

NUMBER	SB1819
TO	T-310 Customers/Dealer Network
SUBJECT	Initial Commissioning Procedure
REVISION	Rev A
DATE	10/4/2018

AFFECTED ASTRONICS AEROSAT PRODUCT

DESCRIPTION	T-310 Tail Mounted SATCOM System
PART NUMBER	000-2129-1004
PART NUMBER REVISION	Rev All

REFERENCE DOCUMENTATION

000-2129-1004-IM	Tail Mounted SATCOM System Installation Manual
000-2129-1004-LMM	Tail Mounted SATCOM System Installation Manual

1.0 COMPLIANCE — MANDATORY

Compliance with this Service Notification is mandatory until such time as this content is officially included in the following documents as standard practice:

- *T-310 Tail Mounted SATCOM System Installation Manual, 000-2129-1004-IM*
- *T-310 Tail Mounted SATCOM System Line Maintenance Manual, 000-2129-1004-LMM*

2.0 BACKGROUND

The initial release of the T-310 Tail Mounted SATCOM System requires the satellite service provider to collect additional information.

3.0 PURPOSE

This Service Notification is formatted to provide a procedure on data collection for the service provider, modem file loading, and to serve as a method to complete antenna alignments due to the limited failover period provisioned by the network.

4.0 SCOPE

This Service Notification is serves as an approved technical procedure for the completion of the required P1db testing, as well as the 001-2129-1000-GAU antenna alignment to the aircraft.

5.0 APPROVAL

This Service Notification is approved by Astronics AeroSat Field Service Engineering.

6.0 PROCEDURE

The requirements for this procedure are as follows. It is assumed that the technician is aware of the Astronics AeroSat equipment and has been adequately trained in its operation.

6.1 PERSONNEL REQUIREMENTS

- One adequately trained technician is required to be on board the plane where the system is installed.
- One Network Engineer from the service provider is required for no more than 1.5 hours.

6.2 TOOLING REQUIREMENTS

Laptop with CAT5e or greater Ethernet cable for variable length to accommodate the desired technician workspace location on the plane, or properly configured wireless access point serving as a DHCP server, to access the ACMU web page at <https://192.168.62.10> and modem web page at <http://192.168.62.20> simultaneously.

6.3 PARTS REQUIREMENTS

- T-310 Tail Mounted SATCOM System, 000-2129-1004.
- A properly configured modem to enter the desired service provider network, or applicable files to load to the modem to gain entrance into the desired network.

6.4 WEIGHT AND BALANCE

There is no effect to the weight and balance to the aircraft.

6.5 ELECTRICAL LOAD

There is no effect to the electrical load to the aircraft.

7.0 INSTRUCTIONS

Perform the following steps to commission the system in the service provider's network for the first time or any time the ACMU is replaced.

7.1 PREREQUISITES

- Complete Step 4.4.4.1 in *000-2129-1004-IM, T-310 Tail Mounted SATCOM System Installation Manual* before performing the steps in **Section 7.2**.
- Calibrate the LPT as per Step 4.4.4.2 in *000-2129-1004-IM, T-310 Tail Mounted SATCOM System Installation Manual*.

7.2 PROCEDURE

1. Ensure the T-310 system has a clear line of site to the required satellite used for service.

NOTE:

Use of external satellite pointing tools such as www.dishpointer.com can be helpful to determine the location of the satellite once it is known.

2. Connect the laptop to the ACMU through a network cable connection to the Operator Control Panel (External Maintenance Port) or a wireless access point connection.

Refer to Section 4.3.3 in the *000-2129-1004, T-310 Tail Mounted SATCOM System Installation Manual* for instructions on how to configure the laptop for network cable connections.

3. Open a Chrome, Firefox, or Internet Explorer v11 or greater supported web browser.
4. Navigate to <https://192.168.62.10> to access the ACMU web interface.
5. Open a second supported web browser in another window.
6. Navigate to <http://192.168.62.20> to access the modem web interface.

The iDirect Welcome page appears.

