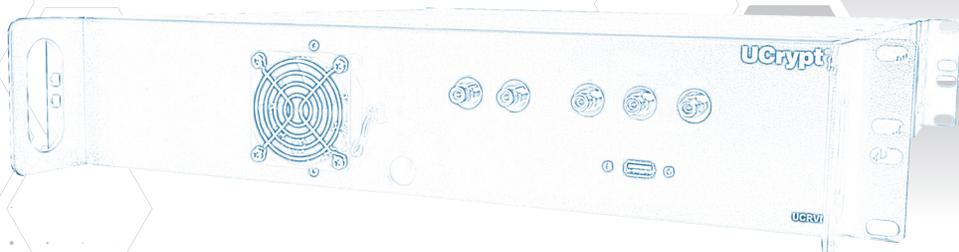# ATX

MDU Solutions®

Discontinued

UCrypt® UCRVM
Patent Pending

UCrypt® Remote Video Monitor

Installation & Operation Manual

General Guide Notes

Manual Release Date   **December 02 2015**

Cross Reference Hyperlink Usage

Hyperlinks are used liberally throughout the guide to assist the reader in finding related information if the reader is viewing the Adobe PDF file directly. Hyperlinks may be identified by their blue text. Most links are to related pages within the document, but some reference outside documents if the reader needs that additional information. The Table of Contents is entirely hyperlinked and bookmarks are available but the bookmark feature must be turned on in your Reader application.

Symbol Usage

Throughout the manual, some symbols are used to call the readers attention to an important point. The following symbols are in use:

NOTE: This symbol usage will call the reader's attention to an important operation feature of the equipment which may be safety related or may cause a service outage.

FYI: This symbol indicates that there is helpful related information available in this note or elsewhere in the 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.

TABLE OF CONTENTS

Discontinued

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.

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

POWER CORD PROTECTION: Route power supply cord to prevent damage by external objects. Pay particular attention to the exit point from the device and plug.

FUSING: Your device is equipped with fused receptacles; replace only with the same type fuse. Refer to replacement text on the unit for the correct fuse rating.

> **NOTE:**   a) Replace receptacle protection fuses by fuse rated 3.0 A, 250 V, slow blow.
>
> b) Replace AC Input fuse with a fuse rated at 10.0 A, 250 V, slow blow.
>
> **CAUTION: For continued protection against the risk of fire, replace only with the same type and rating of fuse.**

SERVICE: Do not attempt to service the device beyond procedures provided in 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.

This page intentionally left blank

SYSTEM DESCRIPTION

2.   System Description

2.1   The UCrypt® Remote Video Monitor

Figure 2-1: The UCRVM

2.2   Applications

The UCrypt Remote Video Monitor (UCrypt RVM or UCRVM) is designed to allow an operator to view or monitor multiple types of video content, including HD, at remotely located facilities from almost anywhere over the Internet. No special receiving hardware is required and any number of technicians may share access to a UCrypt RVM as needed with only a notebook PC and a simple to use software player wherever high speed internet access is available. The RVM simplifies troubleshooting of analog and MPEG QAM or IP based digital video signals that are in the clear or Pro:Idiom® encrypted. Typical applications include the Hospitality and Health Care industries, Cable TV bulk account MDUs as well as Cable TV regional headends. Supporting the decryption of Pro:Idiom protected content on QAM and UDP/IP based video streaming channels, as well as analog TV channels, the UCrypt RVM can help the Cable Service Provider avoid costly truck rolls by quickly and easily verifying that programs and streams are available to end users. The RVM is self contained and does not require any specific external hardware such as set top boxes, routers or switches. A high speed internet connection with at least 1.5 Mb/s to 9 Mb/s upload speed is required at the location of the RVM.

2.3   Key Features

2.3.1   Support for Pro: Idiom® Encryption

The UCrypt RVM is a single box solution primarily for remotely viewing the output content of the UCrypt product line of Pro:Idiom encryption devices. Regardless of the model of UCrypt device that is installed, the UCrypt RVM allows remote viewing of all forms of encrypted content. This greatly simplifies troubleshooting widely deployed remote systems and does not require any external Pro:Idiom set tops or other hardware.

2.3.2   Simple to use Software Player

The UCrypt RVM achieves its remote monitoring ability through the use of video streaming technology and utilizes a very easy to use software player that is freely available. The software player is compatible with most PCs and may be installed on as many of your enterprise's computers as required. Changing channels, pause, rewind or fast forward control is available in the software player's GUI.

2.3.3   Flexible Channel Lineup Configuration

The UCrypt RVM program lineup may be configured based on the channel lineup available to be monitored at each individual property. If there are locally installed UCrypt devices to be monitored, a very easy to use web based utility extracts the channel lineup information from .csv export files and produces an XML file which the UCrypt RVM can ingest. This utility eliminates

errors and simplifies defining the viewable programs. Programs to be monitored that do not originate from a UCrypt Device, may be manually configured with the web tool. In addition to the Standard Cable TV channel plan, other channel plans such as IRC and HRC are also supported.

2.3.4 Flexible IPv4 Configuration

IPv4 network addresses are supported on the Ethernet management and streaming input ports and full address configuration may be performed for deployment on a public or private network. Fixed addresses are supported along with a WAN PORT DHCP client mode for automatic IP address provisioning. The Ethernet network ports are internally pre-configured to auto negotiate connection speed and each is pre-loaded with factory default IP address parameters.

2.3.5 Comprehensive Support for Video Formats

The UCrypt RVM supports MPEG2 HD and SD programs in 64QAM, 256QAM channels, and streaming UDP/IP formats as well as SD Analog channels. QAM and analog tuners are agile from 54 to 864 MHz supporting STD, HRC and IRC channel plans. All programs may be monitored on one UCRVM per site even if numerous sources of video are supplied as long as there are no RF frequency or IP address overlaps on monitored channels.

2.3.6 Simple Management Interface

The UCrypt RVM is provided with a simple Web based Management Interface which is accessible locally with any web browser through a management network port. Local control is available for the field technician and configuration is simple with a notebook or desktop PC connected to the network management port. Remote access to video monitoring from anywhere high speed internet access is available is easily provided by connecting the RVM to a pre-existing Ethernet based network with internet access or to a residential or commercial cable modem. The Management Interface allows configuration of operating parameters.

2.3.7 Remote Power Outlet and Streaming Control

The UCrypt RVM supports control of four independent power outlets on the rear panel into which may be plugged UCrypt devices or other types of equipment which could be required to be power cycled from time to time. The Management Interface allows the operator to control the outlets individually to be turned on, off, or reset. The streaming video engine may also be turned off when not required.

2.3.8 Integrated RF Management

The UCrypt RVM is provided with a single RF input agile tuner and so is able to monitor any analog and Pro:Idiom encrypted digital channels which are externally combined and presented on this port. A local cable TV feed may also be used as a source as long as no frequency overlap of input channels is present.

2.3.9 Local Monitoring and Control

The UCrypt RVM may also be accessed locally in the same manner as remote control if desired, just use the player software and connect to the UCRVM on the local network management interface port, provided for this purpose. Either a desktop or notebook PC may be used to view and control the UCRVM output

2.3.10 Flexible Mounting and Environment

Flexible mounting options include accommodation for standard 19" rack mounting as well as for wall panel mounting where racks are not available. An integrated cooling fan ensures reliable performance in widely varying installation environments, however the target installation environment is a controlled access room kept at or near normal room temperatures.
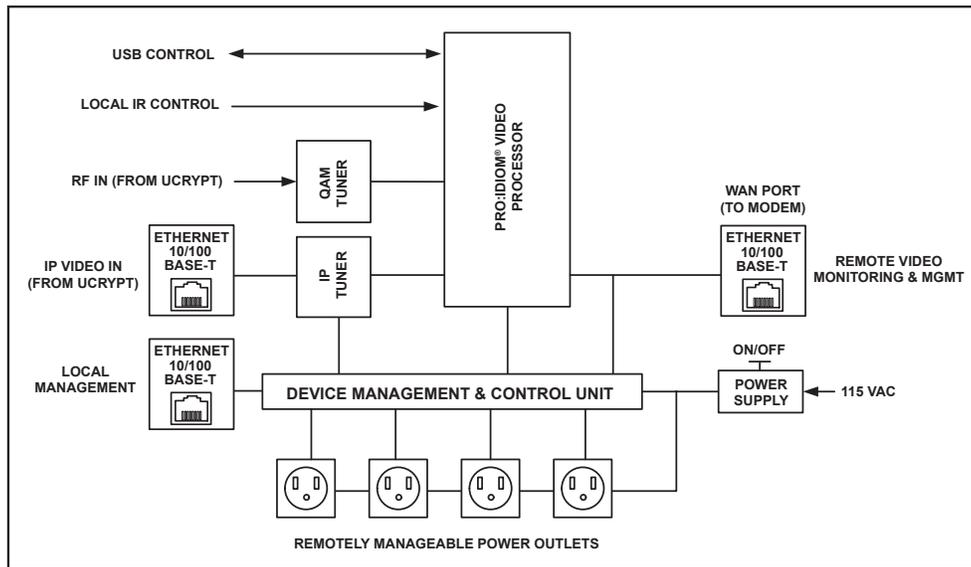
2.4   Simplified Block Diagram

Figure 2-2: Simplified Block Diagram

2.5   Front Panel

Figure 2-3: UCRVM Front Panel

2.6   Rear Panel

Figure 2-4: UCRVM Rear Panel

This page intentionally left blank

INSTALLATION

3. Installation

3.1 In This Chapter

- "Mounting the UCRVM"
- "Equipment Safety Grounding"
- "Environment and Power Considerations"
- "Rear Panel Connections"
- "AC Power Controlled Outlets"
- "Front Panel Ports"

3.2 Introduction

This chapter outlines the most important aspects of the installation of the UCrypt RVM and summarizes the site considerations that the installer must take into account when choosing a location for the unit.

The UCrypt RVM, as shipped, is provided with both rack mount and backboard brackets to allow flexible field mounting. There is no limit on physical orientation; it may be mounted in any position required by site conditions.

3.3 Mounting the UCRVM

3.3.1 Rack Mounting

Rack mount brackets for the front and the rear are provided with the unit for mounting in a standard EIA 19" (48.25cm) equipment rack with a depth of at least 24 inches (61cm) The UCrypt RVM will require 2RU of vertical rack space and may be mounted directly above or below other equipment without providing space between. However, it is recommended that, if possible, 1RU space be maintained from other equipment which generates significant heat. Rear support of the UCRVM is required and the brackets are provided for mounting to the rear support rails. The rear and front support brackets provide ample adjustment for virtually any rack rail configuration. Do not use the UCrypt RVM chassis to support other equipment. The UCrypt RVM is designed with fan forced cooling which exhausts to the rear of the unit. Be sure to maintain site conditions where freedom of air movement at the front and rear of the unit is assured. Installation in enclosed racks is not recommended due to

Figure 3-1: Rack Mounting the UCRVM

the possibility of restricting cooling air flow. Consider also that the site technician will need access to the front and rear of the UCrypt RVM for making connections, maintenance and configuration when determining the best location for this equipment. Screws necessary to mount the UCrypt RVM in a rack are not supplied.
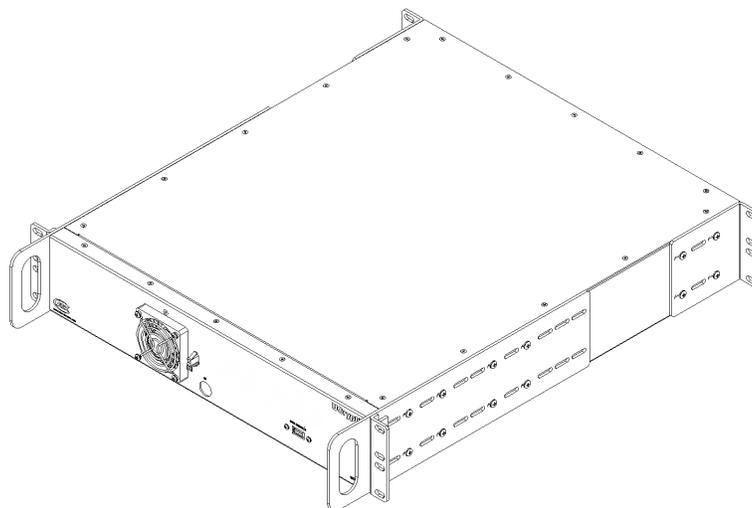
3.3.2 Panel Mounting

Brackets are provided for mounting the UCrypt RVM to a vertical backboard for sites where no rack mounting facilities exist.

