VBrick Systems
VBrick H.264 Decoder

VBrick v3.0 H.264 Decoder
Quick Start Guide

August 17, 2010
4410-0280-0000
Image 7.3.0.BR39

Copyright

© 2010 VBrick Systems, Inc. All rights reserved.
12 Beaumont Road
Wallingford, Connecticut 06492, USA
www.VBrick.com

This publication contains confidential, proprietary, and trade secret information. No part of this document may be copied, photocopied, reproduced, translated, or reduced to any machine-readable or electronic format without prior written permission from VBrick. Information in this document is subject to change without notice and VBrick Systems assumes no responsibility or liability for any errors or inaccuracies. VBrick, VBrick Systems, the VBrick logo, StreamPlayer, and StreamPlayer Plus are trademarks or registered trademarks in the United States and other countries. Windows Media is a trademarked name of Microsoft Corporation in the United States and other countries. Flowerfire is a trademark of Sawmill. All other products or services mentioned in this document are identified by the trademarks, service marks, or product names as designated by the companies who market those products. Inquiries should be made directly to those companies. This document may also have links to third-party web pages that are beyond the control of VBrick. The presence of such links does not imply that VBrick endorses or recommends the content on those pages. VBrick acknowledges the use of third-party open source software and licenses in some VBrick products. This freely available source code is posted at www.vbrick.com/opensource.

About VBrick Systems

VBrick is the recognized leader in Enterprise IP Video solutions, with over 6,000 corporate, education and government customers and 60,000 installations worldwide. VBrick solutions work over standard IP networks and the Internet to deliver rich media communications that connect people everywhere—from employees and customers, to partners and shareholders. VBrick's comprehensive product suite and end-to-end solutions are used in a wide range of live and on-demand applications including meeting and event broadcasts, distance learning, digital signage, TV distribution, video surveillance, and Web-based marketing campaigns. Headquartered in Wallingford, CT, VBrick's products and services are available through industry-leading value-added resellers.

VBrick is an active participant in the development of industry standards and continues to play an influential role in the Internet Streaming Media Alliance (ISMA), the MPEG Industry Forum, and Internet2. In 1998 VBrick invented and shipped the world's first MPEG Video Network Appliance designed to provide affordable DVD-quality video across the network. Since then, VBrick's video solutions have grown to include Video on Demand, Management, Security and Access Control, Scheduling, and Rich Media Integration. VBrick solutions are successfully supporting a broad variety of applications including distance learning and training, conferencing and remote office communications, security, process monitoring, traffic monitoring, business and news feeds to the desktop, webcasting, corporate communications, collaboration, command and control, and telemedicine. VBrick serves customers in education, government, healthcare, and financial services markets among others.

Contents

H.264 Decoder v3.0 Quick Start Guide

Preface v
Getting Help v
Related Publications v
Font Conventions v
Safety Precautions vi

1. Decoder Overview

Introduction 1
What's in the Box?. 1
Available I/O Option Cards 1
8727 Dual MPEG/H.264 Input 2
8706A Analog Video Output 2
8708 Digital Video Output 2
8707A Analog/Digital Audio Output 2
Preset Hardware Configurations 3
Login 3
Using the Management Interface 4

2. Installation

Step 1. Install the Hardware. 5
Cooling 5
Rack Installation 5
AC Power Connection. 6
LAN Connection. 6
Maintenance 6
Step 2. Set the Management IP Address 6
Using the Front Panel 7
Front Panel Input/Error LEDs 7

3. Configuration

Step 1. Configure the Encoder Transport Stream 9
Choosing a Transport Stream Mode 10
Step 2. Configure the Decoder Inputs. 11
Step 3. Configure the Decoder Outputs 14
Step 4. Configure the Decoder Services 16

4. Management

Unit 19
Active Errors. 19
Event Logging. 20

Unit Date/Time 20
Profiles 21
Admin 22
Web Passwords 22
Reset Unit 22
Software Updates 23
Diagnostics 23
About 24

H.264 Decoder v3.0 Quick Start Guide

Preface

The VBrick H.264 Decoder is an "always-on" device designed specifically for mission critical applications like IP video trunking, highway monitoring, and surveillance. This document is written for network technicians or administrators who will be installing and configuring this device. This documents assumes you have a working familiarity with network addressing and configuration concepts and experience working with streaming video products.

Decoder Overview	provides an overview of the decoder, describes the preset configurations, and explains each of the optional I/O cards.
Installation	explains how to rack mount the hardware and how to configure the management and streaming IP address(es).
Configuration	explains how to use the decoder management program to configure inputs, outputs, and services.
Management	explains how to use the management interface to view errors, set passwords, create configuration profiles, or upgrade the software.

Getting Help

If you can't find the information you need in this document, or from your reseller, you can contact VBrick Support Services on the web, by e-mail, or by calling 1-203 303-0222. For faster service, be sure to have your VBrick product serial number or support contract number. Support Services can usually answer your technical questions in 24 business hours or less. Note that all VBrick documentation is on the web. For more information about any VBrick product, go to www.vbrick.com/documentation

Related Publications

VBrick H.264 Encoder Admin Guide

Font Conventions

Arial bold is used to describe dialog boxes and menu choices, for example: **Start > All Programs > VBrick**

`Courier fixed-width font` is used for scripts, code examples, or keyboard commands.

`Courier bold fixed-width font` is used for user input in scripts, code examples, or keyboard commands.

This bold black font is used to strongly emphasize important words or phrases.

`Folder names and user examples in text` are displayed in this sans serif font.

`User input in text` is displayed in this bold sans serif font.

Italics are used in text to emphasize specific words or phrases.

Safety Precautions

There is always a danger present when using electronic equipment. Unexpected high voltages can be present at unusual locations in defective equipment and signal distribution systems. Become familiar with the equipment that you are working with and observe the following safety precautions.

- Every precaution has been taken in the design of your H.264 Decoder to ensure that it is as safe as possible. However, safe operation depends on you.
- Always be sure your equipment is in good working order. Ensure that all points of connection are secure to the chassis and that protective covers are in place and secured with fasteners.
- Never work alone when working in hazardous conditions. Always have another person close by in case of an accident.
- Always refer to the manual for safe operation. If you have a question about the application or operation call VBrick for assistance.
- Never allow your equipment to be exposed to water or high moisture environments. If exposed to a liquid, remove power safely (at the breaker) and send your equipment to be serviced by a qualified technician.

Chapter 1

Decoder Overview

Topics in this chapter

Introduction 1
Available I/O Option Cards 1
Preset Hardware Configurations 3
Login 3

Introduction

The VBrick H.264 Decoder is an "always-on" device designed specifically for mission critical applications like IP video trunking, highway monitoring, and surveillance. An embedded operating system ensures non-stop performance while providing the highest quality video decoding performance. The decoder takes IP video streams from the network and feeds them directly onto viewing devices like LCD "plasma" displays or traditional video distribution systems.

Figure 1. VBrick H.264 Decoder – Front

Figure 2. VBrick H.264 Decoder – Rear

What's in the Box?

The decoder is configured and shipped with the option cards (Table 1) you purchased. The complete contents of the shipment are listed below. Unpack and inspect the contents. If there is anything missing or damaged notify your reseller or VBrick without delay.

- VBrick H.264 decoder
- Product CD
- Customer letter
- Rack mounting hardware

Available I/O Option Cards

Depending on your purchase, the decoder is configured with the following optional input/output cards. These cards are configured on the device as shown in Preset Hardware

Configurations. **Note that each card is identified by a small label (for example 8727) in the upper left corner.**

Table 1. Decoder I/O Option Cards

8727		Dual MPEG/H.264 over IP Input/UDP Output. This card allows dual, redundant input. *Do not configure for MPEG output.*
8706A		Analog Video Output (1 RGBHV/YPbPr, 1 Composite)
8708		Digital Video Output (2 HD/SD-SDI, 1 RGBHV/YPbPr/Composite)
8707A		Analog/Digital Audio Output (Dolby E, AES Digital, Analog)

8727 Dual MPEG/H.264 Input

(Dual MPEG over IP Input/ UDP Output) This card is a dual purpose card in that it can receive and/or transmit from the internal TS bus, MPEG over IP. It has two physical connectors that can be configured independently. Up to two multicasts can be subscribed to, allowing for a backup multicast to be chosen and two UDP mirrored unicasts can be transmitted to allow for redundancy.