7. Enter the following user account information onto the iDirect Welcome page.
 - Username: **admin**
 - Password: **iDirect**

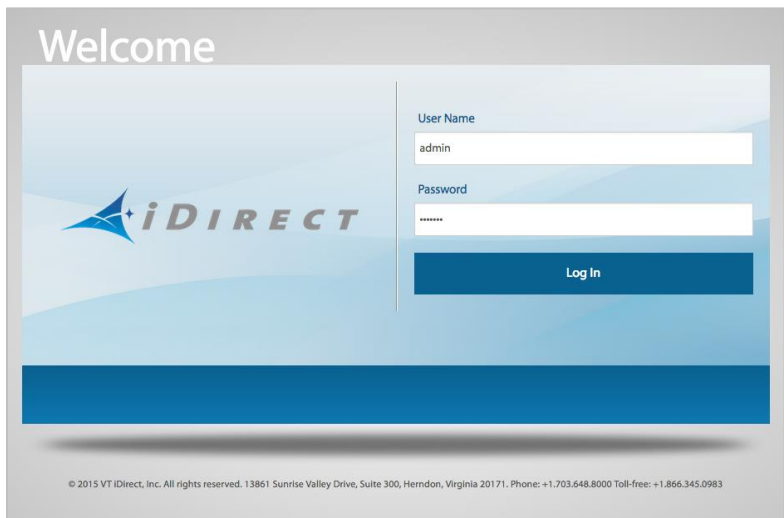


Figure 1 — iDirect Welcome Page

8. Click the **Start Wizard Button** at the top of the page, as shown in **Figure 2**.

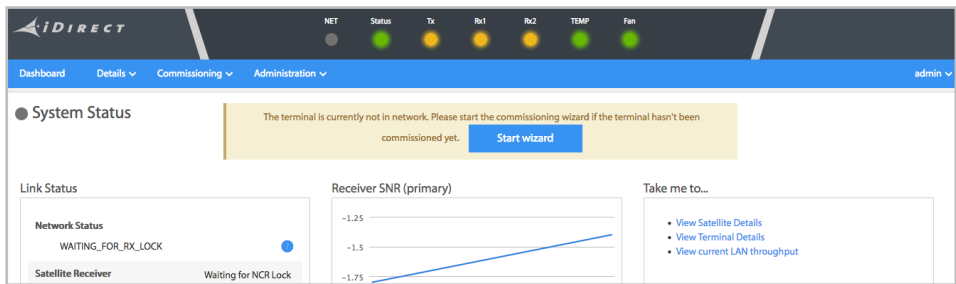


Figure 2 — iDirect Commissioning Wizard Start Button

The Commissioning Wizard appears. Step 1 (Start commissioning process) is highlighted.

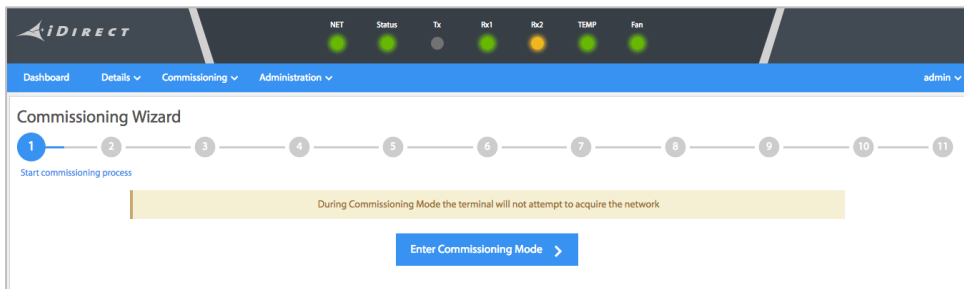


Figure 3 — Commissioning Wizard Step 1 (iDirect Commissioning Mode)

9. Click the **Enter Commissioning Mode >** button, as shown in **Figure 3**.

The second step (Manage Software Packages and Configuration Files) in the Commissioning Wizard is highlighted, as shown in **Figure 4**.

