# COMMSCOPE®

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

### Installation and Operation User Guide

CommScope

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### **Revision History**

Revision No.	Date	Description of Changes
А	October 2006	Released.
В	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.
С	September 2007	No longer uses lite scan. Calibrate button added for other antenna vendor actua- tor calibrations. Added operating instructions for use with SmartBeam <sup>™</sup> antennas.
D	May 2008	ATC Lite v5.0 supports both AISG 1.1 and 2.0 proto- cols. Main screen displays AISG mode. Added section on switching AISG mode in Andrew ac- tuators. 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.
Н	November 2012	Contact information updated
J	March 2013	Update the ATCLite7.2 software features
К	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.
М	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 pretest 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 powerlines. 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<sup>®</sup> System. ESD can occur during handling of equipment without the user feeling a shock. The following precautions should be taken to prevent ESD.

- 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



- 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.



Figure 1. ESD Wrist Strap.

- 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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# 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:	<ul> <li>Windows<sup>®</sup> 7 operating systems, or newer</li> </ul>
	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.

mScope Software U ×			( dillas) (
www.commscope.com/Resources/Softw	are-Updates/		A 🛈 🖬 🏪 🕯
COMMSCOPE" COMPANY	Y SOLUTIONS PRODUCTS PARTNERS RE	SOURCES INSIGHTS	A 🖶 🔍
Home   Resources   Software U	pdates		
Software Up	dates - fro	m <u>www.commscope.com</u> click on <b>Re</b> n click on ' <b>Software Updates</b> ' link on pped down pane to view this page.	: <b>sources</b> , the
RET Controller Sc	oftware and Antenna I	Definition Files	
View versions and download the latest RET controller software and firmware, quickly access installation information, and download operation guidelines. Following the software information, customers can download antenna definition files that are required for RET controllers to achieve accurate configurations and communication with antennas in an RET system. If you have questions, CommScope's Customer Support Center is available 24 hours a day, 7 days a week to assist with all technical related inquiries. USA Toll Free Call: +1-800-255-1479, Option 1			
RET Controller Software and Firm	Click on this link 'RET Firmware' to view th here.	Controller Software and e list of downloads as shown	^
Product	Description	Software/Fi Version (Re	irmware lease Date)
ATC200-LITE-USB - v8.4	Portable Controller	8.4 (9/01/20	117)
ATC300-1000/2000	Rack Mount Controller	2.38_A (9/2	9/2014)
ATM200-002 (before 2008)	Actuator (S/N Cxxxx)	90c.79	Click on this link <b>'ATC200-LITE-US</b> <b>v8.4'</b> to download the installatior package zip file.
	Actuator (S/N DESAXXXX or AS7PXXXX)	3.0.20	
ATM200-002 (since Jan. 2008)	Actuator (SAT BEST BRAKK OF TISET AXIA)	2.0.20	

Figure 1-1. Downloading ATC Lite Software.

Microsoft, Encarta, MSN, and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

- Download the ATC Lite software zip file. From the <u>www.commscope.com</u> 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.
- 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.

🛃 ATC Lite Setup		×
Language Selection Select a Language Re	source for the ATC Lite installation	COMMSCSPE*
	Select Language Resource to ins	tall
	(	Click on 'Next' to continue
Advanced Installer	< <u>B</u> ack	Next > Cancel

*Figure 1-3. ATC Lite Software setup.* 



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

🛃 ATC Lite Setup	×
Installing ATC Lite	COMMSCSPE*
Please wait while the Setup Wizard insta minutes.	alls ATC Lite. This may take several
Status: Installing LINX_QS (64 bit)	USB/COM Drivers
Advanced Installer	
	< Back Next > Cancel

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<sup>®</sup> 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

- 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.
- 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.

🤤 Antenna Tilt Controller L	ite 8.4.	1 (USB)							- 🗆 ×	
File Communication Tools Help										
Device Status and Test				Auto-	Discovery					
Get Device Info Get Alarms Clear Alarms Self Test Number of devices Vendor type: Commscope C All										
				F	ind Devices				ancel	
Device Information					,	1				
ID	Addr	Туре	Status	Base Station II	D	Sector	AISG	CTilt	Gain	
1										
	Shu	w All Devices	Move Se	ctor Move Select	ed E	dit Selected				
Startun complete										
alanuo complete										

Figure 2-9. ATC Lite Program Main Screen.

S Antenna Tilt Controller Lite 8.4	.1 (USB)		_ 0	×
File Communication Tools Help				
D V USB d Test		Auto-Discovery		-
COM1 Coh Alama	Chara Aliana I	Number of Links	www.www.www.www.www.www.www.www.www.ww	
		devices devices		
Device In Franchise		Find Devices	Cancel	
ID Addr	Type Status	Dase Station ID	Sector AISG ETilt Gain	<b>-</b>
				-
C1	Nous Se	tay Mayo Selected	Edt Selected	
JEn				
Startup complete				-
1				-



S Antenna Tilt Controller	Lite ö.4.	1 (COM1)							- D X
File Communication Tools the	<b>dp</b> iet 4)arms	Clea	r Alarms	5elî Test	Auto-Discovery Number of devices	Inknown 💌	Vendor typ	e: 🖲 Comms	cope C All
Device Information	Addr	Tvoe	Status		Base Station ID	Sector	AISG	ETilt	Gain
	she	w All Devices	Move St	ertor	Move Selected	Edit Selected			
Startup complete	Jan	M AILUCITUES		23551111					
Startup complete									





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 <u>www.commscope.com</u>, by Clicking on the **Resources**  $\rightarrow$ **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.

File Communication Tools He	lp										
Device Status and Test	Device Status and Test										
Get Device Info G	iet Alarm:	s C	ilear Alarms	Self Test devices Unkr	iown 💌	Vendor type	e: 🖲 Com	mscope C All			
Find Devices         Cancel Search											
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETilt	Gain			
AN0000a000c3615133a.1	1.1	TMA	ОК			2.0					
AN0000a000c3615133a.2	1.2	TMA	OK			2.0					
AN0000DE5A083358913	2	RET				2.0					
AN0000DESA083562405	3	RET				1.1					
AN0000DESA092674595	4	RET	Updating: 6%			1.1					
AN0000ASZP081214107	5	RET				2.0					
	г			ester I Herris Colester I	e la coloria d	1					
		Show All Devi	Les 💌 Move S	ector Move Selected	Edit Selected						
			· .								
Download Progres	ss a	pplying	required upo	iate, UK of /K downloade	d						
,											

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).

- Device Status and Test					ito-Discovery				
Get Device Info	Get Alarms		lear Alarms	Belf Test	Vumber of Unknown	<ul> <li>Vendor by</li> </ul>	/po: @ Com	nscope O Al	
Device Information (Right click to update firmware)									
1D	Addr	Түре	Status	Base Blatiu	1D 5ei	Jur Al3G	ETIL	Gein	
ANDOD0a000:3615133a.1	1,1	TMA	ак.		:	» 2.П		12	
ANDOD010000000	mulare unda		) ok	sample1	SEC	TOR 2.0		D	
ANDOLUDESA01	ritionarie apare		OK	ART54100	c i	. 2.0	0.0		
ANCOCCESA083562405	З	RET	OK	ART54060	0 55	CT 1.1	0.8		
ANDODODESA092674595	4	RET	OK	ART54060	0 1	. 1.1	0.2		
ANDOD0A5ZP0B1214107	5	RFT	OK .	ATM200_1	.1	п 2.П	3.0		
Select TMA, right click and then click on "Start firmware update" to start the firmware update									
Download Phase	ा ended	cua All Devi	nes 💌 🦳 Set G	ain Set Bypas	s Mode Edit Se	lerted			



TMA dev	vice firmware update	X							
	FIRMWARE UPDATE WARNING!								
<u> </u>	INTERRUPTION OF POWER OR AISG COMMUNICATION DURING A TMA FIRMWARE DOWNLOAD MAY CAUSE PERMANENT DAMAGE TO THAT DEVICE.								
	Summary of Required Updates:								
	Serial Number	mm:ss							
	AN0000a000c3615133a	01:50							
	Approximate Total Time Required:	01:50							
	Would you like to update this device now?	Click on 'Yes' to start Firmware upgrade							

Figure 3-4. Starting TMA firmware update.

Get Device Info	et Alarms		ilear Alarms	Self Test Number of Unka	nown 💌	Vendor type	e Comm	scope C A
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETilt	Gain
AN0000a000c3615133a.1	1.1	TMA	Update Pending		2	2.0		12
🖡 ANOOOOaOOoc3615133a.2	1.2	TMA	Updating: 13%	sample1	SECTOR	2.0		0
AN0000DE5A083358913	2	RET	ŌK	ART54100C	1	2.0	0.0	
AN0000DESA083562405	3	RET	ОК	ART540600	SECT	1.1	8.0	
AN0000DESA092674595	4	RET	OK	ART540600	1	1.1	0.2	
AN0000ASZP081214107	5	RET	ОК	ATM200_1.1	0	2.0	3.0	
	s	huw All Devi	ues 💌  Set G	iain Set Dypass Mode	Edit Selected			

Figure 3-5. Firmware update in progress.

File Communication Tools	Help							
Device Status and Test				Auto-Discovery				
Get Device Info	Get Alarms		lear Alarms	Self Test devices Unk	nown 💌	Vendor type	e: 🖲 Comn	nscope 🔿 All
Device Information				Find Devices			Ca	ncel Search
ID	Addr	Туре	Status	Base Station ID	Sector	AISG	ETill	Gain
AN0000a000c3615133a.	1 1.1	TMA	ОК		2	2.0		12
AN0000a000c3615133; 1	- · · ·	TAAA	ОК	sample1	SECTOR	2.0		0
AN9800DE5A08335891	Firmware is	up-to-date	ОК	ART54100C	1	2.0	0.0	
AN0000DESA083562405	3	RET	OK	ART540600	SECT	1.1	8.0	
AN0000DESA092674595	4	RET	OK	ART540600	1	1.1	0.2	
AN0000ASZP081214107	5	RET	OK	ATM200_1.1	0	2.0	3.0	
ANUUUUAS2PUBI2141U, 5 KEI OK AIM2UU_1.1 U 2.0 3.0 Select TMA, right click menu indicates that firmware is updated to the latest version								
	S	now All Devid	ces 💌 Set G	aii 1 Set Bypass Mode	Edit Selected			

Figure 3-6. Firmware update status

After successful completion of firmware update the right click on the TMA display "Firmware is upto-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 menuat the top of the screen (Figure 3-7).
- 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.
- Click Load File to load the selected antenna definition files for (Figure 3-8) ATM200 and Accu-RET 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.

Get Device Info	Switch Protocol Addressing Calibrate Actuator Facto Tower Mounted	Mode ry Rosot I Amplifier (TM/	arms	Self Test Number of Undevices	known 💌	Vendor type	e: 🖲 Comm	nscope C
ID	Addr	Туре	Status	Base Station ID	Sector	AISG	ETill	Gain
AN0000a000c36	15133a.1 1.1	TMA	ОК		2	2.0		12
🔴 🔴 AN0000a000c36	15133a.2 1.2	TMA	ОК	sample1	SECTOR	2.0		0
AN0000DESA083	358913 2	RET	ОК	ART54100C	1	2.0	0.0	
ANOOODESA083	562405 3	RET	OK	ART540600	SECT	1.1	8.0	
AN0000DESA092	674595 4	RET	ОК	ART540600	1	1.1	0.2	
AND0000AS2P081214107 5 RET OK ATM200_1.1 0 1.1 3.0     Go to Tools → Antenna Files to upload     the antenna definition files. This     feature can be used to upload earlier     versions of antenna files.								
Show All Devices  Muve Sector Muve Selected Edit Selected								

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

Andrew Antenna Files 🛛 🔀	Andrew Antenna Files
Antenna Definition Files For ATM200 RET-AN-AT_050.ascu  For AccuRET ACRET1-TABLE_001.ar1t Load Files Close	Antenna Definition Files For ATM200 RET-AN-AT_050.ascu RET-AN-AT_032.ascu RET-AN-AT_034.ascu RET-AN-AT_037.ascu RET-AN-AT_044.ascu RET-AN-AT_050.ascu Close
Click the drop down arrow to view the list of antenna definition files.	Select the desired antenna definition file.

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).

File Communication Tools Help	I		
Device Status and Test	: Alarms Clear Alarms	Self Test	Vendor type Commscope A
ID	Addr Type Stat	us Dase Station ID	Sector AISG ETilt Gain
			Click on <b>Find Devices</b> .
	Show All Devices 💌	Move Sector Move Selected.	Edit Selected
Startup complete			

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.

File Communication Too	ls Help							
Device Status and Test     Get Device Info	Get Alarms		ear Alarms	Self Test Auto-Di device	scovery er of Unknown 💌	Vendor typ	ie: 🖲 Comm	scope 🦳 All Icel Search
Device Information	[]							
	Addr	Type	Status	Base Station ID	Sector	AISG	Elit	Gain
<b>Co</b> dis	<b>mmand Sta</b> r plays activit	<b>tus/Respo</b> γ	<b>nse</b> window	Auto Di shows	scoveryBar progress	_	Canc	el search
		ihow All Devic	es 💌 🛛 Move S	ector Move Selected	f Edit Selecte	:d , , ,		
AN0000DESA	.0833589	13 Rec	ognized. 1 D	evice found. Cont	inuing			

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.

Device Search 🛛 🔀
Device search found:
5 antenna devices with 7 control points!
<u>OK</u>

Figure 4-3. Device Search Results.

