stable and firm grip. They are chrome plated with insulated handles.

Length 150mm, jaws 42mm.
Cat. T-3260 **\$5.95**

\$5.95

SIDE CUTTING PLIER



This is the hard working tool for linesmen, electricians and general purpose use. Made of sturdy gunmetal with a polished finish and insulated handles. Has flat serrated jaws with inbuilt cutting edge. They represent excellent value.

Length 150mm, jaws 25mm.
Cat. T-3270 **\$5.95**

\$5.95



TULLEN SNIPS

The famed Tullen snips are now available from Dick Smith. This handy tool will cut virtually anything! From metal to paper, from carpet to lino and it does it with do much ease. Works on the principle of shearing rather than cutting - gives a nice straight cut. Plastic covered handles with parking lock to keep the blades together - never needs sharpening!

Cat. T-4930 **\$2.95**



\$2.95

NEON TEST SCREWDRIVER



\$1.00



At last we have a test screwdriver with a built in Neon. This is the ideal tool to carry around in your pocket (it has a pen clip) for the testing of AC - if you don't know if there is AC present why take chances, this tool will tell you! Insulated handle plus it is insulated right down to the spade type tip.

Cat. T-4005 **\$1.00**

IC INSERTION TOOL

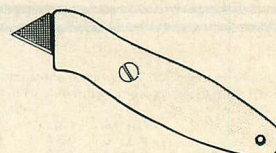


How many times have you damaged expensive ICs simply because you could not place them properly in the PC board. Well your troubles are over with this superb IC insertion tool. It will handle all DIL package ICs with ease and will take the frustration out of IC insertion. Has a very neat plunger action for positive location.

Cat. T-4640 **\$4.95**

\$4.95

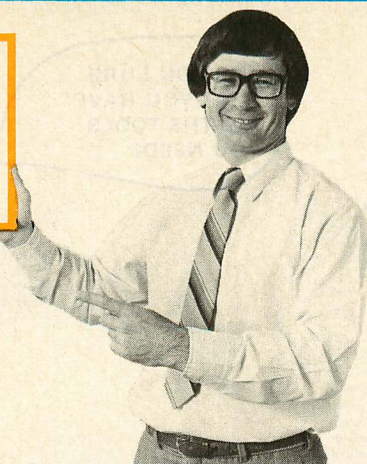
TRIMMING KNIFE



A comfortable hand knife exactly the same as much more expensive units on the market. It is presented to you at a cheaper price but quality has not been sacrificed. Comes complete with 5 surgically sharp carbon steel blades. This unit would have many, many applications around the home, office and factory.

Cat. T-5220 **\$2.25**

**SEE MY ADVERTS IN
ELECTRONICS
AUSTRALIA AND
ELECTRONICS TODAY
FOR NEW TOOLS IN
1981/1982!**



20 PIECE METRIC UTILITY SET

This set has to be seen to be believed. 20 piece nickel chrome molybdenum steel with chrome plated handle present in a handy transparent plastic box. This set includes:

3 x blade screwdrivers 1.5, 2.5, 3.5mm
2 x Philips screwdrivers No. 1 and No. 0
3 x hex Allen keys 1.5, 2.0, 2.5mm
5 x open end spanners 4.0, 4.5, 5.0, 5.5, 6.0mm
5 x spintights 3.0, 3.5, 4.0, 4.5, 5.0mm
1 tommy bar, 1 awl, 1 handle assembly.
You will be proud to have this excellent quality set in your tool range. Great value for money.

Cat. T-4365 **\$7.95**

GREAT VALUE UTILITY SET FOR THE WORKSHOP

SCREWDRIVERS

This range of screwdrivers has been chosen because it represents many different types of application. Depending upon type you can work on the most delicate of instruments up to motor vehicles. They are made from quality tempered and hardened tool steel and finished in nickel plate. The handles are amber coloured, unbreakable, flameproof, shockproof high impact plastic. This applies to the 45, 41, 61, 71, 81, and 82 series of screwdrivers.

CODE: L = Blade length, D = Blade width
H = Handle length x diameter

45 SERIES MINI



This really is a miniature screwdriver! Ideal for small jobs like the magnetic cartridge in your turntable, jewellery etc. Yes they are that small.

L - 30mm, D - 1.6mm, H - 25mm x 7mm

Cat. T-4010..... **Flat blade** **40c**
Cat. T-4020..... **Philips** **50c**

41 SERIES STUBBY

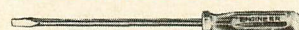


These really are great for confined spaces or for a job that needs a bit more leverage than you would get with a long handle screwdriver.

L - 45mm, D - 6.3mm, H - 45mm x 30mm

Cat. T-4060..... **Flat blade** **\$1.10**
Cat. T-4065..... **Philips** **\$1.10**

61 SERIES BABY



This range is ideal for light electronic work.

D - 2.6mm, H - 49mm x 11mm

Cat. T-4070..... **L - 50mm** **45c**
Cat. T-4075..... **L - 100mm** **50c**
Cat. T-4080..... **L - 200mm** **60c**

71 SERIES POPULAR

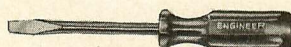


This has been voted the most used size. The medium size makes them ideal for general purpose work.

D - 4.5mm, H - 73mm x 16mm

Cat. T-4085..... **L - 75mm** **60c**
Cat. T-4090..... **L - 150mm** **70c**

81 SERIES HEAVY

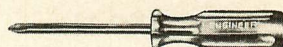


This series is ideal for the tradesman. The heavy duty makes them useful in the automotive workshop, machine shop etc.

L - 75mm, D - 5.5mm, H - 90mm x 19mm

Cat. T-4095..... **L - 75mm** **90c**
Cat. T-4100..... **L - 125mm** **\$1.45**

82 SERIES PHILIPS



This series covers all of the most popular Philips screw sizes.

L - 75mm, D - 3mm, H - 54mm x 12mm

Cat. T-4030..... **50c**

L - 100mm, D - 4mm, H - 75mm x 15mm

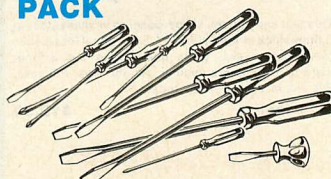
Cat. T-4040..... **75c**

L - 125mm, D - 5mm, H - 85mm x 18mm

Cat. T-4050..... **85c**

SCREWDRIVER SETS

SCREWDRIVER PACK

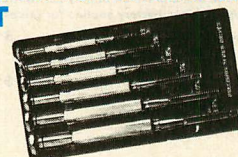


What a fantastic bargain - 10 screwdrivers for a very low price. You get 7 slot type screwdrivers ranging in blade width from 4mm to 9mm and length overall from 90mm to 280mm!! It also includes 2 Philips head drivers and 1 small awl. An ideal pack for the handyman.

Cat. T-4000..... **\$3.90**

THAT'S ONLY 39c EACH!!!

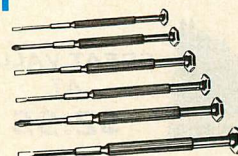
6 PIECE JEWELLER'S SET



These are beautifully made screwdrivers, chrome plated body with a free running knob on the top. The blades are the finest quality nickel chrome molybdenum steel, precision ground. They are presented in a handy transparent moulded case. Sizes range from 0.8mm to 3.8mm.

Cat. T-4350..... **\$3.50**

6 PIECE PRECISION SET



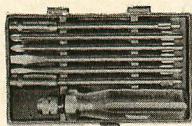
ONLY \$3.95

These chrome plated screwdrivers are presented in a plastic storage case.

A free running top on each driver gives operator ease of use. The set consists of 4 blade drivers from 1.4mm to 2.9mm and 2 Philips drivers, No. 0 and No. 1. These are quality screwdrivers at a low price and a very handy set to have around.

Cat. T-4360..... **\$3.95**

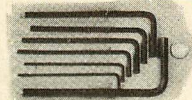
COMBINATION TOOLSET



A five piece set consisting of:-
1 precision jewellers screwdriver
1 baby type Philips screwdriver
1 baby blade screwdriver
1 x 5/32" nut spintight
1 x 1/4" nut spintight
A handy serviceman's kit presented in a handsome vinyl case.

Cat. T-4340..... **\$2.90**

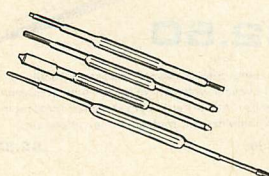
ALLEN KEY SET



Allen screws always turn up when you least expect them too. So here's an ideal set for the workshop. 7 gunmetal finish Allen keys in a plastic wallet. Sizes 1.4mm, 1.5mm, 2mm, 2.4mm, 2.5mm, 3mm, 4mm. They are ideal for most European and Japanese equipment that have Allen screws.

Cat. T-5080..... **\$1.50**

ALIGNMENT TOOLS TV ALIGNMENT KIT



A versatile set of 4 general purpose tools to cover all shapes and sizes of cores. They are made from tough plastic.

Cat. T-4540..... **\$2.50**

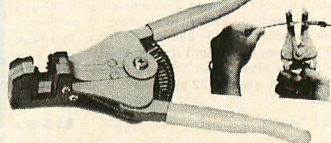
SCREWDRIVER TYPE



Ideal for the handyman and TV technician this plastic screwdriver has a spring steel tip. Suitable for trimmers and mini IF's.

Cat. T-4510..... **100mm** **\$1.00**
Cat. T-4520..... **200mm** **\$1.00**

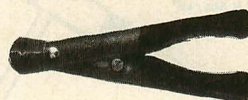
DELUXE WIRE STRIPPER



This is a completely automatic wire stripper. Only one hand operation is required to complete stripping operation. The multiple size head allows a wide range of wire from 1mm to 3.2mm to be stripped. Ideal unit for servicemen, TV technicians, hobbyists etc.

Cat. T-3620..... **\$11.00**

WIRE STRIPPER



TOP VALUE AT \$2.25

Large adjustable range. Hardened jaws will last a long time. Great value at around half the price of other makes.

Cat. T-3630..... **\$2.25**

LUG CRIMPING TOOL

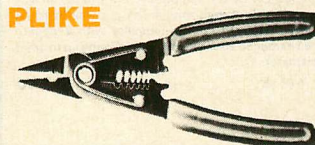


This versatile crimping tool will also strip and cut wire. Comes complete with a pack of lugs ready to use. Great value and a great addition to your workshop.

Cat. T-3520..... **\$1.99**

ONLY \$1.99

PLIKE



4 tools in one, long nose plier with serrated jaw, sturdy 3/8" cutter, crimper built into jaw, multitool wire stripper. A must for any workshop, electrician, linesman, do-it-yourself handyman. Made of carbon steel, has soft hand grips and a sturdy return spring to reduce fatigue.

Cat. T-3165..... **\$8.50**

MINI PC DRILL



This mini PC drill is imported directly by Dick Smith Electronics.

Although the drill is very small in size, the output is adequate for PC board work. It is completely self-contained and runs off 2 x 'C' cells.

The drill is extremely easy to use as the on/off switch is in a very convenient position. Because there are no trailing wires it makes work on PC boards, jewellery, model making, craftwork etc. very easy indeed.

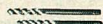
Specifications: Powered by 2 x 'C' cells. Size: 34mm x 182mm. Weight 98 grams. Speed 6,000RPM. Drill size capability 0.8 - 1.2mm and it comes complete with 1mm drill and chuck tommy bar. Batteries are not supplied (see battery section for prices).

Cat. T-4750..... **\$17.50**

STAND TO SUIT

Cat. T-4752..... **\$12.50**

DRILLS



MINIATURE HIGH SPEED TWIST DRILLS

Suitable for PC board work.

Cat. T-4820..... **No.60(1.0mm) \$1.25**
Cat. T-4825..... **No.65(0.8mm) \$1.25**

13 PIECE DRILL SET

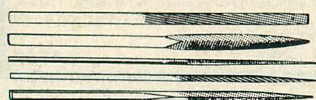


GREAT VALUE AT \$2.95

An easy to use snap case holds 13 drills in sizes from 1/16" to 1/4" in quality chrome vanadium. Suitable for metal, wood, plastics etc.

Cat. T-4800..... **\$2.95**

NEEDLE FILE SET



EVERY HOBBY BOX SHOULD HAVE A SET OF FILES

This handy set of files has five different types, all 185mm in length. The types are: round, square, halfmoon, triangular and rectangular.

Cat. T-4960..... **\$7.50**

DELUXE PIN VICE



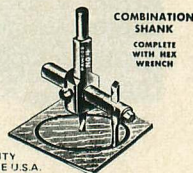
If you wish to hold a component like you would in a vice - then do it with this deluxe pin vice. It has a chrome finish and comes complete with 2 double ended hardened steel chucks to hold items up to 3mm in diameter.

Cat. T-5115..... **\$5.50**

CHECK OUT THE HARDWARE PAGE FOR NUTS, BOLTS & SCREWS ETC.

CHASSIS TOOLS

ADJUSTABLE HOLE CUTTER

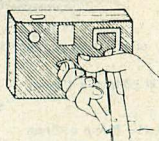


HIGH QUALITY MADE IN THE U.S.A.

Fully adjustable to cut holes from 23mm (7/8") to 101.5mm (4"), locked by an Allen key for positive hold. The instructions give tuning speeds for aluminium, plastic, copper, wood and steel. Comes complete with Allen key and centre drill. This unit is not like some of the cheap imitations on the market, it will not self destruct after one hole!

Cat. T-4870..... **\$6.90**

NIBBLING TOOL

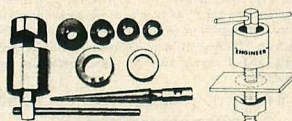


ONLY \$12.50

This unit can cut any shape opening in sheet steel to 0.6mm thick or light alloy to 1.5mm. Ideal for plastics too. Easy to use, gives good clean cut without distortion. Follows curved or straight lines with ease. Put one in your tool box today!

Cat. T-4940..... **\$12.50**

HOLE PUNCH SET



DON'T SLAVE OVER HOLES!

Ideal chassis basher tool, in fact a necessary tool for anyone who needs a large hole cut through metal. It's very easy to use and no filing is required and it will cut a hole without distortion. The complete set includes a 12mm tapered reamer, tommy bar, 5 punches - 16mm, 18mm, 20mm, 25mm, and 30mm. Individual chassis punches bought separately would cost a lot more than what we are charging for the whole set! Will handle steel to 22 gauge and aluminium to 16 gauge.

Cat. T-4900..... **\$15.00**

TAPERED REAMER

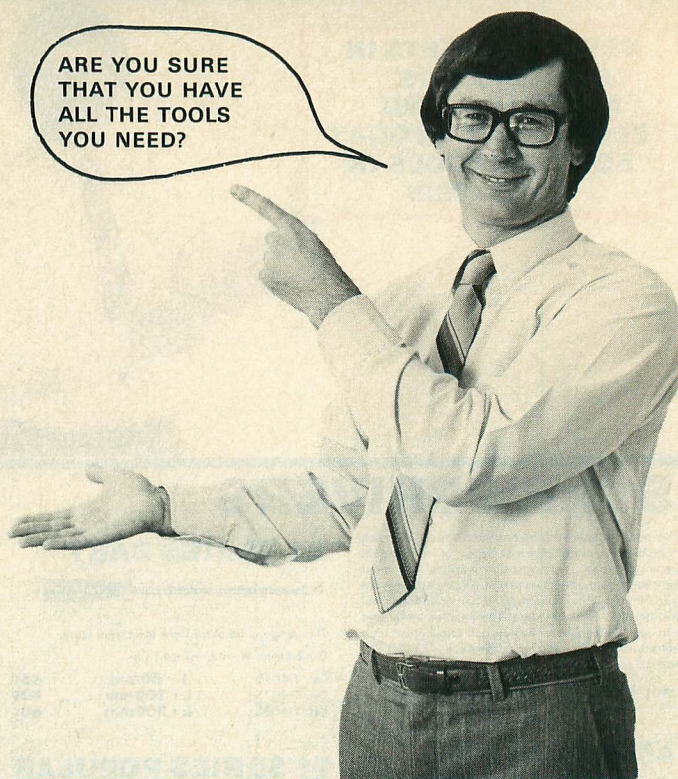
ONLY \$3.25



An ideal tool for enlarging holes in thin metal, plastics, wood, etc. Great idea for chassis bashers, hobbyists, servicemen. Made from the highest quality heat treated steel, comes complete with tommy bar. Tapers from 4mm to 22mm.

Cat. T-4920..... **\$3.25**

ARE YOU SURE THAT YOU HAVE ALL THE TOOLS YOU NEED?



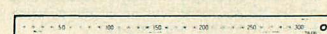
POINTED TWEEZER



Although these are great for removing splinters they are also ideal for holding small nuts, components etc. They can also be used for holding delicate instruments, small wires etc. Has very fine points.

Cat. T-4620..... **95c**

STEEL RULE



300mm hardened spring steel with deep etched black graduations. Non-rusting comes complete with plastic sheath.

THIS IS A METRIC RULE

Cat. T-5145..... **\$2.75**

SERRATED JAW TWEEZER



Has flat serrated jaw for positive grip.

Cat. T-4630..... **85c**

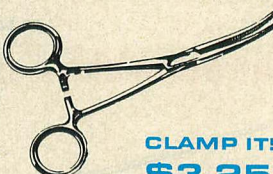
PEARL CATCH



For reaching into awkward places. Virtually a 3 pronged tweezer with syringe action. A must for small nuts, washers etc, in hard to get at places. Ideal for the hobbyist, serviceman, tradesman, jewellers etc.

Cat. T-4660..... **\$2.50**

SCISSOR CLAMPS

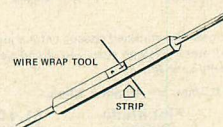


CLAMP IT! \$3.25

Made of stainless steel with screw joint. These scissor clamps are 127mm long so they will reach into hard to get at places. They can be used as a third hand for small items as they can be locked on to the article they are holding.

Cat. T-3690..... **\$4.95**

WIRE WRAP TOOL



FINISHED WRAP

A tool well suited to the needs of hobbyists and experimenters in the electronics field. Ideal for '1 off' production where the total number of wrap actions doesn't warrant the use of an automatic machine. Very simple to use, a versatile 3-in-1 tool. It strips back the insulation, wraps and unwraps. Precision made for continuous use.

Cat. T-3650..... **\$4.50**

WRAPPING WIRE PACK

5 metres of quality insulated wrapping wire. Suits the above wire wrap tool.

Cat. W-4018..... **75c**

SERVICING AIDS



MATT BLACK SPRAY PAINT

This is a quick drying matt finish spray. Suitable for giving your project that professional finish. Ideal for spraying heatsinks to increase thermal efficiency. Pressure pack can.

Cat. N-1070 **\$2.95**

**ONLY \$2.95
A CAN**



SPRAY CLEANER

This is a cleaner, degreaser, moisture removing spray. It is non-toxic, non-explosive, non-flammable. Can be used on rubbers and plastics as well. Leaves no residue, suitable for electronic, electrical, computers, tape recorder heads and mechanisms, clocks and watches, jewellery - in fact even the most delicate equipment. Complete with long reach nozzle.

Cat. N-1051 **\$3.50**



ACRYLIC CLEAR SPRAY

This is a fine colourless spray that is ideal for the protection of front panels, etched screen print or Letraset lettering. Will moisture proof components, TV aerial terminations etc. 125 gram pressure pack can.

Cat. N-1011 **\$2.95**

**IDEAL FOR
ARTISTS
TOO!**



CRC 2-26 SPRAY

This is a moisture removing, cleaning pressure pack. Not only does it clean, but it also leaves a film of protecting silicone that does not dry out. Ideal for pots, switches and contacts. Ideal also for loosening stubborn nuts and bolts. Will protect your car from salt and moisture. Use it on the ignition system to stop frustrations during wet weather starts. 40 gram pressure pack.

Cat. N-1060 **\$5.50**



SPRAY FREEZER

Instantly freeze components down to minus 50 degrees centigrade! Ideal for servicing electrical and electronic with intermittent problems. Shrink shafts, bushes etc. Cools components whilst soldering. Complete with long reach tube. 350 gram pressure pack.

Cat. N-1056 **\$3.50**



CIRCUIT LACQUER

This is a specially formulated spray for the protection of PC boards. This is a solder thru lacquer so boards previously sprayed with PCL-2 can be soldered in service. Pressure pack can 397 grams.

Cat. N-1045 **\$6.95**

ONLY \$6.95



ELECTROLUBE PRECLENE

A highly efficient, high pressure solvent highly recommended for cleaning tuners, switches, plugs and sockets, commutators, potentiometers, relays, etc. Non-corrosive, low toxicity. Complete with long tube. 340 gram pressure pack can.

Cat. N-1040 **\$4.90**



ELECTROLUBE 2X LUBE PEN

This is a state of the art electro-mechanical lubricant. Packaged in pen form with pocket clip. The pack has a unique retractable tube system to reach into those inaccessible areas. Non-drying lubricant for use with electronic and electrical gear, automotive, office, and domestic equipment etc. Ideal for servicemen.

Cat. N-1047 **\$3.50**

**THE CARRY
ANYWHERE
OIL**



NON TOXIC HEAT TRANSFER COMPOUND

Contains no Beryllium Oxide. Silicone based heatsink joint compound, improves the thermal conduction of a joint up to 40%. Ideal for use with semiconductors, maintains stable thermal properties over a wide temperature range. In handy syringe.

Cat. N-1200 **\$2.50**

**THIS IS THE
HEATSINK
COMPOUND
TO USE**



DICK SMITH PVC TAPE

Top quality PVC tape. 18 metres long x 19mm wide x 0.2mm thick. Hundreds of uses.

Cat. N-1362 **1-9 59c ea
10 or more 45c ea**



SILASTIC

ADHESIVE/SEALANT

Adheres to metals, glass, paint, ceramics, most plastics and wood. Ideal for mending leaks in fish tanks, roof tiles, windscreens etc. General purpose one part silicone rubber.

Cat. N-1225 **\$3.95**

**SUPERB
SEALANT**



SUPER GLUE

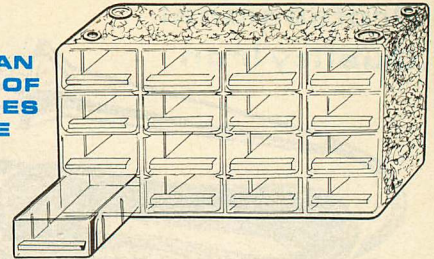
No clamping required, no mixing, no mess. Sets in seconds. Has thousands of applications.

Cat. N-1220 **\$2.25**

**STICK IT
RIGHT!**

CABINET OF DRAWERS

**WHY NOT CLEAN
OUT THAT JAR OF
BITS AND PIECES
INTO USABLE
ORDER!**



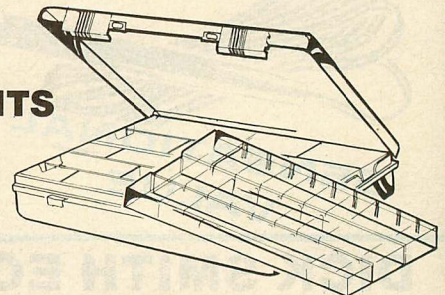
It is much easier to find those small bits and pieces when they are in one location. This cabinet of drawers is ideal for small components, screws, nuts and bolts plus other items around the house that need tidying up!

★ **ECONOMICAL** - bulk buying reduces the cost to you ★ **STACKABLE** - raised rings prevent slip ★ **COMPACT** - ideal for the workbench ★ **CLEAR VIEW DRAWERS** - see at a glance what they contain ★ **USEFUL SIZE** - each drawer may be divided into a maximum of 4 compartments - one divider per drawer is supplied ★ **16 DRAWER UNIT** - a total of 16 drawers each 65(w) x 137(l) x 35(d)mm ★ **CABINET SIZE** - 300(w) x 180(h) x 140(d)mm.

Cat. H-2588 **16 drawer unit \$17.50**

PARTS/ COMPONENTS CASES

**FROM
\$12.95**



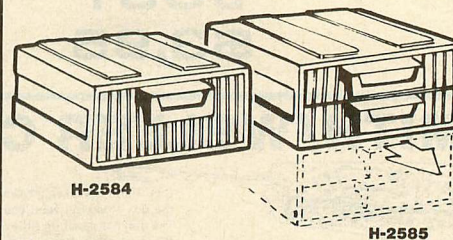
Made of extremely strong plastic these are the most versatile parts cases we've seen to date! Available in 2 sizes with movable compartment dividers to allow storage of a huge range of parts and components of different sizes. The clear lid allows you to see at a glance what stock you have without lifting the lid. Sliding catches ensure that the lid stays closed. The lid is hinged by steel pins for a long life case. Adhesive compartment labels for a clear identification system. Ideal for the serviceman, the hobbyist, the housewife, etc.

LARGE CASE - 290(l) x 220(w) x 45(d)mm - has two tiers of trays and one extra deep tray.

Cat. H-2596 **\$16.95**

SMALL CASE - 255(l) x 186(w) x 40(d)mm has one tier of two lift out trays.

Cat. H-2594 **\$12.95**



PARTS DRAWERS

**THE
STACKABLE
SYSTEM**

Over the years we have seen many types of component drawers come and go - we have sold units that have been like that - BUT these drawers go on and on because they are so popular. Large handle on the front of each drawer. Special index card slot moulded into the handle for labelling. Outside of boxes have precision dovetail ways so that the boxes may be securely locked together. Wall or bench mountable. These trays will not seize inside box as others tend to. Finished in white high impact plastic with the drawers moulded in red.

TWO TYPES AVAILABLE

Cat. H-2584 **One drawer per box \$2.50**

Cat. H-2585 **Two drawers per box \$2.50**

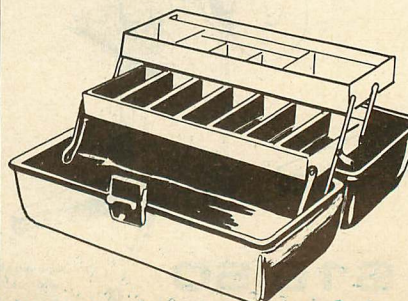
Overall box dimensions (both types) - 114(w) x 57(h) x 130(d)mm

UTILITY BOX

(Not Illustrated)

Small heavy duty plastic box with compartments for small items such as screws, resistors, capacitors etc. Dimensions: 218(l) x 110(w) x 33(h)mm.

Cat. H-2590 **\$3.50**



TOOL BOX

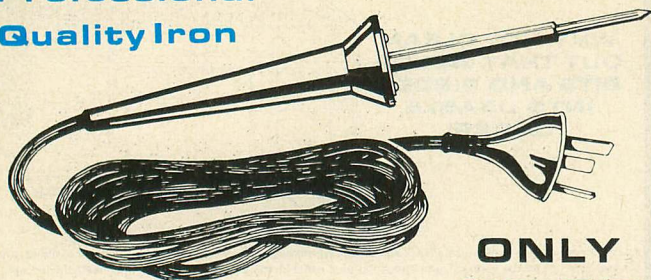
**HOBBIES
FISHING
GARDENING
TRADESMEN
TECHNICIANS**

Rugged polypropylene tool box with generous storage space. 427 x 230 x 200mm, foldaway handle, lock provision, 2 trays, 15 compartments, rustproof, lightweight. Ideal for tools, fishing, artists, hobbies, automotive etc bits and pieces

Cat. H-2600 **\$22.90**

DICK SMITH LOW COST SOLDERING IRON

**Professional
Quality Iron**



**ONLY
\$9.75**

How often have you required a soldering iron around the house or workshop only to find that you don't have one!

You look at the trade books and end up completely baffled by what is available. This iron will end all of your problems. A general purpose iron that can be plugged into the 240V AC mains and will give 25 watts of heat very quickly. That is more than enough for most jobs around the home or workshop. It has a stainless steel barrel and comes with a copper tip. Complete and ready to use with cord and three pin mains plug ready attached.

Cat. T-1300 **\$9.75**

Spare tip to suit

Cat. T-1301 **85c**

**THOUSANDS OF THESE
IRONS HAVE BEEN
SOLD!**

DICK SMITH MINIATURE 12V SOLDERING IRON



**ONLY
\$6.95**

**SENSATIONAL
VALUE**

Brand new for 1981 is this superb 12 volt AC or DC soldering iron. And when we say miniature, we mean MINIATURE!! Not much larger than a pencil in length and not much thicker either. What an ideal iron for those really small PC board jobs. It is so light and easy to handle that even the most inexperienced soldering fiend will be able to use it. It comes complete with lead and is rated at 6 watts which is ideal for all small component lead soldering.

No more are you tied to a big lumbering old iron for those delicate jobs - just get the brand new Dick Smith Miniature 12V iron.

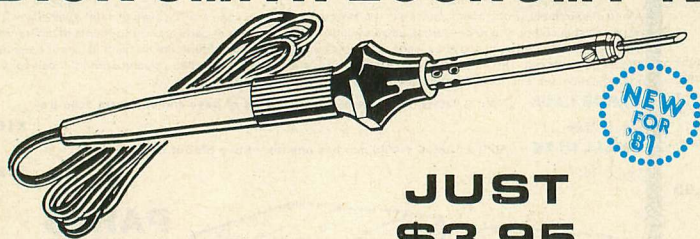
Cat. T-1920 **\$6.95**

Tips to suit.

Wedge Copper Tip
Cat. T-1921 **\$1.50**

Cone Copper Tip
Cat. T-1922 **\$1.50**

DICK SMITH ECONOMY 12V SOLDERING IRON



**JUST
\$3.95**

This iron is superb, not only does it work on 12 volts DC but it will also work on 12 volts AC! That means you can use it around the home from any 12V AC source and then use it in the car, caravan, boat etc on a 12V DC source.

Comes complete with car cigarette-lighter plug attached to a lead.

If used in the home you will require a 12V 1.5 amp transformer.

A great general purpose iron that will have hundreds of uses, just think of some of the things you could do with it!

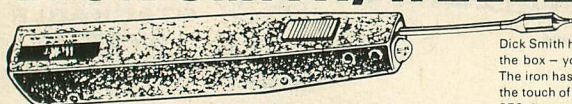
Cat. T-1910 **\$3.95**

Tip to suit

Cat. T-1915 **60c**

PUT ONE IN YOUR CAR!

DICK SMITH/WELLER CORDLESS IRON



**COMPLETE WITH
CHARGER**

Dick Smith has taken the Weller Cordless iron and packed only the essential items into the box - you get what you need without paying for items you don't really need. The iron has a built-in NiCad battery that can be charged from the supplied charger. At the touch of a button the tip, which is supplied with the iron, heats up to approximately 370 degrees in seconds. This iron is equivalent to the normal 15 watt irons that plug into the AC mains. There is a built in light for those jobs that are in dark corners and is absolutely ideal for CMOS work.

Cat. T-1050 **\$32.50**

Spare tips to suit.

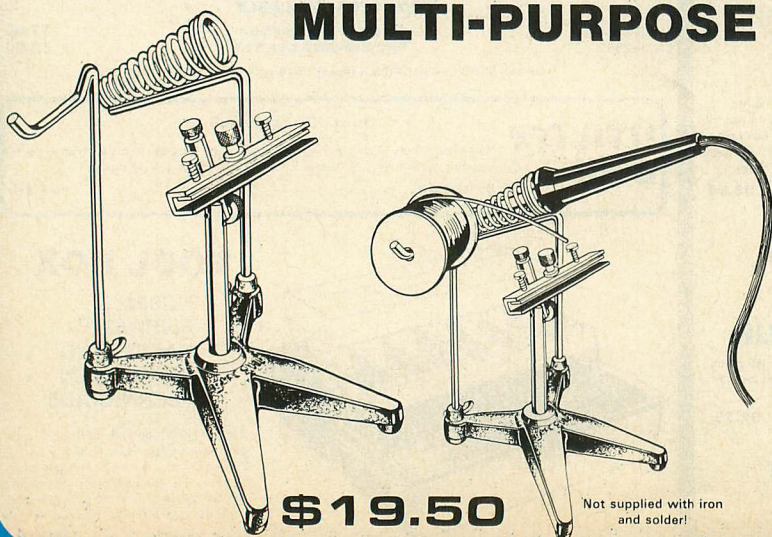
3mm Screwdriver Tip
Cat. T-1240 **\$3.00**

1.5mm Screwdriver Tip
Cat. T-1242 **\$3.00**

1.5mm Long Reach Tip
Cat. T-1244 **\$3.00**

0.8mm Conical Tip
Cat. T-1246 **\$3.00**

MULTI-PURPOSE SOLDERING STAND



\$19.50

Not supplied with iron
and solder!

It had to happen - a third hand that could hold your PC board, hold your solder and hold your iron when not in use. Robust and simple to use.

★ Holds boards or components firmly in rubber faced vice.

★ Angle of vice may be varied widely in three dimensions for greatest accessibility to board.

★ Convenient soldering iron holder also adjustable.

★ Adjustable spool holder for solder and desoldering wick

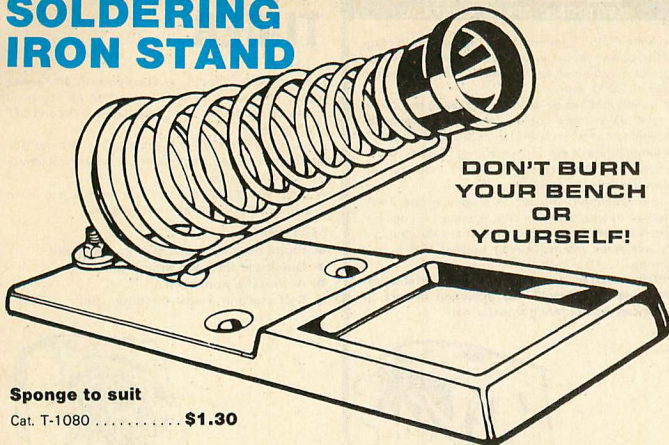
★ Ideal for the hobbyist or the professional.

★ Leaves both hands free.

Cat. T-5700 **\$19.50**

**EVERY SERVICEMAN,
EVERY ELECTRONIC
HOBBYIST - IN FACT
ANYONE WHO NEEDS A
THIRD HAND - SHOULD
HAVE ONE OF THESE!**

SOLDERING IRON STAND



The perfect answer when you want to put your hot soldering iron down is the Dick Smith stand. It is suitable for the Dick Smith iron (Cat. T-1300) or any other medium sized iron.

It has a very stable cast base with screw holes for attaching to your workbench plus a strong coiled spring in which you place the iron. This protects not only the iron but you as well!

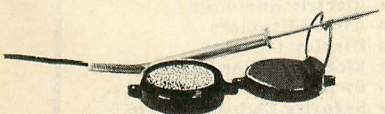
A cleaning sponge for the soldering iron tip can be placed in the front tray.
Cat. T-1302 **\$5.95**

ONLY \$5.95

SOLDERING STAND

Compact flip open unit. Top section has flip up stainless steel solder stand and the bottom section has a heatproof tip cleaning sponge. Can be closed like a compact or screwed to your workbench. It is 65mm in diameter.

Cat. T-2550 **\$3.50**



SOLDER



Top quality corrosion free multicore solder.

1.25mm (18g) 200 grams **\$4.95**
Cat. N-1619

0.71mm (22g) 200 grams **\$4.95**
Cat. N-1623

A liberal amount of solder in a hobby pack.

1.25mm (18g) hobby pack **\$1.00**
Cat. N-1638

0.71mm (22g) hobby pack **\$1.00**
Cat. N-1636

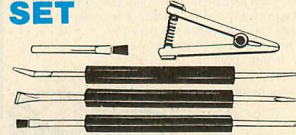
DESOLDERING BULB



Simple and efficient. Simply squeeze bulb, hold tip to molten solder and release bulb. Solder is sucked straight up. Use for blow cooling tool!

Cat. T-2580 **\$3.75**

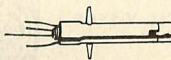
SOLDERING AID SET



For the person working with PC boards this is an essential aid. Kit contains: guide fork tool, reamer point and knife point tool, scribe, heatsink clip and stainless steel bristle brush. Can also be used for restringing dials!

Cat. T-2610 **\$4.95**

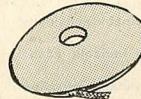
C/R PULLER



Spring loaded 'third hand' for removing components from PC boards when the solder melts.

Cat. T-2600 **\$2.25**

DESOLDERING BRAID



"DICK WICK"

Known to one and all as the 'Dick Wick', this is a specially treated copper braid that is used to remove solder from the PC board by capillary action. Fast, clean and very efficient. Cut off the used bit of braid and you are ready to start again.

Cat. N-1682 **1-9 \$2.00 ea**
10 or more \$1.70 ea

SOLDER SUCKER



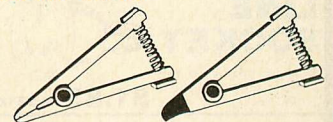
A rugged, all metal construction solder sucker complete with Teflon tip and a nozzle sweeper as well. Light thumb release mechanism for the removal of solder from your board. Don't pay twice the price - a top quality import from Dick Smith.

Cat. T-2560 **\$13.50**

Spare Teflon tip to suit.

Cat. T-2570 **\$2.75**

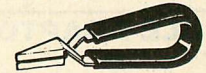
HEATSINK CLIP SET



Spring loaded, plier grip clips for heat sensitive components and leads. Made of aluminium for high thermal conductivity. 2 types, one straight and one angled, both 75mm long.

Cat. T-2620 **\$1.50**

HEATSINK CLIP



Spring loaded, self holding clip with special alloy tips for rapid heat transfer from components.

Cat. T-2630 **\$2.95**

SCOPE EQUIPMENT

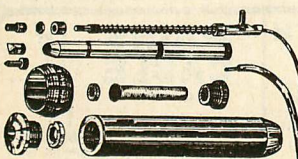
SCOPE SUPER SPEED



Thumb operated ring on the handle supplies heat in 6 seconds. Delivers the right amount of heat at the right time, uses easily replaceable carbon elements. Operates from 3.3 volts AC or DC or from the Scope special transformer. Stainless steel non-corrosive barrel and comes complete with spare tip and element. Ideal for the hobbyist or serviceman. Does the job of other iron of up to 150 watts!

Cat. T-1605 **\$19.95**

SUPER SPEED SPARES



Copper tips (standard)	T-1610	50c
Copper tips (instrument)	T-1612	50c
Stainless barrel	T-1616	\$5.95
Elements (carbon)	T-1618	50c
Bead retaining nut	T-1620	40c
Bead ceramic	T-1622	20c
Push rod assembly	T-1624	\$4.05
Return spring	T-1626	90c
Flex lead	T-1628	\$7.50
Bakelite lock nut	T-1630	\$1.20
Brass nut	T-1632	\$1.10
Handle complete	T-1634	\$9.50
Switch ring	T-1636	\$1.40

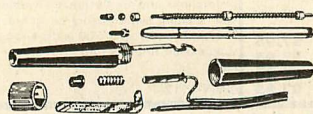
MINISCOPE IRON



Ideal for service on PC boards, has all of the advantages of the bigger Scopes but is smaller in size with fingertip control. Supplied with spare tip and element.

