PYE PTC 984 "SOLENT" TRANSISTOR RADIO PORTABLE DIRECTION FINDER

The Pye "Solent" is a modern portable radio receiver primarily designed as an aid to navigation in small craft. In addition to the Beacon band it also covers the Marine and normal Broadcast channels. The receiver, which is completely transistorised, employs nine transistors in a sensitive superheterodyne circuit and operates on eight 1·5 volt batteries with an average life of approximately three months under normal conditions. As in all completely transistorised equipment there is no warming-up period, the set being fully operational as soon as it is switched on.

The sensitivity, selectivity and direction finding accuracy of the "Solent" compare very favourably with many of the more highly priced fixed installations. The receiver incorporates a signal strength meter to give visual indication when "direction" and "sense" finding, and provides a much greater accuracy than the more normal audible method. This same meter may also be used for checking the condition of the batteries.

The direction finding ferrite rod antenna is housed in a plastic case and is an integral part of the compass rose which is mounted on top of the receiver case. The full-vision dial signal strength meter and controls are all mounted on the equipment front panel. The number of controls has been kept to the minimum to provide simplicity of working and to facilitate rapid position finding, at the same time retaining a high degree of accuracy. For long range navigation the Consol method may be used, the B.F.O. (Beat Frequency Oscillator) being incorporated for this purpose.

The eight inch elliptical loudspeaker is specifically designed to work in conjunction with transistors and gives good sound reproduction for entertainment purposes. A jack-socket is mounted on the front panel for use when headphones are required and a spring loaded terminal is provided on the loop housing which enables an external antenna to be connected for "sense" finding or when a greatly increased range is required when working on the marine waveband.

To assist portability a robust carrying handle is fitted which can be folded back above or below the case when not required; in addition a strong plastic case can be supplied as an optional extra, to afford protection to the set in bad weather conditions.

PYE
Telecommunications

TECHNICAL DATA

Frequency bands

Long Wave	150–400 kc/s	(2000–750 metres)
Medium Wave	525–1680 kc/s	(572–178 metres)
Medium Short Wave	1·52–3·8 Mc/s	(197–79 metres)

Sensitivity

Sensitivity for 50mW a.f. output:—

Measurement Freq.	190 kc/s	1 Mc/s	2·6 Mc/s
Sensitivity	50μV/metre	50μV/metre	200μV/metre

Measurements taken with system switch in BROADCAST position

I.F. rejection

Better than 60dB

Image rejection

Better than 50dB

I.F. selectivity

Bandwidth at 6dB down	±3 kc/s
Bandwidth at 20dB down	±6 kc/s

A.F. response

—3dB from 150 c/s to 2500 c/s

A.F. output

500mW maximum
300mW for 5% distortion

A.G.C.

Output changes not more than 10dB for increase in input of 70dB

Overall dimensions

Height	7 in	(17·78 cm)
Length	13 in	(33 cm)
Width	9¾ in	(25 cm)

Weight

With batteries 11 lb (4·99 kg)

Finish

Receiver case — light Admiralty grey to B.S.381C tint 697
Antenna unit — smoke grey to B.S. 381C tint 692

Power supply

Eight 1½ volt batteries (leak proof)

Power consumption

17mA under average no-signal conditions.

Transistor complement

VT1	R.F. amplifier	OC 170
VT2	Frequency changer	OC 170
VT3	First i.f. amplifier	OC 45
VT4	Second i.f. amplifier	OC 45
VT5	D.C. amplifier	OC 75
VT6	Driver	OC 71
VT7	B.F.O.	OC 44
VT8 & VT9	Push-pull output	OC 83

Germanium diodes

MR1	Meter circuit	OA 81
MR2	Detector	OA 81

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