



**BLONDER
TONGUE**
LABORATORIES, INC.

One Jake Brown Road
Old Bridge, NJ 08857-1000 USA
(800) 523-6049 • (732) 679-4000 • FAX: (732) 679-4353
www.blondertongue.com

INSTRUCTION MANUAL

AQT-RCS

AQT - Remote Configuration Server
Stock No. 2736



651220600A

The lightning flash with arrow-head symbol within an equilateral triangle is intended to alert you to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electrical shock to persons.



CAUTION
RISK OF ELECTRIC SHOCK
DO NOT OPEN



The exclamation point within an equilateral triangle is intended to alert you to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

TO REDUCE THE RISK OF ELECTRICAL SHOCK, DO NOT REMOVE COVER FROM THIS UNIT. NO USER-SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

WARNING: TO PREVENT FIRE OR SHOCK HAZARD, DO NOT EXPOSE THIS UNIT TO RAIN OR MOISTURE

NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV System Installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

For all pluggable equipment the socket-outlet shall be installed near the equipment and shall be easily accessible.

Unpacking and Installation

NOTE TO CATV SYSTEM INSTALLER

This reminder is provided to call the CATV System Installer's attention to Article 820-40 of the NEC that provides guidelines for proper grounding and, in particular, specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as practical.

Unpacking and Handling

Each unit is shipped with all equipment assembled, wired, factory tested, and then packaged in an appropriate shipping container. Ensure that all accessories are removed from the container and packing material before they are discarded.

Mechanical Inspection

Inspect the front and rear of the equipment for shipping damage. Make sure the equipment is clean, and no wires, cables, or connectors are broken, damaged or loose.

Precautions

Adherence to the initial installation precautions outlined in the Table below will help prevent problems arising during the installation and future maintenance of the unit.

Damage in Shipment

Should any damage be discovered after unpacking the unit, immediately file a claim with the carrier. A full report of the damage shall be made and a copy forwarded to Blonder Tongue Laboratories Inc. The company will then advise what disposition is to be made of the equipment.

Returning Product for Repair (or Credit)

A Return Material Authorization (RMA) Number is required on all products returned to Blonder Tongue, regardless if the product is being returned for repair or credit. Before returning product, please contact the Blonder Tongue Service Department at 1-800-523-6049, Ext. 4256 or visit our website: www.blondertongue.com for further information.

Table 1 - Installation Precautions Table

PRECAUTIONS	REQUIREMENTS
Avoid Heat Buildup	Allow (1) EIA rack space (1.75") between powered headend products in the equipment racks. (44.45mm)
Ensure easy access to rack wiring.	Allow a minimum of 18" behind the equipment rack(s). (457.2 mm)
Facilitate servicing and maintenance.	Allow a minimum of 36" of clearance in front of the equipment rack(s). (1 meter)
Avoid direct heating or air conditioning.	If unavoidable, use deflector plates.
AC power source outlets.	Locate equipment near sufficient outlets to provide power for test equipment and power tools.
Rack Support.	Make certain rack supports are sufficiently rigid to support racks.
Building leakage.	Beware of dripping water onto equipment from leaky roofs, waveguide roof entries, and cold water pipe condensations.

Safety Instructions

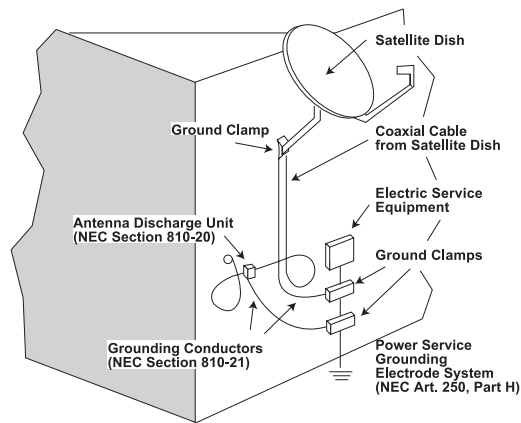


You should always follow these instructions to help ensure against injury to yourself and damage to your equipment.

- ◆ Read all safety and operating instructions before you operate the unit.
- ◆ Retain all safety and operating instructions for future reference.
- ◆ Heed all warnings on the unit and in the safety and operating instructions.
- ◆ Follow all installation, operating, and use instructions.
- ◆ Unplug the unit from the AC power outlet before cleaning. Use only a damp cloth for cleaning the exterior of the unit.
- ◆ Do not use accessories or attachments not recommended by Blonder Tongue, as they may cause hazards, and will void the warranty.
- ◆ Do not operate the unit in high-humidity areas, or expose it to water or moisture.
- ◆ Do not place the unit on an unstable cart, stand, tripod, bracket, or table. The unit may fall, causing serious personal injury and damage to the unit. Install the unit only in a mounting rack designed for 19" rack-mounted equipment.
- ◆ Do not block or cover slots and openings in the unit. These are provided for ventilation and protection from overheating. Never place the unit near or over a radiator or heat register. Do not place the unit in an enclosure such as a cabinet without proper ventilation. Do not mount equipment in the rack space directly above or below the unit.

Safety Instructions - continued

- ▶ Operate the unit using only the type of power source indicated on the marking label. Unplug the unit power cord by gripping the plug, not the cord.
- ▶ The unit is equipped with a three-wire ground-type plug. This plug will fit only into a ground-type power outlet. If you are unable to insert the plug into the outlet, contact an electrician to replace the outlet. Do not defeat the safety purpose of the ground-type plug.
- ▶ Route power supply cords so that they are not likely to be walked on or pinched by items placed upon or against them. Pay particular attention to cords at plugs, convenience receptacles, and the point where they exit from the unit.
- ▶ Be sure that the outdoor components of the antenna system are grounded in accordance with local, federal, and National Electrical Code (NEC) requirements. Pay special attention to NEC Sections 810 and 820. See the example shown in the following diagram:



- ▶ We strongly recommend using an outlet that contains surge suppression or ground fault protection. For added protection during a lightning storm, or when the unit is left unattended and unused for long periods of time, unplug it from the wall outlet and disconnect the lines between the unit and other equipment. This will prevent damage caused by lightning or power line surges.
- ▶ Do not locate the antenna near overhead power lines or other electric light or power circuits, or where it can fall into such power lines or circuits. When installing an antenna, take extreme care to avoid touching such power lines or circuits, as contact with them can be fatal.
- ▶ Do not overload wall outlets or extension cords, as this can result in a risk of fire or electrical shock.
- ▶ Never insert objects of any kind into the unit through openings, as the objects may touch dangerous voltage points or short out parts. This could cause fire or electrical shock.
- ▶ Do not attempt to service the unit yourself, as opening or removing covers may expose you to dangerous voltage and will void the warranty. Refer all servicing to authorized service personnel.
- ▶ Unplug the unit from the wall outlet and refer servicing to authorized service personnel whenever the following occurs:
 - The power supply cord or plug is damaged;
 - Liquid has been spilled, or objects have fallen into the unit;
 - The unit has been exposed to rain or water;
 - The unit has been dropped or the chassis has been damaged;
 - The unit exhibits a distinct change in performance.
- ▶ When replacement parts are required, ensure that the service technician uses replacement parts specified by Blonder Tongue. Unauthorized substitutions may damage the unit or cause electrical shock or fire, and will void the warranty.
- ▶ Upon completion of any service or repair to the unit, ask the service technician to perform safety checks to ensure that the unit is in proper operating condition.

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Description

The Blonder Tongue AQT-RCS is an optional accessory product to allow remote monitoring and control of an AQT headend via the Internet. The AQT-RCS eliminates the need to load any special software onto a computer and uses a standard web browser to access the unit. It can also be used with any computer, Macintosh® or PC, etc. and at any location that has a web browser with Internet access including your home, office or anywhere on the road.