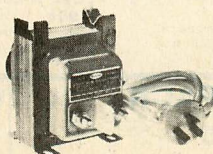
Cat. T-1660 **\$26.50**

MINISCOPE SPARES



Copper tips	T-1662	60c
Barrel stainless	T-1664	\$6.50
Elements	T-1666	60c
Push rod assembly	T-1668	\$4.95
Insulating bush	T-1670	85c
Switch return spring	T-1672	50c
Contact lug	T-1674	90c
Switch lever	T-1676	\$2.75
Flex lead	T-1678	\$6.95
Handle (unslotted half)	T-1680	\$2.40
Handle centre piece slotted	T-1682	95c
Handle brass sleeve	T-1684	\$3.95
Ceramic bead	T-1686	25c
Bead retaining nut	T-1688	25c

SCOPE TRANSFORMER



This is the recommended transformer for the Scope irons. It can be mounted on or under the bench. Can also be with any tool requiring around 3-4 volts AC.

Cat. T-1692 **\$18.95**

WELLER WTCPN SOLDERING STATION

A transformer powered soldering station, complete with a low voltage, temperature controlled soldering pencil. The special Weller 'closed loop' method of controlling maximum tip temperature is employed, thereby protecting temperature sensitive components while the grounded tip protects voltage and current sensitive components, e.g. CMOS.

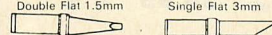
Cat. T-1000 **\$62.50**

Sponge to suit

Cat. T-1080 **\$1.30**

Spare Tips

Double Flat 1.5mm	
315°C PT-A6	
Cat. T-1060	\$3.25
370°C PT-A7	
Cat. T-1064	\$3.25
430°C PT-B	
Cat. T-1068	\$3.25



ADCOLA S30

12 watt iron



Reliable iron for general service or production area and ideal for the hobbyist. High impact orange plastic handle and complete with Triclad 3mm long life tip.

Cat. T-1820 **\$15.00**

Tip to suit Adcola S30.

Cat. T-1854 **T30220 \$1.95**

ADCOLA S50

16 watt iron

Same as above but with 16 watts of power and a 5mm Triclad tip included.

Cat. T-1825 **Not Illustrated \$19.50**

Tip to suit Adcola S50.

Cat. T-1856 **T50225 \$2.00**



Single Flat 3mm	
315°C PT-CC6	
Cat. T-1070	\$3.25
370°C PT-CC7	
Cat. T-1072	\$3.25
430°C PT-CC8	
Cat. T-1074	\$3.25

ADCOLA IRONS

ADCOLA T30

Temperature Controlled



Mains operated with solid state temperature sensing control and SCR used as electronic switch. Screwdriver temperature adjustment in handle. Ideal for solders and components requiring accurate temperature control, eliminates risk. Range 200 to 400 degrees Centigrade. Fitted with long life Aimaclad tip.

Cat. T-1810 **\$39.50**

Tip to suit Adcola T30.

Cat. T-1850 **A30220 \$2.95**

PLUG 3 PIN

P-5400



95¢

The standard Australian 3 pin AC plug - it has a locking collar to hold cable tight and push fit cover to main body.

3 PIN PIGGY-BACK PLUG



\$1.60

Standard 3 pin plug with 3 pin socket as well - doubles up on one power point!

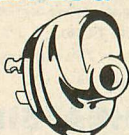
P-5405

SUPPRESSOR PLUG

Standard 3 pin AC plug with capacitor fitted to remove unwanted pops cackles from audio equipment.

\$3.90

P-5425



LINE SOCKET

Ideal for making up extension cords - standard 3 pin AC socket.

\$1.85 P-5410



240V SWITCH

High impact plastic moulded switch for insertion in any cord for remote on/off. Ideal for putting on/off switch in a floor standing lamp.

P-5515 \$2.50



DOUBLE ADAPTOR

Standard 3 pin AC plug into 2 AC sockets. Enables you to use two appliances on one outlet!

\$1.80



P-5440

3 PIN PLUG SIDE ENTRY

P-5402 95¢

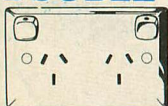


Standard 3 pin AC plug with cable entry on the side - ideal for using with awkward equipment.

DOUBLE OUTLET

\$6.00

P-5560



Replace old one point AC sockets with this double unit.

SINGLE OUTLET

\$3.75

P-5550



Standard 240V wall mounting, switched AC outlet plate.

LINE SOCKET

Line socket for bayonet mount lamps. Ideal replacement for light fittings. Comes in white plastic.

\$1.20

P-5510



SURFACE SOCKET

Standard 3 pin AC socket that can be screwed to boards or walls - ideal for workshop use.

\$1.15

P-5415



DISCOLITE

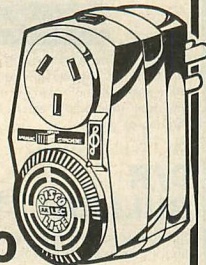
Discolite is a portable plug-in light controller offering a choice of three, separately switched, lighting effects when used with tungsten filament lamps.

Discolite needs no special wiring and simply plugs into any 240V power point. The lamps to be controlled are then plugged into Discolite.

Fascinating lighting effects are easily obtained using an ordinary radio and table lamp. More spectacular disco lighting is achieved with the aid of a record player, some crinkled aluminium foil and portable floodlamps with coloured globes. To reflect changing moods and tempos Discolite can be used selectively to flash with the music, dim the lights or provide a strobe pattern at varying speeds.

Discolite can also be used to flash the lights on a Christmas tree, provide lighting effects for shop windows and advertising displays, act as a metronome or control the lamps in outdoor and indoor living areas.

Not suitable for use with fluorescent or other gas discharge lamps.



Cat. Y-1105

\$47.50

FEATURES:

- Plugs directly into 240V power socket - needs no wiring.
- Integral microphone
- 3 position switch selects:
 1. Music colour with variable sensitivity and tone response.
 2. Strobe effect with variable flash speed.
 3. Light dimmer with variable intensity.
- Continuously variable control provides complete flexibility in all modes of operation.
- Can be used with 240V filament lamps to a total of 500 watts.
- Double insulated for safe operation.
- SEC approved.
- 12 months manufacturer's guarantee.

SPEEDRIGHT

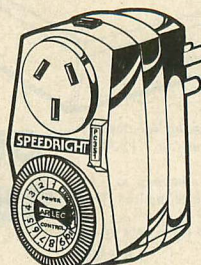
ELECTRONIC SPEED CONTROL

The Arlec PC351 Speedright is a high powered plug-in Triac power controller designed to vary the energy input to a variety of appliances. It has a maximum rating of 1,000 watts.

The Speedright can be used for regulating the speed of most power tools, cooling fans and blowers; for dimming table and standard lamps and for controlling the temperature of electric water jugs, frypans, grills, toasters and other types of electric heaters and cookware.

To use Speedright you simply plug-in to the 240V power point and rotate the control knob until desired effect is obtained. Electrical protection is afforded by a fully automatic internal circuit breaker that is self resetting.

SPECIAL NOTE: Speedright is not suitable for controlling synchronous AC induction motors or appliances incorporating transformers.



Cat. Y-1110

\$25.60

Specifications: Input 240V 50Hz. Output 1,000 watts maximum, maximum current 4.2 amps.

SLOW - for screwdriving, masonry drilling, polishing, large diameter drilling using augers or holesaws.

MEDIUM - wood turning, reaming, bench grinding with large wheels.

FAST - sawing, sanding, routing, planing, small diameter drilling.

IDEAL FOR USE WITH BRUSH TYPE UNIVERSAL MOTORS

KAMBROOK TIMER

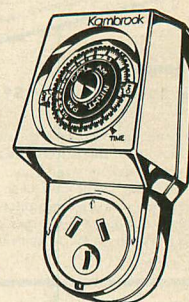
The Kambrook Timer plugs directly into a 240V power socket and will automatically control an electrical appliance connected to it by switching it ON and OFF at preset times.

The times are easily set by moving the ON and OFF tabs to their respective positions. Both am and pm are indicated on the dial.

Why not place these units all over the house or office to switch different types of equipment.

FEATURES:

- Plugs directly into 240V power point
- Quick set 24 hour timing dial
- Automatic operation
- Self starting motor for timer dial



Cat. Y-1120

\$19.95

CONTROLS:

- ★ Electric Blankets
- ★ Cooking Appliances
- ★ Electric Radiators
- ★ Airconditioners
- ★ Display Lighting
- ★ Electric Water Heaters
- ★ Swimming Pool Pumps
- ★ Security Lighting ... etc.

COLOURED FLOOD LIGHTS & HOLDER

THE HOLDER



Designed for screw mount floods. Can be wall or ceiling mounted. The base swivels so that you can alter the direction of the light.

Cat. P-5620. \$3.50

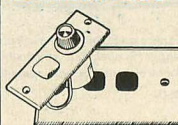
THE FLOODS

Available in Yellow, Red, Blue and Green, these are screw thread floods that fit the above holder. Use them with the Discolite (shown above) or with the Musicolor III kit as described on the kit pages. They are also ideal for mounting indoors as mood lighting especially if used with the dimmers described on this page. Rated at 100 watts.

Cat. S-3850	YELLOW	\$7.95
Cat. S-3852	RED	\$7.95
Cat. S-3854	BLUE	\$7.95
Cat. S-3856	GREEN	\$7.95

LIGHT DIMMER

ONLY \$6.90



A light dimmer that can create for you just the right atmosphere for those intimate special occasions! These units come supplied with full instructions and are designed to either replace your existing switch panel or architrave plate. They will handle up to 500 watts and have noise suppression fitted, so no interference on your radio.

Cat. Y-1112. \$6.90

COMPUTALITE DIMMER



ONLY \$10.50

A dimmer system controlled by an electric eye! This unit will automatically turn the lights on when evening approaches and turn them off again in the morning. Light level is adjustable. Handles up to 500 watts and comes with wall plate and architrave plate.

Cat. Y-1113. \$10.50

POINT SAFETY TESTER

P-5300 \$4.95



Power point not working? Just wired a new point? Then check it out with this unit. If green light comes on all is O.K. If any other colour combination occurs - then check the list supplied to find the fault.

BLACK-LITE GLOBE

Incandescent lamp with Ultra Violet coating. Fits any standard 240V AC lamp socket. Rated at 75 watts. Ideal for parties.



\$2.95 S-3900

MOUNTING BOX STAND



\$1.25 P-5531

Takes standard plates: Cat. P-5560 and Cat. P-5550.

JUNCTION BOX



\$1.70 P-5625

Small junction box with 4 protected connectors.

LINE SOCKET

Line socket for bayonet mount lamps. Ideal replacement for light fittings. Comes in white plastic.

\$1.20

P-5510



SURFACE SOCKET

Standard 3 pin AC socket that can be screwed to boards or walls - ideal for workshop use.

\$1.15

P-5415



PLASTIC CHILD PROOF PLUG

P-5420 40¢



AC sockets are normally placed in a position whereby young children have access. Stop their prying fingers by placing this plastic safety plug into the outlet when not in use. Very hard for children to remove.

ARCHITRAVE SWITCH

P-5570



Standard architrave switch - can be used to replace old, worn out units in your home. Positive action switching.

\$1.95

POWERPACK

\$19.95

P-5610



Fantastic value - plug into a 240V AC power point and have four switched AC outlets.

LEAD WITH PLUG

Cat. W-2057

\$1.40 - 2 metre

Cat. W-2058

90¢ - 1.1 metre

Lead with open end and 3 pin plug fitted. Ideal replacement cable.

MAINS CABLE

50¢ metre

45¢/m 100 metres or more

W-2055

Standard 240V AC power cable for use where an earth connection is required. Each wire is separately insulated and colour coded. Rated @ 7.5 amps continuous.



WALL BOARD CLIP

P-5530

45¢



This clip will enable you to mount the P-5560 and P-5550 AC outlet plates onto any wall (other than brick) without the need for a box mounting. This also applies to the Y-1112 and Y-1113 dimmers.

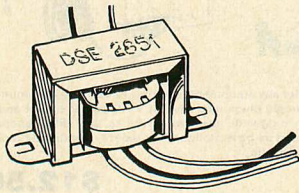
HIGH QUALITY - LOW PRICE TRANSFORMERS

Save a fortune on your transformers. Your project could be costing you more than necessary if you don't use one from this economical range. Check out the details.

We have these transformers specially made for us to bring you a quality product at a down to earth price. They exceed the following specifications.

DIELECTRIC TEST: ● Primary to Core 4000V AC ● Primary to Secondary 4000V AC ● Secondary to Core 1500V AC.

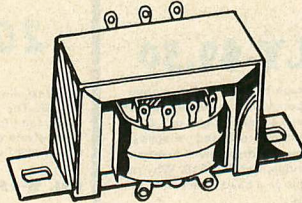
INSULATION RESISTANCE: ● Primary to Core 100 MEG OHM/500V DC ● Primary to Secondary 100 MEG OHM/500V DC ● Secondary to Core 100 MEG OHM/500V DC.



Model M-2851

Primary: 240V AC
Secondary Voltage: 12.6 volts CT
Secondary Current: 150mA
Termination: Flying Leads

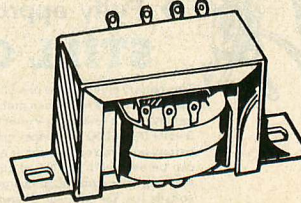
Cat. M-2851..... **\$3.90 ea**
10 up **\$3.40 ea**



Model M-2155

Primary: 240V AC
Tapped Secondary: 6.3, 7.5, 8.5, 9.5, 12.6, 15 volts
Secondary Current: 1 amp
Termination: Solder Lugs

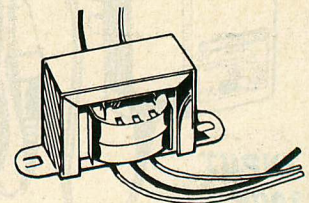
Cat. M-2155..... **\$5.90 ea**
10 up **\$5.10 ea**



Model M-6672

Primary: 240V AC
Tapped Secondary: 15, 17.5, 20, 24, 27.5, 30 volts
Secondary Current: 1 amp
Termination: Solder Lugs

Cat. M-6672..... **\$7.50 ea**
10 up **\$6.50 ea**



Model M-2840

Primary: 240V AC
Secondary Voltage: 9 volts CT
Secondary Current: 150mA
Termination: Flying Leads

Cat. M-2840..... **\$3.90 ea**
10 up **\$3.40 ea**

TRANSISTOR AUDIO TRANSFORMERS

Ideal for transistor radio replacements, good for transistor projects requiring coupling transformers including oscillator circuits. Miniature size.

Model M-0222 - Primary 3k ohm ● Secondary 3k ohm ● Use - Coupling ● Iron core ● Size 17(l) x 15.5(w) x 15(h)mm.

Cat. M-0222..... **\$1.00**

Model M-0216 - Primary 1k ohm CT ● Secondary 8 ohm ● Use - 350MW.O/P. ● Ferrite core ● Size 15(l) x 14(w) x 11.5(h)mm.

Cat. M-0216..... **\$1.00**

Model M-0212 - Primary 10k ohm ● Secondary 2k ohm CT ● Use - Coupling ● Ferrite core ● Size 15(l) x 14(w) x 11.5(h)mm.

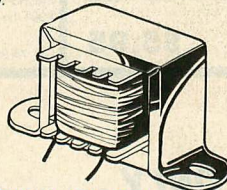
Cat. M-0212..... **\$1.00**

VALUE AT ONLY \$1.00

LINE TRANSFORMER

This transformer has been engineered to cover more than 95% of all PA - BGM applications. Suited to all speaker impedances. Multitapped for use with 100V or 70V lines. 52mm mounting centres.

● Multi purpose matching transformer ● 4 watts rms rating ● 2, 4, 8, 16 ohms secondary ● 2.5k, 5k ohms primary.



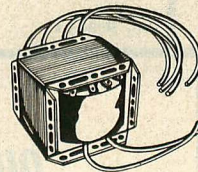
IDEAL FOR PA WORK

Cat. M-1100 **1-9 \$4.25 ea**
10 or more \$3.75 ea

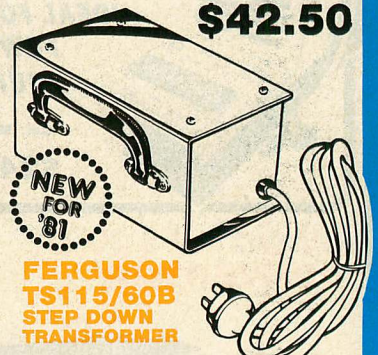
Model M-0150

Massive, new transformer, specifically designed for use in high power audio amplifiers. Suits ETI 466 (Cat. K-3444) amplifier module kit.

● Primary 240V AC ● Secondary 2 x 47V @ 3A (300VA total rating), 2 x 15V @ ½A (ideal for preamplifier supplies) ● Overall dimensions 96 x 114 x 110mm.



Cat. M-0150..... **\$32.50**
SAVE \$7.45 WAS \$39.95



FERGUSON TS115/60B STEP DOWN TRANSFORMER

Input 240V AC and secondary voltage 115V AC @ 60VA with 7% regulation. The unit is fully encased and has fuse protection for the output. Heavy duty carrying handle and socket outlet. Weight 2.9kg.

Cat. M-1156..... **\$42.50**

Model M-2000

● Primary 240V AC ● Secondary 18V ● Secondary current 6 Amps ● Termination Flying Leads.

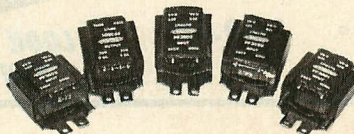


6 AMPS!!!

Cat. M-2000..... **\$17.32**

LOW PROFILE

Each transformer has two separate secondary windings which can be wired in series or parallel. They are fitted with round pin terminations and include leads. 240V AC primary.

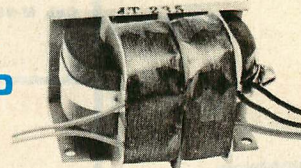


PL12/20VA 2 x 6V @ 1.7A - 6V @ 3.4A - 12V @ 1.7A M-3596
PL15/20VA 2 x 7.5V @ 1.3A - 7.5V @ 2.6A - 15V @ 1.3A M-3597
PL18/20VA 2 x 9V @ 1.1A - 9V @ 2.2A - 18V @ 1.1A M-3598
PL24/20VA 2 x 12V @ .85A - 12V @ 1.7A - 24V @ .85A M-3599
PL30/20VA 2 x 15V @ .68A - 15V @ 1.3A - 30V @ .68A M-3600
PL40/20VA 2 x 20V @ .51A - 20V @ 1A - 40V @ .51A M-3601

ALL MODELS \$10.95 each

SPECIAL 'C' CORE Model M-0148

● Primary 240V AC ● Secondary 26 - 0 - 26V @ 2A ● Used in the Playmaster 40/40 stereo amplifier kit.



ONLY \$26.50

Cat. M-0148..... **\$26.50**

SPECIAL 'C' CORE Model M-0152

● Primary 240V AC ● Secondary 36 - 0 - 36V @ 2A ● As used in the new Playmaster MOSFET amplifier kit. Please check the kit section for this amplifier.

ONLY \$29.90

Cat. M-0152..... **\$29.90**

AS USED IN THE PLAYMASTER AMPLIFIER KITS

WARMED TOILET SEAT FOR THE PERSON WHO HAS EVERYTHING

Australian made by 'DELWOC', the Dick Smith electrically warmed toilet seat is one of the most important aids to personal comfort invented this century. It provides personal satisfaction and warmth appreciated by all who feel the cold.

For the discriminating home owner or the prestigious business man interested in providing the ultimate in personal comfort to friends or clients, the Dick Smith warmed toilet seat stands supreme.

Completely safe, the Dick Smith Delwoc warmed toilet seat is fully approved by Electricity Authorities in Australia and New Zealand. Join the many, many satisfied customers who are already enjoying the luxurious warmed toilet seat from Dick Smith.

- ★ ULTIMATE IN PERSONAL COMFORT
- ★ COMPLETELY SAFE
- ★ PRECISION BUILT WITH WHITE WASHABLE PLASTIC FINISH.
- ★ GUARANTEED UNBREAKABLE UNDER NORMAL USE.
- ★ COMPLETE WITH CORD AND 3 PIN PLUG.
- ★ SIMPLY PLUGS INTO ANY 240V POWER POINT.
- ★ EASY TO INSTALL. ALL FITTINGS PROVIDED.
- ★ ECONOMIC TO RUN.

made for DICK SMITH by "Delwoc"

\$32⁵⁰

Y-2000



Model M-0146

240V AC primary, secondary 20-0-20 @ 1.25A (2.5A @ 40V). Used in the Twin 25 Playmaster amplifier kit.

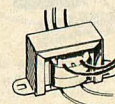
Cat. M-0146..... **\$12.50**

Model M-0144

240V AC primary, secondary 28-0-28V @ 2A (4A @ 56V). Similar to the Ferguson PF3577. Suits 100 watt guitar amplifier kit.

Cat. M-0144..... **\$15.40**

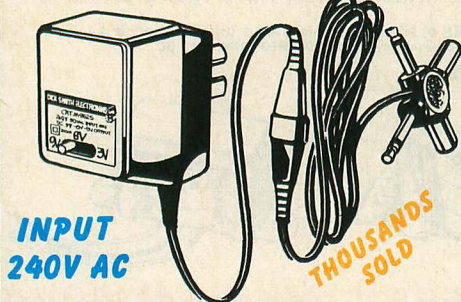
Model M-2824



Primary: 240V AC
Secondary: 3.5V - 0 - 3.5V @ 250mA & 7.75V @ 10mA.
Ideal for use with the MA 1022C clock module Cat. X-1052.

Cat. M-2824..... **\$4.25**

BATTERY ELIMINATOR



INPUT
240V AC

- 3V – 6V – 9V DC @ 200mA
- 4-way connector
- Reversible polarity
- Fully approved

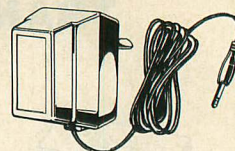
STILL ONLY \$9.50

This battery eliminator is one of the most superb buys in this catalogue - many thousands have been purchased by people who know how to save money!! It is a small plug-in unit that has three output voltages of 3, 6 and 9 volts DC at 200 milliamps - possibly the three most used voltages on battery powered equipment. It is ideal for many battery driven items and can be used with the NiCad charger cartridge, Cat. M-9518. Why not make up your own NiCad charger using this as a basis of supplied low voltage (i.e. for our new 'D' and 'C' Nicads).

Cat. M-9525 **\$9.50**

12V ELIMINATOR

**12V DC
@
200mA**



The ideal eliminator for any equipment requiring 12V DC at a maximum of 200mA. The pack simply plugs into any 240V AC power socket and is then ready for use. Suggested uses would be to use with handheld transceivers when used as base stations, the older type portable radios that worked on 12V DC etc.

Cat. M-9550 **\$12.50**

3 - 6 - 9 - 12V DC @ 1 AMP

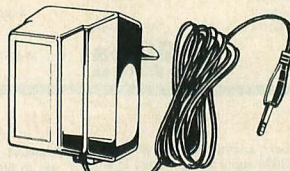
Invaluable around the home or workshop. It will give a maximum of 1 amp at 3, 6, 9 and 12 volts DC. Simply plugs into 240V AC power socket - DC connections via screw terminals on front of unit. Ideal for use with alarm systems, intercoms etc.

**IDEAL FOR HIGH
POWER
EQUIPMENT**

Cat. M-9530
\$24.50

9V ELIMINATOR

**9V DC
@
200mA**



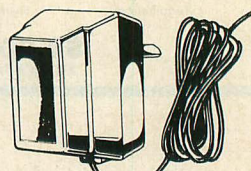
FULLY APPROVED

For all equipment requiring 9V DC at a maximum of 200mA. Can be used with later type radios that normally use a 9V transistor type battery or many of the static hobby models that require 9V. Eliminator module simply plugs directly into a 240V AC power socket.

Cat. M-9514 **\$5.95**

12V AC POWER SUPPLY

**12V AC
@
500mA
ONLY
\$9.50**



Ideal power supply for projects requiring 12V AC at 500mA. Terminations are wire for easy connection into any circuit. This unit can be used with the RS-232C project in the magazine Electronics Australia February 1981 issue.

Cat. M-9555 **\$9.50**

6V DC TO 12V DC CONVERTOR

**HEY!
VW
OWNERS
- LOOK..**



A low cost convertor for use on equipment that requires 12V DC but you only have 6V DC available e.g. VW owners who have 12V radios to work in their 6V cars. You don't have to trade-in your car just to fit that 12V radio - get this simple to install convertor and enjoy your music. Unit delivers 12V DC @ 2A.

Cat. M-9592 **\$27.50**

24V DC TO 12V DC CONVERTOR



Very similar to the above unit but intended for vehicles with 24V DC that require to use 12V DC equipment. Ideal for truckies wishing to use CB radios, radios or cassette players in their 18 wheeler rigs with only 24V available. Will deliver 12V DC @ 2A.

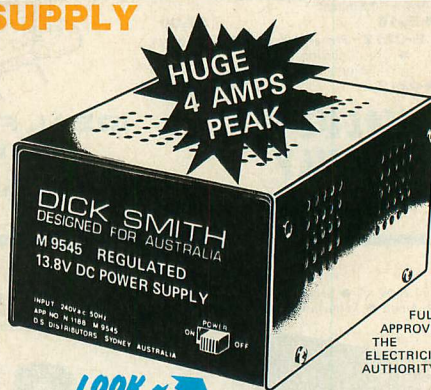
Cat. M-9594 **\$29.50**

DICK SMITH POWER SUPPLY 13.8V DC

**OURS IS ONLY
\$39⁵⁰**

A power supply designed for use with CB radio for base station use but has many other uses as well. Output voltage is 13.8 at 2 amps continuous, 4 amps peak pulse. Front mounted on/off switch and rear mounted output terminals for non messy wiring. This product is excellent quality and will serve both the ardent CB'er and the enthusiast who requires a good quality bench DC supply.

Cat. M-9545 **THOUSANDS SOLD \$39.50**



**LOOK ~
SWITCH ON FRONT PANEL**

FULLY
APPROVED BY
THE
ELECTRICITY
AUTHORITY.

DICK SMITH VARIABLE POWER SUPPLY

- ★ Huge 4 amps peak
- ★ Ideal for the workbench
- ★ 5V – 15V DC Variable

A very popular power supply that features a continuously variable voltage range from 5V to 15V DC. The current ratings are 2 amps continuous, 3 amps short term or 4 amps peak pulse. Also included is a current limit protection switch with two positions, just over 2 amps F.S.D. with the switch on and just over 4 amps F.S.D. with the switch off. Fuse protection is also incorporated for extreme circumstances. The meter can be switched to show either volts or amps. All controls are mounted on the front panel for ease of use, making the unit ideal for work bench supplies.

Cat. M-9546 **\$49.50**



HI POWER CAR CONVERTOR

**6V
7.5V
9V
@
800mA**



Suitable for battery powered equipment that requires more than average current, e.g. larger cassette units etc. Complete with 4-way plug and battery snap connector. 6V – 7.5V – 9V @ 800mA.

Cat. M-9584 **\$9.95**

2 Amp/13.8 Volt Power Supply Kit



Ideal to run your CB rig as a base station. Rugged design gives 13.8V @ 2 Amps continuous or up to 4Amps surge. Can be made adjustable from 10 to 14 volts by adding an optional potentiometer control. Regulated circuit gives less than 10mV noise. Unit is housed in a robust instrument case and uses a reliable time proven circuit. Complete to the last nut, bolt and high quality PCB.

Cat. K 3448 ▲ **\$29⁵⁰**

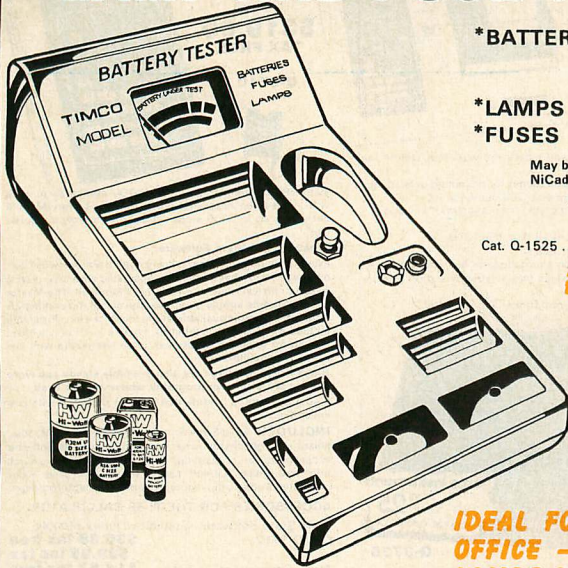
PLUS BIG 5 AMP OUTPUT KIT

UPDATED MODEL SHORT FORM KIT 13.8V @ 6 AMP PEAK POWER SUPPLY
5 Amps continuous and 6 Amps peak (depending on heatsinks used). This kit includes the M2000 heavy duty transformer, circuit board, circuit and electronic components. It does not include a case or heatsinks as these can be made easily by the hobbyist at a great price saving.

Cat. K 3449 ▲ **\$34.50**

**SEE KIT SECTION FOR FURTHER
INFORMATION**

THE DICK SMITH BATTERY, LAMP AND FUSE TESTER



***BATTERIES** Checks all 1.5V and 9V dry cell types as well as rechargeable Ni-CAD 1.2V types. YES! even watch, photographic and calculator batteries.

***LAMPS** Checks miniature lamps for continuity
***FUSES** Checks cartridge type fuses for continuity

May be used as a general continuity tester and as a NiCad charger.

9V battery required (costs extra)
Cat. S-3006 - 45c

Cat. Q-1525 **\$9.95**

**FANTASTIC VALUE AT
THIS AMAZINGLY
LOW PRICE**

\$9.95

**IDEAL FOR HOME, WORKSHOP OR
OFFICE - ANYWHERE BATTERIES,
LAMPS AND FUSES ARE USED**

BATTERY CHARGERS

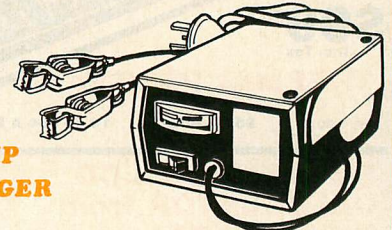


**IDEAL FOR
BOAT
OWNERS!**

CHARGETTE

Not much larger than a three pin plug, you simply plug into the AC socket and connect the 2 metre long leads with heavy duty clips to your battery. It has a charge rate of 1 amp and has thermal cutout to provide safety if overloaded. Charge a dead flat battery in 48 hours or trickle charge your battery overnight to keep it in top condition. Double insulated for safety.

Cat. M-9802 **\$17.95**



4 AMP CHARGER

This charger will really get your battery going! A massive 4 amp charge rate enables you to charge your car or boat battery over night. It has an output meter to inform you of what is happening when you are charging. Comes complete with heavy duty leads and clips. Don't let your battery die on you - keep it in tip top condition with this charger.

Cat. M-9800 **\$29.50**

NICAD BATTERY CHARGER



**ONLY
\$11.50**

Nickel Cadmium charger, suits 12V rechargeable battery packs in walkie talkies, cassette units etc., in fact any unit requiring a charger of up to 12V. Will charge from six to ten 1.2 volt batteries at one time. The current automatically adjusts. Do not use with Cat. M-9518.

FULLY APPROVED

Cat. M-9517 **\$11.50**

RECHARGEABLE 12V NI-CAD PACK



**ONLY
\$24.50**

Rechargeable pack replaces 8 standard 1.5V penlight batteries. This pack will directly replace an existing dry cell pack. It has standard (216) snap connector and a 2.5mm socket. The rating is 225mA/H and has a charge rate of 20mA for 15 hours. Ideal for transceivers and other portable equipment.

Cat. S-3310 **\$24.50**

Use our M-9517 Charger to recharge this unit

NICAD CHARGING CARTRIDGE

For charging 2 or 4 NiCad batteries simultaneously. . . .

This cartridge will take (AA) penlight batteries which simply clip into place. A 6 volt plug pack is required and this simply plugs into the end of the cartridge. We recommend the M-9525 plug pack shown on page 96 (do NOT use Cat. M-9517 shown on this page). Batteries will normally charge from 'flat' in 12 hours and if they have a charge, in less time. No damage can result from leaving batteries 'on-charge'.

Cat. M-9518 **\$1.95**



RECHARGEABLE NI-CAD PENCELL

A cell you don't have to throw away! Because this cell can be recharged you can use it over and over again - you are therefore not throwing your money away! Ideal for all types of equipment.

Cat. S-3300 **1-9 \$2.05 ea**
10 or more \$1.80 ea



1.2 Volt

RECHARGEABLE 'C' AND 'D' CELLS

At last we have extended our range of NiCads to include the popular 'C' and 'D' size cells. They are both rated at 1.2Ah and are suitable for use with a multitude of battery operated devices.

Cat. S-3302 **'C' size cells \$4.25 ea**

Cat. S-3304 **'D' size cells \$4.50 ea**

HI WATT BATTERIES

ALWAYS FRESH!

**COMPARE OTHER BRANDS AND PRICES - THEN
SEE THE HUGE SAVINGS ON THESE BATTERIES.**

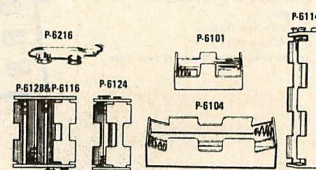
Specially imported, factory fresh, high capacity, long life range of cells and batteries. Look at the savings. Can be used in transistor radios, torches, models and many other applications as well.



Cat. No.		1-9	10 up
S-3001	D size metal jacket	30c	25c
S-3002	C size metal jacket	25c	20c
S-3003	AA penlight	22c	18c
S-3004	AAA size	25c	20c
S-3005	UM 5 (R11)	25c	20c
S-3006	216 9V transistor	45c	35c

**SAVE MONEY
WITH DICK SMITH!**

BATTERY HOLDERS & SNAPS



Case made of quality plastic, all terminals are nickel plated. Special Note: All units, except for Cat. P-6101 which has solder connections, require a 216, Cat. P-6216, snap connector as an extra.

Battery Holds	Type	Cat. No	1-9	10 up
216	snap	P-6216	20c	15c
D	1 Square	P-6101	50c	35c
C	4 Flat	P-6104	70c	55c
AA	4 Long Flat	P-6114	55c	45c
AA	6 Rect.	P-6116	80c	70c
AA	4 Square	P-6124	55c	45c
AA	8 Rect.	P-6128	\$1.00	90c

SILVER OXIDE BATTERIES 1.5V

Cat. S-3292 G10 **\$3.95 pkt. of 2**
Ideal for clock/calculator Cat. Q-3024
Cat. S-3293 G13 **\$3.75 pkt. of 2**
Ideal for LCD travel alarm Cat. Y-1042
Cat. S-3295 G12 **\$4.30 pkt. of 2**
Ideal for use with certain watches.
Cat. S-3299 WL **\$1.90**
Ideal for use with certain watches.

DURACELLS

Mallory alkaline cells in blister packs.



2 x pencils in pack	Cat. S-3280	\$1.39
2 x C cell in pack	Cat. S-3282	\$1.69
2 x D cells in pack	Cat. S-3284	\$1.69
1 x 9V transistor in pack	Cat. S-3286	\$2.25



Ever fresh, Eveready batteries:

216 9V	Cat. S-3106	85c
276P 9V	Cat. S-3210	\$3.35
2362 9V	Cat. S-3200	\$2.30
509 6V	Cat. S-3240	\$2.40
732 12V	Cat. S-3242	\$6.35

MERCURY CELLS 1.35V

Suits Cat. C-1060 microphone - see microphone page.

Cat. S-3297 **\$2.95**

Suits microphone Cat. C-1073.

Cat. S-3291 **PX625 \$2.50**

CALCULATORS

Calculator/Printer Dick Smith

AT LAST! A really elegant, compact, yet efficient printing calculator with all of these outstanding features and at a very reasonable price. YES! Less than \$100.00

- ★ Deluxe 12-digit thermal printer with display.
- ★ One memory function.
- ★ Automatic motor shut-off system
- ★ Large, easy to operate keyboard.
- ★ Easy to read green display.
- ★ Non-print function uses less paper
- ★ Automatic constant.
- ★ Floating and fixed decimal point.
- ★ Compact size.
- ★ 240 Volt Power Supply.

Cat. Q-3018

\$93³⁶

Tax Free

\$99⁵⁰
Inc. Tax

THERMAL PAPER

Cat. Q-3019 95¢ A ROLL 10 up 80¢ A ROLL



**MAINS
OPERATED**

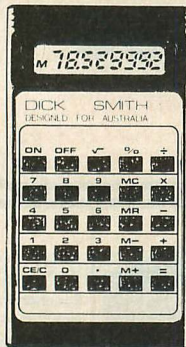
FUNCTIONAL LCD CALCULATOR from DICK SMITH

Last year in our catalogue we offered a fluoro calculator for \$9.95 – this year for the same price we are offering a Liquid Crystal Display calculator! Designed for Dick Smith, this unit has all of the normal numerals plus square root, percentage and a comprehensive memory. It even has a clear last entry key, just in case you put the wrong figure in! Sized to fit in your pocket, this is an ideal calculator for the younger student at school, for mothers when they are shopping or for dad when he's trying to figure out his tax returns.

Cat. Q-3015 **\$9.95**

TAX FREE PRICE \$9.23

TOP VALUE AT ONLY \$9.95



TI's PC-100A thermal printer

\$252.50
TAX PAID

\$230.07
TAX FREE

FOR THE TI-59
AND TI-58C



Q-3727

- ★ Prints the results and tables you want (you define the format).
- ★ Prints alphanumeric messages for prompting or headings.
- ★ Prints audit trail symbols and numbers.
- ★ Lists your entire program - step numbers - key codes - key symbols.
- ★ Lists the contents of all data memories.
- ★ Lists labels and locations.
- ★ Prints alphanumeric annotations in line with numbers.
- ★ Plots data relationships from keyboard or directly from program control.
- ★ Recharges calculator battery.



Q-3735

WITH LIQUID CRYSTAL DISPLAY

\$25.25 TAX PAID \$23 TAX FREE

Elegantly styled in an attractive and sleek slimline look, the TI-25 is as thin as a pencil (1.34 x 74 x 9mm) and smaller than your hand. Yet it has all the power and capabilities you need in a scientific calculator. Designed especially for the student or professional on the go, the slimline TI-25 weighs just 85 grams and fits easily into your pocket. With 52 functions and easy to read 8 digit readout this calculator will perform scientific, algebraic and statistical problems rapidly. Automatic power down turns the calculator off after approximately 7 minutes and the batteries provide about 1000 hours of continuous operation.

TI-59 Programmable

\$351
TAX PAID

\$319.80
TAX FREE

Q-3710



With 960 program steps or up to 100 memories to work with – and when integrated with the Master Library Module delivering up to 5000 steps – the TI-59 is truly computer like.

