

# Marconi Bright Display Unit Type S 3006

The Marconi S 3006 Direct View Storage Tube (D.V.S.T) Display represents a new breakthrough in radar display technique by producing a radar picture which is up to several hundred times brighter than that from conventional displays.

The display may be used in any ambient light environment, even sunlight, and can therefore have a dramatic impact on the working conditions of operational staff. Not only can control rooms be well lit, but operational furniture may be re-arranged to suit the convenience of the controller than, as previously, the demands of the radar display.

## FEATURES

Clearly visible under all ambient light conditions.

Controllable persistence.

Instant 'erase' facility.

Very long life tube.

Retains full flexibility of conventional radar displays.

Mechanically and electrically interchangeable with Marconi S 3001 (fluoride) displays and uses same 'back-up' equipment.

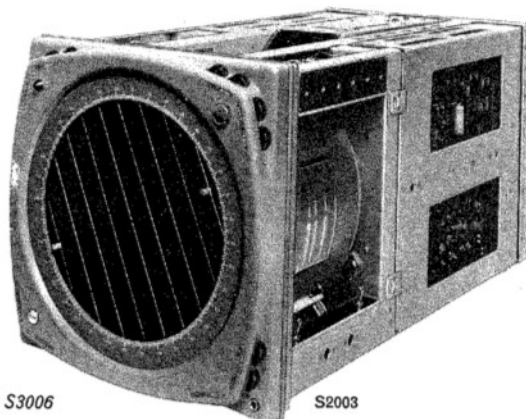
Fully transistorized.

## Equipment

The S 3006 is a compact radar display with a picture brightness of up to 1000 foot lamberts suitable for operation with S 3000 series transistorized back up equipment (see page 389).

With the exception of the viewing tube and stabilizers, the entire equipment is transistorized; satisfactory operation is ensured in the ambient temperature range 0-45°C and d.c. level settings will hold for a change of 10°C. When the display is desk mounted cooling air is provided by a low-speed 10-inch fan.

The English Electric 11-inch d.v.s.t has two electron guns mounted co-axially to minimize distortion and allow uniform illumination. One gun 'writes' the display which forms a charge pattern on a metallic mesh storage surface. The mesh is 'flooded' by the second gun with low velocity electrons. Where a pattern has been written the electrons are accelerated to produce an image. The effect of afterglow can be imitated by varying the storage time, and it is also possible to erase a confused picture and rewrite it.



Display Unit S3006

S2003

Four, switched, ranges are available with ratio of 1:2:4:8 and a minimum of 10 nautical miles to a diameter. Expansion of the trace is relative to the centre of the tube irrespective of any off-centring employed.

Five input channels are provided, three for raw radar signals and two for ancillary signals such as range rings and video map. A radar bright-up waveform is used in the display, this waveform is generated in the back-up equipment, and modified to give centre blanking etc.

**Heat dissipation display:** 210 W approx.

**Associated power unit:** 140 W approx.

## Dimensions:

### Display Unit:

Height 14.5 in. (36 cm)

Width 14.5 in. (36 cm)

Depth 30 in. (75 cm)

Power Unit 5 in. 14 in. 23 in.  
(13 cm) (36 cm) (59 cm)

This can be removed up to 100 ft from the display unit.

## Rack Equipment

**Timebase ranges:** 40 n.m. minimum. 200 n.m. maximum.

**Range markers:** 1 n.m. intervals basic, divided down as required.

## DATA SUMMARY

This equipment conforms with S 3000 series (page 389) except as below.

### Display Unit

**Ranges: (unexpanded)** Minimum 40 n.m. Maximum 200 n.m.

**Minimum displayed range:** 10 n.m. for tube diameter.

**Off centring:** To  $\frac{1}{8}$  of the basic time-base range in any direction, i.e. any part of an expanded picture can be viewed on the tube face.

**Signal inputs:** Three for raw radar. One for video map. One for range marks.

**Signal level:** 0.5 V positive. 70  $\Omega$  impedance.

**Transition time:** Less than 100  $\mu$ s for diameter deflection to settled condition within 0.1% of total deflection.

**Brightness:** Approximately 250 ft lamberts maximum.

**Picture erasure:** Stored picture can be completely erased by operation of a switch. Writing will recommence within 2 seconds.

**Power consumption:** 350 W.

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