

8

Commissioning the GLOBETrekker

This is a very critical chapter as it identifies the steps necessary to commission the GLOBETrekker and bring it into operation within an iDirect TDMA network (TDMA mode) or on a iDirect (or Paradise) SCPC network (SCPC mode).

The commissioning process ensures operation of the GLOBETrekker following:

- (i) receipt of the GLOBETrekker from the factory
- (ii) change in satellite or transponder to be used
- (iii) change in hub (or network operator) – TDMA only
- (iv) change in locations

LinkControl Overview:

A Norsat proprietary software application called LinkControl controls the GLOBETrekker. You will use LinkControl to commission the GLOBETrekker.

The LinkControl application interfaces with the built-in modem (router); enables users to point the antenna towards the desired satellite, peak on the satellite and save user settings; and access the “alarm console” in the LinkControl System Status screen.

Unlike many other systems, the modem (or router) is housed inside the baseband enclosure. This has been designed to minimize the weight and enhance portability of the GLOBETrekker terminal. The firmware software supplied by iDirect (or Paradise) is embedded on the modem board.

NOTE for iDirect Users:

Your network must be at **iDS version 6.0.7** or later to support the built-in iDirect iConnex iNFINITI modem. Please verify the firmware version that has been loaded for your iDirect iConnex iNFINITI modem.

Note: Those users who are familiar with iDirect iSite ® software will recognize that the LinkControl application performs many of the same functions and much more. LinkControl application does not however, enable users to upload a new version of the firmware software (also known as “images” in iDirect literature) to match the iDS software version used by the network hub. Users will still need access to iSite should a firmware change be required.

8

Commissioning the GLOBETrekker

Why is the Commissioning Process Necessary?

In order for the GLOBETrekker to operate successfully, the settings of all of the elements within a satellite network need to match. The three elements are: (i) the satellite spacecraft and its transponders, (ii) the network hub and (iii) the GLOBETrekker terminal.

The network operator ensures that the settings of the satellite spacecraft and the network hub are synchronized. This is done as part of the ongoing operations of the hub operator.

You, on the other hand, need to ensure that the GLOBETrekker settings match with both the satellite and the network hub. This needs to be done before using the GLOBETrekker within a particular network on a particular satellite. This process of ensuring a match is known as the Commissioning Process.

The Commissioning Process ensures that the following match:

- 1 The characteristics of the satellite (or satellite transponder) need to match with the parameters of the selected "Profile" in the GLOBETrekker or in the Satellite Almanac. This is important because the satellite operator may have:
 - a added / deleted / modified the DVB-S carrier properties;
 - b added / deleted / modified the alignment / beacon properties;
 - c taken the satellite out of orbit for maintenance;
 - d gone out of business

- 2 The software versions employed by the network hub and the GLOBETrekker terminal match. This is important because differences may exist between:
 - a The firmware version embedded in the iDirect modem (housed inside the GLOBETrekker baseband enclosure) and the modem employed by the network (operated by the network operator);

 - b The version of the option files (which contain the operating parameters) of the iDirect modem used by the network and those already attached to the various "Profiles" in the LinkControl application.

8

Commissioning the GLOBETrekker

Commissioning Process Overview

The commissioning process comprises of seven key steps:

- 1 Launch LinkControl Application
- 2 Call the Hub Operator
- 3 Load Options File (in TDMA mode only)
- 4 Create or Edit Profile (only if required)
- 5 Edit Satellite Almanac (only if required)
- 6 Set iDirect Modem Parameters (in SCPC mode only and can be done in Profiles)
- 7 Exit and Restart LinkControl Application

Note: The user may, in some limited instances, forego certain steps in the interest of time.

There are only two prescribed scenarios wherein certain steps can be skipped:

- i) NO change in Satellite or Transponder to be used
- ii) NO change in Location.

Step	Description	Change in Satellite or Transponder to be Used	Change in Location
3	Load Options File	Not Required if the network hub to be used is the same hub used in the last transmission. If it has been a long time since the last transmission, it is advisable to perform this step in case the network hub operator has standardized on a new options file.	Not Required if the user will still be served by the same spot beam as the last transmission. This step is not required if the network hub and satellite used in the last transmission will also be used in this next transmission.
4	Create or Edit Profile	Will be Required.	
5	Edit Satellite Almanac	Will be Required.	

8

Commissioning the GLOBETrekker

Step 1: Launch LinkControl Application

The LinkControl application will launch automatically after:

- the GLOBETrekker and the laptop have been powered up and;
- the laptop has been connected to the GLOBETrekker baseband unit.

It may take several minutes for the application to appear on the screen. The application will open with the start-up screen being displayed as in [Figure 17](#) Startup Screen below.

The LinkControl application performs numerous diagnostics upon start-up.

The user should allow the LinkControl application to fully complete its start-up and diagnostics process before attempting to take control of the application. The results of the diagnostics can be viewed by pressing the **DETAILS** button below the System Status indicator.

The screen below will appear on the display of the laptop when the application is launched:

Figure 15 Startup Screen



8

Commissioning the GLOBETrekker

This process is password-protected and is accessible only to users designated as "administrator(s)" in LinkControl.

If you are using the GLOBETrekker for the first time, the system will come with an Administrator password. This can be changed at a later date, although it is strongly recommended you change and document your password.

To enter Administrator mode:

- 1 On the Menu bar press Settings -> Enter Admin Mode
- 2 Enter the Administrator password. By default the password is "Administrator".

Note: Passwords are case-sensitive.

To exit Administrator mode and enter Field mode:

- 1 On the Menu bar press Settings
- 2 Select Exit Admin Mode

8

Commissioning the GLOBETrekker

Step 2: Call the Network Operator

In order to verify certain settings, you will now call the Network Operation Center (NOC) of the hub operator.

Go through the topics with the NOC in the sequence provided below:

a) Confirm Satellite Profiles:

Ask the Network Operator to confirm the characteristics of the satellite and transponder you wish to use. Address each of the following with the Network Operator:

Satellite Name	_____	(Transponder #; Slot #)
<u>PROFILE INFORMATION</u>		
Transmit Frequency:	_____	MHz
Receive Frequency:	_____	MHz
LNB Frequency Range:	_____	MHz
Polarization (Transmit):	_____	(V/H)
Polarization (Receive):	_____	(V/H)
<u>SATELLITE ALMANAC INFORMATION</u>		
Orbital Position (Longitude)	_____	(E/W)
Alignment / Beacon Frequency	_____	MHz / H or V
DVB-S carrier Frequency	_____	MHz / H or V

NOTE: For each satellite, there are five properties which relate to a “profile” saved (or to be saved) in the LinkControl application; and three properties which relate to the satellite Almanac in the LinkControl application.

b) Check Modem Software Version: Ask the hub operator which software version the network hub is using. The software version the hub is using needs to match the exact iDS version x.x.x used by the built-in iDirect iConnex iNFINITI modem. Verify the version of software you have and ensure the two are similar.

If there is a difference between your version and that of the hub operator, tell the hub operator that you need them to send you the same version of the firmware and the options files they are using. Once you have received the files, proceed with installing them to your iDirect modem.

c) Obtain Options File: Ask the hub operator to send you the latest options files. The hub operator may ask you for certain parameters such as the modem serial number. You will find these on a single label on the back panel of the baseband unit.

NOTE:

If you have recently used the same hub operator and hub, you should ask the hub Operator if it is still necessary to update the options files. Refer to the details and profile of your last transmission.

IMPORTANT:

Let the Network Operator know that you intend to use the terminal (modem) in “**Mobile**” mode. The alternative mode is the non-mobile mode. The “Mobile” mode gives you the flexibility to operate at the edge of a footprint.

Step 3: Create or Edit Profile

The Link Control Application relies on a Profile to orient the antenna and peak on the satellite. It is important to ensure that the Target Satellite information provided by the hub operator in Step 2 (b); described in section **Step 2: Call the Network Operator** in this chapter; matches an existing profile. If there is no match, then you will create or edit an existing profile.

Call Up Existing Profiles and Compare:

- a) Click on the Profiles tab on the left side of the screen; refer to **Figure 17 Startup Screen**.
- b) Click on a profile in the list of profiles under **Choose a profile**.
- c) A summary of the selected profile is displayed on the right side of the screen.
- d) Compare the information (target satellite, polarization, GPS coordinates and LNB to use) provided by the Network Hub operator with the existing profile data.
- e) If there is a perfect match, proceed to Step 4, otherwise go to step f).
- f) If there is a difference in the information provided by the Network Hub Operator and that found in the Profiles, then you must decide whether to create a new profile or edit an ‘existing profile’. If you do not plan to use the existing profile ever again, then you may wish to edit an existing profile. Otherwise, create a new profile.

Create or Edit a Profile

- a) To create or edit a profile, when in Administrator Mode, press the **Profiles** tab on the LinkControl menu bar.

To Create a NEW Profile: Select **Add New Profile**.

To Edit and Existing Profile: Select **Edit Existing Profile** and make your selection from the listed profiles.

Hint: You can also click the Profiles button from the Profile tab along the left side of LinkControl and then make your Profile selection under **Choose a profile** from the right-hand side of the screen. If you use this method, click on **Save these settings as...** button OR highlight a profile, click **Edit This Profile** at the bottom of the Profile Details window. Create or modify to your desired settings, then save the Profile with its new name.