File Communication Tools Hel	p							
Device Status and Test	et Alarm:	sC	lear Alarms	Auto-Discovery Self Test Number of United	known 💌	Vendor typ	e: 🖲 Comm	scope C All
Device Information				Find Devices			Can	cel Search
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETilt	Gain
AN0000a000c3615133a.1	1.1	TMA	OK	TMAP80.1	2	2.0		12
AN0000a000c3615133a.2	1.2	TMA	OK	TMAP80.2	SECTOR1	2.0		0
AN0000DESA083358913	2	RET	OK	ART54100C	1	2.0	0.0	
AN0000DESA083562405	3	RET	OK	ART540600	SECT	1.1	8.0	
AN0000DESA092674595	4	RET	OK	ART540600	1	1.1	0.2	
AN000011CN101234567.t1	5.1	MultiRET	OK	ART540600	WER1	2.0	10.0	
AN000011CN101234567.t2	5.2	MultiRET	OK	ART540600	1	2.0	6.0	
			Device list completic	: view after device search n (default)				
	$\triangleleft$	Show All Devic	Les  Move S	ector Move Selected	Edit Selected .	]		

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)

File Communication Tools Hel	p							
Device Status and Test	t Alarms		Elear Alarms	Self Test Auto-Discovery Self Test Numbor of Unkn	own 💌	Vendor typ	be: 🖲 Comm	iscope C All
Address No – Device Information	]	Sub-dev	vice No.	Find Devices			Car	icel Search
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETIL	Gain
🔴 AN0000a000c3615133a.1	1.1	TMA	ОК	TMAP80.1	2	2.0		12
🔴 AN0000a000c3615133a.2	1.2	TMA	OK	TMAP80.2	SECTOR1	2.0		ō
AN0000DESA083358913	2	RET	ОК	ART54100C	1	2.0	0.0	
AN0000DESA083562405	3	RET	ОК	ART540600	SECT	1.1	8.0	
AN0000DESA092674595	4	RET	ОК	ART540600	1	1.1	0.2	
AN000011CN101234567.t1	L <sub>5.1</sub> _	MultiRET	ок	ART540600	WER1	2.0	10.0	
AN000011CN101234567.t2	5.2	MultiRET	ОК	ART540600	1	2.0	6.0	
Device Serial No. — Configured Address —				Configured Site informat	ion		Electronic	:_
Device Type			Device Status	Current AISG Mode —			TMA Gair	
	9	ihow All Devi	ues 🔹 Move S	ector Move Selected	Edit Selected			

Figure 4-5. All Devices List View

Show All Devices  Show All Devices	Move Sector Move Selected Edit Selected
Show RETs Show TMAs	Select to view RET or TMA devices list display

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).

F	ile Communication Tools Help	)											
	Device Status and Test						Au	to-Discover	у ———				
	Get Device Info Ge	t Alarms		Elear Alarms	Self Te	st	Nd	lumber of evices	Unknowr	•	Vend	dor type: 💿 Commscope	e C All
	Address No Device Information		-Sub-dev	rice No.				Find Devi	ces			Cancel S	earch
	ID	Addr	Status	Dase Station ID	MTilt	ETilt	AZ/Pan	DW/Fan	Sector	Loc.	AISG	Antenna Model	Frequer
	AN0000DESA083358913	2	ОК	ART54100C	25.5	0.0			1	6	2.0	ADFD1820-65B-***	I :UL1
	AN0000DESA083562405	3	OK	ART540600	3.0	8.0			SECT	4	1.1	W2X-6514DS-***	2100 №
	AN0000DESA092674595	4	OK	ART540600	2.0	0.2			1	2	1.1	W2X-6514DS-***	1800 M
	AN000011CN101234567.t1	5.1	OK	ART540600	-0.1	10.0			WER1	1	2.0	SBNH-1D4545A	VI : UL
	AN000011CN101234567.t2	5.2	OK	ART540600	0.0	6.0	<b></b>		1	1	2.0	SBNH-1D4545A	V (UL
	Device Serial No. — Configured Address —				Elect Dow	ronic ntilt							
		De	vice Stati	s	(	Config Cur	ured Sit rent AIS	e inform GMode	ation –			Antenna Model	
	<												>
		-	51 IUW RETS	Move S	Jector		Move Sela	ected	Cd	it Select	ed		

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).

File Communication Tools He	lp						
Device Status and Test	et Alarms	Clear Ala	rms	Self Test	Auto	D-Discovery Imber of Unknown Vendo Vices Find Devices	r type: C Commscope C All
ID	Addr	Product Type	AISG	Status	Sector	Dase Station ID	Mode Gain
AN0000a000c3615133a.1	1.1	E15508P80	2.0	OK	1	TMAP80.1	Normal 12
🔴 AN0000a000c3615133a.2	L1.2	E15508P80	2.0	OK	SECT	TMAP80.2	Bypassed 0
🔴 AN0000a000c4533904a	2	E15508P80	1.1	OK	1	ART-TMA0001	Normal 12
AN0000b000c4533904b Device Serial No. – Configured Address –	TM Cu	A Product Num	ber	OK Confi	sec1	ART-TMA0002	TMA Mode
	s	iuw TMAs 💽	S	et Gain	Set Dypass I	Mode	

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** $\rightarrow$ **Addressing** from the main menu, located at the top of the main screen (Figure 4-9).

File Communication	Tools He	lp		Go to	Tools Addressing				
Device Status and	Antenna Switch F Address Calibrat	a Files Protocol sing e	Mode		Self Test Auto-Discove	Unknown	Vendor typ	be: 💽 Comm	iscope 🔿 All
Device Information	Actuato Tower M	n Factor Mounted	y Reset Amplifier (TMA	ı) <b>•</b>	Find Dev	vices		Car	ncel Search
ID		Addr	Туре	Status	Base Station ID	Sector	AISG	ETilt	Gain
AN0000a000c36	15133a.1	1.1	TMA	ОК	TMAP80.1	1	2.0		12
🔴 AN0000a000c36	15133a.2	1.2	TMA	OK	TMAP80.2	SECTOR1	2.0		0
AN0000DESA083	3358913	2	RET	ОК	ART54100C	1	2.0	2.0	
AN0000DESA083	3562405	3	RET	OK	ART540600	SECT	1.1	7.0	
AN0000DESA092	2674595	4	RET	OK	ART540600	1	1.1	0.2	
AN000011CN101	234567.11	5.1	MultiRET	OK	ART540600	WER1	2.0	10.0	
AN000011CN101	1234567.t2	5.2	MultiRET	OK	ART540600	2	2.0	6.0	
	1. Click readdre	on the essed.	e device to	be					
		[	Show All Devic	es 💌 Move S	Move Selected	Edit Selected .			

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

- 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.

1. Copy the device serial number to your clipboard\_\_\_\_\_\_ before removing the device.

Add/Remove Device
Device Vendor Serial Number Address Code (max, 17 digits)
Add Device Remove device  2. Click Remove Device.  Close

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).
- Click **OK** to return to the main screen (Figure 4-15).

1. To specify a different address. Click on

Remove	Device Success	×
Ų.	Device AN000011CN101234567 has been removed from address 5.	
	Click OK.	
	Figure 4-11. Confirmation of Device Removal	

Manual Addressing	
Add/Remove Device	Serial number zeros out
Device Vendor Address Code	Serial Number (max. 17 digits)
÷5 •	000000000000000
Add Device	Remove device
	Close

Figure 4-12. Device is Removed.

#### the up/down arrows. Manual Addressing Manual Addressing 3. Paste or enter the device serial number. Add/Remove Device Add/Remove Device Serial Number Device. Vendor Vendor Serial Number Device (max. 17 digits) Address Code (max. 17 digits) Address Code 000011CN101234567 AN 6 -6 AN 🔻 000011CN101234567 2. Select Vendor. Remove device Add Device Add Device Remove device 4. Click Add Device. Close - Click Close. Close

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

Figure 4-14. Closing Manual Addressing Screen.

Add Device Success	
Device has been added at a	ddress 6.
ОК —	- Click OK.

Bulletin 639536 • Revision N

File Communication Tools Help									
	Device Status and Test	et Alarm:	: <u>u</u>	ear Alarms	Self test Number of Unknier Self test Find Devices	own 💌	Yendor typ	e: 🖲 Currini: Can	cel Search
	ID	Add:	Туре	Status	Dase Station ID	Sector	ALOG	ETIK	Gain
	ED  AND0000a000c3615133a.1  AND0000a000c3615133a.2  AND0000E5A083358913  AND000DE5A083562405 AND000DE5A092674595 AND000D11CN101234567.13  AND00011CN101234567.13	Add' 1.1 1.2 2 3 4 6.1 6.2	Type TMA TMA RET RET RET MubiRET MubiRET	OK OK OK OK OK OK	Dese Station ID TMAP80.1 TMAP80.2 AR154100C AR1540600 AR1540600 AR1540600 AP1540600	2 SECTOR1 L SECT L WER1 1	ADG 2.0 2.0 1.1 1.1 2.0 2.0	ETilt  D.O 8.O 0.2 10.0 6.O	Gain 12 0  
		ļ	Show Al Devid	es 💌 Move S	ector Move Selected	Edit Selected .			

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.
- 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.
- 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).

#### Section 5–Actuator Protocol Mode Switching

							<ul> <li>Use to chang</li> </ul>	e proto	col mode	of dual-	
Device Shek is and "	Antenn	a Files				dute Directory	mode capabl	e Andre	ew devices		
Device Status and	Switch I	Protocol	Mode	AISG 2.0 Res	AISG 2.0 Reset AI						
Get Device Info	Addres	sing		ATM3/TMAs	•	AISG 1.1 Reset All ndor type: Cor				scope 🔿 NI	
	Calibrat	e		AITM		Single ATM200-002: Ericsson to ALSS 2.0					
	Actuato	or Factor	y Reset	ACOURET1		Single ATM20D-0D2: AISG	Single ATM20D-0D2; AISG ta Ericeson		Cancel Search		
Device Information	Tower1	Mounted	Amplifier (TMA)	• •		Single ATM200-002: AISG	to Siemens Preset				
ID		Addir	Туре	Status		Dase Station ID	Dectol.	AKG	ETÍL	Gain	
AN0000a000c361	l5133a.1	1.1	TMA	ок		TMAP60.1	1	2.0		12	
AN0000a000c361	l5133a.2	1.2	TMA	OK		TMAPB0.2	SECTOR1	2.D		D	
ANODODdesa0724	108272	2	RET	OK		ART	SECT	1.1	6.0		
ANODODESA083	358913	3	RET	OK		ART54100C	1	1.1	2.0		
ANODOODESA083	56Z405	4	RET	OK		ART540600	SECT	1.1	7.0		
ANODOCASZPDB1	214107	5	RET	OK		ART540700	7	<u></u>	3.0		
AISG mode —											
		[	5 IUW Al Device	s 💌 Move Se	etor	Move Selected	Edit Selected				



Fie Communication Tools Help								
Device Status and Test				Auto-Discovery		( t t		
Get Device Info (	Get Alarms		ear Alarms	Self Test devices Un Find Devices		vendor typ	e: ve Comms	cope C Al
Device Information								
LD	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETIK	Gain
🔶 AN0000a000c3615133a.1	1.1	TMA	ОК	TMAP60.1	t	2.0		12
AN0000a000c3615133a.2	1.2	TMO	OK	TMOREO, 2	SECTORI	2.0		0
AN0000desa072408272	2	RET	OK	ART	SECT3333	2.0	6.0	
AN0000DE5A083358913	3	RET	OK	ART54100C	t	2.0	2.0	
AN0000DE5A083562405	4	RET	OK	ART540600	SECT	2.0	7.0	
AN0000ASZPDB1214107	5	RET	OK	ART540700	7	2.0	3.0	
ATM200-002 actuators changed to AISG 2.0 mode.								
Show All Devices  Move Sector Move Selected Edit Selected								

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.

File Communication Tools Help								
Device Status and Test -	Get Alam	ns (	Elear Alarms	Self Test Auto-Discovery Number of Unkn devices Ind Devices	own 💌	Vendor type	e: • Comm	iscope 🔿 All Incel Search
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETilt	Gain
AN0000a000c361513	3a.1 1.1	TMA	Not Reporting			2.0		
AN0000a000c361513	3a.2 1.2	TMA	Not Reporting			2.0		
🔴 🔴 AN0000desa0724082	72 2	RET	Not Reporting			1.1		
🛛 🥐 AN0000DESA0833589	913 3	RET	Not Reporting			1.1		
AN0000DESA0835624	105 4	RET	Not Reporting			1.1		
AN0000ASZP0812141	07 5	RET	Not Reporting			1.1		
Brief loss of communication will occur while the device resets.								
Sent AISG 2.0	Resett	Show All Devi o all con	ites Move S	ector Move Selected	Edit Selected	dated d	evices	
)					•			

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.

File Communication	Tools Help						
File Communication  Device Status and Get Device Info  Device Information  ID AN0000DESA073	Tools     Help       Antenna Files       Switch Protocol Mode       Addressing       Calibrate       Actuator Factory Reset       Tower Mounted Amplifier (TMA)       Addr       Type       3313061       1	AISG 2.0 Reset All ATM3/TMAs AITM ACCURET1 Status OK	Auto-Discovery AISG 1.1 Reset All Single ATM200-002: Ericsson Single ATM200-002: AISG to Base Station 10 ART540300	to AISG 2.0 Exicsson Siemens Preset Sector 3	AISG 1.1	Commsci Cance	ope C All I Search
	Show All Devices	▼ Move Sector	Move Selected	Edit Selected			

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 by the 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.

