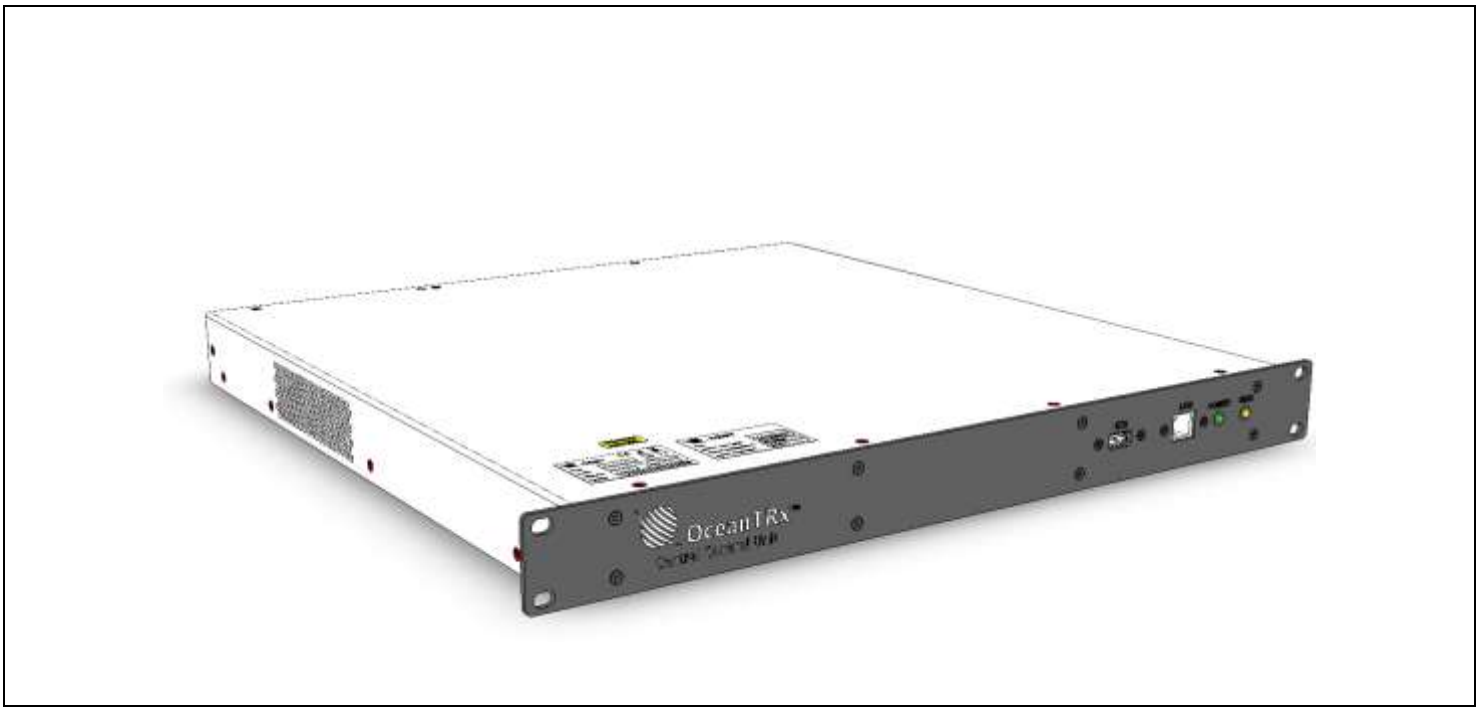


Figure 1-1 CCU general

General warnings and instructions!

WARNING!

Only qualified and authorized personnel are allowed to carry out system service/maintenance procedures.

Before starting the procedure:

- Open the radome hatch. Inside the RADOME, Switch off the ADE Power Box at the Antenna pedestal base.
- Manually rotate the pedestal axes to gain convenient access to the serviced unit.

