

INSTALLATION OF UPMAST X-BAND TRANSCEIVER CAE-A12-20 (25kW)

GENERAL

8 The Upmast Transceiver comprises a casting with two cover plates. Both cover plates are secured by four bolts and may be removed to access the motor and transceiver PCBs mounted within. The PCBs are secured to mounting plates which form a safety cage whilst in the closed position.

FITTING

9 The Upmast Transceiver should be installed in such a position to avoid any RF interference and where Blind Arcs, caused by obstructions, e.g. masts, funnels, etc, are eliminated or minimised. Funnels, crosstrees and other large obstructions can also reflect energy and give rise to spurious echo returns, especially in close proximity to land.

10 The Upmast Transceiver must not be mounted where the temperature exceeds 70°C.

11 The Upmast Transceiver must be kept clear of ship's flexible communication antennas to avoid damage to both.

12 The Upmast Transceiver must be mounted more than 914mm above any flat surface, when the flat surface is greater than the diameter swept by the antenna.

13 The Upmast Transceiver must not be positioned in the close proximity of any magnetic compass or D/F antenna, etc.

NOTE A heavy duty earthing strap or cable must be taken from the upmast transceiver/turning mechanism to the ship's earth.

14 Position the Upmast Transceiver at the installation site, supporting the unit where necessary, and mark out the mounting holes for drilling. Refer to Figure 1 for dimensions.

15 Allow sufficient cable length, (approximately 1m) on all cables to enable them to be routed through the Transceiver unit. Refer to Figures 2 and 4 for details. Ensure that there is sufficient slack on all cables to allow for full movement of the equipment on its mounts during any sudden shock, or extreme movement of the vessel.

