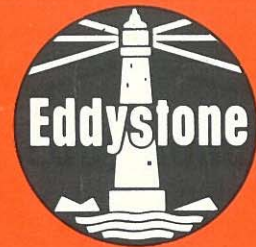


## Eddystone Radio Limited

Member of Marconi Communication Systems Limited  
Alvechurch Road, Birmingham B31 3PP, England  
Telephone: 021-475 2231  
Cables: Eddystone Birmingham Telex: 337081



# Eddystone Specialised Communication Receivers, MW, VHF/FM Broadcasting Transmitter Systems and R.F.I. Equipment

## Abridged Catalogue

The name Eddystone Radio has been associated with radio receivers for more than fifty years, having started as a trade name for equipment produced in 1922 by an old-established Birmingham business family. During the succeeding years, a world-wide reputation was built up for solidly-built shortwave receivers and associated components.

Since the mid-sixties, and under Marconi ownership, the Company has substantially expanded its business and has maintained its reputation for high quality and economic prices. All equipment is built to exacting standards and special versions are produced in large numbers to satisfy the stringent demands of many organizations including the Ministry of Defence, Ministry of Posts and Telecommunications and broadcasting authorities in the U.K. and overseas. Generally to DEF 133 Class L2.

Only receivers and noise measuring equipment with a general appeal are included here, but enquiries are invited for any specific requirements in the general range 10kHz to 1000MHz. Ancillary equipment manufactured by Eddystone Radio includes s.s.b. adaptors and drive units, f.s.k. adaptors and electronic keying units of advanced design.

Most of the receiver equipment listed can be supplied for either bench or rack-mounting, and is also available with anti-vibration mounts, telephone headsets and aerial equipments (including special types for v.h.f./u.h.f.). MW, VHF/FM Broadcasting Transmitter Systems are available from 1 Watt to 4kW and the range includes re-broadcast and monitoring receivers, drives, coders, decoders, together with changeover and combining Units.



Comprehensive data sheets are freely available on request.

*Specialised surveillance equipment designed and built by Eddystone and in worldwide use.*



# Eddystone Communication Receivers

## HF/MF Synthesized H.S. Communication and Ships Main Receiver Model 1650 Series



The 1650 Series of receivers is intended for maritime and high stability application in the frequency range 10kHz to 30 MHz.

A highly advanced circuit design is employed using double conversion on all ranges. The frequency to which the receiver is tuned is controlled by a high stability synthesizer tunable within 3 Hz, the frequency shown by an eight digit electronic display.

Up to one hundred channels can be stored with mode settings and can be interrogated and changed without interruption of signal received. An emergency battery back up is provided to prevent loss of stored information in the event of a power failure.

### Frequency coverage:

10kHz to 30MHz  
Bandpass input tuned circuits 100kHz to 30MHz  
Low pass filter input 10kHz to 100kHz

### Reception Modes:

AM, CW, USB  
Versions of the receiver are available providing reception of FSK and LSB

### Sensitivity:

15dB S/N on SSB for 1µV input with 2.4kHz bandwidth

### Power supply:

100V/130V and 200V/260V (40-60Hz) single phase AC  
Consumption approximately 50VA.  
Positive 24V DC non-floating or from 12V/24V DC with separate inverter

### Dimensions (Rack Mounting):

Width: 483mm  
Height: 133mm  
Depth: 550mm (including handles and cabling at rear)  
Weight: 19kg  
Cabinet Style  
Width: 502mm  
Height: 164mm (including feet)  
Depth: 560mm  
Weight: 23kg

### Optional extras:

Model 1529/2 FSK Teleprinter Drive Unit  
Systems Cabinet to house Receiver and FSK Unit  
Shock Mounts for mobile use under arduous conditions

## General Purpose HS Communication, Ships Main and Reserve Receivers Models 1837 and 1838 Series



British Patent No. 1526338



System 1405/4 Teleprinter Terminal

The 1837/2 is intended for general purpose applications in the frequency range 100kHz to 31 MHz. This model provides reception facilities for CW, MCW and AM signals together with upper and lower sideband reception of A3A, A3H and A3J signals. Standard features include a six-digit electronic display of receiver tuned frequency (to 100Hz) together with search and high stability modes of operation.