What is Solid-State Software?

Pre-written programs that once occupied almost two dozen magnetic cards have been encapsulated in a tiny plastic module small enough to sit on your thumbnail. The Master Library Module simply plugs into the calculator making 25 different programs available at the touch of a key. Programs include mathematics, statistics, finance – virtually a basic tool kit for today's professional. Interchangeable with five other optional libraries.

Blank Magnetic cards are also available so you can write and record your own programs whenever you wish. . . . If your program is confidential you can protect it with one keystroke.

INCLUDED: Solid State Software Master Library Module, personal programming owner's manual, Solid State Software accessories kit containing: Program label cards, quick reference guide, Library cards, vinyl carry case, extra magnetic program/data storage cards, AC adaptor/charger.

ACCESSORIES FOR THE TI-59 CALCULATOR

Solid State Software – Statistics Library Module
Cat. Q-3712 **\$36.38 tax free**

Blank Card . . . Cat. Q-3714 **\$39.95 inc tax**

AC adaptor/charger normally included but also available separately . . . Cat. Q-3904 **\$14.67 tax free**

..... **\$15.95 inc tax**

TEXAS CALCULATOR ACCESSORIES & SUPPLIES

Battery pack BP1A for SR-52 and TI-59
Cat. Q-3921 **\$7.80 tax free**

..... **\$8.50 inc tax**

Paper roll for PC100A Printer (packet of 3)
Cat. Q-3750 **\$11.39 tax free**

..... **\$12.50 inc tax**

METRIC CONVERSION MADE EASY

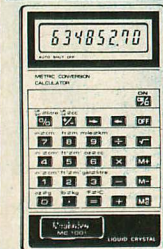
Well here it is! The calculator that takes the hardship out of metric conversions. It is a Liquid Crystal Display calculator of diminutive size that also does the normal addition, subtraction, multiplication, division, percentages and has a memory too! But its claim to fame is the metric conversion side and this is what it will do: Imperial gallons to litres, imperial ounces to cubic centimetres, inches to centimetres, feet to metres, miles to kilometres, square inches to square centimetres, square feet to square metres, ounces to cubic centimetres, inches cubed to centimetres cubed, feet cubed to metres cubed, gallons to litres, ounces to grams, pounds to kilograms and Fahrenheit to Centigrade – all of this plus vice versa. A very handy calculator for everybody.

Cat. Q-3025 **\$19.95**

TAX FREE PRICE \$18.20

SPECIAL NOTE:

Students who are registered at any school, technical college or university may take advantage of tax savings on calculators. Just see your principal for further details on how you can save money.



THE THIN ONE

**STILL LESS THAN
1/2 PRICE!**

Cat. Q-3022... **\$14.50 inc tax**
\$13.45 tax free

1979 PRICE \$29.50

You'll get used to having one of these delightful calculators in your pocket. Can be used in the home, office, factory, field or supermarket, you'll soon wonder how you ever did without a calculator. Beautifully made and ultra slim – you'll be proud everytime you use your calculator. Supplied complete with batteries and instructions for use. Extra batteries available, 2 x G10 Cat. S-3292 @ \$2.95

- Auto shut-off.
- 2,000 hours on 2 tiny batteries.
- 8 digits.
- Liquid Crystal Display.
- Only 4.3mm thick.
- Comes complete with wallet type case.

**LIQUID CRYSTAL
DISPLAY**



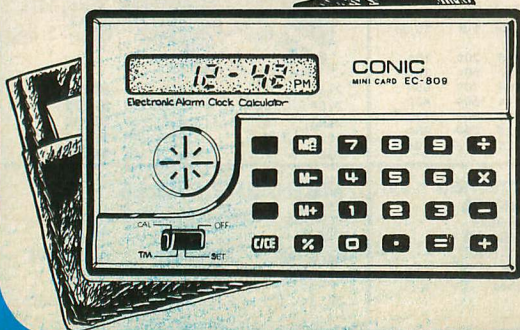
Illustrated half actual size with a Bankcard shown for comparison. (Bankcard & Mini Card height are the same)
Dimensions: 96(w)x56(h)x4(d)mm

**IDEAL FOR THE BUSINESS MAN,
THE STUDENT, THE HOUSEWIFE
– IN FACT ANYONE**

**CALCULATOR/CLOCK
WITH ALARM AND TIMER**

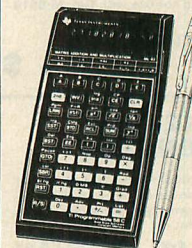
This is an ultra slim LCD calculator with full function keyboard including memory and percentage keys. By flicking a switch it becomes a clock with hours, minutes and seconds. It also has a built-in alarm which will sound at the preset time once every 24 hours unless changed or cancelled. There is also a count-down timer with alarm which is settable up to 99 hours, 59 minutes and 59 seconds. Uses two G10 batteries (supplied) and comes in a slip-in case with instructions for setting the different functions.

Cat. Q-3024 **\$29.50**
TAX FREE PRICE \$28.12



Texas Instruments TI Programmable 58C.

Advanced programmable calculator with Solid State Software™ libraries and new Constant Memory™ feature.



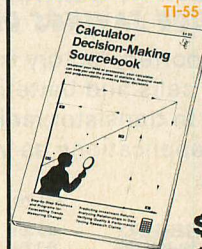
\$153.30
TAX FREE

\$165.00
INC TAX

Q-3705

The TI-58C is a computer-like programmable calculator – over 170 functions and operations plus programming capability up to 480 steps or up to 60 data memories. Pre-written, ready-to-use programs in 12 fields are available in optional Solid State Software Libraries with revolutionary plug-in memory modules. The Master Library with 25 programs is included. Constant Memory feature retains program and memory contents even when the calculator is turned off.

**advanced slide rule
calculator with programmability**



\$63.50 TAX FREE
\$69.50 INC TAX

Q-3740

TI-55. Versatile slide rule calculator and "how to" book combination for statistical and mathematical problem solving – with simple programmability. Advanced TI-55 capabilities include programming, plus unique blend of hardware and software support features. Easily handles almost any mathematical operation, from logarithms and trigonometry to more advanced statistical problems. Easy-to-understand 140 page Calculator Decision Making Sourcebook shows you how to use the power of statistics, financial mathematics, and programmability in making better decisions, whatever your field or profession. Step-by-step examples cover analyzing relationships in data, verifying quality and performance, measuring change, forecasting trends, testing research claims, and projecting investment returns.

THE ALL NEW - MELODY ALARM CHRONOMETER

NO LONGER THE HARSH REALITY OF EARLY MORNING BUZZERS - NOW YOU CAN WAKE TO A MELODY!!!!

We won't tell you the tune - let it be a surprise!!!!

New for 1981 is this superb quartz accuracy liquid crystal display chronometer that will amaze your friends with its melodic sound. When you have stopped playing the tune for all of your friends you can sit back and appreciate the other features of this watch - for example, you can have dual time settings, ideal for the business man who works in Sydney but needs to know the time in Perth or London etc., the in-built stopwatch with lap time facilities, the in-built light plus it looks very smart, and very expensive. The watch is supplied complete with attractive bracelet and comes complete with instructions in a presentation box. The ideal gift for yourself or a friend - and it's not expensive, either!

Cat. Y-1044

\$29.50

COMPARE OUR PRICE TO OTHERS!

\$20 cheaper than last years model

- ★ DUAL TIME
- ★ MELODY ALARM
- ★ LAP TIMES
- ★ LCD DISPLAY
- ★ WITH BRACELET
- ★ LOW, LOW PRICE

SUPER SLIM DESIGN!



CAN BE MOUNTED ON DASH TOP!

YOURS FOR \$24.50



DIGITAL ELECTRONIC CAR CLOCK WITH ALARM

Here is an ideal clock for your car, boat or plane. The smart black plastic case includes bracket for underdash mounting. All controls are mounted on the front face for time setting, alarm and lock. The brightness of the green display is automatically adjusted to ambient light conditions. Quartz controlled for accuracy this unit will give excellent service for the person who wants up to date electronic time keeping. This unit requires 12V DC for operation.

Complete in case with bracket and power leads.

Cat. Y-1047

\$24.50

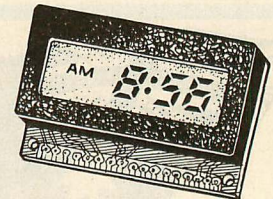
LCD CLOCK - TIMER - ALARM MODULE WITH HUGE 8mm DIGITS!

SEE E.A. APRIL 1980

A superb clock module measuring only 60 x 38mm complete on the PC board. This unit will operate on a 1.5V battery for a year or more as it draws less than 0.1mA! The liquid crystal clock is crystal controlled for accuracy and the claimed accuracy is within plus/minus 1.5 seconds per day! The four digit display has 'am' and 'pm' indication and to illuminate the unit at night there is a built in light. The alarm is very effective and requires only a transistor and loudspeaker to work, it also incorporates a 'snooze' feature. Conversion to a stop watch is possible and the E.A. article describes how this unit may be used as a clock, for both the home and the car, plus with extra circuitry as a control timer. A very interesting unit that has many applications. Supplied with data sheet.

Cat. Y-1050

\$17.50



FOR THE CAR OR BOAT - IT'S IDEAL!

FOR THE SPORTSMAN OR FOR ANYONE WHO NEEDS TO STOP TIME!



STOPWATCH - CLOCK

IDEAL FOR THE SPORTSMAN

A handy stopwatch/clock that comes complete with lanyard for hanging around the neck, when used like this the unit will be the right way around for timing sports events etc. Quartz controlled for accuracy, the large liquid crystal display is very easy to read. Use it as a clock or at the press of a button use it as a stopwatch. The stopwatch function can be started and stopped without resetting for lap timing which is a very handy feature. Finished in rugged black plastic this unit will give years of serviceable use.

Cat. Y-1041

\$39.50

DIGITAL ALARM CLOCK MA 1022C MODULE

The MA1022C is a complete electronic digital clock module featuring four-digit LED display; only a transformer and setting switches are required to produce a low cost, full featured movement for use as an alarm clock. Advanced packaging techniques allow minimum overall size while allowing easy and flexible assembly.

ONLY \$12.50

ALARM CAN EASILY BE ADDED

SEE KIT SECTION FOR FURTHER DETAILS

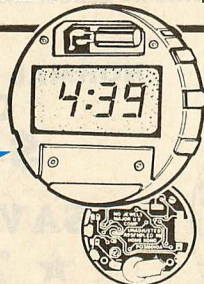


12.7mm High Digits

Cat. Y-1052

WAS \$13.50

\$12.50



LCD WATCH MODULE

Here it is - the insides of a liquid crystal watch - the complete module including battery. Quartz controlled for accuracy and with liquid crystal display. This unit can be used to make your own watch, set it in the dash of your car, or even mount it in some form of jewellery for a fascinating and unusual time piece.

Cat. Y-1039

\$12.50

IDEAL FOR THE EXPERIMENTER HUNDREDS OF USES!

TRAVEL ALARM CLOCK MINIATURISATION IN TIME

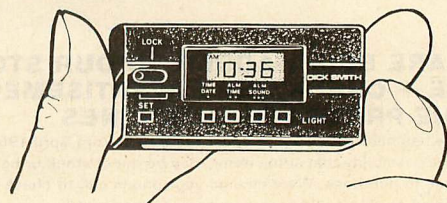
WITH LIQUID CRYSTAL DISPLAY

For the man or woman on the move, this miniature alarm clock is ideal - for travellers in the country, it will let you know when to get up out of that motel bed, and for busy people who have appointments with other busy people the alarm feature is ideal.

Miniaturisation has been accomplished by using tiny IC's that contain thousands of transistors. The time read-out is liquid crystal and the whole unit measures only 65(L) x 32(W) x 11(H)mm. The clock uses one G13 battery (supplied) which is replaceable with our Cat. S-3293. The controls are easy to use and it even has an in-built light for night use. Comes complete with a vinyl pouch with a clear window for time readings.

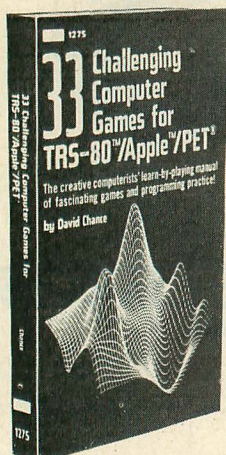
Cat. Y-1042

\$29.00



THE TRAVELLING TIMEPIECE

STOP PRESS STOP PRESS



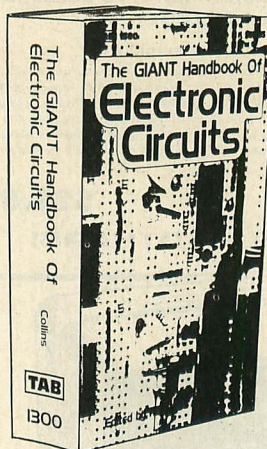
33 CHALLENGING COMPUTER GAMES for TRS-80/SYSTEM 80/APPLE/PET

256 pages - David Chance

8 chapters of games with sample run and full listing of the program. The difference between the different computer BASIC is indicated so that programs can be altered to accommodate any of the computers listed. To cover all interests the 8 chapters are split into 8 war games, 4 learning games, 4 self-improvement games, 8 adventure and disaster games, 5 calculation games, 3 speed and order games and finally 4 games using graphics. A brand new 1981 book - so it's up-to-date!

Cat. B-1870 **\$8.95**

**ONLY
\$8.95**



THE GIANT HANDBOOK OF ELECTRONIC CIRCUITS

880 pages - edited by Raymond A. Collins

60 chapters of circuits relating to virtually all aspects of electronics. There are circuits for hams, automotive buffs, radar and sonar, games, inverters, power supplies plus many, many more - it's a big book and it would be ideal for the study or workshop shelf!

Cat. B-1780 **\$18.95**

**ONLY
\$18.95**

FOR THE COMPLETE SELECTION OF BOOKS AVAILABLE FROM DICK SMITH, SEE THE BOOK SECTION.



**HANG ONE IN
YOUR FRONT
YARD!!!**

ONLY \$12.50

THE AUSTRALIAN FLAG!

1 metre long

After trying to buy an Australian flag for a particular function, a customer of Dick Smith Electronics came to us in desperation. Although we did not in fact stock the flag we decided that many of you would like to have one - so here it is! Ideal for the formal B-B-Q, state occasions, elections, decorating the front of the house etc., etc. Unfortunately we do not stock the pole!

Cat. Y-1001 **\$12.50**

3.5mm STEREO PLUG



A brand new addition to our range of plugs. This is the much sought after 3.5mm stereo plug that is now being used on the micro size stereo cassette recorder headphones. (See the Dick Smith stereo walkabout unit in the audio section). Has many uses and is now available from Dick Smith.

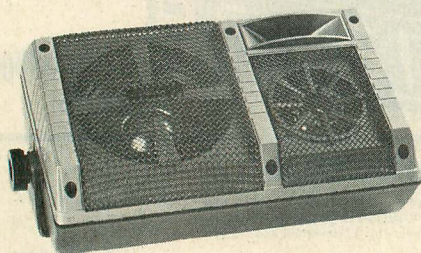
Cat. P-1140 **75¢**

3.5mm STEREO PANEL SOCKET (Not Illustrated)

For those of you who wish to put a 3.5mm stereo panel socket into your project. Use your stereo headphones on your walkabout stereo units and then use the same headphones on your project stereo amplifier.

Cat. P-1240 **95¢**

BRAND NEW 3-WAY CAR STEREO SPEAKERS IN SEALED CABINETS!



**ONLY
\$89
per pair!**

Straight from the docks are these fantastic new speakers for the car, boat, caravan, living room etc. Finished in grey plastic the cabinet is sealed for that extra good bass sound that you do not get with open cabinet speakers. Each cabinet contains three speakers, a tweeter, woofer and mid-range, that will make your stereo cassette or FM stereo car unit sound great. They will handle 25 watts nominal or 30 watts maximum per cabinet. Modern styling with angled cabinet to give maximum throw of sound. The woofer and the mid-range speaker units have a metal mesh grille and the tweeter is in a horn loaded type casting in the cabinet. Rated at 4 ohms impedance. Complete with angled bracket for mounting.

Cat. A-7082 **\$89 per pair**

NEW ITEMS ARE BEING ADDED TO OUR STOCK ALL THE TIME - CHECK OUR ADVERTISEMENTS IN THE PRESS AND MAGAZINES

Because this catalogue has been produced to cover the period from April 1981 until March 1982 there is the possibility that some items may be out of stock or no longer stocked when you come to purchase. We welcome your phone call to check on our stock situation and prices as this could save you an unnecessary trip.

SCOOP PURCHASE!! - 1,000 RESISTORS IN A PACK WELL BELOW MANUFACTURER'S COST

That's right, approximately 1,000 high accuracy resistors (mainly 2%), all brand new I/RH brand. Each pack will have a mixture of values from 1.9 ohms to 1 megohm in the 207G, RG $\frac{1}{4}$, GL $\frac{1}{2}$ and GL1 types; that's $\frac{1}{4}$, $\frac{1}{2}$ and 1 watt types.

ALL OF THIS AT BELOW MANUFACTURER'S COST!!!

Cat. R-7012 **\$4.95**

**NORMAL VALUE \$30.00
ONLY
\$4.95**

**SAVE OVER
★ 75% ★**

CLEAR ACRYLIC SHEET (Not Illustrated)

Here it is! A piece of clear acrylic sheet that can be used for making project panels, insets or whatever! Protective paper covers the sheet until you are ready to use it. Size 150 x 50 x 3mm.

Cat. H-5450 **95¢**

DICK SMITH

6.5MHz Bandwidth Laboratory Oscilloscope

For technical information on the Dick Smith Laboratory Oscilloscope please refer to page 61.



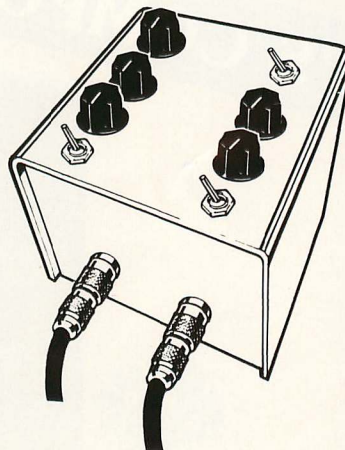
DUAL TRACE CRO ADAPTOR KIT

The single trace Dick Smith Laboratory Oscilloscope can now have dual trace!

This brand new kit from Dick Smith is based on the article published in Electronics Australia February 1981.

Now you can afford to have dual trace with a respectable 1MHz bandwidth.

See page 44 in the Kit section for further details and February 1981 Electronics Australia.



Cat. K-3065 **\$59.50**

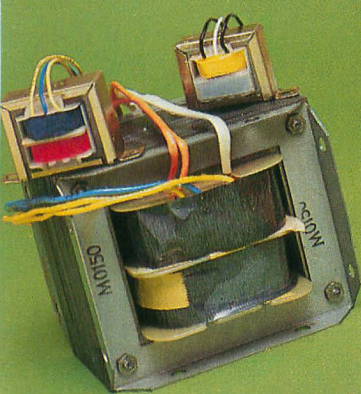
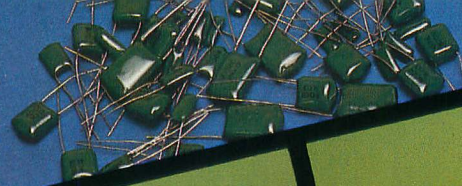
This is it! The new Dick Smith Laboratory Oscilloscope designed for Australia to outperform oscilloscopes costing much more. With a usable bandwidth to beyond 6.5MHz it's the ideal CRO for EVERYONE! Comes complete with comprehensive user's manual.

- All new, Solid State
- High sensitivity
- Compact and reliable

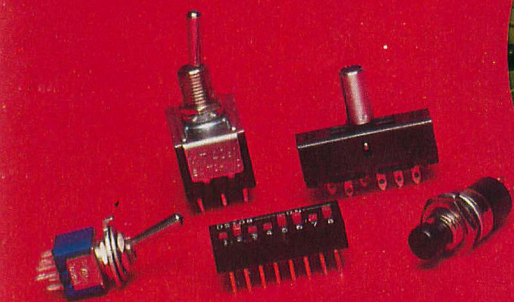
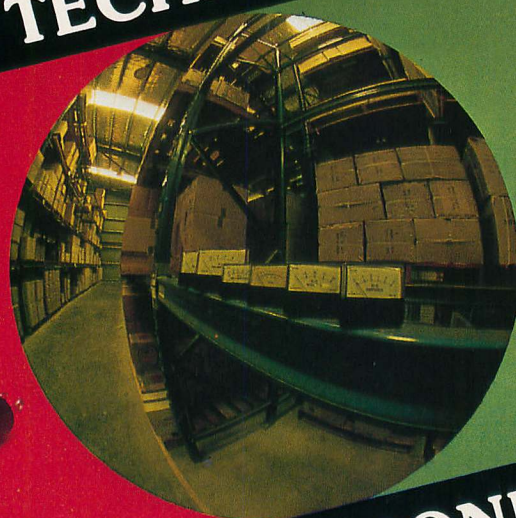
All this for only

\$199

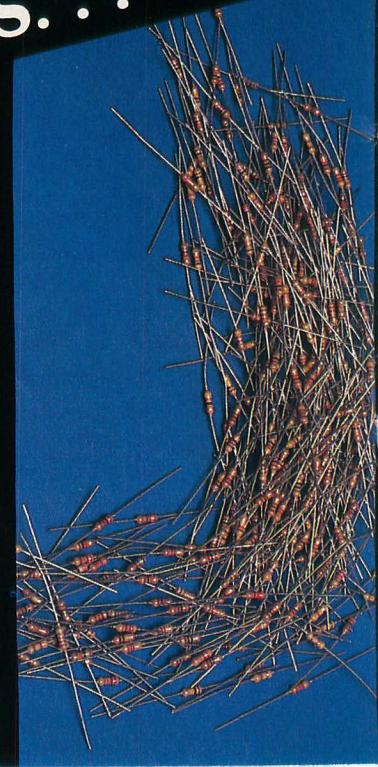
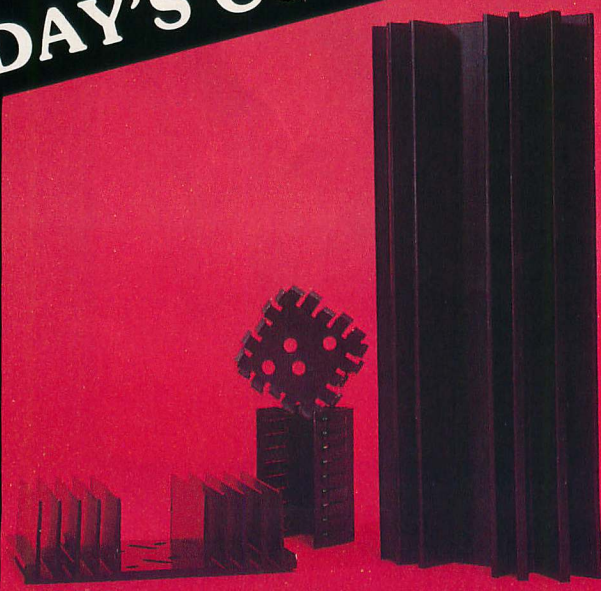
Cat. Q-1280



TOMORROW'S TECHNOLOGY STARTS WITH



TODAY'S COMPONENTS...



Our completely new data section . . .

The next 30 or so pages consist entirely of data. There's information for beginners, right through to boffins — hi fi, computers, radio and component data, formulae and charts. I am grateful to Electronics Australia and Electronics Today International for allowing us to reproduce material, from both magazines.

Please remember we couldn't include everything we wanted to. But if it's not here, you'll probably find what you want in one of the many data books in the book section.

Dick Smith
VK2ZJP

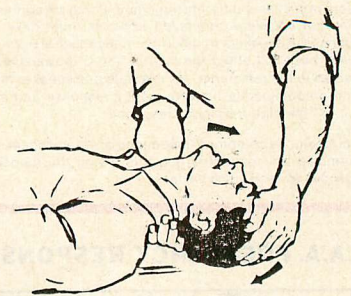
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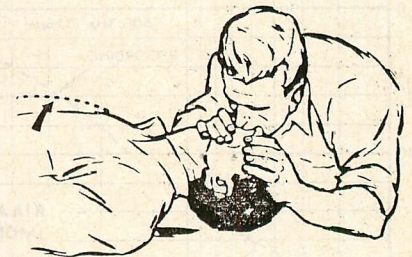
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FIRST AID IN CASE OF ELECTRIC SHOCK

1. Protect your hands with dry insulating material.
2. Break the circuit by opening the power switch or by pulling the victim free of the live conductor. Don't touch victim with your bare hands until the circuit is broken.
3. Quickly place the patient on his back. If the ground slopes, place the head higher than the feet. It is an advantage to elevate the shoulders by using any available material such as sand or clothing. Without interrupting the application of artificial respiration, any other person present should seek medical assistance.



4. Kneel or lie beside the patient's head.
5. Press down on the patient's forehead with one hand and raise the neck so as to tilt the head backwards as far as possible.
6. Lift the hand from the forehead and seal the patient's nose by squeezing the nostrils between the fingers. Press the wrist against the forehead to maintain the backward tilt of the head.
7. Breathe in. Open the mouth wide and place the lips tightly over the patient's mouth. For children, cover both the nose and the mouth.



8. In the case of an adult, breathe with a firm pressure into the patient's mouth and watch the chest rise. For children the breath should be less forceful. If resistance to the operator's breath is felt with the patient's head in the correctly extended position, and after checking for obstructions in the airway, it will be necessary for the operator to grasp the lower jaw between the thumb and forefinger and rotate it forward and upward. The jaw should then be held in this position to keep the mouth open.

If resistance to the operator's breath is still felt, it may be overcome by blowing with greater force. This could transform a complete obstruction into a partial obstruction.

9. Lift and turn the head away from the patient's mouth and listen for the sound of exhalation.

10. Breathe in and repeat the movements, continuing at a rate of 10-15 times a minute for adults and 20 times per minute for children. At the commencement of artificial respiration it is advisable to hyper-ventilate the patient. This is achieved by increasing the rate for the first 10 breaths.

NOTE: When the patient's stomach becomes inflated, the air may be released by pressing gently on the stomach between the navel and the diaphragm.

DOCTOR'S PHONE NUMBER:

SAFETY FIRST

THIS IS AN IMPORTANT WARNING:

**ELECTRICITY CAN KILL YOU.
GIVE A SERIOUS BURN OR SHOCK**

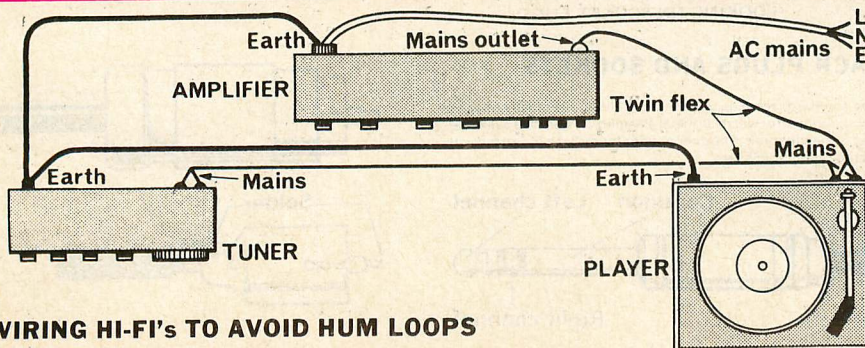
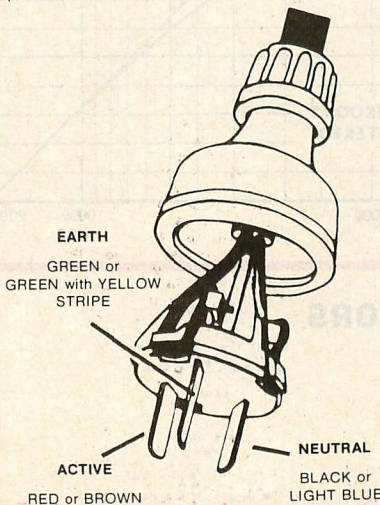
To ensure maximum safety when dealing with electrical equipment, the following precautions should be observed at all times.

- (1) Always assume that equipment is "live". Check and be sure that it is OFF.
- (2) Where possible, use three-wire leads, and "earth" the equipment. That is, the green wire is connected to the frame or chassis at one end and to the straight earth pin at the plug.
- (3) Always turn the power switch off and then remove the plug before working on any equipment.
- (4) Do not wear rings, watches or other metallic jewellery when working on electrical equipment.
- (5) Do not work on electrical equipment in a wet or damp situation.
- (6) Make sure that all power leads and three-pin plugs are in good condition.
- (7) NEVER touch any 240V wiring while the power is connected.

WIRING A MAINS PLUG

TAKE CARE . . .

Mistakes can be fatal. Take extra care to get the green earth connection correct. Run each wire round the "hook" provided to help prevent the wire coming off, if the lead is accidentally pulled.



WIRING HI-FI's TO AVOID HUM LOOPS

WIRING EXTENSION SPEAKERS

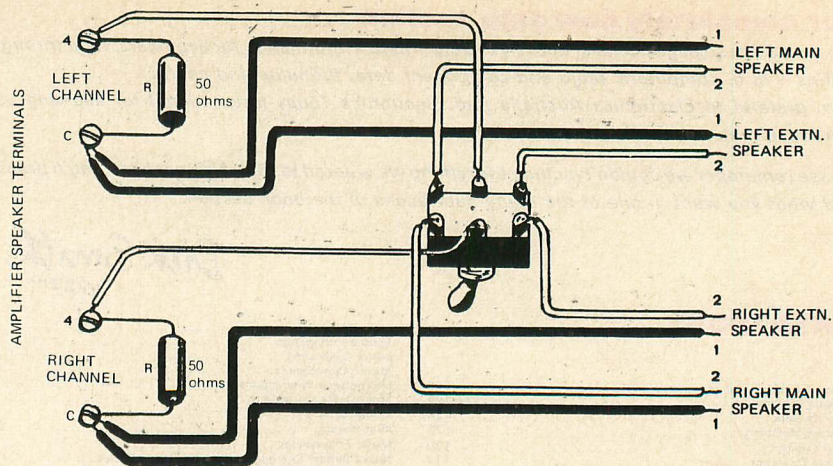
Modern transistor amplifiers operate best with load impedances between four and eight ohms, and as the power developed in the load is proportional to load impedance, one cannot just wire extra speakers in parallel with the existing ones without possibly overloading the amplifier.

Generally, load impedances of less than four ohms may damage the amplifier, whilst impedances greater than 16 ohms will prevent the amplifier developing full power.

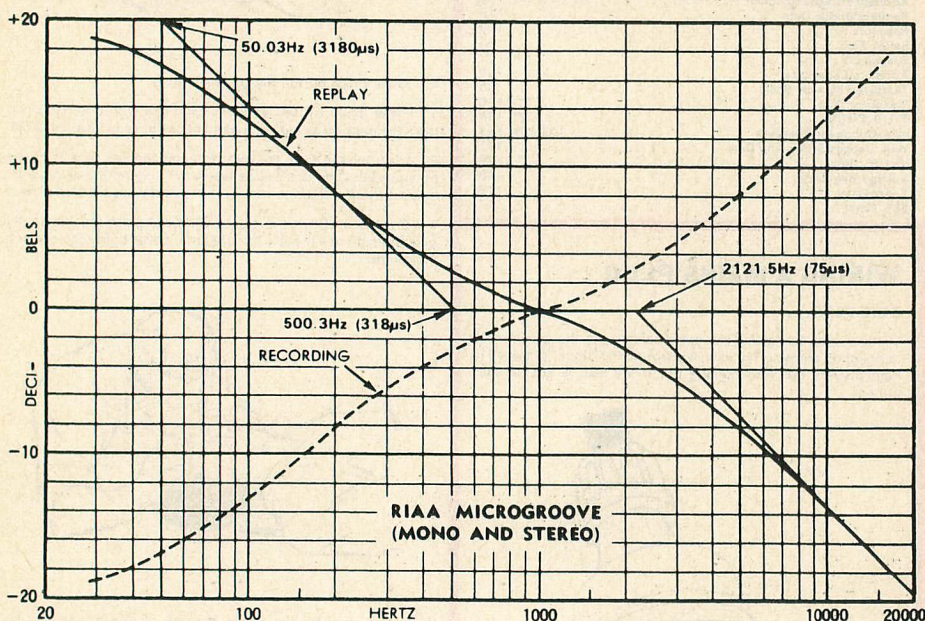
The circuit shown here assumes that the amplifier is designed for a load impedance of between four and eight ohms.

The basic rule for connecting extension speakers is that - providing the amplifier is not overloaded - any combination of speakers of similar or different impedances may be connected in parallel, but speakers connected in series must have similar impedances. If speakers of differing impedances are connected in series, each will affect the distribution of power/frequency connected to the remainder, for example one speaker may end up with predominantly high frequency response and another may have a little high frequency response.

In calculating the combined impedance of several speakers use the formulae for combining resistors, using the loudspeaker impedances as resistance values.

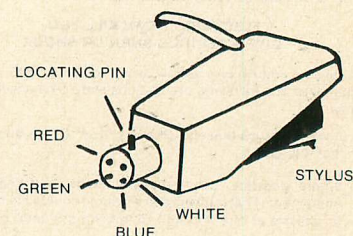


R.I.A. FREQUENCY RESPONSE CURVE FOR MICROGROOVE RECORDS



HEADSHELL CONNECTIONS

	SIGNAL	GROUND
LEFT	WHITE	BLUE
RIGHT	RED	GREEN



DIN, JACK & PHONO CONNECTORS

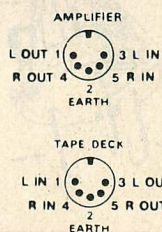
DIN CONNECTORS

The DIN series of plug and socket connectors was devised by the German Industrial Standards Board and, in the absence of any other acceptable guide-lines, has become widely accepted for the inter-connections of pickups, tuners, tape recorders, audio amplifiers and loudspeakers.

The basic DIN plug for monophonic audio circuits is the 3 pin type. It will be found that pin 2 is generally connected to earth (chassis).

For stereo audio circuits the 5 pin DIN plug is utilised which has the two additional pins located between pins 1 and 2 and between pins 2 and 3 of the basic 3 pin plug. Again, in all cases the pin 2 is earth or chassis.

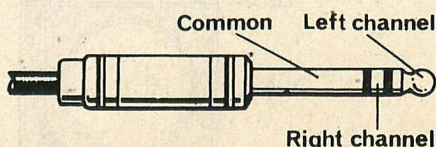
The connector with the one flat pin and one round pin is intended for use with loudspeakers since it is not reversible. This factor is most important with loudspeakers in a stereo system where correct 'phasing' of the speakers must be maintained once it has been correctly determined.



(LOOKING ON SOCKET LUGS)

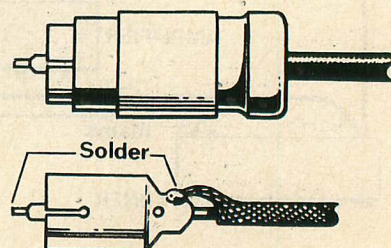
JACK PLUGS AND SOCKETS

The standard jack plug is 1/4" in diameter and is mostly used on microphones, for which all metal shielded versions are available, and on headphones. The connections for the jack plug used with stereo headphones are:-



'PHONO' PLUGS AND SOCKETS

These single pole connectors are widely used on audio equipment, using single way screened cable for input connections, such as from a microphone or pickup, or twin cable for the wiring of loudspeakers.

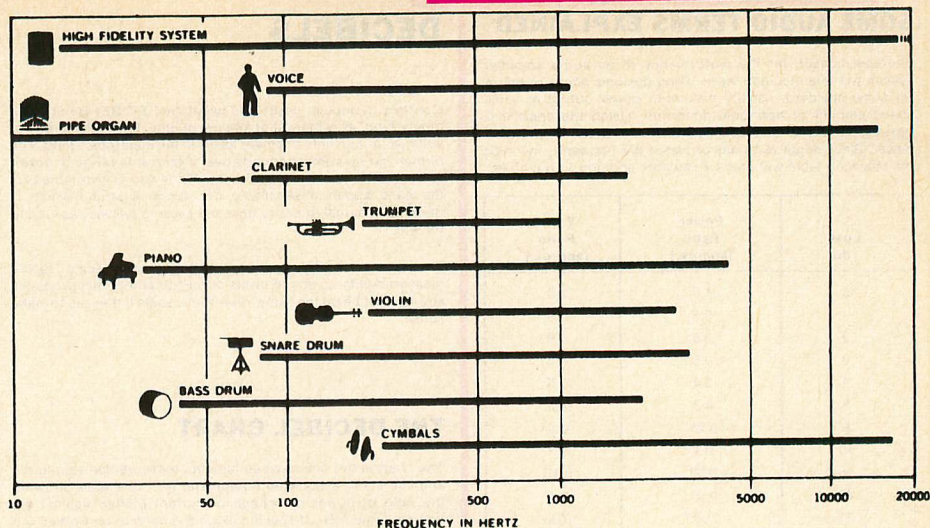


MUSIC FREQUENCIES

FREQUENCY SPECTRUM OF MUSICAL INSTRUMENTS

A large pipe organ or its electronic equivalent can produce fundamental note frequencies over virtually the entire frequency spectrum audible to humans. The fundamental note frequencies available from other instruments is much more limited but, because individual notes involve harmonics and overtones in addition to the fundamental, the actual frequency range involved extends much further upwards than the solid lines would suggest. It is for this reason that a high fidelity amplifier system needs to have a response at least equal to the frequency range of human listeners to do justice to the majority of sound sources.

HUMAN HEARING: People up to their mid twenties, with good ears can typically hear frequencies to 15-17kHz. Between 20 and 40, the limit diminishes gradually to 11-12kHz. In the group 40-60 the limit falls to 8kHz while people 70 and over cannot expect to hear much beyond 4 to 5kHz.



PIANO KEYBOARD



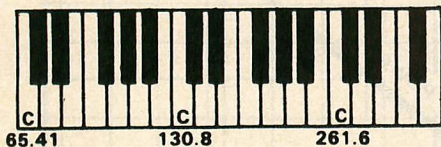
The number of keys on a piano keyboard varies from one instrument to another but the above is typical. If tuned to present day standard pitch middle C is at 261.6Hz (to 4 significant figures), other C notes being as shown. Standard pitch is based on A above middle C being 440Hz precisely. In tempered scale

tuning, the octave (2 : 1) ratio is divided into 12 equal (ratio) steps so that each semitone in any octave is related to adjacent semitones by a ratio equal to the 12th root of 2. To 8 significant figures this works out to 1.0594631.

ORGAN KEYBOARD

Organ keyboards are normally shorter than piano keyboards, 61 notes as above being one standard. When using a basic stop, normally designated as 8 ft. or 8', the fundamental frequency produced by the keys is the same as for a piano, assuming standard pitch and tempered scale. If a 16ft stop is used instead, all frequencies are halved. Other stops give higher frequencies as indicated. While the 4ft, 2ft and 1ft are simple octave relationships, others represent sub-3rd, 3rd, 5th and 6th harmonics.

