

# User Guide and Installation Manual



## **HDME102 / HDME202 / HDME402** **Single / Dual / Quad Input QAM Encoder / Modulator**

# Table of Contents

Safety Precautions.....	3
Package Contents.....	3
Product Description.....	4
Specifications.....	5
Installation.....	6
Hardware Installations and Connections.....	6
Connecting to the GUI Interface:.....	7
Encoder Programming and Setup via GUI Interface:.....	7
Overview Page of HDME Series Encoder.....	8
GUI Login Password:.....	8
Common Setup.....	9
RF Setup .....	11
Encoder Setup.....	11
Notes on Audio Source and Audio Output/Format:.....	12
IP Streaming Setup.....	13
Network Configuration.....	14
Administration.....	15
Saving your configuration files.....	15
Front Panel LCD Encoder Menu Map.....	16
Modulator Configuration via Front Panel LCD.....	17
EAS .....	23

## Safety Precautions

The presence of this symbol is to alert the installer and user to the presence of uninsulated dangerous voltages within the product's enclosure that may be of sufficient magnitude to produce a risk of electric shock.



**TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS DEVICE TO RAIN OR MOISTURE. DO NOT OPEN THE UNIT. REFER SERVICING TO QUALIFIED PERSONNEL ONLY.**

- DO NOT apply power to the unit until all connections have been made, all components have been installed and all wiring has been properly terminated.
- DO NOT terminate, change or uninstall any wiring without first disconnecting the unit's power adapter from the device.
- This device is supplied with the appropriately rated power supply. The use of any other power supply could cause damage and invalidate the manufacturer's warranty.
- DO NOT connect the power cord to the device if the power cord is damaged.
- DO NOT cut the power cord.
- DO NOT plug the power cord into an AC outlet until all cables and connections to the device have been properly connected.
- The device should be installed in an environment consistent with its operating temperature specifications. Placement next to heating devices and ducts is to be avoided as doing so may cause damage. The device should not be placed in areas of high humidity.
- DO NOT cover any of the device's ventilation openings.
- DO NOT cover or obstruct the device's fan or fan openings.
- If the device has been in a cold environment allow it to warm to room temperature for at least 2 hours before connecting to an AC outlet.



## Package Contents

This package contains:

- One HDME-102, or HDME-202, or HDME-402 QAM/IP Encoder / Modulator\*
- One power cable
- One installation / configuration manual

Inspect the package before starting installation to ensure there is no damage and all supplied contents are present.

## Product Description

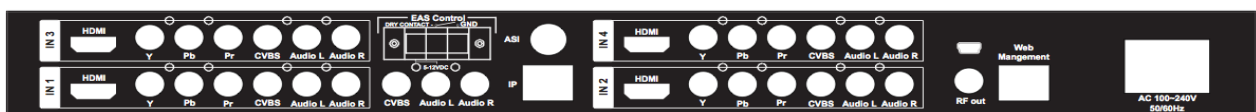
HDME Series of Encoder/Modulators simultaneously provide a QAM, ASI, and IP output stream\* making it ideal for any Commercial RF or IP Networks. The high quality HD design allows for watching action packed movies and sports channels on any HDTV. Thor Digital's Series of Encoder/Modulators supports a variety of DTV standards: ATSC and DVB-C Annex B depending on your product. The Dolby® Digital Encoding capabilities, EAS, and AES-128 Encryption (Optional) capabilities rounds out the feature rich product series. The space saving design delivers up to 4 High Quality HD QAM/IP/ASI channels in a single 1RU space..

\*Dolby is a trademark of Dolby Laboratories.

- ✓ Front panel LCD Display for easy installation
- ✓ High Resolution 1080i/1080p
- ✓ VCN Mode
- ✓ Composite, Component, and HDMI (unencrypted) inputs
- ✓ MPEG2 or MPEG4 (AVC) Video Output
- ✓ MER > 40dB
- ✓ Closed Captioning Support (708)
- ✓ +45dBmV Output
- ✓ Newly Added EAS Functionality
- ✓ Rack mountable 1RU height

**\*Various options are available at time of order- check with your sales rep for a complete list of options.**

Images of Front and Rear Panels of Single, Dual, and Quad versions



## Specifications

### INPUTS (VIDEO By Priority)

HDMI	1.4v
Component	YPrPb (RCA)
Composite	CVBS (RCA)

### AUDIO Inputs

Audio Input	L/R (RCA)
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### VIDEO Encoder