The 1837/1 and 1838 Receivers are intended for maritime applications in the frequency range 100kHz to 31 MHz. The 1837/1 provides reception facilities for CW, MCW, and AM signals, together with selectable upper and lower sideband reception of A3A, A3H, and A3J signals. The 1838/1 is specially intended for maritime and high stability radio telephone applications in the range 1.6MHz to 31 MHz and provides reception facilities for MCW and AM signals with upper/sideband reception of A3A, A3H and A3J signals. Both receivers are in accordance with U.K. MPT requirements and CEPT draft recommendations for Marine and Radio Telephone Reserve Receivers.

### Frequency coverage:

1837/1/2 and 1838/3:  
100kHz to 31 MHz in nine ranges.  
Fine Tune above 1.6MHz.

### 1837/3:

10kHz to 31 MHz, less 850kHz to 1.5MHz in nine ranges.

### 1837/2G:

As 1837/2 but with readout to 10Hz

### 1838/1/2:

1.6MHz to 31 MHz in five ranges with fine tune facility.

### Reception modes:

1837/1 and 1837/2: CW-MCW-AM-SSB (selectable USB/LSB)  
1838: MCW-AM-SSB (upper sideband)

### Sensitivity:

1837/1: (50/75Ω input all ranges) 15dB S/N ratio, 3kHz B/W: AM 30% mod =

3µV emf, CW = 1µV emf.

1837/2: 15dB S/N ratio 3kHz bandwidth.  
AM-1.5µV. CW/SSB - 0.5µV. (75Ω input on all ranges).

### Power supply:

AC: 100/130V or 200/260V (40-60Hz)  
DC: 12/24V with external AC/DC Converter (Eddystone Type 978 optional extra).

### Dimensions (Rack Mounting):

Panel: 483mm x 159mm  
Rack Intrusion: 334mm  
Weight (approx.) 16.783kg

### Optional extras:

Model 1529 Series FSK Drive Unit.  
Systems Cabinet to house Receiver (1837/2 Series) 1529 and 1061A. Table Mounting Cabinet for Receivers only.  
Model 1061A Panoramic Display Unit.

1837/1 and 1838 Series Contract quantities only.

## HF/MF General Purpose Receiver Model 1590



System 1408 low cost Teleprinter Terminal.

The Model 1590 is an HF/MF Communication Receiver intended for general purpose application in the frequency band 150kHz to 30MHz and is also suitable for low cost frequency measurement and mobile installations. 10 Crystal positions are provided for high stability working.

Features include digital readout display of the tuned frequency, LED array indicator displaying the selected range band, wide frequency coverage of long, medium and four shortwave bands. Automatic frequency control on AM ensure correct tuning is maintained over long periods, 'S' Meter for peaking-in on weak signals, and BFO and Product Detector for CW and SSB reception. There are four IF Filters fitted as standard for AM (wide and narrow) and SSB (USB/LSB) reception.

### Frequency coverage:

Range 1: 14 - 30MHz  
Range 2: 8.5 - 18MHz  
Range 3: 3.5 - 8.5MHz  
Range 4: 1.5 - 3.5MHz  
Range 5: 550 - 1500kHz  
Range 6: 150 - 350kHz

### Sensitivity:

AM: 3µV for 12dB S/N  
CW: 1µV for 12dB S/N  
SSB: 1µV for 12dB S/N

### Power supply:

AC: 100/120 or 200/250V, 40-60Hz  
DC: 12V negative earthed polarity

### Dimensions and Weight:

Rack Mounting Style:  
Panel: 483mm x 133mm  
Intrusion in rack: 330mm  
Weight: 10kg  
Cabinet Style:  
Width: 502mm  
Depth: 330mm  
Height: 164mm (inc. mounting feet)  
Weight: 15kg



# Eddystone Communication Receivers

## General-Purpose VHF/UHF Receiver Model 1990R Series



Civil Aviation Ref: 10D/CA/39941

A range of professional-grade VHF/UHF receivers for communications and laboratory use in the band 25-500MHz. Provision for high-stability working is a standard feature. Receivers are supplied with either a 10-channel crystal oscillator facility or an integral synchroniser unit (as illustrated) allowing continuous tuning in increments of 100Hz. Three IF Bandwidth positions are available. 30kHz and 250kHz filters are fitted as standard. Enquire for alternative filters. Video and 600Ω audio outputs are provided.