ORGAN PEDALBOARD



An organ pedalboard may have as few as 13 or as many as 32 notes but the bottom one is always the C equivalent to the bottom C on a 61-note manual. If played with an 8ft pedal stop, this key will produce the same frequency (65.41) but it is more commonly used with a 16ft stop or "voice" producing 32.7Hz. Other footages bear the same relationship to the 16ft and 8ft voices as indicated for the manual.



16'	(sub-harmonic)	32.70	65.41	130.8	261.6	523.3	1047
8'	fundamental	65.41	130.8	261.6	523.3	1047	2093
5-1/3'	(3rd harm of 16')	98.00	196.0	392.0	784.0	1568	3136
4'	(2nd harmonic)	130.8	261.6	523.3	1047	2093	4186
2-2/3'	(3rd harmonic)	196.0	392.0	784.0	1568	3136	6272
2'	(4th harmonic)	261.6	523.3	1047	2093	4186	8372
1-3/5'	(5th harmonic)	329.6	659.3	1319	2637	5274	10548
1-1/3'	(6th harmonic)	392.0	784.0	1568	3136	6272	12544
1'	(8th harmonic)	523.3	1047	2093	4186	8372	16744

THE TEMPERED MUSICAL SCALE

C	261.62556536Hz	G	391.99543600Hz
C-sharp	277.18263104Hz	G-sharp	415.30469759Hz
D	293.66476797Hz	A	440.00000000Hz
D-sharp	311.12698377Hz	A-sharp	466.16376151Hz
E	329.62755696Hz	B	493.88330123Hz
F	349.22823147Hz	C	523.25112057Hz
F-sharp	369.99442273Hz		

DATA SECTION

SOME AUDIO TERMS EXPLAINED

The specification for the performance of an audio amplifier system will often include terms using decibels above or below (±) some standard, usually maximum power output at some stated amount of harmonic distortion. Using the chart it is possible to see what these figures mean in terms of actual power. Since negative values or losses are frequently involved the following table will prove a valuable addition to the chart.

Loss -dB	Power Ratio (approx.)	V or I Ratio (approx.)
0	1.0	1.0
1	0.8	0.9
2	0.6	0.8
3	0.5	0.7
4	0.4	0.6
5	0.3	0.56
6	0.25	0.5
10	0.1	0.3
15	0.03	0.18
20	0.01	0.1
30	0.001	0.03
40	10 ⁻⁴	0.01
50	10 ⁻⁵	0.003

Power Bandwidth: Typically 30Hz to 20,000Hz, at which points the amplifier is only capable of delivering half its rated output without distortion, regardless of input level.

Frequency Response: Typically stated as 20Hz to 20,000Hz ± 1dB which means a reduction to 0.8 (8/10ths) of maximum power output at these limits.

Signal to Noise Ratio: Typically -80dB relative to maximum power. This gives a ratio of 100,000,000 to 1. If the maximum power output of the amplifier is 100 watts (100,000,000 uW) the noise level at maximum volume should not exceed one micro-watt!

Tone controls or Filters: These may have their performance specified by the altered response they provide at the top or bottom of the audio range, such as "from +15 to -15dB at 50Hz and +13 to -15dB at 10,000Hz", for variable tone controls.

AVERAGE, RMS, PEAK, AND PEAK-TO-PEAK VALUES FOR A SINE WAVE

Given Value	Multiplying Factor to Get			
	Average	RMS	Peak	Peak-to-Peak
Average	—	1.11	1.57	3.14
Rms	0.9	—	1.414	2.828
Peak	0.637	0.707	—	2.0
Peak-to-Peak	0.32	0.3535	0.5	—

TANTALUM CAPACITORS

	1	2	3	4
BLACK	0	x1	10V	+
BROWN	1	x10	—	—
RED	2	x100	—	—
ORANGE	3	—	—	—
YELLOW	4	—	6.3V	—
GREEN	5	—	16V	—
BLUE	6	—	20V	—
VIOLET	7	—	—	—
GREY	8	x0.01	25V	—
WHITE	9	x0.1	3V	(PINK 35V)

DECIBELS

Contrary to popular usage and belief the DECIBEL is not a unit of anything, as is the volt or ampere or ohm, but rather a ratio of voltages or currents or power levels in the electronics field. The human ear can detect sounds over a very wide range of power levels but its response is not linear. As the sound level increases the ear's apparent sensitivity decreases. A sound which is doubled in actual intensity does not seem to be twice as loud to the ear.

The ear in fact works on a logarithmic scale hence measurements on sound levels or on equipment that produces sound must be on the same logarithmic scale if they are to make sense.

where P1 and P2 are the two power levels. If the output power is greater than the input power then the ratio, in dB, is positive, e.g. +6dB. If the output is less than the input the ratio is expressed as a negative value, e.g. -12dB. In either case P1 is the larger of the two values.

If the voltage or current is being considered the formula becomes:

$$dB = 20 \log \frac{V_1}{V_2}$$

The formula assumes that the input and output impedances are the same. If they are not then due allowance must be made in the formula.

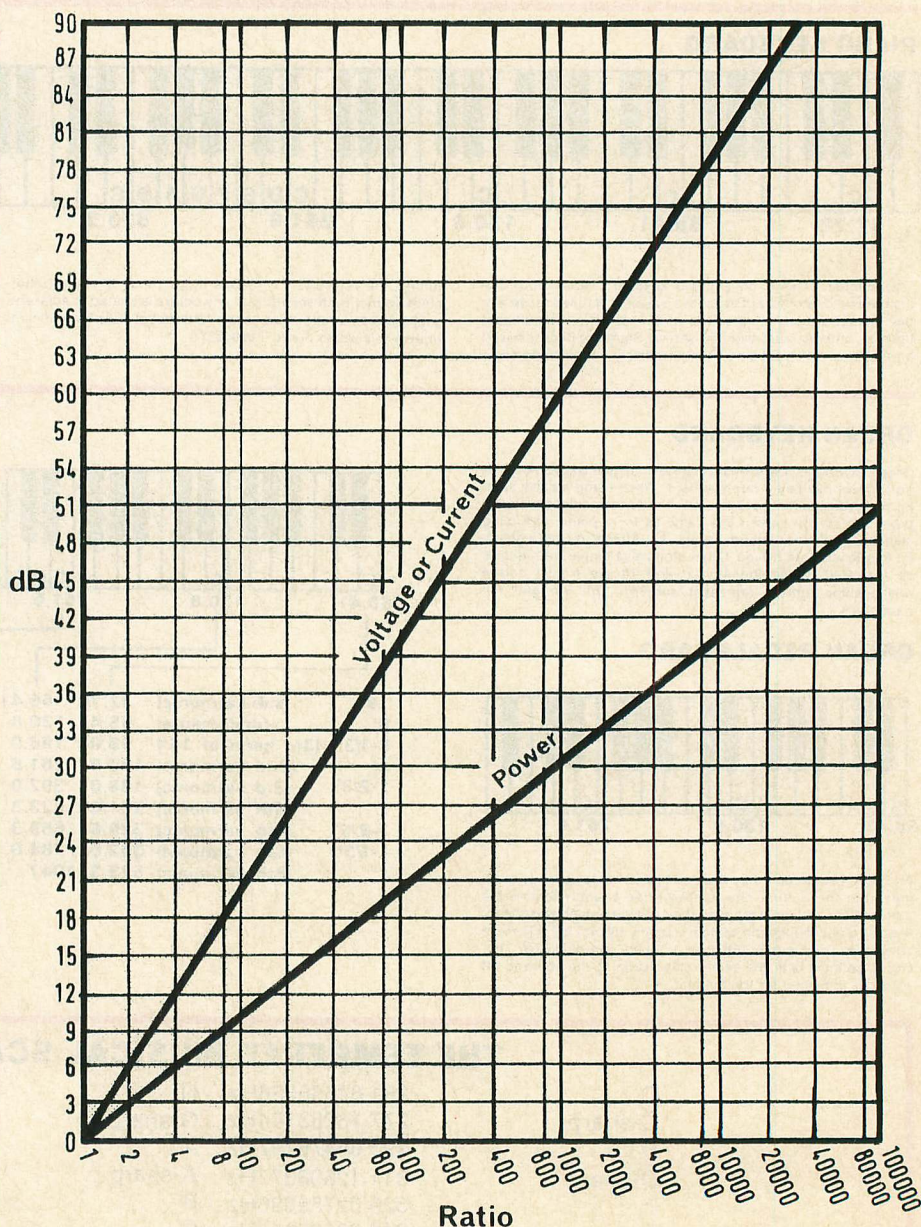
The formula for taking into account differing input and output impedances is:-

$$dB = 20 \log \frac{V_1}{V_2} + 10 \log \frac{Z_1}{Z_2}$$

THE DECIBEL CHART

The chart is the one most suitable for measurements on audio amplifiers and associated equipment, with one scale showing the ratio of power or voltage or current plotted against the decibel scale (dB). If specific examples need to be worked out the following formula can be used:-

$$dB = 10 \log \frac{P_1}{P_2}$$



WIRE GAUGES AND WINDING DATA

This table presents the nominal diameter and resistance (to four significant figures) of bare copper wire in various gauges. The gauges are the Brown and Sharpe gauge (B&S, also known as the American Wire Gauge AWG), the Standard Wire Gauge (SWG), and the metric gauge.

The data are given in both imperial and metric units. The diameter in the imperial units is expressed in mils, a mil being 1/1000in.

The resistance would be within plus or minus 2% at 20°C but varies with temperature. The resistance changes approximately 0.4% for each °C change in temperature, increased temperature giving increased resistance.

B&S SWG GAUGES	Metric mm	Diam. mils	Ohms per 1,000ft	Diam. mm	Ohms per km
—	4.500	177.2	0.3304	4.500	1.084
—	7	176.0	0.3348	4.470	1.098
6	—	162.0	0.3951	4.116	1.296
—	8	160.0	0.4051	4.064	1.329
—	4.000	157.5	0.4182	4.000	1.372
7	—	144.3	0.4982	3.666	1.635
—	9	144.0	0.5001	3.658	1.641
—	3.500	139.7	0.5310	3.550	1.742
8	—	128.5	0.6282	3.265	2.061
—	10	128.0	0.6330	3.251	2.077
—	3.149	124.0	0.6740	3.149	2.212
—	11	116.0	0.7707	2.946	2.529
9	—	114.4	0.7921	2.906	2.599
—	2.800	110.2	0.8534	2.800	2.800
—	12	104.0	0.9588	2.642	3.146
10	—	101.9	0.9989	2.589	3.277
—	2.500	98.42	1.070	2.500	3.512
—	13	92.00	1.225	2.337	4.020
11	—	90.74	1.260	2.305	4.134
—	2.240	88.18	1.333	2.240	4.375
12	—	80.81	1.588	2.053	5.210
—	14	80.00	1.658	2.032	5.440
—	2.000	78.74	1.673	2.000	5.488
—	15	72.00	2.001	1.829	6.563
13	—	71.96	2.003	1.828	6.572
—	1.000	70.87	2.065	1.800	6.775
14	—	64.08	2.525	1.628	8.284
—	16	64.00	2.532	1.626	8.307
—	1.600	62.99	2.614	1.600	8.575
15	—	57.07	3.184	1.450	10.47
—	17	56.00	3.307	1.422	10.85
—	1.400	55.12	3.414	1.400	11.20
16	—	50.82	4.016	1.291	13.18
—	1.250	49.21	4.282	1.250	14.05
—	18	48.00	4.501	1.219	14.77
17	—	45.26	5.064	1.150	16.61
—	1.120	44.09	5.333	1.120	17.50
18	—	40.30	6.385	1.024	20.95
—	19	40.00	6.482	1.016	21.27
—	1.000	39.37	6.691	1.000	21.95
—	20	36.00	8.002	0.9144	26.25
19	—	35.89	8.051	0.9119	26.41
—	0.9000	35.51	8.222	0.9000	27.10
—	21	32.00	10.13	0.8128	33.23
20	—	31.96	10.15	0.8120	33.30
—	0.8000	31.50	10.45	0.8000	34.30
21	—	28.46	12.80	0.7231	41.99
—	22	28.00	13.23	0.7112	43.40
—	0.7100	27.95	13.27	0.7100	43.55
22	—	25.35	16.14	0.6440	52.95
—	0.6300	24.80	16.85	0.6300	55.31
—	23	24.00	18.00	0.6096	59.07
23	—	22.57	20.36	0.5734	66.80
—	0.5600	22.04	21.33	0.5600	70.00
—	24	22.00	21.43	0.5588	70.30
24	—	20.10	25.67	0.5107	84.22
—	25	20.00	25.93	0.5080	85.06
—	0.5000	19.69	26.76	0.5000	87.81
—	26	18.00	32.01	0.4572	105.0
25	—	17.90	32.37	0.4548	106.2
—	0.4500	17.72	33.04	0.4500	108.4
—	27	16.40	38.56	0.4162	126.5
26	—	15.94	40.81	0.4050	133.9
—	0.4000	15.75	41.82	0.4000	137.2
—	28	14.80	47.35	0.3759	155.3
27	—	14.20	51.47	0.3608	168.9
—	0.3550	13.97	53.10	0.3550	174.2
—	29	13.60	56.07	0.3454	184.0
28	—	12.64	64.90	0.3211	212.9
—	0.3150	12.40	67.45	0.3150	221.2
—	30	12.40	67.45	0.3150	221.2
—	31	11.60	77.07	0.2946	252.9
29	—	11.26	81.83	0.2861	268.5
—	0.2800	11.02	85.34	0.2800	280.0
—	32	10.80	88.91	0.2743	291.7
30	—	10.03	103.2	0.2548	338.6
—	33	10.00	103.7	0.2540	340.2
—	0.2500	9.842	107.0	0.2500	351.2
—	34	9.200	122.5	0.2337	402.0
31	—	8.928	130.1	0.2268	426.8
—	0.2240	8.819	133.3	0.2240	437.5
—	35	8.400	147.0	0.2134	482.2
32	—	7.950	164.1	0.2020	538.4
—	0.2000	7.874	167.3	0.2000	548.8
—	36	7.600	179.5	0.1930	589.1
—	0.1800	7.087	206.5	0.1800	677.5
33	—	7.080	206.9	0.1799	678.8
—	37	6.800	224.3	0.1727	735.8

B&S SWG GAUGES	Metric mm	Diam. mils	Ohms per 1,000ft	Diam. mm	Ohms per km
34	—	6.305	260.9	0.1602	856.0
—	0.1600	6.299	261.4	0.1600	857.5
—	38	—	6.000	0.1524	945.1
35	—	5.615	329.0	0.1427	1079
—	0.1400	5.512	314.4	0.1400	1120
—	39	—	5.200	0.1321	1258
36	—	5.000	414.8	0.1270	1361
—	0.1250	4.921	428.2	0.1250	1405
—	40	—	4.800	0.1219	1477
37	—	4.453	523.1	0.1131	1716
—	0.1120	4.409	533.3	0.112	1750
—	41	—	4.400	0.1118	1757
—	42	—	4.000	0.1016	2127
38	—	3.965	659.6	0.1007	2164
—	0.1000	3.937	669.1	0.1000	2195
—	43	—	3.600	0.09144	2625
—	0.0900	3.551	822.2	0.0900	2710
39	—	3.531	831.8	0.08971	2729
—	44	—	3.200	0.08128	3323
—	0.0800	3.150	1045	0.0800	3430
40	—	3.145	1049	0.07990	3442
41	—	2.801	1323	0.07115	4341
—	0.0710	2.795	1327	0.0710	4355
42	—	2.494	1669	0.06336	5476
—	0.0630	2.480	1685	0.0630	5531
—	46	—	2.400	0.06096	5907
43	—	2.221	2104	0.05643	6903
—	0.0560	2.204	2133	0.0560	7000
—	47	—	2.000	0.05080	8506
44	—	1.978	2654	0.05025	8707
—	0.0500	1.969	2676	0.0500	8781

*First preference values

WINDING DETAILS

B&S No.	Turns per inch	SWG No.	Turns per inch	Diam. mm.	Turns per cm
Enamelled		Enamelled		Enamelled	
8	7.65	10	7.63	4.500	2.158
9	8.58	11	8.33	4.000	2.423
10	9.61	12	9.26	3.550	2.720
11	10.7	13	10.42	3.150	3.060
12	12.0	14	11.90	2.800	3.440
13	13.5	15	13.25	2.500	3.840
14	15.1	16	14.81	2.240	4.280
15	16.9	17	16.95	2.000	4.780
16	18.9	18	19.72	1.800	5.290
17	21.2	19	23.47	1.600	5.940
18	23.7	20	25.97	1.400	6.760
19	26.5	21	29.15	1.250	7.540
20	29.5	22	33.33	1.120	8.390
21	33.1	23	38.91	1.000	9.360
22	37.0	24	42.37	0.900	10.360
23	41.4	25	46.51	0.800	11.610
24	46.5	26	51.55	0.710	13.030
25	52.0	27	56.50	0.630	14.620
26	58.4	28	62.50	0.560	16.360
27	65.3	29	67.57	0.500	18.240
28	73.5	30	74.63	0.450	20.200
29	81.9	31	79.37	0.400	22.620
30	92.5	32	85.47	0.355	25.300
31	103	33	91.74	0.315	28.400
32	114	34	100.0	0.280	31.700
33	129	35	109.9	0.250	35.200
34	144	36	120.5	0.224	39.000
35	161	37	135.1	0.200	43.500
36	181	38	151.5	0.180	47.800
37	204	39	175.4	0.160	53.500
38	227	40	188.7	0.140	60.200
39	256	41	208.3	0.125	67.100
40	285	42	227.3	0.112	74.600
(41)	327	43	256.4	0.100	82.600
(42)	378	44	285.7	Turns per cm based on grade one insulation	
(43)	421	45	322.6		
(44)	471	46	377.4		
(45)	523	47	444.4		
(46)	581	48	—		

The accompanying table allows easy comparison of the different standards, permitting a near equivalent to be selected if coil winding data (for example) specifies a gauge which is not readily available. If 38 B&S were specified for a coil, it can be seen that either 42 SWG or 0.1 mm metric has approximately the same diameter and could therefore be substituted.

In the event that the precise gauge of an available wire is not known, and no micrometer is available, it can be determined quite easily with reasonable accuracy. Wind some of the wire on a small mandrel, such as a pencil, and note the number of turns per unit length. The gauge can now be determined from the tables.

FREQUENCY - WAVELENGTH CONVERSION

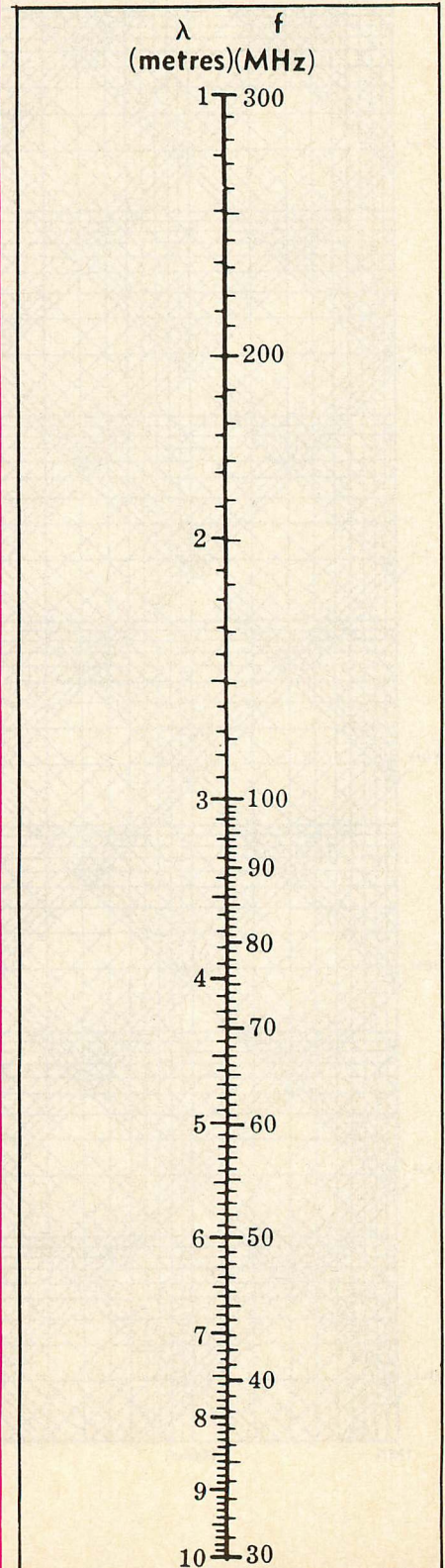
This chart gives the basic conversion from metres to MHz in the range 1-10m and 30-300MHz.

FOR WAVELENGTHS

10m to 100m DIVIDE MHz by 10
100m to 1,000m DIVIDE MHz by 100
1,000m to 10km Answer is in kHz.

FOR FREQUENCIES

30kHz to 300kHz MULTIPLY metres by 1,000
300kHz to 3MHz MULTIPLY metres by 100
3MHz to 30MHz MULTIPLY metres by 10
30 MHz to 3,000 MHz DIVIDE metres by 10

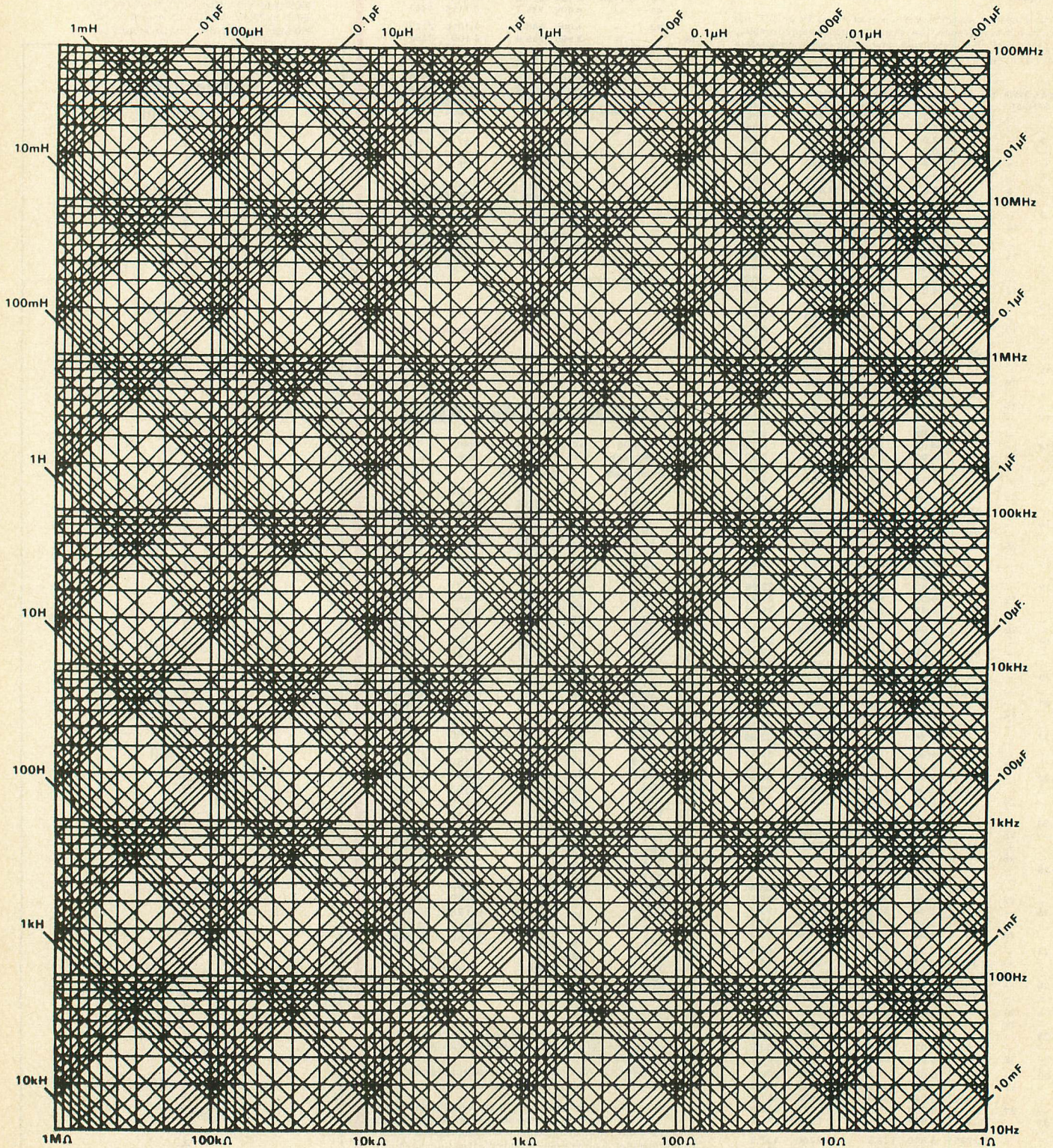


REACTANCE-FREQUENCY CHART FOR CAPACITORS, INDUCTORS & TUNED CIRCUITS

To find the reactance of a capacitor at a given frequency, follow the 45° capacitance value line until it intersects the horizontal frequency line, then read downwards to the ohms scale at the bottom. The reactance of an inductor can be read in a similar manner.

The chart can also provide information about resonant circuits. For example, locate where particular values of L & C intersect and read off the resonant frequency. If frequency is known and either L or C, find the intersect and read off the remaining value. Again, by following along a particular frequency line, a variety of LC options for resonance can be determined.

To design simple 6dB/octave speaker crossover networks, follow the appropriate resistance line up to where it intersects the desired crossover frequency and read off the required values of L & C.



RESISTORS

Resistors are usually so small it is impractical to try and print each one with its value, so they are marked with a code printed on them in bands of different coloured paint. These bands give us the resistor's value.

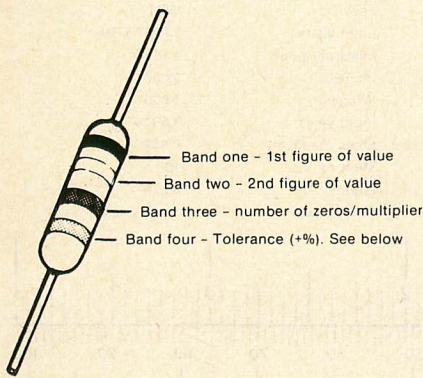
Depending on the tolerance of the resistor there will be either 4 bands (5% E24 Series) or 5 bands (1% E96 series).

How to read common 5% resistors (4 bands):

Start with the band closest to one end or, if it is difficult to work out, the band furthest away from the gold or silver band. Take the resistor shown below: let's say that the first band is orange - from the table this means three. If the second band is white, then its value is 9, from the table. And finally if the third band is brown we have a value of 2, so we add one zero to the first two figures: 3, 9 and 0 - or 390 ohms.

The fourth, or tolerance band, is silver: 10%. Therefore, the resistor is 390 ohms, 10% tolerance (or somewhere between 390 -10% and 390 +10%, or 351 and 429 ohms). This is more than adequate for most circuit requirements. Resistors are available which are 'spot on' in value - however, these are not required in most circuits, and are often very, very expensive.

WHAT THEY MEAN:



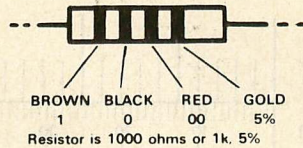
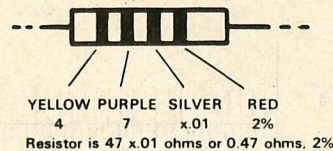
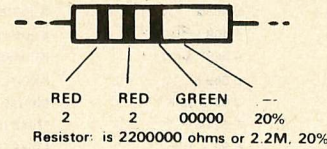
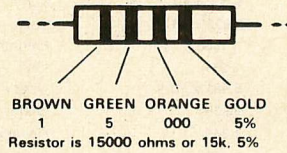
Tolerance band colours: Red 2%, Gold 5%, Silver 10%, No band 20%.

Note how the bands are closer to one end of the resistor than the other.

The colours and their values:

BLACK	0
BROWN	1
RED	2
ORANGE	3
YELLOW	4
GREEN	5
BLUE	6
VIOLET	7
GREY	8
WHITE	9
GOLD*	x0.1
SILVER*	x0.01

* RARELY USED

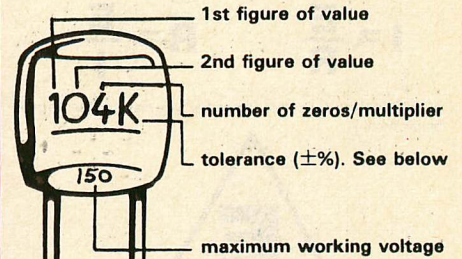


CAPACITORS:

Most capacitors will have their value printed on them. However, there are a number of capacitor manufacturers who use the 'IEC' code. This code is a numerical code, but works in a similar way to the resistor colour code: two figures followed by a multiplier. There is often a single letter code showing tolerance.

The code is worked out in picofarads, so you may have to use the appropriate metric multiplier.

A capacitor may have a code '104K'. This decodes as follows - 0.1uF, 10%. The first two figures give us 10, the third figure gives



Tolerance code: M = 20%; K = 10%; J = 5%; C = ±0.25pF

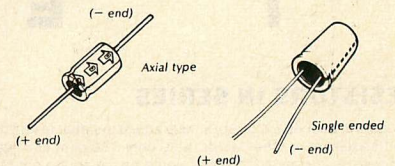
us 0000, and the latter 10%. Therefore, the capacitor is 10 0000pF, 10%. We normally express this as 0.1uF - capacitors with a value below 0.01uF are expressed in picofarads.

There may be a further figure marked - this would be the voltage rating of the capacitor (the maximum voltage at which you can use that capacitor).

CAPACITORS AND THEIR USES

Aluminium Electrolytic Capacitors

Ideal for use in filtering or smoothing rectified A.C. energy storage as in Power Supplies. Also used for bypassing and coupling in audio applications and the timing element for non critical circuits.



Solid Tantalum Capacitors

Lower leakage High reliability, long life and offer a size advantage.

Ceramic Capacitors

Offer low cost and high capacitance in a small physical volume. There are generally two types:

For tight tolerance and high stability in radio frequency (RF) tuned circuits.

Bypass capacitors in RF and in digital circuits for spike suppression and power supply filtering.

Paper Capacitors

An original construction of capacitors for use in A.C. circuits. Still used for power factor correction in mains supply applications. For example in Lighting and electric motors.

Polyester Capacitors

Lowest cost, most widely used for general purpose application

Polycarbonate Capacitors

Offer low temperature coefficient and lower dielectric losses at high frequency. Most often chosen for temperature stability characteristics.

Polystyrene Capacitors

Usually chosen for applications requiring tight tolerance coupled with high stability. Predictable temperature coefficient used in conjunction with optional ferrite coils makes highly stable tuned circuits or oscillators.

Polypropylene Capacitors

Offer very low dielectric losses rivaling polystyrene. Suitable for high power inverters and converters and T.V. deflection.

PREFERRED VALUES

The system of preferred component values was developed to provide a logical progression whereby each higher value always represents an increase by the same factor or percentage, according to the percentage tolerance on which the table is based. (The mathematical term is "geometric progression".)

Values given for each series appear in every decade.

series E12 (10%)									
10	12	15	18	22	27	33	39		
47	56	68	82						

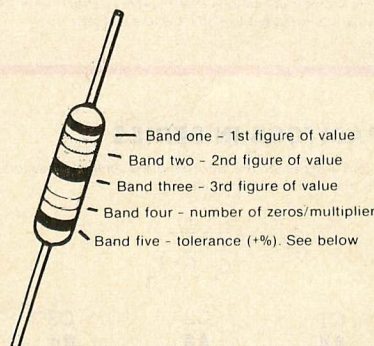
series E24 (5%)									
10	11	12	13	15	16	18	20		
22	24	27	30	33	36	39	43		
47	51	56	62	68	75	82	91		

series E96 (1%)									
100	102	105	107	110	113	115	118		
121	124	127	130	133	137	140	143		
147	150	154	158	162	165	169	174		
178	182	187	191	196	200	205	210		
215	221	226	232	237	243	249	255		
261	267	274	280	287	294	301	309		
316	324	332	340	348	357	365	374		
383	392	402	412	422	432	442	453		
464	475	487	499	511	523	536	549		
562	576	590	604	619	634	649	665		
681	698	715	732	750	768	787	806		
825	845	866	887	909	931	953	976		

1% Resistors (5 bands)

These are read in a similar manner. However, the first three bands give a three figure value. The fourth band gives the number of zeros/multiplier and the fifth is the tolerance.

WHAT THEY MEAN:



Tolerance band colours: Brown 1%, Red 2%, Gold 5%, Silver 10%, No band 20%.

Some circuits show capacitor and resistor values as straight figures - e.g. 4.7 pF. Others replace the decimal point with the first letter of the sub-multiple (e.g. 4p7 is the same as 4.7pF). Similarly with resistors: 6k8 means the same as 6.8k.

CIRCUIT LAWS

OHM'S LAW

The relationship between voltage, current and resistance in a circuit is defined by Ohm's law, which may be simply stated by the formula:

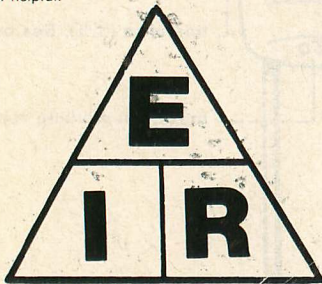
$$E = I \times R$$

where E is in volts, I is in amps and R is in ohms.

This can be turned around to look like:

$$I = \frac{E}{R} \quad R = \frac{E}{I}$$

If you find these difficult to remember, you may find the diagram below helpful:



Simply cover the value you are looking for with your fingertip and the formula you require remains exposed.

POWER IN A CIRCUIT

When a current passes through a component, energy is given off in the form of heat. Normally, we associate resistors with this action: that's part of their job. We often need to know how much power is being given off by a resistor - and we find this out by using the formula.

$$W = E \times I$$

where W is in watts, E is in volts and I is in amps. This formula can be turned around if required:

$$E = \frac{W}{I} \quad I = \frac{W}{E}$$

RESISTORS IN SERIES

Resistors in a series circuit are simply added together to find the total resistance. In other words, a 10 ohm, 150 ohm and 1000 ohm resistor connected in series would be the equivalent of a single 1,160 ohm resistor. The formula is:

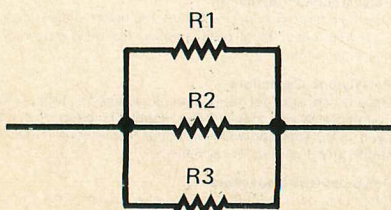
$$R_T = R_1 + R_2 + R_3 \dots$$



RESISTORS IN PARALLEL

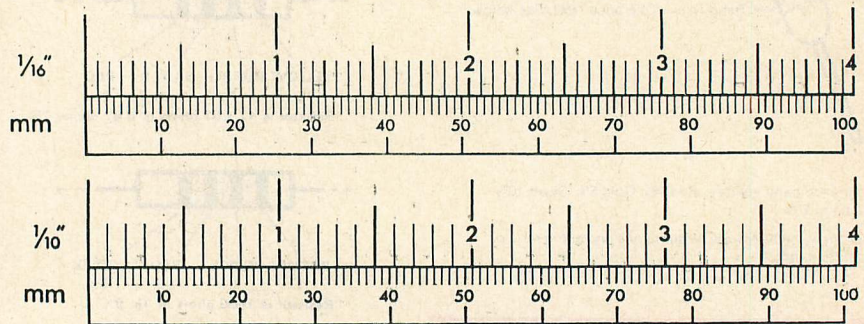
Resistors in a parallel circuit are a little more difficult. Here the reciprocals are added together to give the reciprocal of the total. The formula to use is:

$$\frac{1}{R_T} = \frac{1}{\frac{1}{R_1} + \frac{1}{R_2} + \frac{1}{R_3} \dots}$$



METRIC UNITS AND CONVERSIONS

MULTIPLY BY	TO CONVERT		MULTIPLY BY
	← CONVERSELY →	INTO	
2.296 x 10 ⁻⁵	Acres	Square feet	4.356 x 10 ⁴
2.471 x 10 ⁻⁴	Acres	Square metres	4047
2.778 x 10 ⁻⁴	Ampere-hours	Coulombs	3600
2.54 x 10 ⁸	Angstrom units	Inches	3.937 x 10 ⁻⁹
10 ¹⁰	Angstrom units	Metres	10 ⁻¹⁰
0.02950	Atmospheres	Feet of water	33.90
0.06804	Atmospheres	Pounds per sq. in.	1470
1.0133	Bars	Atmospheres	9.870 x 10 ⁻⁷
6.8947 x 10 ⁻²	Bars	Pounds per sq. in.	14.504
(°F - 32) x 5/9 = °C	Centigrade	Fahrenheit	(°C x 9/5) + 32 = °F
°K - 273.1 = °C	Centigrade	Kelvin	°C + 273.1 = °K
3.531 x 10 ⁻²	Cubic feet	Litres	28.32
6.102 x 10 ⁻²	Cubic inches	Cubic centimetres	16.39
2.832 x 10 ⁻²	Cubic metres	Cubic feet	35.31
0.16667	Fathoms	Feet	6
3.281	Feet	Metres	0.3048
6.481 x 10 ⁻²	Grams	Grams	15.43
28.35	Grams	Ounces (avdp.)	3.527 x 10 ⁻²
1.341	Horsepower	Kilowatts	0.746
0.3937	Inches	Centimetres	2.54
10 ⁻³	Kilograms	Tonnes	10 ³
0.4536	Kilograms	Pounds (avdp.)	2.205
3.408 x 10 ⁻⁴	Kilometres	Feet	3281
9.4637 x 10 ¹²	Kilometres	Light years	1.0567 x 10 ⁻¹³
0.869	Knots	Miles per hour	1.1508
2.54 x 10 ⁻²	Metres	Inches	39.37
0.6214	Miles (statute)	Kilometres	1.609
5.88 x 10 ¹²	Miles (statute)	Light years	1.691 x 10 ⁻¹³
1.1508	Miles (statute)	Miles (nautical)	0.869
10 ⁻³	Millimetres	Microns	10 ³
2.205 x 10 ⁻³	Pounds	Grams	453.6
746	Watts	Horsepower	1.341 x 10 ⁻³



In most electronics publications, metric multipliers are used to simplify and shorten component values, etc.

For example, capacitance is measured in Farads - but the Farad is a huge unit of measurement, much too large to be of any use in expressing capacitor values. So we use a suitable metric sub-multiple to save a lot of figures. Instead of saying, for example, 0.00000000001 Farads we say 1 pico Farad (1pF).

You will mainly use micro Farads (uF) and pico Farads (pF), however, some publications use the abbreviation nano Farad (nF) so you should get to know these eventually, too.

