g1jwg@radiohistory.uk

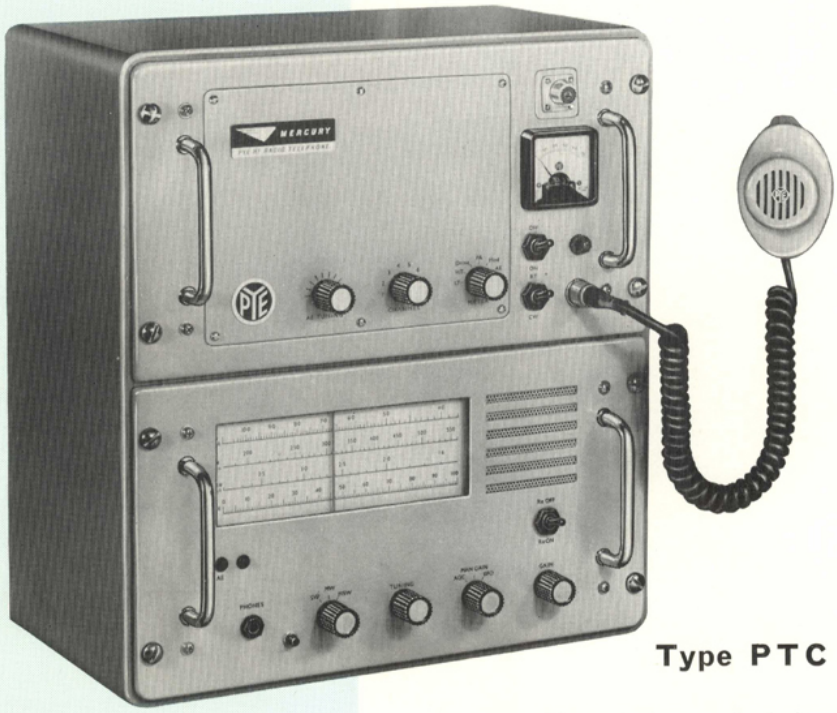
RADIO HISTORY UK

PYE MARINE

HOME

PYE BROCHURES

Pye Mercury H.F. Radiotelephone



Type PTC 986

The Pye 'Mercury' H.F. Radiotelephone Type PTC 986 is a 20 watt transistorised H.F. radiotelephone which can be used for fixed point-to-point operation or as a mobile station mounted in a vehicle. It can also be used for c.w. operation.

The transmitter has a transistor modulator and power supply for battery economy and reliability. It can be preset to eight crystal controlled frequencies, which can be located in the band 1·6 to 3·8 Mc/s, in the band 3·8 to 10 Mc/s or split between the two bands.

The receiver is fully transistorised and draws very little battery current. It is continuously tuneable over three frequency ranges; the broadcast band 535 to 1605 kc/s, the medium short wave band 1·6 to 3·8 Mc/s and the short wave band covering 3·8 to 10 Mc/s. The radiotelephone loudspeaker is disconnected when headphones are plugged into the socket on the front panel for c.w. operation.

The transmitter and receiver are each built on a separate chassis and are contained in a single cabinet. A removable panel on the front of the transmitter allows access to the bank of crystals and all preset tuning controls.

The 'Mercury' is tropicalised, dust and weatherproof with the rugged construction required for mobile use.

A wide range of antennas can be used including simple long wires, fixed dipoles or whips when the equipment is used as a mobile.

FEATURES

Low Power Consumption
Fully Transistorised Receiver
Fully Transistorised Modulator
20 watts R.F. Output
High Efficiency Transistorised Power Convertor
Full 'Listening through' on C.W.
12 and 24 volt versions available
8 Channels in two bands

ABRIDGED SPECIFICATION

TYPE PTC 986

GENERAL

Service
A1 Telegraphy with 'listening through' facilities
A3 Telephony.
Single or double frequency simplex operation.

Frequency Bands
Receiver
Broadcast Band: 535 – 1605 kc/s (562 – 187 metres).
M.S.W. 1·6 – 3·8 Mc/s (197·5 – 79 metres).
S.W. 3·8 – 10 Mc/s (79 – 30 metres).

