1. Introduction

The Site Control Unit (SCU) is a site controller for AISG devices installed at a cell site.

It is compatible with the AISG (Antenna Interface Standards Group) standard and can control up to (24) AISGv1.1 and/or AISGv2.0 devices, such as RET (Remote electrical tilt) and TMA (Tower-mounted amplifier), at a site.

The SCU provides a web interface for performing antenna tilt adjustment, TMA mode adjustment, and device monitoring from remote locations.

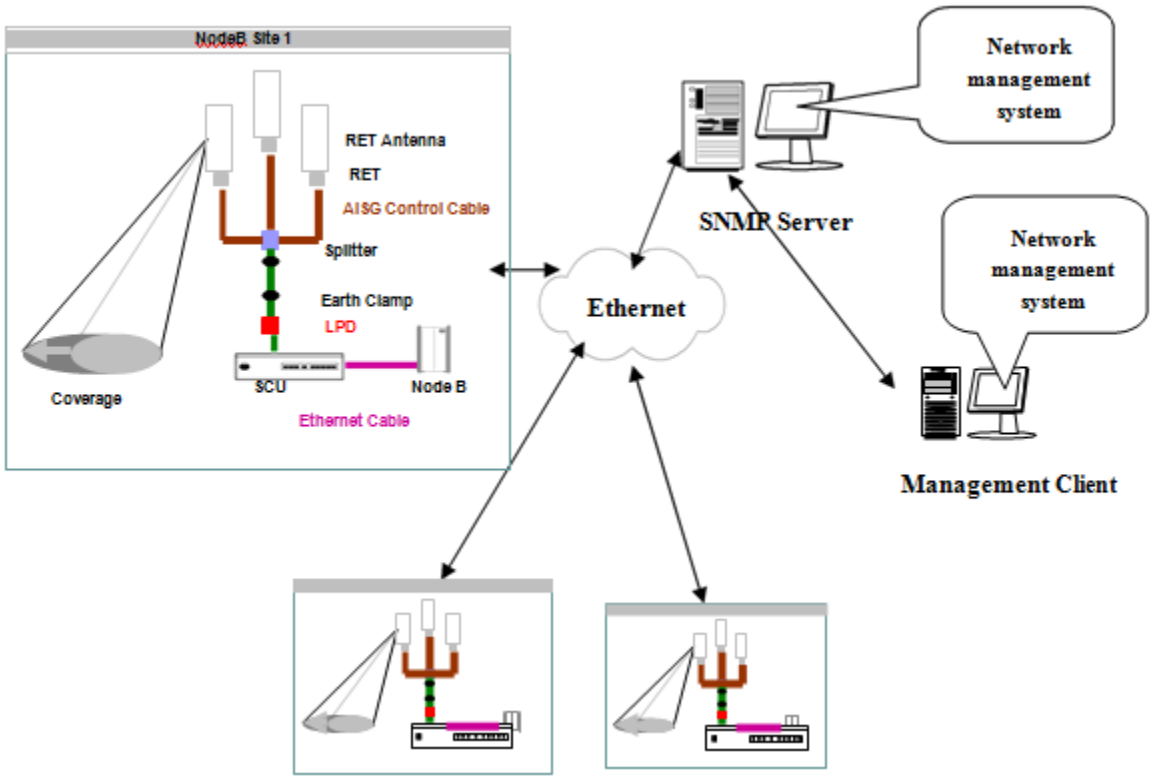
The SCU also permits local control using the LAN port of a laptop computer.

Product Functions

The major functions provided in the SCU system include:

- RET Antenna Adjustment – The major functions for remotely adjusting RET antennas are:
  - Antenna electrical down tilt adjustment
  - Antenna configuration and calibration
  - Maintenance of the antenna data
- TMA Adjustment – The major functions for remotely adjusting and managing TMAs are:
  - TMA gain setting
  - TMA mode setting
- Site Information Management – Information stored in the SCU to retain Non-AISG defined site information such as GPS coordinates, Street addresses, contact information, etc.
- System Setting – Used to configure the operating environment of the SCU system.
- Account Management – Used to manage and authorize user accounts of the SCU system.

Product Components



LPD: Lighting Protection Device

RET: Remote Electrical Tilt

Figure 1 Architecture

2. Installation

Hardware Specification

The front panel of the SCU system has:

- An AISG connector, an 8-pin AISG female port, used to connect the SCU to a network of AISG device through an AISG control cable.

  NOTE The number of AISG connectors populated on the front panel depends on the model number ordered:

  - SCU-001-xx = 1 AISG Connector on the front Panel
  - SCU-003-xx = 3 AISG Connectors on the front Panel

- A power port
- a reset button
- USB used for factory programming and not for direct control of the SCU.
- RS-232 used to connect a console to the SCU for direct management of SCU settings.
- Ethernet data connection ports
- LED status indicating lights used to indicate power and alarm conditions.

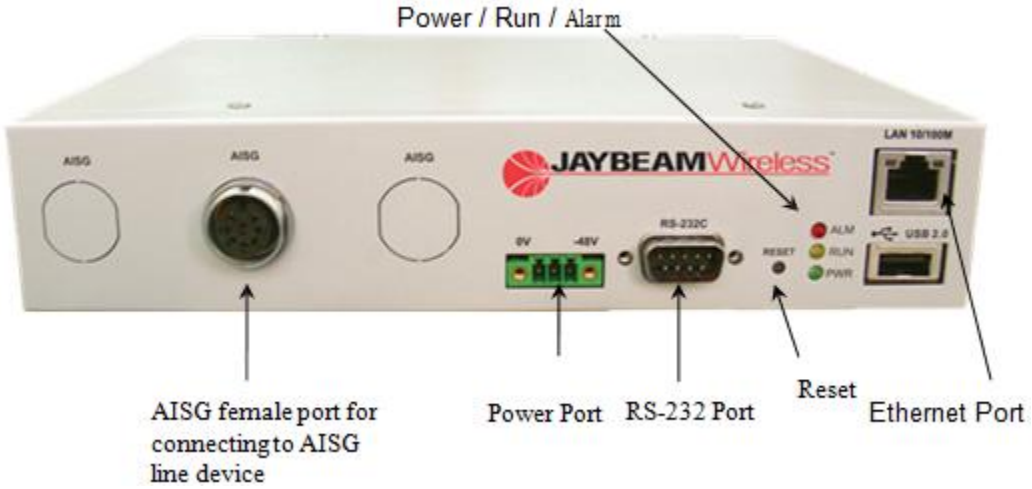


Figure 2 The SCU

Alarm Indicator: Will light up or blink to indicate an alarm condition. (Section 8)

Power Indicator: Will light up when the power is connected.

Run Indicator: Will blink when the system is running.

When the [Reset] button is pressed, the SCU system will be restarted.

Web-Based Client System Requirement

Required: IE 6.0 or above for accessing and managing the SCU system

Recommended: Screen resolution of 1024 x 768 or higher

Hardware Setup

1. Connect the Enternet port on the SCU to the LAN port of the PC using a cross-over cable
2. Connect -48V DC power to the power port on the SCU
3. Connect the AISG female port on the SCU to the AISG network control cable

NOTE for direct connection to the SCU through the console port, please refer to Section 7.

4. Change the TCP/IP settings on the PC by going to the “Start” menu and selecting:
   a. Settings
   b. Then Network Connections
   c. Then Local Area Connections

d. Then Properties

e. Then Internet Protocol [TCP/IP]

f. Then Properties

5. Select “Use the following IP address”

6. Enter the values shown in Figure 3

7. Select “OK” and the “Close”

8. Disconnect the cross-over cable from the SCU and attach the LAN cable from the Node B. After Set-up is completed and the new IP settings for the SCU have been assigned.

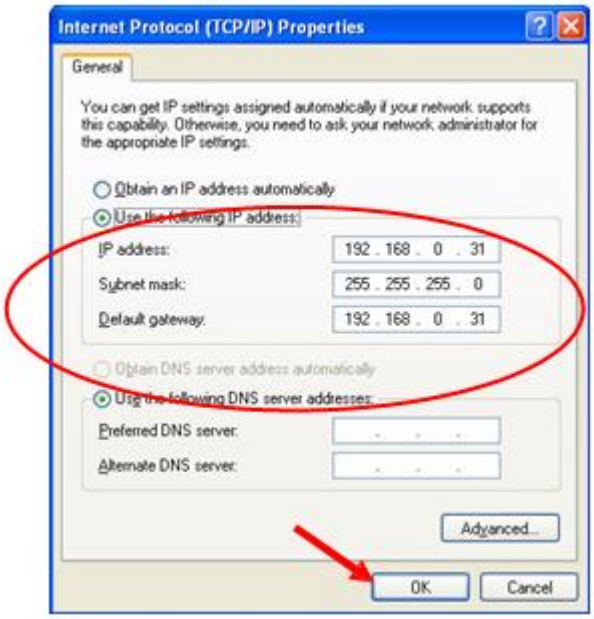


Figure 3

3. Login

1. Logon the SCU to access and manage the system.

2. Launch a web browser application such as Internet Explorer and go to http://192.168.0.30. The default IP address of the SCU as shipped from the factory is “192.168.0.30”. This can be changed after login. If your SCU has already been programmed with a different IP address, use this IP address to login to the SCU using http://xxx.xxx.xxx.xxx where “xxx.xxx.xxx.xxx” is the IP address of the SCU.

3. The screen (Figure 4) should appear.

4. If this screen does not appear,

   a. Verify that the SCU green LED is illuminated and that the yellow LED is flashing.

   b. Verify that you have the correct type LAN cable for your connection (cross-over cable required for direct connect from PC).

   c. If you are still not able to connect, refer to Section 7 for instructions to verify the IP address of the SCU through the console interface.

