ATC200-LITE-USB
Teletilt® Remote Control
Variable Electrical Downtilt System

Installation and Operation User Guide

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Revision History

Revision No.	Date	Description of Changes
A	October 2006	Released.
B	January 2007	Change discussion on device configuration settings in Section 4 to show that factory installed actuators are pre-configured to include the antenna model number, antenna type, and antenna serial number.
C	September 2007	No longer uses lite scan. Calibrate button added for other antenna vendor actuator calibrations. Added operating instructions for use with SmartBeam™ antennas.
D	May 2008	ATC Lite v5.0 supports both AISG 1.1 and 2.0 protocols. Main screen displays AISG mode. Added section on switching AISG mode in Andrew actuators. Added warranty notice.
E	November 2008	Updated from Version 5.0 to 6.0. Added 3 sections about configuring and adjusting Multiple Integrated Actuators.
F	April 2009	Contact information updated
G	August 2012	Updated for the features implemented in ATCLIte 7.2 as per the EAO 600300.
H	November 2012	Contact information updated
J	March 2013	Update the ATCLite7.2 software features
K	November 2013	Updated for the features implemented in ATCLite 8.0 with support for full control of TMAs.
L	October 2014	Updated the latest CommScope branding to document.
M	January 2018	Updated to include changes in software features and antenna sharing support for COMMRET2 (cRET V2) devices.
N	December 2020	Added ATC Lite RET upgrade instructions document.

Notices and Precautions

IMPORTANT

Before installing/operating the ATC200-LITE- USB controller, please **DOWNLOAD the latest antenna definition file and controller software** from the Commscope web site at www.commscope.com. Please register online to receive E-mail notifications for software updates.

WARRANTY NOTICE

Proper installation procedures must be followed when installing and operating RET equipment. Failure to assure installations are done properly by trained installation personnel and to follow procedures discussed in this bulletin may cause warranty for such products to be void.

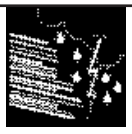
Commscope requires that all RET installations be pre-tested and configured prior to installation. Failure to conduct pre-test and pre-installation procedures defined by Commscope will void warranty.

SAFETY NOTICE

The installation, maintenance, or removal of an antenna requires qualified, experienced personnel. Commscope installation instructions are written for such installation personnel. Antenna systems should be inspected once a year by qualified personnel to verify proper installation, maintenance, and condition of equipment.

Commscope disclaims any liability or responsibility for the results of improper or unsafe installation practices.

Do not install near power lines. Power lines, telephone lines, and guy wires look the same. Assume any wire or line can electrocute you.



Do not install on a wet or windy day or when lightning or thunder is in the area. Do not use metal ladder.

Wear shoes with rubber soles and heels. Wear protective clothing including a long-sleeved shirt and rubber gloves.

Installation Training Available at www.commscopetraining.com

WARNING

It is very important to disconnect the ATC200-LITE-USB controller from the system after each use to prevent permanent damage to the system.

Electric Static Discharge (ESD) can damage or destroy the hardware equipment used for the ATC200-LITE-USB Teletilt® System. ESD can occur during handling of equipment without the user feeling a shock. The following precautions should be taken to prevent ESD.

Figure 1. ESD Wrist Strap.

1. Wear an ESD wrist strap (Figure 1) and/or use a test lead (ground), such as a single-wire conductor with a series resistance of 1 megohm equipped with alligator clips on each end. In using a ground, one end of the alligator clip is connected to a grounded equipment frame and the other end of the alligator clip is touched with a bare hand.
2. Other precautions the user may take to reduce the risk of ESD are:
   - avoid wearing clothing that conducts static electricity, such as wool
   - remove all jewelry
   - avoid handling equipment during an electrical storm
3. Before opening a package containing an electrostatic unit or an electrostatic sensitive device/ assembly, clip the free end of a test lead to the package. Leave the other end connected to the equipment frame or other ESD ground. This will cause any static electricity which may have built up on the package to discharge. Keep the unit package grounded during removal or placement of equipment in the package.
4. Minimize handling of ESDS (Electric Static Discharge Sensitive) equipment. Keep replacement equipment in the electrostatic-free packaging (with ground established between packaging and equipment frame) until needed. Repairable ESD equipment should be placed in the electrostatic-free packaging (with ground connecting package to equipment frame) upon removal from ATC200-LITE-USB system. ESD equipment should only be transported and stored in ESD protective packaging.
5. Always avoid unnecessary movement of body, such as scuffing feet across flooring, when handling ESDS equipment. Such movement will generate additional charges of static electricity.

6. When removing or replacing ESDS equipment, hold the device or assembly through the electrostatic-free wrap, where possible. If this is not possible, lift the device or assembly by its body only. Do not touch component leads, connector pins, or any other electrical connections or paths, even though they are covered by conformal coating.
7. Do not allow ESDS equipment to come in contact with clothing or other ungrounded materials that may have an electrostatic charge. Charges on non-conductive material are not equal. For instance, a plastic storage bag may have a –10,000 volt potential 1/2 inch from a +15,000 volt potential with many such charges all over the bag. Do not hand ESD equipment to another person until it is safely packaged for protection for ESD.
8. When moving ESDS equipment, always touch the surface on which it rests with bare skin for at least one second before lifting. Before setting it on any surface, touch the surface with your free hand for at least one second. Contact with bare skin provides a safe discharge path for charges accumulated while you are moving around.
9. While servicing equipment containing ESD devices, do not handle or touch materials such as plastic, vinyl, synthetic textiles, polished wood, fiberglass, or similar items that can generate static charges; unless you repeat the grounding process with bare hands after contacting these materials.
10. Where possible, avoid repairs that require soldering at the equipment level. Soldering irons must have heater/tips assemblies that are grounded to an electrical ground. Do not use standard plastic solder suckers (special antistatic solder suckers are commercially available).
11. Ground the leads of test equipment momentarily before you energize the test equipment and before you probe ESD devices or assemblies.
12. Work benches used for setting ESDS equipment should have ESD protective work surfaces. These work benches should also have personnel ground straps. These straps prevent discharge of static electricity from personnel handling ESDS items on the work bench surface. The work bench surface should be connected to a ground through a ground cable. The resistance in the bench top ground cable should be located at or near the point of contact with the top of the work bench. The resistance should be high enough to limit any leakage current to 5 milliamperes or less. This takes into consideration the highest voltage source within reach of grounded people and all the parallel resistances to ground, such as wrist ground straps, table tops, and conductive flooring.

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Site Configuration Worksheet ..... (Tear Out Page)

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Part 1

Initial Setup

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Section 1
Program Installation

The controller MUST remain disconnected from the computer and its power supply during the ATC Lite software installation process.

1.0 System Requirements/Recommendations

Required:

- Windows® 7 operating systems, or newer
- Available working USB port (USB2.0 or newer)

Recommended:

- Screen resolution of 1024 x 768, or higher

1.1 Program Download and Installation

If you are upgrading the ATC Lite software from an earlier installed version, it is recommended that the earlier version is uninstalled before the new version is installed. Download the ATC Lite software zip file.

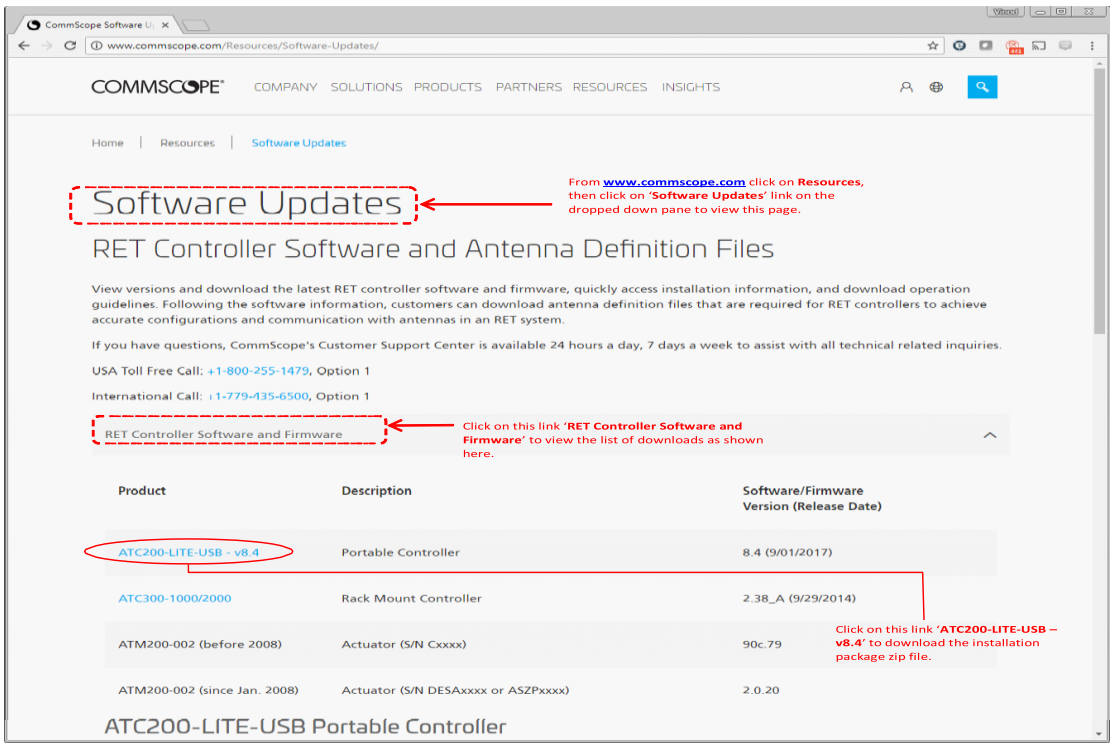

Figure 1-1. Downloading ATC Lite Software.

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1. Download the ATC Lite software zip file. From the **www.commscope.com** click on the **Resources** link and in the drop down pane select the **Software Updates** link under **Get More Done** column. In the **Software Updates** page click on the link **RET Controller Software and Firmware** to view the download list. Select the **ATC200-LITE-USB** link to download the installa tion zip file (See Figure 1-1).
2. This zip file can be placed in any directory on the PC's local C:\ drive. Double-click on the zip file to extract the ATC Lite setup file and its supporting installation documentation.

   Do not connect the ATC200-LITE-USB controller to the computer at anytime during the software installation process.

3. Double click on the setup file (eg. **ATCLite84Setup.msi**) to begin the installation process. Note that the number shown in the filename represents the software release version.

   During the program installation process, a single antenna definition file and additional support files will self-extract into the same directory with the program file, and a program icon will be placed on the computer's desktop. The antenna definition file provides the program with an updated drop down list of antennas compatible with the ATC200-LITE-USB controller. Tilt parameters for each antenna are included in the antenna definition file to show the tilt range for each antenna and to communicate instructions to the antenna/actuator when tilt adjustments are made from the controller. Latest firmware files for Tower Mounted Amplifiers (TMA) and USB driver files are available
4. Follow the on-screen prompts, as shown in Figures 1-2 through 1-5.
5. This installation process automatically installs the relevant USB drivers (32 bit or 64 bit) for con necting the ATC200-Lite-USB device through USB connection. Proceed to Section 2.3, Control ler setup for further instructions for connecting using serial or USB.

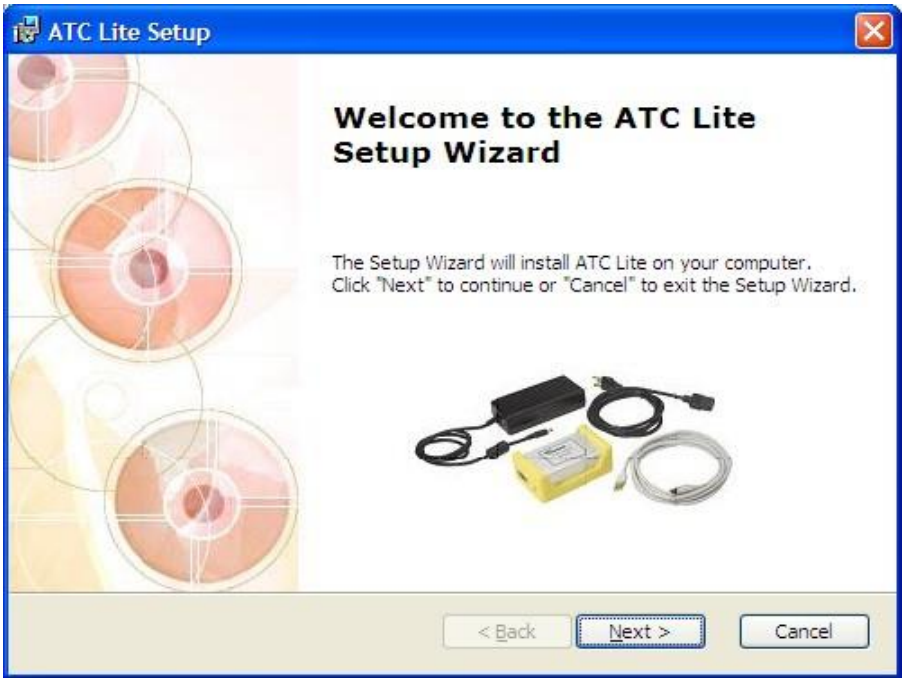

Figure 1-2. ATC Lite Software Setup Wizard.

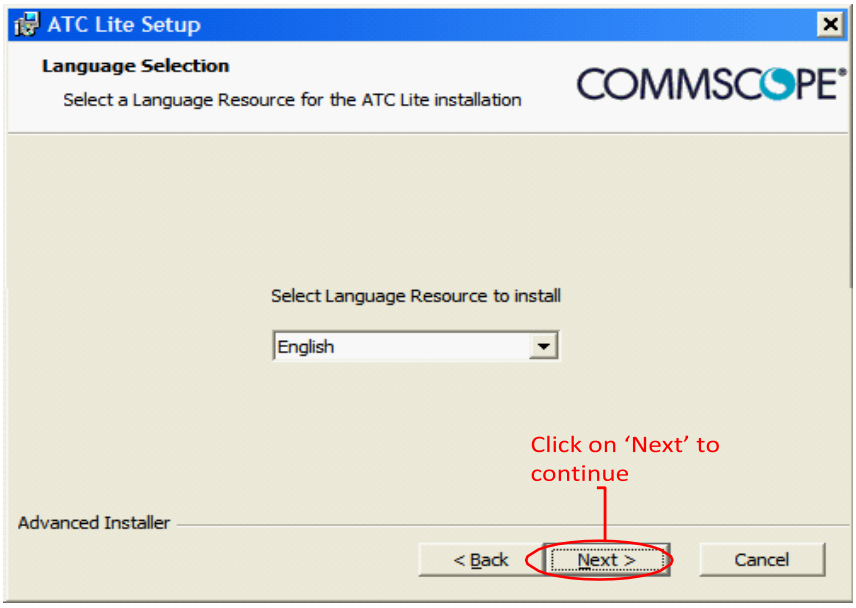

Figure 1-3. ATC Lite Software setup.

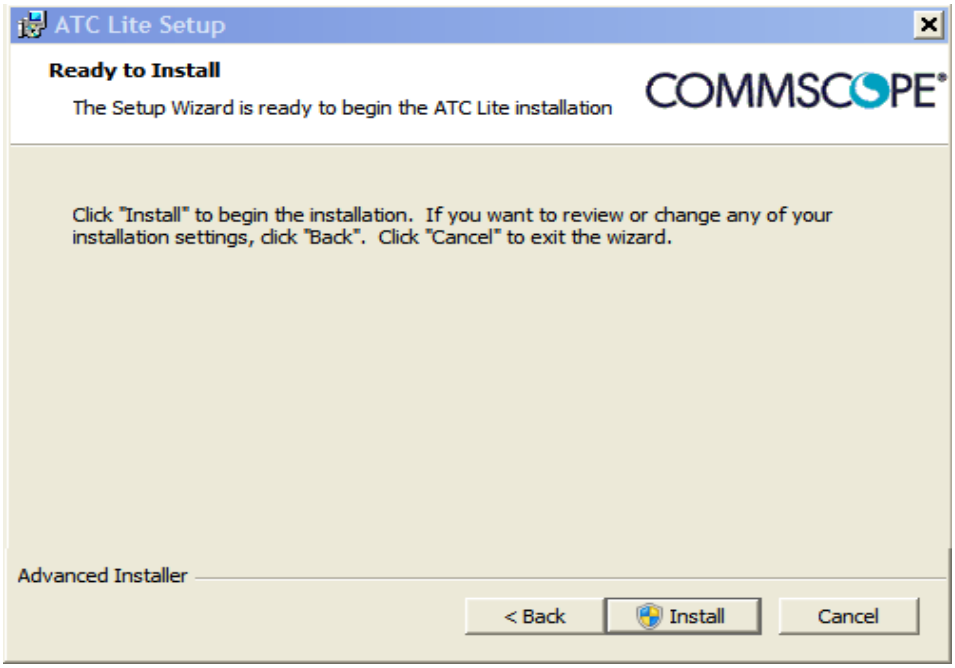

Figure 1-4. Status for ATC Lite Software Installation.

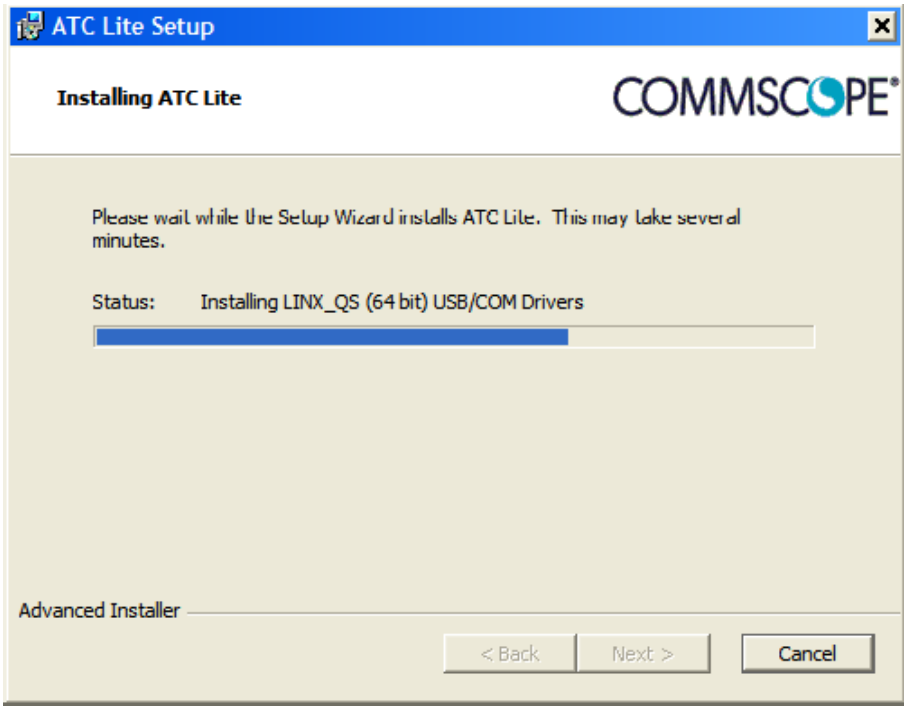

Figure 1-5. Completing ATC Lite Software Installation.

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Section 2
Controller Setup

2.1 System Description

The ATC200-LITE-USB is an antenna system controller that is used within the Commscope Teletilt® RET system to manage electrical tilt settings of an antenna(s) remotely. Figure 2-1 shows an example of components used in an ATC200-LITE-USB Teletilt system. Follow the procedures described in the installation bulletins included with each component for successful installation for each device.

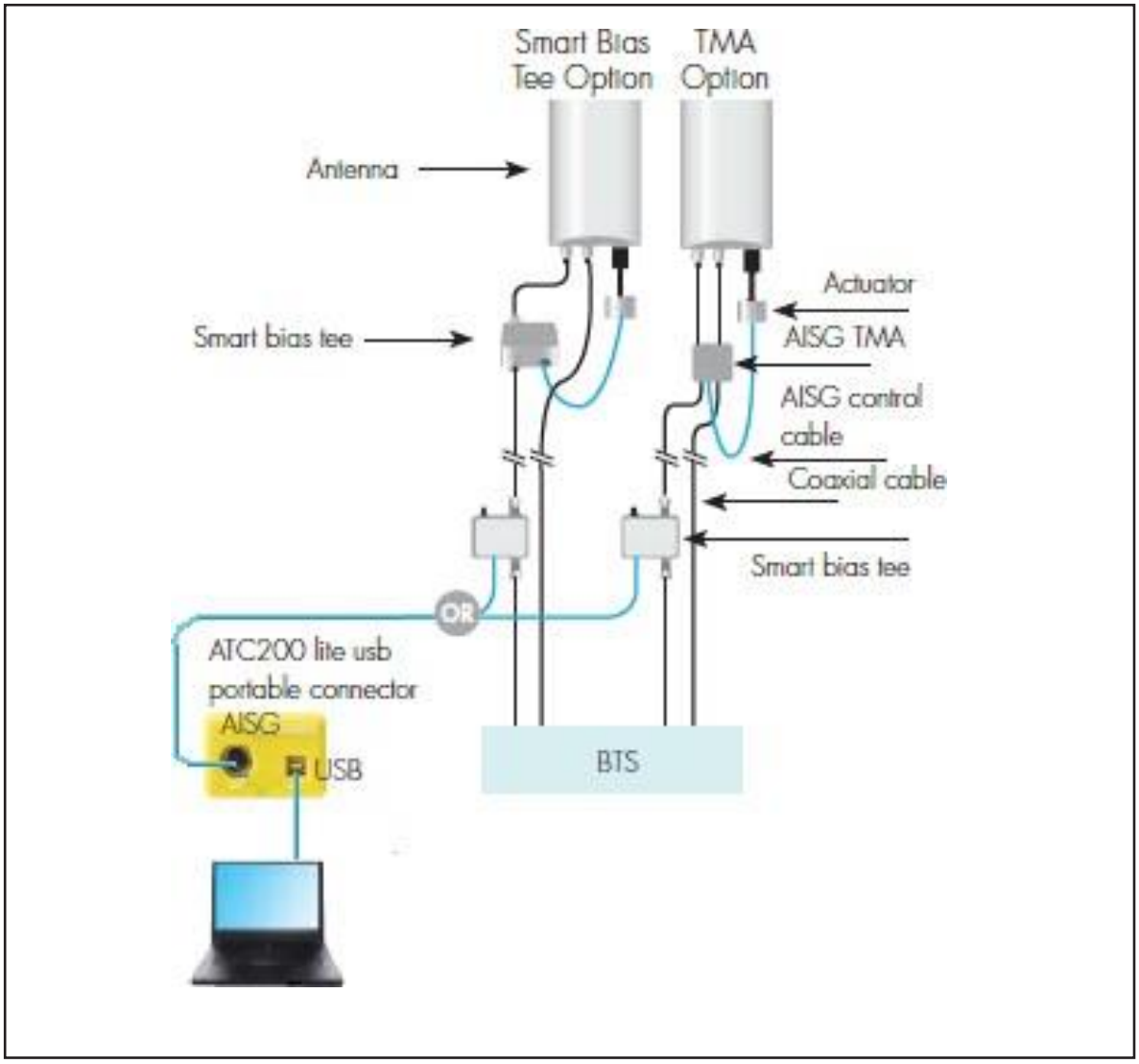

Figure 2-1. Example of Commscope Teletilt® Basic RET System with an ATC200-LITE-USB.

It is recommended that each actuator be connected to the controller while on the ground and tested for proper function. The following site antenna/actuator information should be recorded before the antennas are installed on the tower:

- The serial number for each actuator
- The antenna type (model number) in which the actuator will be operating
- The location the antenna will be positioned at on the tower site

This will assist in configuring the controller to manage tilt operations successfully for each actuator. A site configuration worksheet is provided at the end of this manual to record the antenna/actuator information.

2.2 Controller Communication

The controller serves as an interface between a local PC/laptop and the ATM200 RET actuator/antenna system. The ATC200-LITE-USB controller provides signal level conversion from a PC to RS–485 (used in the ATM200 actuators), as well as power to the ATM200 actuators that are attached to the antennas. LEDs on the controller are used to indicate power and data communication. The ATC200-LITE-USB controller is equipped with a USB port, as well as a RS–232 serial port for flexibility in connecting to a PC. See Figures 2-2 and 2-3.

Note that although data is stored in the actuator, it can not be saved in the controller. All site information can be saved on the PC (see Section 13).

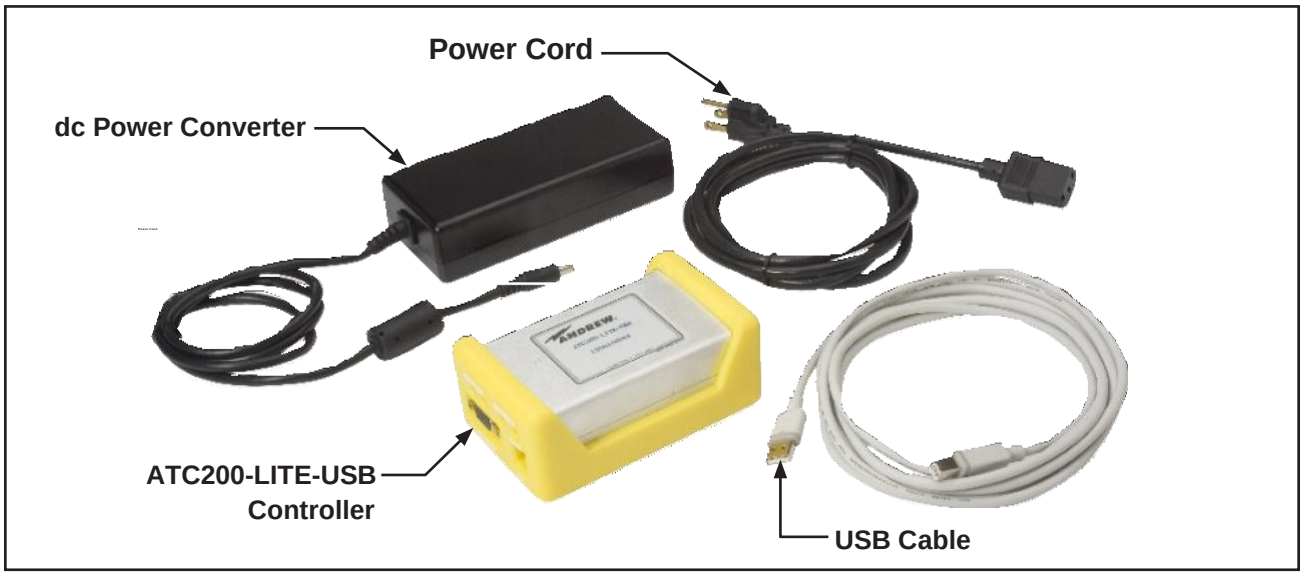

Figure 2-2. ATC200-LITE-USB Controller Kit.

IMPORTANT

DISCONNECT THE ATC200-LITE-USB CONTROLLER FROM THE RET SYSTEM AT THE END OF EACH SESSION TO PREVENT POSSIBLE DAMAGE TO RET DEVICES.

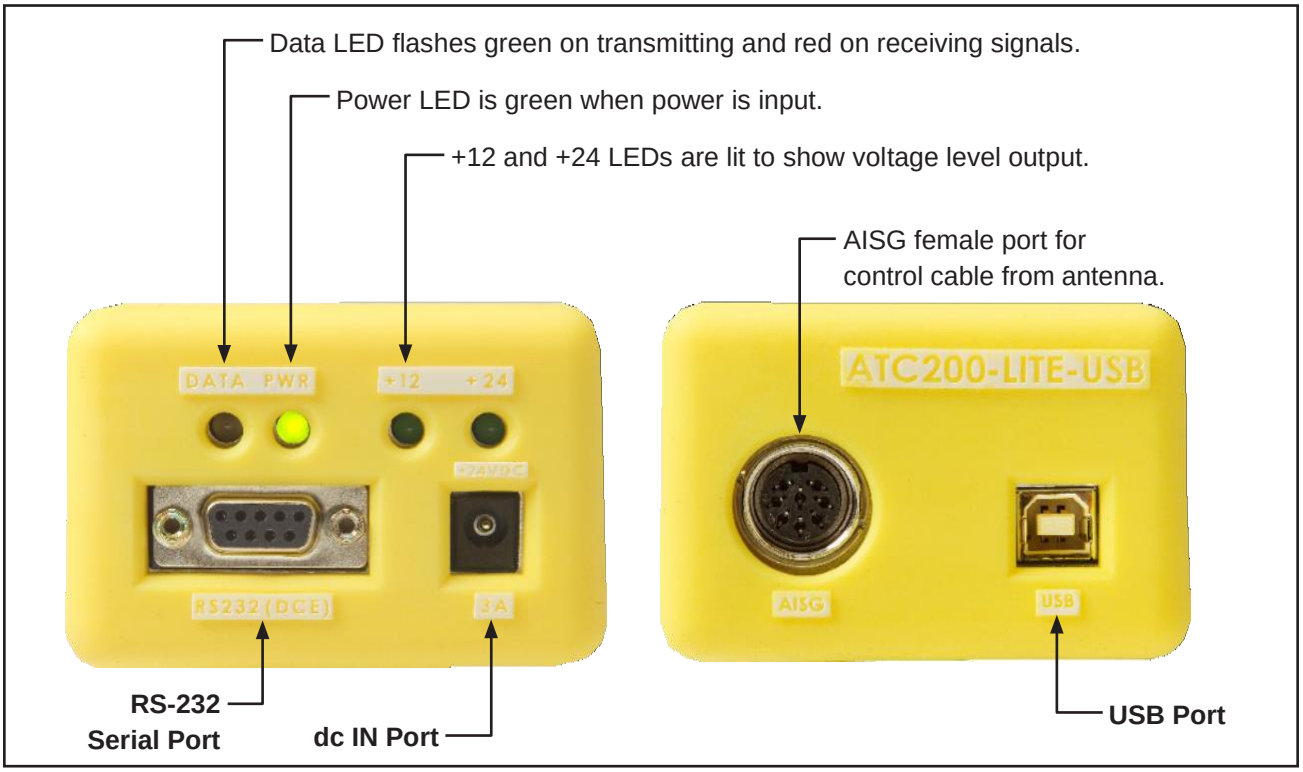

Figure 2-3. ATC200-LITE-USB Controller End Panels.

2.3 Controller Setup

Connect the supplied 24 Vdc power converter to the dc IN port on the controller (Figure 2-3).

Verify that the PWR LED turns green.

1. Using a USB Connection

- Connect the supplied USB cable between the controller and the PC. See Figure 2-3 for port connections on the controller.

> The first time you connect a given ATC200-LITE-USB controller to a given local computer, the drivers will be loaded automatically for the USB connection.

- If you are prompted to locate/install the USB driver for the new device found, then the drivers failed to install during the installation process.

  Follow the onscreen instructions provided by the Windows to install the USB driver. Among the instructions select the option to provide the installation location for the USB driver files. Provide the folder path “C:\Program Files (x86)\Commscope\ATC Lite\LINX QS Drivers” and proceed to complete the installation of the USB driver.

- See paragraph 2.4 to launch the ATC Lite program and view the USB port assignment.

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2.4 Program Startup

1. Connect the desired length RET control cable be ween the controller's AISG connector and the first device in the RET system (or actuator that is to be tested before the antenna is mounted on the tower).
2. Double-click on the ATC Lite icon that was placed on the computer's desktop during program installation (Figure 2-8).

Figure 2-8. ATC Lite Program Icon.

3. The controller program will open to its main screen (Figure 2-9).
4. Select **Communication** from the main menu to view the communication port used for the connection. See Figures 2-10 and 2-11 for examples.
5. A RS232 cable can also be used to connect the controller's serial port and the computer running ATC Lite program instead of USB. Launching ATC Lite program will display message window "Use Serial Port?" with "Yes" and 'No" buttons. Clicking on 'Yes' button shows COM port connection selection for the ATC Lite program as shown in the figure 2-12.
6. If you desire to exit the program at this time, select **File→Exit** from the main menu or click on the **X** in the far top right.

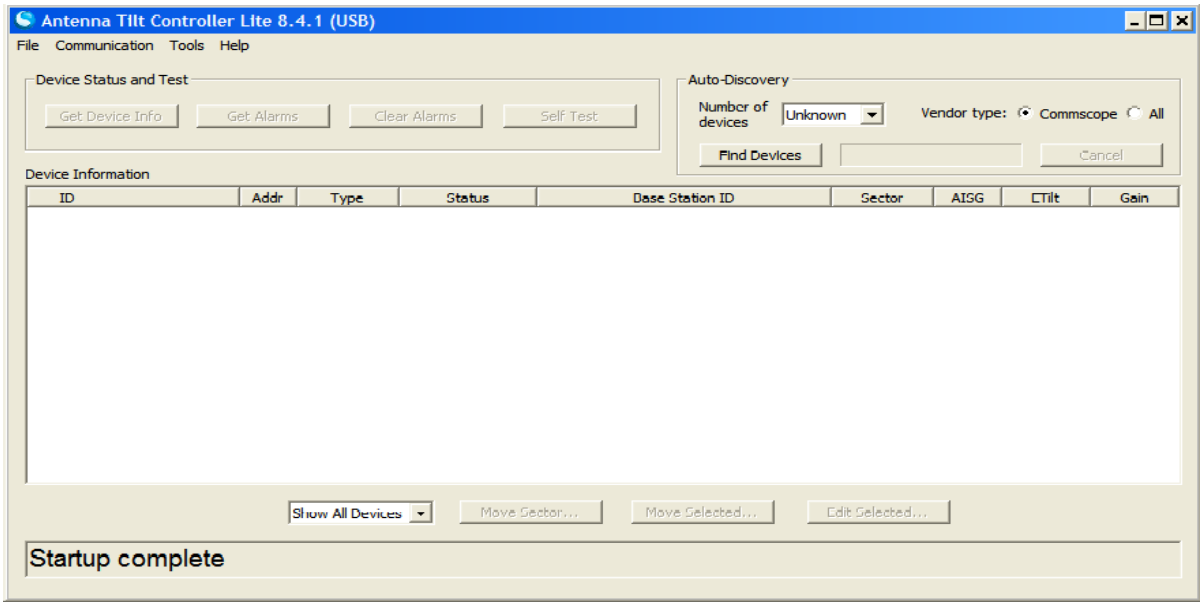

Figure 2-9. ATC Lite Program Main Screen.

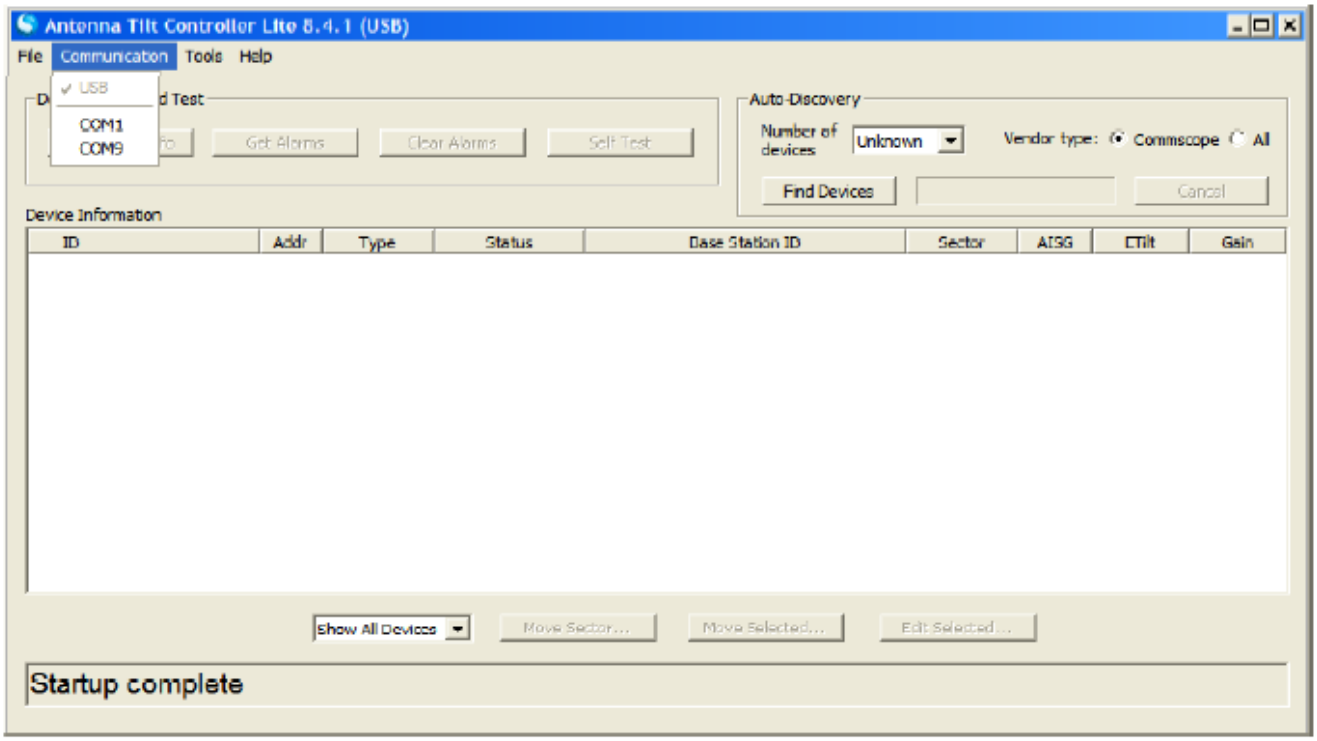

Figure 2-10. USB Port Connection Shown.

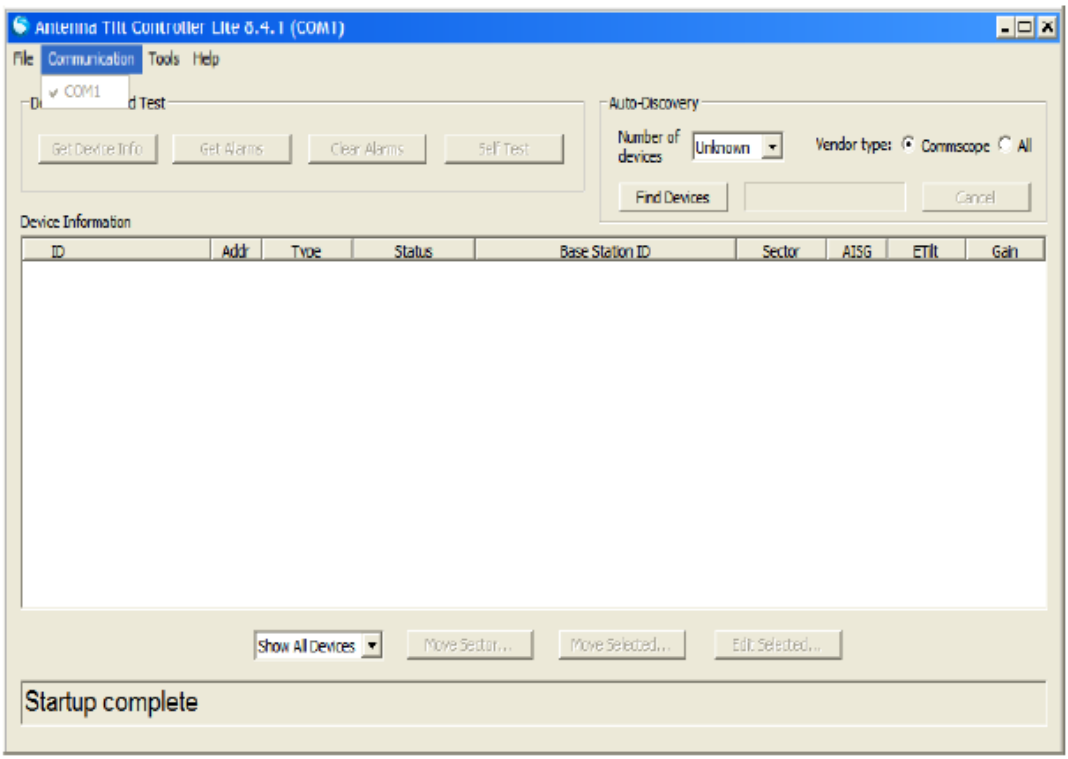

Figure 2-11. COM Port (Serial) Connection Shown.

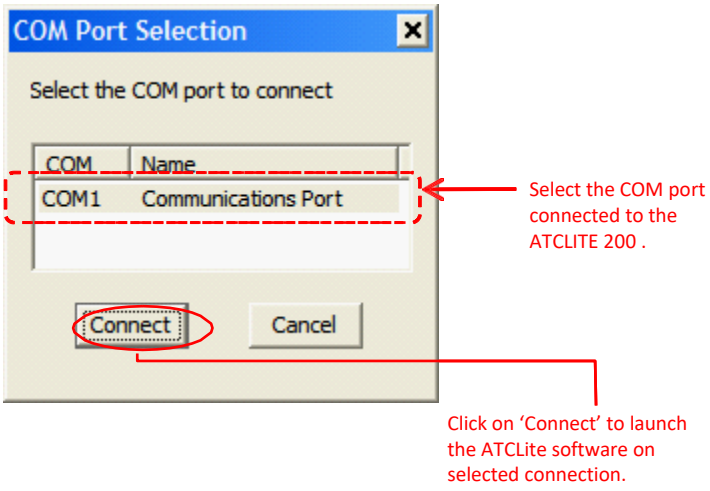

Figure 2-12. COM Port Connection Selection.

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Part 2

Uploading Firmware

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Section 3
Uploading Firmware

3.0 Overview

Firmware files for the CommscopeTeletilt controller and antenna definition file can be downloaded from **Software** web page on the web site www.commscope.com, by Clicking on the **Resources →RESOURCE LIBRARY** link, then select the link **Software** on the right side pane named **Resources**. In the **Software** page click on the link **RET Controller Software and Firmware** to view the download list and from this select link **ATC200-LITE-USB** or **ATClite v8.0 Software** to download the zip for installation.

Note: See Section 1 for installing upgrades to the ATC Lite program.

3.1 Installing Firmware Updates to Actuators

Firmware updates are occasionally made. Actuators are upgraded following a device scan when the newer version firmware is available.

Download Phase is new way to install firmware updates. The actuator update status box appears at the end of the first device search (Figure 3-1). Once the updates are made, this status box is not seen again, until new actuator updates are made available.

If any of the actuators require updates, they are listed by serial number and the time needed for installation. Click **Yes** to confirm updates. If no action is taken, downloads will begin automatically within 60 seconds.

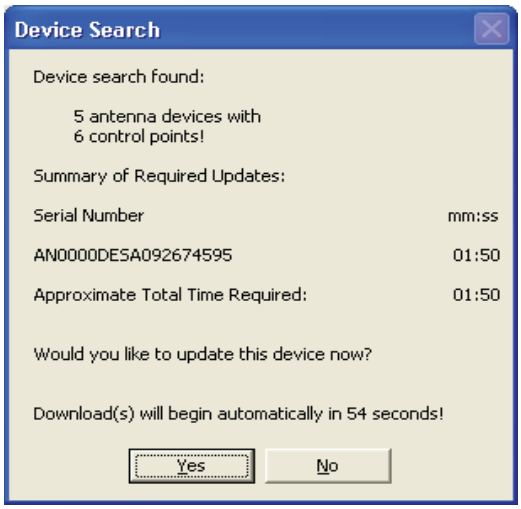

Figure 3-1. Starting Download Phase.