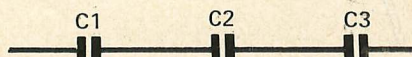
Abbreviation	Means	Multiply unit by	Or
p	pico	.000000000001	10 ⁻¹²
n	nano	.000000001	10 ⁻⁹
u	micro	.000001	10 ⁻⁶
m	milli	.001	10 ⁻³
—	UNIT	1	10 ⁰
k	kilo	1 000	10 ³
M	mega	1 000 000	10 ⁶

1000 pico units = 1 nano unit
1000 nano units = 1 micro unit
1000 micro units = 1 milli unit
1000 milli units = 1 kilo unit
1000 kilo units = 1 mega unit

CAPACITORS IN SERIES

Capacitors in series, on the other hand, are similar to resistors in parallel: You add the reciprocals:

$$\frac{1}{C_T} = \frac{1}{\frac{1}{C_1} + \frac{1}{C_2} + \frac{1}{C_3} \dots}$$



Two resistors in parallel or capacitors in series: A much simpler formula can be used if there are only two resistors in parallel or capacitors in series. It is:

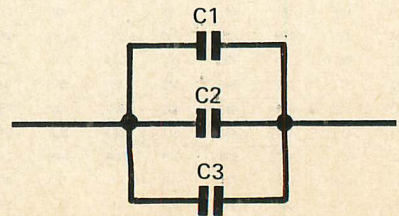
$$R_T = \frac{R_1 \times R_2}{R_1 + R_2}$$

(For capacitors simply replace R with C).

CAPACITORS IN PARALLEL

Capacitors behave exactly the opposite to resistors: when capacitors are in parallel, you add them:

$$C_T = C_1 + C_2 + C_3 \dots$$

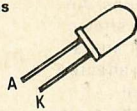
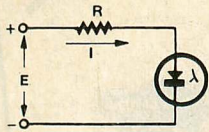


USING LEDs

When using a light emitting diode (LED) as an indicator, use the following formula to determine series resistance for various voltages: $R = (E - 1.7) \times 1000 \div I$; where R is resistance in ohms, E is supply voltage (DC) and I is LED current in milliamps.

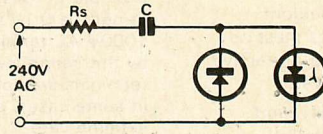
e.g. to operate LED at 20mA on;

6V use 220 ohms
9V use 390 ohms
12V use 560 ohms
24V use 1.2k ohms



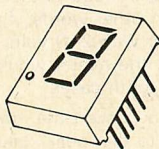
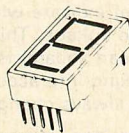
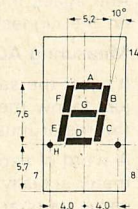
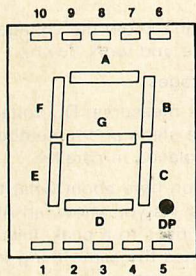
To operate a LED directly from the 240V mains, a better scheme is to use the second circuit shown. In this, a capacitor is used as a voltage dropping element. A 1N4148 diode or similar across the LED provides the rectification required. As the voltage drop across the LED is negligible compared with the supply, capacitor current is almost exactly equal to mains voltage divided by capacitive reactance X_c .

At 50Hz, 0.47μF will result in a LED current of about 16mA. Resistor R_s is to limit turn-on transients. A value of 270 ohms should be adequate.



7 SEGMENT LED DISPLAYS

Characteristic	DL704/707	Z-4117/ LT302	Z-4103/ LT303	DL747/750	FND500/ 507	Pin out DL747 /750	Pin out FND500 /507	Pin out DL704	Pin out DL707	Pin out Z-4117	Pin out Z-4103
Digit Size	7.6mm	7.6mm	7.6mm	15.2mm	12.7mm	1. NC	1. Seg. E	1. Seg. F	1. Seg. A	1. Seg. A	1. NC
Colour	yel/red/orange	red	red	red	red	2. Seg. A	2. Seg. D	2. Seg. G	2. Seg. F	2. Seg. F	2. Cathode
Av. Fwd. Current	25mA	25mA	25mA	25mA	25mA	3. Seg. F	3. Common	3. NC	3. Anode	3. Anode	3. Seg. F
Segment						4. Common	4. Seg. C	4. Cathode	4. NC	4. NC	4. Seg. G
Fwd. Voltage	2.5/1.6/1.6	1.7	1.7	2.4	1.7	5. Seg. E	5. Dec. Point	5. NC	5. NC	5. NC	5. Seg. E
Min. Rev. Break-down Voltage	3V	3V	3V	6V	3V	6. Common	6. Seg. B	6. Seg. E	6. Dec. Point	6. L. Dec. Point	6. Seg. D
Max. Rev. Current	100uA	100uA	100uA	100uA	100uA	7. Dec. Point	7. Seg. A	7. Seg. D	7. Seg. E	7. Seg. E	7. NC
Light Intensity	320ucd	800ucd	800ucd	600ucd	600ucd	8. NC	8. Common	8. Seg. C	8. Seg. D	8. Seg. D	8. NC
Segment						9. NC	9. Seg. F	9. Dec. Point	9. Anode	9. R Dec. Point	9. Cathode
Max Power Dissp	500mW	340mW	340mW	960mW	400mW	10. NC	10. Seg. G	10. NC	10. Seg. C	10. Seg. C	10. R. Dec. Point
						11. Seg. D		11. NC	11. Seg. G	11. Seg. G	11. Seg. C
						12. Common		12. Cathode	12. NC	12. NC	12. Seg. B
						13. Seg. C		13. Seg. B	13. Seg. B	13. Seg. B	13. Seg. A
						14. Seg. G		14. Seg. A	14. Anode	14. Anode	14. NC
						15. Seg. B					
						16. NC					
						17. Common					
						18. NC					



TRY THESE LED CIRCUITS

FROM "FUNWAY VOL. 2"

Figure 3: the circuit is very simple: just watch the polarity of components: over half of them are polarised! It will operate from a very wide voltage range.

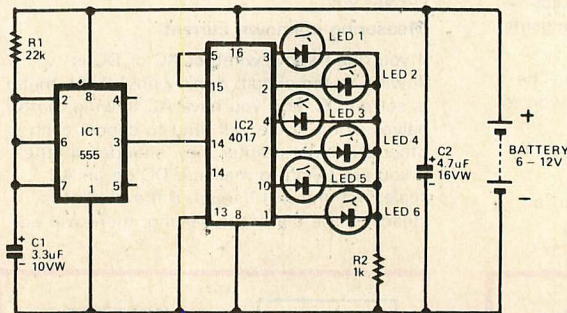
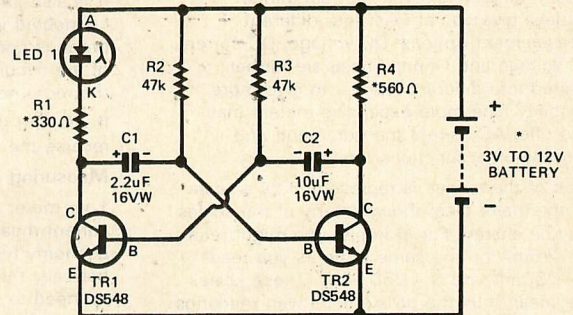
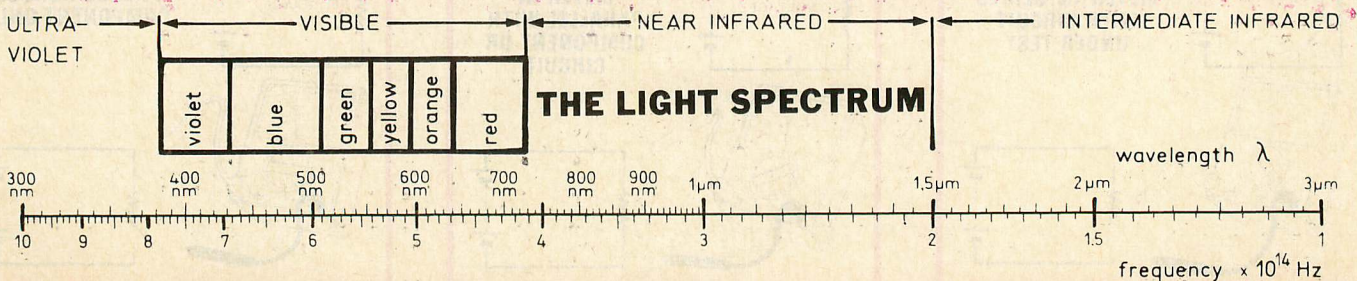


Figure 7: The simplified circuit for the LED chaser (or for electronic jewellery below). The speed is slowed down significantly by changing C1 to a 3.3uF electrolytic.



HOW TO USE YOUR MULTIMETER

FROM "FUNWAY VOL. 2"

So you've just arrived home from your local Dick Smith store with your brand new shiny multimeter. All you need now is to work out how to use it!

Unpacking it and setting it up:

When you buy a multimeter, it is seldom ready for use. Almost always, batteries must be fitted, and in some cases, there is a protective wire link across the meter to remove.

Read the instruction manual carefully, and carry out any steps described. A word of caution: most meters are supplied with batteries, but sometimes these are not the best. As a meter is left unused for a long period, it is a wise investment to buy some fresh, well-known-brand batteries.

Your multi-meter will have a large scale area, a knob surrounded by figures, a small knob marked 'Ohms adjustment' or similar, and at least two terminals. If there are more than two terminals, look for the ones marked '+' and '-', or 'V-A-OHMS' and 'common'. In many meters, these terminals will be coloured red and black respectively.

Plug your test leads into the terminals: red into the red or '+' terminal, black into the black or '-' terminal. Turn the knob to one of the 'ohms' ranges and short the ends of the test leads (or 'probes') together. The pointer should move at least part way up the dial, perhaps right to the end or past it.

If it does, your meter is ready for work. Read on!

What scales have you?

Most multimeters (even the real budget models) give you at least four different measurement options: DC voltage, DC current, AC voltage and Ohms. These are further divided into different ranges, to give more flexibility. The more expensive meters may also offer AC current measurement, and possibly other functions too.

Each of the ranges is represented by a scale on the meter face; though many of the scales may be shared. For example, you might read 0 - 2.5mA on the same scale as you read 0 - 250mA and 0 - 250 volts. These scales are linear; thus the divisions between markings remain constant. All you do is apply the right 'units' to the scales to work out the exact figure: these units are given to you alongside the pointer on the 'range' switch.

There might also be a strip of mirror on the scales. The purpose of this is to allow you to line up the pointer with its reflection, eliminating 'parallax' errors (errors caused by viewing the pointer from an angle).

There may also be other ranges marked on the scale, which are obtained by using

different terminals to the normal ones. An example of these are on the meter shown at right: a 0.1V (50uA) DC terminal and a 1000V AC terminal, which are not affected by the 'range' switch. These special terminals are connected direct to the meter in some cases, and must be used with extreme care.

Measuring DC Current:

The important thing to remember when measuring current is that the meter must be placed **in series** with the circuit. This means that the circuit must be broken, with the meter leads connecting the two sections together.

Normally, a circuit is broken by unsoldering a wire or component; unfortunately, this is not always possible. For instance, if you want to know the current flowing through a certain PCB track, you must break the track (shudder!) to include the meter in series. This can usually be done by cutting the track at a narrow point with a very sharp blade. When the measurement is finished, solder can be flowed over the knife cut to restore connection. (You might even need to put in a small piece of hookup wire to assist the connection).

When measuring current, start with your meter on the highest range and work down. Stop when the pointer moves reasonably high up the scale.

It is also important that the probes are connected in the correct polarity. The red probe is connected to the more positive side of the circuit; the black probe is connected to the more negative side.

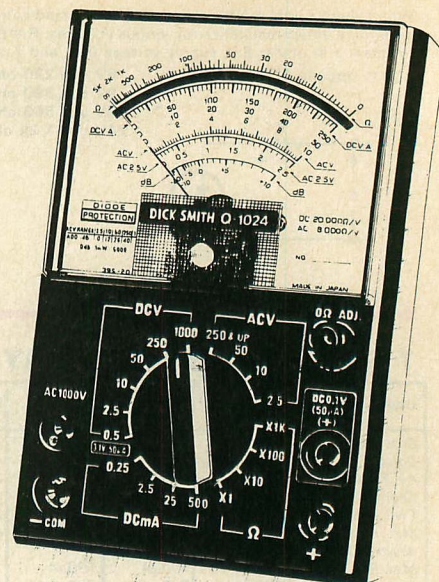
If you find the pointer swings the wrong way, reverse the probes.

Measuring AC Current:

Your meter may not have provision for AC current measurement, particularly if it is an economy type. If it does, measurement is basically the same as for DC: except there's no need to worry about polarity. Once again, start with a high range and work down to the correct one.

Measuring unknown current

If you don't know whether AC or DC is flowing in the circuit, don't worry! If the meter is set on DC, and you have AC flowing, both halves of the cycle will tend to cancel each other out. Your pointer may 'shudder' a little. If you are trying to measure DC on an AC scale, nothing will happen if the current is steady. If the current is varying, there will be



some reading, but it will be erroneous.

Measuring DC Voltages:

Measuring voltages is exactly the opposite to measuring current: the meter is placed **in parallel** to the circuit or component being measured. Once again, however, polarity has to be observed. Red (positive) to the positive side of the circuit, black (negative) to the negative.

And again, if you don't know the voltage, start on the highest range and work down.

Measuring AC Voltages:

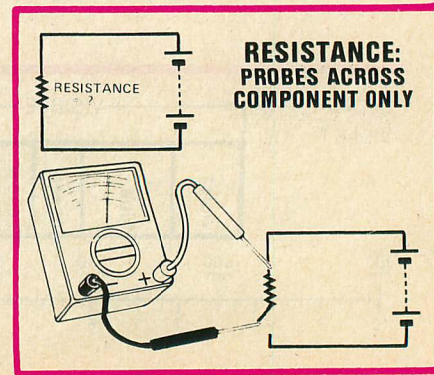
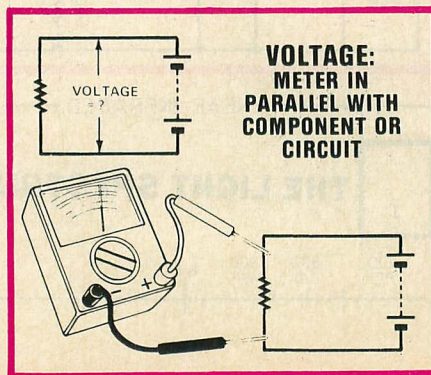
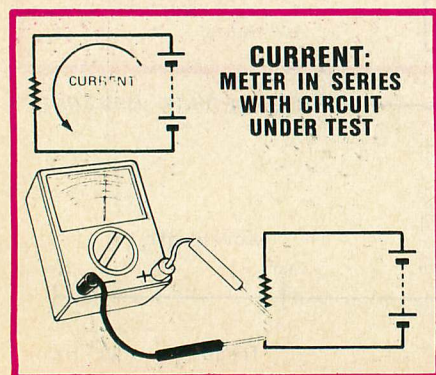
It's just the same as measuring DC voltages: just follow the same steps and remember that the meter must be placed in parallel.

A word of explanation here about what the meter actually reads: As you know, an AC wave starts at zero, rises to a peak, falls back to zero, and then does the same thing in the other direction during one cycle.

A moving coil meter (as 99% of multimeters are) indicate what is called the 'rms' value of the voltage. This value (which stands for root mean square) is more or less an average, taking into account the fact that the voltage is always changing.

The 'rms' voltage has exactly the same 'work value' as a DC voltage of the same magnitude. In other words, if you supplied an electric heater with 240 volts rms, and then 240 volts dc, the heater would give out the same heat in both cases.

If you want to convert the 'rms' value your meter reads, to the 'peak' value (the maximum



voltage reached in the cycle) you have to multiply by 1.4142 (for sine wave). Conversely, the rms is 0.7071 the peak voltage.

Measuring resistance:

When measuring resistance, it is important that the component you are reading is not affected by other components in the circuit. There is no point in measuring a resistor when there is another resistor in parallel which is interfering with the reading.

Therefore it is normal practice to remove one end of the component under test from the circuit to avoid any possible influence. Another wise move, even if you disconnect one end of the component, is to make sure power to the circuit is turned off.

Before commencing measurement (and each time you change resistance ranges) you must 'zero' the meter. This involves adjusting the knob on the meter so that the pointer reads exactly zero ohms when the probes are shorted together.

Select the lowest resistance range and zero the meter. Then place your test probes across the resistor (or other component you are testing). If the pointer doesn't move (or barely moves) switch up to the next range, and the next, until the pointer is in the last third of the scale. This is the area where best reading accuracy is obtained.

If the pointer reaches, or over-shoots zero, back off one range. Re-zero the meter and then read the value from the 'ohms' scale. Multiply the reading from the scale to the multiplier indicated by the knob: for example, if you read 15 on the scale, and the knob points to 'x100', the actual resistance is 15 x 100 or 1.5k

Checking transistors and diodes

While not a perfect check, a multimeter can usually give you a 'go/no go' test on most diodes and small signal transistors. (Testing power transistors is not quite so simple, as the results can sometimes be misleading).

Testing diodes: This is very easy. A diode should conduct in one direction only: if you set your multimeter to a low ohms range (say x10) and place your probes on the on each end of the diode one way, the meter should read fairly low. Reverse the probes, and the meter should read fairly high. If both these checks are ok, then basically so is the diode!

Zener diodes can also be checked the same way. You can't tell their voltage, but you will at least have a go/no go indication.

Testing transistors Because transistors are basically two diodes in one package, we can check them in a similar way to diodes. We can also check for 'punch through' from collector to emitter.

Switch to a low ohms range, (eg x10) and connect the probes to the emitter and collector. Read the meter, and reverse the probes and note the reading again. Both should be high. If so, continue. If not, you should probably throw the transistor away!

Switch to a high (x1000) range, and connect one of the test probes to the transistor's base. Connect the other probe to the emitter, then collector, noting the readings. Both readings should be roughly the same; high or low, it doesn't matter (but remember which!)

Now swap the probe on the base with the other, and do the same check. The readings should still be roughly the same, but opposite

to the last check. If the last readings were both high, these should be both low, and vice versa.

If these tests are ok, the transistor is also probably ok. By the way, you can work out whether your transistor is an NPN or PNP with these checks: with the black lead on the base and both readings low, the transistor is an NPN type. With the red lead on the base and both readings low, the transistor is a PNP type.

POINTS TO REMEMBER:

- **Meter in series for current**
- **Meter in parallel for voltage**
- **Meter across component only when measuring resistance**
- **Start on the highest range and work down**
- **Zero the pointer when changing to any resistance range**
- **Replace the batteries if you cannot zero pointer**
- **Use the mirrored scale to avoid parallax errors**
- **Swap the probes if the pointer swings backwards**
- **Take care of your meter!**

WHAT'S INSIDE A MULTIMETER?

As you can see from above, the multimeter is very versatile. But do you know how it performs all those functions?

The heart of the multimeter is the meter movement itself. This consists of a coil of wire, suspended on an axle, in a magnetic field from a permanent magnet. If a current passes through the coil, another magnetic field is set up. The two fields repel each other (just like two magnets can repel each other), and the coil tries to move.

The only way the coil can move is to rotate on its axle. Attached to the axle is a spring, and a pointer which can move over a scale. Because of the spring, the amount of rotation of the coil will vary precisely with the amount of current flowing through the coil. So the scale can be graduated directly in units of current.

The current through the coil is, however, very, very small. In a modern multimeter, it takes just 50uA to make the pointer travel from one end of the scale to the other. (This is called full scale deflection, or fsd).

Obviously, a multimeter can measure a lot more than 50uA (many meters measure up to 10A – 200,000 times as much!)

Remember our discussion on voltage dividers at the end of project 12? If two resistors are connected in parallel, the current divides up in inverse proportion to their resistance.

Exactly the same thing happens with a multimeter. The switch connects various resistors in parallel with the coil so that the current between the coil and resistor divides. An average multimeter has a coil resistance of 2000 ohms; if a 2000 ohm resistor was connected in parallel, the meter would read full scale when 100uA was flowing. If a 0.1005 ohm resistor was connected in parallel, the meter would read full scale with a

current of 1 amp flowing! (Yes, resistors of this accuracy are required, and used, in multimeters!)

The resistors switched in parallel with a meter movement are called 'shunts' – they shunt most of the current past the meter.

Now, how about voltage? As we mentioned, a meter measures current. But the coil has a certain resistance, so from Ohm's law we know that to make this current flow a certain voltage has to be applied to the coil. With a 2000 ohm movement, it takes just 0.1V to make 50uA flow (for fsd).

It follows that if we add additional resistors in series, it will take more and more voltage to maintain that same 50uA current.

If we added a 2000 ohm resistor in series, the voltage would divide across each 'resistance' so there was still 0.1 volts across the movement with 0.2 volts applied. So the meter would read full scale. If we connected a 1,998,000 ohm resistor in series, we could apply 100 volts to the meter, and it would still only read full scale.

Of course, the pointer doesn't have to swing all the way; a lesser voltage will give us a lesser swing. So we can calibrate the scale directly in volts, with the maximum voltage being what that series resistor will allow for exactly full scale deflection.

The resistor in series is called a 'multiplier': it obviously multiplies the voltage required for full scale deflection.

Measuring resistance

A meter switched to the 'Ohms' scale is basically still a voltmeter; the difference being that the voltage which drives the movement comes from internal batteries rather than the circuit under test. (Note that a multimeter needs batteries **only** for resistance measurement – they can be

removed completely for current and voltage!)

As the battery voltage remains constant, any resistance which is introduced in series with the meter will reduce the current flowing, thus reducing the reading. The scale is calibrated directly in Ohms, and must be multiplied by the figure indicated by the switch pointer. The switch selects different multipliers so that very wide ranges of resistance can be measured.

We mentioned before the 'zero ohms' adjustment. All this does is 'fine tune' the multiplier so that effects of battery voltage and component aging can be countered. If the 'zero ohms' control cannot bring the pointer to the zero mark the battery should be replaced.

Meter sensitivity

All meters 'load' the circuit being measured. By this we mean that the circuit or component is affected by the current taken from the circuit to drive the meter movement – small though it be. For minimum loading, the 'sensitivity' of the meter should be as high as possible.

Sensitivity is quoted in 'ohms per volt': in general, the higher the better. A modern multimeter would have a sensitivity of around 20,000 ohms per volt DC (more than enough for the average hobbyist use).

What this means is that on each DC voltage range, the circuit 'sees' the meter as a resistor, having a value of 20,000 times the full scale voltage of the range: on a 1 volt range it would be equivalent to a 20,000 ohm resistor; on a 100 volt range it would be equal to a 2,000,000 ohm resistor, over the entire range.

AC sensitivity is always lower than DC: 7 to 10 thousand ohms per volt is typical. This is adequate for the hobbyist.

BIPOLAR TRANSISTORS

TYPE	CASE	POL MAT	V _{ce}	V _{cb}	I _C mA	V _{ces} @ I _C mA	H _{fe} @ I _C mA	F _t @ I _C MHz	P _{tot} mW	USE	COMPARABLE TYPES
AC126	TO-1	PG	12	32	100		140 2	1.7 10	500	Audio driver	2N406
AC127	TO-1	NG	16	32	500		105 50	1.5 10	340	Audio O/P	AC187
AC128	TO-1	PG	16	32	1000	0.6 1A	60-175 300	1 10	1W	Audio O/P	AC188
AC132	TO-1	PG	12	32	200	0.35 200	115 50	1.3 10	216	Audio O/P	AC188
AC187	TO-1	NG	15	25	1000	0.8 1A	100-500 300	1 10	1W	Audio O/P	AC127
AC188	TO-1	PG	15	25	1000	0.6 1A	100-500 300	1 10	220	Audio O/P	AC128
AD161	PT1	NG	20	32	3000	0.6 1A	80-320 500	0.02 300	4W	Audio Amp.	AD165, 2N1218, 2N1292
AD162	PT1	PG	20	32	3000	0.4 1A	80-320 500	0.015 300	6W	Audio Amp.	AD143, AD152, AD147
AF116	TO-7	PG	15	32	10		150 1	75 1	50	H.F. Amp.	AF135, AF136, 2N3127
ASZ15	TO-3	PG	60	100	10A	0.4 10A	20-55 1A	0.2 1A	30W	H.C. Sw.	OC28
ASZ18	TO-3	PG	32	100	10A	0.4 10A	30-110 1A	0.22 1A	30W	H.C. Sw.	OC36
BC107	TO-18	NS	45	50	100	0.2 100	110-450 2	300 10	300	S.S. Amp.	BC207, BC147, BC182
BC108	TO-18	NS	20	30	100	0.2 100	110-800 2	300 10	300	S.S. Amp.	BC208, BC148, BC183
BC109	TO-18	NS	20	30	100	0.2 100	200-800 2	300 10	300	Low Noise S.S. Amp.	BC209, BC149, BC184
BC109C	TO-18	NS	20	30	100	0.2 100	420-800 2	300 10	300	Low Noise High Gain	BC209C, BC184C, BC149C
BC157	SOT-25	PS	45	50	100	0.25 100	75-260 2	150 10	300	S.S. Amp.	BC177, BC307, BC212
BC158	SOT-25	PS	25	30	100	0.25 100	75-500 2	150 10	300	S.S. Amp.	BC178, BC308, BC213
BC159	SOT-25	PS	20	25	100	0.25 100	125-500 2	150 10	300	S.S. Amp.	BC179, BC309, BC214
BC177	TO-18	PS	45	50	100	0.25 100	75-260 2	150 10	300	S.S. Amp.	BC157, BC307, BC212
BC178	TO-18	PS	25	30	100	0.25 100	75-500 2	150 10	300	S.S. Amp.	BC158, BC308, BC213
BC179	TO-18	PS	20	25	100	0.25 100	125-500 2	150 10	300	S.S. Amp.	BC159, BC309, BC214
BC182(L)	SOT-30 (TO-92/74)	NS	50	60	200	0.25 10	100-480 2	150 10	300	S.S. Amp.	BC107, BC207, BC147
BC183(L)	SOT-30 (TO-92/74)	NS	30	45	200	0.25 10	100-850 2	150 10	300	S.S. Amp.	BC108, BC208, BC148
BC184(L)	SOT-30	NS	30	45	200	0.25 10	250-850 2	150 10	300	Low Noise High Gain	BC109, BC209, BC149
BC207	TO-106	NS	45	50	100	0.25 10	110-220 2	150 10	300	S.S. Amp.	BC107, BC182, BC147
BC208	TO-106	NS	20	25	100	0.25 10	110-800 2	150 10	200	S.S. Amp.	BC108, BC183, BC148
BC209	TO-106	NS	20	25	110	0.25 10	200-800 2	150 10	200	Low Noise High Gain	BC109, BC184, BC149
BC327	TO-92 (VAR)	PS	45		1000	0.7 500	100-600 100	100 10	800	O/P	2N3638
BC328	TO-92 (VAR)	PS	25		500	0.7 500	100-600 100	100	500	G.P. Amp. Sw.	BC327, 2N3643
BC337	TO-92 (VAR)	NS	45		1000	0.7 500	100-600 100	200 10	800	O/P	2N3642
BC547	SOT-30	NS	45	50	100	0.6 100	110-800 2	300 10	500	S.S. Amp.	BC107, BC207, BC147
BC548	SOT-30	NS	30	30	100	0.6 100	110-800 2	300 10	500	S.S. Amp.	BC108, BC208, BC148
BC549	SOT-30	NS	30	30	100	0.6 100	200-800 2	300 10	500	Low Noise Small Sig.	BC109, BC209, BC149
BC549C	SOT-30	NS	30	30	100	0.6 100	420-800 2	300 10	500	Low Noise High Gain	BC109C, BC149C
BC557	TO-92 (VAR)	PS	45	50	100		110-330 2	150	500	G.P. Small Sig.	BC157, DS557
BC558	TO-92 (VAR)	PS	30	30	100		75 2	150	500	G.P. Small Sig.	BC158, DS558
BC559	TO-92 (VAR)	PS	30	30	100		125-600 2	150	500	G.P. Small Sig.	BC159
BC635	TO-92(74)	NS	45	45	1A	0.5 500	40-250 150	130 500	1W	Audio O/P	BC639
BC636	TO-92(74)	PS	45	45	1A	0.5 500	40-250 150	130 500	1W	Audio O/P	BC640
BC639	TO-92(74)	NS	80	100	1A	0.5 500	40-160 150	130	1W	Audio O/P	MU9610, TT801
BC640	TO-92(74)	PS	80	100	1A	0.5 500	40-160 150	50	1W	Audio O/P	MU9660, TT800
BCY71	TO-18	PS	45	45	200	0.5 50	100-400 10	250 50	350	G.P.	BC212
BD139	TO-126	NS	80	100	1A	0.5 500	40-160 150	250 500	8W	G.P. O/P	40409
BD140	TO-126	PS	80	100	1A	0.5 500	40-160 150	75 500	8W	G.P. O/P	40410
BD262	TO-126	PS	60	60	4A	2.5 1.5A	750 1.5A	7 1.5A	36W	High Gain Darl. O/P	BD266
BD263	TO-126	NS	60	80	4A	2.5 1.5A	750 1.5A	7 1.5A	36W	High Gain Darl. O/P	BD267
BD266A	TO-220	PS	80	80	8A	2 3A	750 3A	7	60W	High Gain Darl. O/P	
BD681	TO-126	NS	100	100	4A		500» 4A	1	40W	Darlington O/P	BD263
BD682	TO-126	PS	100	100	4A		750» 1.5A	1	40W	Darlington O/P	BD262
BF115	TO-72(28)	NS	30	50	30		45-165 1	230 1	145	V.H.F. Amp.	
BF173	TO-72(28)	NS	25	40	25		92 7	550 5	230	T.V. I.F. Amp.	
BF178	TO-39	NS	115	185	50		20 30	120 10	600	T.V. Video Amp.	BF336
BF179	TO-39	NS	115	250	50		20 20	120 10	600	T.V. Video Amp.	BF338
BF180	TO-72(25)	NS	20	30	20		13 2	675 2	150	U.H.F. Amp.	BF200
BF184	TO-72(28)	NS	20	30	30		75-750 1	300 1	145	H.F. Amp.	
BF185	TO-72(28)	NS	20	30	30		34-140 1	220 1	145	H.F. Amp.	BF195
BF199	TO-92 (VAR)2	NS	25		25		37» 7	550	500	H.F. Amp.	BF180
BFY50	TO-39	NS	35	80	1A	0.2 150	30 150	60 50	800	G.P.	
BUX80	TO-3	NS	400		10A	1.5 5A		8	100W	Deflection, High current Sw. G.P. Power	2N3055, BDY20
DS547	TO-92 (VAR)	NS	45	50	100	0.6 100	110-800 2	300 10	500	S.S. Amp.	BC107, BC207, BC147
DS548	TO-92 (VAR)	NS	30	30	100	0.6 100	110-800 2	300 10	500	S.S. Amp.	BC108, BC208, BC148
DS549	TO-92 (VAR)	NS	30	30	100	0.6 100	200-800 2	300 10	500	Low Noise Small Sig.	BC109, BC209, BC149
DS557	TO-92 (VAR)	PS	45	50	100	0.25 100	75-260 2	150 10	300	S.S. Amp.	BC177, BC307, BC212
DS558	TO-92 (VAR)	PS	25	30	100	0.25 100	75-500 2	150 10	300	S.S. Amp.	BC178, BC308, BC213
MJ2955	TO-3	PS	60	70	15A	1.1 4A	20-70 4A	4 500	115W	High Power O/P	2N4908, 2N4909, 2N5871
MJE2955T	TO-220	PS	60	70	10A		20-100 4A	2 500	75W	G.P. Power	TIP2955, TIP32
MJE3055T	TO-220	NS	60	70	10A		20-100 4A	2 500	75W	G.P. Power	TIP3055, TIP31
MJ15003	TO-3	NS	140	140	20A		25-150	2	250W	Hi power O/P	
MJ15004	TO-3	PS	140	140	20A		25-150	2	250W	Hi Power O/P	
MU9660	152	PS	30	40	2A	0.4 1.5A	80-400 350	70 250	1W	O/P	TT800
MU9661	152-01	PS	30	40	2A	0.4 1.5A	80-400 350	70 250	1W	O/P	TT800
OC26	TO-3	PG	30	50	3.5A	0.7 3A	30-100 1A	0.3 500	12W	G.P. O/P	AD149
OC44N	TO-1	PG	5	15	10		45-225 1	7.5 1	85	R.F. Amp.	AF125, AF136, AF172
OC45	GT-3	PG	5	15	10		25-125 1	3 3	85	R.F. Amp.	AF132, AF185, AF196
OC70	GT-3	PG	10	30	50		30 5	0.5	125	G.P. Amp.	AC121, AC126, 2N1190
OC71	GT-3	PG	10	30	50		30-75 3	0.6	125	G.P. Amp.	AC126, 2N2429
OC72	GT-6	PG	16	32	250		45-120 10	0.35	165	Audio O/P	AC122, AC125, AC162
OC74N	TO-1	PG	10	20	300	0.6 300	60-150 50	0.1	550	Audio O/P	AC125, AC180, AC192

TYPE	CASE	POL MAT	Vce	Vcb	IC mA	Vces @ IC mA	Hfe @ IC mA	Ft @ IC MHz	Ptot mW	USE	COMPARABLE TYPES
TIP31B	TOP-66	NS	80	80	3A	1.2 3A	20 500	3 500	40W	Power Amp - Sw.	TT797, NSD206
TIP32B	TOP-66	PS	80	80	3A	1.2 3A	20 500	3 500	40W	Power Amp. - Sw.	
TT800	TO-39 (MOD)	PS	60	60	1A		40-120 100	100	800	Audio Driver - Sw.	
TT801	TO-39 (MOD)	NS	60	80	1A		40-120 150	60	800	Audio Driver - Sw.	TT798 NSD106
2N301	TO-3	PG	32	40	3A		50 1A	0.2 1A	11W	Audio O/P	AT1138, OC26
2N3019	TO-5	NS	80	140	1A		80 1	100	800	G.P. Audio Driver	TT801
2N3019	TO-39	NS	40	60	700	1.4 150	50-250 150	100 50	2.86W	G.P. Switch	BD137
2N3054	TO-66	NS	55	90	4A	0.1 200	25 500	0.8 200	25W	Audio O/P	TIP31B
2N3055	TO-3	NS	60	90	15A	1.1 4A	20 4A	0.8 1A	115W	O/P - Sw.	BDY20
PN3563	TO-92	NS	12	30	50		20-200 8	600 8	625	R.F. - I.F. Amp.	BF173
2N3564	TO-106	NS	15	30	100	0.3 20	20-500 15	400 15	200	R.F. - I.F. Amp.	BF167
2N3566	TO-105	NS	30	40	200	1 100	150-600 10	40 30	300	G.P. Amp. & Sw.	BC183
2N3567	TO-105	NS	40	80	500	0.25 150	40-120 1	60 50	300	G.P. Amp. & Sw.	BC337
2N3640	TO-106	PS	12	12	80	0.2 10	30-120 10	300 10	200	Saturated Switch	
PN3642	TO-92	NS	45	60	500	0.22 150	40-120 150	250 50	625	G.P. Amp. & Sw.	BC337
PN3643	TO-92	NS	30	60	500	0.22 150	100-300 150	250 50	625	G.P. Amp. & Sw.	BC337
2N3644	TO-105	PS	45	45	500	1 300	115-300 50	200 20	300	G.P. Amp. & Sw.	BC327
PN3645	TO-105	PS	60	60	500	1 300	115-300 500	200 20	300	G.P. Amp. & Sw.	
2N3904	TO-92	NS	40	60	200		100-300 1mA		310	Low Level Amp.	BC167A, BF194
2N4030	TO-5	PS	60	60	1A		25» 500	100	800	G.P. Audio Driver	TT800
PN4250	TO-92	PS	40	40	100	0.25 10	250-400 0.1	50	625	Low Level Amp.	BC559
PN4258	TO-92	PS	12	12	50	0.5 50	30-120 10	700 10	200	Saturated Switch	
2N5401	TO-92(72)	PS	150	160	600		40» 1	100	350	Hi Volt Switch	
2N5589	MT-71C	NS	18	36	6A		5 100	175» 3W	15W	H.F. Mobile R.F.	
2N5590	MT-72C	NS	18	36	2A		5 250	175» 10W	30W	H.F. Mobile R.F.	
2N5591	MT-72C	NS	18	36	4A		5 500	175» 25W	70W	H.F. Mobile R.F.	
2N6084	MT-72C	NS	18	36	6A		5» 1A	175» 40W	80W	VHF Output	B40-12
2S8367	PT-1	PG	25	25	1A		45-70 500	0.5	4W	Audio Output	AD162
2SC1096	TO-202-R	NS	30	40	2A		45-250 1A	60	10W	G.P. Output	2SC1098, TIP31
2SC1306	TOP-66	NS	65	65	3A		40-200 500	300	12W	H.F. Output	2SC2166
2SC1307	TOP-66	NS	70	70	8A		20-150 2A	150	25W	H.F. Output	2SC1969
2SC1969	TOP-66	NS	30	60	6A		10-180 10	150	20W	H.F. Output	2SC1307
2SC2166	TOP-66	NS	75	75	4A		35-180 100			H.F. Output	2SC1306
40250	TO-66	NS	50	50	4A	1.5 1.5A	25 100	1	29W	Power Transistor	2N3054

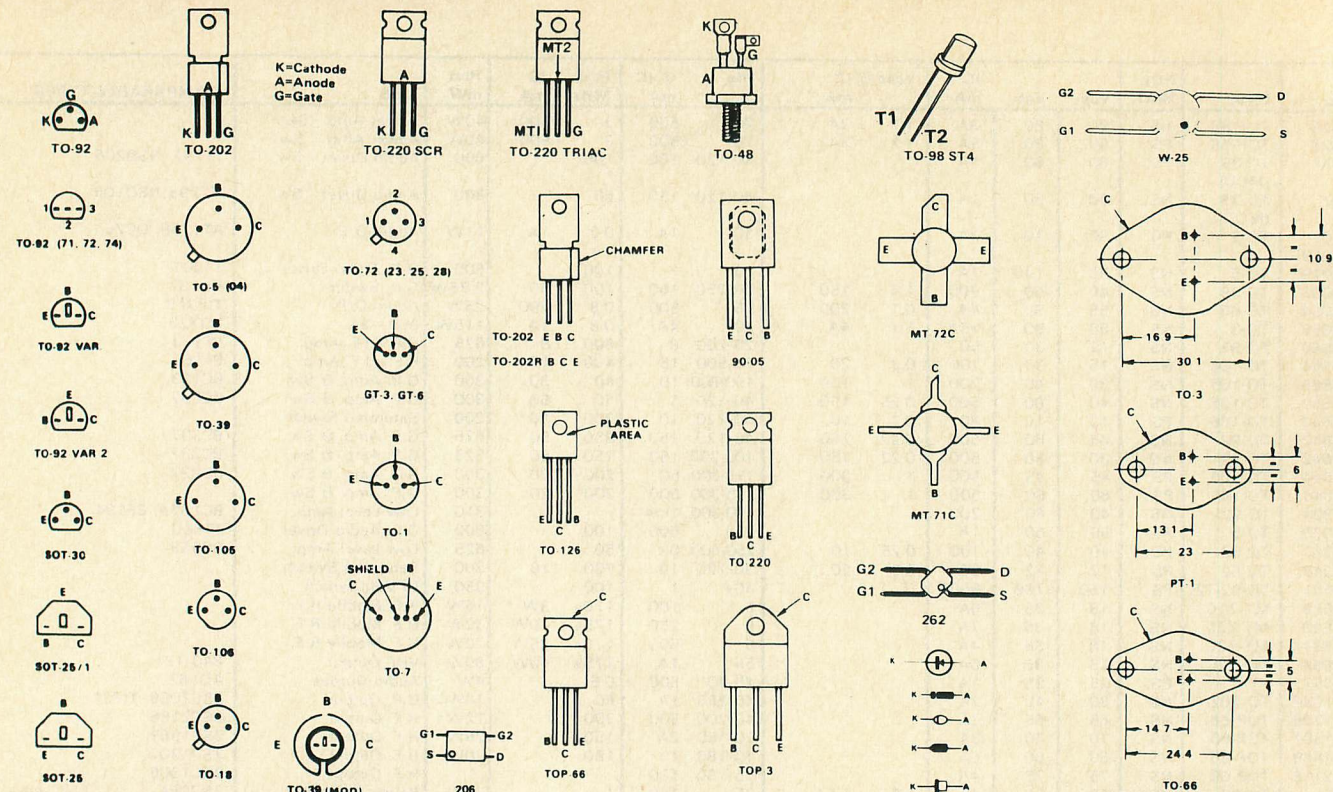
FETS		CASE	BVGSS V @ IG(uA)	VGS(OFF) Min Max @ VDS	IDSS(mA) Min Max @ VDS	VGS	Yfs(umhos) Min Max @ VDS	Ptot mW	Use/Comments
BFW61	TO-72(25)	25	+/-6	4 15	200uA	2 20 15 0	6500	300	N/CH Junction Audio to H.F.
MEM631	W-25	20	+/-10	4 15		5 30 15 0	1600 typ 15	500	N/CH Dual Gate MOS VHF Amp.
MFE131	TO-72(25)	20		4 15		30 15 0	8000- 20000 15	300	N/CH Dual Gate, VHF
MPF102	TO-92(72)	25 10		8 15 2		2 20 15 0	2000 7500 15	310	N/CH Junction - VHF
MPF103	TO-92(72)	25 1		6 15 1		1 5 15 0	1000 5000 15	310	N/CH Junction - Audio Sw.
MPF104	TO-92(72)	25 1		7 15 1		2 9 15 0	1500 5500 15	310	N/CH Junction - Audio Sw.
MPF105	TO-92(72)	25 1		8 15 10		4 16 15 0	2000 6000 15	310	N/CH Junction - Audio Sw.
MPF106	TO-92(72)	25 1		4 15 10		4 10 15 0	2500 7000 15	310	N/CH Junction - RF
MPF121	206	7-20		4 15		5 30 15 0	10000 20000 15	500	N/CH Dual Gate MOS, VHF Amp
MPF131	262	20		4 15		3 30 15 0	8000 20000 15	350	N/CH Dual Gate MOS, VHF Amp.
2N4342	TO-106	25 10		5 10		12 30 10 0	6000 10	180	P/CH Junction - Audio Sw.
2N5457	TO-92(72)	25 1		6 15 10		1 5 15 0	1000 5000 15	310	N/CH Junction - Audio Sw.
2N5458	TO-92(72)	25 1		1 7 15 10		2 6 15 0	1500 5500 15	310	N/CH Junction - Audio Sw.
2N5459	TO-92(72)	25 1		2 8 15 10		4 9 15 0	2000 6000 15	310	N/CH Junction - Audio Sw.
2N5484	TO-92(72)	25 1		0.3 3 15 10		1 5 15 0	3000 6000 15	310	N/CH Junction - VHF
2N5485	TO-92(72)	25 1		0.5 4 15 10		4 10 15 0	3500 7000 15	310	N/CH Junction - VHF.