Device Status and     Antenna Files       Switch Protocol Mode     AISG 2.0 Reset All       Get Device Info     Addressing       Calibrate     AITM	
Get Device Info     Addressing     AIMS/IMAS     AISG 1.1 Reset All     Idor type: © Commscope ©       Get Device Info     Calibrate     AITM	
Get Device Info Addressing AIM3/IMAs AI5G 1.1 Reset All hdor type:  Commscope ( Calibrate AITM	
Calibrate AITM	All
Single ATM200-002; Ericsson to AISG 2.0	
Actuator Factory Rosot ACCURET1 Single ATM200-002. ATSG to Encesson Cancel Sear	h
Device Information Tower Mounted Amplifier (TMA)  Single ATM200-002: AISG to Siemens Preset	_
ID Addr Type Status pase station 10 pector AISG ETill Gai	
Phone All Paralleles Inc. Manual Status Manual School Scho	
Show All Devices 💽 19695 Sector	

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.

File Communication Tools Help									
Device Status and Test		Auto-Discovery							
Get Device Info	Set Alarms		lear Alarms	Self Test	Number of Unkr devices	own 🔻	Vendor type	: 🖲 Comm	scope 🔿 All
Device Information					Find Devices			Car	icel Search
ID	Addr	Туре	Status	Dase St.	ation ID	Sector	AISG	CTilt	Gain
AN0000a000c3615133a.1	1.1	TMA	ОК	TMAF	80.1	1	2.0		12
AN0000a000c3615133a.2	1.2	TMA	OK	TMAR	80.2	SECTOR1	2.0		0
AN00000US4412210015	2	RET	ОК	ART540	0000H2	SEC1	2.0	7.0	
AN00000US4412180006	3	RET	OK	ART540	D000L1	1	2.0	5.0	
AN00000US4412180008	>	RET	OK	ART540	0000H1	3	(1.1)	8.0	
Shuw All Devices 💌 Move Sector Move Selected Edit Selected									
Successfully swite	ched p	protocol	for the devic	e AN00000L	JS44121800	08 to AIS	SG 1.1		

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** $\rightarrow$ **Switch Protocol Mode** $\rightarrow$ **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.

Device Status and Test       Auto-Discovery         Get Device Info       Get Alarms         Clear Alarms       Self Test         Numbor of devices       Unknown vendor type: © Commscope © All Pind Devices         Device Information       Cencel Search         Device Information       Switch Protocol Mode         AN0000a000:3615133a.1       1.1         TMA       Switch Protocol Mode for AN0012US4400000711       2         AN00012US4400000711       2         AN00012US440000066.1       4.1         AN00012US440000066.1       4.1         AN000012US440000066.1       4.1         AN000012US440000066.1       4.1         AN000012US440000066.1       4.1         AN000012US440000066.1       4.1         AN000012US440000066.1       4.2         MultiRET       MultiRET         AN000011CN101234567.1       5.1         MultiRET       Cannel         Select the AITM device and Click on Tools > Switch Protocol Mode → AITM.         Slow All Devices       Move Selecter         Move Selected       Cdit Selected	File Communication Tools Help						
Get Device Info       Get Alarms       Clear Alarms       Self Test       Number of Unknown Vendor type: • Commscope ← Al         Device Information       Ind       Cancel Search       Cancel Search         Image: AN0000a000c3615133a.1       1.1       TMA       Switch Protocol Mode       1       2.0        12         AN00012U5440000071L2       2       RET       Switch Protocol Mode for       Sector       Sector       0         AN0012U5440000071L2       3       RET       AN0012U5440000071L1       Currently in Multiple Single-RET mode)       Sect1       2.0       3.0          AN000011CN101234567.12       5.1       MultiRET       MultiPRET mode       WERI       2.0       10.0          AN000011CN101234567.12       5.2       MultiRET        3. Click Ok to initiate switching the operating mode to switch to from the list.        2. Select the operating mode to switch to from the list.         Sluw All Devices       Move Sector       Move Selected       Edit Selected       Edit Selected	Device Status and Test	Auto-Discovery					
Device Information       Find Devices       Cancel Search         ID       Addr       Type       St       Switch Protocol Mode       1       2.0        12         AN000030002615133a.2       1.2       TMA       Switch Protocol Mode for       SECTOR1       2.0        0         AN00012US44000006.11       2       RET       AN0012US44000006.11       4.1       MultiRET       Sector       SECI       2.0       5.0        0         AN000012US44000006.12.94       4.2       MultiRET       MultiRET       Cancel       Sector       Sector       1.0.0        2       2.0       8.0        2       2.0       6.0        2       2.0       6.0        2       2.0       6.0	Get Device Info Get Alarms Clear Alarms Self Test device	er of Unknown 💌 Vendor type: 💿 Commscope 🔿 All					
Device Information       Indexness       Entremediation         ID       Addr       Type       Statch Protocol Mode       I       2.0	Fin	d Fievines					
ID       Addr       Type       Switch Protocol Mode       Sector       AIGG       ETik       Gain            AN0000200036151333.1       1.1       TMA          1       2.0        12            AN0001201544000007111       2       RET       Switch Protocol Mode for          SECTOR1       2.0        0            AN001201544000007112       3       RET       Switch Protocol Mode for          SEC1       2.0       5.0             AN00012015440000066.12       4.2       MultiRET          Sector       AN000011CIN101234567.11       5.1       MultiRET          2       2.0       8.0	Device Information						
<ul> <li>AN0000a000c3615133a.1 1.1 TMA</li> <li>AN0002a000c3615133a.2 1.2 TMA</li> <li>AN0012U540000071t1 2 RET</li> <li>AN0012U5440000071t2 3 RET</li> <li>AN00012U544000006.t1 4.1 MultiRET</li> <li>AN000012U54400006.t2 4.2 MultiRET</li> <li>AN000011CN101234567.t1 5.1 MultiRET</li> <li>AN000011CN101234567.t2 5.2 MultiRET</li> <li>Select the AITM device and Click on Tools → Switch Protocol Mode → AITM.</li> <li>Select the AITM devices witch is the operating mode.</li> <li>Select the AITM devices witch is the operating mode.</li> </ul>	ID Addr Type St Switch Protocol Mode	Sector AISG ETilt Gain					
AN0000200000000000000000000000000000000	AN0000a000c3615133a.1 1.1 TMA	1 2.0 12					
AN0012U5440000071L1 2 RET AN0012U5440000071L2 3 RET AN00012U5440000066.L1 4.1 MultiRET AN00012U544000066.L2 4.2 MultiRET AN000011CN101234567.L1 5.1 MultiRET AN000011CN101234567.L2 5.2 MultiRET AN000011CN101234567.L2 5.2 MultiRET Sect the AITM device and Click on Tools→Switch Protocol Mode→AITM. Sliuw All Devices ▼ Move Sector Move Selected Edit Selected	AN0000a000c3615133a.2 1.2 TMA Switch Protocol Mode for	SECTOR1 2.0 0					
AN0012U544000007112 3 RET AN00012U5440000066.k1 4.1 MultiRET AN00012U5440000066.k2 4.2 MultiRET AN000011CN101234567.k1 5.1 MultiRET AN000011CN101234567.k2 5.2 MultiRET 1. Select the AITM device and Click on Tools → Switch Protocol Mode → AITM. Sector Sector Sector Move Sector Move Selected Edit Selected Edit Selected Edit Selected	AN0012U5440000071t1 2 RET AN0012U5440000071t1	SEC1 2.0 5.0					
AN000012US440000066.t1 4.1 MultRET AN000012US440000066.t2 4.2 MultRET AN000011CN101234567.t1 5.1 MultRET AN000011CN101234567.t2 5.2 MultRET 1. Select the AITM device and Click on Tools → Switch Protocol Mode → AITM. Slick Ok to initiate switching the operating mode. Slick All Devices ▼ Move Sector Move Selected Cannel <p< td=""><td>AN0012U5440000071t2 3 RET (Currently in Multiple Single-RET mode)</td><td>SEC1 2.0 3.0</td></p<>	AN0012U5440000071t2 3 RET (Currently in Multiple Single-RET mode)	SEC1 2.0 3.0					
AN000012U544000006.t2 4.2 MultiRET AN000011CN101234567.t1 5.1 MultiRET AN000011CN101234567.t2 5.2 MultiRET 1. Select the AITM device and Click on Tools → Switch Protocol Mode → AITM. Shuw All Devices ▼ Move Sector Move Selected Edit Selected Edit Selected Edit Selected	AN000012U5440000066.t1 4.1 MultiRET	2 2.0 5.0					
AN000011CN101234567.t1 5.1 MultiRET AN000011CN101234567.t2 5.2 MultiRET 1. Select the AITM device and Click on Tools → Switch Protocol Mode → AITM. Shuw All Devices ▼ Move Sector Move Selected Edit Selected Shuw All Devices ▼ Move Sector Move Selected	AN000012US440000066.t2 4.2 MultiRET (Multi-RET mode	2 2.0 8.0					
<ul> <li>AN000011CN101234567.£2 5.2 MultiRET</li> <li>1. Select the AITM device and Click on Tools → Switch Protocol Mode → AITM.</li> <li>3. Click Ok to initiate switching the operating mode.</li> <li>Shuw All Devices ▼ Move Sector Move Selected Edit Selected</li> </ul>	AN000011CN101234567.t1 5.1 MultiRET	WER1 2.0 10.0					
1. Select the AITM device and Click on Tools→Switch Protocol Mode→AITM.       3. Click Ok to initiate switching the operating mode.       2. Select the operating mode to switch to from the list.         Shuw All Devices ▼       Move Sector       Move Selected       Edit Selected	AN000011CN101234567.t2 5.2 MultiRET	2 2.0 6.0					
1. Select the AITM device and Click on Tools→SwitchProtocolMode→AITM.       3. Click Ok to initiate switching the operating mode.       to from the list.         Shuw All Devices ▼       Move Sector       Move Selected       Edit Selected		2. Select the operating mode to switch					
Tools→Switch Protocol Mode→AITM.      3. Click Ok to initiate switching the operating mode.         Shuw All Devices ▼       Move Sector         Move Selected       Edit Selected	1. Select the AITM device and Click on	to from the list.					
operating mode.       Show All Devices     Move Sector     Move Selected	Tools $\rightarrow$ Switch Protocol Mode $\rightarrow$ AITM. 3. Click Ok to initiate switching	the					
Shuw All Devices  Move Sector Move Selected Edit Selected	operating mode.						
Shuw All Devices  Move Sector Move Selected Edit Selected							
Shuw All Devices  Move Sector Move Selected Edit Selected							
	Show All Devices 👻 Move Sector Move Selected	L Edit Selected					
,	,						

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

File Communication Tools Help									
Device Status and Test	et Alarm:	s CI	ear Alarms	Self Test Auto-Discovery Mumber of Unkr devices Find Devices	nown	Vendor typ	e: 🖲 Comm	scope C All	
ID	Addr	Туре	Status	Base Station ID	Sector	AISG	ETilt	Gain	
AN0000a000c3615133a.1	1.1	TMA	ОК	TMAP80.1	1	2.0		12	
AN0000a000c3615133a.2	1.2	TMA	ок	TMAP80.2	SECTOR1	2.0		0	
AN0012US440000071t1		RET	Not Reporting			2.0		1	
AN0012U5440000071t2	3	RET	Not Reporting			2.0			
AN000012US440000066.t1	4.1	MultiRET	ок	AITM_t1	2	2.0	5.0		
AN000012U5440000066.t2	4.2	MultiRET	ок	AITM_t2	2	2.0	8.0		
AN000011CN101234567.t1	5.1	MultiRET	ок	ART540600	WER1	2.0	10.0		
AN000011CN101234567.t2	5.2	MultiRET	ок	ART540600	2	2.0	6.0		
Devices goes offline. Click on <b>Find Devices</b> to start device scan to find the switched devices.									
Show All Devices  Move Sector Move Selected Edit Selected  Successfully switched protocol for the device AN0012US440000071t1 (Find devices again)									

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

File Communication Tools Help									
Device Status and Test	et Alarm:	s CI	ear Alarms	Self Test Auto-Discovery Numbor of Unkr devices Find Devices	nown	Vendor typ	e:  Comms	cope C All	
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	CTilt	Gain	
AN0000a000c3615133a.1	1.1	TMA	ОК	TMAP80.1	1	2.0		12	
AN0000a000c3615133a.2	1.2	τμα	ок	TMAP80.2	SECTOR1	2.0		0	
AN000012U5440000071.t1	2.1	MultiRET	ОК	ART4500001	SEC1	2.0	5.0		
AN000012US440000071.t2	2.2	MultiRET	ок	ART4500002	SEC1	2.0	3.0		
AN000012US440000066.t1	3.1	MultiRET	ок	AITM_t1	2	2.0	5.0		
AN000012U5440000066.t2	3.2	MultiRET	ок	AITM_t2	2	2.0	8.0		
AN000011CN101234567.t1	4.1	MultiRET	ОК	ART540600	WER1	2.0	10.0		
AN000011CN101234567.t2	4.2	MultiRET	ОК	ART540600	2	2.0	6.0		
	Devices switched to new operating mode.								
Shuw All Devices  Move Sector Move Selected Edit Selected									

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** $\rightarrow$ **Switch Protocol Mode**  $\rightarrow$ **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).

- 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.

