CHAPTER 1

GENERAL DESCRIPTION

INTRODUCTION

1 The MkVII X-Band Transceiver is available in a downmast configuration only, where the transceiver electronics are remote from the turning mechanism, being located in a separate enclosure located below deck. The downmast Transceiver can be used with either one of two upmast Turning Mechanisms in the following configurations:

(1) Low Speed Antenna rotation - 24 rpm (CTX-A8 25 kW X-Band downmast Transceiver and CAE-A30-6 Turning Mechanism). This configuration is used for normal applications.

(2) High Speed Antenna rotation - 40 rpm (CTX-A8 25 kW X-Band downmast Transceiver and CAE-A30-5 Turning Mechanism). This configuration is used for high speed craft.

2 The configuration, shown in Figures 1 and 2, is provided with a single phase mains input to the transceiver, which provides DC supplies for the turning motor.

SYSTEM DESCRIPTION

Transceiver

3 The transceiver (CTX-A8) is fitted with a logarithmic amplifier with AFC and employs fan cooling for the magnetron and modulator.

4 The magnetron energy is fed via a circulator and a waveguide 16 run to the rotating joint located in the turning mechanism and onto the antenna. Received signals from the antenna are routed via the rotating joint and waveguide to the circulator. Within the transceiver the received signals are routed from the circulator to the RF limiter and low noise front end to the Logarithmic receiver.

5 The transceiver is normally muted whenever the antenna ceases to rotate. Pulse jitter, muting and sector transmission are standard facilities, with options for pre-pulse generation and external synchronisation.

6 The transceiver may be interfaced with any of the NUCLEUS Series displays. In addition facilities are provided for interfacing with the display via a Controller Area Network (CAN) Bus link. The CAN Bus is used with displays with this facility, for example the Kelvin Hughes Navigation and Tactical Display (NTD).

7 The transceiver provides two SYNC and two VIDEO coaxial outputs.