Features and Benefits

- Permits complete remote monitoring & control of all units at a headend location
- Works on any computer — MAC or PC compatible
- Easy to use graphical interface through a standard web browser
- No software installation required

System Requirements

The AQT-RCS is designed to run with minimal system requirements. The minimum requirements for the software application are shown below:

Operating System:	Any that supports Web Browser Interface
Network Interface Card:	Any that supports Ethernet Protocol
Web Browser:	Microsoft Internet Explorer® 6.0 or later recommended JavaScript Enabled Required
Display resolution:	1024 x 768 recommended, 800 x 600 required
Processor:	Minimum Pentium® III or equivalent recommended
Memory:	Minimum 256 MB recommended

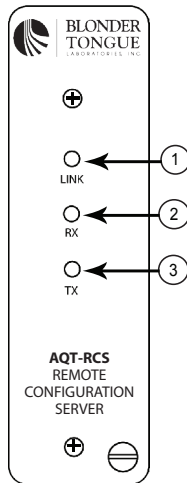
Getting Started

You will need several cables to allow the AQT-RCS to function properly. Below is a list of the required cables:

- RJ-11 Extension Cable, Stock No. 2722
Standard cross pinning for communication — see Appendix A for details
- RJ-11 Jumper Cables for Daisy Chaining AQT-PCM units, Stock No. 2721
Custom built jumper cables – Straight pinning for data — see Appendix A for details
- RJ-45 Ethernet Data Cable — Included with Stock No. 2722
Standard Ethernet Cable — Straight pinning for data

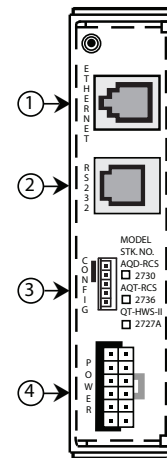
NOTE: Straight pinning means that each contact is straight pinned to it's respective contact (1-1, 2-2, 3-3, etc.).
Cross pinning means that contacts are pinned to the opposite contact. See Appendix A for wiring details.

The Unit Front Panel



1. **Ethernet Link** – LED Indicator
2. **Ethernet Receive** – LED Indicator
3. **Ethernet Transmit** – LED Indicator

Rear Panel



1. **RJ-45 Ethernet Connector**
– Connect to Internet (via Router, etc.)
2. **RJ-11 RS-232 Serial Data Connector**
– Connect to AQT-PCM
3. **Configuration Header**
– For Factory & Restore Default Use Only
4. **12-Pin Power Connector**
– Connect with AQT-PCM via power/data cable

Specifications

Programming

IP Addressing: Fixed Static IP
 User Name & Password: Software Settable
 Administrator & View Modes for Security Administration

Mechanical

Module Dimensions (W x H x D): 1.5 x 5.25 x 11.31 in., 38 x 133 x 287 mm
 Chassis Dimensions (W x H x D): 19 x 5.25 x 12 in., 483 x 133 x 305 mm
 Mounting (W x H): Standard 3 EIA Unit Height – 19 x 5.25 in., 483 x 133 mm
 Module Weight: 1.5 lbs., .68 kg

General

Power Requirement: 5 VDC, 200 mA
 Operating Temperature: 0° to +50° C
 Storage Temperature: -20° to +70° C
 Humidity: 0 to 95% RH

Controls

RJ-45 Ethernet Connector
 RJ-11 RS-232 Serial Data Connector
 12-pin Power Connector

Indicators

Ethernet Link LED
 Ethernet Receive LED
 Ethernet Transmit LED

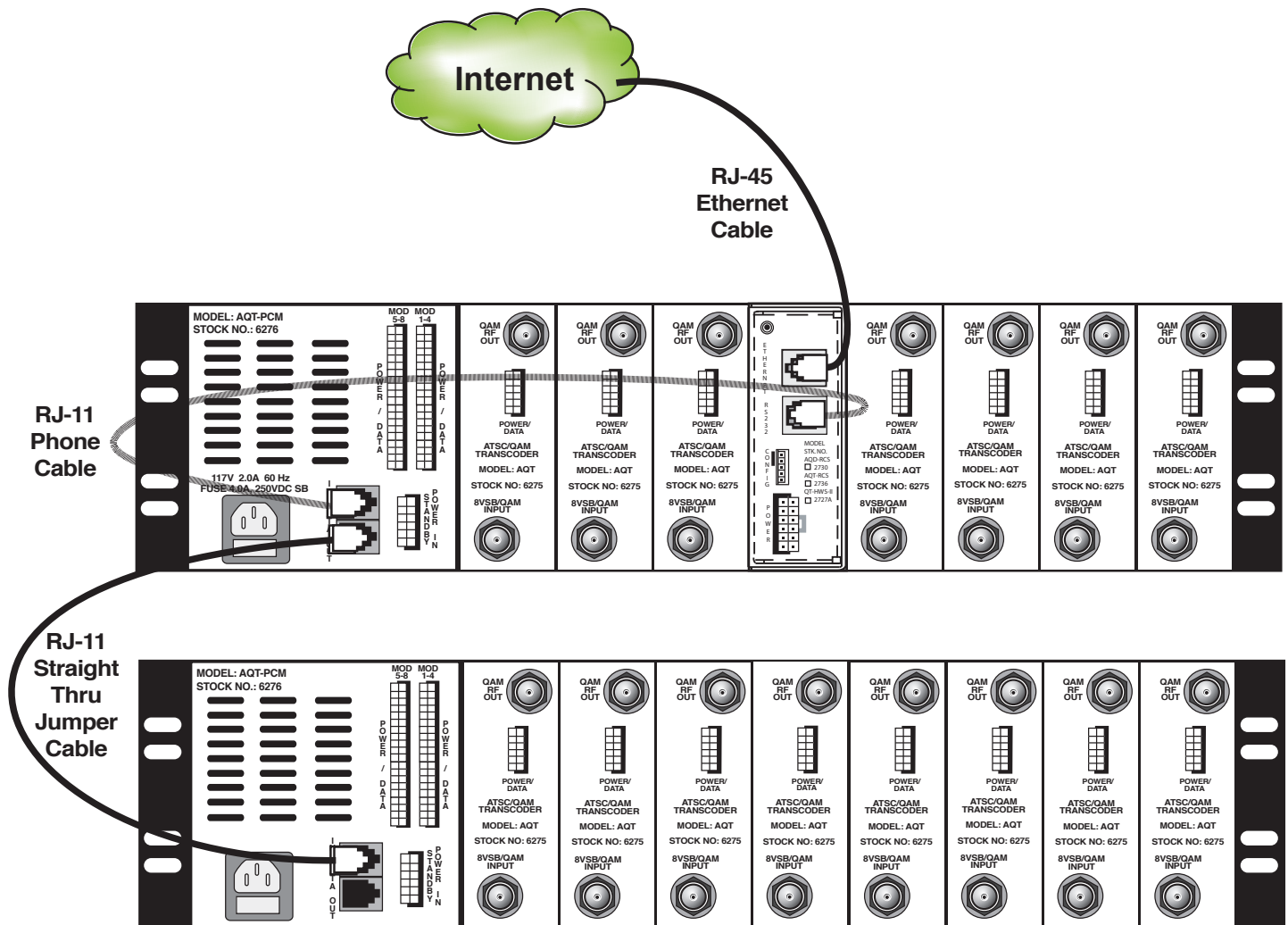
Installing the AQT-RCS

The AQT-RCS is designed to occupy any single module slot in the AQT rack chassis. Slide the AQT-RCS unit into the desired chassis slot and connect the 12-pin power/data cable from the AQT-PCM to the AQT-RCS unit. Tighten the retaining screw on the front panel to secure the unit in the chassis.