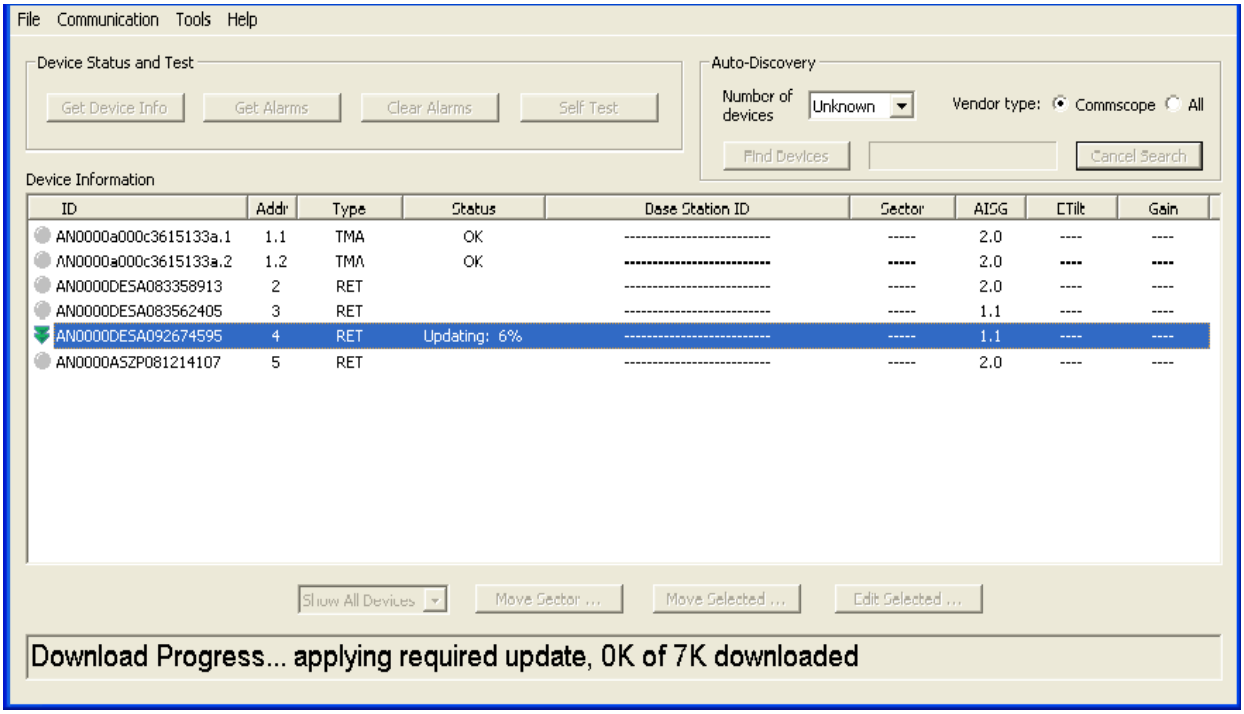

Figure 3-2. Applying Firmware Update .

Firmware updates were placed in the **C\:Program Files\Commscope\ATC Lite** directory of the computer when the ATC Lite **Setup** file is run.

3.2 Installing Firmware updates to TMA devices

Firmware updates are occasionally made to TMA devices. TMA firmware is upgraded by selecting the device from the list following a device scan.

Select the TMA device from list, then right click to view the menu ‘Start firmware update…’ and click or press ENTER to initiate the update. The TMA device that is selected for update is listed with serial number and time needed for update. Click on Yes in the “TMA device firmware update” dialog to proceed with the firmware update (Figure 3-4).

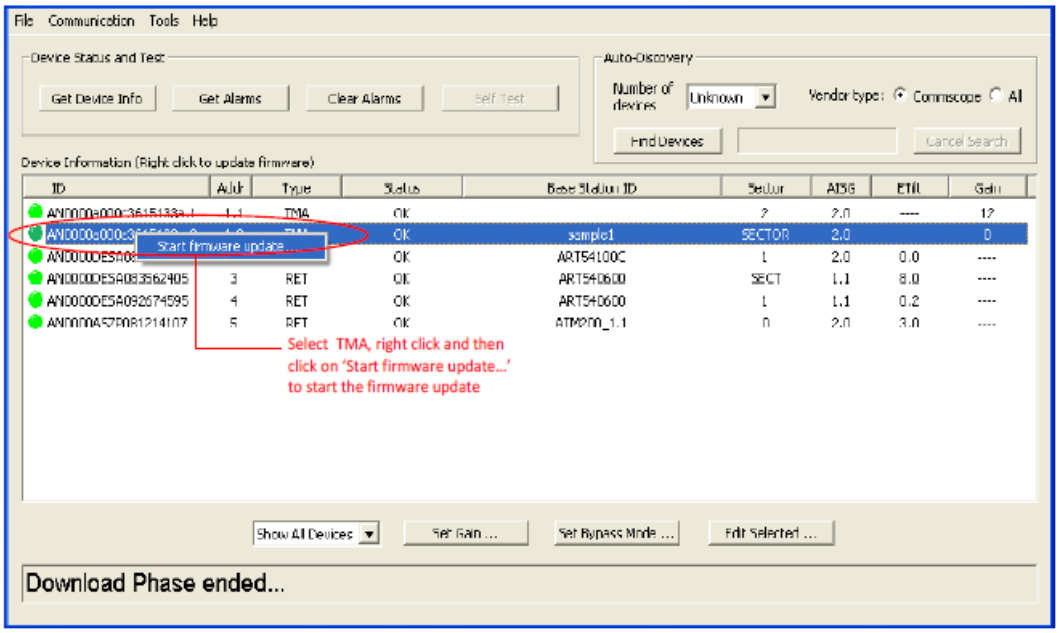

Figure 3-3. Initiate firmware upgrade for TMA device.

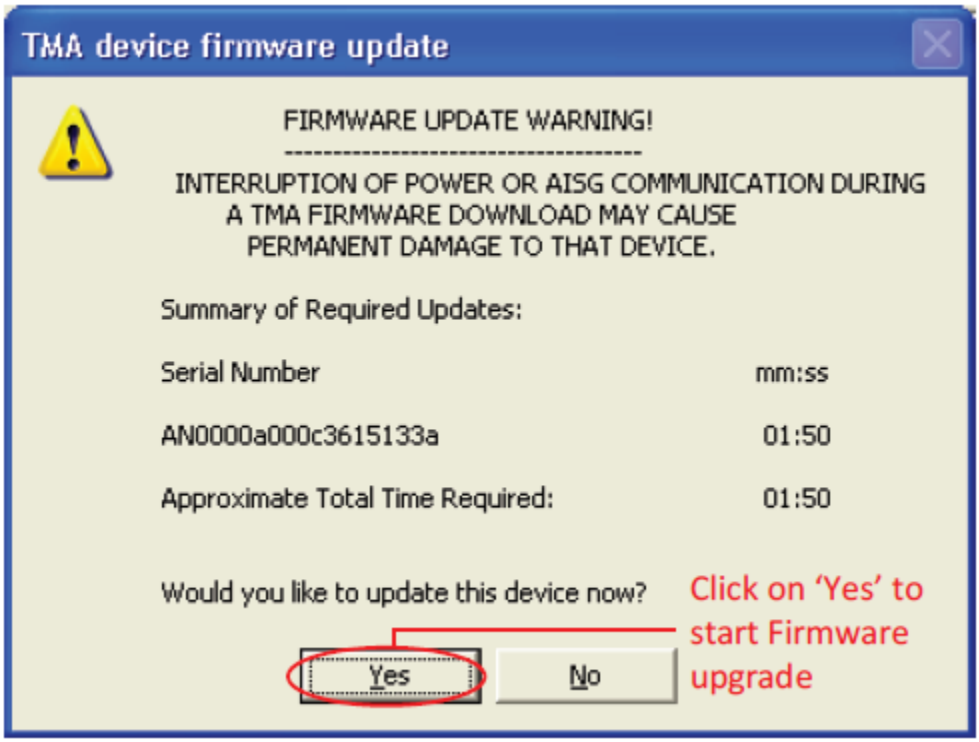

Figure 3-4. Starting TMA firmware update.

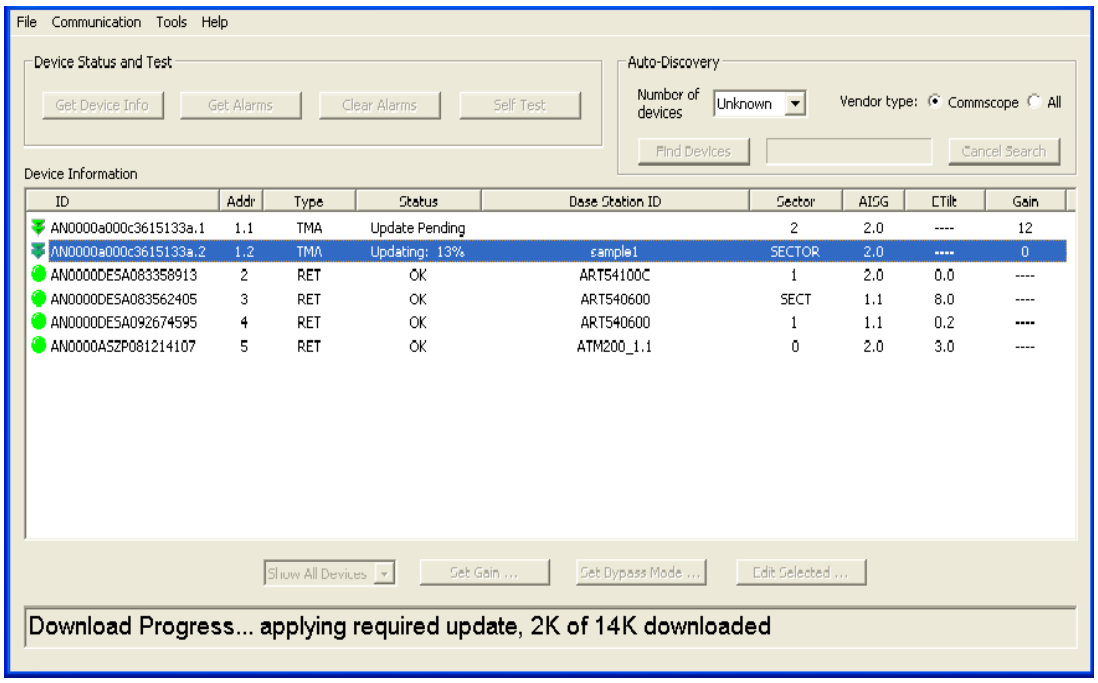

Figure 3-5. Firmware update in progress.

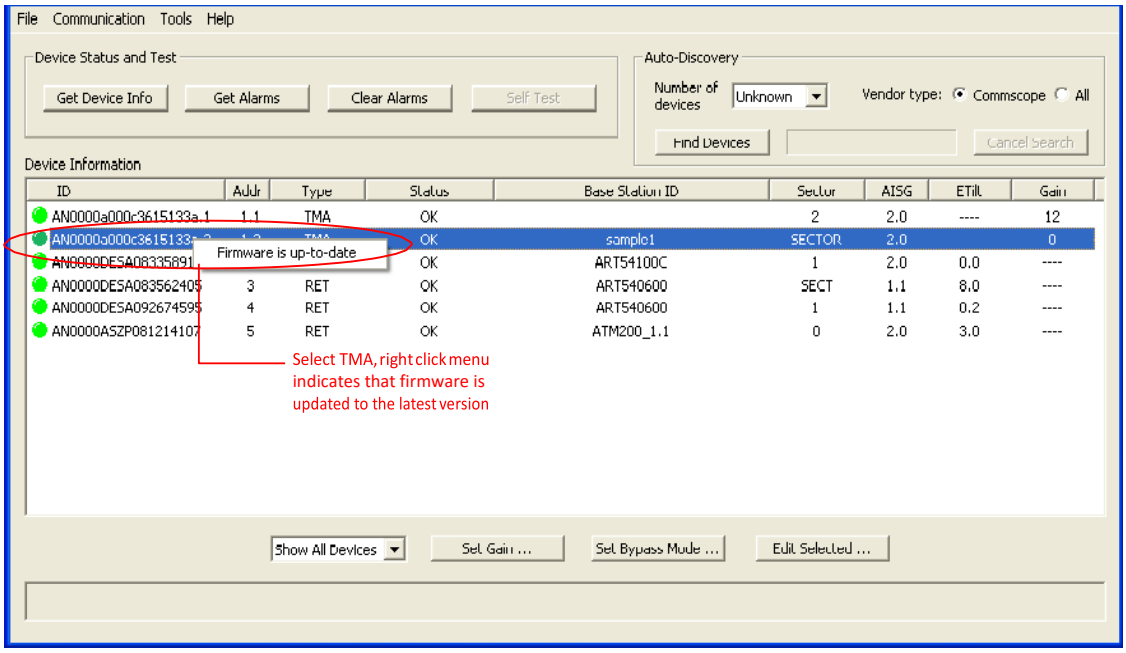

Figure 3-6. Firmware update status

After successful completion of firmware update the right click on the TMA display “Firmware is up-to-date” indicates that the firmware on TMA is updated to the latest version provided with ATC Lite.

Firmware updates for TMA were placed in the C:\Program Files\Commscope\ATC Lite\TMA directory of the computer when the ATC Lite setup file is run.

3.3 Updating the Antenna Definition File

The antenna definition file is automatically placed in the **C:\Program Files\Commscope\ATC Lite** directory of the computer when the ATC Lite **Setup** file is run. The latest version of the antenna definition file can be separately downloaded from the Commscope website at www.commscope.com (Select Resources -> RESOURCE LIBRARY ->Software->Antenna Definition Files). After the file has been downloaded, double-click on the zip file (e.g. **Commscope_Self-Extracting.zip**) to extract the self-installer files available in the folder Commscope_Self-Extracting (e.g. **RET-AN-AT_057_msi.msi and ACRET1-TABLE_005.msi**). Double-click on the extracted self-installer file to have the antenna definition file automatically placed in the **ATC Lite** directory.

During program startup, the ATC200-LITE-USB controller will look in the **ATC Lite** directory for the latest Commscope antenna definition file and automatically load it into the program. Note that if an updated antenna definition file has been placed in the **ATC Lite** directory while the **ATC Lite** program is launched, the program will need to be exited and restarted to recognize the new file.

3.4 Specifying an Antenna Definition File

Although the **ATC Lite** program automatically defaults to use the latest version Commscope antenna definition table file, earlier versions can be loaded by the controller. This may be necessary if the latest antennna file does not list your Commscope antenna model. This feature also provides to load antenna definition table for Commscope AccuRET devices.

1. To select a different antenna definition file, go to **Tools→Antenna Files** from the main menu at the top of the screen (Figure 3-7).
2. Click on the drop down list arrow to select the desired antenna definition file from the list (Figure 3-8) for ATM200 and AccuRET devices respectively.
3. Click **Load File** to load the selected antenna definition files for (Figure 3-8) ATM200 and AccuRET devices. Status of loading the files will be displayed in the **Com-mand Status/Response** window.
4. Click **Close** after the antenna definition files have been loaded successfully.

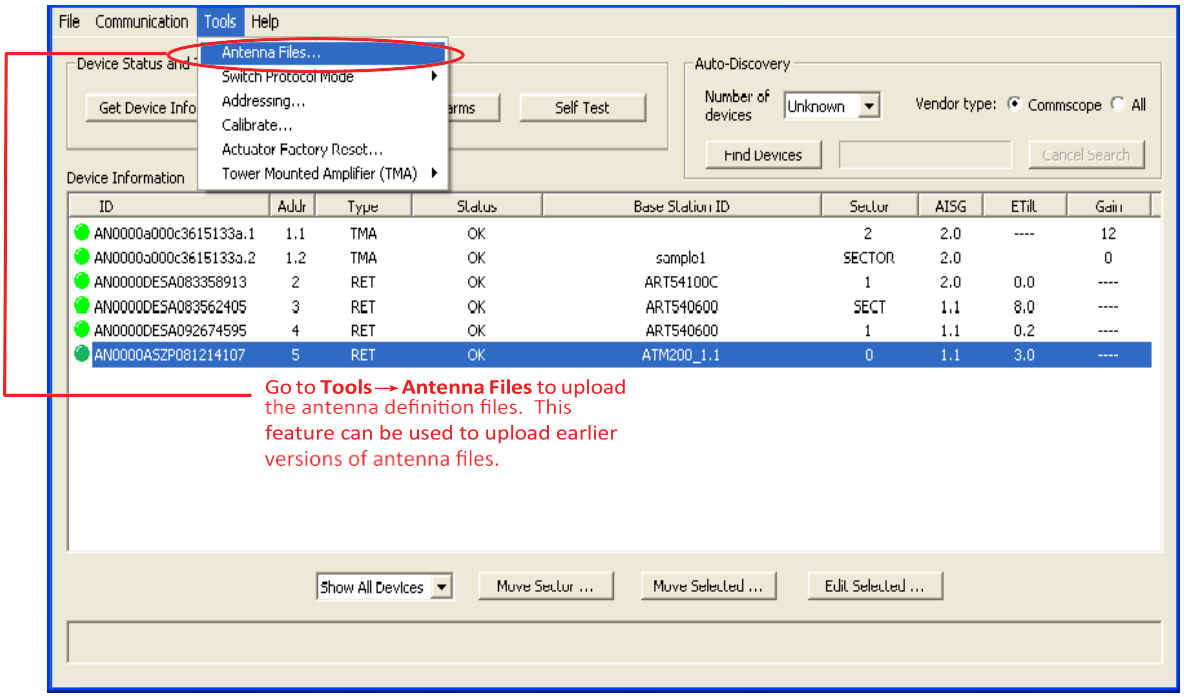

Figure 3-7. Selecting Antenna Files from the Main Menu.

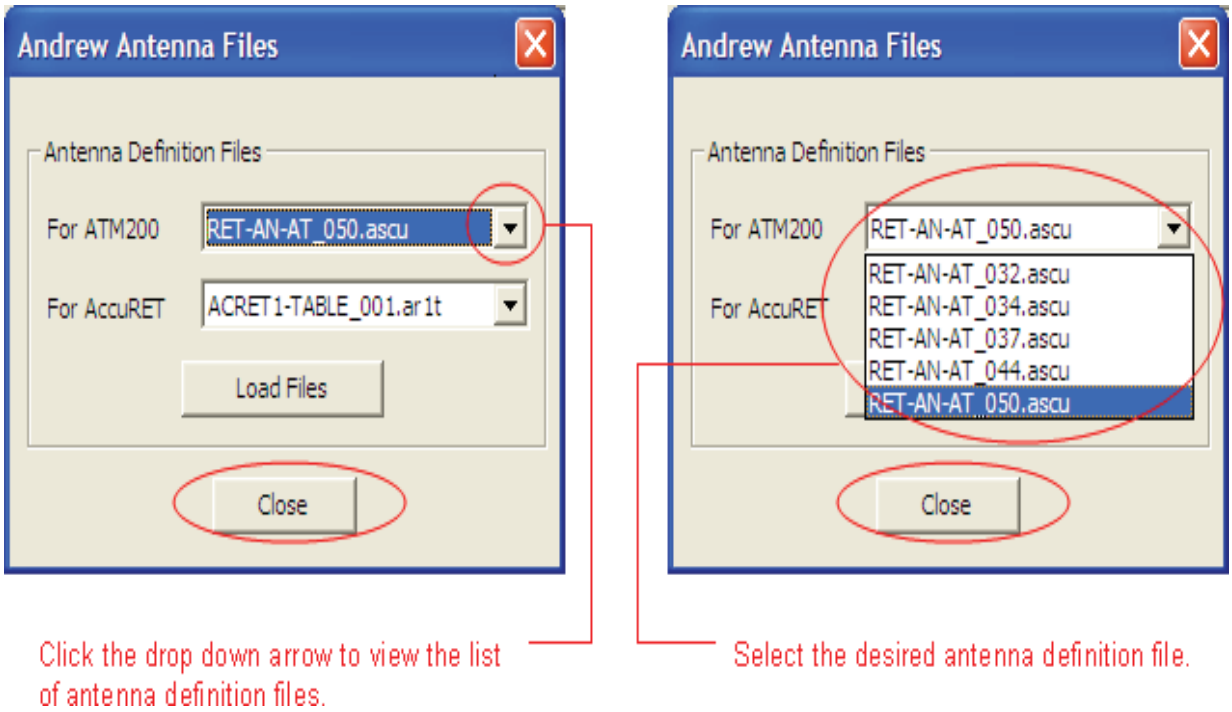

Figure 3-8. Antenna Definition Files Drop Down List.

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Part 3

Device Discovery for All Types of Antennas

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Section 4
Device Discovery and Addressing

4.1 Device Search

A device search is required in order for the program to determine which devices are present on the tower and to retrieve their current configuration parameters. It is important to note that this feature automatically scans and sets each device address to '0' and then readdresses them in the order that they respond to the controller during the device search. Generally, the devices respond in sequential order of their serial number. This feature helps reduce possible conflict issues that could arise during operation later. The device search is controlled by number of devices and vendor type. Initially the device search is set find all the devices available and only Commscope devices. Selecting number of devices for search can significantly reduce the time to complete device search.

Any actuator having an earlier version firmware than used by the controller will be updated after the device search (see Section 3). Firmware update for TMA devices can be carried out manually after the device search (see Section 3).

1. From the program's main startup screen, click **Find Devices** to start the device search (Figure 4-1).

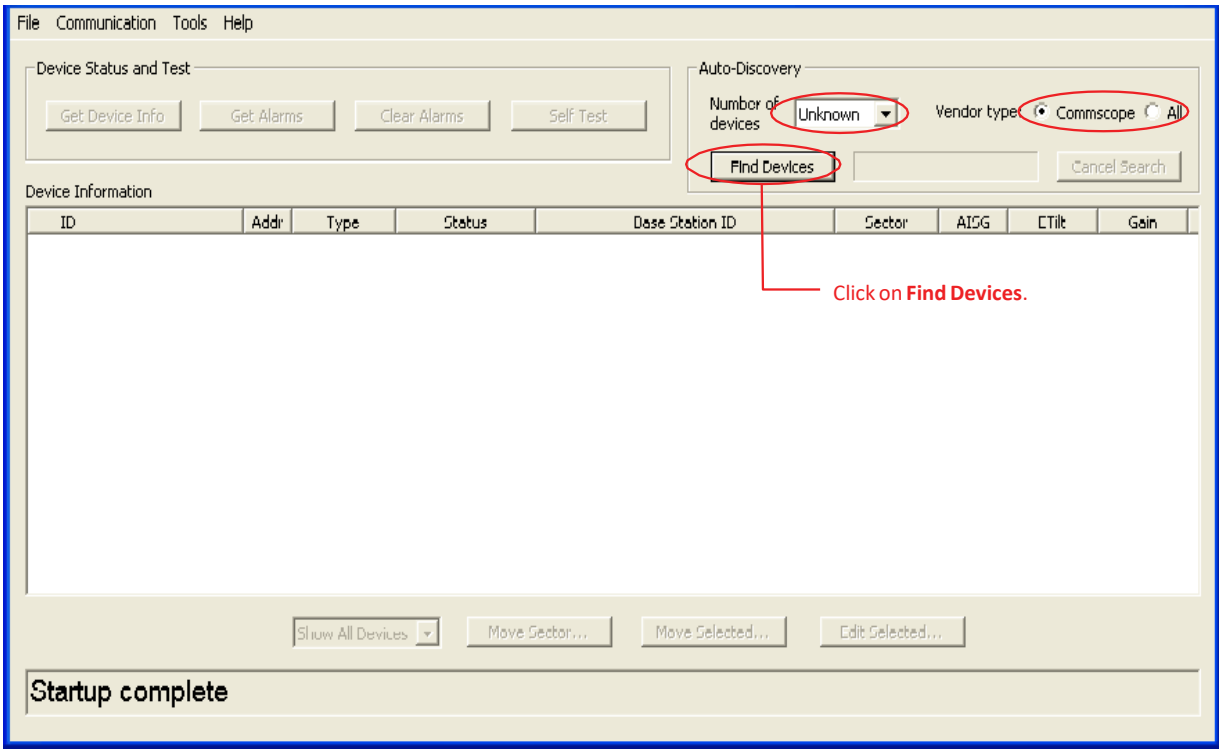

Figure 4-1. Main Startup Screen Ready for Device Search.

2. The **Auto Discovery Bar** (located at the top of the screen) and the **Command Status/Response** window (located at the bottom of the screen) will show the progress/activity during the search (Figure 4-2). As each device is found during the search, the **Command Status/Response** window will show the status of how many devices have been found and the found devices are displayed on screen. Number of devices can be selected for value from 1 to 32 for specific number of devices or “Unknown” for all devices available. Vendor type selection can be for Commscope devices only or all vendor devices including Commscope.

   NOTE: The amount of time the device search takes is dependent upon the number of AISG devices present on the tower. Typically, a device search for a tower site that contains a small number of devices (e.g. 6) will take about 3 minutes. A device search for a tower site with a full complement of devices may take up to 10 minutes.

   The **Cancel Search** button can be used to halt the device search at anytime except during Firmware downloads. Note that if a device search is halted, a new search can be started. To start a new device search, click on **Find Devices** again (Figure 4-2). If a device search is halted, the devices found will be displayed in the list and proceed to required firmware download followed by device information retrieval.

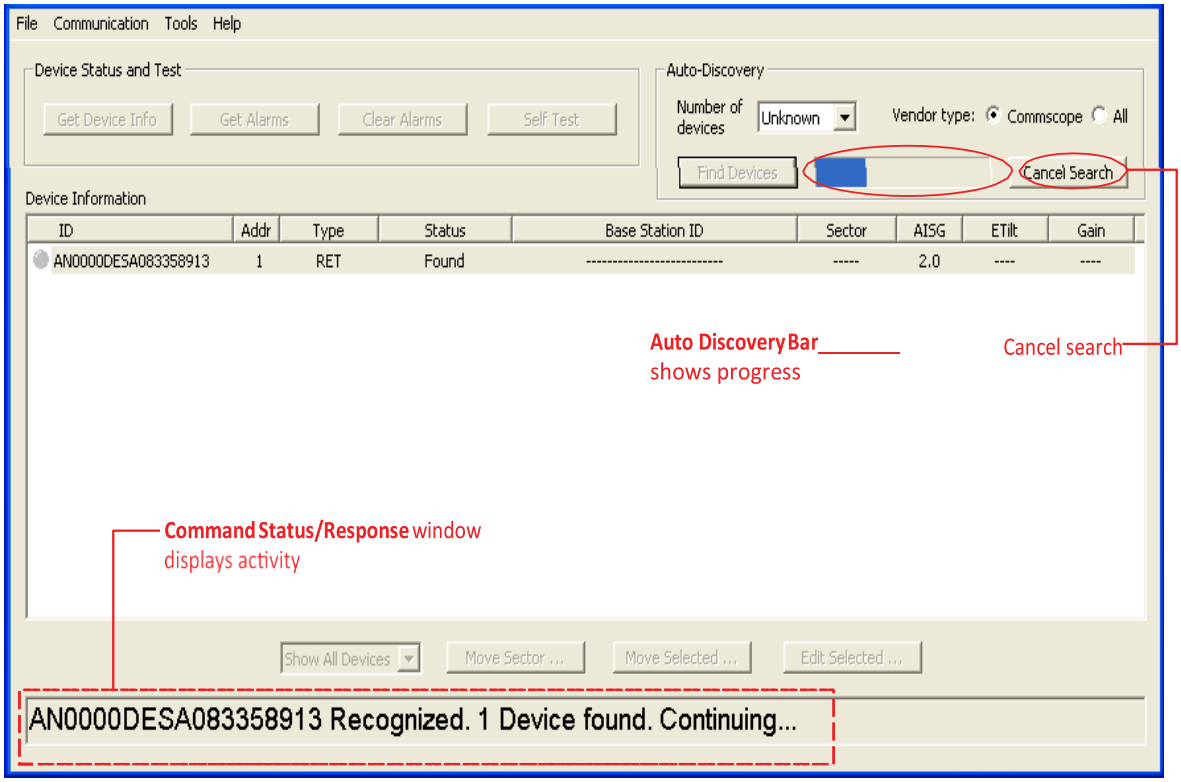

Figure 4-2. Progress Shown During Device Search.

3. At completion of the search, a notification will appear showing the number of devices found (Figure 4-3). This example shows 5 devices and 7 total sub-devices (or control points) found. Click **OK**. Devices found during the device search will be displayed in the main screen (Figure 4-4). The default view of the device list displaying device information is 'Show All Devices' as shown Figure 4-4. See next section for details on device list views section.

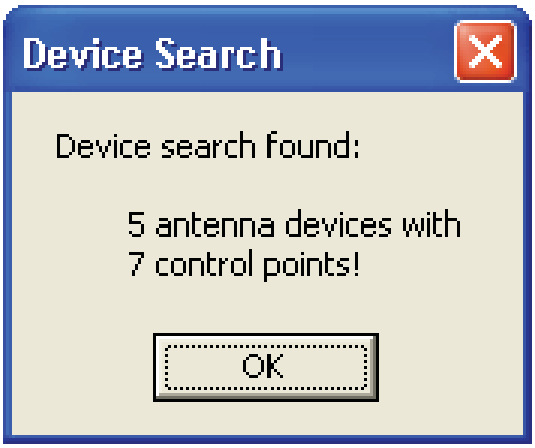

Figure 4-3. Device Search Results.

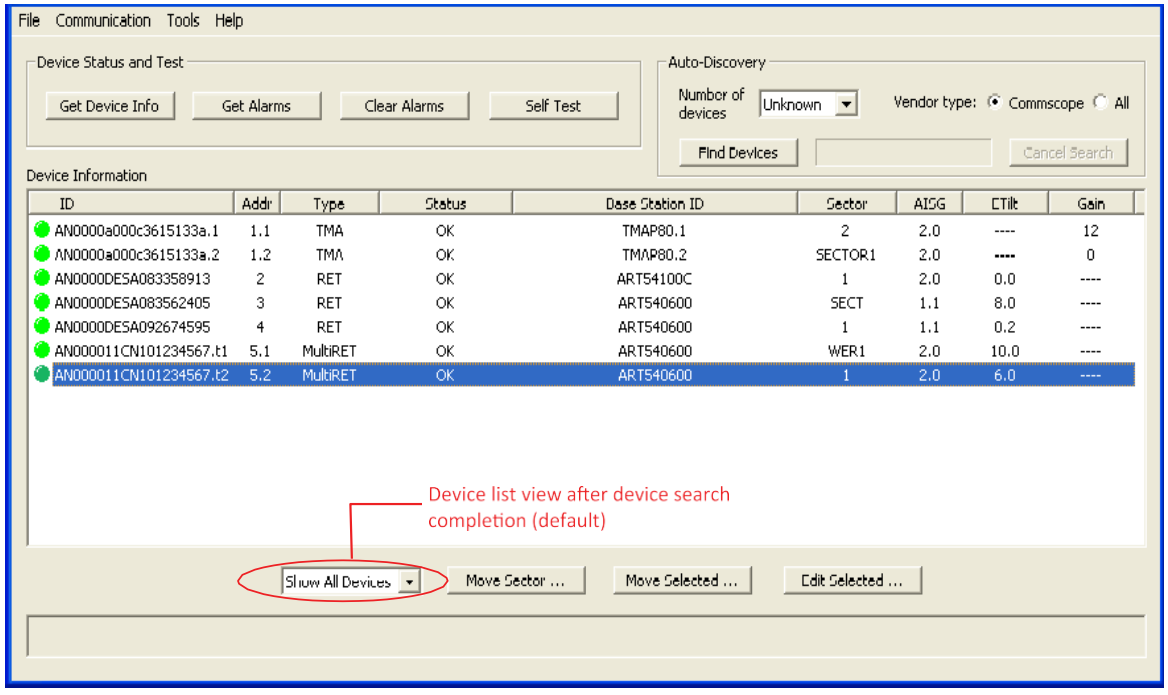

Figure 4-4. The Main Screen Provides Configuration Data.

NOTE: If it is known that devices are present and operational, but none were found by the device search, it is possible that the currently selected USB or serial port is not communicating with the controller.

To check USB or serial port communication, repeat the device search and watch the communication light shown on the data LED of the controller. It should blink rapidly during the device search. If it does not, the USB or serial port currently selected may not be functional. In this case, use the methods described in Section 4.2 to select a different serial port and repeat the search until you see activity on the controller data communication LED. If you are using a USB connection, close the program and verify that the ATC200-LITE-USB driver is properly installed.

If attempts have been made on all available serial ports without success, contact your IT department for assistance in determining the reason no serial port is available for use by the program.

For any questions regarding the ATC200-LITE-USB or the ATC Lite software, please contact our Customer Technical Support Center.

Available 24 hours a day, 7 days a week at the telephone numbers listed in the title page of this documentation.

4.2 Device Information Views

4.2.1 All Devices View

The ‘Show All Devices’ device information view displays the main information about the device found. This view also displays device specific information like Current tilt for RET device and Gain value for TMA devices (Figure 4-5). Views of the device information list is switched between ‘Show All Devices’, ‘Show RETs’ and ‘Show TMAs’ by using drop down list (Figure 4-6).

Relevant actions for devices like Tilt Move, Tilt Move for Sector, Edit configuration, Set TMA Gain and Set TMA Mode can be performed by selecting the device from the list and clicking on the appropriate button(Move Selected, Move Sector, Edit Selected, Set Gain, Set Bypass Mode)

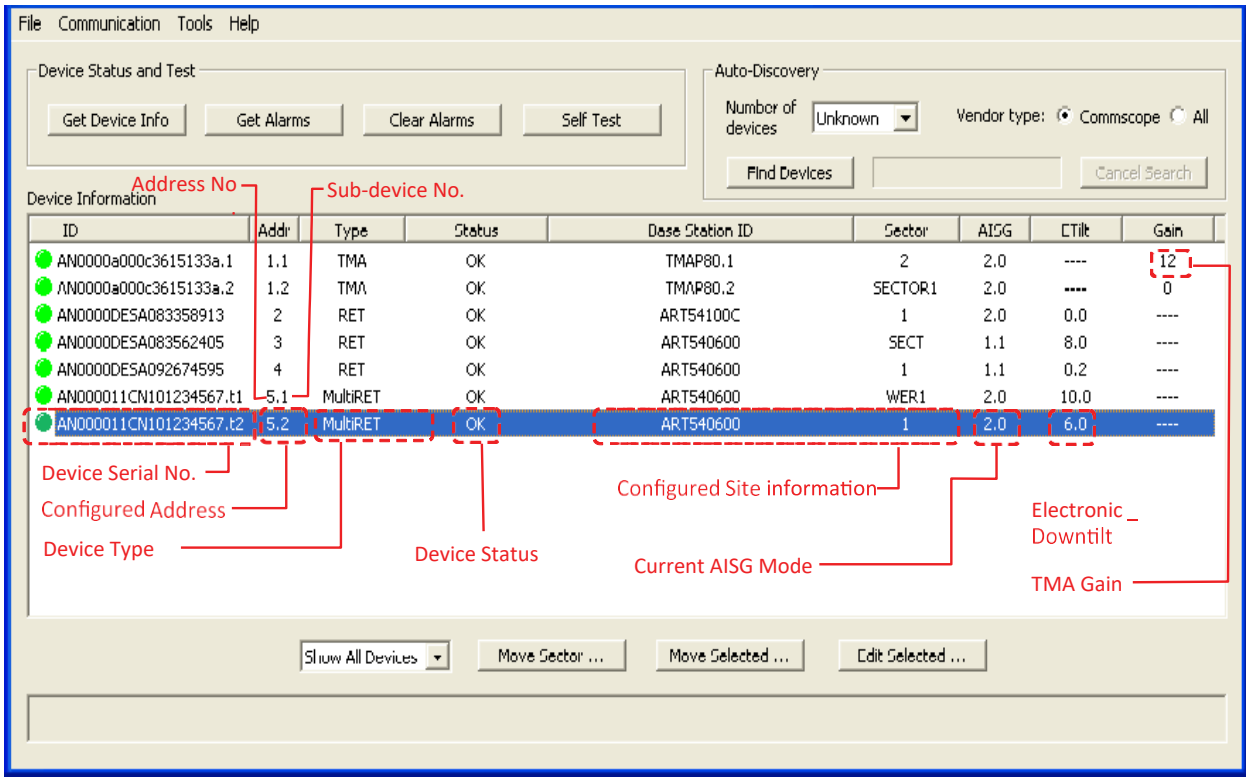

Figure 4-5. All Devices List View

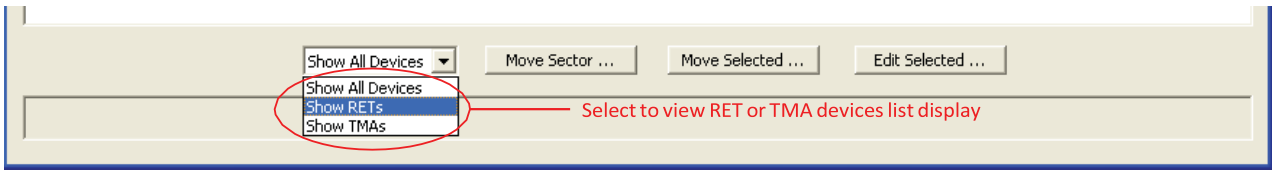

Figure 4-6. Selection for switch to different views

4.2.2 RET Devices View

The ‘Show RETs’ device list view displays the main information about the RET (Single/Multi Axis) devices found (Figure 4-7).

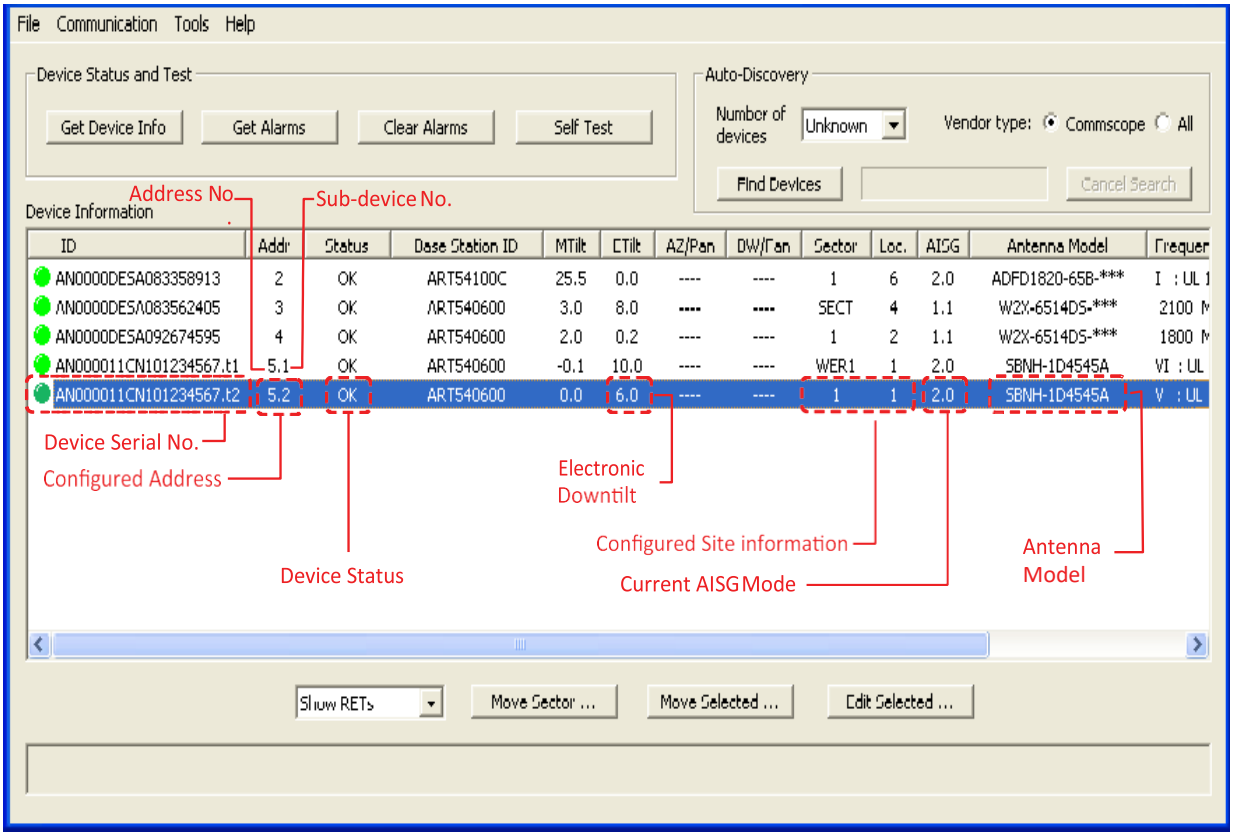

Figure 4-7. RET Devices List View

4.2.3 TMA Devices View

The ‘Show TMAs’ device list view displays the main information about the TMA devices found (Figure 4-8).

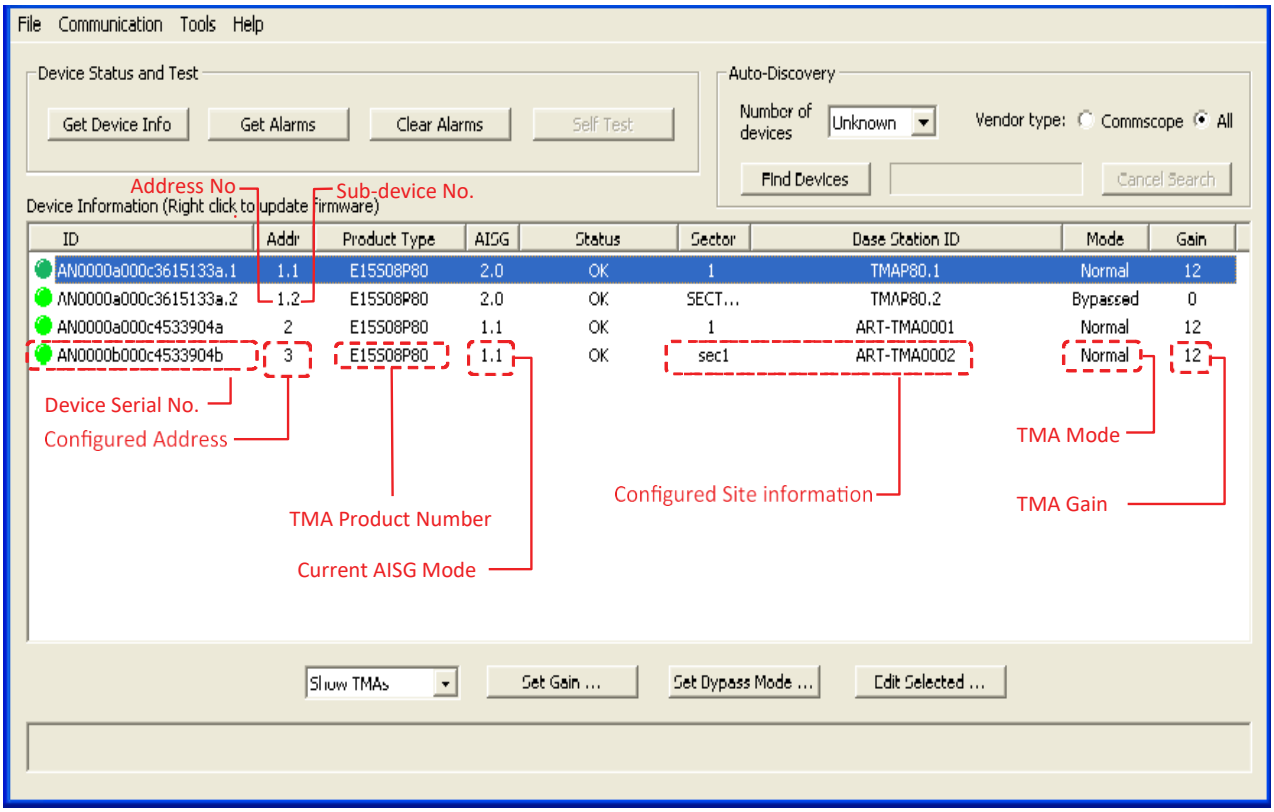

Figure 4-8. TMA Devices List View

4.3 Addressing

1. If desired, these devices can be manually readdressed by the user.

> **IMPORTANT!** Running the **Find Devices** search function will automatically clear all devices and will address each device by the order that they respond.

To manually readdress a device, select the device and go to **Tools→Addressing** from the main menu, located at the top of the main screen (Figure 4-9).

