# OceanTRx7™

## Maritime Stabilized VSAT System



## Technical Note

## Above Deck Mux (ADMx)

*COMMUNICATION WITHOUT BOUNDARIES*

## Copyright

## Disclaimer of Warranty

# Revision History and Control

## Revision History

| Rev # | Modified by | Date | Comments |
|-------|-------------|------|----------|
| Rev. A | Edox | | |
| | | | |
| | | | |
| | | | |

# About this Manual

This manual is designed to guide you through the procedures required for maintaining the Above Deck Mux `(ADMX)` for the OceanTRx7™ Maritime Satellite Communication System.

## Text Conventions

| Style | Indicates | Example |
|---|---|---|
| Text | Normal descriptive text | Contents |
| `Text` | Words or figures that appear on the screen or that should be typed <br><br>The name of a file or directory | `System Status` |
| `<Text>` | A key to be pressed | `<ESC>` |
| `TEXT` | The name of a hardware component | `ANTENNA` |
| **Text** | The name of a GUI element | **Operation Screen** |
| ➢ | The description of a procedure | ➢ **To configure…** |

## Notations

| | |
|---|---|
| | Indicates important information that should be noted. |
| | Indicates a potential hazard. |
| | Indicates the safest method of installation or an operation that *must be adhered to.* |

## Effective Releases

This document is effective for Release 1 (R1) and Release 2 (R2) of the OceanTRx7™ Maritime Satellite Communication System.

For a description of the changes between R1 and R2, refer to the *OceanTRx7™ Maritime Satellite Communication System Release Notes*.

# Table of Contents

# 1 Introduction

## 1.1 Purpose

The purpose of this Technical Note is to provide detailed instructions on how to replace and configure an `ADMX`.

## 1.2 Principles

The following principles must be followed when performing the procedures in this Technical Note.

### 1.2.1 Torque Table

The following table provides the torque that should be used when tightening screws of the listed types, as relevant.

Table 1-1: Torque Values

| Screw Type | Torque |
|---|---|
| M8 | $25^N/_m$ |
| M6 | $10.2^N/_m$ |
| M5 | $6^N/_m$ |
| M4 | $2.5^N/_m$ |
| M3 | $1.35^N/_m$ |

## 1.3 ADMx Description

The `ADMX` (mounted on the `PEDESTAL`) and the `BDMX` (inside the `BDE CCU`) multiplexer modules form the communications link between the `ADE` and `BDE`, minimizing the physical connection to a single coaxial cable (LMR-200, LMR-400 or LMR-600, depending on the required cable length).

The `ADMX` also provides integral amplification and attenuation of the Tx and Rx paths.



Figure 1-1: ADMx

## 1.4 Spare Kit Contents

The following table provides a list of the parts in the `ADMX` spare kit.

Table 1-2: Spare Part Kit Contents

| KIT32-1664-008-SP | | |
|---|---|---|
| P/N | Description | Quantity |
| 25-1184-2 | ADMX - FOR  AL-7103/7107-SYS | 1 |
| H04014071002 | SCKT FH90 SCR M4X10 STST | 4 |
| H04015071202 | SCKT FH90 SCR M5X12 STST | 4 |

# 1.5 Required Tools and Parts

The following table provides a list of tools and customer-supplied parts that are needed to perform the procedures in this Technical Note.

Table 1-3: Required Tools and Parts

| Tool/Part Name | Notes | Figure |
|---|---|---|
| Open/ring wrench 13, 8 mm | |  |
| Allen keys: 2.5, 3mm | |  |

# 2 Preliminary Procedures

The preliminary procedures described below must be performed before replacing the `ADMX`.

1. Perform System Shut-Down of the vessel's main power AC Voltage terminal outside the `RADOME`.

2. Open the `RADOME` hatch.

3. Switch off the `ADE POWER BOX` at the `ANTENNA PEDESTAL` base (located inside the `RADOME`).

4. Manually rotate the `PEDESTAL AXES` to gain convenient access to the serviced unit.

| | In the following procedures, be very careful when tightening and loosening the screws with which the parts are assembled and attached to the system. Some of these screws are delicate and can be damaged by excess force. When using an Allen key make sure to insert the key all the way into the screw head to avoid thread stripping. |
|---|---|