### Frequency coverage:

1990R/3X 25-500 MHz in seven ranges.

Crystal facility (10 channels).

Model 1990R/3S 25-500 MHz in seven ranges.

Integral synchronizer.

**Reception modes:** AM-FM-CW-PULSE

### \*Sensitivity:

(10dB S+N/N with standard o/p)

MODE BW 25-140 140-235 235-500

MHz MHz MHz

\*AM 30kHz 3μV 5μV 10μV

\*\*FM 250kHz 3μV 5μV 5μV

CW 30kHz 2μV 3μV 3μV

(\*) 30% mod at 1kHz (\*\*) 22.5kHz deviation.

### Power supply:

AC: 100/130V or 200/260V (40-60Hz)

DC: 12V (negative earth)

24V available to order.

### Dimensions (Cabinet Version):

Width: 502mm

Height: 165mm

Depth: 457mm

Weight: 25kg

### Optional extras:

Model 1535 Frequency Display Unit.

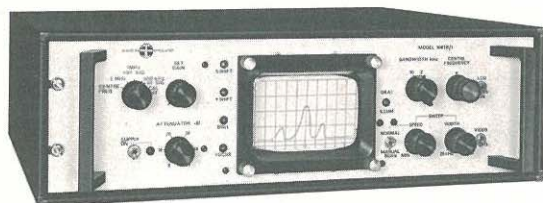
Systems Cabinet to house Receiver and

1535. Table Mounted Cabinet for Receiver

only.

A UHF Receiver Model 1990S. Frequency up to 1GHz is also available.

## Panoramic Display Units Model EP1061 Series



Designed as ancillaries for use with standard receivers these units provide for high-resolution linear or logarithmic display of signals on a screen size 10 x 6cm. In the logarithmic mode the range is 40dB. The sweep frequency is variable from 1.5kHz to 15kHz (1061A/1) 20kHz to 10MHz (1061B/1) and 20kHz to 2MHz (1061B/2). The 1061B/2 features a switch-selectable fast sweep range from 0.5 secs to 0.01 secs. A calibrator is incorporated and an input attenuator enables the strength of signals to be compared. Other features include four selectivity ranges (1061A/1) and provision for scan reversal on all models.

### Input frequencies:

1061A/1 Switch 100kHz or 1.4MHz

1061B 21.4MHz

### Sensitivity:

(For 1cm trace deflection)

1061A/1 1mV; 1061B 25mV

### Resolution (Maximum):

1061A/1 60Hz; 1061B 2kHz

### Power supply:

AC: 110/240V (40-60Hz)

### Dimensions (Cabinet Version):

Width: 502mm

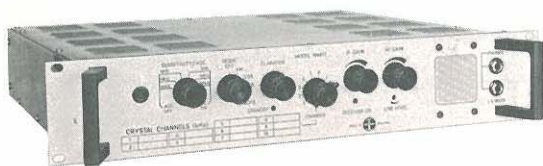
Height: 165mm

Depth: 457mm

Weight: 16.78kg

## Single and Multi-Channel Series Receivers

### Model 1964 Ten Channel



MF/HF multi-channel receiver which can be tuned up to ten channels of pre-determined fixed frequencies over the range 1.6 - 27.5MHz. Versions permit the reception of USB/LSB (A3A, A3H and A3J) and also DSB and F1 telegraphy. A compact low cost highly versatile receiver to satisfy a wide range of diverse requirements including extended or remote control.

### Frequency coverage:

10 Channels, 1 or 2 Channels per band. Maximum of 5 bands to customers choice (any permutation).

Possible band frequencies are:

1.6 - 30MHz

3.0 - 5.7MHz

5.7 - 10.8MHz

10.8 - 20MHz

20 - 27.5MHz (1964/2 only)

Pre-Tuned RF circuits are provided on each Channel.