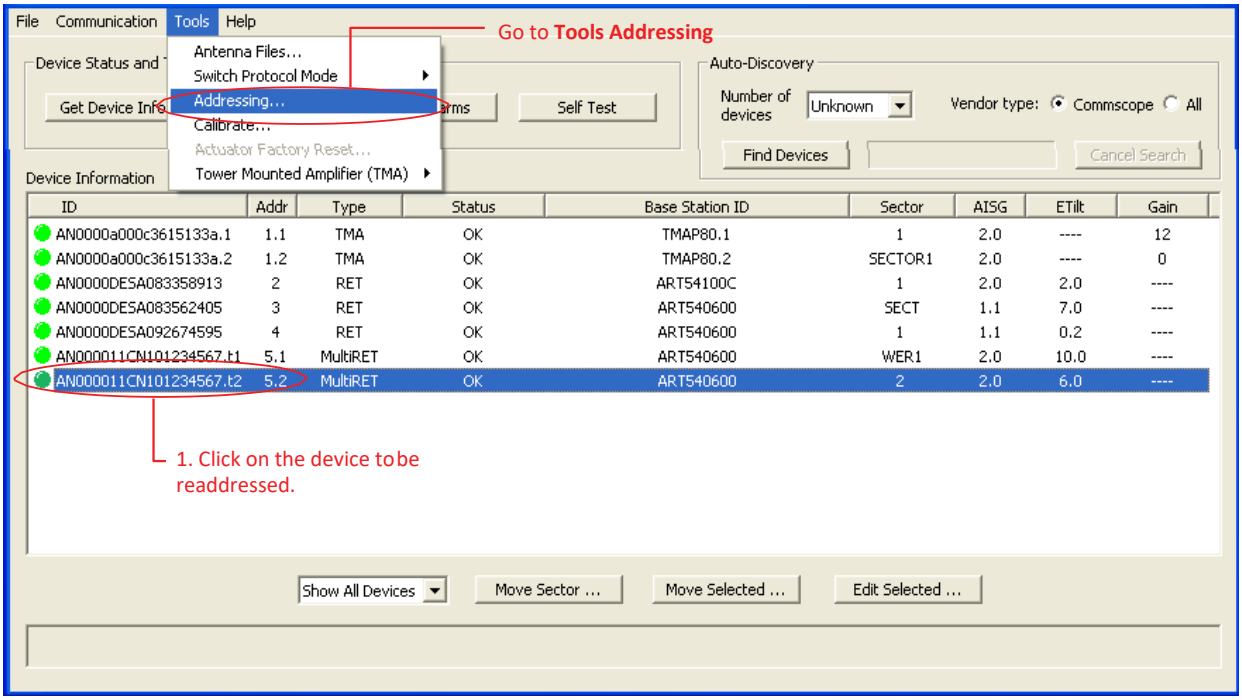

Figure 4-9. Selecting Addressing from the Main Menu.

2. From the **Manual Addressing** dialog box (Figure 4-10), note the device serial number or copy it to your clipboard. **CAUTION: After the device is removed, the controller will no longer list that ID on the main screen.**
3. Click **Remove Device**. This will clear the device to enable a new address assignment.

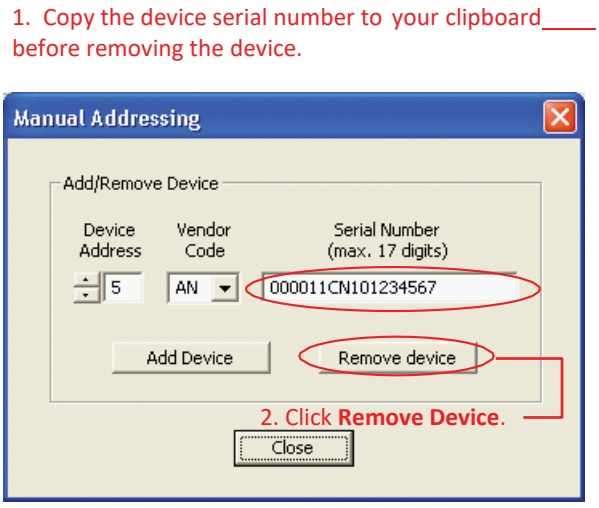

Figure 4-10. Removing Device.

4. A message will appear that the device was successfully removed from the address it originally held (Figure 4-11). Click **OK** to return to the **Manual Addressing** screen. After the device is re- moved, the **Serial Number** field changes to a string of 0's (Figure 4-12).
5. Using the **up or down** arrow buttons, select an available **Device Address**. (Available device addresses will always show a string of 0's for the Serial Number). Change the **Vendor Code**, and enter the serial number for the device that was removed (Figure 4-13).
6. Click **Add Device** (Figure 4-13).
7. Click **Close** (Figure 4-14).
8. Click **OK** to return to the main screen (Figure 4-15).

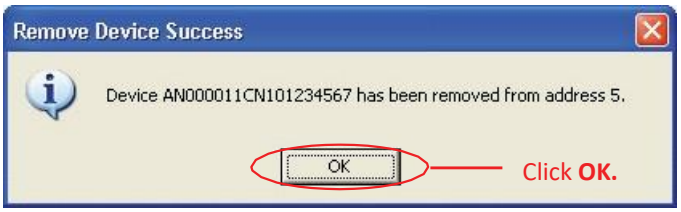

Figure 4-11. Confirmation of Device Removal.

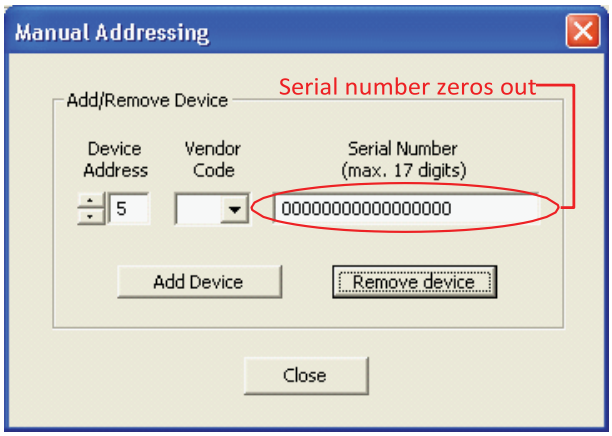

Figure 4-12. Device is Removed.

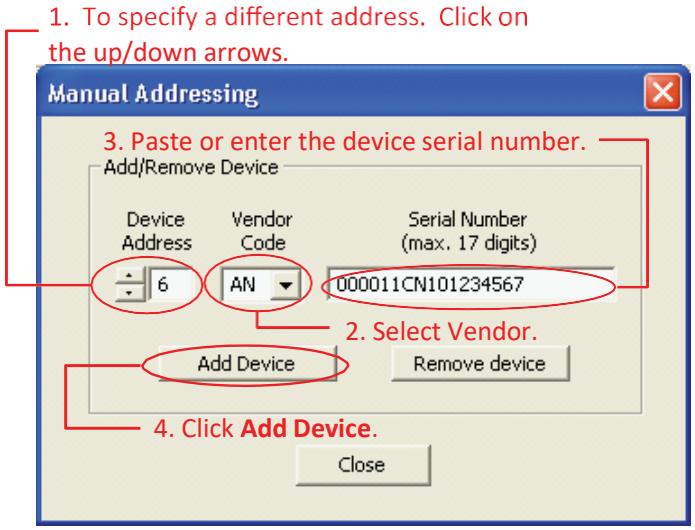

*Figure 4-13. **Manual Addressing** Screen is used to Add Device to New Address.*

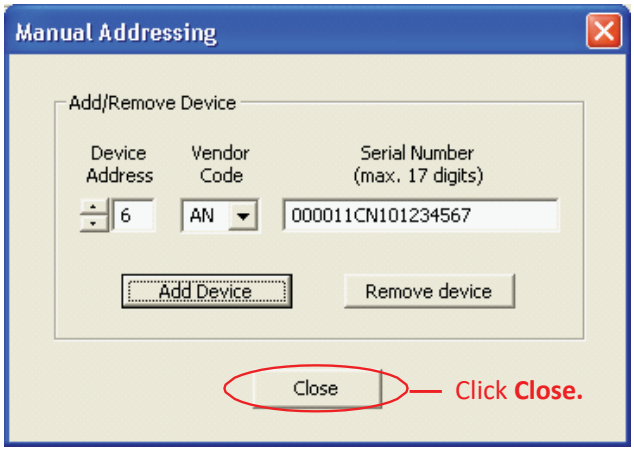

*Figure 4-14. Closing **Manual Addressing** Screen.*

Figure 4-15. Confirmation of New Device Address.

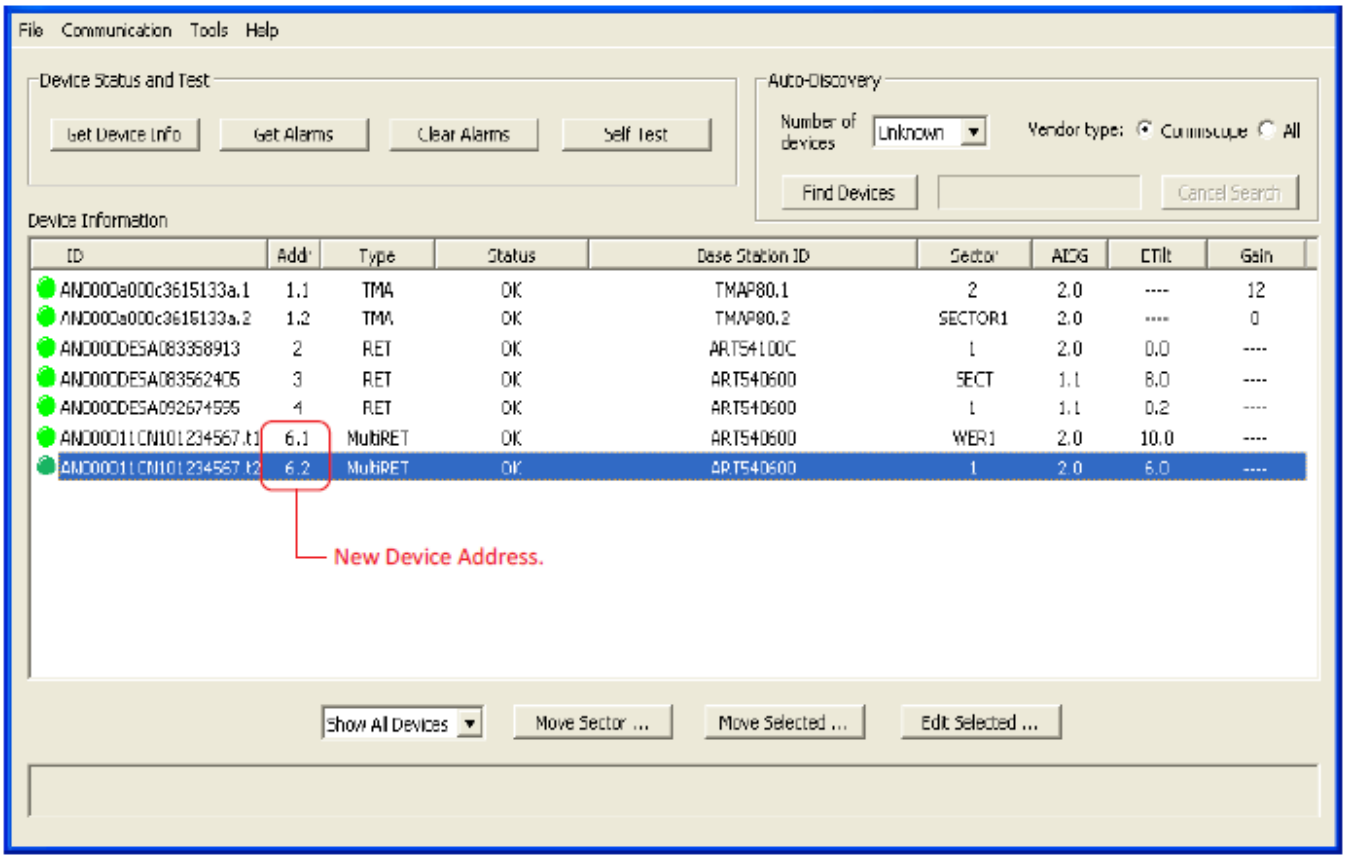

Figure 4-16. Device Shows New Address.

9. The device will display its new address in the **Device Information** list on the main screen (Figure 4-16).

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Part 4

Operating Instructions for RET Control

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Section 5
Actuator Protocol Mode Switching

5.0 Protocol Mode switching for ATM3 devices

ATC Lite v5.0 and later versions introduces changes to support two AISG modes, simultaneously, on the same AISG or antenna line system. Commscope ATM200-002 actuators are factory set to operate in AISG 1.1 mode, but can be switched to operate in AISG 2.0 using the controller's AISG Reset Option Tools.

Notes:

- Older Commscope actuators in the field are not capable of operating in AISG 2.0 mode.
- Other AISG devices will not switch AISG protocol using the AISG Reset Option tools, but will reset which may temporarily interrupt power and RF signal lines. For example, an AISG tower mounted amplifier operating in AISG 2.0 will reboot when an **AISG 2.0 Reset** command is sent by the user.
- Commscope is unable to guarantee AISG Reset results for other manufacturer AISG devices.

5.0.1 Using AISG Reset Option Tools

Two reset options are provided under the Tools menu that allow all ATM200-002 devices on a RET system to be reset to either AISG 1.1 or AISG 2.0.

1. Run a **Device Scan** to detect all devices on the RET system.
2. To operate in AISG 2.0, select **Tools→Switch Protocol Mode →AISG 2.0 Reset All** to reset all AISG 2.0 capable RET devices to operate in AISG 2.0 (Figure 5-1). This option sends command to all the devices available on the bus.
3. To operate in AISG 1.1, select **Tools→Switch Protocol Mode →ATM3 /TMAs →AISG 1.1 Reset All** to reset all AISG 1.1 capable RET devices to operate in AISG 1.1 (Figure 5-1). This option sends command to only ATM3 RET devices and selective TMA devices (software version starting with 0M).
4. Refer to the AISG column in the Device Information window to view the AISG protocol in use for each device (Figure 5-2).

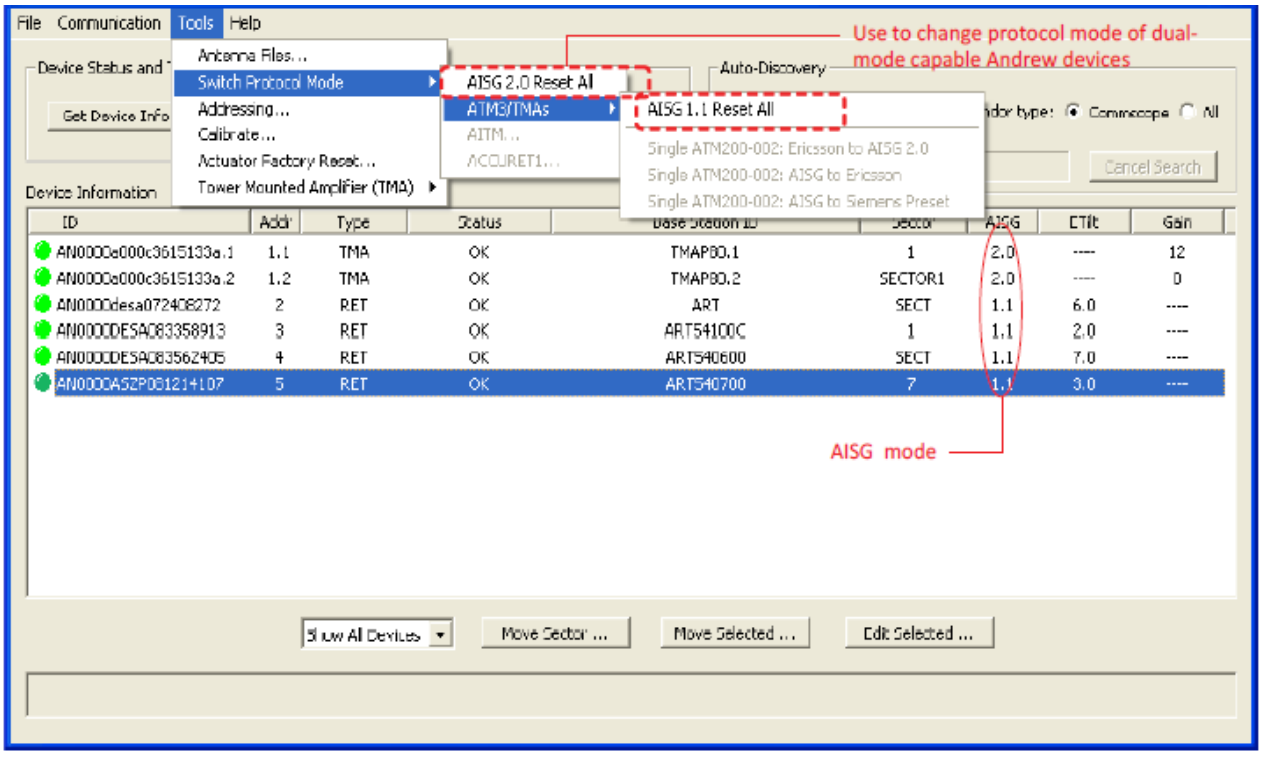

Figure 5-1. ATM200-002 AISG Protocol Reset

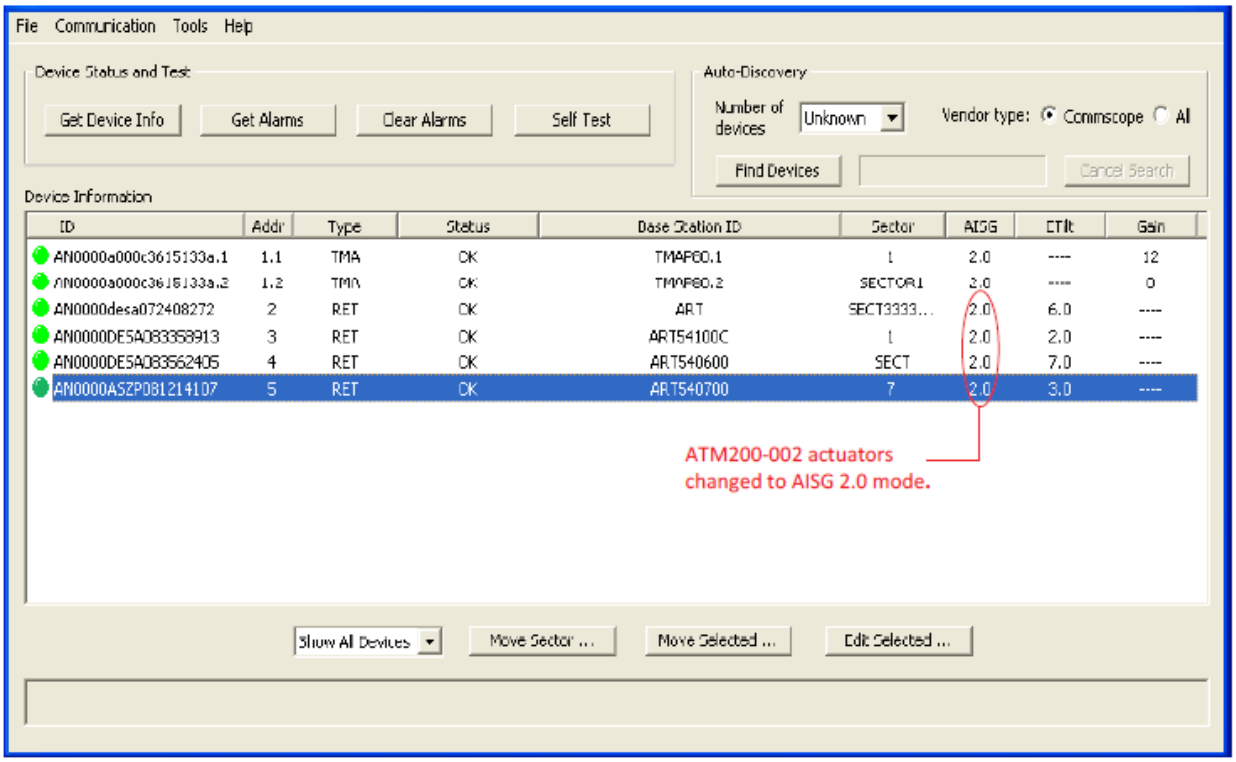

Figure 5-2. AISG Reset Displayed on the Main Screen.

Notes:

- Communication is temporarily interrupted to the AISG devices on the RET system when an **AISG 2.0 Reset** command is sent. This interruption is identified by a red indicator next to the device in the Device Information window (Figure 5-3).
- Operating screens will vary somewhat for devices operating in AISG 1.1 to those operating in ASIG 2.0, due to the differences in the two AISG protocols. Where possible, all AISG devices should operate in the same AISG mode to provide the best operating conditions.

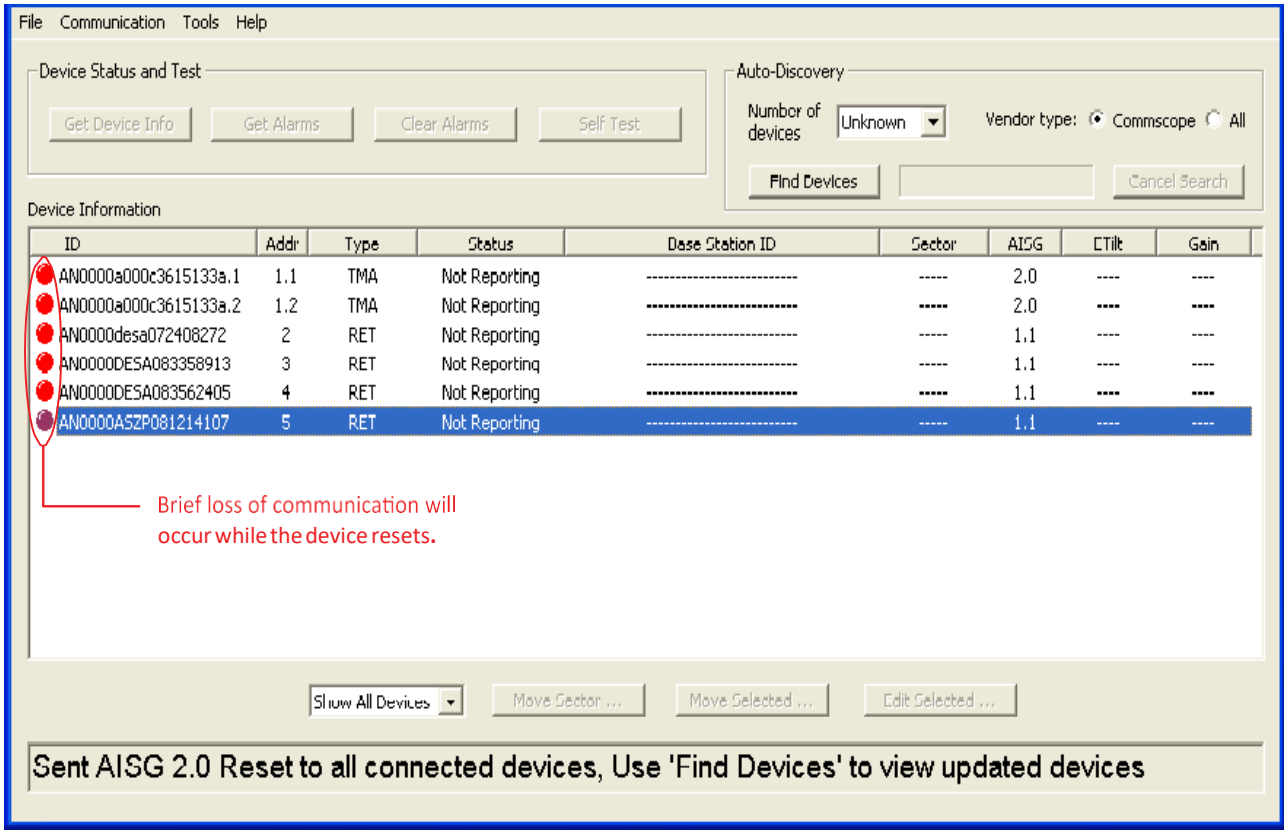

Figure 5-3. Resetting All ATM200-002 Actuators to AISG 2.0.

5.0.2 Switching a Single ATM200-002 to Ericsson Protocol

Note: This procedure may only be applied when a *single* RET is connected.

1. Connect the ATC200-LITE-USB controller to the PC with the serial cable. Always use the serial cable with this system.

   Note: When switching to/from Ericsson mode, using a USB connection is not possible.

2. To switch a single ATM200-002 to Ericsson proprietary protocol, select **Tools→Switch Protocol Mode →ATM3 →Single ATM200-002: AISG to Ericsson**. See Figure 5-4.

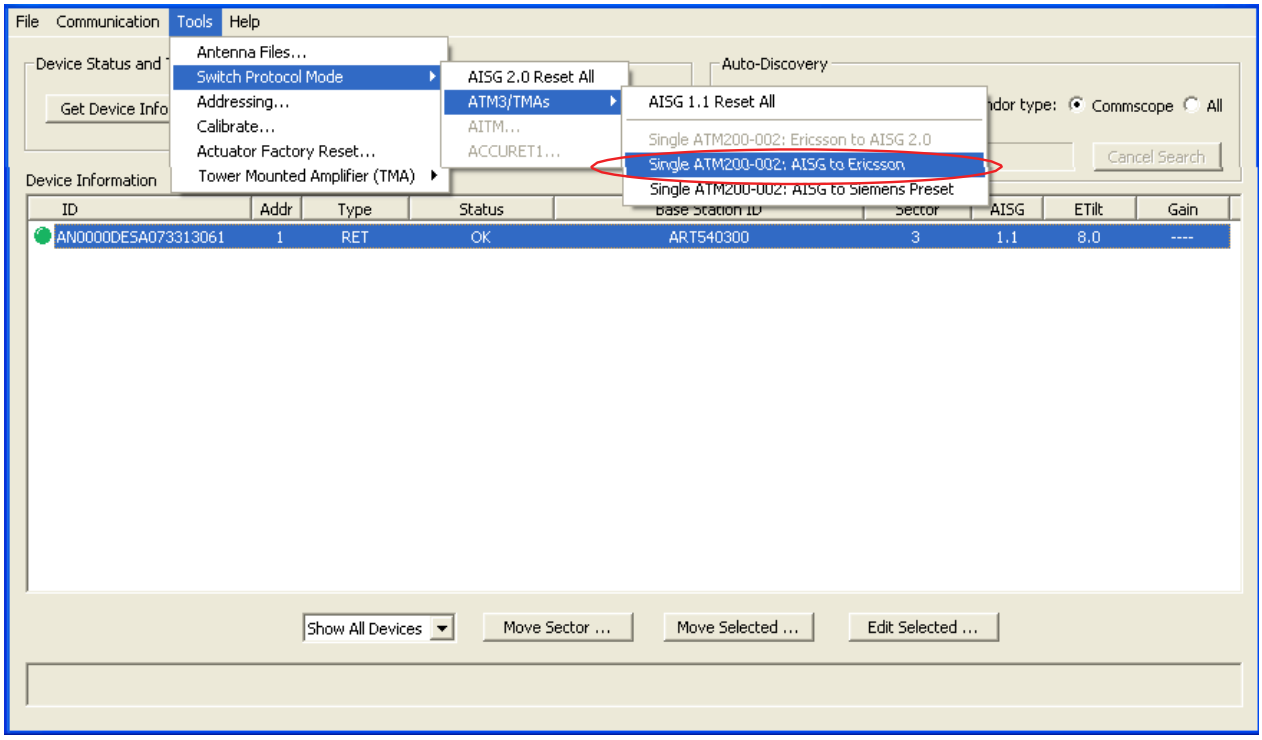

Figure 5-4. Switching To Ericsson Protocol.

3. After the actuator has been reset to Ericsson proprietary protocol, the ATC200-LITE-USB controller software can no longer be used with the actuator. Only use Commscope EFCT soft ware on the PC that operates the controller (Figure 5-5).

   Warning

   Portions of the operational configuration stored on the RET can be lost when switching to / from Ericsson mode. Because antenna model information will be lost, the antenna table would have to be reprogrammed to return to the previous setting.

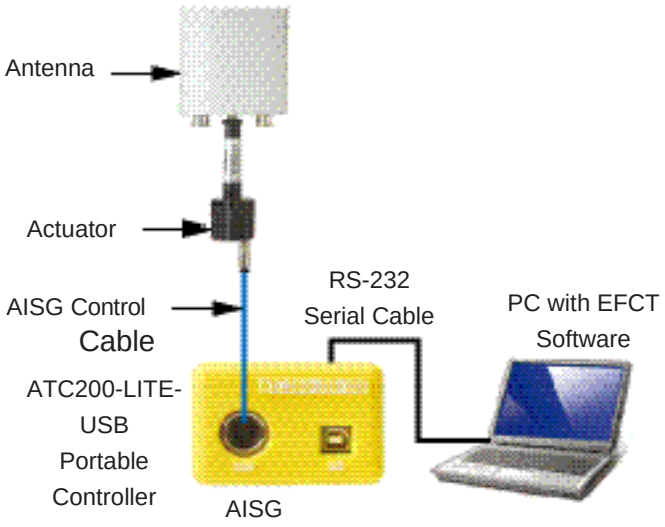

Figure 5-5. Actuator Reset to Ericsson Proprietary Software Shown with EFCT Software on PC.

4. EFCT software can be downloaded from www.commscope.com.
5. Once the device switches from AISG to Ericsson protocol, it is no longer controlled bythe ATC200-LITE-USB and will not appear on the display (Figure 5-6).

   The single ATM200-002 in Ericsson mode is equivalent to Commscope's E-ATM300.

   A device in Ericsson mode cannot be found using **Find Devices**. In order to restore control of the device using ATCLite, the device must be switched back from Ericsson mode to AISG.

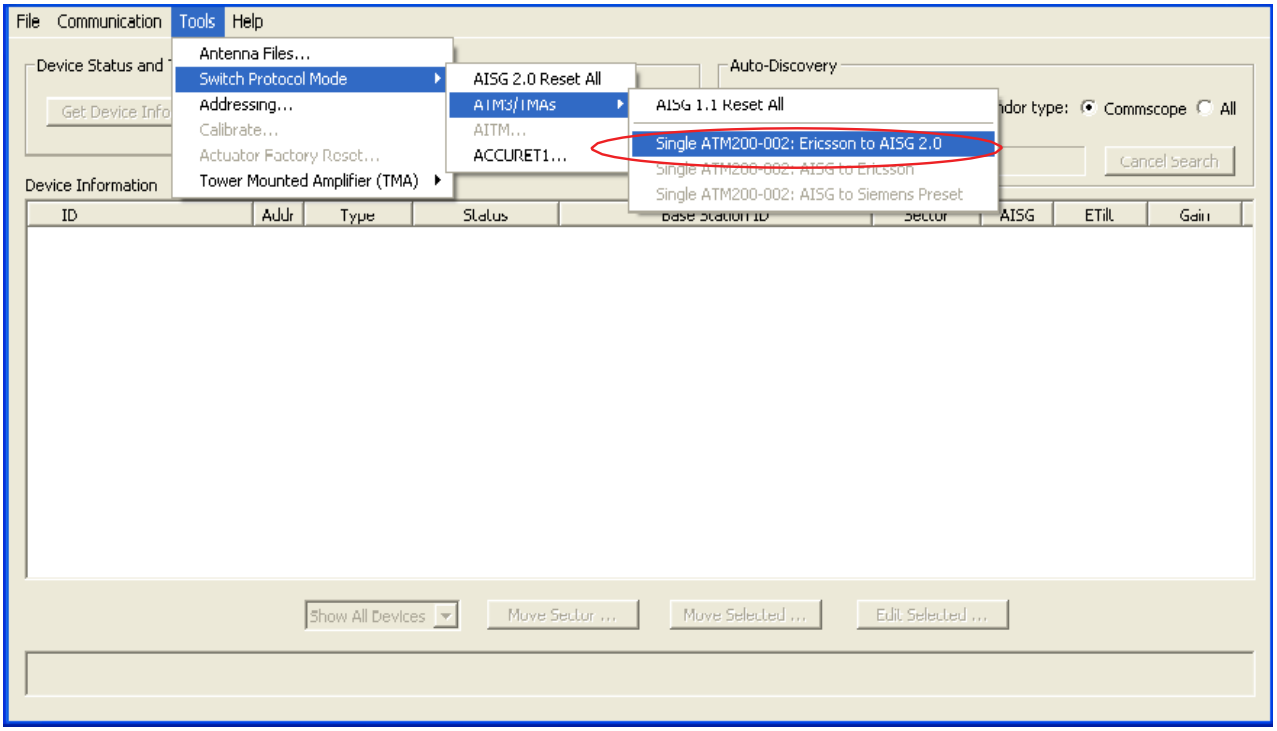

Figure 5-6. Switching Ericsson Protocol Back to AISG 2.0 Mode.

5.1 Protocol Mode switching for AccuRET devices

Commscope AccuRET devices can be switched between AISG modes (1.1 and 2.0) and AISG to Erics-son modes.

1. Run a Device Scan to detect all devices on the RET system including AccuRET devices.
2. To switch AccuRET mode, select the AccuREt device from the displayed list.
3. Select **Tools→Switch Protocol Mode →ACCURET1...**
4. Select the protocol mode to switch to from the list and Click on “OK” button. Message indicating the switching of protocol mode will be displayed in the **Command Status/Response** window.
5. AccuRET device switched between AISG modes (1.1 and 2.0) will reset and will be displayed in the switched protocol mode. Device switched to Ericsson mode will display “Not Reporting”.

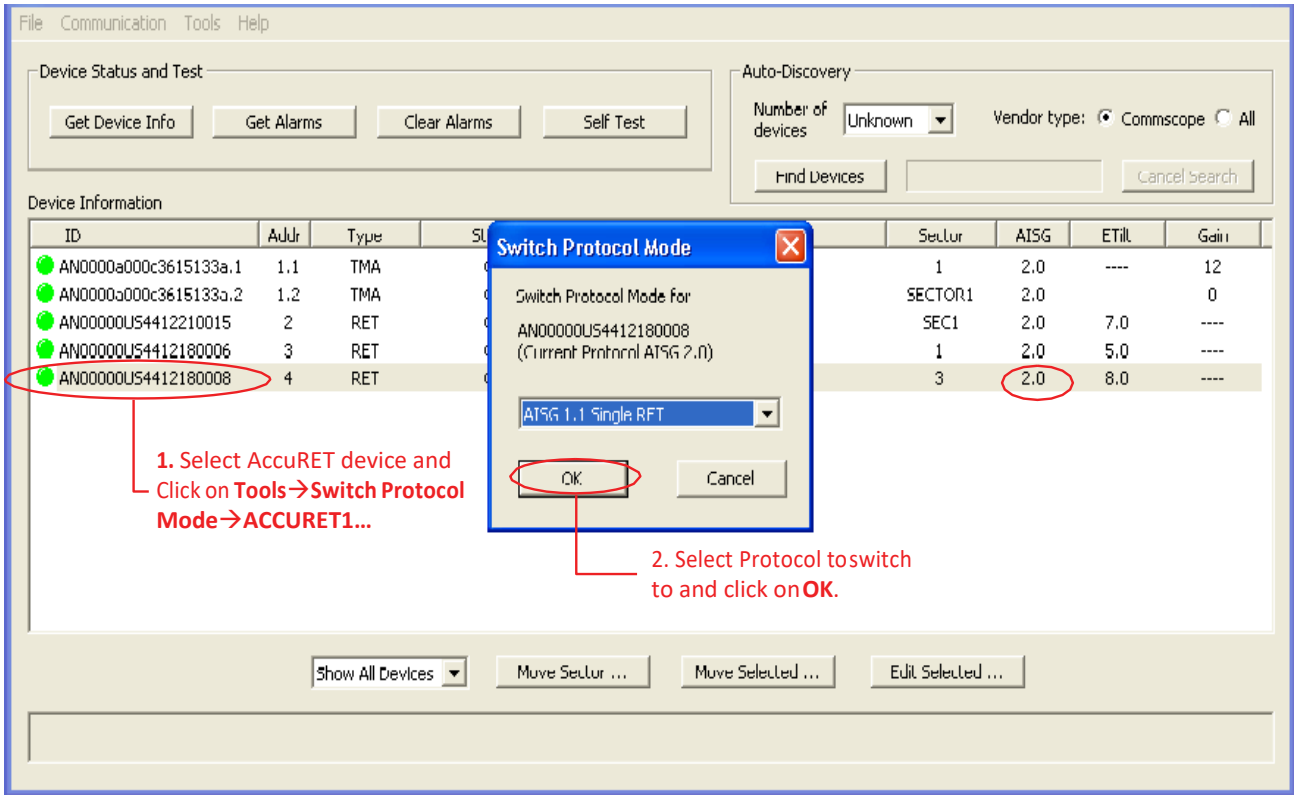

Figure 5-9. Switching protocol mode for AccuRET device.

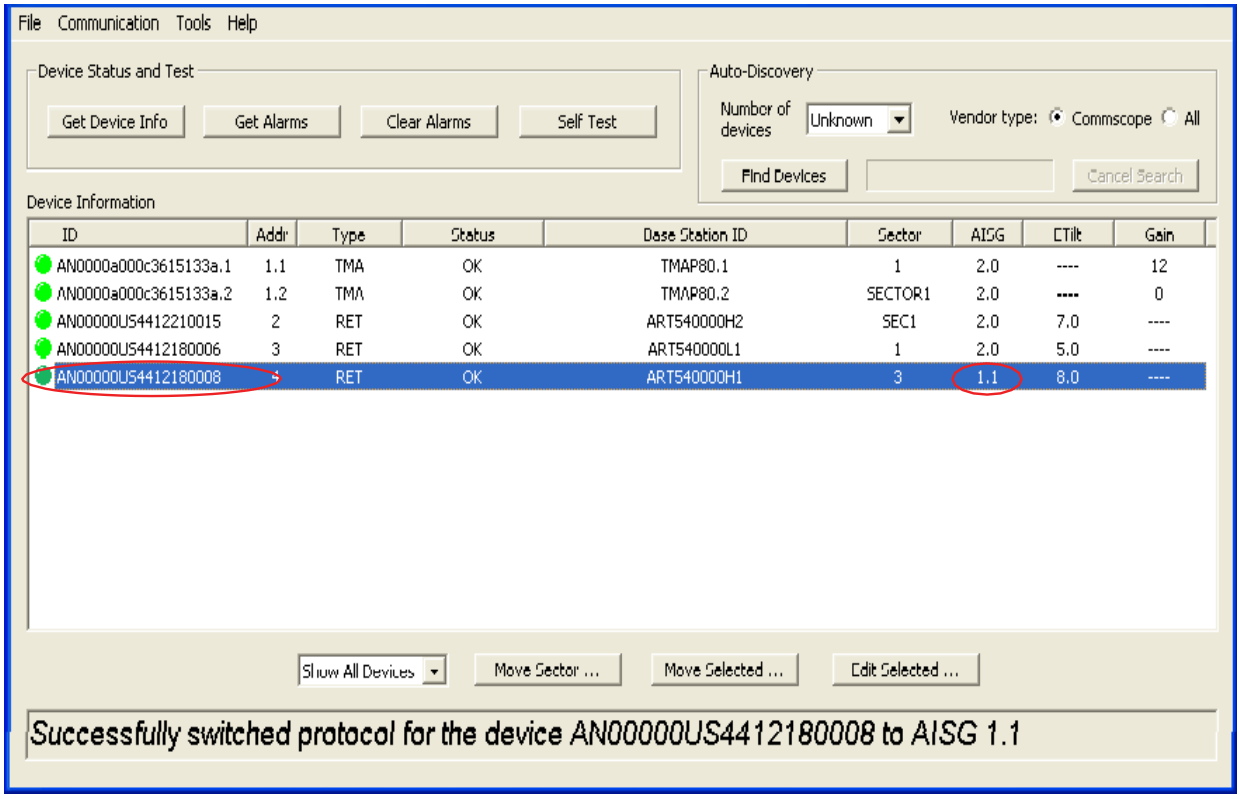

Figure 5-10. AccuRET device configured to ASIG protocol mode.

5.2 Switching Operating Modes for Multiple Integrated Actuators

Commscope specific Multiple Integrated Actuators named Commscope Integrated TiltMaster(AITM) can be in one of two operating modes – Multiple Single-RET mode or Multi-RET mode. The ATC Lite pro- gram provides the capability to switch AITMs between these modes. See Section 10.1 for instructions on determining the Product Number of a device.

In Multiple Single-RET mode, an AITM will behave as multiple single actuator devices, with one bus address assigned to each tilt. The 19-character ID of each tilt will end with “t1”, “t2”, etc., and the bus address of each tilt will be a whole number.

In Multi-RET mode, an AITM is assigned one bus address, and each tilt of the device is a subunit of the master actuator. The ID of each tilt will have a suffix such as “.t1”, “.t2”, etc., and the bus address will be x.y where x is the master bus address and y is the subunit number of the tilt.

To switch the operating mode of an AITM, select the AITM from the device list. Click on **Tools→Switch Protocol Mode→AITM…**, and then select the new operating mode. Click Ok to perform the switch. All tilts of the AITM in the list will lose communication. To verify the AITM is operating in the new mode, select “Find Devices” again.

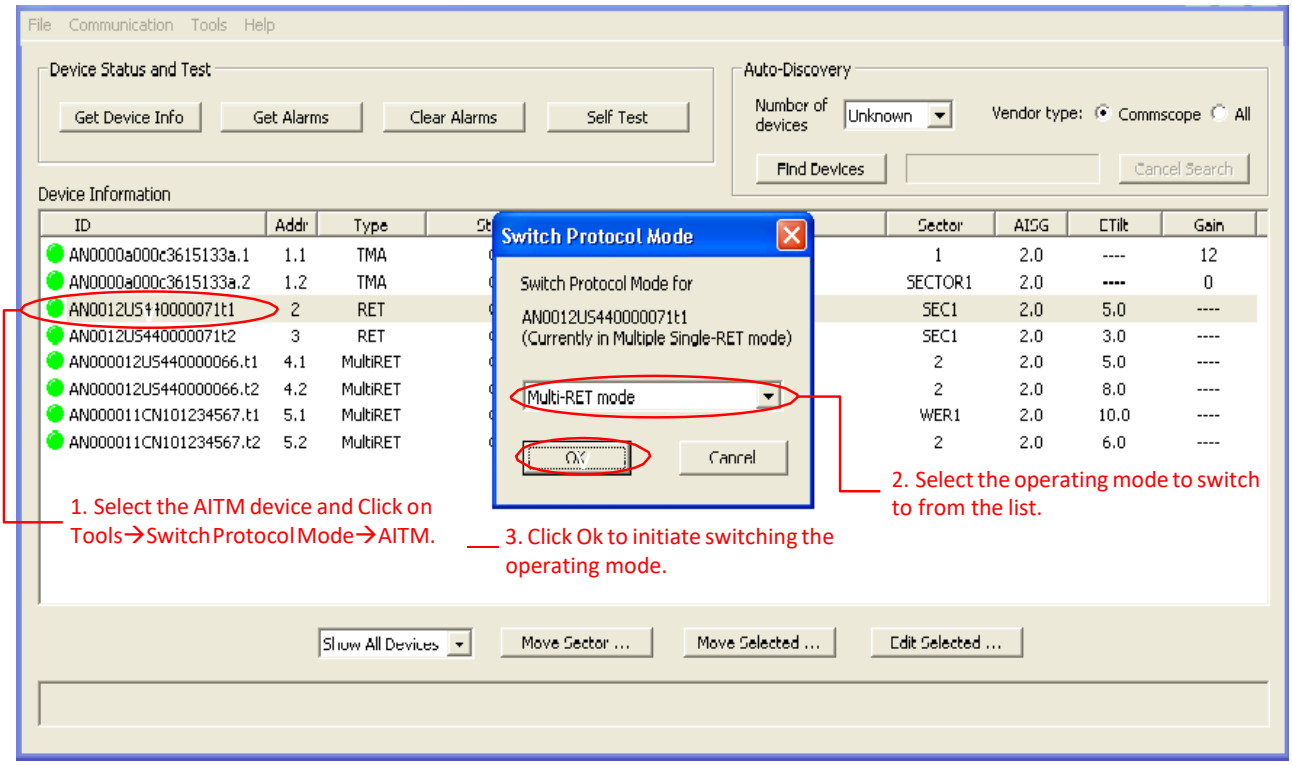

Figure 5-11. Switch Operating mode for AITM actuators.