S Antenna Tilt Controller Lite 8.4.1 (USB)		- 🗆 ×
File Communication Tools Help	1. Run Device	e scan to find
Device Status and Test	devices.	
Number	of	_
Get Device Info Get Alarms Clear Alarms Self Test devices	Unknown 💌 Ven	dor type: (* Commscope (* All
	avices	Cancel
Device Information	/ l	Caricor
ID Addr Type Switch Protocol Mode (COMMRFT2)	× Sector	AISG CTilt Gain
AN0000DESA092674591 1 RET	Sec2	2.0 6.2
CP765432106543210MM.1 2.1 MultiRE Switch Protocol Mode for CP000ETRN 16509049MM.1		2.0 8.0
CP765432106543210MM.2 2.2 MultiRE		2.0 8.0
CP765432106543210MM.3 2.3 MultiRE [AISG 1] (Currently in MRET)		2.0 7.0
CP765432106543210MM.4 2.4 MultiRE		2.0 7.0
CP000ETRN16509049MM.1 3.1 MultiRE [AISG 2] (Currently in SRET)	node 🗸	2.0 7.5
CP000ETRN16509049MM.2 3.2 MultiRE		2.0 7.5
CP000ETRN16509049MM.3 3.3 MultiRE		2.0 7.5
CPUDDE I KN 16509049MM.4 3.4 Multikt OK Cancel		2.0 7.5
CP000ETRN16509049MM.5 3.5 MultiRE		2.0 7.5
CP000ETRN 16509019MM.6 3.6 MultiRE		2.0 7.5
<b>2.</b> Select COMMRET2 device 5. After selection	click on <b>OK</b>	loct now mode from list
L 3.Click on <b>Tools→Switch</b> to send protocol of	changes to	lett new mode monnist.
Protocol Mode→COMMRET2 device for both po	orts.	
Show All Devices 1 Move Sector Move Selected	Edit Selected	1
		1

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

 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.

Switch Protocol Mode (COMMRET2)									
Switch Protocol Mode for CP765432106543210MM.2									
[AISG 1] (Currently in MRET) Keep the current mode									
[AI5G 2]	Not available 💌								
ОК	Cancel								

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).

F	File Communication Tools Help								
	Device Status and Test       Auto-Discovery         Get Device Info       Get Alarms         Clear Alarms       Self Test         Numbor of Unknown       Vendor type: © Commscope © All devices         Find Devices       Cancel Search								
	Device Information			1					
	ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETilt	Gain
	🔴 AN0000a000c3615133a.1	1.1	TMA	OK	TMAP80.1	1	2.0		12
	🔴 AN0000a000c3615133a.2	1.2	TMA	OK	TMAP80.2	SECTOR1	2.0		0
	AN0000DESA083358913	2	RET	OK	ART54100C	1	1.1	2.0	
	AN0000DESA083562405	3	RET	OK	ART540600	SECT	1.1	7.0	
	AN0000A5ZP081214107	4	RET	ОК	ART540700	7	1.1	3.0	
	1. Click on device to be configured.         1. Click Edit Selected.								
		<u></u>	5how All Devic	es 💌 Move S	actor Move Gelected 🤇	Edit Selected			

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.

Configuring Devic	e ANOOOODESA074828648 at Address 5 -	X				
* Antenna Model:	W2X-6516DS-***	Installation Date: 11/05/13				
Min. Electrical Tilt:	0.0 Max. Electrical Tilt: 10.0	Installer ID: Jack				
Antenna Type:	Dual Polarized	Mechanical Tilt: 0.1				
Oper. Band:	VI	Bearing: 2				
Antenna Serial #:	08RPRS0000006	Height: 0				
Base Station ID:	ART540600	Technology: Voice/Data 💌				
* Sector ID:	1	Location: 4				
_``	* Denotes a required field Cancel Configure	2. Click <b>Configure</b> .				
1. Make Appropriate selections and text entries. All configuration data is stored in the individual device. An * denotes that field must be completed						

• 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 <u>http://www.commscope.com/Product-Catalog/Wireless/Brand/Base-Station-Antennas/Teletilt%C2%AE/</u>

- 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.
- 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 inAISG 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 tiltare 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).

	Configuring Device AN000011CN101234567.t2 at Address 4.2 -	1
	* Antenna Model: SBNH-1D4545A   Installation Date: 09/25/13	
	Min. Electrical Tilt: 0.0 Max. Electrical Tilt: 9.0 Installer ID: BECON	
Shows multiple	Antenna Type: Dual-Band Vertically Polarized 💌 Mechanical Tilt: 0.0	
selected frequency band names.	Oper. Band: UII Bearing: 0	1. Click to open the multi selection drop
	Antenna Serial # VI : UL 830- 840, DL 875- 885 MHz Height: 22	down list.
	Base Station ID:	
	× Sector ID: VII : UL 1850-1910, DL 1930-1990 MHz × Sector ID: VII : UL 1920-1980, DL 2110-2170 MHz VII : UL 2500-2570, DL 2620-2690 MHz	
	2. Click on check box to* Denotes a required field       3. Click outside the list or press ESC to close the multi frequencies.         Cancel       Configure	

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.

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.

Configuration Success	
Configuration change to device Address 5 completed successfully!	
	— Click <b>OK</b> .

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 Informa-tion** 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).

File Communication Tools He	p							
Device Status and Test				Auto-Discovery				
Get Device Info Get	et Alarms	Clear Ala	rms Self Test	Number of devices Unknown	✓ Vendor t	ype: 🖲 O	ommsco	pe 🔿 All
Device Information				Find Devices			Cancel	Search
ID	Addr	Status	Dase Station ID	MTilt ETilt A2	/Pan DW/Fan	Sector	Loc.	AISG
AN000012US440000071.t1	2.1	ОК	ART4500001	-0.1 5.0		SEC1		2.0
AN000012U5440000071.t2	2.2	ОК	ART4500002	-0.1 3.0		SEC1		2.0
AN000012U5440000066.t1	3.1	ОК	AITM_t1	2.2 5.0 -		2	2	2.0
AN000012U5440000066.t2	3.2	ОК	AITM t2	-1.1 8.0		2	2	2.0
AN000011CN101234567.t1	4.1	OK	ART540600	-0.1 10.0		WER1	1	2.0
AN000011CN101234567.t2	> 4.2	ОК	ART540600	0.0 6.0 -		2	1	2.0
	1. Click on device to be configured.         2. Click Edit Selected.							
<								>
	s	iuw RETs 💽	Move Sector Mov	e Selected Cdit S	elected			
1								

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.

Configuring	g Device	e AN000011CN1	01234567.t2 at A	ddress 4.2 -		X		
* Antenna	Model:	SBNH-1D4545A		•	Installation Date:	09/25/13		
Min. Electri	ical Tilt:	0.0	Max. Electrical Tilt:	9.0	Installer ID:	BECON		
Antenna	а Туре:	Dual-Band Vertically	Polarized	•	Mechanical Tilt:	0.0		
Oper	r. Band:	v			▼ Bearing:	0		
Antenna S	Serial #:	11CN101234567			Height:	22		
Base Sta	ition ID:	ART540600			Technology: Voic	e/Data 💌		
× Sei	ctor ID:	2			Location:	1 .		
<u>``</u> -т-								
			* Denotes a requir	ed field	2. Click <b>C</b>	onfigure.		
			Cancel	Configure				
	1. Make Appropriate selections and text entries. All configuration data is stored in the individual device. An * denotes that field must be completed							

• 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).

	Configuring Device AN000011CN101234567.t2 at Address 4.2 -	
	* Antenna Model: SBNH-1D4545A 🔹 Installation Date: 09/25/13	
	Min. Electrical Tilt: 0.0 Max. Electrical Tilt: 9.0 Installer ID: BECON	
Shows multiple	Antenna Type: Dual-Band Vertically Polarized   Mechanical Tilt: 0.0	
selected frequency	Oper. Band	1. Click to open the multi selection drop
build humes.	Antenna Serial # VI : UL 830- 840, DL 875- 885 MHz Height 22	down list.
	Base Station ID III : UL 1710-1785, DL 1805-1880 MHz 99. Voice/Data 99.	
	▼ II : UL 1850-1910, DL 1930-1990 MHz           * Sector IDI         I : UL 1920-1980, DL 2110-2170 MHz           ▼ UI : UL 2500-2570, DL 2620-2590 MHz         ▼	
	2. Click on check box to* Dennies a required field 3. Click outside the list or multi select the required Cancel Configure press ESC to close the multi selection drop down list.	

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.
- 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.

 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 Informa-tion** 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.

File Communication Tools Help							
Device Status and TestGet Device InfoGet Alarms Device Information	Clear Alarms Self Test	Auto-Discovery         Number of devices         Find Devices         Cancel Search					
ID Addr	Status Dase Station ID	MTilt ETilt AZ/Pan DW/Fan Sector Loc. AISG					
AN000012U5440000071.t1 2.1	OK ART4500001	-0.1 5.0 SEC1 2.0					
AN000012U5440000071.t2 2.2	Configuration Success	🔀 SEC1 2.0					
AN000012U5440000066.t1 3.1		2 2 2.0					
AN000012US440000066.t2 3.2	( opfiguration change to dource address	4.2 completed successfully					
AN000011CN101234567.t1 4.1		WER1 1 2.0					
AN000011CN101234567.t2 4.2	OK	SEC1 1 2.0					
Shuw RETs  Move Selected Edit Selected							
Configuration change to c	device Address 4.2 completed	successfully!					

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<sup>®</sup> 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).

Device Status and Test Get Device Info Get Alarms Clear Alarms Self Test  Auto-Discovery  Wumber of Unknown Vendor type: Commscope Call Find Devices Cancel Search  Device Information  De	File Communication Tools H	elp											
Find Devices       Cancel Search         Device Information         ID       Addr       Status       Base Station ID       MTilk       ETIR       AZ/Pan       BW/Fan       Sector       Loc.       AISG       Antenna Model       Find Devices         AND0000DESA083358913       2       OK       ART54100C       -0.1       2.0         1       6       1.1       ADPD1820-658.****       i         AND0000ESA0835624053       3       OK       ART540600       2.0       0.2         SECT       4       1.1       W2X-651405.****       i         AND0000ESA0932674595       4       OK       ART540600       2.0       0.2        1       2       1.1       W2X-651405.****       1         AND0000A52P081214107       5       OK       ART540700       9.0       3.0        7       1       1.1       931LG65**E-B       1         1.       Click Move Selected.       Move Selected       Edit Selected       Edit Selected	Device Status and Test	Get Alarms	Clear	Alarms Self	Test		-Auto-Disc Number devices	overy of Unkn	own 💌	Ve	endor type	e: ⓒ Commscope O	All
ID       Addr       Status       Base Station ID       MTile       ETile       AZ/Pan       BW/Fan       Sector       Loc.       AISG       Antenna Model       Fi         AN00000ESA083358913       2       OK       ART54100C       -0.1       2.0         1       6       1.1       ADFD1820-658-****         5ECT       4       1.1       W2X-6514D5-****         SECT       4       1.1       W2X-6514D5-****         SECT       4       1.1       W2X-6514D5-****         SECT       4       1.1       W2X-6514D5-****         SECT       4       1.1       W2X-6514D5-****       1         1       2       1.1       W2X-6514D5-****       1         7       1       1.1       W2X-6514D5-****         7       1       1.1       W	Device Information						Find	Devices				Cancel Search	1
AN0000DESA083358913 2 OK ART54100C -0.1 2.0 1 6 1.1 ADFD1820-658-**** AN0000DESA083562405 3 OK ART540600 3.0 7.0 SECT 4 1.1 W2X-6514D5-**** 1 AN0000DESA092674595 4 OK ART540600 2.0 0.2 1 2 1.1 W2X-6514D5-**** 1 AN0000AS20081214107 5 OK ART540700 9.0 3.0 7 1 1.1 931LG65**E-B 1 1. Click on individual device to select for tilt move 2. Click Move Selected. Show RETs Move Selected. Edit Selected	ID	Addr	Status	Base Station ID	MTilt	ETilt	AZ/Pan	BW/Fan	Sector	Loc.	AISG	Antenna Model	FI
AN0000DESA083562405       3       OK       ART540600       3.0       7.0        sector       4       1.1       W2X-6514DS-****       1         AN0000DESA092674595       4       OK       ART540600       2.0       0.2        1       2       1.1       W2X-6514DS-****       1         AN0000DESA092674595       4       OK       ART540600       2.0       0.2        1       2       1.1       W2X-6514DS-****       1         AN0000A5ZP081214107       5       OK       ART540700       9.0       3.0        7       1       1.1       931LG65**E-B       1         1. Click on individual device to select for tilt move       2. Click Move Selected.        7       1       1.1       931LG65**E-B       1         Show RETs       Move Selected       Edit Selected       Edit Selected	AN0000DESA083358913	2	OK	ART54100C	-0.1	2.0			1	6	1.1	ADFD1820-65B-***	
AN00000E5A092674595       4       OK       ART540600       2.0       0.2        1       2       1.1       W2X-6514D5-****       1         AN0000A52P081214107       5       OK       ART540700       9.0       3.0        7       1       1.1       931LG65**E-B       1         1       Click on individual device to select for tilt move       1       2       1.1       W2X-6514D5-**E-B       1         2       Click Move Selected.       1       1.1       931LG65**E-B       1         2       Click Move Selected.       1       1.1       931LG65**E-B       1         3       Show RETs       Move Selected.       1       1.1       1.1       1.1	AN0000DESA083562405	3	OK	ART540600	3.0	7.0			SECT	4	1.1	W2X-6514DS-***	
ANDODODASZP081214107 5 OK ART540700 9.0 3.0 7 1 1.1 931LG65**E-B 1 1. Click on individual device to select for tilt move 2. Click Move Selected. Show RETs Move Selector Move Selected Edit Selected	AN0000DESA092674595	> ₄	OK	ART540600	2.0	0.2			1	2	1.1	W2X-6514DS-***	1
Show RETs Move Sector Edit Selected		— 1.C	lick on indi 2. (	vidual device to so Click <b>Move Select</b>	elect fo	or tilt m	nove						
Show RETs  Move Sector Edit Selected Edit Selected	<												>
		Sh	ow RETs	Move Sector		Move	Selected .		Edit Selec	:ted			

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.