8706A Analog Video Output

(1 RGBHV/YPbPr, 1 Composite) An analog only video output card that can output either high definition or standard definition formats. Two outputs are on the card: one BNC for composite (NTSC & PAL) and one 15-pin D-sub for component (RGBHV or YPbPr). The card outputs an SD or HD signal, one at a time. Closed caption (NTSC), detected in the transport stream, can be inserted on line 21 of the composite (NTSC video) output.

8708 Digital Video Output

(2 HD/SD-SDI, 1 RGBHV/YPbPr/Composite) A versatile video output card. It provides two user selectable serial digital (SMPTE 259M, or SMPTE 292M) outputs and one component RGBHV or YPbPr/Composite NTSC & PAL output. Four pairs of audio can be embedded into the serial output on group 1, and 2. Closed captioning found within the transport (608/708B) can be embedded into the serial video output. NTSC closed caption, detected in the transport stream, can be inserted on line 21.

8707A Analog/Digital Audio Output

(Analog) This card allows the output of digital and analog audio. The compressed audio for the selected PID is passed through to the digital output. When the digital audio output is set to PCM, two-channel linear coded PCM AES/EBU audio is output to the digital output. The analog output provides two-channel (L, R) decoded analog audio from the selected audio processor. The two audio processors on the decoder board feed the two digital outputs. The audio processor will self-sense which type of audio is in the TS.

© 2010 VBrick Systems, Inc.

Preset Hardware Configurations

The H.264 Decoder's modular design allows several different input/output configurations. An indexing system is used to identify module slots for configuration and monitoring reference. There are two rows of modules labeled RDS (Receiver Decoder System) 1 and RDS 2. The bottom row of slots is numbered 1-1 through 1-4 (left to right). The top row is numbered 2-1 through 2-4. **These slots correspond to the visual image shown in the management program.** For example the following visual image (see Figure 3) indicates you are currently managing the card in RDS 1, Slot 1 - 3:

Table 2. RDS Slot Numbers

RDS 2	2 - 1	2 - 2	2 - 3	Not used
RDS 1	1 - 1	1 - 2	1 - 3	Not used

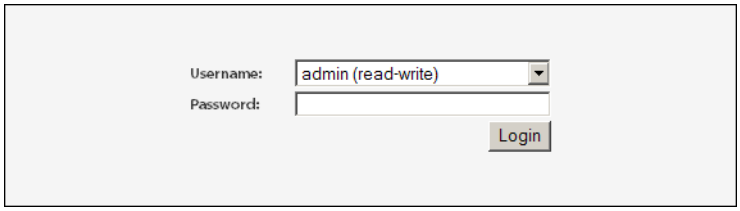
The unit you purchased from VBrick will be prepopulated with one of the fixed configurations shown in Table 3. Note that Configurations 1 and 2 have cards in the bottom row only. *The VBrick decoder uses Slots 1–3 only.*

Table 3. Preset Decoder Configurations

Part Number		Video Output	Audio Output	MPEG/H.264 Input
7210 H-HD: 8000-0158-0000	RDS 2			
	RDS 1	8706A (Composite)	8707A	8727
7211 H-HD: 8000-0159-0000	RDS 2			
	RDS 1	8708 (HD/SD-SDI)	8707A	8727
7220 H-HD: 8000-0161-0000	RDS 2	8706A (Composite)	8707A	8727
	RDS 1	8706A (Composite)	8707A	8727
7221 H-HD: 8000-0162-0000	RDS 2	8708 (HD/SD-SDI)	8707A	8727
	RDS 1	8708 (HD/SD-SDI)	8707A	8727

Login

The web-based management program lets you configure or monitor the decoder from any local or remote location. To get started simply open a browser and type in the IP address of the decoder. You can login to the decoder as an admin with write privileges or as a read-only user. There is no default password so it is always a good idea to set a password after logging in for the first time. There are no user names—just passwords for admin users and read-only users. To change the passwords, click on the **Admin** tab in the upper nav bar and go to **Web Passwords**. See Web Passwords on page 22 for more information.



Using the Management Interface

You open the management program (Figure 3) by launching a browser and typing in the configured IP Address (see Step 2. Set the Management IP Address on page 6). The lower bank of populated option cards is **RDS 1**. The upper bank of cards is **RDS 2**. ("RDS" means Receiver Decoder System.) Click on RDS 1 or 2 to configure the corresponding row of option cards.

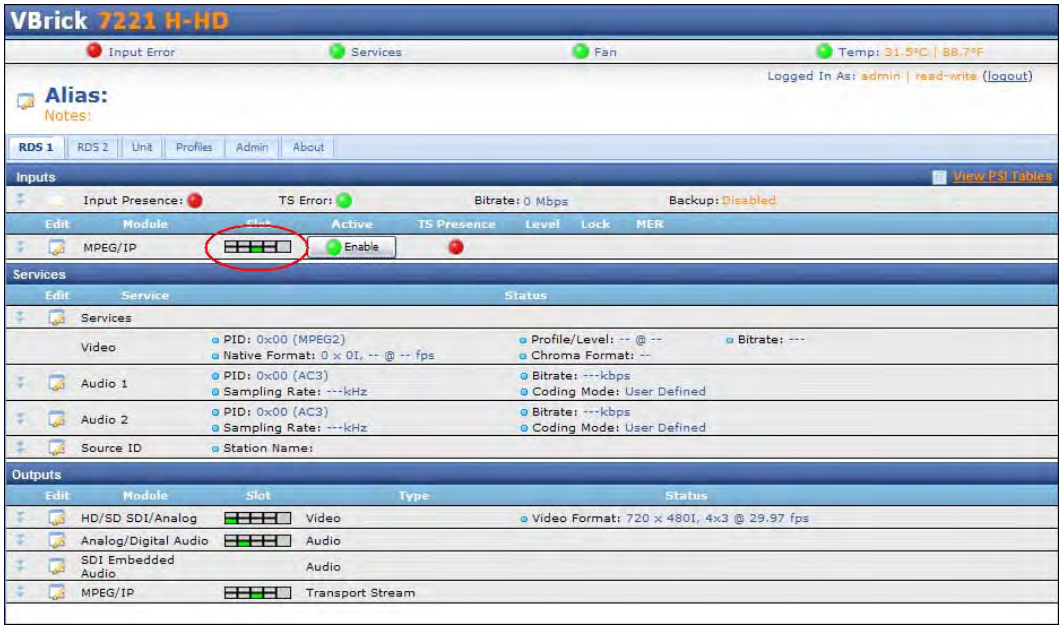


Figure 3. Web-Based Management Interface

© 2010 VBrick Systems, Inc.

Chapter 2

Installation

Topics in this chapter

Step 1. Install the Hardware. 5
Step 2. Set the Management IP Address 6

Step 1. Install the Hardware

Cooling

The H.264 Decoder is cooled via forced induction through the front of the unit and exhausted through the vents on either side. The H.264 Decoder is equipped with a temperature controlled status indicator. If the temperature in the inside of the unit exceeds 70° C the red **Error** LED will illuminate and a description of the error will appear in the Event Log on the **Unit** tab.

Note *Use common sense when installing this device.* Do not expose the decoder to direct sunlight, high humidity or wet conditions. Do not block the air vents or impede the airflow in any way.

Rack Installation

The H.264 Decoder is typically mounted in a standard 19" rack. It occupies 1U of rack space and the connections are all on the rear of the unit.

