WELCOME TO THE NEW 2001 *HS PUBLICATIONS* CATALOGUE

FOR DX-TV AND TV ARCHIVE BOOKS, VIDEOS & CDs PLEASE ACCESS OUR SEPARATE CATALOGUE

OUR ADDRESS IS:

HS PUBLICATIONS 7 Epping Close, DERBY DE22 4HR, ENGLAND. Tel: 01332 38 16 99

The World of TV DX-ing

Most activity occurs between May and September (November-March in the Southern Hemisphere) when Sporadic-E ionisation allows the reception of Band I TV signals over distances in excess of 1000km. Reception occurs randomly and so you cannot pick and choose the countries that appear. That is one of the fascinations of the hobby.

You need a receiver and an aerial covering Band I (48-70MHz). Small-screen portables can be obtained from High Street catalogue stores quite cheaply but ensure they cover Band I before you buy. They will function OK on strong signals but for weak signal encounters we recommend the D-100. When a D-100 is fed into such a portable, drastic improvement can result because it features variable IF bandwidth. This provides greater selectivity (better rejection of unwanted signals) and the ability to lift weak signals from the noise.

Use the correct type of aerial for DX-ing. An FM array may seem to work but it will not be very efficient.

Over the past two years I have been using the VF-1203 array at a height of 6 meters fed into a D-100 and have received lots of Arabic DX reception via Sporadic-E and, more recently, via F2-layer activity.

Good DX-ing.

Garry Smith.

INDEX

Use the EDIT function then click onto FIND for quick access to the items below

D-100 CONVERTER DX SIGNAL ALARM BAND I AERIALS BANDS I/II AERIALS BAND III AERIALS ALL-CHANNEL AERIAL PARTS UHF GRIDS AMPLIFIERS FILTERS ROTATOR MASTS BAND I NOTCH FILTER

ORDERING INFORMATION

PRICES ARE VALID UNTIL 31.05.01

Please ensure that Personal Cheques or Postal Orders, etc., are signed and made payable to **'HS PUBLICATIONS'** (*not* to TeleRadio News, «TV Graphics Review», "Test Cards", etc). If possible, please include your telephone number with the order in case we need to contact you. Please note that we no longer accept credit cards.

OVERSEAS PAYMENT

Payment must be made prior to the despatch of goods by one of the following methods:-

Eurocheque. This is the cheapest payment method.
 Please include your EC card number on the back.
 International Money Order/Giro and Bank Drafts (obtained via your local bank).

Ensure that drafts are signed and made payable to 'HS Publications' in \pounds Sterling. These should be cashable via a bank located within the UK. Please send Bank Drafts via registered post for security.

3. Current banknotes (£ Sterling or convertible currencies only) sent by registered post.

N.B.:- Personal overseas cheques, Australian and Éireann Postal Orders are *not* accepted.

BY DIRECT TRANSFER

This is possibly the most convenient way to pay. Payment may be sent direct to HS PUBLICATIONS via your bank but this MUST arrive in £ Sterling and any bank charges must be paid for locally. Our details are as follows:-

ACCOUNT NUMBER: **86205234** SORT CODE: **60-24-77** BANK: **NATWEST DIRECT BUSINESS BANKING.**

Don't forget to send us an E-mail with details of your order AND YOUR FULL ADDRESSS.

TECHNICAL ADVICE

If for any reason it is necessary to return goods, or you have a legitimate complaint, or have difficulty with installing items, etc., please ring or write explaining the problem. Very often, technical problems can be resolved without returning the good.

Personal collection from our registered address by prior appointment only please. Same day despatch whenever possible.

All items are subject to availability. All technical descriptions are correct at time of going to press. Our policy is one of continuous improvement. In the case of our products we reserve the right to revise specifications when necessary without prior notice.

