

Instruction Sheet

639544 Revision M, July 2016

ATC200-1000 & ATC300-1000/2000 Remote Control Variable Electrical Downtilt System

Installation and User Guide



Revision History

Revision No.	Date	Description of Changes
A	December 2007	Released
В	October 2008	Added instructions on how to configure the controller to operate using an SNMP agent (Section 8).
		Moved instructions on Uploading Firmware Manually to Appendix C.
		Rewrote instructions on Uploading Device Firmware, which includes how to change AISG mode in device (Sec- tion 10).
		Added instructions on AISG Reset Capabilities and Using AISG Control Tools to Section 11.
		Added instructions on manually setting an IP address for Windows Vista operating systems to Appendix B.
С	November 2008	Added 3 sections about Multiple Integrated Actuators.
		Added SmartBeam Antenna Sections to explain configuration and adjustments.
		Added Section 23 to explain Tower Mounted Amplifiers.
D	May 2009	Section 7 introduces bus is externally powered feature.
		Section 9 changes from download the antenna definition file to antenna definition file releases are bundled with controller firmware.
		Section 10 explains the Firmware Bundle Version Num- bering.
		Added Section 10.4, Using the Controller Help Menu: About and Software Versions.
		Section 11 added 64 device database expansion.
		Section 12 introduces generic antenna model naming.
		Section 15 shows addition of 1-way SmartBeam [®] antennas.
E	December 2009	DHCP added to Sections 6, 7, and Appendix B.
F	May 2010	Update ATC300-1000 Operations Manual to also cover
		ATC200-1000 Operations Manual.
G	November 2010	Correct drawing.
Н	August 2012	Change ATC300/ATC200 Operations Manual to support
		ATC300 release 2.34_A.

Revision No.	Date	Description of Changes
J	December 2012	Change ATC300/ATC200 Operations Manual to support ATC300-2000 and Software release 2.36.
К	September 2013	Updated section 23 to better describe changing TMA Gain.
L	August 2014	Updated section 23 for new features added for TMA con- trol with the software release 2.37_A
М	July 2016	Updated with CommScope branding template; remove teletilt.

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Notices and Precautions

IMPORTANT

Before installing/operating the ATC300-1000/2000 controller, please **DOWNLOAD the latest controller software** from the CommScope web site at www.commscope.com. Please register online to receive E-mail notifications for software updates.

<u>CAUTION</u>

If using the 48V power connection on the ATC200-1000, ensure wires are properly connected. Reversing the wires can cause permanent damage to the controller.

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 pretesting actuators on the ground prior to installation, using the CommScope portable controller and the latest version of the controller software (available online at www.commscope. com/Resources/Software). This will verify proper actuator functionality and also ensure that the latest available actuator firmware release is installed on the actuator. Failure to conduct pre-test and pre-installation procedures defined by CommScope will void warranty.

Unauthorized removal of a protective shroud to replace actuators voids the CommScope 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.

It is recommended that transmit power be turned off when the field installation is performed. Follow all applicable safety precautions as shown on this page.



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



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



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

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<u>WARNING</u>

It is very important to disconnect the ATC200-1000 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 ATC300-1000/2000 System. ESD can occur during handling of equipment without the user feeling a shock. The following precautions should be taken to prevent ESD.

- 1. Wear an ESD wrist strap (Figure 1) and/or use a test lead (ground), such as a single-wire conductor with a series resistance of 1 megohm equipped with alligator clips on each end. In using a ground, one end of the alligator clip is connected to a grounded equipment frame and the other end of the alligator clip is touched with a bare hand.
- 2. Other precautions the user may take to reduce the risk of ESD are:
 - avoid wearing clothing that conducts static electricity, such as wool
 - remove all jewelry
 - avoid handling equipment during an electrical storm
- 3. Before opening a package containing an electrostatic unit or an electrostatic sensitive device/ assembly, clip the free end of a test lead to the package. Leave the other end connected to the equipment frame or other ESD ground. This will





Figure 1. ESD Wrist Strap.

cause any static electricity which may have built up on the package to discharge. Keep the unit package grounded during removal or placement of equipment in the package.

- 4. Minimize handling of ESDS (Electric Static Discharge Sensitive) equipment. Keep replacement equipment in the electrostatic-free packaging (with ground established between packaging and equipment frame) until needed. Repairable ESD equipment should be placed in the electrostatic-free packaging (with ground connecting package to equipment frame) upon removal from ATC300-1000/2000 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.



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- 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 System Description

1.0 Section Overview

This section discusses the use of components used in the ATC300-1000/2000 or ATC 200-1000 system.

1.1 ATC200-1000 Antenna System Controller

The ATC200-1000 controller, shown in Figure 1-1, serves as an interface between a local PC/laptop or a company network and the remote electrical downtilt devices (actuators/TMAs). This unit uses software designed for communication between the controller and its attached AISG devices. To download the latest software, go to the CommScope Products tab on (www.commscope.com/ Resources / Software)



Figure 1-1. ATC200-1000 Antenna System Controller

Communication Ports and Power Connections (Figure 1-1):

- 9-pin 'D' style RS-232 connector port used to connect to a local PC's COM port
- Ethernet port used to connect to a local PC's Ethernet port or a network/Internet
- · Both dc and ac connections for the power supply module
- 8-pin connector port (RET) for the AISG (Antenna Interface Standards Group) control cable assembly, which is used to manage up to 32 AISG devices, e.g. actuators or TMAs

Includes:

• 4 Power cords (Australia/Asia, Europe, UK, and North America)

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- Ethernet crossover cable
- Phoenix 48 Volt power connector (Caution! Ensure wires are properly connected. Reversing wires can cause permanent damage to the controller.)
- Site Configuration Sheet (Contact your CommScope Sales Representative for ordering this item in a higher quantity. Also, available online at www.commscope.com)



Benefits:

- Independently manages up to 32 AISG devices with the use of a junction box(es)
- Controls actuators through the AISG protocol, where a digital address serves to identify and communicate with a specific actuator
- 19" rack mountable (1RU)
- · Controller interface opens through an Internet browser after connection has been set up

Since the ATC200-1000 controller is hard-wired into the equipment cabin, a lightning protection unit (ATLP200-001) and appropriate grounding are recommended. If the controller will be used in an outdoor environment, it must be placed in a weatherproof enclosure.

1.2 ATC300-1000/2000 Antenna System Controller

The ATC300-1000/2000 controller, shown in Figure 1-1, serves as an interface between a local PC/ laptop or a company network and the remote electrical downtilt devices (actuators/TMAs). This unit uses software designed for communication between the controller and its attached AISG devices. To download the latest controller firmware from the CommScope website (www.commscope.com/ Resources/Software) Refer to the Table of Contents of this User Guide to locate detailed installation and operation instructions for the ATC300-1000/2000 controller.



Figure 1-1. ATC300-1000/2000 Antenna System Controller.

Communication Ports and Power Connections (Figure 1-1):

- 9-pin 'D' style RS-232 connector port used to connect to a local PC's COM port
- Ethernet port used to connect to a local PC's Ethernet port or a network/Internet
- Both +24 and -48 V dc connections for the power supply module
- 8-pin connector port for the AISG (Antenna Interface Standards Group) control cable assembly, which is used to manage up to 32 AISG devices, e.g. actuators or TMAs
- · Six SMB connectors to allow the AISG signal to travel up through the coaxial cable

Includes:

Crossover Ethernet cable

Note: Because the ATC300-1000/2000 controller is auto-sensing, a straight-through Ethernet cable may be used instead

 Phoenix +24 Volt or -48 Volt power connector (For proper operation, ensure wires are connected with correct polarity.)

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• Site Configuration Sheet (Contact your CommScope Sales Representative for ordering this item in a higher quantity. Also, available online at www.commscope.com)

Benefits:

- Independently manages up to 32 AISG devices with the use of a junction box(es)
- Controls actuators through the AISG protocol, where a digital address serves to identify and communicate with a specific actuator
- Six integrated smart bias tees with SMB connectors operate over internal modems to allow an AISG signal to transmit to TMAs/top smart bias tees. Note that a dc 2.1 bias tee and SMB terminated coaxial cable are also required
- 19" rack mountable (1RU)
- · Controller interface opens through an Internet browser after connection has been set up
- Includes battery backup on internal clock

Since the ATC300-1000/2000 controller is hard-wired into the equipment cabin, a lightning protection unit (ATLP200-001) and appropriate grounding are recommended. If the controller will be used in an outdoor environment, it must be placed in a weatherproof enclosure. See Section 2 for mounting instructions and safety precautions.

LED Features:

- Status LEDs located to the left of the Ethernet connection represent power and major alarms (Figure 1-2). The top green light indicates that the unit is powered. The bottom red status light indicates that a major alarm has occurred which can be checked by looking at the alarm status.
- The AISG status LEDs are located next to the AISG port. When the left LED is illuminated green, 24 Vdc is **available** to the RS–485 bus (i.e., in the RET cable). When the right LED is illuminated green, the RS–485 bus is powered with 24 Vdc and the controller is in the Wake mode. When the right LED is red, there is a short. In this case, devices and cables must be checked.



Figure 1-2. ATC300-1000/2000 Status Indicators.



Port Details:

Figures 1-3 through 1-7 show examples of the ATC300-1000/2000 port connections.



Figure 1-3. ATC300-1000/2000 Ethernet Port.

The ATC300-1000/2000 controller provides one 10/100 Ethernet port with auto negotiation capabilities. The Ethernet port (Figure 1-3) is used for connecting to a gateway or a PC.



Figure 1-4. ATC300-1000/2000 Serial Port.

The ATC300-1000/2000 controller is also equipped with an RS–232 serial port (LMT) with the following default settings: 115200 Baud, 8 data bits, 1 stop bit, no parity, and no flow control. The RS–232 port (Figure 1-4) is configured as a DCE interface. This port is used to connect to a serial port on a PC.





The ATC300-1000/2000 controller has six 50 ohm SMB connectors (Figure 1-5). These ports are used to connect SMB coaxial cable from the controller to a dc 2.1 bias tee for transmitting the AISG signal with the RF signal up the tower through a coaxial cable.



Figure 1-6. ATC300-1000/2000 AISG Port.

The ATC300-1000/2000 controller provides an 8-pin circular female RETAISG connector port (Figure 1-6). This port is used to connect the controller to a RET system using AISG RET cabling.



Power Connections:

The ATC300-1000/2000 is equipped with two powering options: +24 V power supply (Figure 1-7), or -48 V battery (Figure 1-8).

See Section 2 for installation instructions and safety precautions/warnings. Note that the positive (+) symbol indicates higher potential.



Figure 1-7. ATC300-1000/2000 +24 V Power Connection.



Figure 1-8. ATC300-1000/2000 –48 V Power Connection.



Bus Power: Suspend/Wake Modes

The controller supplies voltage to the RS-485 bus (i.e. the RET cable).

Note: If the controller is not supplying voltage to TMAs, it will enter into Suspend mode after being idle for a few minutes. The controller no longer supplies any voltage when in Suspend mode. If the controller is supplying voltage to TMAs, it will not enter into Suspend mode.

- Voltage is restored if any controller function is chosen (e.g. searching for a device, editing a device, changing a tilt)
- Voltage can also be restored by clicking on the Wake button on the controller's main screen (Figure 1-9)
- Whenever voltage is not desired, you can click on the **Suspend** button to turn off the voltage to the bus

					RET Device Inf	ormation	t.					
D Type	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Mod
							Su	spend/	Wake Mod	oc —		
							Su	spend/	Wake Mod	es —		
evices					Display		Su			es —	1	
Nevices Move Sec	tor	1 💻	Move Selecte	ed	Display Update/Refree		_			Bus Powe	ar Suspend	

Figure 1-9. ATC300-1000/2000 Main Screen.



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Alarm Outputs:

The ATC300-1000/2000 controller has two relay outputs for conveying alarm conditions. These contacts are specified for +24 Vdc maximum voltage with a maximum load of 1 Amp. The connector is equipped with a 4-pin terminal block (Figure 1-10). Pin assignments are shown in Table 1-1.



Figure 1-10. ATC300-1000/2000 Alarm Outputs.

Remove the 4-pin connector from the controller chassis and connect the alarm outputs as required by the alarming setting at the installation site.

Pin Number	Pin Name	Description
1	C-1	Relay-1 Center contact
2	NO-1	Relay-1 Normally-open contact
3	C-2	Relay-2 Center contact
4	NO-2	Relay-2 Normally-open contact

Table 1-1. ATC300-1000/2000 Alarm Output Pin Assignments.

Pins 1 and 2, shown to the left in Figure 1-10, are used for major alarms. These will close in the event there is a major alarm and will cause the Alarm LED to light up. Pins 3 and 4, shown to the right in Figure 1-10, are used for minor alarms. See Appendix D for definition of alarm conditions.

1.2.1 Modem Port Isolation (ATC300-2000 only)

The ATC300-2000 hardware provides port isolation from overcurrent conditions. The unit has three modem ports, each providing RS485 capability to a pair of external SMB ports. The AISG port is also isolated from the modem ports. If a short is detected on the AISG bus, the ATC300-2000 will remove power to only the affected modem or AISG port, leaving the other ports operational.

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When a short has been detected and power turned off to a port, the software will attempt to reactivate that port 3 times. If the condition persists, the port will be blocked from being powered without operator interaction. This error condition is reflected with an alarm logged in the controller's Alarm History. The blocked condition can be cleared in one of two ways – by cycling power on the unit, or by selecting the button "Clear Locked Data Ports" on the Controller Config web page (see Figure 1-10a Clear Locked Data Ports). The operator should ensure that the condition causing the short has been remedied before clearing the block.

🖉 ATC300 Controller - Windows Internet Explorer	
🔄 💽 🔻 🖉 http://10.104.200.17/cg-bin/atc306GontrollerGonfig.cg	😪 🤣 🐹 Google 🛛 🔎 💌
<u>Eile Edit View Favorites Tools H</u> elp	
🔆 Favorites 🛛 🍰 🙋 Suggested Sites 🔹 🙋 Web Slice Gallery 👻	the second s
ATC300 Controller	🟠 🔻 🔂 🗔 👘 Y Bage + Safety + Tools + 🕢 *
Home Configuration Alarms Help Software Config Controller Config	
- Password Protection: Disable Site Shar	roller Configuration
Site Configuration:	Change Name
☐ Bus is externally powered ☐ Configure alarm relays as	
Current IP Details: IP Address: 10.104.200.17 Hostname: FV12150439	
http://10.104.200.17/cgi-bin/atc300ControllerConfig.cgi	Sucal intranet 👘 🔹 🔍 100% 🔹

Figure 1-10a Clear Locked Data Ports (ATC300-2000 only)

The ATC300-2000 will tolerate a total current level in the 2.0 Amp to 2.5 Amp range for 4 minutes. If that current level is maintained longer than 4 minutes, the software will remove power to the modem or AISG port reporting the greatest current level. Unlike the short condition, no attempts will be made to re-power the port after this condition has occurred, the port will immediately be put in a blocked state. The blocked condition can be cleared as described above.

The current levels of each modem port and the AISG port may be viewed on the controller's Help | About web page. The page must be refreshed to update the readings.

All operation is considered normal when the total current load is less than 2.0 Amps. Note: After an overcurrent condition has been recognized, the total current level must be in the normal range for 10 seconds before the overcurrent alarm is cleared.



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Section 2 Installation Instructions and Safety Precautions

2.0 Section Overview

This section covers installation procedures for mounting and grounding the ATC300-1000/2000 controller chassis, as well as safety precautions.

2.1 Abbreviations

AWG American Wire Gauge

2.2 Installation Preparations

Warnings:

- This equipment should only be installed by trained personnel.
- Do not connect or disconnect cables during lightning activity.

Preparation:

- Remove the ATC300-1000/2000 controller from the packaging container (also see ESD precautions in the introduction of this document).
- Verify availability of power, either -48 V battery or +24 V power supply.

Tools and Parts:

- 14–AWG multi-strand copper wire for power connection, using color coding as specified at the installation site.
- 10–AWG multi-strand copper wire, using appropriate color coding as specified at the installation site.
- Ring-torque terminal for a 1/4" stud.
- Crimping tool for ring-torque terminal.
- Four mounting screws to mount the controller chassis onto the rack.
- 6" adjustable wrench.
- 1/8" flat-blade screwdriver.
- Wire stripper.



2.3 Controller Chassis Mounting

The ATC300-1000/2000 controller chassis is designed to be mounted in a standard 19" rack. Use four mounting screws or bolts to secure the system to the rack as shown in Figure 2-1.

For proper heat management, provide at least a 2" vertical clearance between the controller and any adjacent system in the rack.



Figure 2-1. Rack Mounted ATC300-1000/2000 Controller.

2.4 Controller Chassis Grounding

The ATC300-1000/2000 controller chassis is intended to be grounded via a dedicated grounding stud in the back of the chassis.

- 1. Using the crimping tool, attach the ring-torque terminal to the 10–AWG grounding copper wire.
- 2. Remove one bolt and washer from the chassis' grounding stud.
- 3. Attach the ring-torque terminal to the grounding stud as shown in Figure 2-2.
- 4. Using the bolt and washer that was removed, fasten the ground cable to the grounding stud.
- 5. Connect the other end of the grounding wire to an appropriate grounding point at the installation site.



Figure 2-2. ATC300-1000/2000 Controller Chassis Grounding Connection.



2.5 Controller Chassis Power

The ATC300-1000/2000 controller chassis provides two powering options, -48 V battery or +24 V power supply. The controller needs only one of these power options to operate.

Input voltage operating ranges:

+24 Vdc Supply: +19 Vdc to +30 Vdc

-48 Vdc Supply: -36 Vdc to -72 Vdc

Ensure that the operating voltage meets the range specified above.

Warning!

To avoid shocking hazard, open the circuit breaker protecting the power distribution for the mounting rack.

Connecting to the +24 V Power Supply:

- 1. Open +24 V circuit breaker at the mounting rack.
- 2. Using a flat-blade screwdriver, remove the 2-pin power connector from the controller's chassis.
- 3. Attach the power and return the wires to the connector as shown in Figure 2-3.
- 4. Attach the power and return the wires to the +24 V power distribution point at the mounting rack.
- 5. Close the +24 V circuit breaker at the mounting rack.
- 6. Replace and secure the 2-pin power connector to the controller's chassis.



Figure 2-3. +24 V Power Installation.



Connecting to -48 V Battery Power:

- 1. Open -48 V circuit breaker at the mounting rack.
- 2. Using a flat-blade screwdriver, remove the 3-pin power connector from the controller's chassis.
- 3. Attach the power and return the wires to the connector as shown in Figure 2-4. Note that the positive (+) symbol indicates higher potential.
- 4. Attach the power and return the wires to the -48 V battery distribution point at the mounting rack.
- 5. Close the -48 V circuit breaker at the mounting rack.
- 6. Replace and secure the 3-pin power connector to the chassis.



Figure 2-4. -48 V Power Installation.



Section 3 Changing IP Settings on the Local Computer Using the IP Config Tool

3.0 Section Overview

 In order for a local computer to gain access to the ATC300-1000/2000 or ATC200-1000 controller, settings will need to be configured on the computer. The IP Config Tool provides a user friendly environment for changing the local computer's IP settings.

See Appendix B for understanding IP addressing.

- The IP Config Tool is compatible for use on computers operating in the English language using Windows[®] 2000 or Windows[®] XP. At the time of this publication, it has not been determined if earlier versions of Windows[®] are compatible with the IP Config Tool. See Appendix B when setting an IP address for Windows Vista operating systems.
- After connection to the controller is no longer needed, the original IP settings for the local computer will need to be restored in order for it to regain communication with a company LAN or other Ethernet connection. The IP Config Tool automatically restores the original IP settings to the local computer when the application tool is closed.
- IP configurations made to the local computer for access to the controller may be backed up and later restored/used for future access.

3.1 Downloading/Extracting the IP Config Tool Zip File

- 1. The IP Config Tool zip file can be downloaded from the CommScope web site. Go to www.commscope.com/ Resources / Software. Scroll down to the ATC300-1000/2000 Rack Mount Controller image, and save the **IP Config Tool** to the computer desktop that will be accessing the controller.
- After the download is complete, double-click on the zipped ipconfig tool file to extract the ipconfigtool.exe file to the local computer's desktop. The ipconfigtool.exe file will be used to install the IP Config Tool to the computer.

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3.2 Installing the CommScope IP Config Tool

Double-click on the **ipconfigtool.exe** file and follow the installation prompts shown on the screen (Figure 3-1).



Figure 3-1. IP Config Tool Installation Screens (Sequentially Numbered).

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Instruction Sheet

3.3 Launching the IP Config Tool

From the computer's desktop, double-click on the **IP Config Tool** icon (Figure 3-2). The initial screen for the IP Config Tool program is shown in Figure 3-3.



Figure 3-2. CommScope IP Configuration Tool Icon.

ckup/Restore New IP Inia FTP Server	
Greate a backup of your current IP configuration. This Backup	can be restored later.
Tip: The backup functionality can be used to backup of configurations that you make. Just give it a descript the same configuration you can just restore it.	
Restore from backup configuration	
Select backup configuration	
Restore Click button to restore selected configura	acon

Figure 3-3. Initial IP Configuration Tool Screen.



3.4 Changing the IP Address on the Local Computer

Note that if the local computer is connected to a network, the connection will be temporarily lost when the IP address is changed. Connection to the network will be restored after the original IP address for the local computer is restored.

- 1. After the IP Config Tool is launched (Figure 3-3), click on the **New IP Info** tab, located at the top of the screen (Figure 3-4).
- 2. Click on **Local Area Connection** shown in the window (Figure 3-4). While this connection is highlighted (selected), the current IP and Subnet Mask for the local computer are shown.

	1. Click on New IP Info tab.
ckup/Restore New IP Infn FTP Server	
Select connection to apply new IP configu	ation
Survey Street Wireless Network Lonnection 3	
Lucal Area Connection	
2. Click on Local Area Connection	on.
Original ID Cattings for local comp	uter are displayed
 Original IP Settings for local comp 	uter are displayed.
1	
)irrent IP	Enter new IP address
10.104.102.70	
	This computer's IP should be one less than the controller.
Furrent Subnet mask	Example of default settlogs: Controlar IP = 192, 168, 255,141
255.255.0.0	(computer 19 = 19>,168,255,140
	Enter new Subnet mask
Refresh	The should match the controller's public mask.
When restoring a previous configuration	255 255 255 0
When restoring a previous configuration where is was set to "Obtain an IP address automatically", the IP may show as 3,0,0,0,0	
When restoring a previous configuration where is was set to "Obtain an IP address automatically", the IP may show as 3,0.0 0 until the IP reestabishes itself. This may take	255 255 255 0
Refress When restoring a previous configuration where it was set to "Obtain an IP address automatically", the IP may show as 0.000 until the IP reestabishes itself. This may take up to a minute or so.	255 , 255 , 255 , 0 The controller's Subriet mask sitypically 255 255 255,0

Figure 3-4. Entering A New IP Address For Local Computer.



3. In the fields provided, enter a new IP address that matches the controller's IP address with the final digit one digit lower (Example: Controller Factory Set IP is 192.168.255.141; New Computer IP is 192.168.255.140). See Figure 3-5.

Note that the controller's factory set IP is shown in the text below the entry fields provided for the new IP address and is the same for all ATC300-1000/2000 controllers.

- 4. Click on the **Apply new IP configuration** button (Figure 3-5).
- 5. When the IP configuration is complete, the new IP address will appear as the **Current IP** (Figure 3-5).

IP Config	
ndrew IP Config Tool	μ _{,m}
ckup/Restore New IP Infn FTP Server	
Select connection to apply new IP configu	ration
Wireless Network Lonnection 3	
🚣 Local Area Connection	
5 . New IP Settings Shown	 Enter a new IP address that is one – digit lower than the controller's default IP address.
l Iment IP	Forer new IP address
192.163.255.140	152 166 255 140
Furtent Subnet mask	This computer's IP should be one less than the controller. Example of default settings:
255.255.255.0	Controller 19 = 192,168,255,141 Computer 19 = 192,168,255,191
Refresh	Enter new Subnet mask
when restoring a previous configuration	255 255 255 0
where it was set to "Obtain an IP address automatically", the IP may show as 3,0,3 0	The controller's Subriet mask is typically 255-255-255.0
until the IF reestablishes itself. This may take up to a minute or so.	Apply new IP config waton
	Application may take about 20 seconds to complete
	4. Click Apply new IP configuration button.
Settings About	Cose

Figure 3-5. New IP Address For Local Computer Shown As Current IP.



3.5 Backing Up New IP Settings for the Local Computer

- 1. The new IP address can be saved for future access to the controller from the same computer. Click on the **Backup/Restore** tab, located at the top of the screen (Figure 3-6).
- 2. Click on the **Backup** button (Figure 3-6).
- 3. Type in a name of your choice for the new IP configuration backup file, and click on **OK** (Figure 3-6).

ြ _ည ျာ Config	
Andrew IP Config Tool	Q_
Backup/Restore Now IP Info FTP Server 1. Click on Backup/Restore tab. Create a backup of your current IP configuration. This can be restored later. Backup -2. Click on the Backup button.	
Tip: The backup functionality can be used to backup computer-to-controller IP configurations that you make. Just give it a descriptive nome and the next time the same configuration you can just restore it. Restore from backup (Backup Name Select backup contigur. Sive this backup contiguration a name	you need
 4. Click on OK 3. Type in a name for the new IP backup file (Ex: Cell site name where controller resides) 	
Restore Click buttom to restore selected configuration	
Settings About	Close
"Local Alea Connection"	

Figure 3-6. Saving New IP Backup File For Future Access To The Controller.


The backup file for the new IP configuration will appear in the window (Figure 3-7).

IP Config	<u>=</u> =
ndrew IP Config Tool	U _z
arki IniKestone New IP InFo FTP Server	
Ereate a backup of your current IP conliguration. This can b	e restored later.
Eackup	
Tip: The backup functionality can be used to backup com configurations that you make. Just give it a descriptive the same configuration you can just restore it.	
Restore from backup configuration	
ART Controller	
New IP backup file shown.	

Figure 3-7. New IP Backup File Shown.

Leave the CommScope IP Configuration Tool running to maintain the new IP settings on the local computer until access to the controller is no longer needed. The local computer will also need to be connected to the controller's Ethernet port to gain access.

See Section 6 for accessing the controller through a direct Ethernet connection using an Ethernet cable.

3.6 Restoring Original IP Settings on the Local Computer

When access to the controller is no longer needed, the IP Config Tool can be closed to restore the local computer to its original IP settings (Figure 3-8).

(P Config		
ndrew IP C	onfig Tool	Q
	IP Info FTP Server	
Create a backup Backup	of your current IP configuration. This can be restored later.	
configuration	up functionality can be used to backup computer-to-controller IP s that you make. Just give it a descriptive name and the next time you iguration you can just restore it.	uneed
Restore from ba Select backup co ATC200-1000 /	Andrew Corporation © 2006	
	 Original IP settings are restored to local computer. 	
Restore	Click button to restore selected configuration	
Settings /	thout 1. Click on Close	Close

Figure 3-8. Closing/Restoring Original IP Settings For The Local Computer.



3.7 Restoring Backup Files for New IP Settings on the Local Computer for Regaining Access to the Controller

After a local computer has been set up with a new IP address using the CommScope IP Config Tool, the backup file that was saved during the initial set up can be used to restore the settings and regain access to the controller (See paragraph 3.5).

- 1. If the IP Config Tool is not already launched, double-click the **CommScope IP Config Tool** icon from the local computer's desktop to launch (Figure 3-2).
- 2. Click on the backup file shown in the window (Figure 3-9).
- 3. Click on the **Restore** button (Figure 3-9).

Leave the CommScope IP Configuration Tool running until access to the controller is no longer needed. See Section 6 for accessing the controller using a direct Ethernet connection.

IP Config	_[]]
Andrew IP Config Tool	Q_
Backup/Restore New IP Info FTP Server	
Create a backup of your current IP configuration. This can be restored later. Backup	
Tip: The backup functionality can be used to backup computer-to-controller IP configurations that you make. Just give it a descriptive name and the next time the same configuration you can just restore it.	e you need
Restore from back Select backup con Andrew Corporation © 2006	
Restoring "ART Controller"	
1. Select the backup file.3. Backup IP settings are res to local computer.	tored
2. Click on Restore .	
Click button to restore selected configuration	
Settings About	Close

Figure 3-9. Restoring Backup File Settings To Regain Access To Controller.

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3.8 Removing a Backup File

If a specific backup file is no longer needed, it may be removed.

- 1. Right click on the backup file shown in the window (Figure 3-10).
- 2. Select the remove options from the pop-up menu (Figure 3-10).