Power Supply
PTC 986/12 12V nominal.
PTC 986/24 24V nominal.

Power Consumption

	PTC 986/12	PTC 986/24
Receive only	0·3A	0·3A
Standby	2·0A	1·8A
Transmit C.W.	7·0A	4·5A
R/T with average modulation	8·0A	5·0A

Dimensions
10¾" deep × 17½" high × 16" wide (27·3 × 44·5 × 40·6 cm)

Weight
43½ lb (19·8 kg)

Finish
Front Panel — Light Admiralty Grey.
Cabinet — Smoke Grey.

Climatic Suitability
Designed for tropical use.

Optional Features
Stand microphone can be supplied in place of hand microphone on request.
Lightweight telephone headset.
Fully sealed Morse key.
Resilient Mountings.

RECEIVER

I.F.
470 kc/s.

I.F. Selectivity
Bandwidth at 6dB down ± 3 kc/s.
Bandwidth at 60dB down ±18 kc/s.

Sensitivity for 50mW output
2μV (1 Mc/s) 3μV (2·6 Mc/s) 2μV (7 Mc/s)

A.G.C.
Output changes not more than 18dB for a change in input of 70dB above 10μV.

	1 Mc/s	2·6 Mc/s	7 Mc/s
I.F. Rejection	−70dB	−80dB	−100dB
Image Rejection	−60dB	−50dB	−30dB

A.F. Response
Within −3dB at 250 c/s and 2500 c/s relative to 1000 c/s.

Audio Output
1 watt nominal with less than 10% distortion.

TRANSMITTER

R.F. Output
20 watts minimum.

Modulation Capability
100%.

Modulation Distortion
Less than 10% at 400 c/s at 90% modulation.

A.F. Response
Greater than 20dB down at 3·5 kc/s.
Greater than 40dB down at 5 kc/s and above.

Speed on C.W.
25 Bauds.

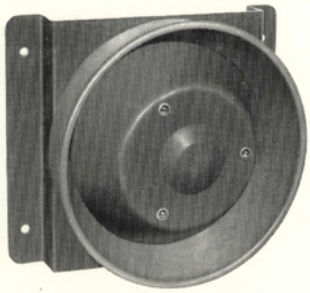
Harmonic Radiation
Less than 0·1 watt.

Hum and Noise Level
Better than −50dBm.

Specification details subject to change without notice.

PYE TELECOMMUNICATIONS LTD . CAMBRIDGE . ENGLAND
Printed in England 1163/1/5M

Pye Cambridge Marine Radiotelephone



TYPE CM 1 & CM 1A

The Pye Six-channel Cambridge FM Marine Radiotelephone, type CM 1, provides up to six adjacent simplex channels in the international marine or private marine frequency bands. It has been type-approved to British Post Office Specification, TSC 53d and fully meets the requirements of the Radio Regulations, Geneva 1959.

Two types of installation are available. In the first of these, type CM 1 illustrated overleaf, the transmitter/receiver unit is controlled by a waterproof control unit which is combined with the loudspeaker as one simple assembly. The control unit can be detached from the loudspeaker and mounted separately if required. The alternative installation, type CM 1A, has a bulkhead mounting, waterproof control unit with loudspeaker and handset, type PTC 440.

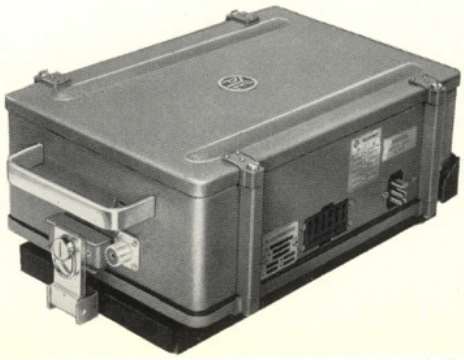
The transmitter output of 15 watts can be reduced to approximately ½ watt for short range working or when this requirement is mandatory.

If the vessel supply is a.c., a separate power unit, type AC 10 PU is required. Where 12 or 24 volt storage batteries are used the fully transistorised receiver which draws very little current, allows the equipment to be switched on for long periods on 'listening watch.'

Other British Post Office approved Pye marine radiotelephones are available, details of which will be sent on request.