Set Actuator Position	on, Device AN0000DESA09267459	5 at Address 4	
Antenna Model:	W2X-6514DS-***	Installation Date:	04/01/11
Min. Electrical Tilt:	0.0 Max. Electrical Tilt: 10.0	Mechanical Tilt:	2.0
Antenna Type:	Quad-Port Dual Polarized	Bearing:	120
Antenna Serial #:	BASE0000012345	Height:	200
Freq. Band:	1800 Mhz	Technology:	Voice/Data
Base Station ID:	ART540600	Installer ID:	ННН
Sector:	SECT	Location:	2
Set Position Downtilt Pro Display.	Current Tilt: 5.0 gress Close Activate	New Tilt:	Slick Activate.

**— 1**. Enter a new electrical tilt angle.

Refer to the electrical tilt range to ensure that the new tilt angle entered is within the tilt range for the antenna model. Angles may be entered with the precision of 0.1 degree (Ex: 5.0 or 5.5).

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.

Set Actuator Positio	on, Device AN0000DESA09267459	5 at Address 4 🛛 🛛 🔀
Antenna Model:	W2X-6514DS-***	Installation Date: 04/01/11
Min. Electrical Tilt:	0.0 Max. Electrical Tilt: 10.0	Mechanical Tilt: 2.0
Antenna Type:	Quad-Port Dual Polarized	Bearing: 120
Antenna Serial #:	BASE0000012345	Height: 200
Freq. Band:	1800 Mhz	Technology: Voice/Data
Base Station ID:	ART540600	Installer ID: HHH
Sector:	SECT	Location: 2
Set Position	Current Tilt: 8.0	New Tilt:
Click Close. –	Close Activate	New tilt setting becomes current tilt.

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).

File Communication Tools Help	D										
Device Status and Test	t Alarms	Clear Alar	ms Self Test	Number of devices	, Unknow	n 💌	Vendor ty	/pe: 💽 (	Iommsc	ope 🔿 All	
Device Information				Find Devic	es				Cance	l Search	
ID	Addr	Status	Dase Station ID	MTilt	CTilt	AZ/Pan	DW/Fan	Sector	Loc.	AISG	
AN000012U5440000071.tl	2.1	ОК	ART4500001	-0.1	5.0			SEC1		2.0	
AN000012US440000071.t2	2.2	OK	ART4500002	-0.1	3.0			SEC1		2.0	
AN000012U5440000066.t1	3.1	ОК	AITM_t1	2.2	5.0			2	2	2.0	
AN000012U5440000066.t2	3.2	OK	AITM t2	-1.1	8.0			2	2	2.0	
AN000011CN101234567.t1	4.1	ОК	ART540600	-0.1	10.0			WER1	1	2.0	
AN000011CN101234567.t2	4.2	ОК	ART540600	0.0	6.0			SEC1	1	2.0	
	– 1.C	lick on individu 2. Clic	ial device to select for tilt mo k <b>Move Selected</b> .	ve							
<											>
	s	iuw RETs 💽	Move Sector	slected		lit Selected	I				_
	File         Communication         Tools         Help           Device         Status and Test         Get Device Info         Get           Device         Information         ID         Get Device Info         Get           Device         Information         ID         Get Device Info         Annono         Annono         Info         Annono         Annono         Info         Annono         Info         Annono         Info         Annono         Info         Inf	File         Communication         Tools         Help           Device Status and Test         Get Device Info         Get Alarms           Device Information         ID         Addr           C         AN000012U5440000071.t1         2.1           C         AN000012U544000006.t1         3.1           C         AN000012U5440000066.t2         3.2           C         AN000011CN101234567.t1         4.1           C         AN000011CN101234567.t2         4.2           I. Cl         I. Cl         SI	File       Communication       Tools       Help         Device Status and Test       Get Device Info       Get Alarms       Clear Alar         Device Information       ID       Addr       Status            • AN000012U5440000071.t1       2.1       OK            • AN000012U5440000061.t1       3.1       OK            • AN000012U5440000066.t2       3.2       OK            • AN000012U5440000066.t2       3.2       OK            • AN000011CN101234567.t1       4.1       OK            • AN000011CN101234567.t2       4.2       OK            • I. Click on individu       2. Click            • Sluwy RETs           • Sluwy RETs	File       Communication       Tools       Help         Device       Status       and Test       Image: Clear Alarms       Self Test       Image: Clear Alarms       Self Test         Device       Information       Image: Clear Alarms       Self Test       Image: Clear Alarms       Self Test         Device       Information       Image: Clear Alarms       Self Test       Image: Clear Alarms       Self Test         Device       Information       Image: Clear Alarms       Self Test       Image: Clear Alarms       Self Test         Device       Information       Image: Clear Alarms       Self Test       Image: Clear Alarms       Self Test         Device       Information       Image: Clear Alarms       Desc Status       Image: Clear Alarms       Self Test         Device       Information       Image: Clear Alarms       Image: Clear Alarms       Self Test       Image: Clear Alarms         Image: Clear Alarms       Image: Clear Alarms       Image: Clear Alarms       Image: Clear Alarms       Self Test       Image: Clear Alarms         Image: Clear Alarms       Image: Clear Alarms       Image: Clear Alarms       Image: Clear Alarms       Self Test       Image: Clear Alarms         Image: Clear Alarms       Image: Clear Alarms       Image: Clear Alarms       Image: Clear Ala	File       Communication       Tools       Help         Device       Status       Auto-Discovery         Mumbor of       devices       Pind Device         Device       Information       Find Device         ID       Addr       Status       Dase Station ID         Mumbor of       devices       Find Device         ID       Addr       Status       Dase Station ID         Mathematical       OK       ART4500001       -0.1         AN000012U5440000071.k1       2.2       OK       ART4500002       -0.1         AN000012U5440000066.k1       3.1       OK       AITM_E11       2.2         AN000012U5440000066.k1       3.1       OK       AITM_E11       2.2         AN000011CN101234567.k1       4.1       OK       ART540600       -0.1         AN000011CN101234567.k2       4.2       OK       ART540600       0.0         1. Click on individual device to select for tilt move       Sluw RETs       Move Sector       Move Selected	File Communication Tools Help         Device Status and Test       Auto-Discovery         Get Device Info       Get Alarms       Clear Alarms       Self Test         Device Information       Find Devices         Device Information       Find Devices         ID       Addr       Status       Dese Station ID       MTilt       ETilt         AN000012U5440000071.k1       2.1       OK       ART4500001       -0.1       5.0         AN000012U5440000066.k1       3.1       OK       ART4500002       -0.1       3.0         AN000012U5440000066.k1       3.1       OK       AITM_t1       2.2       5.0         AN000012U5440000066.k2       3.2       OK       AITM_t1       2.2       5.0         AN000011CN101234567.h1       4.1       OK       ART540600       -0.1       10.0         AN000011CN101234567.h2       4.2       OK       ART540600       0.0       6.0         I. Click on individual device to select for tilt move       Sluw RETs       Move Sector       Move Selected       Externation	File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Number of devices         Pind Devices         Pevice Information         ID       Addr         AN000012U5440000071.t1       2.1         OK       ART4500001         AN000012U5440000071.t2       2.2         OK       ART4500002         AN000012U5440000071.t2       2.2         OK       ART4500002         AN000012U5440000066.t1       3.1         OK       AITM_11         2.2       OK         AN000012U5440000066.t2       3.2         OK       AITM_11         2.2       S.0         AN000011CN101234567.t1       4.1         OK       ART540600         -0.1       10.0         OK       ART540600         -1       10.0         AN000011CN101234567.t2       4.2         OK       ART540600         0.0       6.0         Shuw RETs       Move Selected         Shuw RETs       Move Selected	File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Pevice Info       Get Alarms         Clear Alarms       Self Test         Pevice Information       Find Devices         ID       Addr         Status       Dase Station ID         M000012U5440000071.k1       2.1         OK       ART4500002         -0.1       3.0         AN000012U544000006.t1       3.1         OK       ART4500002         -0.1       3.0         AN000012U544000006.t2       3.2         OK       ART4500002         -0.1       8.0         AN000012U544000006.t2       3.2         OK       AITM t1         -0.1       8.0         -0.1       10.0         -0.1       10.0         -0.1       10.0         -0.1       10.0         -0.1       0.0         -0.1       0.0         -0.1       0.0         -0.1       0.0         -0.1       0.0         -0.1       0.0         -0.1       0.0 <th>File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Numbor of Unknown Vendor type:       Image: Clear Alarms         Device Information       Image: Clear Alarms         Addr       Status       Dase Station ID         MN000012U5440000071.t3       2.1       OK         AN000012U5440000071.t3       2.2       OK         AN000012U5440000060.t1       3.1       OK         AN000012U5440000066.t2       3.2       OK         AN000012U5440000066.t2       3.2       OK         AN000012U5440000066.t3       4.1         OK       ART\$450600       -0.1         AN000011CN101234567.t1       4.1       OK         AN000011CN101234567.t2       4.2       OK         AN000011CN101234567.t2       4.2       OK         AN000011CN101234567.t2       4.2       OK         AND       Image: Click Move Selected       Click Selected         Show RETs       Move Sector       Move Selected</th> <th>File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Number of devices       Unknown         Perice Information       Pind Devices         Device Information       OK         AA000012U5440000071.k1       2.1         OK       ART4500001         OL 5.0      </th> <th>File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Auto-Discovery         Numbor of Unknown       Vendor type: Commscope C All         Device Information       Cancel Search         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         AN000012US440000071.k2       2.1       O.K       Alto-Discovery      </th>	File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Numbor of Unknown Vendor type:       Image: Clear Alarms         Device Information       Image: Clear Alarms         Addr       Status       Dase Station ID         MN000012U5440000071.t3       2.1       OK         AN000012U5440000071.t3       2.2       OK         AN000012U5440000060.t1       3.1       OK         AN000012U5440000066.t2       3.2       OK         AN000012U5440000066.t2       3.2       OK         AN000012U5440000066.t3       4.1         OK       ART\$450600       -0.1         AN000011CN101234567.t1       4.1       OK         AN000011CN101234567.t2       4.2       OK         AN000011CN101234567.t2       4.2       OK         AN000011CN101234567.t2       4.2       OK         AND       Image: Click Move Selected       Click Selected         Show RETs       Move Sector       Move Selected	File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Number of devices       Unknown         Perice Information       Pind Devices         Device Information       OK         AA000012U5440000071.k1       2.1         OK       ART4500001         OL 5.0	File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Auto-Discovery         Numbor of Unknown       Vendor type: Commscope C All         Device Information       Cancel Search         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         ID       Addr       Status       Dase Station ID       MTik       Clink       Alto-Discovery         AN000012US440000071.k2       2.1       O.K       Alto-Discovery

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.

Set Actuator Positio	on, Device AN000012US44000007	1.t1 at Address	2
Antenna Model:	SBNH-1D6565B	Installation Date:	11/05/13
Min. Electrical Tilt:	0.0 Max. Electrical Tilt: 10.0	Mechanical Tilt:	-0.1
Antenna Type:	Dual Polarized	Bearing:	
Antenna Serial #:	12US440000071	Height:	
Oper. Band:	<u></u>	Technology:	Voice/Data
Base Station ID:	ART 4500001	Installer ID:	
Sector:	SEC1	Location:	
Set Position Downtilt Pro Display.	Current Tilt: 5.0 gress Close Activate	New Tilt:	R.5 Click Activate.

— 1. Enter a new electrical tilt angle.

Refer to the electrical tilt range to ensure that the new tilt angle entered is within the tilt range for the antenna model. Angles may be entered with the precision of 0.1 degree (Ex: 5.0 or 5.5).

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.

Set Actuator Positio	on, Device AN000012US44000007	1.t1 at Address 2 🛛 🛛 🔀
Antenna Model:	SBNH-1D6565B	Installation Date: 11/05/13
Min. Electrical Tilt:	0.0 Max. Electrical Tilt: 10.0	Mechanical Tilt: -0.1
Antenna Type:	Dual Polarized	Bearing:
Antenna Serial #:	12US440000071	Height:
Oper. Band:	<u></u>	Technology: Voice/Data
Dase Station ID:	ANT4500001	Installer ID:
Sector:	SEC1	Location:
Set Position		
	Current Tilt: 8.5	New Tilt:
Click Close. —	Close Activate	New tilt setting becomes current tilt.

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).

File Communication Tools H	elp											
Device Status and Test						- Auto-Disc	overy					
Get Device Info	Get Alarms	Clear	Alarms Self	Test	1	Number devices	of Unkno	own 💌	Ve	endor typ	oe: 🖲 Commscope 🔿	All
Device Information						Find	Devices				Cancel Search	
ID	Addr	Status	Dase Station ID	MTilt	CTilt	AZ/Pan	DW/Fan	Sector	Loc.	AISG	Antenna Model	Г
AN0000DESA083358913	2	ОК	ART54100C	-0.1	2.0			1	6	1.1	ADFD1820-65B-***	
AN0000DESA083562405	3	ОК	ART540600	3.0	7.0			SECT	4	1.1	W2X-6514DS-***	
AN0000DESA092674595	> 4	ОК	ART540600	2.0	8.0			SECT	2	1.1	W2X-6514DS-***	1
AN0000A5ZP081214107	5	ОК	ART540700	9.0	3.0			1	1	1.1	931LG65**E-B	1
	tilt	move		• 2. Clic	k <b>Mo</b>	ve secto	ır.					
<										)		>
	s	iuw RETs	Move Sector		Move	Selected .		Edit Selec	ted			
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).