General instructions relevant to this procedure

Note the following:

- Make sure you have latest software package (GSupdate.zip) on your computer/CCU**.**

Box content: (P/N: OTRx-CCU-001-SP or OTRx-CCU-002-SP)

Quantity	Description	
1	CENTRAL CONTROL UNIT (CCU)	
1	USB flash drive	

Required tools

Tool/Part Name	Figure
Philips screwdriver	
Flat screwdriver	
Side cutter	
Open/ring wrench 11,19mm and ¾”	

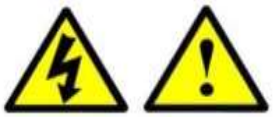
1 Prelimanry procedure

This procedure consists of below phases:

- **To Perform Preliminary Procedures:**

The following preliminary procedure must be performed before replacing the CCU:

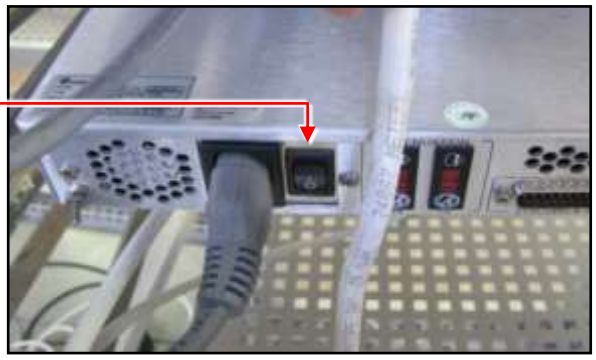
1. Turn off the satellite modem.
2. Take note of the CCU IP address and host communication IP address
3. Write down compass input and GPS output. I.e. COM port, baud rate, Format

	Use caution wile handling the CCU connectors.
	Use extra caution wile handling Syncro/SBC compass connector. Danger high voltage exist even if the system power is switched off

1.1 Remove the CCU

Step 1

Turn off the CCU



Step 2

Disconnect all cables from the CCU interfaces. Label each cable as you disconnect it. This will make installation of the new unit easier.

Step 3

Use a screwdriver to remove the screws securing the CCU to the rack.

Support the CCU while removing the bolts

2 Install the CCU

Step 1 Install the CCU in a 19-inch rack.	
Step 2 Connect all the cables that were disconnected from the old CCU. Ensure that each cable is connected to the appropriate connector.	
Step 3 Connect Ground and power cables. Switch on the power switch	

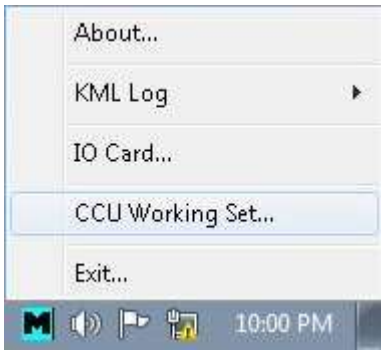
3 SETUP

This chapter describes the following procedures:

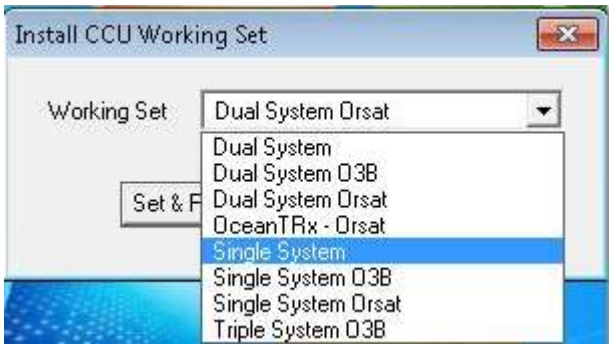
- Select CCU mode (working set)
- Configuring the CCU IP and host communication IP address
- Configuring the compass input
- Updating the system with General Software update module (GSU)

3.1 Select CCU mode (working set)

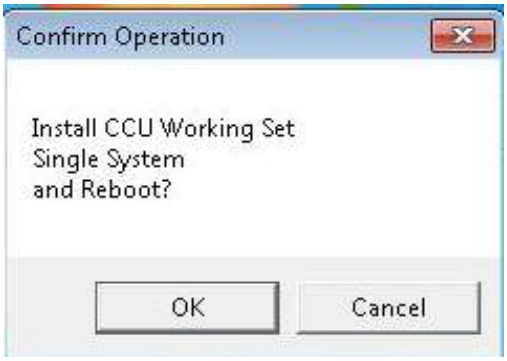
1. On the Windows 7 Embedded, right click on the CCU manager.