IP Config	_10 ×
Andrew IP Config Tool	Q_
Backup/Restore New IP Info FTP Server	
Create a backup of your current IP configuration. This can be restored later. Backup	
Tip: The backup functionality can be used to backup computer-to-controller IP configurations that you make. Just give it a descriptive name and the next time you the same configuration you can just restore it.	ouneed
Restore from backup configuration	
Select backup configuration	
Remove Remove Backup Item(s)	
1. Select the backup file.	
2. Select Remove , —	
Remove Backup Item(s).	
Restore Click button to restore selected configuration	
Settings About	Close
Local Area Connection"	

Figure 3-10. Removing Backup File From IP Config Tool.



Section 4 Changing IP Settings on the Local Computer Manually

4.0 Section Overview

- In order for a local computer to gain access to the ATC300-1000/2000 or ATC200-1000 controller, IP settings will need to be configured on the computer.
- An Ethernet cable (supplied) is required for communication between the local computer and the controller to occur as shown in Figure 4-1 (see Section 6).
- After connection to the controller is no longer needed, the original IP settings for the local computer must be restored in order for it to regain communication with a company LAN or other Ethernet connection.
- The screens shown are examples from a Windows[®] XP PC that has been configured to display the 'Classic' interface. Screens may differ with other versions of Windows[®].
- See Appendix B for understanding IP addressing.



Figure 4-1. Local PC Connected To Controller's Ethernet Port Using The Ethernet Cable.

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4.1 Changing the IP Address on the Local Computer

1. If the local computer has not been connected to the controller, see Section 6 to make this connection using the Ethernet cable (supplied).

Note that the local computer will lose its connection to any company LAN (network system) when it is disconnected.

- 2. Go to Control Panel→Network Connections→Local Area Connection.
- 3. Click on Properties on the Local Area Connection Status screen (Figure 4-2).

ocal Area Conne	ction Status	
neral Support		
Connection		
Status:		Connected
Duration:		05:26:14
Speed:		100.0 Mbps
A matic site a		
Activity	Sent —	Received
Activity	Sent — 🛃	Received
Activity Packets:	Sent — 🛃	Received 313,021
	24	
	24	

Figure 4-2. Properties For Local Area Connection.



- 4. Click on Internet Protocol (TCP/IP) and make sure the box next to it is checked (Figure 4-3).
- 5. Click on **Properties** (Figure 4-3).

neral Authentication		
	Gigabit Integrated Contr	<u>C</u> onfigure
his c <u>o</u> nnection uses t	ne following items:	
AEGIS Protoco	ol (IEEE 802.1x) v2.3.1.7	
iPass Protocol	(IEEE 802.1x) v2.3.1.9	
🖉 🏋 Internet Protoci	ol (TCP/IP)	
4		<u>)</u>
l <u>n</u> stall	Uninstall	Properties
Description		
	ol Protocol/Internet Protoco ol that provides communicated networks.	
	ation area when connected	alu
Show icon in notifica		
	ation area when connected	

2. Click on Properties.

Figure 4-3. Selecting Internet Protocol Properties.



6. **Obtain IP address automatically** is usually the default selection for most users (Figure 4-4).

IMPORTANT If 'Use the following IP address' is selected and IP settings are displayed, note these settings exactly as they are displayed. These settings are needed in order to restore the computer to its original IP identity.

7. If not already selected, click on Use the following IP address (Figure 4-4).

If this button is grayed out or cannot be selected, a user's permission problem has occurred, preventing completion of this procedure. Stop now and consult the IT department to correct this problem.

ernet Protocol (TCP/IP) Prop	erties				?>
eneral					
You can get IP settings assigned to capability. Otherwise, you need to appropriate IP settings.	ask your ne				
 Use the following IP address 					-
IP address:		*		÷	-
S <u>u</u> bnet mask:	Γ	÷.		4	-
Default gateway:	Γ	÷	÷	*	-
 Obtain DNS server address Use the following DNS server 		5C			
Preferred DNS server:	Γ	×	8	×	
Alternate DNS server:	T	*	۰	×	
				Ad⊻	anced
		1	OK.	1	Cancel

Figure 4-4. Selecting Use the Following IP Address.



- Enter an IP address that matches the controller's IP address with the final digit one digit lower (Example: Controller Factory Set IP is 192.168.255.141; New IP is 192.168.255.140). See Figure 4–5.
- 9. Enter a subnet mask that matches the controller's Netmask exactly. The controller's default Netmask setting is 255.255.255.0 (Figure 4-5).
- 10. Erase all other fields on the screen (Figure 4-5).
- 11. Click OK (Figure 4-5).
- 12. Close out of remaining dialog boxes. The local computer is now set up to access the controller.

Internet Protocol (TCP/IP) Prope	erties	?×	
General		1	
	utomatically if your network supports this ask your network administrator for the		
C <u>O</u> btain an IP address automat	fically		1. Enter IP address,
\square Use the following IP address:			final digit 1 lower than controller IP
IP address:	192 . 168 . 255 . 140		address.
S <u>u</u> bnet mask:	255 . 255 . 255 . 0		2. Enter Subnet
Default gateway:		_	mask, exactly match controller Netmask setting.
C Obtain DNS server address a	utom <mark>atically</mark>		
G Use the following DNS server	addresses:		3. Clear remaining fields.
Preferred DNS server:			
Alternate DNS server:			
	Advanced.	.].	
	OK Can		4. Click on OK .

Figure 4-5. Changing The IP Address On The Local Computer.



4.2 Restoring Original IP Settings on the Local Computer

When access to the controller is no longer needed, the IP address and subnet mask on the local computer must be restored to the original settings for it to reconnect to a company LAN (network system). Follow the same procedures discussed in paragraph 4.1, except enter the original IP settings that were noted before the computer was configured.

If the computer was originally set to obtain an IP address automatically, click on this option and click on **OK** to restore a company network connection.



Section 5 Obtaining IP Settings for the Controller (When IP is Unknown)

5.0 Section Overview

- If IP addressing has been changed on the controller and is unknown, the IP address can be obtained through a serial connection to the LMT port on the controller.
- If the local computer is not equipped with a serial port, a USB-to-serial adapter can be used. Airlink 101 adapter has been found to be highly reliable.
- The screens shown are examples from a Windows[®] XP PC that has been configured to display the 'Classic' interface. Screens may differ with other versions of Windows[®].

5.1 Establishing the IP Settings on an ATC300-1000/2000

5.1.1 Establishing a Serial Connection to the Controller

- 1. Ensure that the controller is powered up. On power up, the status LED will be solid green. After the LED has been illuminated for 10 seconds, it is ready to be connected to a COM1 serial port of a computer.
- 2. Using an RS–232 serial cable, connect the COM1 serial port on a local computer and the LMT serial port on the front of the controller (Figure 5-1).



Figure 5-1. Local PC Connected To Controller's LMT Serial Port Using An RS-232 Cable.

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3. Go to Start → All Programs → Accessories → Communications → HyperTerminal (Figure 5-2).



Figure 5-2. Network Connection Window.



- 4. A **New Connection** window will open. Enter a name for the connection and choose an icon in the **Connection Description** window (Figure 5-3).
- 5. Click OK (Figure 5-3).



Figure 5-3. Using The New Connection Window.

- 6. Select COM1 from the Connect To drop down menu (Figure 5-4).
- 7. Click **OK** (Figure 5 -4).

SATC 300-1000 _ Hyper Terminal 테스 Bile, View Gall Transform Hilp D 날 중 중 플 비가 딸		
	Connect To	

Figure 5-4. Connect To COM1 Serial Port.



- 8. On the **COM1 Properties** window select **115200** from the **Bits per second** drop down menu. Select **None** from the **Flow control** drop down menu (Figure 5-5).
- 9. Click **OK** (Figure 5-5).

ev Cell Transl		erties 🛛 🕄 🔀	
	Port Settings Bits r	pei second 115200 V Data bits: 8 V Parity: None V Stop bits: 1 V Iow controt None V Restore Defaults	
		OK Cancel Apply	

Figure 5-5. Setting The COM1 Properties.

10. Press **Enter** key. If dollar sign appears, you have established a connection (Figure 5-3). Note: ATC300 version 2.32 and later require a root password for controller access. Contact customer support to obtain this password.



Figure 5-6. Establish The ATC300-1000/2000 Connection.



11. Type ifconfig as shown in Figure 5-7 and press Enter key.

🐥 ATC 300-1000 - HyperTerminal	
File Edit View Call Transfer Help	
11 🚔 💩 🖉 🗈 🎦 🚔	
\$ ifconfig_	
Connected 0:00:54 Auto detect 115200 8-N-1 500001 6775 NUM 64	tgre Pritesho

Figure 5-7. Configure IP Address.

12. Observe the **eth0** paragraph shown in Figure 5-8. The second line in this paragraph contains the IP address for your Ethernet connection. Example **inet addr:192.168.0.50 Mask:255.255.255.0**.



Figure 5-8. Getting The IP Address For Ethernet Connection.



 Once you have noted your Ethernet address, close the window to end the HyperTerminal connection. A HyperTerminal window will open. Select Yes to disconnect from your ATC300-1000/2000 (Figure 5-9).



Figure 5-9. Ending The Connection.

14. Select **Yes** to save your session for use in the future (Figure 5-10).



Figure 5-10. Save The ATC300-1000/2000 Controller Connection.

15. The program will now terminate.



5.2 Determining the IP settings on an ATC200-1000

5.2.1 Establishing a Serial Connection to the Controller

- 1. Ensure that the controller is powered up. On power up, the status LED will first be steady red and then blink red until it becomes a solid red or green. After the LED is a solid color for 20 seconds, it is ready to be connected to a COM1 serial port of a computer.
- 2. Using an RS–232 serial cable, connect the COM1 serial port on a local computer and the LMT serial port on the front of the controller (Figure 5-11).



Figure 5-11. Local PC Connected To Controller's LMT Serial Port Using An RS–232 Cable. Microsoft, Encarta, MSN, and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

3. Go to **Control Panel, Network Connection, New Connection Wizard** (Figures 5-12 and 5-13). Windows® 2000 users, see paragraph 5.2.3 (screens not shown).



Figure 5-12. Nework Connection Icon

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Figure 5-13. Using the New Connection Wizard

- 4. Click on Next (Screen 1, Figure 5-14).
- 5. Select Set up an advanced connection, and click on Next (Screen 2, Figure 5-14).
- 6. Select Connect directly to another computer, and click on Next (Screen 3, Figure 5-14).
- 7. Select Guest, and click on Next (Screen 4, Figure 5-14).



Figure 5-14. Setting Up a Direct Serial Connection (Screens 1 through 4).

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- 8. Enter in a name for the connection, and click on Next (Screen 5, Figure 5-15).
- 9. Select **Communications cable between two computer (COM1)** from the drop down menu if it is not the default that appears, and click on **Next** (Screen 6, Figure 5-15).
- 10. Select Anyone's use, and click on Next (Screen 7, Figure 5-15).
- 11. Place a check mark in the box next to **Add a shortcut . . .**, and click on **Finish** (Screen 8, Fig ure 5-15).



Figure 5-15. Setting Up a Direct Serial Connection (Screens 5 through 8).



5.2.2 Configuring the Serial Connection

A Login screen will appear upon exiting the New Connection Wizard.

- 1. Leave all fields blank in the **Login** screen, and click on **Properties** (Screen 1, Figure 5-16).
- 2. Select **Communications cable between two computer (COM1)** from the drop down menu if it is not the default that appears.
- 3. Place a check mark in the box next to **Show icon** . . ., and click on **Configure** (Screen 2, Figure 5-16).

Connect ATC200	? X	- ATC200 Properties	? ×
1		General Options Security Networking	
		Select a device	
	A	Communications cable between two computers (CON	11)
	and the second second		Configure
	Sec. 1		
User nome: 1. Clear all fi	elds.		
Eassword:			
E Save this user name and password for the fol	lowing users:		
@ Me oply	-2. Click.	1. Select.	
C Anyone who uses this computer	-2. CHCK.		
			-2. Click.
Connect Cancel Propertie	s <u>H</u> elp	Show icon in notification area when connected	
		2	Cancel

Figure 5-16. Configuring Serial Connection (Screens 1 through 2).



- 4. Change the maximum speed to **115200**, clear all check boxes, and click on **OK** (Screen 3, Figure 5-17).
- 5. Click on the Networking tab (Screen 4, Figure 5-17).
- 6. Select PPP Windows 95/98/NT4/2000 Internet from drop down menu (Screen 4, Figure 5-17).
- 7. Place a check mark in the box next to **Internet Protocol (TCP/IP)**, and select (Screen 4, Figure 5-17).
- 8. Click on OK (Screen 4, Figure 5-17).

See paragraph 5.2. 4 to active the new serial connection.

Nodem Configuration		? ×	- ATC200 Properties	? ×
Communications c	able between two computers (COMI)	General Ophons Security Networking	1. Click.
Maximum speed (bps): Modem grotocol Hardware teatures Egable hardware trave Enable modem error o Enable modem compr	control2. Clean	Select	PPP Windows 95/20/111/2000. Internet 2. Select. 3. Place check mark in box This connection uses the following items Oos Pecket Scheduler File and Printer Sharing for Microsoft Netw Check Point SecuRemate	*
C Show terminel window C Enable modern speaker		-3. Click.	Igstall	Pjoperties
3	DK	Canoel	Description Transmission Control Protocol/Internet Protoco area network protocol that provides communics diverse interconnected networks	
			4 0K	Cancel

Figure 5-17. Configuring Serial Connection (Screens 3 through 4).



5.2.3 Establishing a Serial Connection for Windows[®] 2000 Users

- 1. Go to Control Panel→Network and Dial-up Connections→Make a New Connection→Network Connection Wizard (screens not shown).
- 2. Select Connect directly to another computer, and click on Next.
- 3. Select Guest, and click on Next (Screen 4, Figure 5-14).
- 4. Select either **COM1** or **COM2** from the drop down menu.
- 5. Select For all users, and click on Next.
- 6. Enter in a name for the connection, and click on Next.
- 7. Clear all the fields, and click on **Properties**.
- 8. Select either **COM1** or **COM2** from the drop down menu (use the same selection as chosen in step 5).
- 9. Select the Show icon in taskbar when connected option, and click on Configure.
- 10. Change the maximum speed to 115200, clear all check boxes, and click on OK.
- 11. Click on the **Options** tab.
- 12. Select the **Display progress while connecting** and **Prompt for name password, certificate**, **etc** options.
- 13. Click on the Networking tab.
- 14. Select PPP Windows 95/98/NT4/2000 Internet from drop down menu.
- 15. Place a check mark in the box next to Internet Protocol.
- 16. Click on **OK**.

See paragraph 5.2.4 to activate the new serial connection.

5.2.4 Activating the Serial Connection

An icon was created and placed on the computer's desktop during the final stage of using the **New Connection Wizard** (Figure 5-18). If the **Login** screen is not already open for the serial connection, double click on the icon for the new serial connection to open.

- 1. Clear the **User Name** and **Password** fields. Clear the check box next to **Save this user name** . . . (Figure 5-19).
- 2. Click on **Connect** (Figure 5-19).
- 3. The local computer will dial-up a connection to the controller though a modem using the new serial connection (Figure 5-20).



Figure 5-18. ATC200 Serial Connection Icon.



Figure 5-19. Selecting Connect from Login Screen.

Dialing_	
27	

Figure 5-20. Dialing the Serial Connection to Connect to the Controller.



5.2.5 Accessing the Controller Interface Over the Serial Connection to Obtain the Controller's IP Settings

- 1. Ensure that the controller is powered up.
- Ensure the serial connection is active (dialed up successfully) from the local computer to the controller (see paragraph 5.2.4). Note that if serial connection is not operating, the Windows® default setting for the 16550 interrupt threshold may be too high. This causes missed characters if the computer is busy. This setting can be adjusted to a lower rate to correct this condition. Contact the company network

administrator for assistance, if needed.

- 3. Open an Internet browser (Netscape and Mozilla browsers not supported).
- Type in the controller's serial IP address (10.254.254.253) into the URL address window (Figure 5-21). This serial IP address is the default for all ATC200-1000 controllers.
 Note that the computer will not be able to access the Internet during the time it is connected to

Note that the computer will not be able to access the Internet during the time it is connected to the controller over the serial connection. If the web browser is stalled from trying to access the Internet, click on the **Stop** button to discontinue this attempt.

IMPORTANT! In the event the controller needs to be rebooted/restarted during the time it is connected to the computer over a serial connection, IMMEDIATELY disconnect the serial cable from the controller after rebooting. Wait until the lights stop flashing on the controller before restoring the serial connection to the computer.

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Addres 10.254.254.253 1. Enter controller's serial IP address.	👱 🛃 Go 💵 🖉 🔻
	2. Click.

Figure 5-21. Entering the Controller's Serial IP Address.



5. After the controller's main interface screen displays in the Internet browser, go to **Configuration**→**Controller Config** (Figure 5-22).

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•	Controller SNMP Co	Config						-			
				RET Devi	ce Informat	ioo					
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			- Select.								
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Devices Marite S Edit Sale		_	ve Selected	Update	/Refresh / TMAa	At			Bus Pow		
Marve S Edit See	cted .	Re		Update		At	Find D		-Bus Pow	Suspend	
Marve S Edit See		Re		Update		All	Find D		BusPow	Suspend	

Figure 5-22. Selecting Configuration \rightarrow Controller Config from Controller's Main Menu.



6. Write down and retain the **IP Address, Network Mask,** and **Default Router** settings shown on the screen (Figure 5-23).

Configurations should not be made to the controller's IP settings while connected to the serial port. If you desire to change these settings on the controller, it is recommended that this is done over a direct Ethernet connection (see Section 7).

The retained settings can be used to configure the local computer for access over a direct Ethernet connection to the controller (see Section 3).

7. After the controller's IP settings have been written down, click on **Close** (Figure 5-23).

Controller Configuration
Site Information:
Site Name Change Name
IP Details: IP Address : 192.168.255.141 Default Router Nefwork Mask: 255255.00 Domain Name Server: Use DHCP: r Reboot
Date & Time :
Date: 2 • Dec • 2005 • Time: 17 • 7 • Set Date and Time
Other Preferences:
Do Transparent Bus Scan for XML: Never Set Scan Mode
Command Response:
Cluse 2. Click.

Figure 5-23. Entering the Controller's Serial IP Address.



- 8. Double click on the network icon from the system tray to open the serial connection dialogue box (Figure 5-24).
- 9. Click on **Disconnect** to end the serial connection (Figure 5-25).



Figure 5-24. Opening the Serial Connection from the System Tray.

Connected
00:00:18
115.2 Kbps
- Received
0%
Т
— Click.

Figure 5-25. Disconnecting the Serial Connection to the Controller.



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Part 2

Accessing the Controller

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Section 6 Accessing the Controller Using a Direct Ethernet Connection

6.0 Section Overview

The ATC300-1000/2000 and ATC300-1000/2000 controller is equipped with an Ethernet port that can be accessed directly from a local computer using an Ethernet cable (supplied).

6.1 Using an Ethernet Cable for Establishing a Direct Connection from a Local Computer to the Controller

1. Connect the controller to the local computer using the crossover Ethernet cable provided and ensure controller is powered up (Figure 6-1). Power cycle controller if it was previously on a network.

Note: Because the ATC300-1000/2000 controller is auto-sensing, a straight-through Ethernet cable may be used instead.



Figure 6-1. Local PC Connected To Controller's Ethernet Port Using An Ethernet Cable.

- 2. If the IP setting on the local computer is not already configured to communicate with the controller, refer to Sections 3 and 4.
- 3. Open an Internet browser (Netscape and Mozilla browsers are not supported). If the controller's interface does not automatically appear, type the controller's Ethernet IP address into the URL address window, and click on **Go** (Figure 6-2).

🖉 ATC300 Controller - Windows Internet Explorer	
G + (http://192.168.255.141/	A Start A Start
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1. Type controller's IP address into – Internet browser URL window.	2. Click on Go (or press — Enter on the keyboard).

Figure 6-2. Entering Controller's IP Address Into Internet Browser.



Note that the factory default configuration for the ATC300-1000/2000 controller is DHCP*, with the hostname set to the controller serial number. However, when a DHCP server is not available at bootup, the controller will use the IP address 192.168.255.141.

The factory default IP address for the ATC200-1000 is 192.168.255.141.

Figure 6-3 shows an example of the controller's main screen. See Section 5 for cases where the controller's IP address has been changed and is unknown.

See Part 3 of this User Guide for instructions on uploading the latest controller firmware and antenna definition files needed for RET device setup and operations through the controller.

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Configura	ation	Ala	rms H	elp				9, 67, 67,	1		REW.	
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ype AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	AzBearing	RAS	RAB	Model	
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es ove Sector		Move Select	ed	Display Update/Ref	resh	AISGBu	is		Bus Powe	er Suspend		
	-	Move Select				F		8				

Figure 6-3. ATC300-1000/2000 Controller Main Interface Screen.

* Dynamic Host Configuration Protocol



Section 7 Changing the Controller's IP Settings for Access Over a Network

7.0 Section Overview

- The ATC300-1000/2000 controller may be configured to use DHCP or a static IP address.
- If planning to use DHCP on your ATC300-1000/2000 controller, it ships configured in this mode, so it is ready for your network without additional configuration. Network access is by its hostname, which is initially its serial number. Figure 7-5 (page 7-5) shows setting up a controller for DHCP.
- If configured for DHCP, and no DHCP server is available, the ATC300-1000/2000 controller will set its IP to 192.168.255.141.
- Unless changed, the controller's hostname is its serial number.
- The ATC200-1000 controller supports static IP addressing only, Its default IP is 192.168.255.141. Reference by host name is not supported.
- When configuring your controller for static IP use, contact the company Network Administrator that is over the site location to obtain an available IP address and any assistance needed.
- Caution should be used to note the new IP settings for the controller before configurations are made. This information should be retained for future reference.
- If planning to use a static IP on your controller, initial access to the controller's configuration screen will require a direct Ethernet connection to a local computer. See Sections 3 and 4 for changing the IP setting on a local computer. Figure 7-3 (page 7-3) shows setting up controller configuration for static IP.
- New IP settings are applied to the controller when the controller is rebooted (Figure 7-6). Upon
 reboot, the connection between the controller and the local computer will be lost. To regain access
 to the controller from the local computer, the IP settings on the computer will need to be restored
 to the settings that were compatible to the company LAN (network system).
- Upon completion of setup, the controller will need to be connected to the company's LAN (Ethernet cable not supplied). Access to the controller over the network may be gained using the controller's new static IP address, or by using the controller's hostname if configured for DHCP.

See Section 5 for cases where the controller's IP has been changed from its factory default and is unknown.

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7.1 Configuring the Controller Using A Local Computer

Carefully read Section 7.0 Section Overview (page 1) before proceeding with any configuration changes to the controller's IP settings.

- 1. If the controller is on a network, disconnect it from the network and then power cycle the controller.
- 2. Connect the controller to the local computer using the Ethernet cable provided.
- 3. Change the local computer's IP address to be compatible to the controller's IP settings (see Sections 3 and 4).
- 4. Open an Internet browser (Netscape and Mozilla browsers are not supported). Type the controller's Ethernet IP address into the URL address window, and click on **Go** (Figure 7-1).

Note that the factory default IP address for the controller is 192.168.255.141. See Section 5 for cases where the controller's IP address has been changed and is unknown.

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C C http://192.168.255.141/	N Ht X Issteart
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1. Type controller's IP address into —	2. Click on Go (or press —
Internet browser URL window.	Enter on the keyboard).

Figure 7-1. Entering Controller's IP Address Into Internet Browser.

5. Select **Configuration** \rightarrow **Controller Config** from the controller's main menu (Figure 7-2).

Home Configuration Software Cont	fig	Ala	ums	Help	1			123	TAR C.		1	NDREW
Controller Con SNMP Config	-			Selec	t Conti	roller Config.						
				AIS	G bus pow	er is currently suspended.						
					Devie	ce Information						
m	Type	AISG	Status	Sector	Location	Bands	ETik	MTilt	Az Bearing	RAS	RAB	Model
AN000000C2061201316	RET	1.1	ок	alpha (1)	3	1900	2.0	0.0	240			14
AN000000C2072501791	RET	1.0	OK 🚽	alpha (1)	1	800	2.0	0.0	50	-	-	DBXLH 6565B-VTM-H
AN0000DESA073917944	RET	2.0	OK	alpha (1)	4	II UL: 1850-1910 MHz, DL: 1930-1990 MHz	2.0	5,0	120			14
AN0000DESA073917953	RET	2.0	OK	alpha (1)	2	II UL: 1850-1910 MHz, DL: 1930-1990 MHz	2.0	0.0	0	-	1.4	140
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Figure 7-2. Accessing The ATC300-1000/2000 Controller's Configuration Screen.



7.1.1 Configuring the Controller to Use A Static IP Address

The new IP settings should be noted and retained before the settings are applied to the controller.

Settings in the controller Config window (Figure 7-3) determine if a site's network is accessed using a static IP address or DHCP.

Note: DHCP is not an option on the ATC200-1000.

- 1. Enter the static IP address provided by the Network Administrator for the controller to operate over the network system (Figure 7-3).
- 2. Ensure the Use DHCP box is not checked (ACT300-1000/2000 only).
- 3. Enter a **Network Mask**.
- 4. Click on Set IP Details. Answer OK when the Proceed dialog appears (Figure 7-5).
- 5. Click on **Reboot**. The connection between the local computer and the controller will be lost upon reboot.
- 6. Restore the local computer's IP address to its network compatible settings (see Sections 3 and 4). If the CommScope IP Config Tool was used to configure the local computer's IP settings, the original IP settings will be restored to the computer when the application tool is closed (see Section 3 for details).
 - Type the controller's new network configured IP address into the URL address window, and click on **Go**.

Home Confi	guration Alar	ms Help			ANDREW
		Ce	entroller Configuration	É.	
Site Information:					
	Site Name	RETZASCU		Change Name	
	r	Bus is externally pov	wered	Save Bus Config	
Current IP Details:					
		e: 0.104.200.3 e: ED07200004	-		
IP Configuration:					
2. Use DHCP not checke	ed. Hostnam	e: ED 072 00.004	1. Ente	r Controller's Static IP	Address.
	Static IP Address Default Route Network Mask	r		4. Click	Set IP Details.
:	3. Enter Control		Mask.		Click to Reboot.
Date & Time:					
	Date: 25	Nov - 2009 -	11-0-	Set Date and Time	

Figure 7-3. Configuring Controller's Static IP Address For Access Over a Network.

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Home Co	nfiguration Alarms Help		ANDREY
Site Information	Controll	ler Configuration	
	Site Name RET2ASCU	-	Change Name
	Bus is externally powered		Save Bus Config
Current IP Details			
	IP Address: 10.104.200.3 Hostname: ED07200004		
IP Configuration			
	Use DHCP: F Hostname ED0 7200004 Static IP Address: 10.104,200.3	- 1. Click Us — Copy Ho	se DHCP. ostname.
	Default Router Network Mask: [255,255,0.0		2. Click Set IP Details.
Date & Time:			
	Date: 20 - Nov - 2009 -	16 - 16 -	Set Date and Time

Figure 7-4. Configuring Controller's DHCP For Access Over a Network.

7.1.2 Configuring the Controller to Use DHCP

The new IP settings should be noted and retained before the settings are applied to the controller.

Figure 7-4 shows a controller Config window set to DHCP.

- 1. Click the **Use DHCP** box. Enter a new **Hostname** if desired, or copy the default serial number **Hostname** to use later in the browser's address line (See paragraph 7.2).
- 2. Click on Set IP Details. Answer OK when the Proceed dialog appears (Figure 7-5).
- 3. Click on **Reboot** (Figure 7-4). The connection between the local computer and the controller will be lost upon reboot.
- Restore the local computer's IP address to its network compatible settings (see Sections 3 and 4). If the CommScope IP Config Tool was used to configure the local computer's IP settings, the original IP settings will be restored to the computer when the application tool is closed (see Section 3 for details).
- 5. Connect the controller to the company's LAN at the base station using an Ethernet cable, not supplied.
 - Enter the controller's hostname, copied above, into the URL address window, and click on **Go**. See Figure 7-6.

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	Cor	ntroller Configuration
Site Information:		
	Site Name RET2ASCU	Change Name
	F Bus is externally pow	wered Save Bus Config
Current IP Details:		
	IP Address: 10.104200.3	
	Hostname: ED07200004	-
IP Configuration		Windows Internet Explorer
ir coniguration.		You are using this interface, make sure the parameters are correct. Proceed?
	Use DHCP: F	Tod are using this interface, make sure the parameters are correct. Proceeds
	Hostname: ED07200004 Static IP Address: 10 104 200 3	Click OK Cancel
	Default Router	
	Network Mask: 255.255.00	Click Set - Set IP Details
		IP Details. Reboot
Date & Time:		
	Date: 20 • Nov • 2009 •	16 16 Set Date and Time
	the Theorem 1	

Figure 7-5. Choose Set IP Details to Establish DHCP Settings.