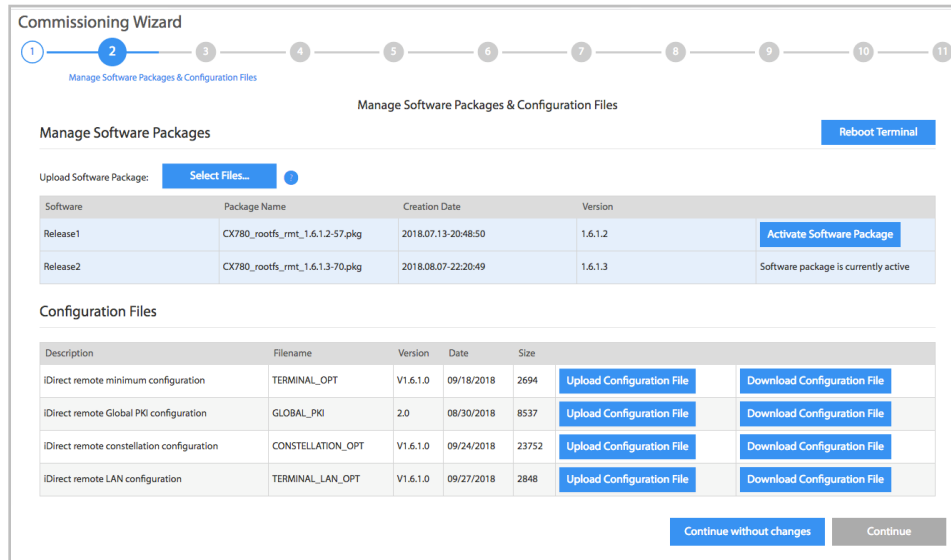


Figure 4 — Commissioning Wizard Step 3 (Manage Software Packages & Configuration Files)

NOTE:

Four files were loaded onto the modem by the factory in order to enter the modem into the desired network. Two of the files will only require reloading if a service provider is changed. The other two files must be reloaded in the field, along with the most up-to-date file provided by the network provider.

The four files include:

- iDirect remote minimum configuration: Name: 'TERMINAL_OPT' (Field).
- iDirect remote Global PKI Configuration file: Name: 'GLOBAL_PKI' (Factory).
- iDirect remote constellation configuration: Name: 'CONSTELLATION_OPT' (Factory).
- iDirect remote LAN configuration: Name: 'TERMINAL_LAN_OPT' (Field).

10. Load each file to their respective location by selecting the 'Upload Configuration File' button. See **Figure 4**.
11. Select the 'Reboot Terminal' button and wait 2 to 4 minutes for the modem to reboot. See **Figure 4**.
12. When the modem web page is available again, select the **Start Wizard** button again, or select the **Commissioning Wizard** from the Commissioning drop down menu.
13. Click **Continue without changes** at the bottom, right corner of the Commissioning Wizard Step 2 page to go to **Commissioning Wizard Step 3** (Course Antenna Pointing).

At Commissioning Wizard Step 3, the system location (plane latitude and longitude) is entered and the desired satellite location will be entered in the Remote Position and Satellite Position fields, as shown in **Figure 5**.

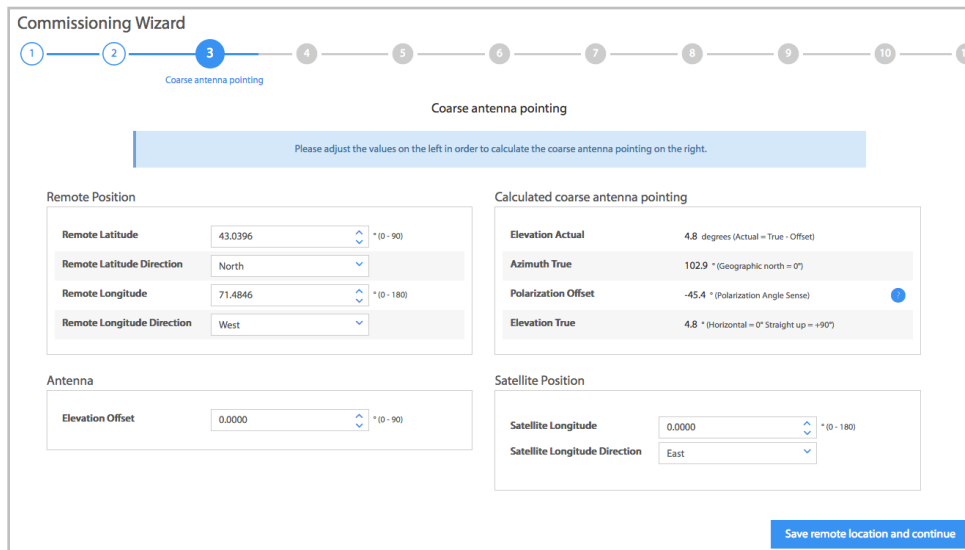


Figure 5 — Commissioning Wizard Step 3 (Course Antenna Pointing)

14. Click the **Save remote location and continue** button at the bottom, right corner of the Commissioning Wizard Step 3 page once all of the fields are populated, and to go to Commissioning Wizard Step 4 (Configure downstream) page, as shown in **Figure 6**.