The panel mounting brackets are the brackets provided for supporting the rear of the unit in an equipment rack but are now turned 90º down so the flanges are flat against the backboard and screws may be used hold the unit on the backboard. There are only two brackets provided so they may be installed at the front or rear as illustrated, or in the middle, one on each side, depending on installer preference. The brackets allow the UCrypt RVM to be mounted flat against the backboard only, so be sure to provide sufficient area. The dimensions of the UCrypt RVM are 17" x 20"(430 x 510 mm) but a reasonable amount of space, at least 6"(150 mm), will be required in front of and behind unit. It is recommended to mount the unit with the long axis in a horizontal orientation. In this manner, the fan will exhaust to one side. The reason for this is to reduce the possibility of screws, other small metal objects, debris or liquids from accidentally falling inside the unit. The UCrypt RVM is provided with fan forced cooling which exhausts to the front of the unit, so be sure to avoid blocking airflow at the front and rear of the unit and mount in such a manner to provide a source of ambient cool air at the rear air intake. Consider also that the site technician will need access the rear of the UCrypt RVM for making connections, maintenance and configuration when determining the best location for this equipment. Wood screws required to mount the UCrypt RVM to a backboard are not supplied.
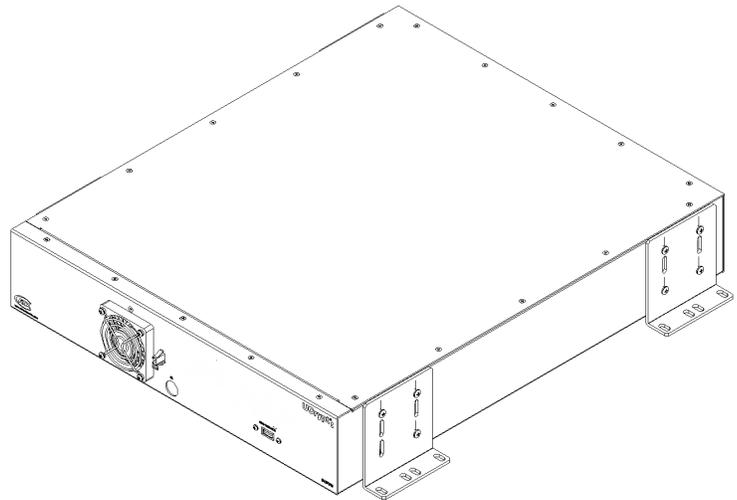

Figure 3-2: Panel Mounting the UCRVM

3.4 Equipment Safety Grounding

It is imperative that the UCRVM housing be connected to a permanent building ground in a manner that will ensure that the exposed metal parts of the UCRVM are constantly connected to ground even when the power cord may be disconnected temporarily. A grounding lug is provided on the UCRVM 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.

Figure 3-3: Safety Ground

3.4.1 Connection to Earth

The supplementary equipment grounding conductor is to be installed between the front panel ground connector and earth, that is, in addition to the equipment ground conductor in the power supply cord.

3.4.2 Conductor Size

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 front 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.

3.4.3 Conductor Termination

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.

3.4.4 Conductor Type

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.

3.5 Environment and Power Considerations

3.5.1 Airflow and Cooling Considerations

The UCrypt RVM is designed to operate to specification in an ambient room temperature of 0°C to +50°C (+32°F to +122°F). Normal room temperature is recommended to ensure proper long term operation of the UCrypt RVM. Sufficient airflow through the UCrypt RVM must be maintained regardless of the mounting location. It is imperative that other equipment or materials of any type do not block free airflow at the front and rear of the UCrypt RVM.

3.5.2 Power Connection Considerations

The unit is designed to operate from nominal 115 VAC power. The power input receptacle is a standard IEC connector similar to that commonly used on computers and monitors. The power cord provided with the UCrypt RVM is a North American configuration with a NEMA 5-15 grounded plug for 115 VAC. The remotely controlled outlets are standard North American 115 VAC outlets with ground. A total of four UCrypt devices may safely be connected to the power outlets of the UCrypt RVM. If equipment other than UCrypt devices are plugged in to the rear outlets, it is the installer's responsibility to determine that the power consumption of the equipment is less than 2.5 amperes. When installing the UCrypt RVM, it is the responsibility of the installer to determine that sufficient capacity is available in the electrical circuit feeding the unit to avoid overloading the supply circuit. Depending on the number of UCrypt devices attached, each UCrypt RVM will require a maximum of 10 amperes to be supplied from a properly grounded outlet. The device itself will require 2 amperes. The installer should determine that the power outlet supplying the UCRVM, its wiring and receptacle is in compliance with the local electrical code.

3.5.3 Fusing

Each rear panel outlet is individually fused with 5x20 mm standard glass tube slow-blow type fuses rated at 3 Amperes. The overall unit is fused at 10 Amperes with a time lag 5x20 mm glass tube fuse. Replace with similar type and rating to avoid over-current circuit damage. The following table describes the fuses if replacement ever becomes necessary.

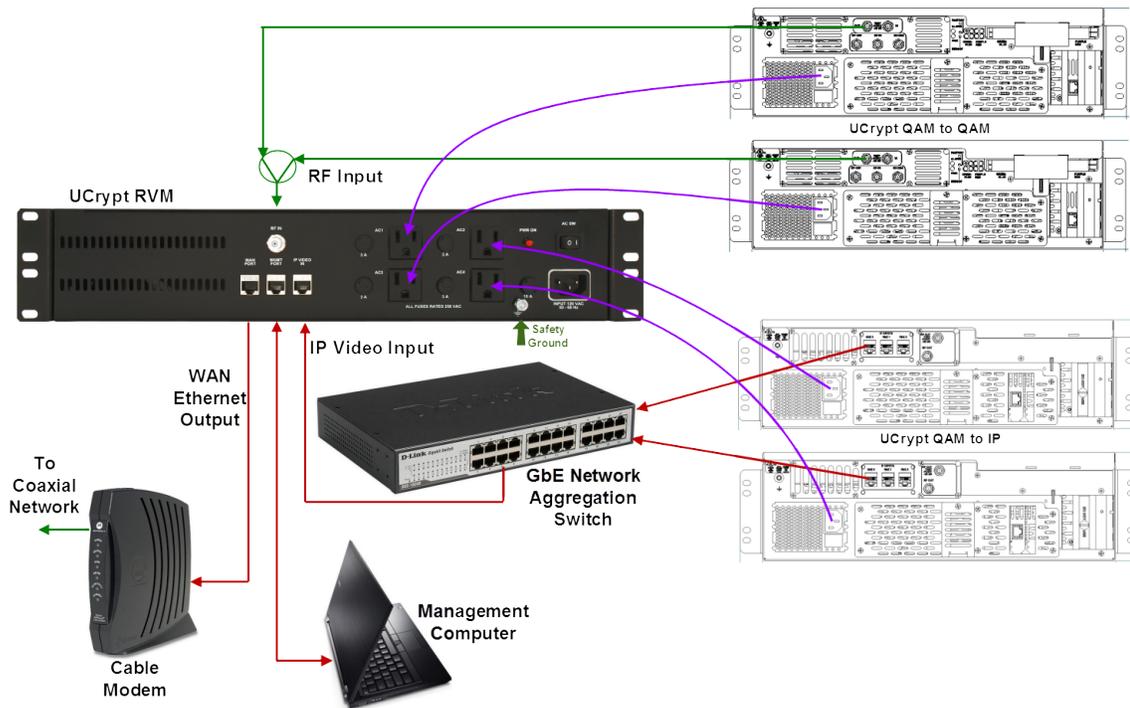| Fuse application	Fuse Type	Ampere rating
AC IN	Slow Blow	10
Receptacle Protection	Slow Blow	3

3.6   Rear Panel Connections

Figure 3-4: UCRVM Rear Panel Connections

3.6.1   RF Input Port

The RF IN fitting provide on the UCrypt RVM is an "F" style standard coaxial connector, is clearly labeled and located on the unit's rear panel. RF cabling to the UCrypt RVM should be either RG6/u or RG59/u double or triple shield coaxial cable.

The input signal level presented to the UCrypt RVM RF input fitting must be in the range of +0 to +10 dBmV per digital carrier as measured with a digital field meter. If analog input signals will be monitored, present +0 to +10 dBmV carrier levels to the input. These RF input levels will result in the correct input level to the integral tuner.

Feeding the UCRVM from QAM output UCrypt devices

If local conditions dictate that a higher signal level is available, the installer must install appropriate external attenuation to ensure the input specification is met as there are no internal attenuators. For example, if QAM output UCrypt devices are being monitored, then feed the UCRVM from the -20 dB test point outputs, which should be in the range of +18 dBmV. If more than one UCrypt is being monitored, install a combiner or a splitter if necessary and adjust the input level to the UCRVM with appropriate attenuators, the value of which should be in the range of about 10 to 15 dB.

3.6.2   Ethernet Ports

There are three physical 10/100 Base-T Ethernet ports on the rear panel of the UCRVM and connections to the ports are detailed below. Wiring to the Ethernet should be Cat5e or better although lesser quality cable may be found to work satisfactorily in short lengths.

WAN PORT:

The WAN port is the output port of the UCrypt RVM and will need be provided with a public IP address if internet access is required. This IP address may be static or dynamic but if it is dynamic, the operator must provide a means to determine the value over time if it changes. This port connects to the internet facing router or switch which may also be a dedicated cable modem in some cases or other transport network routers or switches that can provide internet access. This port is configured to be connected to a switch or router with a standard straight through cable. A PC may be connected to this port for testing purposes though a crossover cable must be used in this case. The WAN port supports DHCP mode and static mode and may be configured as required

MGMT PORT:

This port provides a connection point for a local notebook or desktop PC which will be used for initial configuration and may also be used as a monitor port for viewing the UCrypt RVM streaming output content. To connect a PC to this port, use a standard straight through cable.

IP VIDEO IN:

This port will be presented with the IP encapsulated MPEG2 streams to be remotely monitored. This will receive the output content of the UCrypt IP output ports. This port is configured to be connected to an Ethernet switch with a standard straight through cable. A PC may be connected to this port for test purposes though a crossover cable must be used in this case.

3.7   AC Power Controlled Outlets

There are four AC outlets provided on the rear panel which may be connected to equipment at the remote site which may need to be power cycled from time to time. It is intended that up to four UCrypt units will be connected to these outlets. The supply of power to these outlets can be controlled by a simple web based interface which is accessible on a remote (or local) PC by launching a browser session and entering the Management port IP address. Use of this interface is described more fully in "Power Outlet Control" on page 6-11

3.8   Front Panel Ports

Figure 3-5: UCRVM Front Panel Ports

3.8.1   USB Service Port

A USB port is provide to support uploading an XML channel plan file. The channel plan file describes the channels that the UCRVM will be able to tune. Installation of a channel plan is important as the remote operator will be able to easily scroll up and down through the required channels without specific knowledge of UCRVM configuration. The file may be constructed with no prior knowledge of XML through the use of a utility which may be found on the ATX website (atxnetworks.com) in the Resources & Support section, Calculators & Utilities sub-section to access the UCRVM tool. Further information about constructing this file may be found in "Channel Map Configuration" on page 5-1

3.8.2   IR Port

An IR (Infrared) port is provide on the front panel to allow control of the built-in tuner by a hand-held control. This control may be used to manually tune channels if you are monitoring locally. The hand held remote control is provided with each UCRVM.

3.9   Powering Up the UCRVM

When you are ready to power up the UCrypt RVM insert the power cable into the IEC receptacle on the rear panel, plug the cord into an appropriate power source and turn on the power switch located above the IEC connector. A red power on LED indicates that power has been turned on to the UCRVM. There are no other lights or indicators.

NOTE: Boot-up of the UCrypt RVM will take approximately 30 seconds during which time there can be no streaming video output.

This page intentionally left blank

NETWORK CONFIGURATION

4. Network Configuration

4.1 In This Chapter

4.2 Introduction

The UCrypt RVM has three physical Ethernet interfaces to allow connection to three distinct networks:

Ethernet Port	Port Label	Connects to
Management interface	MGMT PORT	Management Computer managing the UCRVM
Video Output Streaming	WAN PORT	Cable Modem or local WAN providing internet access
IP Video input	IP VIDEO IN	Streaming IP content to be monitored

The UCRVM requires basic network configuration to ready it for operation. This section describes the steps to establish a network connection to the UCrypt RVM Management Interface with a Management Computer. The Management Interface will be used to program the necessary network settings for the **WAN PORT** network interface and to control rear panel AC switches.

4.3 Management Computer

It is recommended that the Management Computer meet the minimum requirements listed below. ATX Networks does not endorse the use of any specific operating system or other software, however this combination of software has been thoroughly tested with the UCrypt RVM and is known to work without issue. The operator is free to utilize whatever software combination is desired, however the responsibility to ensure correct operation of the chosen software suite is his/hers alone. It may not be practical for ATX networks to provide support on all available combinations of software.

4.3.1 Minimum Computer Requirements

- Computer running Windows® or other OS.
- Wired Ethernet network port available.
- Web browser for Management Interface.