FEATURES

Fully transistorised receiver
15 watt RF output
Low-power switch
Choice of control units
Electronic squelch
Dustproof and splashproof
Printed circuit sub-assemblies



PYE

ABRIDGED SPECIFICATION

TYPE CM1 & CM1A

GENERAL

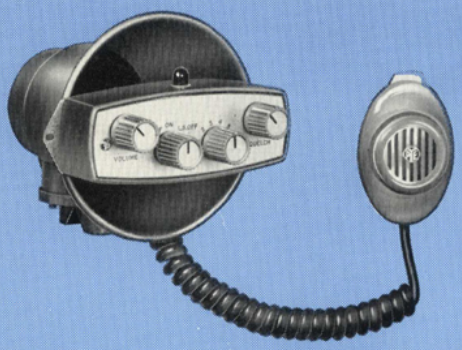
Operation	Single or two-frequency simplex using phase modulation.
Frequency Range	Transmitter: 156·05 — 157·4 Mc/s. Receiver: 156·05 — 156·8 and 160·69 — 162 Mc/s.
Channel Spacing	50 kc/s.
Power Supply	12 volt d.c. floating earth supply — permits use with positive or negative earth supplies. Adjustable models for 12 volt or 12/24 volt supplies also available.
Current Consumption	Standby 2·0A. Transmit (low power) 3·5A. Transmit (high power) 6A.
Dimensions	Main Unit: 9½ in. wide × 14 in. deep × 5⅝ in. high. (24·1 × 35·5 × 14·2 cm.)
Weight	Main Unit: 13 lb (5·9 kg) including cradle. Control Unit: 13 lb (5·9 kg) with interconnecting cables

RECEIVER

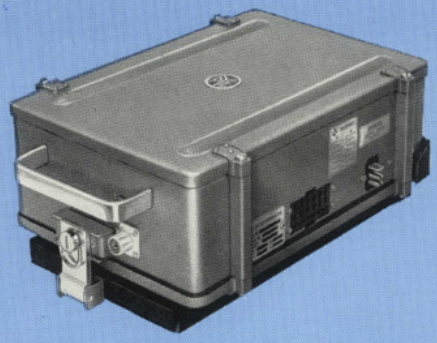
Sensitivity	20dB quieting for 0·5μV (p.d.) signal input. 0·5 watts audio output for 1μV (p.d.) signal input.
Signal/Noise Ratio	12dB SINAD for 0·5μV (p.d.) signal input.
Audio Output	2 watts with less than 5% distortion at 1000 c/s.
Spurious Response Attenuation	Better than 70dB below carrier.
Intermediate Frequencies	1st I.F. — 10·7 Mc/s. 2nd I.F. — 455 kc/s.
Squelch	Electronic squelch.

TRANSMITTER

Power Output	15 watts nominal. 0·5 watts on 'Low Power'.
Spurious Outputs	Each less than 2·5μW at aerial terminals.
Modulation Response	Between +1dB and −3dB of 6dB per octave pre-emphasis characteristic from 300 c/s to 3000 c/s.
Modulation	Adjustable up to 15 kc/s deviation.



Marine Radiotelephone type CM 1 fitted with combined loudspeaker and control unit.



Specification details subject to change without notice.

PYE TELECOMMUNICATIONS LTD . CAMBRIDGE . ENGLAND

Printed in England 1263/1/3M

Pye Vanguard Marine Radiotelephone

TYPE VM 1 & VM 1A

The Pye Six-channel Vanguard FM Marine Radiotelephone, type VM 1, provides up to six adjacent simplex channels in the international marine or private marine frequency bands. It has been type approved to British Post Office Specification, TSC 53d and fully meets the requirements of the Radio Regulations, Geneva 1959.

Two types of installation are available. In the first of these, type VM 1 illustrated overleaf, the transmitter/receiver unit is controlled by a waterproof control unit which is combined with the loudspeaker as one simple assembly. The control unit can be detached from the loudspeaker and mounted separately if required. The alternative installation, type VM 1A, has a bulkhead mounting waterproof control unit with loudspeaker and handset, type MCU 1.

