

SUMMARY OF DATA

PURPOSE

To provide 2-way ship-shore communications via associated satellite systems.

BRIEF DESCRIPTION

The equipment forms a lightweight air transportable shipborne earth station. It is able to be fitted to all ships of frigate size and above and consists of the following main assemblies:

- (1) Two radome protected antennae mounted either side of the ship's superstructure centre line providing maximum coverage with minimum wooding. Each antenna is separately stabilised but uses a common servo control system such that when activated in the automatic mode they track the satellite simultaneously.
- (2) Satellite Engineering Cabin (SEC) containing the communication and servo control equipments.
- (3) Rack mounted remote control equipments in the MCO.
- (4) Rack mounted modulation and baseband terminal equipment in the MCO and speech compartments.

TRANSMITTER SYSTEM CHARACTERISTICS

Input	Baseband, FDME or CDMA
Modulation	FM or PM
Frequency	7975–8005 MHz
Modulator Sub-Carrier	70 MHz centre
Drive Power	120 mW
Power Output	50 W–1.2 kW

RECEIVE SYSTEM CHARACTERISTICS

Input	FM or PM Communication and Beacon
Frequency Range	7250–7300 MHz
Amplification	Uncooled Parametric Amplifier
1st I.F.	60–120 MHz
Output	Baseband, FDME or CDMA

ANTENNA CHARACTERISTICS

Beam Width	3°
Gain	35 dB Rx, 36 dB Tx
Tracking Rate	>30°/s
Training Angle	Fully Rotatable
Elevation Angle	–20° – +115°
Cross Level Angle	± 25°
Mode of Control	Manual or Auto Track

PHYSICAL DATA

	Height	Length	Width	Weight
SEC	2750 mm	2650 mm	2068 mm	2700 kg
Antenna	1800 mm	—	1400 mm	191 kg

POWER REQUIREMENTS

440 V, 60 Hz, 3-phase	11.3 kVA
115 V, 60 Hz, 3-phase	1 kVA
115 V, 60 Hz, 1-phase	6.25 kVA
115 V, 400 Hz, 1-phase	0.33 kVA
115 V, 60 Hz, 1-phase	1 kVA (antenna plinth maintenance sockets)
Dead Ship 115 V, 60 Hz	2 kVA
115 V, 60 Hz, 1-phase	1.2 kVA (MCO)

SHIP SERVICES

Water (Chilled or Salt)	6 gal/min (minimum pressure 40 lb/in. ²)
Air	5 ft ³ /h
Air (De-icing)	16 ft ³ /h at 50 lb/in. ²
Compass Transmission	Synchronous S1, S2, S3 transmissions from transmitter of minimum Size 15, reference voltage being provided from the SCOT equipment
1 MHz Frequency Standard	1 V, for lining-up and test purposes

HANDBOOK

BR 8160 Series

ESTABLISHMENT LIST

S1692

INSTALLATION SPECIFICATION

B1157

B1297