WARNING

**THE UNIT MUST NOT BE LIFTED BY MEANS OF THE
ANTENNA OR WING CASTING. THE LIFTING SUPPORTS
MUST GO UNDER THE CASTING.**

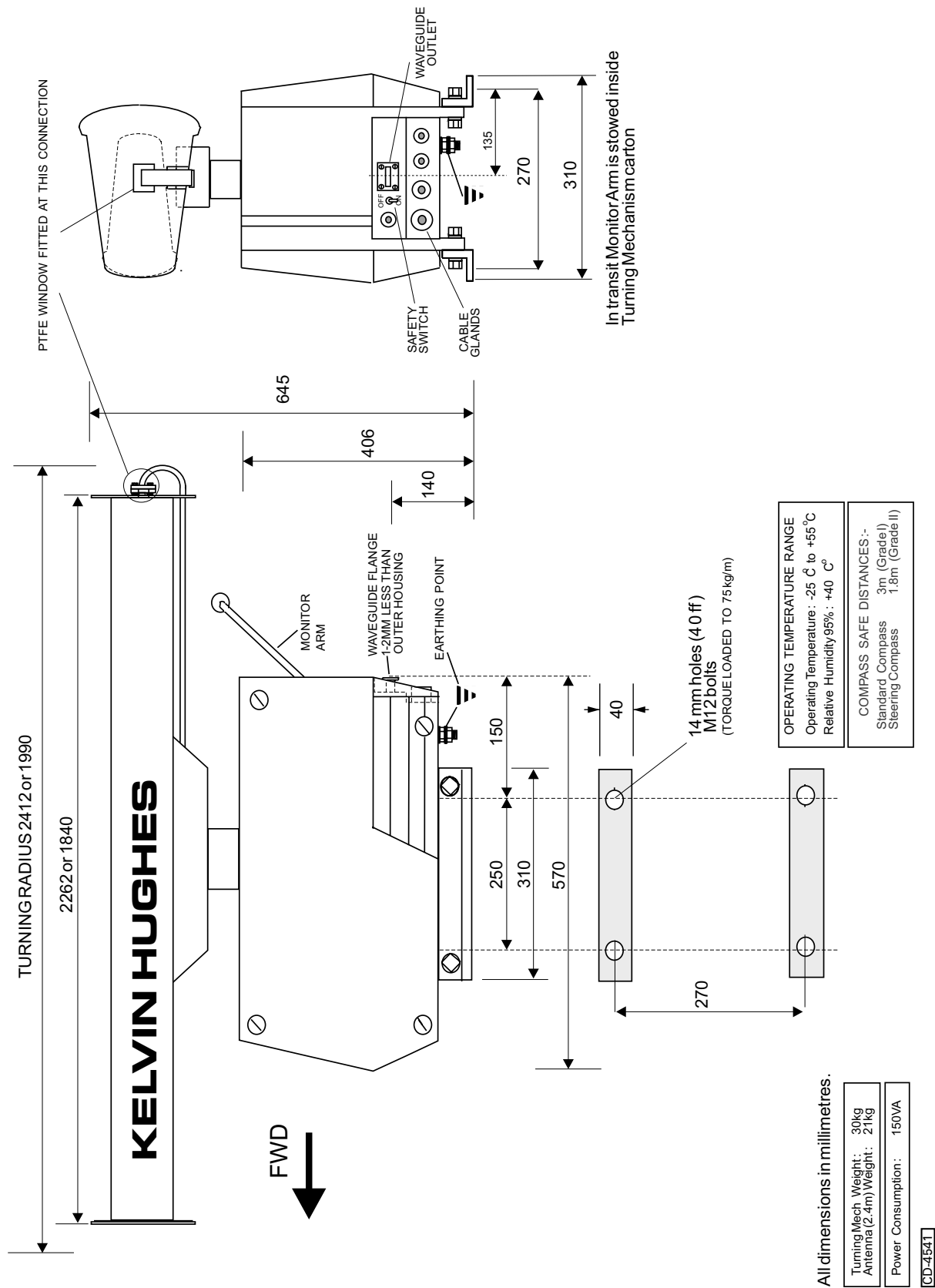


Figure 1 - Upmast X-Band Transceiver CAE-A12-20 (25kW):
Installation Dimensions

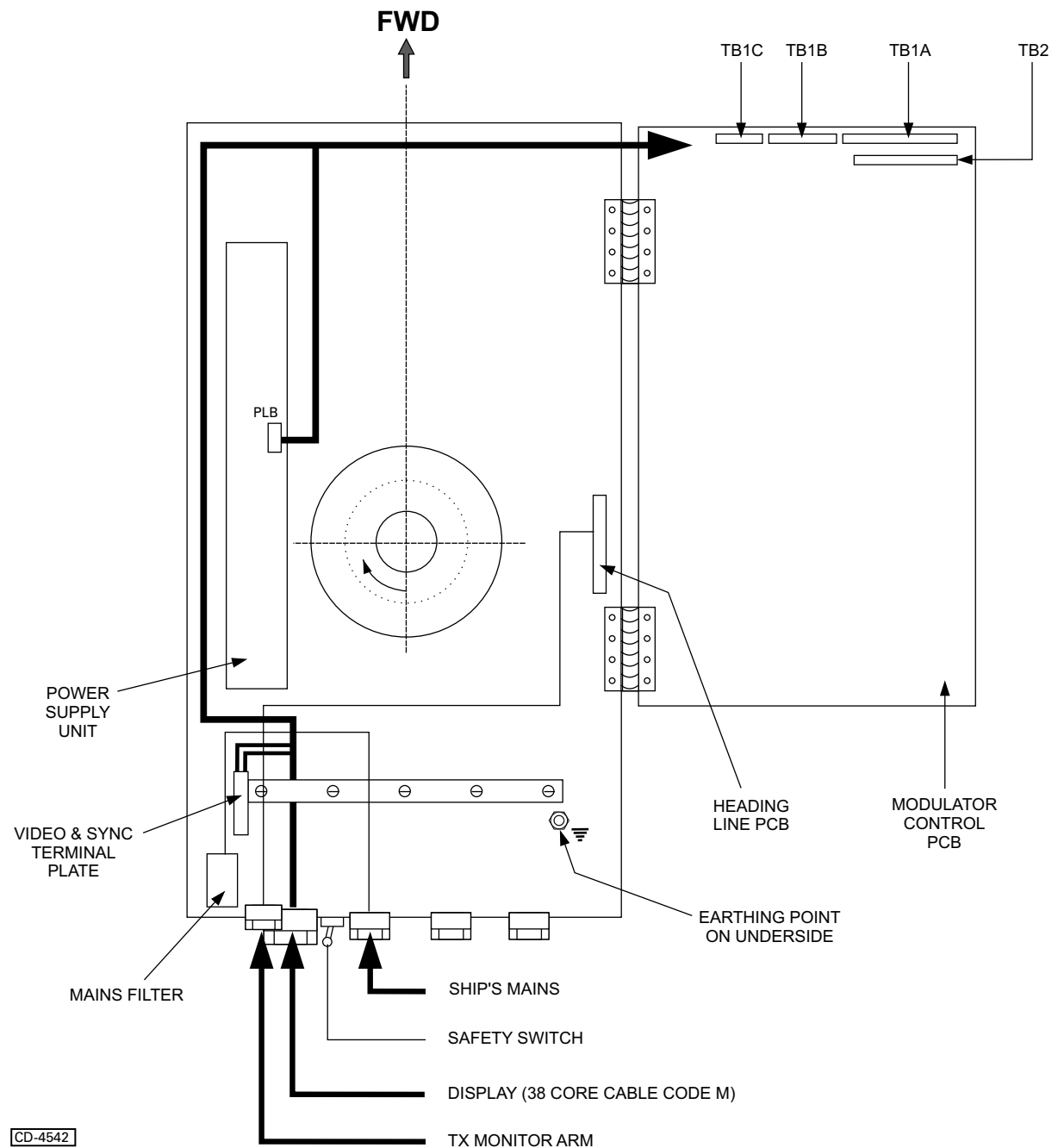


Figure 2 - X-Band Upmast Transceiver: Cable Routing

MONITOR ARM

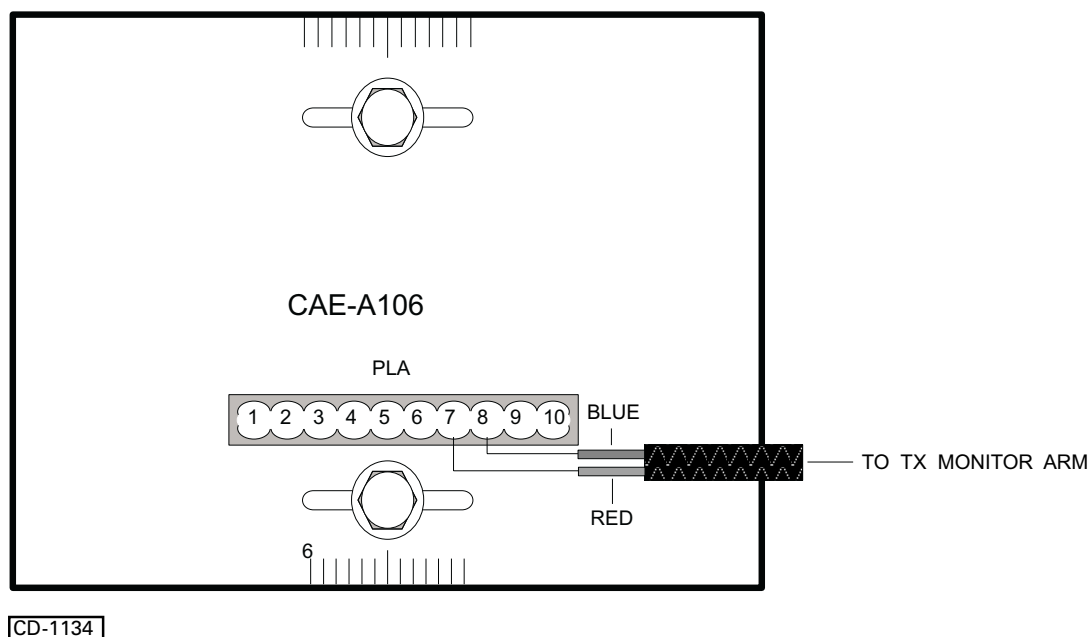
- 16 The Monitor Arm is positioned by means of a channel above the glands at the rear of the casting, and is secured by a clamp with two retaining screws. The neon points to starboard when viewed from the rear of the transceiver.
- 17 The cable is routed through the gland nearest the channel and connects to PLA-7 (red) and PLA-8 (blue) on the Azimuth PCB (CTX-A106). Refer to Figure 3.

ELECTRICAL CONNECTION

- 18 For detailed electrical connection of cables to the transceiver unit, refer to the installation diagrams in Figure 5. Figure 7 shows a typical arrangement with the MkIV transceiver connected to the NUCLEUS 3 Display, via the Radar Interface Unit (RIU). Ensure that all cables are secured to their associated entry point and that screened cables are earthed to their respective units.
- 19 Connecting cables between the display and the transceiver should be limited to a length of 65 metres. Where the distance between transceiver and display exceeds 65 metres, special low loss co-axial cable should be used. Where the distance between transceiver and display exceeds 180 metres, special low loss co-axial cable, and line amplifiers for video and sync must be fitted (see Annex A).
- 20 Cable specifications are detailed in Paragraphs 24 onwards.

CHECKS AFTER FITTING

- 21 Setting to work instructions are described in Chapter 3, Commissioning. The transceiver must be thoroughly checked for security, accessibility, and correct cabling runs.



CD-1134

Figure 3 - X-Band Upmast Transceiver Transmitter Monitor Arm:
Connection Diagram