4.4 Connect UCRVM to the Management Computer

The UCrypt RVM is provided with a dedicated 10/100 Base-T network port on the rear panel for connecting to the Management Interface for initial configuration. The connection is labeled **MGMT PORT** and it is configured to use a straight through network cable to connect to the Management Computer.
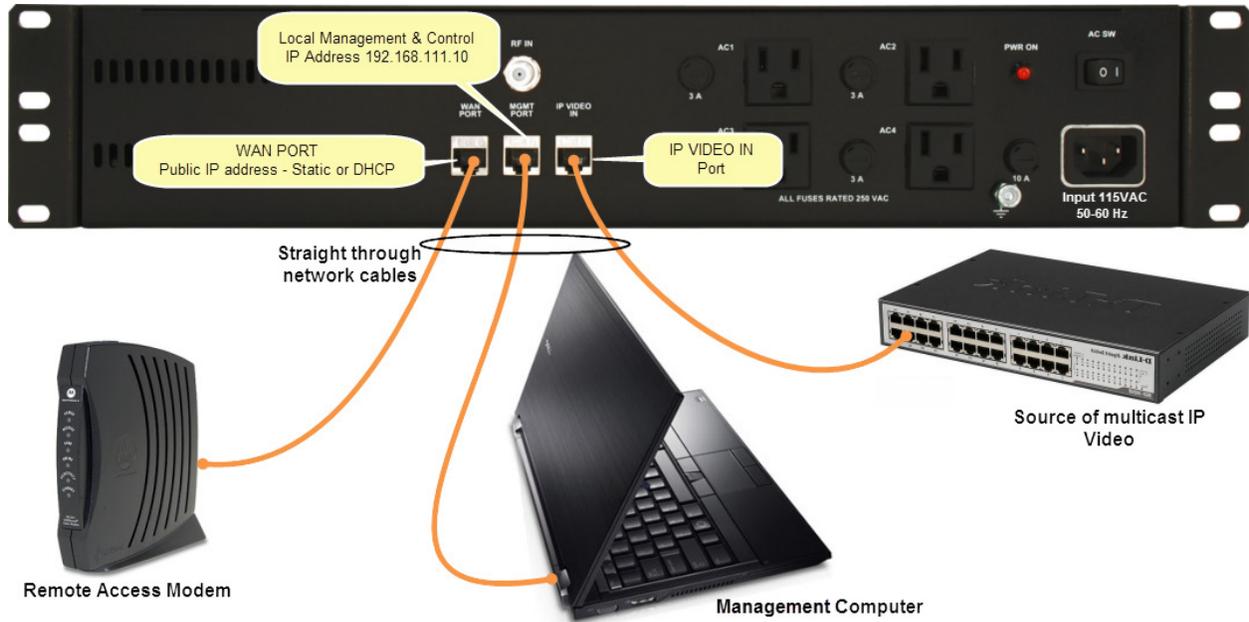

Figure 4-1: Connection of Network Devices to the UCRVM

The Network Ports are provided on the rear panel and Ethernet cables to be used for connections to the ports are summarized in the following table:

Rear Panel Port	Intended connection	Cat5e Cable Type
WAN PORT	Cable modem or router interface	Straight Through
MGMT PORT	Notebook PC	Straight Through
IP VIDEO IN	Ethernet Distribution Switch	Straight Through

4.5   Configure the Management Computer Subnet

Before any configuration or control of the UCRVM may be made, you must log into the UCRVM Management Interface. The following tutorial explains how.

4.5.1   Quick Startup Guide

a)   Connect the local management PC to the MGMT PORT with a straight thru cable.

b)   Configure the Management Computer Ethernet network port to be on the UCRVM subnet "192.168.111.x" using an address for the computer between 192.168.111.11 and 192.168.111.254

c)   Open a web browser and enter 192.168.111.10 in the URL address field

d)   Log in to the Management Interface with Username admin, Password ucrvm

4.5.2   Detailed Startup Guide

Set-up of the UCrypt RVM unit requires a laptop or desktop PC referred to as the Management Computer with network parameters set appropriately for access to the Management Interface.

The following procedures are for Microsoft Windows XP and a default IP address setting on the UCrypt RVM of 192.168.111.10

⚠   *NOTE: If you are using a different Operating System adjust the procedures to suit the software you are using.*

1.   Connect the Management Computer's Ethernet adapter to the UCrypt RVM's MGMT PORT using a straight through CAT5e or better cable.

2.   Set the Management Computer's Ethernet interface to a static IP address on the "192.168.111.x" subnet, as described below:

⚠   *NOTE: If the Management Computer currently has network settings that will need to be used again after the UCrypt RVM is configured, this would be a good time to make note of the current settings if you don't already know them, so the network adapter may be readily returned to these values again.*
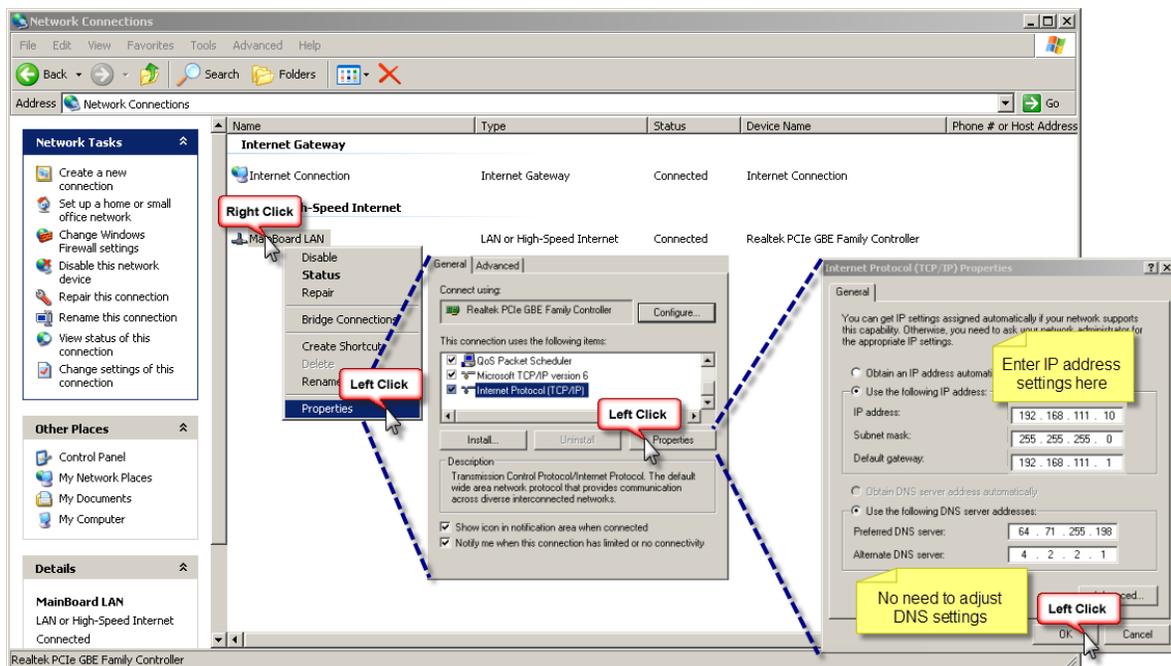

Figure 4-2: Management Computer Subnet Configuration

a) From the Control Panel, open Network Connections and select the wired connection associated with the Ethernet adapter to be used for connecting to the UCrypt RVM (e.g., Local Area Connection).

b) Right click on the connection and select Properties.

c) Select Internet Protocol (TCP/IP) and click Properties.

d) Click the selection box beside Use the following IP address to enter a mark in the box.

e) In the IP address field, enter an address between 192.168.111.11 and 192.168.111.254.

f) In the Subnet mask field enter 255.255.255.0.

g) Click OK and then OK again in the previous window. On the Management Computer, open a web browser and enter http://192.168.111.10 in the address field.

h) You will be presented with the default Device Info screen from the internal web server.

4.5.3 Log in to the Management Interface

No login dialog will be presented until you navigate to a password protected page as illustrated below. When presented with the login dialog, use the default username and password shown below. The password may be changed if desired by the operator, however the username may not be changed:

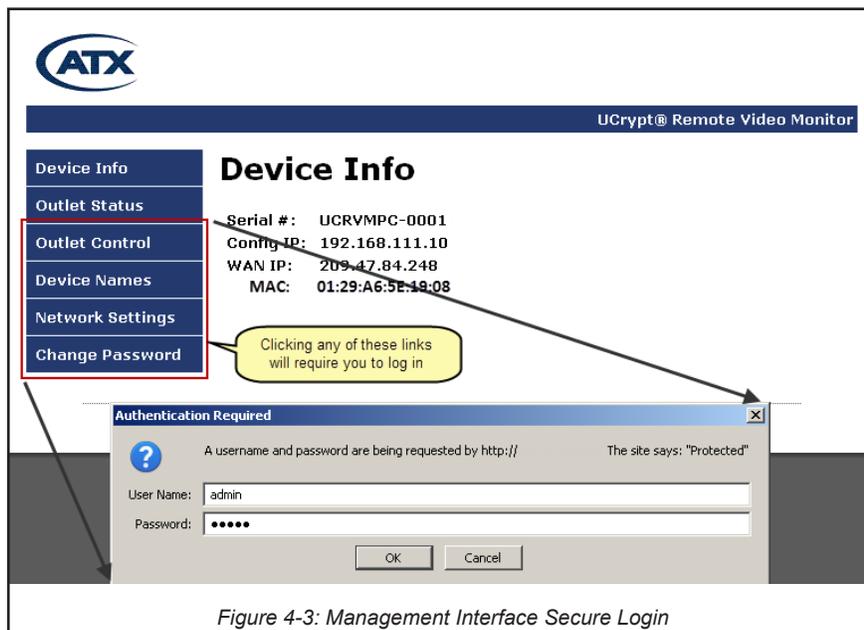| Default Username	Default Password
admin	ucrvm

Figure 4-3: Management Interface Secure Login

There are six pages available, four of which affect the UCRVM configuration, with the following functionality. The operation of these features is more fully described in "Management Interface" on page 6-9.

Configuration Page	Configures	Controls	Information Only
Device Info	✖	✖	Serial # & IP Addresses
Outlet Status	✖	✖	AC Outlet & Video State
Outlet Control	✖	4 AC Outlets & Slingbox®	✖
Device Names	Names assigned to Outlets	✖	✖
Network Settings	IP Addresses & DHCP	✖	✖
Change Password	Change the login password	✖	✖

See "Management Interface" on page 6-9 for details on working with the UCRVM Management Interface.

4.6   Network Configuration

4.6.1   MGMT PORT Configuration

The Management Interface for the UCrypt RVM is based on a web server which provides configuration pages to control the rear panel AC power outlets and to set the WAN PORT IP address. Initial configuration will require a computer connected to the MGMT PORT which has been factory pre-configured with the following network settings.

Management Interface Default Username and Password		May be changed
Username	admin	No
Password	ucrvm	Yes

MGMT PORT Default Settings		May be changed
Serial #	UCRVMPC-xxxx (Unique to each UCRVM)	No
IP Address	192.168.111.10	No
Subnet Mask	255.255.255.0	No
Port	80 (HTTP)	No

The management port address can not be changed to a different address or subnet than the default. Some web pages require a username and password to view. The password may be changed from within the interface once logged in, while the username may not be changed.

4.6.2   WAN PORT Configuration

The WAN PORT interface is factory set to static IP and will require an appropriate network address to be entered. This port will most often be connected to a business class cable modem which supports static IP addresses by default. It must be emphasized that if a static IP address is not assigned, the operator must be able to externally determine the new address if the address changes. Permanent, unchanging addresses may still be assigned by DHCP by provisioning reservations in the DHCP server. To change the address provisioning to DHCP (from static) you will access the **Network Settings** page on the MGMT PORT.

Figure 4-4: UCRVM Network Settings Page

MAC Address

If provisioning a static IP address, it may be necessary to provide the WAN PORT MAC address to the Cable Modem Provisioning department. The MAC address is available on the Management Interface default page, Device Info shown below.
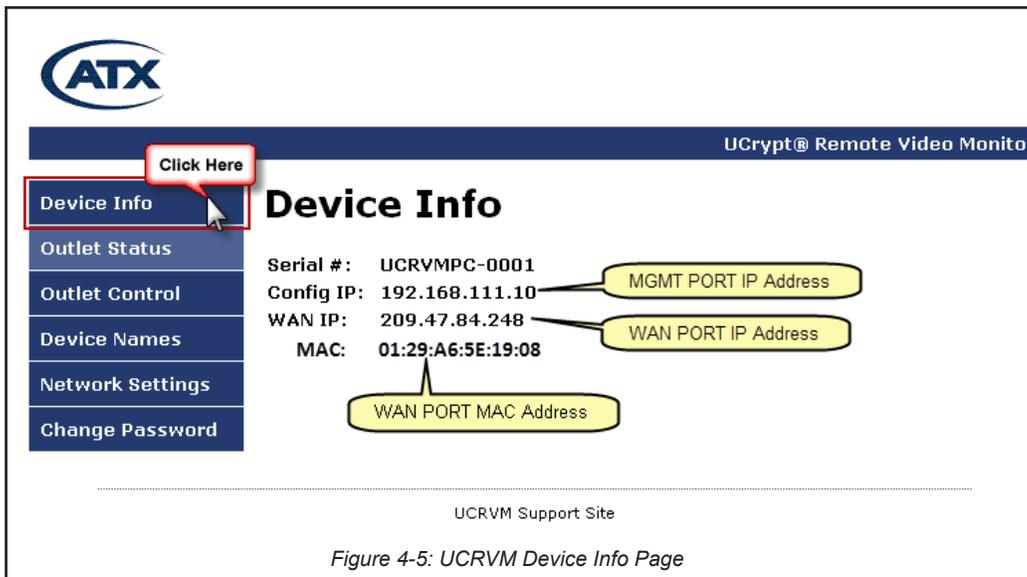

Figure 4-5: UCRVM Device Info Page

Restricted WAN IP Addresses

You may assign any valid IP address and subnet to the WAN PORT except for the following address range which is reserved for the internal configuration of the UCRVM.

