



**UCrypt<sup>®</sup> Q2Q**  
Patent Pending

---

## UCrypt<sup>®</sup> Cable Gateways QAM to QAM

QUICK START GUIDE

Although every effort has been taken to ensure the accuracy of this document it may be necessary, without notice, to make amendments or correct omissions. Specifications subject to change without notice.

\* Any use of the UCrypt product, directly or indirectly, for the decryption and unauthorized reproduction of content that constitutes or may constitute copyright infringement or otherwise infringes on the proprietary rights of any third party is expressly prohibited. No user of UCrypt shall use UCrypt for any purpose or in any manner which, directly or indirectly, violates the law, violates the proprietary rights of any other party, or aids in any unlawful act or undertaking including, without limitation, laws governing data privacy, international data transmission, and export of technology or data. Any multiple systems operator or other similar party ("MSO") will use the UCrypt product in strict compliance with all applicable laws and in compliance with any agreement in effect between the MSO and a content provider. In no event shall ATX Networks Corp. or any of its affiliates be liable to an MSO, any end user of the UCrypt product, or any other third party, for any claims arising out of or related to any use or misuse of the UCrypt product in contravention of this disclaimer. It is the express obligation of an MSO to convey this disclaimer to any other end user of the UCrypt product.

MDU Solutions®, UCrypt®, DigiVu® and VersActive®Pro are registered trademarks of ATX in the United States and/or other countries. Products or features contained herein may be covered by one or more U.S. or foreign patents. Other non-ATX product and company names in this manual are the property of their respective companies.

# TABLE OF CONTENTS

<b>1. <u>SAFETY</u></b> .....	<b>1-1</b>
<b>2. <u>QUICK START GUIDE – READ ME FIRST</u></b> .....	<b>2-1</b>
2.1 <u>Install and Power Up</u> .....	2-1
2.2 <u>Plug in the CableCARD™ Modules</u> .....	2-1
2.3 <u>Connect the Cables</u> .....	2-1
2.4 <u>Start the Management Interface</u> .....	2-1
2.5 <u>Change Network Settings</u> .....	2-1
2.6 <u>Pair the CableCARD™ with its Host</u> .....	2-2
2.7 <u>Optionally Import an Existing Configuration File</u> .....	2-2
2.8 <u>Select Programs for Decryption</u> .....	2-2
2.9 <u>Review or Change CableCARD™ Configuration</u> .....	2-2
2.10 <u>Configure Output QAM Carriers</u> .....	2-2
2.11 <u>Assign Programs to Output QAM Carriers</u> .....	2-2
<b>3. <u>IMPORTANT CONFIGURATION INFORMATION</u></b> .....	<b>3-1</b>
3.1 <u>Support for Two Simultaneous Configurations</u> .....	3-1
<b>4. <u>INSTALLATION SUMMARY</u></b> .....	<b>4-1</b>
4.1 <u>Mounting</u> .....	4-1
4.2 <u>Equipment Safety Grounding</u> .....	4-1
4.3 <u>Ambient Environment</u> .....	4-1
4.4 <u>Power Requirements</u> .....	4-1
<b>5. <u>CABLING CONNECTION</u></b> .....	<b>5-1</b>
<b>6. <u>POWERING UP</u></b> .....	<b>6-1</b>
<b>7. <u>MANAGEMENT INTERFACE</u></b> .....	<b>7-1</b>
7.1 <u>Connect to the Management Interface</u> .....	7-1
7.2 <u>Configure the Management Computer Network Port</u> .....	7-1
7.3 <u>Log in to the Management Interface</u> .....	7-2
<b>8. <u>ACTIVATING CableCARD™ MODULES</u></b> .....	<b>8-1</b>
8.1 <u>CableCARD™ Module Authorization Best Practice</u> .....	8-2
<b>9. <u>CHANNEL VIEW TAB - CONFIGURATION</u></b> .....	<b>9-1</b>
<b>10. <u>CableCARD™ VIEW TAB - CONFIGURATION</u></b> .....	<b>10-1</b>
<b>11. <u>OUTPUT QAM VIEW TAB - CONFIGURATION</u></b> .....	<b>11-1</b>
<b>12. <u>OUTPUT MPTS VIEW TAB - CONFIGURATION</u></b> .....	<b>12-1</b>
<b>13. <u>SYSTEM TAB - CONFIGURATION</u></b> .....	<b>13-1</b>
13.1 <u>Default User Names and Passwords</u> .....	13-1
<b>14. <u>CONFIGURATION TAB - CONFIGURATION</u></b> .....	<b>14-1</b>
<b>15. <u>SERVICE &amp; SUPPORT</u></b> .....	<b>15-1</b>
15.1 <u>Contact ATX Networks</u> .....	15-1
15.2 <u>Warranty Information</u> .....	15-1

This page intentionally left blank

# SAFETY

## 1. Safety

**WARNING! FAILURE TO FOLLOW THE SAFETY PRECAUTIONS LISTED BELOW MAY RESULT IN PROPERTY DAMAGE OR PERSONAL INJURY. PLEASE READ AND COMPLY WITH THE FOLLOWING:**

**SAFETY GROUND:** The connection to earth of the supplementary grounding conductor shall be in compliance with the appropriate rules for terminating bonding jumpers in Part V of Article 250 of the National Electrical Code, ANSI/NFPA 70, and Section 10 of Part I of the Canadian Electrical Code, Part I, CSA C22.1.

**WATER AND MOISTURE:** Care should be taken to prevent entry of splashed or dripping water, other liquids, and physical objects through enclosure openings.

**DAMAGE:** Do not operate the device if damage to any components is suspected.

**POWER SOURCES:** Only connect the unit to a power supply of the type and capacity specified in the operating instructions or as marked on the device.

- NOTE:** a) For 115 VAC operation, use the power cord supplied for operation from a 115 VAC source.  
b) For 230 VAC operation, use the power cord supplied for operation from a 230 VAC source.

**GROUNDING OR POLARIZATION:** Electrical grounding and polarization means must not be defeated.

**POWER CORD PROTECTION:** Care must be taken during installation to route or arrange the power supply cord to prevent and avoid the possibility of damage to the cord by external objects. Pay particular attention to the exit point from the device and plug.

**POWER SUPPLY CORD ROUTING:** The power supply cord shall not be attached to the building surface, nor run through walls, ceilings, floors and similar openings in the building structure.

**SERVICE:** Do not attempt to service the device beyond procedures provided the operating instructions. All other servicing should be referred to qualified service personnel.

**MODIFICATIONS:** Modifications should not be made to the device or any of its components for applications other than those specified in the operating instructions.

**SAFETY CODES AND REGULATIONS:** The device should be installed and operated in compliance with all applicable local safety by-laws, codes and regulations.

**BATTERY REMOVAL AND REPLACEMENT:** Disconnect power (AC or DC) from the equipment before battery removal and replacement. This is accomplished by unplugging the power cord from the power outlet. Replace the battery with Sony part No. CR2032 or exact replacement only.