RECTIFIER BRIDGES		TYPE	MAT	Vr	If(A)	Vf @ If(A)	Ir(uA) @ Vr	USE
PA60	S	600	8					G.P. Bridge
PB40	S	400	25	1.2(per leg)	12.5	10	400	Heavy Duty Bridge
MB1	S	100	1.8			5	100	Mini Bridge
MB4	S	400	1.8			5	400	Mini Bridge
WO2	S	200	1.5	1.1 (per leg)	1	10	200	Mini Bridge
WO4	S	400	1.5	1.1 (per leg)	1	10	400	Mini Bridge

DIODES		CASE	Vr	If (mA)	Cd (pF)	Vf @ If (mA)	Ir (uA) @ Vr	Trr (nS)	Use/Comparable Types
Germanium									
OA47	DO-7	25	110	3.5		0.65 30		70	Gold Bonded G.P. Switching
OA91	DO-7	90	150			1.9 10	180 75		G.P. PointContact OA71,79,81
DSOA91	DO-7	50	30	1		1 5	200 10		G.P. OA91, 1N60
OA95	DO-7	90	150			1.5 10	110 0.75		G.P. Point Contact
Silicon									
BA100	DO-7	60	90	25		0.96 10	10 60		G.P. - Alloyed
BB119	DO-35	15		20-25 @ 4V		Cd Ratio»1.3			Varicap - Replaces BA102
OA200	DO-7	50	160	25		0.96 10	0.1 50		Small Signal - Alloyed
OA202	DO-7	150	160	25		0.96 10	0.1 150		Small Signal - Alloyed
IN914A	DO-35	75	75	4		1 10	5 75	4	Small Signal Sw. IN4148
IN4148	SD-5	75	75	4		1 10	0.025 20	4	Small Signal Sw. IN914A
IN4448	DO-35	75	300	4		1 100	0.025 6	4	G.P. Silicon Sw. IN4148
5082-2800	DO-7	70	15	2		0.41 1	0.2 50	0.1	Schottky (Hot Carrier) UHF Detector, Mixer, Switch

DATA SECTION

SEMICONDUCTOR OUTLINES



NOTE: For transistors with "PN" prefix, use TO-92(72)

PIN	72 (STD)	FET
1	C	G
2	B	S
3	E	D

PIN	71	FET
1	C	G
2	E	D
3	B	S

PIN	74	FET
1	B	S
2	C	G
3	E	D

PIN	T (25)	FET (25)
1	E	S
2	B	D
3	C	G or G2
4	CASE	CASE or G1

PIN	T (28)	FET P (23)
1	B	S
2	E	G
3	C	D
4	GND	CASE

BIPOLARS
E EMITTER
B BASE
C COLLECTOR
NG NPN GERMANIUM
PG PNP GERMANIUM
NS NPN SILICON
PS PNP SILICON

FETS
S SOURCE
G GATE
D DRAIN
N/CH N CHANNEL
P/CH P CHANNEL

DIODES
A: ANODE
K: CATHODE

GP GENERAL PURPOSE
SS SMALL SIGNAL
SW SWITCH
O/P OUTPUT
RF RADIO FREQUENCY
HF HIGH FREQUENCY
VHF VERY HIGH FREQUENCY

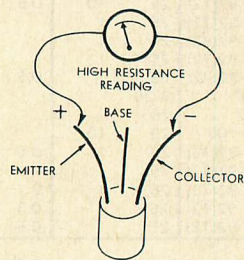
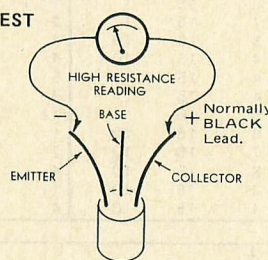
QUICK TRANSISTOR CHECK

These diagrams illustrate a handy method of checking any transistor with a multimeter switched to a low Ohms range.

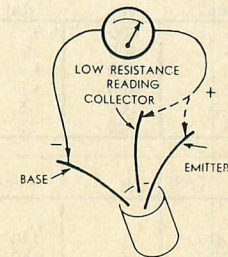
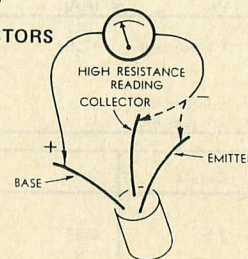
NOTE: Battery (+) positive on most multimeters is the BLACK lead — NOT the RED lead.

"PUNCH-THROUGH" TEST

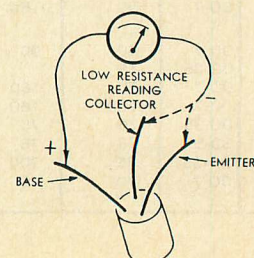
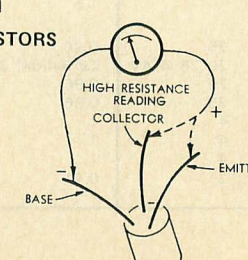
TEST



PNP TRANSISTORS



NPN TRANSISTORS

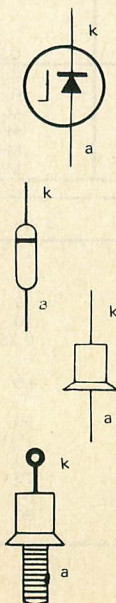


ZENER DATA

VOLTAGE 400mW TYPES* 1 W TYPES**

3.3	IN746	
3.6	IN747	
3.9	IN748	
4.3	IN749	
4.7	IN750	
5.1	IN751	IN4732
5.6	IN752	IN4733
6.2	IN753	IN4734
6.8	IN754, IN957	IN4735
7.5	IN755, IN958	IN4736
8.2	IN756, IN959	IN4737
9.1	IN757, IN960	IN4738
10	IN758, IN961	IN4739
11	IN962	IN4740
12	IN759, IN963	IN4741
13	IN964	IN4742
15	IN965	IN4743
16	IN966	IN4744
18	IN4112	IN4745
20	IN968	IN4746
22	IN969	IN4747
24	IN970	IN4748
27	IN971	IN4749
30	IN972	IN4750
33	IN973	IN4751
		IN4752

* Dissip. 400mW, Op Temp 50°C, Case DO-7 or DO-35
** Dissip. 1W, Op Temp 50°C, Case DO-41. This range will dissipate up to 3 watts @ 75°C with 10mm lead length as heatsink.



555 TIMER

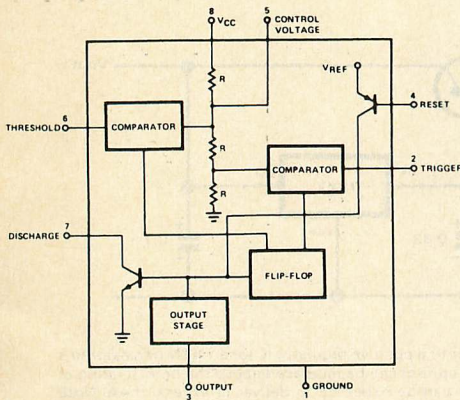
The 555 Timer is a highly versatile low-cost IC specifically designed for precision timing applications. It can also be used in monostable multi-vibrator, astable multivibrator, and Schmitt trigger applications.

The 555 has many attractive features. It can operate from 4.5v to 16v. Its output can source (supply) or sink (absorb) and load current up to a maximum of 200 mA, and so can directly drive loads such as relays, LED's, low-power lamps, and high impedance speakers. When used in the 'timing' mode, the IC can readily produce accurate timing periods variable from a few microseconds to several hundred seconds via a single R-C network. Timing periods are virtually independent of supply rail voltage, have a temperature coefficient of only .005% per °C, can be started via a TRIGGER command signal, and can be aborted by a RESET command signal.

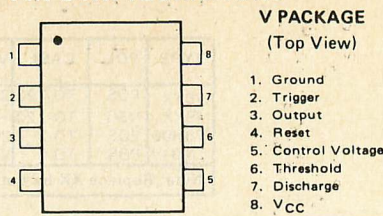
When used in the monostable mode, the IC produces output pulses with typical rise and fall times of a mere 100 ns.

When used in the astable mode both the frequency and the duty cycle of the waveform can be accurately controlled with two external resistors and one capacitor.

BLOCK DIAGRAM



PIN CONFIGURATIONS



ABSOLUTE MAXIMUM RATINGS

Supply Voltage	+18V
Power Dissipation	600 mW
Operating Temperature Range	0°C to +70°C
Storage Temperature Range	-65°C to +150°C
Lead Temperature (Soldering, 60 seconds)	+300°C

ELECTRICAL CHARACTERISTICS (T_A = 25° C, V_{CC} = +5 V. to + 15 unless otherwise specified)

PARAMETER	TEST CONDITIONS	NE 555			UNITS
		MIN	TYP	MAX	
Supply Voltage		4.5		16	V
Supply Current	V _{CC} = 5V R _L = ∞ V _{CC} = 15V R _L = ∞ Low State, Note 1		3 10	6 15	mA
Timing Error	R _A , R _B = 1 KΩ to 100KΩ C = 0.1 μF		1		%
Initial Accuracy			50		ppm/°C
Drift with Temperature			0.01		%/Volt
Drift with Supply Voltage			2/3		X V _{CC}
Threshold Voltage	V _{CC} = 15V		5		V
Trigger Voltage	V _{CC} = 5V		1.67		V
Trigger Current			0.5		μA
Reset Voltage		0.4	0.7	1.0	V
Reset Current			0.1		μA
Threshold Current			0.1	.25	μA
Control Voltage Level	V _{CC} = 15V V _{CC} = 5V	9.0 2.6	10 3.33	11 4	V
Output Voltage Drop (low)	V _{CC} = 15V I _{SINK} = 10mA I _{SINK} = 50mA I _{SINK} = 100mA I _{SINK} = 200mA V _{CC} = 5V I _{SINK} = 8mA I _{SINK} = 5mA		0.1 0.4 2.0 2.5	.25 .75 2.5	V
Output Voltage Drop (high)	I _{SOURCE} = 200mA V _{CC} = 15V I _{SOURCE} = 100mA V _{CC} = 15V V _{CC} = 5V	12.75 2.75	13.3 3.3		V
Rise Time of Output			100		nsec
Fall Time of Output			100		nsec

MONOSTABLE OPERATION

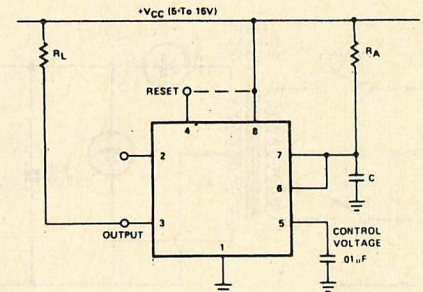
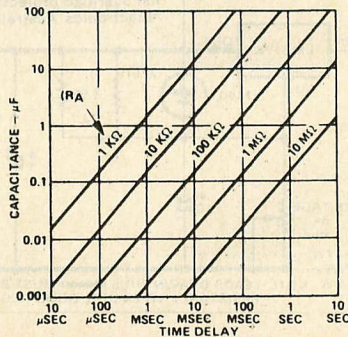
In the monostable mode, the timer functions as a one-shot. Referring to circuit the external capacitor is initially held discharged by a transistor inside the timer.

When a negative trigger pulse is applied to lead 2, the flip-flop is set, releasing the short circuit across the external capacitor and drives the output HIGH. The voltage across the capacitor, increases exponentially with the time constant $t = R_1 C_1$. When the voltage across the capacitor equals $2/3 V_{CC}$, the comparator resets the flip-flop which then discharges the capacitor rapidly and drives the output to its LOW state.

The circuit triggers on a negative-going input signal when the level reaches $1/3 V_{CC}$. Once triggered, the circuit remains in this state until the set time has elapsed, even if it is triggered again during this interval. The duration of the output HIGH state is given by $t = 1.1 R_1 C_1$. The timing interval is independent of supply.

When Reset is not used it should be tied high to avoid any possibility of false triggering.

TIME DELAY vs R_A, R_B AND C



ASTABLE OPERATION

When the circuit is connected as shown it triggers itself and free runs as a multivibrator. The external capacitor charges through R₁ and R₂ and discharges through R₂ only. Thus the duty cycle may be precisely set by the ratio of these two resistors.

In the astable mode of operation, C₁ charges and discharges between $1/3 V_{CC}$ and $2/3 V_{CC}$. As in the triggered mode, the charge and discharge times and therefore frequency are independent of the supply voltage.

The charge time (output HIGH) is given by:

$$t_1 = 0.693 (R_1 + R_2) C_1$$

and the discharge time (output LOW) by:

$$t_2 = 0.693 (R_2) C_1$$

Thus the total period T is given by:

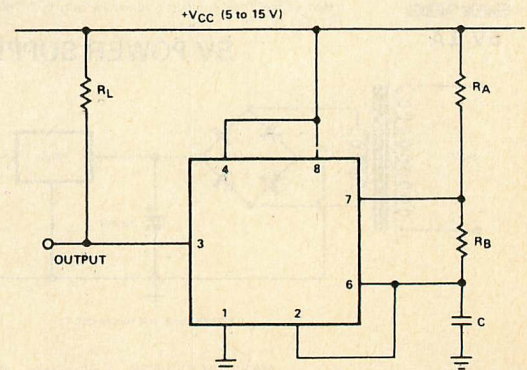
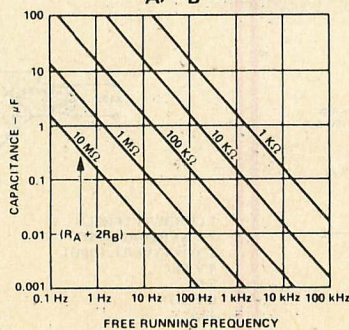
$$T = t_1 + t_2 = 0.693 (R_1 + 2R_2) C_1$$

The frequency of oscillation is then:

$$f = \frac{1}{T} = \frac{1.44}{(R_1 + 2R_2) C_1}$$

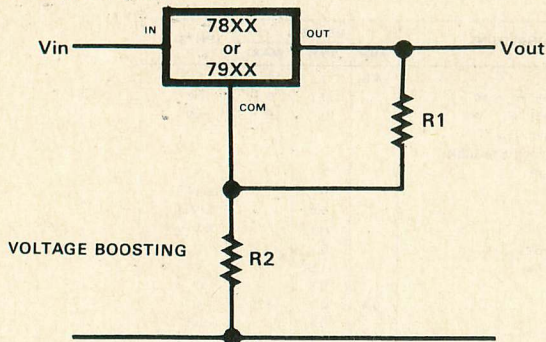
The duty cycle is given by: $D = \frac{R_2}{R_1 + 2R_2}$

FREE RUNNING FREQUENCY vs R_A, R_B AND C



VOLTAGE REGULATORS

These voltage regulators almost make power supply building unnecessary since they require only a filtered DC voltage input, they are essentially indestructible (if used within manufacturer's specs.) because of internal current limiting and thermal shut-down should a short occur. They are ideally suited to local, on board regulation simplifying power supply distribution systems. Excellent for TTL and project supplies. With the advent of microprocessors and microcomputers, these regulators have been used extensively in power supplies for such systems. This type of use typifies their versatility and reliability. Another area of supply regulation use is with analogue operational amplifiers. These circuits usually call for both + and - complementary rail voltages. These three terminal devices ideally suit such requirements. Both positive and negative devices will give a current output in excess of 1A and foldback current limiting occurs if the output is shorted.



Regulator IC's like the 7805 and 7905 can give higher output voltages with the addition of two resistors which can be chosen as follows -

$$R1 = V_R / 0.02$$

$$R2 = V_B / 0.025$$

V_R is the normal output of the IC and V_B is the amount by which the regulator has to be boosted above V_R .

Some examples are given below

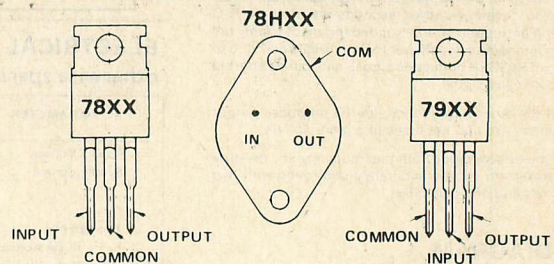
Vout	REGULATOR	R1	R2
6	5V	220	39
9	5V	220	150
13.8	12V	560	68
18	15V	680	120

To make a variable regulator use a potentiometer as R2.

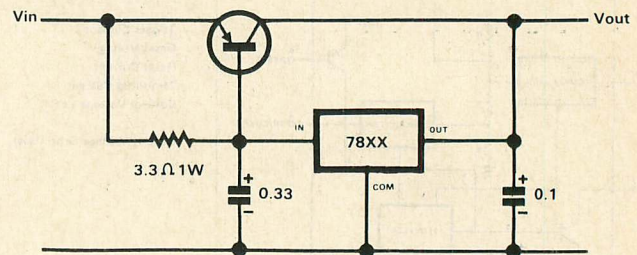
THREE TERMINAL REGULATOR IC's

TYPE	POL	CASE	V _{IN} (max)	I _{OUT} (A) (nom)	P _{TOT} (W)	TOL %	SIMILAR TYPES
78XX	POS	TO-220	35	1		4	LM340 - T XX
79XX	NEG	TO-220	-35	1		4	LM320 - T XX
78H05	POS	TO-3	20	5	50	4	LM323
LM317	POS	TO-3	V _{OUT} +40V	1.5	20		78G

Note: Replace XX by output voltage e.g. - 7812, 7905 etc.

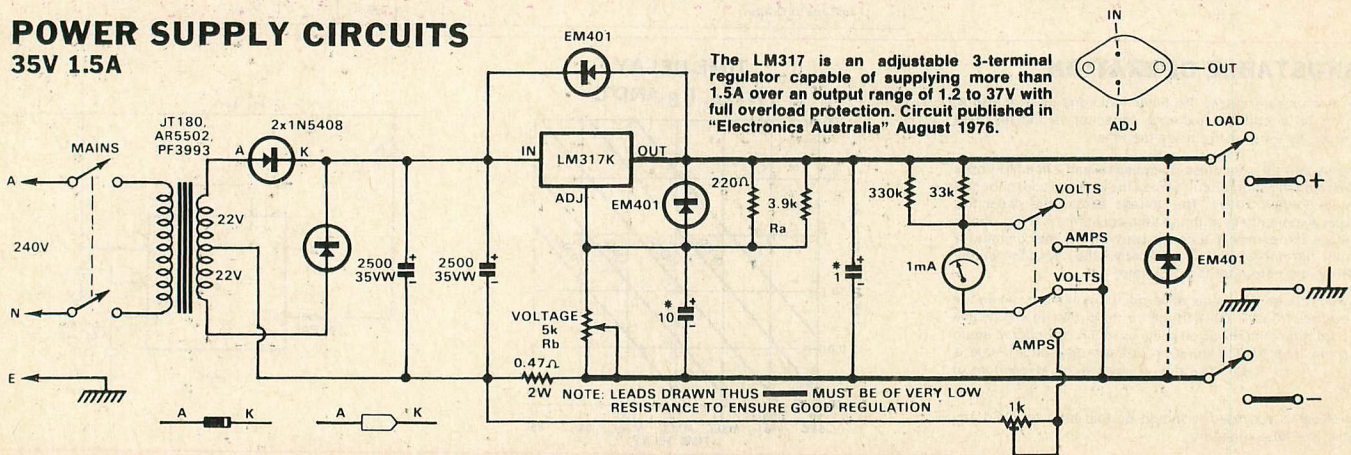


CURRENT BOOSTING TIP2955 etc.



By adding a PNP power transistor to a positive regulator IC (or an NPN transistor to a negative regulator IC) the output current can be increased above the normal rating of the IC. The circuit shown above can be expected to deliver in excess of 4A. Note however, that the current limiting features of the IC are negated.

POWER SUPPLY CIRCUITS 35V 1.5A

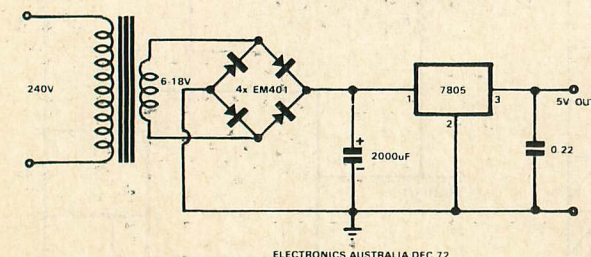


The LM317 is an adjustable 3-terminal regulator capable of supplying more than 1.5A over an output range of 1.2 to 37V with full overload protection. Circuit published in "Electronics Australia" August 1976.

7800 series 5V 1A

The 7800 series regulators employ internal current limiting, thermal shutdown and safe-area compensation, making them essentially indestructible. Type numbers give voltage out: E.G. 7805 is 5V, 7812 is 12V.

5V POWER SUPPLY



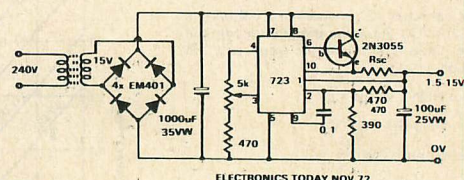
1 INPUT
2 COMMON
3 OUTPUT

MAXIMUM RATINGS: Input voltage - 35V
Output current - 1A+
Power dissipation - internally limited

uA723 15V 150mA

The uA723 voltage regulator is capable of operation in positive or negative supplies as a series, shunt, switching or floating regulator.

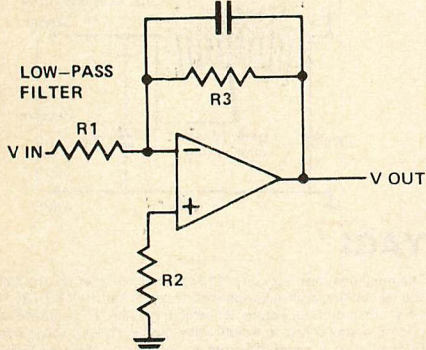
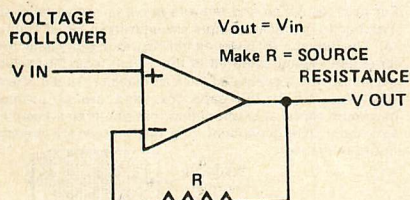
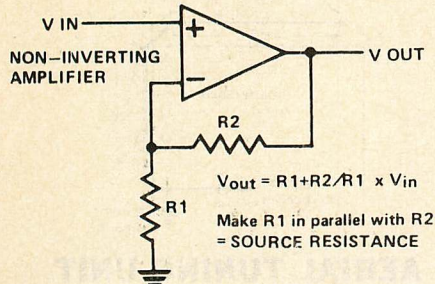
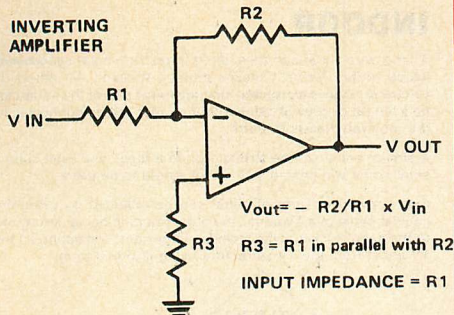
VARIABLE POWER SUPPLY



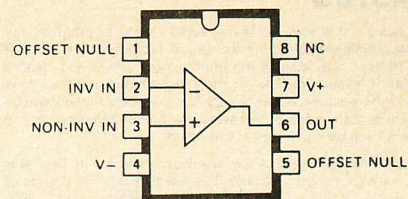
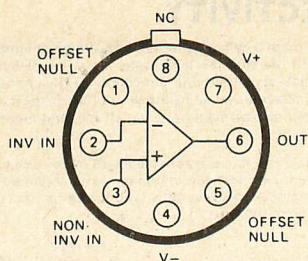
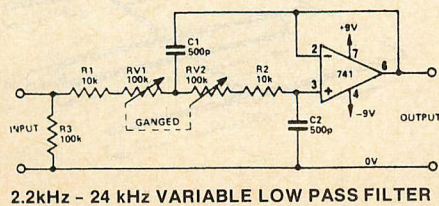
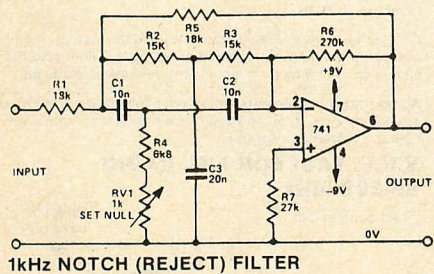
1 CURRENT SENSE
2 INVERTING INPUT
3 NON-INVERT. INPUT
4 V REF
5 V
6 V OUT
7 VC
8 V-
9 FREQUENCY COMP
10 CURRENT LIMIT

MAXIMUM RATINGS: Continuous voltage - 40V
Maximum output current - 150mA
Power dissipation - 800mW

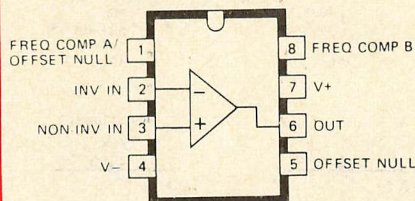
OP AMPS



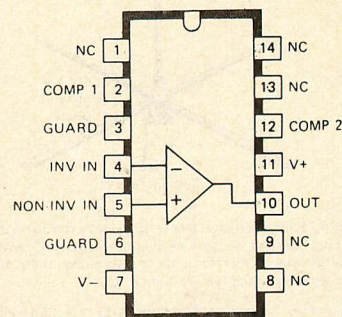
CORNER FREQUENCY = $1/2\pi \cdot R3 \cdot C$
 UNITY GAIN FREQUENCY = $1/2\pi \cdot R1 \cdot C$
 $R2 = R1$ in parallel with $R3$



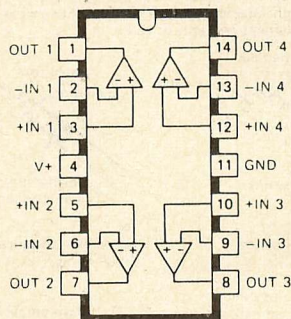
LM301



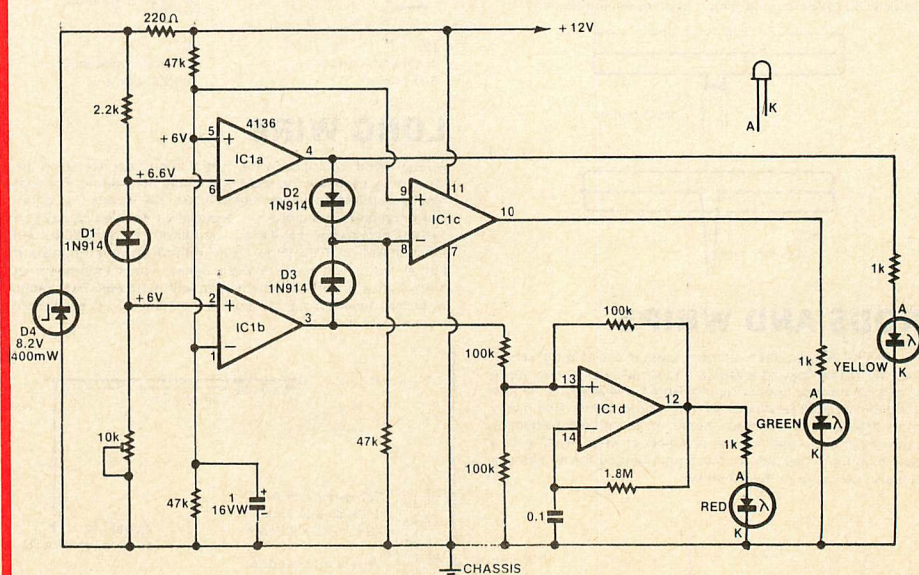
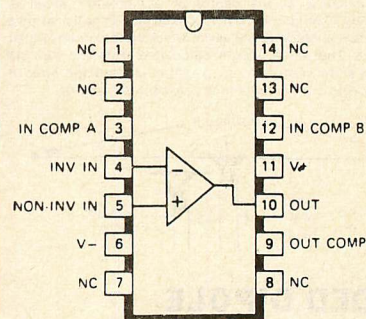
LM308



LM324



LM709



CAR BATTERY MONITOR E.A. OCT 80

3/AU-

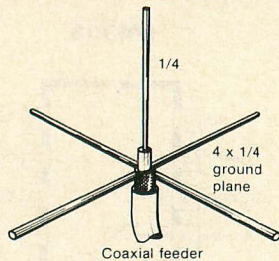
IC1a, 1b and 1c function as comparators, while IC1d functions as a multivibrator.

ANTENNA DATA

BASICS

The basic horizontal half wave aerial ($\frac{1}{2}\lambda$). In practice, the physical length required for resonance is reduced by a factor of 0.95 ($0.95 \times \frac{1}{2}\lambda$) due to the effect of insulators and nearby objects. A simple formula for the practical half wave aerial is $143/F$ (MHz) metres. At resonance the induced voltage V will be maximum at the ends of the aerial (high impedance) while the current I will be maximum at the centre.

The basic Marconi aerial is a quarterwave vertical with the lower end close to the ground, and it is used mainly on the lower frequencies. If this aerial is erected over a perfectly conducting ground then an image of the aerial is formed, which simulates a half-wave aerial. In practice the 'perfect' earth is formed from a number of long wires (radials) laid on or just under the surface of the earth.

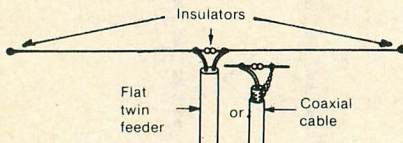


It is not necessary for the aerial wire to be physically the correct length for a particular frequency or wavelength. It can be made shorter or longer electrically to achieve the same state of resonance by using an aerial tuning unit (a.t.u.).

At higher frequencies, such an aerial is commonly mounted well above earth, and relies upon $\lambda/4$ radials entirely for its reflecting "earth plane". Such an aerial is known as a ground-plane.

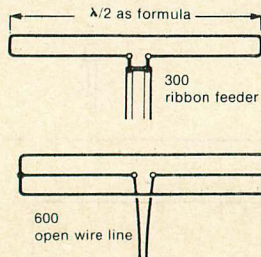
HALF WAVE DIPOLE

As the impedance at the centre of a half-wave aerial is approximately 70 ohms, flat twin or coaxial feeders will provide a good impedance match to the aerial ensuring maximum signal transference. The aerial, length calculated from the formula given, is cut at the centre and an insulator inserted, the wires of the feeder being connected either side of the insulator.



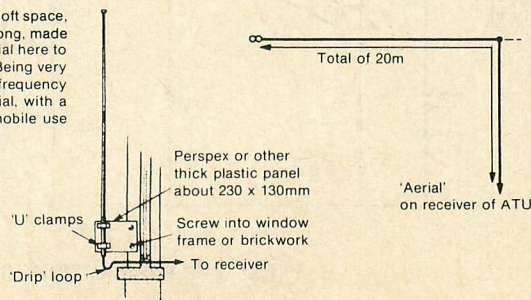
FOLDED DIPOLE

The folded dipole will transform the input impedance by a factor of 2^2 or $4 \times 70 = 280$ ohms so that it can be fed with a flat ribbon feeder of 300 ohms impedance, provided the wires forming the folded dipole are the same diameter. If a three-fold dipole is used, the input impedance will be $70 \times 3^2 = 630$ ohms which will provide a good match to an open line feeder.



RODS AND WHIPS

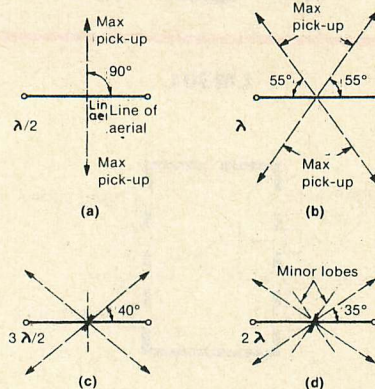
For the unit dweller, often without access to a roof or loft space, the only answer may be a vertical rod aerial 3 or 4m long, made from aluminium or copper tubing. An a.t.u. is essential here to bring the aerial to resonance on the various bands. Being very short this aerial will perform better on the higher frequency bands such as 10 and 15m. A commercial whip aerial, with a base-mounting insulator, of the type intended for mobile use can also be useful in this situation.



DIRECTIVITY

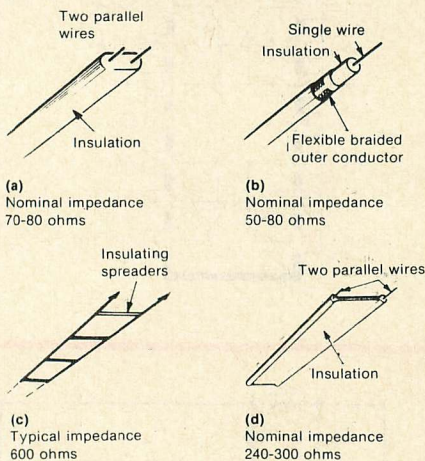
Signal pick-up of a half-wave aerial is maximum at right angles to the line of the wire (a). If the wire is one wavelength long maximum pick-up is from four directions (b). By choosing the right length of aerial and adjusting its orientation the maximum pick-up lobes can be made to cover all the land areas of the world.

Longer aerials result in the appearance of minor lobes (c) and (d) which reduce directivity and improve all round coverage. With an aerial many wavelengths long maximum reception is along the line of the wire.



FEEDERS

Since the aerial should be located in the clear and generally as high as possible to produce maximum signal strength it is necessary to use a feeder to connect the aerial to the receiver. Low impedance feeders may be flat twin (a), coaxial (b) or flat ribbon (d). High impedance feeders consist of two wires spaced apart by insulators every foot or so (c).



LONG WIRE

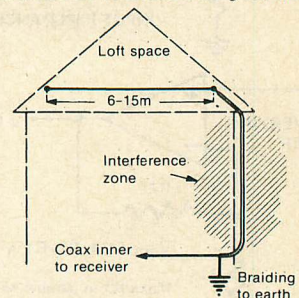
A long length of copper wire, with one end connected to the receiver, is probably the most commonly used aerial. For best results it should be erected out of doors. The inverted "L" aerial is a good all-round performer especially if the vertical section can be 7m or more long. If the overall length is around 20m it will function well on the amateur bands without an aerial tuning unit but an a.t.u. will make it even better. The combination of horizontal and vertical polarisation will help with DX signals where the received signal's polarisation can vary considerably from minute to minute.

INDOOR

A long wire aerial can be erected in restricted loft spaces and inside roofs even if it means draping it round the rafters! If electrical noise is a problem then the lower part of the aerial can be a length of coaxial cable with the outer screen connected to the receiver chassis or earth.