Mode	MPEG-2, MPEG-4(AVC) Selectable
Video Resolutions	1080p(AVC Only), 1080i, 720p, 576p, 576i, 480p, 480i

### AUDIO Encoder

Audio Compression	Supports Dolby® Digital Encoding AC-3 Pass Through, MPEG-1 Layer II, AAC
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### RF QAM SUPPORT

Frequency	54-864 MHz (CH 2-CH 135)
RF Channel Output	1/1 (Single Input), 2/1 (Dual Input), 4/2 (Quad Input)
QAM	J.83 Annex B
Constellation	QAM 256/64, QAM256 (Dual/Quad)
Bandwidth	6 MHz
RF Level Output	+45dBmV Typical
MER	>40dB Typical
Interleaver	Supported on DVB-C Annex B Models
Channel Type	STD, HRC, IRC
VCN	Virtual Channel Mapping (1-16383)
RF Output	"F" - Female 75 $\Omega$
Closed Captioning Control	Per Output Control (Use of CVBS Input)

### EAS Support

Connection	Dry Contact
Video Input	CVBS (RCA)
Audio Input	L/R (RCA)

### ASI Output Support

Connection	BNC 75 $\Omega$
Output	MPTS Multiplexed

### IP Output

Type	RJ-45, GbE
Stream Type	Unicast, Multicast
TS Format	SPTS (Single Input Only), MPTS

### Management / Control

Front Panel LCD Controller	Full Support (Up/Down/OK Control Buttons)
GUI Supported	IE9, FireFox, Chrome, Safari
Password Protected	Front Panel, GUI

### General

Rack mountable (1RU)	482.7mm x 240mm x 44.4mm (19" x 9.45" x 1.75"), 19" EIA Standard
Fan Cooled	Internal
LCD Front Panel	Dual Line, Scrolling Display

\*Subject to change without notifications

\*Manufactured under License of Dolby Laboratories

## Installation

**System Installer must adhere to Article 820-40 of the NEC that provides guidelines for proper grounding and specifies that the cable ground shall be connected to the grounding system of the building, as close to the point of cable entry as possible.**

### Unpacking and Inspection

Each unit is shipped factory tested. Ensure all items are removed from the container prior to discarding any packing material.

Thoroughly inspect the unit for shipping damage with particular attention to connectors and controls. If there is any sign of damage to the unit or damaged or loose connectors contact your distributor immediately. Do not put the equipment into service if there is any indication of defect or damage.

### Hardware Installations and Connections

It is highly recommended that quality cables and connectors be used for all video and audio source connections.

1. The unit is designed to be rack mounted in a standard EIA 19" rack.
2. The unit comes standard with HDMI, Component, and Composite video inputs. The HDME encoder / modulator are intelligently designed to detect the video input from the video source. **HDMI Connection:** Connect the HDMI cable(s) from the video source(s) into the HDMI input(s). If using a **Component Video Cable**, connect the Y (Green), Pb (Blue), and Pr (Red) video source cable to the unit's Component input ports. If using a **Composite Video** source, use a 75Ω coaxial cable with RCA connectors to connect the **video source** (e.g., CATV, DVD, VCR, Camera) to the unit's CVBS port (IN1...IN2, IN3, IN4 depending on your model).

Repeat this step for each video source connection.

3. **Component / Composite Audio inputs:** Connect A/V audio input (Left / Right Audio) use RCA cables to connect the **audio source** to the red / white **AUDIO L and AUDIO R INPUT jacks** (IN1...IN2, IN3, IN4 depending on your model). Repeat this step for each audio source connection.

Be sure the video and audio connections for each source are consistent with the unit's inputs (IN1...IN2, IN3, IN4 depending on your model).

4. Use a quality 75Ω coaxial cable with "F" connectors from the unit's **RF OUT jack** to the **distribution system** (combiner or reverse splitter) or directly to a television.
5. If your device is equipped with an IP output- connect the Ethernet cable to the IP output RJ45 connector.
6. If your device is equipped with an ASI output- connect the BNC cable to the ASI output.
7. If your device is EAS equipped make the proper connections (contact replay and Video /Audio Inputs) to the EAS device.
8. Connect the included power cord to the unit's **POWER** plug.
9. Connect the power cord to an appropriately rated AC power outlet.