**CAUTION:** Use of a different battery type may present a risk of fire or explosion.

**BATTERY DISPOSAL:** Recycle or dispose of batteries in accordance with the battery manufacturer's instructions and local/national disposal and recycling regulations. Please call 1-800-8-BATTERY or go to the website at [www.call2recycle.org](http://www.call2recycle.org) for information on recycling or disposing of your used battery.

This page intentionally left blank

## QUICK START GUIDE – READ ME FIRST

### 2. Quick Start Guide – READ ME FIRST

For detailed information on configuration, go to the ATX website (atxnetworks.com) in the Resources & Support section, User Documents sub-section to download the Installation & Operation Manual.

This Quick Start Guide will take you through the steps required to get your UCrypt up and running if you have not done this before. Follow the steps below:

#### 2.1 Install and Power Up

You may be doing this first setup in your lab so detailed installation details are not provided here. See the Installation and Operation Manual for installation details. You can get it from the ATX website (atxnetworks.com) in the Resource & Support section, User Documents sub-section. You will first need to get a user name and password from your ATX Networks support or sales representative and the contact numbers are on this same web page.

Refer to “[Quick Start Guide – READ ME FIRST](#)” on page 2-1 for a brief overview of mounting and powering information.



**NOTE:** *If the unit is to be mounted in a rack, it is essential to attach the rear mounting ears to mounting rails to provide support or alternately install the equipment on a well supported shelf.*

#### 2.2 Plug in the CableCARD™ Modules

The CableCARD host slots are on the rear panel of the UCrypt device for some versions or behind the front fan panel in the Version 2 model. CableCARD modules are hot swappable so they may be inserted or removed at any time. Depending on the ordered configuration, your UCrypt device may have 1 to 10 active CableCARD slots. CableCARD modules may be inserted in any order.



**NOTE:** *Great care should be taken with the CableCARD modules to not forcibly insert them - the card should slide in and seat easily. Forcing the card into the slot is likely to result in bent pins in the PCMCIA host interface which will prevent proper operation of the UCrypt device.*

Refer to “[Quick Start Guide – READ ME FIRST](#)” on page 2-1 for instructions for activating CableCARD modules.

#### 2.3 Connect the Cables

A PC with web browser and Ethernet network port will be required to configure the UCrypt device. Establish a network connection with the supplied crossover network cable.

Connect QAM digital input signals to the input F fitting at a level of +5 to +10 dBmV per digital carrier.

Refer to “[Quick Start Guide – READ ME FIRST](#)” on page 2-1 for more details about cabling.

#### 2.4 Start the Management Interface

The software for configuring the UCrypt Management Interface is provided by a built in secure web server which presents configuration pages. You will connect with the secure web server at **https://192.168.0.23** which is the default address, and log in to access the Interface.

The UCrypt device will take about 90 seconds to boot up after applying power before you can begin configuration.

Refer to “[Quick Start Guide – READ ME FIRST](#)” on page 2-1 for basic setup instructions to connect to the Management Interface

#### 2.5 Change Network Settings

If it is necessary to change the network IP address to access this unit remotely on a network, that is done on the **System** configuration tab

Refer to “[Quick Start Guide – READ ME FIRST](#)” on page 2-1 to change the IP addresses.

## 2.6 Pair the CableCARD™ with its Host

You will need to pair each CableCARD module with its host, that is, the Host Slot receptacle on the UCrypt device. If this CableCARD is not a permanent CableCARD to be installed in this unit, pairing will need to be done again with the exact permanent CableCARD and host slot.

The process of pairing is required for security so the CableCARD may not be moved from the host that it is originally paired with and plugged in somewhere else. If it is moved, it will require the pairing operation to be done again with the new host and it will not decrypt any services until that is done.

The pairing information will be obtained from the Management Interface after you log in and will need to be passed to your Billing System Administrator who will setup an account and enter the pairing information.

Refer to [“Quick Start Guide – READ ME FIRST” on page 2-1](#) for more details about the pairing process.

## 2.7 Optionally Import an Existing Configuration File

UCrypt supports mass deployment with an importable/exportable configuration file. If you have a previously exported configuration file to import see [“Quick Start Guide – READ ME FIRST” on page 2-1](#).

If you have no file to import skip to Step 2.1 below.

## 2.8 Select Programs for Decryption

After you have paired available CableCARD modules with the host receptacle slots, the UCrypt device will receive a Channel Map by reading the Cable System VCT (Virtual Channel Table) and display available programs in a window. You should now select channels for decryption to test CableCARD module validation and authorization. After each installed CableCARD module is verified to be working with at least one program, continue selecting programs that will be needed for the final output lineup. Encrypted programs may be selected for decryption and programs that are in the clear may also be selected to passthrough to the output.

Refer to [“Quick Start Guide – READ ME FIRST” on page 2-1](#)

## 2.9 Review or Change CableCARD™ Configuration

After having selected programs for decryption, you may need to change settings or remove a program.

Refer to [“Quick Start Guide – READ ME FIRST” on page 2-1](#) for details.

## 2.10 Configure Output QAM Carriers

You need to specify the QAM output frequencies and Constellation size.

Refer to [“Quick Start Guide – READ ME FIRST” on page 2-1](#) for details.

## 2.11 Assign Programs to Output QAM Carriers

Finally, the programs selected for decryption or passthrough need to be assigned to output QAM carriers.

Refer to [“Quick Start Guide – READ ME FIRST” on page 2-1](#) for details.

### That’s it, you’re done

If you followed all the directions, you should have programs on the QAM output channels that you configured.

Use an appropriate Digital TV to view programs that are in the clear.

Use an appropriate Pro:Idiom® compatible TV or STB with built-in Pro:Idiom to view Pro:Idiom encrypted programs.

Download the full Installation & Operation Manual from the ATX website ([atxnetworks.com](http://atxnetworks.com)) in the Resources & Support section, User Documents sub-section for more details than are presented here. Click the **Help** tab to download it to your Management Computer.



## IMPORTANT CONFIGURATION INFORMATION

### 3. Important Configuration Information

#### 3.1 Support for Two Simultaneous Configurations

As work on configuration progresses, changes will need to be made to multiple pages in the Management Interface. As work is completed on each page, the changes must be saved and there is a **Save** button conveniently located on every configuration page where configuration changes can be made. If changes are made and you navigate away from the page without saving, the changes may be discarded.

When you are satisfied that all configuration changes on the UCrypt device are complete and correct, click the **Apply** button located by the save buttons on any page, they all do the same thing. There is no need to apply the configuration as you complete work on each page. You may **Save** your work as you go and **Apply** the configuration when completed.

##### 3.1.1 Saved Configuration

This can be thought of as a work in progress and any changes can be made in the configuration without affecting how the UCrypt device is currently working and providing services.

This saved configuration can be discarded at any time without affecting the working UCrypt device configuration or can be Applied to the UCrypt device, to make it the new working configuration. To discard your configuration changes browse to the **Configuration** tab and click the **Revert** button. The Revert action is not service affecting.

##### 3.1.2 Applied Configuration

This is the working configuration that the UCrypt device is currently using to provide the desired services to the output and regardless of the changes made in the Management Interface as discussed above, changes do not take effect until the **Apply** button is clicked and the configuration is applied.