Alternatively, reception can be arranged below 1.6MHz.

### Model 1670 Thirty Channel



A synthesized receiver covering the range 1.6 - 4.2MHz with a total of 30 channels available in addition to 2182kHz. A fine tune clarifier of ± 150Hz is provided. The receiver is dual conversion with intermediate frequencies of 1400kHz and 100kHz and pre-tuned RF circuits are selected on each channel to ensure high performance under heavy traffic conditions without recourse to additional RF Filter.

### Reception modes:

A3A, A3H, A3J and A3. USB, LSB version available to order.

### Power supplies:

**Models 1964 & 1670:**

100/130V & 200/260V (40-60Hz).

**Model 1670:**

24V DC. Floating earth

### Dimensions:

**Model 1964:**

Panel: 483mm × 88mm

Rack intrusion:

420mm including allowance for cabling.

Weight: 10kg

**Model 1670:**

Panel: 483mm × 133.5mm

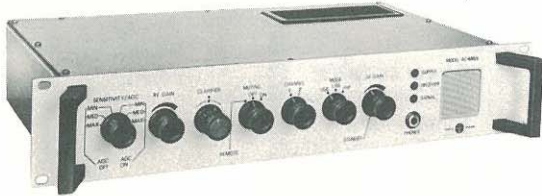
Depth: 460mm

Weight: 17.9kg



# Eddystone Communication Receivers – R.F.I. - Accessories

## Model 1680 Series



A compact low-cost series of receivers offering single, two and seven channels in the frequency ranges 500 kHz, 400-535kHz and 1.6MHz-30MHz.

### Frequency coverage:

#### 1680/1

Single channel at 500kHz. CW and MCW  
Alternative frequencies in the range  
400-535 kHz available to specific customer  
requirements

#### 1680/2

Seven channels in the frequency range  
400-535kHz, providing reception of MCW,  
CW with variable BFO and FSK

#### 1680/3

A single channel receiver for operation in  
the frequency range 1.6-30MHz, providing  
reception of AM/USB as standard, but  
reception on LSB, CW with variable BFO  
and FSK can also be provided to specific  
customer requirements

#### 1680/4

Operation on two channels in the frequency  
range 1.6-30MHz. Reception facilities for  
AM and USB are provided as standard, but  
reception on LSB, CW with variable BFO  
and FSK can also be provided.

### Power Supplies:

All variants:

AC 100/130V and 200/250V (40-60Hz)  
standard fitting  
24V DC with negative earth standard fitting.  
12V DC and 24V DC with floating earth  
optional extra  
Consumption 25VA.

### Dimensions:

All variants:

Panel: 483mm × 88mm  
Intrusion into rack: 282mm over cover plus  
50mm for cabling  
Weight: 6.5kg.

## Radio Frequency Interference Equipment (RFI)



Eddystone Radio offer a comprehensive range of RFI equipment covering the frequency spectrum 10kHz to 1000MHz, complete with aeriels and accessories.

### 10kHz to 150kHz

Interference Meter  
Artificial Mains Network

### 150kHz to 30MHz

Interference Meter  
AF Aerial Set  
Artificial Mains Network  
Auxilliary Set

### 30MHz to 300MHz

Interference Meter  
VHF Antenna Set  
Absorbion Clamp  
Artificial Mains Network

### 300MHz to 1000MHz

Interference Meter  
UHF Aerial Attachment  
Discontinuous Interference  
Analyser

The equipment has been designed to meet  
the requirement of CISPR16.  
Comprehensive data available.

## F.S.K. Demodulator and Modulator Series

Models 1529 and 1629



The Model 1529 Demodulator provides for the reception of FSK transmissions with frequency shifts of 85Hz ( $\pm 42.5$ Hz) to 1100Hz ( $\pm 550$ Hz) with baud rates up to 300 in conjunction with a conventional communication receiver, such as the Eddystone 1837 and 1964 Series. A number of variants are available including diversity operation. The Model 1629 FSK Modulator is a general purpose, low cost data modulator capable of converting binary data signals into two pre-selected audio frequency tones. These tones can be used for modulating a transmitter via a suitable audio input.