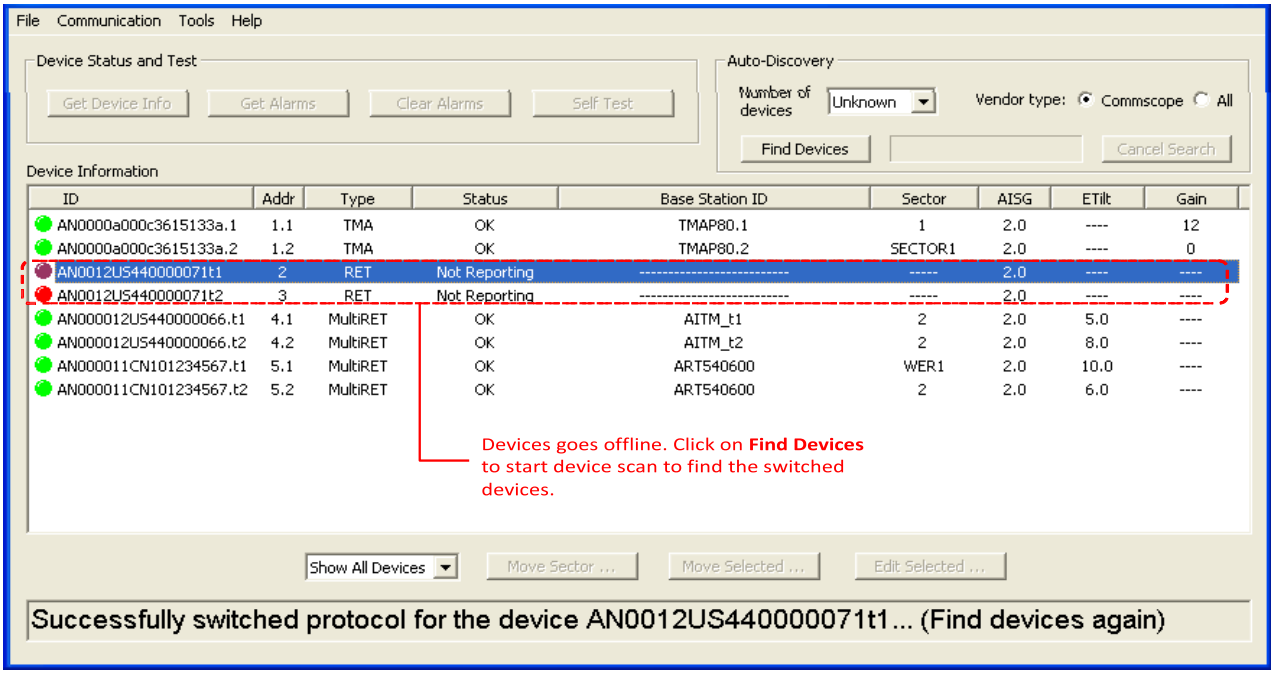

Figure 5-12. Switch Operating Mode for AITM completed.

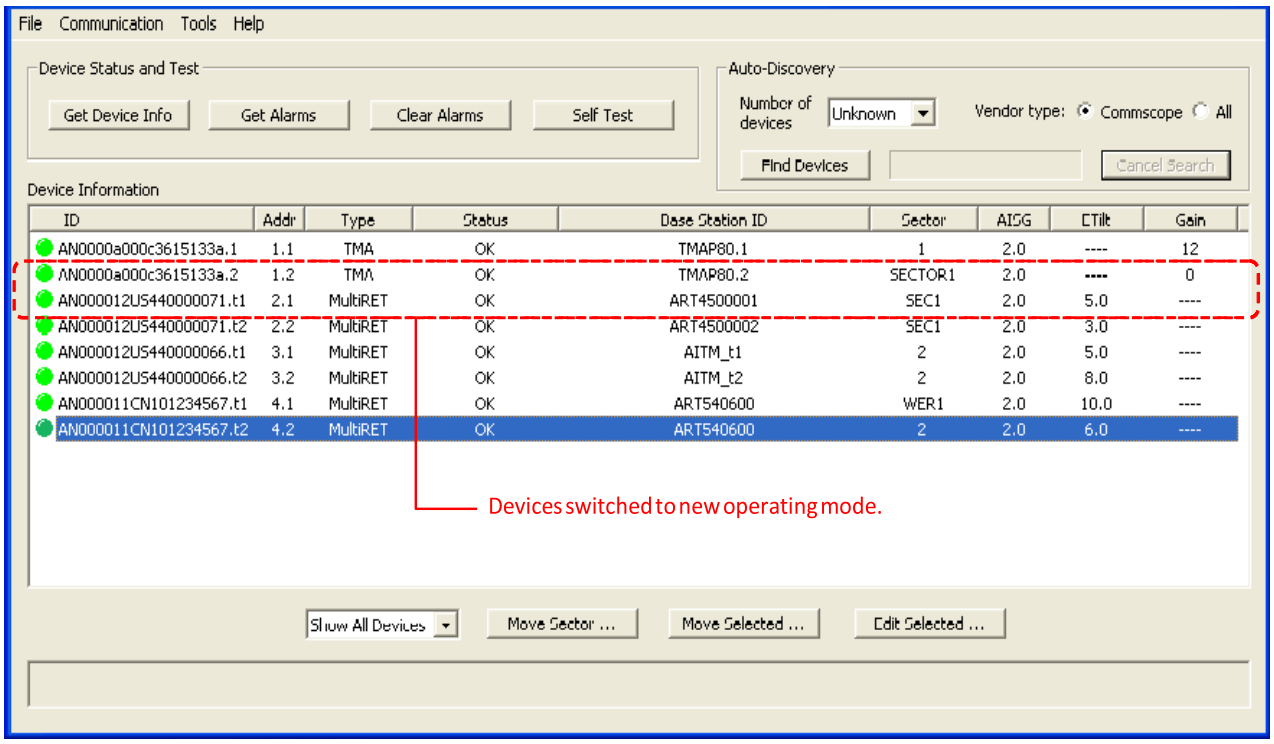

Figure 5-13. Switched AITM actuators in selected Operating Mode.

5.3 Protocol Mode switching for COMMRET1 (cRET V1) devices

Commscope COMMRET1 (cRET V1) devices can be switched between Single RET and Multi RET protocol modes. The steps to switch the COMMRET1 protocol mode are similar to that of the Ac cuRET protocol mode switching as described in 5.1. The menu selection for COMMRET1 switching is **Tools→Switch Protocol Mode →COMMRET1...**

5.4 Protocol Mode switching for COMMRET2 (cRET V2) devices

Commscope COMMRET2 (cRET V2) devices provide switching protocol modes between Single RET and Multi RET for the available AISG input ports (AISG1 and AISG2). Active protocol modes for both the AISG ports are shown and any relevant changes made can be send to the selected device. Device scan has to be performed to discover the configured device.

1. Run a Device Scan to detect all devices on the RET system including COMMRET2 devices.
2. To switch COMMRET2 mode, select the COMMRET2 device from the displayed list.
3. Select **Tools→Switch Protocol Mode →COMMRET2...**
4. Make relevant selection of the new protocol mode for the required AISG input port(s).

5. Select the protocol mode to switch to from the list for the appropriate AISG port and Click on “OK” button. Message indicating the switching of protocol mode will be displayed in the **Com mand Status/Response** window.

6. Once the change is applied only the current connected AISG port (AISG 1 or AISG 2) protocol mode changes can be verified through an immediate scanning of devices. To see the protocol mode change that were assigned to other AISG port, a search using ATC Lite program with connection to the other AISG port needs to be performed.

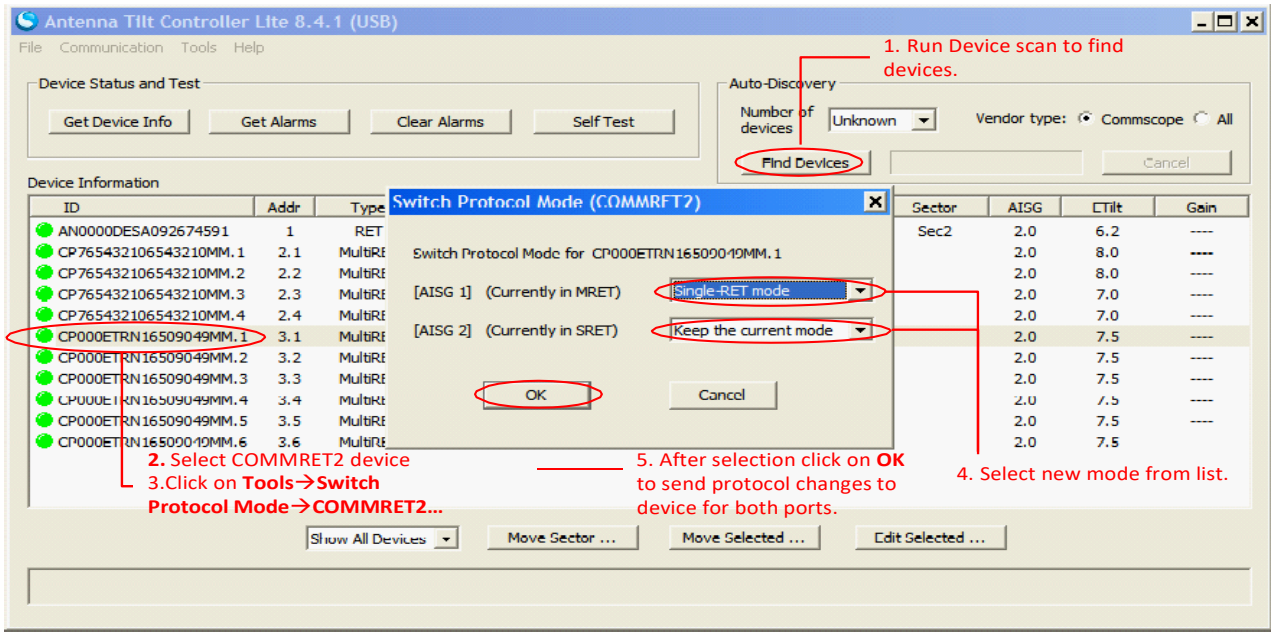

Figure 5-14. Switching protocol mode for COMMRET2 device.

7. For the Antenna with COMMRET2 devices that only one connector available, the switch protocol mode window is shown as in Figure 5-15. The protocol mode change can be applied only to the AISG 1 input port.

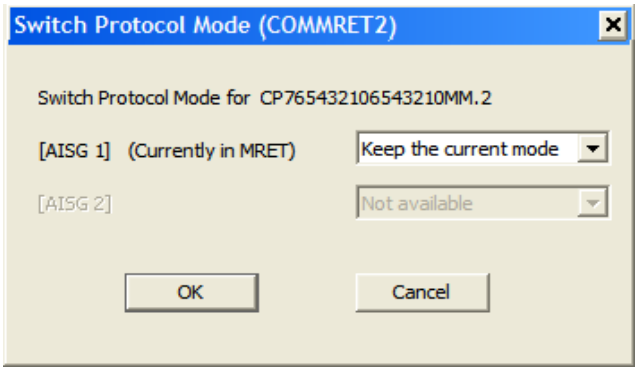

Figure 5-15. Switching protocol mode for COMMRET2 device with only one AISG input.

Section 6
Device Configuration

6.1 Antennas with RET Actuators

After new devices are found and addressed in the ATC Lite program, each device is ready to be configured. New devices, that have not been configured before, will display a yellow icon with the status listed as **Not Configured** in the **Device Information** list. Not configured devices cannot be moved until they have been configured successfully.

1. To begin device configuration, click on the device to be configured (Figure 6-1).
2. Click on **Edit Selected** to open the **Configuring Device** screen (Figures 6-1 and 6-2).

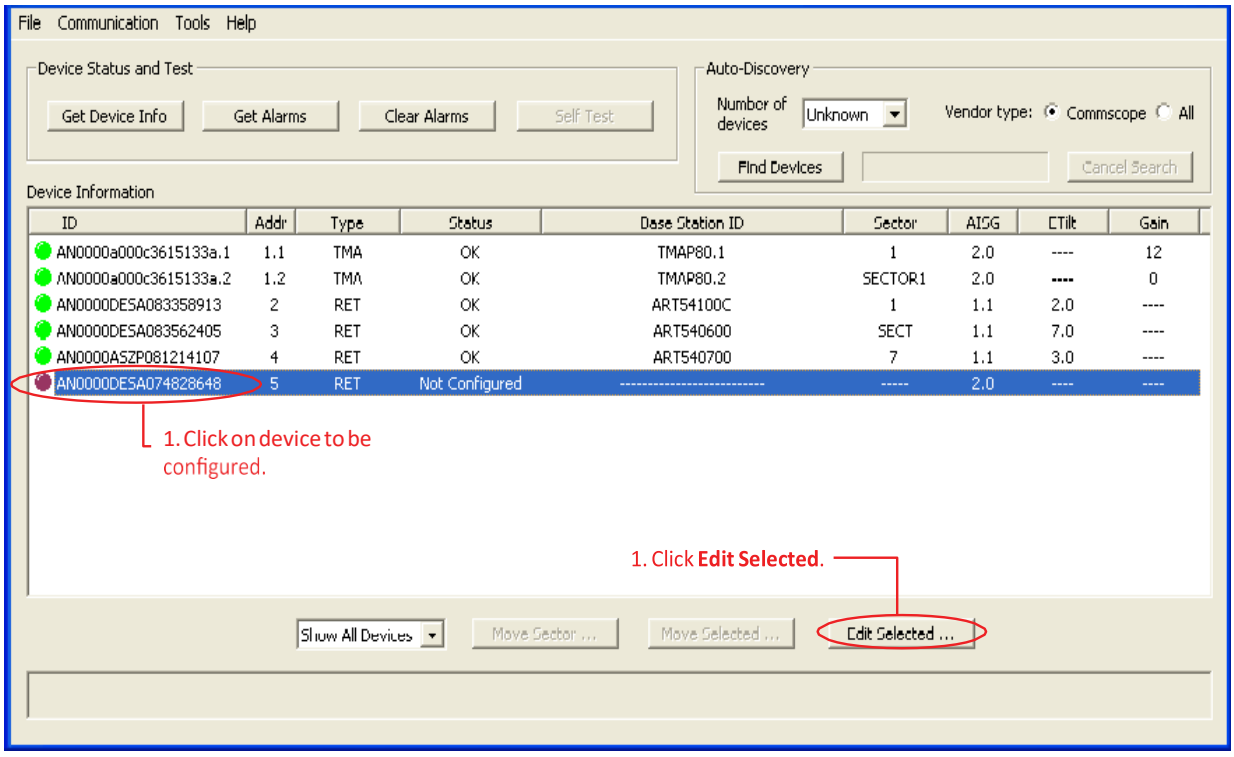

Figure 6-1. Selecting Device to be Configured.

Note the following in Figure 6-2:

- The ID of the device to be configured is displayed in the title bar of the dialog box.
- Devices that have never been configured before will display blank fields for most parameters.
- Actuators that have been factory installed on an antenna are pre-configured to include the antenna model number, antenna type, and antenna serial number. The remaining fields such as Installation Date, Mechanical Tilt, Bearing, Height, Sector, Location, Oper. Band (for AISG 2.0 actuators) or Freq. Band (for AISG 1.1 actuators), Technology, Station ID, and Installer ID will need to be configured.
- Configuration items marked with an asterisk are required; saving a new configuration will be disabled if any of these fields are blank.
- The **Installation Date** field is handled differently from all other configuration items. Although this field is not required, if no installation date has been saved on the actuator, the program will suggest the current date as the default.
- AISG 2.0 Protocol Mode allows a 32 character Station ID.

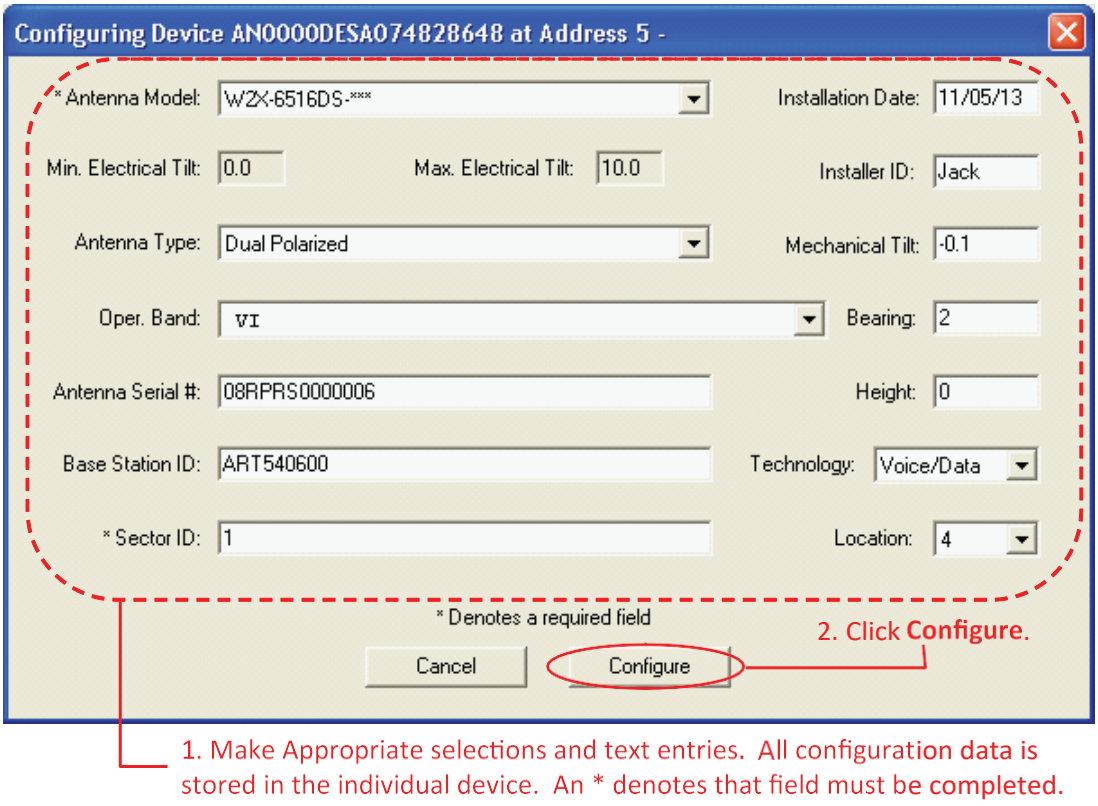

Figure 6-2. Device Configuration Screen.

3. Click on the down arrow found on the right hand side of the **Antenna Model** drop down list. This will display all of the available Commscope base station antenna models that were contained in the antenna definition file that was loaded at program startup (Figure 6-2). SmartBeam and multiple-actuator-equipped antennas do not change the assigned **Antenna Model**.

   If an Antenna Model belonging to Commscope base station is not available in the antenna definition file, it is listed and selected in the drop down list with the other model names.

   The Commscope base station antenna model names displayed in the list are long family names retrieved from the antenna definition file.

4. Select the desired antenna model for this actuator if applicable. Note that after an antenna model is selected, its minimum and maximum electrical down tilt range values are displayed just below the drop down list (Figure 6-2).

   IMPORTANT: The antenna model selected *must* match the actual installed antenna that is attached to the actuator that is being configured. Movement control data specific to this antenna will be sent to the actuator as a result of this selection. If the antenna model selected does not match the attached antenna, the movement range sent to the actuator will be incorrect and may prevent the antenna from functioning correctly or may damage it.

   For the most current listing of antenna models designed for use with the ATC200-LITE-USB Teletilt system, Click the Antennas link on the CommScope website at http://www.commscope.com/Product-Catalog/Wireless/Brand/Base-Station-Antennas/Teletilt%C2%AE/

5. Use the **Antenna Type** drop down list to select the antenna type that is correct for the antenna model selected (Figure 6-2). Note that this value is used for reference only and has no direct affect upon the Actuator/Antenna that is being configured.

6. Enter the serial number of the antenna that is attached to this actuator in the **Antenna Serial #** text entry field. Note that this field is optional. SmartBeam and multiple-actuator-equipped antennas are pre-set, so they cannot be changed. (Figure 6-2).

7. Using the drop down lists and entry fields, specify the parameters for the remaining fields (Operating/Frequency Band, Technology, Base Station ID, Installer ID, Install Date, Mechanical Tilt, Bearing, Height, Sector, and Location). Note the following:

   - A positive mechanical tilt angle means that the antenna beam is directed below the horizontal plane. A negative mechanical tilt angle means that the antenna beam is directed above the horizontal plane.
   - The bearing is the installed compass orientation for this antenna.
   - The height of the antenna on the tower must be entered in the range of 1 to 999. No specific unit of length, such as feet or meters, is associated with this field. However, you should enter a value that conforms to the units of length customarily used by your company for antenna installations.
   - If in AISG 1.1 mode, the ID for the base station associated with this antenna must be 1 to 12 characters in length, and it may contain any combination of numbers and letters. When the actuator is in AISG 2.0 protocol mode, the longer station ID consists of 32 characters.
   - The Installation Date field is handled differently from all other configuration items. Although

this field is not required, if no installation date has been saved on the actuator the program will suggest the current date as the default. If the current date is used, it will be saved on the actuator when the **Configure** button is activated. Alternately, the suggested date may be erased and a new date entered, or the field may be left blank. When a date is entered, it must be formatted as MM/DD/YY as shown in Figure 6-2 (A **forward slash** character placed between the month and day and a **forward slash** character placed between the day and year) i.e., July 7, 2008 would be typed as 07/07/08.

- The installer's ID must be 1 to 5 characters in length with any combination of letters and numbers.
- Values specified for the frequency band, sector, technology, location, and mechanical tilt are used for reference only and have no direct affect upon the actuator/antenna that is being configured.

- Frequency band (AISG 1.1)/Operating Band (AISG 2.0) value can have multiple values set. Click on the drop down arrow in the list to open the multi selection list. Make selection by clicking on the check box for the relevant frequency. Click outside the list or press ESC key to close the list (Figure 6-3).

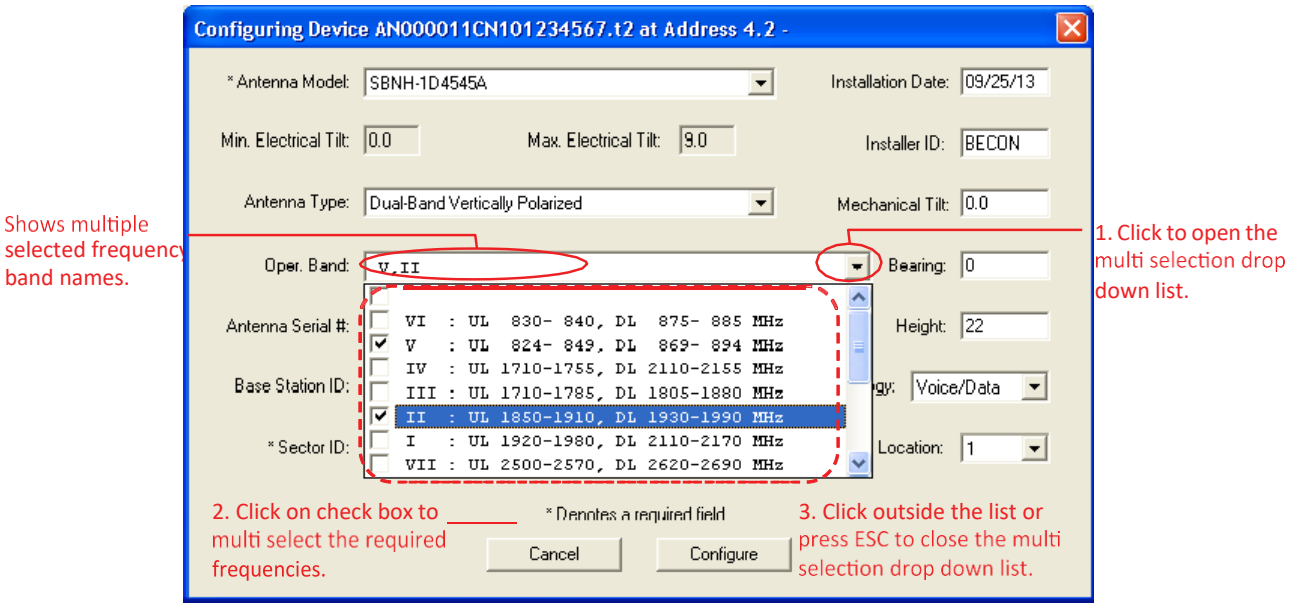

Figure 6-3. Multiple Frequency/Operating Band Selection

8. After verifying the accuracy of all fields, click **Configure**. Alternately, the user may go back and edit/change any of the selections made or click the **Cancel** button to quit this process without making any changes to the actuator's current configuration.
9. After the **Configure** button has been activated, the user will be prompted to confirm changes to the actuator are to be applied. Click **Yes** to proceed with the changes, or click **No** to return to the configuration screen (Figure 6-4).

   When proceeding to make changes, the selected settings will be sent to the actuator and stored there. The main screen will change the status of this device to **Configuring** to indicate that new settings are being sent to the actuator. The status icon is yellow while the configuration data is changing.

10. When the configuration process is complete, a pop-up dialog box will display the results. Normally, the dialog box will show that the changes were successfully sent to the device (Figure 6-5). However, if the configuration process was unable to communicate with the actuator for any reason, a failure message will appear.

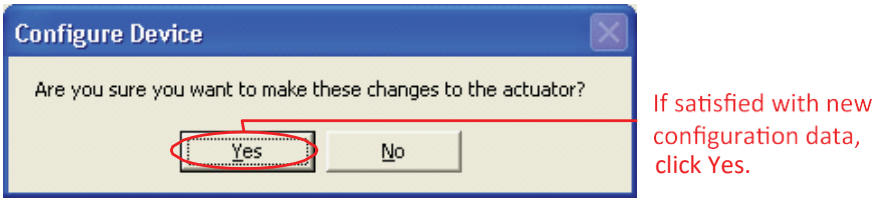

Figure 6-4. Choosing to Continue with Configuration Changes to the Device.

Figure 6-5. Confirmation of Configuration Changes to Device.

If this occurs, ensure that all cables and connectors to the actuator are properly connected, and that the system is still properly powered up. Also, verify that the actuator is present in the **Device Information** list, and that it does not have a status reading of **Not Reporting**. A status of **Not Reporting** indicates that connectivity to the actuator has been lost. After verifying that each of these items are correct, repeat the configuration process.

11. Click **OK** (Figure 6-4) to dismiss the pop-up dialog box. The main screen will display the results of the device configuration.
12. Note that not all of the items that were configured are displayed on the main screen. To verify that each of the items configured were set correctly, select the device in the **Device Information** list and click **Edit Selected** to review each item (Figure 6-1). Click the **Cancel** button on the **Device Configuration** screen when finished with verification.

6.2 Antennas with Multiple Integrated Actuators

After new devices are found and addressed in the ATC Lite program, each device is ready to be configured. All Multiple Integrated Actuators are factory configured, so configuration data is readily available and the relevant information is displayed in the **Device Information** list.

1. Switch to RET Device view by selecting 'Show RETs' from the drop down list below the **Device Information** list.
2. To begin device configuration, click on the device to be configured (Figure 6-6).
3. Click on **Edit Selected** to open the **Configuring Device** screen (Figures 6-6 and 16-7).

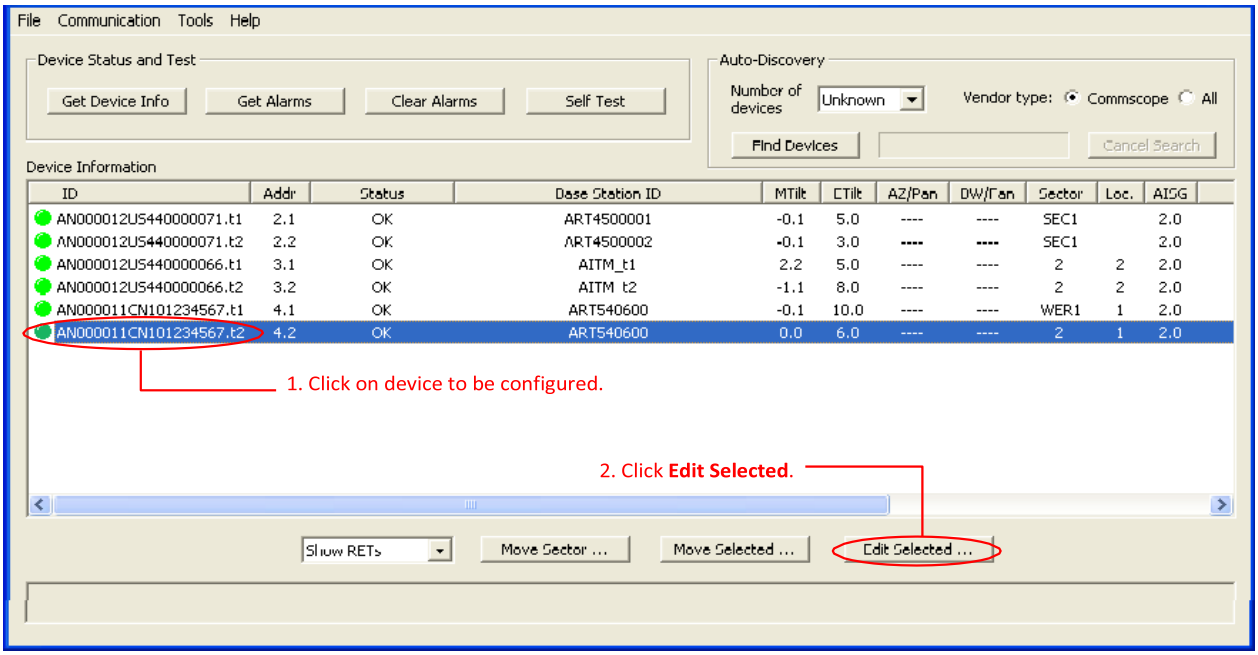

Figure 6-6. Selecting Device to be Configured.

Note the following in Figure 6-7:

- The ID of the device to be configured is displayed in the title bar of the dialog box.
- Devices that have never been configured before will display blank fields for most param-eters.
- Actuators that have been factory installed on an antenna are pre-configured to include the antenna model number, antenna type, and antenna serial number. The remaining fields such as Installation Date, Mechanical Tilt, Bearing, Height, Sector, Location, Oper. Band (for AISG 2.0 actuators) or Freq. Band (for AISG 1.1 actuators), Technology, Station ID, and Installer ID will need to be configured.
- Configuration items marked with an asterisk are required; saving a new configuration will be disabled if any of these fields are blank.
- The **Installation Date** field is handled differently from all other configuration items. Although this field is not required, if no installation date has been saved on the actuator, the program will suggest the current date as the default.
- AISG 2.0 Protocol Mode allows a 32 character Station ID.

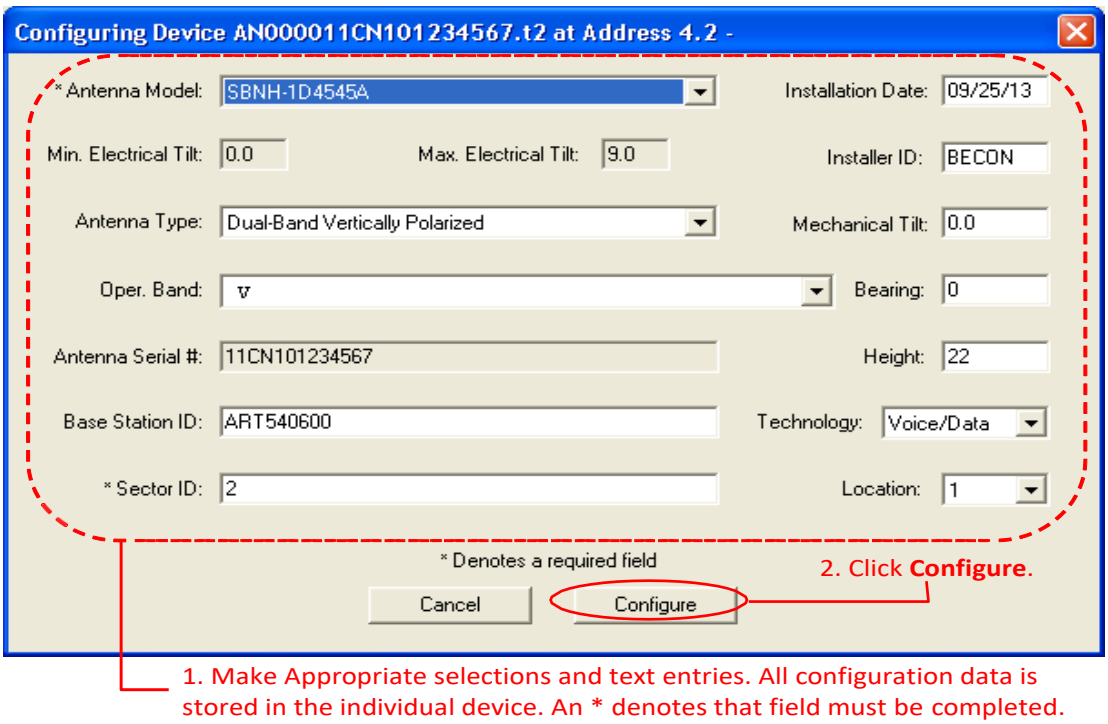

Figure 6-7. Device Configuration Screen.

4. Multiple integrated actuator-equipped antennas do not change the assigned **Antenna Model**. For the most current listing of antenna models designed for use with the ATC200-LITE-USB Teletilt system, see the Products tab on the CommScope website.
5. Use the **Antenna Type** drop down list to select the antenna type that is correct for the antenna model selected (Figure 6-7). Note that this value is used for reference only and has no direct affect upon the Actuator/Antenna that is being configured.
6. The serial number of multiple-actuator-equipped antennas is pre-set and cannot be changed. (Figure 6-7).
7. Using the drop down lists and entry fields, specify the parameters for the remaining fields (Operating/Frequency Band, Technology, Base Station ID, Installer ID, Install Date, Mechanical Tilt, Bearing, Height, Sector, and Location). Note the following:

- A positive mechanical tilt angle means that the antenna beam is directed below the horizontal plane. A negative mechanical tilt angle means that the antenna beam is directed above the horizontal plane.
- The bearing is the installed compass orientation for this antenna.
- The height of the antenna on the tower must be entered in the range of 1 to 999. No specific unit of length, such as feet or meters, is associated with this field. However, you should enter a value that conforms to the units of length customarily used by your company for antenna installations.
- If in AISG 1.1 mode, the ID for the base station associated with this antenna must be 1 to 12 characters in length, and it may contain any combination of numbers and letters. When the actuator is in AISG 2.0 protocol mode, the longer station ID consists of 32 characters.
- The Installation Date field is handled differently from all other configuration items. Although this field is not required, if no installation date has been saved on the actuator the program will suggest the current date as the default. If the current date is used, it will be saved on the actuator when the **Configure** button is activated. Alternately, the suggested date may be erased and a new date entered, or the field may be left blank. When a date is entered, it must be formatted as MM/DD/YY as shown in Figure 6-7 (A **forward slash** character placed between the month and day and a **forward slash** character placed between the day and year) i.e., July 7, 2008 would be typed as 07/07/08.
- The installer's ID must be 1 to 5 characters in length with any combination of letters and numbers.
- Values specified for the frequency band, sector, technology, location, and mechanical tilt are used for reference only and have no direct affect upon the actuator/antenna that is being configured.
- Frequency band (AISG 1.1)/Operating Band (AISG 2.0) value can have multiple values set. Click on the drop down arrow in the list to open the multi selection list. Make selection by clicking on the check box for the relevant frequency. Click outside the list or press ESC key to close the list (Figure 6-8).

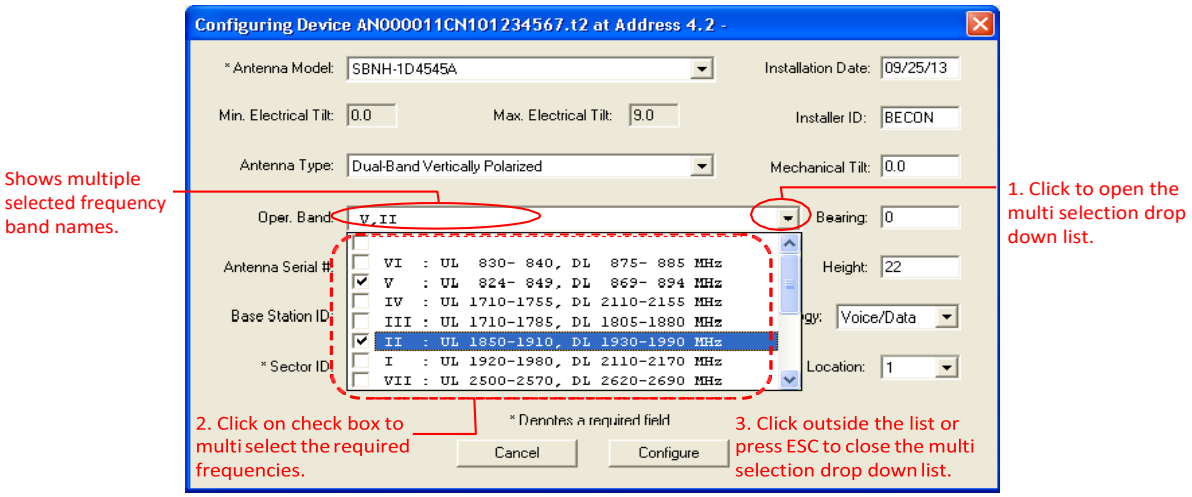

Figure 6-8. Multiple Frequency/Operating Band Selection

8. After verifying the accuracy of all fields, click **Configure**. Alternately, the user may go back and edit/change any of the selections made or click the **Cancel** button to quit this process without making any changes to the actuator's current configuration.
9. After the **Configure** button has been activated, the user will be prompted to confirm changes to the actuator are to be applied. Click **Yes** to proceed with the changes, or click **No** to return to the configuration screen (Figure 6-9).

   When proceeding to make changes, the selected settings will be sent to the actuator and stored there. The main screen will change the status of this device to **Configuring** to indicate that new settings are being sent to the actuator.
10. When the configuration process is complete, a pop-up dialog box will display the results. Normally, the dialog box will show that the changes were successfully sent to the device (Figure 6-10). However, if the configuration process was unable to communicate with the actuator for any reason, a failure message will appear.

    If this occurs, ensure that all cables and connectors to the actuator are properly connected, and that the system is still properly powered up. Also, verify that the actuator is present in the **Device Information** list, and that it does not have a status reading of **Not Reporting**. A status of **Not Reporting** indicates that connectivity to the actuator has been lost. After verifying that each of these items are correct, repeat the configuration process.
11. Click **OK** (Figure 6-10) to dismiss the pop-up dialog box. The main screen will display the results of the device configuration.
12. Note that not all of the items that were configured are displayed on the main screen. To verify that each of the items configured were set correctly, select the device in the **Device Information** list and click **Edit Selected** to review each item (Figure 6-6). Click the **Cancel** button on the **Device Configuration** screen when finished with verification.

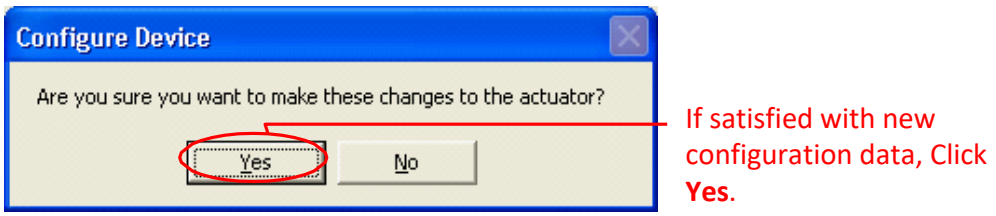

Figure 6-9. Choosing to Continue with Configuration Changes to the Device.

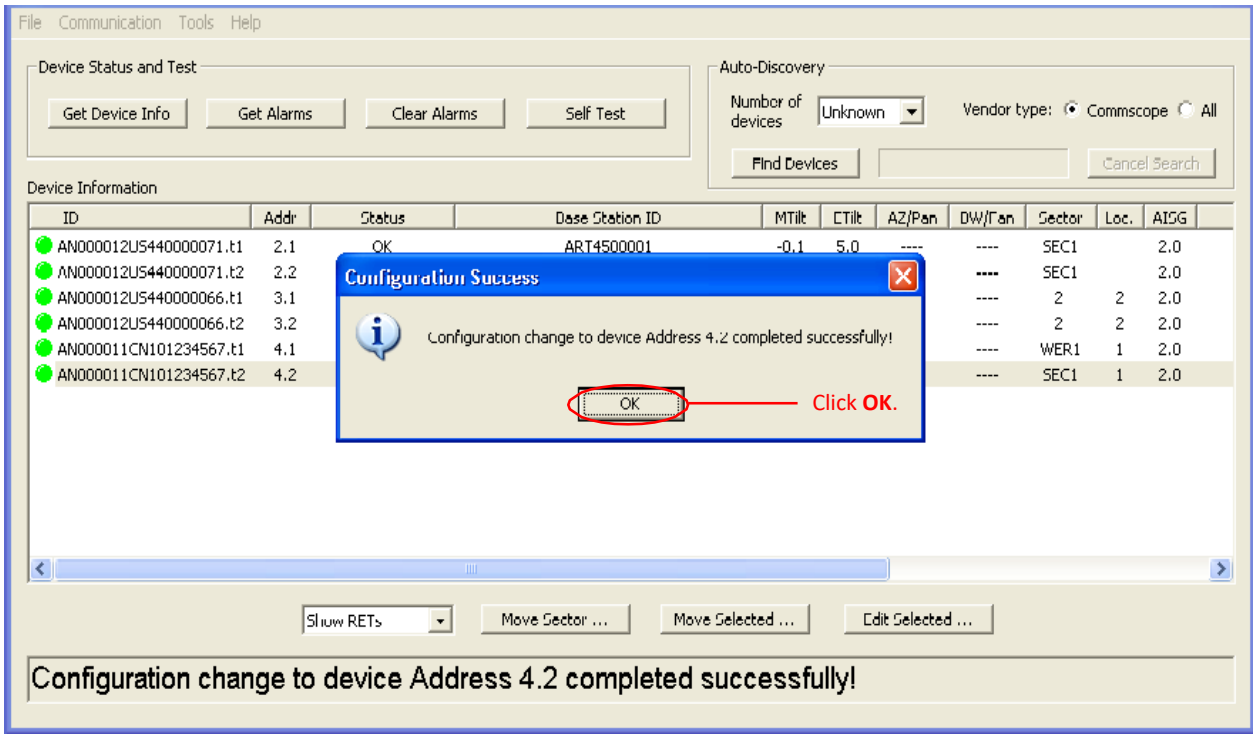

Figure 6-10. Confirmation of Configuration Changes to Device.

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Section 7

Changing the Electrical Downtilt on a Single Antenna

7.1 Antennas with RET Actuators

The electrical downtilt may be adjusted on any device that is addressed, configured, and whose current state does not prevent antenna movement. Examples where movement is prevented include devices that are not responding to commands from the program, devices that are in the middle of a move or configuration change, and devices that are experiencing a mechanical malfunction.

> Note: Some Teletilt® actuators might switch to Safety Mode if they are moved repeatedly from maximum to minimum position without a pause. That safety feature ensures that the actuator is not damaged from overheating. If the actuator goes into Safety Mode, then the operator should wait about 60 to 90 seconds while the actuator cools so it is free to move again.

1. Switch to RET Device view by selecting 'Show RETs' from the drop down list below the **Device Information** list.
2. From the **Device Information** list, click on the device to be moved (Figure 7-1).
3. Click **Move Selected** at the bottom of the screen (Figure 7-1).