During configuration, while changes are being made, the saved configuration and the applied configuration differ by the changes that have been made and saved since last clicking **Apply**. After the Apply button is clicked, the saved configuration and the applied configuration are identical.



**NOTE:** Clicking the Apply button will cause a service interruption while the UCrypt device re-provisions itself with the new working configuration. It is best to make all changes necessary on all configuration pages and apply the changes when completed.

This page intentionally left blank

# INSTALLATION SUMMARY

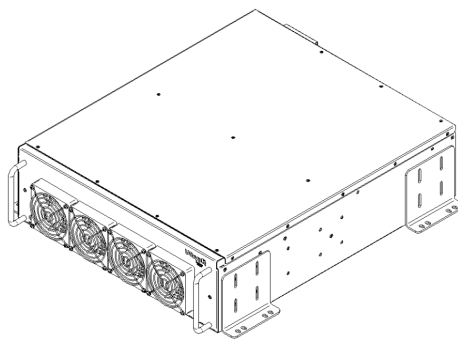
## 4. Installation Summary

### 4.1 Mounting

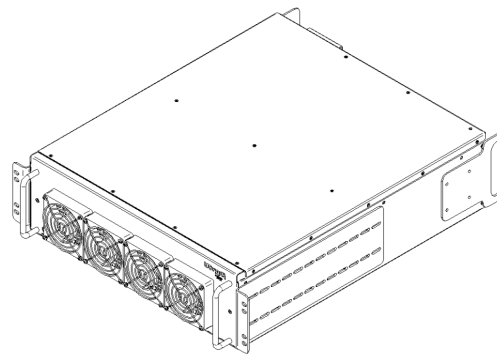


**NOTE:** If the UCrypt unit is to be mounted in a rack, it is essential to attach the rear mounting ears of the unit to rear mounting rails to provide support or alternately install the equipment on a well supported shelf

Rack mount brackets for front and rear are provided with the UCrypt device for mounting in a standard EIA 19" rack. Brackets are also provided for mounting the UCrypt device to a vertical backboard for sites where no rack mounting facilities exist.



Panel Mount



Rack Mount

### 4.2 Equipment Safety Grounding

It is imperative that the UCrypt device housing be connected to a permanent building ground in a manner that will ensure that the exposed metal parts are constantly connected to ground even when the power cord may be disconnected temporarily. A grounding lug is provided on the rear panel to conveniently effect such a connection. The following guidelines are provided to clarify the requirements for the installation to meet UL, CUL and CB standards. The use of the words "Ground" and "Earth" as well as "Grounding" and "Earthing" may be used interchangeably and in this context, have the same meaning.

1. The supplementary equipment grounding conductor is to be installed between the UCrypt device rear panel ground connector and earth, that is, in addition to the equipment ground conductor in the power supply cord.
2. The supplementary equipment grounding conductor may not be smaller in size than the branch-circuit supply conductors or a minimum #14 AWG. The supplementary equipment grounding conductor is to be connected at the rear panel terminal provided, and connected to earth in a manner that will retain the earth connection when the power supply cord is unplugged. The connection to earth of the supplementary grounding conductor shall be in compliance with the appropriate rules for terminating bonding jumpers in Part V of Article 250 of the National Electrical Code, ANSI/NFPA 70, and Section 10 of Part I of the Canadian Electrical Code, Part I, CSA C22.1.
3. Termination of the supplementary equipment grounding conductor may be made to building steel, to a metal electrical raceway system, or to any grounded item that is permanently and reliably connected to the electrical service equipment earth.
4. Bare, covered or insulated grounding conductors are acceptable. A covered or insulated grounding conductor shall have a continuous outer finish that is either green, or green with one or more yellow stripes.

### 4.3 Ambient Environment

The UCrypt device is designed to operate to specification in an ambient room temperature of 0°C to +50°C (+32°F to +122°F) however it is recommended that it is installed in an environment that approximates normal room temperature to ensure proper long term operation.

### 4.4 Power Requirements

The UCrypt device is designed with an autosensing switching type power supply which can operate on a wide range of input

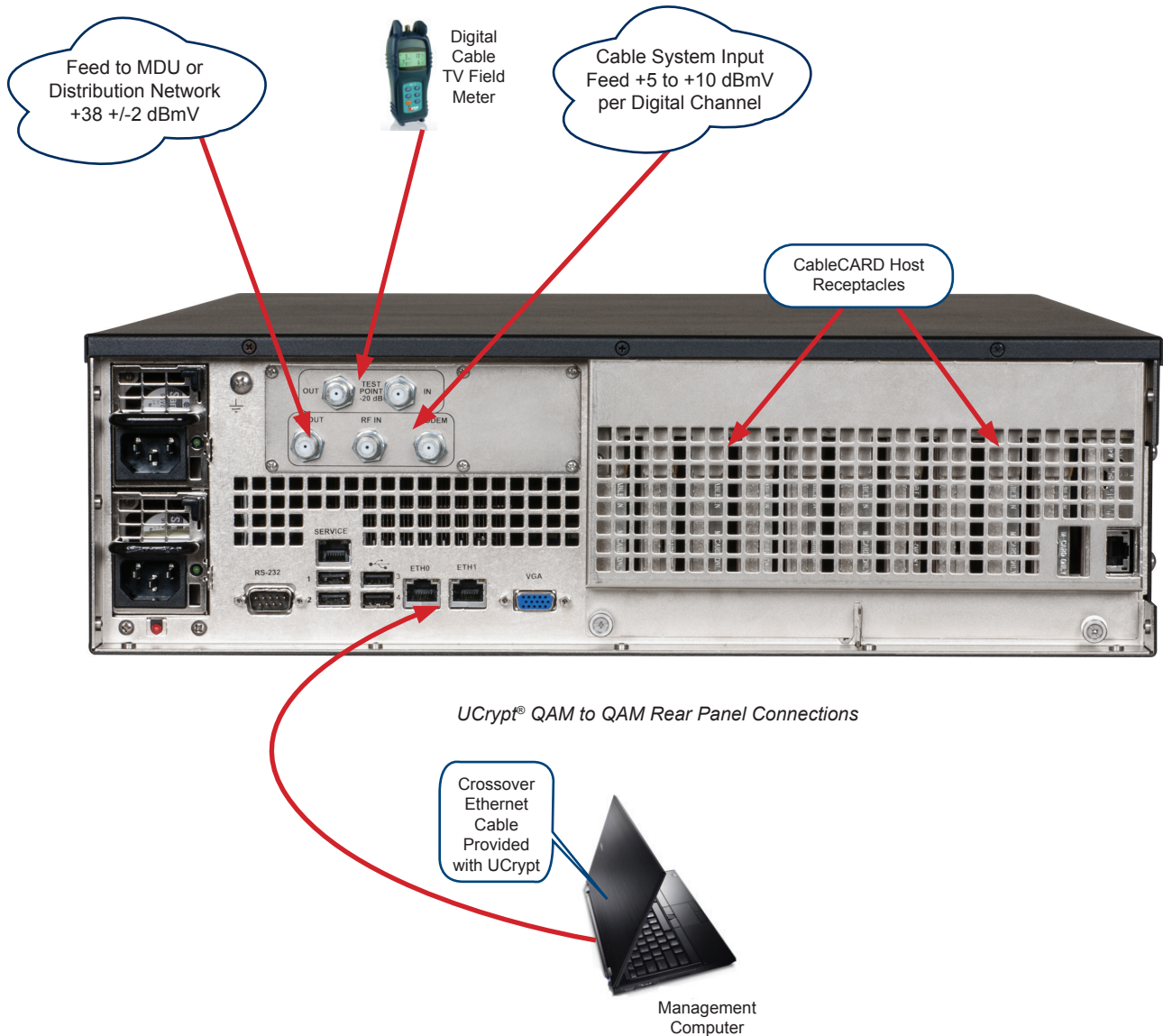
voltages from 115 VAC to 230 VAC. There is no need to configure the power supply to operate on any voltage in this range. The power cord provided with the UCrypt device is a North American configuration with a NEMA 5-15 grounded plug for 115 VAC. If it is necessary to operate the UCrypt device on 230 VAC, the installer must obtain an IEC cord with a NEMA 6-15 grounded plug for use in North America.