5. Login using the default login account. The default account has the full authority for access and management.

   a. User Name = “admin”

   b. Password = “admin”

NOTE It is recommended that you change the password of the default administration account after login, and create other accounts for general operations.

Figure 4

4. System Configuration

System Parameters Setting

The [System Setting] panel is used to set up system parameters for SCU operation.

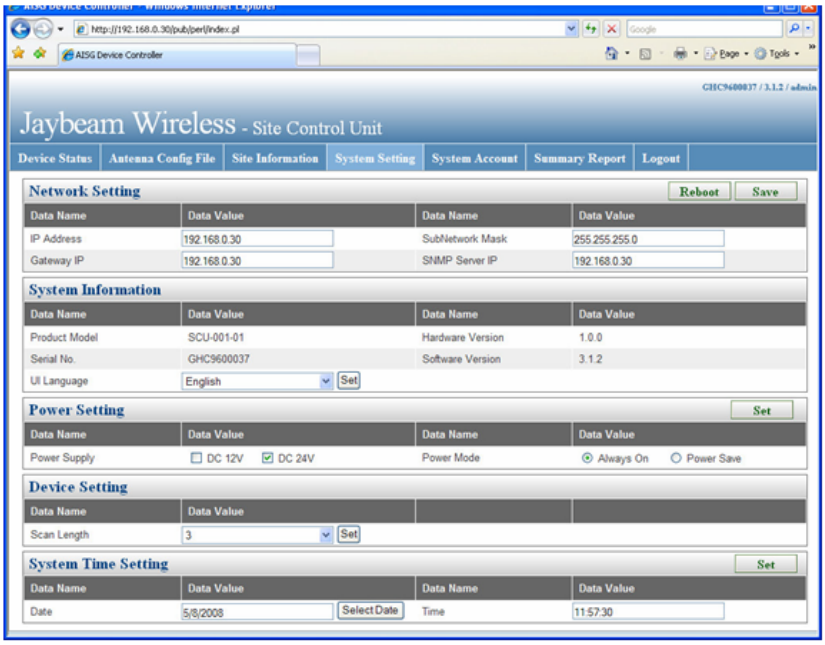


Figure 5

Network Setting

Network Setting is used to set the following for the SCU system for remote system management:

- The IP address
- Subnetwork mask setting
- Gateway IP
- SNMP server IP addresses

These network settings should be provided by your IT administrator.7

Changing the IP Address and Reboot

1. Change the default IP address for the SCU, 192.168.0.30, to the assigned IP address for operation in your network.
2. Click the [Save] button on the Network Setting and a confirmation window should appear, Figure 6.
3. Click the [OK] button to initiate the save process.

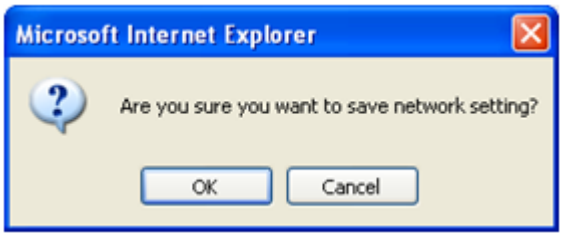


Figure 6

4. After the process is completed, click the [Close] button to close the process window, Figure 7.

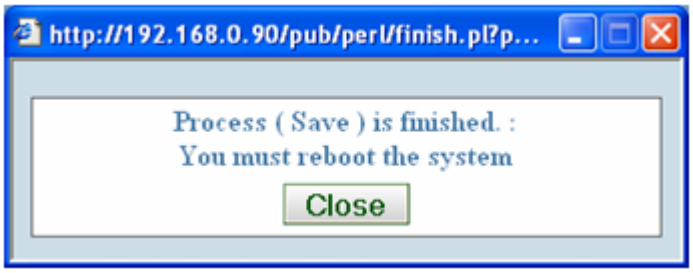


Figure 7

5. Reboot the SCU by clicking the [Reboot] button, in order for the new IP settings to take effect. A confirmation window, Figure 8, will appear.

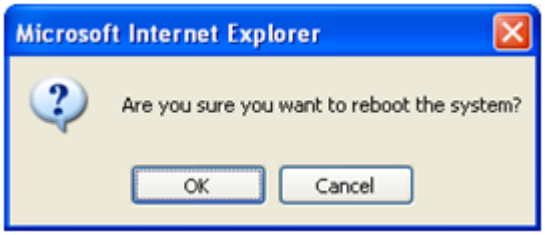


Figure 8

6. Click the [OK] button to initiate the reboot process, which will cause Figure 9 to appear.

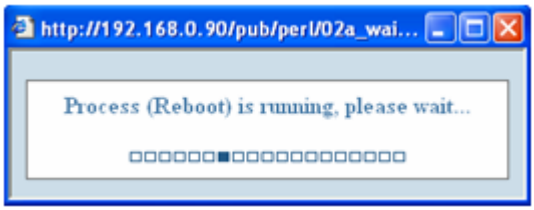


Figure 9

System Information

System Information shows the factory programmed model no., serial no., hardware version, and software version for the SCU system. It allows you to change the default user language setting for the SCU

Changing the User Language Setting

1. Select the preferred language
2. Click the [Set] button to apply the [UI Language] setting

Power Setting

Power setting is used to set the SCU power output voltage and to set the power supply mode used by the AISG devices connected to the bus.

Power Setting	Description/Constraint
Power Supply	DC 12V = 12VDC applied to PIN 1 of the AISG connector. DC 24V = 24VDC applied to PIN 6 of the AISG connector. The selected power is turned on if its checkbox is checked.
Power Mode	Always On = power will be continuously on
	Power Save = power will be applied to the AISG bus long enough to complete an operation, then it will turn off.

Changing the Power Setting

1. Click the [Set] button on the Power Setting to initiate the process to apply the [Power Supply] and [Power Mode] settings.

2. Click the [Close] button to close the process window, Figure 10, when the process is finished.

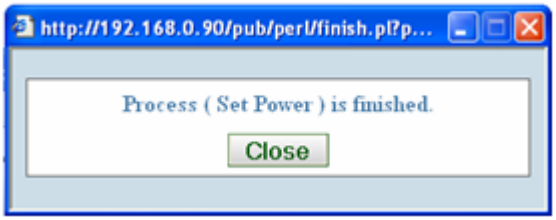


Figure 10

Scan Settings

The [Scan Length] value is used to set the number of digits in the device serial number (from the far right) that the scan routine looks at during a scan operation.

In order to reduce the scan time, the default setting is 3 digits.

If multiple devices have serial numbers with the same last 3 digits, the Scan Length will need to be increased.

NOTE Increasing the [Scan Length] value will increase the time required to complete a scan.

Changing the [Scan Length] Value

1. Click the [Set] button on the Device Setting to initiate the process
2. Click the [Close] button to close the process window when the process is finished.

System Time Setting

The System Time Setting function is used to set the system date and time. It is important to set the system date and time correctly as this information will appear on the Access Log report and the Site Summary report.

The time is 24-hour format.

Setting the System Time Setting

1. Click the [Set] button on the System Time Setting to initiate the process that applies the date and time to the system
2. Click the [Close] button to close the process window, Figure 11, when the process is finished.

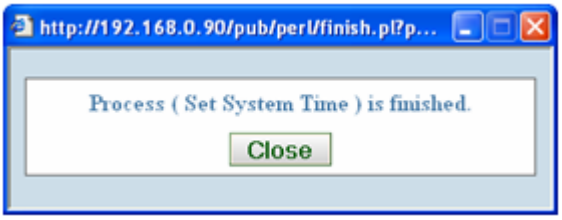


Figure 11

System Account Management

The [System Account] panel, Figure 12, is used to manage user accounts for accessing the SCU system.

The default account is:

User Name = “admin”

Password = “admin”

You **can** modify the Password and User Description for the admin account.

You **cannot** delete this account or change the Security Level.

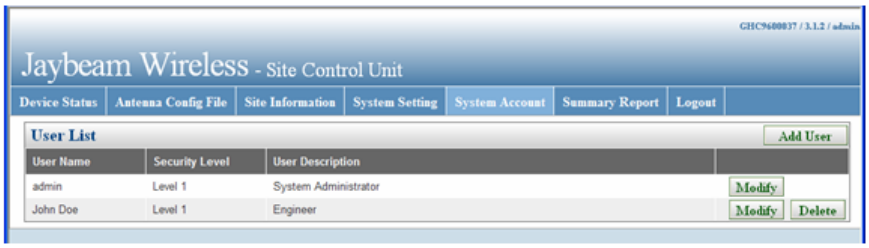


Figure 12

Add a User Account

1. Click the [Add User] button and a window, Figure 13, will appear.

Data Name	Description/Constraint
User Name	It has to be unique in the SCU system.
User Description	Description of the user
Password	Password of the user account
Verify Password	Must be same as the value input in [Password]
Security Level	Level 1: Has the full authority for accessing the SCU system Level 2: Authority to access [Device Status], [Site Information] and [Summary Report] panels only.

