



but still influenced by expansion and off-centring. Character size is unchanged by expansion.

**Range Marks:** various scales of coarse and fine marks e.g 1 nautical mile with highlighted 5 nautical mile, or 10 nautical mile with highlighted 50 nautical mile. Metric calibration also available.

**Video Map:** a separate video map input is provided (except on S3002 and S3008) so that the map information may be displayed either with or without the other data.

**Tracker Ball:** unlimited control of marker positions using either analogue or digital data.

**Head Combining:** alternated display of video from combined head radar over 180° sector.

**Integrated Display:** alternate display of video from combined head radar on alternate scans.

**Video Range Strobe:** continuously variable ring strobe with calibrated control.

**Vector Line Marker:** usable for bearing strobe with calibrated control; DF bearing indication; flight path prediction.

*Full details of these display units are given in Marconi Radar Data Sheets: E1 (S3001) E2 (S3002) E3 (S3008) E4 (S3009) E6 (S3006) E8 (S3013)*



*11in. S3006 Direct View Storage Tube Display in operation at Ostend Airport*

## Distance-from-Threshold Indicator

Using 12.7cm (5in.) Bright Display Type S3004

The role of distance-from-threshold indicator (DFTI) is just one of the many applications of the Marconi Bright Display Type S3004, which uses the 12.7cm (5in.) direct-view storage tube. Its great advantage over all conventional PPI displays is that it may be used under all lighting conditions and does not need to be operated in a darkened room.

In this particular application the display may be used in a control tower to monitor current air-traffic patterns in the vicinity of an aerodrome without reference to a third party. The controller may select (a) the approach path to the runway in use, from 10 miles out to the point of touchdown (b) the area from the take-off end of the runway in use out to a distance of 10 miles, or (c) the normal PPI picture, centred on the aerodrome, out to a distance variable between 10 and 20 miles radius. This last position will give a picture of all aircraft within the general circuit pattern of the aerodrome while the first two positions enable a more detailed observation to be made of aircraft, on the final approach to land, or immediately after take-off.

The display unit has been kept to the minimum size, using the most advanced semiconductor and printed-circuit techniques so that as little of the valuable space in the control tower as possible is used.

### Features

12.7cm (5in.) high-brightness direct-view storage tube.

Semiconductors and printed circuits extensively used.

Small size.

Low heat dissipation—convection cooling.

Plug-in printed circuit boards for ease of maintenance.

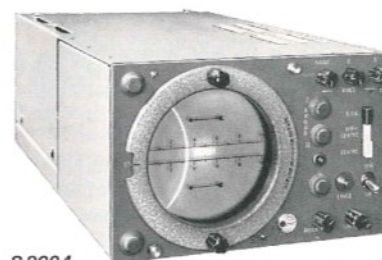
Long periods possible between routine maintenance checks.

Capable of integration with any surveillance radar systems.

Immediate push-button erasure of picture.

Automatic erasure when new viewing area selected.

Visual indication of runway threshold selected or off-centred picture.



S3004

### Data summary

**Inputs:** Separate inputs for each of two radar systems each comprising:

- (i) Video. Up to 3 channels.
- (ii) Sync. pulses.
- (iii) Turning information.

**Screen luminance:** Up to 1000ft-lamberts.

**Display ranges:**

- (i) Off-centred positions 10 nautical miles per tube diameter.
- (ii) Centre position 10–20 nautical miles per tube radius, centred on the aerodrome.

**Display off-centring:** Up to six off-centred positions corresponding to approach areas at each end of three runways.

**Display linearity:** Maximum positional error less than 2.5% of display diameter.

**Power supplies:** 200, 220 or 240V  $\pm$ (10%).  
45–65Hz, single-phase a.c.  
Consumption 350W approx.

**Ambient temperature range:** 0 to 45°C.  
Variation without adjustment of controls, 10°C.

**Dimensions:**

*Viewing unit*

Height	14.3cm (5½in.)
Width	22.5cm (8in.)
Depth	43.2cm (17in.)
Weight	9.1kg (20lb)

*Power and waveform unit*

Height	84cm (2ft 9in.)
Width	56cm (1ft 10in.)
Depth	38cm (1ft 3in.)
Weight	54.5kg (120lb)

*Full details are given in Marconi Radar Data Sheet E5.*