- b) The **Profile Settings Screen** opens as shown in [Figure 18 Create / Edit a Profile Screen](#).
- c) To create the new profile, enter a profile name in the **Profile Name** text box.
- d) Enter a brief profile description in the **Profile Description** text box.
- e) Select an operational mode from the **Operational Mode** drop down box. If you skip this step in error, you will get an Application Component error message
- f) Choose a target satellite from the **Target Satellite** drop down box.
- g) Click under **Polarization** to select the type of transmit polarization.

Note: **Optional** - Choose the city of transmission from the **Transmission City** scroll box.

OR

Note: **Optional** - Choose latitude and longitude coordinates from the **Latitude** and **Longitude** scroll boxes and radio buttons.

- h) Choose the LNB that is applicable for your transmission location from **LNB type to use**.

8

Commissioning the GLOBETrekker

- i) Choose the feed assembly under **Feed assembly to use** (only if more than one choice is listed).
- j) Click to select a SSPA under **SSPA to use** (only if more than one choice is listed).
- k) Click **Apply**.

Figure 16 Create / Edit a Profile Screen

Figure 18 Note: The different modem tabs displayed in [Figure 18](#) above may vary on your GLOBETrekker system, depending on which configuration you have purchased.

If you purchased a GLOBETrekker with the iDirect modem, then you will see the iDirect Modem tab; if you have purchased a GLOBETrekker with a Paradise modem, then you will see the Paradise modem tab.

8

Commissioning the GLOBETrekker

Step 4: Edit/Review Satellite Almanac

- a) On the **Menu** bar, press **Settings** → **Edit Satellite Almanac**
- b) On the left hand side, find the **Target Satellite** and click on it.
- c) If there are any differences in the alignment carrier, DVB-S carrier or orbital position then you can modify them or add new carriers.
- d) Click on the **CLOSE** button when you are done.

To Add a New Carrier:

1. Enter the Description, Frequency, Polarization, Carrier type and Symbol Rate; (Symbol Rate is always 0 (zero) for Alignment Carriers); for the new carrier inside the Carriers sub-window on the right-hand side.
2. Click Apply, Change on the Carriers sub-window.
3. The new carrier will appear in the list.

To Edit an Existing Carrier:

1. Highlight the entire row, (click on the cell in front of the row describing carrier), for the carrier you wish to modify from the list.
2. Edit the desired parameter for the carrier.
3. Click Apply change in the Carriers sub-window.

To Delete a Carrier:

1. Highlight the entire row, (click on the cell in front of the row describing carrier), for the carrier you wish to modify from the list.
2. Click on Delete in the Carriers sub-window.

When you have finished working with the Carriers, click on Apply Change in the upper right-hand corner to update the Satellite information.

Step 5: Load Modem Options File

Once you have received the options file and loaded it onto a USB memory stick, insert your memory stick in the USB port on the back panel.

An “options file” is a file created by the Hub Operator for a TDMA network and is configured specifically for access to that Hub Operator’s network. It contains information about the TDMA network, your modem and satellite access information.

- 1 Choose the profile.
- 2 Click on **Edit This Profile**.
- 3 Click on **iDirect modem settings**.
- 4 In the second box from the top entitled **Options Files**, then click on **Load New**.
- 5 Select the file from your directory.
- 6 Select Apply to save settings.

Reboot the modem

- 1 Go to the **iDirect Modem Control** sub-screen from the **Transmit tab** as shown in [Figure 19 Transmit Screen](#).
- 2 In the **iDirect NetModem Control** sub-screen, click on the **Upload Options File to NetModem** button to load your options file. If the button is greyed out and the “**Reset Required. Click to Reset**” button is red, click on it first, then click the **Upload Options File to NetModem** button.

Figure 17 Transmit Screen

Norsat LinkControl

Profiles Settings Help Factory Production Development

Manual Transmit Control

Transmitter: Off
Modulator: CW

On Modulated

iDirect NetModem Control

Receive Status

Receive Lock from Hub: No receive lock

Receive SNR: No Lock

Receive Power: -infinity

Receive Frequency: 11976.19

iDirect Control

Connected

Reset required. Click to reset.

Edit Settings

Modem Admin Password: iDirect

Upload Options File to NetModem

Current Options File: OptionsFileForHorizons1.c

Select Options File

Load New

Cross Polarization Test

Perform Cross Polarization Test

Output Power (dBm): -----

Output Power (Watts): -----

Antenna EIRP: -----

Frequency (MHz): 14,250.0000

Set

Transmit Polarization

Horiz X (selected)

Vert Y

90.0°

Current System Transmission Status

No DVB Lock No iDirect Lock System OK Transmitter Off Stop Transmtr DisableMotors Park Antenna Exit Application

Powered by NORSAT

8

Commissioning the GLOBETrekker

Step 6: Set Modem Parameters (SCPC)

This step is required only if you are operating in SCPC mode.

To set Tx and Rx frequencies for the Modem:

1. Click the **Profiles** tab. Choose a Profile
2. Edit this Profile or Save these settings as...
3. Click on modem settings. The **Modem Settings Screen** opens as shown in **Figure 20 iDirect NetModem Screen**.

Figure 18 iDirect NetModem Screen

The screenshot shows the 'Create / Edit a Profile' window with the 'iDirect Modem Settings' tab selected. The window is divided into several sections:

- iDirect NetModem Mode:** Includes a checkbox for 'NetModem in Mobile mode'.
- Options File:** Includes a 'Loaded:' field and buttons for 'Select Options File', 'Load New', and 'Unload'.
- Transmit / Receive Settings:** Contains dropdown menus for Transmit Frequency (MHz), Transmit Bitrate (bps), Initial Power (dBm), Transmit FEC rate, Receive Frequency (MHz), Receive Bitrate (bps), Acquisition Range (Hz), and Receive FEC rate.
- Modem IP Settings:** A table for configuring LAN and Satellite settings.

	LAN	Satellite
Add	169.254.63.111	10.0.0.1
Mask	255.255.255.0	255.255.255.0
Gate	0.0.0.0	0.0.0.0
- Modem DHCP Server Settings:** Includes checkboxes for 'DHCP Server Enabled', and fields for Pool Start Address, Pool End Address, DHCP Gateway, Primary DNS, and Secondary DNS.
- Modem DNS Server Settings:** Includes a checkbox for 'DNS Server Enabled', and fields for Primary Server and Secondary Server.
- Static Routes:** A table for adding static routes.

IP Address	Subnet Mask	Gateway	Interface	Cost
[Empty table with scroll bar]				

 Below the table are input fields for IP Address, Subnet Mask, Gateway, Interface, and Cost, along with an 'Add Route' button.
- Scrambling:** Includes checkboxes for 'Transmit IDR Enabled' and 'Receive IDR Enabled'.
- Modem Encryption Settings:** Includes a checkbox for 'Encryption Enabled' and a 'Key' field.
- Network Settings:** Includes checkboxes for 'NAT enabled (Network Address Translation)' and 'RIP enabled (Routing Information Protocol)'.

At the bottom of the window are 'OK', 'Apply', and 'Cancel' buttons.

4. Enter new Transmit and Receive frequency, Bitrate and other parameter as required.
5. Click on Apply and then OK.

8

Commissioning the GLOBETrekker

Step 7: Exit and Restart LinkControl Application

Click on **Exit Application** on the bottom right-hand side of any LinkControl screen to allow the settings to take effect.

You have now completed the commissioning of the GLOBETrekker. If you plan to operate using the auto-acquire function of LinkControl, proceed to Chapter 9. If you plan to use the manual mode of acquiring the satellite proceed to Chapter 11.

This page left intentionally blank.

9

Operating the GLOBETrekker in Auto-Acquire Mode

Topics Covered:

Starting the Session	92
Initializing the Compass	93
Pointing the Antenna	94
Transmitting the Signal.....	96
Ending Transmission.....	96