### Electrical performance:

#### Model 1529:

Input Frequency – Standard receiver IF's  
Input Impedance – 600 $\Omega$  (nominal)  
unbalanced  
Input Level – 38dBm to +8dBm  
Keying speeds up to 300 bauds dependant  
on frequency shift output.

#### Model 1629:

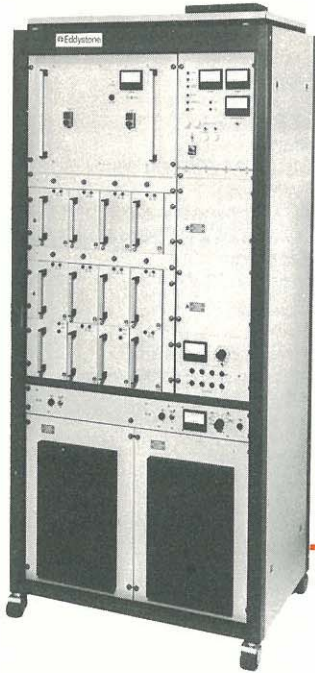
Inputs: Baud rate in excess of 600 baud  
Levels 80V (100V max): 6V (12V max):  
20mA (40mA max) unipolar or bipolar.  
Impedance – approx. 5k $\Omega$  at 80V approx  
500 $\Omega$  at 6V  
Output Level – 10dBm to 0dBm (pre-set)  
Impedance – 600 $\Omega$  frequency range 350Hz  
to 3.5kHz

### Dimensions:

Width: 483mm  
Height: 44mm  
Intrusion into rack: 150mm  
Overcase approx: 200mm over connections  
Weight: 2.27kg (approx.)



# Eddystone Broadcasting Transmitter Systems



## 1kW MF Broadcasting Transmitter Model B6038E

The Eddystone Model B6038E has been designed as a modular equipment with uncomplicated circuits to provide high reliability in service and ease of maintenance. Completely self-contained and designed to comply with IEC.215 safety requirements. The Transmitter covers the frequency range 520kHz to 1610kHz using broadband circuits. The only tuning is in the output tuning unit matching the total output from the modules to the 50 ohm feeder. The Transmitter operates over a mains voltage range 210-250 without suffering in performance or output power. Designed for remote unattended operation.

### Options available:

Fixed frequency or synthesized Drive Paralleling Unit.  
Ruggedisation for Container Mounting.  
Can be supplied in complete systems including antenna.

### Power supply:

230V single phase 50/60Hz

### Dimensions

Height: 1746mm  
Width: 800mm  
Depth: 450mm

## VHF/FM Transmitters

### Model 1706 and 1705 Series

The Eddystone Models 1706 and 1705 VHF/FM Transmitter series extend the range of Band II transmission equipment which has been designed to meet high standards of performance and reliability at an economic price. The range includes re-broadcast and monitoring receivers, drives, coders, decoders together with transmitter changeover and combining units.

### Standard options available:

**Model 1706/1** 1kW transmitter with stereo coder and drive.

**Model 1706/2** 1kW transmitter with mono drive.

**Model 1705/1** 500W transmitter with stereo coder and drive.

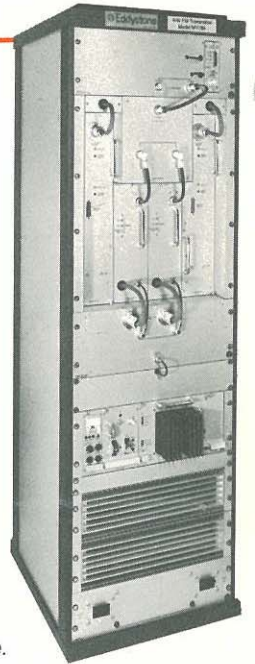
**Model 1705/2** 500W transmitter with mono drive.