POSTAGE

UNITED KINGDOM

P&P INCLUDED EXCEPT HEAVY ITEMS, e.g. AERIALS, COAX, MASTS and ROTATORS. FOR THESE ITEMS PLEASE ADD £5-00 PER ORDER

EIRE

D-100 ADD £10.00 AERIALS £15.00 SMALL ITEMS, e.g. FILTERS, AMPS, PSU, etc. PLEASE ADD £2.50 PER ITEM ALL ITEMS DESPATCHED BY AIRMAIL

EUROPE

D-100 ADD £10-00 AERIALS £22.50 SMALL ITEMS, e.g. FILTERS, AMPS, PSU, etc. PLEASE ADD £2.50 PER ITEM ALL ITEMS DESPATCHED BY AIRMAIL

USA/CANADA

D-100 ADD £20-00 AERIALS £27.50 SMALL ITEMS, e.g. FILTERS, AMPS, PSU, etc. PLEASE ADD £2.50 PER ITEM ALL ITEMS DESPATCHED BY AIRMAIL

REST OF WORLD

D-100 ADD £20-00 AERIALS £40.00 SMALL ITEMS, e.g. FILTERS, AMPS, PSU, etc. PLEASE ADD £2.50 PER ITEM ALL ITEMS DESPATCHED BY AIRMAIL

For large OVERSEAS orders please contact us for a specific delivery quote.



DEDICATED RECEIVER FOR TV DX-ING REDUCED VISION IF BANDWIDTH LIFTS WEAK DX SIGNALS OUT OF THE NOISE VARIABLE VISION IF BANDWIDTH VHF/UHF WITH MULTI-SYSTEM SOUND NOW WITH SPECIAL 44-50MHz F2 BAND

BAND PREVIEW (SCAN MODE)

R1 A 3. 27 30 R1 A 3. 27 30 R2 4 4 4 21 A 4

D-100 VERSUS THE MULTI-SYSTEM TV

The increasing intrusion into VHF Bands I and III by PMR, telemetry, and other various forms of communication, means that the TV DX-ing hobby is becoming more of a challenge, especially in the United Kingdom. As a consequence, a receiving system with a high degree of selectivity is essential to help counteract its effects on long-distance reception. At first, a multi-system TV receiver may seem the ideal choice for TV DX-ing but it does not address the complex reception problems encountered, particularly in VHF Bands I and III where interleaved channel allocations exist.

Multi-system receivers are mainly intended for the traveller or for use in countries where more than one TV system is available. The main drawback with such a receiver for DX-ing is its inherently wide vision I.F. bandwidth, which is necessary for high-definition pictures. Although good results may be obtained with local-quality signals, the shortcomings of such a receiver begin to show if attempting to resolve anything other than a strong solitary signal.

Other drawbacks associated with current TV receiver trends include video channel muting, when the signal level is considered inadequate for domestic viewing, plus complex set-up menus and tuning arrangements.

The enthusiast relying on an 'up-converter' device (VHF to UHF frequency converter) for viewing VHF signals via a UHF TV receiver will also experience shortcomings due to the use of the wide vision I.F. bandwidth of the TV. Not to mention the problem of locating the channel in the absence of a signal!

'COMMUNICATION-STYLE' TV DX-ING

The D-100 Converter has been in production since the early Eighties, providing a versatile approach to TV DX-ing and general-purpose sound monitoring. Its 'communication-style' design takes into account the special problems likely to be encountered by the TV DX-er in any part of the World.

The D-100 features its own calibrated tuning system with separate VHF and UHF rotary controls for coarse and fine tuning, covering virtually all known VHF terrestrial TV channels. A variable bandwidth vision I.F. processes the signal prior to final conversion to UHF Channel 65 approx. (adjustable) for presenting to the aerial input of a UHF TV receiver.

The D-100 exploits the double-superhet principle of operation in which the television receiver functions as another I.F. Further improvements in selectivity can be achieved by making small fine tuning adjustments to the TV when interfering carriers are encountered.

The dial tuning found on many small-screen monochrome portables provides an easy and convenient means of fine selectivity adjustment and the most pleasing results will be obtained with such a receiver, especially when using bandwidth reduction.

A second output feeds an FM radio for sound. By simply matching the sound to the picture, multisystem reception is achieved, without the need for a special TV set or complicated modifications.

BENEFITS OF DX-ING USING A REDUCED I.F. BANDWIDTH

TV receivers designed for the now-defunct 405-line system employed a much narrower vision I.F. bandwidth (approx. 3 MHz) than is necessary today for 625-line systems. Years ago, DX-ers using modified 405-line TVs for the hobby soon learned to appreciate the value a narrow vision I.F. bandwidth, not only in terms of its excellent selectivity, but also for the visual enhancement of weak signals.

A narrow I.F. bandwidth is essential when attempting to resolve extremely weak DX signals under difficult reception conditions. A reduced vision I.F. bandwidth helps resolve pictures normally 'lost in the noise' when a wide bandwidth is used. Using reduced bandwidth, some enthusiasts can detect lowlevel signals from transmitters located 300-500 km away, virtually on demand even under flat conditions.