Enter the controller's hostname.		Click Go .	
ATC300 Controller - Windows Internet Explorer			_18 ×
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Home Configuration Alarms Help	AN	IDREW.	4
Command Response:		14	
Rebooting - lease wait			
Reboot in approx 60 seconds Shutting down http service			
Back			
lone		Local intranet	86% .

Figure 7-6. Setting Up DHCP For Access Over a Network.

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AN000000ART08020042.p	AZANG-	1.1	OK	beta (2)	1	ART	1900			120	5	1 - d es	SBP-3DA	
AN000000ART08020042.f	AZBW+	1.1	OK	beta (2)	1	ART	1900			120		79	SBP-3DA	
AN0000DESA083254698	RET	1.1	OK	gamma (3)	3	ART	800	2.5	-0,1	65			HBX- 6516DS-***	T
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Move Sector	Move Sele	cted			Update/Ref	resh		Find I	Devices			Sue	spend	
Edit Selected	Show Stati	stics			Show TM	As		Config	ure Bus			Y	lake	
mand / Status Response														

Figure 7-7. Controller Access Using DHCP Over a Network.

6. The controller's web interface returns to the main interface window (Figure 7-7).

7.2 Accessing the Controller Over the Network Connection

- 1. Connect the controller to the company's LAN at the base station using an Ethernet cable, not supplied.
- 2. From a computer connected to the same network, open an Internet browser (Netscape and Mozilla browsers are not supported).
 - If configured for Static IP, type the controller's new network configured IP address into the URL address window, and click on **Go**.
 - If configured for DHCP (ACT300-1000/2000 only), type the controller's hostname into the URL address window, and click on **Go**.

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Section 8 Controller Configuration Options

8.0 Section Overview

- The ATC300/200 controller is equipped with an SNMP (Simple Network Management Protocol) agent that allows remote access using an SNMP manager.
- CommScope provides the MIB (Management Information Base), which is supported by the ATC300/200 controller SNMP agent, upon request.
- · SNMP is a well-defined protocol used in the industry to manage devices remotely.
- The ATC300/200 controller allows configuration of the unit site name.
- The ATC300 allows password protection on the web page interface.
- The ATC300 provides some special case controller configuration options.

8.1 Configuring the Controller for an SNMP Manager

The controller's SNMP agent can be accessed through the menu option **Configuration** \rightarrow **SNMP Config** (Figure 8-1).

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Figure 8-1. Selecting Menu Option To Access SNMP Configuration Page.



The SNMP Configuration page is divided into three sections: the SNMP Agent General Configuration, the SNMP Trap Configuration, and the Command Response field (Figure 8-2).

General Configuration

- 1. To configure the ATC300-1000/2000 controller SNMP agent, first select **Enabled** in order to enable the agent.
- 2. The SNMP Port Number is the SNMP manager port that allows SNMP message traffic, and is usually set to **161**. Note that this field is not configurable while the agent is enabled.

The three Community fields are agreed-upon strings that must be likewise configured on the SNMP manager. In other words, SNMP traffic will be prohibited if the community strings do not match between the agent and manager.

BSA trap mode will configure the controller to send traps that contain only the index of the alarm causing the trap. BSA trap mode is the default configuration, since this is usually sufficient. The **WIG** trap mode will send a trap that contains much more information about the trap.

The **System Location**, **Contact**, and **Name** fields are purely informational fields stored on the controller and retrievable using standard SNMP queries.

3. Select **Set SNMP Agent Config** to send the modified configuration to the controller. (To set the SNMP configuration back to default values, select **Factory Defaults**.)

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Company Property					SNMP Trap
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		(Deter)			

Figure 8-2. Configuring ATC300-1000/2000 Controller's SNMP Agent.



Trap Configuration

1. The **SNMP Trap Configuration** table (Figure 8-2) configures the controller to report traps for up to four SNMP managers. Typical examples for using a trap is to alert an SNMP manager that a controller has been installed at a new site or to show a new alarm condition has occurred.

To configure a trap manager, enter the SNMP manager **IP address**, the **Port** number desired for the trap to enter the manager system, select **Valid** to validate this entry, select the **Protocol** level of the trap (usually SNMPv1 is sufficient), and then **Enable** the trap entry.

2. Select **Set SNMP Trap Config** to send the modified trap table to the controller. Note that the SNMP agent can still be operational even if no trap managers are configured.

Command Response Field

The third section of the web page is the Command Response field. This field provides feedback if an error occurs when sending SNMP configurations to the controller.

8.2 Security and Site Sharing (ATC300-1000/2000 only)

ATC300 software releases 2.32 through 2.35 offer simple web interface security. As of release 2.36, this feature is enhanced to offer a second level of security to support site sharing.

The controller's web interface password protection can be accessed through the menu option **Configuration** \rightarrow **Controller Config** (as shown in Figure 7-2).

- Once enabled, the password will be required to access the controller's web interface.
- The password is case-sensitive and must consist of alphanumeric characters only.
- After 3 minutes of inactivity, the operator will be logged out. Any control action will require re-entry of the password.
- A logged in administrator may disable site sharing from the "Controller Config" web page.
- When an operator is logged in, the option to Logout is available from the controller web page main menu.
- If the password is forgotten, contact technical support with the controller serial number for a recovery password.
- The web interface password is separate from and does not affect the system-level root password of the controller required for a serial or telnet connection.
- The web interface password does not affect access to the controller through the SNMP interface.
- The web interface password does not interfere with downloads to the controller using CommScope's IP Config Tool.
- For security purposes, the browser back button has been disabled.

To enable site sharing, select "Enable Site Sharing" as shown in Figure 8-3.



ATC300 Controller - Windows Internet Explorer		
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Favorites 🛛 🙀 🔊 Suggested Sites 👻 🖉 Web Silce Gallery 👻		
ATC300 Controller	🐴 🕈 🔟 🗔 👼 * Page *	
Home Configuration Alarms Help Software Config		
Controller Config	tion	_
Password Protection:		
Disable Ske Sharing	ble Site Sharing	
Site Configuration:		
Site Name RET1ASCU	Change Name	
Bus is externally powered	Save Bus Config	
 Bus is externally powered Configure alarm relays as Normally Closed 	Save Bus Config	
	Save Relay Config	
Configure alarm relays as Normally Closed	Save Relay Config	
Configure alarm relays as Normally Closed	Save Relay Config	

Figure 8-3 Enable Site Sharing

The administrator will then be required to enter a new password (Figure 8-4).

	() second s
Password Managem	ent
Enter new password:	
Re-enter password:	
and the second	e Password

Figure 8-4 Entering a new web interface password

After enabling the site sharing password, the administrator will immediately be logged in.



8.2.1 Site Sharing Configuration

ATC300 software release 2.36 provides the capability for site sharing. A logged in administrator must enable and configure the operator usernames and passwords, scan the AISG bus for devices, and assign operators to each device. Operators are limited in their privileges, and are permitted to only view and manage the AISG devices to which they have been assigned.

When the administrator is logged in, two new buttons are available, **Manage Operators** and **Assign Operators to Devices** (see Figure 8-5 Controller Configuration Options for Site Sharing Administrator). These two features are covered in the next sections. In addition, the menu displays an option to Logout. This menu item is available to all logged-in operators as well.

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	A Co	mmScope Company
Controller Configuration		_
Password Protection		
Disable Site Sharing Enable Site Sharing	amg	
Manage Operators		
Assign Operators to Devices	5	
- Site Configuration:		
	Change Name	
Site Name RETI ASCU	Change Name	
Bus is externally powered	Save Bus Config	
Configure alarm relays as Normally Closed	Save Relay Config	
Clear Locked Data Ports		
		~
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Figure 8-5 Controller Configuration Options for Site Sharing Administrator

8.2.1.1 Operator Name and Password Management

The administrator may create up to four operator names and passwords (see Figure 8-6 Operator Management Web Page). These can later be assigned to AISG devices that have been found on the bus.

Note that when an operator name is modified, any AISG devices assigned with that operator name will be unassigned. That is, the administrator must revisit the Assign Operators to Devices web page and reassign those devices with operator names.

The controller maintains alarm history logs specifically for each operator, containing alarm logs for

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only the devices assigned with that operator. These logs are deleted when the administrator selects Set Operator Info. A warning box notifies the administrator of this action.

🖉 ATC300 Controller - Windows Internet Explorer	
COC + E http://10.104.200.17/cg-bin/atc3060pnameConfig.cgWaction=Manage+Operators	👱 🐓 🗶 🔯 Google - 🖉 🖉
Eile Edit View Favorites Iools Help	
🐈 Favorites 🛛 🚔 🙋 Suggested Sites 🔹 🙋 Web Silce Gallery 👻	
CATC300 Controller	🟠 🔻 🔯 📑 👼 👻 Page + Safety + Tools + 🔞 + 💙
	A
Home Configuration Alarms Help Logout	ANDREW
	A CommScoper Company
Operator Configuration:	lanagement
Operator Name	Password
1 oper1	•••
2 oper2	•••
3 oper3	•••
.4 oper4	•••
	erator Info
Command Response:	
1	
C	lose
Done	Local intranet 👘 👻 100% 🔹

Figure 8-6 Operator Management Web Page

8.2.1.2 Assigning Operators to Devices

Before entering this web page, the administrator should perform an AISG bus device scan (**Home** | **Find Devices**).

This web page provides an administrator the capability to assign operators to AISG devices that were previously found in device scan. The page displays a list of the AISG devices, along with a drop-down option list of the defined operators for each device. The administrator may select one operator for each device. The same operator may be assigned to multiple devices. Devices do not have to be assigned an operator. To unassign an operator, the blank operator name option can be selected. (See Figure 8-7 Assigning Operators to AISG Devices).

Logged-in operators will be able to view and manage only those devices to which they have been assigned.

If an operator name is deleted or modified from the **Manage Operators** web page, any devices assigned with that operator name will become unassigned.

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ATC300 Controller - Windows II	nternet Explore	r				
💽 🔻 🙋 http://10.104.200.17/	/cgi-bin/atc300Devic	æAssign.cgiVaction⇔Assign+Operators+	o+Dévices	2	😽 🗶 🔠 Google	
<u>E</u> dit <u>V</u> iew F <u>a</u> vorites <u>T</u> ools						
avorites 🛛 🚔 🔊 Suggested Sites	👻 🙋 Web Slice G	ialléry 🔻				
ATC300 Controller						9 ▼ <u>P</u> age ▼ <u>S</u> afety ▼ T <u>o</u> ols ▼ 0
Home Configuration	Alarms	Help Logout			Para Matter	ANDREV
				-		
Device	Vendo		evice Assignmen SW Versi		Product Type	Assigned Operator
0000DESA081319594	AN	0000DESA081319594	2.0.20	RET	ATM3	oper1 💌
08ARTLAB012345014	AN	08ARTLAB012345014	1.7.3	SMARTBEAM	AICM	×
						oper2 oper3 oper4
			Close			
					📢 Local inte	anat 🙃 - 🖗 100%

Figure 8-7 Assigning Operators to AISG Devices

8.2.1.3 Operator Login/Logout

Operators do not need to know their usernames. An operator simply needs to enter his password to be able to manage those devices assigned to him.

Operator capability is very limited. A logged in operator may view, configure, move, and upgrade only his devices. He cannot perform a device scan. The **Current Alarms** and **Alarm History** web pages are limited to only his devices as well. An operator may view the controller's **About** and **Software Versions** web pages.

An operator may log out by selecting the **Logout** menu option.



8.3 Site Configuration

The controller allows configuration of other options that can be accessed through the menu **option Configuration** \rightarrow **Controller Config** (as shown in Figure 7-2).

8.3.1 Site Name

The controller site name defaults to "RET1 ASCU" but can be modified at any time. This identifier is not usually important unless the controller is one of many nodes managed by network management software such as CommScope's Site Manager.

8.3.2 External Bus Power (ATC300-1000/2000 only)

By default, the ATC300-1000/2000 limits the number of ALD devices in its database to 32 due to power requirements. However, if the devices are externally powered, this option may be selected to expand that limit to 64 ALD devices.

8.3.3 Alarm Relay Configuration (ATC300-1000/2000 only)

The alarm relays on the ATC300-1000/2000 are "normally open" by default. This option changes that logic and treats the relays as "normally closed".

Note that after changing this configuration, the controller may need to be rebooted for the relays to reflect the current alarm states correctly.

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Part 3

Uploading Firmware

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Section 9 Unloading Controller F

Uploading Controller Firmware and Antenna Definition Files Using the IP Config Tool

9.0 Section Overview

- The CommScope IP Config Tool can be used for uploading firmware to the controller over its FTP server. For uploading firmware to the controller over a direct connection, see paragraphs 9.2 through 9.5. For uploading firmware to the controller over a LAN, see paragraphs 9.3 through 9.5. For ATC200 and ATC300 2.32 and earlier, firmware can also be uploaded to the controller using a third party FTP server (see Appendix C).
- For ATC300 2.34 and later, firmware can be installed using the web interface without IP Config Tool or a third-party FTP server.
- The IP Config Tool is compatible for use on computers operating in the English language using Windows[®] 2000, Windows[®] XP or Windows 7. This tool includes an FTP server for file upload. If another FTP server is active on the local computer, a conflict may occur (see paragraph 9.6). See Appendix A to disable Windows[®] XP SP2 Firewall. The IP Config Tool does not work with Windows Vista (see Appendix B).
- Periodically, updates are made to the antenna definition file to add data for new antenna models and to maintain the latest data available for existing antennas compatible for the controller system. These updates are made automatically when the operator installs new controller firmware, because antenna definition file releases are bundled with controller firmware.

9.1 Required Resources

Hardware

- ATC300-1000/2000 or ATC200-1000 controller w/power cord
- To connect to PC or laptop, use the Ethernet cable (or LAN connectivity with the ATC300-1000/2000 controller)
- Computer operating in the English language using Windows[®] 2000, Windows[®] XP or Windows 7

Software

- IP Config Tool (see Section 3, if this has not been installed on the local computer)
- ATC300-1000/2000 controller firmware (atc300_*.tar) or ATC200-1000 controller firmware (RET-AN-RT_*.ascu)
- Non-CommScope antenna definition file (RET-xx-AT_*.ascu)

Asterisk (*) represents the version number. Use the file with the highest number preceding the file extension for each type file to ensure the latest version data is uploaded.

xx is the 2-letter vendor code. CommScope antenna definition files are automatically updated when controler software is installed (see above).

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Warning: The ATC300-2000 controller unit requires software release 2.36 or later.

Conversely, however, software release 2.36 and later can be installed on ATC300-1000 controller units. All new features and/or bug fixes provided with the controller software will be available on the ATC300-1000 with the exception of modem port isolation, which is not supported on the ATC300-1000 hardware.

9.2 Connecting to the Controller

- 1. Ensure that the controller is connected to the local computer using the Ethernet cable and that the controller is powered up. (Also see Section 6.)
- 2. Double-click on the CommScope IP Config Tool icon from the computer's desktop.
- 3. Click on the New IP Info tab, and click on Local Area Connection (Figure 9-1).

P Config	
ndrew IP Config Tool	-1. Click on New IP Info tab.
ackup/Restore New IP Info FTP Server	
Select connection to apply new IP configur	rebine
	ation
Local Area Connection	
2. Click on Local Area Connection	on.
1	
Current IP	Enter new IP address
10.104.101.16	
Current Subnet mask	This computer's IP should be one less than the controller. Example of default settings:
255.255.0.0	Controller IP = 192.168.255.141
255.255.0.0	Computer IP = 192.168.255.140
Refresh	Enter new Subnet mask This should match the controller's Subnet mask
When restoring a previous configuration	255 255 0 0
where it was set to "Obtain an IP address automatically", the IP may show as 0.0.0.0	The controller's Subnet mask is typically 255,255,0.0
until the IP reestablishes itself. This may take up to a minute or so.	Apply new IP configuration
	Application may take about 20 seconds to complete
	, it is a series of the series of a particular sector the sector is a sector of the se
Settings About	Close

Figure 9-1. Selecting Local Area Connection.



- 4. Click on the **Backup/Restore** tab (Figure 9-2).
- 5. Click on the backup IP configuration file that was set up for access to the controller (Figure 9-2). See Section 3.5 for creating a backup IP configuration file.
- 6. Click on Restore (Figure 9-2).

IP Config	
Andrew IP Config Tool	- 1. Click on Backup/Restore tab.
Backup/Restore New IP Info FTP Server	
Create a backup of your current IP config Backup	uration. This can be restored later.
	ed to backup computer-to-controller IP ve it a descriptive name and the next time you need store it.
	v IP Config Tool
Restoring "ART Controlle	er"
2. Click on the backup file.	
3. Click on Restore .	
Restore Click button to restore se	lected configuration
Settings About	Close

Figure 9-2. Restoring Backup IP Configuration File To Regain Access To Controller.



7. Double-click on an Internet browser to verify that the computer is connected to the controller. If you are using the default IP address for the controller (192.168.255.141), the Internet browser (Netscape and Mozilla not supported) will automatically open to the controller's main interface screen (Figure 9-3). If you are using a different IP address (see Chapter 5), enter that alternate IP address for the controller in the browser window's URL.

ATC300 Controller - Windows Internet Explorer - 18 × 💌 🏘 🗙 Live Search 🕒 🕞 👻 http://192.168.255.141/cgi-bin/index.cg p -Eile Edit View Favorites Tools Help 🛐 🔹 🔝 👻 🖶 🔹 🔂 Bage 🔹 🥥 Tools 🔹 🚖 🔹 🏾 🏉 ATC300 Controller Home Configuration Alarms Help ANDREW **RET Device Information** ID Type Base Station ID Bands Az Bearing Model AISG Status Sector Location ETH MTH RAS RAB Devices AISG Bus Bus Power Display Move Selected. Move Sector Update/Refresh Find Devices Suspend Edit Se Show Statistics Show TMAs Configure Bus Wak Command / Status Response 0 Wake Bus OK Local intranet 94%

Note: This screen can be closed or minimized after connection has been verified.

Figure 9-3. Controller's Main Interface Screen.



9.3 Locating/Adding Firmware Files to FTP Server

Note that with ATC300-1000/2000 Version 2.21_A to 2.32_A, and ATC200-1000 RET-AN-RT-464A8_A. ascu and later, CommScope antenna definition files can not be updated manually. They are bundled with the controller firmware. However, other vendors' ADFs may still be loaded on the controller using the method described in this section. ATC300-1000/2000 version 2.34_A and later allows manual update of CommScope antenna definition files.

- 1. Ensure the controller is connected/powered and that the IP Config Tool is launched.
- 2. From the IP Config Tool interface, click on the FTP Server tab (Figure 9-4).
- 3. Click on the Find File(s) button (Figure 9-4).

ckup/Restore New IP Info FTP Server	1. Click on FTP Server tab.
Disconnect Status Connected	Connect the FTP server in order to access firmware and antenn- files from the controller's web-interface. Use the Add File(s) option to add files that will be available to th controller.
Available Transfer Files	
hese files are available for upload from t	he controller
-2.	Click on Find File(s) .
	-1
Add File(s)	Click on Find File(s).
Add File(s) Find File(s)	Upload Upload a file or
Add File(s) Find File(s)	Upload rying to upload a file or er's web interface.

Figure 9-4. IP Config Tool's FTP Server Tab Screen.



- Click on the Find Files button again (Figure 9-5). The controller files found during search will appear in the Found Files window.
- 5. Select the latest version file(s), if your search results found earlier versions. Refer to Paragraphs 9.0 and 9.1 to determine the version level from the filename. To select more than one file, hold down the **Shift** key on the keyboard while selecting the files.
- 6. Click on the Add Selected Files button (Figure 9-5).

Use thi	is feature to locate ASCU and TAR files on this co	mputer.
pecify the directory or p	oath to begin searching in.	
irectory C:\Documents an	d Settings \ <user></user> \Desktop	Browse.
Find files	- 1. Click on Find Files.	
ound Files	-	-
Name	Location	Date
RET-AN-AT_025.ascu atc300_2.00.tar	C:\Documents and Settings\ (user) \Desktop\ C:\Documents and Settings\ (user) \Desktop\	10/5/2007 5:41 10/5/2007 4:32
- accool 2,00,car	c, pocalitarias and becangs (suber s possicop)	10/0/2007 1/02/1
Serve of Standards		
2. Select	t files.	
Service Control of	t files.	
2. Select	t files. 3. Click on Add Selected Files .	
2. Select		
2. Select		

Figure 9-5. Search And Selection Of Controller Files To Be Uploaded.



7. After the files have been added to the FTP server, a check mark with a plus sign is shown next to the file to indicate it is ready for upload to the controller (Figure 9-6).

Click on Finish (Figure 9-6).

Note that uploaded files will have a rectangular symbol shown to the left, replacing the check mark. as shown in Figure 9-7 on the next page.

inecify the dire	ctory or pa	ath to begin searching in.	
and a state of the state		f Settings\ (user) \Desktop	Browse
Find files	1		
r ind files			
ound Files			-
Name	_	Location	Date
6 RET-AN-AT_0		C:\Documents and Settings\ (user) \Desktop\ C:\Documents and Settings\ (user) \Desktop\	10/5/2007 5:41 10/5/2007 4:32
	-1 Sele	ect the latest version file(s)	
		n the search results shown.	
		2. Clicl	k on Finish . ——
		Ĵ.	

Figure 9-6. Files Ready To Be Uploaded To Controller Identified.



9.4 Uploading Firmware Files to the Controller

1. Click on the firmware file that is to be uploaded (Figure 9-7). Only one file can be uploaded at a time.

Note: Updates to the antenna definition file (*AT*.ascu) are recognized by the controller as soon as the upload is complete. Updates to the controller's software require that the controller be rebooted (Figure 9-10) for the updates to be recognized.

2. Click on the Upload button (Figure 9-7).

ackup/Restore New IP Info	FTP Server	
ETP Server	us onnected	Connect the FTP server in order to access firmware and antenna files from the controller's web-interface. Use the Add File(s) option to add files that will be available to the controller.
Available Transfer Files These files are available for up	1.10.00	
A 200 200 200 tor		
Batc300_2.00.tar		
RET-AN-AT_025.ascu	>	
RET-AN-AT_025.ascu	Click on fil	le to be uploaded.
RET-AN-AT_025.ascu	Click on fil	le to be uploaded.
RET-AN-AT_025.ascu	Click on fil	le to be uploaded.
RET-AN-AT_025.ascu	Click on fil	le to be uploaded. 2. Click on Upload .
RET-AN-AT_025.ascu		2. Click on Upload .
RET-AN-AT_025.ascu	Click on fil	
Add File(s) Fi	nd File(s) all when try	2. Click on Upload .
Add File(s)	nd File(s) all when try e controller	2. Click on Upload. Upload

Figure 9-7. Files Ready For Upload To The Controller Shown.



3. Enter the IP address for the controller that is to receive the file upload (Figure 9-8).

Note that '*.tar' type files are only used with the ATC300-1000/2000 Controller, so the screen shown in Figure 9-8 will only allow this option to be selected.

4. Click on OK (Figure 9-8).

The Internet browser will open to the controller's operating interface and upload the file. A script will display indicating that the file was successfully installed (Figure 9-9).

1. Enter IP address — for controller that	Controller IP	X
is to receive file upload.	1. Enter the controller 192.166.255 141 2. Select the ATE mod ATC200 © ATC300	el you are connecting to 2. Click on OK .
		OK Cancel

Figure 9-8. Specifying The Controller To Receive The File Upload.

Home	Configuration	Alarms	Help			ANDREW.
CommandR	esponse:					
Transferre Firmware d Downloaded Back	ng firmware from fr d 2406400 bytes in lownloaded successfu I firmware will be i k on Back to see	12 seconds lly nstalled at th	e next reboo	95	5300_2.21_A.tar	
file(s	s) listed and to g reboot button (se	o to controll	er's screer			

Figure 9-9. File Uploaded To Controller Successfully.



Home	Configuration Ala	rms Help	
- Firmware U	pdate:	Software Configuration	n
	Firmware URL: ftp://	Install System Firmware Cle	Ear Stale Lock Bar Stale Lock For the controller. This is required when firm- ware updates are installed for the controller.
	21 A +	Field Installed Firmware I Source	ltems Time
atc300_2	21_A tar 10.10 Controller firmware shown, which inclu antenna definition	des bundled	I_A tar Thu May 28 14:00:47 UTC 2009 Click on Close.

Figure 9-10. Uploaded Controller Firmware Files Shown.

9.5 Uploading Other Antenna Supplier Definition Files

Other antenna supplier definition files can be uploaded into the ATC300-1000/2000 or ATC200-1000 controller manually using the process described above. These files will need to be obtained from the antenna supplier. Refer to www.aisg.org.uk for information on the standards and the abbreviations for each antenna supplier.

9.6 FTP Server Conflict

If another FTP server is registered and running on the local computer, a conflict will normally occur with the FTP Server used by the IP Config Tool.

To check to see if another FTP server is running, first close the IP Config Tool and then open Internet Explorer.

Go to ftp://localhost/. If this opens, there is another FTP server running.

To correct any conflicts that occur, the FTP server will need to be closed. To prevent reoccurrence of the conflict, the FTP server will need to be unregistered. See example shown in Figure 9-11 when FTP server conflict has occurred.

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Figure 9-11. FTP Server Not Connected.

9.7 Uploading Controller Firmware from the ATC300 Web Interface

As of ATC300 version 2.34_A, the controller no longer requires IP Config Tool or a third-party FTP server to upload controller firmware or antenna definition files. To upload a system file, navigate to **Configuration** \rightarrow **Software Config**, select "Install System File", find and select the controller firmware file or antenna definition file (CommScope or non-CommScope), and then click on "Open".

After a controller firmware file has been uploaded, the ATC300 must be rebooted to complete the installation.

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ome Configuration	Alarms Help Logout	A CommScope Compo
mware Update:	Software Configuration	n
invare opdate.		
	Install System File	
	Pohoot	
	Reboot	
	Field Installed Firmware 1	
Item	Field Installed Firmware I Source	Time
Antenna db	Field Installed Firmware Source RET-AN-AT_049_new_format.ascu	Time Tue Mar 27 14:07:16 UTC 2012
Antenna.db AntennaKA.db	Field Installed Firmware I Source RET-AN-AT_049_new_format.ascu RET-KA-AT_010.ascu	Time Tue Mar 27 14:07:16 UTC 2012 Tue Mar 27 14:08:15 UTC 2012
Antenna db	Field Installed Firmware Source RET-AN-AT_049_new_format.ascu	Time Tue Mar 27 14:07:16 UTC 2012

Figure 9-12. Uploading controller firmware using the ATC300 web interface

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Section 10 Uploading Device Firmware

10.0 Section Overview

• CommScope AISG device firmware is bundled with the controller firmware, so that it is saved to the controller during controller firmware upgrades.

Firmware Bundle Version Numbering:

When new CommScope device firmware or a new CommScope Antenna Definition File is released, a new controller firmware bundle is also released. The bundle version is indicated in the controller firmware version. For example, in the ATC300 controller firmware bundle version "2.21_A", the controller firmware is version "2.21", while the bundle version is "A". Release of a new Antenna Definition File would generate the release of controller firmware bundle version "2.21_B". A change in controller features, however, would generate the release of "2.22", while the bundle version would drop back to "A".

- See Appendix C, Uploading Firmware to Controller Manually, to upload non-bundled firmware to a device.
- When a AISG tower mounted amplifier (TMA) is upgraded, it will lose RF gain functionality for about three seconds during firmware activation. The same is true if the TMA is reset.
- A new device scan is required after a device firmware has been applied to a TMA and upgraded it from AISG 1.1 to AISG 2.0, in order for it to reappear in the device listing.

10.1 Scan for Devices

1. In order to find all devices on a RET system, a device scan must be performed. From the main interface screen, click on the **Find Devices** button (Figure 10-1).

Contract Product				-		
Sector Locat	cation Bases	Station ID B	Sands E.Iut M	Lilf Az Bearing	g RAS RAB	Mod
		Clic	k on Fin d	d Device	es.	
		Clic	k on Fin d	d Device	9S.	
	(_Displa		k on Fine		Bus Power	
Aove Selected			AISGBus			
	Sector Lo	Sector Location Bases	Sector Location BaseStation1D	Sector Location BaseStation1D Bands L14f N	Sector Location Base Station ID Bands ETH MTH Az Bearin	Sector Location Base Station ID Bands Fill Milit Az Bearing KAS KAB

Figure 10-1. Selecting Find Devices On The Controller Main Interface Screen.