2. Select working sets. List of available CCU modes will show

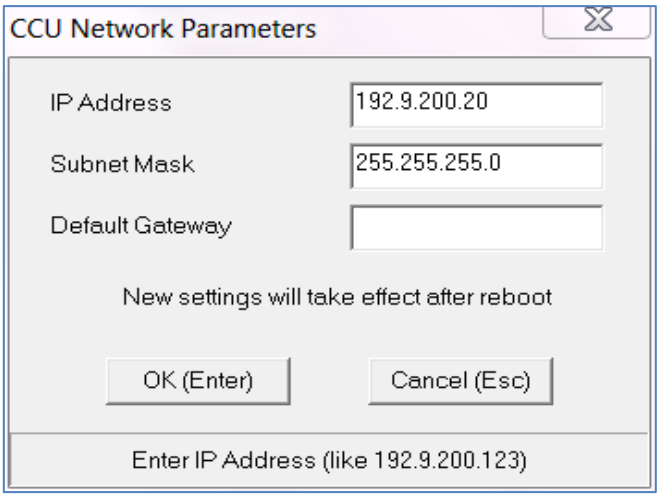


3. Select the relevant working set according the system type
4. Press Set &reboot. The system will issue confirmation prompt



3.2 Configuring the CCU IP and host communication IP address

1. Power on the CCU. Verify normal boot sequence
2. Launch the MTSDOCK application (start → programs)
3. Access remote CCU →connect → 192.9.200.22
4. Go→Remote CCU →edit network parameters
5. Enter the new CCU IP address.



6. Configure the required network parameters and click OK.
7. Select the RemoteCCU menu (again) and click Reboot. The CCU will reboot
8. In the MTSDOCK application open the **ACU** menu and select **Edit Network Parameters** chose **Detect ACU**. The **Detected ACU** dialog box opens.

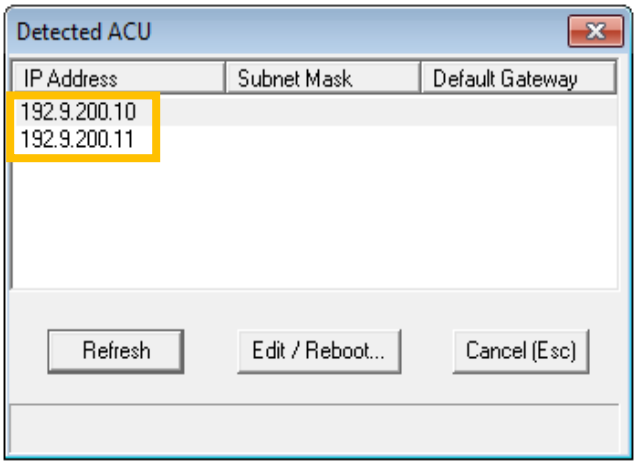
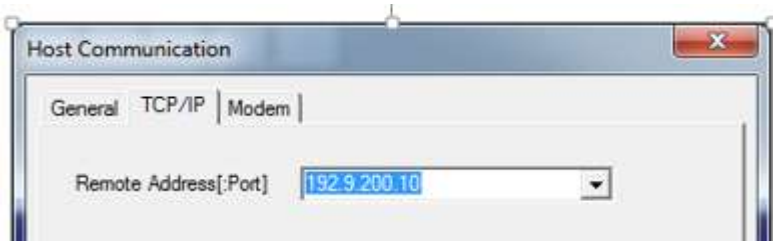