Restricted WAN IP Address Range		
	Beginning	**Ending**
IP Address	192.168.111.0	192.168.111.255

4.6.3   Firewall Port Forwarding

If the UCRVM is on a network behind a firewall, it will be necessary to forward port 5001 to the WAN public IP address of the UCRVM. This may need to be setup by the LAN administrator in your company or the company that manages the network. Failure to forward port 5001 will result in a failure to be able to connect to the UCRVM from outside the firewall.

4.6.4   WAN Upstream Bandwidth Requirement

The UCrypt RVM will be streaming video content on its **WAN PORT** connection. This will most often be a cable modem so it is necessary to ensure that sufficient bandwidth is provisioned on the upstream to allow for reasonable quality pictures.

⚠️ *NOTE: An absolute minimum of 1.5 Mb/sec is recommended but a higher upstream bandwidth for HD content of 3 Mb/s or possibly up to 8 or 9 Mb/sec would allow very excellent quality video at the receiving PC. The higher bandwidth and therefore the resulting higher quality video will allow the detection of minor video impairments if that is necessary in your application.*

4.6.5   IP Video In Port

The IP Video In Port interface port is factory preset and will not require changing in order to provide a network access. This port will be connected to a switch or router and will be subscribing to IP multicasts and therefore it will not matter to the operator what the physical port IP address is set to.

4.6.6   Slingbox® IP Address

The internal Slingbox® has a static IP address assigned at the factory which should not be changed by the user. Internal configuration changes to IP addresses and other parameters may render the UCRVM inoperable. The IP address for the Slingbox is listed below. This is the address that is configured within SlingPlayer but it is **imperative that no change be made**. This information is made available for technical clarification only. Port 5001 is forwarded directly to the Slingbox.

Slingbox IP address	Port
192.169.111.2	5001

4.7   Remote Management

It will be necessary to access the Management Interface from a remote site and to do that, you must know the IP address of the WAN PORT. It is always recommended that a static IP address be assigned to the UCRVM WAN PORT to ensure that an operator may connect to the streaming content.

To access the Management Interface from a remote site, enter the public IP address of the UCRVM in the URL window of any web browser to connect to the UCRVM web server.

This page intentionally left blank.

CHANNEL MAP CONFIGURATION

5. Channel Map Configuration

5.1 In This Chapter

- "Channel Map Programming"
- "Creating UCRVM Channel Maps"
- "Using The UCRVM Tool"
- "Installing the Channel Map XML File"
- "Modifying the UCRVM Channel Map"

5.2 Introduction

This section describes the procedure for defining the channel lineup that the UCrypt RVM internal tuner will monitor. It is imperative that the UCRVM tuner be programmed with the QAM digital virtual channel numbers and program numbers for the RF input channels. If IP multicasts are being monitored, the UDP/IP addresses of the multicasts to be monitored must be programmed into the UCRVM as well. Each monitored program will be identified with a short name if desired for easy identification. At this point it is not yet necessary to have any channel inputs to the UCRVM but they will be required to test the accuracy of programming.

There are several steps to complete configuration of the UCrypt RVM. At this point it is assumed that earlier chapters have been reviewed and steps followed. The complete configuration summary follows:

5.2.1 Review of previous steps taken:

- UCRVM Installed and powered up.
- Connected Management Computer.
- Configured Management Computer LAN Port address and subnet to match UCrypt Device (192.168.111.x).
- Configure UCRVM WAN PORT Ethernet IP address with a static address.

5.2.2 Covered in this Section:

- Configuration of Channel Map including importing .csv files.

5.3 Channel Map Programming

The UCrypt RVM may be used to monitor a number of signals types and formats and it's primary strength is decrypting Pro:Idiom encrypted programs. It is necessary, before the UCRVM is put into service, to define the programs, signal formats and channel numbers that are to be monitored. This will allow the remote operator to monitor the programs at a large number of sites with widely varying specific setups without specific knowledge of the exact nature of the programming available at that site or any knowledge of the technical operation of the UCRVM. This can allow a non-technical person to view and monitor the programming for each site in a very easy to use presentation.

Defining the channel map for the UCRVM is a process of several steps. It is assumed that the main use of the UCRVM will be to monitor the output of UCrypt Bulk Pro:Idiom Encryptor. It is not strictly necessary to use the UCRVM for this purpose alone but the following demonstration of the setup of the channel map will follow the steps necessary to monitor UCrypt devices. Adding local content that does not originate from a UCrypt Device is covered as well in this section. Internet access will be required to use the channel mapping tool on the ATX support web site.

5.3.1 Channel Map Programming Summary:

This short summary is provided for the technician that is already familiar with the Channel Map building process and needs just a quick reminder of the steps involved:

1. Export the .csv file from the **Output MPTS View** page of any UCrypt devices to be monitored. See "Exporting UCrypt .csv files" on page 5-2
2. Open a web browser and go to the ATX website (atxnetworks.com) in the Resources & Support section, Calculators & Utilities sub-section to access the UCRVM tool.

3. Click on the browse button near the top of page.

4. Select the first exported .csv file with the dialog that opens, select the UCrypt Device type, then click **Import**.

5. Repeatedly upload further .csv files from other UCrypt devices; they are appended in the web tool.

6. Delete any channels that are not required to be monitored.

7. Insert other channels to be monitored that are not represented in the .csv files.

8. Change the order of the list with the **Order by:** drop-down dialog and insert Virtual Channel Numbers.

9. Click **Update** when all changes are completed to save the changes.

10. Click on **Export Now**.

11. The **UCRVM Tool** prompts you to save the resulting file, which is in a zip file wrapper.

12. Unzip the XML file along with it's extension .Auto and save to the root directory of a USB memory device.

13. Insert the USB memory device into the front USB port of the UCRVM.

14. The file is automatically read and the UCRVM sets the channel plan according to the file.

5.4   Creating UCRVM Channel Maps

5.4.1   Exporting .csv files

The first step in building a channel map is to gather the files that will be required by the web based utility which will create the XML file for the UCRVM. The following tutorial explains the steps required to export a .csv file from a UCrypt Device. If detailed instruction is required for configuring your PC to connect to a UCrypt Device, see the **Installation and Operation Guide** or the **Quick Start Guide** for the UCrypt Device you are working with.

1. Log into the UCrypt Device with a user name and password.

2. Click the **Output MPTS** tab.

3. Find and click the **Export CSV** button.

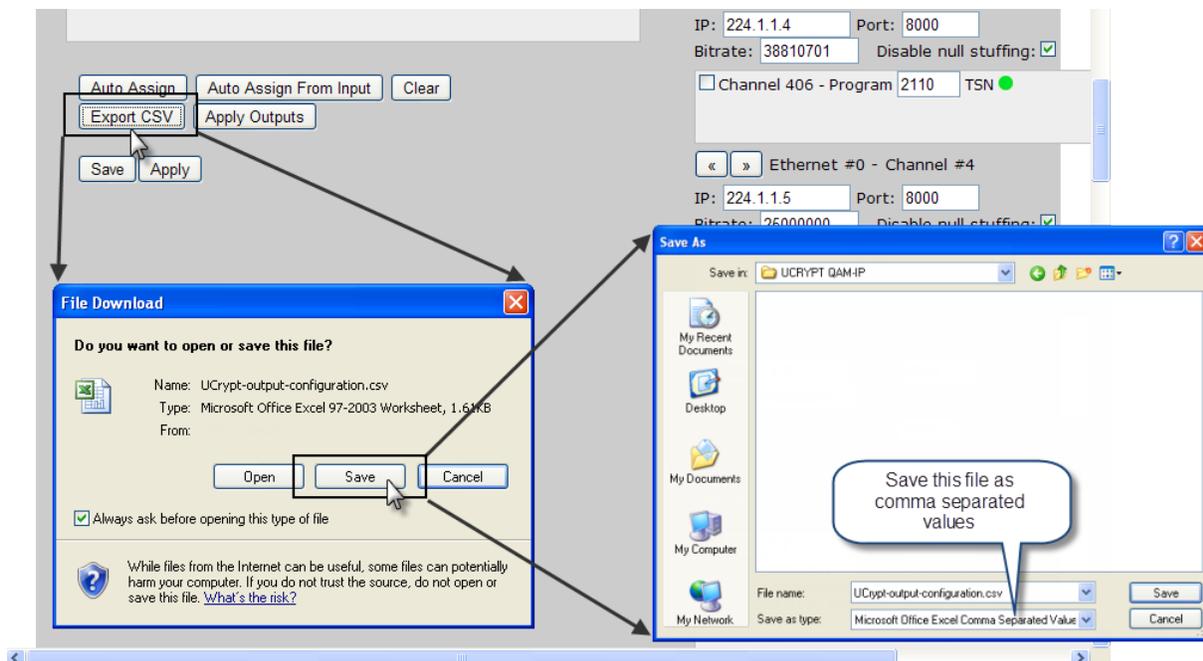4. Save the file to your PC as shown below:

Figure 5-1: Export .csv Files

5. Repeat this for each UCrypt Device that will be monitored by a single UCRVM.

5.5   Using The UCRVM Tool

5.5.1   Import File

1. Open a web browser and go to the ATX website (atxnetworks.com) in the Resources & Support section, Calculators & Utilities sub-section to access the UCRVM tool.

2. When the page opens you will see the **UCRVM Tool** page as shown in the following screen. Follow the steps in the graphic to import .csv files. Repeat the steps until all required files are imported.
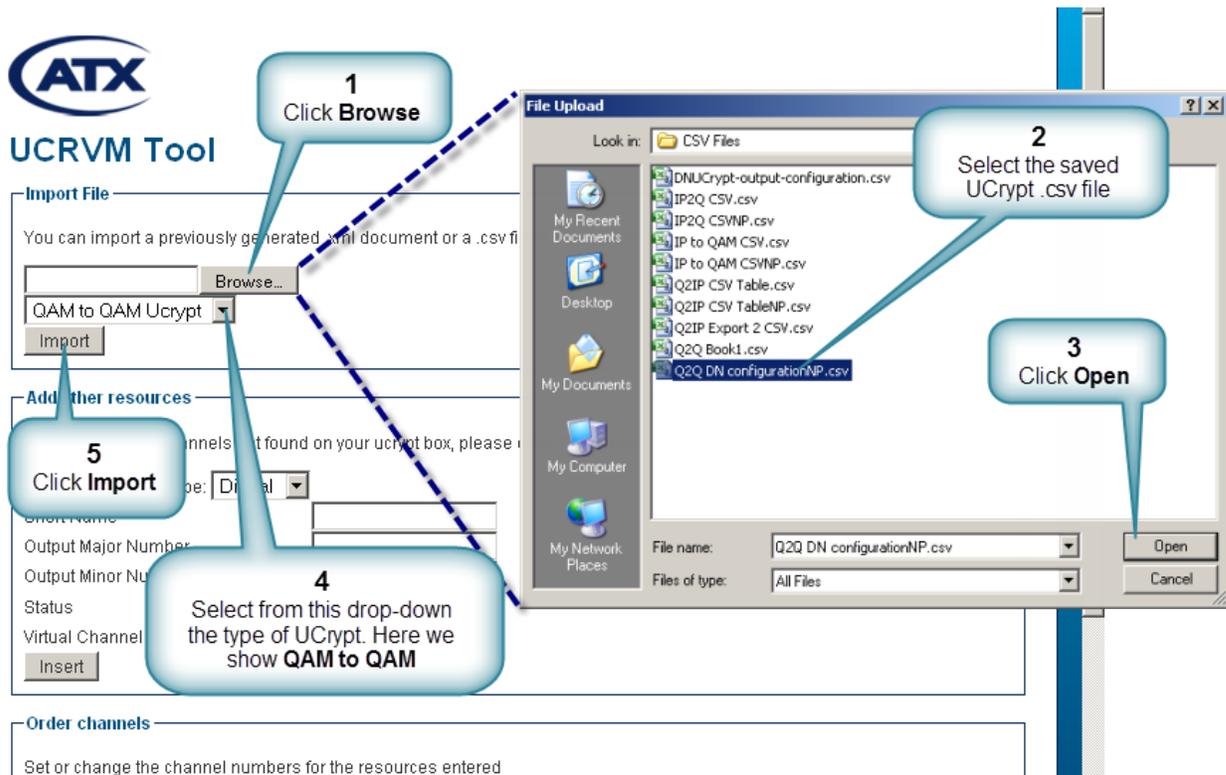

Figure 5-2: Using the UCRVM Tool

5.5.2   Add Other Resources

The second part of the tool deals with programming not originating from a UCrypt Device output.

If there are other sources of programming at a site which are required to be monitored, such as IP streams, or digital QAMs and analog TV channels, the UCRVM channel map can be modified manually by adding the information here. Blank channels or gaps in the channel map may be created here as well. The UCRVM can monitor the following types of programming:

Resource Type	Signal Description	Input Port	Encryption Allowed
Digital	A QAM digital cable TV program **in the clear** or **Pro:Idiom encrypted**	RF IN	Only Pro:Idiom
Analog	Any analog EIA channel in the clear on the cable network	RF IN	No
UDP	A unicast or multicast IP address on a network	IP Video IN	Only Pro:Idiom

Each resource type has specific parameters which are necessary to define. The list of parameters changes depending on the chosen program type.