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						NDRE
Device Search Progress	-					
Progress: AN\\\00000000000		G HW Version	SW Version	Tilt	Update Reg'd?	Status
		02.00	90c.79	\$.0	No	OK
Most recent AN0000a000c3739358a		04	0004	++		OK
		01.00	2.0.14	10.0		OK
THERE ARE ARE ARE ARE ARE ARE ARE ARE ARE		01.00	2.0.16	0.0	No	OK
		04	0004	-	Yes	OK
		te Devices_	1			
	ax devices in system: 32		_			
		Max devices in system. 32	Max devices in system: 32 _	Max devices in system. 32		

Figure 10-2. ATC300-1000/2000 Controller Device Search Screen.

2. Click on the **Start Scan** button (Figure 10-2). The **Device Search Progress** window shows when the device search locates each device connected to the RET system.

10.2 Updating AISG Device Firmware

Operators can easily see the **Update Required** state of each device scanned on a RET system (Figure 10-3). The ATC300-1000/2000 controller shows each device in one of the following states:

- A **dashed line** indicates a device that cannot be upgraded or that must be upgraded manually. See Appendix C.
- **Unknown** indicates that no firmware for that device has been installed on the controller.
- Yes or No means the device does or does not require an upgrade to the latest device firmware.
- 1. When the device scan is complete, the **Update Req'd** field will display the current firmware status for each device. Figure 10-3 shows one TMA and three actuators that require updates.
- 2. Click on Update Devices (Figure 10-3).
- Only the devices in need of updates will appear on the Device Upgrades Recommended screen (Figure 10-4). Some devices may take longer to update as noted in the Approx. Upgrade Time field.
- 4. Click on the Install Firmware button (Figure 10-4).

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		-	Device	Scan Prog	ress	-				
Device	Vendor	Serial#	Туре	Product Type	AISG	HW Version	SW Version	Tilt	Update Reg'd?	Status
AN000000ART08020042	AN	000000ART08020042.t	RET+	SACM	1.1	01.00	1.7.1	2.0	Yes	OK
AN0000DESA080303396	AN	0000DESA080303396	RET	ATM3	2.0	01.00	2.0.16	8.5	Yes	OK
AN0000DESA083254698	AN	0000DESA083254698	RET	ATM3	2.0	01.00	2.0.19	10.0	Yes	OK
AN0000DESA073413329	AN	0000DESA073413329	RET	ATM3	2.0	01.00	2.0.16	0.0	Yes	OK
AN08ARTLAB012345007	AN	08ARTLAB012345007.t1	MRET	AIAM	2.0	01.00	1.0.1	2.6	No	OK.
		Yes indica	iles (levices	that					
		One or more devices re				Devices.		С	lick on pdate	Devices.
-		One or more devices re	equire up		Update	Devices		С		Devices.

Figure 10-3. Device Scan Results Show Updates Required.

			Device Upgrades	Recommended			
Device	Vendor	SerialNumber	CurrentSW Version	Туре	Product Type	Approx Upgrade Time	Unselect All
AN000000ART08020042	AN	000000ART08020042	1.7.1	SMARTBEAD	MSACM	31 min	N
AN0000DESA080303396	AN	0000DESA080303396	2.0.16	RET	ATM3	4 min	R
AN0000DESA083254698	AN	0000DESA083254698	2.0.19	RET	ATM3	4 min	N
AN0000DESA073413329	AN	0000DE\$A073413329	Approxima	RET te upgrade			되
		0000DESA073413329	Approxima	1.000	time is lis		
			Approxima	te upgrade	time is lis	sted.	
			Approxima	1.000	time is lis	sted.	

Figure 10-4. Device Upgrades Recommended Screen.



5. Firmware updates are applied to the selected devices individually. The **Upgrade Progress** window tracks the progress as each update is applied (Figure 10-5). After a device updates, it is no longer listed on the screen. Click on **Close** after updates have been installed.

If a TMA has been upgraded from 1.1 to 2.0 after a firmware upgrade, it will be removed from the database. In this case, a rescan is necessary to show all of the TMA devices.



Figure 10-5. Upgrade Progress Screen.

	_				RET	Device Information		_		_		_	
m	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilr	Az Bearing	RAS	RAB	Model
AN000000 AR T08020042 t	RET+	1.1	OK	beta (2)	1	ART563412	1900	2.0	2.5	120		1.24	SBP-3D.
AN000000ART08020042.p	AZANG+	1.1	OK	beta(2)	1	ART563412	1900			120	-5		SBP-3DA
AN000000ART08020042.f	AZBW-	1.1	OK	beta(2)	1	ART563412	1900			120		79	SBP-3D.4
AN0000DE5A080303396	RET	2.0	ок	alpha (1)	4	ART	VI UL: 830- 840 MHz, DL: 875- 885 MHz	8.5	3.0	2			TMBX-6516-
evices Move Sector	Mo	ve Selec	ted	1	Display	Update/Refresh	AISG Bus	Devices	1	Bu	s Power	Suspe	nd [
Edit Selected		ow Statis		5		Show TMAs		gure Bus			-	Wal	
mand/Status Response				-	-				_		_		

Figure 10-6. Picking **Show Statistics** On The Main Interface Screen.



10.3 Choice of Upgrade Method

Select **Show Statistics** on the **Main Interface** screen (Figure 10-6) to open the **Device Statistics** window. Using the **Device Statistics** screen (Figure 10-7), ATC300-1000/2000 operators can choose to update device firmware in one of two ways, **Auto Upgrade** or **Manual Upgrade**.

- Section 10-2 explains the **Auto Upgrade** option for uploading device firmware to update actuators.
- **Manual Upgrade** is another option seen on the Device Statistics screen. See Appendix C for a description of the manual upgrade method for uploading device firmware and updating the device. Figures 10-8 and 10-9 show the **Manual Upgrade** screen (differs based on controller version).

			D	evice Statistics						
Device	Vendor	Serial#	Type	Product Type	AISG	HW Version	SW Version	Til	Update Req'd?	Statu
AN000000ART0\$020042	AN	000000ART08020042.t	RET-	SACM	1.1	01.00	1.7.3	2.0	No	OK
AN0000DESA080303396	AN	0000DESA080303396	RET	ATM3	2.0	01.00	2.0.20	8.5	No	OK
AN0000DESA083254698	AN	0000DESA083254698	RET	ATM3	2.0	01.00	2.0.20	10.0	No	OK
AN0000DESA073413329	AN	0000DESA073413329	RET	ATM3	2.0	01.00	2.0.20	0.0	No	OK
ANOSARTLAB012345007	AN	08ARTLAB012345007.tl	MRET	AIAM	2.0	01.00	1.0.1	2.6	No	OK
				Al	dev	ices are	update	d.		

Figure 10-7. Device Statistics Shows All Updated Devices And Choice Of Upgrade Method.

		Device Upgrade	Information			
Device	Vendor	SerialNumber	SW Version	Туре	Product Type	Select All
N0000000000346890	AN	0000000000346890	90c.79	RET	ATC_	E
N0000DESA080303395	AN	0000DESA080303396	2.0.16	RET	ATM3	E
N0000DESA073413329	AN	0000DESA073413329	2.0.16	RET	ATM3	6
N0000A5ZP081419361	AN	0000ASZP081419361	2.0.16	RET	ATM3	Г
N0000ASZP081419367	AN	0000ASZP081419367	2.0.16	RET	ATM3	C.
1N0000a000c3739358a	AN	0000a000c3739358a	0202	TMA	E15\$08P78	E

Figure 10-8. Manual Upgrade Option (ATC200 and ATC300 2.32 and earlier)



	Device	Vendor	Device Upgrad Serial Number	e Information SW Version	Туре	Product Type	Select All
AN0000DES	A074828823	AN	0000DESA074828823	2.0.20	RET	ATM3	
AN0000DES	A073212347	AN	0000DESA073212347	2.0.20	RET	ATM3	
			Select De	vice File			
	atus Response		SelectDe	vice File			

Figure 10-9 Manual Upgrade Option (ATC300 2.34 and later)



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10.4 Using the Controller Help Menu

The **Help** menu on the menu bar on the main interface screen has two selections, **About** and **Software Versions** (Figure 10-10). Selecting either opens the relevant web page.



Figure 10-10. Selecting Help to Access the About Web Page.

1. Help→About...

The operator will find important information about the ATC300 controller, including its serial number, revision, and current status (Figure 10-11).

Note: The **Modem Ports** field is supported only by the ATC300-2000. The ATC300-1000 will indicate this information is "N/A". This is an easy way to differentiate between ATC300 hardware models.

2. Help→Software Versions

The operator will find the versions of the CommScope device firmware and the CommScope Antenna Definition File resident on the ATC300 controller (Figure 10-12).

Usage of Resident Device Firmware

When an CommScope device is found in a scan, the controller determines whether that device type has resident device firmware available, and if that resident device firmware is newer than the version on the device. If so, the controller advises the operator that the device may be autoupgraded. See Section 10.2 for more information on auto-upgrading CommScope devices.



C ATC 300 Controller - Windows Inte	rnet Explorer			
😋 💽 🗢 🙋 http://10.104.200.17/cgi	-bin/atc300Help.cgi	v 44 ×	S Google	P -
Eile Edit View Favorites Tools He	p			
🙀 Favorites 🛛 👍 🔊 Suggested Sites 👻	🙋 Web Sice Gallery 🔹			
CATC300 Controller		<u>ن</u> ا	📓 🖾 🖶 🔹 Bage + Safety + Tools +)	• • •
				^
Home Configuration	Alarms Help		ANDREY	N.
			A CommScope Comp	ony
				_
	Curren	it Status		
		Site Name:	RET1 ASCU	
		Serial Number:	FV12150439	
		Manufacture Date:	Tue May 1 08:25:00 UTC 2012	
		ASC Status:	OK	=
AIC		Uptime:	5 min	
AIS	G	Service Time:	809 Hours	
		System Load:	0.16, 0.07, 0.02	
Antenna Interface St	andards Group	Kernel ID:	#3 Tue May 15 11:21:07 2007	
		System Build ID:	v2.36_A	
		Modem Ports:	0.00A 0.00A 0.00A	
		AISG Port:	0.08A	
		Input Voltage:	+24VDC 24.62V	
				_
	C	lose		
Done			Sucal intranet	~

Figure 10-11. About Web Page.

Home Configuration Alarms Help		A Commiscope Com
5	Software Versions	
File Type ndrew Antenna Definition File	File Name	Version
ndrew Antenna Definition File ndrew AccuRET Antenna Definition File	Antenna.db ACRET1-TABLE.ar1t	57
	RET-AN-ET B79.bin	79
TC_Bios	RET-AN-ET_B/9.bm RET-AN-ET_A90c.bin	90c
TC_Application TM3	atm300fw.bin	2.0.20
martbeam	SACMfw bin	1.7.3
IAM	AIAMfw bin	2.0.4
ICM	AIAMIW.bin	1.7.4
.ccuRET	AccuRET1fw bin	001.000.003
ISM	AISMfw bin	004.000.003
ITM	AITMfw.bin	003.000.003
BNH RET	RC3_235Kf2.bin	RC3_235Kf2
	Total Andreaster	
	Close	

Figure 10-12. Software Versions Web Page.



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Part 4

Device Discovery for All Types of Antennas

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Section 11 Device Discovery and Bus Management

11.0 Section Overview

- In order for the controller to permit configurations or tilt adjustments to be made to attached devices, it must first recognize their presence.
- Device recognition is most commonly achieved by running a device search (section 11.1).
- Less commonly used, devices may be individually addressed using the **Configure Bus** feature (section 11.2).
- Some of CommScope's RETs are capable of functioning in AISG 1.1 or AISG 2.0 protocol mode. These may be changed using the AISG Control tools on the Configure Bus screen (section 11.5).
- ATC300 2.34_A and later provides the capability to change the operating mode of CommScope AITM RETs between multiple-single RET mode and multiRET mode (section 11.6).
- (ATC300-2000 only) The ATC300-2000 powers each modem port pair and the AISG bus in sequence, with about 3 seconds in between. This causes a noticeably longer wait time when the bus is woken, either from the "Wake" button on the main web page, or as a result of an operator action requiring bus activity, such as device discovery or device movement.

Warning: Close any pop up blockers running on the PC because they will inhibit some functionality of **Configure Bus** operations.

11.1 Running a Device Search

1. To begin running a device search, click on Find Devices from the controller's main interface screen

RET Device Information ID Type AISC Status Sector Location Base Station ID Bands ETH MTH Az Bearing RAS RAB
Click on Find Devices .
Click on Find Devices .———
Devices (Display AISCBus Bus Power
Nevices Display AISC Bus Power Bus Power Selected Update/Refresh Find Devices Suspend
Move Sector Move Selected Update/Refresh Find Devices Suspend
Move Sector Move Selected Update/Refresh Find Devices Suspend
Move Sector Move Selected Update/Refresh Find Devices Suspend

Figure 11-1. Selecting Find Devices On The Main Interface Screen.



(Figure 11-1).

2. Click on **Start Scan** to activate the device search (Figure 11-2). Note that the controller can identify up to 32 AISG devices.

Home	Configura	tion	Alant	as Help				n 2 , sill		ANDREW
Device	Vendor	Serial#	Туре	Product Type	Device So AISG	an Progress HW Version	SW Version	Tilt	Update Req'd?	Status
	liek en	Chard					operator devices	r sele expe	is more e ects the r ected to b	number o be found
	lick on	Start				in system 32 -	Leave a	t 32	if unknow	vn.
	atus Response									

Figure 11-2. Starting Scan For New Devices.

• (ATC300 only) Device scan will allow up to 64 AISG devices in the database when the controller is configured as Bus is externally powered (See figure 7-3). Otherwise, the limit stays at 32.

			Dev	ice Scan Prog	ress						
Device	Vender	Serial#	Туре	Product Type	AISG	HW Version	SW Version	Till		Update Reg'd?	Status
AN0000000000346890	AN	0000000000346890	RET	ATC_	1.1	02.00	90c.79	\$.0	No		OK
AN0000DESA080303396	AN	0000DESA080303396	RET	ATMB	2.0	01.00	2.0.16	10.0	No	1	OK.
AN0000DESA073413329	AN	0000DESA073413329	RET	ATMS	2.0	01.00	2.0.16	0.0	No		OK
AN0000a000c3739358a	AN	0000a000c3739358a.1	TMA	E15808P78	2.0	04	0202		No		OK.
AN0000ASZP081419361	AN	0000ASZP081419361	RET	ATMS	1.1	01.00	2.0.16	15.0	No		OK
AN0000ASZP0\$1419367	AN	0000ASZP081419367		1.000	-	10122	a state	1000			0.11
RN0000R3ZF031419307	AN	0000A5ZP081419567	RET	ATMS	1.1	01.00	2.0.16	8.0	No		OK
mmand / Status Response	AN	0000A52P081419967	Max d	levices in syste	m: 32 - Carro	cel Scan					
mmand / Status Response Scan finished Found 6 device(s)	AN		Max d		m: 32 - Carro	cel Scan	e scan			mple	

Figure 11-3. Closing Device Search Results Screen.

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3. After the device search is complete, click on **Close** to return to the controller's main interface screen (Figure 11-3).

11.2 Manually Adding a Device to the Controller's System

To begin adding a device manually to the controller's system, click on **Configure Bus** from the controller's main interface screen (this button is located under the **Find Devices** button as shown in Figure 11-1).

- 1. Select an available address from the drop down list (Figure 11-4). If an address has already been assigned to a device, it can not be reassigned to another device unless the present device holding that address is first removed from the system (see paragraph 11.4).
- 2. Enter the device vendor code. This is 2 upper case letters.
- 3. Type in the serial number for the device to be added (Figure 11-4).
- 4. Select the correct AISG Version of this device (Figure 11-4).
- 5. Click on **Add Device** (Figure 11-4).

Home Configuration	Alarms Help		ANDREW.
1. Locate an available address. –	3. Enter the device	A second s	4. Select AISG version.
Manual Addressing Address 2	2. Enter the device ven	Serial Number: 0000DE SA073413329 Name:	AISG Version 20
		rassignment, please enter a serial number. nove Device Rename Device	
AISG Control:	AISG 2D Rese	# Revent to AISG 1.1	
5. Cli		Control Tools Paragraph 11.5	
		Close	

Figure 11-4. Manually Adding A Device Using Configure Bus Feature.



- 6. A progress screen will pop-up to show the device being added to the controller's system. After the device has been successfully added, click on **Close Window** from the progress window.
- 7. Scroll down in the Manual Addressing screen and click on Close.

11.3 Addressing

New devices are automatically assigned an address the first time they are found while running a device search. Addresses for devices that have previously been recognized through a device search are usually preserved during a new device scan, when possible.

An address can be specified for a device using the **Configure Bus** feature that also allows a device to be manually added to the controller's system (see paragraph 11.2). If a desired address is already taken, the serial number edit box will be grayed out–preventing any changes to be made. A device can be renamed, but this does not change the actual serial number already assigned to an address. Communication between the controller and the device is based upon the serial number that is embedded in the device and recognized in the controller. A device can be removed to make a specific address available for a different device and manually reloaded with a new address, if desired (see paragraph 11.4).

11.4 Removing a Device from the Controller's System

After a device has been recognized by the controller, either through a device search or manual setup, the controller's system will continue to display its status and condition until it is explicitly told to remove the device. The controller's database is not affected by power down and power up of the unit. When a device has been physically and permanently detached from the controller, it must be manually removed from the controller's system to stop the controller from monitoring the device for status and alarms.

- 1. To begin removing a device from the controller's system, click on the device from the controller's main screen to select it and then click on **Configure Bus**. The **Configure Bus** button is located under the **Find Devices** button in the lower portion of the screen as shown in Figure 11-1.
- 2. Verify that the correct serial number for the device that is to be removed shows in the **Serial Number** field (Figure 11-5).
- 3. Click on **Remove Device** (Figure 11-5).
- 4. After the device is successfully removed, click on **Close Window** in the progress screen (Figure 11-6).
- 5. Scroll down in the Manual Addressing screen and click on Close (Figure 11-6).

Note that there are also options to remove all devices or to remove all missing devices (Figure 11-5). **Remove Missing Devices** removes all devices from the controller database that are not currently communicating with the controller (or are in an "AISG_NO_REPLY" state).

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		Bus Configuration	
Manual Addressing: Address: 1	Vendor Code: AN	Serial Number: 000000C2061201315 Name: AN0000002061201316	AISG Version:
2. Click on Remo		Remove Device Rename Device	L 1. Verify correct serial
AISG Control:	AISG20F	leset Revert to AISG 1.1	number.
Command Response:		Close	

Figure 11-5. Removing A Device Using **Configure Bus** Feature.



Figure 11-6. Closing Configure Bus Windows.



Home	Configuration	Alarms Help			ANDREW.
			Bus Configuration		
	uddressing: ess: 1 💌	Vendor Code: 🕅 💉	Serial Number: 000000E Name: AN0000	SA080303396	AISG Version: 20 H
- AISG Co	ntrol:	Add D	Are you sure you want to broad ok on OK.	cast an AISG 2.0 Reset to	all devices on the bus?
Command R.	esponse:	AISG20F	Reset Revert to AISG 1	1	
		on AISG 2.0 Reset.	L	Revert to AISC	€ 1.1
			Close		

Figure 11-7. AISG Control Tools.

11.5 AISG Control Tools

The controller supports devices that utilize AISG 1.0, AISG 1.1, or AISG 2.0 protocols, or a mixed bus of these devices.

AISG 2.0 Reset and **Revert to AISG 1.1** control options are provided on the Bus Configuration screen. These tools provide specific control capabilities for AISG 2.0 capable devices (Figure 11-7).

11.5.1 AISG 2.0 Reset

- 1. The **AISG 2.0 Reset** control broadcasts an AISG 2.0 Reset message to all devices on the bus. This message will cause all AISG 2.0 devices to perform a reset.
- 2. CommScope AISG 1.0 and 1.1 devices are not affected by this message, with the exception of CommScope dual-mode devices, as explained below.
- 3. CommScope is unable to guarantee behavior for other manufacturer's AISG 1.0 and 1.1 devices.
- 4. The AISG 2.0 Reset message triggers CommScope dual-mode capable devices that are currently operating in AISG 1.1 mode to reset and then begin operation in AISG 2.0 mode.
- 5. ATM200-002 and ATM200-A20 devices are dual-mode actuators. Earlier models of the ATM200-002, with serial numbers that start with "C", are not dual-mode capable.
- 6. ATC300 2.34_A and later will also trigger an CommScope AccuRET actuator currently operating in AISG 1.1 to reset and begin operation in AISG 2.0 mode.

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11.5.2 Revert to AISG 1.1

- The **Revert to AISG 1.1** control targets a specific set of actuators. It examines the database of devices and sends an addressed "revert to AISG 1.1" message to each CommScope dual mode RET operating in AISG 2.0 mode. A few CommScope dual-mode TMAs are also affected.
- On receipt of this message, each targeted RET performs a reset and then begins operation in an AISG 1.1 mode.
- No message is sent to any other devices.
- ATC300 2.34_A and later will also cause an CommScope AccuRET actuator currently operating in AISG 2.0 to reset and begin operation in AISG 1.1 mode.

11.5.3 Using the AISG Control Tools

- 1. Run a **Device Scan** to enter all devices on the RET system into the controller's data base.
- 2. Select **AISG 2.0 Reset** to reset all AISG 2.0 devices. This will also cause any CommScope dual-mode devices operating in AISG 1.1 mode to reset in AISG 2.0 mode.
- 3. Select **Revert to AISG 1.1** to revert each CommScope dual-mode RET operating in AISG 2.0 mode back to AISG 1.1 mode (Figure 11-7).
- 4. Refer to the **AISG** column in the main interface screen to view the AISG protocol in use for each device (Figure 11-8).
- 5. 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 **AISG_NO_ REPLY** message in the **Status** column in the main interface screen (Figure 11-8).
- Operating screens will vary somewhat for devices operating in AISG 1.1 to those operating in AISG 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.

	I	de										
					RET De	vice Information						
ID	Type	AISG	Status	Sector	Location	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN0000DESA072206404	RET	2.0		alpha (1)	1		0.0	1.0				926LG65R2E-
AN0000DESA072206301	RET	2.0	AISG_NO_REPLY	alpha (1)	1	VI UL: 830-840 MHz, DL: 875-885 MHz	0.0	25.5	0	-	-	926LG65R2E-1
AN0000desa072407909	RET	2.0	AISG_NO_REPLY	alpha (1)	1	IV UL: 1710-1755 MHz, DL: 2110-2155 MHz	0.0	-12.9	82			926LG65R2E-
AN0000DESA072104773	RET	2.0	AISG_NO_REPLY	alpha (1)	1	I UL: 1920-1980 MHz, DL: 2110-2170 MHz	0.0	12.0	0			926LG65R2E-
AN0000DESA072105223	RET	2.0	AISG_NO_REPLY	alpha (1)	1	V UL: 824-849 MHz, DL: 869-894 MHz	0.0	25.5	360			926LG65R2E-
ANIO000DES 4072105755	RET	20	AISG NO PEDI V	pinha (1)	,	V UL: 824-849 MHz, DL:	0.0	25.5	٥			OTAL GESPORT
evices				Di	splay	AISG	Bus			Bu	s Power	
Move Sector		Mo	ve Selected		Up	date/Refresh	Fine	d Devices				Suspend
Edit Selected		Sh	ow Statistics		S	how TMAs	Con	figure Bus	5			Wake

Figure 11-8. AISG 2.0 Reset Status Displayed On The Main Interface Screen.



11.6 CommScope AITM Actuator Mode Management (ATC300 2.34_A

and later only)

As of version 2.34_A, the ATC300 controller **Bus Configuration** web page provides the capability to change the operating mode of CommScope AITM internal actuators between multiple-single RET mode and multiRET mode. This feature is targeted to this device type only, and will not be available unless one or more AITM devices have been discovered on the AISG bus.

Note: The product type of devices can be found on the Statistics screen and the Find Devices screen. As an example, in Figure 11-9, this discovered device's **Product Type** is "AITM" and the device **Type** is "MRET", which indicates multiRET. An AITM in multiple-single RET mode would display an entry for each tilt, and would indicate a **Type** of "RET".

	Configuration	Alarms	Help	Logout						2	******	A Commiscope Co
					Device	Scan Progre	2.0					
	Device	Vendor	6	Serial#			AISG	HW Version	SW Version	Tilt	Update Rec	d'd? Status
AN00000	0123456789012	AN	000001234	56789012.t1	MRET AITN		2.0	NOT_SET	003.000.003	8.0		OK
					Max devi Start Scan	ces in system:) Scan	6			
nmand P	Status Response					ces in system:		à Stan				

Figure 11-9. Device Scan Results of an CommScope AITM Device in MultiRET Mode

When in multiRET mode, the internal actuators have one bus address, but support multiple tilts. The devices IDs have suffixes of ".t1", ".t2", etc. This mode is sometimes called "Type 17", as this is the AISG-defined indication of a multiRET device.

When in multiple-single RET mode, the internal actuators are assigned one bus address per tilt and act as independent actuators. The 19-character devices IDs end with "t1", "t2", etc. This mode is sometimes called "Type 1", as this is the AISG-defined indication of a single RET device.

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11.6.1 Set AITM(s) to Multiple-Single RET Mode

This button is available when at least one CommScope AITM actuator in multiRET mode has been found and is in the database. Select this option to change all AITMs that are in multiRET mode to multiple-single RET mode. After the mode has been successfully changed, the devices will no longer be in communication and should be deleted. Perform a new device scan to find the devices in their new mode.

								evice Information						
	D	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN000001	23456789012.t1	MRET	2.0	OK	Alpha		Low Band2	IV UL: 1710-1755 MHz, DL: 2110- 2155 MHz	8.0	0.5	180			SBHI 1D3817T
AN000001	23456789012.t2	MRET	2.0	ок	Alpha	1	High Band2	I UL: 1920-1980 MHz, DL: 2110- 2170 MHz	6.0	0.5		-		SBHF 1D3817T
evices Move S	Sector		Mot	ve Select	ed		Display Upda	ate/Refresh Find	Device	5	Bus	Power	Suspend	
			1	ve Select			Upda	ate/Refresh	Device gure Bu		Bus	Power	Suspend	1

Figure 11-10. CommScopeAITM Device in MultiRET Mode



		Bus Configuration	
nnual Addressing: Address: 1 💌	Vendor Code: AN	Serial Number: 00000123456789012 Name: AN00000123456789012	AISG Version: 20
	Add Device	Remove Device Rename Device	
SG Control:	AISG 2	10 Reset Revert to AISG 1.1	
TM Actuator Mode:			

Figure 11-11. Option to Set the AITM to Multiple-Single RET is available

		Bus Configuration	
Ianual Addressing: Address: 1 🔽	Vendor Code: AN	Serial Number: 00000129456789012 Name: AN00000123456789012	AISG Version: 20
	Windows Internet E	xplorer Xou want to set all Andrew AITM devices to multiple-single RET mode?	
ISG Control:	AISG 2	LO Reset Revert to AISG 1.1	
ITM Actuator Mode:	Set AITM(s) to Multiple-Single	a RET Mode Set.AITM(s) to MultiRET Mode	

Figure 11-12. Verify Mode Change from MultiRET to Multiple-Single RET

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		Sign tri
Configuration Change In Progress - Window 💽 🔳		🚱 🔹 🔝 🛛 🚔 🔹 📴 Page 🔹 🎯 Tools
Configuration Change		
lease wait while the system executes a configuration nange. etting all AITM devices to multiple-single RET mode	Logout	
te: Andrew AITMs that have changed modes should be leted and rescanned for proper representation.		
ccess	Bus Configuration	
Close Window		
	e: AN Serial Number: 00000123456789012	AISG Version: 20
	Name: AN00000123456789012	
	79.4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4	
	This device is currently not responding.	
	Add Device Remove Device Rename Device	
	Remove Missing Devices Remove All Devices	
	2	
	AISG 2.0 Reset Revert to AISG 1.1	
AITM Actuator Mode:		
S	t AITM(s) to Multiple-Single RET Mode Set AITM(s) to MultiPET Mode	
ommand Response:		
		Local intranet 😤 100%

Figure 11-13. Successful Mode Change from MultiRET to Multiple-Single RET

					RET	Device Inform	nation						
ID	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETU	MTH	Az Bearing	RAS I	RAB	Model
AN00000123456789012.tl	MRET	2.0	AISG_NO_REPLY	Alpha	1	Low Band2	IV UL: 1710-1755 MHz, DL: 2110-2155 MHz	8.0	0.5	180			SBHI 1D3817T
AN00000123456789012 t2	MRET	2.0	AISG_NO_REPLY	Alpha	1	High Band2	I UL: 1920-1980 MHz, DL: 2110-2170 MHz	6.0	0.5	÷			SBHH 1D3817T
mirec-					Diseilau		AISG Bug			Bus P	ower		
evices Move Sector		Mov	e Selected	I	Display Up	odate/Refresh	AISG Bus Find D	evices		Bus P.	1. 1. 1.	uspend	
Constant and the second s		112822	e Selected w Statistics	I	Up	odate/Refresh Show TMAs				Bus P.	S	uspend Wake	



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11.6.2 Set AITM(s) to MultiRET Mode

This button is available when at least one CommScope AITM actuator in multiplesingle RET mode has been found and is in the database. Select this option to change all AITMs that are in multiple-single RET mode to multiRET mode. After the mode has been successfully changed, the devices will no longer be in communication and should be deleted. Perform a new device scan to find the devices in their new mode.