Figure 3-1: Detected ACU Dialog Box

9. The ACU IP address and subnet mask appears. Take note of it.
10. Switch to the MTSVLINK application.On the **Host** menu select **Communication**.
11. Enter the ACU IP address obtained during the preliminary procedure



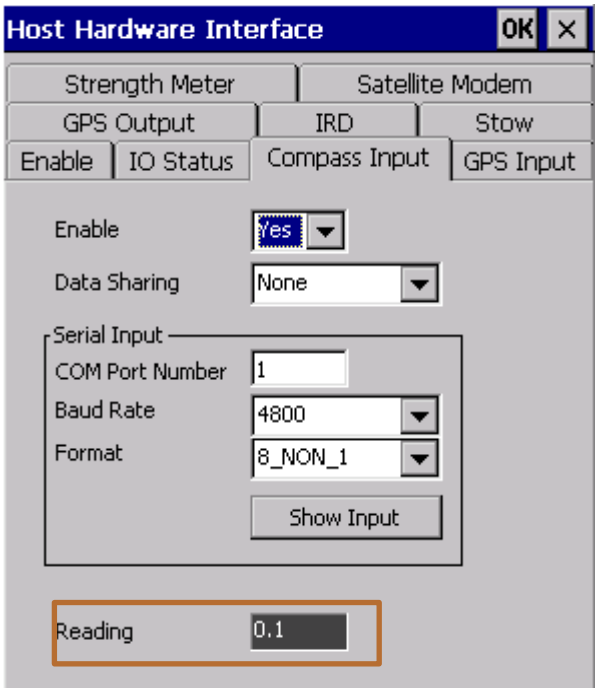
Note

For Dual or Triple System topology, the above procedure should be repeated for each antenna `MTSVLINK` instance

3.3 Configuring the compass input.

➢ **To configure the compass input:**

1. Open `MTSVLINK` application
2. Open the **Host** menu and select **Host Hardware Interface**.
3. [general] tab enable set to yes
4. [Compass input] tab. Enable set yes. For NMEA only configure the parameters according values retrieved during preliminary procedure.
5. Verify the reading value is displaying the ship heading
6. [GPS output] tab (optional). Enable set yes. Configure the parameters according values retrieved during preliminary procedure.



Note

If the parameters of the Compass and GPS output are not available during the preliminary procedure contact the ship electrician /air time provider (NOC) to obtain it.