The following sections explain the three types of programming that may be added to the UCrypt RVM, the parameters that must be defined and how to add that programming to the channel map.

5.5.3 Digital Programs

Figure 5-3: Add Digital Programs

Select the channel type:

This is a drop-down dialog where you select the signal type. Select **Digital** for any QAM digital channels to be included.

Short Name:

You can give a familiar name to identify the program but are limited to a short 8 character alpha/numeric name. If more letters are entered they will be truncated by the tool when the **Insert** button is clicked.

Major Number (EIA Channel):

This is the cable system EIA channel number.

Minor Number (MPEG Program No):

This is the MPEG program number of the program on the major EIA channel number.

Status:

This setting specifies the program's Pro:Idiom encryption status. If it is encrypted, instructs the decoder to decrypt.

Pro:I Encrypted - Use this for any program that has Pro:Idiom encryption

In-the-clear - Use this for all programs that are in the clear

Virtual Channel:

This is the channel or program number that the content will be known as within the SlingPlayer. It is suggested that the virtual channel plan be built with the same channel numbering that a user would experience at the property. This will make it easier to correlate the channel you are monitoring with the channel that the customer is asking about. Blank channels or gaps in the channel plan may be inserted by just entering the virtual channel number(s) and clicking Insert. There is no need to enter any other information if blank channels are required.

Insert:

Click this to add the information to the channel map list. Clicking this adds the program and clears the information ready to add the next program.

5.5.4   Analog Programs

Figure 5-4: Add Analog Programs

Select the channel type:

This is a drop-down dialog where you select the programming type. Select **Analog** for any analog EIA cable TV channels.

Short Name:

You can give a familiar name to identify the program but are limited to a short 8 character alpha/numeric name. If more letters are entered they will be truncated by the tool when the **Insert** button is clicked.

EIA Channel Number:

This is the cable system EIA channel number

Virtual Channel:

This is the channel or program number that the content will be known as within the SlingPlayer. It is suggested that the virtual channel plan be built with the same channel numbering that a user would experience at the property. This will make it easier to correlate the channel you are monitoring with the channel that the customer is asking about. Blank channels or gaps in the channel plan may be inserted by just entering the virtual channel number(s) and clicking **Insert**. There is no need to enter any other information if blank channels are required.

Insert:

Click this to add the information to the channel map list. Clicking this adds the program and clears the information ready to add the next program.
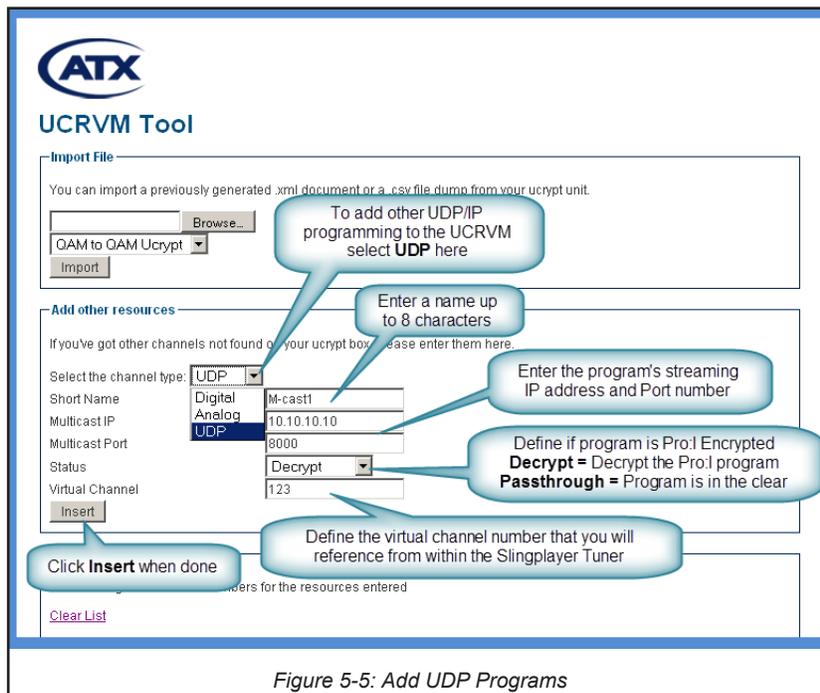
5.5.5 UDP Programs

Figure 5-5: Add UDP Programs

Select the channel type:

This is a drop-down dialog where you select the programming type. Select **UDP** for any IP multicast or unicast channels to be included.

Short Name:

You can give a familiar name to identify the program but are limited to a short 8 character alpha/numeric name. If more letters are entered they will be truncated by the tool when the **Insert** button is clicked.

Multicast IP:

This is the IP address of the streaming program. It may also be a unicast IP address if that is required.

Multicast Port:

This is the UDP/IP port number of the streaming program.

Status:

This setting specifies the program's Pro:Idiom encryption status. If it is encrypted, instructs the decoder to decrypt.

Pro:I Encrypted - Use this for any program that has Pro:Idiom encryption

In The Clear - Use this for all programs that are in the clear

Virtual Channel:

This is the channel or program number that the content will be known as within the SlingPlayer. It is suggested that the virtual channel plan be built with the same channel numbering that a user would experience at the property. This will make it easier to correlate the channel you are monitoring with the channel that the customer is asking about. Blank channels or gaps in the channel plan may be inserted by just entering the virtual channel number(s) and clicking **Insert**. There is no need to enter any other information if blank channels are required.

Insert:

Click this to add the information to the channel map list. Clicking this adds the program and clears the information ready to add the next program.

5.5.6 Ordering Channels

The programming that was imported along with other added resources will be displayed in the order that they were imported or created in the **Order Channels** area of the Tool. From here the programming that need not be monitored can be deleted, and also you may arrange the order of the programs or channels for the purposes of then assigning a virtual channel number. The purpose of the virtual channel number is to create a channel lineup on the UCRVM for viewing and controlling in the Sling Player software. The virtual channel number will be automatically assigned in numerical order starting at the value that is assigned in the **Starting at** dialog. It is suggested that the virtual channel plan be built with the same channel numbering that a user would experience at the property. This will make it easier to correlate the channel you are monitoring with the channel that the customer is asking about. Before exporting the channel lineup, you may go back and insert empty channels, essentially leaving gaps if that is helpful since there is no specific requirement that the channels all be sequential. There is no particular limitations to building the channel plan for a site.

Clear List

The UCRVM tool remembers settings for your computer and may display previous settings at a later date. If the list is populated with a channel lineup from a previous date, click Clear List to remove unwanted programming and start with a new list.

Order By:

The list may be placed in alphanumerical order based on the predefined ordering parameters as follows:

- ◦ Output Major Number - The list will be sorted by the EIA channel or the first octet of the IP address if the output is an MPEG stream
- ◦ Channel Short Name - The Channel name will be used, with numbers preceding the alpha characters which will then be in alphabetical order

Table Headings

The following explains the headings of the channel ordering section:

- ◦ Channel Name - Here is the name that was previously assigned in the UCrypt Device from which the program was exported or it is the name that was assigned from the Add Other Resources area.
- ◦ Short Name - The UCRVM can only display an 8 character name so this is the truncated name that the UCRVM tool proposes and it may be changed if it is not clear enough for the operator of the system
- ◦ Output Major Number - This is the EIA channel number for analog and digital channels and the IP address for IP unicasts and multicasts
- ◦ Output Minor Number - This is the MPEG program number for digital channels and will be assigned "0" (zero) for analog channels. It will list the UDP/IP port number for unicast and multicast IP addresses
- ◦ Status - This shows whether the channel is in the clear or Pro:Idiom encrypted. IF listed as Passthrough, the program was in the clear, and if listed as Decrypt, then is Pro:Idiom encrypted. This instructs the UCRVM to decrypt this program if necessary.
- ◦ Virtual Channel - This assignable value will be the channel number for tuning within the UCRVM SlingPlayer software. The Tool will assign an incremental value to all the listed channels if a starting number is entered in the "Starting at" dialog box. If it is desired to enter values manually, that is also possible. Values entered manually will be retained and sorted when Update is clicked as long as no value is entered in "Starting at" dialog.
- ◦ Channel Type - This is the channel type which was defined in the UCrypt Device file export or the type defined when the program was added. It is either Digital, Analog or UDP
- ◦ Delete - Any program may be deleted from the list before it is exported simply by ticking the box beside the program and then clicking Update.

The following screen illustrates the type of information that is exported from the three different types of UCrypt Devices. The IP to QAM UCrypt Device will suggest that the IP address be used for the short name, whereas this may not be the best name to assign for the average user. This name may be edited to be more user friendly.
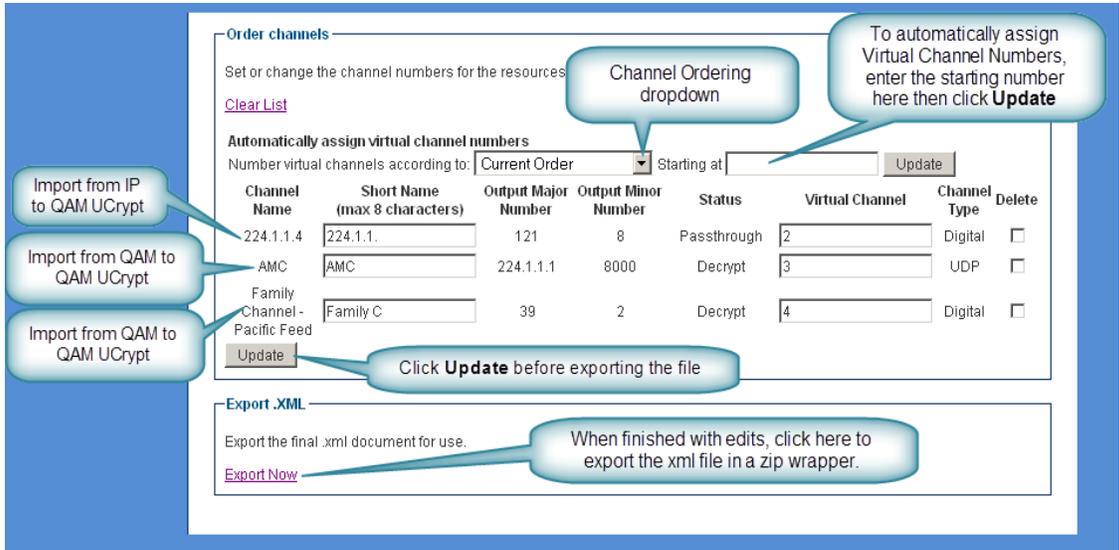
Figure 5-6: Ordering Channels

5.5.7 Updating the List

After all edits to the Short Name are completed, the order of the programs is the way you want it and a virtual channel is assigned to each program in the list, the channel list should be updated to arrange it in ascending numerical order based on the Virtual Channel Number. Click **Update** to accomplish this. The result is displayed for review and if all is well, then the table may be exported by clicking the **Export Now** hyperlink at the page bottom.

5.5.8 Exporting the XML File

Clicking **Export Now** will result in a prompt by your browser to accept and save a file download. The file will be named channelring.zip and will be an XML file wrapped in a zip format. You will be prompted to save the file, which should be placed in a known location on your computer. From that location, unzip the file.

The result will be a file with precisely the name *channelring.xml.Auto* which should then be saved to the root directory of a USB memory device.
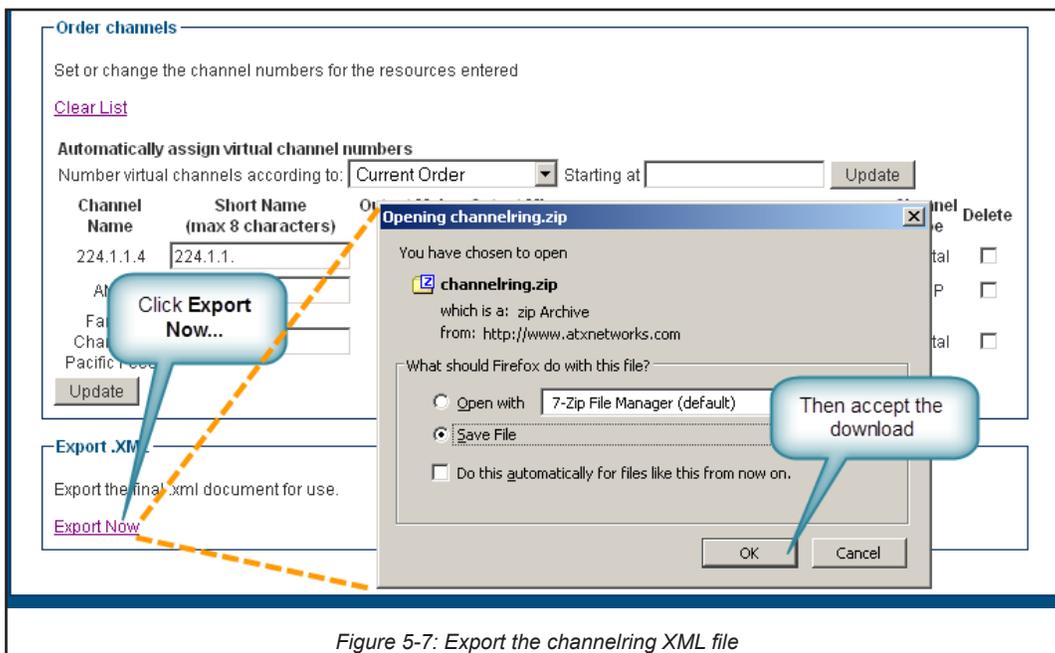

Figure 5-7: Export the channelring XML file

5.6   Installing the Channel Map XML File

After the file is unzipped and saved in the root directory on the USB drive, insert the USB device into the front USB port of the UCRVM. The UCRVM recognizes the presence of the file *channelring.xml.Auto* and will ingest the contents to the tuner of the Slingbox. A message will be displayed briefly on the SlingPlayer screen confirming the successful application of the channel map, see below.