								Device Information						
	D	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTili	Az Bearing	RAS	RAB	Model
XN00012	345678901212	RET	2.0	ок	Alpha		High Band2	I UL: 1920-1980 MHz, DL: 2110- 2170 MHz	6.0	0.5				SBHF 1D3817T
AN000123	3456789012t1	RET	2.0	ок	Alpha	1	Low Band2	IV UL: 1710-1755 MHz, DL: 2110- 2155 MHz	8.0	0.5	180			SBHH 1D3817T
11046							Display	- ATSG Bue			Bus	Power		
vices Move	Sector			Move S	Selected		Display	AISG Bus Ipdate,Refresh F	ind Device	35	Bus	Power	Suspen	đ
Move Edit Se	Sector				Selected			Ipdate/Refresh	ind Device onfigure B		Bus	Power		

Figure 11-15. CommScope AITM Device in Multiple-Single RET Mode

Configuration Change In Progress - Window 🔲 🗖		Solution of
		Page + 🍈 Tools + 3
Configuration Change		
Please wait while the system executes a configuration change. Setting all AITII devices to multiRET mode	Logout	
Note: Andrew AITMs that have changed modes should be deleted and rescanned for proper representation.		
Success	Bus Configuration	
Close Window		
	2: AN Serial Number: 0001234567850122 AISG Version Name: AN0001234567850122	a: 20 N
	This device is currently not responding.	
	Add Device Remove Device Rename Device	
	Remove Missing Devices Remove All Devices	
	M Contraction of the second se	
	AISG 2.0 Reset Revert to AISG 1.1	
AITM Actuator Mode:		
Se	AITM(s) to Multiple-Single RET Mode Set AITM(s) to MultiRET Mode	
Command Response:		
e	😌 Local intranet	💐 100% 🔹

Figure 11-16. Successful Mode Change from Multiple-Single RET to MultiRET

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Part 5

Operating Instructions for Standard Antennas with Attached Actuators

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Section 12 Device Configuration

12.0 Section Overview

Before the controller can successfully send commands to a known device, the device must first be configured to provide specific information about the antenna and its location on the site. Actuators that have been factory installed on an antenna are pre-configured to include the antenna model number, antenna type, and antenna serial number (remaining fields will need to be configured). After each device has been configured, the site configuration can be saved for future reference.

12.1 Configuring a Device

- 1. From the controller's main interface screen, click on the device that is to be configured to select it; then click on **Edit Selected** (Figure 12-1).
 - -1. Select the device that is to be configured. (Configuration settings will be missing for a factory new device. If a device has been removed from the database, the data stored on the device from its last configuration session is displayed when found in a new search.)

					RET D	evice Info	mation						
m	Type	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTili	Az Bearing	RAS	RAB	Model
AN0000DESA080303396	RET	2.0	ок	delta (4)	4	ART	VIUL: 830- 840 MHz, DL: 875-885 MHz	8.5	3.0	2			TMBX-651
AN0000DESA083254698	RET	2.0	OK	delta (4)	1	ART2	VI UL: 830-840 MHz, DL: 875- 885 MHz	10.0	-0.1	65			TMBX-651
- AN0000DESA073413329	RET	2.0	OK	delta (4)	5	ART3	IV UL: 1710 1755 MHz, DL: 2110-2155 MHz	0.1	21.1	45	22		926LG65**
Devices				. 1	Display		AISG	Bus —		. I ²	BusPo	wer	
evices Move Sector	Мо	ve Selec	ted			late/Refresh	AISG		levices		Bus Po	wer Susp	end

Figure 12-1. Selecting A Device For Configuration.



Home	Configuration	Alarms	Help	ANDREW
				RET device ID shown.
		RE	T Device AN0000DI	ESA080303396 Configuration
	Min Electrical Tilt — Antenna Type: — Antenna Serial #: — Freq. Band:	Dual Polarized DE SA080303396 VI UL: 830-840 MHz, DL: Voice/Data 3.0 ART		Max. Electrical Tilt: 10 0 *Sector: delta (4) * *Location: 4 * Bearing: 50 Height: 120 Installer ID: Jan D betes required field Fields marked with an
			Set	asterisk must be configured.
an		e selections (All configuration (All configuration)		Click on Set Device Data.

Figure 12-2. Configuring A New Device.

Notice that the ID for the device that was selected from the main screen appears in the title bar of the **Device Configuration** screen. Required fields are marked with an asterisk. Saving a new configuration will not be permitted if any of the required fields are left blank or if values are out of range. Refer to Figure 12-2.

2. Click on the drop down arrow to the right of **Antenna Model**, and select the antenna model that is using the device. As of ACT300 firmware version 2.21_A, and ATC200 firmware version 464A8_A, the CommScope Antenna Definition File now groups the antenna models into logical "families".

If no antenna models are available for selection, then an antenna definition file must be loaded on the controller. See Section 9.

This drop down list displays the CommScope base station antenna models that were defined in the latest antenna definition file.

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.

IMPORTANT

The antenna model selected must match the actual installed antenna that is attached to the actuator (device). Movement 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. See paragraph 12.2 about the new generic antenna model naming protocol.



Factory installed actuators are pre-configured to include the antenna model number, antenna type, and antenna serial number it is operating.

- 3. Click on the drop down arrow to the right of **Antenna Type**, and select the type of antenna that is correct for the antenna model you selected. Note that this value is used for reference only and has no direct affect upon the Actuator/Antenna that is being configured.
- 4. Enter the serial number of the antenna that is attached to this device in the **Antenna Serial #** field. Note that this field is optional. However, if it is entered, it must be from 1 to 17 characters in length and it may contain any combination of letters and numbers.
- 5. Specify the parameters for the remaining fields (Frequency Band, Technology, Base Station ID, Installer ID, Installation Date, Mechanical Tilt, Bearing, Height, Sector, Location).

Note the following:

- The fields of Antenna Type, Technology, Location, and Height are available for CommScope non-TMA devices only.
- 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 up 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.
- The **ID** for the base station associated with this antenna must be 1 to 12 characters in length for AISG 1.x devices and 1-32 characters in length for AISG 2.0 devices, and may contain any combination of numbers and letters.
- The **Installation Date** field must be 1 to 6 characters in length with any combination of letters and numbers.
- The **Installer ID** must be 1 to 5 characters in length with any combination of letters and numbers.
- The **Location** field is a string with a numeric value from 1 to 32 that describes an actuator's position within a sector. Each device should have a unique sector-location combination.
- Mechanical tilt has a valid range of -12.8 to 12.7 in AISG 1.1, and ±180.0 in AISG 2.0.
- Values specified for the Frequency Band, Technology, and Mechanical Tilt are used for reference only and have no direct affect upon the actuator/ antenna that is being configured.
- Carefully review all selections. If satisfied that all are correct, click on Set Device Data. Alternately, the user may go back and edit/change any of the selections made or click on Close to quit this process without making any changes to the actuator's current configuration.
- 7. Click on **Close** after the new settings have finished uploading to the device (Figure 12-2).
- 8. If the device was successfully configured, the status will indicate the device is **OK** on the main screen. Note that not all of the items that were configured are displayed on the main screen (Figure 12-3).



ome Configuratio		Ala	rms	Help)				1 e -			AC	NDREW
	•						status indicat d successfull		at				
					RET De	vice Info	rmation						
ID	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETile	MTilt	Az Bearing	RAS	RAB	Model
N0000DESA080303396	RET	2.0	ок	delta (4)	4	ART	VI UL: 830- 840 MHz, DL: 875-885 MHz	8.5	3.0	50			TMBX-6516
N0000DESA083254698	RET	2.0	ок	delta (4)	1	ART2	VI UL: \$30-\$40 MHz, DL: \$75- \$85 MHz	10.0	-0.1	65	-		TMBX-6510
N0000DESA073413329	RET	2.0	ок	delta (4)	5	ART3	IV UL: 1710- 1755 MHz, DL: 2110-2155 MHz	0.1	21.1	45	-	-	926LG65**I
vices					Diseler		AISG	Due			Bus Po	tuar	
Move Sector	Mc	ve Seléc	ted	1	- Display Upd	ate/Refresh			evices	1	DUSTO	Susp	end
Edit Selected	SH	now Statis	tics	1	SI	how TMAs		Configu	ire Bus			Wa	ske
mand / Status Response	-			- 1							-		
	CI	ok on	Edit S	Coloct	e el						-		

Figure 12-3. Configuration For New Device Displayed In Controller's Main Interface Screen.

To verify that each item configured was set correctly, select the device from the main screen and click on **Edit Selected** to review each item. Click on **Close** when finished verifying the settings to return to the controller's main interface screen (Figure 12-3).

12.2 Generic Antenna Model Naming

As of firmware version 2.21_A, the latest CommScope Antenna Definition File is distributed as part of the firmware bundle. The CommScope Antenna Definition File now groups the antenna models into logical "families".

When configuring a RET, the operator will not find their exact antenna model name listed as an option, but rather should select the appropriate model "family" name (Figure 12-4). Each family model name is followed by three asterisks which designates that several specific related mp This approach allows the controller to support new antenna models within known antenna model fam lies, without a firmware update.

For example, the HBX-6513DS-R2M and HBX-6513DS-VTM antennas are both represented by this family name: HBX-6513DS-***.

Multiband antennas also have a suffix to indicate the band. The DBXLH-6565A model family is represented by: DBXLH-6565A-***-LO and DBXLH-6565A-***-HI.

Alarms Help AND	REW
Antenna model is selected from the listing of "family" names. RET Device AN0000DESA080303396 Configuration	

Denotes required field 9A Set Device Data 3 Set Device Data 3 Close 6 Close	
*Location: 4 Bearing: 50 Height: 120 Installer ID: Jan D *Denotes required field SA*** 5*** Set Device Data 3*** 6**** 5**** Close	

Figure 12-4. Selecting The Appropriate Model "Family" Name.

12.3 Saving a Device Configuration to File

To save your configurations to a file for future reference, place your mouse over the area where the devices are listed on the main screen and right click. From the pop-up menu, select **Export to Microsoft Excel**.



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Section 13 Adjusting the Electrical Downtilt on a Single Antenna

13.0 Section Overview

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

13.1 Adjusting the Downtilt Angle on a Single Antenna

- 1. From the controller's main interface screen, select the device to be moved (Figure 13-1).
- 2. Click on Move Selected (Figure 13-1).

that is to t	Туре			Sector	Location	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN000000C2061201316	RET	1,1	0K.	alpha (1)	3	1900	4.0	0.0	240	-	-	DBXLH- 6565A-VTM- H
AN000000C2072501791	RET	1.0	ок	beta (2)	ı	800	6.0	0.0	50	-	-	DBXLH 6565B-VTM- H
AN000007DESA0228564.t	RET+	1.1	OK	alpha (1)	2	1800	7.0	4.5	180		-	SBH-2D6516
AN000007DESA0228564.p	AZANO+	1.1	ок	alpha	2	1800	-	-	180	q	4	SBH-2D6516
AN000007DESA0324568.t	RET+	1,1	ок	alpha (1)	3	800	7.0	2.0	100	-	1	SBH-2D6516
AN000007DESA0324568.p	AZANG+	1.1	OK	alpha	3	800			100	24		SBH-2D6516
Move Sector	Move Se Show Sta			Disp	lay Update/R Show T	efresh		l Devices ligure Bus		Bus F		ispend Wake

Figure 13-1. Selecting Device To Be Adjusted.



The **RET Device Movement** screen shown in Figure 13-2 displays the information that was previously configured for the device. This information may be used as a reference to help determine the new tilt setting. Note that only tilt changes may be made from this screen. Any changes needed to be made to the configuration for the device must be done from the **Device Configuration** screen as discussed in Section 12.

3. Enter the new angle for the device in the **Set Tilt** field. 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. Angles may be entered as whole degrees, or as a combination of whole degrees and tenths of a degree (Figure 13-2).

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**.

4. Click on **Set Tilt** to apply the changes to the electrical downtilt for this antenna. Alternately, to exit the screen without sending any changes, click on **Close**.

	RET Device AN00000	0C2072501791 Movement		
Antenna Model: DBXLH-6565B-V	TM-HI Installation	Date 040808	Base Station ID:	ART200000
Ain Electrical Tilt 0.0	Max Electrical	Tilt: 60	Bearing:	50
Antenna Type Dual Polarized	Installe	r ID: mp de	Mechanical Tilt	0.0
Antenna Serial #: 0000000 2072501	791 H	eight: 120		
Freq. Band: 800	Se	ctor: 2		
Technology: Voice	Loca	tion 1	1	
- Set Tilt:			Calibration	
Current Tilt	6.0 New Tilt	Set	Tit Calbrate	
nmand Response:				
mand Response:			3. Click on S	

Figure 13-2. Changing Electrical Tilt Setting For Single Antenna.



5. A progress indicator bar will appear in a pop-up window to continually provide an update for as long as the move is in progress. You will be notified when movement is complete. Click on **Close Window** from the pop-up window (Figure 13-3).

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

 After the antenna has completed movement to its new tilt angle, the new angle will be displayed in the Current Tilt field and the New Tilt will be cleared in preparation for the next move (Figure 13-3).

At this point, you may click on **Close** (Figure 13-3) to return to the controller's main interface screen (Figure 13-4). 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.

	ement	RET Device AN000000C2072501791 Moveme	RE
	Base Station 1D: ART200000 Bearing: 50 Mechanical Tilt 0.0	Installation Date 040808. Max. Electrical Tilt. 6.0 Installer ID: mp de	odel: DBXLH-6565B-VTM-HI I Tilt 0.0 Fype Dual Polarized
dows Internet Explorer 🔳	ovement for AN000000C2072501791 - Wind tis Change Progress	Sector: 2 Location: 1 Axis	ial#: 0000000C2072501791 and: 800 logy: Voice
	nding command anging to 4.5 degrees. imated progress:	New Tilt Changest	Current Tilt 45
	Close Window) 1. Click on		nt tilt angle shows — he new tilt setting.

Figure 13-3. Tilt Change Complete For Single Antenna Move.



The new downtilt angle will be displayed on the controller's main interface screen for the antenna/ device that was adjusted (Figure 13-4).

				1	Device Info	rmation			-			
ID	Туре	AISG	Status	Sector	Location	Bands	ETilt	MTilt	Az Bearing	RAS H	RAB	Model
AN000000C2061201316	RET	1.1	OK	alpha (l)	3	1900	4.0	0.0	240			DBXLH- 6565A-VTM- HI
AN000000C2072501791	RET	1.0	OK	beta (2)	1	800	-4.5	0.0	50	-	-	DBXLH 6565B-VTM- H
AN000007DESA0228564.t	RET+	1.1	OK	alpha (1)	2	1800	7.0	4.5	180	-		SBH-2D6516
AN000007DESA0228564.p	AZANG+	1.1	OK	alpha (1)	2	1800	~~		180	0	-	SBH-2D6516
AN000007DE\$A0324568.t	RET+	1.1	OK	alpha (1)	3	800	7.0	2.0	100	-	-	SBH-2D6516
evices		·		- Disp	lav		AISG Bus			-Bus Po	wer-	
Move Sector	Move Se	lected			Update/R	efresh	Find	Devices			Su	ispend

Figure 13-4. New Downtilt Angle Shown For Single Antenna Move.

Section 14 Adjusting the Electrical Downtilt on a Group of Antennas

14.0 Section Overview

In addition to changing the downtilt of a single antenna, changes may also be applied to a group of antennas. The antennas that can be included in a group move must be in the same sector and have the same electrical tilt range (same minimum and maximum tilt) and be the same device type.

14.1 Adjusting the Downtilt Angle on a Group of Antennas

1. Select a device from the controller's main interface screen that is to be included in the sector move (Figure 14-1).

						evice Information			Az			
D	Туре	AISG	Status	Sector	Location	Bands	ETilt	MTilt	Bearing	RAS	RAB	Model
AN0000000000346890	RET	1.1	ОК	beta (2)	1		8.0	0.0	0			DBXLH-9090C VTM-L
AN0000DESA080303396	RET	2.0	OK	alpha (1)	1	1	10.0	0.0			-	TMBX-6516-R2
AN0000DESA073413329	RET	2.0	OK	beta (2)	3	IV UL: 1710-1755 MHz, DL: 2110-2155 MHz	0.1	25.5	0			926LG65VTE
AN0000ASZP081419361	RET	1.1	ок	alpha (1)	2	800	8.0	1.0	1	17	-	DBXLH-6565
AN0000ASZP081419367	RET	1.1	OK	alpha (1)	2	1900	S.0	0.3	3	4	+	DBXLH-6565. VTM-
evices Move Sector	-	ove Sele				late.Refresh		us Find Devid		В	us Powe	

2. Click on **Move Sector** (Figure 14-1).

Figure 14-1. Selecting A Device That Is To Be Included In The Sector Move.



Notice that the device that was selected to be included in the sector move is highlighted and displayed in the **Included** box. 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 controller's main interface screen. The minimum, maximum, and current tilt for this device is displayed on this screen (Figure 14-2).

Other devices that have the same sector ID, minimum tilt, and maximum tilt are listed in the **Additional** box. If desired, the configuration settings can be viewed for each device before adding them to the sector group to be moved. Click on each model individually to view the configurations for each device.

Note that up to 12 antenna/device pairs may be selected for a sector move. Any more than 12 will be denied when attempting to add to the group for inclusion in the move.

- 3. Select the device, and click on **Add** (Figure 14-2). (Alternately, double-click on the device from the **Additional** box to move the device to the **Included** box.)
- 4. Examine the group selected for the sector move (shown in the **Included** box), to ensure that the group does not include any antennas that are not desired for this move. If you find that a device is not wanted for inclusion in the sector move, click on the device, and click on **Remove**. (Alternately, double-click on the device to remove it from the group.)



Figure 14-2. Adding Models To Be Included In The Sector Move.

- 5. When satisfied with the list of antennas that will be included in the group move, enter a new downtilt angle in the **New Tilt** text entry field, and click on **Set Tilt** to begin the move (Figure 14-3). Progress for each antenna movement in the group will be displayed separately (Figure 14-4).
- 6. You will be notified when all antennas have successfully reached the new tilt angle. Click on **Close Window** from the pop-up window (Figure 14-4).
- The new angle will be displayed in the Current Tilt field and the New Tilt field will be cleared. If further adjustments are needed, they may be done before exiting this screen. When the desired adjustments are complete, click on Close (Figure 14-4) to return to the controller's main interface screen (Figure 14-5).

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Home	Configuration	Alarms H	lelp		ANDREW.
	iew the electrica id for the antenr		erify that the new to Set Electrical Tilt for S		
MinElectri	ical Tilt: 0.0 Included: 0000ASZP081419351	=100	Max. Electrical Tilt: 80	=)	Height: 🔀 Additional:
AN	OOOOASZP081419367		≪-Ar Remov		
Command Res	Current T	ilt: 80	New Tilt 2	(Set Tik)	+ 3. Click on Set Tilt .
		L	Angles may	of whole degrees	le. le degrees or as a and tenths of a degree
			Close		

Figure 14-3. Changing Electrical Tilt Setting For Antennas In Sector Move.

	Set Electrical Tilt for Sector	I AMovement for sector - Windows Internet Expl
Min Electrical Tilt: 0.0 Included: AN0000ASZP081419361 Set Tilt: Current Tilt: 20 mmand Response:	Max. Electrical Till: 3.0	Axis Change Progress Sending command to AN0000ASZP081419361 Changing to 2 degrees. Estimated progress: Movement complete. Now sending command to AN0000ASZP081419367 Changing to 2 degrees. Estimated progress:
Current tilt angle shows – the new tilt setting. 2. Click on	Close. Close	Movement complete.

Figure 14-4. Tilt Change Is Complete For Sector Move.



The new downtilt angle will be displayed on the controller's main interface screen for the antennas/ devices that were adjusted in the sector move (Figure 14-5).

					RET D	evice Information						
m	Туре	AISG	Status	Sector	Location	Bandš	ETil	MTili	Az Bearing	RÁS	RAB	Model
AN0000000000346890	RET	1.1	ОК	beta (2)	1		8.0	0.0	0			DBXLH-9090C- VTM-LC
AN0000DESA080303396	RET	2.0	OK.	alpha (1)	1		10.0	0.0		-4	-	TMBX-6516-R2N
AN0000DESA073413329	RET	2.0	OK	beta (2)	3	IV UL: 1710-1755 MHz DL: 2110-2155 MHz	0.1	25.5	o			926LG65VTE-
AN0000ASZP081419361	RET	1.1	OK	alpha (1)	2	\$00-	2.0	1.0	1		-	DBXLH-6565A VTM-F
AN0000ASZP081419367	RET	1.1	OK	alpha (1)	2	1900	2.0	0.3	3			DBXLH-6565A VTM-F
Devices Move Selected. Edit Selected. Show Statistics.					Display Update/Refresh Show TMAs		AISG Bus Find Devices Configure Bus			Bus Power Suspend Wake		

Figure 14-5. New Tilt Angles Shown For Sector Move.

Part 6

Operating Instructions for Antennas with Multiple Integrated Actuators

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Section 15 Device Configuration for Antennas with Multiple Integrated Actuators

15.0 Section Overview

Before the controller can successfully send commands to a known device, the device must first be configured to provide specific information about the antenna and its location on the site. Actuators that have been factory installed on an antenna are pre-configured to include the antenna model number, antenna type, and antenna serial number (remaining fields will need to be configured). After each device has been configured, the site configuration can be saved for future reference.

15.1 Configuring a Device

- 1. From the controller's main interface screen, click on the device that is to be configured to select it; then click on **Edit Selected** (Figure 15-1).
 - 1. Select the device that is to be configured. (Configuration settings will be missing for a factory new device. If a device has been removed from the database, the data stored on the device from its last configuration session is displayed when found in a new search.)

ID	Type	AISG	Status	Sector	Location	Station ID	Bands	ETilt	MTilt	Bearing	RAS	RAB	Model
AN0000DESA080303396	RET	2.0	ок	delta (4)	4	ART		8.5	3.0	2			TMBX-651
AN0000DESA083254698	RET	2.0	ок	delta (4)	1	ART2		10.0	-0.1	55	+		TMBXX 6516-**
AN0000DESA073413329	RET	2.0	OK	delta (4)	5	ART3		0.1	21.1	45	-		926LG65**E
AN000000ART08020042.t	RET-	1.1	OK	beta(2)	1	ART563412	1900	2.0	2.5	120			SBP-3D
AN000000ART08020042.p	AZANG-	1.1	OK	beta(2)	1	ART563412	1900			120	-5		SBP-3D
AN000000ART08020042.f	AZBW-	1.1	OK	beta(2)	1	ART563412	1900			120		78	SBP-3D
AN08ARTLAB01234500711	MRET	2.0	ок	alpha (1)	1	ART775644		2.6	-0.1	360			SBHI 1D6516D
AN08ARTLAB012345007.t2	MRET	2.0	ок	alpha	1	ART775644		43	12.0	360			SBH
levices				Displ	lay		TAISO	Bus-		II.	BusP	ower	
Move Sector	Move Selec	ted		Update/Refresh			Find Devices				Suspend		
Edit Selected	Show Statis	stics			Show TM	Show TMAs Configure Bus					Nake		

Figure 15-1. Selecting A Device For Configuration.



Home	Configuration	Alarms	Help	ANDREW.
				RET device ID shown.
		MRE	T Device AN	08ARTLAB012345007.t1 Configuration
	Antenna Model	SBHH-1D6516DS	(fixed)	
	Min Electrical Tilt:	0.0	(fixed)	Max Electrical Tilt 6.0 (fixed)
	Antenna Type:	SMARTBEAM	(fixed)	
	Antenna Serial#	08ARTLAB01 23 450 07	(fixed)	
	- Freq. Band:	II UL: 1850-1910 MHz, DL:	1930-1990 MHz	Sector: alpha (1)
	- Technology:	Voice 👻		
	- Mechanical Tilt	3		Bearing 360
	- Base Station ID:	AR 1775644		Height 50
	- Installation Date	020509	ī —	Installer ID BenF
				*Denotes required field Fields marked with an asterisk must be configured.
te	ext entries. (A	ate selections a Il configuration d dividual device.	data is	2. Click on Set Device Data.

Figure 15-2. Configuring A New Device.

Notice that the ID for the device that was selected from the main screen appears in the title bar of the Device Configuration screen. Required fields are marked with an asterisk. Saving a new configuration will not be permitted if any of the required fields are left blank or if values are out of range. Refer to Figure 15-2.

- 2. Factory installed actuators are pre-configured to include the antenna model number, antenna type, and antenna serial number it is operating.
- 3. MRET antennas do not allow re-configuring these fields.
- 4. Specify the parameters for the remaining fields (Frequency Band, Technology, Base Station ID, Installer ID, Installation Date, Mechanical Tilt, Bearing, Height, Sector, Location).

Note the following:

- The fields of Antenna Type, Technology, Location, and Height are available for CommScope non-TMA devices only.
- 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 up 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.



- The **ID** for the base station associated with this antenna must be 1 to 12 characters in length for AISG 1.x devices and 1-32 characters in length for AISG 2.0 devices, and may contain any combination of numbers and letters.
- The **Installation Date** field must be 1 to 6 characters in length with any combination of letters and numbers.
- The **Installer ID** must be 1 to 5 characters in length with any combination of letters and numbers.
- The **Location** field is a string with a numeric value from 1 to 32 that describes an actuator's position within a sector. Each device should have a unique sector-location combination.
- Mechanical tilt has a valid range of -12.8 to 12.7 in AISG 1.1, and ±180.0 in AISG 2.0.
- Values specified for the **Frequency Band**, **Technology**, and **Mechanical Tilt** are used for reference only and have no direct affect upon the actuator/antenna that is being configured.
- 5. Carefully review all selections. If satisfied that all are correct, click on **Set Device Data**. Alternately, the user may go back and edit/change any of the selections made or click on **Close** to quit this process without making any changes to the actuator's current configuration.
- 6. Click on **Close** after the new settings have finished uploading to the device (Figure 15-3).

	MRET	Device AN08.	ARTLAB012345007.	l Configuration		
AntennaModel	SBHH-1D6516DS	(fixed)				
Min Electrical Tilt:	0.0	(fixed)	Max.	Electrical Tilt 6.0	đ	ixed)
Antenna Type:	SMARTBEAM	(fixed)				
Antenna Serial #:	08A RTLAB012345007	(fixed)				
	II UL: 1850-1910 MHz. DL	1930-1990 MHz		*Sector: alpha (1)		
Technology	And the second se			*Location 1 -		
Mechanical Tilt:	3.0			Bearing: 360		
Base Station ID:	ART775644			Height: 50		
Installation Date:	052509	1		Installer ID: BenF		
		:	Denotes required field			
			Set Device Data	6 C		
mand Response:						
Contraction of the providence	endor Command OK					

Figure 15-3. Device Configurations Complete.



7. If the device was successfully configured, the status will indicate the device is **OK** on the main screen. Note that not all of the items that were configured are displayed on the main screen (Figure 15-4).

To verify that each item configured was set correctly, select the device from the main screen and click on **Edit Selected** to review each item. Click on **Close** when finished verifying the settings to return to the controller's main interface screen.

Home Configuration	Au	arms	He	τ₽					. e.e.			A Cor	nmScope Compan	
ID	Type	AISG	Status	Sector	Location	Station ID	Bands	ETilt	MTilt	Bearing	RAS	RAB	Model	
AN000000ART08020042.p	AZANG-	1.1	OK	beta (2)	1	ART563412	1900			120	-5	-	SBP-3DA	
AN000000ART08020042.f	AZBW+	1.1	OK	beta (2)	1	ART563412	1900	44		120		79	SBP-3DA	
AN08ARTLAB012345007.tl	MRET	2.0	OK	alpha (1)	ı	ART775644	II UL: 1850- 1910 MHz, DL: 1930- 1990 MHz	2.6	3.0	360		-	SBHH 1D6516D5	
AN08ARTLAB012345007.t2	MRET	2.0	OK	alpha (1)	1	ART775644	VI UL: 830- 840 MHz, DL:	43	12,0	360		-	SBHH 1D6516D5	
evices				Disp	lay		AISO	Bus -		-	Bus I	ower		
Move Sector	Move Sele	cted			Update/Re	Refresh Find Devices				Suspend				
Edit Selected	Show Stati	istics			Show Th	MAs .		Config	iure Bus		Wake			
nmand / Status Response							-10							

Figure 15-4. Configuration For New Device Displayed In Controller's Main Interface Screen.