3.4 Updating the system software version

1. Obtain the latest software package GSU (*GSUpdate.zip*) from Orbit's support team.

2. Copy the files to a USB flash drive. Connect it to the USB port in the CCU front panel.

4. Launch the MTSDOCK utility from start→programs

5. Select **ThisHost** menu and chose **General Software Update.**

6. The **Select ZIP Archive with Software Updates** dialog box appears.

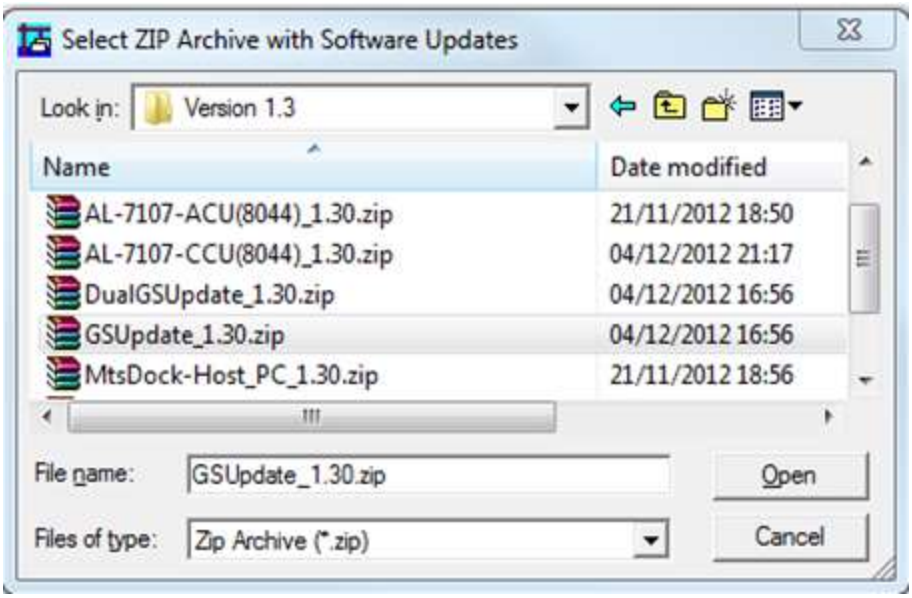


Figure 3-2: Select ZIP Archive with Software Updates Dialog Box

7. Select the GSU file from the USB Flash drive.

8. Click **Open (Enter)**. New dialog box will pop up ask to enter the ACU and the CCU IP address, Enter the address previous found.

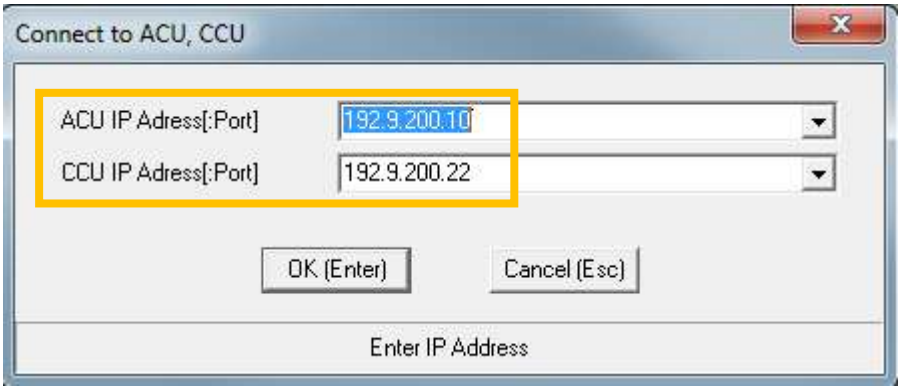


Figure 3-3: Connect ACU, CCU Message Box

9. Click **Open (Enter)**. The automated upgrade process will start. It will update the ACU (VSATWORKS) executable, CCUs MTSVLINK and also the Servo Drives FIRMWARE

10. Reboot prompt will be issued at end of the process. Reboot by pressing **OK**.

11. When communication is reestablished between the ACU and the CCU,

12. Click the **Version** command on the MTSLINK Menu Bar and verify that the new version was successfully installed and matches the software version used by the ACU