VARIABLE I.F. BANDWIDTH

One of the most important features of the **D-100** is its variable-bandwidth vision I.F. enabling optimum performance to be achieved with *any* type of propagation and reception difficulty. Bandwidth reduction techniques are increasingly used in domestic FM radio and satellite equipment for improving the reception threshold.

SELECTIVITY

On its narrowest bandwidth setting, a dramatic improvement in selectivity is achieved. Selectivity, to put it bluntly, is how effectively a receiver will homein on the wanted signal yet reject unwanted ones on adjacent frequencies. As a consequence, a useful degree of separation is possible when signals are present on adjacent channels only 1.5 MHz apart or less, such as Channels E2 and Rl or IA and E3.

A multi-system TV with wide bandwidth I.F. means the problem of adjacent channel reception usually shows as both pictures floating over one another.

MULTI-SYSTEM SOUND

By means of a simple connection to the aerial input/telescopic rod of an FM radio, *any* of the World's intercarrier sound systems can be resolved, *irrespective of the vision I.F. bandwidth setting, namely:-*

4.5 MHz (USA, Canada, Japan, South America)
5.5 MHz (Europe, Africa, Asia, Australasia)
6.0 MHz (Éire, U.K., South Africa)
6.5 MHz (E. Europe, the CIS, Russia, China)

Variable sound-spacing means non-standard spacing can be resolved too, such as the 5.74 MHz carrier of TV services using the twin-channel inter-carrier system for dual-language or stereo broadcasts. In the case of the latter, both channels may be monitored using two FM radios, each set to a different carrier.

GENERAL SOUND MONITORING

Non-TV sound carriers can also be monitored, such as the East European FM band (63-72 MHz), Italian FM radio links in Band I and cordless telephones operating at 49 MHz. Block frequency conversion is also possible, e.g. 63-72 MHz to 93-102 MHz.

AUTOMATIC I.F. BANDWIDTH

As the signal strengthens, the vision I.F. bandwidth increases, thus optimising picture quality. This is useful when receiving Sporadic-E signals of fluctuating strength. Manual control is also provided.

AUTO BANDSCANNING

During periods of intermittent Sporadic-E activity it is tempting to monitor a vacant channel for initial signs of reception. Unfortunately, propagation can be frequency-selective and signals usually suddenly materialise on another channel! The scanning facility allows the previewing of the whole of Band I when an opening is imminent. Up/Down scan indication is provided.

DX ALARM

The optional 'DX Alert' unit may be connected directly to the D-100 to warn of a Sporadic-E opening.

TUNING

Calibrated in DX channels, rotary controls provide fast access to virtually any current terrestrial VHF TV frequency.

A normal tuning range covers commonly-received DX channels while an extended range provides access to frequencies outside the normal TV bands, such as Band II channels used in Australia, Japan, Albania, Russia and CIS countries.

COLOUR RECEPTION

When conditions allow, colour DX-ing is possible. The D-100 will pass PAL, SECAM and NTSC signals to the TV but will only be displayed in colour if the receiver has the appropriate decoder fitted.

FRENCH RECEPTION

The French system is incompatible with any other used throughout the World: positive-going vision modulation is used, as opposed to negative-going. For general DX-ing, the D-100 provides video inversion of medium/strong signals. AM sound is used, as opposed to FM intercarrier. Many FM radios have poor AM rejection, which provides a basic means of hearing the AM sound.

N.B. If the external equipment has an AM sound facility, this may be used. This will also allow other AM (non-TV) signals to be monitored.

DC POWERING (14.5-24V)

The D-100 can be operated from the mains via a standard (non-regulated) '12V DC' plug-in adaptor (300mA min) or from batteries for mobile work.

TECHNICAL INFORMATION

TUNING RANGES

 NORMAL RANGE:

 BAND I/II: 47-70 MHz (E2-A4)

 BAND III: 174-225 MHz (E5-E12)

 UHF: 470-630 MHz (E21-E40)

HIGHER EXTENDED RANGE:-

BAND I/II: 65-105MHz (R3-J3) BAND III: 220-300MHz (E12-SA13) UHF: 620-820MHz (E40-E64)

LOWER EXTENDED RANGE:

BAND I/II: 44-50 MHz approx (NZ1-R1) BAND III: 140-175MHz approx (M4-E5) UHF: 460-480MHz approx..