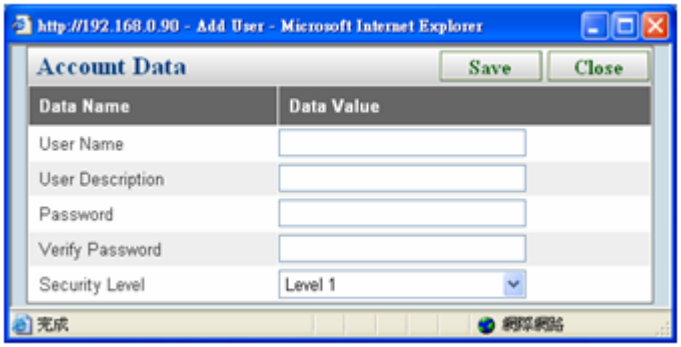


Figure 13

2. Click the [Save] button for creating a new account and a confirmation window, Figure 14, will appear.

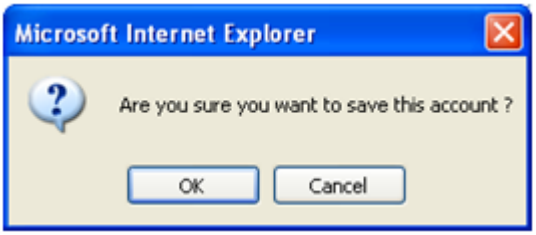


Figure 14

3. Click the [OK] button to create this account
4. Refresh the [System Account panel. If the account already exists, a warning window, Figure 15, will display.

Figure 15

Modify a User Account

1. Click the [Modify] button for an account and a window, Figure 16, will appear.

NOTE It is not required that you enter a new [Password] and [Verify Password] unless you want to change the password for that account.

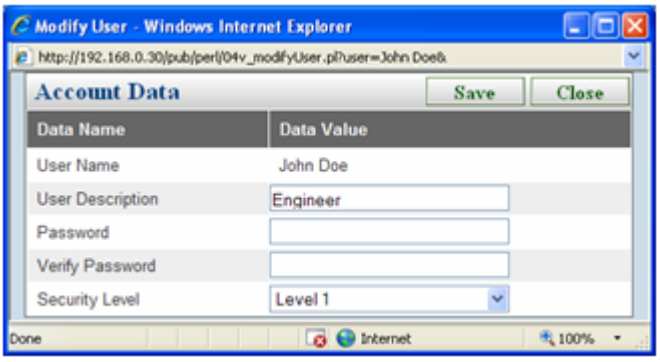


Figure 16

2. Click the [Save] button to store changes and a confirmation window, Figure 17, will appear.
3. Click the [OK] button to save the changes for this account and to refresh the [System Account] panel.

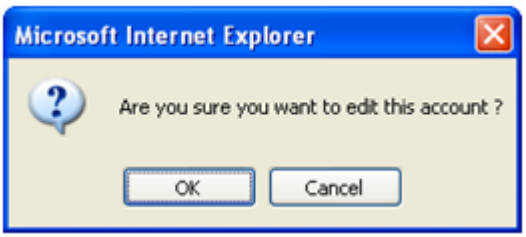


Figure 17

Delete a User Account

1. Click the [Delete] button for an account and a confirmation window, Figure 18, will appear.
2. Click the [OK] button to delete this account and to refresh the [System Account] panel.

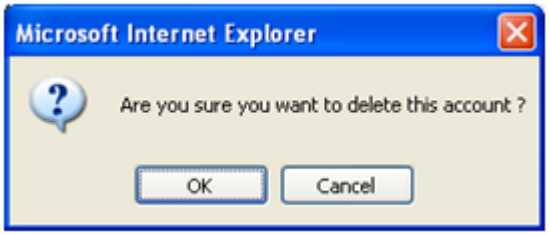


Figure 18

Using the SCU System

RET/TMA Device Status

All the RET and TMA devices at the base station site that can be controlled remotely are listed on the [Device Status] panel, Figure 19.

RET antenna down tilt and/or the TMA mode and TMA gain can be adjusted remotely through the [Detail] panel.

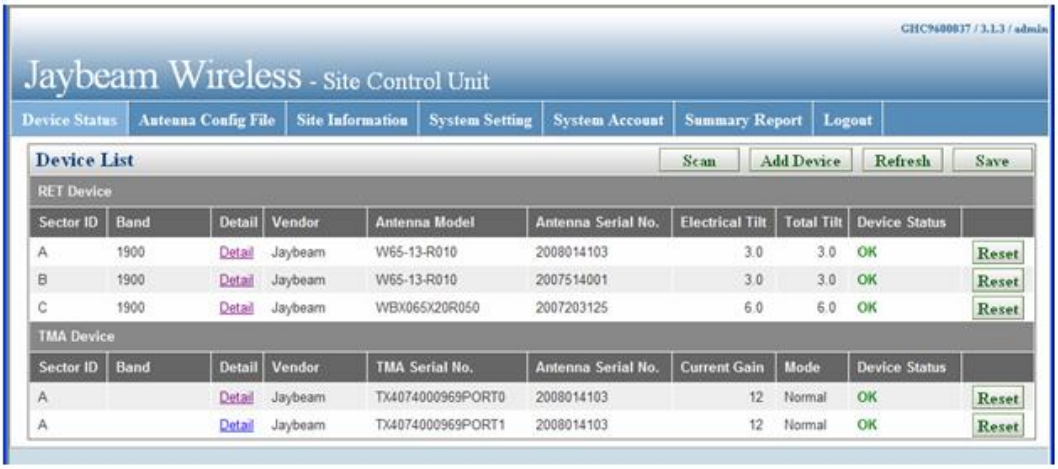


Figure 19

In the Device List, a device will be listed in the RET or TMA list according to its device type.

The important device information {refer to the tables to the right for explanation) for each device is retrieved from the device memory and stored in SCU memory for display.

Device information will be updated after any Scan, Refresh, Reset, and/or Add Device action.

RET Device

Column Name	Description/Constraint
Sector ID	Sector ID
Band	Current applied frequency band(s)
Detail	A link to antenna adjustment function
Vendor	Vendor name
Antenna Model	Antenna model name
Antenna Serial No.	Antenna serial no.
Electrical Tilt	Current electrical down tilt value
Total tilt	Sum of mechanical tilt and electrical tilt
Device Status	It can be “OK” or device alarm messages

TMA Device

Column Nam	Description/Constraint
Sector ID	Sector ID
Band	Current applied band(s)
Detail	A link to TMA adjustment function

Vendor	Vendor name
TMA Serial No.	Tower Mounted Ampliefier serial no.
Antenna Serial No.	Serial No. of the antenna in the same RF path as the TMA
Current Gain	Current gain value
Mode	TMA gain mode can be “Bypass” or “Normal”
Device Status	It can be “OK” or device alarm messages.

Scan

This function searches the AISG bus to discover all connected devices and displays them on the device list.

1. Click the [OK] button to initiate the scan process, shown in Figure 20. The [Device Status] panel will be updated when the process is finished.

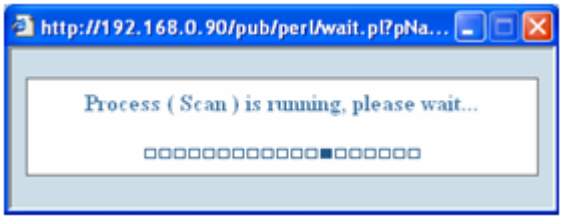


Figure 20

2. Click the [Close] button to close the process window, Figure 21.
3. Click the [Save] button before navigating to other panels, in order for the scanned information to be retained in the SCU memory.

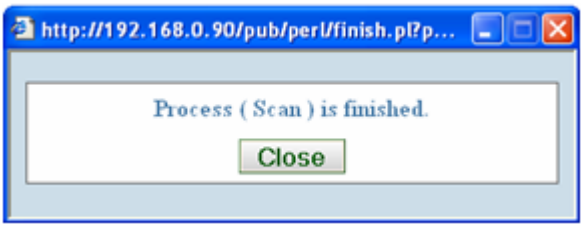


Figure 21

NOTE If you click [Detail] or another tab before saving, a confirmation window, Figure 22, will appear.

4. Click the [OK] button to save the device information

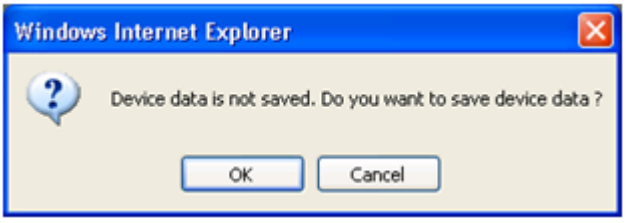


Figure 22

Troubleshooting for Scan

If any devices on are not discovered during a scan operation:

1. Select [Scan] again.
2. If the problem continues try adding the device manually, refer to the “Add a Device” section.
3. If the problem continues, check all AISG cable connections for breaks and check each individual device for proper operation.

Add a Device

The Add a Device function is to add a specific device into the SCU system if a device cannot be found through the scan process or if you would like to add it manually.

1. Click the [Add Device] button and an input window, Figure 23, appears.

NOTE Entering the [Vendor Code] is optional.

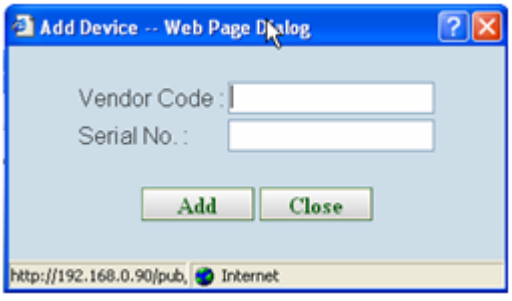


Figure 23

2. Click the [Add] button to initiate the process, which will cause Figure 24 to appear. The [Device Status] panel will be updated when the process is finished.