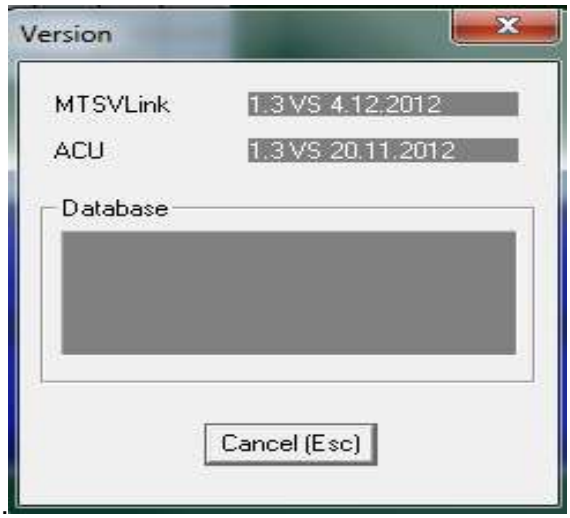
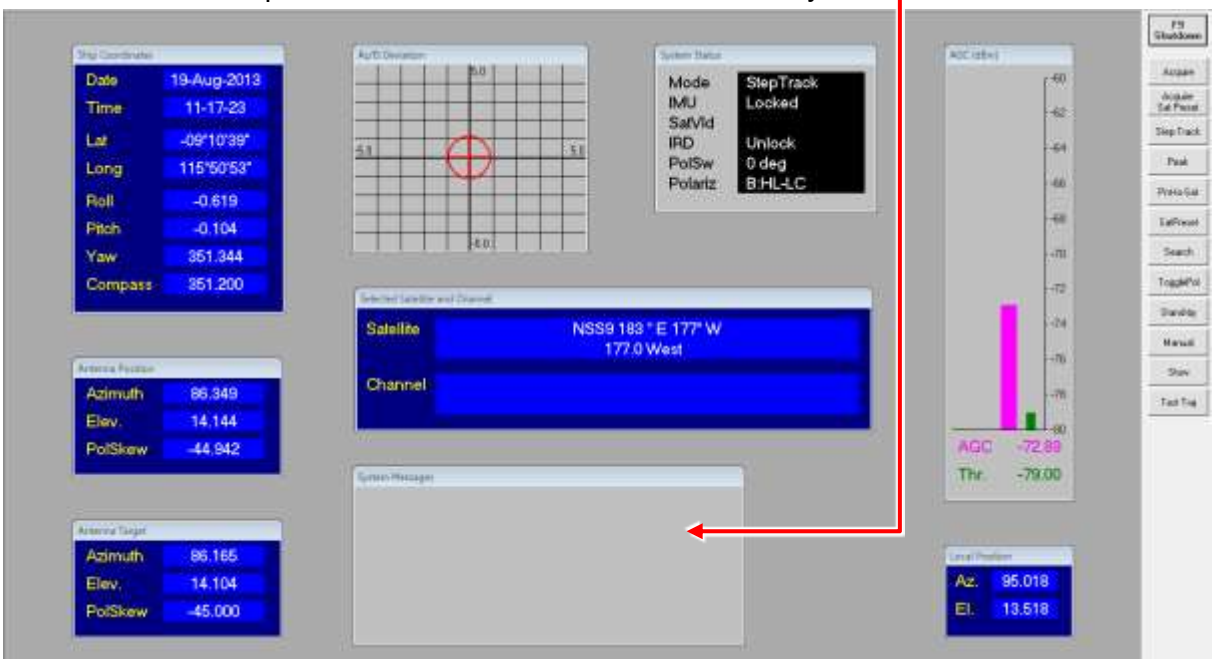


Figure 3-5: Version Message Box

4 Perform Verification Test

➢ **To Perform Verification Test:**

1. Power up the CCU/DSS (see the *OceanTRx7™ Installation and Operation Manual* for instructions).
2. Verify that there is communication between the ACU and CCU and there are no ERR/WRN system messages.
3. Verify heading is available.
4. Make sure compatible modems receive GPS from the system