Norsat GLOBETrekker

For Operators: Operating the GLOBETrekker Automatically

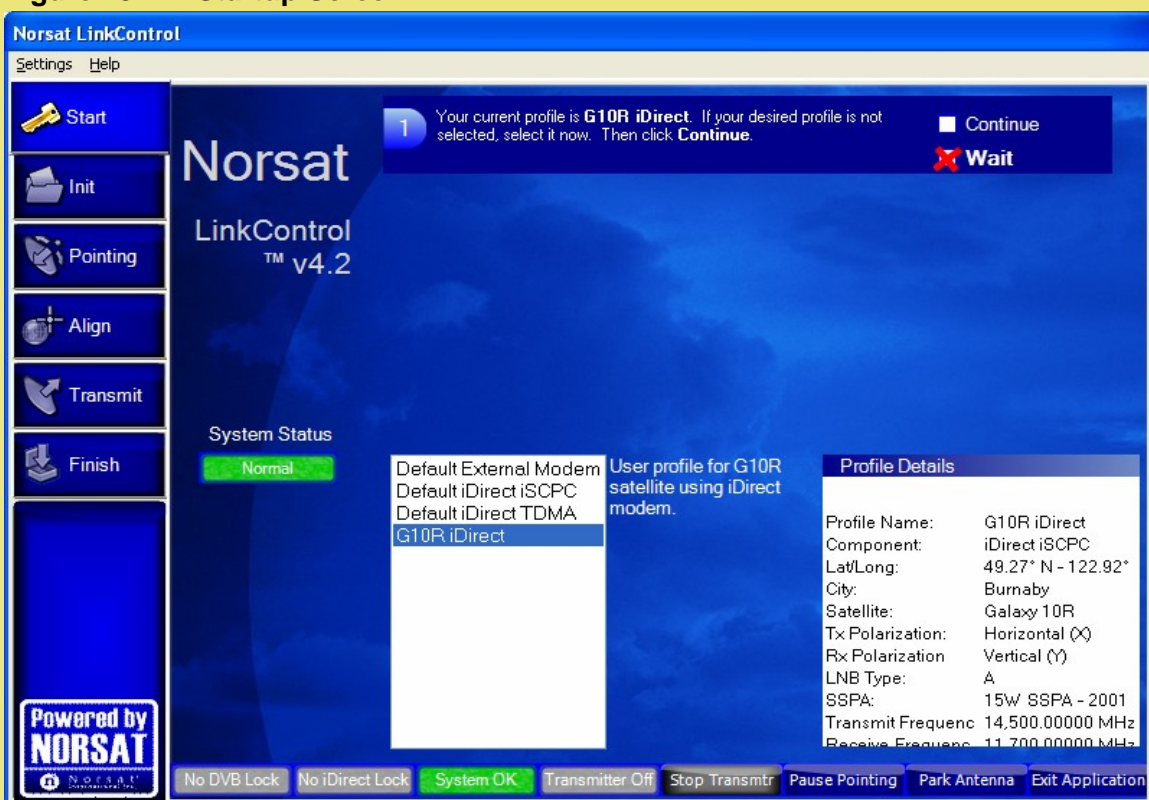
The chapter explains how you can leverage LinkControl's auto-acquire capability to point and peak your antenna to the correct satellite.

Hint: Before using the auto-acquire function for the GLOBETrekker; ensure a profile has been setup for the desired satellite. In order to create a profile for the satellite, the user must be logged in with Administrator rights and operating in Administrator Mode which is outlined in Chapter 8. Once a profile has been selected the user must exit Administrator Mode and be operating in Field Mode. The profile must contain enough information about the location of both the desired satellite and the GLOBETrekker system in order to successfully locate it (Satellite name, alignment/beam and DVB-S carriers; GPS coordinates for latitude and longitude).

Starting the Auto-Acquire Session

Once LinkControl starts, the **Startup Screen** is launched, as shown in [Figure 21](#); this startup 'mode' is known as the **Field Mode**. Follow the instructions on screen. To start the auto-acquisition process, click on a profile to select it, verify the details are correct under Profile Details and click the **Continue** box.

Figure 19 Startup Screen



It is recommended the user checks that the system is level before operating the LinkControl software.

For Operators: Operating the GLOBETrekker Automatically

Note: If you would like to change your selected profile, simply click on the **Wait** box. This brings you back to the beginning where you can select another profile.

Initializing the Compass

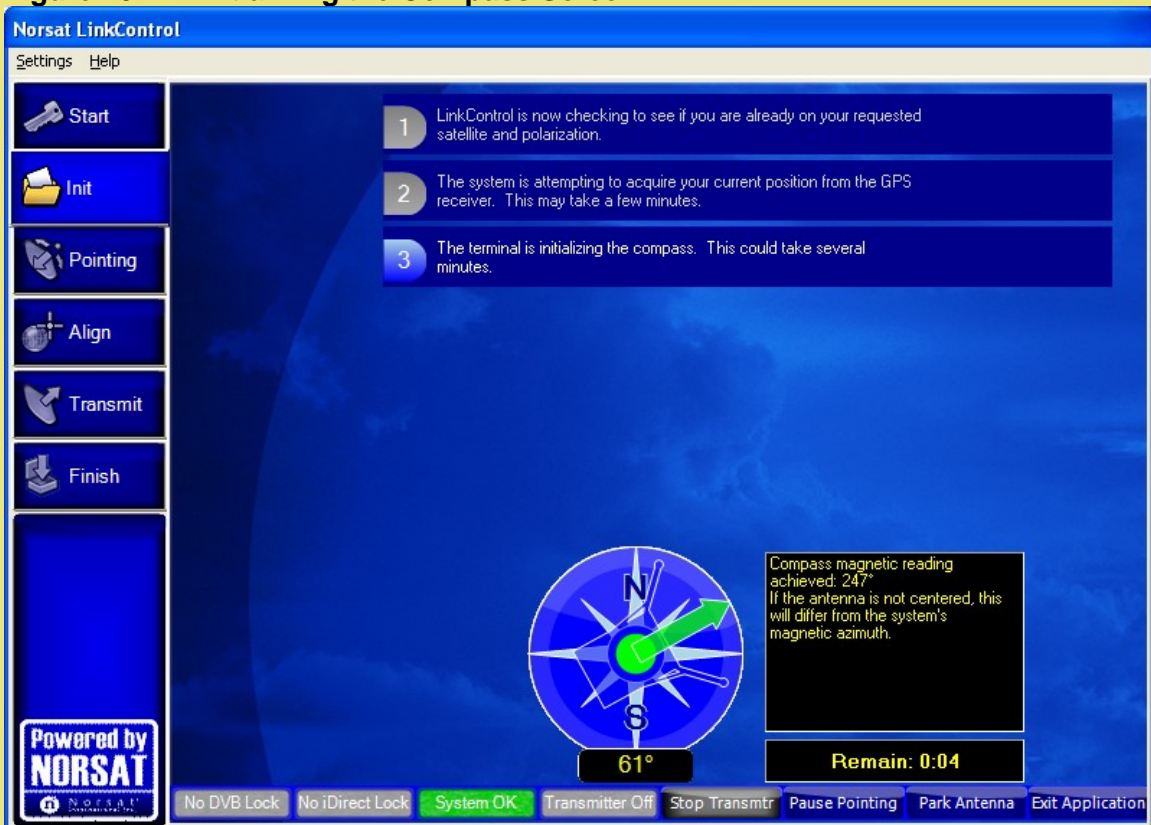
The **Initializing the Compass Screen** opens as shown in [Figure 22](#).

There should be no user interaction required on this screen. If the Compass or GPS Receiver does not return valid data, LinkControl will advise and instruct you on how to proceed.

Note: The initialization process goes through the following steps:

- checks to see if the GLOBETrekker is already on the desired satellite
- acquires GPS readings for your current position
- it initializes the compass.

Figure 20 Initializing the Compass Screen

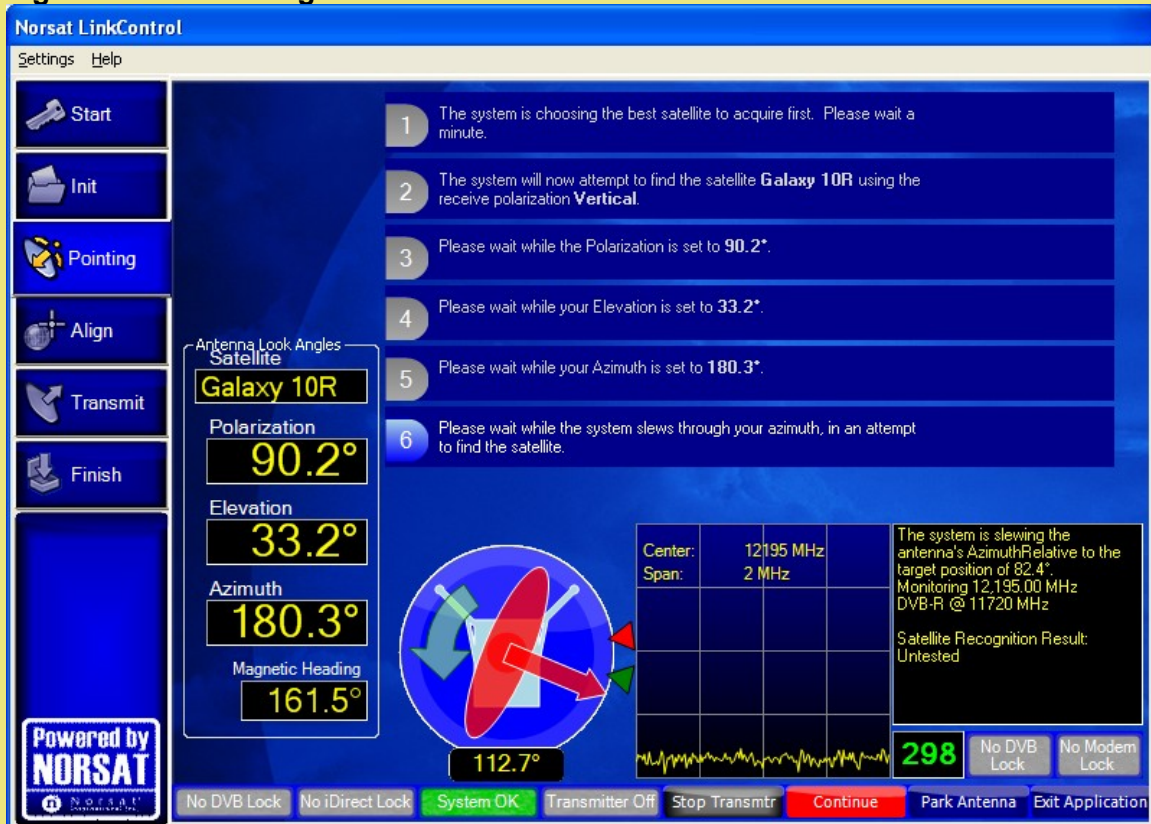


For Operators: Operating the GLOBETrekker Automatically

Pointing the Antenna

The **Pointing the Antenna Screen 1** opens as shown in [Figure 23](#). There should not be any information to enter, nor interaction with the terminal, unless there is a problem. If a problem occurs, follow LinkControl's instructions.