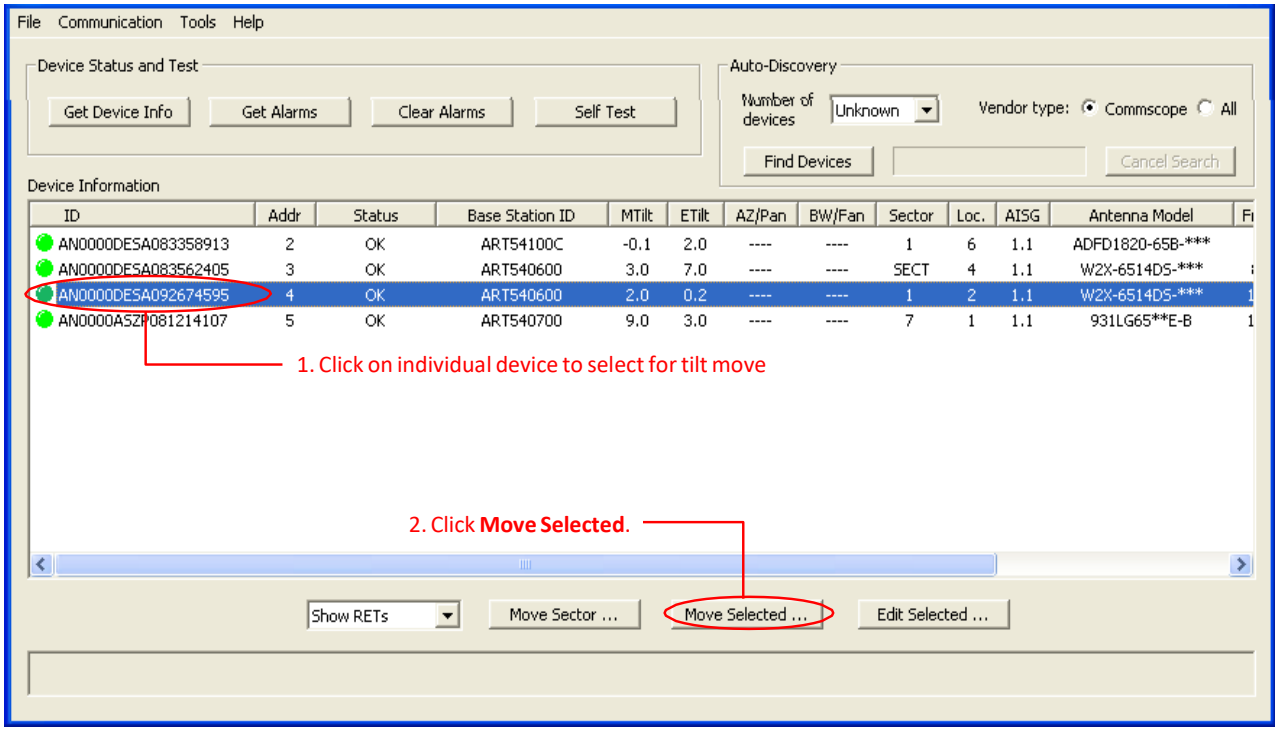

Figure 7-1. Selecting Device for Electrical Downtilt Adjustment.

4. The **Set Actuator Position** screen will appear (Figure 7-2).

   Note all parameters that can be configured are displayed on this screen. This information may be used as a reference to help determine the new tilt setting. However, configuration items cannot be changed from this screen. All changes to configuration items must be done with the Configuration screen as discussed in Section 6.

5. Enter the new angle in the **New Tilt** text entry field to change the electrical downtilt. Note that the allowed range of angle values is displayed in the **Min Electrical Tilt** and **Max Electrical Tilt** fields in the top part of the screen. Any downtilt angle within this range may be entered. Downtilt is controllable with a precision of 0.1 degree. Other axes may use whole degree precision (Figure 7-2).

   Examples: Five degrees downtilt may be entered as **5** or **5.0**. A downtilt of five and one-half degrees would be entered as **5.5**.

6. Click the **Activate** button (Figure 7-2) to apply changes to the electrical downtilt for this antenna. Alternately, to exit the screen without sending any changes, click on the **Close** button. Antenna movement will begin after the **Activate** button is applied.

   A progress indicator bar (located to the left of **Current Tilt**) will continually update for as long as the move is in progress.

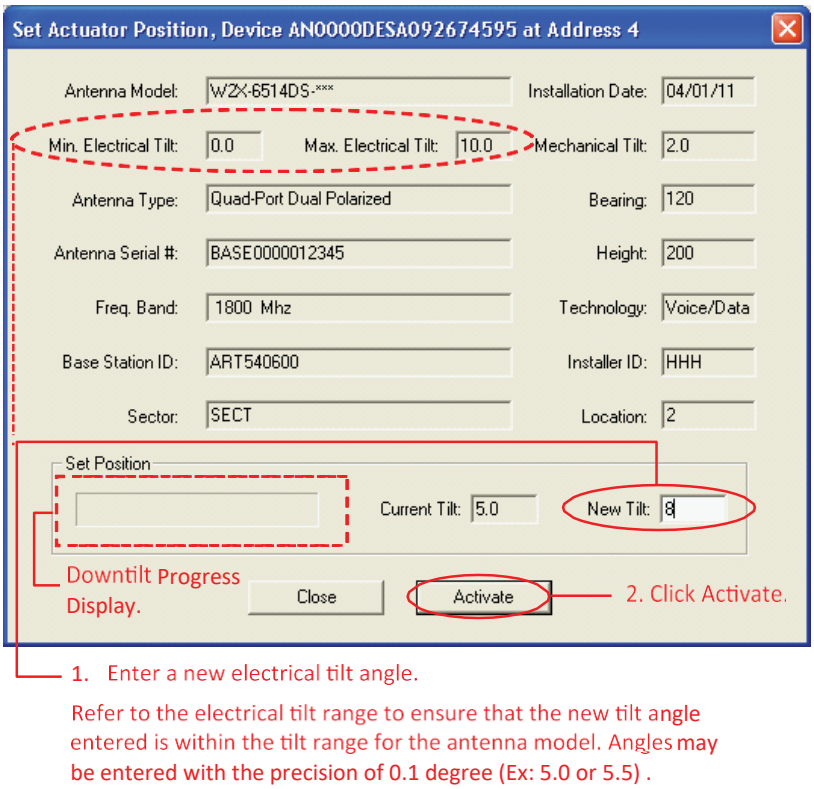

Figure 7-2. Configuring New Electrical Downtilt Setting.

7. You will be notified when movement is complete (Figure 7-3).

   If for any reason the move failed to reach the new tilt angle specified, you will be notified of the failure.

8. At the successful completion of an antenna movement, the **Current Tilt** field will update to show the new tilt angle and the **New Tilt** text entry box will be cleared in preparation for the next move (Figure 7-4). At this point, you may click on the **Close** button to exit this screen and return to the main screen. Alternately, this process may be repeated to further adjust the tilt position or to reapply changes where movement had previously failed, such as a temporary mechanical jam.

9. After closing the **Set Actuator Position** screen, the main screen will show the new actuator position setting in the **Device Information** list.

   After all movements have been made and you are ready to end the program session, a report can be saved to a file for future reference. Settings can be stored to a file for future reference using the Site Reports function. See Section 9.

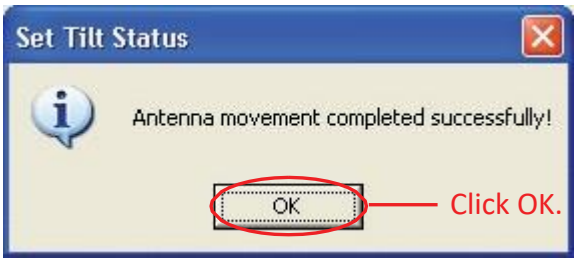

Figure 7-3. Electrical Tilt Adjustment Complete.

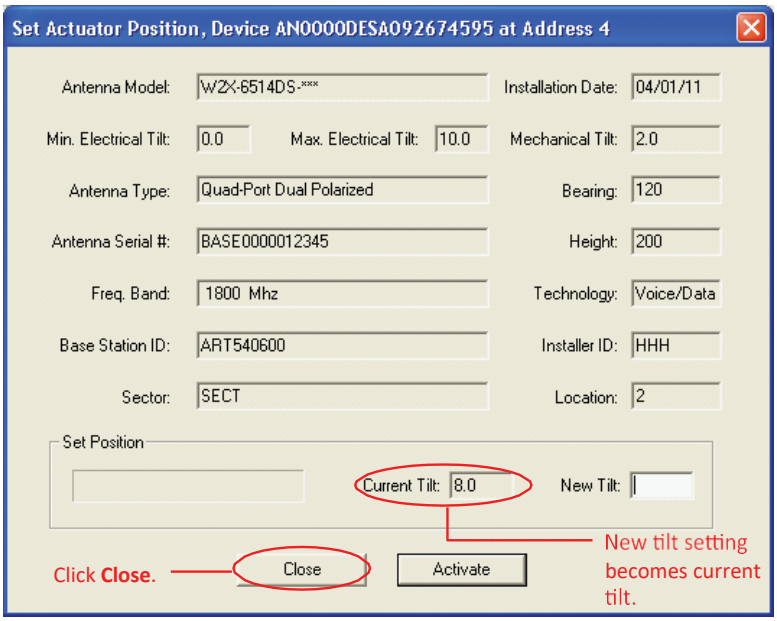

*Figure 7-4. New Electrical Tilt Displays in **Current Tilt** Field.*

7.2 Antennas with Multiple Integrated Actuators

The electrical downtilt may be adjusted on any device that is addressed, configured, and whose current state does not prevent antenna movement. Examples where movement is prevented include devices that are not responding to commands from the program, devices that are in the middle of a move or configuration change, and devices that are experiencing a mechanical malfunction.

Each antenna with multiple integrated actuators has several tilt actuators that are denoted by the suffixes ‘t1’, ‘t2’, etc.

1. Switch to RET Device view by selecting ‘Show RETs’ from the drop down list below the **Device Information** list.
2. From the **Device Information** list, click on the device to be moved (Figure 7-5).
3. Click **Move Selected** at the bottom of the screen (Figure 7-5).

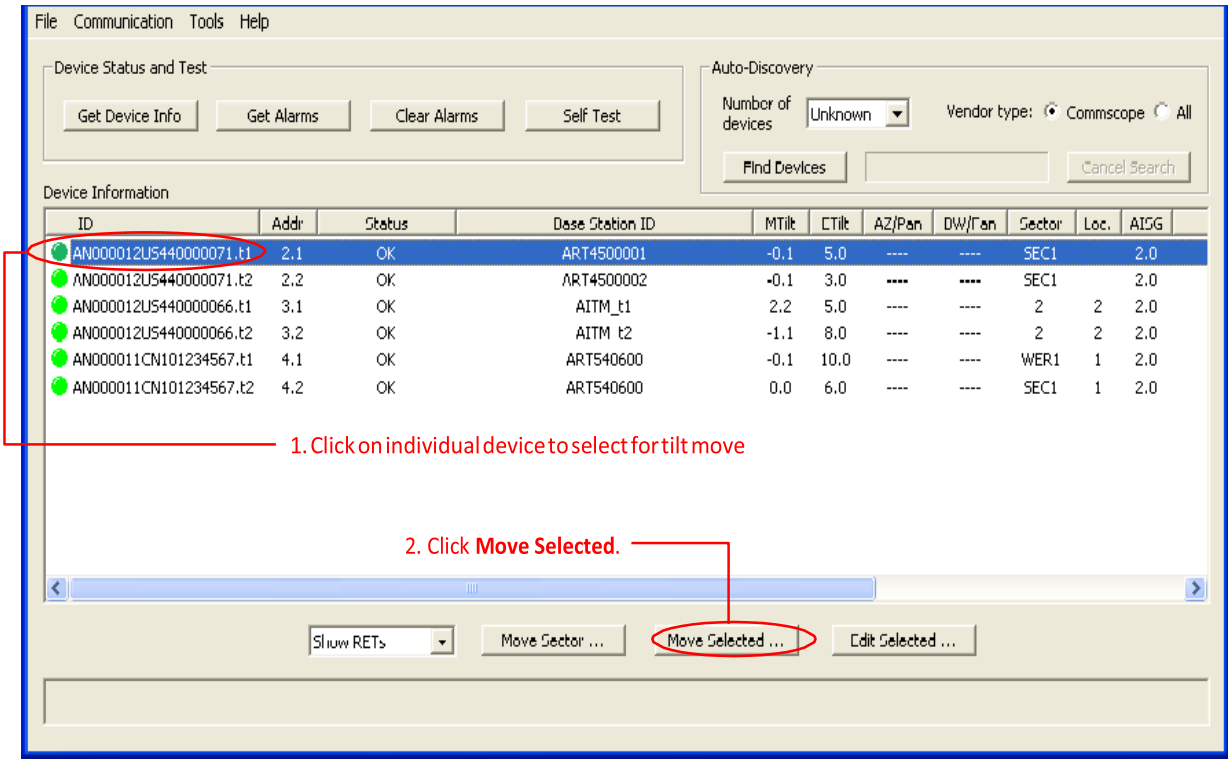

Figure 7-5. Selecting Device for Electrical Downtilt Adjustment.

4. The **Set Actuator Position** screen will appear (Figure 7-6).

   Note, all parameters that can be configured are displayed on this screen. This information may be used as a reference to help determine the new tilt setting. However, configuration items cannot be changed from this screen. All changes to configuration items must be done with the Configuration screen as discussed in Section 6.

5. Enter the new angle in the **New Tilt** text entry field to change the electrical downtilt. Note that the allowed range of angle values is displayed in the **Min Electrical Tilt** and **Max Electrical Tilt** fields in the top part of the screen. Any downtilt angle within this range may be entered. Downtilt is controllable with a precision of 0.1 degree. Other axes may use whole degree precision (Figure 7-6).

   Examples: Five degrees downtilt may be entered as **5** or **5.0**. A downtilt of five and one-half degrees would be entered as **5.5**.

6. Click the **Activate** button (Figure 7-6) to apply changes to the electrical downtilt for this antenna. Alternately, to exit the screen without sending any changes, click on the **Close** button. Antenna movement will begin after the **Activate** button is applied.

   A progress indicator bar (located to the left of **Current Tilt**) will continually update for as long as the move is in progress.

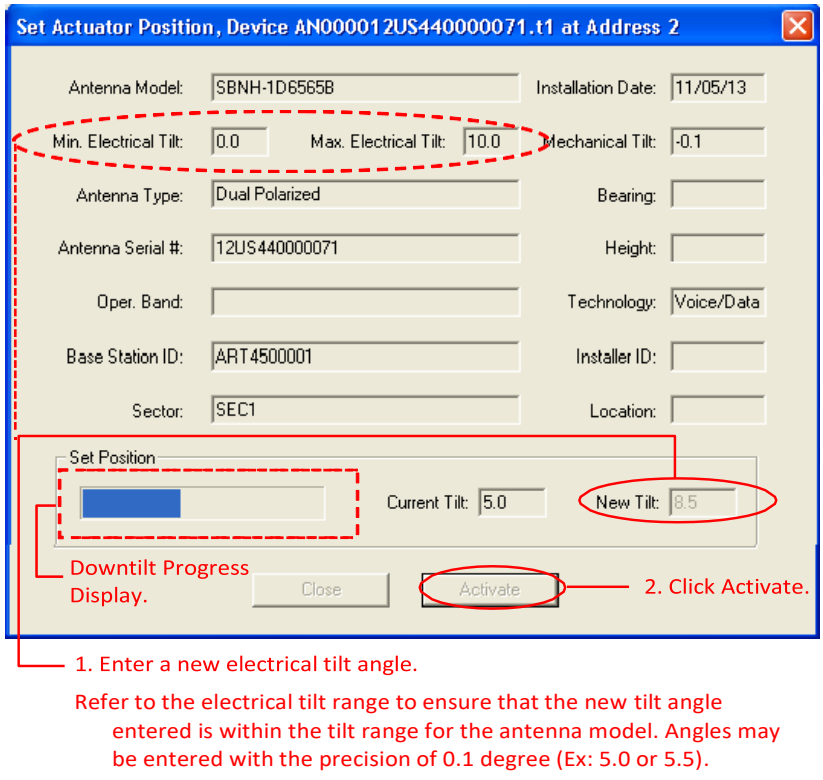

Figure 7-6. Configuring New Electrical Downtilt Setting.

7. You will be notified when movement is complete (Figure 7-7).

   If for any reason the move failed to reach the new tilt angle specified, you will be notified of the failure.

8. At the successful completion of an antenna movement, the Current Tilt field will update to show the new tilt angle and the New Tilt text entry box will be cleared in preparation for the next move (Figure 7-8). At this point, you may click on the Close button to exit this screen and return to the main screen. Alternately, this process may be repeated to further adjust the downtilt or to reapply changes where movement had previously failed, such as a temporary mechanical jam.

9. After closing the Set Actuator Position screen, the main screen will show the new electrical downtilt setting in the Device Information list.

   After all electrical tilt adjustments are made and you are ready to end the program session, a report can be saved to a file for future reference using the site reports function (see Section 9).

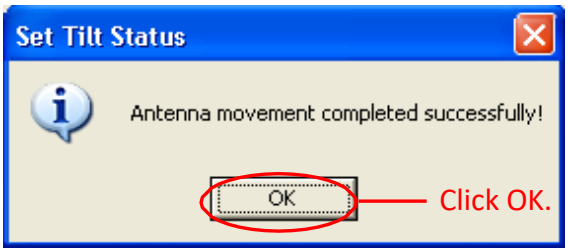

Figure 7-7. Electrical Tilt Adjustment Complete.

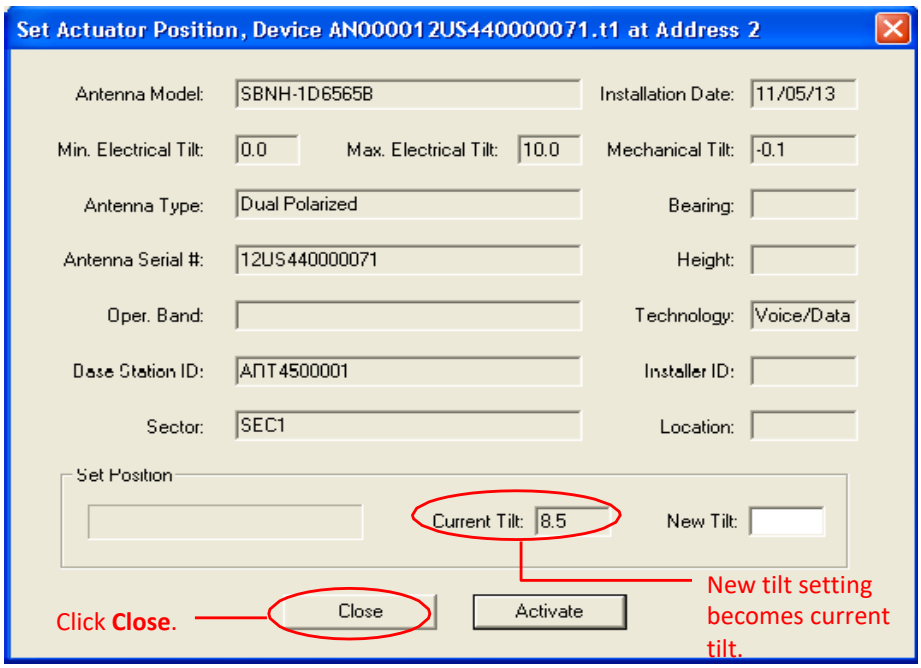

Figure 7-8.New Electrical Tilt Displays in Current Tilt Field.

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Section 8

Changing the Electrical Downtilt on a Group of Antennas

8.1 Antennas with RET Actuators

In addition to changing the downtilt of a single antenna, changes may also be applied to a group of antennas. The list of antennas that make up the group is defined by three configuration parameters – Sector ID, Minimum Electrical Tilt, and Maximum Electrical Tilt. Only antennas that are identical in all three parameters are candidates for a given group move.

1. Switch to RET Device view by selecting 'Show RETs' from the drop down list below the **Device Information** list.
2. Select a device from the **Device Information** list that contains the Sector ID and tilt range representing the group to be moved (Figure 8-1).
3. Click **Move Sector** (Figure 8-1).

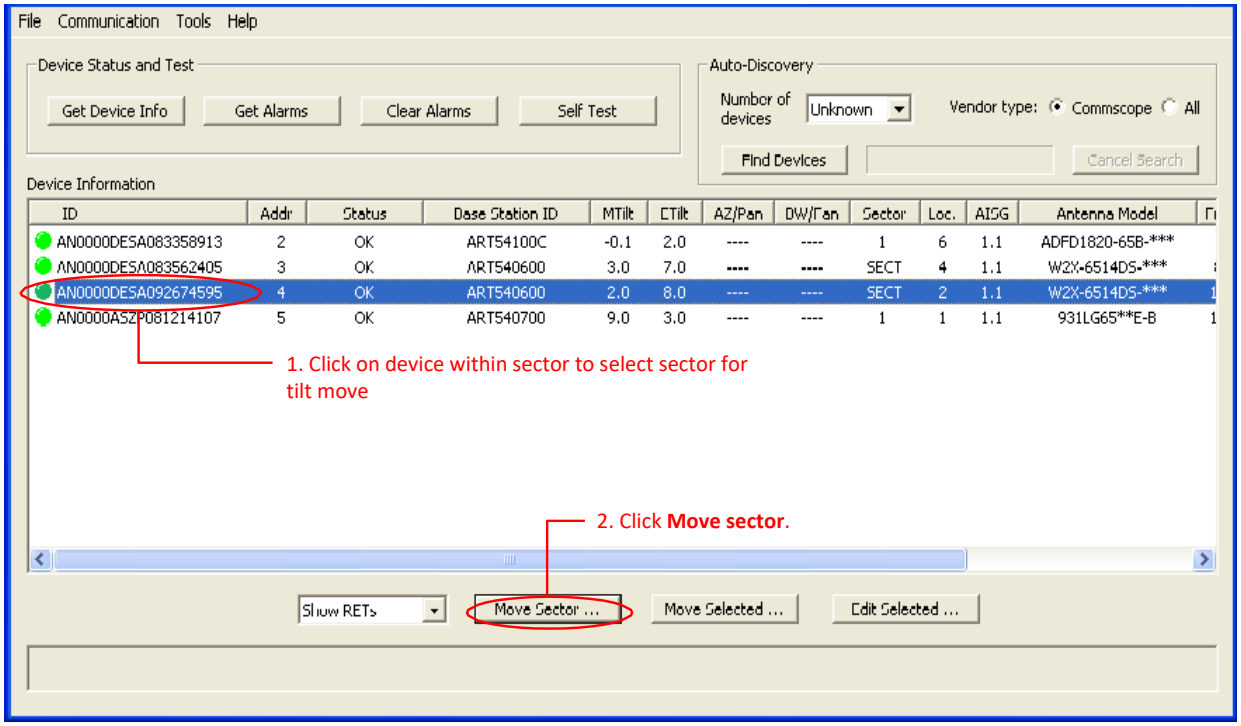

Figure 8-1. Selecting an Antenna Within a Sector.

4. From the **Set Electrical Tilt for Sector** screen, notice that the selected device is highlighted and displayed in the box labeled **Antennas Included In Move**. This box displays a list of all devices that will be included in the sector move. Initially, this box contains only the antenna that was selected from the main screen. All of the current configuration settings for this device, including its current tilt, are displayed on this screen (Figure 8-2).

   Other devices that have the same sector ID, minimum tilt, and maximum tilt are listed in the box labeled **Additional Compatible Antennas**. The devices in this box may be included in the move by moving one or more of them from this box to the box on the left.

5. To help determine if additional antennas could be included in the group move, click on each model to be considered to display their individual settings. Each time a device is selected, its settings will be displayed on the screen.

6. After the settings have been examined for each candidate, the devices determined to be included in the move may be added to the group in either of the following methods.

   - Select the device and click **Add**.
   - Double click on the device to immediately move it to the **Antennas Included In Move** box (Figure 8-2).

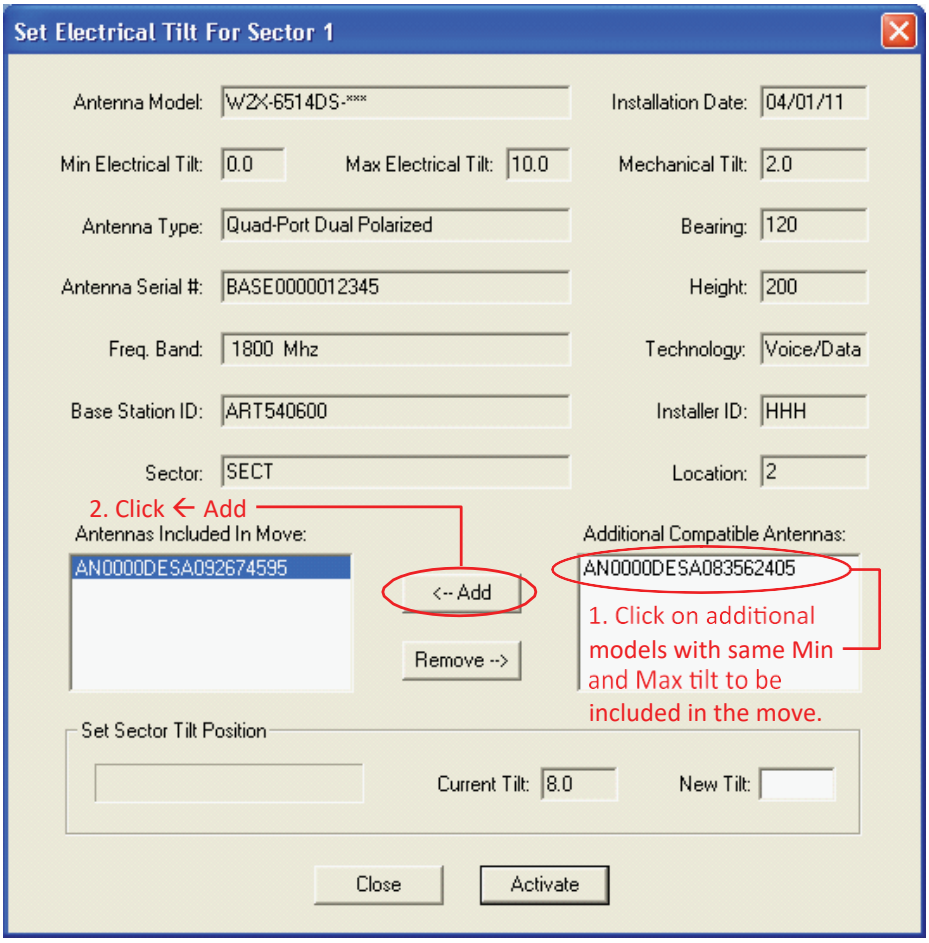

Figure 8-2. Adding Devices to be Included in the Sector Move.

7. After the devices are moved to the **Antennas Included In Move** box, examine the group to ensure that the group does not include any antennas that are not desired for this move.
8. To remove one or more antennas from the group move, either click on that antenna and then click **Remove**, or double click on that antenna to move it back to the right hand box.
9. When satisfied with the list of antennas that will be included in the group move, enter a new downtilt angle and click **Activate** to start the move (Figure 8-3). Progress for each antenna movement in the group will be displayed separately.

   A progress indicator bar (located to the left of **Current Tilt**) will continually update for as long as the move is in progress.

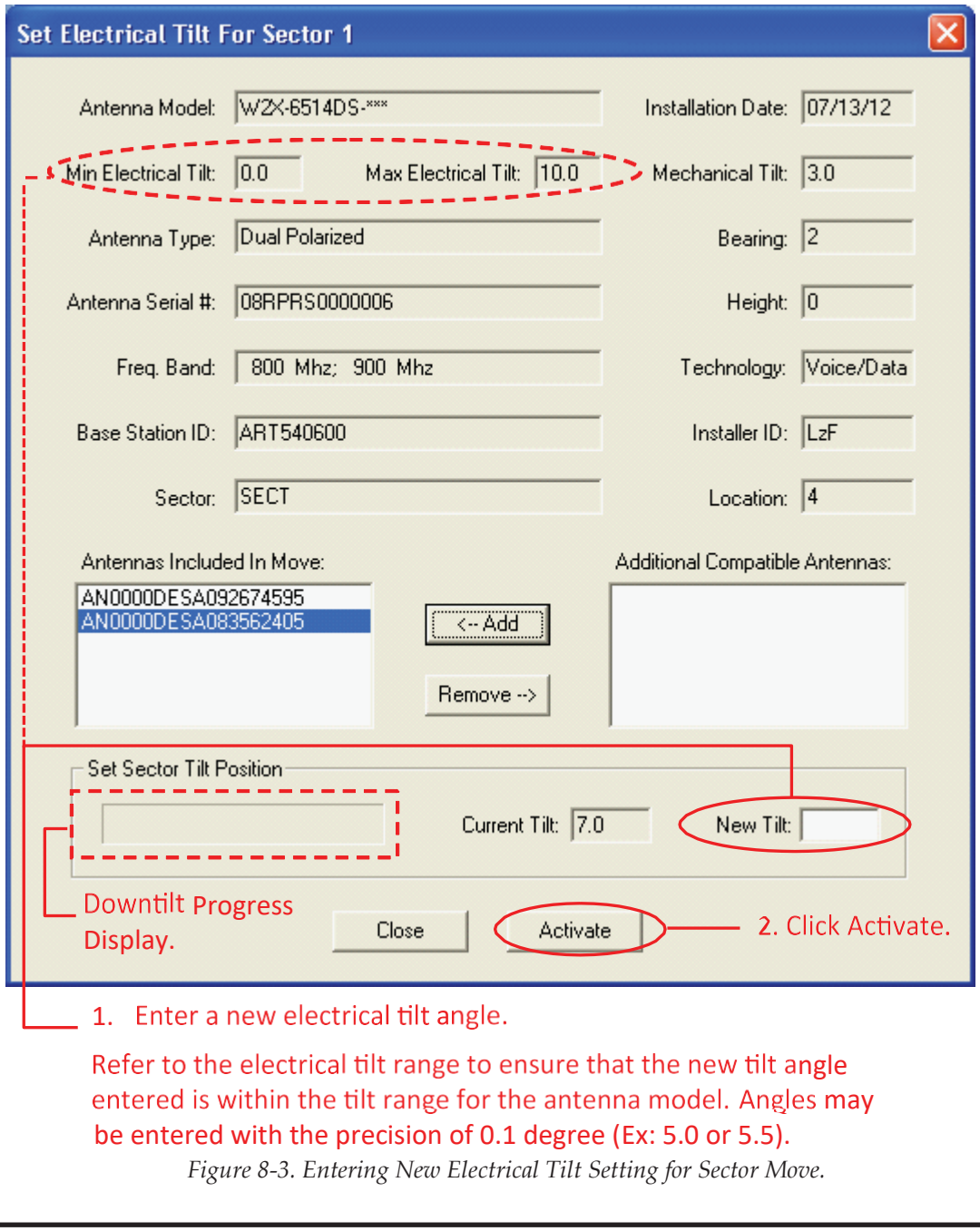

Figure 8-3. Entering New Electrical Tilt Setting for Sector Move.

10. You will be notified when all antennas have successfully reached the new tilt angle. Click **OK** (Figure 8-4).
11. The **Set Electrical Tilt for Sector** screen will display the new electrical tilt setting in the **Current Tilt** field. At this point, either additional tilt angles may be applied or you may return to the main screen. To return to the main screen, click **Close** (Figure 8-5).
12. After all electrical tilt adjustments are made, a report can be saved to a file for future reference (see Section 9).

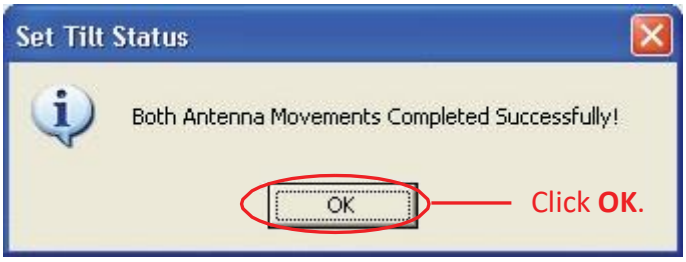

Figure 8-4. Movement Complete.

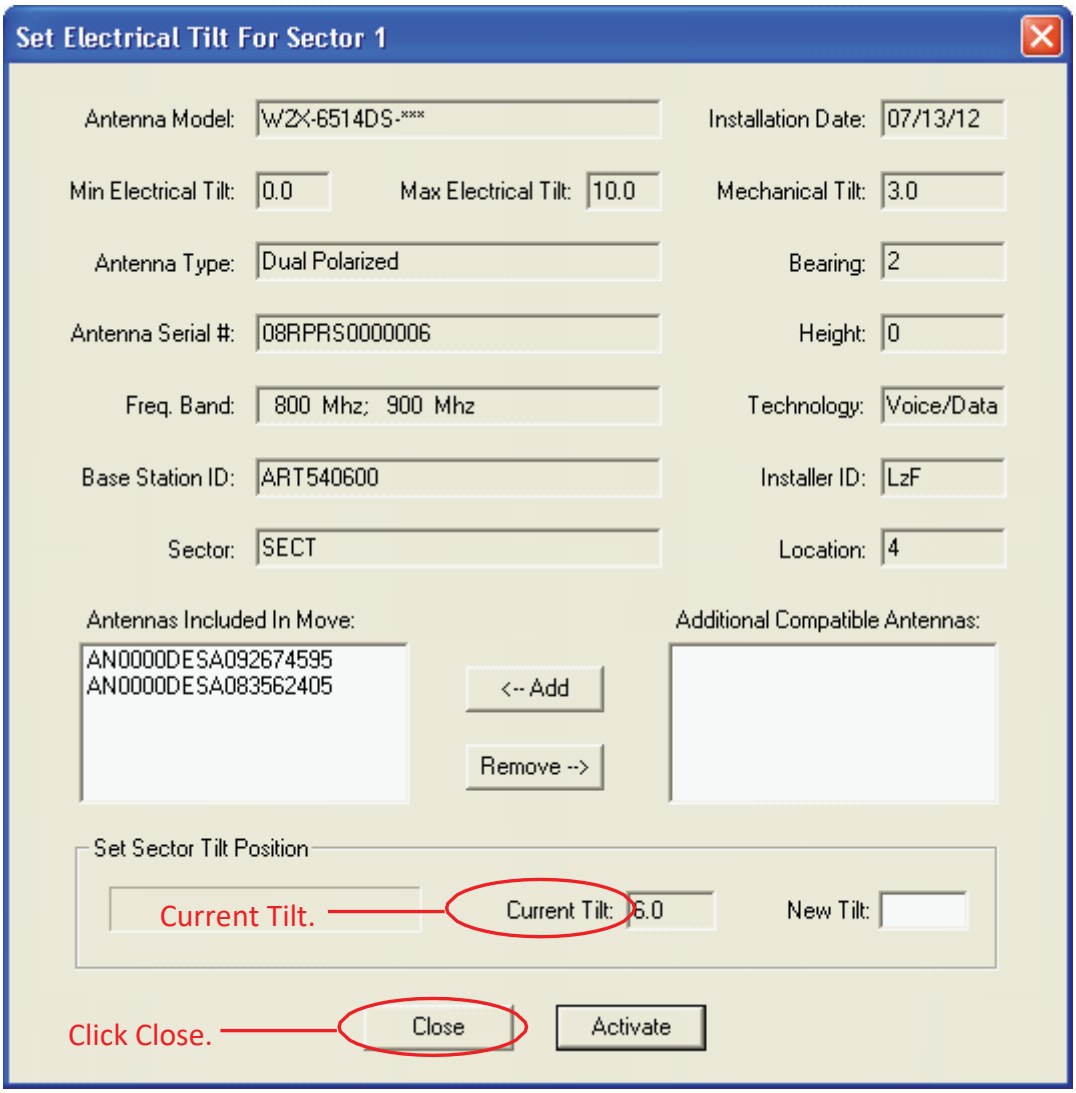

Figure 8-5. Closing Sector Move Screen.

8.2 Antennas with Multiple Integrated Actuators

In addition to changing the downtilt of a single antenna, changes may also be applied to a group of antennas. The list of antennas that make up the group is defined by three configuration parameters – Sector ID, Minimum Electrical Tilt, and Maximum Electrical Tilt. Only antennas that are identical in all three parameters are candidates for a given group move.

1. Switch to RET Device view by selecting 'Show RETs' from the drop down list below the **Device Information** list.
2. Select a device from the **Device Information** list that contains the Sector ID and tilt range representing the group to be moved (Figure 8-6).
3. Click **Move Sector** (Figure 8-6)).
4. From the **Set Electrical Tilt for Sector** screen, notice that the selected device is highlighted and displayed in the box labeled **Antennas Included In Move**. This box displays a list of all devices that will be included in the sector move. Initially, this box contains only the antenna that was selected from the main screen. All of the current configuration settings for this device, including its current tilt, are displayed on this screen (Figure 8-7).

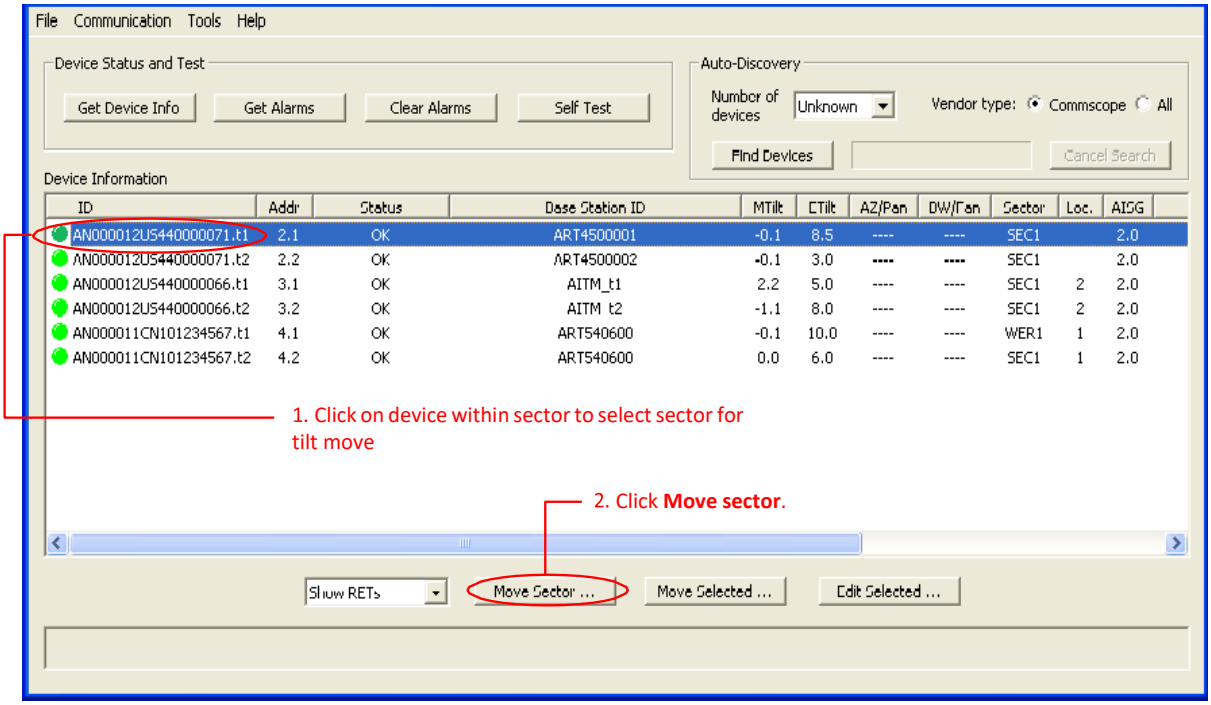

Figure 8-6. Selecting an Antenna Within a Sector.

Other devices that have the same sector ID, minimum tilt, and maximum tilt are listed in the box labeled **Additional Compatible Antennas**. The devices in this box may be included in the move by moving one or more of them from this box to the box on the left.

5. To help determine if additional antennas could be included in the group move, click on each model to be considered to display their individual settings. Each time a device is selected, its settings will be displayed on the screen.
6. After the settings have been examined for each candidate, the devices determined to be included in the move may be added to the group in either of the following methods.

- Select the device and click **Add**.
- Double click on the device to immediately move it to the **Antennas Included In Move** box (Figure 8-7).

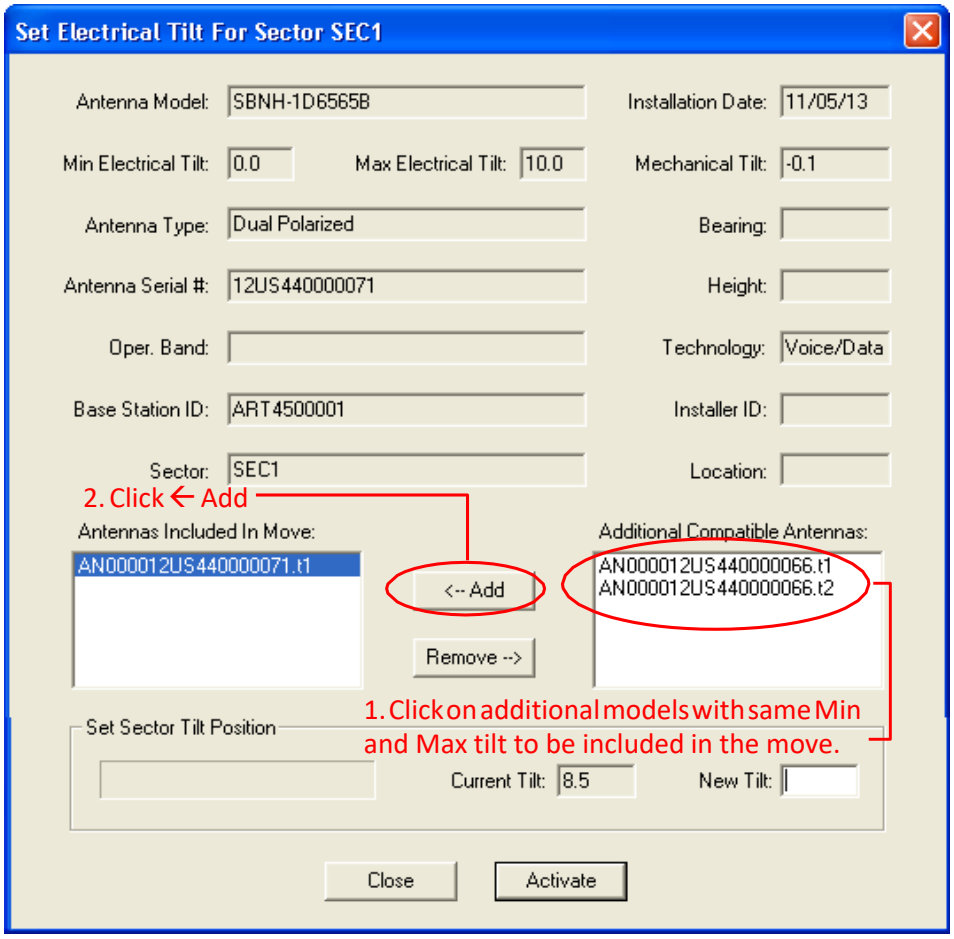

Figure 8-7. Adding Devices to be Included in the Sector Move.

7. After the devices are moved to the **Antennas Included In Move** box, examine the group to ensure that the group does not include any antennas that are not desired for this move.
8. To remove one or more antennas from the group move, either click on that antenna and then click **Remove**, or double click on that antenna to move it back to the right hand box.
9. When satisfied with the list of antennas that will be included in the group move, enter a new downtilt angle and click **Activate** to start the move (Figure 8-8). Progress for each antenna movement in the group will be displayed separately.

   A progress indicator bar (located to the left of **Current Tilt**) will continually update for as long as the move is in progress.