## CABLING CONNECTION

### 5. Cabling Connection

The input signal level presented to the UCrypt device must be in the range of +5 to +10 dBmV per digital carrier as measured at the RF input port. The output RF level is +38 dBmV +/- 2 dB at the RF output port. Adjacent QAM carriers should be equal in level.

A crossover Ethernet Cable is provided with the UCrypt device for connecting directly to the Management Computer.



This page intentionally left blank

## POWERING UP

### 6. Powering Up



**NOTE:** *The factory default configuration is that all QAM outputs are disabled so no unintended output into the distribution network is possible.*

If the UCrypt device has been pre-provisioned elsewhere, before powering up, ensure that the network output cables are disconnected from the distribution network to avoid unintentional service outages if there are overlaps between the QAM output frequencies of the UCrypt device and existing services on the network.

Apply power and turn on the rear panel switch below the power receptacle. Boot-up will take approximately 90 seconds.

This page intentionally left blank



# MANAGEMENT INTERFACE

## 7. Management Interface

### 7.1 Connect to the Management Interface

#### Minimum Management Computer Requirements

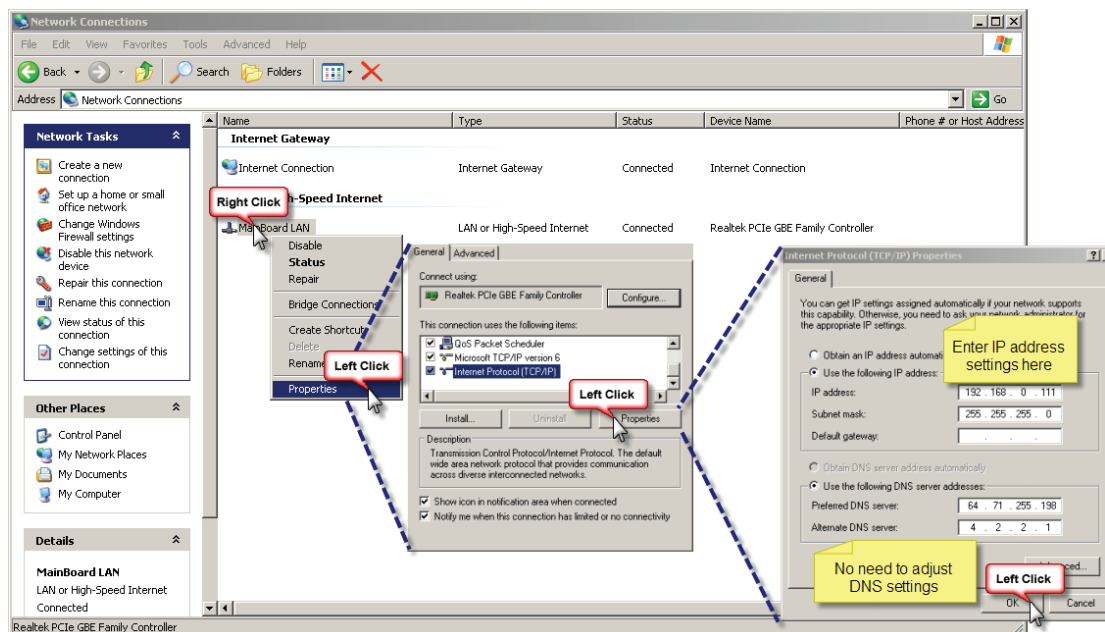
- Computer running Windows® or other OS
- Ethernet Network port available
- Web browser such as Internet Explorer®, Firefox® or similar
- Adobe Reader for reading this manual
- Notepad or text editor for capturing text and logs

### 7.2 Configure the Management Computer Network Port

Set-up of the UCrypt unit requires a laptop or desktop PC running Microsoft® Windows or other operating system with an available Ethernet network port and web browser software (called the “Management Computer” in the following procedures)

The Management Computer network port must be assigned an IP address in the same subnet as the UCrypt device for access to the UCrypt Management Interface. The following procedures are for Microsoft Windows XP and a factory default IP address setting on the UCrypt device of 192.168.0.23 subnet 255.255.255.0

- Connect the Management Computer’s Ethernet adapter to the UCrypt device’s Ethernet port using a Cat5e network cable (supplied with the unit). Link lights should illuminate indicating that the cable connection is correct and working.
- Set the Management Computer’s Ethernet interface to a static IP address on the 192.168.0.x subnet, as described below:
  - From the Control Panel, open **Network Connections** and select the connection associated with the Ethernet adapter to be used for connecting to the UCrypt device (e.g., Local Area Connection).



- Right click on the connection and select **Properties**.
- Select **Internet Protocol (TCP/IP)** and click Properties.
- Click the selection box beside **Use the following IP address** to enter a check mark in the box.