Figure 24

NOTE Amphenol Wireless devices are marked with the Unique ID as defined by the AISG specification. This Unique ID is a combination of the Vendor Code and Device Serial Number with Figure 25 as an example.

- Vendor Code = "JB")
- Serial Number = "/RETEH/080508/114" (The leading "/" is part of the serial number)

Figure 25

3. Click the [Close] button to close the process window, Figure 26.

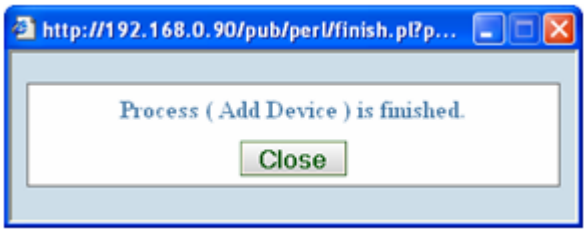


Figure 26

4. Click the [Save] button before navigating to other panels; otherwise the new device information will not be saved in the SCU system.

NOTE If clicking [Detail] or another tab before saving, a confirmation window will, Figure 27, appear.

5. Click the [OK] button to save the device information, then navigate to another panel.

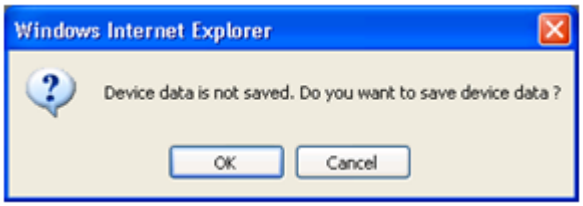


Figure 27

Refresh

This function retrieves the latest device information for devices shown on the device list.

Refresh does not scan the bus looking for new devices.

If new devices have been added, Scan or Add Device must be used to add those devices to the device list.

1. Click [Refresh] button to initiate the process, which will cause Figure 28 to appear. The [Device Status] panel is refreshed when the process is finished.
2. Click the [Close] button to close the process window.

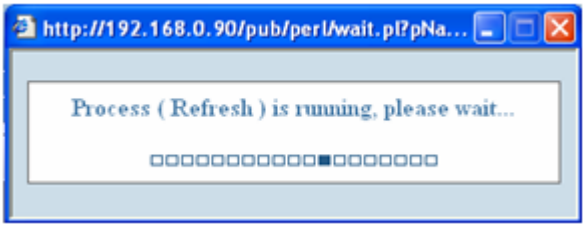


Figure 28

Save

The Save function saves updated device information in the SCU internal memory

1. Click the [Save] button to initiate the process, which will cause Figure 29 to appear.

Figure 29

2. Click the [Close] button after the process has finished to close the process window, Figure 30.

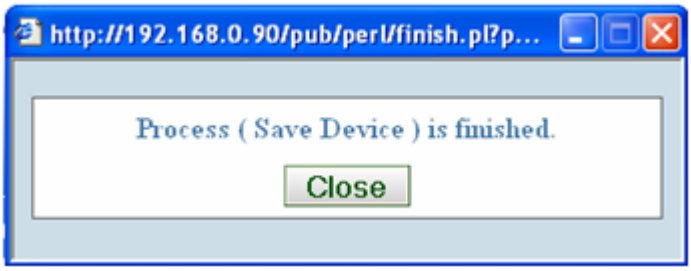


Figure 30

Reset

The Reset function will send a reset command to the device to return it to a stable operating state.

Reset will also retrieve the latest device information for that device.

1. Click the [Reset] button to initiate the reset process for the device, which will cause Figure 31 to appear.

Figure 31

2. Click the [Close] button after the process has finished to close the process window, Figure 32.

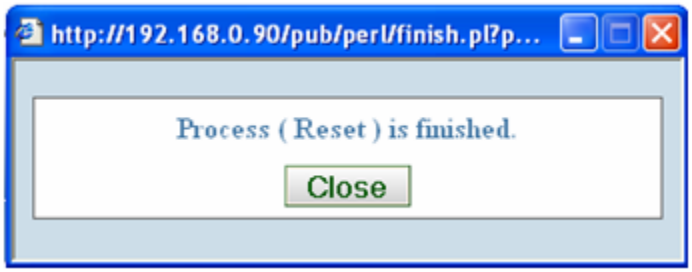


Figure 32

RET/TMA Adjustment

The RET/TMA adjustment page will display after clicking [Detail] for any RET/TMA device on the [Device Status] panel.

More detailed information for the antenna, the RET and/or the TMA will be displayed.

The information shown is stored in the individual RET or TMA device memory.

The SCU web interface can be used to write new information to these storage locations.

NOTE The data fields shown and their character lengths are specified by the AISG and/or 3GPP specifications.

NOTE The Amphenol SCU is able to communicate with both ASIG v1.1 and AISG v2.0/3GPP devices in any combination on the bus. The mode the device is operating in will be displayed along with the assigned

RET Device Detail

bus address for reference.

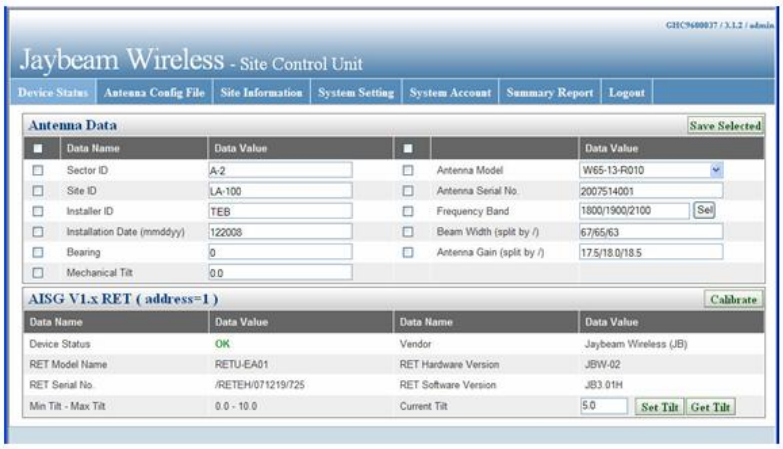


Figure 33

TMA Device Detail

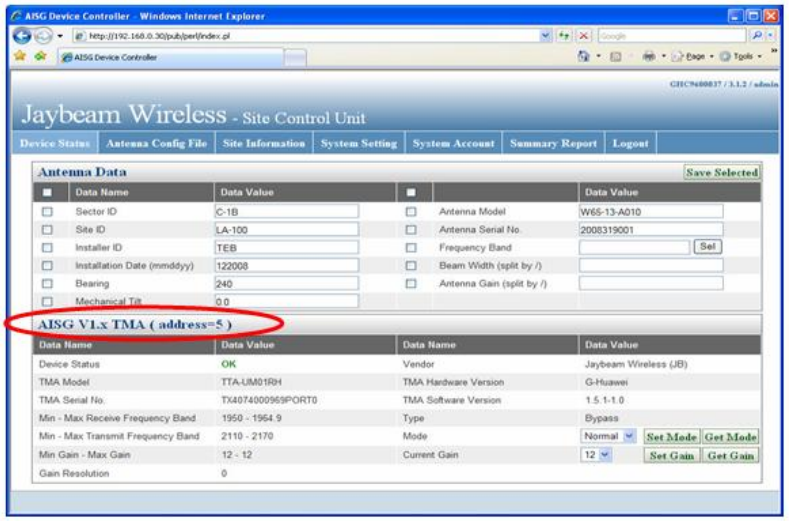


Figure 34

Antenna Data

The table in this section describes the antenna information displayed on the Device Detail page.

You are able to write new information to the device using the user interface on the Device Detail page.

The maximum character length for each data field is defined by the applicable AISG or 3GPP specification.

Column Name	Description/Constraint
Sector ID	Sector ID
Site ID	Base station site ID
Installer's ID	Installer's ID
Installation Date	mm/dd/yy format
Bearing	Antenna bearing in the range of 0-359 degrees
Mechanical tilt	Installed mechanical tilt in degree (Up-tilt is negative)
Antenna Model	If you cannot find a proper antenna model for the RET, please refer to "Antenna Configuration File" for how to add your antenna model. For RET, it provides configuration data for the relationship between the device and the connected antenna.

Antenna Serial No.	Antenna serial no.
Frequency Band	Frequency band(s) used by the antenna. Split by “/”
Beam Width	Beamwidth for each band in frequency order. Split by “/”
Antenna Gain	Gain for each band in frequency order. Split by “/”
Antenna Model	**BE CAREFUL!** Selecting a new antenna model from the pull down menu will upload a new antenna configuration file to the RET device! The configuration file is the “map” that tells the RET motor how many revolutions to turn for a given electrical tilt setting for that specific antenna model. Selecting the wrong configuration file may cause damage to the antenna

Uploading New Data to the Device

1. Type the new information in the window
2. Check the checkbox to the left of the data field as shown in the red block in Figure 35. The act of checking the checkbox is intended to prevent accidental data revision