▼ To install the H.264 Decoder into a rack:

1. Identify a location in the rack for the H.264 Decoder making sure that the air intake on the front of the unit and the exhausts on the sides of the unit will not be obstructed.
2. Insert the rack mount clips (Figure 4) into place over the mounting holes in the rack.
3. Slide the H.264 Decoder into position in the rack.
4. Secure the H.264 Decoder to the rack by installing the four supplied screws through the front mounting holes and tightening.

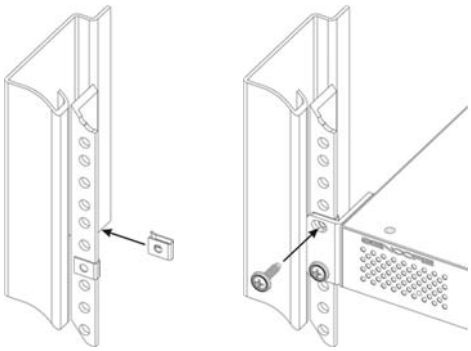


Figure 4. Rack Mounting the Decoder

AC Power Connection

Using the proper power connections is vital to the safe operation of the H.264 Decoder. Only use the supplied 3-prong power connector or one with equal specifications. Never tamper with or remove the 3rd-prong grounding pin. This could cause damage to the H.264 Decoder, personnel, or property. The H.264 Decoder is intended for use on either 120V or 240V systems. The power supply will automatically detect the system it is connected to.

▼ To connect power to the decoder:

1. Locate the AC power cord that was included with the H.264 Decoder.
2. Plug the female end of the power cord (end with no prongs) into the back of the unit.
3. Locate a protected outlet (usually inside the rack) to plug the male end of the power cable into.

LAN Connection

The H.264 Decoder requires at least two separate Ethernet connections (and two unique IP addresses) for basic operation. One connection is used to access the management interface and the other is used for streaming. The Decoder can optionally use a second streaming Ethernet connection (for a total of three connections on a single decoder or five on a dual decoder) to implement automatic network failover features. All of the Ethernet connections and IP addresses may be on different subnets or they may all be on the same subnet, depending on your network's configuration.

The management interface supports either DHCP or static IP address assignment; the streaming interface(s) require a static IP address assignment. Check with your network administrator on how to best configure the decoder for your network. See Step 2. Configure the Decoder Inputs on page 11 for details.

Maintenance

The H.264 Decoder is virtually a maintenance-free piece of equipment. There are no user serviceable parts on the inside of the unit. Earlier production runs of this product had an air filter behind the right front access panel. The reliability record and amount of air flow in this product have proven that the filter media does not provide any value and introduces a maintenance burden, so it is no longer used.

Step 2. Set the Management IP Address

VBrick recommends using a DHCP server if available. After the unit is installed and powered on, use the front panel to enable DHCP and/or to set a static IP address. (See Using the Front Panel below for a brief description of how to do it.) Thereafter you can use the web-based management program for all configuration and management tasks (including changing the IP address).

▼ To turn DHCP on or off, or view the IP address:

1. Press **Home > Menu** on the front panel.
2. Navigate up or down (with arrow keys) to **Network** and press **Enter**.
3. Navigate to **IP Address** and note for future use.
4. Navigate to **DHCP**, press **Enter**, and use the arrow keys to turn on or off.
5. Press **Enter** to save and **Exit** to quit.

© 2010 VBrick Systems, Inc.

Using the Front Panel

The front panel has various controls and indicators as shown below.

Figure 5. Decoder Front Panel

When editing with the front panel display, the cursor shows which line is active and the active character or item is highlighted. Use the arrow keys to navigate left, right, up, or down. Use the **Enter** button to select items.

Front Panel Input/Error LEDs

The H.264 Decoder has four internal error parameters: Input, Decoder, Fan And Temperature. These parameters can be monitored locally or remotely. Locally the unit's status can be checked by visually looking at the **INPUT** LED and the **ERROR** LED on the front panel, then navigating to the "Error List" on the front panel. Remotely, the unit's status can be checked by using the web client and looking at the status icons on the top of the main window. To see a detailed list of errors, go to the Event Log on the **Unit** tab.

The **INPUT** LED indicates the presence of a stream at the user-selected input. "Stream present"" is represented by a green **INPUT** LED while "stream NOT present" is represented by a dark **INPUT** LED. The **ERROR** LED represents the combined status of the unit's error indicators. If Input, Decoder, Temp, or Fan status is in an error state, the LED will be red. If all error indicators are good, the LED will be dark.

Note If your H.264 Decoder is a dual channel model, and you are not using the second channel, you may see a "Stream Not Present" error indicator for the second channel. This is normal and will not affect the operation of the first channel.

© 2010 VBrick Systems, Inc.

Chapter 3

Configuration

Topics in this chapter

Step 1. Configure the Encoder Transport Stream 9
Step 2. Configure the Decoder Inputs 11
Step 3. Configure the Decoder Outputs 14
Step 4. Configure the Decoder Services 16

Step 1. Configure the Encoder Transport Stream

The H.264 decoder requires Transport Stream input so you must configure a Transport Stream output on the VBrick encoder as explained here. See the *H.264 Encoder Admin Guide* for more information about encoder parameters.

▼ To configure a Transport Stream on the encoder:

1. Launch the VBAdmin management program for the encoder.
2. Go to the Program Configuration > **Transmitters** page (Figure 6) and click **Edit**.
3. Check **Enable Transmitter** and set **Transport Type** to **Transport Stream**.
4. Set an appropriate **Destination** IP Address. You can use multicast or unicast to stream to the H.264 Decoder. If you are multicasting, ask your network administrator for an appropriate multicast address. If you are unicasting, enter the IP address you assigned to the streaming port on the H.264 decoder.
5. Click **Apply** to save your changes.

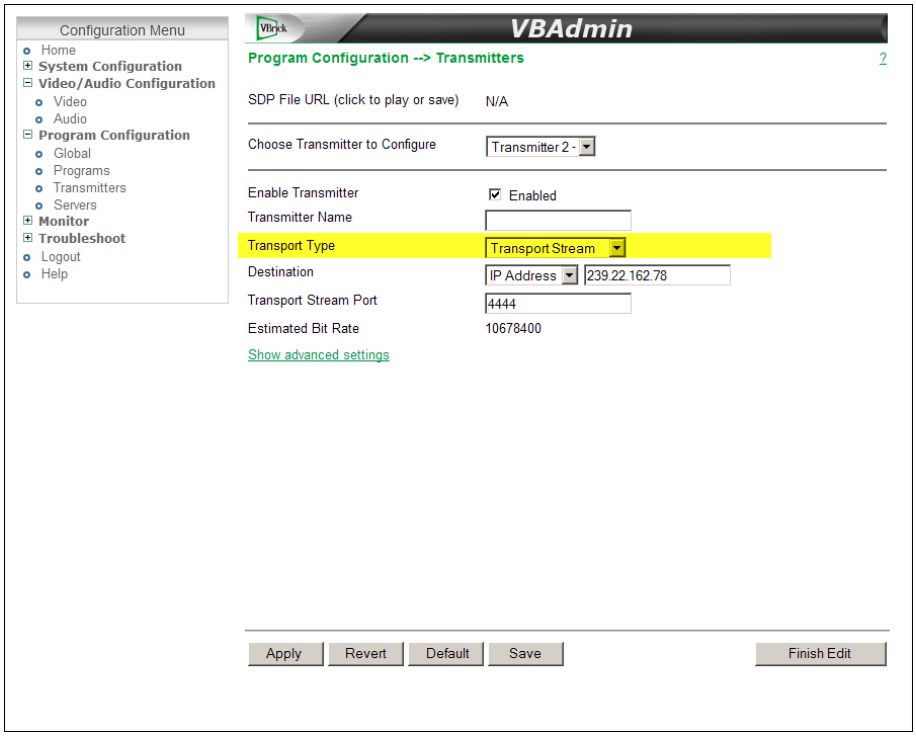


Figure 6. Configure Transport Type

6. Go to the Program Configuration > **Programs** page (Figure 7), and configure the **Transport Stream Mode** as **Constant** or **Variable** (High, Medium, or Low Delay). (Note that if set to Variable, the Null Stripped parameter on the MPEG/IP Editor > Receive Group1 page must be enabled on the decoder.)