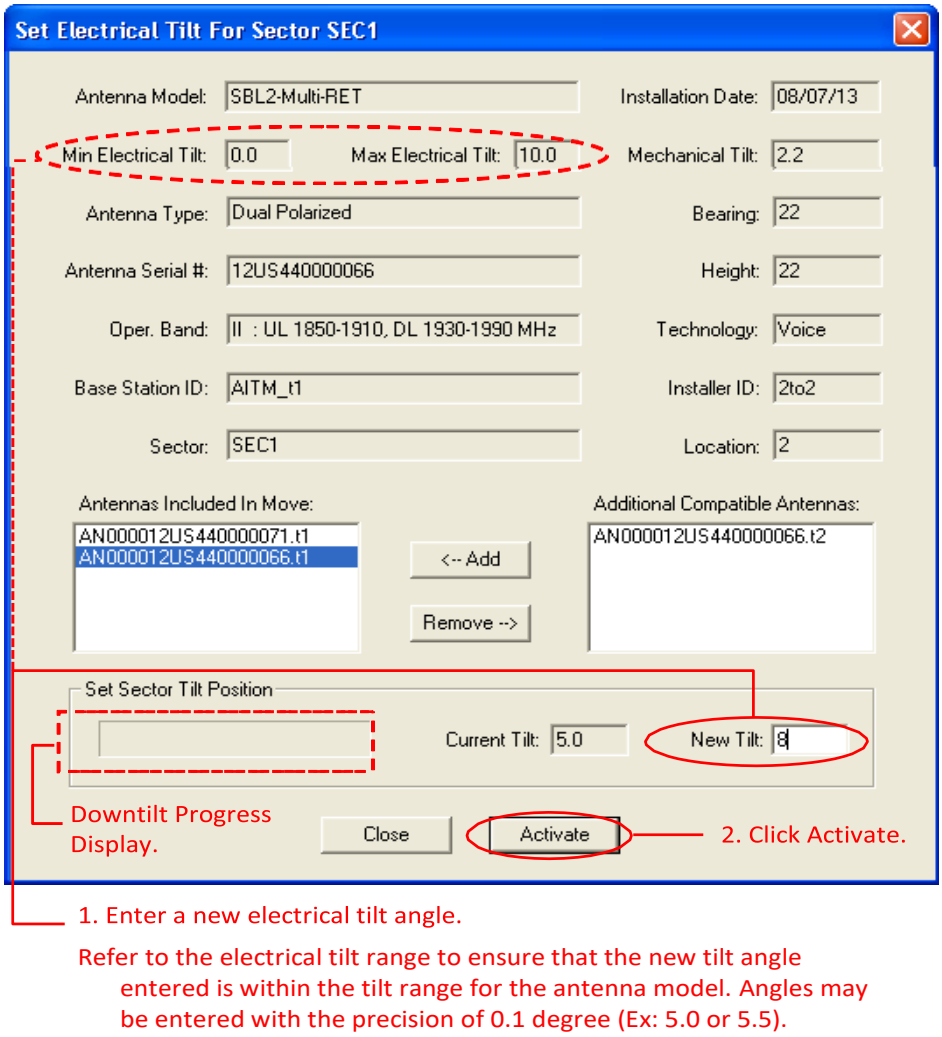

Figure 8-8. Entering New Electrical Tilt Setting for Sector Move.

10. You will be notified when all antennas have successfully reached the new tilt angle. Click **OK** (Figure 8-9).
11. The **Set Electrical Tilt for Sector** screen will display the new electrical tilt setting in the **Current Tilt** field. At this point, either additional tilt angles may be applied or you may return to the main screen. To return to the main screen, click **Close** (Figure 8-10).
12. After all electrical tilt adjustments are made, a report can be saved to a file for future reference (see Section 9).

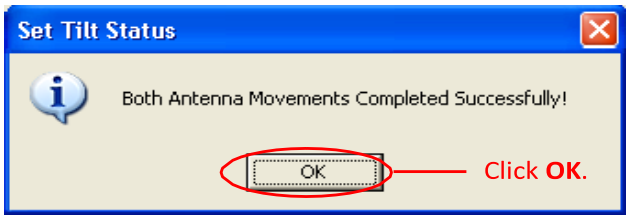

Figure 8-9. Movement Complete.

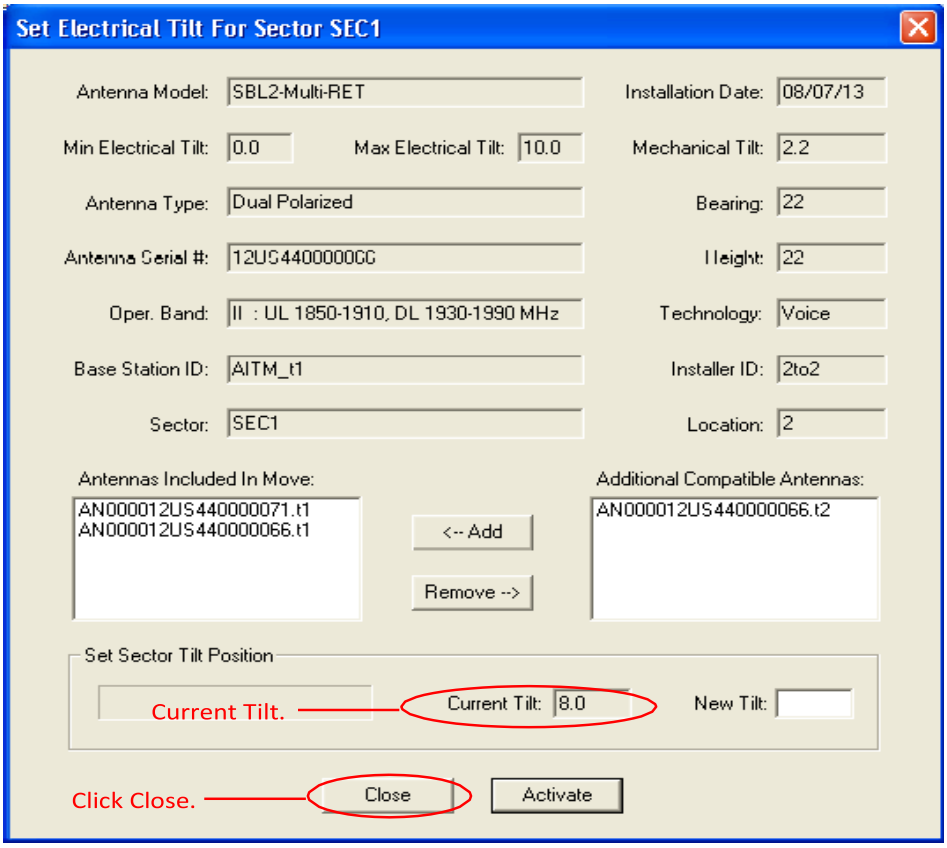

Figure 8-10. Closing Sector Move Screen

Part 5

Saving Reports and Retrieving Alarm Status

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Section 9
Saving a Site Report or Site Configurations

Site configuration information can be saved for future reference using either the **File→Save Text Site Report** option or the **File→Save Tabbed Site Report** option from the main program menu.

The **File →Save Text Site Report** option allows site configuration information to be saved into a text file to open in a text file viewer (*.txtrpt for Word). Saved files are stored on the computer hard drive at **C:\ATCLite_Site_Files**. To save the site configuration into a tab limited text file to open in Excel(*.tabrpt for Excel) use **File →Save Tabbed Site Report**… menu.

9.1 Saving/Viewing a Site Report Formatted to Open in Word.

1. To save a report that can be opened in Word, go to **File→save Text Site Report** on the main menu (Figure 9-1).

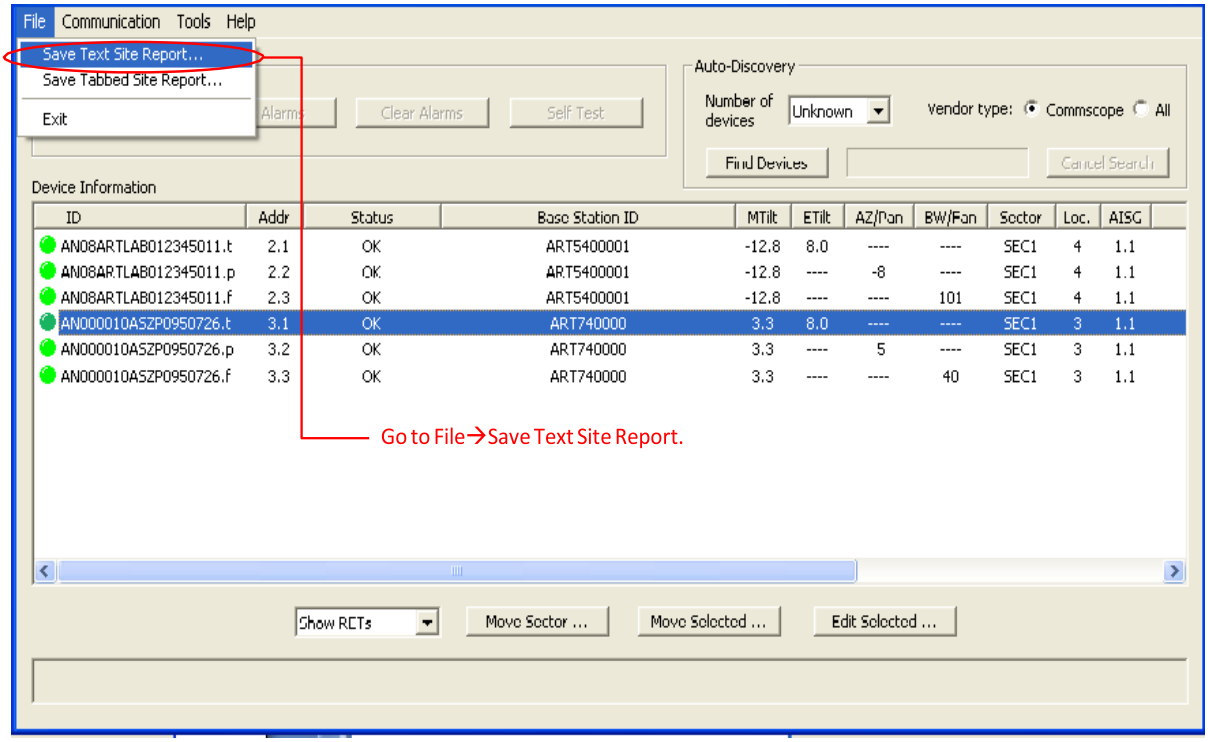
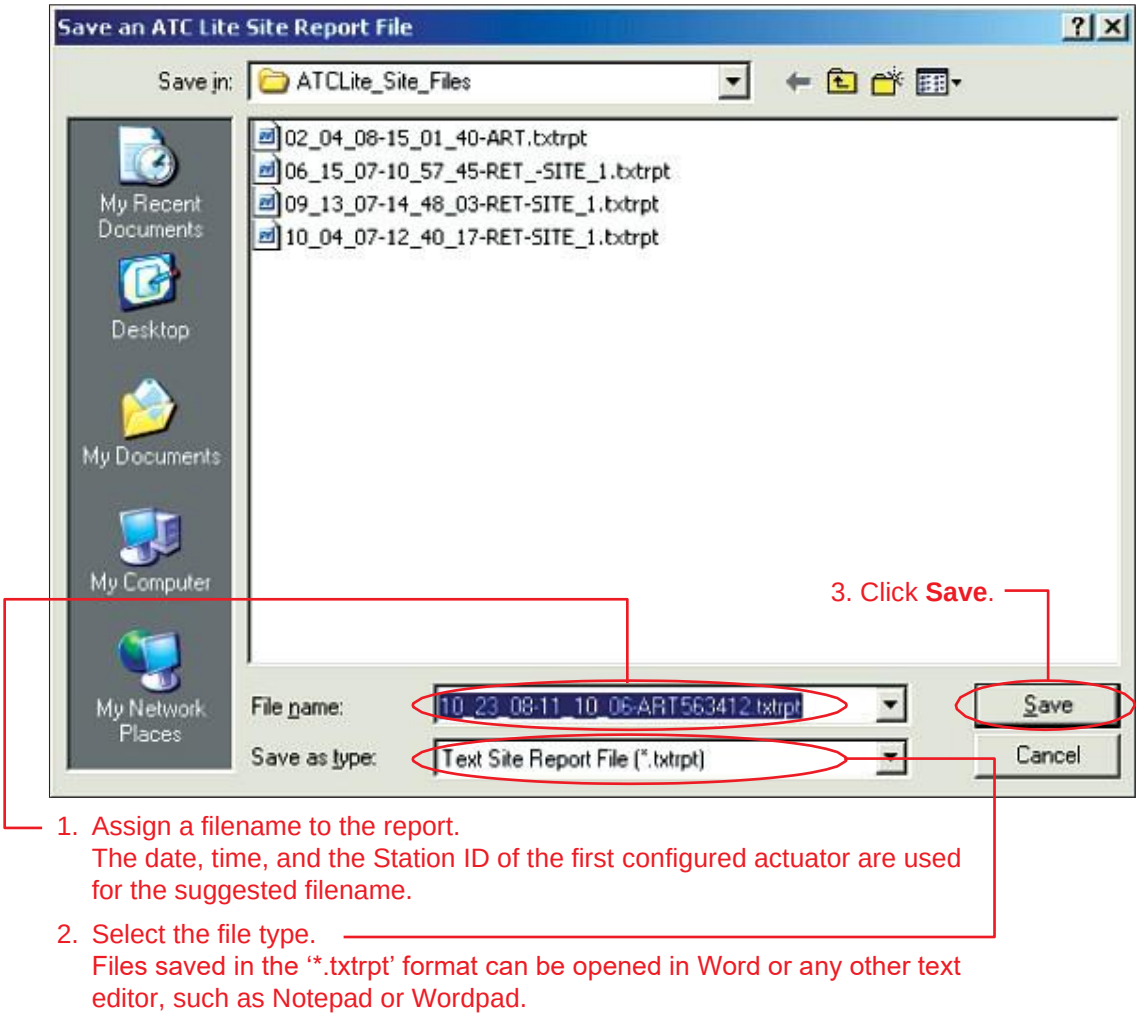


*Figure 9-1. Selecting **Save Site Report** from Main Program Menu.*

2. Assign a filename for the report. The default filename consists of the date, time, and the site ID of the first actuator (Figure 9-2).
3. Select **Text Site Report File (*.txtrpt)** from the **Save as type** drop down selection, if not already selected.
4. Click **Save**.



Note: All site reports are saved to **C:\ATCLite_Site_Files**. This directory is created if it does not pre-exist on the computer.

Figure 9-2. Selecting the File Format for Word.

5. To view the saved file, launch Word (or any text editor software, such as Notepad or Wordpad) and go to **File→Open** on the main menu. Change the directory to look in **C:\ATCLite_Site_Files**, change the file type to **All Files**, and select the desired 'txtrpt' file from the list of files shown.
   Click **Open** (Figure 9-3).

   The configuration settings for each actuator are displayed in the order of their address.

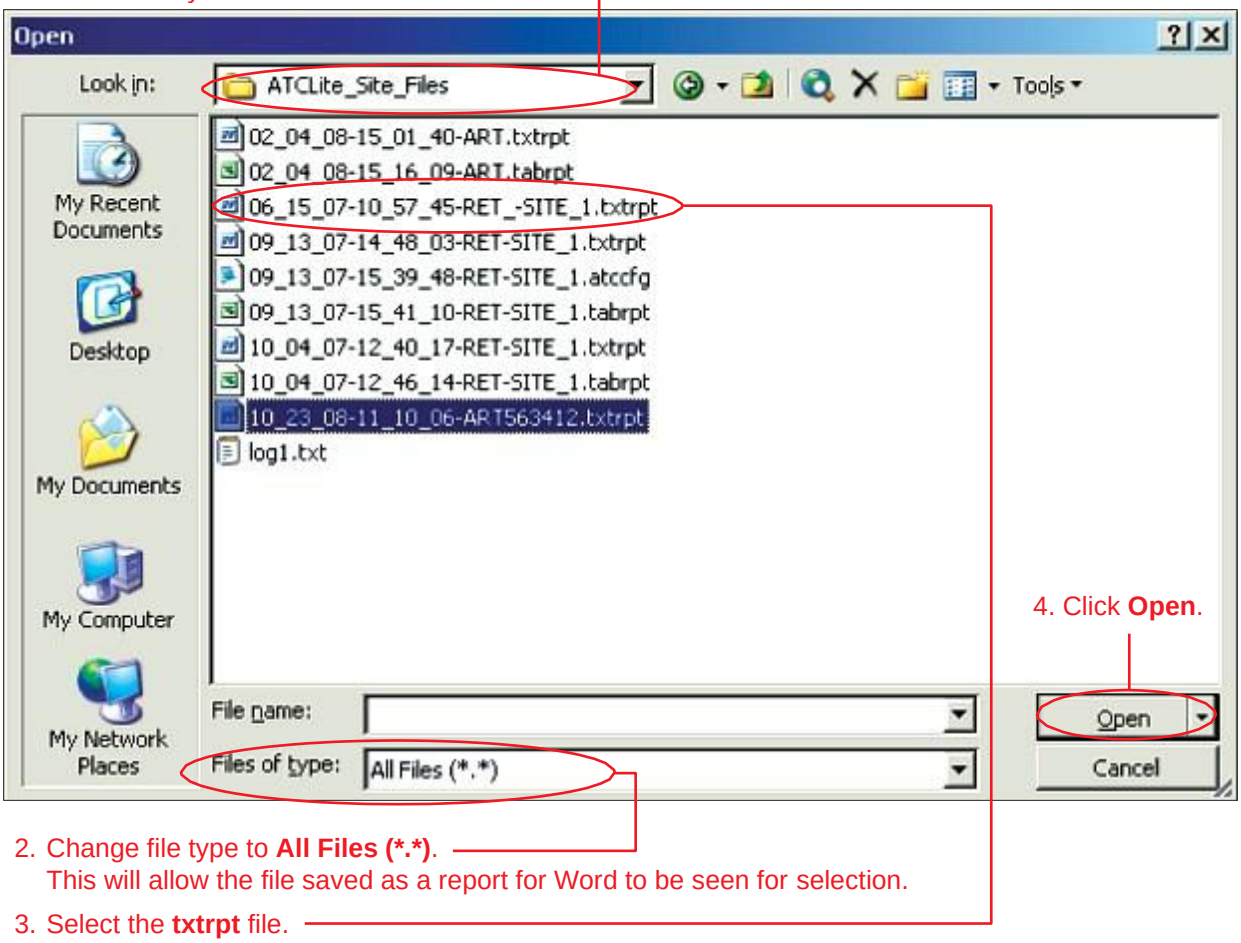


Figure 9-3. Opening the Report in Word.

9.2 Saving/Viewing a Site Report Formatted to Open in Excel.

1. To save a report that can be opened in Excel (or any other spreadsheet software program), go to **File→Save Tabbed Site Report** on the main menu (Figure 9-1).
2. Assign a filename for the report. The default filename consists of the date, time, and the site ID of the first actuator (Figure 9-4).
3. Select **Tabbed Site Report File (*.tabrpt)** from the **Save as type** drop down selection, if not already selected.
4. Click **Save**.

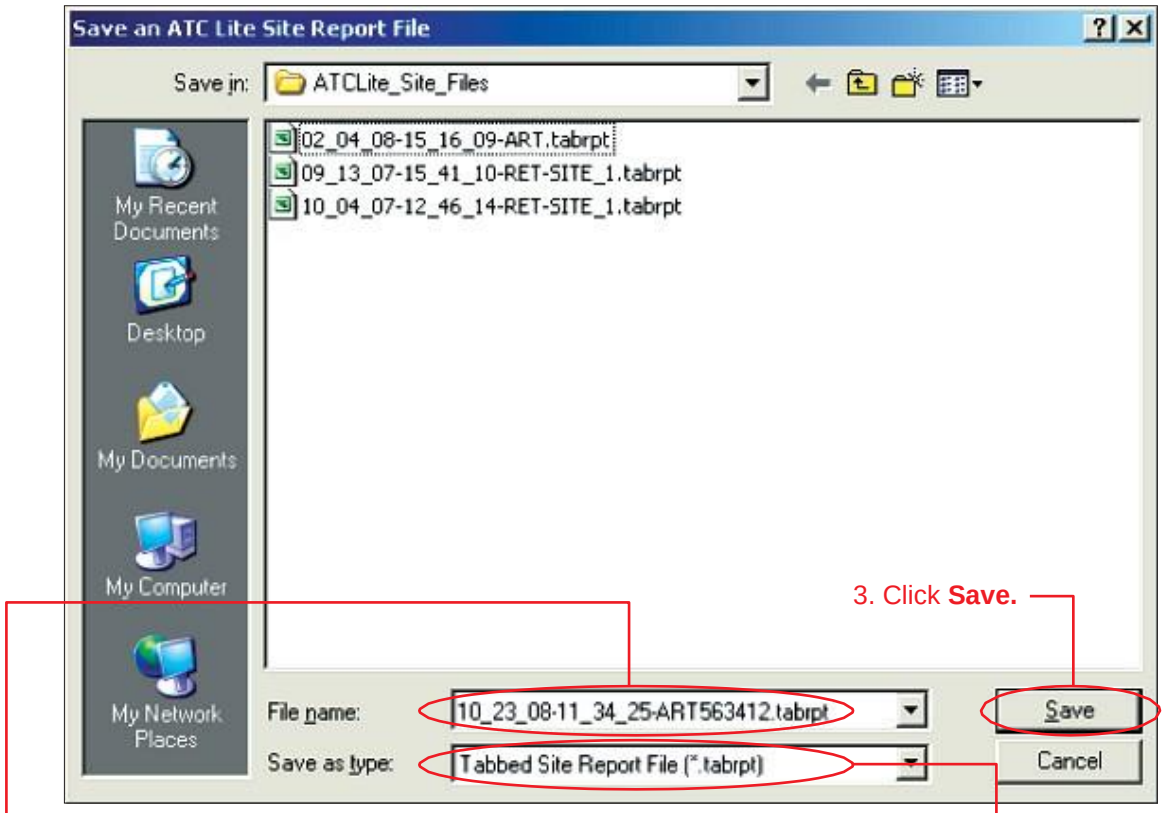


Figure 9-4. Selecting the File Format for Excel.

Note: All site reports are saved to **C:\ATCLite_Site_Files**.
This directory is created if it does not pre-exist on the computer.

5. To view the saved file, launch Excel (or a similar software application) and go to **File→Open** on the main menu. Change the directory to look in **C:\ATCLite_Site_Files**, change the file type to **All Files**, and select the desired tabrpt file from the list of files shown.
   Click **Open** (Figure 9-5).

   The configuration settings for each actuator are displayed in the order of their address.

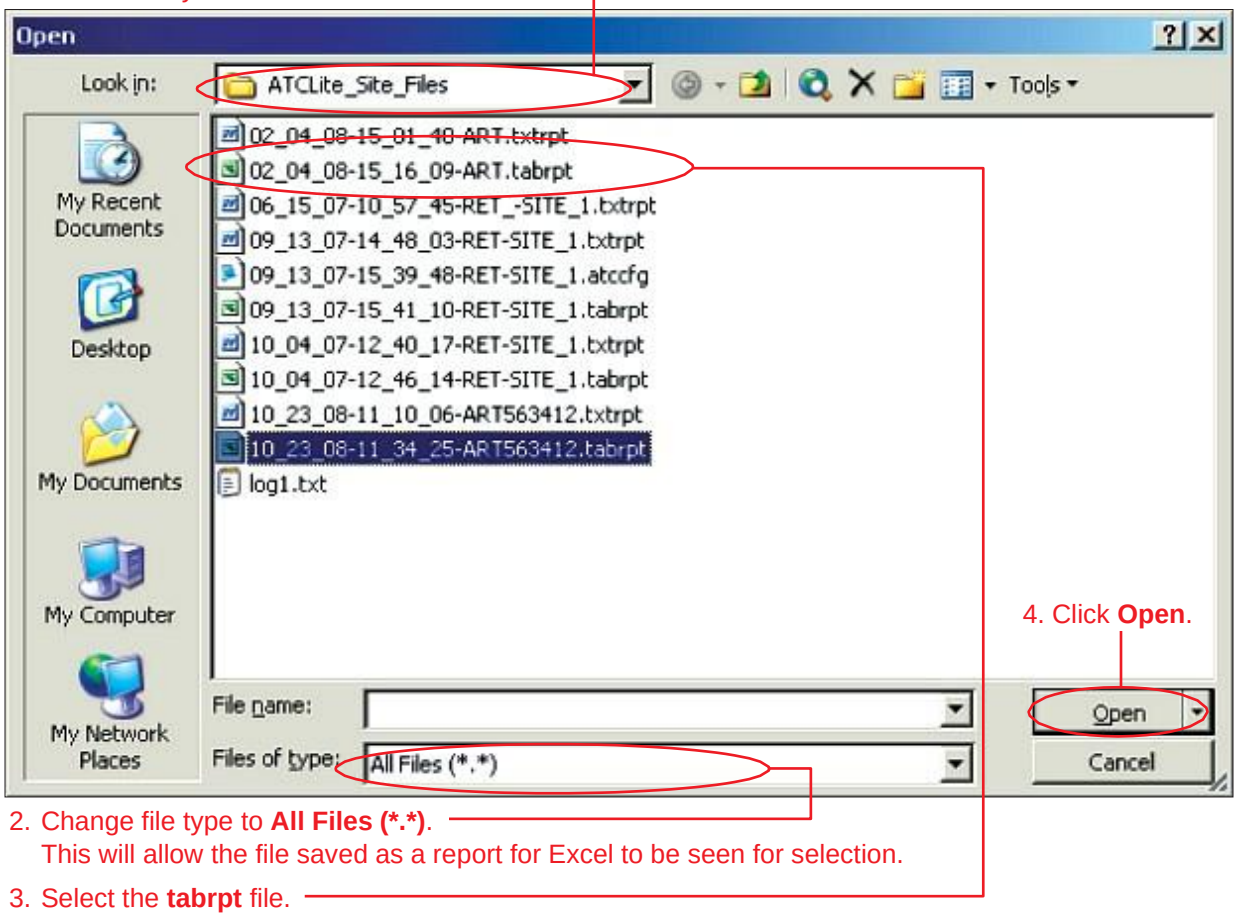


Figure 9-5. Opening the Report in Excel.

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Section 10

Device Test, Alarm Status, and Device Information

The ATC Lite program allows users to obtain device information (includes hardware and software version), get alarm status or clear alarms for any known device, or run a movement self-test on any addressed device. These options are displayed as four buttons located in the **Device Status and Test** section of the main screen (Figure 10-1).

> Note: Get Alarms, Clear Alarms, and Self Test options are not available for any SmartBeam antenna in AISG 1.1, AICM, AISM or SACM mode.

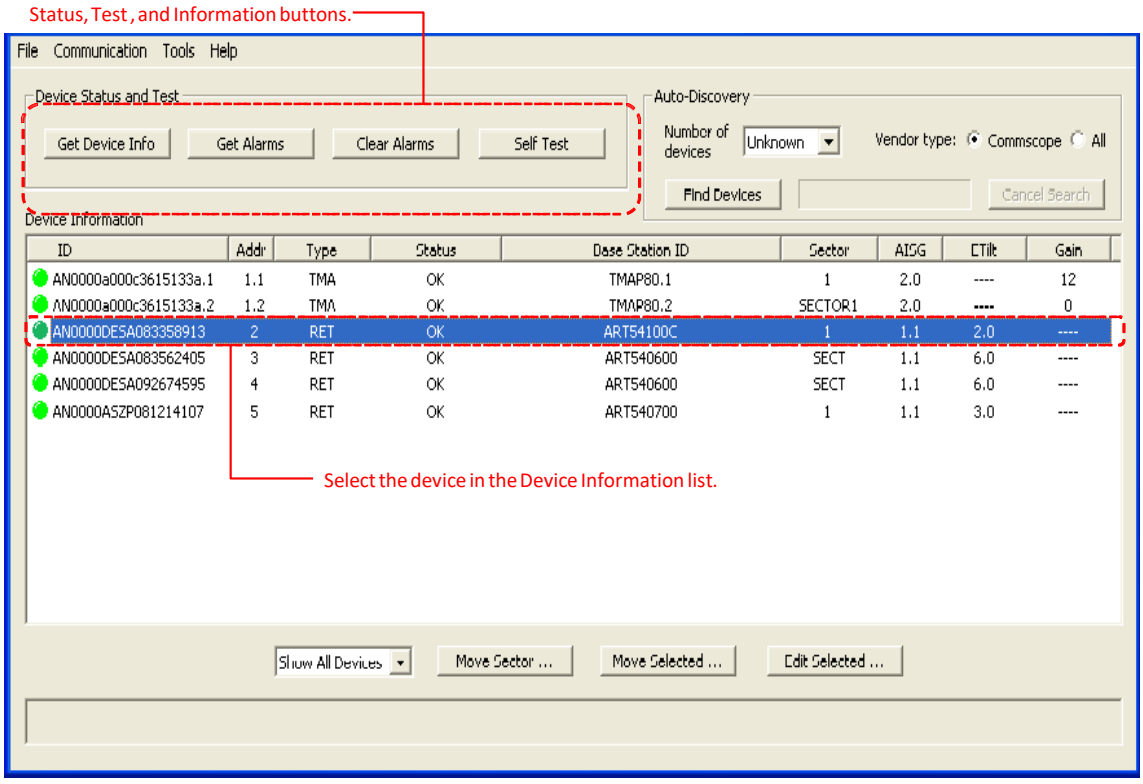

Figure 10-1. Device Status and Test Options.

10.1 Obtaining Device Information

This option retrieves and displays the serial number for the device, the version for the controller hardware, and the version for the software program that controls the operations performed by the controller (Figure 10-2).

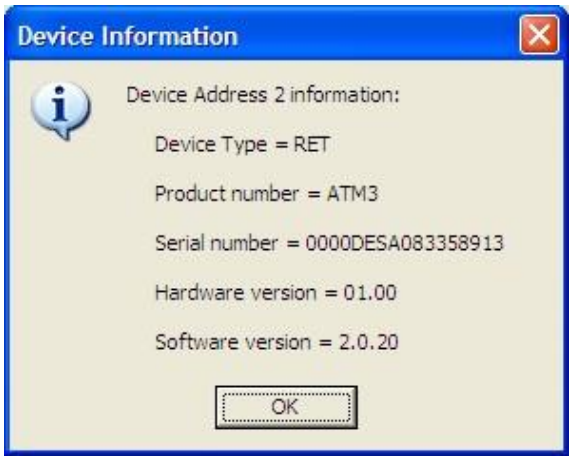

Figure 10-2. Device Information Displayed.

10.2 Retrieving Current Alarm Status

AISG compliant devices report alarms to the program in two ways, one of which is spontaneous and the other of which must be requested by the user. An AISG compliant device, such as an ATM200, spontaneously reports alarms in the **Get Alarms** pop-up notification (Figure 10-3) as they occur. Since they are reported spontaneously by the individual RET devices, no action is required by the user to retrieve these alarms. If desired, you may check to see if any previously reported alarms are still active.

1. To query a device for its alarm status, first click on the device in the **Device Information** list (Figure 10-1).
2. Now that the device has been selected, click **Get Alarms** to retrieve the current alarm status for that device (Figure 10-1).

   Figure 10-3 shows an example where the device reported that no alarms are present.

Figure 10-3. Alarm Status Query Results.

3. Click **OK** to dismiss the **Get Alarms** pop-up notification (Figure 10-3).

10.3 Clearing All Alarms on a Device

After examining the alarms status results, any alarms found may be cleared using the **Clear Alarms** button (Figure 10-1).

1. Click on the device in the **Device Information** list that has an alarm to be cleared.
2. Click on the **Clear Alarms** button to clear any current alarms that have been declared by the device.
3. After all alarms have been cleared for the device, a pop-up notification will display to notify the user that all alarms are clear (Figure 10-4).
4. Click **OK** to dismiss the **Clear Alarms** pop-up notification (Figure 10-4).

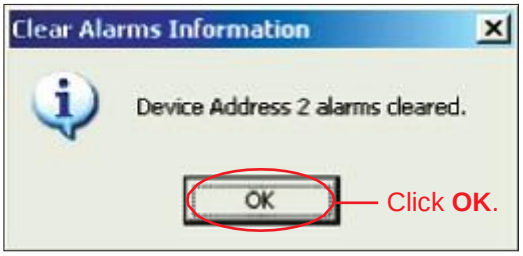

Figure 10-4. Alarms Cleared.

10.4 Executing a Self Test Movement for a Device

Commscope's ATM200 actuators support the AISG self test command. This feature allows the user to periodically perform a test by temporarily making a small tilt angle movement on the device. This test enables the user to verify that the actuator's motor is operational and capable of adjusting electrical tilt on the antenna. The movement executed as part of the self test is designed to be so small as to not disrupt the current data/voice traffic. The movement is +/- 0.2 degrees to either side of the current downtilt angle, with a return to the original downtilt angle at the end of the movement.

Note that if the current downtilt angle on the antenna is sufficiently close to the minimum or maximum possible angle, the actuator may modify the test movement range of motion or ignore the test movement command altogether.

1. To perform a self test on a device, click on the device in the **Device Information** list (Figure 10-1).
2. Click **Self Test** to initiate movement (Figure 10-1).
3. At the completion of the self test, a pop-up notification will appear showing the results of the test (Figure 10-5).
4. Click **OK** to dismiss the self test results pop-up notification (Figure 10-5).

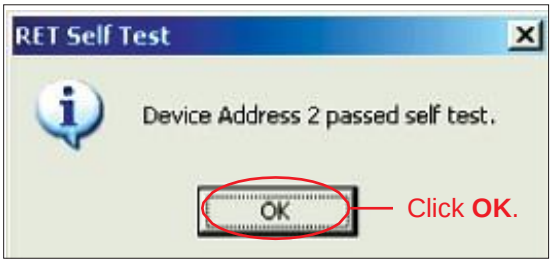

Figure 10-5. Self Test Results.

Section 11
Alarm Status for TMA

TMA devices report alarms to the ATCLite program in two ways, one of which is spontaneous and the other of which must be requested by the user. The Alarms reported from TMA devices are as follows.

- Major TMA Fault
- Minor TMA Fault
- Bypass Mode

If a TMA is in bypass operating mode, it will not report any alarms either spontaneous or requested by user.

11.1 Alarm Reported by TMA

TMA device, spontaneously reports alarms in the pop-up notification dialog box (Figure 11-1) as they occur. Since they are reported spontaneously by the TMA, no action is required by the user to retrieve these alarms. If desired, you may check to see if any previously reported alarms are still active through Get Alarms.

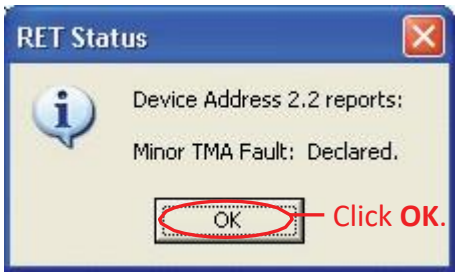

Figure 11-1. Alarm being set is Reported

When any of these alarms are cleared by the TMA, it sends the cleared status for the alarm. This is reported through pop-up dialog box (Figure 11-2).

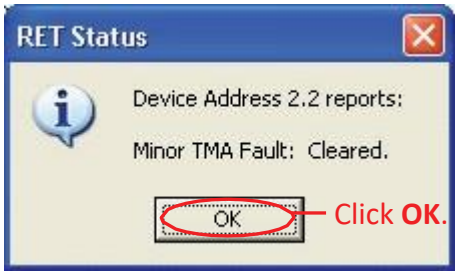

Figure 11-2. Alarm being cleared is Reported

Once the Alarm is received by the program the status of the relevant TMA in the **Device information** list (All Devices or TMA devices view) displays the alarm message in the **Status** column (Figure 11-3).

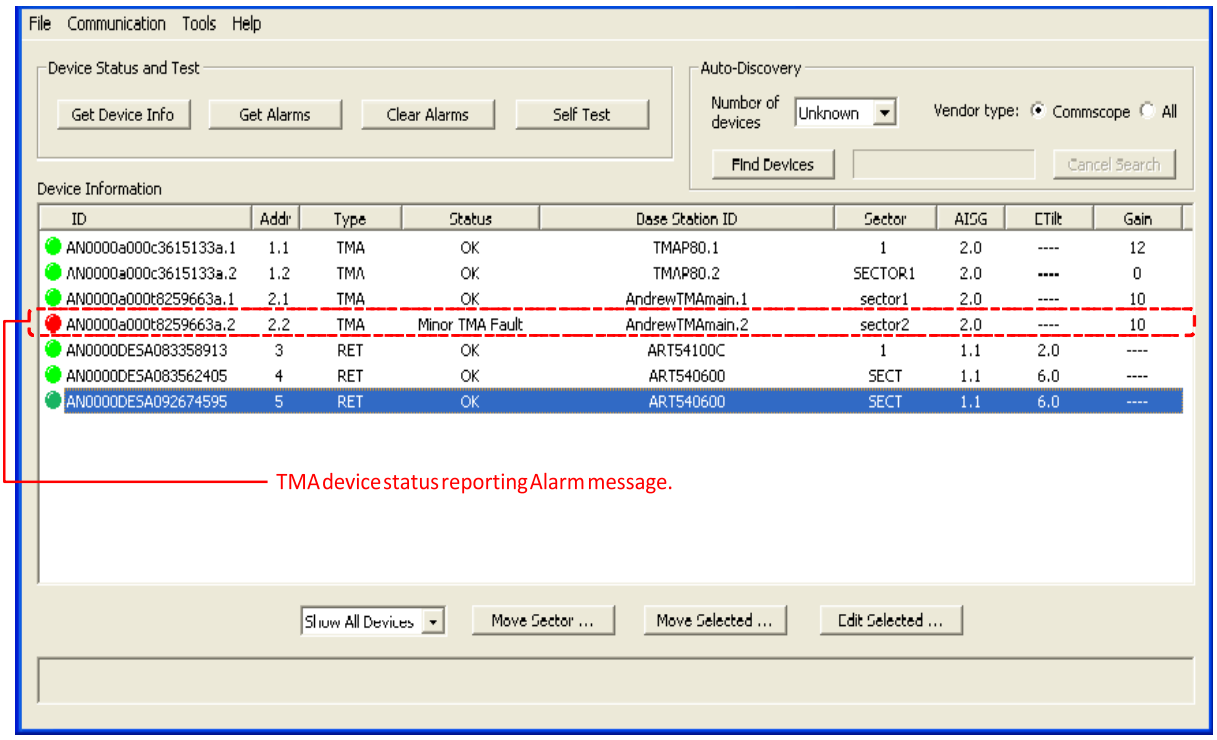

Figure 11-3. TMA Status reporting Alarm

11.2 Retrieving Current Alarm from TMA

Alarms from TMA can be retrieved through user on request.

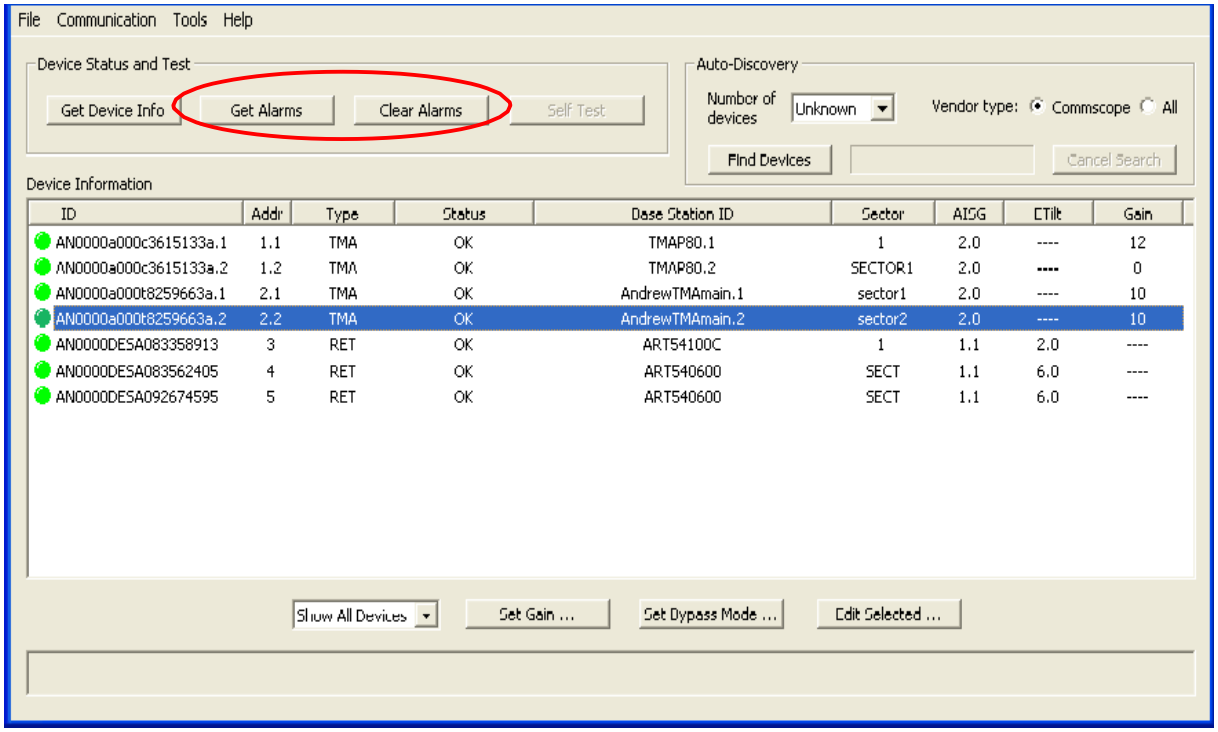

Figure 11-4. Select TMA to request for Alarm Status.

1. To query the TMA for its alarm status, first click on the TMA in the **Device Information** list (Figure 11-4).
2. Now the TMA has been selected, Click **Get Alarms** to retrieve the current alarm status (Figure.11-4)
   Figure 11-5 shows an example where the TMA reported that an alarm is present.
   Figure 11-6 shows an example where the TMA reported that no alarms are present.
3. Click OK to dismiss the Get Alarms pop pup notification (Figure 11-5 or 11-6).

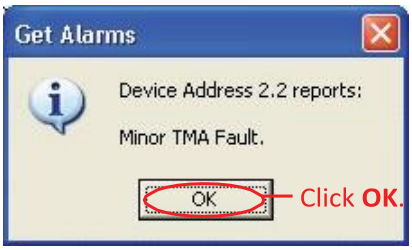

Figure 11-5. An Alarm reported during Get Alarms.

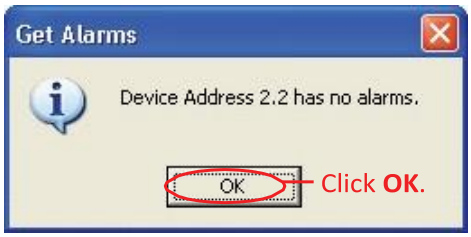

Figure 11-6. No Alarms reported during Get Alarms.

11.3 Clearing All Alarms on TMA

After examining the alarms status results, any alarms found may be cleared using the **Clear Alarms** button (Figure 11-4).

1. Click on the TMA in the **Device Information** list that has an alarm to be cleared. (Figure 11-4)
2. Click on the **Clear Alarms** button to clear any current alarms that have been declared by the TMA.
3. After all alarms have been cleared for the TMA, a pop-up notification will display to notify the user that all alarms are clear (Figure 11-7).
4. Click **OK** to dismiss the **Clear Alarms** pop-up notification (Figure 11-7).

Figure 11-7. Alarms Cleared..

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Part 6

Operating Instructions for

Tower Mounted Amplifiers (TMA)

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Section 12
Device Configuration with TMA

After TMA devices are found and addressed in the ATC Lite program, each TMA device may optionally be configured.

1. Switch to TMA Devices view by selecting ‘Show TMAs’ from the drop down list below the **Device Information** list.
2. To begin device configuration, click on the TMA to be configured (Figure 12-1).
3. Click on **Edit Selected** to open the **Configuring TMA** screen (Figures 12-1 and 12-2).