5. Verify Modem Rx EdNo and TX power within limits, using NOC assistance

5 Appendices

5.1 Appendix A: Routing and Wiring

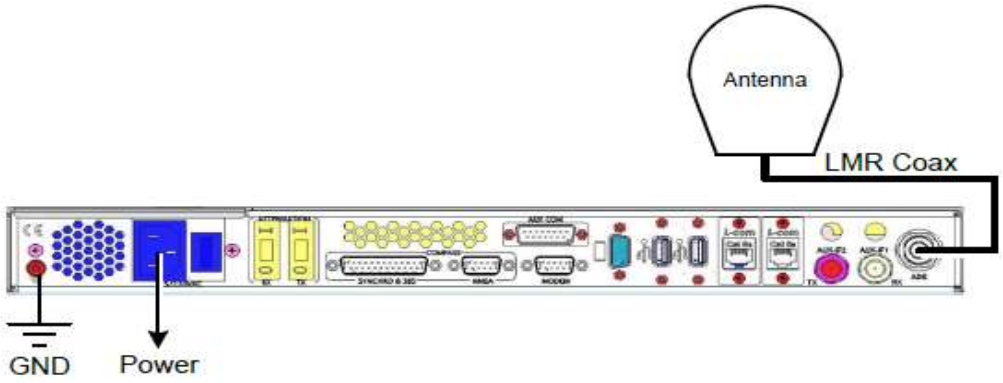
Basic connections

➢ **To Connect the ADE-BDE LMR Coaxial Cable to the CCU:**

1. Connect the power cable to the CCU power plug.

2. Connect Grounding to the unit

2. Connect the cable coming from the antenna to the ADE connector on the CCU.



Modem Tx and Rx Connection

➢ **To Connect the Modem Tx and Rx Ports to a CCU without 10MHz:**

1. Connect a cable from the modem's Rx port to the RX connector on the CCU.

2. Connect a cable from the modem's Tx port to the TX connector on the CCU. The modem supplies the 10MHz reference signal with the Tx signal.

The following figure shows the connections.

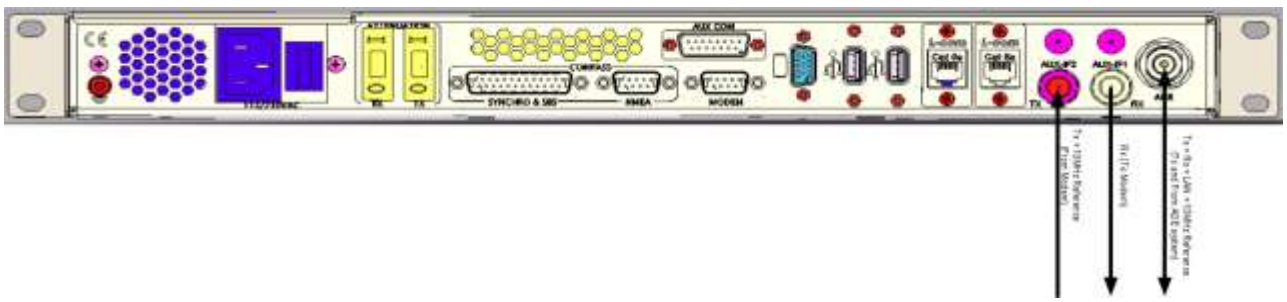


Figure 5-1: CCU without 10 MHz Tx/Rx Modem Connections

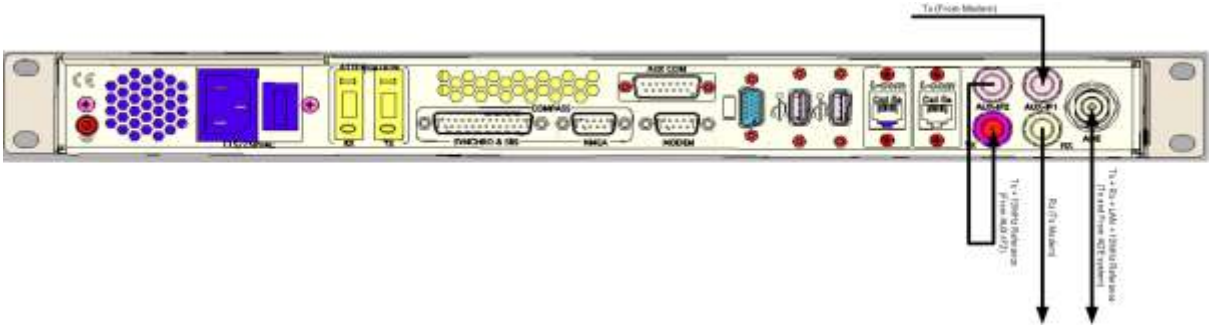
➢ **To Connect the Modem Tx and Rx ports to a CCU with 10MHz:**

1. Connect a cable from the modem's Rx port to the Rx connector on the CCU.

2. Connect a cable from the modem's Tx port to the AUX-IF1 connector on the CCU. The CCU adds the 10 MHz reference signal to the Tx signal. The combined signal is output via the AUX-IF2 port.

3. Using the provided cable, connect the AUX-IF2 connector on the CCU to the Tx connector on the CCU.

The following figure shows the Tx connections.



Note

Only CCU P/N OTRx-CCU-002-SP support 10MHz reference source and synchro compass