15.2 Saving a Device Configuration to File

To save your configurations to a file for future reference, place your mouse over the area where the devices are listed on the main screen and right click. From the pop-up menu, select **Export to Microsoft Excel**.


Section 16 Adjusting the Electrical Downtilt on a Single Antenna Equipped With Multiple Integrated Actuators

16.0 Section Overview

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

16.1 Adjusting the Downtilt Angle on a Single Antenna

- 1. From the controller's main interface screen, select the device to be moved (Figure 16-1).
- 2. Click on Move Selected (Figure 16-1).

				R	ET Device	Information							
D	Type	AISG	Status	Sector	Location	Base Station ID	Bands	ETIR	MTilt	Az Bearing	RAS	RAB	Model
AN0000DESA071202497.t1	MRET	2.0	ok	alpha (1)	1	ART563412	II UL: 1850-1910 MHz, DL: 1930-1990 MHz	6.0	0,0		-		SBHH 1D651 D
AN0000DESA071202497.t2	MRET	2.0	ок	alpha (1)	1	ART563412	VI UL: 830-840 MHz, DL: 875-885 MHz	5.5	0.0	0	-	-	SBHH 1D651 D
				alnha			I UL: 1920- 1980 MHz				1		SBHI
evices				Dis	play		-AISG B	15		B	us Pow		
Move Sector	Move S	Selected			Update/	Refresh TMAs		Find Dev Configure			_	Suspen	-

Figure 16-1. Selecting Device To Be Adjusted.



The **MRET Device Movement** screen shown in Figure 16-2 displays the information that was previously configured for the device. This information may be used as a reference to help determine the new tilt setting. Note that only tilt changes may be made from this screen. Any changes needed to be made to the configuration for the device must be done from the **Device Configuration** screen as discussed in Section 12.

3. Enter the new angle for the device in the **Set Tilt** field. 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. Angles may be entered as whole degrees, or as a combination of whole degrees and tenths of a degree (Figure 16-2).

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**.

4. Click on **Set Tilt** to apply the changes to the electrical downtilt for this antenna. Alternately, to exit the screen without sending any changes, click on **Close**.

	MRET Device AN0000DESA071202497.t2Me	wement
Antenna Model SBHH-1D8516DS	Installation Date 101008	Base Station ID: AR T583412
Min Electrical Tilt: 0.0	Max. Electrical Tilt: 10.0	Bearing: 0
Antenna Type SMAR TBEAM	Installer ID: AC P	Mechanical Tilt 0.0
Antenna Señal= 00000DE SA.071202487	Height 140	
Freq. Band: VI UL: 83G-840 MHz, D	Sector: 1	
Technology Voice	Location: 1	
- Set Tilt:		Calibration
Current Tilt: 55	New Tilt 80	Set Tit Calbrate
CommandResponse:		
	electrical tilt angle.	3. Click on Set Tilt.

Figure 16-2. Changing Electrical Tilt Setting For Single Antenna.



5. A progress indicator bar will appear in a pop-up window to continually provide an update for as long as the move is in progress. You will be notified when movement is complete. Click on **Close Window** from the pop-up window (Figure 16-3).

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

 After the antenna has completed movement to its new tilt angle, the new angle will be displayed in the Current Tilt field and the New Tilt will be cleared in preparation for the next move (Figure 16-3).

At this point, you may click on **Close** (Figure 16-3) to return to the controller's main interface screen (Figure 16-4). 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.

Home	Configuration	Alarms	Help		ANDREW
		MRI		.071202497.t2 Møvement	
Min Electri Antenna Antenna Freq Tech	a Model SBHH-1D65160 ical Tilt: 0.0 na Type SMAR TBEAM Serial = 0000DE SA07120 1. Band: VI UL: 830-840 M mology Voice Set Tilt: Current Tilt esponse: Current tilt angle the new tilt s	12497 1Hz, D shows	Axis Change Sending comman Changing to 8.0 d Estimated progree Movement comple	d egrees. ss:	
		2. Click of	on Close. —	se	

Figure 16-3. Tilt Change Complete For Single Antenna Move.

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The new downtilt angle will be displayed on the controller's main interface screen for the antenna/ device that was adjusted (Figure 16-4).

				R	ET Device	Information							
D	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETIR	MTilt	Az Bearing	RAS	RAB	Model
AN0000DESA071202497.1	MRET	2.0	ок	alpha (1)	1	ART563412	II UL: 1850-1910 MHz, DL: 1930-1990 MHz	6.0	0.0		-	-	SBHH 1D6510 D5
AN0000DESA071202497.t2	MRET	2.0	oĸ	alpha (1)	1	ART563412	VI UL: 830-840 MHz, DL: 875-885 MHz	8.0	0.0	0			SBHH 1D6516 DS
				alnha		-	I UL: 1920- 1980 MHz		[]				SBHH
Devices Move Sector Edit Selected		elected. Itatistics.		Dis		Refresh TMAs		15 Find Dev Configure	1.114	B	us Pow	er Suspen Wake	

Figure 16-4. New Downtilt Angle Shown For Single Antenna Move.



Section 17 Adjusting the Electrical Downtilt on a Group of Antennas Equipped with Multiple Integrated Actuators

17.0 Section Overview

In addition to changing the downtilt of a single antenna, changes may also be applied to a group of antennas. The antennas that can be included in a group move must be in the same sector and have the same electrical tilt range (same minimum and maximum tilt).

17.1 Adjusting the Downtilt Angle on a Group of Antennas

1. Select a device from the controller's main interface screen that is to be included in the sector move (Figure 17-1).

				R	ET Device	Information							
ID	Type	AISG	Status	Sector	Location	Base Station ID	Bands	ETili	MTH	Az Bearing	RAS	RAB	Model
AN0000DESA071202497.1	MRET	2.0	ок	alpha (1)	1	ART563412	II UL: 1850-1910 MHz, DL: 1930-1990 MHz	6.0	0.0			-	SBHI 1D65 I
AN0000DESA071202497.t2	MRET	2.0	ok	alpha (1)	1	ART563412	VI UL: 830-840 MHz, DL: 875-885 MHz	8.0	0.0	0			SBH 1D65 I
				alnha			I UL: 1920- 1980 MHz		[]				SBH
Vices Move Sector	Maura	elected.	- 1	Di	splay	Defresh I	AISG Bu		lone	B	us Pow		4
Edit Selected	10.07.0 10.0	tatistics.		1	Update/Refresh Find Devices Show TMAs Configure Bus			10.00		Suspend Wake			

2. Click on Move Sector (Figure 17-1).

Figure 17-1. Selecting A Device That Is To Be Included In The Sector Move.



Notice that the device that was selected to be included in the sector move is highlighted and displayed in the **Included** box. 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 controller's main interface screen. All of the configuration settings for this device, including its current tilt, are displayed on this screen (Figure 17-2).

Other devices that have the same sector ID, minimum tilt, and maximum tilt are listed in the **Additional** box. If desired, the configuration settings can be viewed for each device before adding them to the sector group to be moved. Click on each model individually to view the configurations for each device.

Note that up to 12 antenna/device pairs may be selected for a sector move. Any more than 12 will be denied when attempting to add to the group for inclusion in the move.

- 3. Select the device, and click on **Add** (Figure 17-2). (Alternately, double-click on the device from the **Additional** box to move the device to the **Included** box.)
- 4. Examine the group selected for the sector move (shown in the **Included** box), to ensure that the group does not include any antennas that are not desired for this move. If you find that a device is not wanted for inclusion in the sector move, click on the device, and click on **Remove**. (Alternately, double-click on the device to remove it from the group.)

Home Configuration Alarms	Billip	Contraction of	ANDREW
	2. Click on A	dd.	
	Set Electrical Tilt for Secto	rl -	
Nim Electrical Tel:	Man. Eli-central Tale	Height	140
Included:		(AND)	Adictional
	o-Add Ferrover or		DESIGNERATION
Set Tit: Convers Tit: (20)	New Tit	3679	
anund Berptense			
1. Click on the additional mo	odels, one at a time, to	be included in the se	ctor move.
(Double-clicking on the m	odel will also add it to	the group for the sect	or move.)
	iour I		
	CORRE		

Figure 17-2. Adding Models To Be Included In The Sector Move.

- 5. When satisfied with the list of antennas that will be included in the group move, enter a new downtilt angle in the **New Tilt** text entry field, and click on **Set Tilt** to begin the move (Figure 17-3). Progress for each antenna movement in the group will be displayed separately (Figure 17-4).
- 6. You will be notified when all antennas have successfully reached the new tilt angle. Click on **Close Window** from the pop-up window (Figure 17-4).
- The new angle will be displayed in the Current Tilt field and the New Tilt field will be cleared. If further adjustments are needed, they may be done before exiting this screen. When the desired adjustments are complete, click on Close (Figure 17-4) to return to the controller's main interface screen (Figure 17-5).



Home	Configuration Alarms	Help		
	v the electrical tilt range for the antenna model.			
		Set Electrical Tilt for Secto	rl	
Min Electrical T	rate: 0.0	Max. Electrical Tilt: 60		Height 140
AN0000	Included: DESA071202497t1 DESA234567890t1 ESA0123456789t1	<- Add Remove ->		Additional:
	Set Tilt: Current Tilt: 60	New Tilt 25	Set Tilt	3. Click on Set Tilt.
Command Respon	ise:			
			entered as who whole degrees	le. ble degrees or as a and tenths of a degree
		Close.		

Figure 17-3. Changing Electrical Tilt Setting For Antennas In Sector Move.

Home Configuration Alarms	Help	Axis Change Progress
	Set Electrical Tilt for Sector	Sending command to AN0000DESA071202497 Changing to 2.5 degrees. Estimated progress:
Min Electrical Tilt: 0.0 Included: AND000DESA071202497t1	Max. Electrical Tilt: 🕞 🛛	Movement complete at 2.5. Now sending command to AN0000DESA234567890 Changing to 2.5 degrees. Estimated progress:
Set Tilt: Current Tilt: 25 Command Response:	Remove -> New Tilt	Movement complete at 2.5. Now sending command to AN000DESA0123456789 Changing to 2.5 degrees. Estimated progress:
Current tilt angle shows — the new tilt setting.		Movement complete at 2.5.
2. Click on	Close.	Close Window 1. Click on Close Window.

Figure 17-4. Tilt Change Is Complete For Sector Move.



The new downtilt angle will be displayed on the controller's main interface screen for the antennas/ devices that were adjusted in the sector move (Figure 17-5).

D	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN0000DESA071202497.t1	MRET	2.0	ок	alpha (1)	1	ART563412	II UL: 1850-1910 MHz, DL: 1930-1990 MHz	2.5	0.0		-		SBHH- 1D6516 DS
AN0000DESA071202497.t2	MRET	2.0	OK	alpha (1)	1	ART563412	VI UL: 830-840 MHz, DL: 875-885 MHz	S.0	0.0	0	- H		SBHH 1D6510 D5
AN000DESA0123456789.tl	MRET	2.0	ok	alpha (1)	1	ART563412	I UL: 1920- 1980 MHz. DL: 2110-	2.5	<u>5</u> .0				SBHH 1D6516 DS
Devices				Di	splay		AISG Bu			B	us Pow	22	
Move Sector		Selected.				Refresh TMAs		Find Dev Configure	10.00		-	Susper	

Figure 17-5. New Tilt Angles Shown For Sector Move.



Part 7

Operating Instructions for SmartBeam[®] Antennas

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Section 18 Device Configuration with SmartBeam[®] Antennas

18.0 Section Overview

Before the controller can successfully send commands to a known device, the device must first be configured to provide specific information about the antenna and its location on the site. Actuators that have been factory installed on an antenna are pre-configured to include the antenna model number, antenna type, and antenna serial number (remaining fields will need to be configured). After each device has been configured, the site configuration can be saved for future reference.

18.1 Configuring a Device

- 1. From the controller's main interface screen, click on the device that is to be configured to select it; then click on **Edit Selected** (Figure 18-1).
 - -1. Select the device that is to be configured. (Configuration settings will be missing for a factory new device. If a device has been removed from the database, the data stored on the device from its last configuration session is displayed when found in a new search.)

				RE	T Device I	aformation							
ID	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Mode
AN000000ART08020042.t	RET+	1.1	OK	alpha (1)	1	ART563412	2100	2.0	2.5	120			SE 3I
AN000000ART08020042p	AZANG-	1.1	ЮК	alpha(1)	1	ART563412	2100		-	120	20		SB 3I
AN000000ART08020042f	AZBW-	1.1	OK	alpha (1)	1	ART563412	2100		1	120		120	SB 31
AN00000ART080200156.t	RET+	1.1	OK	alpha (1)	1	ART563412	1900	2.0	-0.1				SB 31
AN00000ART080200156p	AZANG-	1.1	OK	alpha(1)	1	ART563412	1900				0		SB 31
AN00000ART080200156f	AZBW+	1.1	OK	alpha(1)	1	ART563412	1900	-			-	35	SB 21
Devices			- 0	Disp	olay	1	AISGB	us		Bus	Power	-	
Move Sector	Move Se	elected			Update/Re Show TI		_	Find Dev Configure	rices		-	Guspend	





Home	Configuration Alarms	Help	RET device ID shown.
	SMARTBEAM	RET+ Device	AN000000ART08020042 Tilt Axis Configuration
	Antenna Model SB P-3DA Min Electrical Tilt 20 Antenna Type: SM ARTBEAM Antenna Serial #: 000000ART 0802004. Freq. Band: 2100 Technology Voice/Data Mechanical Tilt 25 Base Station ID: AR T563412 Installation Date 100808	(fixed) (fixed) (fixed) 2 (fixed)	Max. Electrical Tilt 10 0 (fbxed) *Sector: alpha (1) *Location: 1 Bearing: 120 (set elsewhere) Height: 0 Installer ID MH D
â	Make appropriate selections and text entries. (All configu s stored in the individual de	ration data	* Denotes required field Fields marked with an asterisk must be configured. Set Device Data 2. Click on Set Device Data.

Figure 18-2. Configuring A New Device.

Notice that the ID for the device that was selected from the main screen appears in the title bar of the **Device Configuration** screen. Required fields are marked with an asterisk. Saving a new configuration will not be permitted if any of the required fields are left blank or if values are out of range. Refer to Figure 18-2.

For SmartBeam, when one axis is configured, the other axis(es) have the same changes applied.

- 2. Factory installed actuators are pre-configured to include the antenna model number, antenna type, and antenna serial number it is operating.
- 3. SmartBeam antennas do not allow re-configuring these fields.
- 4. Specify the parameters for the remaining fields (Frequency Band, Technology, Base Station ID, Installer ID, Installation Date, Mechanical Tilt, Bearing, Height, Sector, Location).

Note the following:

- The fields of Antenna Type, Technology, Location, and Height are available for CommScope non-TMA devices only.
- 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. For SmartBeam, it may be configured only from the Pan Configuration screen.
- The **Height** of the antenna up 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.

- The **ID** for the base station associated with this antenna must be 1 to 12 characters in length for AISG 1.x devices and 1-32 characters in length for AISG 2.0 devices, and may contain any combination of numbers and letters.
- The **Installation Date** field must be 1 to 6 characters in length with any combination of letters and numbers.
- The **Installer ID** must be 1 to 5 characters in length with any combination of letters and numbers.
- The **Location** field is a string with a numeric value from 1 to 32 that describes an actuator's position within a sector. Each device should have a unique sector-location combination.
- Mechanical tilt has a valid range of -12.8 to 12.7 in AISG 1.1, and ±180.0 in AISG 2.0.
- Values specified for the Frequency Band, Technology, and Mechanical Tilt are used for reference only and have no direct affect upon the actuator/ antenna that is being configured. For SmartBeam, it may be configured only from the Tilt Configuration screen.
- 5. Carefully review all selections. If satisfied that all are correct, click on **Set Device Data (**Figure 18-2). Alternately, the user may go back and edit/change any of the selections made or click on **Close** to quit this process without making any changes to the actuator's current configuration.

Home	Configuration	Alarms	Help		Contraction of	A ContriniScoper Correlativy
	5	MARTBEAM	RET+ Devic	e AN000000ART08020042 Tilt A	xis Configuration	
	Antenna Model SEP	3D.A.	(fixed)			
	Min Electrical Tilt 20		(fixed)	Max Electrical	Filt 10.0. (fixe	d)
	Antenna Type: SM A	RTBEAM	(fixed)			
	Antenna Serial #: 0000	08ART 08620042	(fixed)			
	Freq Band: 1900				or: alpha (1)	
	Technology Voice	e/Data 🕒		*Locati	on: 1 💌	
	Mechanical Tilt 25			Beari	ng: <mark>120 (</mark> set elsewhere)	
	Base Station ID: ART	563412		Heig	tht: 99	
	Installation Date 10/08	3/08		Installer	ID MH D	
				* Denotes required field		
				Set Device Data		
Command R	esponse:					
AN00000 AN00000	0ART08020042 Vendor 0ART08020042 Set Dev 0ART08020042 Set Dev	ice Data OK				-
				Close	Click on Close .	

Figure 18-3. Device Configurations Complete.

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- 6. Click on Close after the new settings have finished uploading to the device (Figure 18-3).
- 7. If the device was successfully configured, the status will indicate the device is **OK** on the main screen. Note that not all of the items that were configured are displayed on the main screen (Figure 18-4).

To verify that each item configured was set correctly, select the device from the main screen and click on **Edit Selected** to review each item. Click on **Close** when finished verifying the settings to return to the controller's main interface screen.

the device	e is OK ,	whe	n it ha			ured succes	sfully				_		
ID	Туре	AISG	Status		Location	Rana Station	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN000000ART08020042.t	RET-	1.1	OK	alpha (1)	1	ART563412	1900	2.0	2.5	120	-	**	SBP 3D/
AN000000ART08020042.p	AZANG+	1.1	OK	alpha(1)	1	ART563412	1900	4	4	120	20	-	SBP 3D/
AN000000ART08020042.f	AZBW+	1.1	OK	alpha(l)	1	ART563412	1900	77	4	120	÷	120	SBP 3D/
AN00000ART080200156.t	RET+	1.1	OK	alpha (1)	1	ART563412	1900	8.5	-0.1		-	-	SBP 3D/
AN00000ART080200156.p	AZANG-	1.1	OK	alpha(1)	1	ART563412	1900				0		SBP 3D/
AN00000ART080200156.f	AZBW-	1.1	OK	alpha(1)	1	ART563412	1900					35	SBP
wices Move Sector	Move Se	lected	1	Disp	lay Update/Re		AISG B	us Find Devi	ces	Bus	Power	Suspend	
Edit Selected	Show Sta	atistics			Show T	MAs	0	Configure	Bus			Wake	

Figure 18-4. Configuration For New Device Displayed In Controller's Main Interface Screen.

18.2 Saving a Device Configuration to File

To save your configurations to a file for future reference, place your mouse over the area where the devices are listed on the main screen and right click. From the pop-up menu, select **Export to Microsoft Excel**.



Section 19 Adjusting the Electrical Downtilt on a Single SmartBeam[®] Antenna

19.0 Section Overview

- The electrical downtilt may be adjusted on a tilt axis of a SmartBeam antenna that is addressed, configured, and whose current state does not prevent antenna movement.
- Movement may be prevented when a device is not responding to commands from the controller, is in the middle of a move or configuration change, or is experiencing a mechanical malfunction.

19.1 Adjusting the Downtilt Angle on a Single Antenna

1. From the controller's main interface screen, select the device ending in a ".t" (for "tilt") to be moved (Figure 19-1).

	be adju			RE	I Device I	nformation							
ID	Type	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTük	Az Bearing	RAS	RAB	Model
AN000000ART08020042.t	RET+	1.1	OK	alpha (1)	I	ART563412	1900	2.0	2.5	120		-	SBP 3D
AN000000ART08020042p	AZANG-	1.1	ок	alpha (1)	1	ART563412	1900			120	20		SBP 3D
AN000000ART08020042.f	AZBW-	1.1	OK	alpha (1)	1	ART563412	1900			120	1	120	SBP 3D
AN00000ART080200156.t	NET+	1.1	ОК	alpha (1)	1	ART563412	1900	2.0	-0.1		-	-	SBF 3D
AN00000ART080200156.p	AZANG-	1.1	OK	alpha (1)	1	ART563412	1900		-		0		SBP 3D
AN00000ART080200156.f	AZBW-	1.1	OK	alpha (1)	1	ART563412	1900					35	SBP
Move Sector	Move Se Show Se			Disp	lay Update/Re Show TI		_	us Find Dev Configure		Bus	Power	Suspend Wake	

2. Click on **Move Selected** (Figure 19-1).

Figure 19-1. Selecting Device To Be Adjusted.



The **Tilt Axis Movement** screen shown in Figure 19-2 displays the information that was previously configured for the device. This information may be used as a reference to help determine the new tilt setting. Note that only tilt changes may be made from this screen. Any changes needed to be made to the configuration for the device must be done from the **Device Configuration** screen as discussed in Section 12.

3. Enter the new angle for the device in the **New Tilt** field. 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. Angles may be entered as whole degrees, or as a combination of whole degrees and tenths of a degree (Figure 19-2).

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**.

4. Click on **Set Tilt** to apply the changes to the electrical downtilt for this antenna. Alternately, to exit the screen without sending any changes, click on **Close**.

	SMARTBEA	M RET+ Device AN00000ART080200156 Tilt .	Axis Movement
Antenna Model: SB	AGD A	Installation Date 100808	Base Station ID: AR T563412
Min Electrical Tilt 2.0		Max. Electrical Tilt 10.0	Bearing:
Antenna Type: S14	ARTBEAM	Installer ID: MHD	Mechanical Tilt 01
Antenna Serial # 000	00ART 080200156	Height: 120	
Freq Band: 190	0	Sector: 1	
Technology	08	Location 1	
56	t Tilt: Current Tilt: 20	New Tilt 0.5	et Tilt
ommand Response:			

Figure 19-2. Changing Electrical Tilt Setting For Single Antenna.



 A progress indicator bar will appear in a pop-up window to continually provide an update for as long as the move is in progress. You will be notified when movement is complete. Click on Close Window from the pop-up window (Figure 19-3).

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

 After the antenna has completed movement to its new tilt angle, the new angle will be displayed in the Current Tilt field and the New Tilt will be cleared in preparation for the next move (Figure 19-3).

At this point, you may click on **Close** (Figure 19-3) to return to the controller's main interface screen (Figure 19-4). 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.

SMARTBE	AM RET+Device AN00000ART080)200156 Tilt Axis Movement
Antenna Model: SB P-3DA	Installation Date 100808	Base Station ID: AR T563412
lin Electrical Tilt 20	Max. Electrical Tilt 10.0	Bearing:
Antenna Type: SMAR TBEAM	Installer ID MH D	Mechanical Tilt 01
Antenna Serial #: 00000ART 080200 156	Height 120	
Freq Band: 1900	Sector: 1	Movement for AN00000ART080200156 - Windows Internet Explor
Technology Voice	Location 1	Axis Change Progress
		Sending command
Set Tilt	ar	Changing to 8.5 degrees.
Current Tilt: 8.5	New Tilt	Estimated progress:
nmand Response:		
Current tilt angle shows -		Movement complete at 8.5.
the new tilt setting.		Close Window 1. Click on
<u> </u>		Close Window.

Figure 19-3. Tilt Change Complete For Single Antenna Move.



The new downtilt angle will be displayed on the controller's main interface screen for the antenna/ device that was adjusted (Figure 19-4).

				RET	Device In	nformation							
D	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN000000ART08020042.t	RET-	1.1	OK	alpha (1)	1	ART563412	1900	2.0	2.5	120	- 4		SBP- 3DA
AN000000ART08020042.p	AZANG+	1.1	ок	alpha (1)	1	ART563412	1900		-	120	20	-	SBP- 3DA
AN000000ART08020042.f	AZBW-	1.1	OK	alpha (1)	1	ART563412	1900			120	-	120	SBP- 3DA
AN00000ART080200156.t	RET-	1.1	QK.	alpha (1)	1	ART563412	198	8.5	-0.1			- 24	SBP- 3DA
AN00000ART080200156.p	AZANG+	1.1	OK	alpha (1)	1	ART563412	1900	**			0	*	SBP- 3DA
AN00000ART080200156.f	AZBW-	1.1	OK	alpha	1	ART563412	1900				-	35	SBP-
Devices				Displ	lav		AISGB	15		Bus	Power		
Move Sector	Move Sel	ected		Ê	Update/Re	fresh	F	ind Devi	ces		4	Suspend	
Edit Selected	Show Sta	tistics			Show TM	MAs	C	onfigure	Bus			Wake	

Figure 19-4. New Downtilt Angle Shown For Single Antenna Move.



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Section 20 Adjusting the Pan on a Single SmartBeam[®] Antenna

20.0 Section Overview

- The azimuth offset may be adjusted on a pan axis of a SmartBeam antenna that is addressed, configured, and whose current state does not prevent antenna movement.
- Movement may be prevented when a device is not responding to commands from the controller, is in the middle of a move or configuration change, or is experiencing a mechanical malfunction.

20.1 Adjusting the Pan on a Single Antenna

1. From the controller's main interface screen, select the device ending in a ".p" (for "pan") to be moved (Figure 20-1).

that is to b	Je udju	oteu.		RET	Device I	nformation		_			_		_
ID	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN000000ART08020042.t	RET-	1.1	OK	alpha (1)	1	ART563412	1900	2.0	2.5	120	de la		SBP 3D
AN000000ART08020042.p	AZANG+	1.1	ок	alpha (1)	1	ART563412	1900			120	20	4	SBF 3D
AN000000ART08020042.f	AZBW-	1.1	OK	alpha (1)	1	ART563412	1900	**	77	120		120	SBP 3D
AN00000ART080200156.t	RET-	1.1	QK.	alpha (1)	1	ART563412	1900	8.5	-0.1			94	SBP 3D
AN00000ART080200156.p	AZANG-	1.1	OK	alpha (1)	1	ART563412	1900	÷	4		0		SBP 3D
AN00000ART080200156.f	AZBW-	1.1	OK	alpha	1	ART563412	1900				-	35	SBP
levices			_	Disp			AISG Bu			Bus	Power		
Move Sector	Move Sel Show Sta		2	-	Update/Re Show Til			ind Devi		- -		Wake	

2. Click on Move Selected (Figure 20-1).

Figure 20-1. Selecting Device To Be Adjusted.



The **Pan Axis Movement** screen shown in Figure 20-2 displays the information that was previously configured for the device. This information may be used as a reference to help determine the new az offset setting. Note that only movement changes may be made from this screen. Any changes needed to be made to the configuration for the device must be done from the **Device Configuration** screen as discussed in Section 12.

3. Enter the new az offset for the device in the **New Az Offset** field. Note that the allowed range of angle values is displayed in the **Min Azimuth Offset** and **Max Azimuth Offset** fields in the top part of the screen. Any value within this range may be entered. Values may be entered as whole degrees only. (Figure 20-2).

Examples: A value of five may be entered as 5. A value of five and one-half is not valid.

4. Click on **Set Azimuth Offset** to apply the changes to the pan axis for this antenna. Alternately, to exit the screen without sending any changes, click on **Close**.

	nna model. SMARTBEAM .	AZANG+ Device AN000000ART08020042 Par	n Axis Movement
Antenna Model:	SBP-3DA	Installation Date: 100808	Base Station ID: ART 563412
Min Azimuth Offset:	-30	Max. Azimuth Offset 30	Bearing: 120
Antenna Type:	SMARTBEAM	Installer ID: MHD	Mechanical Tilt: 2.5
Antenna Serial#:	000000ART08020642	Height 99	
Freq. Band:	1900	Sector: 1	
Technology	Volce-Data	Location: 1	
	- Set Az Offset (Enter whole inte	ger only):	
	Current Az Offset: 20	New Az Offset 15	Set Az Offset
ommand Response:			
			3. Click on Set A

Figure 20-2. Changing Az Offset Setting For Single Antenna.



5. A progress indicator bar will appear in a pop-up window to continually provide an update for as long as the move is in progress. You will be notified when movement is complete. Click on **Close Window** from the pop-up window (Figure 20-3).