## DEVICE Programming and Setup

To setup and program the Encoder you can use the GUI interface or the LCD Front Panel

### Connecting to the GUI Interface:

1. Connect an Ethernet cable directly (**no Cross Over cable required**) to the Web Management Port on the rear panel of the encoder or connect the Ethernet cable to an Ethernet switch. Connect an Ethernet Cable to your PC.
2. Using a Windows-based PC Select Windows Icon
3. Go to My Computer
4. Select Network
5. Allow UPnP to locate and list the device(s) in the right panel
6. Right Click and Select “View device Webpage”.

**Note:** To setup the encoder using the Front Panel LCD see “Modulator Configuration via Front Panel LCD”.

### Encoder Programming and Setup via GUI Interface:

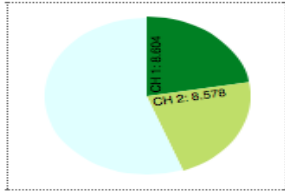
After connecting the device to the “Web Management” port located on the rear of the device and locating the device via the 'Network' tool in 'My Computer'

**Step 1:** Right Click and Select “View device Webpage”

- Overview
- Common Setup
- RF Setup
- Encoder Setup
- IP Streaming Setup
- Web Management Setup
- Administration

## Welcome!

**Device Name:** HDME-202  
**Model Number:** HDME202  
**Device Address:** 1  
**System:** DVB-C J.83B  
**Net Version:** 20140110



#### RF Output 1

Channel	6 (85.0000 MHz)	
Constellation	256QAM	
Output Bitrate	38.811	
	Input 1	Input 2
Channel Name	DTV2	DTV2
Video Source	Auto	Auto
Video Output	MPEG2	MPEG2
Audio Output	AC-3	AC-3
Input Bitrate	8.604	8.578

# Overview Page of HDME Series Encoder

	Input 1	Input 2
Channel Name	DTV2	DTV2
Video Source	Auto	Auto
Video Output	MPEG2	MPEG2
Audio Output	AC-3	AC-3
Input Bitrate	8.604	8.578

Welcome page showing overview status of the Encoder when fully functioning.

Alternate between viewing status of **RF Output 1** and **RF Output 2** (Quad Version) by selecting the RF Output section of the device you want to monitor.

**Note:** Images above display the Quad (HDME-402) and Dual (HDME-202) version of the Encoder.

## Step 2: Login

### Select Common Setup

Once the Common Setup Tab is selected you will be prompted to enter the user name and password for device.

### GUI Login Password:

Default User Name: **admin**

Default Password: **Admin123**

To view this page, you must log in to area "Protected" on 169.254.141.27:80.  
Your password will be sent unencrypted.

Name:

Password:

Remember this password in my keychain

Cancel Log In

**Note:** To change the Password for the GUI go to the Administration Tab



## Step 3: Common Setup Tab

### Common Setup

## Common Setup

This page allows to setup common configurations. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can upload them all together and reboot the device.

**Output Channel:** 6 (85.0000 MHz)

**Attenuation:** 0 dB

**VCN Mode:**  Enable

**Channel Type:** STD

**Regional Name:** USA

**Device Address:** 1

Local Save   Upload and Reboot   Reset local changes

Use the Common Setup Page to set the Output channel, Enable VCN Mode, and Device Address.

### Step 4: Local Save

**Perform a Local Save** once all parameters are set.

### Notes on Changes:

Changes made to an individual setup tab may require the installer to perform a **Local Save AND Upload and Reboot** to the device if you are only making changes to one parameter of the encoder.

**Example:** Installer is required to change only the output channel for the device (No other changes to the device are required). Once the channel has been changed, the installer is required to perform **1) Local Save AND 2) Upload and Reboot.**

**Notes on Channel Selection:** The image below shows the Output Channel is set to CH # 6. RF1 will output 1 QAM signal carrying up to 2 digital audio/video channels (within your device's Bandwidth settings). The device will automatically set RF2 for a Quad unit.

## Common Setup

This page allows to setup common configurations. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can upload them all together and reboot the device.

If the device is a Quad unit and the Output Channel selected is CH# 102 the device will automatically set RF2 to Ch # 103.

Physical Channel Output examples:

Single: 102.1

Dual: 102.1, 102.2

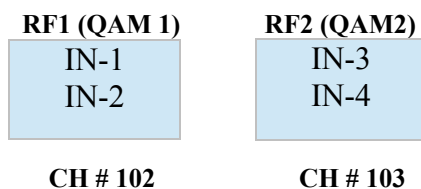
Quad: RF1- 102.1, 102.2

RF2- 103.1, 103.2

(See VCN settings to set Virtual Channel Numbers)

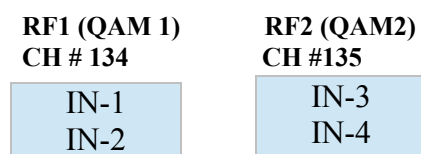
The below diagram depicts how each input on the Quad Encoder is placed in RF1 or RF2.

