



## 3cm (X) Band Harbour and Coast Watching Radar

The 3cm (X) Band surveillance radar Type S505 is a completely new system designed primarily for marine navigation but is equally suitable for harbour, coastal and river surveillance. The system comprises an aerial, a Transmitter/Receiver and a radar display unit. Three types of display unit are available giving a choice of 12 inch or 16 inch or 12 inch high definition display. An effective anti-clutter device is incorporated in the system. The setting of this device is dependent on the height of the aerial and is preset on installation.

A fully transistorized static inverter

weighing only 29kg (63.86lb) and having no working parts is employed to generate all power requirements. This unit replaces the motor alternator which weighed on average 200kg (440lb) normally used with this type of system.

### Data summary

**Frequency range:** X-Band 9410MHz  $\pm$ 30MHz.

**Transmitter peak power:** 20kW.

**Pulse repetition frequency:** 1000 and 2000 p.p.s automatically selected by the range switch.

**Pulse length:** 0.06 and 0.6 micro seconds.

**Receiver noise factor:** Better than 12dB.

### Aerial

**Horizontal beamwidth:** Less than 1°.

**Vertical beamwidth:** 23°.

**Side lobes:** Better than 25dB.

**Rotation:** 24 r.p.m.

### Displays

**Ranges:** 0.5, 1.5, 3, 6, 12, 24 and 48 nautical miles.

**Minimum range:** Less than 20yds.

## V.H.F Direction Finder Type AD210C

### Single-Channel

This single-channel automatic direction finder provides, in the simplest and least expensive form, the DF facilities normally required at a small airport. A more sophisticated system can be built up for large airports.

Particular attention has been paid to achieving the highest of operational standards. The apparatus is robust and reliable and occupies a minimum of space.

The equipment is designed for 50kHz spacing.

### Features

Operation on any one of up to five crystal-controlled frequencies selected by push-button at the main display.

Automatic presentation of true or magnetic reciprocal bearing on a 20cm (8in.) diameter bearing indication meter.

Small display units, suitable for desk mounting or for incorporation in the airports' main control desk.

A slave display may be operated in addition to the main display and situated at a maximum distance of 150m (500ft) from it.

A simple remote control system, operating over standard telephone lines, permits remote operation up to a distance of 8 miles.

Simplified aerial system.

Communication reception included.

### Data summary

**Frequency range:** 100–156MHz.

**Operation:** Each channel on any one of up to five crystal-controlled frequencies.

**Instrumental bearing accuracy:** When receiving a vertically polarized wave, the standard deviation error is under 2° from frequencies up to 140MHz and under 2½° for the whole range.

**D.F range:** With an average-power aircraft transmitter, radiating substantially vertically polarized signals, bearings are obtainable for line-of-sight paths.

**Frequency channel separation:** 50kHz.

**Selectivity:** I.F bandwidth: 6dB at not less than 15kHz. Not less than 65dB at 35kHz. Not less than 86dB at 50kHz and beyond.

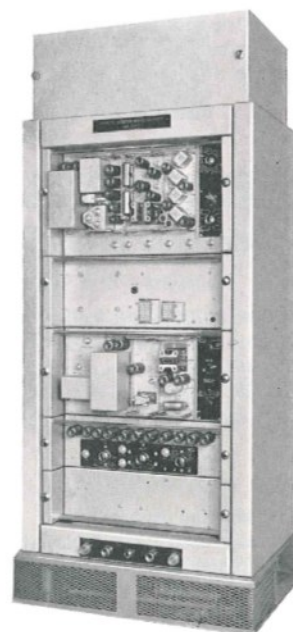
**Image protection:** At least 80dB.

**Operating temperature range:** –20 to  $\pm$ 55°C.

**A.G.C:** Input changes from 3V to 80dB above 3V produce output changes not greater than 6dB.

**Power supplies:** 100–125V (20%) 40–60Hz. (An automatic regulator is fitted.)

**Power consumption:** 850VA approx. each local cabinet (including aerial motor). 30VA approx. each display unit. 100W approx. mast lighting.



AD210C

### Dimensions: (approx.):

#### Display units

Height	30.5cm	(12in.)
Width	42cm	(16.5in.)
Depth	26.7cm	(10.5in.)
Weight	15.4kg	(34lb)