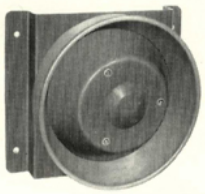
The transmitter output of 20 watts can be reduced to approximately ½ watt for short range working or when this requirement is mandatory.

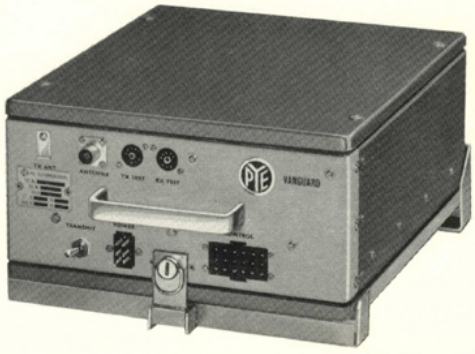
The fully transistorised receiver draws very little current from the batteries and allows the equipment to be switched on for long periods on 'listening watch'.

Other British Post Office approved Pye marine radiotelephones are available, details of which will be sent on request.

FEATURES

Fully transistorised receiver
20 watt RF output
Low-power switch
Choice of control units
Electronic squelch
Dustproof and splashproof
Printed circuit sub-assemblies





PYE

ABRIDGED SPECIFICATION

TYPE VM1 & VM1A

GENERAL

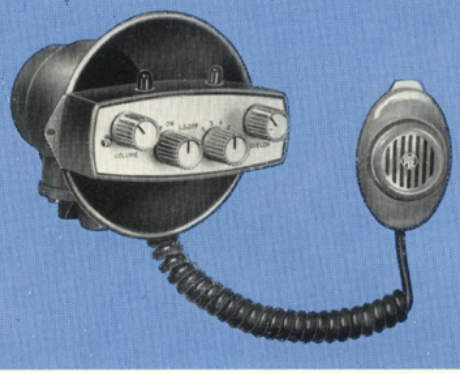
Operation	Single or two-frequency simplex using phase modulation.
Frequency Range	Transmitter: 156·05 — 157·4 Mc/s. Receiver: 156·05 — 156·8 and 160·69 — 162 Mc/s.
Channel Spacing	50 kc/s.
Power Supply	12 volt d.c. floating earth supply — permits use with positive or negative earth supplies.
Current Consumption	Standby 2·3A Transmit (low power) 6·75A Transmit (high power) 13A
Dimensions	Main Unit: 12¼ in. wide × 14 in. deep × 7¼ in. high. (31·1 × 35·6 × 18·4cm.)
Weight	Main Unit: 16 lb (7·2 kg). Control Unit: 13 lb (5·9 kg) with interconnecting cables.

RECEIVER

Sensitivity	20dB quieting for 0·5μV (p.d.) signal input, 1 watt audio output for 1μV (p.d.) signal input.
Signal/Noise Ratio	12dB SINAD for 0·5μV (p.d.) signal input.
Audio Output	2 watts with less than 10% distortion at 1000 c/s.
Spurious Response Attenuation	Better than 70dB below carrier.
Intermediate Frequencies	1st I.F. — 10·7 Mc/s 2nd I.F. — 455 kc/s.
Squelch	Noise controlled squelch.

TRANSMITTER

Power Output	20 watts nominal. 0·5 watts on 'Low Power'.
Spurious Outputs	Each less than 2·5μW at aerial terminals.
Modulation Response	Between +1dB and —3dB with respect to a 6dB per octave pre-emphasis characteristic from 300 c/s to 3000 c/s.
Modulation	Adjustable up to 15 kc/s peak deviation.



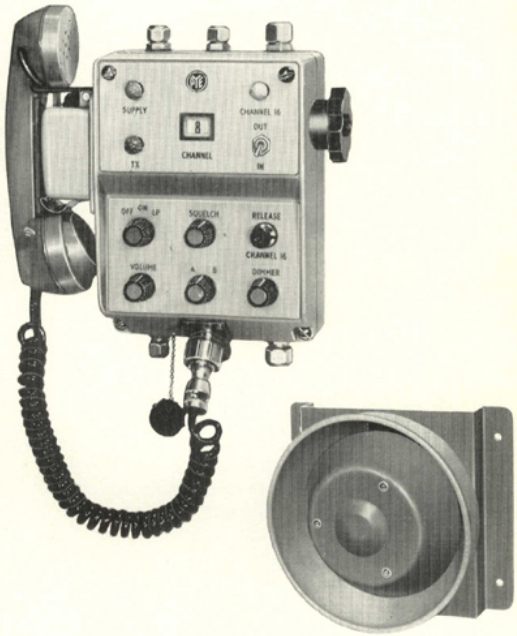
Marine Radiotelephone type VM 1 fitted with combined loudspeaker and control unit.