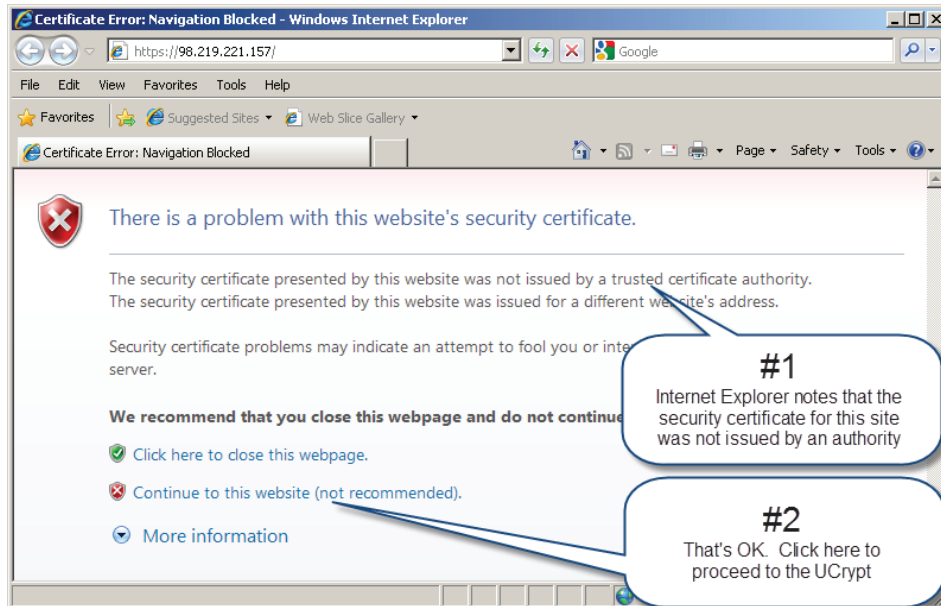
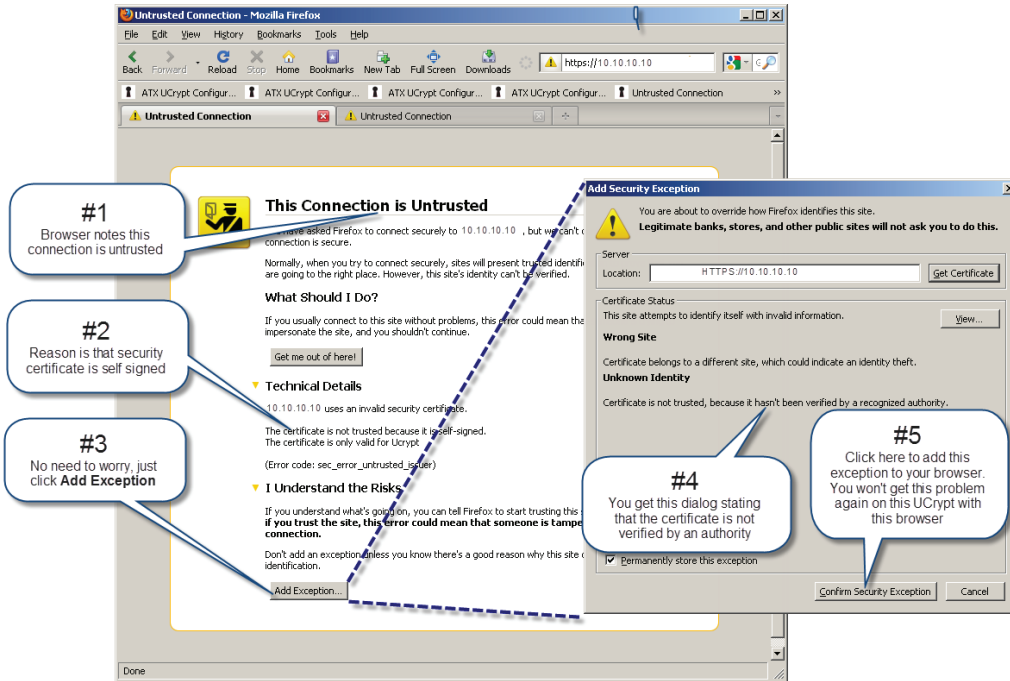
- In the **IP address** field, enter 192.168.0.x (where x represents any number from 1-253 except 23).
- In the **Subnet mask** field enter 255.255.255.0.
- Click **OK** and then **OK** again in the previous window.

### 7.3 Log in to the Management Interface

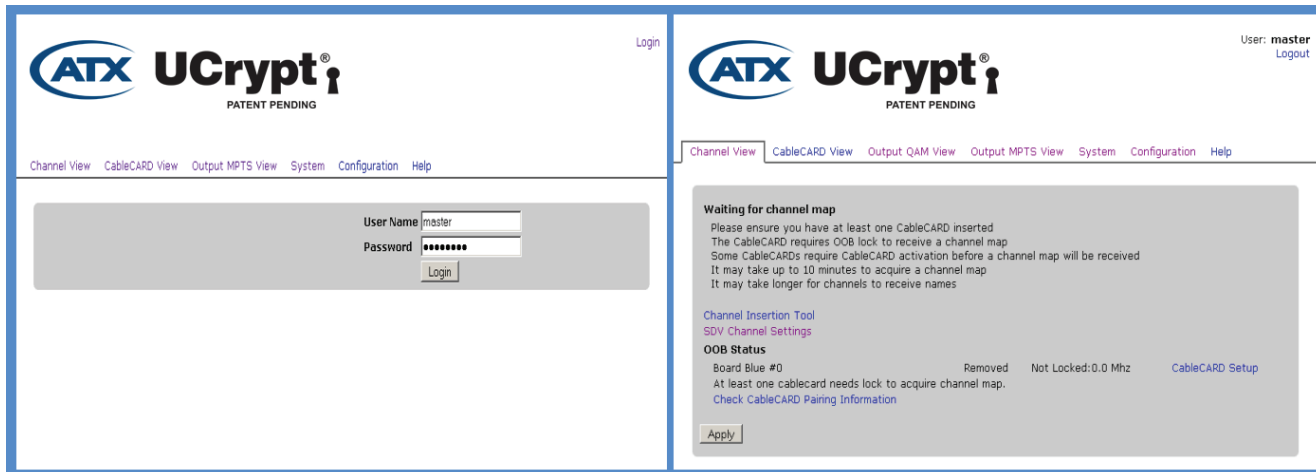
On the management computer, open a web browser and enter **https://192.168.0.23** in the address field.

If this is the first time you have connected to this UCrypt device with this Management Computer, you may get a warning of a security violation or error. This is due to the UCrypt device having a self signed security certificate and is not a security threat but your browser identifies it as such. Simply accept the security exception and proceed to the login screen as shown next. Other browsers will typically respond in the same manner.

Warning For Firefox Browser:



After navigating the security warnings, you should be presented with the following screen, on the left, displaying the login window:



Enter the appropriate **User Name** and **Password** for the access level you require from the table below. The master user is the only user that can perform configuration.

Default User Names, Passwords and Privileges				
Account User	Modify UCrypt® Settings	Install Updates	Set Passwords	Default Password
master	Yes	Yes	Yes	atx_ucrypt_master_password
admin	Yes	No	No	atx_ucrypt_admin_password
user	No	No	No	atx_ucrypt_user_password

When the login username and password are successfully entered, the screen on the right above will be presented.

This page intentionally left blank

# ACTIVATING CableCARD™ MODULES

## 8. Activating CableCARD™ Modules

Activate CableCARD Modules by pairing them with the UCrypt device host slots.

**#1**  
Click here to select the Channel View page to begin CableCARD setup

**#2**  
Plug CableCARDS into the host receptacles on the UCrypt rear panel. The UCrypt unit is equipped with four CableCARD slots that function as four individual hosts. CableCARD hosts are identified by the colors **blue, green, red and purple** both on the UCrypt back panel and in the Management Interface.  
**Be sure to fill the slots in that order if there are less than 4.**

**#3**  
Check here to see that the OOB carrier has been acquired and is locked. This must be locked to continue.

**#4**  
Click here to open a new window to see the CableCARD pairing information. This next page may take some time to load after CableCARD insertion due to firmware upgrades occurring.

**#5**  
Use your mouse to click and hold while dragging across the data to highlight and copy this information to Notepad.  
Alternately, you can copy the information manually.  
Send this information to your billing system administrator.  
Each host and CableCARD device must be set up as a valid pair in the billing system as a **"One-way Host"**.

