

D F OUTFITS

D F OUTFIT F V 4

1. GENERAL

An earlier VHF D F outfit consisting of a P 104 receiver and a goniometer which was fitted in Naval Air Stations and some aircraft carriers. It is being replaced by F V 10.

2. CAPABILITIES

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|-----------------------------|--|
| (a) <u>Frequency Range</u> | 100 - 150 mcs |
| (b) <u>Aerial Array</u> | Adcock |
| (c) <u>Presentation</u> | Aural and Meter |
| (d) <u>Bearing Accuracy</u> | $\pm 3 - 5$ degrees on calibrated frequencies
$\pm 5 - 7$ degrees on non-calibrated frequencies |
| (e) <u>Power Supplies</u> | 230v 50 c/s A.C. |

D F OUTFIT F V 5

1. GENERAL

A bulky set fitted in aircraft carriers and shore stations for V.H.F. aircraft safety D.F. It has automatic C.R.T. presentation and remote units can be fitted in the A.R.R. and Operation's Room. The receiver used is a modified P 104. This outfit is being replaced by F.V.10 at Naval Air Stations and by F.V.11 in aircraft carriers.

2. CAPABILITIES

- (a) Frequency Range 100 - 150 mcs
- (b) Range Approximately 100 miles with an aircraft at 10,000 feet using a 5 watt transmitter.
- (c) Accuracy Calibrated frequency $\pm 2\frac{1}{2}$ degrees.
Uncalibrated " ± 5 degrees.
- (d) Power Supply 230v 50 c/s single phase A.C.
- (e) Aerials Adcock system of folded dipoles.

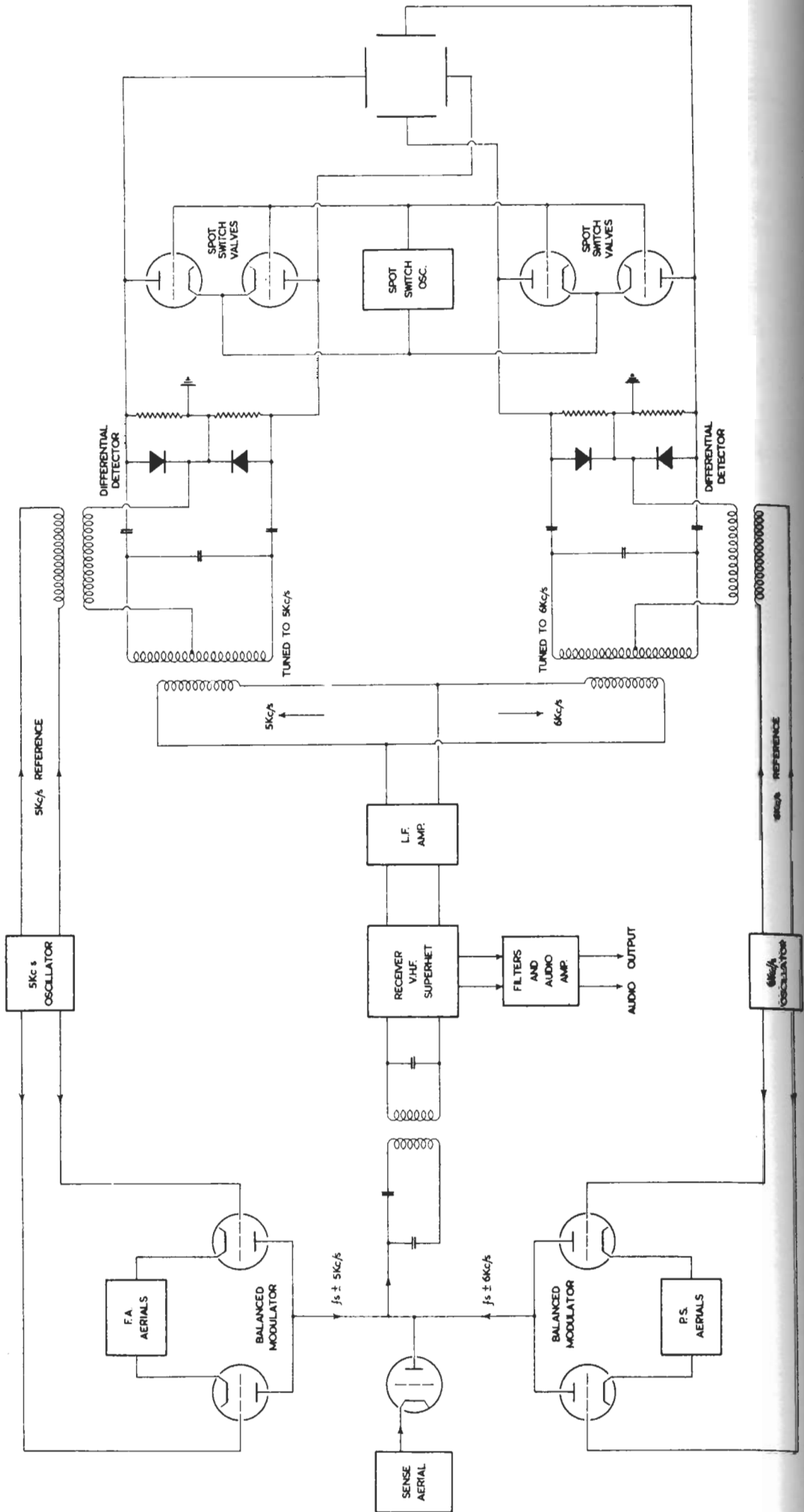
3. BLOCK DIAGRAM

See plate on page 242.

BLOCK DIAGRAM OF D F OUTFIT F V 5

3. BLOCK DIAGRAM

FV5. FREQUENCY RANGE 100-150Mc/s



OPERATION

- (a) Switch on, insert appropriate crystal and wait 15 minutes.
- (b) Check that ANL switch is "ON" and that the system switch is at "AGC".
- (c) Tune the receiver in the normal manner (Exactly the same as P 104).
- (d) Beam switch on Display Unit to "ON".
- (e) Adjust brilliance control to suit lighting conditions in D F office.
- (f) Adjust the Beam Focus to give a small circular spot.
- (g) Adjust F and A, P and S shifts to centre the spot.
- (h) Press the button above the A.G.C. delay control and remove any trace which may be present with the F and A, P and S centering controls.
- (i) Switch on the Test Oscillator and with receiver meter switch to "Sig", adjust the Test Oscillator tuning control for a dip in receiver meter.
- (j) Move the aerial tuning control for the setting obtained from the Calibration Chart for the frequency in use.
- (k) Adjust the A.G.C. delay control for a full scale trace.
- (l) From the calibration chart, obtain test angle for the frequency in use, and, using the H F Quad Balance control, bring the trace to this angle.
- (m) Switch off the test oscillator.

THE EQUIPMENT IS NOW ALIGNED FOR TAKING BEARINGS WITHIN $\pm 2\frac{1}{2}$ DEGREES ACCURACY.

Note: The SPEED of INDICATION switch is normally used in the Medium or Mid position.

The FAST position is used to take bearings of a transmission which is of very short duration, or, when two stations are transmitting at the same time. Bearings can be taken of the wanted station during the intervals between transmissions of the unwanted station.

The SLOW position is used for slowing down the movement of a weak or wavering trace, so allowing a more accurate bearing to be taken.