Specification details subject to change without notice.

PYE TELECOMMUNICATIONS LTD . CAMBRIDGE . ENGLAND

Printed in England 164/2/5M

Pye Marine V.H.F. F.M. Radiotelephone



TYPE PTC 8302

The Pye Twelve Channel FM Marine Radiotelephone type PTC 8302 provides up to twelve channels in the international marine or private marine frequency bands. It has been type approved to British Post Office specification TSC 53d and fully meets the requirements of the Radio Regulations, Geneva 1959.

The transmitter operates in the international frequency band between 156·05 and 157·4 Mc/s providing a total of twelve switched channels. The output of 20 watts can be reduced to ½ watt if required for short range working or when this is mandatory. The receiver provides 6 single frequency simplex channels in the international band 156·05 to 156·8 Mc/s and 6 two-frequency channels in the band 160·69 to 162·0 Mc/s. The channels in the second band may be either simplex or duplex. For duplex operation, provision is made for the equipment to be operated on a single aerial by means of a diplexer unit fitted in the case.

The transmitter and receiver unit can be installed in either a horizontal or vertical position and is supplied complete with a watertight bulk-head-mounting remote control unit type PTC 440 with separate loudspeaker. A feature of the equipment is the channel 16 reversion which automatically returns the equipment to the Calling and Safety Channel when the handset is replaced on the hook rest. If more than one control position is required a second control box can be provided, and either control can be selected by means of a switch.

The PTC 8302 can be supplied for use in the private marine band if required and is available for operation from 100 to 150 volt or 190 to 240 volt a.c. supplies.

FEATURES

Crystal-controlled channels.

18 watts r.f. output.

Type-approved by British Post Office.

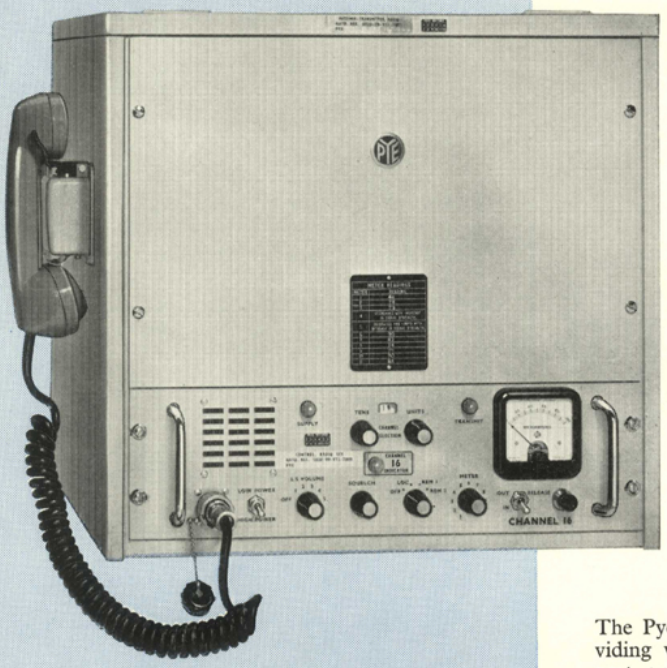
Simplex and duplex operation.

Waterproof control unit.

Automatic reversion to safety and calling channel.

PYE

Pye 28 Channel F.M. V.H.F. Marine Radiotelephone



TYPE PTC 8306

The Pye PTC 8306 is a marine radiotelephone providing voice communication between ships or with port authorities operating according to the recommendations of the Radio Regulations Geneva 1959. The equipment is approved and used by the British Royal Navy and meets the British Post Office marine specification.