**#6**  
After CableCARD pairing information has been entered in the billing system and some time allowed for that information to be processed, click here to monitor the validation and authorization process for each CableCARD

**#7**  
CableCARD must show **Validated** after setup completes

**ATX UCrypt®**  
PATENT PENDING

**Add new channels**  
Search:   
Channel 15 - Program #9 - WGN - Frequency 723000  
Channel 16 - Program #9 - WGN - Frequency 723000  
Channel 17 - Program #9 - WGN - Frequency 723000  
Channel 18 - Program #9 - WGN - Frequency 723000  
Channel 19 - Program #9 - Faith - Frequency 99000  
Channel 20 - Program #9 - WGN - Frequency 723000  
Channel 21 - Program #1 - WBNA - Frequency 201000  
Channel 22 - Program #9 - WGN - Frequency 723000  
Channel 23 - Program #9 - WGN - Frequency 723000

**In Use**  
Total Channels: 23  
Channel 15 - Program #9 - WGN - Frequency 723000  
SDV Channel 15 - Program #9 - WGN - Frequency 723000

**OOB Status**  
Board Blue #0: Inserted, Locked: 75.250 Mhz  
Board Green #1: Inserted, Locked: 75.250 Mhz  
Board Red #2: Inserted, Locked: 75.250 Mhz  
Board Purple #3: Inserted, Locked: 75.250 Mhz

At least one cablecard needs lock to acquire channel map.

**CableCARD Pairing Information**

**CableCARD Board Blue #0 (#0)**  
CableCARD ID: 000-002-923-589-2  
Host ID: 061-000-000-276-2  
Data: 114-288-246-73  
Serial: MA0805CAFFN9

**CableCARD Board Green #1 (#1)**  
CableCARD ID: 000-002-923-031-5  
Host ID: 061-000-000-275-4  
Data: 237-949-914-81  
Serial: MA0805CAFBJ8

**CableCARD Board Red #2 (#2)**  
CableCARD ID: 000-002-923-392-1  
Host ID: 061-000-000-274-7  
Data: 103-354-494-59  
Serial: MA0805CAFEH0

**CableCARD Board Purple #3 (#3)**  
CableCARD ID: 000-003-128-164-5  
Host ID: 061-000-000-273-9  
Data: 244-979-981-46  
Serial: MA0805CAFBM9

**CableCARD Board Blue #0**  
CableCARD Setup Steps  
Step 1: CableCARD Inserted (Done)  
Step 2: Acquire OOB Lock (Done)  
Step 3: Receiving messages from headend (Done) (Channel ID: 234416)  
Step 4: Use CableCARD(s) Pairing to provide required activation info (Done)  
Step 5: Headend has turned on service to UCrypt CableCARD (Done)  
Step 6: CableCARD is validated (Done)  
Step 7: Added encrypted channel to Board (Done)  
Step 8: CableCARD is authorized to decrypt Channel 208 (Done)  
Complete

**CableCARD Diagnostic Info**  
Status: Inserted  
Manufacturer: Motorola (3000)  
Card Version: 514  
Card Authorization: Validated, validation message is received, authenticated, and the IDs match those in the current binding.  
Card Message: OOB: Locked 75.250 Mhz  
Profile: 6 MPEG Streams  
Applications: Conditional Access: CableCARD(tm) Status: Network Setup: CableCARD(tm) Pairing: DSG: Interactive Info: 6 Programs Streams: 64 Elementary Streams

**CableCARD Setup**  
CableCARD Setup  
CableCARD Setup  
CableCARD Setup

**Note:**  
CableCARD data for Moto is shown. SA/Cisco differs slightly but procedure is the same

## 8.1 CableCARD™ Module Authorization Best Practice

Each CableCARD module must be validated and authorized before it will decrypt. Validation means that the ID numbers for the CableCARD and host port match as entered in the billing system. Authorization means that the CableCARD has received an entitlement to decrypt specific content.

When several CableCARD modules are inserted in the UCrypt device, it is best to first route one program to each CableCARD to verify the validation and authorization of each. In step 4 of the illustration below, for the first programs being added, select a different CableCARD for each program until all CableCARD modules have at least one program routed to them. If all of these programs decrypt, you can be sure of the authorization status and that they are working as they should. If no specific CableCARD is selected in step 4, then the programs are added to the first CableCARD until full, then the second, and so on. The last CableCARD, if it has no programs routed to it initially, is left in doubt as to its true authorization status while it may be validated.

# CHANNEL VIEW TAB - CONFIGURATION

## 9. CHANNEL View Tab - Configuration

Select programs from the system channel map for processing here:

**#1** Click Channel View tab to start Channel configuration

**#2** When the first CableCARD has been validated, within 10 minutes you receive the Channel Map from the Virtual Channel Table. The programs listed here are from reading the VCT.

**#3** Select a desired program in the channel map window here by clicking and highlighting it

**#4** Optionally, select a desired CableCARD here by clicking and highlighting it

**#5** Select the **Routing** in the dropdown box, choose **Decrypt** if the incoming program is encrypted and **Passthrough** if the incoming program is in the clear

**#6** Click **Add** to add the program to the list below (Some channels have previously been added)

**#7** Selected program shows up here in this list

**#8** Repeat from step 3 until all desired programs have been added or the CableCARD or tuner resources are exhausted.

**#9** Click **Apply** to apply the channel lineup changes to the UCrypt.

In Use	Program	Frequency	Name	Routing	Status	Board/Tuner
Channel 1	468	435000	NY1	Passthrough	●	CableCARD Green (#1) - Tuner #3
Channel 2 / EAS	502	753000	WCBS	Passthrough	●	CableCARD Purple (#3) - Tuner #2
Channel 4 / EAS	504	753000	WNBC	Passthrough	●	CableCARD Purple (#3) - Tuner #2
Channel 5 / EAS	505	753000	WNYW	Passthrough	●	CableCARD Purple (#3) - Tuner #2
Channel 7 / EAS	507	753000	WABC	Passthrough	●	CableCARD Purple (#3) - Tuner #2
Channel 13 / EAS	513	753000	WNET	Passthrough	●	CableCARD Purple (#3) - Tuner #2
Channel 19	408	249000	VH1	Decrypt	●	CableCARD Blue (#0) - Tuner #2
Channel 20	423	255000	MTV	Decrypt	●	CableCARD Blue (#0) - Tuner #3

**OOB Status**

Board Blue #0	Inserted	Locked:89.500 Mhz	CableCARD Se
Board Green #1	Inserted	Locked:89.500 Mhz	CableCARD Setup
Board Red #2	Inserted	Locked:89.500 Mhz	CableCARD Setu
Board Purple #3	Inserted	Locked:89.500 Mhz	CableCARD Se

At least one cablecard needs lock to acquire channel map.  
[Check CableCARD Pairing Information](#)



**NOTE:** Clicking the Apply button will cause a service interruption while the UCrypt device re-provisions itself with the new working configuration. It is best to make all changes necessary on all configuration pages and apply the changes when completed.