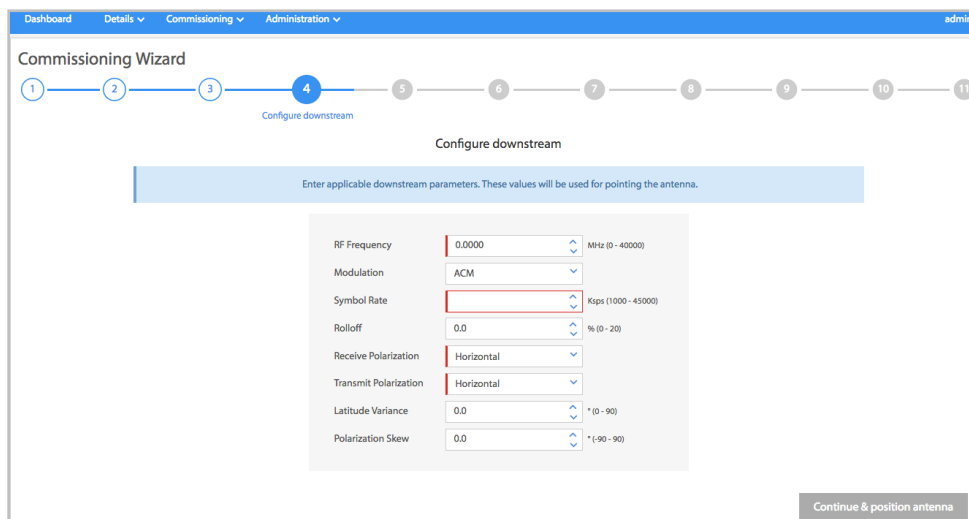


Figure 6 — Commissioning Wizard Step 4 – Configure Downstream

15. Enter the provided information in all fields. The value should be **0.0** in the following fields: Latitude Variance and Polarization Skew.

NOTE:

Step 4 of the Commissioning Wizard requires information from the Network Engineer associated with the service provider. It is recommended to contact your service provider prior to the event in order to obtain this information ahead of time to prevent unnecessary delays.

16. Click the **Continue & position antenna** button at the bottom, right corner of the Commissioning Wizard Step 4 page.
17. Select **Start Antenna Pointing**.
18. Open the ACMU Web Browser that you previously established in **Section 7.2**, Step 4.
The Astronics AeroSat FliteStream page appears.