### Dimensions (mm)

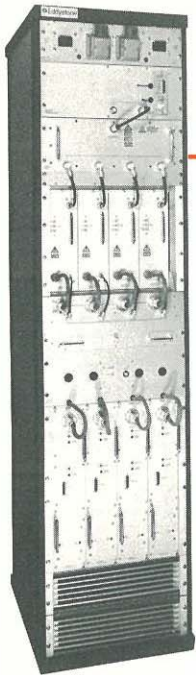
1706 Series 600 Width x 1840 Height x 600 Depth.  
1705 Series 600 Width x 1660 Height x 600 Depth.

### Power Supplies:

Single phase 190-260V AC 50Hz  
7.5A RMS 1706 series  
Power factor approximately unity  
3.8A RMS 1705 series



*Illustrated - 1kW Transmitter with Stereo Coder and Drive.*



## 2kW VHF/FM Broadcasting Transmitter System 1707 Series

The Eddystone Model 1707 VHF/FM Transmitter series extends the range of Band II transmission equipment which has been designed to meet high standard of performance and reliability whilst being economical in price. The range includes re-broadcast and monitoring receivers, drives, coders, decoders together with transmitter changeover and combining units.

### Standard options available:

**Model 1707/1A** 2kW RF power amplifier less drive.

**Model 1707/1B** 2 x 1kW RF power amplifier less drive.

**Model 1707/1C** 4 x 500W RF power amplifier less drive.

**Model 1707/1D** 2 x 2kW RF power amplifier less drive.

**Model 1707/2** 2kW transmitter with stereo coder and drive.

### Dimensions (mm)

600 Width x 2240 Height x 800 Depth.

### Power Supplies:

Single phase 190V-260V AC twice, 50 Hz 7.5A  
RMS maximum each supply power factor approximately unity.

*Transmitters manufactured under licence from the British Broadcasting Corporation.*

## Synthesiser

### Model ES1740

**Frequency Range:**  
500kHz to 1700kHz.

**Resolution:**  
100Hz

**Selection:**  
Thumbwheel switch selection of frequency.

### Stability:

±5 ppm over 0°C to +40°C or  
±0.5 ppm over -10°C to +50°C to special order.

### Spectral Purity:

Harmonic signals -26dB  
Non-harmonic signals -60dB.

### Output Level:

Internally adjustable between 2V and 8V RMS  
into 50 ohms.

### Output Level Flatness:

Within 1dB over frequency range.

### Power Requirements:

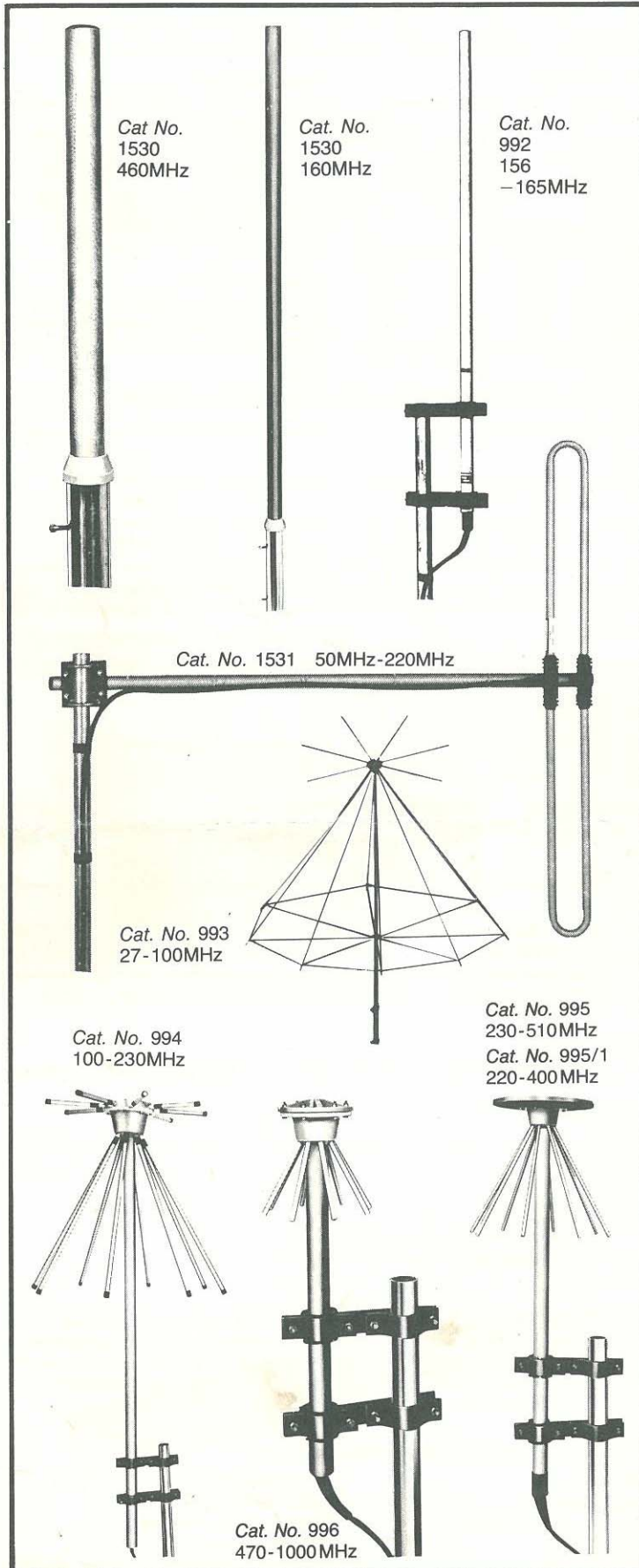
100-130V AC or 200-260V AC 40Hz-60Hz at 10VA.