Figure 21 Pointing the Antenna Screen 1

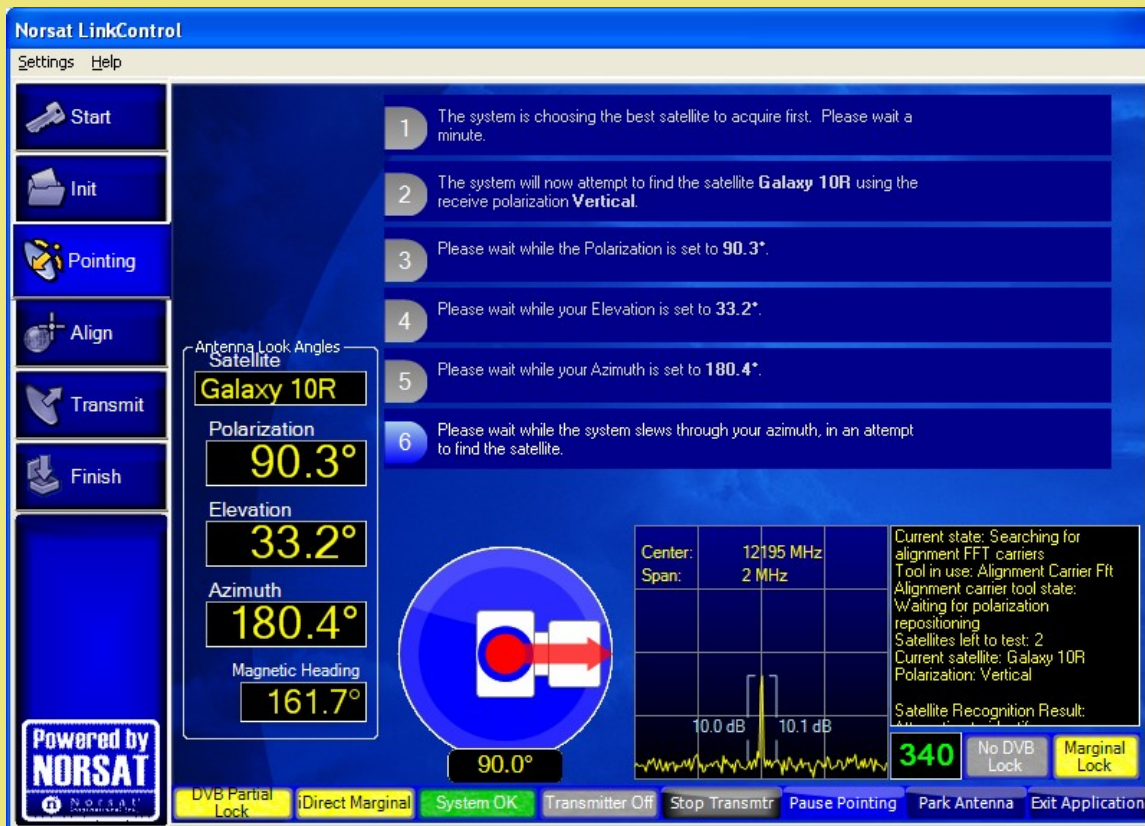


[Figure 23](#) shows that the antenna is rotating; in Azimuth; to find a Rx (receive) antenna signal from the satellite. The **DVB Lock** and the **Modem Lock** are not engaged at this stage.

To view the **Pointing the Antenna Screen 2** with locks engaged, refer to [Figure 24](#).

For Operators: Operating the GLOBETrekker Automatically

Figure 22 Pointing the Antenna Screen 2 with locks engaged



As shown in [Figure 24](#), the **Marginal Lock** indicator, (the yellow box to the right of the number 340 which is the signal strength indicator), turns yellow; (along with the DVB Partial Lock and iDirect Marginal boxes on the left-hand side); when the antenna initially detects the signal from the satellite, but has not found the exact location of the satellite. The antenna will attempt to zero in on the strongest point of the signal and will fully lock on.

Note: The color of the following indicators on the **Status and Control Toolbar** also changes to yellow:

- **DVB Partial Lock**
- **iDirect Marginal (applicable only to iDirect modems)**

For Operators: Operating the GLOBETrekker Automatically

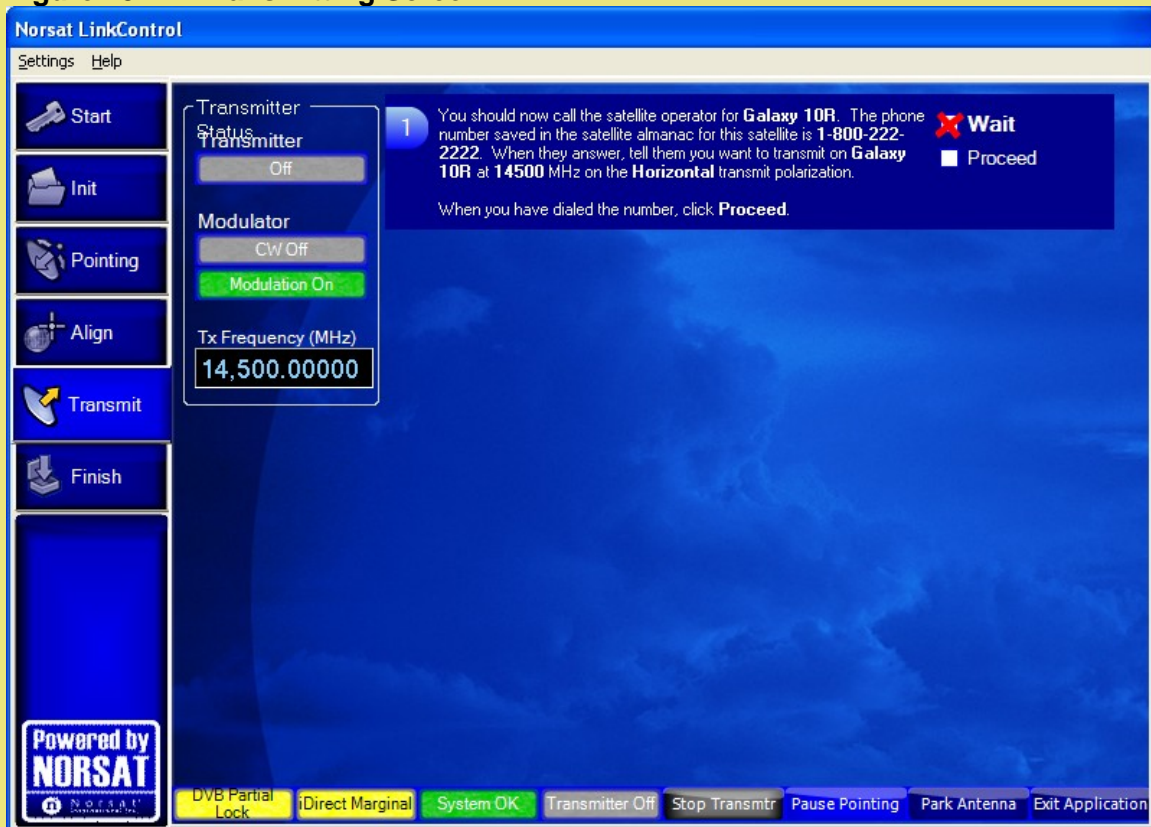
Transmitting the Signal

When the terminal is ready to transmit, the **Transmit** screen opens as shown in [Figure 25](#). Before you can start transmitting you must call into the Network Operations Center to gain access to the satellite by negotiating satellite access with the hub operator.

Chapter 10 will demonstrate how the LinkControl wizard guides you through these steps.

Follow the instructions on the LinkControl screen to call into the operator and start your transmission.

Figure 23 Transmitting Screen



Ending Transmission

If you need to end or stop your transmission at any time, you can do so from the **Finish** screen. To access the **Finish** screen, click **Finish** button on the left side menu. The **Finish Screen** opens. Follow the instructions.

10 Satellite Access Procedures

Topics Covered:

Satellite Access Protocol.....	98
The Call	99
Sample Script for Telephone Conversation with Satellite Operator.....	111

Norsat GLOBETrekker

10 Satellite Access Procedures

This chapter describes how a user operates in auto-acquire mode, should access the satellite and interact with the hub operator.