AUTO BANDSCAN MODE:-

 BAND I:
 45-70 MHz approx.
 (Chs NZ1-A4)

 BAND III:
 160-220 MHz approx.
 (Chs M4-E12)

 UHF:
 470-570 MHz approx.
 (Chs E21-E33)

AERIAL INPUT: Coaxial socket (75 Ohms). **TV OUTPUT :** Despatched at Ch 65 (adjustable). **I.F. BANDWIDTH:** Auto or manually controlled. Min: 2 MHz (typical) Max: Limited by the I.F. bandwidth of the TV.

RADIO OUTPUT : 95-108 MHz (typical). **DC INPUT:** 14.5-23V via 3.5mm JACK. **DX ALARM OUTPUT:** PHONO

D-100 «DE-LUXE» Order Code R20 Price £159.95

N.B. This price includes a 12V 3-pin (flat pin) mains adaptor when despatched to UK addresses.

With EXPORT orders a mains adaptor is NOT supplied and this is reflected in the add-on supplements for insured AIRMAIL delivery.

We reserve the right to revise specifications where necessary without prior notice.

AVAILABILITY: LATEST UNITS NOW AVAILABLE.

BAND I NOTCH FILTER

An essential tool for the DX-er!

Simple trimmer/preset adjustment provides optimum rejection of unwanted signals in Band I, such as baby alarms operating at 49MHz. Housed in fully-screened diecast box. Coaxial input and output sockets. Typical tuning range: 47-62MHz.

Order Code C70 PRICE £14.95

TRIMTOOL

Recommended insulated trimtool for adjusting filters. Phosphor-bronze blade at each end. Also fits 4mm and 6mm cores.

Order Code A81

Price £1.50

DX ALERT! SIGNAL ALARM UNIT

The DX ALERT emits a loud tone (or provides visual indication) immediately a 625-line or 525-line signal is detected. Highly sensitive, it will detect very weak signals. Sensitivity adjustment is provided.

The DX ALERT connects to the video output socket of a VCR and will respond to any signal that the VCR is capable of handling. A D100 operating via the VCR may be set to a pre-tuned DX channel or left to scan the band.

Effective for ALL types of reception the DX ALERT even provides some indication of how active Meteor-Shower DX is without having to watch the TV!

The audible alarm is useful when working around the house, or as a wake-up call for early-morning Sporadic-E viewing! When you want to watch domestic TV *and check* for DX reception, the visual indicator avoids disturbing other family members. UK 3-pin PSU included. PHONO output.

Order Code R40 Price £39.95 WHILE STOCKS LAST

VCR CONNECTING LEADS

 PHONO-PHONO
 (1.5m)

 Order Code S01 Price £1.50

 PHONO-BNC
 (1.5m)

 Order Code S02 Price £2.50

 PHONO-SCART (1.5m)

 Order Code S03 Price £2.50

AERIALS

An aerial covering the appropriate frequencies is essential for effective DX-ing. Simple indoor aerials will often suffice when Sporadic-E signals are strong but a multi-element outdoor array, preferably rotatable, is desirable for capturing the more elusive weaker signals.

Tropospheric signals in Band III and at UHF tend to be weaker, so an outdoor installation with mast-head amplifiers is recommended.

For maximum effectiveness, a rotatable outdoor installation is recommended. For maximum stability the diameter of the support pole above the rotator should be the maximum that the rotator will allow, usually 37mm (1.5 inches). A distance of approximately 1.0-metre between the arrays is recommended.

Our publication MASTS (HSP 21) provides practical advice and ideas for planning an aerial installation.

Our 'Cosmax DX Range' of specialised arrays for Bands I and II feature a 25mm square-section boom for rigidity and ruggedness, while the elements are manufactured from 12.5mm seamless alloy. All multi-element designs feature a closely-coupled first director element. A watertight cable connector box is fitted as standard.

Includes a clamp for mast diameters of up to 37mm (1.5 inches). Larger arrays (D29, D31 and D35) include a clamp for masts of up to 50mm (2 inches) in diameter. Gain figures expressed are approximate.

N.B. We do not recommend mast-head amplifiers to be used for Band I DX-ing due to unpredictable inband interference sources which can cause severe cross-modulation problems. Please see our FILTERS section if you have problems.