Choosing a Transport Stream Mode

VBrick recommends using the default **Constant** Transport Stream Mode for most applications, but **Variable** Transport Stream Mode must be used for applications that require less than one second latency or less than 1Mbit bit rate. There are video quality and stability trade-offs for low-latency and low bit rate operation depending on your video content and your network.

VBrick recommends setting the latency and bit rate only as low as necessary to meet your needs. **Variable Med Delay** Transport Stream Mode will provide latency in the 500–800 ms range; **Variable Low Delay** will provide latency in the 400–600 ms range; and for the lowest latency in the 300–500 ms range, you can choose **Custom** Transport Stream Mode (and set the **Transport Stream PTS-PCR Gap** to its minimum of 200). See the VBrick *H.264 Encoder Admin Guide* for more about transport stream and other encoder settings.

© 2010 VBrick Systems, Inc.

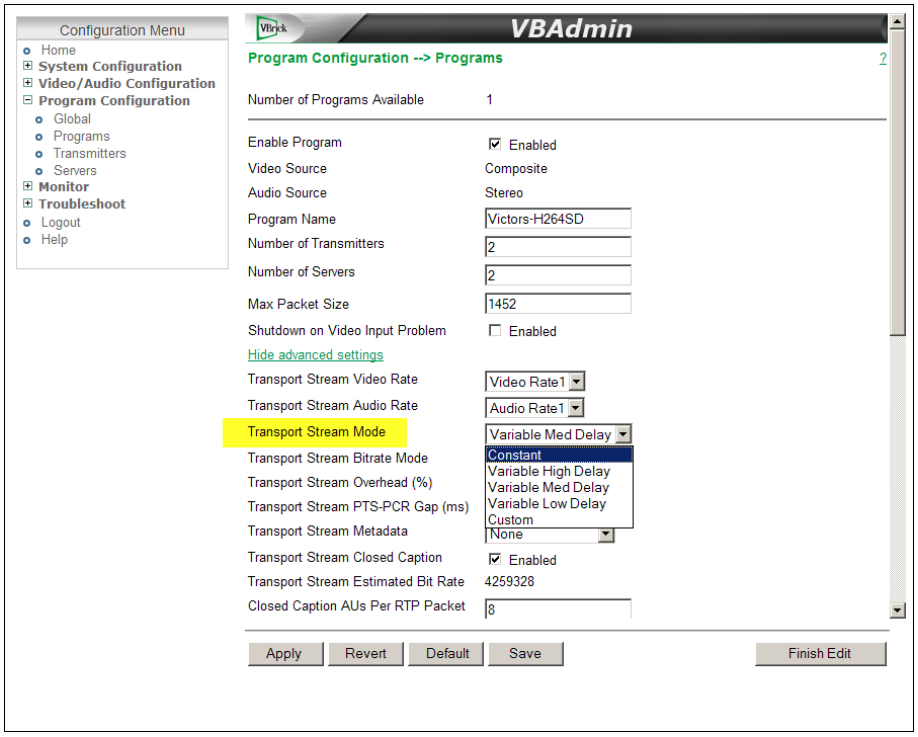


Figure 7. Configure Transport Stream Mode

Notes
- The only audio sampling rate supported by the decoder is 48 kHz. As a result, the encoder's default **Sample Frequency** of 32kHz must be reconfigured to 48 kHz (on the Video/Audio Configuration > Audio page) for compatibility with the decoder.
- The **Main** profile (set on the encoder's Video/Audio Configuration > Video page) is fully supported. The **Baseline** profile will cause a Profile/Level unsupported warning on decoder but will not affect operation. Main is the encoder default.

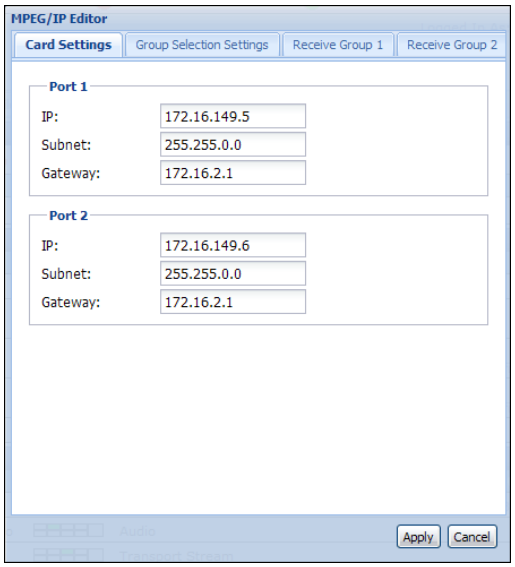
Step 2. Configure the Decoder Inputs

This section explains how to set the IP Address(es) for streaming. The simplest and most common way to configure streaming to the H.264 Decoder is to make a single Ethernet connection to the **Port 1** streaming network interface and to configure the decoder to receive the encoder's stream on that interface. This section describes the steps required for this most common streaming mode. You can also, as noted below, configure the decoder for more advanced configurations that provide network and/or encoder redundancy.

▼ To configure the MPEG input(s):

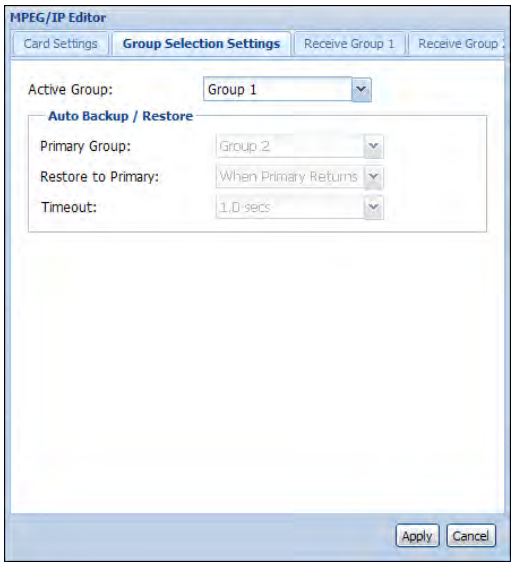
1. Login to the decoder. If this is the first time you are launching the application, there's no password—just click the **Login** button.
2. In the navigation bar, click on **RDS 1**.
3. In the **Inputs** area of the page, click on the **Edit** button for the MPEG/IP module to launch the **MPEG/IP Editor**.
4. On the **Card Settings** tab, set the **IP** address, **Subnet** mask, and **Gateway** for Port 1. These streaming interfaces do not support DHCP so you must obtain a static address from your network administrator.

Configuring Network Redundancy: If desired, you can use the **Port 1 IP** and **Port 2 IP** address fields to set individual, redundant IP addresses for the two ports on the MPEG/IP card. If the first IP address is unreachable, the decoder will automatically failover to the second IP address.



5. Click on the **Group Selections Settings** tab and set the **Active Group** to **Group 1**.

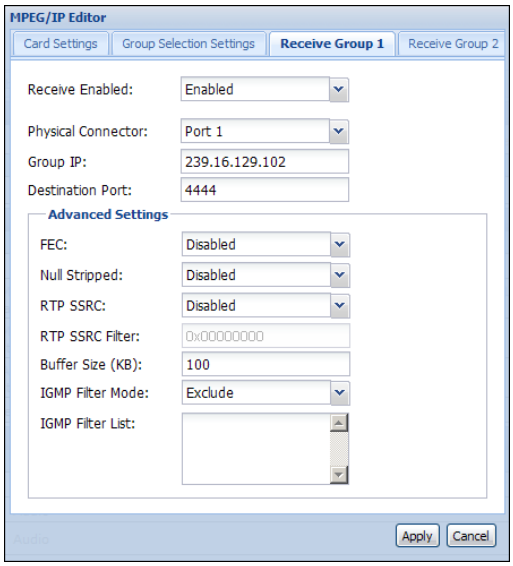
Configuring Decoder Redundancy: If desired, you can configure the **Active Group** to **Auto** and configure **Restore to Primary** to one of the options explained below to configure redundant decoders. If the stream defined in **Receive Group 1** fails, the decoder will failover to the stream defined in **Receive Group 2**.