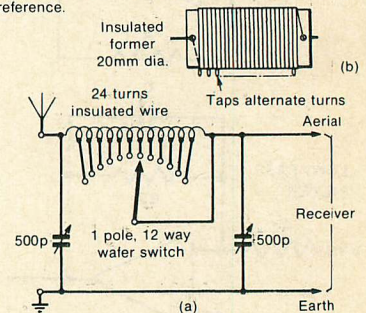
A similar aerial can be strung around a room, and even quite a small room will enable a 12 metre length to be used.

One convenient form of aerial can be obtained by using the coaxial cable of a TV aerial, the outer braiding being connected to the aerial socket of the receiver. Important! — disconnect the TV aerial from the TV set before using it in this form.



AERIAL TUNING UNIT

For best results an end-fed wire aerial or rod aerial should be matched to the receiver input circuit with an Aerial Tuning Unit (a). The inductor (b) is wound making a loop every other turn, the loops then being soldered to the switch tags. Fit each tuning capacitor with a calibrated knob or dial and number the switch positions. Adjust the capacitors and switch position for maximum signal strength noting that the three adjustments are very much interdependent. Log dial and switch readings for future reference.



YAGI

The most common version of the parasitic aerial array, the Yagi, will be familiar to all in its application to v.h.f. and u.h.f. TV and to v.h.f. f.m. sound reception. Its basic form, the "H", is formed by adding a single rod to a half-wave dipole, spaced some small fraction of a wavelength from it. By making the rod slightly longer than the dipole, it acts as a reflector, modifying the response pattern to a cardioid (heartshape) pattern. In practice this is not a perfect cardioid, and there will be an unwanted rear lobe.

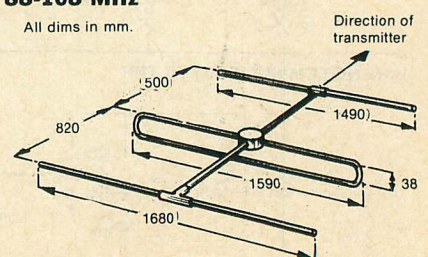
Adding a second rod, slightly shorter than the dipole, on the opposite side to the reflector, will reinforce and narrow the main lobe of the response pattern. A 3-element Yagi suitable for v.h.f. f.m. sound reception is shown. The frequency of maximum response is 95MHz.

Further directors may be added in front of the first, each slightly improving the gain of the aerial array, up to a limit of about 36 elements, after which no significant increase is obtained.

Adding parasitic elements reduces the impedance of the dipole, as seen by the feeder, and a folded dipole is frequently used, to help to compensate for this.

V.H.F. YAGI FOR F.M. RADIO 88-108 MHz

All dims in mm.



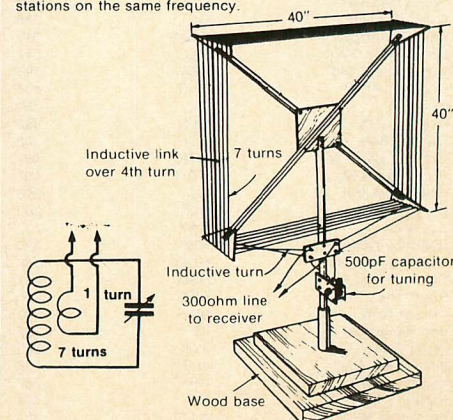
LIST ALPHABETICAL BY CALL-SIGN

LOOP ANTENNA REDUCES INTERFERENCE

Listeners wishing to receive broadcast band signals (525kHz to 1600kHz) in remote or difficult locations might well consider a loop aerial.

This type of antenna is directional; maximum pick-up is along the plane of the windings, minimum pick-up along a line at right angles to the windings.

The loop is very simple to use. Tune in a station on the receiver, peak it with the loop tuning control and rotate the loop to optimum reception. Frequently it is possible to null-out different stations on the same frequency.

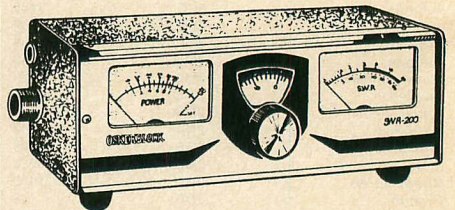


LONG WAVE BEACONS

LOCATION	IDENT.	FREQ. (kHz)	LOCATION	IDENT.	FREQ. (kHz)	LOCATION	IDENT.	FREQ. (kHz)
Adelaide SA	AD	362	Kilcoy Qld	KCY	392	Thargomindah Qld	TGM	206
Aeropelican NSW	PLX	203	King Island Tas	KI	332	Thursday Island	HID	356
Albany WA	AL	240	Kingscote SA	KSC	215	Toboooburra NSW	TIB	200
Albury NSW	AY	236	Koolan Island WA	KLI	352	Timber Creek NT	TBR	212
Alice Springs NT	AS	224	Kowanyama Qld	KOW	242	Tindal NT	TN	388
Amberley Qld	AM	359	Kununurra WA	KU	227	Townsville Qld	TL	276
Andamooka SA	AMK	206	Lake Albert SA	LRT	227	Victoria River Downs NT	VRD	377
Archerfield Qld	AF	206	Lancelin WA	LCI	245	Wagga Wagga NSW	WG	221
Ardrossan SA	ARS	398	Launceston Tas	LT	242	Walgett NSW	WLG	374
Armidale NSW	ARM	401	Laverton Vic	LV	344	Warracknabeal Vic	WKB	212
Bairnsdale Vic	BNS	212	Laverton WA	LTN	407	Warrnambool Vic	WBL	395
Balgo Hill WA	BGO	206	Learmonth WA	LM	396	Wave Hill NT	WAV	203
Ballidu WA	BIU	332	Leigh Creek SA	LC	341	Wee Jasper NSW	WJS	374
Barcardine Qld	BAR	332	Leonora WA	LEO	377	Weipa Qld	WP	374
Bathurst NSW	BTH	383	Lismore NSW	LIS	404	West Maitland NSW	WMD	224
Bendigo Vic	BDG	245	Longreach Qld	LR	353	West Wyalong NSW	WWL	389
Birdsville Qld	BDV	209	Lord Howe Island	LH	272	Whyalla SA	WH	371
Blackall Qld	BCK	203	McArthur River NT	MHU	200	Williamsdale NSW	WLE	287
Boorhaman Vic	BHN	203	Mackay Qld	MK	308	Williamtown NSW	WLM	365
Bordertown SA	BOR	251	Mackay Qld	MK	308	Windorah Qld	WDH	407
Boulia Qld	BOU	212	Mallacoota	MCO	338	Winton Qld	WTN	398
Bourke NSW	BKE	389	Mangalore Vic	MN	254	Wittenoom WA	WI	365
Bowen Qld	BWN	292	Maningrida NT	MGD	401	Wollongong NSW	WOL	242
Brisbane Qld	BN	302	Mansfield Vic	MFD	284	Wonthaggi Vic	WON	383
Broken Hill NSW	BH	332	Marulan NSW	MUR	230	Woomera SA	WR	248
Bromelton Qld	BML	374	Maryborough Qld	MYB	248	Wyndham WA	WM	372
Broome WA	BR	320	Meekatharra WA	MR	351	Wynyard Tas	WY	302
Brunette Downs NT	BRU	248	Melbourne/Essendon Vic	EN	356	Yarrowee Vic	YWE	389
Bundaberg Qld	BU	320	Merimbula NSW	MER	395	Yass NSW	YAS	335
Cairns Qld	CS	364	Mildura Vic	MI	272			
Caiga NSW	CAA	392	Minnipa SA	MPA	200			
Camden NSW	CN	281	Moomba SA	MMB	227			
Camooweal Qld	CMW	254	Moorabbin Vic	MB	398			
Canberra ACT	CB	263	Morawa WA	MRW	236			
Carnarvon WA	CR	380	Moree NSW	MOR	392			
Casino NSW	CAS	332	Moreya	MRY	215			
Ceduna SA	CD	293	Mount Gambier SA	MG	266			
Chalkers NSW	CHK	206	Mount Hope SA	MTP	356			
Charleville Qld	CV	269	Mount Isa Qld	MA	236			
Christmas Island	XMS	341	Mount Livingstone Vic	LVG	227			
Clackline WA	CKL	200	Mount Magnet WA	MOG	324			
Clermont Qld	CMT	209	Mount McQuoid NSW	MQD	404			
Cloncurry Qld	CCY	264	Mount Sandon NSW	MSO	326			
Cobar NSW	CBA	395	Mt. William Vic	MWO	233			
Cocos Islands	CC	305	Mudgee NSW	MDG	398			
Coen Qld	COE	404	Nambour Qld	NMB	380			
Coffs Harbour NSW	CH	311	Naremburn WA	NRB	227			
Condoblin NSW	CDO	401	Narrabri NSW	NBR	413			
Cooper Pedy SA	CBP	212	Narrandera NSW	NAR	329			
Cooktown Qld	CKN	260	Narrromine NSW	NRM	215			
Coolangatta Qld	CG	278	Newman WA	NWN	233			
Cooma NSW	CM	293	Nhill Vic	NHL	326			
Coonabarabran NSW	CBB	200	Norfolk Island	NF	376			
Coonamble NSW	CNB	206	Normanton Qld	NM	312			
Cootamundra NSW	CTM	395	Norseman WA	NSM	384			
Corowa NSW	COR	380	Nowra NSW	NW	401			
Corryong Vic	CRG	386	Nullagine WA	NUL	209			
Cowes Vic	CWS	275	Nyngan NSW	NYN	404			
Cowra NSW	CWR	299	Oakey	OK	254			
Cunderdin WA	CUN	292	Onslow WA	OL	312			
Cunnamulla Qld	CMU	218	Oodnadatta SA	OD	308			
Curtin Springs NT	CSP	200	Orange NSW	OR	413			
Darwin NT	DN	344	Paraburdoo WA	PBO	278			
Deniliquin NSW	DLQ	392	Parafield SA	PF	206			
Derby WA	DB	332	Parkes NSW	PKS	290			
Devonport Tas	DV	281	Perth/Gingin WA	GIG	372			
Dubbo NSW	DU	251	Perth/Jandakot WA	JT	281			
East Sale Vic	ES	350	Perth WA	PH	400			
Edinburgh SA	ED	311	Perth/Pearce WA	PE	340			
Emerald Qld	EML	324	Pingelly WA	PGL	233			
Esperance WA	ESO	328	Point Lookout NSW	PLO	266			
Fitzroy Crossing WA	FTZ	407	Port Hedland WA	PD	260			
Flinders Island Tas	FI	296	Portland Vic	POD	209			
Forrest WA	FT	268	Port Lincoln SA	PLC	389			
Gayndah Qld	GAY	284	Port Macquarie NSW	PMQ	395			
Georgetown Qld	GTN	200	Port Stanvac SA	PSV	236			
Geraldton WA	GN	360	Proserpine Qld	PPN	244			
Gibb River WA	GIB	392	Quirindi NSW	QDI	385			
Gladstone Qld	GL	236	Redland Bay Qld	RLB	218			
Glen Elgin NSW	GGN	245	Richmond Qld	RMD	215			
Glen Innes NSW	GLI	212	Rockhampton Qld	RK	335			
Goondiwindi Qld	GDI	398	Roma Qld	ROM	377			
Goulburn NSW	GLB	407	Roper Bar NT	RRB	215			
Gove NT	GV	380	Rottneest Island WA	RTI	317			
Grafton NSW	GFN	389	Rugby NSW	RUG	257			
Griffith NSW	GTH	305	St. George Qld	SGE	404			
Groote Eylandt NT	GTE	407	St. Helens Tas	STH	392			
Gunnedah NSW	GDH	407	Scone NSW	SCN	209			
Halls Creek WA	HC	266	Singleton NSW	SGT	275			
Hamilton Vic	HML	203	Southern Cross WA	SCR	221			
Hay NSW	HAY	209	Stonefield SA	SFL	257			
Holbrook NSW	HBK	320	Strahan Tas	SRN	257			
Hooker Creek NT	HOO	398	Strathbogie Vic	SBG	413			
Horsham Vic	HSM	401	Swan Hill Vic	SWH	407			
Hughenden Qld	HUG	340	Sydney NSW	SY	317			
Inverell NSW	IVL	260	Sydney/Bankstown	BK	212			
Iron Range Qld	IR	392	Sydney/Richmond	RI	347			
Jervois NT	JVS	203	Tailm Bend SA	TBD	242			
Julia Creek Qld	JLC	206	Tamworth NSW	TW	341			
Kalgoorlie WA	KG	287	Taree NSW	TRE	371			
Karratha WA	KA	404	Taroom Qld	TAM	221			
Katoomba NSW	KAT	353	Temora NSW	TEM	212			
			Tennant Creek NT	TC	272			

ANTENNA MATCHING & SWR

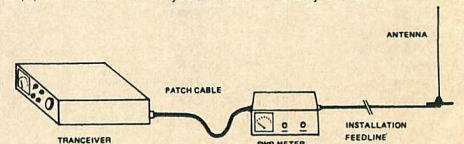
With any transmitter it is important to match it to the antenna. Otherwise some of the power will not be effectively transmitted but instead reflected back into the transmitter. The SWR meter provides a means of measuring the "match".



MEASURING THE SWR

Follow the step-by-step procedure here and you will be surprised how easy it is!

- (1) If you are using a single-meter instrument, switch to read 'forward'.
- (2) Turn the 'sensitivity' control to minimum and then press the transmit button. Quickly adjust the sensitivity control to obtain maximum reading on the meter, or the forward meter on instruments with two meters.
- (3) Now switch to 'reverse' or 'reflected' and the SWR will be indicated on the meter scale. Two meter instruments will show SWR on the 'reflected' meter.
- (4) The table will tell you whether to worry or not!



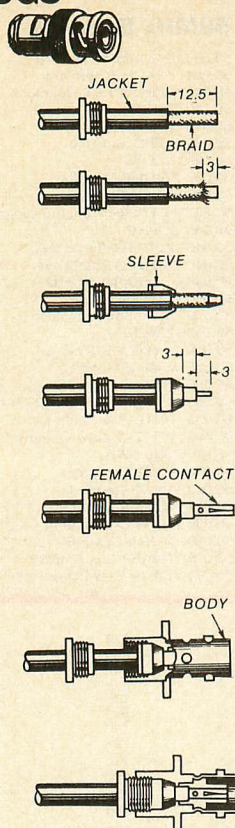
It is almost impossible to have a perfectly matched antenna system and a standing wave ratio of 1:1 is virtually impossible. Here's what happens to your transmitter power for various standing wave ratios — plus comments.

SWR	PERCENTAGE POWER INTO ANTENNA	COMMENTS
1:1	100%	PERFECT
1.05:1	99.93%	EXCELLENT
1.1:1	99.78%	EXCELLENT
1.2:1	99%	V. GOOD
1.5:1	96%	GOOD
2:1	88%	IMPROVE IF POSSIBLE
2.5:1	82%	IMPROVE IF POSSIBLE
3:1	75%	BAD

WIRING PLUGS

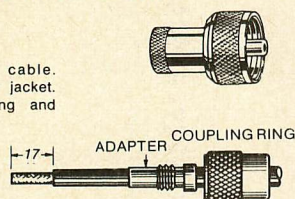
BNC

1. Cut end of cable even.
2. Remove 12.5mm of jacket.
3. Push braid back and remove 3mm of insulation and conductor.
4. Taper braid.
5. Slide sleeve over tapered braid. Fit inner shoulder or sleeve squarely against end of jacket.
6. With sleeve in place, comb out braid, fold back smooth as shown, and trim 2.5mm.
7. Bare centre conductor 3mm.
8. Tin centre conductor of cable. Slip female contact in place and solder. Remove excess solder. *Be sure cable dielectric is not heated excessively and swollen so as to prevent dielectric entering body.*
9. Push into body as far as it will go. Slide nut into body and screw into place, with wrench, until it is moderately tight. Hold cable and shell rigidly and rotate nut.
10. This assembly procedure applies to both BNC jacks and plugs.



PL259 WITH ADAPTORS

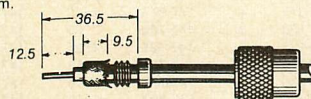
1. Cut end of cable. Remove 17mm of jacket. Slide coupling ring and adaptor on.



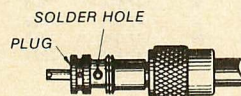
2. Fan braid slightly and fold back over cable.



3. Compress braid around cable. Position adapter. Press braid down over adapter and trim.



4. Bare 12.5mm of centre conductor. Pre-tin exposed centre conductor.



5. Screw the plug assembly on cable. Solder plug assembly to braid through solder holes. Solder conductor to contact sleeve.



6. Screw coupling ring on assembly.

THE PHONETIC ALPHABET

When it is necessary to spell out words, as for example when communication is difficult, or speaking to a station unable to converse fluently in English, the following table may be used.

Letter	Word	Spoken as
A	ALFA	AL FAH
B	BRAVO	BRAH VOH
C	CHARLIE	CHAR LEE
D	DELTA	DELL TAH
E	ECHO	ECK OH
F	FOXTROT	FOKS TROT
G	GOLF	GOLF
H	HOTEL	HOH TELL
I	INDIA	IN DEE AH
J	JULIET	JEW LEE ETT
K	KILO	KEY LOH
L	LIMA	LEE MAH
M	MIKE	MIKE
N	NOVEMBER	NO VEM BER
O	OSCAR	OSS CAH
P	PAPA	PAH PAH
Q	QUEBEC	KEH BECK
R	ROMEO	ROW ME OH
S	SIERRA	SEE AIR RAH
T	TANGO	TAN GO
U	UNIFORM	YOU NEE FORM
V	VICTOR	VIK TAH
W	WHISKY	WISS KEY
X	X-RAY	ECKS RAY
Y	YANKEE	YANG KEY
Z	ZULU	ZOO LOO

When it is necessary to spell out figures or marks, the following table should be used:

Figure or mark to be transmitted	Code word to be used	Spoken as
0	NADAZERO	NAH-DAH-ZAY-ROH
1	UNAOONE	OO-NAH-WUN
2	BISSOTWO	BEES-SOH-TOO
3	TERRATHREE	TAY-RAH-TREE
4	KARTEFOUR	KAR-TAY-FOUR
5	PANTAFIVE	PAN-TAH-FIVE
6	SOXISIX	SOK-SEE-SIX
7	SETTESEVEN	SAY-TAY-SEVEN
8	OKTOEIGHT	OK-TOH-AIT
9	NOVENINE	NO-VAY-NINER
Decimal point	DECIMAL	DAY-SEE-MAL
Full stop	STOP	STOP

THE "Q" CODE

QRA What is your station?
QRB How far away are you?
QRG What channel am I on?
QRH Does my frequency vary?
QRK What is my readability?
QRM Are you being interfered with (by other stations - man made interference)?
QRN Are you troubled by noise or static (natural interference - lightning etc.)?
QRP Can you reduce power?
QRT Shall I stop transmitting?
QRY I am on standby unless messages are specifically directed to me.

QRV Are you ready?
QRX Wait briefly (e.g. QRX-1; wait 1 minute).
QRZ Who is the station that's calling me.
QSA What is my strength?
QSB Am I fading?
QSL Can you acknowledge receipt (QSL card - card for this purpose).
QSN Did you hear me on —?
QSO Two-way communication between stations.
QSY Will you change to another channel?
QTH What is your location now?
QTR What is the correct time?

MORSE CODE

Morse is an 'Aural' language (that is, received by the ears and not by the eyes). It should never be represented in dot and dash form.

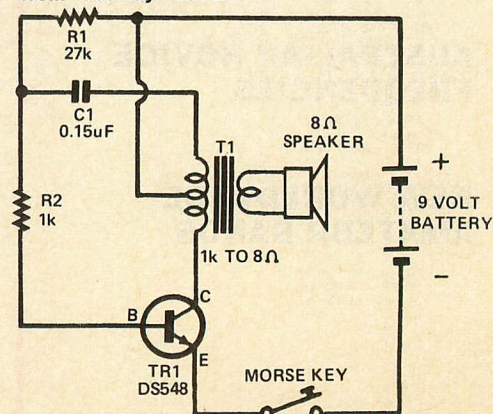
Instead, try to think of Morse as 'dits' and 'dahs'. A 'dit' is a short, sharp note, made by quickly pressing the key and releasing it. A 'dah' should be three times longer than a dit — you hold the key down for three times as long.

A	di'dah
B	dah di'di'dit
C	dah di'dah dit
D	dah di'dit
E	dit
F	di'di'dah dit
G	dah dah dit
H	di'di'di'dit
I	di'dit
J	di'dah dah dah
K	dah di'dah
L	di'dah di'dit
M	dah dah
N	dah dit
O	dah dah dah
P	di'dah dah dit
Q	dah dah di'dah
R	di'dah dit
S	di'di'dit
T	dah
U	di'di'dah
V	di'di'di'dah
W	di'dah dah
X	dah di'di'dah
Y	dah di'dah dah
Z	dah dah di'dit
.	di'dah di'dah di'dah
?	di'di'dah dah di'dit
Error	di'di'di'di'di'di'dit

The 'International' Morse Code we know today is an adaptation of Morse's original code, called the 'Continental' Code. It differs in only a few respects: if one code is known thoroughly, it is usually possible to reasonably understand the other.

- 1 di'dah dah dah dah
- 2 di'di'dah dah dah
- 3 di'di'di'dah dah
- 4 di'di'di'di'dah
- 5 di'di'di'di'dit
- 6 dah di'di'di'dit
- 7 dah dah di'di'dit
- 8 dah dah dah di'dit
- 9 dah dah dah dah dit
- 0 dah dah dah dah dah

BUILD THIS MORSE PRACTICE SET from "Funway" Vol. 2



LICENCING INFORMATION

The Post and Telegraph Department conducts during the year examinations for Amateur Operators certificate of Proficiency at centres throughout Australia.

There are three classes of licence:

Type 1 — Amateur Operation Certificate of Proficiency (AOCP)

Type 2 — Amateur Operators Limited Certificate of Proficiency (AOLCP)

Type 3 — Novice Amateur Operators Certificate of Proficiency (NAOCP)

Requirements for this licensing are:

A.O.C.P. Knowledge of Radio Communication, Operation and design of Receivers, Transmitters, Aerials and basic theory. Send and receive in plain language International Morse code to a speed of 10 words for a minute (WPM). The knowledge of the Regulations covering operation of Amateur Radio Stations;

A.O.L.C.P. As above, but no morse code examination required;

N.A.O.C.P. As per A.O.C.P. but of a lower standard with questions having multiple choice answers, morse code to 5 wpm and Regulations. This is a very easy exam to pass.

BAND USAGE

A.O.C.P. All Amateur bands (see details elsewhere).

Maximum power input 400 W PEP 150 W AM

A.O.L.C.P. All amateur bands above 52 MHz

Maximum power input 400 W P.E.P. 150 Watts AM

N.A.O.C.P. 3.525 to 3.625

21.125 to 21.200

28.100 to 28.600

Maximum power input 30 Watts P.E.P. 10 Watts AM

Crystal locked on transmit.

AMATEUR BAND PLAN

1.60 Metres — 1.8 to 1.860 MHz.

1.800 to 1.815 MHz morse section.

1.815 to 1.860 MHz voice section.

1825 MHz national call channel.

1820 kHz also a popular crystal net.

80 metres — 3.5 to 3.7 MHz.

3.525 to 3.625 MHz is the Novice Band in Aust.

3.5 to 3.550 MHz morse section.

3.550 to 3.7 MHz voice section.

3.7 to 3.75 MHz is the US Novice Band.

3.565 MHz is a popular Novice listening and working channel

40 metres — 7.0 to 7.15 MHz

7.1 to 7.150 MHz is the American Novice Band.

7.00 to 7.035 MHz morse segment.

7.035 to 7.150 MHz voice segment.

7.050 MHz national listening channel.

Some AM stations but mainly morse and LSB.

20 metres — 14.0 to 14.35 MHz

14.0 to 14.1 morse, 14.1 to 14.35 voice.

14.1 to 14.2 popular into Europe.

14.2 to 14.35 popular into the USA.

15 metres — 21.0 to 21.45 MHz

21.125 to 21.2 is the Novice Band in Australia.

21.0 to 21.150 is morse.

21.150 to 21.450 is voice.

21.1 to 21.2 is the US Novice Band

In the US voice is 21.25 to 21.45 MHz. Morse is 21.0 to 21.25 MHz.

10 metres — 28.0 to 29.7 MHz

28.1 to 28.6 MHz is the Australian Novice Band.

28.1 to 28.2 MHz is the US Novice Band.

28.0 to 28.5 is the American morse section.

28.6 to 29.7 is the voice section.

28.5 is the national calling frequency in Australia.

28.55 MHz is a popular international channel.

28.6 MHz is the international DX listening frequency.

A 23 channel system has been organised for

modifying 11 metre rigs to 10 metres. The range is from 28.3 to 28.590 MHz.

29.6MHz International FM calling channel 29.3 to 29.5MHz used for communicating through the American and Russian Amateur radio orbiting satellites.

CHAN	FREQ	CHAN	FREQ
1	28.30	13	28.45
2	31	14	46
3	32	15	47
4	34	16	49
5	35	17	50
6	36	18	51
7	37	19	52
8	39	20	54
9	40	21	55
10	41	22	56
11	42	22A	57
12	44	23	59

AUSTRALIAN AMATEUR FREQUENCIES

1.80 — 1.86 MHz	420.00 — 450.00 MHz
3.50 — 3.70 MHz	576.00 — 585.00 MHz
7.00 — 7.15 MHz	1215.00 — 1300.00 MHz
14.00 — 14.35 MHz	2300.00 — 2450.00 MHz
21.00 — 21.45 MHz	3300.00 — 3500.00 MHz
26.96 — 27.23 MHz	5650.00 — 5850.00 MHz
28.00 — 29.70 MHz	10000.00 — 10500.00 MHz
52.00 — 54.00 MHz	24000.00 — 24250.00 MHz
144.00 — 148.00 MHz	

AUSTRALIAN NOVICE FREQUENCIES

3.525 — 3.625 MHz
21.125 — 21.20 MHz
28.100 — 28.60 MHz

NEW WORLDWIDE AMATEUR BANDS

10 100 — 10 150MHz
18 068 — 18 168MHz
24 890 — 24 990MHz

AMATEUR RADIO BEACON LIST

* Denotes attended programmable keyer

** Indicates this service to QSY in near future.

*** Indicates a change in status eg. inactive or off-air.

28 MHz Beacons

28.205 DL0IGI Salzburg. QSL DJ5DT.

28.2075 N4RD Florida. QSL N4RD

28.210 3B8MS Mt. Signal. QSL PO Box 13

Curepipe, Mauritius

28.2125 ZD9GI Gough Island

28.213 GB3SX Crowborough. QSL G3DME

28.220 5B4CY Limassol. QSL 5B4AP

28.2225 HG5AIR Hungary

28.225 VE3TEN Ottawa. QSL VE3QB

28.230 ZL2MHF Mt. Climie QSL ZL2AMJ

28.236 VP9BA Bermuda. QSL VP9BY

28.2375 LA5TEN Oslo

28.240 PY1CK Rio de Janeiro. QSL Box 1044, Rio

28.345 A9XC Bahrain. QSL B.A.R.S.

28.2575 DKOTE Constance

28.260 VK allocation

28.265*** VK3RWI Mt. Baimbridge

28.270 VK

28.290 VS6HK Hong Kong. Outside of allocation for beacons.

QSL H.A.R.T.S. Box 541 Hong Kong

50MHz Beacons

50.0003 PY1 Rio de Janeiro

50.004*** H44HIR Honiara

50.005* W6HTH/KH6 Honolulu

50.010 ZS1STB

50.023 HH2PR Haiti

50.025 6Y5RC Jamaica

50.030* ZS6PW*

50.035 ZB2VHF Gibraltar

50.035 HC1JX Quito

50.037** FV7THF French Guyana

50.040 ZS6VHF

50.040* KL7CTG Anchorage

50.040 WA6MHZ San Diego

50.048*** VE6ARC Alberta

50.050 WA1EXN Maine

50.050* K6FV San Francisco

50.050** ZS6LN

50.050*** VE6NAB Alberta

50.055 WA9FEF Illinois

50.055 ZS6XJ

50.055 ZL1UHF Auckland QRT at 23:00 Z daily

50.058 PY2XB Sao Paulo

50.065* WB5ZRL New Orleans

50.070 ZS3E SWA

50.070 YV5ZZ Caracas

50.070 VP9WB Bermuda

50.073* W7KMA Columbia

50.080 W1AW Connecticut

50.080* T12NA Costa Rica

50.085 WA6JRA Los Angeles

50.088 VE1SIX New Brunswick

BAND PLANS

70cm REPEATER OPERATION

Repeater Input
Frequency MHz

Recommended Use

433.025

050

075

100

125

150

175

200

225

250

275

300

325

350

375

400

425

450

475

500

525

550

Mobile voice

RTTY

Mobile voice secondary

RTTY

Mobile voice

Data

Mobile voice Nat. primary

575

600

625

650

675

700

725

750

775

800

825

850

875

900

925

950

975

1000

1025

1050

1075

1100

1125

1150

1175

1200

1225

1250

1275

1300

1325

1350

1375

1400

Data

—

—

—

Mobile voice Soc.

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SSTV

Mobile voice

—

RTTY

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Mobile voice

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2m REPEATER CHANNEL NUMBERS AND FREQUENCIES

Repeater Channel No.	Repeater Input		Repeater Output	
	New	Old	Frequency MHz	Channel No.
6625	—	146.025	6025	146.625
6650	41	146.050	6050	146.650
6675	—	146.075	6075	146.675
6700	42	146.100	6100	146.700
6725	—	146.125	6125	146.725
6750	43	146.150	6150	146.750
6775	—	146.175	6175	146.775
6800	44	146.200	6200	146.800
6825	—	146.225	6225	146.825
6850	45	146.250	6250	146.850
6875	—	146.275	6275	146.875

6900	46	146.300	6300	146.900	6900
6925	—	146.325	6325	146.925	6925
6950	47	146.350	6350	146.950	6950
6975	—	146.375	6375	146.975	6975
7000	48	146.400	6400	147.000	7000
7025	—	147.625	7625	147.025	7025
7050	73	147.650	7650	147.050	7050
7075	—	147.675	7675	147.075	7075
7100	74	147.700	7700	147.100	7100
7125	—	147.725	7725	147.125	7125
7150	75	147.750	7750	147.150	7150
7175	—	147.775	7775	147.175	7175
7200	76	147.800	7800	147.200	7200
7225	—	147.825	7825	147.225	7225
7250	77	147.850	7850	147.250	7250
7275	—	147.875	7875	147.275	7275
7300	78	147.900	7900	147.300	7300
7325	—	147.925	7925	147.325	7325
7350	79	147.950	7950	147.350	7350
7375	—	147.975	7975	147.375	7375

2m SIMPLEX CHANNEL NUMBERS AND FREQUENCIES

Channel No.		Frequency MHz
-------------	--	---------------

50.089 WD4CEI North Carolina
50.093* WA8FTA Michigan
50.100* ZS6HVB
50.100* FO8DR Tahiti
50.100 KH6EQI Pearl Harbour
50.103* N8AJD Ohio
50.104 K4EJO Tennessee
50.105*** KC4AAD McMurdo
50.110* KG6 Guam
50.110* KH0AB Saipan
50.110* AL7C Anchorage
50.110* JD1YAA Min-Torishima (JARL)
50.120* 4S7EA Sri Lanka
50.144* KC6IN Ponape
59.500 5B4CY Cyprus
51.002* ZL1BPW Auckland
51.999*** YJ8PV Port Vila
52.100*** VK0BC Casey Base
52.150*** VK5KK York Peninsula
52.200 VK8VF Darwin (VK8GB)
52.300** VK6RTV Perth
52.330 VK3RGG Mt. Anakie (VK3AWY)
52.350** VK6RTU Kalgoorlie
53.400** VK7RNT Ulverstone (VK7ZIE)
52.435 VK3RWV Mt. Baimbridge (VK3OT)
52.440 VK4RTL Mt. Stuart (VK4ZBJ)
52.520* ZL2VHM Palmerston No
52.500 JA2IGY Nagoya (JARL)
52.510 ZL2MHF Mt. Climie (ZL2AMJ)
52.800** VK6RTW Albany (VK6XY)
52.900** VK6RTT Carnarvon (VK6OX)
53.000** VK5VF Mt. Lofty
52.013** P29SIX Port Moresby (Requested to QSY)

144 MHz Beacons

144.010** VK2WI Ducal
144.400 VK4RTT Mt. Mowbulla
144.435*** VK3RWV Mt. Baimbridge (VK3OT)
144.530*** VK3RGI Gippsland
144.475** VK1RTA ACT (VK1ACA)
144.500** VK6RTW Albany (VK6XY)
144.600 VK6RTT Carnarvon (VK6OX)
144.700** VK3RTG Vermont (to QSY 144.430) (VK3AUI)
144.800** VK5VF Mt. Lofty
144.900** VK7RTX Ulverstone (VK7ZIE)
145.000** VK6RTV Perth (VK6WD)
145.100 ZL1VHF Auckland (ZL1AMN)
145.150 ZL1VHW Waikato (ZL1TAT)
145.200 ZL2UHF Wellington (ZL2TAU)
145.250 ZL2VHP Palmerston No. (ZL2BFR)
145.300 ZL3VHF Christchurch (ZL3RW)
145.400 ZL4VHF Dunedin (ZL4DS)

432 MHz Beacons

432.400 VK4RBB Brisbane
432.435 VK3RWV Mt. Baimbridge (VK3OT)
432.475 VK7RTW Ulverstone (VK7ZIE)
432.125** VK3RBG Ballarat (To QSY) (B.R.A.G.)
433.000 ZL2UHF Wellington (ZL2TAU)
433.150 ZL1VHW Waikato (ZL1TAT)
433.100 ZL1VHF Auckland (ZL1TDR)
433.200 ZL3UHF Christchurch (ZL3RW)
433.250 ZL2VHP Manawata (ZL2BFR)

CB RADIO CHANNELS

HF BAND

Channel No.	Frequency, MHz
1	27.015
2	27.025
3	27.035
4	27.055
5	27.065
6	27.085
7	27.095
8	27.105
9	27.115
10	27.125
11	27.135
12	27.155
13	27.165
14	27.175
15	27.185
16	27.195
17	27.205
18	27.225

UHF BAND

Channel No.	Frequency MHz
1	476.425
2	476.450
3	476.475
4	476.500
5	476.525
6	476.550
7	476.575
8	476.600
9	476.625
10	476.650
11	476.675
12	476.700
13	476.725
14	476.750
15	476.775
16	476.800
17	476.825
18	476.850
19	476.875
20	476.900
21	476.925
22	476.950
23	476.975
24	477.000
25	477.025
26	477.050
27	477.075
28	477.100
29	477.125
30	477.150
31	477.175
32	477.200
33	477.225
34	477.250
35	477.275
36	477.300
37	477.325
38	477.350
39	477.375
40	477.400

775	—
800	—
825	—
850	—
875	Mobile voice
900	—
925	—
950	—
975	—

Channels with no specific recommended use may be used for any purpose.

70cm FM SIMPLEX

Frequency MHz	Recommended use
438.750	—
775	RTTY
800	—
825	Voice secondary
850	—
875	Data
900	—
925	SSTV
950	—
975	—

439.000	Voice Nat. primary
025	—
050	—
075	—
100	—
125	Voice secondary
150	—
175	—
200	—
225	—
250	—

Channels with no specific recommendation and channels between 433.750 and 434.250 may be used for any purpose.

TWO METRE AND 70CM REPEATERS IN VK1 & 2

The National channel numbering for repeaters is a four figure number which is the last four figures of the frequency and is the frequency to which you listen. The channels are also known by an older system of a single or double number which is shown in brackets. A list of most repeaters in other states can be found in the Australian Callbook. Repeaters including and below 147 MHz have an offset of minus 600 kHz, while those above as plus 600 kHz. The listing gives the basic geographical or local name of the system. Those enclosed in brackets are either off air or waiting to be licensed.

MINUS 600 kHz OFFSET

146625 (0a)	Maitland RTTY
6650 (1)	Western Blue Mts - Oberon (Coffs Harbour)
6675 (1a)	(Sydney RTTY)
6700 (2)	Orange, Port Macquarie, Milton/Ulladulla
6750 (3)	Central Coast - Gosford Far South Coast - Bega Wagga
6800 (4)	Sydney South - Heathcote, Lismore
6850 (5)	Wollongong, Griffith, Gunnedah
6875 (5a)	Sydney Northern Beaches
6900 (6)	Newcastle, Canberra City VK1
6925 (6a)	Sydney - Gladesville
6950 (7)	Moree/Inverell, Mt. Ginini - Western VK1
7000 (8)	Sydney North - Dural

PLUS 600 kHz OFFSET

7050 (9)	Blue Mountains
7100 (10)	Newcastle - Watigan Mt. (Cootamundra)
7150 (11)	(WICEN - Sydney)
7200 (12)	(Nowra)
7250 (13)	Sydney North - Hornsby (Tamworth)
7300 (14)	National atv liaison channel
7350 (15)	Southern Highlands - Bowral

SIMPLEX CHANNELS

145700 (34)	WICEN simplex
6000 (40)	Old national channel
6450 (49)	Secondary simplex
6500 (50)	National calling channel
6550 (51)	Secondary simplex
6600 (52)	National RTTY simplex
7500 (70)	Secondary simplex

Other simplex channels include:

6425; 6475; 6525; 6575; 7425; 7450; 7475; 7525; 7550; 7575 and 7600. Auto morse beacon 7400.

70CM FM SUB BAND

Repeaters between 438.000 to 438.750 and 439.250 to 440.000 Simplex between 438.750 and 439.250 MHz. Repeater offset minus 5 MHz. There are currently 15 repeater channels in VK2 and are those frequencies ending in either 25 or 75. Prime simplex is 439.000 (40).

438025 (1)	
8075 (3)	(Central Coast - Gosford)
8125 (5)	
8175 (7)	
8225 (9)	Wollongong (Tamworth)
8275 (11)	(WICEN - Sydney)
8325 (13)	
8375 (15)	(Blue Mountains)
8425 (17)	
8475 (19)	(Sydney West-Wentworthville)
8525 (21)	Sydney North - Dural
8575 (23)	
8625 (25)	Newcastle
8675 (27)	(Newcastle)
8725 (29)	

No channel yet (Sydney South-Hurstville)

Other systems and locations still being considered.

CB LICENCING INFORMATION

Licences for CB equipment can be obtained from the Postal and Telecommunications Department for an annual fee.
There are at present 18 authorised channels in the 27MHz HF band. Channels 1 to 40 in the UHF Band are now available.
Stations may be fixed, mobile or portable.
For further information contact the Department of Posts & Telecommunications Licensing and Regulatory Section nearest you. Full details are also given in Dick's book on CB.