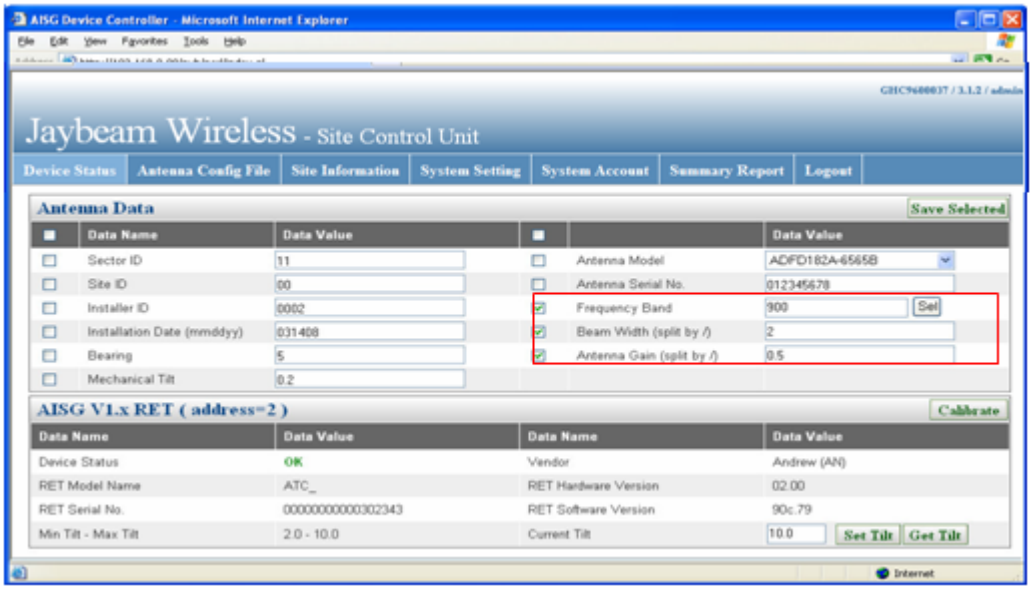


Figure 35

3. Click the [Save Selected] button to upload all revised data fields, which will cause Figure 36 to appear.

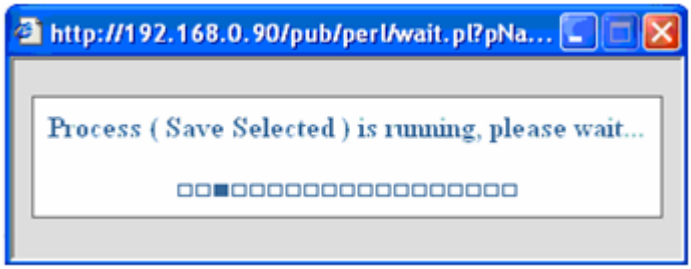


Figure 36

4. Click the [Close] button after the process is finished in order to close the process window.

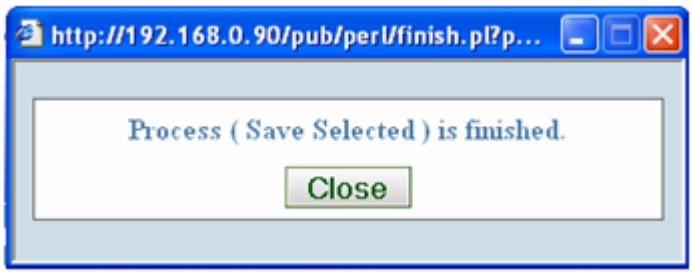


Figure 37

Antenna Configuration

Uploading a New Antenna Configuration File to the Device

1. Select the desired antenna model from the pull down menu. If the model number has not been loaded see the "Antenna Model Management" section for instructions on how to add an antenna model.

NOTE Amphenol Wireless RET's are typically pre-configured at the factory and do not require new configuration file to be uploaded. Only use this function if you are certain that a new antenna configuration file is required.

NOTE For Multi-band antennas, be sure to select the configuration file associated with the frequency band the RET is controlling. In the example, Figure 38, X65-13-AAA_H is the file for the "High" frequency band RET, or the 1710-2170 MHz actuator. The X65-13-AAA_L is the file for the "Low" frequency band RET, or the 824-960 MHz actuator.

2. Click the [Save Selected] button to initiate the configuration file download.

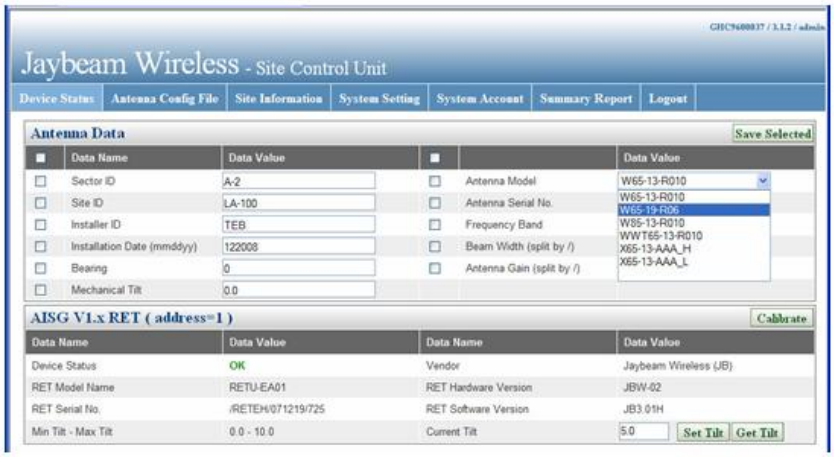


Figure 38

3. Click the [Close] button after the process is finished to close the process window, Figure 39.

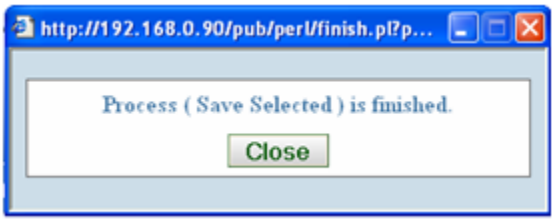


Figure 39

Antenna Calibration

The [Calibrate] function initiates a calibration command to the selected device.

The calibration command is required by some manufacturers to automatically "calibrate" the RET actuator to the Antenna.

NOTE For Amphenol Wireless devices, electronic calibration is **not required**. When a "calibrate" command is sent, a Amphenol RET device, it will change the tilt to Max tilt, then to Min tilt and then return to the current tilt setting.

Calibrating the Antenna

1. Click the [Calibrate] button, which will cause a confirmation window to appear, Figure 40.

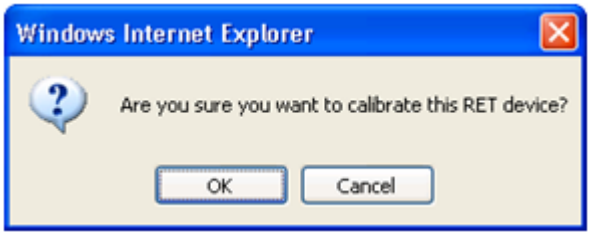


Figure 40

2. Click the [OK] button to initiate the process, which will cause Figure 41 to appear.

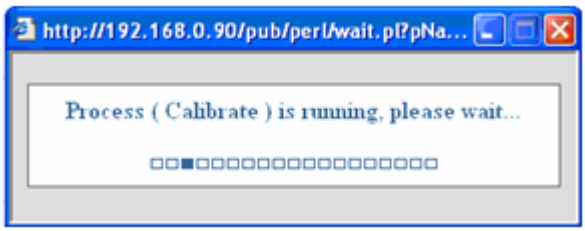


Figure 41

3. Click the [Close] button after the process is finished to close the process window, Figure 42.

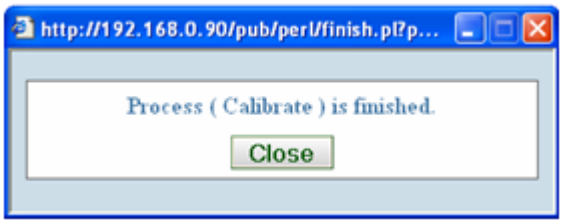


Figure 42

Antenna Tilt Adjustment

This section covers Remote Electrical Tilt (RET) adjustment.

The following table describes the RET antenna information displayed on the Detail panel. The only data that can be edited by a user in this panel is the current tilt setting.

AISG V1.xRET (or AISG V2.x RET)

Column Name	Description/Constraint
Device Status	It can be “OK” or device alarm messages
RET Model Name	RET model name
RET Serial No.	RET serial no.
Vendor	Vendor name
RET Hardware Version	RET hardware version
RET Software Version	RET software version
Min Tilt – Max Tilt	Allowed electrical down tilt range of the selected antenna Model.
Current Tilt	Tilt setting should be in the range of [Min Tilt – Max Tilt]

Set Tilt

The Set Tilt function is used to change the electrical down tilt for a RET antenna.

Setting the Tilt

1. Enter the desired tilt value in the [Current Tilt] window
2. Click [Set Tilt] and the a confirmation window, Figure 43, will appear before sending the new electrical down tilt value to the RET device.

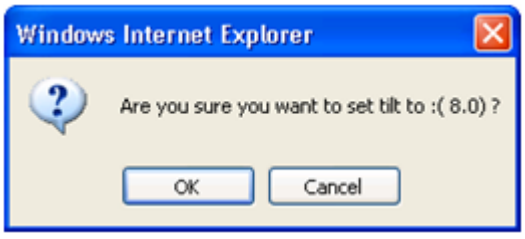


Figure 43

3. Click the [OK] button to initiate the tilt change process, which will cause Figure 44 to appear.
4. Click the [Close] button after the process is finished to close the process window.

Figure 44

Get Tilt

The Get Tilt function is used to interrorgate the RET device to determine the current electrical down tilt setting for the antenna.

Getting the Get Tilt Value

1. Click the [Get Tilt] button and the current down tilt value will appear in a popup window, Figure 45.

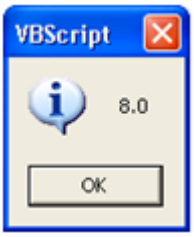


Figure 45

TMA Adjustment

The following table describes the information displayed on the TMA Detail panel.

The only information that can be edited by a user is the TMA mode and the TMA gain.