© 2010 VBrick Systems, Inc.

Active Group	• Auto – sets Auto Backup/Restore. If the stream defined in Receive Group 1 fails, the decoder will auto failover to the stream defined in Receive Group 2. • Group 1 – sets Group 1 as active. There is no Auto Backup/ Restore enabled. • Group 2 – sets Group 2 as active. There is no Auto Backup/ Restore enabled.
Restore to Primary	The decoder constantly polls the defined streams. This setting determines if and when the primary stream will be restored in the event of a failure. • Never – the stream is never restored to the primary. • On Backup Failure – the stream is restored to the primary only if the secondary stream fails. • When Primary Returns – the stream is restored to the primary as soon as the primary recovers.

6. Click on the **Receive Group 1** tab.
   a. Set **Receive Enabled** to **Enabled**, set **Physical Connector** to **Port 1**, and set the **Group IP** and **Destination Port** to match the Encoder Transmitter settings.
   b. If using "multicast," the **Group IP** is the multicast address configured in the Encoder Transmitter; if using "unicast," the **Group IP** is the IP address of the encoder. Leave the **Advanced Settings** on the **Receive Group 1** tab at the defaults (except for Null Stripped as explained below).



Null Stripped	If **Transport Stream Mode** (on the encoder's Program Configuration > Programs page) is set is set to **Variable** (High, Medium, or Low Delay) as shown in Figure 7 on page 11, this parameter must be enabled; if Transport Stream Mode is set to **Constant**, this parameter can be enabled or disabled. *For best results VBrick recommends disabling this parameter unless the encoder is set for a variable bit rate.*

Buffer Size (KB)	VBrick recommends keeping the default 100 KB. *This setting has no effect if Null Stripped mode is enabled.*

The VBAdmin management page for the encoder, showing the relevant transmitter settings, is shown in Figure 8.

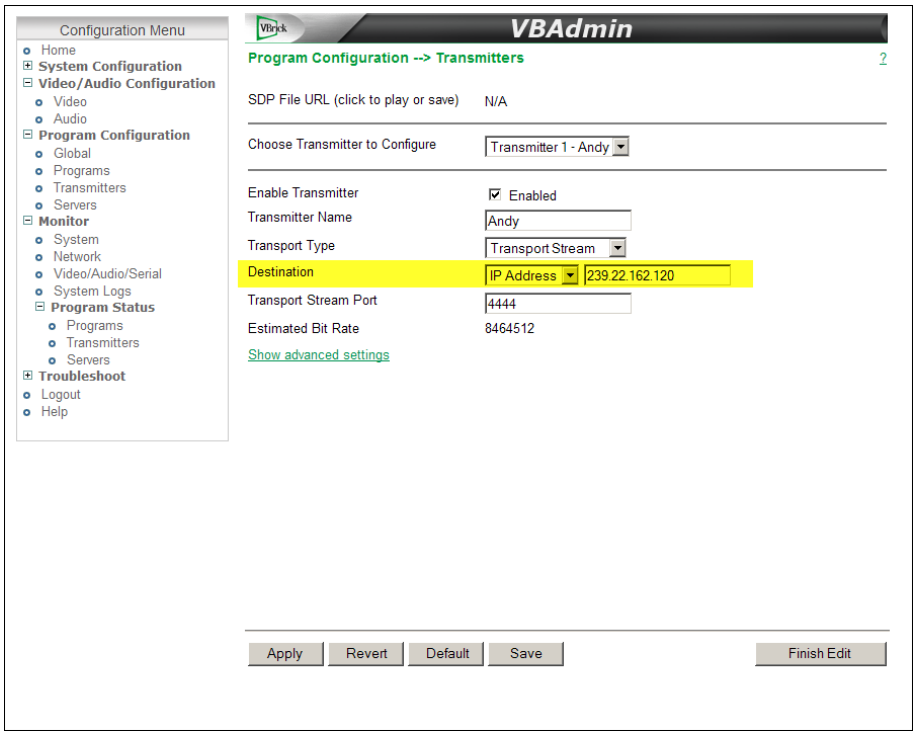


Figure 8. Program Configuration > Transmitters

Destination	Select IP Address or Host Name from the dropdown. The actual IP address determines whether the stream will be multicast (e.g. 239.22.118.72) or unicast (e.g. 127.22.118.72). Default = 127.0.0.1 (loopback). If using a Host Name, you must configure a Domain Name Server on the System Configuration > Network page.

Step 3. Configure the Decoder Outputs

You will also need to configure the Video Settings for each video output card. Click on the **Edit** button in Outputs to launch the **Analog Video Editor** or the **HD/SD SDI/Analog Video Editor** depending on which card is installed. VBrick recommends using a **Manual** format setting for the H.264 Decoder output.

▼ To set the Manual Format parameter on the decoder:

On the **Video Settings** tab, set **Video Format Mode** to **Manual** and choose a selection from the **Manual Format** dropdown list to match the configuration of the Encoder as closely as possible. Table 5 and Figure 9 below show the Encoder VBAdmin pages that contain the Encoder configuration settings that should match the Decoder **Manual Format**. For best performance with the H.264 Decoder, you should configure the Encoder video **Resolution** to one of three choices: 1280x720 (for HD), 720x480 (for NTSC) or 720x576 (for PAL) and you should set the Encoder's **Aspect Ratio** to match your video source.

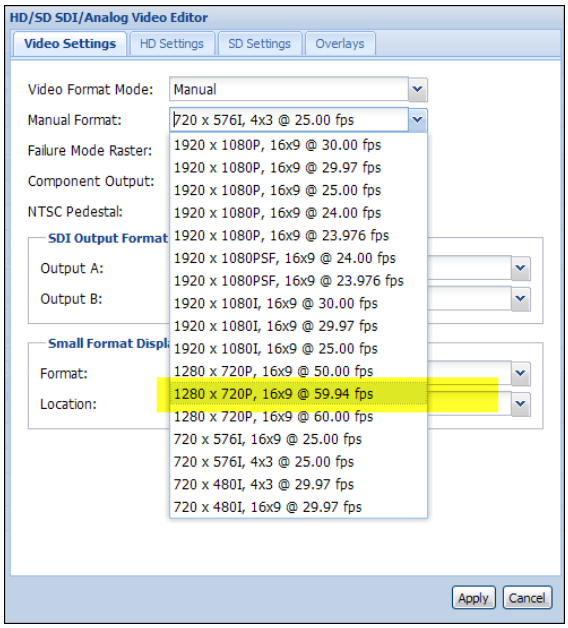
© 2010 VBrick Systems, Inc.

After configuring the Encoder and connecting your video source, you can check the VBAdmin Monitor > Video/Audio/Serial status page (Figure 9) to determine the **Detected FPS**. Then use the following table to select a **Manual Format** setting (from the dropdown) for the Decoder.

Table 4. Selecting a Manual Format Value

Detected FPS †	Target Frame Rate ††	Select a Manual Format with this FPS
29.97 or 59.94	30 or 15	29.97 or 59.94
30.00 or 60.00	30 or 15	30.00 or 60.00
25.00 or 50.00	25 or 12.5	25.00
50.00	50	50.00
59.94	60	59.94
60.00	60	60.00

† VBAdmin > Monitor > Video/Audio/Serial page.
†† VBAdmin > Video/Audio Configuration > Video page.