NOTE: The AQT-PCM will appropriately power the AQT-RCS unit but will treat it as a "Not Present" on the LCD readout window and in the web interface – this does not indicate a problem and is the normal condition.

Unit Connections

AQT-Remote Configuration Server Connection Wiring Diagram



NOTE: It is recommended to place the AQT-RCS unit in the middle slot of the top AQT rack in the headend. The middle slots in the AQT chassis are subject to the most heat. The AQT-RCS has the capability to measure the ambient temperature. Placing the AQT-RCS in this location in the rack will provide the most valuable data about the overall temperature of the entire rack. It is also recommended that if all chassis slots are not used that empty slots start at the middle of the rack and alternate to encourage the most air flow possible. As with any electronic equipment this will help extend the usable life of the units.

Accessing the AQT-RCS

The AQT-RCS features an easy to use web interface and is designed to be accessed by using a standard HTTP web browser. The AQT-RCS is optimized for use with Microsoft® Internet Explorer™ 6.0 or later and requires Javascript to be enabled.

The unit may be accessed locally or remotely. Remote access is defined as a connection to the unit over a LAN, a WAN or the Internet. Local access is defined as a direct connection to the unit from the personal computer network interface card.

- A standard 'straight through' RJ-45 Ethernet cable is used for a Remote Access configuration
- A 'Cross' RJ-45 Ethernet cable is required for a direct connection.

To Access the AQT-RCS:

- Open a web browser on your computer
- Enter the factory default IP address in the address line on your browser — **http://172.16.70.1**

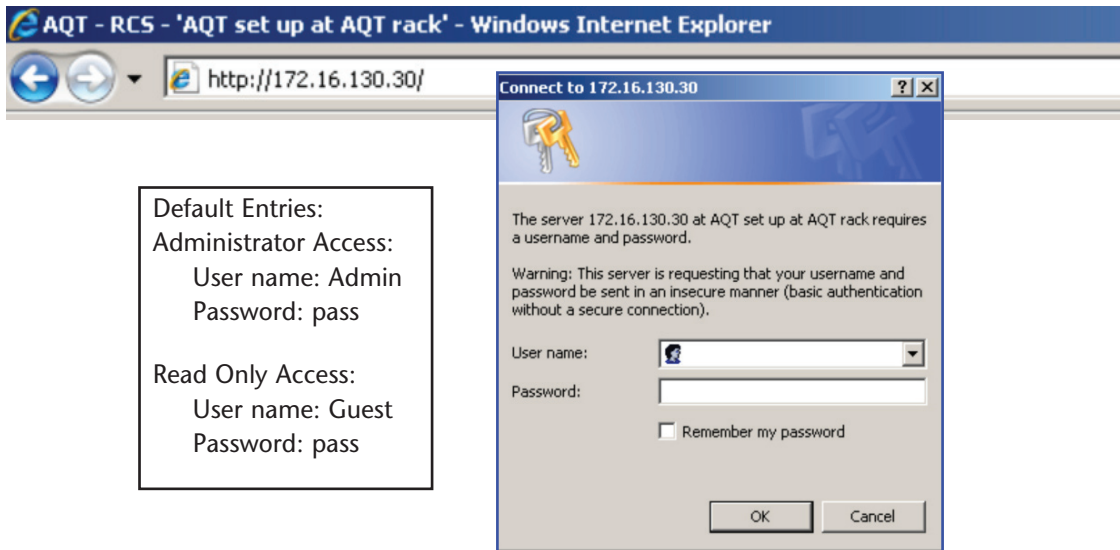
ATTENTION!



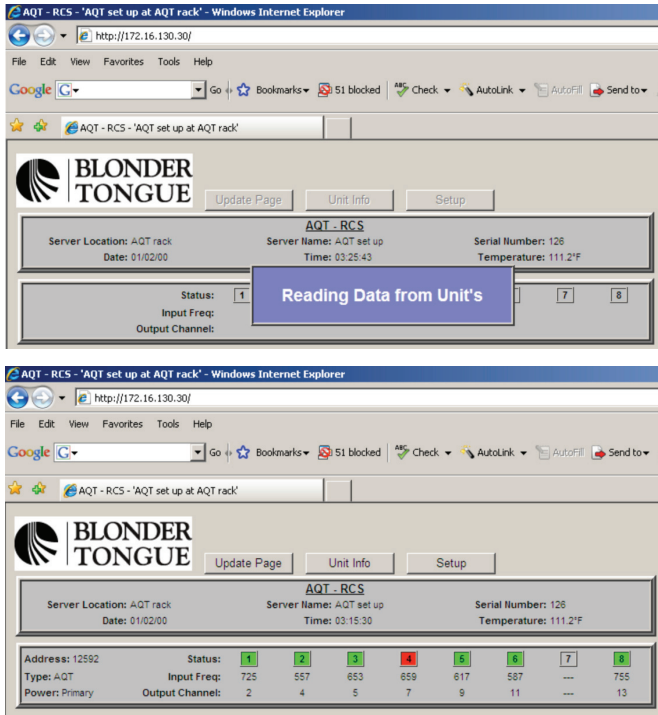
NOTE: It may be necessary to adjust your computer's IP address settings to ensure that the same subnet address is set to permit first-time communication to the AQT-RCS.

Adjust your IP address from automatically obtain or another fixed address to 172.16.70.2 (any last digit of 2-254 may be used) & Subnet Mask to 255.255.0.0

- Enter the User Name and Password and Click Submit



If the User Name and Password are correctly entered then the AQT-RCS will attempt communication. This is a real-time serial communication process and may require several seconds to get a status response.