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

 After the antenna has completed movement to its new az offset, the new value will be displayed in the Current Az Offset field and the New Az Offset will be cleared in preparation for the next move (Figure 20-3).

At this point, you may click on **Close** (Figure 20-3) to return to the controller's main interface screen (Figure 20-4). 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.

Home Conf	iguration	Alarms Help				A Camin		
	SMA	RTBEAM AZANG+ DO	wice AN000000ART(08020042 Pan #	Axis Movement			
Antenna Model: Min Azimuth Offset: Antenna Type:	-30		astallation Date: 100808 Azimuth Offset: 30 Installer ID: MHD	3	1	tion ID: ART 563412 Bearing: 120 ical Tilt: 2.5		
Antenna Serial#: Freq. Band: Technology		2	Height: 99 Sector: 1 Location: 1		nt for ANOOODODAR		dows Internet Explan	
Command Response:	Set Az Offset (Entr	r whole integer only):	New Az Offset		ommand to 15 degrees. progress:			
	Offset show Az Offset se			Movement Close V	complete at 15.	Click on	darre	
	2. (Click on Close	Close	-		Close Win	aow.	*

Figure 20-3. Tilt Change Complete For Single Antenna Move.



The new az offset will be displayed on the controller's main interface screen for the antenna/device that was adjusted under the column "RAS". (Figure 20-4).

				RET	Device I	nformation							
ID	Туре	AISC	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Model
AN000000ART08020042.t	RET-	1.1	OK	alpha (1)	1	ART563412	1900	2.0	2.5	120	4		SBP- 3D/
AN000000ART08020042.p	AZANG+	1.1	ок	alpha (1)	1	ART563412	1900	-0	-	120	15) -	SBP 3DA
AN000000ART08020042.f	AZBW-	1.1	ок	alpha (1)	1	ART563412	1900			120		120	SBP 3D/
AN00000ART080200156.t	RET-	1.1	ок	alpha (1)	1	ART563412	1900	8.5	-0.1			*	SBP 3D/
AN00000ART080200156.p	AZANG-	1.1	OK	alpha (1)	1	ART563412	1900	**			0		SBP 3D/
AN00000ART080200156.f	AZBW-	1.1	OK	alpha	1	ART563412	1900					35	SBP
wices				Displ	lay		AISG Bu	15		Bus	Power		
Move Sector	Move Sel	ected			Update/Re	fresh	F	ind Devi	ces			Wake	

Figure 20-4. New Az Offset Shown For Single Antenna Move.



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Section 21 Adjusting the Fan on a Single SmartBeam[®] Antenna

21.0 Section Overview

- The beamwidth may be adjusted on a fan axis of a SmartBeam antenna that is addressed, configured, and whose current state does not prevent antenna movement.
- Movement may be prevented when a device is not responding to commands from the controller, is in the middle of a move or configuration change, or is experiencing a mechanical malfunction.

21.1 Adjusting the Fan on a Single SmartBeam Antenna

1. From the controller's main interface screen, select the device ending in a ".f" (for "fan") to be moved (Figure 21-1).

that is to b	, , , , , , , , , , , , , , , , , , ,			RET	T Device I	nformation							
ID	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Mode
AN000000ART08020042.t	RET-	1.1	OK	alpha (1)	1	ART563412	1900	2.0	2.5	120		**	SBI 3D
AN000000ART08020042.p	AZANG-	1.1	OK	alpha(1)	1	ART563412	1900	4	4	120	20	-	SBI 3D
AN000000ART08020042.f	AZBW+	1.1	OK	alpha(1)	1	ART563412	1900	7	4	120	÷	120	SBI 3D
AN00000ART080200156.t	RET+	1.1	ок	alpha (1)	1	ART563412	1900	8.5	-0.1				SB 3D
AN00000ART080200156.p	AZANG-	1.1	OK	alpha(1)	1	ART563412	1900		4		0		SBI 3D
AN00000ART080200156.f	AZBW-	1.1	OK	alpha(1)	1	ART563412	1900					35	SBI
evices Move Sector	Move Se	lected		Disp	lay Update/Re	efresh	AISG Bu	15 Find Devi	ces	Bus	Power	Suspend	
Edit Selected	Show Sa	atistics			Show TI	MAs	0	Configure	Bus			Wake	

2. Click on Move Selected (Figure 21-1).

Figure 21-1. Selecting Device To Be Adjusted.



The **Fan Axis Movement** screen shown in Figure 21-2 displays the information that was previously configured for the device. This information may be used as a reference to help determine the new beamwidth setting. Note that only movement changes may be made from this screen. Any changes needed to be made to the configuration for the device must be done from the **Device Configuration** screen as discussed in Section 12.

3. Enter the new beamwidth for the device in the **New Beamwidth** field. Note that the allowed range of values is displayed in the **Min Nominal Beamwidth** and **Max Nominal Beamwidth** fields in the top part of the screen. Any value within this range may be entered. Values may be entered as whole degrees only. (Figure 21-2).

Examples: A value of eighty may be entered as **80**. A beamwidth of eighty and one-half degrees is not valid.

4. Click on **Set Beamwidth** to apply the changes to the fan axis for this antenna. Alternately, to exit the screen without sending any changes, click on **Close**.

SM/	ARTBEAM AZBW+ Device AN00000ART080200156 Fan A:	xis Movement
Antenna Model SBP-3D A	Installation Date 100909	Base Station ID: AR 1563412
Min Nominal Beamwidth	Max Nominal Beamwidth: 120	Bearing: 180
Antenna Type SMAR TBEAM	Installer ID: MHD	Mechanical Tilt 0,1
Antenna Serial = 0000048 T08020	0156 Height 120	
Freq Band: 1900	Sector: 2	
Technology Voice Data	Location 1	
	nt Beamwidth: 35 New Beamwidth: 75 Set Beamwidth: 75	

Figure 21-2. Changing Beamwidth Setting For Single Antenna.



5. A progress indicator bar will appear in a pop-up window to continually provide an update for as long as the move is in progress. You will be notified when movement is complete. Click on **Close Window** from the pop-up window (Figure 21-3).

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

6. After the antenna has completed movement to its new beamwidth, the new value will be displayed in the **Current Beamwidth** field and the **New Beamwidth** will be cleared in preparation for the next move (Figure 21-3).

At this point, you may click on **Close** (Figure 21-3) to return to the controller's main interface screen (Figure 21-4). Alternately, this process may be repeated to further adjust the beamwidth or to reapply changes where movement had previously failed, such as a temporary mechanical jam.

Antenna Model SBP(3DA	Installation Date 100908	Base Station ID: AR 7 5634 12
Min Nominal 18	Max Nominal Beamwidth: 120	Bearing 180
Antenna Type SMARTBEAM	Installer ID: MHD	Mechanical Tilt 0,1
Antenna Serial = 000004R T 08020 0156	Height 120	
Freg Band: 1900	Sector: 2	Movement for AN00000ART080200156 - Windows Internet Explore
Technology Voice Data Set Beamwidth (Enter w Current Beamv		Axis Change Progress Sending command Changing to 80 degrees, Estimated progress:
idResponse:		
Current bandwi	dth value show	Movement complete at 80.

Figure 21-3. Beamwidth Change Complete For Single Antenna Move.



The new beamwidth value will be displayed on the controller's main interface screen for the antenna/ device that was adjusted under the column "RAB" (Figure 21-4).

				RE	T Device I	nformation							
D	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETik	MTilt	Az Bearing	RAS	RAB	Model
AN00000ART080200156.	AZBW+	1.1	OK	beta (2)	1	ART563412	1900			180		80	SBP 3DA
AN00000ART080200156.p	AZANG-	1.1	OK	beta(2)	1	ART563412	1900			180	25	1	SBP- 3D,4
AN00000ART080200156.t	RET-	1.1	OK	beta(2)	i	ART563412	1900	7.0	-0.1	180			SBP- 3D.4
AN000000ART08020042.t	RET-	1.1	OK	beta(2)	1	ART563412	1900	7.0	2.5	120			SBP- 3D.4
AN000000ART08020042.p	AZANG-	1.1	OK	beta(2)	1.	ART563412	1900	***	**	120	15		SBP- 3D.4
4 N'000000 3 B TOPODO0 (3.6	17011-	11	OF	bata (2)	,	APT562112	1000			120		130	SBP-
Devices				Dis	play	i.	-AISG B	us		Bu	Power	-	
Move Sector_	Move Se	lected_	21		Update/F	Refresh		Find Dev	/ices		1	Susperio	
Edit Selected_	Show St	atistics_			Show 1	rmAs		Configure	e Bus			Wake	

Figure 21-4. New Beamwidth Value Shown For Single Antenna Move.

Section 22 Adjusting the Electrical Downtilt, Pan, or Fan on a Group of SmartBeam[®] Antennas

22.0 Section Overview

In addition to changing the downtilt, az offset, and beamwidth of a single SmartBeam antenna, changes may also be applied to a group of antennas. The SmartBeam antennas that can be included in a group move must be in the same sector, have the same electrical tilt range (same minimum and maximum tilt), and be the same axis (tilt, pan, or fan).

22.1 Adjusting the Downtilt Angle, Az offset, or Beamwidth on a Group of SmartBeam Antennas

1. Select a SmartBeam axis device from the controller's main interface screen that is to be included in the sector move (Figure 22-1).

				RET	T Device I	nformation							
ID	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Mode
AN000000ART08020042.t	RET-	1.1	OK	alpha (1)	1	ART563412	1900	2.0	2.5	120	**		SBI 3D
AN000000ART08020042.p	AZANG-	1.1	OK	alpha(1)	1	ART563412	1900	+	÷	120	20	-	SBI 3D
AN000000ART08020042.f	AZBW-	1.1	OK	alpha(1)	1	ART563412	1900		4	120	ģ.	120	SBI 3E
AN00000ART080200156.t	RET+	1.1	ок	alpha (1)	1	ART563412	1900	8.5	-0.1		-	_	SB 3D
AN00000ART080200156.p	AZANG-	1.1	OK	alpha(1)	1	ART563412	1900		4		0		SBI 3D
AN00000ART080200156.f	AZBW-	1.1	OK	alpha(1)	1	ART563412	1900					35	SBI
wices		_		Disp	lav	10	AISG B	15		Bus	Power		
Move Sector	Move Se	lected			Update/Re	fresh		Find Devi	ices		5	Suspend	
Edit Selected	Show St	atistics			Show TI	MAs	(Configure	Bus			Wake	

2. Click on **Move Sector** (Figure 22-1).

Figure 22-1. Selecting A Device That Is To Be Included In The Sector Move.



Notice that the device that was selected to be included in the sector move is highlighted and displayed in the **Included** box. 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 controller's main interface screen. The minimum, maximum, and current tilt for this device is displayed on this screen (Figure 22-2).

Other devices that have the same sector ID, minimum tilt, and maximum tilt, and are the same axis, are listed in the **Additional** box. If desired, the configuration settings can be viewed for each device before adding them to the sector group to be moved. Click on each model individually to view the configurations for each device.

Note that up to 12 antenna/device pairs may be selected for a sector move. Any more than 12 will be denied when attempting to add to the group for inclusion in the move.

- 3. Select the device, and click on **Add** (Figure 22-2). (Alternately, double-click on the device from the **Additional** box to move the device to the **Included** box.)
- 4. Examine the group selected for the sector move (shown in the **Included** box), to ensure that the group does not include any antennas that are not desired for this move. If you find that a device is not wanted for inclusion in the sector move, click on the device, and click on **Remove**. (Alternately, double-click on the device to remove it from the group.)



Figure 22-2. Adding Models To Be Included In The Sector Move.

- 5. When satisfied with the list of antennas that will be included in the group move, enter a new downtilt angle in the **New Tilt** text entry field, and click on **Set Tilt** to begin the move (Figure 22-3). Progress for each antenna movement in the group will be displayed separately (Figure 22-4). (Note that these fields will have the appropriate labels for the axes selected.)
- 6. You will be notified when all antennas have successfully reached the new tilt angle. Click on **Close Window** from the pop-up window (Figure 22-4).
- The new angle will be displayed in the Current Tilt field and the New Tilt field will be cleared. If further adjustments are needed, they may be done before exiting this screen. When the desired adjustments are complete, click on Close (Figure 22-4) to return to the controller's main interface screen (Figure 22-5).

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Home	Configuration	Alarms	Help			A	ANDREW A Commiscope Compo
	ew the electrical d for the antenn	-	o verify that th	ne new tilt a	ngle will be		
			Set Electric	al Tilt for Sector	1		
Min Electric	al Tilt: 20		Max. Electri	cal Tilt: 10.0]	Height: 99	
	Included: 0000ART080200421 000ART0802001561		Ξ	< Add Remove>		A	dditional:
,	Set Tilt: Current Til	r 20	New Tilt	D	Set Tilt		n Set Tilt.
ommand Resp	oonse:						
			Angles combi	s may be en	ctrical tilt angle tered as whole ole degrees ar	e degrees or	
				Close			

Figure 22-3. Changing Electrical Tilt Setting For Antennas In Sector Move.

Home	Configuration	Alarms He	elp			ANDREW A Commission Company
			Set Electrical Tilt fo		vement for sector - Windows Internet Explore s Change Progress	
MinElectr	rical Tilt: 20.		Max. Electrical Tilt:	100 Chai	ting command to AN000000ART08020042 iging to 7 degrees. nated progress:	
	1000000ART080200421 1000000ART0802001561		·	<- Add Now Chai Estim	sending command to AN00000ART08020015 ging to 7 degrees. nated progress.	6
-	Set Tilt Current Tilt	70	New Tilt		ose Window	
mmand Re C	current tilt angle s the new tilt se					
	2.	Click on Clo	ose. Oose			Ŧ

Figure 22-4. Tilt Change Is Complete For Sector Move.



The new downtilt angle, or az offset, or beamwidth, will be displayed on the controller's main interface screen for the antennas/devices that were adjusted in the sector move (Figure 22-5).

				RET	Device I	nformation							
ID	Туре	AISG	Status	Sector	Location	Base Station ID	Bands	ETIN	MTilt	Az Bearing	RAS	RAB	Model
AN000000ART08020042.t	RET+	1.1	ок	alpha (1)	1	ART563412	1900	7.0	2.5	120	-		SBP 3D/
AN000000ART08020042.p	AZANG+	1.1	OK	alpha(1)	1	ART563412	1900		-	120	20		SBP 3D
AN000000ART08020042.f	AZBW-	1.1	OK	alpha (1)	1	ART563412	1900	-		120		120	SBP 3D
AN00000ART080200156.t	RET+	1.1	ок	alpha (1)	1	ART563412	1900	7.0	-0.1		-		SBP 3D
AN00000ART080200156.p	AZANG-	1.1	ок	alpha(1)	1	ART563412	1900	-			0	4	SBP 3D/
AN00000ART080200156.f	AZBW-	1.1	ок	alpha(1)	1	ART563412	1900					35	SBP
Devices				Disp	lay		AISG B	us		Bus	Power		
Move Sector	Move Se	lected			Update/Re	sfresh		Find De	vices		-	Suspend	1
Edit Selected	Show Sta	atistics			Show T	MAs		Configur	e Bus			Wake	

Figure 22-5. New Tilt Angle Shown For Sector Move.



Part 8

Operating Instructions for Tower Mounted Amplifiers

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Section 23 Tower Mounted Amplifier

23.0 Section Overview

CommScope tower mounted amplifiers (TMAs) are installed near the Tx/Rx antenna at the top of a cell tower. A base station antenna transmits a much stronger signal than what it receives back from the mobile phone, but the TMA corrects this imbalance. This uplink improvement with a stronger, clearer signal results in fewer dropped calls, improved call quality, and better coverage.

The CommScope tower mounted amplifier extracts the AISG signal and dc power from the coaxial cable run and delivers it to the antenna RET line devices through its AISG interface.

23.1 AISG TMA (Tower Mounted Amplifier) Applications

- An AISG TMA usually includes its own bias tee at the top of the system to get the dc voltage. If a TMA already uses a bias tee, a top Smart Bias Tee unit is not needed, nor can it be used. (The top Smart Bias Tee unit cannot pass dc power and data to the output RF port.)
- A bottom Smart Bias Tee unit can be used to pass dc voltage and data to the coax line in applications where an AISG TMA has its own bias tee at the top of the system.
- If a system includes both an AISG TMA and actuator(s), the TMA must have an AISG connector that can pass the dc power and data to the AISG jumper cable assembly.

23.2 Finding TMAs

- 1. Click on Find Devices from the controller's main screen (Figure 23-1).
- 2. Click on Start Scan to activate the device search. Figure 23-2 shows a completed device scan.
- 3. Click on **Home** to return to ATC300 controller's main screen (Figure 23-2).
- 4. Any RET devices found are initially listed on the main screen. Click on the **Show TMAs** button to see all TMAs found in the device scan. See Figure 23-3.
- 5. Figure 23-4 shows that one AISG TMA product is installed at the site.



	Configuratio			Help	t			a to catte	<u>.</u>	AN	DRE
					T Device Inf						
Туре	AISG	Status	Sector	Location	Bands	ETilt	MTilt	Az Bearing	RAS	RAB	Mode
					Click on I	Find De	evices	_			
						Find De			- Bus P	41124	-
vices Move Sec Edit Select			Selected	Disp		esh	AISG Bu	ind Devices	BusP	ower Suspen Wake	

Figure 23-1. Controller's Main Interface Screen.

ome Configu	ration		Help					(87)		MDR mmScope C
Device	Vendor	Serial#	Device	Scan Progr Product	AISG	HW Version	SW Version	Tilt	Update Reg'd?	Statu
0000a000K11142	40a AN 000	00a000K111424	0a.1 TMA	Туре E15R05P19	2.0	05	0M06	U	nknown	OK
Oliaka	Charl Car									
Click of	n Start Sca	in						_		_

Figure 23-2. Device Scan finds a TMA.



Hor	ne	Configur	ation	Alarms	Help					to P. soffee C.		A Commis	DREV Comp
)	TPL	AISG	Status	Sector	Location	RET Device In Base Station ID	formation Bands	701211	3.07714	1 B -	RAS	RAB	Nr. 1
	Туре	ALSG	Status	Sector	Location	Base Station ID	Banus	ETik	MTilt	Az Bearing	KAS	KAB	Mode
												_	_
evic	es Move Se	ctor		Move Selec	ted	Display Update/Refr	esh)	AISGI	Bus Find Devid		Bus Power	Suspend	
	Edit Sele	_	C	Show Statis	ics	Show TMA			Configure I	Bus		Wake	
ıma	nd / Stat	us Respons	se										
							– Click	on S	how T	MAs.			

Figure 23-3. ATC300 Controller's Main Interface Screen – RET View.

23.3 Configuring a TMA

 To configure a TMA, select it from the TMA device list on the controller's main screen, as shown in Figure 23.4. Then click on **Edit Selected TMA** to enter the TMA Device Configuration screen (Figure 23-5). Notice that the ID for the device that was selected from the main screen appears in the title bar of the Device Configuration screen.

					-	A Device Inform				_
10	1	Type	AISG	Status		Base Station ID	Bands		Mode	1
AN0000a000k		TMA		OK	SEC1		Rx Band: 777.5 - 787.0; Tx I		normal	
AN0000a000K	K1114240a.2	TMA	2.0	OK	SEC1		Rx Band: 777.5 - 787.0; Tx Ba	NAME OF TAXABLE PARTY OF TAXABLE PARTY.	normal	
		Selec			ted TN	IA				
		•••••			ted TN					
	CI	lick or	n Edit	Selec		Display	AISG Bus	Bus Pow		
Devices Change MA Edit Selecter	Cl	lick or	n Edit				Find Device	es l	ver Suspend Wake	



- 2. Required fields are marked with an asterisk. Saving a new configuration will not be permitted if any of the required fields are left blank. Refer to Figure 23-5.
- 3. Specify the parameters for the fields available (Base Station ID, Sector, Installer ID and Installa tion date).

Note the following:

- The **ID** for the base station associated with this antenna must be 1 to 12 characters in length for AISG 1.x devices and 1-32 characters in length for AISG 2.0 devices, and may contain any combination of numbers and letters.
- The **Installation Date** field must be 1 to 6 characters in length with any combination of letters and numbers.
- The **Installer ID** must be 1 to 5 characters in length with any combination of letters and numbers.
- The Sector value must be 1 to 4 characters in length for AISG 1.x devices and 1-32 charac ters in length for AISG 2.0 devices, and may contain any combination of numbers and letters.
- Carefully review all data entered (Figure 23-5). If satisfied that all are correct, click on Set Device Data. Alternately, the user may go back and edit/change any of the selections made or click on Close to quit this process without making any changes to the TMA's current configuration.
- 5. TMA Data fields (TMA Type, TMA Rx Band, TMA Tx Band, Max Gain, Min Gain and Gain Resolution) are displayed as read only.

Base Station ID:		*Sector: SEC1
Installation Date:		Installer ID:
Fields marked with a must be configured.		tes a required field
1. Make app	propriate text entries.	Click to set device data.
TMA Type: 1		Max Gain: 13.00
TMA Rx Band: 777.5	787.0	Min Gain: 4.00
TMA Tx Band: 746.0	756.0	Gain Resolution: 1.000
These fields a	are read only	

Figure 23-5. TMA Device Configuration Screen.

23.4 Changing TMA Gain

1. To change a TMA's gain, select the TMA from the TMA device information list on the controller's main screen, as shown in Figure 23-6. Then click on **Change TMA Gain** to enter the TMA Device Operation screen (Figure 23-7). Notice that the ID for the device that was selected from the main screen appears in the title bar of the Device Operation screen.

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n. **CE**
						MA Device Inform			
п		_				Base Station ID	Bands	Mode	
and the second se	K1114240a.1	A REAL PROPERTY AND INCOME.	And and a second se	OK	SEC1		Rx Band: 777.5 - 787.0; Tx Band: 746.0 - 756.0	normal	
AN0000a000H	K1114240a.2	TMA	2.0	OK	SEC1		Rx Band: 777.5 - 787.0; Tx Band: 746.0 - 756.0	normal	
		Select	TMA		— Clic	ck on Change	TMA Gain		
		Select	TMA		— Clio	ck on Change	TMA Gain		
Devices		Select	TMA		_ Clic	ck on Change Display	TMA Gain AISG Bus Bus Powe	Ŧ	
Devices Change TMA			TMA	MAGain			AISG Bus Bus Powe	a Suspend	

Figure 23-6. ATC300 Controller's Main Interface Screen – TMA View.

2. To change the gain on a variable gain TMA, enter the desired value of gain in the New Gain field, and click on Set Gain. In Figure 23-7, current gain was 6 dB, and a new gain of 8 dB is being set. Note that for a fixed gain TMA, the Set Gain button is not available. Also this screen displays a list of TMA subunits that has the same frequency bands (TMA Rx and TMA Tx) as that of the current subunit. By selecting the checkbox "Change gain on other subunits with the same frequencies," the listed sub units will also be set to the New Gain value when Set Gain is clicked. If this checkbox is not selected the New Gain value is sent only to the current subunit.

Home	Configuration	Alarms	Help	
			TMA Device A	N0000a000K1114240a.1 Operation
TMA T	vpe: 1			Max Gain: 13.00
TMA Rx Ba	and: 777.5	787.0		Min Gain: 4.00
TMA Tx Ba	and: 746.0	756.0		Gain Resolution: 1.000
	Set Gain ✓ Change gain	on other subunits	with the same fre	These fields are read
	AN0000a000K1	114240a.2 (Gain:5	0)	List of Subunits that matches the frequency bands (Rx/Tx).
	Current Gair	i: 6.0		New Gain 8 Set Gain
	E	nter New Gair	n value	Click on Set Gain
Command Resp	onse:			

Figure 23-7. Changing the gain on a variable gain TMA.

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3. After the TMA has changed its gain, the new gain value is displayed in the **Current Gain** field (Figure 23-8). Also note that the Gain of the TMA subunit displayed in the list under the checkbox "Change gain on other subunits with the same frequencies" is also changed to the New Gain value as shown in Figure 23-8.

Home Co	onfiguration	Alarms	Help		A CommScope Company
			TMA Device A	N0000a000K1114240a.1 Operation	
TMA Type:	1			Max Gain:	13.00
TMA Rx Band:	777.5	787.0		Min Gain:	4.00
TMA Tx Band:	746.0	756.0		Gain Resolution:	1.000
MA Gain has	Current Gair changed.			also changed. New Gain: 8.0 Set Gain	
Command Response	e:				
AN0000a000K1	114240a Set TM	A Gain OK			

Figure 23-8. TMA Gain has successfully been changed.

4. Go back to the Home page and click on **Show TMAs**. The new gain value will be reflected for the TMA subunits in the Device Information list. (Figure 23-9)

			TI	IA Device Information		
D	Type AIS		Sector	Base Station ID	Bands	Mode Gain
AN0000a000K1114240a.1	TMA 2.0	OK	SEC1		787.0; Tx Band: 746.0 - 756.0	
AN0000a000K1114240a.2	TMA 2.0	OK	SEC1	Rx Band: 777.5 - 78	37.0; Tx Band: 746.0 - 756.0	normal 8.
				changed.		
				changed.		
Devices				Display AISG		The set
Devices Change TMA Mode		e TMA Gain Statistics		Display AISG	Bus Po Find Devices	ower Suspend Wake

Figure 23-9. TMA Gain has successfully been changed – Main Device Screen.

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23.5 Changing TMA Operating Mode

1. To change a TMA's operating mode, select the TMA from the TMA device information list on the controller's main screen, as shown in Figure 23-10. Then click on **Change TMA Mode** to enter the TMA Device Operation screen (Figure 23-11). Notice that the ID for the device that was selected from the main screen appears in the title bar of the Device Operation screen.

				T	MA Device Inform	ation			
10		AISG	-		Base Station ID	Bands			
AN0000a000K1114240a.1		and the second se	ок	SEC1		Rx Band: 777.5 - 787.0; Tx Band: 746.0	and the second se	normal	1
AN0000a000K1114240a.2	TMA	2.0	OK	SEC1		Rx Band: 777.5 - 787.0; Tx Band: 746.0 -	756.0	normal	
	Select Click or		nge T	MA Mo	ode				
			nge T	MA Mo	ode				
rvices C	lick or	n Cha			Display	1100 Dus	Bus Power		
	lick or	n Cha	nge T		_	1100 Dus		spend	

Figure 23-10. ATC300 Controller's Main Interface Screen - TMA View.

2. Select the desired operating mode from the mode dropdown list, as shown in Figure 23-11. The operating mode options are **Amplifier On** or **Amplifier Bypassed**. Then click on **Set Bypass Mode**.

Home Configuration	Alarms Help	
	TMA Device AN0000a000H	K1114240a.1 Operation
TMA Type: 1		Max Gain: 13.00
TMA Rx Band: 777.5	787.0	Min Gain: 4.00
TMA Tx Band: 746.0	756.0	Gain Resolution: 1.000
Select new operat	ing mode.	
nmand Response:		

Figure 23-11. Changing the operating mode on a TMA.



3. After the TMA has changed its operating mode, the new mode is displayed in the mode field. (Figure 23-12).

		TMA Device AN00	00a000K1114240a.1 Operation
TMA Type:	1		Max Gain: 13.00
TMA Rx Band	777.5	787.0	Min Gain: 4.00
TMA Tx Band:	746.0	756.0	Gain Resolution: 1.000
	Set Bypass Mode:	Amplifier Bypassed 💙	Set Bypass Mode
			Close
mand Response:			

Figure 23-12. TMA Operating Mode has successfully been changed.

4. Go back to the Home page and click on **Show TMAs**. The new operating mode will be reflected for the TMA in the Device Information list.(Figure 23-13) Also note that when a TMA is in Bypass Mode, its gain value is zero.

					MA Device Information		
10	and the second data in the secon	AISG			Base Station ID	Bands	Mode Ga
AN0000a000K1114240a.1 AN0000a000K1114240a.2	TMA TMA		OK OK	SEC1 SEC1		d: 777.5 - 787.0; Tx Band: 74 1 777.5 - 787.0; Tx Band: 746.0	
						g Mode has changed FMA Gain value is ze	
Devices					In Bypass Mode, T	ſMA Gain value is ze	ero
Devices Change TMA Mode	C	hange TI	MA Gain			-	

Figure 23-13. TMA Operating Mode has successfully been changed – Main Device Screen.



Part 9 Helpful Information

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Appendix A Disabling and Enabling the Windows[®] XP SP2 Firewall

A.0 Appendix Overview

- A firewall may block the use of an FTP server, which is needed for transferring firmware (software) files to the ATC300/200 controller.
- The procedures discussed in this appendix only applies for the Windows[®] XP SP2 firewall. For any third-party firewall, please consult the manual or on-disk reference document supplied by the vendor.