'Guide To DX-TV' (HSP 20) covers the subject of interference and ways of minimising it.

ALL-CHANNEL VHF-TV ARRAY FOR BANDS I, II, FM & III

MODEL VF-100: An extremely popular compact eight-element composite array, ideal for use with the D-100 Converter. Provides an unobtrusive aerial for TV DX-ing. 25mm square boom rugged construction. Very effective for Sporadic-E or F2 reception even at heights of only six-metres.

Two downleads required: 1) Bands I/II (45-110MHz) 2) Band III (175-230MHz).

Delivers up to 2.5dB forward gain in Bands I/II (three elements) and 6.5dB in Band III (five elements). Boom length 1500mm approx. Includes clamp for up to 37mm masts.

Order Code D30 Price £41-95

DOUBLE-SCREENED SATELLITE COAX

100-metre drum.

Order Code A12 Price £24.95

BAND I AERIALS 45-70MHz

FOUR ELEMENT

MODEL VF-1004: Up to 5.5dB gain.Heavy-duty clamp fits masts up to 2-inches (50mm).Order Code D28Price £35.95

FIVE-ELEMENT

MODEL VF-1005: Up to 6.5dB gain. Heavy-duty clamp fits masts up to 2-inches (50mm). Order Code D29 Price £47.95

CROSSED DIPOLES

MODEL CD1: Ideal for use in confined locations where rotation is impractical (e.g. a loft). The dipoles can be connected for multi-directional coverage or switched to select direction. Includes 1.5m mast and loft mount bracket.

Order Code D17 Price £27.95

BAND I 'LOOP'

MODEL L1: Compact (700mm x 700mm approx) with multi-directional coverage. Can be hand-held to exploit nulls to reduce interference. Includes clamp. Order Code D18 Price £19.95

BANDS I AND II AERIALS 45-110MHz

THREE ELEMENT

MODEL VF-1203: Based on the lo-band section of the VF-100, this 'H' array, comprises a dipole, reflector and closely coupled 1st director. Covers Band I and FM band. Very effective for Sporadic-E and F2 reception, even at heights of only six metres.

Includes clamp for masts up to 37mm diameter, 1.5m (approx) mast and loft bracket. Order Code D33 Price £24.95

FOUR ELEMENT

MODEL VF-1204: Up to 4.5dB gain. Heavy-duty clamp fits masts up to 2-inches (50mm). Order Code D34 Price £37.50

FIVE ELEMENT

MODEL VF-1205: Up to 5.5dB gain. Heavy-duty clamp fits masts up to 2-inches (50mm). Order Code D39 Price £47.95

BAND III AERIALS 175-230MHz

Lightweight (15mm square boom) arrays covering Channels E5-E12 Also ideal for hand-held or mobile use.

FOUR ELEMENT

MODEL VF-3004: Up to 5.0dB gain. Order Code D40 Price £19.95

SIX ELEMENT

MODEL VF-3006: Up to 7.5dB gain. Order Code D41 Price £27.95

UHF WIDEBAND GRID ANTENNAS

TRIAX BB GRID

Compact cost-effective TV DX-ing array with mesh reflector (840 x 480mm). Covers ALL UHF channels. Up to 12.5dB gain. Up to 28dB Front/Back ratio (adjustable). 34 degrees beamwidth (approx). Weght: 2.2kg approx.

Order Code U20 Price £37.95

TWIN BB GRID

Up to 3dB extra gain and a reduction in beamwidth with two units stacked side-by-side. The package comprises: 2 BB GRIDS, grid combiner, mounting bar and clamp.

Order Code U21 Price £84.95

TRIAX UNIX 100 100-ELEMENT WIDEBAND/CD

Super high-gain (up to 17dB) Continental-style array with X-director chain. Up to 27dB Front/Back ratio. Approx. 11dB beamwidth. Boom length 2.6m approx. Weght: 2.4kg approx.

Order Code U10 Price £69.95 GROUP A and B VERSIONS AVAILABLE

'DX SPECIAL' 36-ELEMENT UHF GRID

The ultimate in DX grids! The JBB/4 plus our unique director kit. Features a director ahead of each 'X' assembly for improved top-end performance. Covers all UHF channels (inc. 70cm ATV). Fairly constant gain over the band (up to 13.5dB). Provides a compact, cost-effective TV DX-ing array.