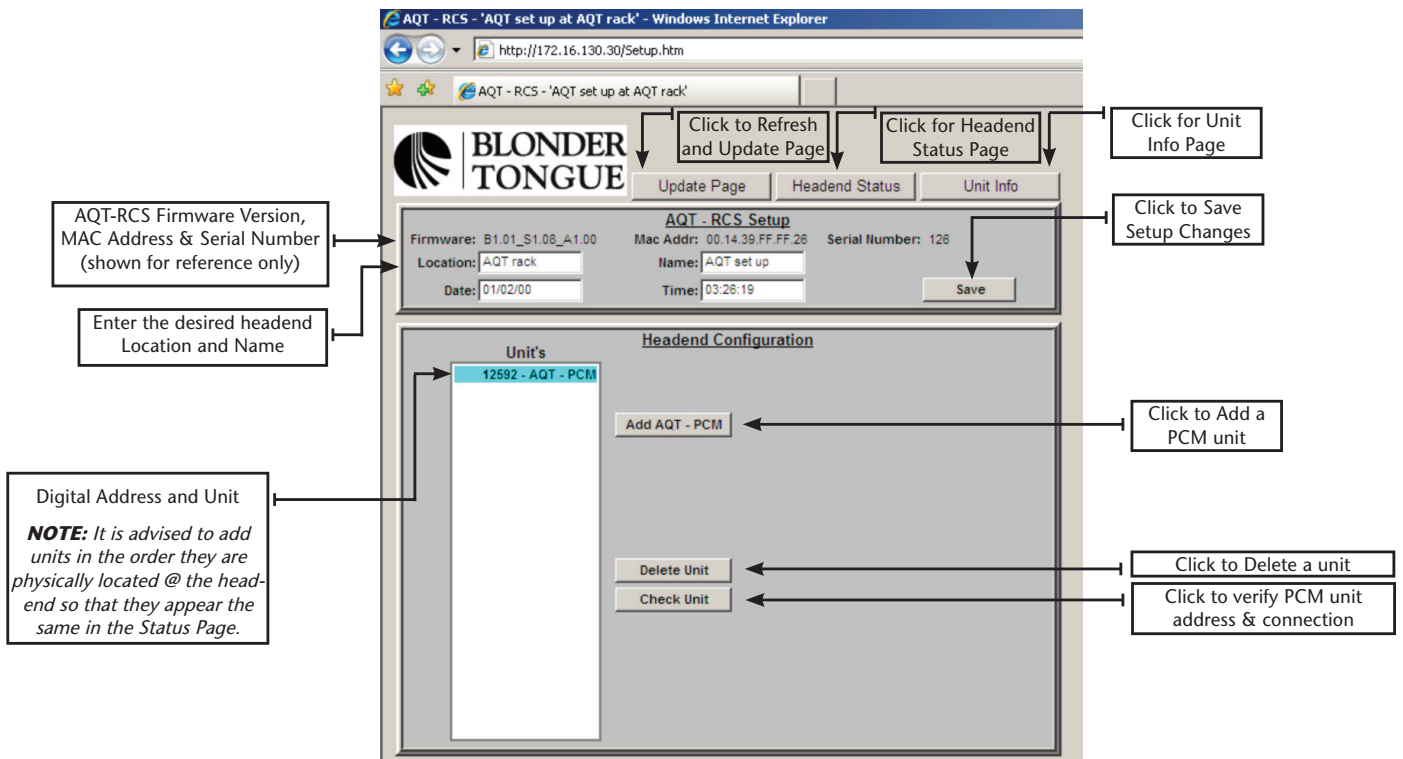


The 'Reading Data from Unit' message will be displayed during the communication process. After a status response is received the Headend Status screen will be displayed. This is a real time data communication process in which the AQT-RCS is reading the data from each AQT module and may take a few moments to complete, please be patient.

Click **Setup** to proceed to the Setup Page - this permits the entry of the AQT-PCM unit digital addresses into the AQT-RCS.

AQT-RCS Setup Page

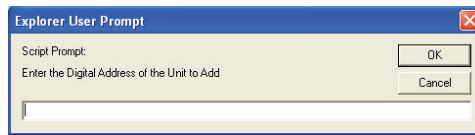
The AQT-RCS 'Setup Page' is used to enter headend site information as well as the digital address of each respective PCM unit connected and deployed in the headend. The digital address of the PCM unit must be entered in order for the AQT-RCS to communicate correctly in real time.



Enter the desired information in the upper portion of the 'Setup Page' and click **Save** to apply the information to non-volatile memory. Use the lower portion (Headend Configuration) to enter, remove and verify AQT units. The digital address of an AQT must be first entered into the AQT-RCS before it can communicate. The AQT digital address can be displayed by accessing the interactive menu using the UP/DN arrow navigation keys on the front panel LCD menu of each PCM unit. For more detailed instructions on how to obtain the serial number of the AQT unit, please refer to pages 16 through 19 in the AQT-Series instruction manual.

Adding a PCM

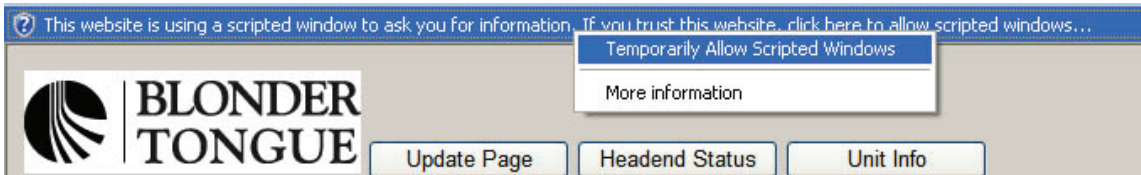
1. Click **Add AQT-PCM** to display the script dialog box.



NOTE: The AQT-RCS uses Javascript for the 'Add Unit' dialog box to pop up, this may need to be enabled in your browser.

 This website is using a scripted window to ask you for information. If you trust this website, click here to allow scripted windows...

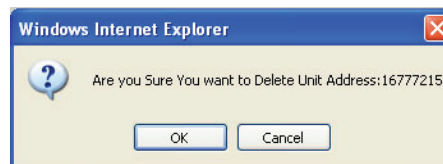
- Click anywhere on the warning bar (as pictured above & below) then select the Allow Scripted Windows option.



2. Enter the digital address of each PCM unit to be installed in the AQT-RCS for the respective location.
The AQT digital address can be displayed by accessing the Interactive menu using the UP/DN arrow navigation keys on the front panel LCD menu of each PCM unit.
Best results are achieved by entering the PCM addresses in the top to bottom order they are physically installed in the rack.
3. Click OK to Enter the PCM digital Address.

Deleting a PCM

1. Click **Delete Unit** to remove a PCM address from the installed list.
The confirmation dialog box will appear.



2. Click **OK** to remove the PCM address.

Checking a PCM address and communication

The AQT-RCS has an innovative tool built in to test the communication to a PCM address entered in the list. **This is extremely valuable to ensure that the correct entry was made and that the wiring to the unit is correct.** Any unit installed can be checked at anytime or sequence in the process and it does not matter where the unit physically resides in the headend chain.

1. Highlight a AQT address in the list by clicking on it.
2. Click **Check Unit** to query the digital address highlighted.



The AQT-RCS will attempt to communicate with the highlighted unit and report back a verification for successful communication or a cannot communicate message if the attempt failed. This is a very valuable tool to ensure that all units entered are correctly connected and the digital address matches the on-screen entry.

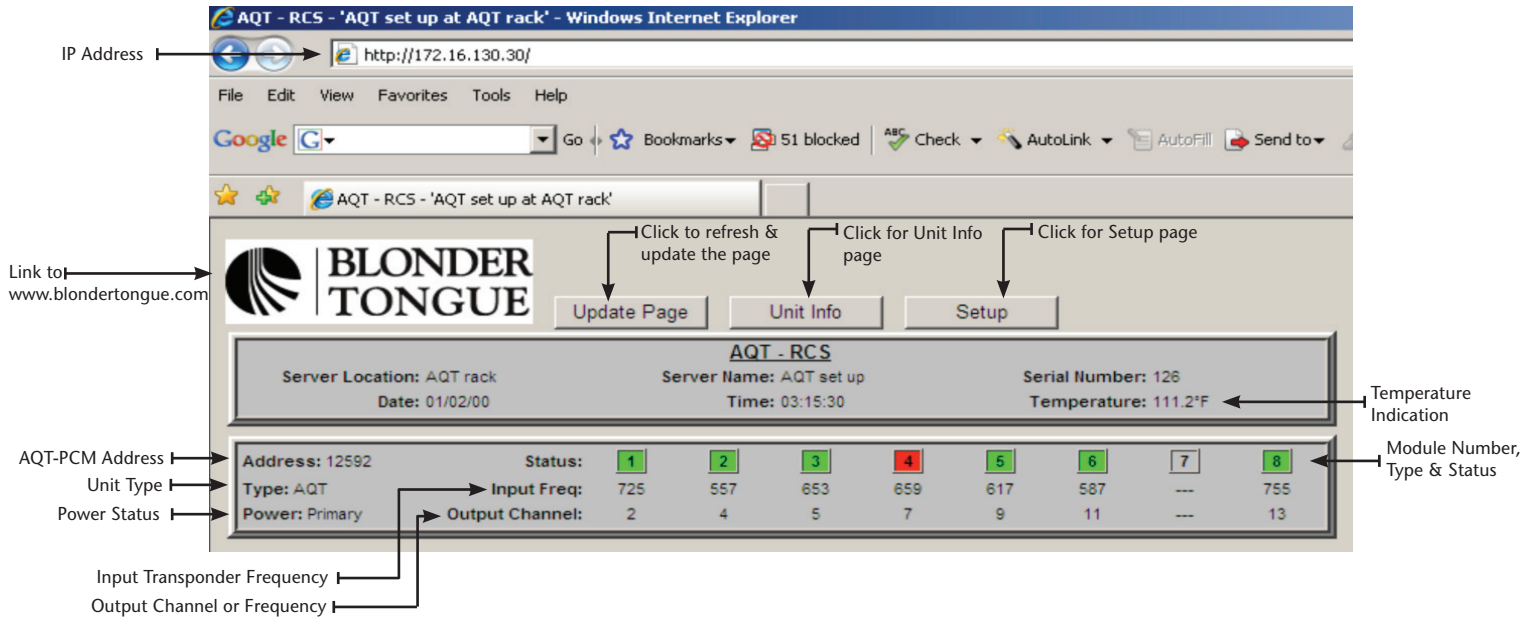
If the 'Cannot Communicate with Unit' error message is displayed:

1. Verify the AQT-PCM address is entered in the list correctly - the AQT-PCM digital address can be displayed by accessing the interactive menu using the UP/DN arrow navigation keys on the front panel LCD menu of each PCM unit.
2. Check the cabling on the rear of the AQT-RCS and respective AQT-PCM

Ensure a standard 4-pin cross phone cable (RJ-11) is used from AQT-RCS to the RJ-11 IN port of the first AQT and a straight thru RJ-11 jumper is used from the OUT port to the IN port of each subsequent AQT unit. (See Appendix A for Cable Details)

Headend Status Page

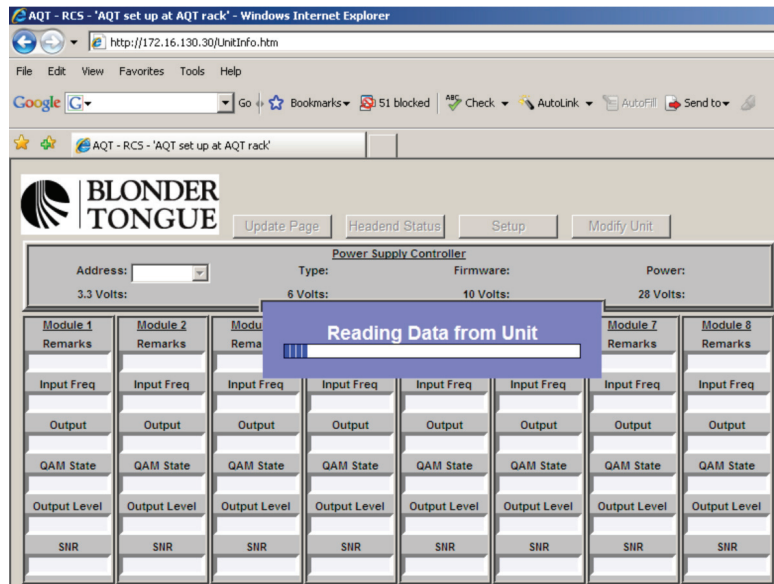
The Headend Status Page provides a snapshot of the status for each AQT module connected and installed to a PCM that is entered and connected to the AQT-RCS. PCM units are displayed vertically in the order they are entered in the setup section. There are two main areas of the 'Headend Status' page that provide information to the operator. The top box provides information from the AQT-RCS including editable Name & Location fields, real-time clock, date, serial number and a temperature monitor displayed in degrees Fahrenheit. The lower and subsequent boxes (not shown) provide information for each PCM and respective AQT module installed. A color coded status indication is provided for each module that is determined by both the module lock status and the SNR status.



NOTE: If 'TYPE: Error' (displayed in red) occurs, then an invalid address or unit not supported was entered or communication to the unit was lost (please check cables).

AQT-RCS Unit Information Page

The 'Unit Information' page provides detailed information for each AQT module connected to a respective AQT-PCM unit. Clicking the Unit Info button or anywhere on the PCM box in the 'Headend Status' page will load the 'Unit Information' page. The Unit information is displayed for each particular unit installed in the headend. The digital address of the PCM is found at the top left below the Blonder Tongue logo. Click the arrow and select the desired address to toggle between specific PCM units.



Unit Information — View Mode

Click to refresh & update page | Click for Headend Status page | Click for Setup page | Click for Modify Mode

Update Page | Headend Status | Setup | Modify Unit

Unit Type: Power Supply Controller
 Unit/PCM Address: Address: 12592 | Type: AQT - PCM | Firmware: 3.1 | Power: Primary

Power Status: Power: Primary
 Power Supply Voltages: 3.3 Volts: 3.6 VDC | 6 Volts: 6.4 VDC | 10 Volts: 10.3 VDC | 28 Volts: 28.9 VDC
 Normal Operating Ranges:
 3.3 Volts: 3.1 to 3.6
 6 Volts: 5.5 to 6.5
 10 Volts: 9.4 to 10.8
 28 Volts: 26.0 to 31.5

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8
Remarks	Remarks	Remarks	Remarks	Remarks	Remarks	Remarks	Remarks
---	---	---	---	---	---	Not Present	---
Input Freq	Input Freq	Input Freq	Input Freq	Input Freq	Input Freq	Input Freq	Input Freq
725	557	653	659	617	587		755
Output Ch	Output Ch	Output Ch	Output Ch	Output Ch	Output Ch	Output	Output Ch
2	4	5	7	9	11		13
QAM State	QAM State	QAM State	QAM State	QAM State	QAM State	QAM State	QAM State
On	On	On	On	On	On		On
Output Level	Output Level	Output Level	Output Level	Output Level	Output Level	Output Level	Output Level
40	40	40	40	40	40		40
SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32.5 dB	29.94 dB	26.58 dB	0.0 dB	31.10 dB	31.43 dB		15.56 dB

Unit Information — Modify Mode

The AQT-RCS 'Modify Mode' page permits changes for each AQT module connected to the Power & Control Module. Individual module changes may only be made from this page with the Administrator logon.

Click for View Mode

Update Page | Headend Status | Setup | View Mode

Address: 12592 | Type: AQT - PCM | Firmware: 3.1 | Power: Primary

3.3 Volts: 3.6 VDC | 6 Volts: 6.4 VDC | 10 Volts: 10.3 VDC | 28 Volts: 28.9 VDC

Module 1	Module 2	Module 3	Module 4	Module 5	Module 6	Module 7	Module 8
Remarks	Remarks	Remarks	Remarks	Remarks	Remarks	Remarks	Remarks
---	---	---	---	---	---	Not Present	---
Input Freq	Input Freq	Input Freq	Input Freq	Input Freq	Input Freq	Input Freq	Input Freq
725	557	653	659	617	587		755
Output Ch	Output Ch	Output Ch	Output Ch	Output Ch	Output Ch	Output	Output Ch
2	4	5	7	9	11		13
QAM State	QAM State	QAM State	QAM State	QAM State	QAM State	QAM State	QAM State
On	On	On	On	On	On		On
Output Level	Output Level	Output Level	Output Level	Output Level	Output Level	Output Level	Output Level
40	40	40	40	40	40		40
SNR	SNR	SNR	SNR	SNR	SNR	SNR	SNR
32.5 dB	29.94 dB	26.58 dB	0.0 dB	31.10 dB	31.43 dB		15.56 dB

Enter up to a 10 Character Description | Enter Input Frequency | Enter Output Channel | Toggle QAM State | Side for Output Level | Input SNR

AQT-RCS Administration Page

The AQT-RCS Administration page provides the ability for an operator to change the IP as well as User name and Password settings for the unit.

The Administration may only be accessed by typing the URL of the AQT-RCS followed by a forward slash and Admin.htm, for example: <http://172.16.70.1/Admin.htm>

NOTE: The Administration page is a hidden web page to prevent unwanted modifications to the critical IP User name and Password settings. It may only be accessed by using the Administrator logon.