This page intentionally left blank



# CableCARD™ VIEW TAB - CONFIGURATION

## 10. CableCARD™ VIEW Tab - Configuration

Review and change CableCARD program parameters here:

**#1**  
To change configuration of the CableCARDs click **CableCARD View**

**#2**  
Programs already selected and assigned previously on the **Channel View** page appear here. The frequency and constellation is automatically assigned by the UCrypt based on the multiplex properties when the first program is added to this CableCARD tuner

**#3**  
Change a previously selected program decryption status here. This had been set earlier on the **Channel View** page.  
**Filter** means drop the program. **Passthrough** means pass a clear program through  
Of course **Decrypt** means just that

**#4**  
To remove this multiplex from the tuner click here, then click **Save** to remove the multiplex from being displayed on the screen

**#5**  
Note that adding one program to a CableCARD, causes all other programs listed in the channel map on that multiplex to appear here, along with the added program, filtered by default

**#6**  
Click **Save** button to save changes to the UCrypt until all changes are completed

**CableCARD Board Blue #0**  
Card Status: Inserted Utilization: 6/6 CableCARD Setup Diagnostics  
Tuner: 0 Locked Tuner Diagnostics  
Multiplex: 225000 QAM256 Set Frequency - Set All - Remove:   
Channel 685 - Program #202 - BBCHD Encrypted 1080i 13.2 Mbps Decrypt  
Channel 723 - Program #203 - InvDHD Filtered Filtered Filtered Filter  
Channel 739 - Program #201 - HSNHD Filtered Filtered Filtered Filter

Tuner: 1 Locked Tuner Diagnostics  
Multiplex: 237000 QAM256 Set Frequency - Set All - Remove:   
Channel 30 - Program #486 - Blmbrg Filtered Filtered Filtered Filter  
Channel 51 - Program #483 - Cooking Filtered Filtered Filtered Filter  
Channel 53 - Program #487 - YES Filtered Filtered Filtered Filter  
Channel 54 - Program #484 - AMC Filtered Filtered Filtered Filter  
Channel 64 - Program #485 - HGTV Filtered Filtered Filtered Filter  
Channel 85 - Program #488 - TVLand Filtered Filtered Filtered Filter  
Channel 118 - Program #482 - style Filtered Filtered Filtered Filter  
Channel 1903 - Program #427 - HLN Filtered Filtered Filtered Filter

Tuner: 4 Locked Tuner Diagnostics  
Multiplex: 357000 QAM256 Set Frequency - Set All - Remove:   
Channel 710 - Program #201 - FXHD Encrypted 720p 11.5 Mbps Decrypt  
Channel 774 - Program #202 - SpdHD Filtered Filtered Filtered Filter  
Channel 793 - Program #203 - ESPNHD Filtered Filtered Filtered Filter

Tuner: 5 Locked Tuner Diagnostics  
Multiplex: 375000 QAM256 Set Frequency - Set All - Remove:   
Channel 472 - Program #216 - BigTHD Filtered Filtered Filtered Filter  
Channel 665 - Program #217 - OtrMaxH Filtered Filtered Filtered Filter  
Channel 761 - Program #218 - Cartoon Encrypted 1080i 13.4 Mbps Decrypt

Save Apply



**NOTE:** Clicking the Apply button will cause a service interruption while the UCrypt device re-provisions itself with the new working configuration. It is best to make all changes necessary on all configuration pages and apply the changes when completed.

For detailed information on configuration of this page, go to the ATX website ([atxnetworks.com](http://atxnetworks.com)) in the Resources & Support section, User Documents sub-section to download the Installation & Operation Manual.

This page intentionally left blank

# OUTPUT QAM VIEW TAB - CONFIGURATION

## 11. OUTPUT QAM VIEW Tab - Configuration

Configure Output QAM frequencies and constellation size here:

User: master  
Location: ATX Networks UC Lab  
Logout

Channel View CableCARD View **Output QAM View** Output MPTS View System Configuration Help

DQAM Number	Center Frequency	Major	Modulation	Status
<b>DQ800-B Unit#0 (Diagnostics)</b>				
Operational	561000 KHz	80	QAM256	Enabled EAS
Serial: 0010002293	567000 KHz	81	QAM256	Enabled
Firmware: 2.16	573000 KHz	82	QAM256	Enabled
Hw Rev: 04	579000 KHz	83	QAM256	Enabled
MAC: 00:1E:17:00:02:60	585000 KHz	84	QAM256	Enabled
RF Level/Channel: 0.75 dBmW (49.45 dBmV)	591000 KHz	85	QAM256	Enabled
Temperature: 44 degr.C	597000 KHz	86	QAM256	Enabled
	603000 KHz	87	QAM256	Enabled
<b>DQ800-B Unit#1 (Diagnostics)</b>				
Operational	609000 KHz	88	QAM256	Enabled
Serial: 0010002186	615000 KHz	89	QAM256	Enabled
Firmware: 2.16	621000 KHz	90	QAM256	Enabled
Hw Rev: 04	627000 KHz	91	QAM256	Enabled
MAC: 00:1E:17:00:02:68	633000 KHz	92	QAM256	Disabled
RF Level/Channel: 0.75 dBmW (49.45 dBmV)	639000 KHz	93	QAM256	Disabled
Temperature: 44 degr.C	645000 KHz	94	QAM256	Disabled
	651000 KHz	100	QAM256	Disabled

Save Apply

**#1** Click here to start the Output QAM Configuration

**#2** QAMs are grouped in banks of 4 with 2 banks per output module. Enter the center frequency of the lowest channel you wish to

**#3** Select constellation size for each module.

**#4** Only when programs are assigned to a QAM is

**#5** On a QAM with no channels assigned, the QAM is disabled

**#6** When all QAMs have been configured, click Apply to apply the settings to the UCrypt



**NOTE:** Clicking the Apply button will cause a service interruption while the UCrypt device re-provisions itself with the new working configuration. It is best to make all changes necessary on all configuration pages and apply the changes when completed.

For detailed information on configuration of this page, go to the ATX website (atxnetworks.com) in the Resources & Support section, User Documents sub-section to download the Installation & Operation Manual.

This page intentionally left blank

## OUTPUT MPTS VIEW TAB - CONFIGURATION

### 12. OUTPUT MPTS VIEW Tab - Configuration

Configure Output programs and multiplexes here:

The screenshot shows the 'Output MPTS View' configuration page. It features two main panels: 'Available Programs' on the left and 'Output Multiplexes' on the right. The 'Available Programs' list includes channels like Channel 49 (Program #7 - BHIN), Channel 3 (Program #4 - CTV Calgary), and Channel 9 (Program #5 - CBC Alberta FR). The 'Output Multiplexes' section shows five multiplexes (DQAM #0 - Channel #0 to #5) with their respective frequencies and a list of programs assigned to each. Callouts #1 through #6 provide instructions: #1 points to the 'Output MPTS View' tab; #2 points to the 'Available Programs' list; #3 points to the double arrow button between a program and a multiplex; #4 points to the checkbox for removing a program; #5 points to the left double arrow button for moving a program back; #6 points to the 'Apply' button at the bottom.



**NOTE:** Clicking the Apply button will cause a service interruption while the UCrypt device re-provisions itself with the new working configuration. It is best to make all changes necessary on all configuration pages and apply the changes when completed.