AISG V1.x TMA (or AISG V2.x TMA)

Column Name	Description/Constraint
Device Status	It can be “OK” or device alarm messages
TMA Model Name	TMA model name
TMA Serial No.	TMA serial no.
Vendor	Vendor name
TMA Hardware Version	TMA hardware version
TMA Software Version	TMA software version
Min – Max Receive Frequency Band	Allowed receive frequency band range
Min – Max Transmit Frequency Band	Allowed transmit frequency band range
Min Gain – Max Gain	Allowed gain range of the TMA model
Gain Resolution	A gain increment from min gain to max gain For fixed gain or non-linear gain TMA, this value is always zero
Type	It’s TMA type that can be “Bypass” and/or “VSWR”
Mode	TMA mode can be “Bypass” or “Normal”
Current Gain	The value should be in the range of [Min Gain – Max Gain]

Set Mode

The Set Mode function is used to set the TMA mode to either Normal or Bypass.

In Bypass mode, the RF path is still functional but with lower uplink gain and reduced sensitivity.

Setting the Set Mode

1. Click the [Set Mode] button to apply the mode selected in the [Mode] window and a confirmation window, Figure 46, will appear.

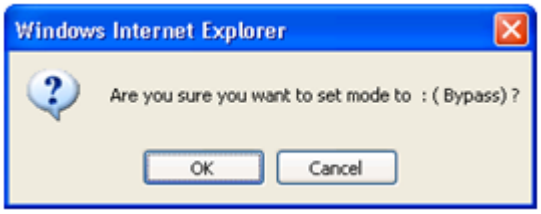


Figure 46

2. Click the [OK] button to initiate the process of changing the TMA mode and Figure 47 will appear.

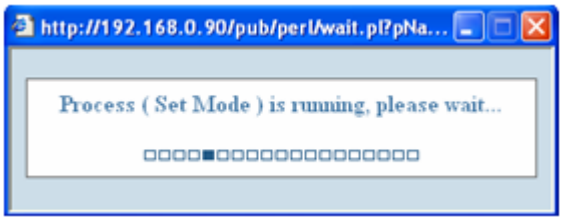


Figure 47

3. Click the [Close] button after the process is completed to close the process window, Figure 48.

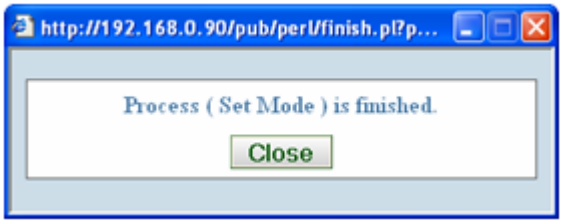


Figure 48

Get Mode

The Get Mode function interrogates the TMA to return the current TMA mode.

Getting the Get Mode

1. Click the [Get Mode] button and the current TMA mode setting will appear in a popup window, Figure 49.

Figure 49

Set Gain

The Set Gain function is used to adjust the TMA gain for devices that support this function.

The TMA gain must be between the values of min gain and max gain.

Setting the Set Gain

1. Click the [Set Gain] button and a confirmation window will appear
2. Apply the gain value entered in the [Current Gain] window. This will cause Figure 50 to appear.

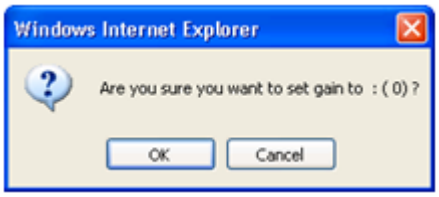


Figure 50

3. Click the [OK] button to initiate the process to change the TMA gain and Figure 51 will appear.

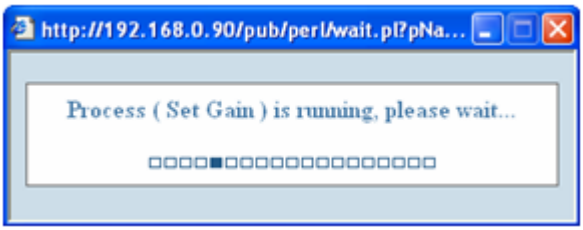


Figure 51

Get Gain

The Get Gain function interrogates the TMA to return the current TMA gain value

Getting the Get Gain Value

1. Click the [Get Gain] button and the current TMA gain value will appear in a popup window, Figure 52.

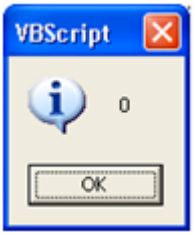


Figure 52

Site Information

The [Site Information] panel allows a user to fill in and save the site information associated with that site.

This information is stored in the SCU memory, not in the individual device memories.

Changing Site Information

1. Fill in the desired site data, Figure 53

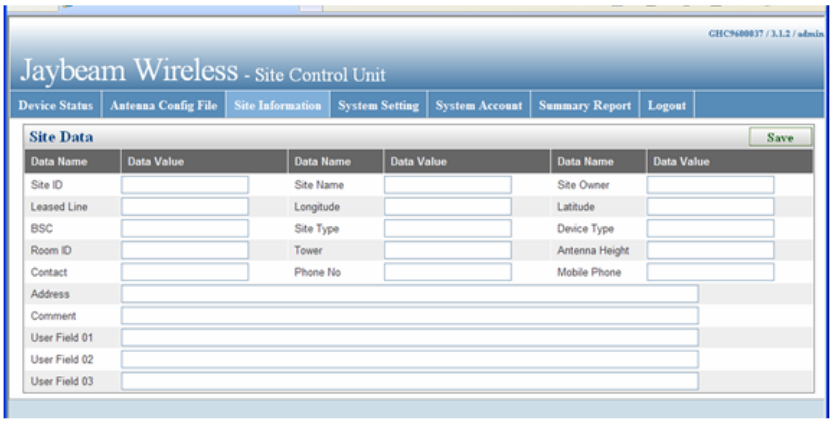


Figure 53

2. Click the [Save] button to store the information into SCU memory and Figure 54 will appear.

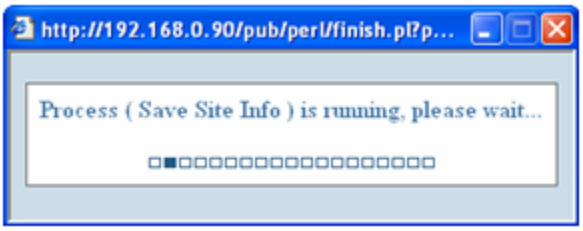


Figure 54

3. Click the [Close] button after the process is completed to close the process window, Figure 55.

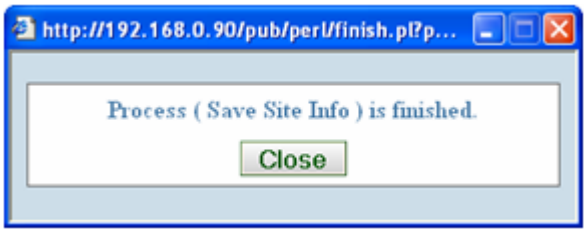


Figure 55

Summary Reports

Site Configuration Report

The [Summary Report] panel displays the summary information for the SCU system and provides the ability to download the system summary report and the system access history.

The summary report includes all detailed information for each device, site information, network settings and system settings.

Exporting the Site Configuration Report

1. Click the [Download Report] button, as shown in Figure 56, to export the [Summary Report] information into a file named SummaryReport.html. This HTML file can be saved or printed to maintain a record of the site configuration.

Figure 56

Access History Report

1. Click the [Download Access Log] button to export the access history report, Figure 57, into a file named AccessLog.txt.

NOTE This file documents the data, time, username and action taken for selected actions at the site.

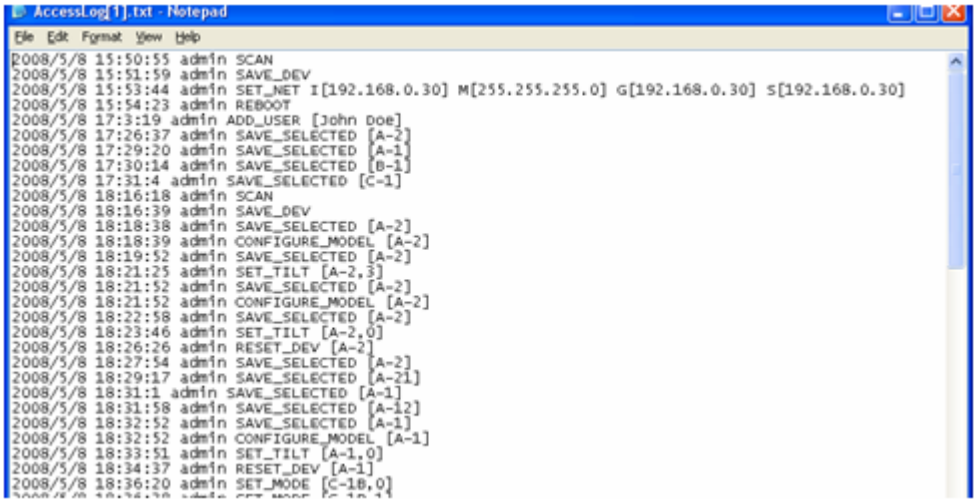


Figure 57

NOTE Only actions related to system setting, account addition/deletion, and device setting will appear on the access history report. Actions and the corresponding information recorded in the log are described in the table

NOTE The Action column is the key word used in the log to represent the recorded action.

NOTE The Information Recorded column is other related information for an action recorded in the log.