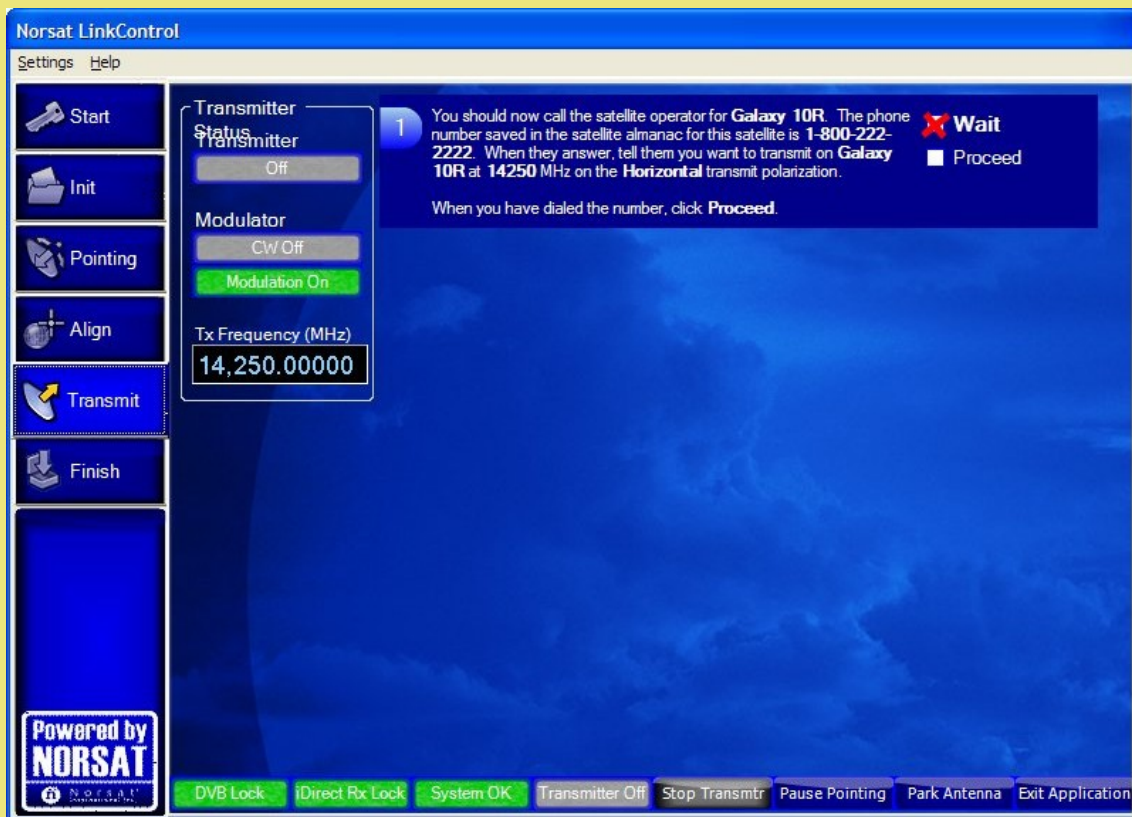
Satellite Access Protocol

Before you can begin transmitting over a satellite, you must go through a Satellite Access Procedure, or an “Uplink Operator’s Procedure.” This procedure involves calling into the Network Operation Center (NOC) of the Hub Operator; or Satellite Operator (SO) if in SCPC mode; and responding to their requests for information and/or action.

You must follow the instructions of the hub operator or risk the possibility of fines.

The following screen in LinkControl will tell you when to call the hub operator. NOCs generally advise you to call 10 to 15 minutes before the scheduled transmission time. These screens will help walk you through the call with the NOC.

Figure 24 Satellite Access Procedure Screen – Call NOC



10 Satellite Access Procedures

Hint: Have the phone number for the Network Operations Center (hub operator/SO) ready in advance. When you are ready to call, click the Proceed button as shown in [Figure 26](#).

The Call

- 1 You should:
 - i. Identify yourself and provide your location
 - ii. Indicate that you have scheduled satellite time
 - iii. Indicate the purpose of your transmission (example: data transfer)
 - iv. Indicate that you are ready to start transmitting on satellite, transponder and frequency slot allocation (example: NSS7, Transponder K18, Slot C)

The hub operator may in turn verify some parameters and ask some questions. You should be able to find most of these answers without having to resort to administrator mode.

Such parameters/ questions may include:

- Are you aligned and peaked on the satellite?
 - Modem settings
 - Confirm Uplink frequency and polarization
- 2 The hub operator may then ask you to conduct a “cross pol test”.

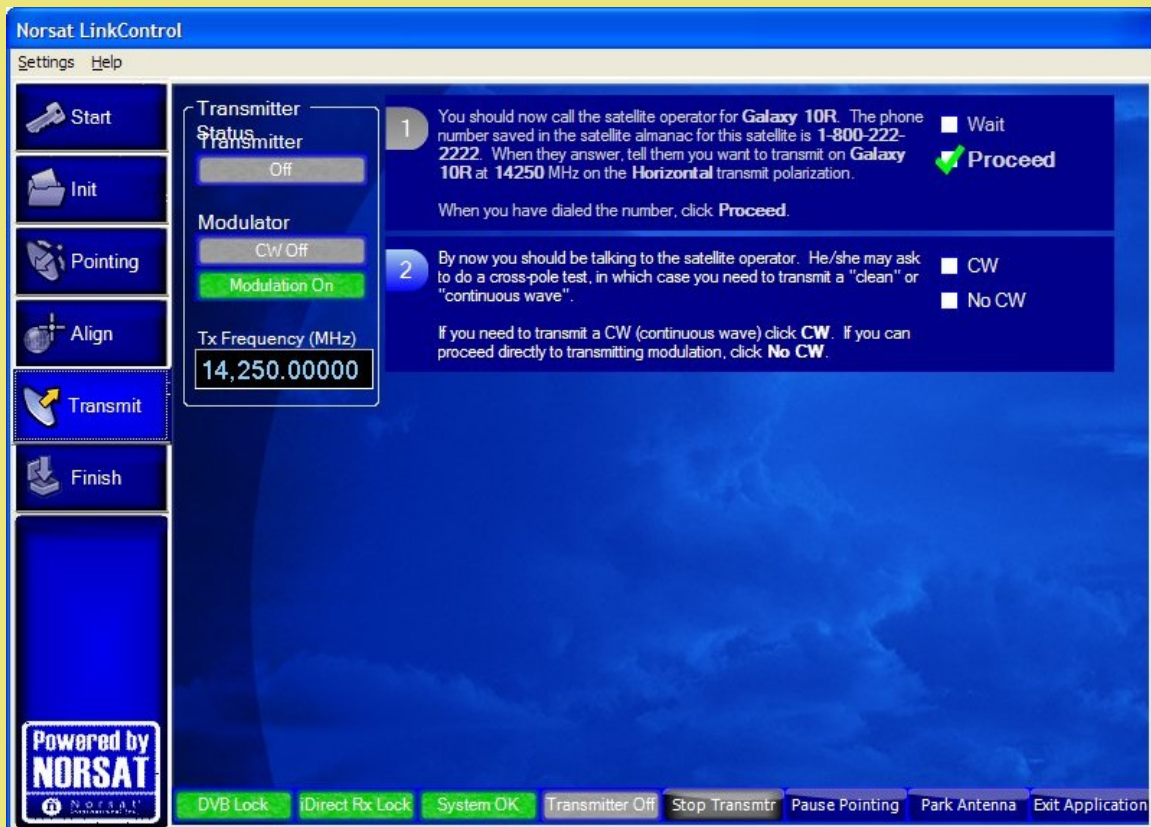
You may be asked for to bring up a “clean carrier” (or “unmodulated carrier” or “continuous wave” or “CW”) at low power.

10 Satellite Access Procedures

- Click the **CW** box as shown in step 2 of [Figure 27](#) if you are asked to complete this step. If he doesn't ask you to complete this step and simply asks you to proceed directly to transmitting mode click the **No CW** box.

Note: LinkControl will then guide you through the rest of the CW transmission process.