Set Electrical Tilt I	For Sector 1			X
Antenna Model:	W2X-6514DS-***	Installation Date:	04/01/11	
Min Electrical Tilt:	0.0 Max Electrical Tilt: 10.0	Mechanical Tilt:	2.0	
Antenna Type:	Quad-Port Dual Polarized	Bearing:	120	
Antenna Serial #:	BASE0000012345	Height:	200	
Freq. Band:	1800 Mhz	Technology:	Voice/Data	
Base Station ID:	ART540600	Installer ID:	ННН	
Sector:	SECT	Location:	2	
2. Click ← A Antennas Includ AN0000DESA09	Add ed In Move: 12674595	Additional Compatible	e Antennas: 32405	]
	Remove>	models with sa and Max tilt to	tional me Min — be	J
Set Sector Tilt F	Position	included in the	move.	
	Current Tilt: 8.0	) New Tilt:		
	Close Activat	e		

*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.

Set Electrical Tilt	For Sector 1			X
Antenna Model:	W2X-6514DS-***	Installation Date:	07/13/12	
<ul> <li>Min Electrical Tilt:</li> </ul>	0.0 Max Electrical Tilt: 10.0	🤀 Mechanical Tilt:	3.0	
Antenna Type:	Dual Polarized	Bearing:	2	
Antenna Serial #:	08RPRS0000006	Height:	0	
Freq. Band:	800 Mhz; 900 Mhz	Technology:	Voice/Data	
Base Station ID:	ART540600	Installer ID:	LzF	
Sector:	SECT	Location:	4	
Antennas Includ AN0000DESA03 AN0000DESA03	ed In Move: 32674595 33562405 Remove>	Additional Compatible	e Antennas:	
Set Sector Tilt F Downtilt Pro Display.	Position Current Tilt: 7.0 Dgress Close Activat	) New Tilt:	Click Activa	te.

**1.** Enter a new electrical tilt angle.

Refer to the electrical tilt range to ensure that the new tilt angle entered is within the tilt range for the antenna model. Angles may be entered with the precision of 0.1 degree (Ex: 5.0 or 5.5). Figure 8-3. Entering New Electrical Tilt Setting for Sector Move.

#### ATC200-LITE-USB Teletilt® RET System

- 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.

Set Electrical Tilt For Sector 1	×
Antenna Model: W2X-6514DS-***	Installation Date: 07/13/12
Min Electrical Tilt: 0.0 Max Electrical Tilt: 10.0	Mechanical Tilt: 3.0
Antenna Type: Dual Polarized	Bearing: 2
Antenna Serial #: 08RPRS0000006	Height: 0
Freq. Band: 800 Mhz; 900 Mhz	Technology: Voice/Data
Base Station ID: ART540600	Installer ID: LzF
Sector: SECT	Location: 4
Antennas Included In Move: AN0000DESA092674595 AN0000DESA083562405 Remove>	Additional Compatible Antennas:
Set Sector Tilt Position Current Tilt. Current Tilt. 6.	D New Tilt:
Click Close. Close Activa	te



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#### 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).

Device Status and Test Get Device Info Get Alarms Clear Alarms Self Test Device Information Auto-Discovery Numbor of Unknown Vendor type: Commscope All Find Devices Cancel Search											
ID	Addr	Status	Dase Station ID	MTilt	CTilt	AZ/Pan	DW/Fan	Sector	Loc.	AISG	
AN000012US440000071.t1	2.1	OK	ART4500001	-0.1	8.5			SEC1		2.0	
AN000012U5440000071.t2	2.2	OK	ART4500002	-0.1	3.0			SEC1		2.0	
AN000012U5440000066.t1	3.1	OK	AITM_t1	2.2	5.0			SEC1	2	2.0	
AN000012US440000066.t2	3.2	OK	AITM t2	-1.1	8.0			SEC1	2	2.0	
AN000011CN101234567.t1	4.1	OK	ART540600	-0.1	10.0			WER1	1	2.0	
	– 1. C tilt i	lick on device nove	within sector to select sec	tor for							
			2. Click <b>M</b>	ove sector.							
<											1
	Sh	uw RETs 💽	Move Sector Mov	e Selected		dit Selected	ł				

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).

Set Electrical Tilt	For Sector SEC1	X
Antenna Model:	SBNH-1D6565B	Installation Date: 11/05/13
Min Electrical Tilt:	0.0 Max Electrical Tilt: 10.0	Mechanical Tilt: 0.1
Antenna Type:	Dual Polarized	Bearing:
Antenna Serial #:	12US440000071	Height:
Oper. Band:		Technology: Voice/Data
Base Station ID:	ART4500001	Installer ID:
Sector: 2 Click <del>–</del> A	SEC1	Location:
Antennas Incluc AN000012US44	led In Move: 100000071.t1 Remove>	Additional Compatible Antennas: AN000012US440000066.t1 AN000012US440000066.t2
, Set Sector Tilt	Position 1. Click on additiona and Max tilt to be Current Tilt: 8.5	al models with same Min included in the move.
	Close	te

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.

Set Electrical Tilt F	For Sector SEC1		E
Antenna Model:	SBL2-Multi-RET	Installation Date:	08/07/13
_ s _ Min Electrical Tilt:	0.0 Max Electrical Tilt: 10.0	Mechanical Tilt:	2.2
Antenna Type:	Dual Polarized	Bearing:	22
Antenna Serial #:	12US440000066	Height:	22
Oper. Band:	II : UL 1850-1910, DL 1930-1990 MHz	Technology:	Voice
Base Station ID:	AITM_t1	Installer ID:	2to2
Sector:	SEC1	Location:	2
Antennas Includ	ed In Move:	Additional Compatible	e Antennas:
AN000012US44 AN000012US44	0000071.t1 0000066.t1 Remove>	AN000012US44000	0066.12
Set Sector Tilt F Downtilt Prop Display.	Current Tilt: 5.0	e 2. C	lick Activate.

1. Enter a new electrical tilt angle.

Refer to the electrical tilt range to ensure that the new tilt angle entered is within the tilt range for the antenna model. Angles may be entered with the precision of 0.1 degree (Ex: 5.0 or 5.5).

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.

Set Electrical Tilt I	For Sector SEC1		
Antenna Model:	SBL2-Multi-RET	Installation Date:	08/07/13
Min Electrical Tilt:	0.0 Max Electrical Tilt: 10.0	Mechanical Tilt:	2.2
Antenna Type:	Dual Polarized	Bearing:	22
Antenna Serial #:	12US440000066	Height	22
Oper. Band:	II : UL 1850-1910, DL 1930-1990 MHz	Technology:	Voice
Base Station ID:	AITM_t1	Installer ID:	2to2
Sector:	SEC1	Location:	2
Antennas Includ	ed In Move:	Additional Compatible	e Antennas:
AN000012US44 AN000012US44	0000071.t1 0000066.t1 < Add Remove>	AN000012US44000	0066.t2
Set Sector Tilt F	osition nt TiltCurrent Tilt: 8.0	New Tilt:	
Click Close. –	Close Activat	e	

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  $\rightarrow$ 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  $\rightarrow$ 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).

File Communication Tools Help									
Save Text Site Report	_	- Auto-	Discovery	,					
Save Tabbed Site Report		A Num	berof I				_		
Exit	arm <mark>s Clear A</mark>	arms Self Test devi	ces	Unknow	in 💌	Vendor ty	/pe: 🖲	Comms	cope 🔿 All
				- 1				~	1e 1 1
Device Information			ind Devid	85				Canu	el bearch
ID Ad	ldr Status	Base Station ID	MTilt	ETilt	AZ/Pan	BW/Fan	Sector	Loc.	AISG
AN08ARTLAB012345011.t 2	.1 ОК	ART5400001	-12.8	8.0			SEC1	4	1.1
AN08AR.TLAB012345011.p 2	2 OK	AR.T5400001	-12.8		-8		SEC1	4	1.1
AN08ARTLAB012345011.f 2	.з ОК	ART5400001	-12.8			101	SEC1	4	1.1
AN000010ASZP0950726.t 3	.1 ОК	ART740000	3.3	8.0			SEC1	3	1.1
AN000010ASZP0950726.p 3	I.2 OK	ART740000	3.3		5		SEC1	3	1.1
AN000010ASZP0950726.f 3	.з ОК	ART740000	3.3			40	SEC1	3	1.1
	Go to	File → Save Text Site Report.							
<u> </u>									>
	Show RETs	Move Sector Move Select	ed	E	dit Selected	±			
	-								
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.

Save an ATC Lite	Site Report Fi	le Dansann (1996)			?×
Save jn:	ATCLite_S	ite_Files	•	🕈 🗈 💣 📰 •	
My Recent Documents Desktop My Documents	<ul> <li>■ 02_04_08-1</li> <li>■ 06_15_07-1</li> <li>■ 09_13_07-1</li> <li>■ 10_04_07-1</li> </ul>	5_01_40-ART.txtrpt 0_57_45-RETSITE_1.txtrpt 4_48_03-RET-SITE_1.txtrpt 2_40_17-RET-SITE_1.txtrpt			
My Computer My Network Places	File <u>n</u> ame: Save as <u>type</u> :	10_23_08-11_10_06-ARTS	563412.1: pt)	3. Click Sav	Cancel
<ul> <li>Assign a file</li> <li>The date, tin</li> <li>for the sugg<sup>i</sup></li> </ul>	name to the re ne, and the St ested filename	eport. ation ID of the first config e.	gured a	actuator are used	
2. Select the fil Files saved editor, such	e type in the '*.txtrpt' as Notepad o	format can be opened ir r Wordpad.	n Word	or any other text	

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.* 

 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.

This directory	r is located on the C:\ drive.	2 1
Look in:	ATCLite_Site_Files	+ Tools +
My Recent Documents Desktop My Documents	<ul> <li>D2_04_08-15_01_40-ART.txtrpt</li> <li>D2_04_08-15_16_09-ART.tabrpt</li> <li>D6_15_07-10_57_45-RETSITE_1.txtrpt</li> <li>O9_13_07-14_48_03-RET-SITE_1.txtrpt</li> <li>O9_13_07-15_39_48-RET-SITE_1.atccfg</li> <li>O9_13_07-15_41_10-RET-SITE_1.tabrpt</li> <li>I0_04_07-12_40_17-RET-SITE_1.txtrpt</li> <li>I0_04_07-12_46_14-RET-SITE_1.tabrpt</li> <li>I0_04_07-12_46_14-RET-SITE_1.tabrpt</li> <li>I0_23_08-11_10_06-ART563412.txtrpt</li> <li>log1.txt</li> </ul>	
My Computer My Network Places	File name:       Files of type:       All Files (*,*)	4. Click Open.
<ol> <li>Change file to This will allow</li> <li>Select the tx</li> </ol>	ype to <b>All Files (*.*)</b> v the file saved as a report for Word to be seen for selection. <b>trpt</b> file	

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.

Save an ATC Lite	Site Report F	ile			<u>?</u> ×
Save jn:	ATCLite_9	Site_Files	-	+ 🗈 💣 🔳	]-
My Recent Documents Desktop My Documents	302_04_08- 309_13_07- 310_04_07-	15_16_09-ART.tabrpt 15_41_10-RET-SITE_1. 12_46_14-RET-SITE_1.	tabrpt tabrpt		
My Computer			]	3. Click <b>S</b>	ave. —
My Network Places	File <u>n</u> ame: Save as <u>t</u> ype:	10_23_08-11_34_ Tabbed Site Repo	_25-ART563412.ta ort File (*.tabrpt)		<u>S</u> ave Cancel
<ul> <li>1. Assign a file The date, tir for the sugg</li> </ul>	ename to the me, and the S ested filenan	report. Station ID of the firs	st configured a	actuator are use	ed
2. Select the fi Files saved spreadshee	le type in the *.tabrp t software pro	t format can be op ogram.	ened in Excel	or any other	]
	Figu	re 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.  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.

pen		<u>? ×</u>
Look in:	ATCLite_Site_Files	🔹 Tools 🔹
My Recent Documents Desktop My Documents	02_04_08-15_01_40 ART.txtrpt                  02_04_08-15_16_09-ART.tabrpt                 06_15_07-10_57_45-RETSITE_1.txtrpt                 09_13_07-14_48_03-RET-SITE_1.txtrpt                 09_13_07-15_39_48-RET-SITE_1.txtrpt                 09_13_07-15_41_10-RET-SITE_1.txtrpt                 09_13_07-15_41_10-RET-SITE_1.txtrpt                 10_04_07-12_40_17-RET-SITE_1.txtrpt                 10_04_07-12_46_14-RET-SITE_1.txtrpt                 10_02_08-11_10_06-ART563412.txtrpt                 10_23_08-11_34_25-ART563412.txtrpt                 10_123_08-11_34_25-ART563412.txtrpt	
My Computer My Network Places	File name:	4. Click Open.

3. Select the tabrpt file. -

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.

Status, Test, and Inform	nation	outtons							
File Communication Tools He	lp								
Device Status and Test	Device Status and Test       Auto-Discovery         Get Device Info       Get Alarms       Self Test         Wrice Information       Find Devices						Vendor type:  Commscope  All Cancel Search		
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETilt	Gain	
\varTheta AN0000a000c3615133a.1	1.1	TMA	ОК	TMAP80.1	1	2.0		12	
AN0000a000c3615133a.2	1.2	TMA	OK	TMAP80.2	SECTOR1	2.0		0	
AN0000DE5A083358913		RET	OK	ART54100C		1.1	2.0		
AN0000DESA083562405	3	RET	ОК	ART540600	SECT	1.1	6.0		
AN0000DESA092674595	4	RET	OK ART540600		SECT	1.1	6.0		
AN0000ASZP081214107	5	RET	OK	ART540700	1	1.1	3.0		
		— Sele	ct the device in tl	ne Device Information list.					
	9	5huw All Devi	iues 💌 🛛 Move S	iector Move Selected	Edit Selected				

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.

