Video Map Generator Type SD 100

THIS unit electronically superimposes maps or other topographical markings on the screen of a PPI display in addition to the radar picture. The map or grid is marked photographically on a glass slide and converted by a scanning system into video signals. These are mixed with the video signals from the radar and displayed simultaneously on the screen.

Features

Off-centring of PPI display for sector working does not affect the correlation between radar display and video map display.

The video markings can be changed in a few minutes, allowing the function of the PPI to be rapidly adjusted.

Errors due to parallax effects are completely avoided.

Two sets of markings can be used simultaneously to provide separate pictures having fine or coarse details, or for 'back-to-back' operation with two synchronized radar heads.

Inter-services preferred components are used throughout.

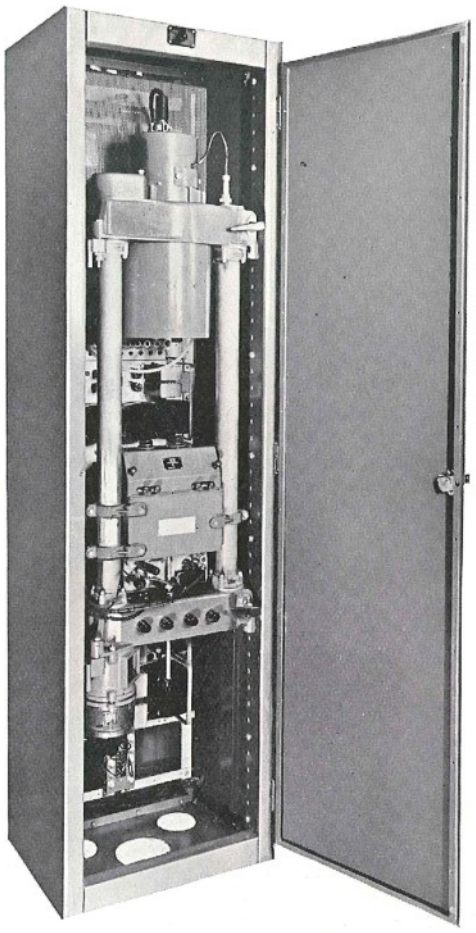
The unit is suitable for use in tropical climates.

CONSTRUCTION

The equipment is contained in a cabinet 7 ft high and occupying only a small amount of floor space. The complete scanning system, which is mounted vertically in the cabinet, can be moved up and down by a rack and pinion arrangement for focusing purposes. It can also be swung to one side to give access to the electronic circuits at the back of the cabinet. There are front and rear doors.

FUNCTION

The photographic slide is scanned by a special high-intensity cathode ray tube, through an optical system. As the rotating beam scans the slide, focused through it on to a photo-electric cell, the variation of light intensity is converted by the cell into electrical impulses which are amplified and mixed with the radar video signals entering the PPI display. Once set up, the video map will always be in correct relationship with the radar echoes, even when the trace origin is off-centred for sector working.



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A dual optical system is fitted, to provide two alternative video maps which can be switched according to range or operational requirements.

Data Summary

Timebase ranges:
10–25 n.m. (18–36 km)
20–50 n.m. (37–92 km)
45–125 n.m. (83–230 km)
120–320 n.m. (220–590 km) dependent upon PRF.

Input sync. pulses:
Length 0·1–15 μs.
PRF 200–2000 p.p.s.
Amplitude: 5 V min.
Polarity: Positive-going.

Video outputs:
Amplitude: 1 V.
Polarity: Positive-going.
Impedance: 75 Ω.
Frequency response: 1·5 Mc/s bandwidth.

Power supplies: 230 V (±6%), 45–65 c/s, single-phase AC; 50 V DC.

Power consumption: 750 W approx.

Dimensions:
Height 7 ft 0¼ in. (214 cm)
Width 1 ft 11½ in. (60 cm)
Depth 1 ft 9 in. (53 cm)

Marconi

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