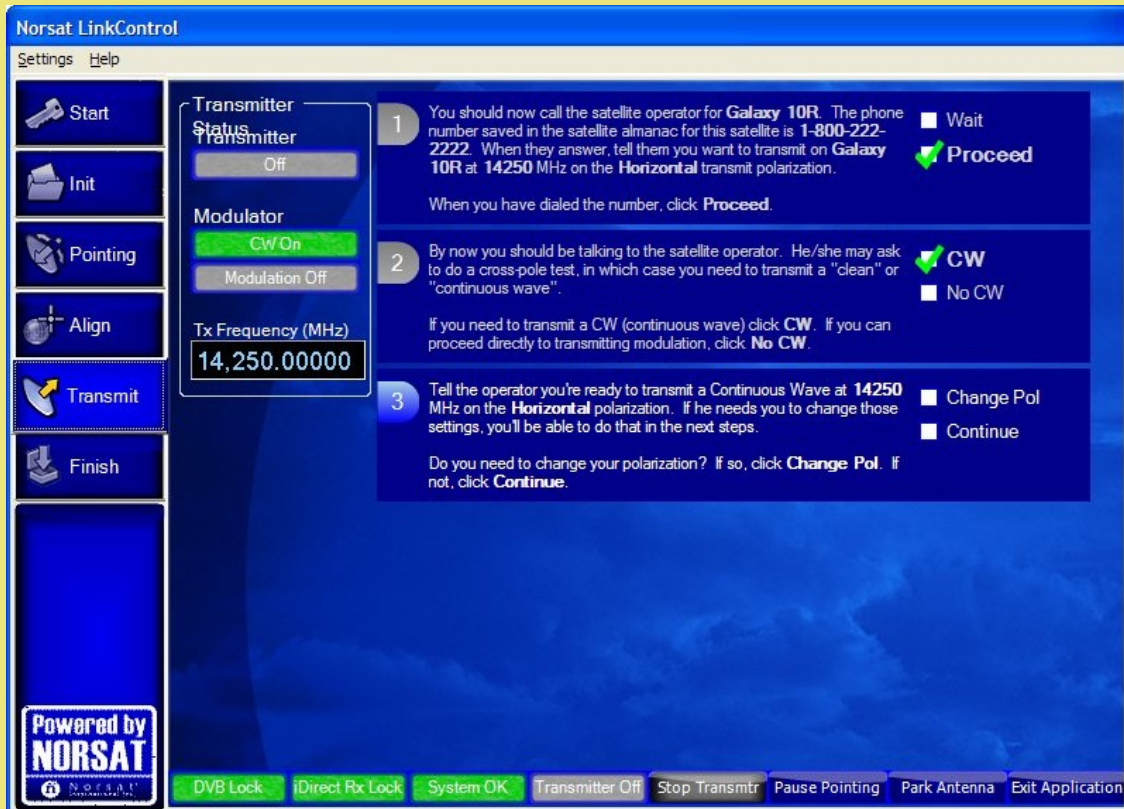
Figure 25 Satellite Access Procedure Screen - CW



10 Satellite Access Procedures

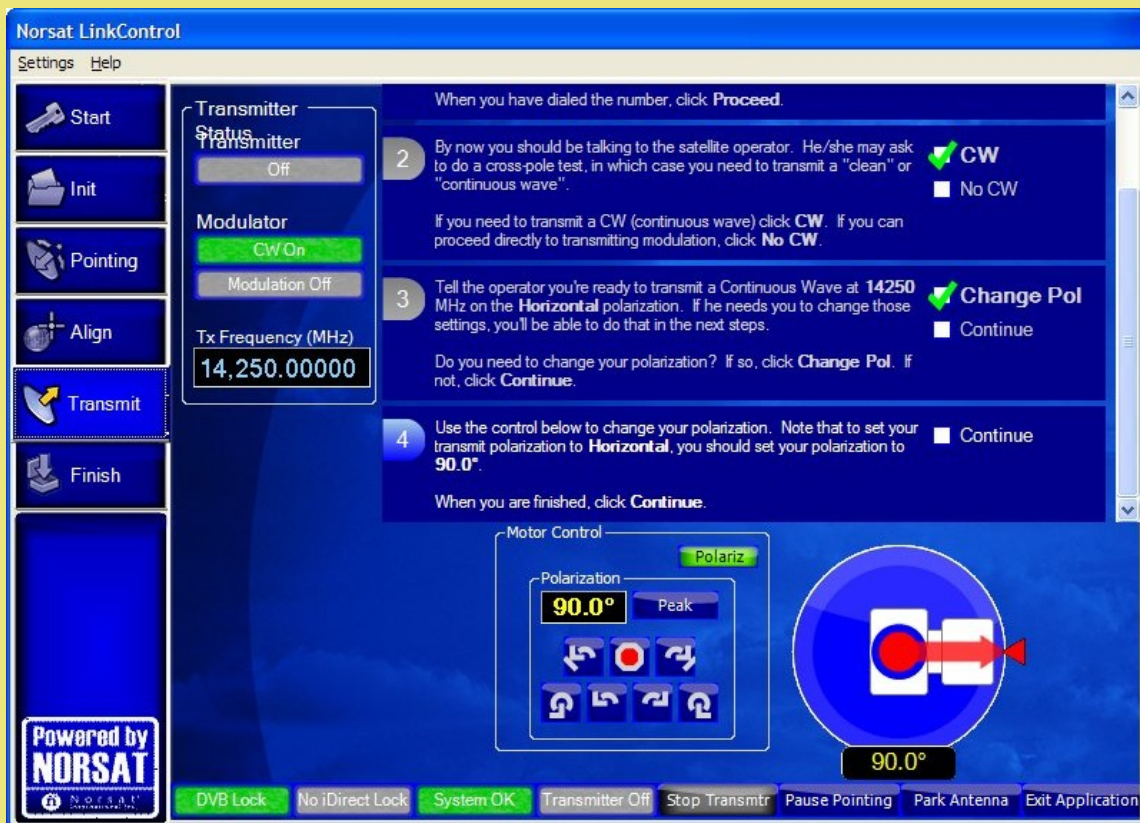
- The hub operator may then ask you to adjust your polarization. LinkControl will provide you with the option to change your polarization as shown in [Figure 28a](#). LinkControl then opens the polarization adjustment controls as shown in [Figure 28b](#).

Figure 26a Satellite Access Procedure Screen – Change Polarization



10 Satellite Access Procedures

Figure 28b Satellite Access Procedure Screen – Change Polarization



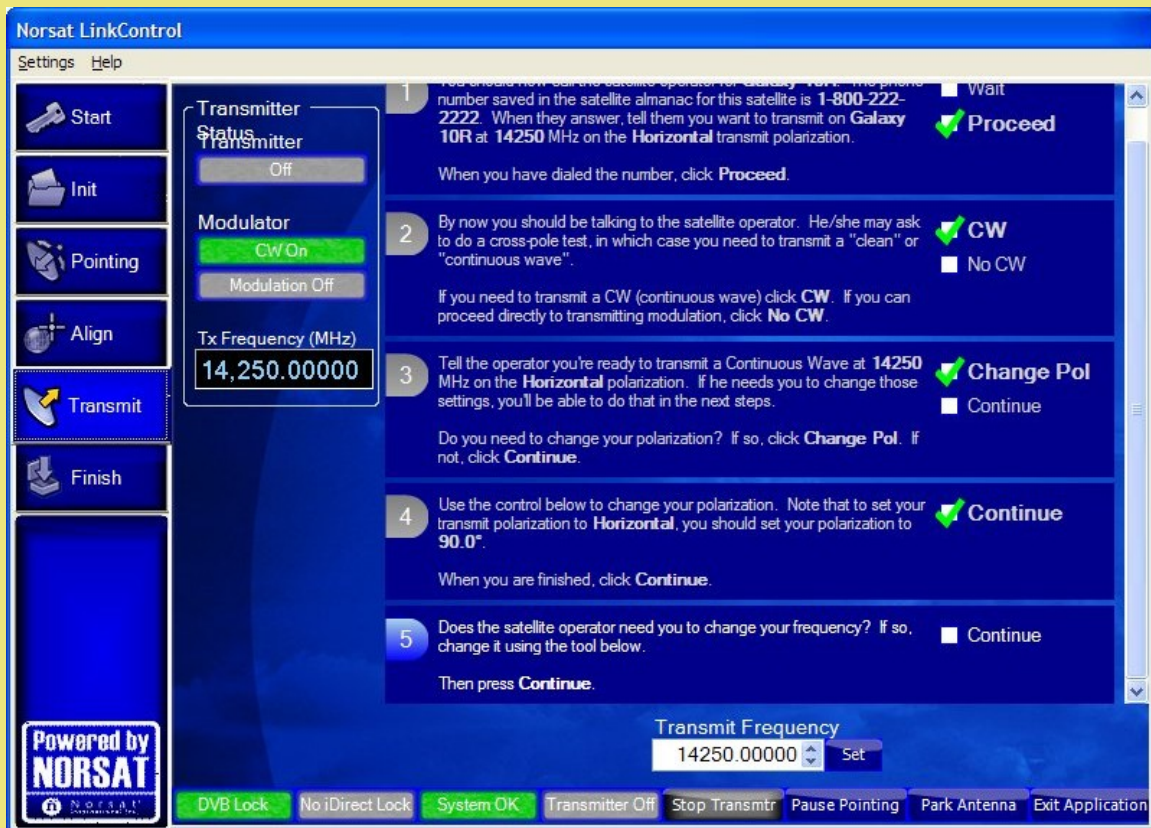
- 5 When you are finished with the polarization adjustment, or are not asked to adjust your polarization, click **Continue**.

Hint: If you are asked to make an adjustment to your Transmit Frequency before your polarization, simply click **Continue** at Step 3 (Figure 28) which brings you to the screen which allows you to change the transmit frequency. Once frequency adjustment completed you can go back to Step 3 to make your polarization adjustment should the hub operator ask you to do so.

10 Satellite Access Procedures

- You may be asked to change your transmit frequency. LinkControl will present you with the **Transmit Frequency** display which you can change with the “up” and “down” arrows as shown in [Figure 29](#). When finished adjusting the frequency, click the **Continue** box.