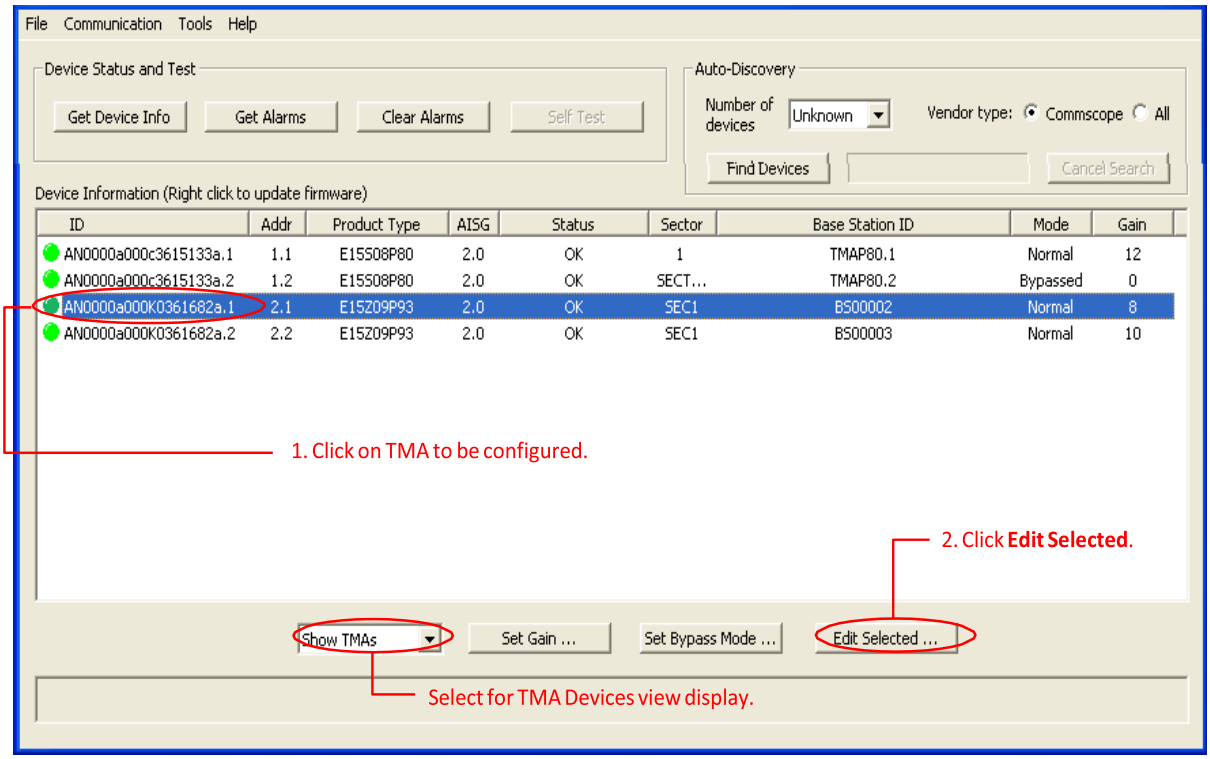

Figure 12-1 Selecting TMA to be Configured.

Note the following in Figure 12-2:

- The ID of the TMA to be configured is displayed in the title bar of the dialog box.
- Devices that have never been configured before will display blank fields for most param- eters.
- The **Installation Date** field is handled differently from all other configuration items.
- Although this field is not required, if no installation date has been saved on the TMA, the program will suggest the current date as the default.
- AISG 2.0 Protocol Mode allows a 32 character Station ID.

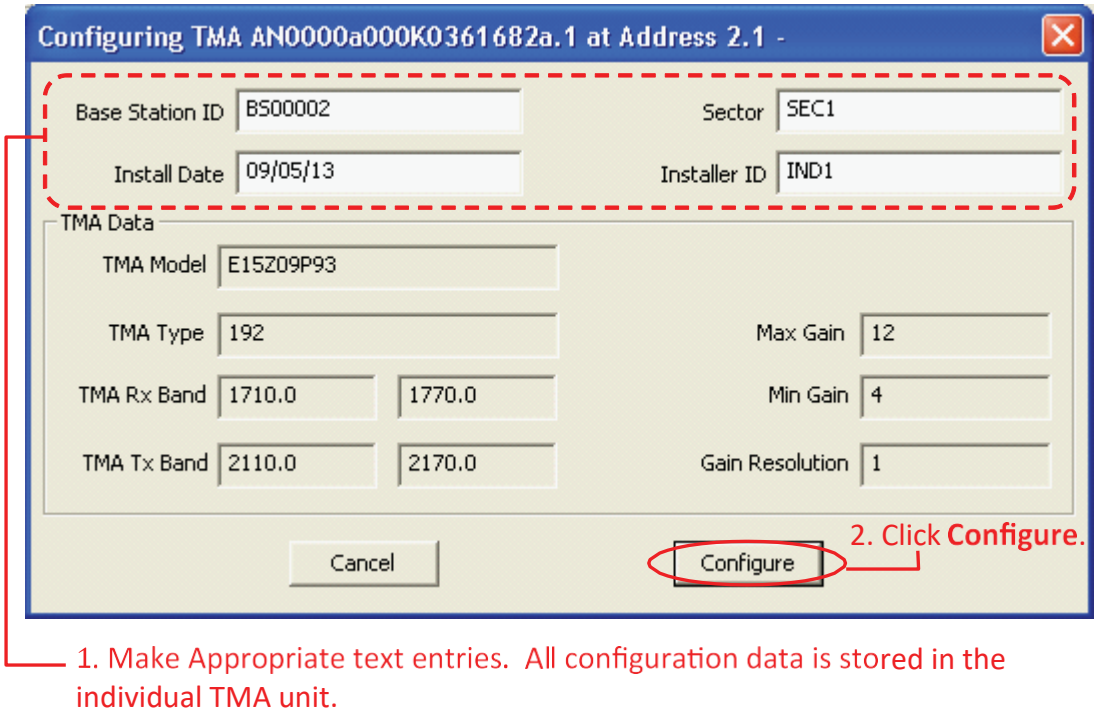

Figure 12-2 TMA Device configuration Screen.

4. Using the entry fields, specify the parameters for the fields that are enabled(Base Station ID, Installer ID, Install Date and Sector). Note the following:

- If in AISG 1.1 mode, the ID for the base station associated with this TMA must be 1 to 12 characters in length, and it may contain any combination of numbers and letters. When the actuator is in AISG 2.0 protocol mode, the longer station ID consists of 32 characters.
- The Installation Date field is handled differently from all other configuration items. Although this field is not required, if no installation date has been saved on the TMA the program will suggest the current date as the default. If the current date is used, it will be saved on the TMA when the **Configure** button is activated. Alternately, the suggested date may be erased and a new date entered, or the field may be left blank. When a date is entered, it must be formatted as MM/DD/YY as shown in Figure 12-2 (A **forward slash** character placed between the month and day and a **forward slash** character placed between the day and year) i.e., July 7, 2008 would be typed as 07/07/08.
- The installer's ID must be 1 to 5 characters in length with any combination of letters and numbers.

- Values specified for the sector are used for reference only and have no direct affect upon the TMA that is being configured. Sector field value is entered as a text.

5. TMA data fields (TMA Model, TMA Type, TMA Rx Band, TMA Tx Band, Max Gain, Min Gain and Gain Resolution) that are shown with values are displayed for information only, no change of data is allowed for these fields:
6. After verifying the accuracy of all fields, click **Configure**. Alternately, the user may go back and edit/change any of the selections made or click the **Cancel** button to quit this process without making any changes to the TMA's current configuration.
7. After the **Configure** button has been activated, the user will be prompted to confirm changes to the TMA unit are to be applied. Click **Yes** to proceed with the changes, or click **No** to return to the configuration screen (Figure 12-3).
   When proceeding to make changes, the selected settings will be sent to the TMA unit and stored there. The main screen will change the status of this device to **Configuring** to indicate that new settings are being sent to the TMA.
8. During the sending of configuration changes to the TMA unit, The configuration dialog closes and the **Device Information** list display status as **Configuring** for the relevant TMA unit (Figure 12-4).
9. When the configuration process is complete, a pop-up dialog box will display the results. Normally, the dialog box will show that the changes were successfully sent to the device (Figure 12-4). However, if the configuration process was unable to communicate with the TMA unit for any reason, a failure message will appear.

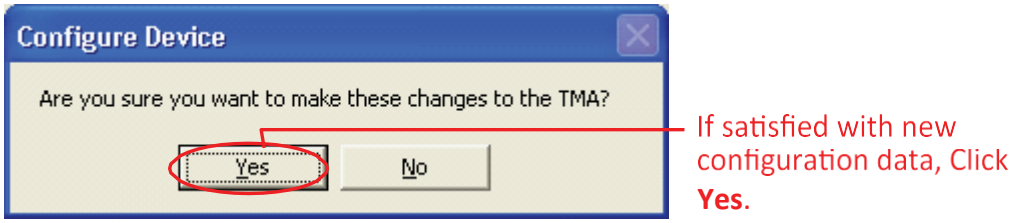

Figure 12-3. Choosing to Continue with Configuration Changes to the TMA.

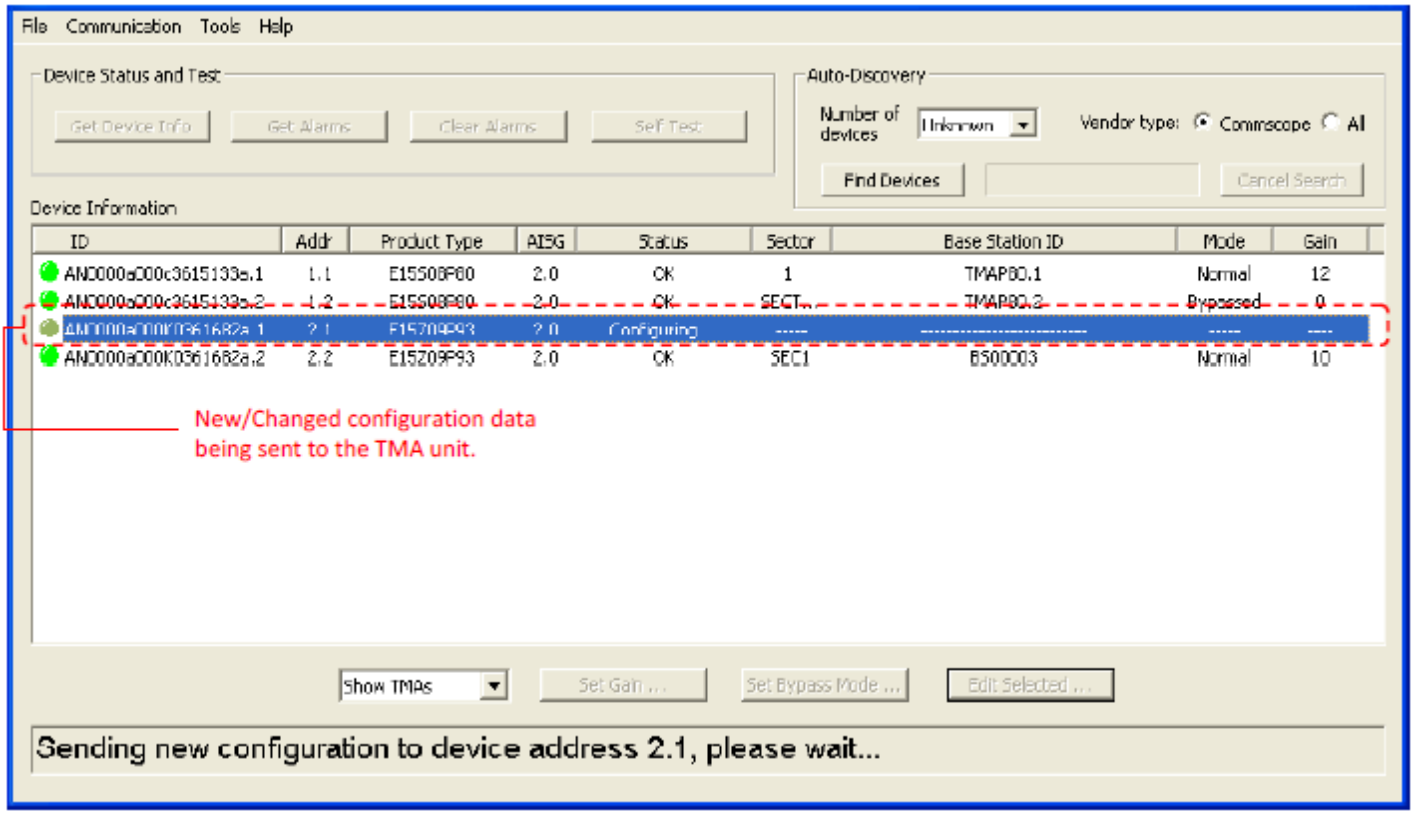

Figure 12-4. Configuration Changes sent to the TMA.

Figure 12-5. Confirmation of Configuration Changes to the TMA

Section 13
Changing the Gain on a Variable-Gain TMA

Some TMAs support variable gain, while others are fixed gain. A variable gain TMA is easily recognized as its Minimum Gain value is less than its Maximum Gain value. On a fixed gain TMA, the Minimum and Maximum Gain values are equal. The ATC-Lite allows changing the gain value on variable gain TMAs.

1. Switch to TMA Devices view by selecting 'Show TMAs' from the drop down list below the **Device information** list.
2. Select the TMA that requires a Gain change (Figure 13-1).
3. Click on **Set Gain** at the bottom of the screen (Figures 13-1).

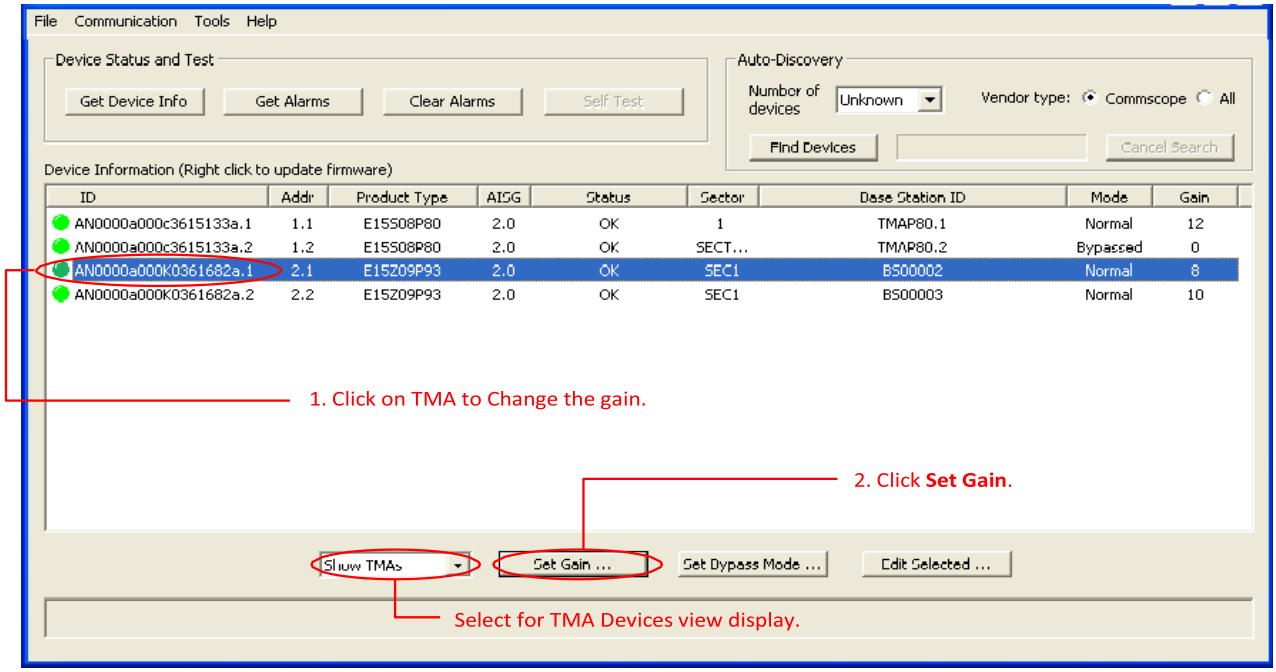

Figure 13-1. Selecting TMA to change the Gain.

4. The **TMA Device …Operation** screen will appear (Figure 13-2).
   Note. TMA data (TMA Rx Band, TMA Tx Band, Min Gain, Max Gain, Gain Resolution and Current Gain) from the device are displayed on this screen: This information may be used as a reference to help to set the new Gain.
   This screen will display the configurable parameter **New Gain** and **Set Gain** as disabled for a Fixed Gain TMA and enabled for Variable Gain TMA.
5. If the selected TMA is a Fixed Gain, the **TMA Device** dialog displays all the values only for viewing (Figure 13-2). Click to close the dialog box to return back the Device Information list.
   Note the following in Figure 13-2:

- The ID of the device to be configured is displayed in the title bar of the dialog box.
- TMA Rx and Tx Band values displayed are High and Low frequency values.
- Minimum, Maximum and Current Gain values are same. If the TMA unit is in bypassed mode, the current Gain would display zero value.
- **New Gain** field and the button **Set Gain** are disabled, signifying that the Set Gain is not al lowed.

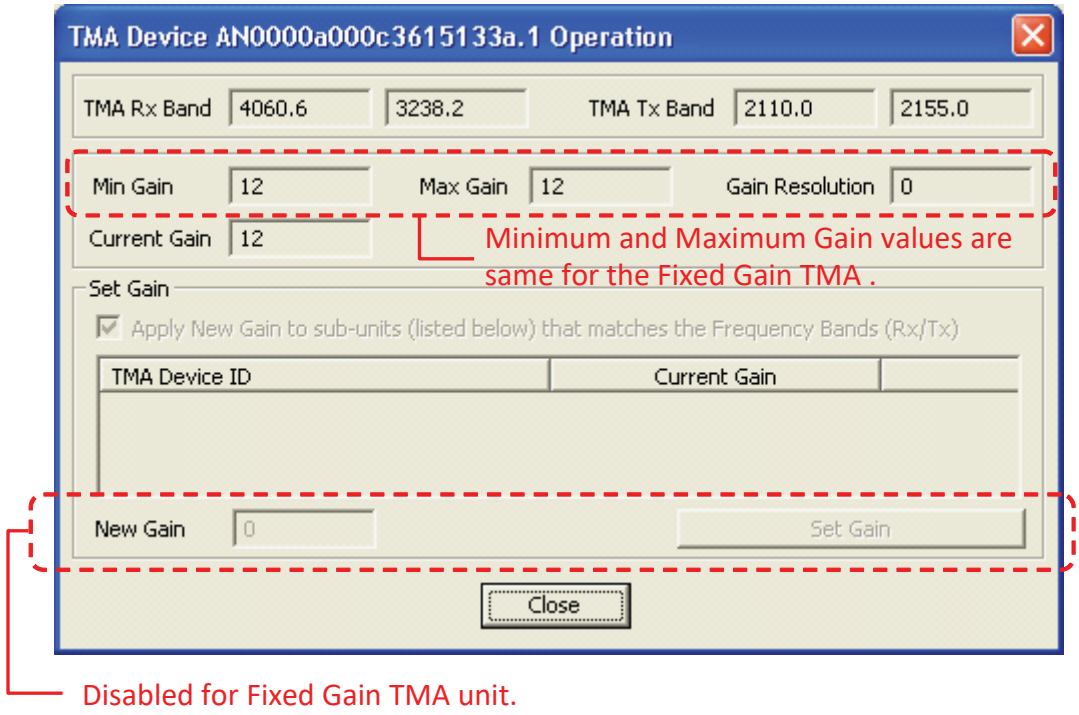

Figure 13-2. Set Gain for Fixed Gain TMA

6. Click on **Close** to close the dialog box to return back the Device Information list.

7. Open up the **TMA Device …Operation** dialog box through step 3 for TMA which is a Vari able Gain. The dialog displays relevant TMA data and enables the fields to allow the change of Gain (Figure 13-3).
Note the following in Figure 13-3:

- The ID of the device to be configured is displayed in the title bar of the dialog box.
- TMA Rx and Tx Band values displayed are High and Low frequency values.
- Minimum, Maximum Gain values are different. If the TMA unit is in bypassed mode the current Gain would display zero value.
- There is a list that displays the device name and current gain for the subunits of TMA that is in the same address and matches the Rx and Tx band values (High and Low).
- The check box 'Apply New Gain to sub-units (listed below) that matches the Frequency Bands(Rx/Tx)' is selected based on the status of menu **Tools→Tower Mounted Amplifier (TMA)→Apply new Gain to all related Sub units** from the main screen. If this option is selected, **Set Gain** will send the new Gain value to all the sub units of TMA listed. If this option not selected, **Set Gain** will send the new Gain value to the current TMA only.

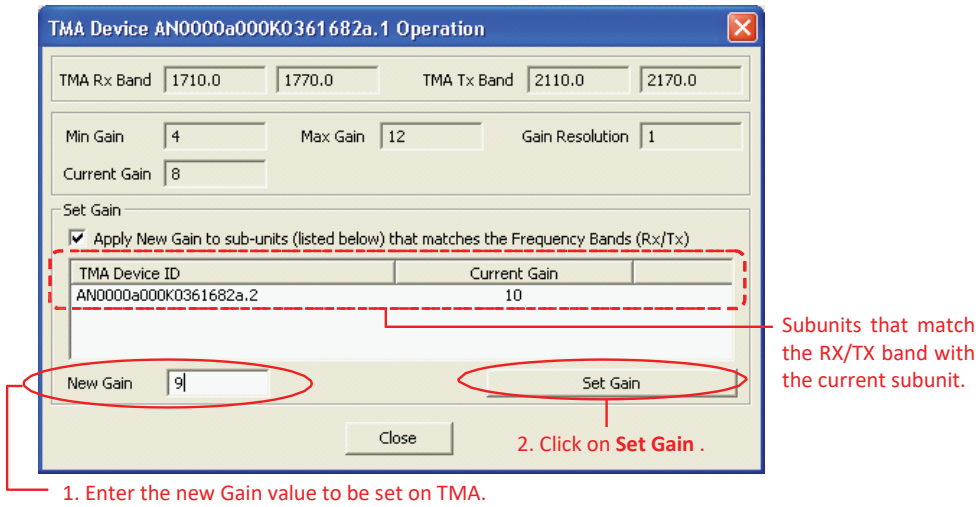

Figure 13-3. Set Gain for Variable Gain TMA

8. Enter the new Gain value in the **New Gain** text entry field. The new Gain value should be between the minimum and maximum Gain values for the TMA. Also the new Gain value should be in steps of Gain Resolution available. The new Gain value is validated for the before mentioned rules and if not compliant an error is displayed in a message box.
9. Click the **Set Gain** button to send the new Gain value to the TMA and to any sub units based on the check box (Apply New Gain…) selection. The user will be prompted to confirm that the new Gain is to be applied to the TMA. Click **Yes** to proceed with the sending of new Gain, or click **No** to return to the **TMA Device…Operation** screen (Figure 13-4).

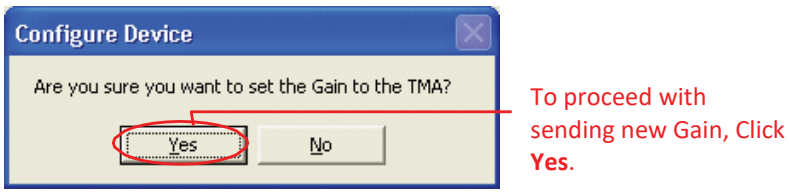

Figure 13-4. Choosing to continue sending new Gain to TMA

10. When the sending of new Gain is complete, a pop-up dialog box will display the results. Normally the dialog box will show that the setting of new Gain was successfully sent to TMA (and sub units) (Figure 13-5). However, if the configuration process was unable to communicate with the TMA for any reason, a failure message will appear.
If this occurs, ensure that all cables and connectors to the TMA are properly connected, and that the system is still properly powered up. Also, verify that the TMA is present in the **Device Information** list, and that it does not have a status reading of **Not Reporting**. A status of **Not Reporting** indicates that connectivity to the TMA has been lost. After verifying that each of these items is correct, repeat the sending of new Gain process.

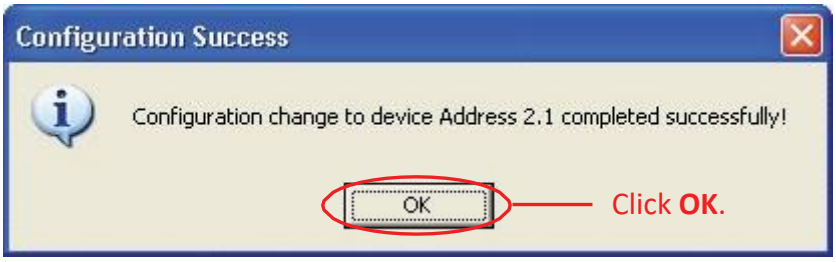

Figure 13-5. Confirmation of sending new Gain to TMA

11. When the new Gain has been sent to the TMA, the Column Gain will update with the new value(s) (Figure 13-6).

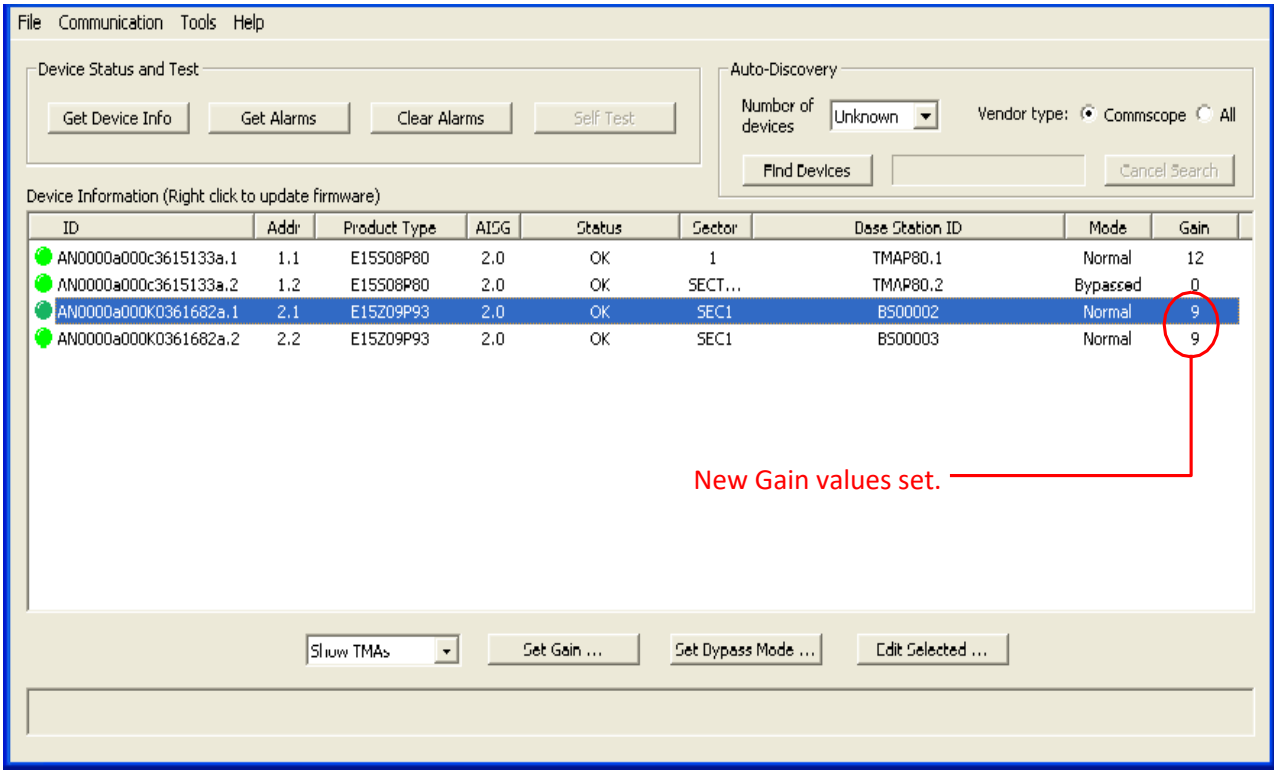

Figure 13-6. new Gain values set on TMA units

Section 14

Changing the Operating Mode on a TMA

Each TMA device can operate either with its amplifier on or with it bypassed. The ATC-Lite allows changing the TMA operating mode. In the Device Information List, when **Show TMAs** isselected, the current operating mode of each TMA is displayed in the Mode column. 'Normal' indicates that the TMA is operating with its amplifier on, while 'Bypassed' indicates that the TMA amplifier is bypassed. (Figure 14-1).

1. Switch to TMA Devices view by selecting 'Show TMAs' from the drop down list below the **Device Information** list
2. From the **Device Information** list, click on the TMA to change the operating mode (Figure 14-1).
3. Click **Set Bypass Mode** at the bottom of the screen (Figure 14-1).

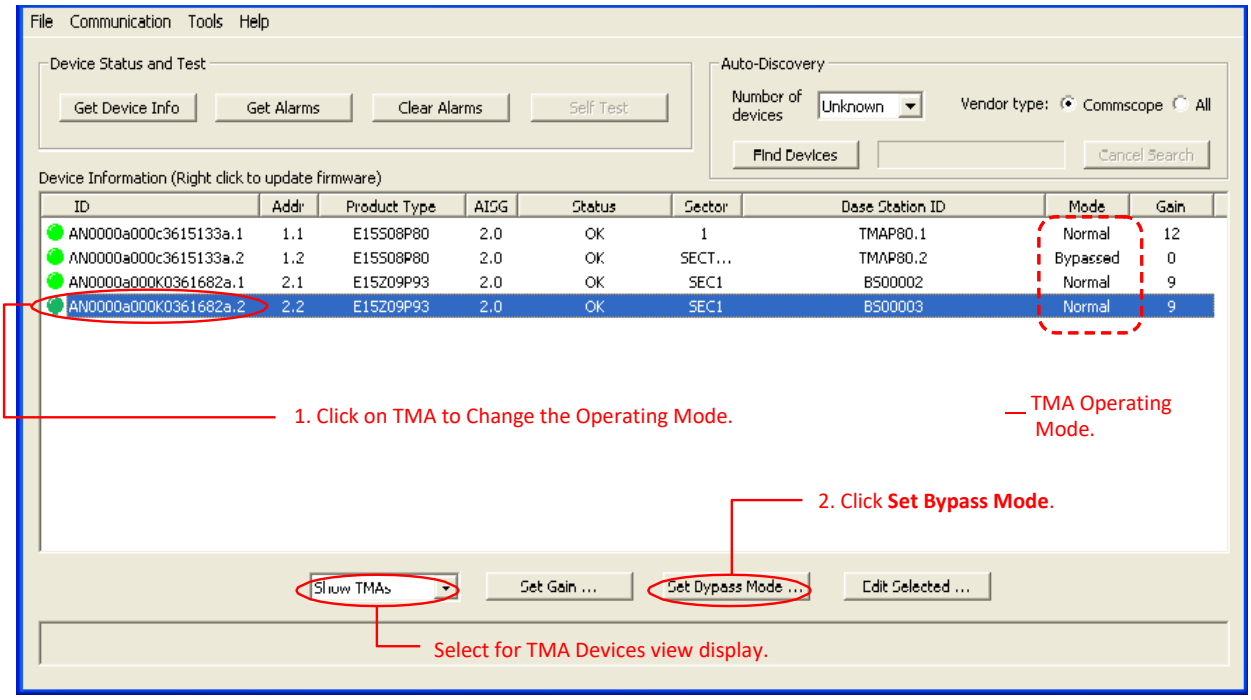

Figure 14-1. Selecting TMA to change Operating Mode

4. The **TMA Device …Operation** screen will appear (Figure 14-2).
   Note. TMA data (TMA Rx Band, TMA Tx Band, Min Gain, Max Gain, Gain Resolution and Current Gain) from the device are displayed on this screen: This information may be used as a reference to help to change the operating mode.
5. Select the appropriate operating mode from the drop down list (Figure 14-2).
6. Click on Set Bypass Mode button to apply the new operating mode to be sent to the TMA (Figure 14-2).

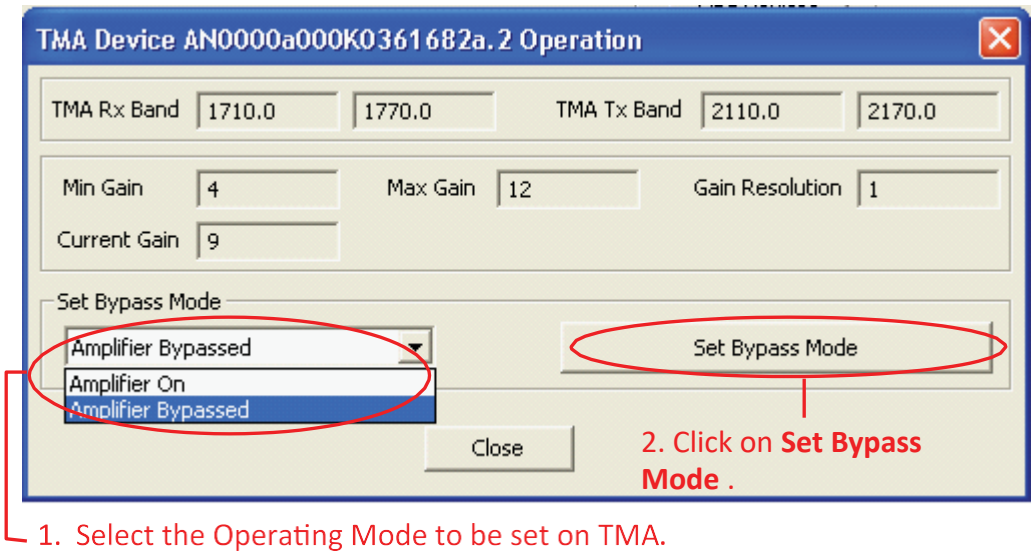

Figure 14-2. Selecting new Operating Mode for TMA

7. When the change of operating mode of TMA is complete, a pop-up dialog box will display the results. Normally the dialog box will show that change of operating mode was successfully sent to TMA (Figure 14-3). However, if the configuration process was unable to communicate with the TMA for any reason, a failure message will appear.
   If this occurs, ensure that all cables and connectors to the TMA are properly connected, and that the system is still properly powered up. Also, verify that the TMA is present in the **Device Information** list, and that it does not have a status reading of **Not Reporting**. A status of **Not Reporting** indicates that connectivity to the TMA has been lost. After verifying that each of these items is correct, repeat the change of operating mode process.

Figure 14-3. Confirmation of changing the operating mode of TMA

8. When the operating mode of the TMA has been successfully completed, the Column **Mode** will display the new mode (Figure 14-4).
Note. If a TMA is changes its operating mode to bypass mode, the current Gain provided by device is zero. If a TMA is changed from bypass to normal (Amplifier On) mode the current Gain shown is the stored value in the device.

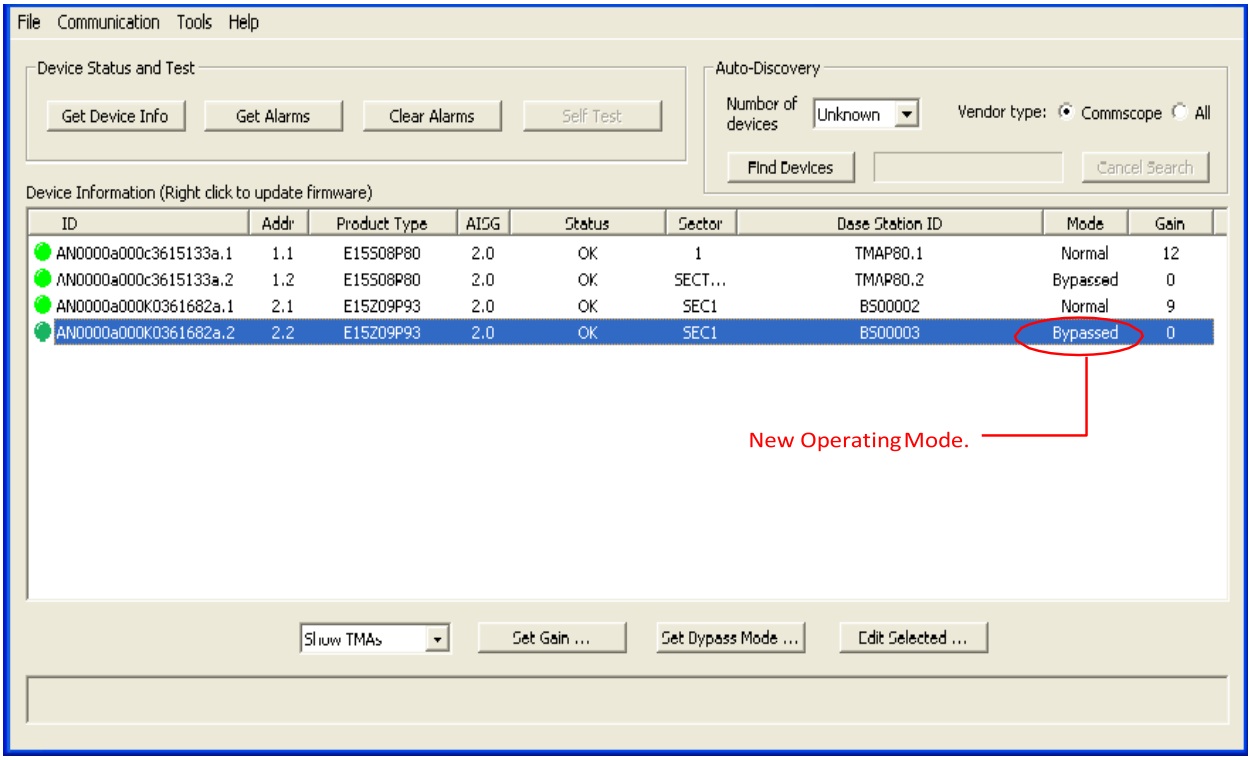

Figure 14-4. Operating Mode changed for TMA

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Part 7

Operating Instructions for Antenna Sharing

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Section 15

Antenna Sharing Configuration

15.1 Overview

The latest Commscope antennas have the ability to antenna share that support independent beam-tilt control from two radio controllers to the same antenna. The two separate AISG input ports on these antennas are internally connected to a RET control module, allowing operators to assign which radio has control for each band. ATC Lite program supports the following listed operations to manage the antenna sharing configuration on the antenna device.

> Note: This feature is available only on Commscope Antennas with COMMRET2 actuators. The antenna will initially be configured from factory with all RETs assigned to the AISG port 1. Use the following steps to reassign the RETs to one or both of the AISG ports, and to select the operating mode of each AISG port (SRET or MRET)

15.2 Changing Antenna Sharing Configuration

1. Use the 'Find Devices' to start the search for devices on ATC Lite program.
2. After the device search is complete, select the device from the display list as shown in Figure 15-1. For an MRET, any subunit can be selected for antenna sharing configuration of the RET system.

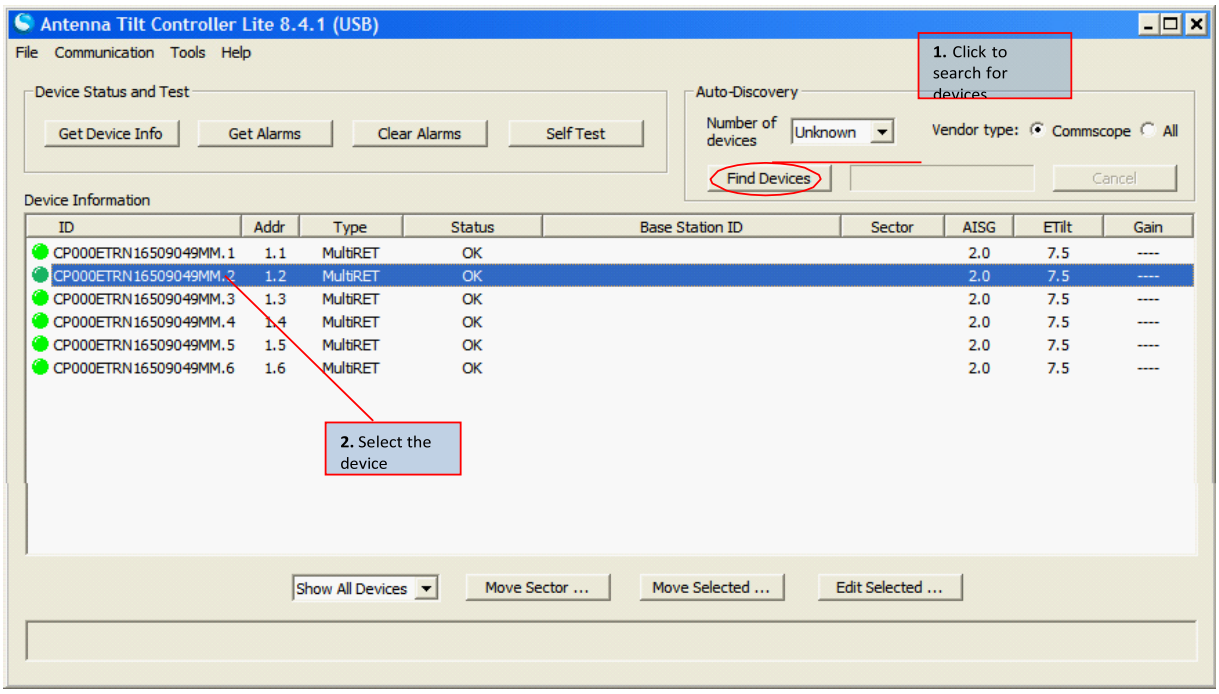

Figure 15-1. Select Device for Changing Antenna Sharing

3. Select the menu “Tools” → “Antenna Sharing Configuration” →“Change Selected Antenna’s Configuration…” as shown in the Figure 15-2.

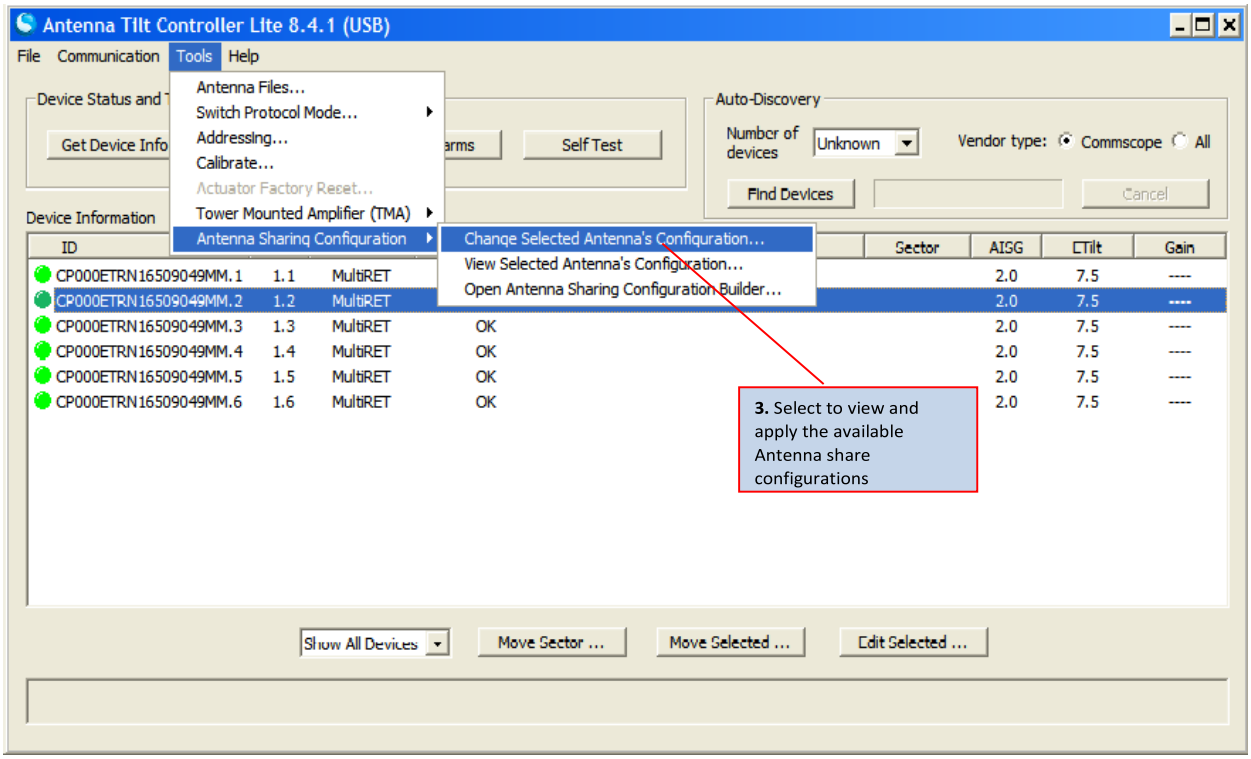

Figure 15-2. Menu Selection for Changing Antenna Sharing

4. The “Antenna Share Configuration” window is displayed. This window contains the list of Antenna Share Configuration file that are available for the given antenna model name. When a relevant configuration is selected, the preview of the frequency bands that are mapped to AISG and AISG 2 are displayed, as shown as in the Figure 15-3.
5. Select the appropriate configuration, verify the Mode and Bands are correct, and click on the “Send Configuration” to send the configuration data to the antenna through AISG.