**WARNING!**

The Utility Outlet is connected directly to the vessel's AC voltage input terminals (125 VAC / 250 VAC). Therefore, there still exists live voltage at the Utility Outlet after disconnecting the power supply to the ADE using the Mains Power On/Off Switch.
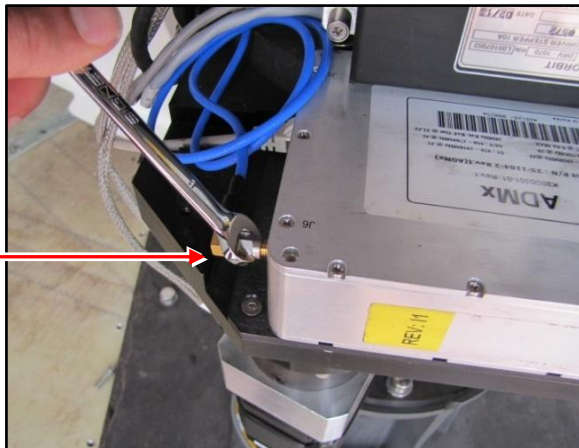
Only qualified and authorized personnel are allowed to carry out system service/maintenance procedures.

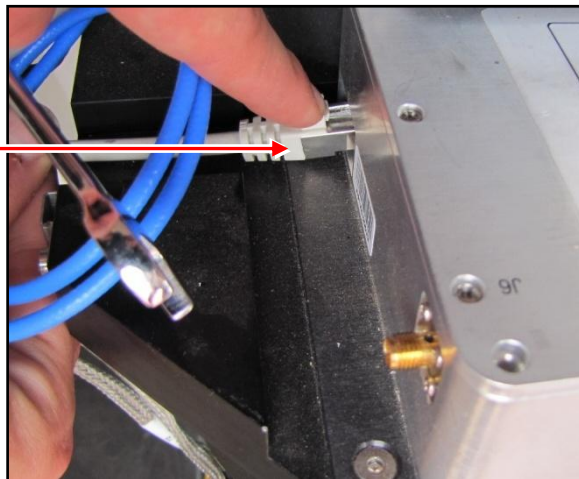# 3 Replacing the ADMx

## 3.1 Removing the ADMx

**Step 1**

Using an 8mm Open/ring wrench, disconnect the described RF cable from the ADMX.
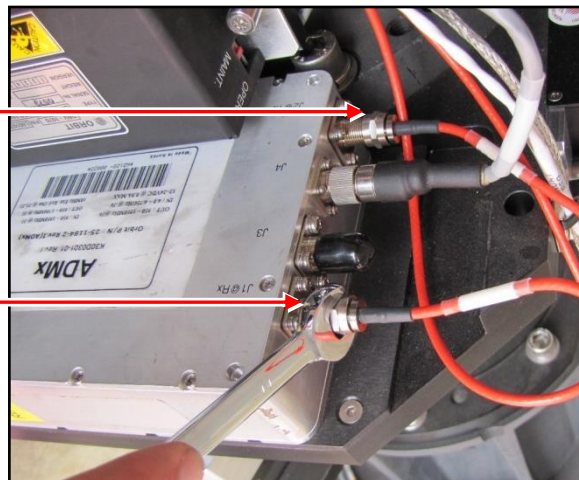


**Step 2**
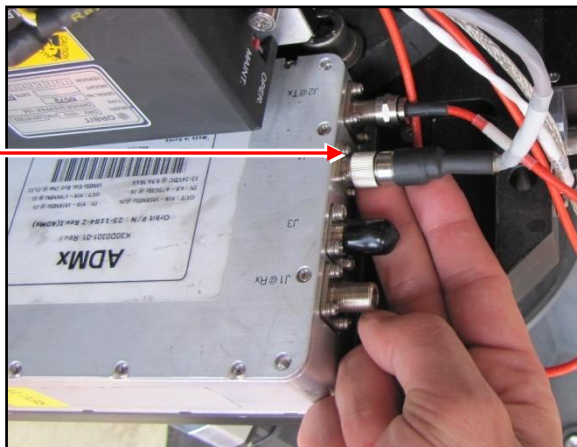
Unlock and remove the network cable.



**Step 3**

Using an 8mm Open/ring wrench, disconnect the two described RF cable from the ADMX.

## Step 4

Manually unscrew and remove the plug.



## Step 5

Use a 2.5mm Allen key to remove the four screws securing the ADMX mounting plate.



## Step 6

Use a 3mm Allen key to remove the four screws securing the ADMX mounting plate.