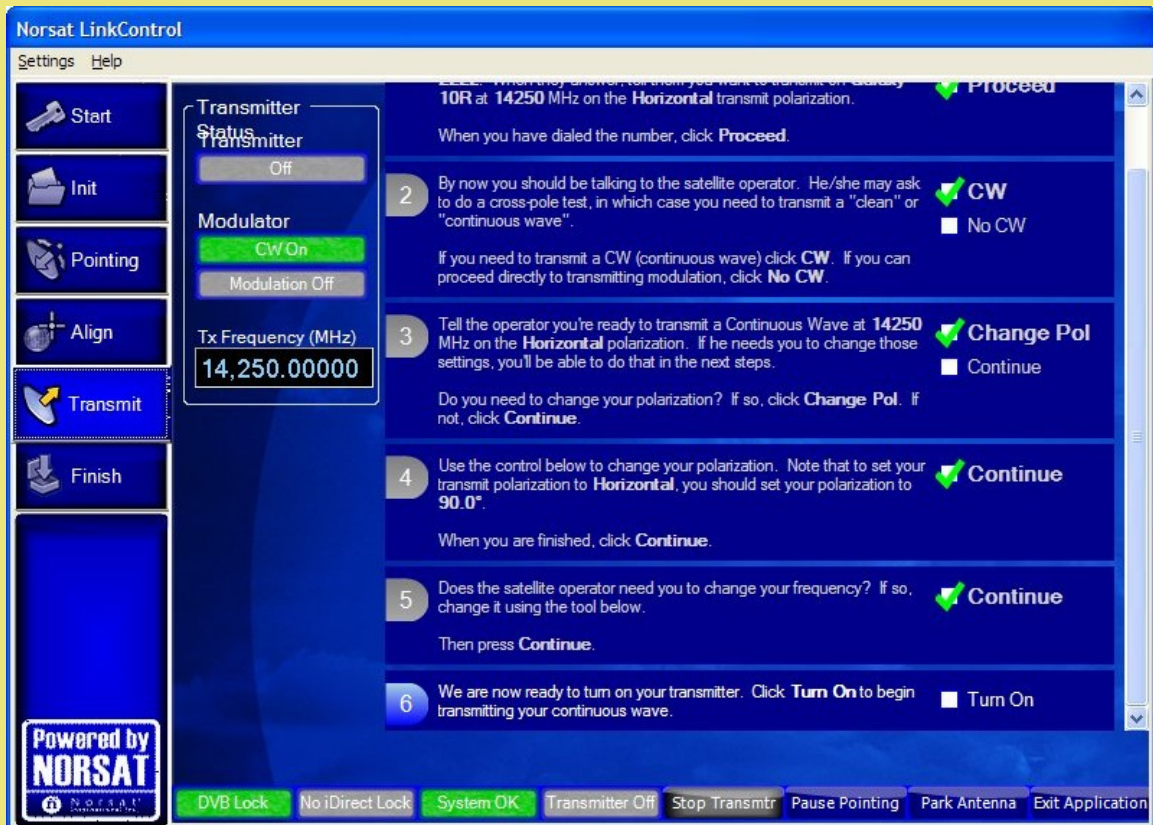
Figure 27 Satellite Access Procedure Screen – Change Transmit Frequency



10 Satellite Access Procedures

- 7 The transmitter is now ready to be turned on. Click the **Turn On** box when you are ready as shown in [Figure 30](#) to power up your transmitter.

Figure 28 Satellite Access Procedure Screen – Turn on Your Transmitter



- 8 Once you click on the Turn On button, you are transmitting and are then presented with the next screen to adjust your output power level as shown in [Figure 31](#).

10 Satellite Access Procedures

- 9 The hub operator may also ask you to adjust your power level. When directed, slowly increase power to operating level and stop. [Figure 31](#) displays the power control adjustment control in the lower part of the screen.

Hint: Under the guidance of the hub operator, use the buttons to the left of the **Output Power** display to adjust the power level in 1.0 dB steps and use the buttons on the right of the **Output Power** display to adjust the power in 0.1 dB steps. Watch the results in the **Actual Power Output** display area.

Figure 29 Satellite Access Procedure Screen – Adjusting Your Output Power

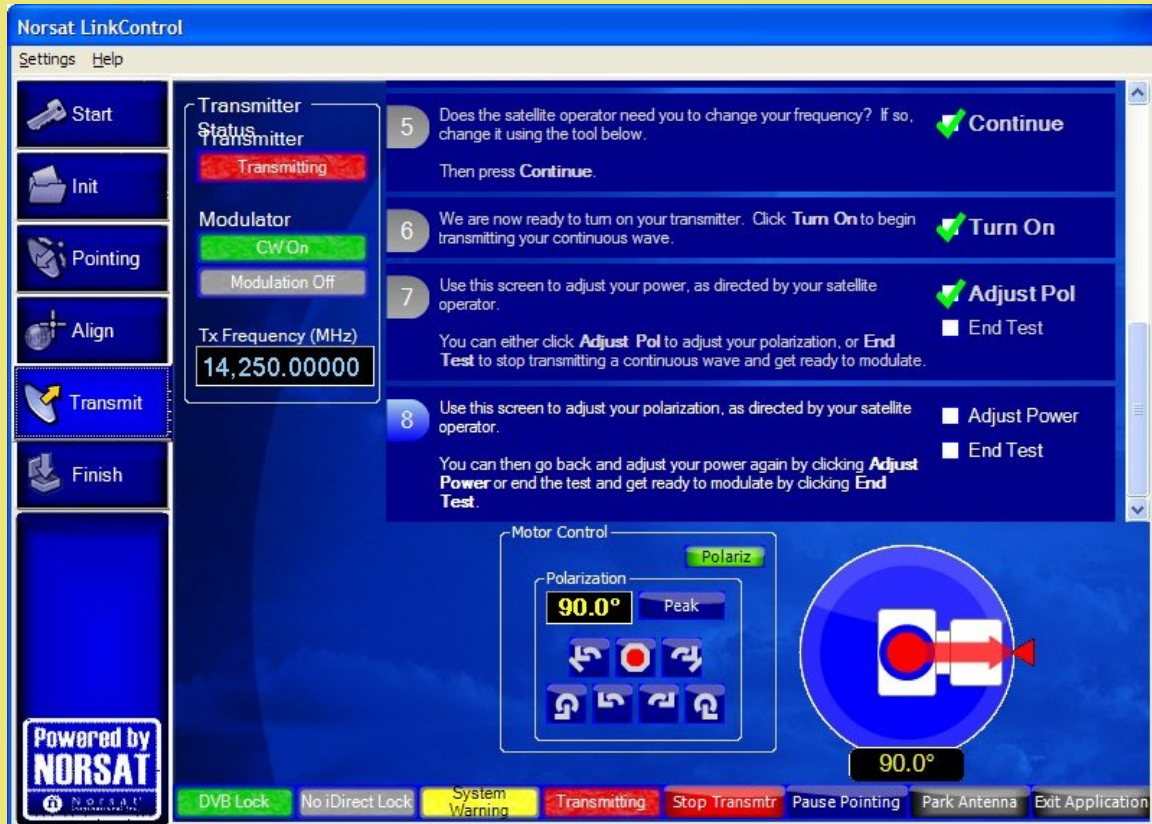


10 Satellite Access Procedures

10 The hub operator may ask you to re-adjust your polarization. If asked to do so, click the **Adjust Pol** box as shown in [Figure 32a](#) Step 7 (the Motor Control for Polarization adjustment opens as in [Figure 32a](#)) otherwise click the **End Test** box.

If you are not asked to adjust your polarization or your power click the **End Test** box as shown in [Figure 32a](#) Step 8.

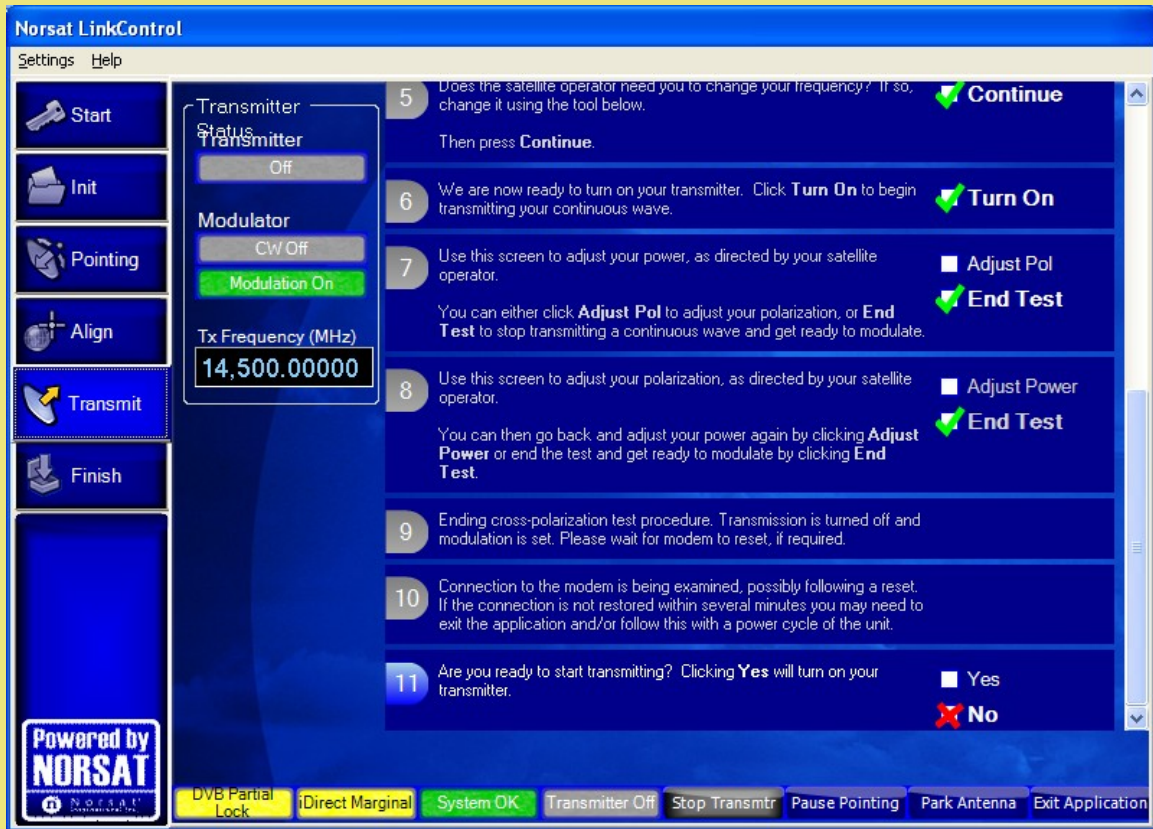
Figure 30a Satellite Access Procedure Screen – Adjusting Your Output Power