Order Code D51 Price £34.95 N.B. WHILE STOCKS LAST

TWIN-GRID (72-ELEMENT)

For even higher gain, two 'DX Special' grids can be positioned side-by-side (horizontal stacking) to increase forward gain by up to 3dB and reduce horizontal beamwidth. The twin-grid system also provides tilt/elevation adjustment.

The package comprises: 2 JBB/4 UHF grids with director kit, grid combiner, mounting bar and clamp.

Order Code D53 Price £69.95 OUT OF STOCK

AERIAL PARTS

DIPOLE CONNECTOR BOX

For 25mm ROUND boom
Order Code H10
Price £3.50

DIPOLE CONNECTOR BOX

For 25mm SQUARE boom Order Code H11 Price £3.50

X-CONNECTOR BOX

For 25mm ROUND boom
Order Code H12
Price £4.50

AMPLIFIERS

Mast-head amplifiers are powered via the coaxial cable from a PSU at the receiver end.

N.B. It is important to use a special type of regulated PSU designed specifically for powering mast-head amplifiers. The recommended power unit described in the 'POWER SUPPLY' section provides the necessary DC isolation to the TV receiver.

BAND III 175-230MHz)

MODEL VHF-1220-3: 'Fringe Electronics' lownoise mast-head amplifiers covering Channels E5 to E12 with high-pass filtering at the input and bandpass filtering at the output. Highly recommended for DX-TV reception. Gain: 20dB. Noise fig: 1.8dB. Output: 40dBuV.

Order Code M11 Price £18.95

UHF WIDEBAND

The 'Fringe Electronics' 'SUPREME' high-gain low-noise UHF mast-head amplifier offers excellent signal handling. Highly recommended for UHF DXing. Gain: 25dB. Noise Fig: 1.9dB. Output: 46dBuV. Order Code M16 Price £23.95

P1235 POWER UNIT

Stabilised power unit (12V @ 90mA) for powering the BAND III or SUPREME mast-head amplifiers. Order Code M43 Price £18.50

F/9000 TRIPLEXER

Combines Bands I/II, III and UHF with DC pass to the BAND III and UHF inputs. Allows BAND III and UHF amplifier to be powered from one P1235 PSU. Order Code C15 Price £9.95

FILTERS

TRIMTOOL

Recommended insulated trimtool for adjusting filters described below. Phosphor-bronze blade at each end. Also fits 4mm and 6mm cores.

Order Code A81 Price £1.50

F/9100 FM BAND FILTER

Adjust to minimise FM breakthrough on affected DXing channels, e.g. Band II Channels C and R4. Diecast casing with coaxial connections. DC through pass. Fit prior to amplifier input.

Order Code C40 Price £14.95

F/9200 UHF GROUP FILTER

Adjust to attenuate the local transmitter group to prevent cross-modulation appearing in other groups, particularly when it occurs with the aerial facing certain directions in an installation where both a mast-head and distribution amplifier are used. Fit prior to the input of the distribution amplifier or, in extreme cases, fit mast-head amplifier indoors and connect filter at its input. Diecast housing with coaxial connections. DC through pass. Please state local transmitter group when ordering.

Order Code C50 Price £14.95

BAND I NOTCH FILTER

Simple adjustment provides optimum rejection of unwanted signals in Band I, such as baby alarms operating around 49MHz. Diecast housing with coaxial input and output sockets. Typical rejection range: 47-62MHz.

Order Code C70

PRICE £14.95

'MASTERROTOR' AERIAL ROTATOR

Ideal for FM or TV DX-ing or where more than one ITV region is available. Attractive control unit with heavy base. Requires 3-core cable. 45kg loading. Aerial support mast (max. dia): 37mm (1.5 inches) Main mast (max. dia): 50mm (2 inches) **Order Code A90 Price £65.95**

AERIAL SUPPORT MASTS

Alloy tubing 37mm (1.5 inches) in diameter. These are available in two lengths:-

300mm (12 inches) for mounting a single aerial immediately above the rotator. **Order Code H33 Price £2.50**

1.5m (5ft) for mounting a VHF-TV array and a UHF grid above the rotator.Order Code H34 Price £7.95

LOFT/EAVES MAST

375mm (15 inches) 25mm (1-inch) dia. support mast with loft/eaves bracket.Order Code H41 Price £3.50

PRICES ARE VALID UNTIL 31.03.01