System Setting		
Action	**Information Recorded**	**Description**
SET_NET	Current IP, Gateway, Submask, SNMP setting	Network Setting
SET_SCAN_LENGTH	Current scan length setting for device scan	Set Scan Length
SET_POWER	Current DC 12V/24V setting and power mode	Power Setting
SET_SYS_TIME	Current system date and time setting	System Time Setting
REBOOT		The SCU-C system is rebooted
System Account		
Action	**Information Recorded**	**Description**

ADD_USER	Which user account is added	Add User Account
DELETE_USER	Which user account is deleted	Delete User Account
Device Information Initialization		
Action	Information Recorded	Description
SCAN		A scan process is initiated
ADD_DEV	Vendor code and serial no. of added device	Add Device
SAVE_DEV		A save process is initiated for storing devices' information into the SCU system
RESET_DEV	Device identified by [Sector ID] is reset	Reset Device
Device & Antenna Data Setting		
Action	**Information Recorded**	**Description**
SAVE_SELECTED	Selected antenna data of the device identified by [Sector ID] is saved	Save Antenna Data
CONFIGURE_MODEL	Antenna configuration data of the device identified by [Sector ID] is saved	Antenna Configuration Data
CALIBRATE	Device identified by [Sector ID] is changed	RET Calibrate
SET_TILT	The electrical tilt value of the device identified by [Sector ID]	Set RET Electrical Tilt
SET_GAIN	The gain value of the device identified by [Sector ID]	Set TMA Gain
SET_MODE	The mode value of the device identified by [Sector ID]	Set TMA Mode

Antenna Cofiguration File Management

The [Antenna Config File] panel is used to manage antenna configuration files stored in the SCU system.

Antenna configuration files are available from each antenna manufacturer to provide a map between the number of RET motor turns and resulting electrical downtilt for a given antenna model.

NOTE Most RET devices are delivered pre-configured by the antenna manufacturer and it is not necessary to upload an associated configuration file to SCU controller. If you do need to upload a new configuration file to a RET device, you must first upload the file into SCU memory through the [Antenna Config File] panel. Then, download the new configuration

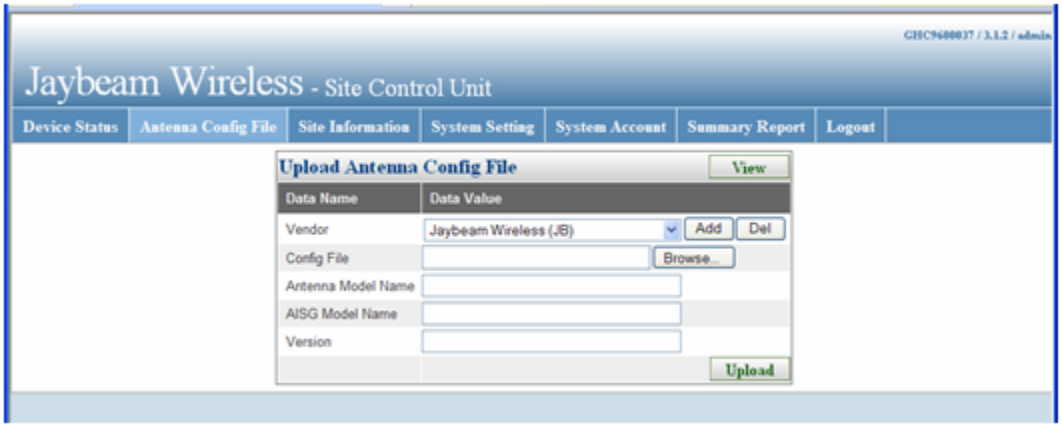


Figure 58

file to the RET actuator through the [Device Detail] panel. See the “Antenna Data” section.

Vendor Management

Add a Vendor

The vendor must exist in the vendor list before you can upload a configuration file associated with that antenna vendor.

The Add a Vendor function is used to add new antenna vendors to the vendor list.

The SCU is delivered with an internal listing of all AISG two letter vendor codes as of the date of shipment.

Please refer to the AISG website, www.AISG.org.uk, for a complete list of approved vendor codes

Adding a Vendor

1. Click the [Add] button and a window, Figure 59, will appear.

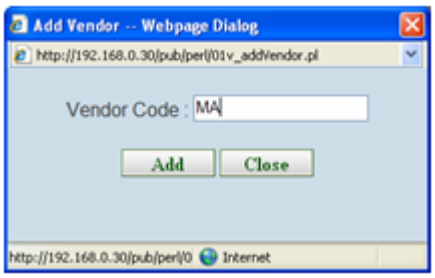


Figure 59

2. Click the [Add] button to add the vendor code into SCU memory and to refresh the vendor list on the [Antenna Config File] panel, which will cause Figure 60 to appear. If the vendor code is recognized by the SCU, the vendor’s full name will appear in the vendor list associated with that code.
3. Click the [Close] button after the process is finished to close the process window.

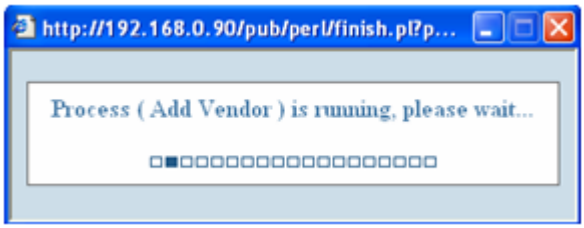


Figure 60

Delete a Vendor

The Delete a Vendor function is used to remove an antenna vendor from the vendor list.

NOTE Before deleting the vendor all antenna configuration files stored under that vendor must be deleted.

Deleting a Vendor

1. Select the vendor that you would like to delete
2. Click the [Delete] button and a confirmation window, Figure 61, will appear

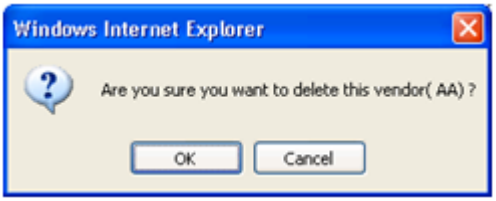


Figure 61

3. Click the [OK] button to delete the selected vendor from the system and refresh the vendor list on the [Antenna Config File] panel

NOTE If there are any antenna configuration files stored under the selected vendor, a warning message, Figure 62, will appear and the vendor will not be deleted.

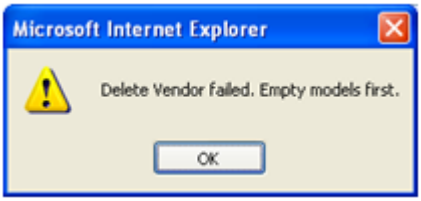


Figure 62

Antenna Model Management

Add an Antenna Model

The vendor must exist in the vendor list before antenna configuration files can be uploaded for that vendor.

The Add an Antenna Model function allows you to upload an antenna configuration file into SCU memory.

Refer to the following table for detail information for each input field.

Column Name	Description/Constraint
Vendor	Vendor Name
Config File	Filename with its full path should be provided. Only a file with extension of .bin, .retbin or .acf is allowed. **File Size has to be less than 0.5K**
Model Name	The configuration filename will be used as the default model name that is allowed to be changed. **The max. length of a model name is 15.**
Version	The antenna model version (Optional)

Adding an Antenna Model

1. Fill in all required information in Figure 63
2. Click the [Upload] button

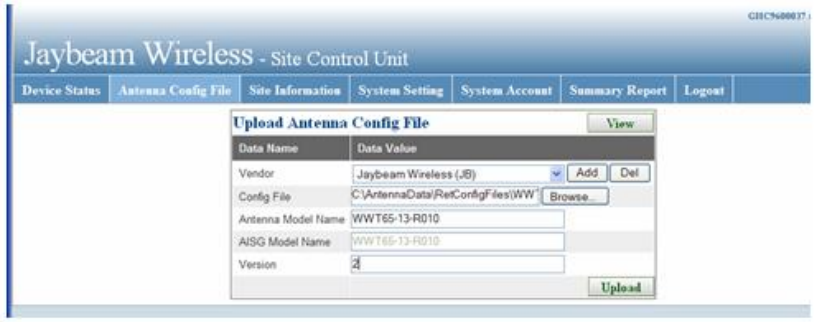


Figure 63

3. Verify the information that will be entered, that appears in the confirmation window, Figure 64

Figure 64

4. Click the [OK] button to initiate the upload process, which will cause Figure 65 to appear
5. Click the [Close] button after the process is finished to close the process window.

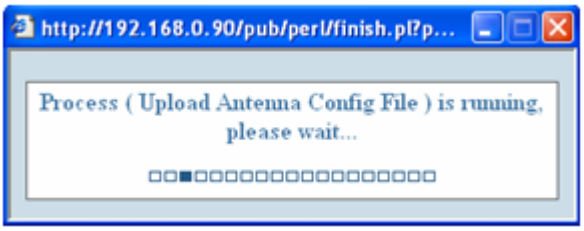


Figure 65

Delete an Antenna Model

The Delete an Antenna Model function is used to delete an antenna configuration file stored in SCU memory.

Deleting an Antenna Model

1. Click the [View] button to bring up a list of antenna models loaded into SCU memory. If a large number of models have been loaded, you can click on the vendor code above the list to jump to that vendor's models.
2. Click the [Del] button beside the selected antenna model to delete the selected antenna configuration file from the SCU memory.