After being successfully ingested, the channel lineup described by the XML file will be the channel lineup for the UCRVM unit as found when SlingPlayer software is connected. The virtual channels defined will be the channels where programs may be found.

5.6.1   Save the File *channelring.xml.Auto*

This file should be saved for future modification of the channel lineup if ever required. The file *channelring.xml.Auto* may be imported into the UCRVM Tool on the ATX support site to be modified with changes, then re-exported. This feature will save much time if only a few changes are required and the entire channel lineup does not need to be re-created. See the next section for details about modifying the channel map.
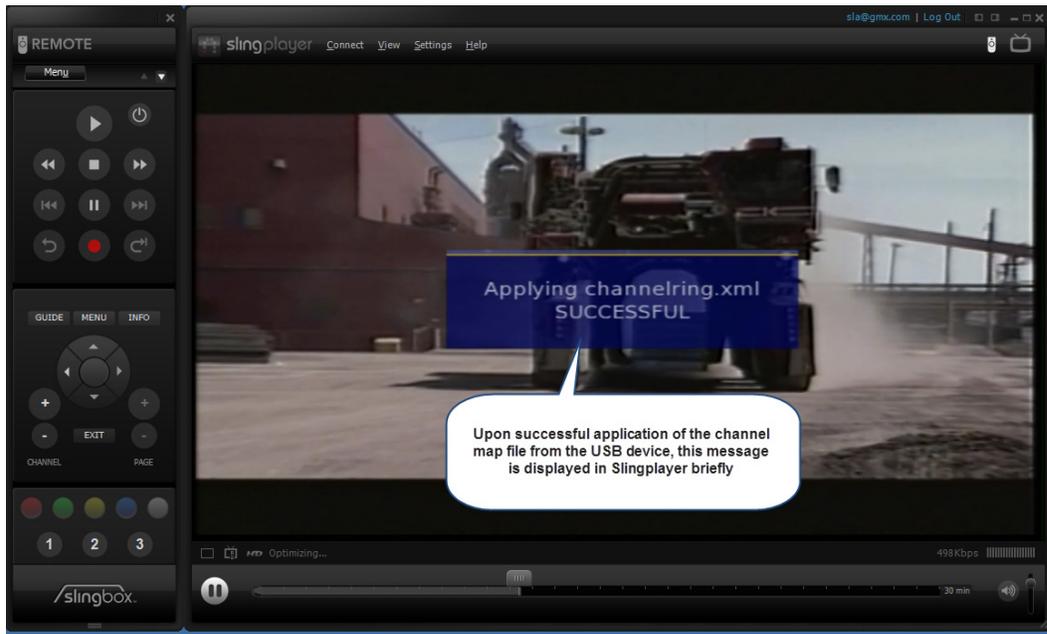

Figure 5-8: Apply channelring.xml.auto file

NOTE: *Regarding USB memory devices: It is possible that the UCRVM is not able to recognise some specific USB devices. If you find that the UCRVM does not accept the channel map file, try another USB device, especially with smaller memory capacity. Be sure the file is in the root directory.*

5.7   Modifying the UCRVM Channel Map

After you have created a channel map for a site, it may become necessary to modify it in some way, perhaps adding or deleting programs or changing channel lineups. It is not necessary to redo the entire channel map for minor changes. The UCRVM Configuration Tool allows the importing of an existing .XML file so changes may be made. Simply revisit the site where the tool is located and have the exported file available.

1.   Use the browse button to locate the file on your computer, named *channelring.xml.Auto* .
2.   Select the file type **Previous XML Export** from the drop down dialog located under the browse button.
3.   Click **Import** and the channel map data will be imported to the editing area titled **"Order channels"** where the channel lineup may be edited exactly as previously described above in section 5.3

Don't forget to save the exported channel map in a clearly labeled file folder for future use but don't rename the file; it must

be called ***channelring.xml.Auto*** for the UCRVM to ingest it. The file is updated into the UCRVM in the same manner, see "Installing the Channel Map XML File in the UCRVM" on page 5-9

Figure 5-9: Export the XML File

OPERATION

6. Operation

6.1 In This Chapter

6.2 Video Monitoring Introduction

The UCrypt RVM (UCRVM) is designed to allow viewing of video content, including both SD format and HD to 1080i, over almost any high speed internet connection. This is achieved through the use of streaming technology and requires a software player installed on the remote receiving computer. The UCrypt RVM is configured to operate in the same manner as a Sling Media Inc. Slingbox® which the operator may already be familiar with. There are cases where an operator may have multiple sites which need monitoring at various times and there is a convenient web site available to allow the organization of all site information for an almost unlimited number of sites and installed UCrypt RVMs. This site is maintained by Sling Media. The method used to build the directory list of UCRVM monitor sites is by entering the IP address and port number of each UCRVM, so each unit will require a static IP address to be assigned. All general setup information and procedures that are applicable to the Slingbox are also applicable to the UCrypt RVM. In this section, references to a Slingbox and the UCRVM are interchangeable.

There are two methods of connecting to your UCrypt RVM:

- Use a web browser plug-in
- Download SlingPlayer® Desktop

The Desktop application is suggested as it also allows adding UCRVM units to the Sling Account. This action is not allowed with Sling Web. Both Desktop and Web players will allow watching an already installed UCRVM.

6.2.1 Network Upstream Bandwidth Requirement

The UCrypt RVM will be streaming video content on its **WAN PORT** connection. This will most often be a cable modem so it is necessary to ensure that sufficient bandwidth is provisioned on the upstream to allow for reasonable quality pictures.

IMPORTANT NOTE: An absolute minimum of 1.5 Mb/s is recommended but a higher upstream bandwidth for HD content of 3 Mb/s or possibly up to 8 or 9 Mb/s would allow very excellent quality video at the receiving PC. The higher bandwidth and therefore the resulting higher quality video will allow smoothly flowing video and the detection of minor video impairments if that is necessary in your application. Low bandwidth availability may result in choppy video and audio at the receiving end.

6.2.2 Computer Requirements

Minimum PC Requirements:

- HD Streaming: Intel 2.4 GHz Core 2 Duo class processor or equivalent with 2 GB of RAM. Video acceleration support desirable on graphics card.
- SD Streaming: Pentium 4 class or equivalent with 256 MB RAM.
- Operating System: Microsoft Windows XP, Windows Vista, or Windows 7 with latest updates.
- Browser Support: Internet Explorer Version 7 or higher, Firefox Version 3 or higher.

6.2.3 SlingPlayer® Desktop

We recommend the use of **SlingPlayer Desktop** as the preferred method to connect, and the only method to enable adding a Slingbox to your Sling Account by IP address and Port Number. If you do not have administrative authority of your PC then it may not be possible to install SlingPlayer Desktop. In this case use the browser plug-in based **SlingPlayer Web**. Regardless of the player system you chose to use, a Sling Account will be required to access the video streaming features of the UCrypt RVM. There are several steps to setup the SlingPlayer software and register for the Sling Account which are covered next.

6.3 Getting Started

6.3.1 Sling Account Administration

It is mandatory to be logged into a Sling Account to use the streaming features of the UCRVM. This may be a new account you create or a common account you share with others in your organization. It is possible for several users to simultaneously log into a common account but only one operator may view any single UCRVM at one time. If an attempt is made to connect to a UCRVM that is currently in use, that is, someone is currently logged into that unit, you will be prompted to disconnect the other user and may be prompted for the administrators password to do so. Multiple Sling Accounts may be opened but each must be associated with a unique email address.

6.3.2 Register for a Sling Account

You will need a unique and real email address to register a new account since an access code will be emailed back to you to allow you to complete the registration. Links and registration procedures provided below may have changed since publication date.

1. Start at https://accounts.sling.com/
2. Sign up for a new account.
3. Follow the instructions to register with your email address.
4. After you receive the registration code by email complete registration part 2.
5. When finished, the site will try to find a locally connected UCRVM but will fail if you are not physically on the UCRVM network.
6. You may close your browser if you are not going to configure a local UCRVM at this time.

6.3.3 Download the Player Software

1. Download SlingPlayer Desktop from http://support.slingbox.com/en-US/OldDownloads.aspx
2. Install the software for your OS accepting the default options presented and launch the application.

SlingPlayer will attempt to connect to a local UCRVM. If it is not available on the local network, close the search window.

6.3.4 Log-in to Sling Account

- With SlingPlayer Desktop launched, Click **Connect > Log In to your Sling Account**.
  - The title bar of the player will show your log-in status.
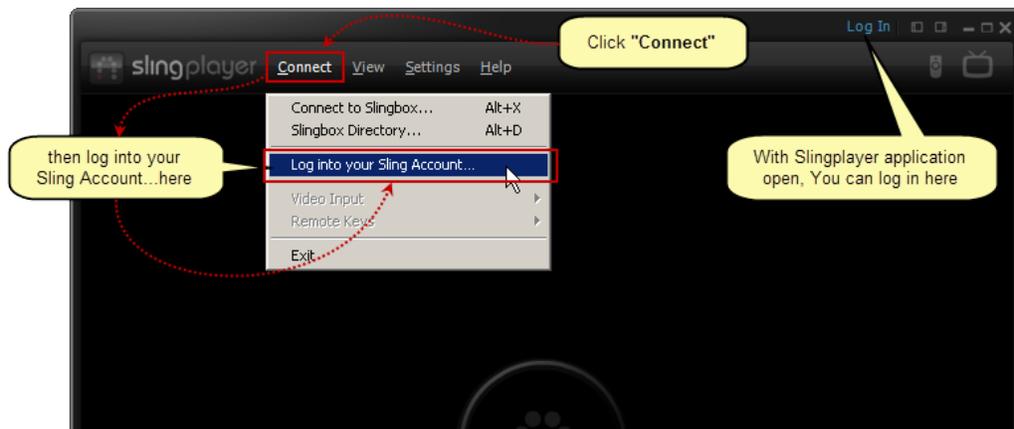 - Log in to your Sling Account using the credentials used when you set it up.

Figure 6-1: Log into your Sling Account

6.3.5 Add a UCRVM/Slingbox® to your Account

- With SlingPlayer Desktop launched, Click **Connect > Log In to your Sling Account** (if not already logged in).
- When logged in, Click **Connect > Slingbox Directory > Add...**
- Add a new UCRVM/Slingbox in the dialog box that opens and give it a meaningful name, a password, and using the static IP address of the UCrypt RVM, enter that IP and also enter **Port # 5001**.
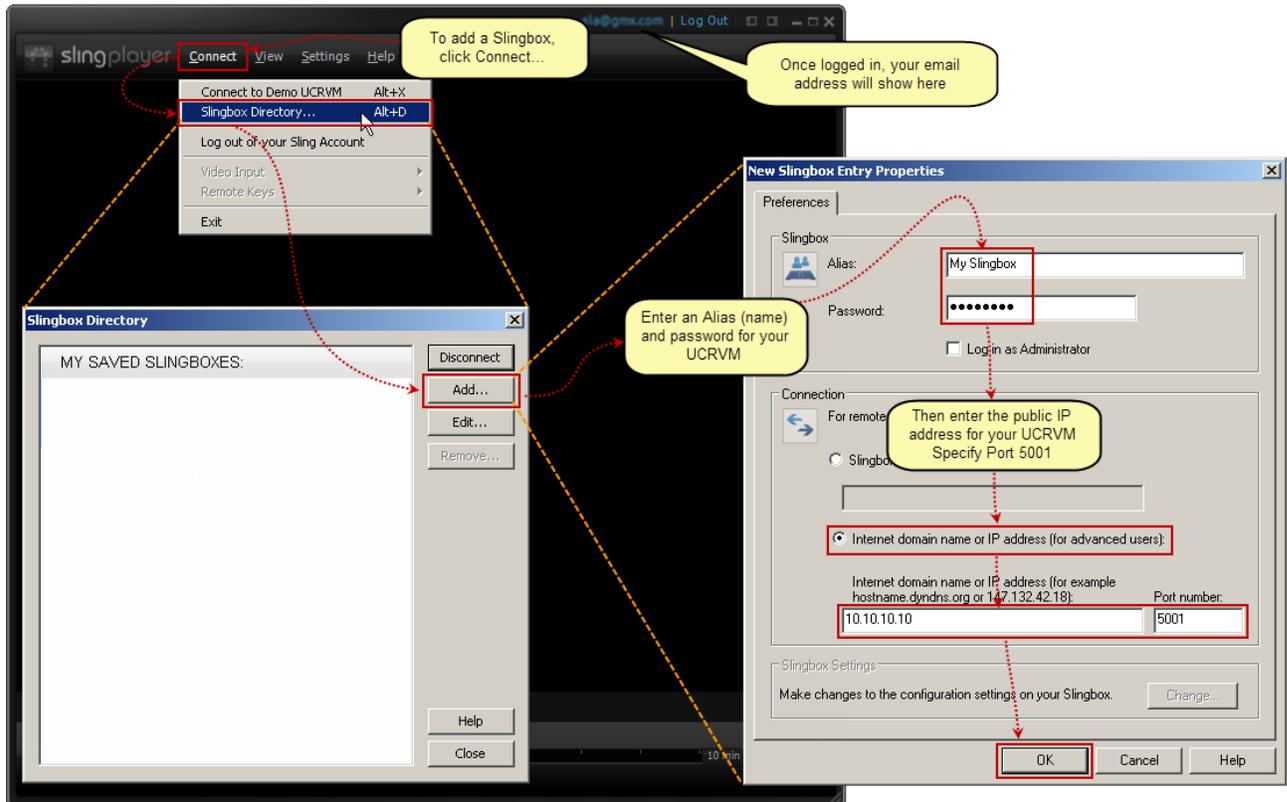- Slingbox ID is not supported.