A typical **Manual Format** setting on the decoder (for example `1280 x 720P, 16x9, @59.94 fps`) has values corresponding to **Resolution**, **Video Aspect Ratio**, and **Detected FPS** on the encoder as shown in VBAdmin (see Table 5 and Figure 9 below).

Table 5. VBAdmin Parameters

VBAdmin Parameter	VBAdmin Page
Resolution	Video/Audio Configuration > Video
Video Aspect Ratio	Video/Audio Configuration > Video
Target Frame Rate	Video/Audio Configuration > Video
Detected FPS	Monitor > Video/Audio/Serial

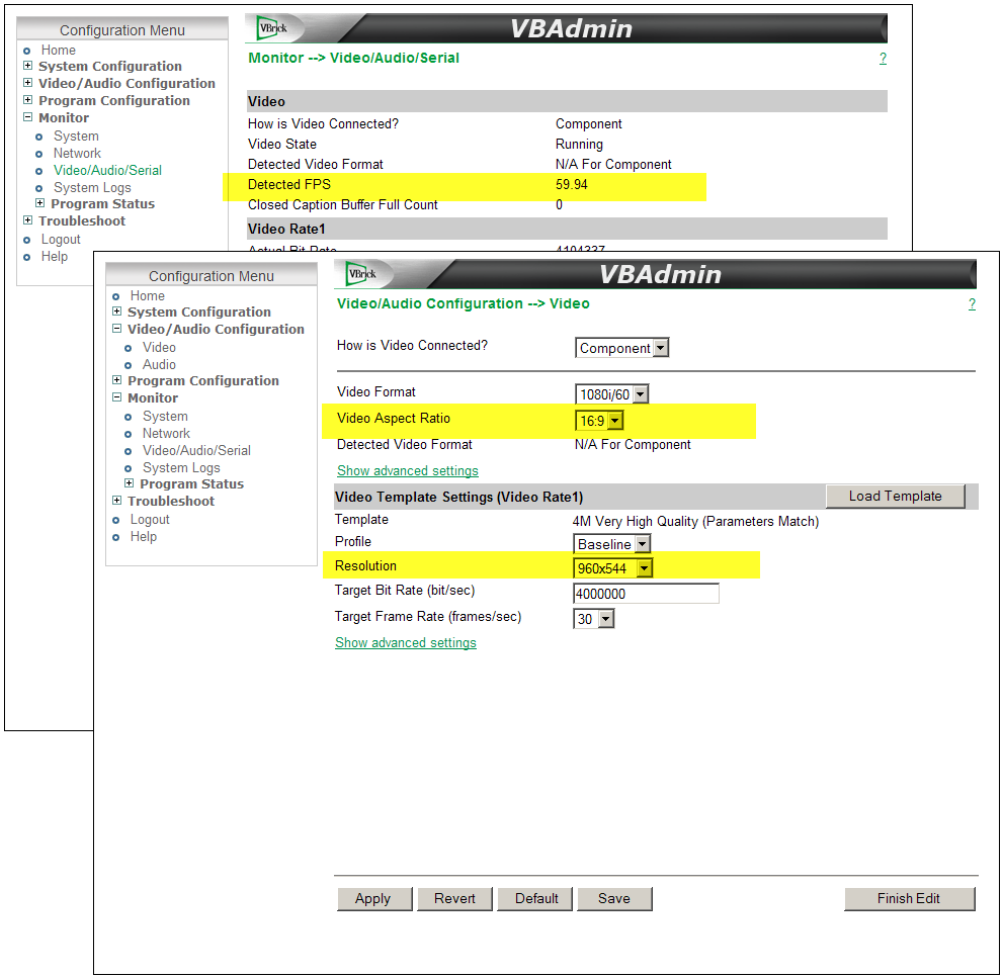


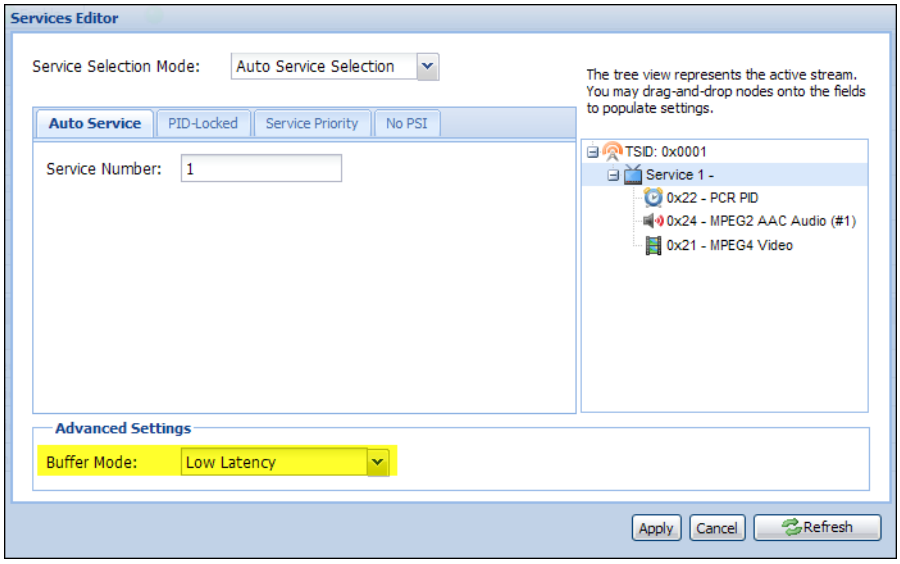
Figure 9. VBAdmin Parameters Used for Manual Format

Note In order to use an H.264 Decoder, the Encoder's **Target Frame Rate** (Figure 9) must set to 12.5 frames/sec or greater.

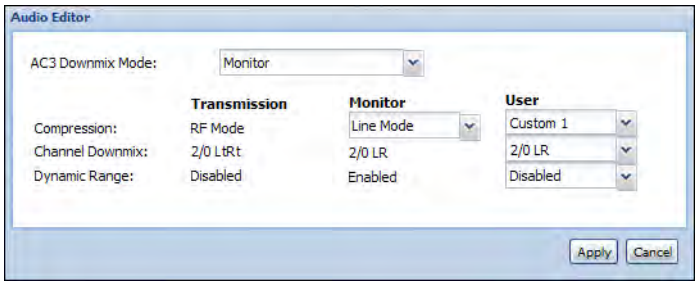
Step 4. Configure the Decoder Services

Optional. For "low latency" applications (where the Transport Stream Mode is set to **Variable Low Delay**), set the **Buffer Mode** to **Low Latency**.

© 2010 VBrick Systems, Inc.



Click on the **Edit** button for **Audio 1** or **Audio 2** to launch the Audio Editor. Do not change anything on these pages unless you have a compelling reason to do so. Note that the decoder only supports an audio **Sampling Rate** of 48 kHz (this is the Sample Frequency on the encoder's Video/Audio Configuration > Audio page).



Note To reset the decoder, go to **Admin > Reset Unit**. This is a soft reset and will not change any configuration settings but you will lose service while the unit is being reset. A decoder reset is recommended after you have made significant configuration changes on the *encoder* like changing the audio **Sample Frequency** or the video **Transport Stream Mode**.

© 2010 VBrick Systems, Inc.

Chapter 4

Management

Topics in this chapter

Unit 19
Profiles 21
Admin 24
About 24

The Decoder management pages are displayed using the tabs shown in Figure 10. These pages let you access Error Logs, Diagnostics and other housekeeping tasks. Use the **Admin** tab to reset the unit. In many cases you can use the edit button on the right to specify what information is captured and displayed.