11 Once you have clicked the End Test box, see [Figure 32b](#), the system ends the cross pol test, turns transmission of and sets modulation. It then connects to your modem.

10 Satellite Access Procedures

Figure 32b Satellite Access Procedure Screen – End Test

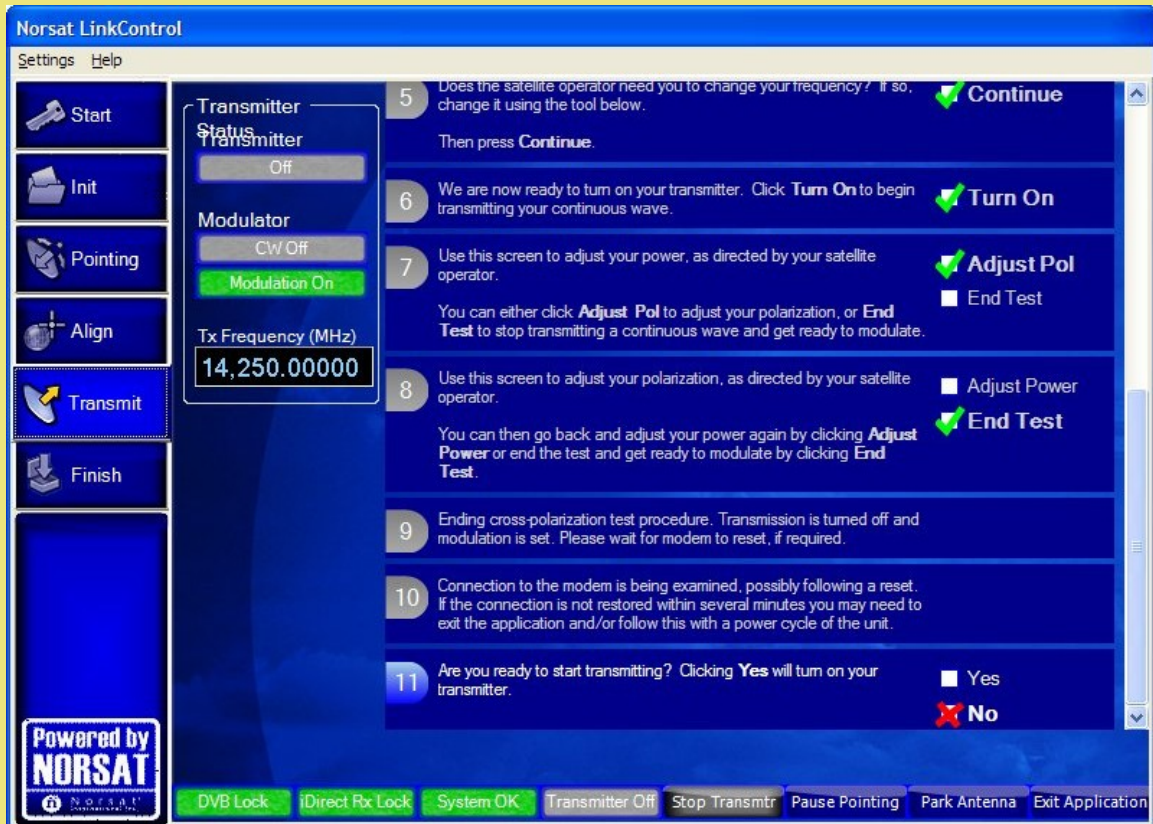


12 LinkControl then presents [Figure 33](#) Step 11 which provides the interface to turn the transmitter on only when instructed to do so by the hub operator.

13 Wait for further instructions from the Satellite Operator while carrier specifications are checked by the network operator.

10 Satellite Access Procedures

Figure 31 Satellite Access Procedure Screen – Ready to Start Transmitting



- 14 When directed, modulate the signal (start transmitting) by clicking the Yes box as shown in [Figure 33](#) Step 11.
- 15 Wait for further instructions from the hub operator while carrier specifications are checked.
- 16 The NOC will verify your phone number and the end time for your uplink. The controller will remind you to call the NOC again just before the end of the uplink (the “goodnight call”).

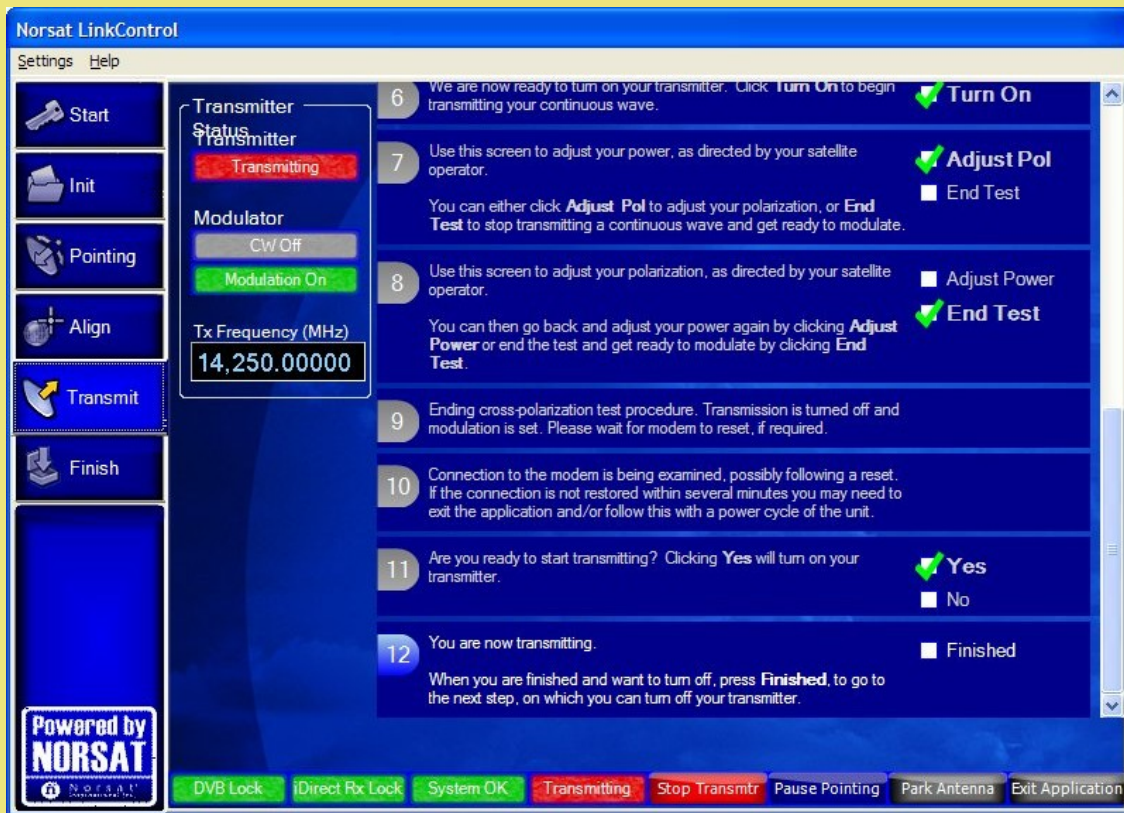
10 Satellite Access Procedures

Goodnight Call

The purpose of the Goodnight Call is to inform the NOC that you have completed your transmission and that you wish to end your transmission.

- 1 Once you confirm end of transmission with the hub operator, click the **Finished** box as shown in [Figure 34](#), step 12.

Figure 32 Satellite Access Procedure Screen - Transmitting



10 Satellite Access Procedures

- 2 You will then receive an **End Transmission** confirmation as shown in [Figure 35](#). Once you click the End Tx box, the transmitter will be turned off and you will receive a “**You are no longer transmitting.**” Message confirming this.

Figure 33 Satellite Access Procedure Screen – End Transmission