Figure 6-2: Adding a UCRVM to your Sling Account

Administrative Password Set at the Factory

Your UCRVM may have an administrative password set at the factory. If so, use the password in the table below. It may be changed within SlingPlayer as illustrated below:

UCRVM Administrative Password
ucrvm

6.3.6 Connecting to your UCRVM

Once you have followed the preceding instruction to install the SlingPlayer Desktop and set up a UCRVM in your account, you are ready to connect and receive streaming video.

- Launch SlingPlayer Desktop if it is not already running.
- If you are already logged into your account, SlingPlayer may attempt to connect to the last Slingbox/UCRVM that it remembers being attached to. This re-connecting may be disabled in the **Settings>SlingPlayer Options** menu.
- Click **Connect>Slingbox Directory** which opens the list of Slingboxes already configured. You may only have one so far.
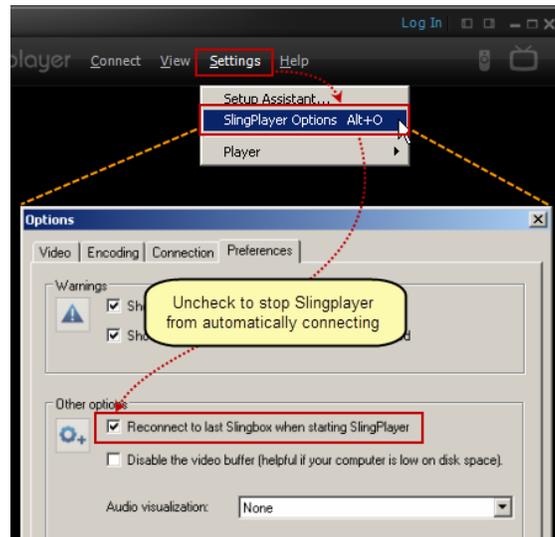

Figure 6-3: Stop Auto-reconnect
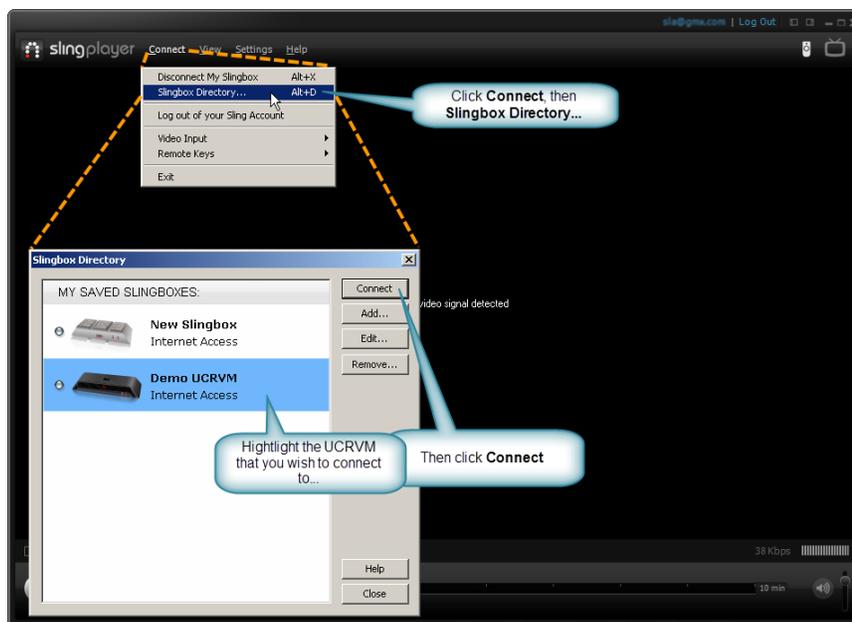
- Select the desired UCRVM then click **Connect**

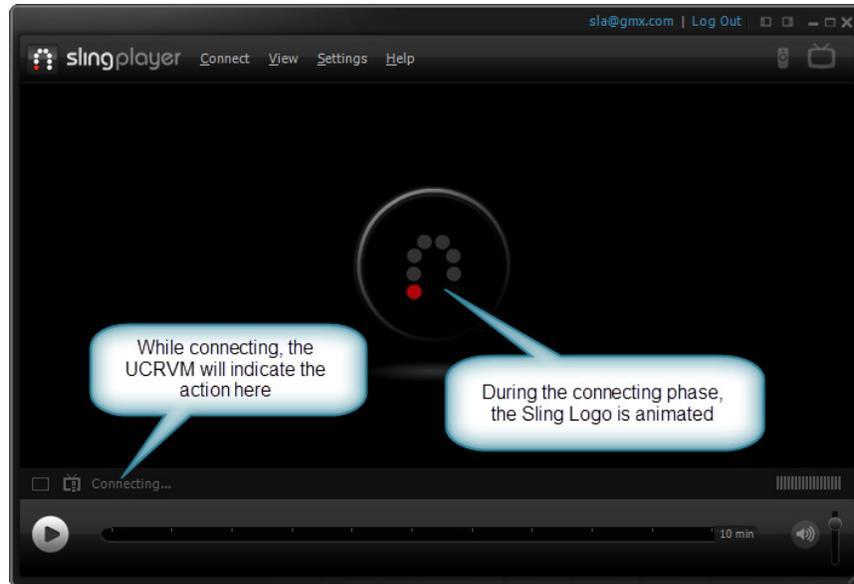*Figure 6-4: Select a UCRVM to Connect...*

Figure 6-5: SlingPlayer Connecting to a UCRVM...

- SlingPlayer will connect to the Slingbox and the remote control display will open. Click the power button in the upper right corner of the remote.
- SlingPlayer will attempt to stream content but the channel may not be set to a valid program. Enter a valid program number with the remote keypad or click the Channel Up button.

Figure 6-6: SlingPlayer Connected to UCRVM

6.4 Streaming Problems

If you think you are connected to a UCRVM but don't get any streaming content there are a few things to try.

- Click the menu item Connect and a drop down menu will show the option to Disconnect if you are indeed connected to a UCRVM. You can try to disconnect then re-connect.
- The SlingPlayer software has an on/off control which controls the tuner, but no apparent way to tell the state. Try clicking the control to turn the tuner on. See illustration below
- It is possible that the tuner is set to a channel with no content or an invalid channel, so try to change the channel with the remote control to a known valid channel.

Figure 6-7: Problems Connecting to UCRVM

6.4.1 Choppy Streaming Video

You may experience choppy video when connected to a new UCRVM. There can be several issues and it will be assumed that there is sufficient upstream bandwidth provisioned on the cable modem or network infrastructure as outlined in the **Installation** and **Network Configuration** sections of this guide.

⚠️ **NOTE:** *A minimum of 1.5 Mb/s is required and better quality transmission can be had with 3 Mb/s and above especially for HD programming.*

There are configuration settings within SlingPlayer to help the UCRVM to encode the program more efficiently based upon the available bandwidth. To adjust or review these settings from SlingPlayer desktop, click ***Settings>SlingPlayer Options*** then select the ***Encoding*** tab. The most efficient encoding can be realized when you enable SlingStream® to automatically optimize the encoding based on resolution of the program, so select **Automatic** on both **Local Access** and **Internet Access** options.

If the solution above does not resolve the problem, try disconnecting, then re-connecting to the UCRVM to re-initialize the network streaming parameters.
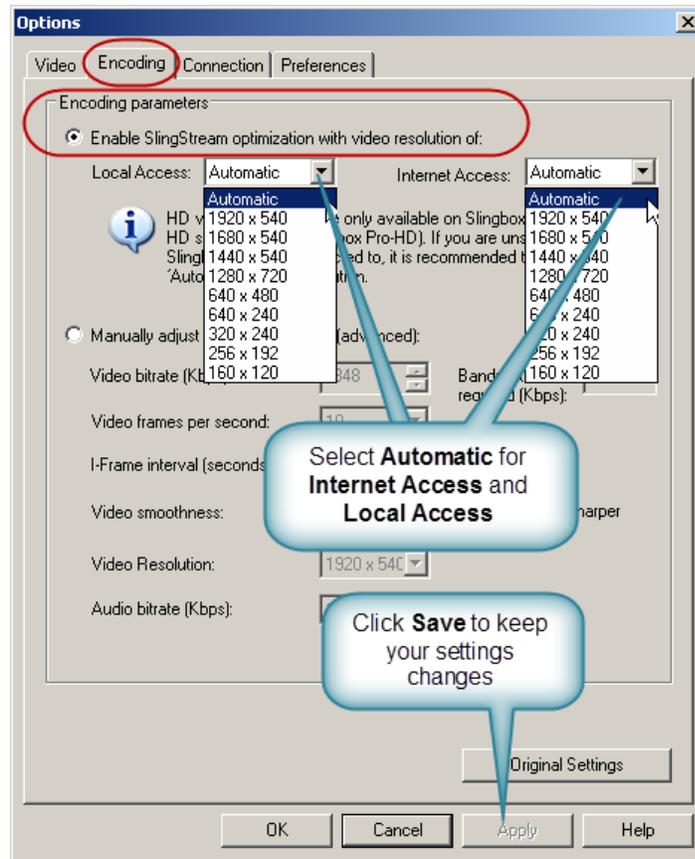
Figure 6-8: Enabling Automatic Resolution Optimization

Sling Media® Support

If all else fails, feel free to refer to the Sling Media® support site at http://support.slingbox.com/ where you can find all sorts of helpful information related to streaming media devices. If you are logged into your Sling Account and connected to a UCRVM, the site will discover and display helpful information related to the UCRVM that you are connected to. Also available on this site are file downloads of the latest SlingPlayer software as well as software updates for your UCRVM.

ATX Networks Support

If you need assistance on configuring your UCRVM, you can also contact ATX networks support engineers who will be able assist you in resolving difficult problems, see "Contact ATX Networks" on page 7-1

6.4.2 Supported Features

Not all features that appear within SlingPlayer are supported by the UCRVM but all features required for the fundamental application of monitoring UCrypt devices are supported. The following illustration shows the areas on the remote control that are not supported. Also shown are the channel display and naming features of the UCRVM that are not native to SlingPlayer.

Figure 6-9: Features Not Supported

6.4.3 Using SlingPlayer® Web

- Navigate to http://www.slingbox.com/.
- Click on **Watch**.
- If this is the first time, the browser plug-in will be presented for installation. Follow the instructions.
- Browser will then need to be restarted.
- SlingPlayer Web launches.
- Login to your account if you are not already. If you are, your login is displayed
- View your UCRVM/Slingbox video stream.

⚠️ **NOTE:** *You may not add UCRVM/Slingboxes to your account when using SlingPlayer Web as Slingbox ID is not a UCRVM supported feature. All UCRVM devices must be added through the desktop version of SlingPlayer for Windows or MAC.*

6.5   Management Interface

6.5.1   Overview

The UCRVM has built-in capability to remotely power cycle any UCrypt devices (or other 115 VAC powered equipment) that are plugged in to the rear panel power outlets. The control is achieved through a simple to use **Management Interface** which is remotely accessible using the **WAN PORT** IP address of the UCRVM. Simply enter the public IP address of the UCRVM WAN port in any web browser URL window. It is also possible to log in locally using the Management Interface IP address of 192.168.111.10 if you are connected to the **MGMT PORT** on the rear panel.