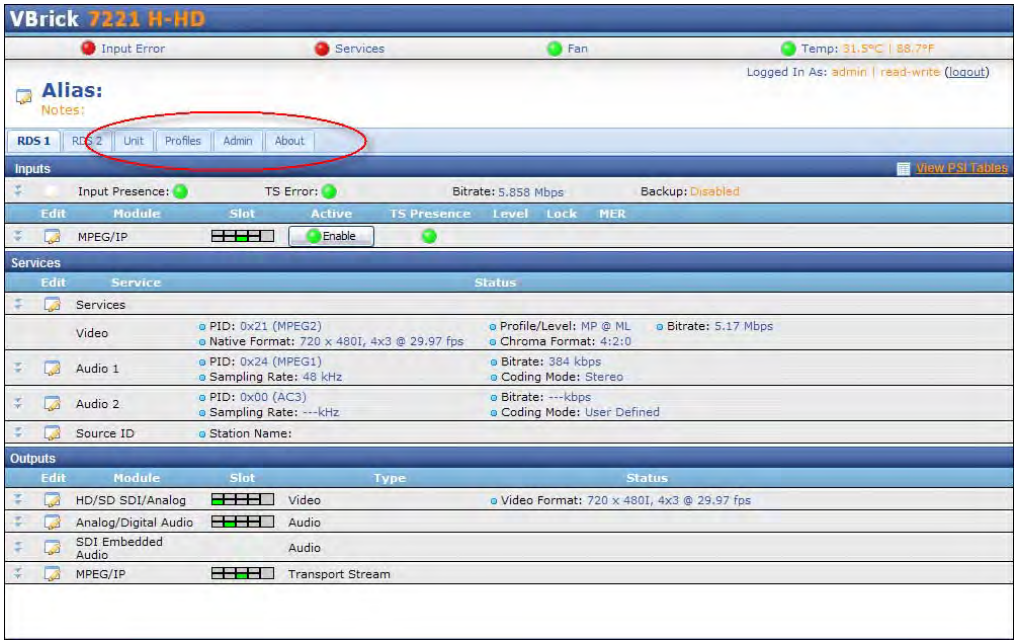
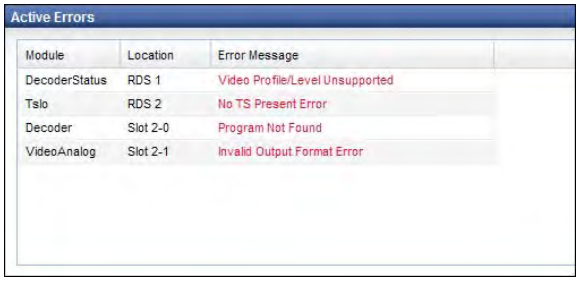


Figure 10. Decoder Management Pages

Unit

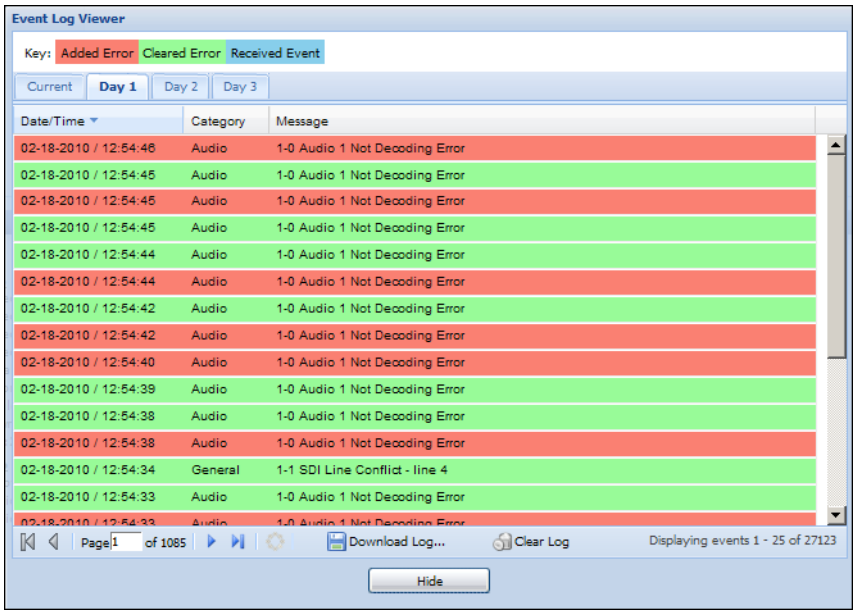
Active Errors

The first item under the **Unit** tab is **Active Errors**. If any of the status indicators across the top of the web client are indicating an error (i.e. red circle) this section will give a more detailed description of the specific error along with the location of the item producing the error.



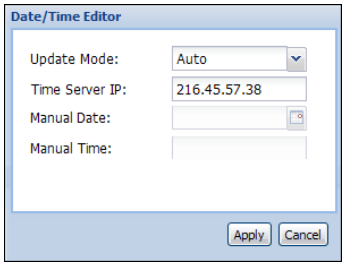
Event Logging

Click on **View Event Logs** to display the Event Log Viewer. Click on the Edit button the left to display the Event Settings Editor. This window lets you specify which types of events (for example General, Video, Audio, etc.) are captured and displayed in the log. The Event Log also has options to **Clear Log** or **Download Log** as an .xml file.

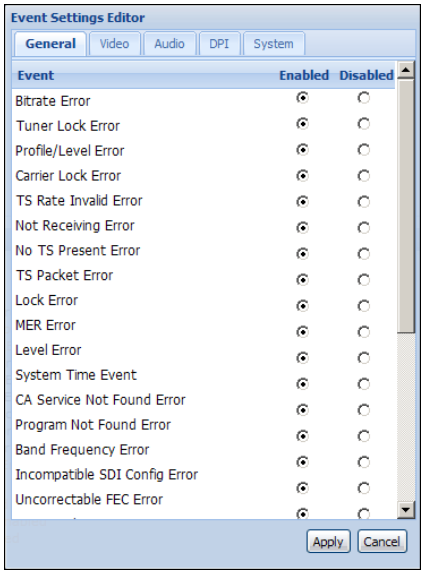


Unit Date/Time

Using the Date/Time Editor, you can manually set the date and time or you can enter a **Time Server IP** that points to a web-based time server.

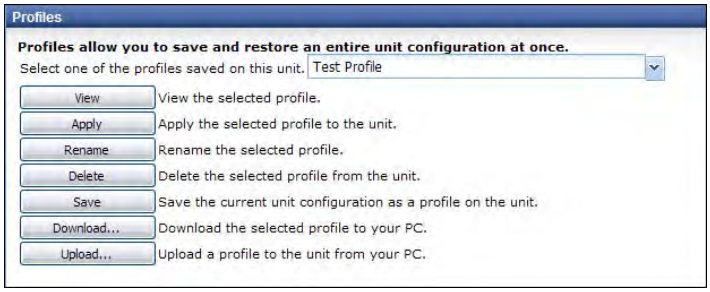


© 2010 VBrick Systems, Inc.



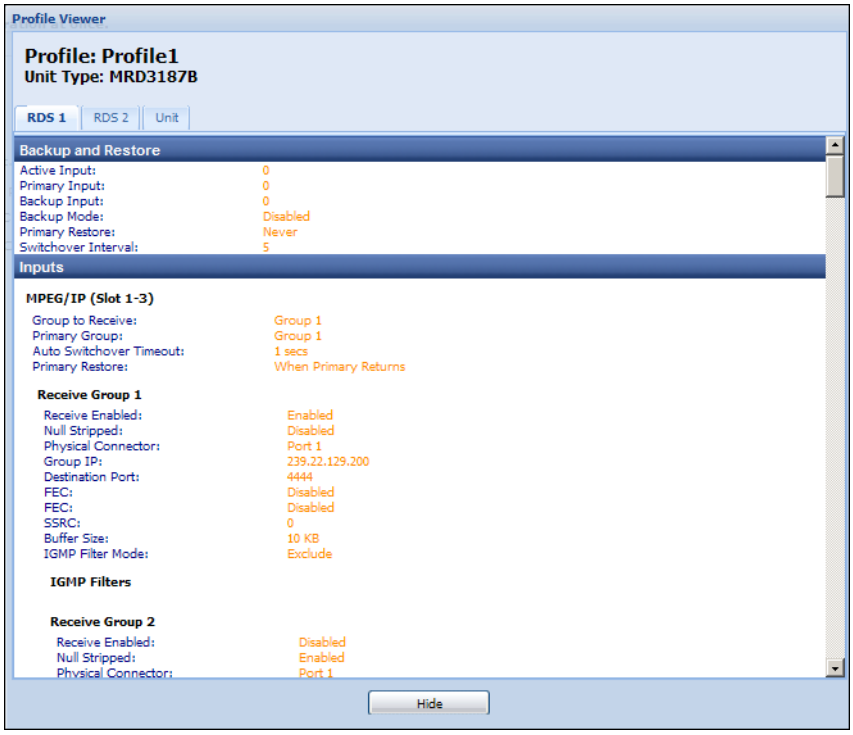
Profiles

Profiles allow you to save and restore an entire unit configuration at once. Profiles are the means for saving and applying a group of settings for a particular use. By applying a particular profile, the you can recall the decoder settings for different configurations. You can save up to 24 different profiles. New profiles are added by configuring various settings and then "saving" the profile with a unique name. New profiles can also be added by downloading them from a PC via the web client interface. Profiles can be deleted, by name, to make room for others.



