DF Acceptance Test

Checklist

RT-500-M

Marine V-UHF Direction Finder System

Revisions - History of Document

Revision	Date	Description of changes	Approved by
1.00	08.28.2020	Released	Ventura Rigol

Table of Contents

1 Introduction

This checklist shall be completed while conducting the DF Acceptance Test (DAT) Procedure.

For each test item only brief reference is given, so it is recommended to use the DAT Procedure.

Each test successfully passed should be confirmed with a signature in the "Approved" column. Should the test fail, check the "Not Approved" column and write a description of the problem in the "Comment" field.

2 General Information

2.1 Participants

Name and Company

2.2 Test Location

Area of Acceptance Test (GPS location, position of DF antenna on vessel, antenna altitude above deck)

2.3 Date and Time of DAT

2.4 Weather Conditions

2.5 Device under Test DUT

(see type label and/or DCU power-on screen)

DCU
(Display Control Unit RT-500-M):

_____
Serial No.

_____
System / CI [Rev x.xx]

_____
Software [Rev x.xx]

AU
(Antenna Unit RT-500-M):

_____
Serial No.

_____
System / CI [Rev x.xx]

_____
Software [Rev x.xx]

3 Test Procedures

3.1 Installation of DF System

Item:	Approved	Not Approved	Comments
3.1.1 Verify physical conditions of all RT-500-M system components			
3.1.2 Verify AU location and physical environment IAW “RT-500-M User Manual” recommendations			
3.1.3 Verify AU installation and wiring IAW “RT-500-M User Manual”			
3.1.4 Verify DCU installation and wiring IAW “RT-500-M User Manual”			
3.1.5 Verify the use of a DC-DC converter to power the DF IAW “RT-500-M User Manual”			
3.1.6 Verify DCU grounding IAW “RT-500-M User Manual”			

3.2 System Configuration

3.2.1 Power On

Item:	Approved	Not Approved	Comments
Turn DCU Power On. Verify: • ON/OFF button lights green • Loading screen • RT-500-M start screen • Start page - Bearing page • No errors displayed			

3.2.2 System Setup

3.2.2.1 GENERAL tab

Item:	Approved	Not Approved	Comments
Open **GENERAL** tab. Verify: (a) **DCU info**: SW Ver: _____ SN: _____ **(b) AU info:** SW Ver: _____ SN: _____ (c) **Open Freq info** tab Verify available frequency bands: VHF Emergency: ____ VHF Marine: ____ UHF Emergency: ____ COSPAS-SARSAT: ____ UHF FM: ____ F1 VHF Air Extended: ____ F2 VHF Marine Extended: ____ F3 UHF AM Extended: ____ F4 UHF FM Extended: ____ (d) Open **System Info** tab. Verify: RT-500-M Rev: _____ AU Rev: _____ DCU Rev: _____ Linux Rev: _____ Current DCU SW Rev: _____ Main Board Rev: _____			

3.2.2.2 DISPLAY tab

Item:	Approved	Not Approved	Comments
Open **DISPLAY** tab. Verify: (a) STNBY Mode: _____ (b) Night Mode: _____ (c) "Dark mode" : _____			

3.2.2.3 SYSTEM tab

Item:	Approved	Not Approved	Comments
Open SYSTEM tab. Verify: (a) All settings are IAW the user's specific operational requirements (b) No errors displayed			

3.2.2.4 INTERFACE tab

Item:	Approved	Not Approved	Comments
Open **INTERFACE** tab**.** (a) Verify all settings are IAW the user's operational requirements. Annotate settings: COM1: _____ COM2: _____ COM3: _____ LAN: _____ Open **COM Monitor** tab**.** (a) Verify each port data matches peripheral devices connected. Annotate devices: COM1: _____ COM2: _____ COM3: _____ LAN: _____ (b) No errors displayed			

3.2.2.5 SERVICE tab

Item:	Approved	Not Approved	Comments
Open **SERVICE** tab. Verify: (a) Voltage and temperature parameters are within the expected range (b) If required, Export Configuration files to a USB drive to keep in record			

3.3 Functional Test

3.3.1 DCU presetting

Item:	Approved	Not Approved	Comments
(a) DCU Monitoring mode = Off			
(b) DCU Scan modes = Off			

3.3.2 Audio Speaker Test

Item:	Approved	Not Approved	Comments
(a) Select **GENERAL** tab then Select **Internal** Speaker Use hotkey “Test On/Off” to test volume Min: _____ Med: _____ Max: _____			
(b) Select **GENERAL** tab, then Select **External** Speaker Use hotkey “Test On/Off” to test volume Min: _____ Med: _____ Max: _____			

3.3.3 Signal Receive and Bearing Test

Item:	Approved	Not Approved	Comments
(a) Setup DCU with channel no. or frequency of the test transmitter			_____ channel no. or frequency (MHz)
(b) With test transmitter Off (no signal reception) signal Level (= noise level) < 50 %			_____ Noise level [%]
(c) With transmitter On (signal received) → signal Level > 50 % and steady bearing			

3.3.4 Scan Modes

Item:	Approved	Not Approved	Comments
3.3.4.1 **CP-SS Scan**			
3.3.4.2 Monitoring mode			
3.3.4.3 Fast Channel Scan			
3.3.4.4 Marine Scan			
3.3.4.5 SAR Scan			
3.3.4.6 Scan List			

3.3.5 DF Bearing Accuracy and Sensitivity

This test procedure requires the RHOTHETA RT-500-M Ramptester and an associated RF Test Set that cover the 118-470 MHz frequency range

(a) Refer to “RT-500-M Ramptester User Manual”
(b) Refer to “RT-500-M Ramptester Test Protocol Template”
(c) Setup the RT-500-M Ramptester and the RF test
(d) Proceed to make measurements IAW the above referenced documents
(e) Annotate all measurements in the Test Protocol Template