### Dimensions:

Width: 483mm  
Height: 88mm  
Depth: 152mm rack intrusion plus 50mm for cabling.



## VHF/UHF



Only a small selection of aerials are illustrated. Please write for comprehensive data on our complete range.

### VHF Sleeve Dipoles

Available in versions from 100MHz to 500MHz for general mast or tower mounting (Cat. No. 1530) and as special marine version covering 156-165MHz (Cat. No. 992).

Strong, weatherproof, potted construction of Fibreglass sealed with epoxy resin. Cat. No. 1530 aerials are slide fit inside standard scaffolding mast, but sherardised mild steel mounting brackets can be provided (standard for Cat. No. 992 marine dipole).

Bandwidth 5% of centre frequency. Gain is unity over half-wave dipole, 3dB over isotropic. Impedance 50Ω or 75Ω.

### Heavy Duty Folded Centre Fed Dipoles

Cat. No. 1531 available for frequencies 50MHz to 220MHz. Most standard radiotelephone bands can be covered with wide bandwidth and good VSWR characteristics. Gain is unity over dipole, 3dB over isotropic. Impedance 50Ω. Very rugged construction of anodised aluminium alloy with low density polythene insulator. Boom and brackets supplied. Marine version available in stainless steel.

### Eddiscone Omnidirectional Antennae

Ideal for applications requiring well-defined gain, VSWR and bandwidth characteristics.

Four main versions cover range 27MHz to 1000MHz with 75Ω or 50Ω impedance, and special versions can be provided if required. Gain is unity  $\pm 1$ dB compared with a half-wave dipole.

Rugged construction of anodised aluminium with epoxy resin sealing. All versions supplied with brackets for mounting on masts of 38mm to 63mm diameter.

### Telescopic Rod Aerial Cat. No. 991

A nine section telescopic chrome plated aerial extending to 104cm. Especially designed for use with the EB35 MkIII or earlier receivers such as EB37/EC10 when an outdoor aerial is not practicable. Supplied complete with insulated fixing clips and screws.

### HF Receiving Aerial Cat. No. 731/1

This doublet type aerial is excellent for general shortwave reception. Electrical interference and other noise picked up on the twin feeder is balanced out, with a consequent reduction in background noise. The two sections forming the aerial should be mounted as high as possible, and well out in the open, free of all other objects. The flexible down-lead is well insulated and is taken directly to the receiver, no additional lead-through insulator or insulation being necessary. The aerial is supplied complete with end and centre insulators and is ready for immediate erection, requiring a horizontal spread of 10.5m. The twin feeder is connected and is 30.48m long.