6.5.2   Login to the Management Interface

Open a web browser and enter the IP address of the UCrypt RVM that is to be controlled (default 192.168.111.10):

When the page opens, the **Device Info** page is displayed. At this point, no login is required, however to view the pages that have control features, a username and password need to be entered and you will be prompted for that when you click on those page links. The default username and password are listed below:

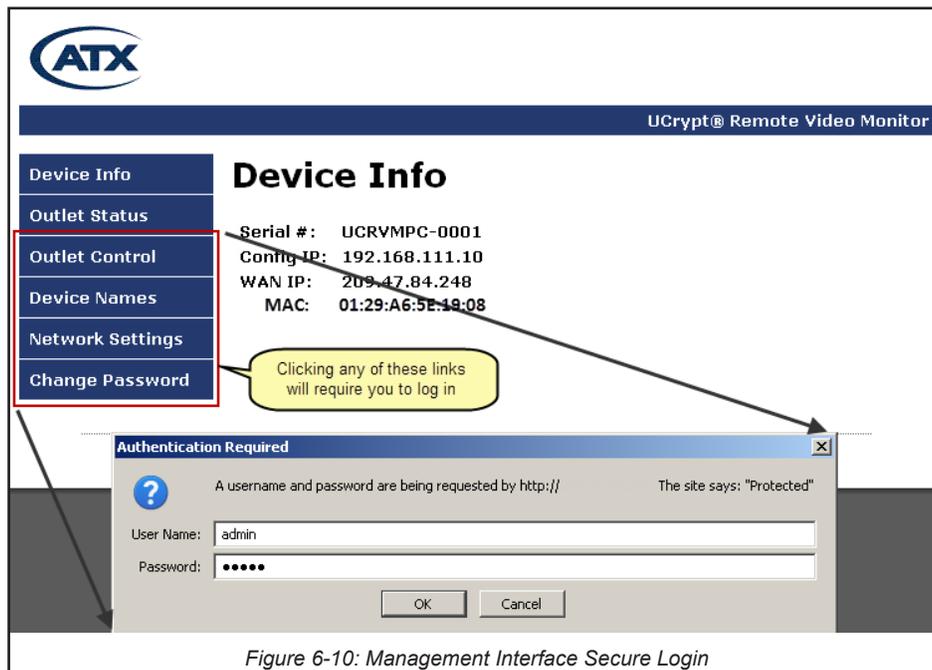| Default Management Interface Username and Password	
Username	**Password**
admin	ucrvm

Figure 6-10: Management Interface Secure Login

6.5.3 Device Info

The **Device Info** screen is presented upon opening the browser page at the device address (default 192.168.111.10): This screen lists the MGMT PORT IP address, which may not be changed, the assigned WAN PORT IP address, the WAN MAC address and the UCRVM serial number.
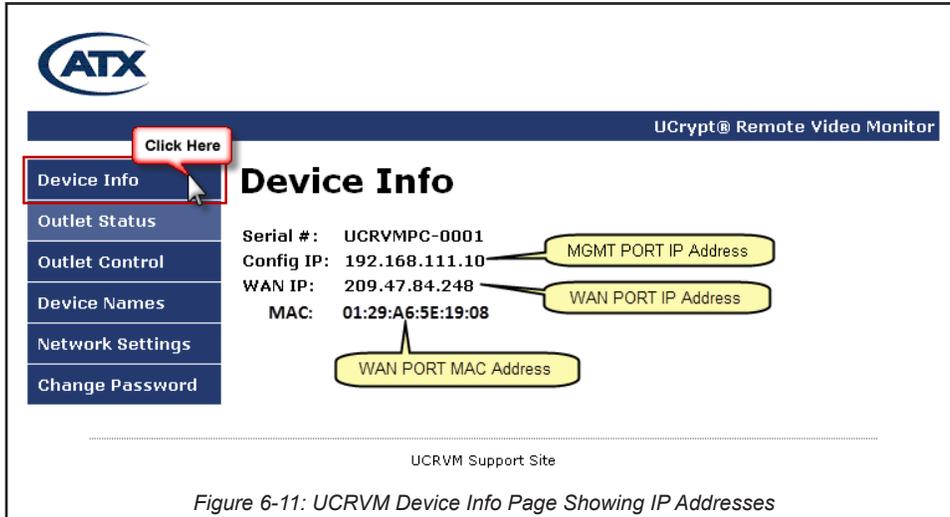

Figure 6-11: UCRVM Device Info Page Showing IP Addresses

6.5.4 Outlet Status

The status of power being applied to each of the rear panel outlets and the video tuner is reported here. Control of the power is done under the Outlet Control screen; see "Power Outlet Control" on page 6-11.

Click **Outlet Status**: (You will be prompted to log in if have not already done so; see "Login to the Management Interface" on page 6-9.
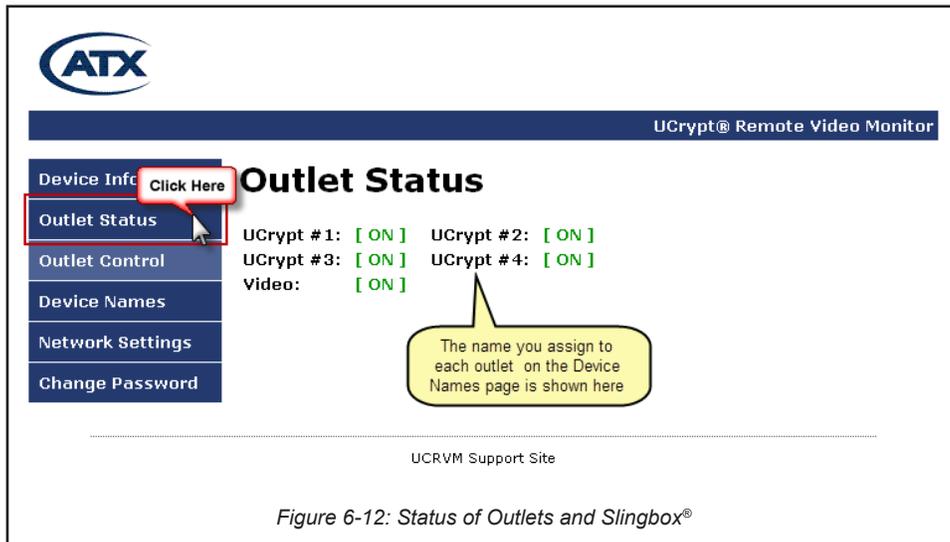

Figure 6-12: Status of Outlets and Slingbox®

6.6   Power Outlet Control

To control the power to the rear panel power outlets, click **Outlet Control**: (You will be prompted to log in if have not already done so; see "Login to the Management Interface" on page 6-9)

Each individual AC power outlet may be powered on or off through the use of the drop down dialog box attached to each device. If is desired to just turn the power off for a few seconds then back on, select **RESET**. When changes are made in the drop downs, the changes do not take place until you click **Apply**. If you selected RESET, the power will cycle off for about 5 seconds, the Outlet Status display reflects the power off cycle then the power is turned back on and the Outlet Status display will then say "On".
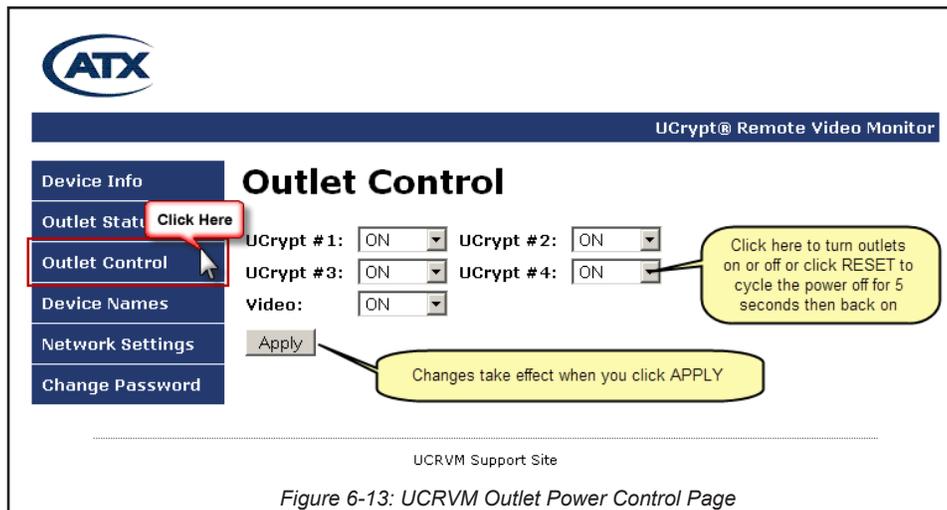

Figure 6-13: UCRVM Outlet Power Control Page

6.6.1   Video Control

The Internal Slingbox tuner may be power cycled or turned on or off if required by selecting the Video Control drop down. The operation is identical to the AC Outlet control, described above.

6.6.2   Device Names

The displayed names of the controlled devices may be changed to be more meaningful to the remote operator. The editable boxes may be populated with up to 18 alphanumeric characters. (You will be prompted to log in if have not already done so; see "Login to the Management Interface" on page 6-9)
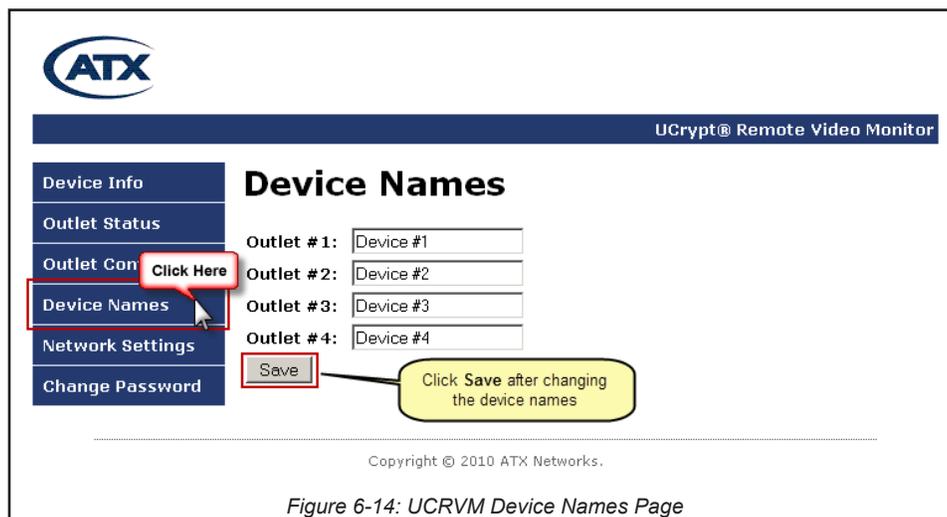

Figure 6-14: UCRVM Device Names Page

6.7   Network Settings

See "WAN PORT Configuration" on page 4-5 for instructions on changing the WAN IP Address settings

6.8   Change Password

The password to access the Management Interface may be changed here, however the username may not be changed; it must remain "admin".
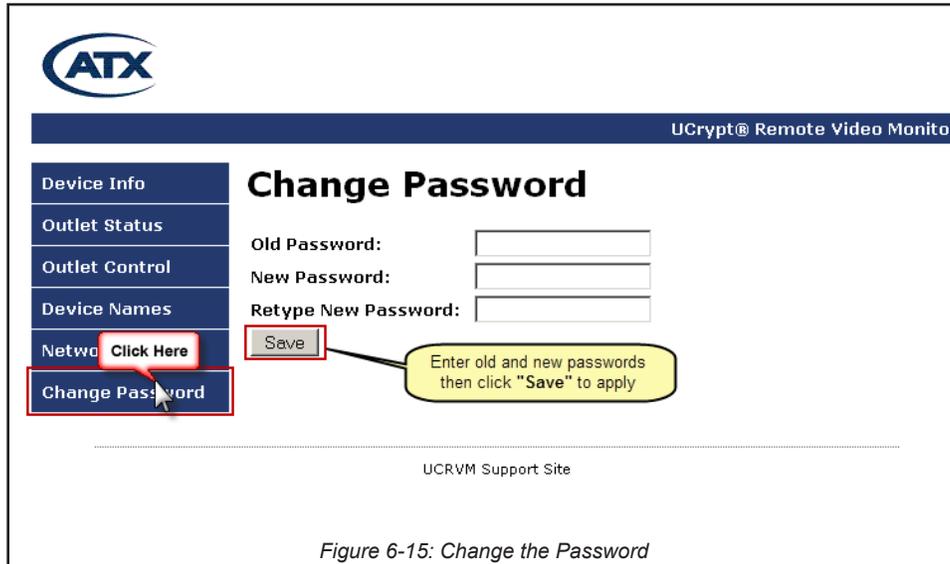

Figure 6-15: Change the Password

SERVICE & SUPPORT

7. Service & Support

7.1 Contact ATX Networks

Please contact ATX Technical Support for assistance with any ATX products. Please contact ATX Customer Service 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 the factory.

DIGITAL VIDEO TECHNICAL SUPPORT
Tel: (905) 428-6068
Toll Free: (800) 565-7488 (USA & Canada only)
► Press *3 for **Technical Support**
   ►Then press 1 for **Digital Video Products (DVIS, DigiVu, UCrypt, VersAtivePro, DigiStream)**
Email: digitalvideosupport@atxnetworks.com

CUSTOMER SERVICE
ATX Networks
1-501 Clements Road West
Ajax, ON L1S 7H4 Canada

Tel: (905) 428-6068
Toll Free: (800) 565-7488 (USA & Canada only)
► Press *1 for **Customer Service**
Fax: (905) 427-1964
Toll Free Fax: (866) 427-1964 (USA & Canada only)
Web: www.atxnetworks.com
Email: support@atxnetworks.com

7.2 Warranty Information

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