For detailed information on configuration of this page, go to the ATX website ([atxnetworks.com](http://atxnetworks.com)) in the Resources & Support section, User Documents sub-section to download the Installation & Operation Manual.

This page intentionally left blank

# SYSTEM TAB - CONFIGURATION

## 13. SYSTEM Tab - Configuration

Access system wide configuration properties here:

The screenshot shows the 'System' configuration page with several sections and callouts:

- System:** A link at the top right with a callout: "Click here on **System** to set up system wide configuration properties".
- Users:** Fields for 'User:' (dropdown with 'master'), 'Password:', and 'Confirm Password:' with a 'Set Password' button. Callout: "Modify User Names and Passwords".
- Power:** Buttons for 'Reboot', 'Powercycle', and 'Shutdown'. Callouts: "UCrypt power control options available within software control" and "UCrypt system serial number".
- Serial Number:** Lists MAC addresses for Blue #0, Green #1, Red #2, Purple #3, and DQ800-B units. Callouts: "MAC Address of installed tuners. Follow hyperlink to CableCARD status summary" and "Serial number of installed QAM modulator modules".
- Firmware:** Fields for 'System Version:' (0.8.299) and 'Update:' with 'Browse...' and 'Upload' buttons. Callouts: "Use Browse and Upload controls to update the UCrypt System software when necessary" and "Firmware Version currently installed on tuners and QAM output modules".

System Configuration Tab - Part 1

### 13.1 Default User Names and Passwords

Default Values				
Account User	Modify UCrypt® Settings	Install Updates	Set Passwords	Default Password
master	Yes	Yes	Yes	atx_ucrypt_master_password
admin	Yes	No	No	atx_ucrypt_admin_password
user	No	No	No	atx_ucrypt_user_password

For detailed information on configuration of this page, go to the ATX website (atxnetworks.com) in the Resources & Support section, User Documents sub-section to download the Installation & Operation Manual.

The screenshot displays the 'System Configuration Tab - Part 2' with several sections and callouts:

- Network Configuration:**
  - IP Address: 192.168.0.23
  - Netmask: 255.255.255.0
  - Gateway: 192.168.0.1
  - DNS Server: 4.2.2.1
  - DNS Search Domain: [Empty]
  - DHCP client mode enabled:
  - DHCP Hostname: [Empty]
  - HTTP Port: 80
  - HTTPS Port: 443
  - MAC Address: 00:22:2c:00:00:25
  - Buttons: [Set Network](#), [Save your network changes](#)
  - Note: Only master/administrator user can set network settings
- Health:**
  - Diagnostic: [Download Diagnostic File](#) (Callout: Download a diagnostic file to the Management computer)
  - Fans: Front fan 0: OK, Front fan 1: OK, Front fan 2: OK, Front fan 3: OK (Callout: Cooling Fan Status)
- Logging:**
  - [View Log](#) (Callout: View and copy log files)
- Alerts:**
  - [Alert Settings](#) (Callout: Set Email and SNMP Alerts)
- Channel Map:**
  - Channel following policy: Channel Number (dropdown), [Set Following Policy](#) (Callout: Set up Channel Following Policy to track program movement in the Channel Map (VCT). Note: This setting determines how channels are tracked)
- Emergency Alert System (SCTE18):**
  - [EAS Settings](#) (Callout: Configure EAS Settings)
- Switched Digital Video:**
  - [SDV Settings](#)

System Configuration Tab - Part 2

For detailed information on configuration of this page, go to the ATX website (atxnetworks.com) in the Resources & Support section, User Documents sub-section to download the Installation & Operation Manual.



## CONFIGURATION TAB - CONFIGURATION

### 14. CONFIGURATION Tab - Configuration

Access Mass Deployment and Backup file utilities here:

The screenshot shows the ATX UCrypt web interface. At the top right, the user is logged in as 'master' at 'ATX Networks UC Lab'. The navigation menu includes 'Channel View', 'CableCARD View', 'Output QAM View', 'Output MPTS View', 'System', 'Configuration', and 'Help'. The 'Configuration' tab is active, displaying several sections: 'Modify Channel Configuration' with 'Apply' and 'Verify' buttons; 'Import Channel Configuration' with a file input field, 'Browse...' button, and 'Upload' button; 'Export Channel Configuration' with a 'Download' button; and 'Reset Channel Configuration' with a 'Clear' button. Four callouts provide instructions: #1 points to the 'Browse...' button; #2 points to the 'Browse...' button; #3 points to the 'Upload' button; and #4 points to the 'Upload' button. A large callout at the bottom explains the export process.

**#1**  
If you need to import an existing configuration file, do that here

**#2**  
Click the **Browse** button to navigate to the location of the file on your computer

**#3**  
When you have located the file and it appears in the file location window...

**#4**  
...click **Upload** to start the transfer

**Exporting a configuration file for backup**  
If you need to export the configuration file and thus backup your UCrypt configuration changes, click here. Your browser opens a dialog (you may need to accept the download first) and you accept the download location. Be sure to name the file with relevany details so you know where it is from.



**NOTE:** Clicking the Apply button will cause a service interruption while the UCrypt device re-provisions itself with the new working configuration. It is best to make all changes necessary on all configuration pages and apply the changes when completed.

For detailed information on configuration of this page, go to the ATX website ([atxnetworks.com](http://atxnetworks.com)) in the Resources & Support section, User Documents sub-section to download the Installation & Operation Manual.

This page intentionally left blank

## SERVICE & SUPPORT

### 15. Service & Support

#### 15.1 Contact ATX Networks

Please contact ATX Technical Support for assistance with any ATX products. Please contact ATX to obtain a valid RMA number for any ATX products that require service and are in or out-of-warranty before returning a failed module to ATX.

##### TECHNICAL SUPPORT

Tel: 289.204.7800 – press 1  
Toll-Free: 866.YOUR.ATX (866.968.7289) USA & Canada only  
Email: [support@atx.com](mailto:support@atx.com)

##### SALES ASSISTANCE

Tel: 289.204.7800 – press 2  
Toll-Free: 866.YOUR.ATX (866.968.7289) USA & Canada only  
Email: [insidesales@atx.com](mailto:insidesales@atx.com)

##### FOR HELP WITH AN EXISTING ORDER

Tel: 289.204.7800 – press 3  
Toll-Free: 866.YOUR.ATX (866.968.7289) USA & Canada only  
Email: [orders@atx.com](mailto:orders@atx.com)  
Web: [www.atx.com](http://www.atx.com)

#### 15.2 Warranty Information

All of ATX Networks' products have a 1-year warranty that covers manufacturer's defects or failures.



© 2019 by ATX Networks Corp. and its affiliates (collectively "ATX Networks Corp."). All rights reserved. This material may not be published, broadcast, rewritten, or redistributed. Information in this document is subject to change without notice.

Rev. 11/19 (ANW0836)



**ATX Networks**

Tel: 289.204.7800 | Toll-Free: 866.YOUR.ATX (866.968.7289) | [support@atx.com](mailto:support@atx.com)

[www.atx.com](http://www.atx.com)