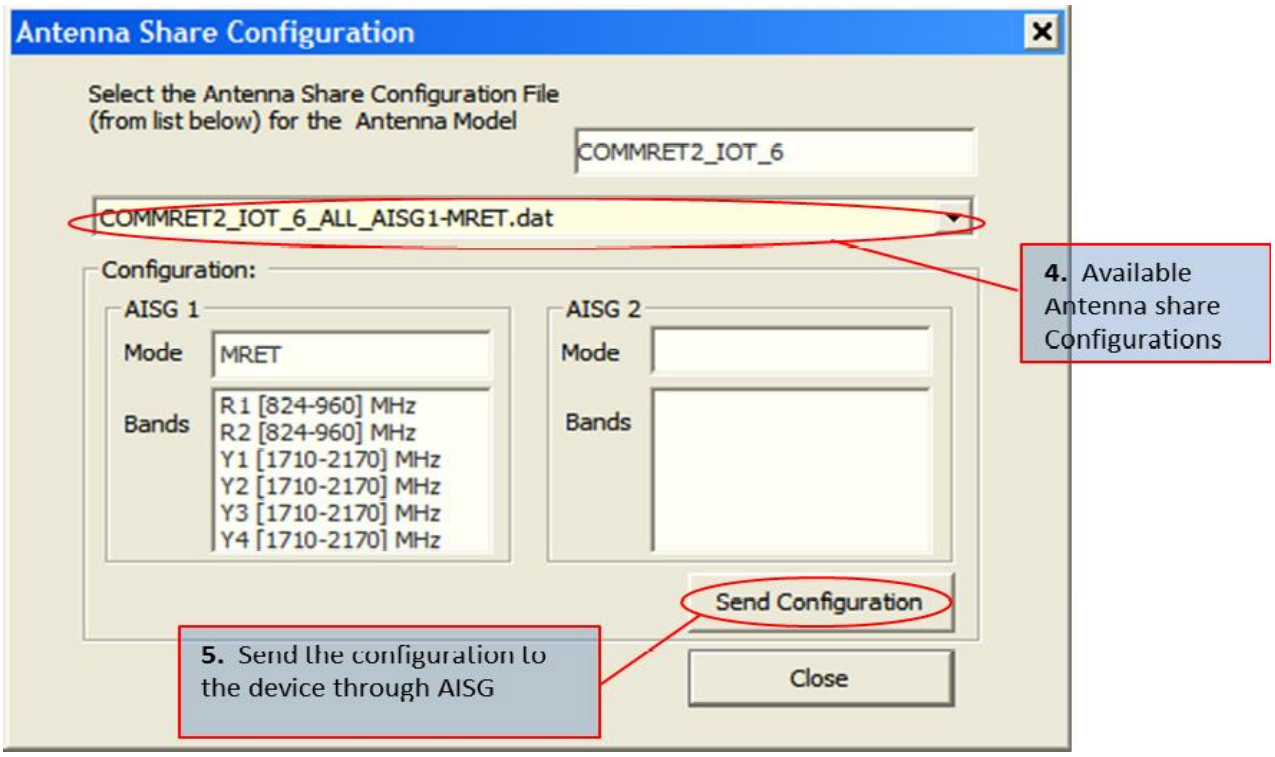

Figure 15-3. Select and Send Antenna Sharing Configuration

6. After the configuration is sent to device, the RET system will reboot in the new configuration. From the main window use the “Find Devices” to search for the RET in its new configuration.
7. To see the RETs that were assigned to AISG 2, a search using ATC Lite program with connection to the AISG port 2 should be performed.

15.3 Viewing Current Antenna Sharing Configuration

1. Select the device from the found devices list. Then select the menu options “Tools” → “Antenna Sharing Configuration” → “View Selected Antenna’s Configuration…” as shown in the Figure 15-4.

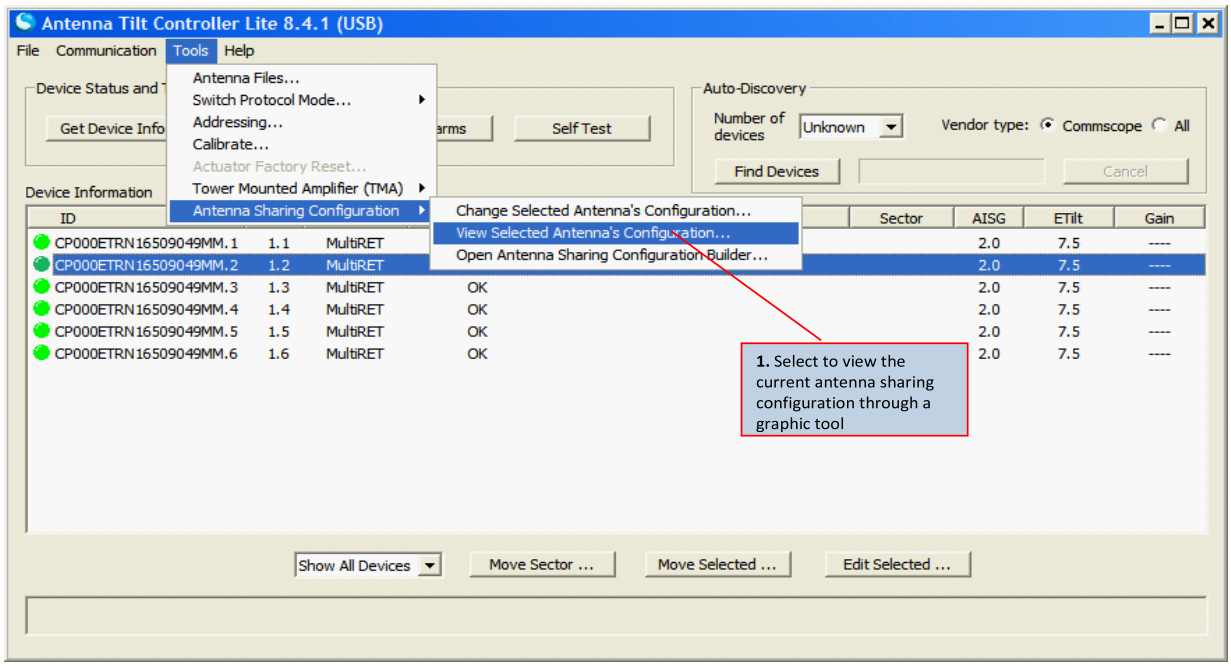

Figure 15-4. Menu Selection for View Current Antenna Sharing Configuration

2. Using the selected antenna’s endcap image, the current antenna sharing configuration is displayed, as shown in the Figure 15-5. Note that ll the RETs are assigned to AISG1 inthis example.

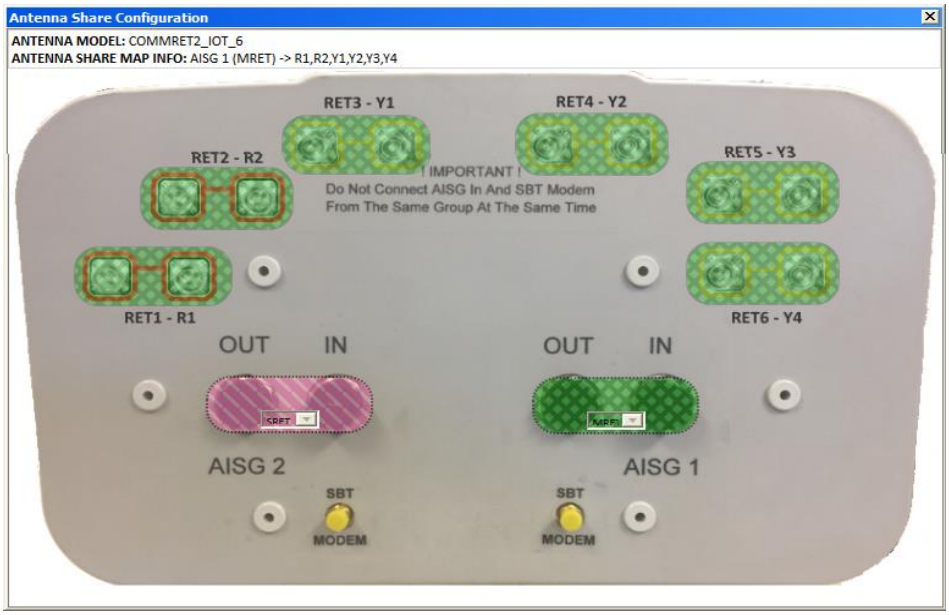

Figure 15-5. View Current Antenna Sharing Configuration

Antenna sharing data files have extension name “dat” and contain an antenna sharing mapping. These files, created with the Antenna Sharing Configuration builder tool, can be applied to an antenna by any PC.

Following steps describe how to import antenna sharing support files created on a different PC.

1. Obtain the antenna sharing support file from the external storage location (USB flash drive or e-mail attachment) and save to the local machine folder using Windows Explorer.
2. From the saved location copy the files to the respective folder path as mentioned in the table below and shown in the figure 15-6.

File Type	Extension name(s)	Folder location in the local machine
Antenna Sharing Data	.dat	C:\Program Files (x86)\Commscope\ ATC Lite\AntennaShareData
Antenna Sharing Support	.ngcr2 .ANNOTD_ .png or .jpg	C:\Program Files (x86)\Commscope\ ATC Lite\AntennaShareConfig

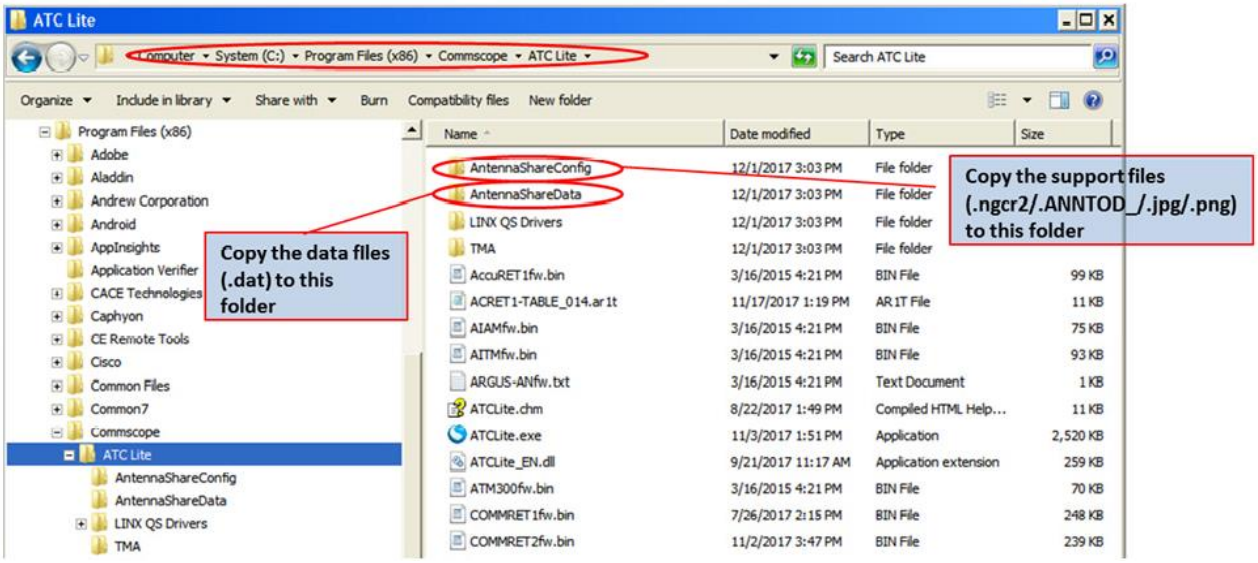

Figure 15-6. Folder locations to copy antenna sharing support and data files

NOTE: data files (.dat) copied can be accessed and used for antenna sharing through the “Change Selected Antenna’s Sharing” feature of ATC Lite software.

15.5 Using Antenna Sharing Configuration Builder Tool

NOTE: Antenna specific support files are required to create antenna sharing configuration using this tool. The support files are available as a part of the ATC Lite or RET Master applications. To add the support files other than the bundled ones, follow the instructions provided in the user guide document for antenna sharing configuration for RET Control systems.

The Antenna Share Configuration Builder Tool can be launched through ATC Lite software in the following two ways as described below:

15.5.1 Launching tool with a connected antenna device (online)

1. From the ATC Lite program, after the antenna devices are found select the device from the display list. Use the menu “Tools” → “Antenna Sharing Configuration” → “Open Antenna Sharing configuration Builder…” as shown in the Figure 15-7. This launches the Antenna Share Configuration Builder tool loaded with the image and showing the selected antenna’s current antenna sharing configuration mapping with the colored shapes as shown in the Figure 15-8.

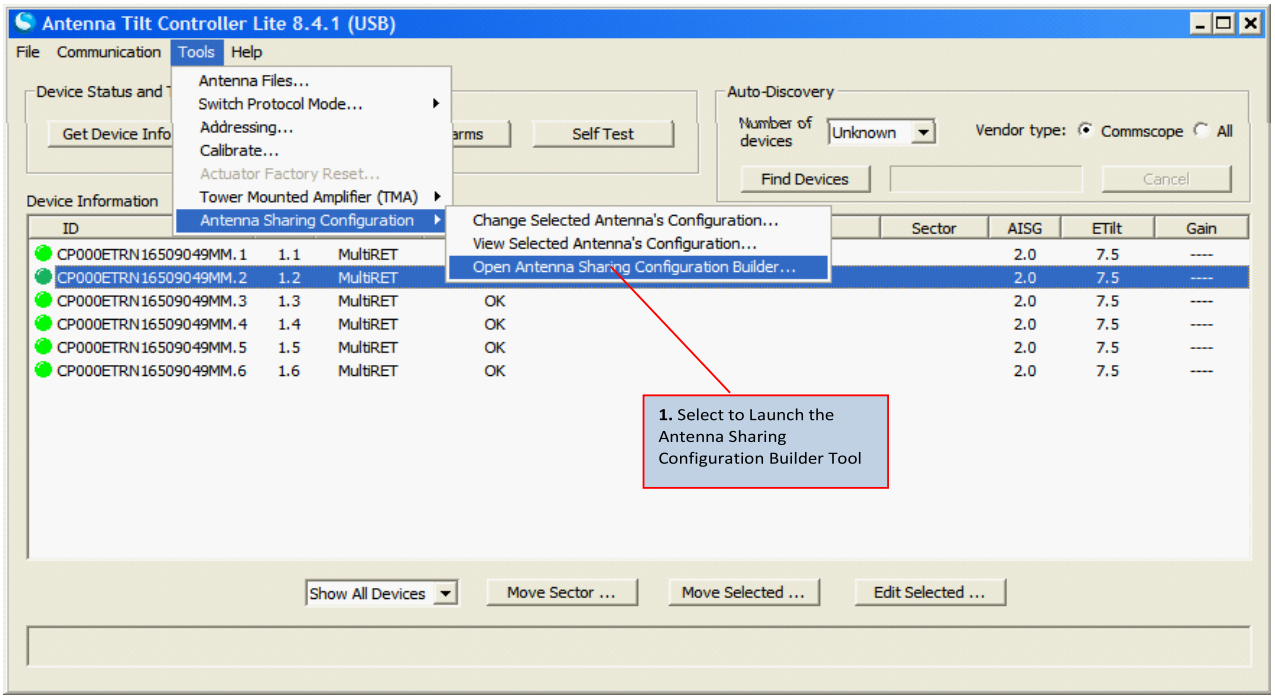

Figure 15-7. Launch Builder Tool based on Selected Device

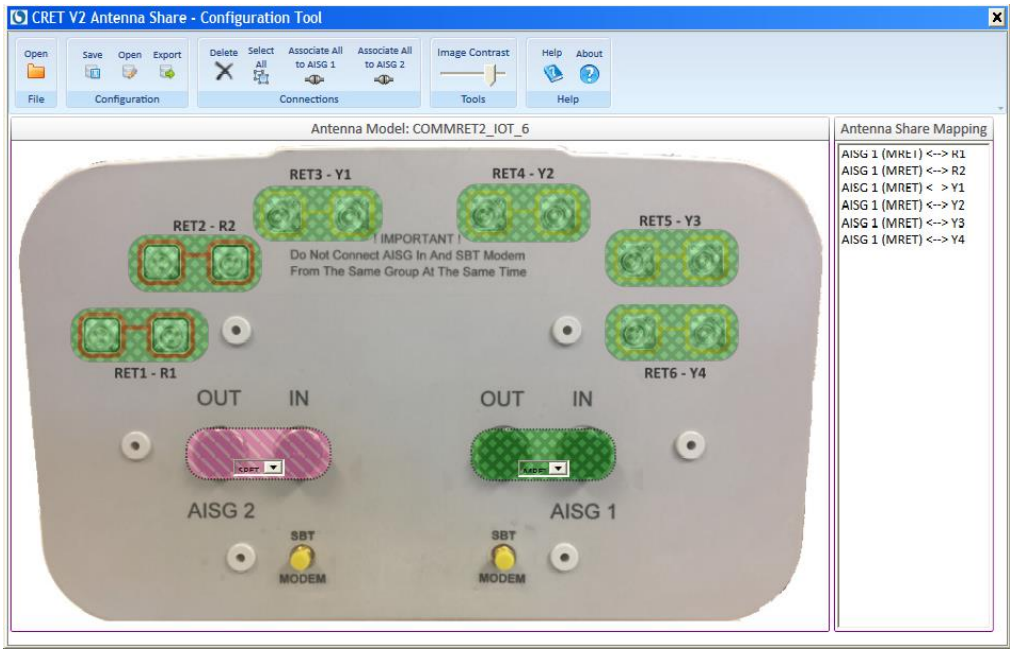

Figure 15-8. Builder Tool with Current Antenna Sharing Loaded

15.5.2 Launching tool without any connected devices (offline)

1. The Builder tool can also be launched through ATC Lite program without being connected to any devices. Launch the ATC Lite program, and then use the menu “Tools” → “Antenna Sharing Configuration” → “Open Antenna Sharing configuration Builder…” as shown in the Figure 15-9. This launches the Antenna Share Configuration Builder tool with startup view as shown in the Figure 15-10.

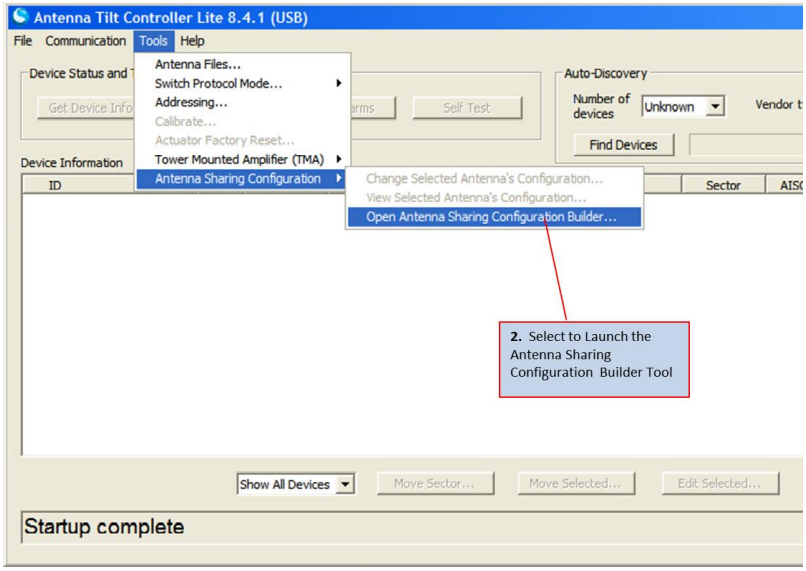

Figure 15-9. Launch Builder Tool with no connected devices

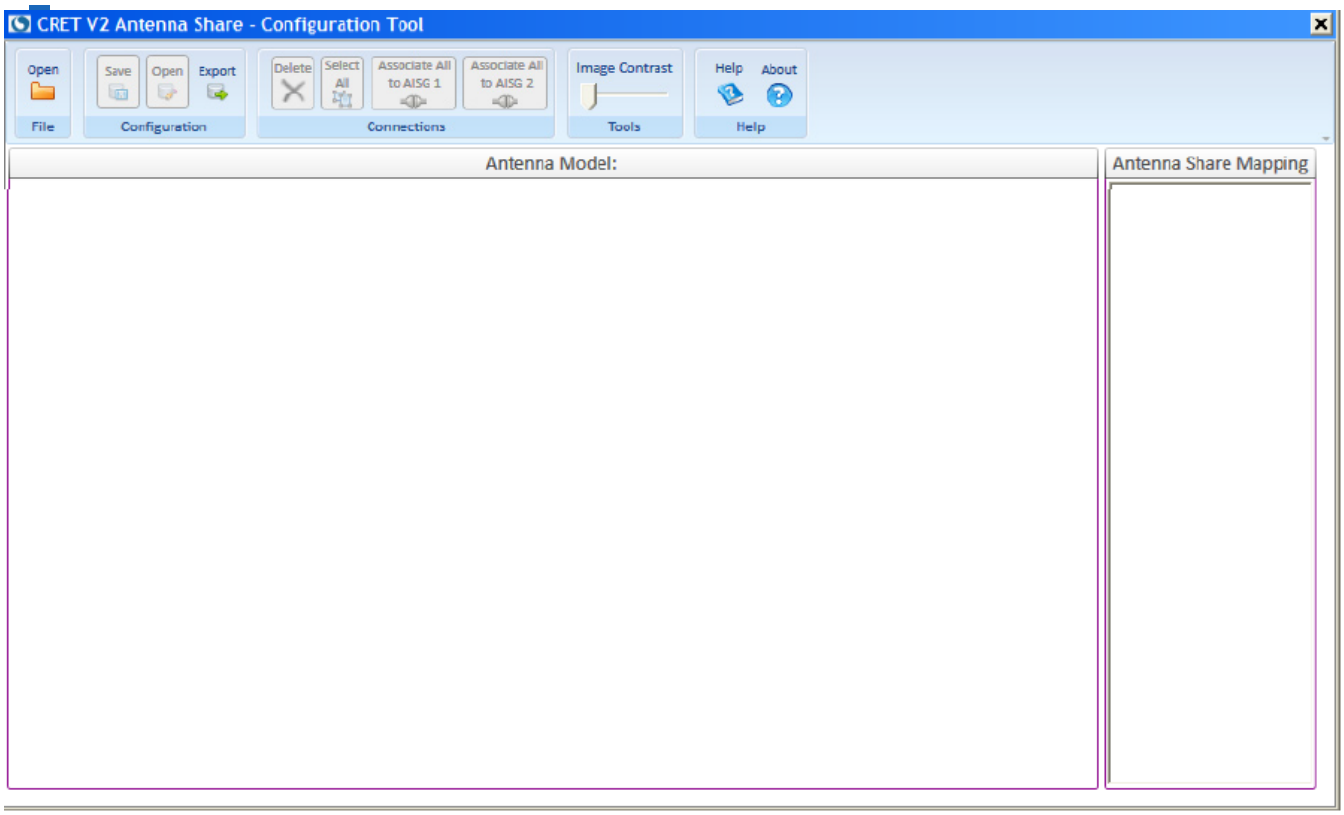

Figure 15-10. Builder Tool with no configuration

15.5.3 Opening Antenna Annotation for Antenna Sharing.

1. Click on the “Open” toolbar button to display the window titled “Open Annotated File” as shown in Figure 15-11.
2. Select the Antenna model from the list.
3. Click on open to load the selected antenna model annotation data.

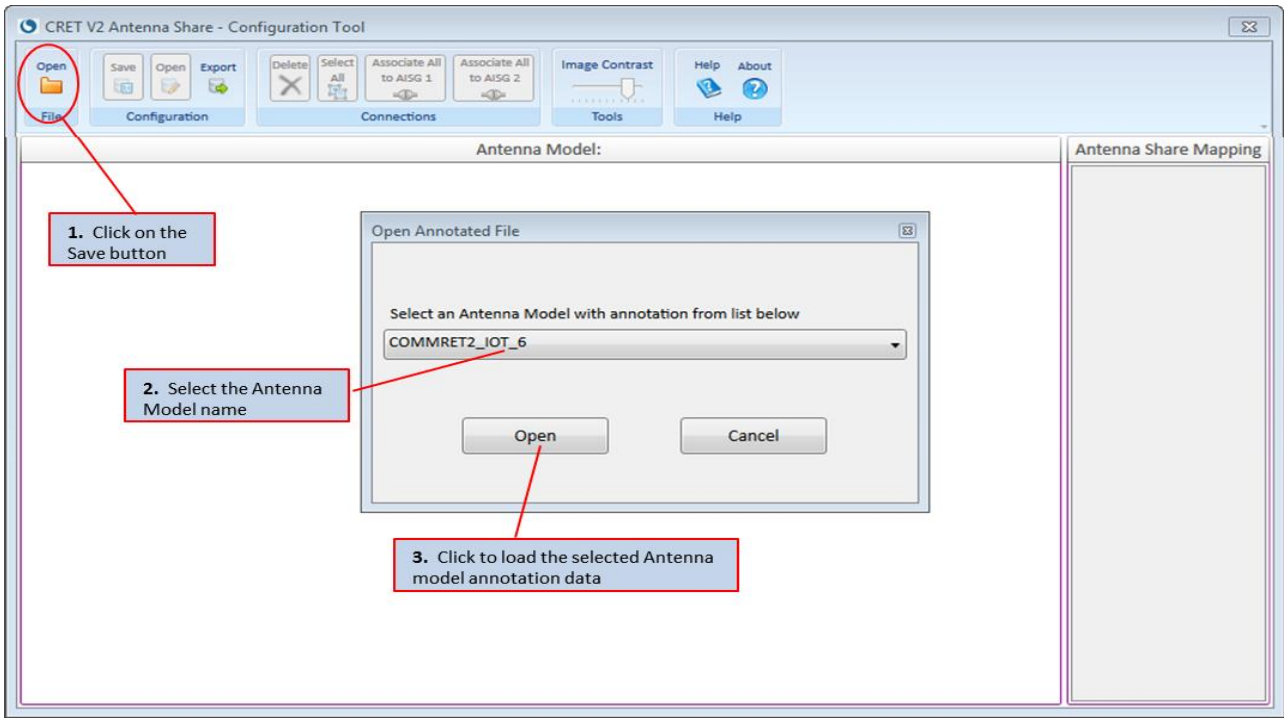

Figure 15-11. Open Antenna Annotation File

4. The annotation data includes the endcap image with shapes indicating the frequency bands and the AISG input ports are shown as in the Figure 15-12. Tips popup window displays the instructions to do the antenna sharing. Click on the close to dismiss the popup window.

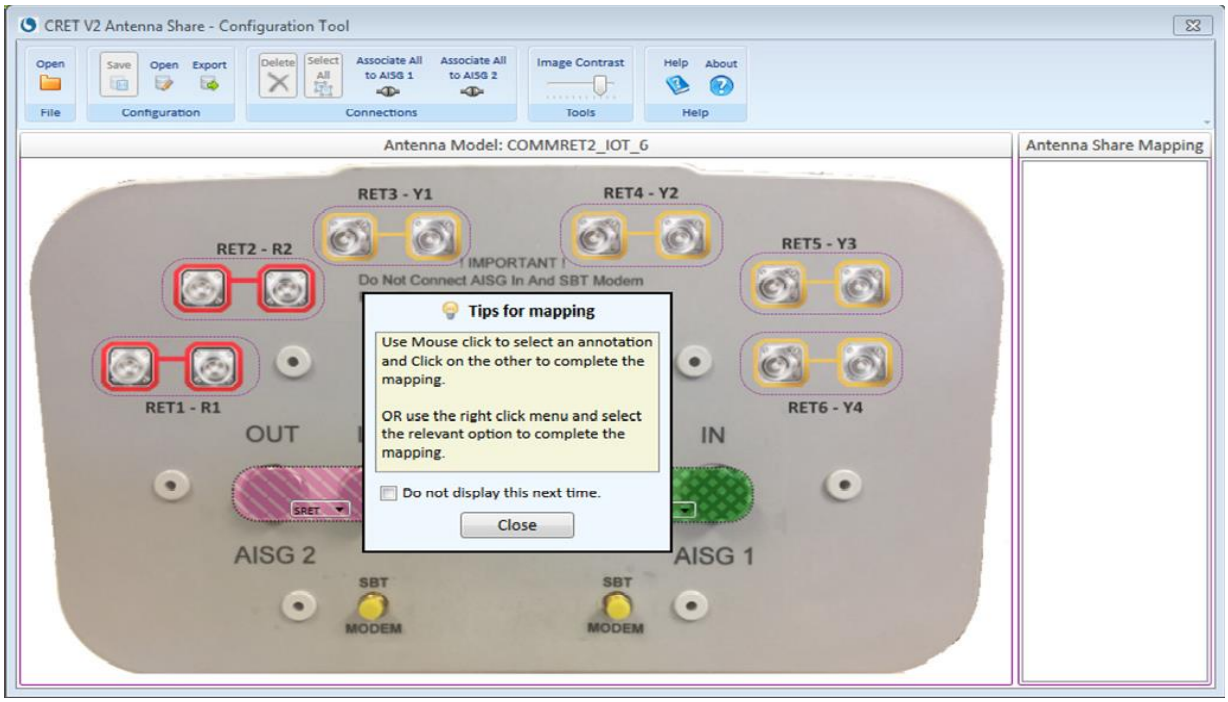

Figure 15-12. Loaded antenna annotation for antenna sharing

15.5.4 Building Antenna Sharing Mapping in Tool

Antenna Share mapping can be built in the following ways:

1. Selecting shapes.

1a. Select a band shape by clicking. The shape gets highlighted with thick border.

1b. Select a AISG shape, the band shape changes color showing the mapping between the band and AISG. This can be seen in the “Antenna Share Mapping” list on the right-side.

Note: User can either start with band shape or AISG shape.

2. Using right click menus.

2a. Right click on the AISG shape.

2b. In the menu select the “Connect to” menu and select the relevant band name from the popup menu list. Once band name is selected, the band shape changes color to the right clicked AISG shape finalizing the mapping.

Note: User can either start the right click on a band shape or AISG shape.

3. Changing AISG modes.
Click on the drop down list on the AISG shape, and select the relevant AISG mode (SRET or MRET). The changes can be seen in the “Antenna Share Mapping” list on the right-side.

The other features that can be used in the tool are described in the Figure 15-13.

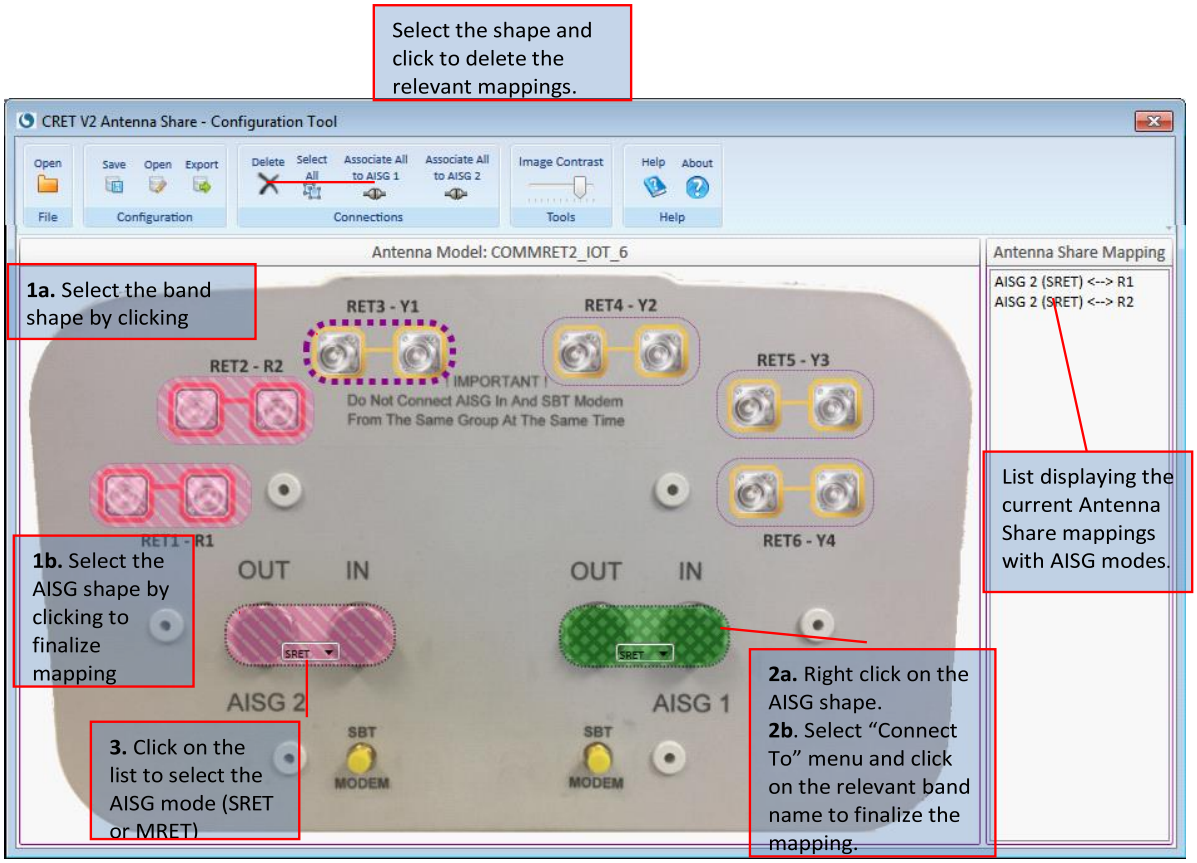

Figure 15-13. Features for building Antenna Sharing

15.5.5 Saving Antenna Sharing Configuration Data

1. Click on the “Save” button on the toolbar under the group “Configuration”.
2. In the “Save Antenna Share Configuration” window use the provided file name or enter the file name of your choice.
3. Click on the “Save” button to store the Antenna configuration to the given file name as shown in Figure 15-14. If the file name does not have extension name,”.dat” is added during the saving.

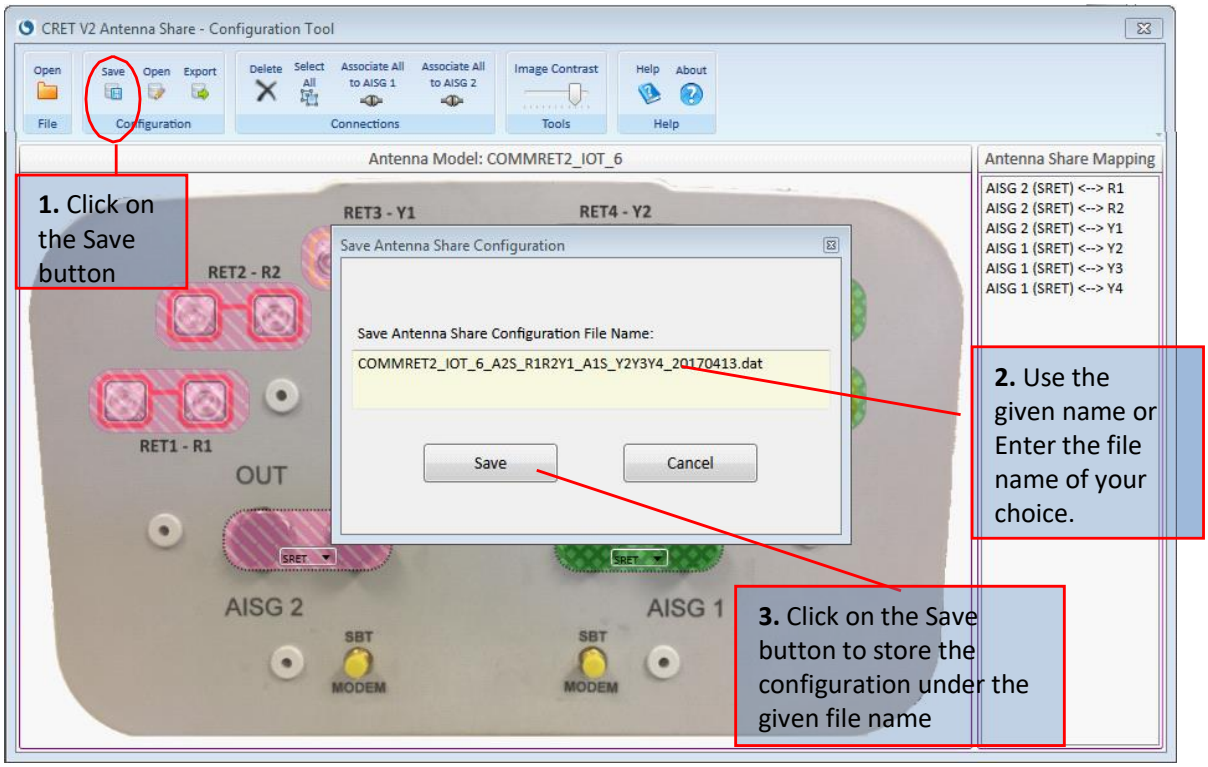

Figure 15-14. Saving Antenna Sharing Configuration to File

15.5.6 Opening the Saved Antenna Share Configuration Data

1. Click on the “Open” button on the toolbar under the group “Configuration”.
2. In the “Open Antenna Share Configuration” window, select the antenna share configuration file name to load.
3. Click on the “Open” button to load the Antenna configuration to the tool as shown in the Figure 15-15.

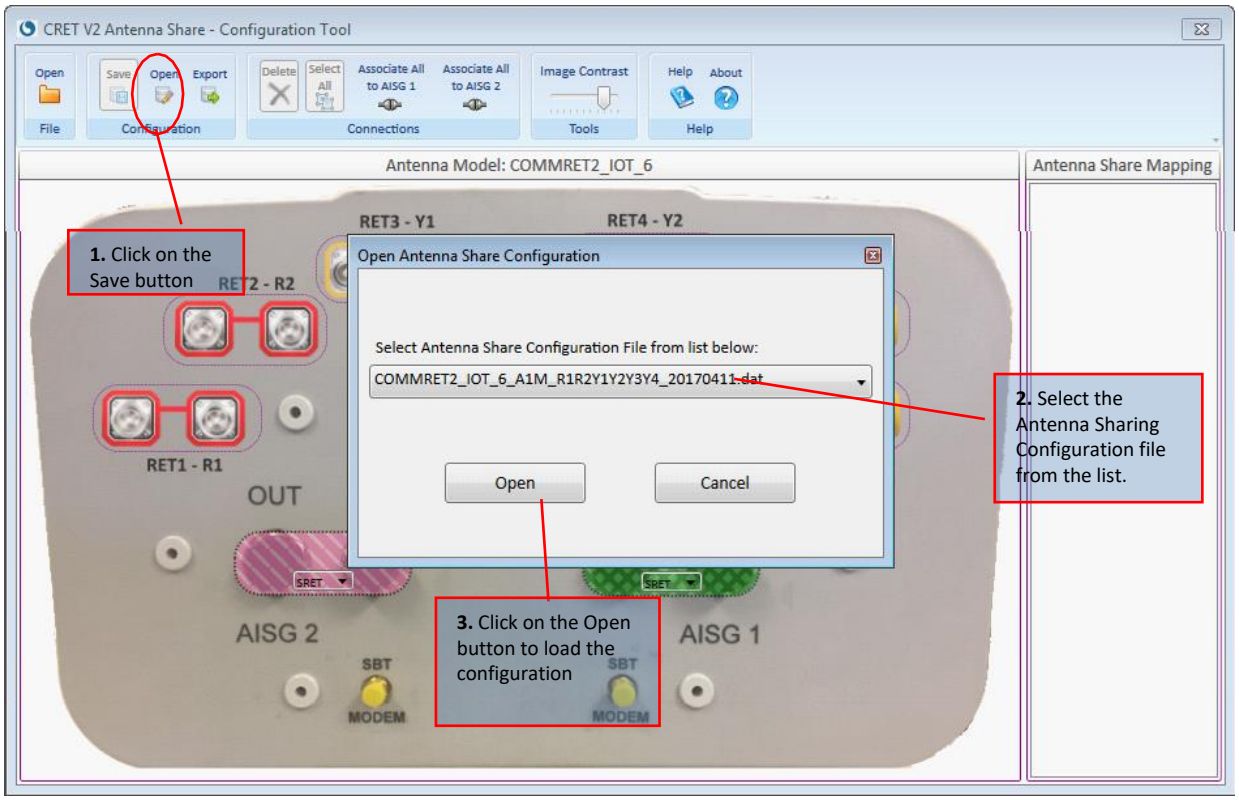

Figure 15-15. Opening antenna sharing configuration data

Note: The Antenna Sharing Configuration file (.dat) file contains the binary data that will be used by the ATC Lite program to configure the antenna sharing on target antenna.
Saved configurations will immediately be available from the ATC Lite software’s “Change Selected Antenna’s Configuration” menu option, if appropriate for the selected antenna model.

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Part 8

Appendix

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Appendix A
Letter of Compliance

Certification Services

TÜV

TUV Rheinland
of North America

Attn.: Mr. Hal Asbridge
Andrew Corporation
2601 Telecom Parkway
Richardson, TX 75082-3521
USA

Izabela Marinovich

09/26/2005

Re: CB-Certification

Standards:	IEC 60950-1:2001
CB Certificate Number:	US-TUVR-2596
Test Report Number:	30582097.001
Product:	Controller
Model Designation(s):	ATC200-LITE-USB

Dear Mr. Asbridge

Enclosed please find your CB certificate and test report for above mentioned product.

We at TUV Rheinland of North America, Inc. make every effort to provide you with error free documentation. In the event that you find any errors, please inform us as soon as possible so that we may make the necessary corrections.

Please feel free to contact me if you have any questions concerning this matter or in the future concerning the services offered by TUV Rheinland of North America, Inc.

Sincerely,
TUV Rheinland of North America, Inc.

Izabela Marinovich
Product Safety Division

TUV Rheinland
of North America, Inc.
North American Headquarters

12 Commerce Road
Newtown, CT 06470

Tel: +1 (203) 426-0888
Fax: +1 (203) 426-4009
Mail: info@tuv.com
Web: www.tuv.com
Toll Free: +1 TUV-411-0042

Member of
TUV Rheinland Group

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Appendix B
Declaration of Conformity

NTS Test Report No. B4217-CE Final

TEST SUMMARY

This test record demonstrates "CE" Mark compliance with the following EMC requirements for the **DBRC-PMI**

EMISSIONS	IMMUNITY
European Regions: ♦ EN55022 Class B Emissions (Radiated & Conducted) ♦ EN61000-3-2; Harmonics ♦ EN61000-3-3; Flicker North America Regions: ♦ CFR 47, Part 15, Subpart B, Class B, FCC Emissions ♦ ICES-003 Issue 2, Rev. 1, Class B ITE Emissions AS/NZS CISPR 22-2004 (Australia/New Zealand)	European Regions: ♦ EN 61000-6-1 Immunity: • EN61000-4-2:95, ESD, ± 8 kV Air, ± 4 kV Contact • EN61000-4-3:95 RF Immunity, 10 V/m • EN61000-4-4:95 EFT, 1 kV • EN61000-4-5:95 Surge; 1Kv line to line, 2Kv line to earth • EN61000-4-6:95 Conducted Susceptibility, 10Vrms • EN61000-4-8:93 Power Frequency Magnetic Field 3A/m • EN61000-4-11:94 Voltage DIP and interrupt

Andrew Corporation is responsible for the tested product configuration, continued product compliance with these standards listed, and for the appropriate auditing of subsequent products, as required.

This is to certify that the following report is true and correct to the best of my knowledge.

Dieu Vo,
EMI Operations Supervisor
FCC, CE, Telecommunications

Robert Stevens
Quality Assurance Manager

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ANDREW®
A CommScope Company

Teletilt® System Site Configuration Worksheet

SITE I.D.

Actuator	Antenna	Actuator Serial No.	Sector/ Orientation	Height	Miscellaneous
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

ANDREW®
A CommScope Company

Teletilt® System Site Configuration Worksheet

SITE I.D.

Actuator	Antenna	Actuator Serial No.	Sector/ Orientation	Height	Miscellaneous
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					
32					