It provides nine single frequency simplex channels, 17 duplex channels and two guard channels, a total of 28 channels, all in the International marine v.h.f. frequency band, from 156·05 to 162·0 Mc/s.

A feature is the channel 16 reversion switch — which automatically returns the equipment to the calling and safety channel when the handset is replaced on the hook-rest.

The transmitter r.f. output power which is normally 20 watts can be switched to ½ watt for short range working or where this requirement is mandatory.

The transmitter and receiver are mounted on separate chassis which are hinged to allow for easy access and are housed in a cabinet suitable for shelf or bulkhead mounting. A meter and multiway switch are fitted in the cabinet to enable periodic operating and performance checks to be carried out.

A weatherproof remote control unit is available which enables the main equipment to be located in any convenient position up to 200 ft. from the control point at the bridge or wheelhouse. A second remote control unit may be added if required.

FEATURES

Crystal Controlled Channels
20 Watts R.F. Output
Approved by British Post Office and Admiralty
Simplex and Duplex Operation
Compact, Rugged Construction
Remote Control Available
Automatic Reversion to Safety Channel
Built-in test meter
Reliable operation in all climates

PYE

ABRIDGED SPECIFICATION

TYPE PTC 8306

GENERAL

Operation
F3 Telephony
Nine channels single frequency simplex and 15 channels duplex (+2 guard channels (not used)).

Frequency Range
Receiver
Simplex 156·3 – 156·8 Mc/s.
Duplex 160·6 – 162·0 Mc/s.
Transmitter
156·0 – 157·4 Mc/s.

Power Supply
100–150 volts and 190–240 volts a.c. 40–60 c/s.

Power Consumption
Receive: 150 watts.
Transmit (high power): 265 watts.
Transmit (low power): 202 watts.

Dimensions
Main Unit (including resilient mounts)
22¼ in. high × 20¾ in. wide × 14 in. deep (56·5 × 52·7 × 35·6 cm).
Remote Control Unit
9″ high × 6½″ wide × 3⅝″ deep (22·9 × 16·5 × 9·2 cm).

Weight
Main Unit
125 lb (56 kg) approx.
Remote Control Unit (including handset)
10·5 lb (4·8 kg).

RECEIVER

Sensitivity
1 watt output for 1μV p.d. input (±5 kc/s deviation at 1000 c/s).

Signal-to-noise Ratio
Bandstop filter method:— 20dB for 1μV p.d. input (±4·5 kc/s deviation at 1000 c/s).

Selectivity
I.F. pass band ±12 kc/s at —6dB.
Adjacent channel rejection for duplex ± 11 kc/s simplex.
Single signal test —100dB for 20dB quieting.
Two signal test —70dB for 3dB degradation of wanted S/N ratio.

Intermediate Frequencies
1st I.F. — 15·301 Mc/s (duplex) or 10·701 M/cs (simplex).
2nd I.F. — 2 Mc/s.

Frequency Stability
Over the temperature range —10°C to +55°C the total drift from all causes is less than ±0·002%.

Spurious Response Attenuation
Greater than 70dB down.

Radiation
Less than 20mμW into the antenna.

Audio Frequency Response
—7dB at 300 c/s and —4dB at 3000 c/s with respect to a 6dB per octave de-emphasis curve relative to 1000 c/s.

Audio Power Output
1 watt for 10% distortion.

Squelch Sensitivity
Adjustable over the input range of 0·7μV to 1·5μV p.d.

TRANSMITTER

R.F. Output
20 watts with separate simplex and duplex antennas.
12 watts with duplexer, which requires only one antenna.

Spurious and Harmonic Emissions
Less than 2·5μW.

Frequency Stability
Over the temperature range —10°C to +60°C the total drift from all causes is less than ±0·002%.

Modulation Response
—1dB at 300 c/s and —2dB at 3000 c/s with reference to a 6dB per octave pre-emphasis curve relative to 1000 c/s.

Modulation Distortion
10% maximum at 70% maximum deviation at 1000 c/s.

Deviation
Up to a maximum of ±15 kc/s by preset control.

Specification details subject to change without notice.

PYE TELECOMMUNICATIONS LTD . CAMBRIDGE . ENGLAND
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