## 3.2 Installing an ADMx

**Step 1**

Position the mounting plate as described.
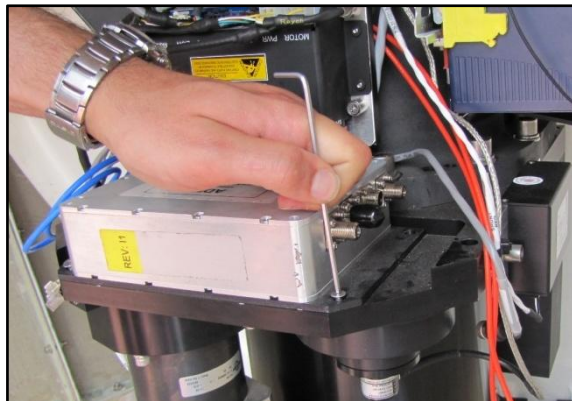
**Note** the plate's angle.



**Step 2**

Secure the new ADMX to its mounting plate using a 3mm Allen key.
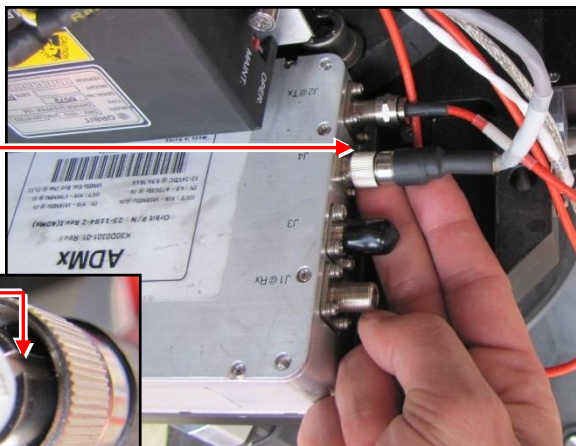


**Step 3**

Mount the ADMX mounting plate in its place on the PEDESTAL and secure it using a 2.5mm Allen key.
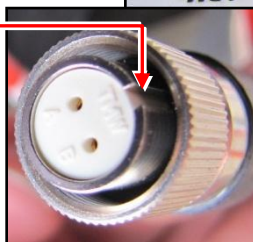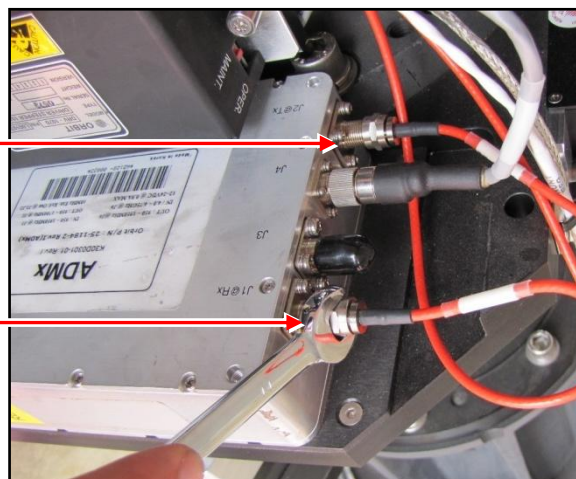
**Step 4**

Manually screw the plug to the `ADMX`.



Mind the plugs pins and lead!



**Step 5**

Connect and tighten the TX red RF cable to J2.
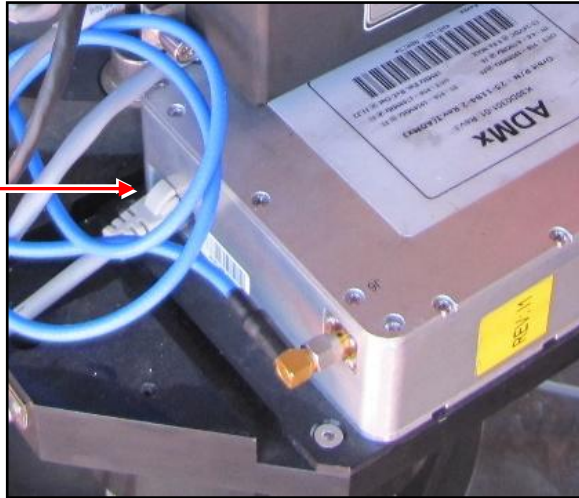
Connect and tighten the RX red RF cable to J1.



**Step 6**

Reconnect and tighten blue RF cable to the `ADMX`.

**Step 7**

Reconnect the network cable
to the `ADMX`.

# 4 Post replacement check

After the `ADMX` has been replaced, perform the following test procedures to verify system functioning.

1. Start up the system (see the *OceanTRx7™ Installation and Operation Manual* for instructions).

2. Verify that there are no ERR/WRN system messages and that there is communication between the `CCU` and the `ACU`.

3. Perform 1dbcp with the NOC and confirm the system is back online.