- To query a device for its alarm status, first click on the device in the **Device Information** list (Figure 10-1).
- 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).

#### 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 popup notification (Figure 10-5).



Figure 10-5. Self Test Results.



Figure 10-4. Alarms Cleared.

close to the minimum or m

## 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).

	File Communication Tools Help										
	Device Status and Test	Get Alarms	;	Elear Alarms	Self Test Auto-Discovery Vumbor of Unk	nown 💌	Vendor typ	ie: 🖲 Comn	nscope 🔿 All		
	Device Information				Find Devices			Ca	ncel Search		
	ID	Addr	Туре	Status	Dase Station ID	Dase Station ID Sector AISG ETilt					
	🔴 AN0000a000c3615133a.1	1.1	TMA	ОК	TMAP80.1	1	2.0		12		
	AN0000a000c3615133a.2	1.2	TMA	OK	TMAP80.2	SECTOR1	2.0		0		
	AN0000a000t8259663a.1	2.1	TMA	ОК	AndrewTMAmain.1	sector1	2.0		10		
t	🖞 🌻 AN0000a000t8259663a.2	2.2	TMA	Minor TMA Fault	AndrewTMAmain.2	sector2	2.0		10		
	AN0000DESA083358913	3	RET	ОК	ART54100C	1	1.1	2.0			
	AN0000DESA083562405	4	RET	ОК	ART540600	SECT	1.1	6.0			
	AN0000DESA092674595	5	RET	OK	ART540600	SECT	1.1	6.0			
		— TM.	Adevices	tatus reporting A	larm message.						
		2	5how All Devi	ices 💌 Move S	ector Move Selected	Edit Selected					

Figure 11-3. TMA Status reporting Alarm

#### **11.2 Retrieving Current Alarm from TMA**

Alarms from TMA can be retrieved through user on request.

File Communication Tools Help										
Device Status and Test				Auto-Discovery						
Get Device Info	et Alarm:	sC	lear Alarms	Self Test Unkn	own 💌	Vendor typ	e: 🖲 Comr	nscope 🔿 All		
Device Information				Find Devices			Ca	ncel Search		
ID	Addr	Туре	Status	Dase Station ID	Sector	AISG	ETilt	Gain		
🔴 AN0000a000c3615133a.1	1.1	TMA	OK	TMAP80.1	1	2.0		12		
🔴 AN0000a000c3615133a.2	1.2	TMA	OK	TMAP80.2	SECTOR1	2.0		0		
🔴 AN0000a000t8259663a.1	2.1	TMA	ОК	AndrewTMAmain.1	sector1	2.0		10		
AN0000a000t8259663a.2	2.2	TMA	OK	AndrewTMAmain.2 sector2		2.0		10		
AN0000DESA083358913	3	RET	OK	ART54100C	1	1.1	2.0			
AN0000DESA083562405	4	RET	OK	ART540600	SECT	1.1	6.0			
AN0000DESA092674595	5	RET	OK	ART540600	SECT	1.1	6.0			
	Г	والمعتب المالي ومن	un al Sak G	ain Cat Dunner Mode	Edit Calastad	1				
	I	DHOW AILDEVIL			Lait Jeletteu					
1										

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).
- 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).

	ent en la sub-section de la sub-										
Ľ	-ile Communication Tools He	ιp									
	Device Status and Test				Aul	to-Discovery					
	Get Device Info G	et Alarms	Clear Ala	rms	Self Test		umber of Unknown 💌 Vendor ty evices	pe: 🖲 Commscope 🤇	) ali		
	Device Information (Right click to	) update fi	rmware)				Find Devices	Cancel Sear	Cancel Search		
	ID	Addr	Product Type	AISG	Status	Sector	Base Station ID	Base Station ID Mode Gain			
	AN0000a000c3615133a.1	1.1	E15508P80	2.0	ок	1	TMAP80.1	Normal 12	2		
	AN0000a000c3615133a.2	1.2	E15508P80	2.0	OK	SECT	TMAP80.2	Bypassed 0			
	AN0000a000K0361682a.1	2.1	E15Z09P93	2.0	OK	SEC1	B500002	Normal 8			
	AN0000a000K0361682a.2	2.2	E15Z09P93	2.0	ОК	SEC1	B500003	Normal 10	)		
		— 1.	Click on TMA t	o be cc	onfigured.		2. Clic	k Edit Selected.			
		<b>A</b>	now TMAs	>	Set Gain	Set Bypass view disp	Mode				
	l.										

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 formost 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.

Í	Configuring TMA AN0000a000K0361682a	n.1 at Address 2.1 - 🛛 🔀
	Base Station ID B500002	Sector SEC1
	Install Date 09/05/13	Installer ID IND1
	TMA Data	
	TMA Model E15Z09P93	
	TMA Type 192	Max Gain 12
	TMA Rx Band 1710.0 1770.0	Min Gain 4
	TMA T× Band 2110.0 2170.0	Gain Resolution 1
	Cancel	Configure 2. Click Configure.
	1. Make Appropriate text entries. A	l configuration data is stored in the

individual TMA unit.



- 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.

Configure Device	
Are you sure you want to make these changes to the TMA?	If satisfied with now
Yes No	configuration data, Click Yes.

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

#### Section 12–Device Configuration with TMA

F	File Communication Tools Help										
	Device Status and Test	iet Alarms	Clear Ala	ns	Self Test		Discovery mber of Hinkmissin Vendor typ vices	ce: 🗭 Commisco	Search		
	ID	Addr	Product Type	AISG	Status	Sector	Base Station ID	Mode	Gain		
	🔴 ANCOO0aCOOc3615133a.1	1.1	E15508P80	2.0	ок	1	TMAPBO.1	Normal	12		
1	ANCO000000036151335.2-		515508980	-2-0-	QK	SEGT	11/14P00.2	– Bypassed– –	- 4		
К	4MC000aC00K0961682a 1	21	F15709P93	2.0	Configuring						
	ANCOO08000KD361662a.2	2.2	E15Z09P93	2.0	ок	SEC1	B500003	Normal	10		
	New/Ch being se	anged c ent to th	onfiguration da e TMA unit.	ta							
	Show TMPs Set Gam Set Bypass Mode Edit Selected										
	Sending new cont	igurati	on to device	add	iress z.i, pi	ease wa	IL				

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).

File Communication Tools Help											
Device Status and Test					Aut	o-Discovery					
Get Device Info	et Alarms	Clear Ala	rms	Self Test	Number of devices Unknown Vendor type: © Commscope C All						
Device Information (Right click t	Find Devices	Cance	Search								
ID	Addr	Product Type	AISG	Status	Sector	Dase Station ID	Mode	Gain			
AN0000a000c3615133a.1	1.1	E15508P80	2.0	ОК	1	TMAP80.1	Normal	12			
AN0000a000c3615133a.2	1.2	E15508P80	2.0	OK	SECT	TMAP80.2	Bypassed	0			
AN0000a000K0361682a.1	> 2.1	E15Z09P93	2.0	ŌK	SEC1	B500002	Normal	8			
AN0000a000K0361682a.2	2.2	E15Z09P93	2.0	OK	SEC1	B500003	Normal	10			
	<u> </u>	lick on TMA t	o Char	ge the gain							
			e enar	Be the Bann							
						2. Click <b>Set Gain</b> .					
	<b>(</b>	uw TMAs 🔻	$\sim$	Set Gain	Set Dypass	Mode Edit Selected					
		L Se	elect fo	or TMA Devices	s view disj	blay.					

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.

	TMA R× Band	4060.6	3238.2	TMA T× E	and 2110.0	2155.0
1	Min Gain	12	Max Gain 🗍	12	Gain Resolution	0
Ì	Current Gain	12	Mini	mum and	Maximum Gain	values are
	- Set Gain					
	Apply New Gain to sub-units (listed below) that matches the Frequency Bands (Rx/Tx)					
	Apply Nev	v Gain to sub-	units (listed below) t	that matches	the Frequency Bands	s (Rx/Tx)
	MAPPIN Nev	v Gain to sub- ID	units (listed below) t	that matches	the Frequency Bands urrent Gain	s (Rx/Tx)
	MAPPIY Nev	v Gain to sub-i ID	units (listed below) t	that matches	the Frequency Bands urrent Gain Set Ga	s (Rx/Tx)
	Mew Gain	v Gain to sub-i ID	units (listed below) t	that matches	the Frequency Bands urrent Gain Set Ga	s (Rx/Tx)

Disabled for Fixed Gain TMA unit.



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.

	TMA Device AN0000a000K0361682a.1 Operation	
	TMA Rx Band         1710.0         TMA Tx Band         2110.0         2170.0	
	Min Gain 4 Max Gain 12 Gain Resolution 1	
	Current Gain 8	
	Set Gain           Apply New Gain to sub-units (listed below) that matches the Frequency Bands (R×/T×)	
	TMA Device ID Current Gain	
		- Subunits that match
		the RX/TX band with
-<	New Gain 9 Set Gain	the current subunit.
	Close 2. Click on <b>Set Gain</b> .	
_	1 Enter the new Gain value to be set on TMA	

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).

Configure Device	
Are you sure you want to set the Gain to the TMA?	To proceed with
	sending new Gain, Click Yes.

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.

Configu	ration Success 🛛 🛛 🔀
(į)	Configuration change to device Address 2.1 completed successfully!
	Click <b>OK</b> .

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).

File Communication Tools He	lp							
Device Status and Test       Auto-Discovery         Get Device Info       Get Alarms       Self Test         Number of devices       Unknown <ul> <li>Vendor type:</li></ul>								
Device Information (Right click to	o update f	irmware)	,					
ID	Addr	Product Type	AISG	Status	Sector	Dase Station ID	Mode Gain	
\varTheta AN0000a000c3615133a.1	1.1	E15508P80	2.0	ОК	1	TMAP80.1	Normal 12	
AN0000a000c3615133a.2	1.2	E15508P80	2.0	OK	SECT	TMAP80.2	Bypassed	
AN0000a000K0361682a.1	2.1	E15Z09P93	2.0	ОК	SEC1	B500002	Normal 9	
AN0000a000K0361682a.2	2.2	E15Z09P93	2,0	OK	seci	B500003 Gain values set. —	Normal 9	
	s	Iruw TMAs 💽		Set Gain	Set Dypass	Mode Cdit Selected		

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).

	TMA Device AN0000a000K0361682a.2 Operation
	TMA Rx Band         1710.0         TMA Tx Band         2110.0         2170.0
	Min Gain 4 Max Gain 12 Gain Resolution 1
	Current Gain 9
	Set Bypass Mode
	Amplifier Bypassed Set Bypass Mode
ſ	Amplifier On Amplifier Bypassed
	Close 2. Click on Set Bypass
L	Mode .

└ 1. Select the Operating Mode to be set on TMA.

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.

File Communication Tools H	elp								
File Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Numbor of Unknown       Vendor type: Commscope All devices         Device Information (Right click to update firmware)       End Devices         ID       Addr       Product Type         AN0000a000c3615133a.1       1.1       E15508P80       2.0         AN0000a000c3615133a.2       1.2       E15508P80       2.0       OK       1       TMAP80.1       Normal       12         AN0000a000c3615133a.2       1.2       E15508P80       2.0       OK       SEC1       Bypassed       0         AN0000a000k0361682a.1       2.1       E15209P93       2.0       OK       SEC1       B500002       Normal       9         AN0000a000k0361682a.2       2.2       E15209P93       2.0       OK       SEC1       B500003       Bypassed       0									
Device Information (Right click I	:o update f	irmware)				Find Devices	Cance	el Search	
ID	Addr	Product Type	AISG	Status	Sector	Dase Station ID	Mode	Gain	
🔴 AN0000a000c3615133a.1	1.1	E15508P80	2.0	ОК	1	TMAP80.1	Normal	12	
AN0000a000c3615133a.2	1.2	E15508P80	2.0	OK	SECT	TMAP80.2	Bypassed	0	
AN0000a000K0361682a.1	2.1	E15Z09P93	2.0	ОК	SEC1	B500002	Normal	9	
AN0000a000K0361682a.2	2,2	E15Z09P93	2.0	OK	SEC1	B500003 🧹	Bypassed	0	
Find Devices       Cancel Search         ID       Addr       Product Type       AISG       Status       Sector       Dase Station ID       Mode       Gain         AN000000003615133a.1       1.1       E15508P80       2.0       OK       1       TMAP80.1       Normal       12         AN000000003615133a.2       1.2       E15508P80       2.0       OK       SECT       TMAP80.2       Bypassed       0         AN000000000000000000000000000000000000									
	s	huw TMAs 👤		Set Gain	Set Dypass	Mode Edit Selected			

Figure 14-4. Operating Mode changed for TMA

## Part 7

# Operating Instructions for Antenna Sharing

## Section 15 Antenna Sharing Configuration

#### 15.1 Overview

The latest Commscope antennas have the ability to antenna share that support independent beamtilt 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.