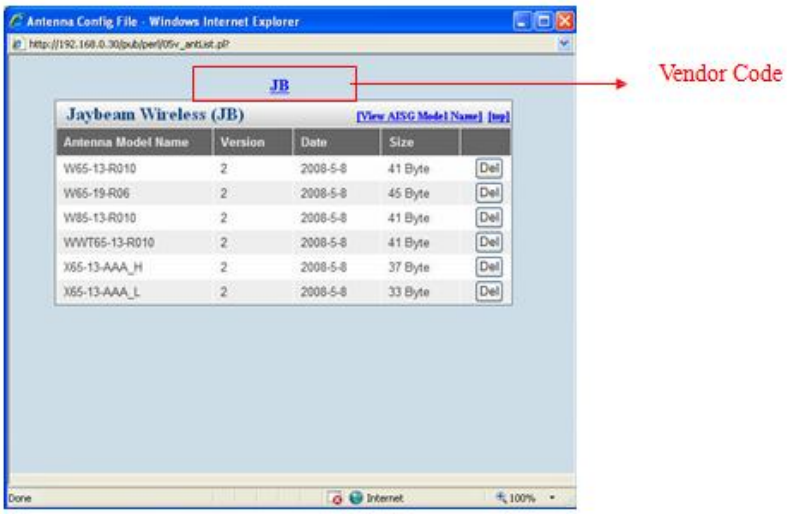


Figure 66

Console Interface

The main objective of console interface is to provide an alternate connection mode to communicate with the SCU. The console interface is also useful for determining the IP address of an SCU when the IP address is not known.

How to Access the SCU

For connection to the console interface, connect the RS-232 port on the SCU to a COM port on your PC. You can use any termainal software such as MS Windows HyperTerminal to connect with the SCU directly.

MS Windows HyperTerminal can typically be found at:

→ Start

→ Programs

→ Accessories

→ Communications

→ HyperTerminal

Accessing the SCU

1. Select the desire COM port and set communications setting as shown in Figure 67

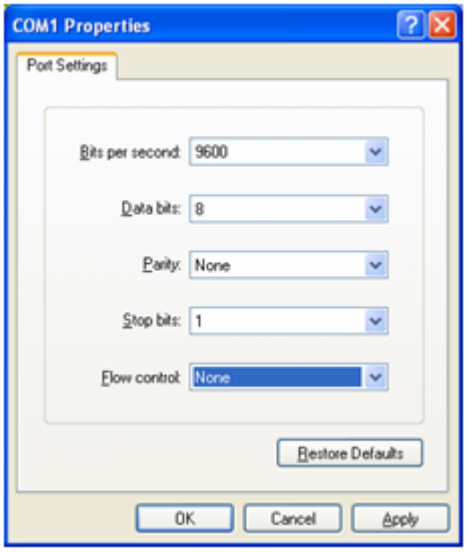


Figure 67

How to Use a Console Command

1. Enter “19” in the command line , once you have established a connection to the SCU using HyperTerminal or other communications software, to see a full list of available commands, as shown in Figure 68.

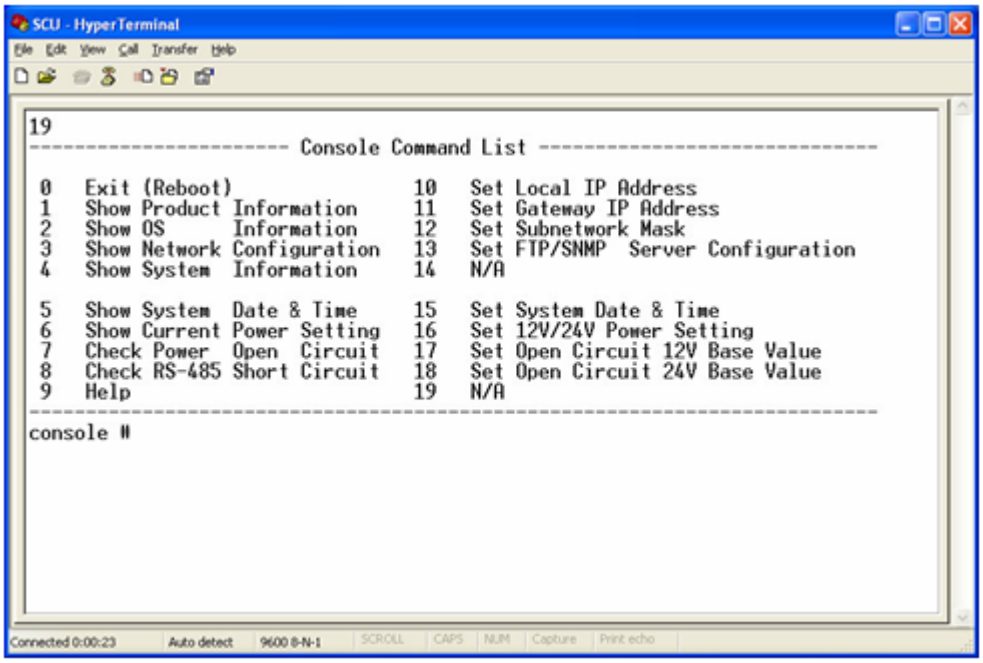


Figure 68

Executing a Command

1. Enter the number in front of the command
2. Enter a new data value, or leave without entering a value to not change the original value
3. Reboot the system for some commands, like IP setting, to have new data values take effect

System Information

The table describes commands that are used to display system information.

No.	Command	Description
1	Show Product Information	Display the product model and product serial no. of the SCU
2	Show OS Information	Display OS version and memory etc. information
3	Show Network Configuration	Display IP address of the SCU and IP addresses of Gateway, Subnet mask, FTP server and SNMP Server set in the SCU
4	Show System Information	The hardware and software version of the SCU
5	Show System Date & Time	Display current system UTC date and time
6	Show Current Power Setting	Display the on/off status of RS-485 12V and 24V DC
9	Help	Explanation of how to use the command to change a system setting and make it effective

System Parameters Setting

The table describes commands that are used to change system parameters.

No.	Command	Description
10	Set Local IP Address	Change IP address of the SCU. Please reboot to take effect.
11	Set Gateway IP Address	Assign Gateway IP. Please reboot to take effect
12	Set Subnetwork Mask	Assign subnetwork mask.

		Please reboot to take effect.
13	Set FTP/SNMP Server Configuration	Assign IP addresses of FTP and/or SNMP server Please reboot to take effect.
15	Set System Date & Time	Change system UTC date and time
16	Set 12v/24v Power Setting	Switch 12V/24V DC on or off The default is “N” that represents “off”.

Reboot

1. Enter “0”
2. Enter “y” to reboot the SCU system if any system parameters are changed.

NOTE If choosing “0” by accident, just leave without entering “y” to return to the command list.

Appendix

Error/Alarm Codes and Messages

The red LED on the front panel of the SCU, as shown in Figure 69, identifies when an alarm condition exists.

Figure 69

You can tell the type of alarm by how the LED is responding:

Red LED condition	Meaning	How to clear
Off	No alarms	N/A
Flashing	Device connected to the SCU has sent an alarm message	Correct device problem and select Refresh on the Device Status tab
Constant on	Not able to detect server IP address	Correct network connectivity problem

Below is a list of error messages that may be encountered during SCU operation and their meanings.

Please refer to AISG standard for description of code 0x00~0x27

Code	Message	Alarm	Description
0x00	OK		
0x01	Actuator Detection Fail	X	
0x02	Actuator Jam Permanent	X	
0x03	Actuator Jam Temporary	X	
0x04	Block Number Sequence Error		
0x05	Busy		
0x06	Checksum Error		
0x07	Command Sequence Error		
0x08	Data Error		

0x09	Device Disabled		
0x0A	EEPROM Error	X	
0x0B	Fail		
0x0C	Flash Erase Error	X	
0x0D	Flash Error	X	
0x0E	Not Calibrated	X	
0x0F	Not Scaled	X	
0x11	Other Hardware Error	X	
0x12	Other Software Error	X	
0x13	Tilt out of Range		
0x14	Position Lost	X	
0x15	RAM Error	X	
0x16	Segment Number Sequence Error		
0x17	UART Error	X	
0x19	Unknown Command		
0x1A	TMA Alarm Minor	X	
0x1B	TMA Alarm Major		
0x1C	Gain out of Range		
0x1D	Read Only		
0x1E	Unknown Parameter		
0x1F	Bypass Mode		
0x21	Software Missing		
0x22	Invalid File Content		
0x24	Format Error		
0x25	Unsupported Proc		
0x26	Invalid Proc Sequence		
0x27	Actuator Interference	X	
0x51	Uninitialized	X	Cannot get device information after a scan process.
0x52	Bad Responding	X	Bad communication between the SCU system and the device
0x53	Not Responding	X	Lost connection between the SCU system and the device
0x54	Function Fail		Unexpected result from the SCU system
0x59	Timeout		The responding from the device to the SCU system is timeout
0x70	Default Result		Unexpected or unknown result
0x71	Error		General error
0x72	File I/O fail		File access fails
0x73	System Timeout		The responding from the SCU to the web interface is timeout
0x77	Add device fail		Fail to add a device

0x78	Value is empty		Input field doesn't allow empty
0x79	Field name is null!		Invalid field name is used on the web interface
0x7A	Antenna model config file does not exist		The antenna configuration data file doesn't exist.
0x7B	Device exists!		The device already exists in the SCU system
0x7C	Size is too large!		The file size of antenna configuration data is too large
0x7D	The max. number of files reached!		The number of antenna configuration data files has reached the limits defined in the SCU system
0x7E	Total file size exceeds		The total file size of antenna configuration data files in the SCU system has reached the limits defined in the system

Amphenol Antenna Solutions
1300 Capital Drive
Rockford, Illinois 61109 USA
+1 815.399.0001
www.amphenol-antennas.com