Display Only Fields:

Serial #: Serial number of the AQT-Remote Configuration Server

Firmware Rev: Displays the revision of firmware, may be used for troubleshooting purposes

MAC Address: Media Access Control Address is a hardware address that uniquely identifies an AQT-RCS on a network

Editable Fields:

IP Address: IP Address of the AQT-RCS, Default IP Address is 172.16.70.1

Subnet Mask: A mask used to determine which subnet an IP Address belongs to, Default subnet mask is 255.255.255.0

Default Gateway: IP Address of a node (router) on the network that serves an access point to another network, Default gateway is 172.16.70.254

Admin ID: Case sensitive user identification for Administrative access and privileges, Default Admin ID is 'Admin'

Admin Password: Case sensitive password for Administrative access and privileges, Default Admin Password is 'pass'. The 'password' field CAN NOT be left blank. If it is left blank, the unit must be reset using 'Temporary Hardware Admin Default Reset' on page 15.

View ID: Case sensitive user identification for view only and privileges, Default View ID is 'Guest'

View Password: Case sensitive password for view only and privileges, Default View Password is 'pass'. The 'password' field CAN NOT be left blank. If it is left blank, the unit must be reset using 'Temporary Hardware Admin Default Reset' on page 15.

FTP ID: Case sensitive user identification for file transfer protocol (FTP) access, Default FTP ID is 'FTP'

FTP Password: Case sensitive password for file transfer protocol (FTP) access and privileges, Default FTP Password is 'pass'. The 'password' field CAN NOT be left blank. If it is left blank, the unit must be reset using 'Temporary Hardware Admin Default Reset' on page 15.

Factory Defaults Button - Resets the AQT-RCS back to factory default settings and deletes all stored configurations, IP addresses and identifications stored

Reset Unit Button - Press the Reset Unit button to perform a warm power reset of the AQT-RCS unit. Refresh the page on your web browser to continue.

Cancel Button - Does not apply changes made to the AQT-RCS Administration page and resets the values to the previously saved state

Save Button - Applies and saves the current AQT-RCS network settings, user identifications and passwords to non-volatile memory

Factory Defaults:

Software Default Reset

The AQT-RCS can be reset back to its factory default settings if the IP Address, Admin ID and Admin Password are known by clicking **Factory Defaults** on AQT-RCS Administration page. It will delete all data that may have been entered in the AQT-RCS but will not effect the programming or status of any deployed AQT module.

If the IP Address, Admin ID and Admin Password are known, then perform the following steps:

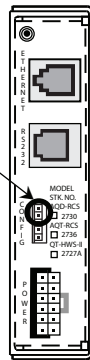
1. Access the Administration page (Admin.htm) by typing the appropriate URL in the browser address bar
2. Click **Factory Defaults**, the following prompt will appear:
3. Click **OK** to reset all values to their factory defaults
4. Power cycle the AQT-RCS for the new settings to take effect



Temporary Hardware Admin Default Reset

If the IP Address and/or Admin ID or Password of the AQT-RCS are not known, then perform the following steps to 'temporarily' set the AQT-RCS to its default Admin access settings:

1. Facing the AQT-RCS, place a 2-pin jumper across the top most two pins of the five pin 'CONFIG' header
2. Power cycle the AQT-RCS
 - A. The unit should now be 'temporarily' configured for the default IP Address (172.16.70.1)
3. Log into the Admin page — http://172.16.70.1/Admin.htm
 - A. Use the default User name & Password — 'Admin' & 'pass'
4. Change the IP Address; Subnet Mask; Gateway; Admin ID; Admin Password, etc. as required



NOTE: After a hardware reset a direct connection to the AQT-RCS may be required, a cross Ethernet cable is required for a direct connection.

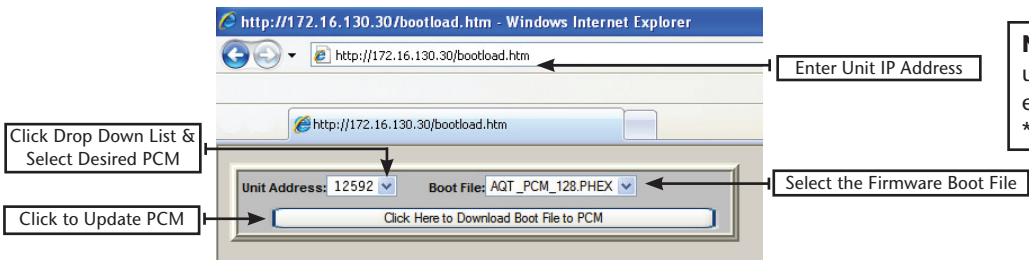
5. Click **Save**
6. Remove the 2-pin jumper from the 'CONFIG' header
7. Power cycle the AQT-RCS
 - A. The unit should now be configured for the new Admin settings
8. To erase all entries and reset the unit to the factory default settings follow the 'Software Default Reset' procedure

AQT-RCS Utility Updating Tools:

NOTE: Any AQT-RCS Utility functions should ONLY be performed if directed by a qualified Blonder Tongue technician!

Updating the AQT-PCM Firmware

The AQT-RCS provides the ability to locally or remotely upgrade the firmware revision of the AQT-PCM unit. This is a hidden function, enter the IP address of the AQT-RCS in the browser address line followed by /bootload.htm as shown.



NOTE: The Bootload utility is a hidden utility function and requires the manual entry of the IP address followed by */bootload.htm.

1. To upgrade the AQT-RCS firmware using the AQT-RCS, click the drop down list and select desired PCM address. **Click the browser refresh button if not all PCM unit addresses are displayed in the drop down selection list.**
2. Select the appropriate bootload file, this file has a *.PHEX file format extension, the name of the file contains the actual version number of the firmware.

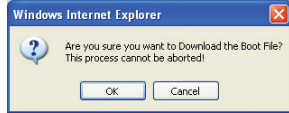
NOTE: The AQT-RCS is pre-loaded with the latest current released version of the AQT-PCM firmware. Visit the Blonder tongue FTP site for any additional updates @ ftp1.blondertongue.com, AQT directory as shown.



NOTE: See the FTP file transfer instructions for downloading a new firmware version

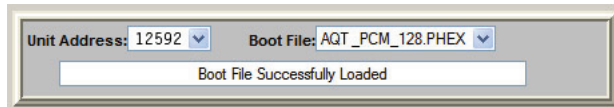
3. Click **Click Here to Download Boot File to PCM**

4. Click **OK** on the confirmation message prompt.

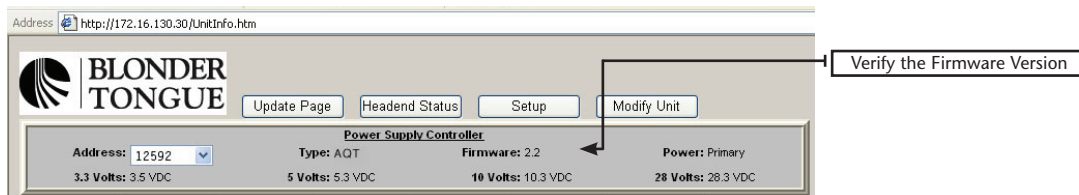


The Firmware Upgrade process can not be cancelled or interrupted after proceeding. The upgrade process takes approximately 1 minute to complete.

The AQT-PCM LCD (if you are present at the headend to observe) will display 'PROGRAM FLASH' during the upgrade process. The Backlight of the LCD will shut off upon completion and the PCM will reboot itself. The bootload web utility will display the successful completion message when finished.



The updated firmware version number can now be verified on the Unit Info page of the AQT-RCS.