27 MHz MARINE FREQUENCIES

CHANNEL	FREQUENCY	USE
1	27.860	SECONDARY DISTRESS
2	27.880	PRIORITY DISTRESS
4	27.900	GENERAL
5	27.910	GENERAL
6	27.940	GENERAL
7	27.960	GENERAL

AUSTRALIAN VHF & UHF TELEVISION CHANNELS

VHF

Channel	Vision Carrier Frequency (MHz)	Frequency Limits (MHz)
0	46.25	45-52
1	57.25	56-63
2	64.25	63-70
3	86.25	85-92
4	95.25	94-101
5	102.25	101-108
5A	138.25	137-144
6	175.25	174-181
7	182.25	181-188
8	189.25	188-195
9	196.25	195-202
10	209.25	208-215
11	216.25	215-222

UHF

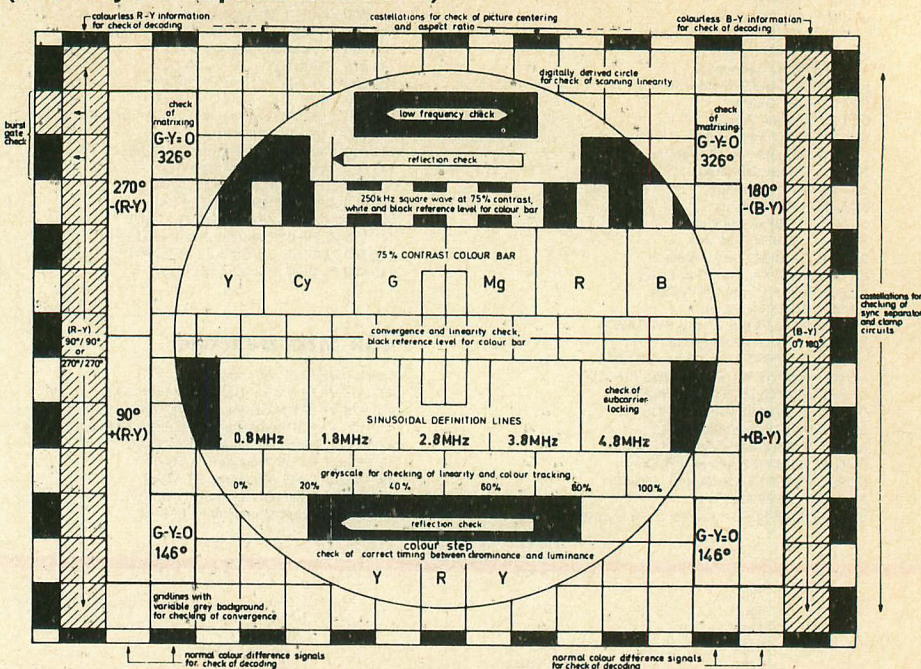
Channel	Vision Carrier Frequency (MHz)	Frequency Limits (MHz)
Band IV		
28	527.25	526-534
29	535.25	534-542
30	543.25	542-550
31	551.25	550-558
32	559.25	558-566
33	567.25	566-574
34	575.25	574-582

Band V

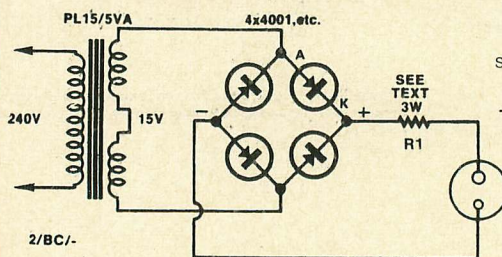
39	615.25	614-622
40	623.25	622-630
41	631.25	630-638
42	639.25	638-646
43	647.25	646-654
44	655.25	654-662
45	663.25	662-670
46	671.25	670-678
47	679.25	678-686
48	687.25	686-694
49	695.25	694-702
50	703.25	702-710
51	711.25	710-718
52	719.25	718-726
53	727.25	726-734
54	735.25	734-742
55	743.25	742-750
56	751.25	750-758
57	759.25	758-766
58	767.25	766-774
59	775.25	774-782
60	783.25	782-790
61	791.25	790-798
62	799.25	798-806
63	807.25	806-814

PHILIPS PM 5544 T.V. TEST PATTERN

(Courtesy of Philips Industries Ltd.)

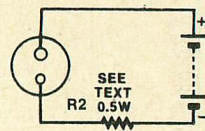


NiCad BATTERY CHARGER



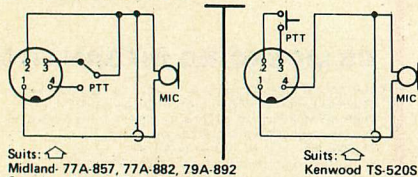
Ni-Cd BATTERY CHARGER

Size	Capacity	Charge Rate	1 cell	2 cells	4 cells	5 cells
N	150mAh	15mA	900	800	600	500A
AA	450mAh	45mA	300	270	200	166
Sub C	1.2AH	120mA	112	100	75	62
C	1.8AH	180mA	75	66	50	42
D	4AH	400mA	33	30	22	18



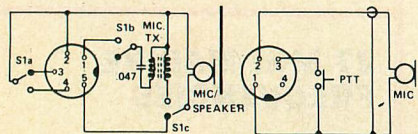
R1 + R2 - see table

TRANSCEIVER MICROPHONE CONNECTIONS



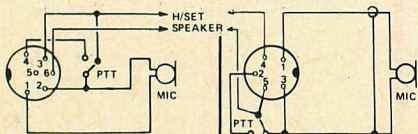
Suits: Midland 77A-857, 77A-882, 79A-892, Scorpion, Hornet, Wasp, Bumblebee

Suits: Kenwood TS-520S



Suits: Midland 77A-861

Suits: Yaesu All models: FT101, FT227R, FT301, FT301S, FT7



Suits: Midland 77A-963

Suits: Midland 76A-886

CONNECTIONS SHOWN LOOKING AT FRONT OF MICROPHONE PLUG

VHF AIRCRAFT CHANNELS

FREQ.

- 118.1
- 118.7
- 118.9
- 119.1
- 119.4
- 120.5
- 120.9
- 121.1
- 123.0
- 124.2
- 124.4
- 124.7
- 125.3
- 125.8

CHANNEL USAGE

- Bankstown & other Secondary Towers
- Canberra/Parafield Tower
- Melbourne Departure
- Club Frequency
- Sydney Approach
- Adel/Bris/Melb/Syd Tower
- Auto Information Serv. (Secondary airports)
- Area frequency
- Sydney Departure
- Adelaide Approach
- Sydney Approach
- Bris/Melb Approach
- Sydney Departure
- Area Frequency

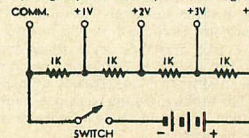
AERODROME TERMINAL INFORMATION

A.M. MODE

ADELAIDE	117.3. MHz
SYDNEY	115.4 MHz
PERTH	113.7 MHz
CAIRNS	113.7 MHz
CANBERRA	113.5 MHz
ROCKHAMPTON	116.9 MHz
BRISBANE	113.9 MHz
MELBOURNE	113.9 MHz
ALICE SPRINGS	115.9 MHz
DARWIN	113.7 MHz
PORT HEADLAND	113.7 MHz

METER CALIBRATOR

This simple circuit can be used to calibrate a voltmeter, or to make periodic checks on the accuracy of a multimeter. A mercury cell gives very close to 1.35 volts almost throughout its life. The three cells in series will give very close to 4 volts (4.05) and this is only slightly over one per cent high.



4N28 OPTIC COUPLER

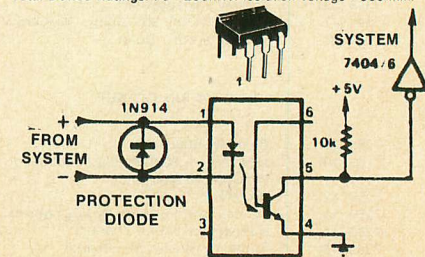
A Gallium Arsenide LED optically coupled to a silicon photo-transistor designed for applications requiring electrical isolation high current transfer ratios. They are low package size and low cost. Ideal for line interfacing and coupling systems, phase and feedback control, solid state switching and general purpose switching circuits.

Specifications:

Diode: V_f - 3 volts, I_f - 80mA cont. I_f - 3A peak V_f @ I_f = 50mA - 1.5A maximum, P_d - 150mW.


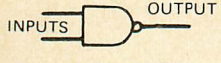

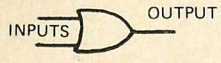
NPN Photo Transistor: V_{CE} - 30 volts, V_{cb} - 70 volts, P_d - 150mW. Ice dark current - 50nA max. (V_{ce} = 10 volts)

Total Device Ratings: P_d - 250mW. Isolation voltage - 500 min.

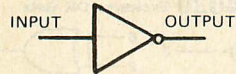


SIMPLE DIGITAL CIRCUITS

GATES

SYMBOL	CODE
 <p>"AND" GATE</p>	<p>Output is "on" only when all inputs are "on". Output is "off" when any or all inputs are "off".</p>
 <p>"NAND" GATE</p>	<p>Output is "off" only when all inputs are "on". Output is "on" when any or all inputs are "off".</p>
 <p>"NOR" GATE</p>	<p>Output is "on" only when all inputs are "off". Output is "off" when any or all inputs are "on".</p>
 <p>"OR" GATE</p>	<p>Output is "off" only when all inputs are "off". Output is "on" when any or all of the inputs are "on".</p>

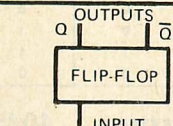
INVERTERS

SYMBOL	CODE
 <p>INVERTER</p>	<p>Output is "on" only when the input is "off". Output is "off" only when the input is "on".</p>

FLIP-FLOPS

A flip-flop can be compared with a push button switch connected to two lamps. When the button is pushed and released, one of the lamps will turn "on" and the other "off". If the button is again pushed and released, the lamp that was "off" will

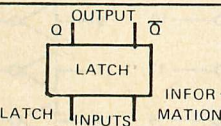
now turn "on" and the lamp that was "on" will turn "off". There are many different types of flip-flops, but they all operate basically in the same way. The difference is in the number and type of inputs.

SYMBOL	CODE
 <p>FLIP-FLOP</p>	<p>"Q" output is "on" when "Q-bar" output is "off". "Q" output is "off" when "Q-bar" output is "on". Outputs change when the input is turned "off".</p>

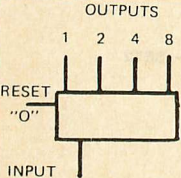
LATCH

A latch is a flip-flop designed to store information until it is needed. It has an extra latch input. When the latch is turned on, the information on the input will be transferred to the "Q" output.

When the latch is turned "off", the information that was on the input at the time the latch was turned off, will be stored on the "Q" output.

SYMBOL	CODE
 <p>LATCH</p>	<p>"Q" output will follow the information input. "Q-bar" output will always be the opposite of the "Q" output.</p>

COUNTERS

SYMBOL	CODE
 <p>COUNTER</p>	<p>As the input is turned "on" and "off" the count is accumulated on the outputs in either binary or decimal form depending on circuit. Counters are easily cascaded by using the highest output as the next input. When full the counter will automatically reset to zero. To use as a "N" divider the reset pin is connected to the required digit plus one.</p>

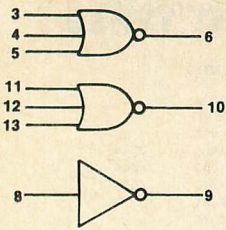
TTL and CMOS. FUNCTIONALLY EQUIVALENT TYPES

TTL	CMOS
7400	4011
7401	40107
7402	4001
7404	4009
7406	4009
7407	4010
7408	4081
7410	4023
7411	4073
7420	4012
7425	4002
7427	4025
7428	4001
7430	4068
7432	4071
7437	4011
7440	4012
7442	4028
7445	4028
7466	4511
7447	4511
7448	4511
7449	4511
7450	4085
7453	4086
7454	4086
7470	4096
7472	4095
7473	4027
7474	4013
7475	4042
7476	4027
7477	4042
7478	4027
7483	4008
7485	4063
7486	4030
7490	4518
7491	4015
7493	4520
7494	4035
7495	40104
7499	40104
74100	4034
74104	4095
74105	4095
74107	4027
74110	4095
74111	4027
74121	4047
74122	4047
74123	4098
74125	4502
74126	4502
74132	4093
74136	4030
74141	4028
74145	4028
74148	4532
74150	4067
74151	4051
74152	4051
74153	4052
74154	4514
74155	4555
74156	4555
74157	4019
74164	4015
74165	4021
74166	4014
74167	4527
74173	4076
74178	4035
74179	4035
74180	40101
74181	40181
74182	40182
74190	4510
74191	4516
74194	40104
74195	4035
74198	4034
74200	4061
74251	4051
74279	4044
74283	4008
74290	4518
74293	4520

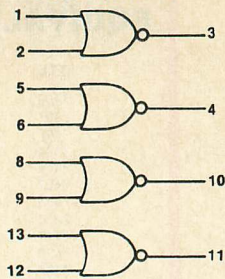
NOTE: WE DO NOT STOCK ALL ITEMS LISTED.

4000 SERIES CMOS IC's

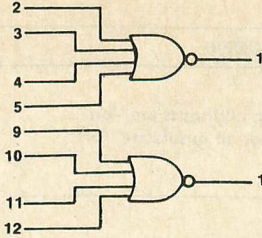
4000 NOR Gate



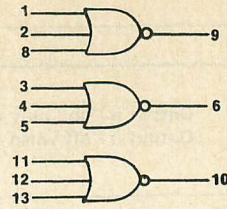
4001 NOR Gate



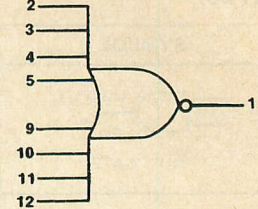
4002 NOR Gate



4025 NOR Gate



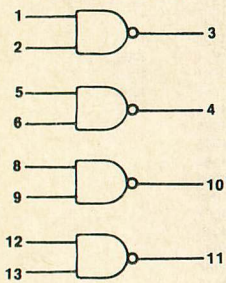
4078 Nor Gate



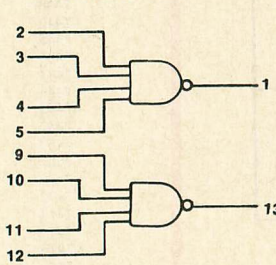
NOR Gate Truth Table

INPUTS	OUTPUTS
0 0 0 0	1
Any other combination	0

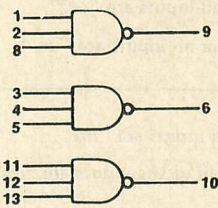
4011 NAND Gate



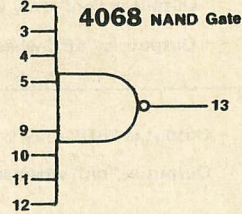
4012 NAND Gate



4023 NAND Gate



4068 NAND Gate



V_{dd} - 14
V_{ss} - 7

NAND Gate Truth Table

INPUTS	OUTPUTS
11111	0
Any other combination	1

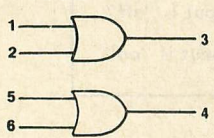
Care with MOS!

When soldering MOS (metal-oxide silicon) integrated circuits onto a PCB, more than usual care has to be taken. As well as ensuring the IC gets no hotter than necessary (as you would with conventional ICs) the following safety precautions should be taken:

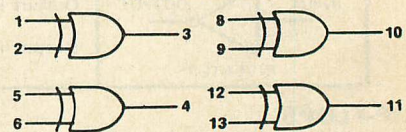
- Wire all other components onto the board first.
- Make sure the soldering iron tip and barrel are reliably earthed.
- Connect the earthy supply lead of the board to the same earth until all MOS ICs are soldered in place.
- Handle the ICs as little as possible before fitting them. Leave them in their conductive packaging.
- Solder the earthy and positive supply pins of each IC to their PC pad before soldering the other pins.



4071 OR Gate



4030 Exclusive OR Gate



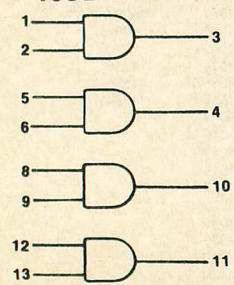
OR Gate Truth Table

INPUTS	OUTPUTS
000000	0
Any other combination	1

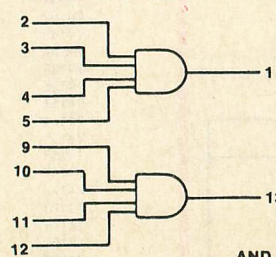
Exclusive OR Gate Truth Table

INPUT A	INPUT B	OUTPUT
0	0	0
1	0	1
0	1	1
1	1	0

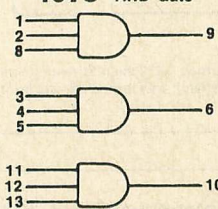
4081 AND Gate



4082 AND Gate



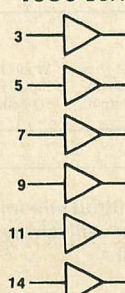
4073 AND Gate



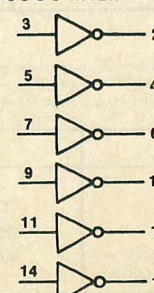
AND Gate Truth Table

INPUTS	OUTPUTS
11111	1
Any other combination	0

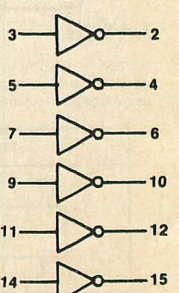
4050 BUFFER



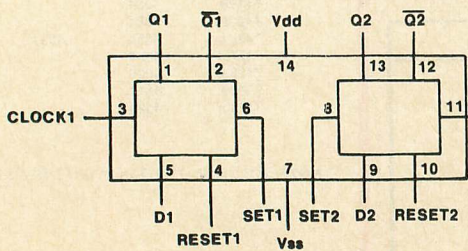
4009 INVERTER



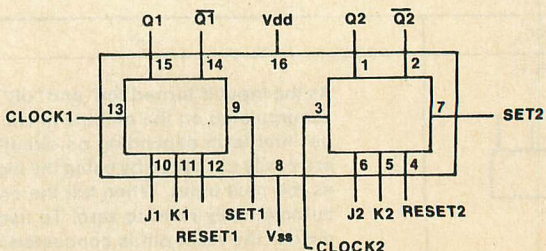
4049 INVERTER



V_{cc} 1 V_{dd} -16
V_{ss} -8



4013 DUAL D-TYPE FLIP-FLOP

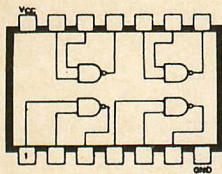


4027 DUAL J-K FLIP-FLOP

TTL DIGITAL IC's

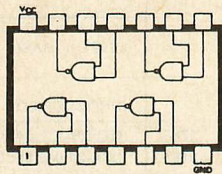
7400

QUADRUPLE 2-INPUT POSITIVE-NAND GATES



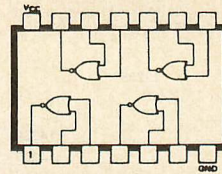
7401

QUADRUPLE 2-INPUT POSITIVE-NAND GATES WITH OPEN-COLLECTOR OUTPUTS



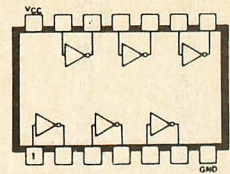
7402

QUADRUPLE 2-INPUT POSITIVE-NOR GATES



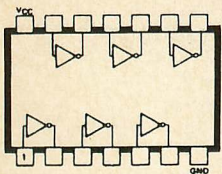
7404

HEX INVERTERS



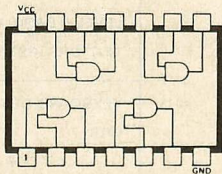
7405

HEX INVERTERS WITH OPEN-COLLECTOR OUTPUTS



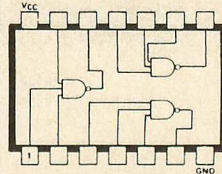
7408

QUADRUPLE 2-INPUT POSITIVE-AND GATES



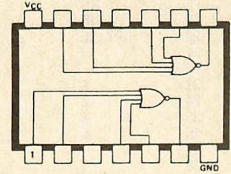
7410

TRIPLE 3-INPUT POSITIVE-NAND GATES



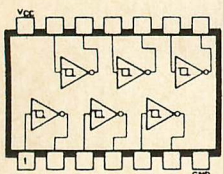
7413

DUAL 4-INPUT POSITIVE-NAND SCHMITT TRIGGERS



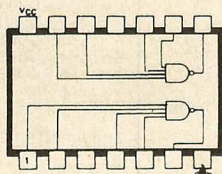
7414

HEX SCHMITT-TRIGGER INVERTERS



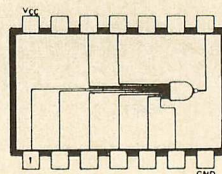
7420

DUAL 4-INPUT POSITIVE-NAND GATES



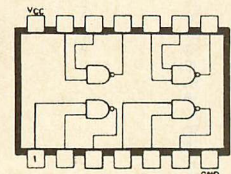
7430

8-INPUT POSITIVE-NAND GATES



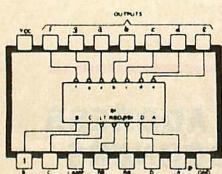
7437

QUADRUPLE 2-INPUT POSITIVE-NAND BUFFERS



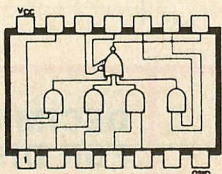
7447

BCD-TO-SEVEN SEGMENT DECODER/DRIVER



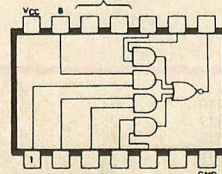
7453

EXPANDABLE 4-WIDE AND-OR-INVERT GATES



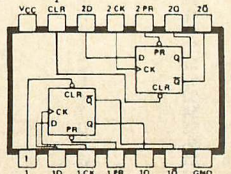
7454

4-WIDE AND-OR-INVERT GATES



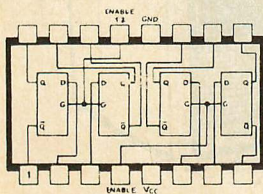
7474

DUAL D-TYPE POSITIVE-EDGE-TRIGGERED FLIP-FLOPS WITH PRESET AND CLEAR



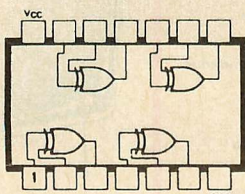
7475

4-BIT BISTABLE LATCHES



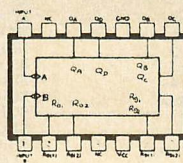
7486

QUADRUPLE 2-INPUT EXCLUSIVE-OR GATES



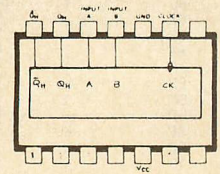
7490

DECADE COUNTER



7491

8-BIT SHIFT REGISTERS



ASCII CODES

DEC.	HEX.	CHAR.
000	00	NUL
001	01	SOH
002	02	STX
003	03	ETX
004	04	EOT
005	05	ENQ
006	06	ACK
007	07	BEL
008	08	BS
009	09	HT
010	0A	LF
011	0B	VT
012	0C	FF
013	0D	CR
014	0E	SI
016	10	DLE
017	11	DC1
018	12	DC2
019	13	DC3
020	14	DC4
021	15	NAK
022	16	SYN
023	17	ETB
024	18	CAN
025	19	EM
026	1A	SUB
027	1B	ESC
028	1C	FS
029	1D	GS
030	1E	RS
031	1F	US
032	20	SPACE
033	21	!
034	22	"
035	23	#
036	24	\$
037	25	%
038	26	&
039	27	'
040	28	(
041	29)
042	2A	*
043	2B	+
044	2C	,
045	2D	.
046	2E	/
047	2F	0
048	30	1
049	31	2
050	32	3
051	33	4
052	34	5
053	35	6
054	36	7
055	37	8
056	38	9
057	39	:
058	3A	;
059	3B	<
060	3C	=
061	3D	>
062	3E	[
063	3F]
064	40	^
065	41	_
066	42	A
067	43	B
068	44	C
069	45	D
070	46	E
071	47	F
072	48	G
073	49	H
074	4A	I
075	4B	J
076	4C	K
077	4D	L
078	4E	M
079	4F	N
080	50	O
081	51	P
082	52	Q
083	53	R
084	54	S
085	55	T
086	56	U
087	57	V
088	58	W
089	59	X
090	5A	Y
091	5B	Z
092	5C	[
093	5D]
094	5E	^
095	5F	_
096	60	a
097	61	b
098	62	c
099	63	d
100	64	e
101	65	f
102	66	g
103	67	h
104	68	i
105	69	j
106	6A	k
107	6B	l
108	6C	m
109	6D	n
110	6E	o
111	6F	p
112	70	q
113	71	r
114	72	s
115	73	

SYSTEM 80 MEMORY MAP

ADDRESS		SIGNIFICANCE
DECIMAL	HEXIDEIMAL	
0	0000	LEVEL II BASIC ROMS
12288	3000	
		(UNOCCUPIED)
14304	37E0	INTERRUPT LATCH ADDRESS
14305	37E1	DISK DRIVE SELECT LATCH ADDRESS
14316	37EC	FLOPPY DISK CONTROLLER ADDRESS
14336	3800	KEYBOARD
15360	3C00	CRT VIDEO MEMORY
16383	3FFF	LEVEL II BASIC FIXED RAM VECTORS (RST'S 1 THROUGH 7)
16384	4000	
16402	4012	KEYBOARD DEVICE CONTROL BLOCK DCB
16405	4015	
		+ 0 = DCB TYPE + 1 = DRIVER ADDRESS + 2 = DRIVER ADDRESS + 3 = 0 + 4 = 0 + 5 = 0 + 6 = 'K' + 7 = 'I'
16413	401D	VIDEO DISPLAY CONTROL BLOCK DCB
		+ 0 = DCB TYPE + 1 = DRIVER ADDRESS (LSB) + 2 = DRIVER ADDRESS (MSB) + 3 = CURSOR POS N (LSB) + 4 = CURSOR POS N (MSB) + 5 = CURSOR CHARACTER + 6 = 'D' + 7 = 'O'
16421	4025	LINE PRINTER CONTROL BLOCK DCB
		+ 0 = DCB TYPE + 1 = DRIVER ADDRESS (LSB) + 2 = DRIVER ADDRESS (MSB) + 3 = LINES/PAGE + 4 = LINE COUNTER + 5 = 0 + 6 = 'P' + 7 = 'R'
16429	402D	RESERVED
16463	404F	

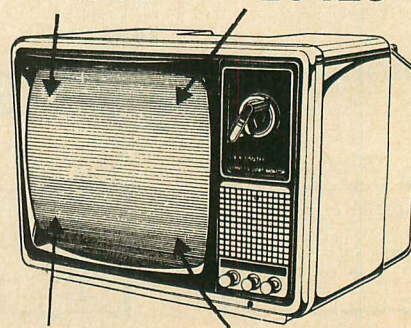
116	74	t
117	75	u
118	76	v
119	77	w
120	78	x
121	79	y
122	7A	z
123	7B	:
124	7C	;
125	7D	'
126	7E	~
127	7F	DELETE (Rubout)

STANDARD ASCII ABBREVIATIONS

ACK = Acknowledge	FF = Form Feed
BELL = Bell	FS = Form Separator
BS = Backspace	GS = Group Separator
CAN = Cancel	HT = Horizontal Tab
CR = Carriage Return	LF = Line Feed
DC1 = Direct Control 1	NAK = Negative Acknowledge
DC2 = Direct Control 2	NUL = Null
DC3 = Direct Control 3	RS = Record Separator
DC4 = Direct Control 4	SI = Shift In
DLE = Data Link Escape	SO = Shift Out
EM = End of Medium	SOH = Start of Heading
ENQ = Enquiry	STX = Start Text
EOT = End of transmission	SUB = Substitute
ESC = Escape	SYN = Synchronous Idle
ETB = End Transmission Block	US = Unit Separator
ETX = End Text	VT = Vertical Tab

DECIMAL POKE ADDRESS FOR DISPLAY CORNERS

15360 15423



16320 16383

SYSTEM 80 MEMORY MAP

DECIMAL	ADDRESS	HEXIDECIMAL	SIGNIFICANCE
16464		4050	FDC INTERRUPT VECTOR
16466		4052	COMMUNICATIONS INTERRUPT VECTOR
16468		4054	RESERVED
16476		405C	RESERVED
16478		405E	25 MSEC HEARTBEAT INTERRUPT
			RESERVED
	16512	4080	
			LEVEL II BASIC RAM
16548-9		40A4-5	START OF BASIC PROG. PTR
16561-2		40B1-2	TOP OF BASIC MEM. PTR
16598-9		40D6-7	MEM. SIZE STORED HERE
16607-8		40DF-40E0	SYSTEM TAPE ENTRY POINT
16620-1		40EC-D	EDIT LINE NUMBER
16629-30		40FS-6	LAST LINE NUMBER EXECUTED
16637-8		40FD-E	FREE SPACE
16870		41E6	
			I/O BUFFER
17127		42E7	
	17128	42E8	ALWAYS ZERO
17129		42E9	
			PROGRAM TEXT
			SIMPLE VARIABLES
			ARRAYS
			FREE MEMORY
			STACK
			STRING SPACE
			SPACE RESERVED FOR MACHINE LANGUAGE ROUTINES TO BE ACCESSED FROM BASIC - IF MEMORY SIZE SET
20479 (4k)		4FFF (4k)	END OF ACTUAL MEMORY 4k
32767 (16k)		7FFF (16k)	END OF ACTUAL MEMORY 16k
49151 (32k)		BFFF (32k)	END OF ACTUAL MEMORY 32k
65535 (48k)		FFFF (48k)	END OF ACTUAL MEMORY 48k

SYSTEM 80 I/O MAP

248	F8	RS232 PORT INPUT DATA/OUTPUT STATUS
249	F9	RS232 PORT OUTPUT DATA/INPUT STATUS
253	FD	PRINTER PORT
254	FE	INT/EXT CASSETTE LATCH
255	FF	CASSETTE DATA PORT

HEXADECIMAL CONSTANTS

HEX-TO-DECIMAL CONVERSION

For each hexadecimal digit, go down the hex code column at the left until you find the right digit. Then move across to the right column. When all four digits have been converted into their decimal equivalents I, II, III, IV, add these all together to get the final answer, i.e.

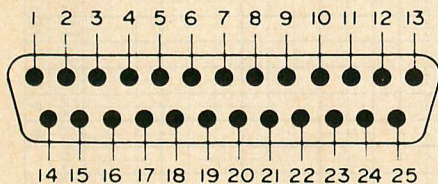
$$\text{DECIMAL VALUE} = \text{IV} + \text{III} + \text{II} + \text{I}$$

HEX CODE Most Significant Bytes Least Significant Bytes

	IV	III	II	I
0	0	0	0	0
1	4096	256	16	1
2	8192	512	32	2
3	12288	768	48	3
4	16384	1024	64	4
5	20480	1280	80	5
6	24576	1536	96	6
7	28672	1792	112	7
8	32768	2048	128	8
9	36864	2304	144	9
A	40960	2560	160	10
B	45056	2816	176	11
C	49152	3072	192	12
D	53348	3328	208	13
E	57344	3584	224	14
F	61440	3840	240	15

ONE BYTE POSITIVE NUMBERS	ONE BYTE NEGATIVE NUMBERS
0 00	-40 D8
1 01	-41 D7
2 02	-42 D6
3 03	-43 D5
4 04	-44 D4
5 05	-45 D3
6 06	-46 D2
7 07	-47 D1
8 08	-48 D0
9 09	-49 CF
10 0A	-50 CE
11 0B	-51 CD
12 0C	-52 CC
13 0D	-53 CB
14 0E	-54 CA
15 0F	-55 C9
16 10	-56 C8
17 11	-57 C7
18 12	-58 C6
19 13	-59 C5
20 14	-60 C4
21 15	-61 C3
22 16	-62 C2
23 17	-63 C1
24 18	-64 C0
25 19	-65 BF
26 1A	-66 BE
27 1B	-67 BD
28 1C	-68 BC
29 1D	-69 BB
30 1E	-70 BA
31 1F	-71 B9
32 20	-72 B8
33 21	-73 B7
34 22	-74 B6
35 23	-75 B5
36 24	-76 B4
37 25	-77 B3
38 26	-78 B2
39 27	-79 B1
	-80 B0
	-81 AF
	-82 AE
	-83 AD
	-84 AC
	-85 AB
	-86 AA
	-87 A9
	-88 A8
	-89 A7
	-90 A6
	-91 A5
	-92 A4
	-93 A3
	-94 A2
	-95 A1
	-96 A0
	-97 9F
	-98 9E
	-99 9D
	-100 9C
	-101 9B
	-102 9A
	-103 99
	-104 98
	-105 97
	-106 96
	-107 95
	-108 94
	-109 93
	-110 92
	-111 91
	-112 90
	-113 8F
	-114 8E
	-115 8D
	-116 8C
	-117 8B
	-118 8A
	-119 89
	-120 88
	-121 87
	-122 86
	-123 85
	-124 84
	-125 83
	-126 82
	-127 81
	-128 80

THE RS-232C INTERFACE



The basic RS-232C electrical specifications

Communication rate
Driver output voltage levels, maximum no load.
Driver output voltage ranges for loads between 3k and 7k ohms.
Driver output current, short circuit.
Driver output impedance with power off.
Maximum driver output slew rate.
Receiver input resistance.
Effective receiver input capacitance.
Maximum receiver input voltage range.

0-20,000 bits per second
-25V logic 1, +25V logic 0
logic 1: -15V (7k) and -5V (3k)
logic 0: +15V (7k) and +5V (3k)
500mA maximum
300 ohms minimum
30 volts per microsecond
7k ohms maximum, 3k ohms minimum
2500pF maximum
-25V to +25V

RS232C CABLE PLUG CONNECTIONS

PIN NO.	SIGNAL
2	TRANSMIT DATA
3	RECEIVED DATA
7	SIGNAL GROUND
4	RTS
5	CTS
8	RLSD
6	DSR
20	DTR

STANDARD CENTRONICS PRINTER PLUG CONNECTIONS

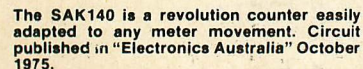
PIN NO.	SIGNAL
19	SIGNAL GROUND
2	DATA BIT 0
3	DATA BIT 1
4	DATA BIT 2
5	DATA BIT 3
6	DATA BIT 4
7	DATA BIT 5
8	DATA BIT 6
1	DATA STROBE
10	DATA ACKNOWLEDGE
11	INPUT BUSY READY

SYSTEM 80 VIDEO DISPLAY WORK SHEET

0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19																												

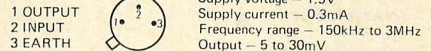
1947

SAK 140 CAR TACHO



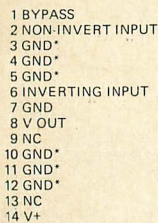
ZN414 IC RADIO

The ZN414 is almost a radio receiver on a single chip. With the addition of a couple of components, the receiver is complete.



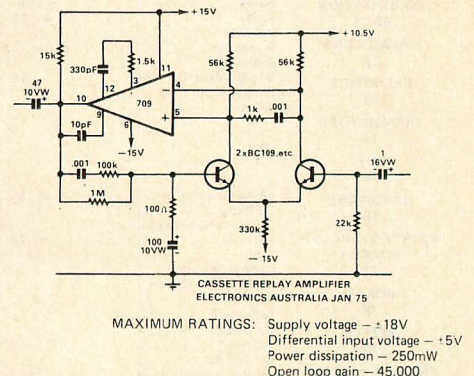
LM380 AMPLIFIER

The LM380 is an audio amplifier IC with gain internally fixed at 34dB. It has high input impedance, low distortion and operates from a wide supply range.

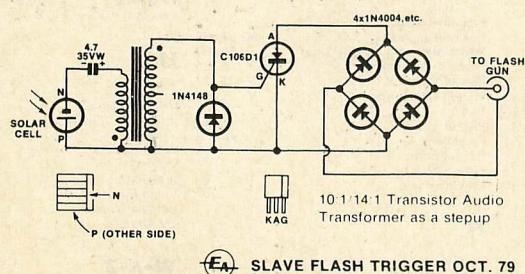


uA709 PREAMP

The uA709 is a high performance monolithic op amp with differential inputs. It has high open loop gain, high input impedance, wide input common mode and output voltage ranges and low temperature drift.

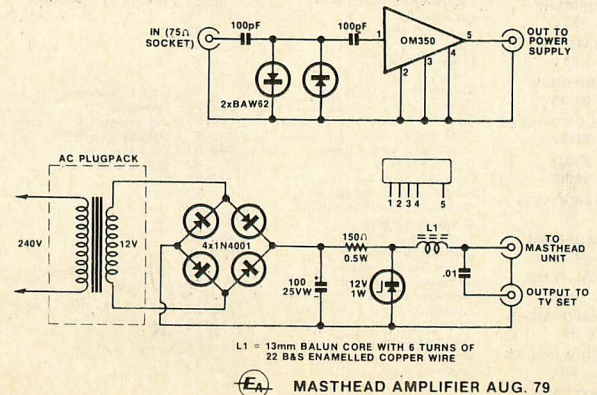


PHOTOCELL FLASH TRIGGER



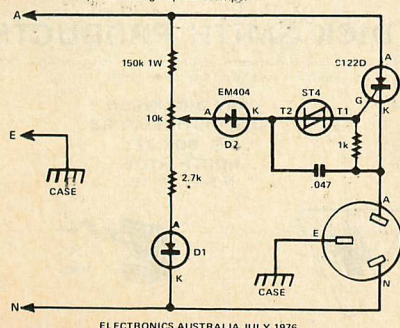
The circuit uses a low-cost solar cell as the light sensor.

OM350 T.V./F.M. MASTHEAD AMP.



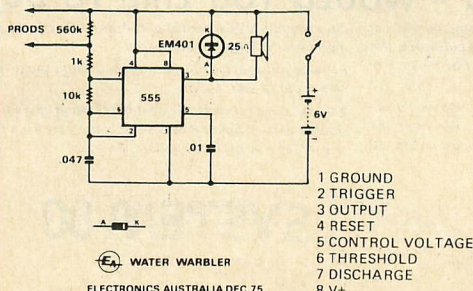
SCR SPEED CONTROL

Need a speed control for your electric hand drill? This simple circuit allows control down to practically zero RPM, while maintaining useable torque. It is suitable for "universal" or AC-DC brush type drills with nameplate ratings up to 3 amps.

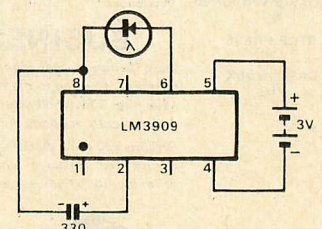


555 MOISTURE INDICATOR

The NE555 IC is a versatile electronic timer IC with delays ranging from microseconds through hours. It operates in both astable and monostable



LM3909 FLASHER



The LM3909 is an oscillator specifically designed to flash LEDs. It works at low voltages with very low current drain. Circuits published in "Electronics Australia" July 1975.

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