▼ To create a profile:

1. Click **Save** and enter a Profile Name.
2. Select the named profile from the dropdown list and click **View**. The selected profile will be displayed in the Profile Viewer.
3. Use any of the other options (Rename, Delete, Download) as necessary.



Admin

The **Admin** tab has various tools that help you manage the system. Some of the most significant are described below. Use this page to set Web Passwords, Reset Unit, and view SNMP MIB Modules. You can also run diagnostics as shown below or update the decoder software.

Web Passwords

The decoder is shipped with password protection disabled (that is, no passwords are defined) and VBrick recommends that you set admin and user passwords as soon as you get started. As shown below there are two predefined users. *The passwords can be changed; the user names cannot be changed.* Click the **Edit** button to change the password(s).

Table 6. Web Interface Passwords

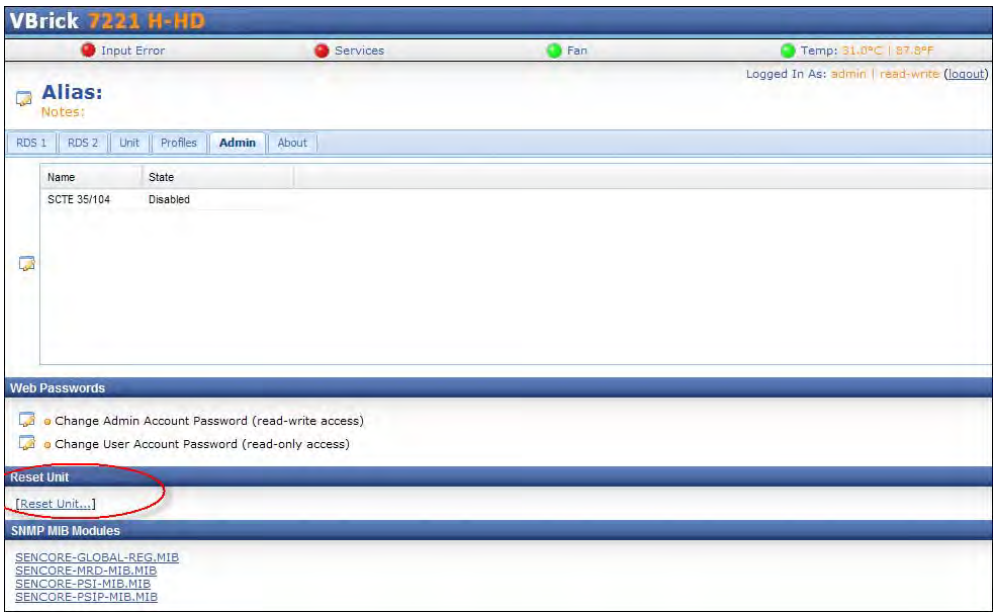
User	Description
Admin Account	*Read/write.* This user has all privileges and can access, change, and save all configuration parameters.
User Account	*Read-only.* This user can view the interface but cannot make and changes to the configuration.

Reset Unit

If you have malfunctions or other problems with the decoder you can perform a soft reset from the web interface. A soft reset may solve the issue and will not change anything in the configuration. To reset the decoder, go to **Admin > Reset Unit**. This will reboot the unit and save all current configuration settings. Be aware that you will lose service while the unit is being reset. Depending on the configuration, a reset can take up to five minutes during which

© 2010 VBrick Systems, Inc.

a progress bar will be displayed on the page. A decoder reset is recommended after you have made significant configuration changes on the *encoder* like changing the audio **Sample Frequency** or the video **Transport Stream Mode**.

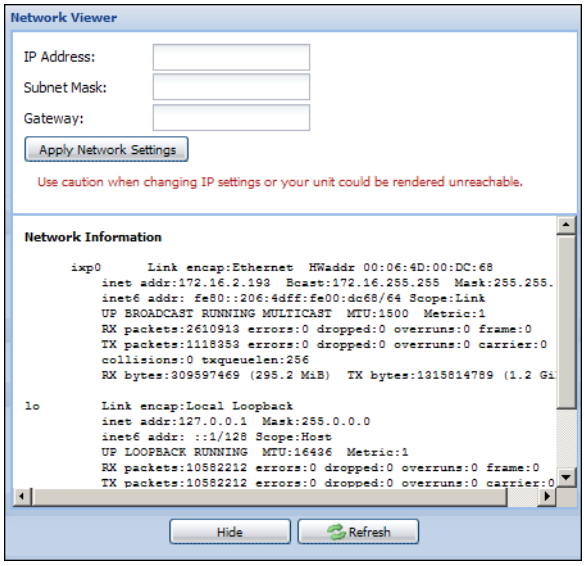


Software Updates

VBrick may occasionally release new software with new features and fixes. Never perform an upgrade unless specifically directed to do so by a VBrick Support Services representative. If an update is warranted, the representative will provide the software and instructions for the update.

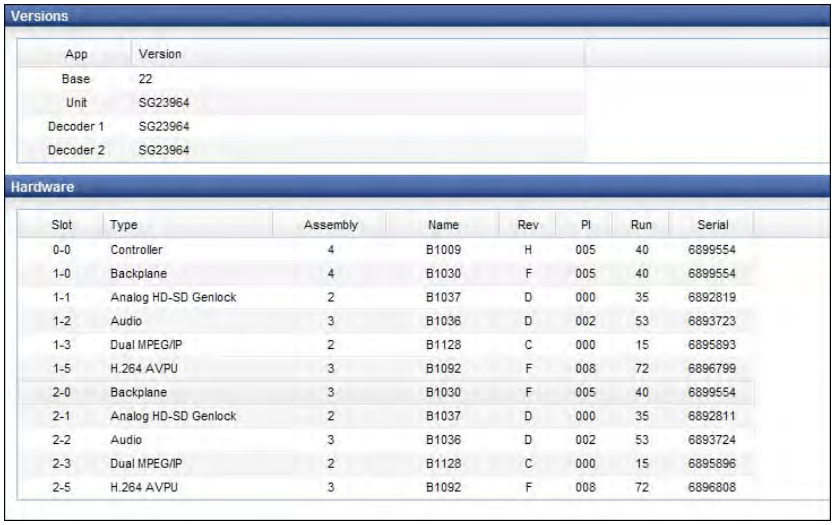
Diagnostics

Several diagnostics pages are available for troubleshooting. The **Process Viewer** and the **Diagnostics File** are primarily used by a VBrick representative to help troubleshoot problems. **The Network Viewer** (shown below) can be used to set an IP address if you are not using a DHCP server.



About

This page displays **Versions** data for the software and model numbers and manufacturing data for the hardware.



© 2010 VBrick Systems, Inc.

VBrick Systems, Inc.
12 Beaumont Road
Wallingford, Connecticut 06492, USA