Updating the AQT-RCS Web Pages

The AQT-RCS uses Java enabled http web pages for the interactive communication process. From time to time Blonder Tongue may make updated web pages available that address operational or bug related items as well as make new features available. The web pages should only be updated after consultation with the Blonder Tongue Technical Engineering Group.

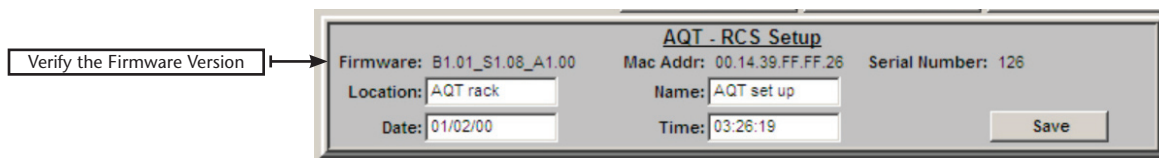
The latest released web pages may be downloaded from the Blonder Tongue FTP site:

ftp://ftp1.blondertongue.com/ftproot/AQTSeries/AQT_RCS/Web_pages/

It is recommended to always download and update all web pages in the FTP site directory when performing an update. See the 'Transferring Files to the AQT-RCS using FTP' for additional instructions.

Updating the AQT-RCS Firmware

The AQT-RCS firmware may also be updated from time to time via FTP. The firmware file has a *.firm file format extension, the name of the file contains the actual version number of the firmware. 'AQTRCS_101.firm' indicates AQT Server version 1.01. The firmware version can be verified by accessing the 'Setup' and/or "Admin" page — the last three digits indicate the firmware version. The firmware should only be updated after consultation with the Blonder Tongue Technical Engineering Group.



Transferring Files to the AQT-RCS using FTP

FTP — File Transfer Protocol is a commonly used protocol to transfer data from one computer to another over the Internet or a network that supports TCP/IP protocol. There are two computers or devices involved in an FTP transfer, a server and a client. The FTP server, running FTP server software, listens on the network for requests. The client, running FTP client software, initiates a connection to the server. Once connected the client can perform operations such as downloading or uploading files to the server. FTP servers by default listen on port 21 for incoming connections from FTP clients. The Blonder Tongue FTP site and the AQT-RCS act as FTP Servers.

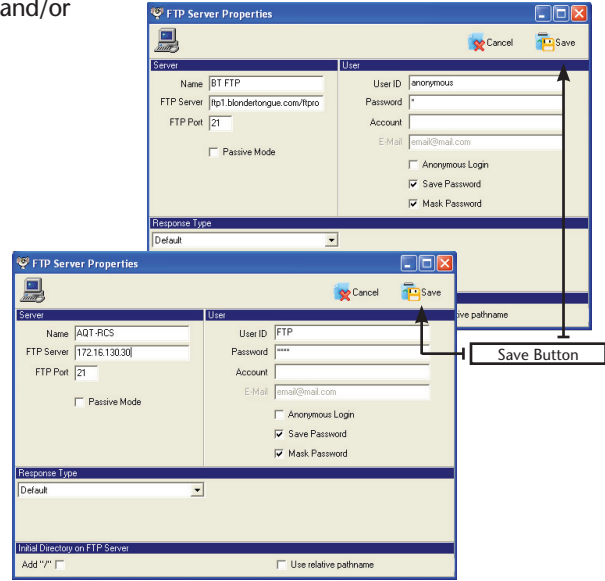
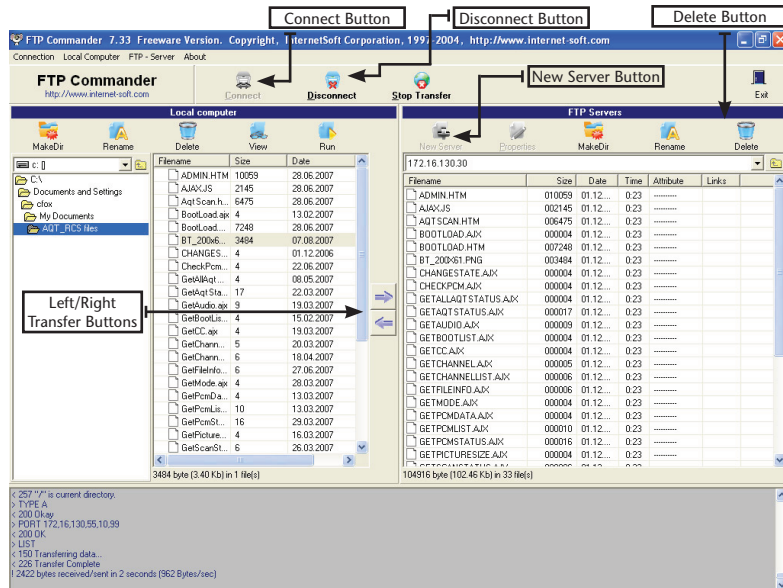
- FTP client software, such as FTP Commander (a free FTP client software program) is required to access and transfer files to AQT-RCS unit. The appropriate username and password are required for transfer — default User Name: 'FTP' & Password: 'pass' (these entries are case sensitive)

NOTE: FTP Commander Version 7.33 can be downloaded from the Blonder Tongue FTP Site, Version 8.x of the FTP Commander software does not function in some computer setup environments and thus, not recommended.

- Navigate to the Blonder Tongue FTP site @ <ftp://ftp1.blondertongue.com/ftproot/>
- The standard Internet Explorer web browser may be used to access and download the FTP Commander freeware
- Proceed to the FTP Commander directory and download the executable file
- Install the FTP Commander freeware software on your desired PC

Transferring Files using FTP Commander V 7.33

- Open the FTP Commander Software
- Click **New Server** (See picture) to create a new connection to the AQT-RCS unit or the Blender Tongue FTP site to download the replacement web pages and/or firmware
- Enter the required information in the FTP Server Properties window
 - Name: Enter a desired name for the server connection
 - FTP Server: Enter the IP address of the desired server such as the AQT-RCS or Blender Tongue FTP Site
 - FTP Port: The AQT-RCS & the BT FTP Site use the default FTP transfer port, Port 21
 - User ID: Enter the appropriate User name (default for the AQT-RCS is "FTP" and the Blender Tongue FTP site is anonymous)
 - Password: Enter the appropriate Password (default for the AQT-RCS is 'pass' and the Blender Tongue FTP site uses no Password entry)
- NOTE:** Usernames and Password are case sensitive
- Click **Save**



Uploading & Downloading files

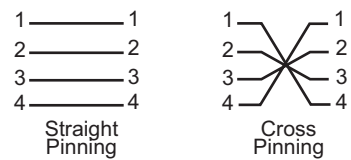
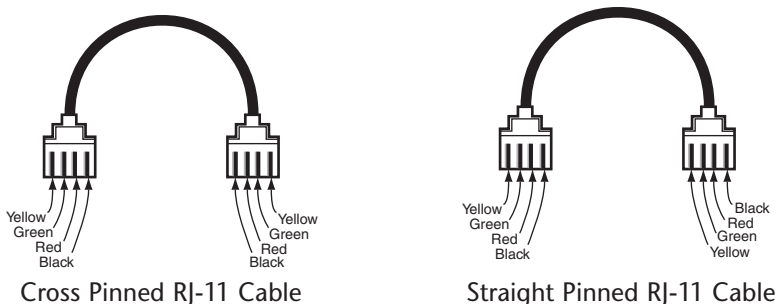
- Click the desired Server you created in the list of FTP Servers
- Click **Connect** to establish a connection to the desired server
- The connection should be established and the available files for download/upload should be displayed (AQT-RCS example shown at right)
- Select all the files on the FTP server to transfer and click the left arrow button to transfer to the open directory

Updating the AQT-RCS with BT FTP site files

1. Create a new directory on your local PC for the AQT-RCS web pages and/or firmware files required to update the unit
2. Download all the files from the Blender Tongue FTP as instructed above to the new directory on your local PC

3. Click **Disconnect** to close the connection with the Blender Tongue FTP Site and establish a connection with the AQT-RCS unit (click the server you created for the AQT-RCS and click **Connect**), the files on the AQT-RCS unit will be displayed
4. The web pages on the AQT-RCS unit must be deleted prior to updating. Select all the web page files ****NOTE: do not select & delete files with a '.firm' or '.phex' extension — these are firmware related files and will prevent the AQT-RCS unit from operating**** and click **Delete**
5. Navigate to the directory on your local PC with the updated web page files from the FTP site, select all the files and click the right arrow button to transfer the updated web page files to the AQT-RCS unit, as directed

Appendix A



Note: Straight pinning means that each contact is straight pinned to its respective contact. Cross pinning means that contacts are pinned to the opposite contact.