Note: Other IP connections, like an air card, must also be disabled.

A.1 Opening the Security Center

- 1. Go to the Control Panel (Start, Settings, Control Panel).
- 2. Double-click on the Security Center icon or link.
- 3. Click on **Windows Firewall** (Figure A-1).



Figure A-1. Selecting Windows Firewall From The Security Center.

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4. Select **Off** and click on **OK** to disable the firewall. (Note to re-enable the firewall, select **On** and click on **OK**.) See Figure A-2.

Corporate users with broad-based computing policy enforcement, may need to consult with the company's computer support organization for assistance with disabling the firewall.

Wind	ows Firewall
General	Exceptions Advanced
	vs Firewall helps protect your computer by preventing unauthorized users ining access to your computer through the Internet or a network.
٢	n [recommended]
	This setting blocks all outside sources from connecting to this computer, with the exception of those selected on the Exceptions tab.
	Don't allow exceptions
	Select this when you connect to public networks in less secure locations, such as airports. You will not be notified when Windows Firewall blocks programs. Selections on the Exceptions (ab will be ignored.
8	() Off (not recommended)
	Avoid using this setting. Turning off Windows Firewall may make this computer more vulnerable to viruses and intruders.
Window	vs Firewall is using your domain settings.
What e	Ise should I know about Windows Firewall?
	OK Cancel

Figure A-2. Disabling the Windows® Firewall.

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Appendix B IP Addressing

B.0 Appendix Overview

- In order for the ATC300/200 controller to communicate with a local computer or network, their IP addresses must be compatible.
- Connection to the controller is made by typing the controller's static IP address or hostname into an Internet browser's URL address window. The hostname may be used when the controller is configured for DHCP, and is on a network providing a DCHP server. See Figure B-1.
- Paragraph B.2 explains the procedure to follow when using Windows Vista.

🖉 ATC300 Controller - Windows Internet Explorer	
C http://192.168.255.141/	- A Streater Kitt
AIC3JU Lorbokr	👘 r 🔝 👘 r 📴 Peyer r 🎱 Tulls r 👰 r 🕌
1. Type controller's IP address or hostname	2. Click on Go (or press
into Internet browser URL window.	Enter on the keyboard).

Figure B-1. Entering Controller's IP Address Into Internet Browser.

B.1 IP Settings

- IP settings consist of the IP address, Netmask (Subnet Mask), and Default Router.
- The **IP Address** is a string of numbers separated into four fields by decimal points. The ATC300-1000/2000 controller's factory default IP address is:

```
192.168.255.141 (Ethernet Connection)
```

The Netmask defines which fields in the IP Address are required to match exactly for connection to be made to the controller. Fields requiring an exact match are identified in the Netmask using the value '255', and fields that allow a range of numbers are identified in the Netmask using the value '0'. The ATC300-1000/2000 controller's default Netmask is: 255.255.0.0 as shown



Figure B-2. Example of Compatible IP Address Settings.

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in Figure B-2.

Notes:

- Generally, the IP address is temporarily changed on the computer to be compatible with the controller for initial setup. The IP settings are then changed on the controller to match the network it will be accessed/operated through. See Sections 3 and 4 for changing the IP settings on the local computer, and Section 7 for changing the IP settings on the controller.
- The **Default Router** is another IP setting, which provides a gateway for the controller to operate over a network. The **Default Router** setting can be disregarded if the controller will not be using a network. Contact the network administrator for assistance in changing the IP settings for

B.2 Setting An IP Address Using Windows Vista

The following procedure will show you how to change your IP Address if operating a Windows Vista computer, so you can network with the ATC200/300 controller.

This procedure will only work on controllers that are still set up with the default IP Address 192.168.255.141; Subnet Mask 255.255.255.0. If your default address has been changed, consult your operations manual for procedure to reset the default IP address.

1. From your desktop you are going to select Start \rightarrow Control Panel (Figure B-3).



Figure B-3. Selecting Control Panel.

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2. Click on Network and Sharing Center (Figure B-4).

Figure B-4. Selecting Network and Sharing Center.

3. Select Manage Network Connections link (Figure B-5).

Tasks	 Network and Sharing Center 	+ ++ Search	
View computers and devices	Network and Sharing	g Center	
Connect to a network			View full ma
Set up a connection or netwo	rk 1	J.	
Manage network connections	ARTGBEAVER	VISTA andrew.com	Internet
Diagnose and repair	(This comp		Internet
	andrew.com (Domain	network)	Customia
	Access	Local and Internet	
	Connection	Local Area Connection	View state
	3 Sharing and Discover	y	
	Network discovery	e On	6
	File sharing	• On	0.00.00
	Public folder sharing	© Off	6
	Printer sharing	© Off	6
	Media sharing	© Off	6
See also	Show me all the files and fo	olders I am shaonn	
Internet Options		twork folders on this computer	

Figure B-5. Selecting Manage Network Connections.



4. Click on **Local Area Connection** (Figure B-6). This may appear differently on your computer. Ensure that you are using the connection that represents your RJ-45 port on the back of your computer.

🕖 🚽 🖡 🖡 Control Panel 🕯	Network Connections		🗢 🕂 Search		2
👌 Organize 👻 🏢 Views 💌	🔀 Disable this network device 🛛 🖻 Diagnose this connectio	n - 💷 Rename this connection	$\vec{\mathbf{C}}$. View status of this connection	D	Q
Name	Status	Device Name	Connectivity	Network Category	r
Incoming (1)					
Incoming Connections	No clients connected				
LAN or High-Speed Internet (1)					-
Local Area Connection	andrew.com	Broadcom NetXtreme 57xx Giga	Access to Local and Internet	Domain network	
					1
1	m				

Figure B-6. Selecting Local Area Connection.

- 5. Your Local Area Connection Status window will open. Select Properties (Figure B-7).
- 6. Double click Internet Protocol Version 4 (TCP/IPv4). See Figure B-8.



Figure B-7. Local Area Connection Status.

Connect using:		
Broadcom	NetXtreme 57xx Gigabit Co	ontroller
This connection	uses the following items:	Configure
QoS Pa	or Microsoft Networks acket Scheduler 5 Printer Sharing for Microso t Protocol Version 6 (TCP/I)	
	t Protocol Version 4 (TCP/IF	
and the second second	iyer Topology Discovery Ma iyer Topology Discovery Re	
Install.	Uninstall	Properties
Description	and the second second second second	s on a Microsoft
and the second sec	omputer to access resource	

Figure B-8. Local Area Connection Properties.



- 7. Most computers are setup to use DHCP with their Home/Work Networks. If this is the case, the Obtain an IP address automatically radio button will be selected. If you have a static IP address, the Use the following IP address radio button will be used (Figure B-9). Ensure that you record your current settings, so when you have completed your work with the ATC200/300, you can reset your system for Home or Office networking (Figure B-9).
- 8. Select Use the following IP address radio button (Figure B-10).
- 9. Type the IP Address 192.168.255.140 and Subnet Mask 255.255.255.0 (Figure B-10).
- 10. Select OK.



Figure B-9. Setting Needed To Restore The Computer To Its Original IP Identity.

Figure B-10. Enter New IP Address And Subnet Mask.

- 11. Select OK (Figure B-11).
- 12. Select Close (Figure B-12). You can now close any additional windows.

tworking		
onnect using:		
Broadcom Net	Areme 57xx Gigabit C	ontroller
his connection uses	the following tems:	Configure
Clent for Mo	rosoft Networks	
QoS Packet	Scheduler	
	ter Sharing for Microsof	
and the second second	ocol Version 6 (TCP/I	C/ 14
and the second se	ocol Version 4 (TCP/I	and the second sec
	opology Discovery Ma opology Discovery Re	
Erik-Layer 10	obology Discovery He	isponder
hstell.	Uninstall	Properties
Description	10000	
	ter to access resource	es on a Microsoft
network.		
		OK Can

Figure B-11. Local Area Connection Properties.

and the second		
Connection	1973	and a
IPv4 Connectiv	ity:	Internet
IPv6 Connectiv	ity:	Limited
Media State:		Enabled
Duration:		00;25:06
Speed:		100.0 Mbps
Detais	1	
	Sent —	- Received
activity —		7
	Sent —	Received 13,275

Figure B-12. Local Area Connection Status.

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B-5

13. From your desk top, open Internet Explorer.

14. To open the ATC300/200 main interface screen, type http://192.168.255.141/ in Explorer's address bar.



Figure B-13. Internet Explorer Desktop Icon.

15. Once you completed controller operations, follow the previous steps to reset your computer to its original configuration.

G+	tp://192.168.255,			okmarks 🕶 🔯 6 blo	icked 🍜 Check 🗸 🔦 Auto	Link 👻 🖂 Acto	Fill 🔒 Send	to• 5		Geogra	-	0
	300 Controller									☆・◎・	i → 🕞 Pa	ige • ()
e (Configuratio	n A	larms	Help							AN	DRE
				iddress ir		2. Clic	k on G	60 (or p	oress —			
	Interne	t brows	ser URL	_ window		Ente	er on f	the key	vboard).			
					AISG bus power is cur	rently suspende	d					
					RET Device In							
Type	AISG	Status	Sector	Location	Base Station ID	Bauds	ETilf	MTilt	Az Bearing	RAS	RAB	Mod
s Move Se	ector]		Move Salect		Display Updaes/R66	esh -	AISG B	us Find Devic	es	Bus Power	Suspend	
			Mova Salect Show Statist				AISG B			Bus Power	Suspeod Wake	
Move Se Edil Sele		ł			Updae/Ref		AISG B	Find Devic		Bus Power		
Move Se Edil Sele	ected 2				Updae/Ref		AISG B	Find Devic		Bus Power		
Move Se Edil Sele	ected 2				Updae/Ref		AISG B	Find Devic		Bus Power		
Move Se Edijî Sele	ected 2	ł			Updae/Ref		AISG B	Find Devic		Bus Power		
Move Se Edit Sele	ected 2	-			Updae/Ref		AISG B	Find Devic		Bus Power		
Move Se Edit Sele	ected 2				Updae/Ref		AISG B	Find Devic		Bus Power		
Move Se Edijî Sele	ected 2				Updae/Ref		AISG B	Find Devic		Bus Power		

Figure B-14. ATC300-1000/2000 Controller Main Interface Screen.

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Appendix C Uploading the Firmware Manually

C.0 Section Overview

- The screens shown in this section are examples from a Windows[®] XP PC that have been configured to display the 'Classic' interface and is using Internet Explorer. Screens may differ with other versions of Windows[®].
- Netscape and Mozilla web browsers are not supported by the ATC300/ATC200.
- ATC300 version 2.34 (and later) does not require an FTP (file transfer protocol) server to upload files to the controller or to an AISG device connected to the controller.
- ATC200 controllers and ATC300 with software version 2.32 and earlier require an FTP server to upload the firmware files (including the latest antenna definition file) to the controller and AISG devices.
- The IP Config Tool can be used as the FTP server. (If the PC and controller are already connected, it is not necessary to use the New IP Info tab. Directly choose the FTP Server tab in the IP Config Tool window). See Section 9.3. Another FTP application may be used as long as it provides the same functionality. CommScope cannot guarantee the functionality of an FTP server application.
- The Windows[®] XP Service Pack 2 firewall has been found to sometimes interfere with the FTP Server application (see Appendix A for instructions on disabling/enabling this firewall).
- Periodically, updates are made to the antenna definition file to add data for new antenna models and to maintain the latest data available for existing antennas compatible for the controller system. ATC300 firmware release 2.21_A and ATC200 firmware release 464A8_A introduces "bundled" firmware. These updates are made automatically when the operator installs new controller firmware, because antenna definition file releases are bundled with controller firmware.
- After software upgrades are complete, operations may slightly vary from what is described in this document.

Warning: The ATC300-2000 controller unit requires software release 2.36 or later.

Conversely, however, software release 2.36 and later can be installed on ATC300-1000 controller units. All new features and/or bug fixes provided with the controller software will be available on the ATC300-1000 with the exception of modem port isolation, which is not supported on the ATC300-1000 hardware.

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C.1 Required Resources

Hardware

- 1. ATC300-1000/2000 or ATC200-1000 controller w/power cord
- 2. Ethernet cable (or LAN connectivity between the controller and FTP Server PC)
- 3. One or more AISG-compliant ALDs connected to the controller using AISG-compliant RET cabling

Software

- 1. FTP application (not required for ATC300 2.34 and later)
- 2. ATC300 controller firmware (to be uploaded into the controller): (atc300_*.tar or ATC200 controller firmware (RET-AN-AT_*.ascu)
- 3. Appropriate device firmware (to be uploaded into the AISG devices)
- 4. Antenna definition files (RET-XX-AT_*.ascu)

Asterisk (*) represents the version number. Use the file with the highest number preceding the file extension for each type file to ensure the latest version data is uploaded.

C.2 Installing, Configuring, and Running the FTP Server (not needed for ATC300 2.34 and later)

Note that the following instructions apply only to the ArGoSoft FTP Server.

- 1. Create a directory named **ATC200** on the PC's hard drive. Place the FTP software zip file (fssetup.zip) in the **ATC200** directory. The **fssetup.zip** file is available on the web at www.argosoft.com.
- 2. Double-click on **fssetup.zip** to unzip the FTP software files. Specify the **ATC200** directory for the destination to store the extracted files.

In some cases, installation may begin after double-clicking on the zip file. If this occurs, follow the prompts, accepting the suggested defaults, to complete the installation.

- 3. If installation did not begin automatically upon executing the zip file, double-click on the **setup.exe** file for the FTP software (stored in the **ATC200** directory). Follow the prompts, accepting the suggested defaults, to complete the installation.
- 4. If the defaults suggested during installation were accepted, an icon for the FTP server should be on your desktop. Double-click on the ArGoSoft FTP Server icon
- 5. Go to Tools\Users to open the User Setup configuration dialog box.
- 6. Click on the Add New User icon in the dialog's tool bar (the far left icon).

- Create a new user named anonymous. Enable the Apply IP Rules and activate the Read and List rights, deactivating all other settings as shown in Figure C-1.
- 8. Click on the **Home Directory** browse ellipses to navigate to the **ATC200** directory (Figure C-1).
- Click on OK (Figure C-1). You should now see an icon for the new user in the User Setup dialog box display area.
- 10. Click on Close.



Figure C-1. Add New User Dialog Settings for FTP Server.

- Go to File → Start (or double-click on the FTP Server icon from the desktop) to launch the FTP server. A line of text with the current time and date stating FTP Server started should be displayed (Figure C-2).
- 12. Minimize the dialog box (*do not close/exit!*). The FTP server is now ready to transfer files to an ATC200-1000 or ATC300-1000/2000 controller.

Note that if the ArGoSoft software is unregistered, the FTP server session will disconnect in 120 minutes. You can correct this by re-enabling it manually or shutting it down and restarting it.



Figure C-2. FTP Server Activated.



C.3 Uploading the Firmware Bundle to the Controller

1. Download the controller firmware bundle from the CommScope web site (www.commscope.com/ resources / software) Store the files in the root directory for the FTP Server. Note that if the files are zipped, double-click on the zip files to extract **the files into the FTP Server** root directory.

The file that may be uploaded to an ATC300-1000/2000 controller is:

System Firmware Build (atc300_*.tar)

The file that may be uploaded to an ATC200-1000 controller is:

• System Firmware Build (RET-AN-RT_*.ascu)

An asterisk (*) shown in sample firmware filenames represents the firmware version number. Text preceding the version number in the file name will always be consistent and is used to identify the file type. See paragraph C.4 to verify the version numbers for the currently installed controller firmware. It may be necessary to type the filenames in with exact upper and lower case lettering, as some FTP servers are sensitive to capitalization for file recognition.

- 2. Ensure that the controller is connected and configured to the same Ethernet network that the PC, running the FTP server, is on. If the PC running the FTP server is on a different network from the one that was used to configure the controller in Section 4, the controller's IP addressing will need to be temporarily re-configured for the FTP connection. Contact a network administrator for assistance, if needed. To test this connection, start your Internet browser on the PC that is running the FTP Server. Type the controller's Ethernet IP address (compatible with the network running the FTP Server) into the URL window. If the connection is successful, the controller's main screen will be displayed in the browser.
- 3. From the controller's main interface screen, go to **Configuration**→**Software Config.**
- 4. (ATC300 2.34 and later) Select **Install System File**, navigate to and select the file to upload to the controller. (Figure C-3)



Iome Configuration	Alarms Help Logout	A CommScope Compo
	Software Configuration	
rmware Update:		
	Install System File	
	Reboot	
	Field Installed Firmware Items	
	rieid installed rirmware items	
Item	Source	Time
Antenna db	Source RET-AN-AT_049_new_format.ascu	Tue Mar 27 14:07:16 UTC 2012
Antenna.db AntennaKA.db	Source RET-AN-AT_049_new_format.ascu RET-KA-AT_010.ascu	Tue Mar 27 14:07:16 UTC 2012 Tue Mar 27 14:08:15 UTC 2012
Antenna db	Source RET-AN-AT_049_new_format.ascu	Tue Mar 27 14:07:16 UTC 2012

Figure C-3 Software Configuration (ATC300 2.34 and later)

(ATC200 and ATC300 2.32 and earlier) In the Firmware URL window, type in the IP address IP address for the PC that is running the FTP Server (and holds the software files), followed by a forward slash and the name of the file that is to be uploaded. Leave the **User Name** and **Password** blank. The text typed into the **Firmware URL** edit box should look similar to the example shown in Figure C-4.

In Figure C-4, the IP address is 192.168.255.140 and the file to be uploaded is atc300_2.10.tar.

The firmware (software) URL address was entered as: 192.168.255.140/atc300_2.10.tar

Home Configuration	Alarma Help	ANDREW.
	— Click on Install System Firm	vare button.
der men er	Software Configu	ration
Userl	L ftp: 192.168.255.140/atc300_2.10.tar Name	Clear Stale Lock
	Field Installed Firms	
Item atc300_2.10.tar	Source 10.104.200.16 home hardware imp/atc300	2.10.tar Thu Apr 3.0937:45 UTC 2008
	Close	

Figure C-4. Entering PC's Network IP Address To Install Software.

Note that this IP address is specific for the PC running the FTP server and should not be confused with the controller's network configured IP address. Also, note that only the version numbers at the end of the filename will vary from release to release. The other characters in the filename, as well as the file extension, are used to identify the file type and will consistently stay the same.

To upload the file, click on **Install System Firmware** (Figure C-4). Feedback from a successful install should look similar to that shown in Figure C-5.

- 5. Click the link labeled Back to return to the Software Configuration screen (Figure C-5).
- Repeat Steps 4 and 5 to upload additional controller software/antenna definition files, or click on Reboot to activate a software package that was uploaded. Note that antenna definition files are recognized by the controller upon upload and do not require that the controller be rebooted.

Home Configuration	Alarms Help	ANDREY
Command Response:		
Transferring firmware from ftp Transferred 6154240 bytes in 1 Eirmware downloaded successful		
Downloaded firmware will be in	stalled at the next reboot	
Back — Click on Back	to return to the Software Conf	figuration Screen.

Figure C-5. Successful Software Install Response Screen.

www.commscope.com



C.4 Uploading Firmware to AISG Devices using the ATC300/200 Controller

The controller offers the capability to field upgrade AISG-compliant devices, including both CommScope and non-CommScope devices.

Prior to uploading the firmware to an AISG device, the controller must be connected to the RET cable running to the device on the tower and recognize the RET device through an earlier device scan. RET devices recognized by the controller will show in the **Device Information** window of the controller's main interface screen (Figure C-6). If a device search has not yet been performed, see Section 10 to do so before proceeding.

In addition, the correct firmware file must be obtained from the supplier and available for the device targeted for upgrading. It is the operator's responsibility to ensure the firmware is appropriate for the device type and model. Uploading incorrect firmware to a device could result in incapacitating the device permanently.

- 1. (For ATC200 and ATC300 version 2.32 and earlier) The FTP Server must be configured and running, and the device firmware files must be present in the FTP Server root directory.
- 2. From the controller's main interface screen, click on Show Statistics (Figure C-6).
- 3. Note the Product Type of the AISG devices in the database. Generally, a device firmware file will be appropriate for only one Product Type. Click on **Manual Upgrade** (Figure C-7).

1D Type AUSC Statu Series Location Base Station TD Heads ETH: All planting RAS RAS
Schoodood ART08020042t RET+ 1.1 OK beta (2) 1 ART363412 1960 2.0 2.3 120 SBP-3 AN000000ART08020042p AZANG- 1.1 OK beta (2) 1 ART363412 1960 120 SBP-3 AN000000ART08020042f AZEW- 1.1 OK beta (2) 1 ART363412 1900 120 .3 SBP-3 AN000000ART08020042f AZEW- 1.1 OK beta (2) 1 ART363412 1900 120 79 SBP-3 AN000000ART08020042f AZEW- 1.1 OK beta (2) 1 ART363412 1900 120 79 SBP-3 VUUL: E30
AN000000ART08020042f AZBW- 11 OK beta(2) 1 ART363412 1900 120 79 SBP-3 V1UL: 830- 10
VIUL: 830- 840
830-
NBtz

Figure C-6. Selecting Show Statistics.



				vice Statistics						
Device	Vendor	and the second	_	and the second				-	Update Req'd?	and the second division of the second divisio
AN000000ART0\$020042	AN	000000ART080200421	RET-	SACM	1.1	01.00	1.7.3	_	No	OK
AN0000DESA080303396	AN	0000DESA080303396	RET	ATMJ	2.0	00.10	2.0.20	\$.5	No	OK
AN0000DESA083254698	AN	0000DESA083254698	RET	ATM	2.0	01.00	2.0.20	10.0	No	OK
AN0000DESA073413329	AN	0000DESA073413329	RET	ATM	2.0	01.00	2.0.20	0.0	No	OK.
AN08ARTLAB012345007	AN	08ARTLAB012345007:11	MRET	AIAM	2.0	01.00	1.0.1		Ne	OK.
		Acto I	loginde	Manual	Liograde		_Click on Upgrade		nual	

Figure C-7. Manually Upgrading AISG-Compliant Devices.

- 4. Click on the check box(es) at the far right to select one or more devices for a sof tware upload. As noted in Step 2, the Product Type should be the same for all selected devices, and should be the targeted Product Type for the device firmware file. Note that uploads are performed in succession to each selected device. If several devices are selected, the entire upload process can be time-consuming. (Figure C-8a).
- 5. (For ATC200 and ATC300 version 2.32 and earlier) In the Firmware URL:ftp// field, type in the IP address of the PC that is running the FTP server (and holds the device firmware files), followed by a forward slash and the name of the file that is to be uploaded to the selected devices. If needed, enter a User Name and Password for the FTP server. Finally, click on Install Remote Firmware (Figure C-8a).



		Device Upgrade Info	rmation		
Device	Vendor	Serial Number	SW Version	Type	Select All
N000000C2061201316	AN	000000C2061201316	906.79	RET	12
N000000C2072501791	AN	000000C2072501791	89a.76	RET	R
N000007DESA0228564	AN	000007DESA0228564	1.6.77	SMARTBEAM	E
N000007DESA0324568	AN	000007DESA0324568	1.6.77	SMARTBEAM	D
N0000DESA073917944	AN	0000DESA073917944	2.0.15	RET	Г
					-
N0000DESA073917953	AN	0000DESA073917953	20.15	RET	[C
N0000DESA073917953 Firmware URL: fip:// User Name: Pasoword.		0000DESA073917953	20.15	RET	<u>_[c</u>

Figure C-8a. Manual Firmware Upload to Selected AISG devices (ATC200, ATC300 2.32 & earlier)

(For ATC300 version 2.34 and later) Click on **Select Device File**, navigate to the firmware file to be uploaded to the selected devices, select and click **Open**. The file will be uploaded to the controller, and then immediately to the selected devices. See Figure C-8b.

		Device Upgrad	e Information			
Device	Vendor	Serial Number	SW Version	Туре	Product Type	Unselect All
AN0000DESA074828823	AN	0000DESA074828823	2.0.20	RET	ATM3	
AN0000DESA073212347	AN	0000DESA073212347	2.0.20	RET	ATM3	

Figure C-8b. Manual Firmware Upload to Selected AISG devices (ATC300 2.34 & later)



C.5 Verifying ATC300/200 Firmware Versions

To view the controller's current firmware version, go to $Help \rightarrow About$ from the top menu bar on the controller's main interface screen.

C.6 Verifying AISG Device Firmware Versions

To view the current AISG device firmware versions, click on **Show Statistics** from the controller's main interface screen. The device firmware versions are shown under the **SW Version** column.

For CommScope ATM200 devices coded with an 'ATC_' **Product Type**, the characters shown before the decimal point represent the version for the application file (RET-AN-ET_A*.BIN) and the characters that follow the decimal point represent the version for the BIOS file (RET-AN-ET_B*.BIN).

Note that if you see an alarm stating, **NO APPLICATION**, re-apply the application firmware update.

IMPORTANT : If both the BIOS and Application firmware must be manually upgraded on an CommScope ATM200 device with a Product Type of "ATC_", always perform the BIOS firmware upload FIRST before performing the Application firmware upload. If you update the BIOS, you must re-install the application. Ensure you have the correct files before proceeding.

			D	wire Statistics					Constantino	
Device	Vendor	the second se	-	Product Type	AISG	HW Version		-	Update Req'd?	Statu
AN000000ART08020042	AN	000000ART08020042.t	RET-	SACM	1.1	01.00	173	2.0 2	No	OK
AN0000DESA080303396	AN	0000DESA080303396	RET	ATM3	2.0	01.00	2.0.20	8.5 2	No	OK.
AN0000DESA083254698	AN	0000DESA083254698	RET	ATM3	2.0	01.00	2.0.20	10.0 2	Ňo	OK
AN0000DESA073413329	AN	0000DESA073413329	RET	ATM3	2.0	01.00	2.0.20	0.0	No	OK.
AN08ARTLAB012345007	AN	08ARTLAB012345007.11	MRET	AIAM	2.0	01.00	1.0.1	2.6 0	No	OK
					duct ⁻ umn	Туре		SW Ve Colum	ersion nn	

Figure C-9. Firmware Version Example.



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Appendix D ATC300-1000/2000 Relay Alarms

D.0 Relay Alarm Definitions Table

Major alarms that may be reported by a device are detailed in Table 1, next page.

D.1 Relay Alarm Information

- 1. A major alarm relay can also be sent by the controller for the following conditions:
 - AISG_NO_REPLY Communication loss with one or more devices
 - POWER_STATUS Out of range current or voltage detected
 - INITIALIZATION_STATUS
 Occurs during controller startup
- 2. The controller may also send minor alarm relays for the following condition:
 - DOWNLOAD_STATUS This condition is not an error. It indicates that the controller firmware is being downloaded.



Meaning		AISG1.0/1.1	AISG 2.0
Actuator Detection Fail	Signals from the actuator are detected but are ab- normal or corrupted.	~	
Actuator Jam Permanent	Actuator cannot be moved.	~	
Actuator Jam Temporary	Actuator jam has been detected. No movement was temporarily detected in response to the normal stimulus.	V	
Motor Jam	Motor cannot move.		~
ActuatorJam	Actuator jam has been detected. No movement of the actuator, but movement of the motor was detected.		~
EEPROM Error	EEPROM error detected	~	
Flash Erase Error	Used in combination with software download. Indi- cates error when erasing flash memory.	~	
Not Calibrated	The device has not completed a calibration opera- tion, or calibration has been lost.	~	~
Not Scaled	No setup table has been stored in the device.	V	
Not Configured	Actuator configuration data is missing.		~
Other Hardware Error	Any hardware error which cannot be classified.	~	
Hardware Error	Any hardware error which cannot be classified. May not be reported as an alarm until the fault is likely to be persistent.		~
Other Software Error	Any software error which cannot be classified.	~	
Position Lost	RET controller is unable to return a correct position value. For example, there was a power failure while a Set Tilt command was being executed.	V	
RAM Error	An error was detected in reading data to/from RAM.	~	
UART Error	Hardware specific. This error may be sent after re- covery from a temporary error which has prevented the sending or receiving of data.	V	
TMA Alarm Minor	An event has taken place that effects the TMA per- formance, the TMA continues to function, and by- pass is not implemented. (The actual performance degradation criteria must be vendor specified.)	V	~
TMA Alarm Major	An event has taken place that renders TMA perfor- mance unacceptable. If bypass is fitted, the TMA will switch into bypass.	~	~
Bypass Mode	A TMA band is set to bypass mode.		~
Actuator Interference	An actuator movement outside the control of the RET unit has been detected. Probable cause is manual interference.		~

Table D-1. Relay Alarm Definitions.

D-2

CE

Appendix E Declaration of Compliance









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System Site Configuration Worksheet

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



System Site Configuration Worksheet

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