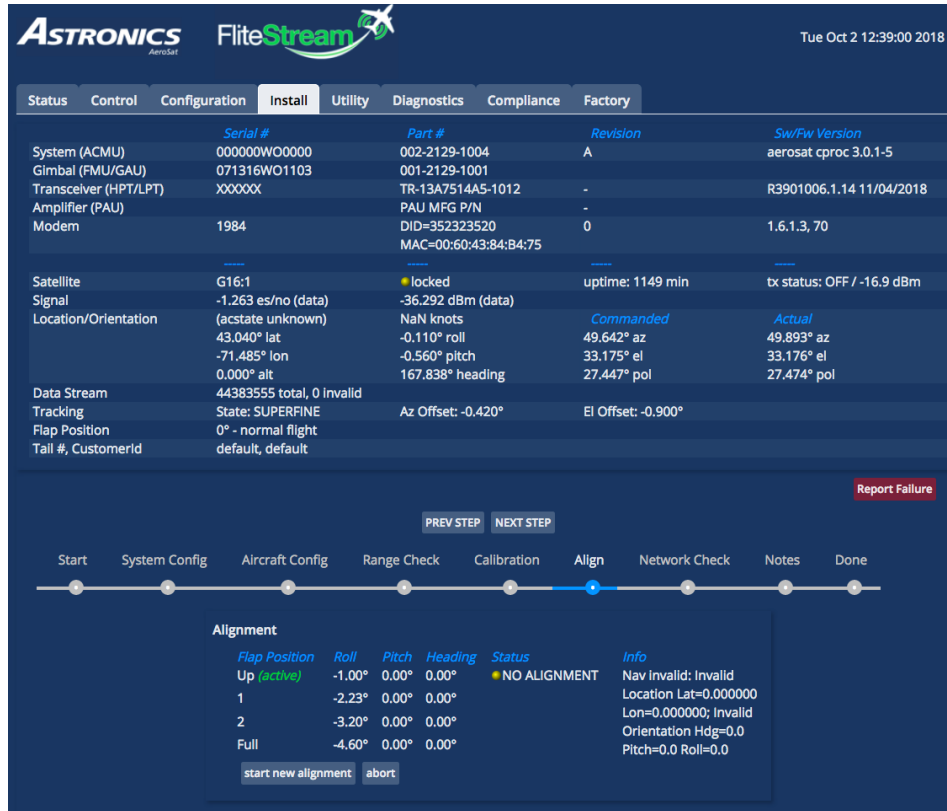


Figure 7 — ACMU Install Tab – Align Step

19. Click the **Install** tab on the Astronics AeroSat FliteStream page. Proceed to the Alignment section, as shown in **Figure 7**.
20. Perform the Antenna Alignment found in the *000-2129-1004-IM* or *000-2129-1004-LMM* at each flap position if flap discrettes are used to determine stabilizer angle for moving antenna platforms. Otherwise, complete the Antenna Alignment in the Flap Position 0 (Up).
21. Navigate to the Control Tab and verify that the Tx Status is **“ON”** in the System Status panel.
22. Go back to the iDirect Modem Web interface and select **Stop Antenna Pointing**.
23. Repeat Step 6 to contact the NOC.
24. Click the **Skip** button in the Commissioning Wizard Step 7, Cross Polarization.

25. At Commissioning Wizard Step 8, follow all guidance and direction from the Service Provider NOC to enter the uplink frequency, Modulator, and Transmit Power Value.

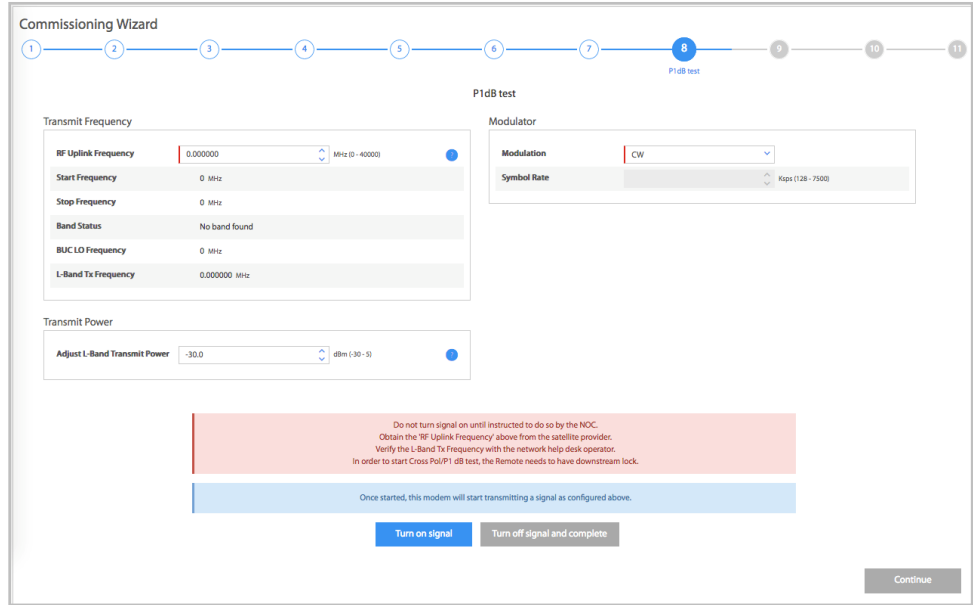


Figure 8 — Commissioning Wizard; Step 8 P1db test

NOTE:

Typical Adjust L-Band Transmit Power value should begin at -15 dbm and should reach P1db compression at +2. The NOC should expect to provide a P1db value of +2 with Max Transmit Power of 1. These values have a tolerance of ± 1 each. Any P1db value outside of the tolerance will require the completion of the LPT cable calibration again.

26. Continue to Commissioning Wizard Step 9.
 27. Enter the results of the P1db test if within the tolerance window below:
 - P1db: 2 ± 2
 - Max Tx Power: 1 ± 1
 28. Continue to Commissioning Wizard Step 10 to save the values.
 29. Continue to Commissioning Wizard Step 11 to exit commissioning mode.
 30. Refer to Section 4.4.6 in the 000-2129-1004-IM, T-310 Tail Mounted SATCOM System Installation Manual.
- Task complete.

8.0 ACCEPTANCE/REJECTION CRITERIA

Completion of this Service Notification is acceptable criteria for return to service, providing it is within the tolerance specified in Step 27.

9.0 RECORD OF COMPLIANCE

Upon completion of the maintenance action, ensure an entry is made in the appropriate aircraft log or operator's maintenance documentation system.

CONTACT INFORMATION

For questions regarding this Service Bulletin, please contact Astronics AeroSat Product Support.

Astronics AeroSat

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