Notes:

Limited Warranty

Blonder Tongue Laboratories, Inc. (BT) will at its sole option, either repair or replace (with a new or factory reconditioned product, as BT may determine) any product manufactured by BT which proves to be defective in materials or workmanship or fails to meet the specifications which are in effect on the date of shipment or such other specifications as may have been expressly agreed upon in writing (i) for a period of one (1) year from the date of original purchase (or such shorter period of time as may be set forth in the license agreement specific to the particular software being licensed), with respect to iCentral™ (hardware and software) and all other software products (including embedded software) licensed from BT, (ii) for a period of one (1) year from the date of original purchase, with respect to all MegaPort, IPTV products and fiber optics receivers, transmitters, couplers and integrated receivers/distribution amplifiers (including TRAILBLAZER™, RETRO-LINX™ and TWIN STAR™ products) as well as for VideoCipher® & DigiCipher® satellite receivers, and (iii) for a period of three (3) years from the date of original purchase, with respect to all other BT products. Notwithstanding the foregoing, in some cases, the warranty on certain proprietary sub-assembly modules manufactured by third party vendors and contained in BT products and on certain private-label products manufactured by third parties for resale by BT are of shorter duration or otherwise more limited than the standard BT limited warranty. In such cases, BT's warranty with respect to such third party proprietary sub-assembly modules and private-label products will be limited to the duration and other terms of such third party vendor's warranty. In addition, certain products, that are not manufactured but are resold by BT, carry the original OEM warranty for that product. The limited warranty set forth in this paragraph does not apply to any product sold by BT, which at the time of sale constituted a Closeout Product.

BT will at its sole option, either repair or replace (with a new or factory reconditioned product, as BT may determine) any product sold by BT which at the time of sale constituted a refurbished or closeout items ("Refurbished Product" and "Closeout Product"), which proves to be defective in materials or workmanship or fails to meet the specifications which are in effect on the date of shipment or such other specifications as may have been expressly agreed upon in writing, for a period of ninety (90) days from the date of original purchase. Notwithstanding the foregoing, in some cases, the warranty on third party software and on certain proprietary sub-assembly modules manufactured by third party vendors and contained in BT products and on certain private-label products manufactured by third parties for resale by BT are of shorter duration or otherwise more limited than the BT limited warranty for Closeout Products. In such cases, BT's warranty for Closeout Products constituting such third party software, third party proprietary sub-assembly modules and private-label products will be limited to the duration and other terms of such third party vendor's warranty. In addition, notwithstanding the foregoing, (i) certain Closeout Products that are not manufactured (but are resold) by BT, carry the original OEM warranty for such products, which may be longer or shorter than the BT limited warranty for Refurbished or Closeout Products. All sales of Refurbished or Closeout Products are final.

To obtain service under this warranty, the defective product, together with a copy of the sales receipt or other satisfactory proof of purchase and a brief description of the defect, must be shipped freight prepaid to: Blonder Tongue Laboratories, Inc., One Jake Brown Road, Old Bridge, New Jersey 08857.

This warranty does not cover damage resulting from (i) use or installation other than in strict accordance with manufacturer's written instructions, (ii) disassembly or repair by someone other than the manufacturer or a manufacturer-authorized repair center, (iii) misuse, misapplication or abuse, (iv) alteration, (v) lack of reasonable care or (vi) wind, ice, snow, rain, lightning, or any other weather conditions or acts of God.

OTHER THAN THE WARRANTIES SET FORTH ABOVE, BT MAKES NO OTHER WARRANTIES OR REPRESENTATIONS OF ANY KIND, EXPRESS OR IMPLIED, AS TO THE CONDITION, DESCRIPTION, FITNESS FOR A PARTICULAR PURPOSE, MERCHANTABILITY OR AS TO ANY OTHER MATTER, AND SUCH WARRANTIES SUPERSEDE ANY ORAL OR WRITTEN WARRANTIES OR REPRESENTATIONS MADE OR IMPLIED BY BT OR BY ANY OF BT'S EMPLOYEES OR REPRESENTATIVES, OR IN ANY OF BT'S BROCHURES, MANUALS, CATALOGS, LITERATURE OR OTHER MATERIALS. IN ALL CASES, BUYER'S SOLE AND EXCLUSIVE REMEDY AND BT'S SOLE OBLIGATION FOR ANY BREACH OF THE WARRANTIES CONTAINED HEREIN SHALL BE LIMITED TO THE REPAIR OR REPLACEMENT OF THE DEFECTIVE PRODUCT F.O.B. SHIPPING POINT, AS BT IN ITS SOLE DISCRETION SHALL DETERMINE. BT SHALL IN NO EVENT AND UNDER NO CIRCUMSTANCES BE LIABLE OR RESPONSIBLE FOR ANY CONSEQUENTIAL, INDIRECT, INCIDENTAL, PUNITIVE, DIRECT OR SPECIAL DAMAGES BASED UPON BREACH OF WARRANTY, BREACH OF CONTRACT, NEGLIGENCE, STRICT TORT LIABILITY OR OTHERWISE OR ANY OTHER LEGAL THEORY ARISING DIRECTLY OR INDIRECTLY FROM THE SALE, USE, INSTALLATION OR FAILURE OF ANY PRODUCT ACQUIRED BY BUYER FROM BT.

All claims for shortages, defects and non-conforming goods must be made by Buyer in writing within five (5) days of receipt of merchandise, which writing shall state with particularity all material facts, concerning the claim then known to Buyer. Upon any such complaint, Buyer shall hold the goods complained of intact and duly protected, for a period of up to sixty (60) days. Upon the request of BT, Buyer shall ship such allegedly nonconforming or defective goods, freight prepaid to BT for examination by BT's inspection department and verification of the defect. BT, at its option, will either repair, replace or issue a credit for products determined to be defective. BT's liability and responsibility for defective products is specifically limited to the defective item or to credit towards the original billing. All such replacements by BT shall be made free of charge f.o.b. the delivery point called for in the original order. Products for which replacement has been made under the provisions of this clause shall become the property of BT. Under no circumstances are products to be returned to BT without BT's prior written authorization. BT reserves the right to scrap any unauthorized returns on a no-credit basis. Any actions for breach of this contract must be commenced by Buyer within thirteen (13) months after the cause of action has accrued. A copy of BT's standard terms and conditions of sale, including the limited warranty, is available from BT upon request. Copies of the limited warranties covering third party proprietary sub-assembly modules and private label products manufactured by third parties are also available from BT on request. VideoCipher® & DigiCipher® are registered trademarks of Motorola Corp.



**BLONDER
TONGUE**
LABORATORIES, INC.

One Jake Brown Road
Old Bridge, NJ 08857-1000 USA
(800) 523-6049 • (732) 679-4000 • FAX: (732) 679-4353
www.blondertongue.com