S Antenna Tilt Controller Lite 8.4.1 (USB)					- 🗆 🗙						
File Communication Tools Help			1. 0	Click to							
Device Status and Test		Auto-Discoverv	sea	rch for							
		Number of T									
Get Device Info Get Alarms Cle	ear Alarms Se	If Test devices	Jnknown 👻 Ven	dor type: 💌 Con	nmscope 🤆 All						
Antenna Tilt Controller Lite 8.4.1 (USB)         The Communication Tools Help         Device Status and Test         Get Device Info       Get Alarms         Clear Alarms       Self Test         Device Info       Get Alarms         Clear Alarms       Self Test         Device Info       Get Alarms         Clear Alarms       Self Test         Device Information       Vendor type:         ID       Addr         Type       Status         Base Station ID       Sector         ALIO ODOCETRN 16509049MM.1       1.1         MultRET       OK         CP000ETRN 16509049MM.3       1.2         MultRET       OK         CP000ETRN 16509049MM.4       4.4         MultRET       OK         CP000ETRN 16509049MM.5       1.5         MultRET       OK         2.0       7.5         CP000ETRN 16509049MM.6       1.6         MultRET       O											
Device Information											
ID Addr Type	Status	Base Station ID	Sector	AISG ETilt	Gain						
CP000ETRN16509049MM.1 1.1 MultiRET	OK			2.0 7.5							
CP000ETRN 16509049MM. 2 1.2 MultiRET	OK			2.0 7.5							
CP000ETRN 16509049MM.3 1.3 MultiRET	OK			2.0 7.5							
CP000ETRN 16509049MM.4 14 MultiRET	OK			2.0 7.5							
CP000ETRN 16509049MM.5 1.5 MultiRET	OK			2.0 7.5							
CP000ETRN 16509049MM.6 1.6 MultiRET	OK			2.0 7.5							
2. Selec	t the										
device											
		1 1 1 1 1		1							
Show All Devic	Move Secto	r Move Selected	Edit Selected	]							
)											

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.

S Antenna Tilt Contro	ller Lite 8.	4.1 (USB)							- 🗆 X
File Communication Tools	Help								
Antenna Tilt Controller Lite 8.4.1 (USB) ile Communication Device Status and Get Device Information ID CP000ETRN16509049MM.1 1.1 MultiRET CP000ETRN16509049MM.2 1.2 MultiRET CP000ETRN16509049MM.3 1.3 MultiRET CP000ETRN16509049MM.5 1.5 MultiRET CP000ETRN16509049MM.6 1.6 MultiRET	Mode	arms Self T	Fest	Auto-Discover Number of devices Find Devi	y Unknown 💌	Vendor type:	Comms	cope C All	
ID An	itenna Sharino	Configuration	Change Selected Ar	ntenna's Confiqu	ration	Sector	AISG	CTilt	Gain
CP000ETRN 16509049M	IM.1 1.1	MultiRET	View Selected Anter	nna's Configurati	ion		2.0	7.5	
CP000ETRN 16509049M	IM.2 1.2	MultiRET	Open Antenna Shar	ing Configuration	Builder		2.0	7.5	
CP000ETRN 16509049M	M.3 1.3	MultiRET	OK				2.0	7.5	
CP000ETRN 16509049M	IM.4 1.4	MultiRET	OK				2.0	7.5	
CP000ETRN 16509049M	IM.5 1.5	MultiRET	OK			<u> </u>	2.0	7.5	
CP000ETRN 16509049M	M.6 1.6	MultiRET	ОК		<b>3.</b> Selec apply t Antenn configu	ct to view and he available ia share irations	2.0	7.5	_
	ļ	Show All Devices	Move Sector	. Move	Selected	Edit Selected .			
,									

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.

Antenna	Share	• Configuration		×	
Selec (from	ct the / n list be	Antenna Share Configuration elow) for the Antenna Mode	File COMMRET2_IOT_6		
Cor	nfigura NISG 1	tion:	AISG 2	<b>4</b> . Ar	Available Itenna share
M	lode	MRET	Mode	Co	onfigurations
В	lands	R1 [824-960] MHz R2 [824-960] MHz Y1 [1710-2170] MHz Y2 [1710-2170] MHz Y3 [1710-2170] MHz Y4 [1710-2170] MHz	Bands		
	5 t	5. Send the configuration he device through AISG	Send Configuration		

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.

S Antenna Tilt Co	ontroller L	ite 8.4	4.1 (USB)										_ 🗆 🗙
File Communication	Tools Help												
Device Status and       Antenna Files         Get Device Info       Addressing         Calibrate       Calibrate         Device Information       Tower Mounted Amplifier (TMA)         ID       Antenna Sharing Configuration		) )	rms	Self Test	Configu	Auto-Discove Number of devices Find Dev	IUnknown	• Vi	endor type:	Comm     ETilt	scope C All		
CP000ETRN16509	9049MM.1	1.1	MultiRET		View Selected	d Antenna's Cor	nfigurati	ion			2.0	7.5	
CP000ETRN1650	9049MM.2	1.2	MultiRET		Open Antenn	ha Sharing Conf	guration	n Builder			2.0	7.5	
CP000ETRN 1650	9049MM.3	1.3	MultiRET		OK						2.0	7.5	
CP000ETRN1650	9049MM.4	1.4	MultiRET		OK						2.0	7.5	
CP000ETRN1650	9049MM.5	1.5	MultiRET		OK				$\searrow$		2.0	7.5	
CP000ETRN1650	9049MM.6	1.6	MultiRET		OK			1. Se curre confi graph	lect to view tl ent antenna sl guration thro hic tool	he haring ugh a	2.0	7.5	
		s	how All Devices	•	Move Se	ector	Move	Selected	Edit Se	lected			

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 II the RETs are assigned to AISG1 in this 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

→ → → <a>Computer • System (C:</a>	*) • Program Files (x86) • Commscope • ATC Lite •	> ▼ 🙀 Sear	ch ATC Lite	2	
Organize 👻 Include in library 👻 Sha	re with 👻 Burn Compatibility files New folder			III • 🔟 😡	
🖃 🍌 Program Files (x86)	Name -	Date modified	Туре	Size	
🕀 🍌 Adobe	AntennaShareConfig	12/1/2017 3:03 PM	File folder	Convithe support files	
Aladan     Andrew Cornoration	AntennaShareData	12/1/2017 3:03 PM	File folder	Lopy the support files	
Android	LINX QS Drivers	12/1/2017 3:03 PM	File folder	.ngcr2/.Alviv100_/.jpg/.	put
AppInsights     Copy t	he data files	12/1/2017 3:03 PM	File folder	to this folder	
Application Verifier (dat)	AccuRET 1fw.bin	3/16/2015 4:21 PM	BIN File	99 KB	
CACE Technologies folder	ACRET1-TABLE_014.ar1t	11/17/2017 1:19 PM	AR 1T File	11 KB	
Caphyon	AIAMfw.bin	3/16/2015 4:21 PM	BIN File	75 KB	
+ Cisco	AITMfw.bin	3/16/2015 4:21 PM	BIN File	93 KB	
T Common Files	ARGUS-ANfw.txt	3/16/2015 4:21 PM	Text Document	1 KB	
] 🔒 Common 7	ATCLite.chm	8/22/2017 1:49 PM	Compiled HTML	Help 11 KB	
😑 🕌 Commscope	S ATCLite.exe	11/3/2017 1:51 PM	Application	2,520 KB	
🗉 🗼 ATC Lite	ATCLite_EN.dl	9/21/2017 11:17 AM	Application exte	nsion 259 KB	
AntennaShareConfig	ATM300fw.bin	3/16/2015 4:21 PM	BIN File	70 KB	
AntennaShareData	COMMRET 1fw.bin	7/26/2017 2:15 PM	BIN File	248 KB	
TMA	COMMRET2fw.bin	11/2/2017 3:47 PM	BIN File	239 KB	

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)

 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.

S Antenna Tilt C	ontroller L	ite 8.4	.1 (USB)									- 🗆 🗙
File Communication	Tools Help											
Device Status and Get Device Info	Antenna Files Switch Protocol Mode ► Addressing Calibrate Actuator Factory Reset Tower Mounted Amplifier (TMA) ►			► arms	Auto-Discovery           Auto-Discovery           Number of devices           Find Devices			ope 🤆 All				
	Antenna	Sharing	Configuration		Change Se	elected Antenna's Configu	uration		Sector	AISC	FTilt	Gain
CP000ETRN 1650	09049MM.1	1.1	MultiRET		/iew Selec	ted Antenna's Configurat	tion		Dector	2.0	7.5	
CP000ETRN1650	09049MM.2	1.2	MultiRET		реп Апс	enna shartig Corniguratio	on builder			2.0	7.5	
CP000ETRN 1650	09049MM.3	1.3	MultiRET		OK	$\sim$				2.0	7.5	
CP000ETRN 1650	09049MM.4	1.4	MultiRET		OK	$\sim$				2.0	7.5	
CP000ETRN 1650	09049MM.5	1.5	MultiRET		OK					2.0	7.5	
CP000ETRN 1650	09049MM.6	1.6	MultiRET		OK	$\sim$				2.0	7.5	
						1. Select Antenna Configu	t to Launch th a Sharing Iration Builder	e Tool				
		s	how All Devices	•	Move	Sector Move	e Selected	Edit	Selected			

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

CRET V2 Antenna Share	- Configuration Tool		
en Save Open Export	Delete Select Associate All Associate All to AISG 1 to AISG to AISG 1 to AISG Connections	e All Image Contrast Help About	
ecomparation	Antenna Mod	el: COMMRET2 IOT 6	Antenna Share Mappi
RE	RET3 - Y1	RET4 - Y2 PORTANT SG In And SBT Modern roup At The Same Time	AISG 1 (MRE1) <> K1 AISG 1 (MRET) <-> R2 AISG 1 (MRET) <-> R2 AISG 1 (MRET) <-> Y1 AISG 1 (MRET) <-> Y3 AISG 1 (MRET) <-> Y4
RET1 - R1		OUT IN	
•			
		AISG 1	

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

#### 15.5.2 Launching tool without any connected devices (offline)

 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.

S Antenna Tilt C	ontroller Lite 8.4.1 (USB)			
File Communication  Pevice Status and  Get. Device Info  Device Information  ID	Tools Help Antenna Files Switch Protocol Mode Addressing Calibrate Actuator Factory Reset Tower Mounted Amplifier (TMA) Antenna Sharing Configuration	Trms Self Test     Change Selected Anten     View Selected Antenna's     Open Antenna Sharing (	Auto-Discovery Number of devices of Find Devices a's Configuration configuration Builder 2. Select to Launch the Antenna Sharing Configuration Builder Tool	vn vendor t
	Show All Device	s 💌 Move Sector	Move Selected,	Edit Selected
Startup com	plete			

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

	۲ V2 Antenna Share	- Configuration Tool				×
Open	Save Open Export	Delete Select All to AISG 1	Image Contrast	Help About		
File	Configuration	Connections	Tools	Help		
	Antenna Model:					
II II						
						<u>د</u>

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.

CRET V2 Antenna Share - Configuration Tool	8
Open     Save     Open     Export       Image     Configuration     Image     Connections	
Antenna Model:	Antenna Share Mapping
1. Click on the Save button         2. Select the Antenna Model with annotation from list below         COMMRET2_IOT_6         Open         Cancel         3. Click 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.

CRET V2 Antenna Share - Configuration Tool     Open Save Open Export     All to AlSG 1 to AlSG 2     All to AlSG 1 to AlSG 2     All Contrast Help About     All Contrast Help About	Image: Second se
File Configuration Connections Tools Help	
Antenna Model: COMMRET2_IOT_6	Antenna Share Mapping
1. Click on the Save button RET2 - R2	AISG 2 (SRET) <> R1 AISG 2 (SRET) <> R2 AISG 2 (SRET) <> Y1 AISG 1 (SRET) <> Y2 AISG 1 (SRET) <> Y3 AISG 1 (SRET) <> Y4
RET1 - R1 OUT OUT Save Concel	<b>2.</b> Use the given name or Enter the file name of your choice.
AISG 2 AISG 2 AISG 1 AISG 1	er the

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.

CRET V2 Antenna Share - Configuration Tool	8
Open     Save     Open     Export       Image     Contraction     Image     Contraction	
Antenna Model: COMMRET2_IOT_6	Antenna Share Mapping
RET3 - Y1 RET3 - Y1 RET4 - Y2 Open Antenna Share Configuration Select Antenna Share Configuration File from list below: COMMRET2_IOT_6_A1M_RIR2Y1Y2Y3Y4_20170411:4at Open Cancel Open AISG 2 SET SEC NOT SICICk on the Open button to load the configuration NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC NOT SEC SEC NOT SEC NOT SEC SEC NOT SEC SEC SEC SEC SEC SEC SEC SEC	2. Select the Antenna Sharing Configuration file from the list.

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.

# Part 8 Appendix

### **Appendix A** Letter of Compliance

	$\mathbf{A}$	
Certification Services	TÜV	TUV Rheinland of North America
Attn.: Mr. Hal Asbridge Andrew Corporation		Izabela Marinovich
2601 Telecom Parkway Richardson, TX 75082-352 USA	21	09/25/2005
Re: CB-Certification Standards: CB Certificate Number: Test Report Number: Product:	IEC 60950-1:2001 US-TUVR-2596 30582097.001 Controller ATC200-LITE-USB	
Model Designation(s):		
Model Designation(s): Dear Mr. Asbridge Enclosed please find your product.	CB certificate and test report for above mentioned	
Model Designation(s): Dear Mr. Asbridge Enclosed please find your product. We at TUV Rheinland of N error free documentation soon as possible so that w Please feel free to contact	CB certificate and test report for above mentioned orth America, Inc. make every effort to provide you with In the event that you find any errors, please inform us as e may make the necessary corrections.	TUV Rheinland of North America, Inc.
Model Designation(s): Dear Mr. Asbridge Enclosed please find your product. We at TUV Rheinland of N error free documentation soon as possible so that w Please feel free to contact the future concerning the s Sincerely,	CB certificate and test report for above mentioned orth America, Inc. make every effort to provide you with In the event that you find any errors, please inform us as e may make the necessary corrections. me if you have any questions concerning this matter or in services offered by TUV Rheinland of North America, Inc.	TUV Rheinland of North America, Inc. North American Headquar 12 Commerce Road Newtown, CT 06470

### **Appendix B** Declaration of Conformity





#### **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					



#### **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					