**Note:** The RF2 Physical Channel Output is determined by the selection of output channel of RF1.



**Note:** The Quad Encoder prevents you from selecting the last channel in the device as the first physical channel for the device's output channel. Select CH # 134(855.000MHz) for the output channel and the device will automatically set RF2 as CH # 135 (861.000MHz).

Setting the Output Channel to CH# 134 would result in the following RF1/RF2 configuration (see below)



## Step 5:RF Setup

<b>Overview</b>
<b>Common Setup</b>
<b>RF Setup</b>
<b>Encoder Setup</b>
<b>IP Streaming Setup</b>
<b>Web Management Setup</b>
<b>Administration</b>

## RF Setup

This page allows to setup RF output configurations. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can upload them all together and reboot the device.

**RF Output 1**

<b>Constellation:</b>	256QAM
<b>Interleaver:</b>	I=128, J=1
<b>RF Output:</b>	Normal
<b>TS ID:</b>	1008

Local Save   Upload and Reboot   Reset local changes

## RF Setup

Use the RF Setup Page to setup each RF Output.

Select **RF Output 1** or **RF Output 2** (Quad Unit will display RF Output 1 Tab and RF Output 2 Tab)

Select and set the required parameters you require for your installation.

## Step 6: Local Save

Perform a Local Save for each RF Output tab.

## Step 7: Encoder Setup

## Encoder Setup

### Encoder Setup

This page allows the user to configure the encoder's settings. Here you may save the changed values into browser's session storage. After you review all your updates for common, RF, and encoders' setup, you can use the upload and reboot function to store the new parameters for the device.

**Encoder 1**   Encoder 2   Encoder 3   Encoder 4

<b>VCN:</b>	102	1
<b>Video Input:</b>	Auto detect	
<b>Program Number:</b>	1	
<b>Short Name:</b>	MY-DTV1	
<b>Long Channel Name:</b>	ATSC-Digital-TV1	
<b>Source ID:</b>	101	
<b>Aspect Ratio:</b>	16:9	
<b>Video Output:</b>	MPEG2 CBR	
<b>Audio Input:</b>	Auto detect	
<b>Audio Output:</b>	MPEG1 Layer2 (MP2)	
<b>Closed Caption:</b>	<input checked="" type="checkbox"/>	
<b>Brightness:</b>	128	
<b>Contrast:</b>	128	
<b>Saturation:</b>	128	
<b>Hue:</b>	128	

Local Save   Upload and Reboot   Reset local changes

Select the **Encoder 1, 2, 3, 4** tab to program an individual encoder. Select and **change** all desired parameters.

**NOTE:** There will be an Encoder tab present for each input on the device.

## Step 8: Local Save for each Encoder tab

Perform a Local Save on EACH Encoder Tab where changes were performed.

\*\*\*\*\* Ensure all Encoder tab changes have been locally saved

### Notes on Audio Source and Audio Output/Format:

When using HDMI as the Video Source and you require the Audio Source to be other than the embedded audio- Select **Analog** on the **Audio Input** setting on the Encoder page. Then **Select** using **Audio Output** setting the Audio Output format required (MPEG1 Layer II (MP2), AAC, or AC3)

See below Reference Table for Video Source/Audio Output Selection:

Video Source	Audio Input Source	Audio Output Format	Actual Audio Output
HDMI/AC-3	Auto	AC-3	AC-3
HDMI/AC-3	Auto	AAC	AC-3
HDMI/AC-3	Auto	MP2	AC-3
HDMI/LPCM	Auto	AC-3	AC-3
HDMI/LPCM	Auto	AAC	AAC
HDMI/LPCM	Auto	MP2	MP2
HDMI/XXX	Analog	AC-3	AC-3
HDMI/XXX	Analog	AAC	AAC
HDMI/XXX	Analog	MP2	MP2
COMPONENT	Auto	AC-3	AC-3
COMPONENT	Auto	AAC	AAC
COMPONENT	Auto	MP2	MP2
COMPONENT	Analog	AC-3	AC-3
COMPONENT	Analog	AAC	AAC
COMPONENT	Analog	MP2	MP2

## Step 9: IP Streaming

### IP Streaming Setup

# IP Streaming

This page allows to setup IP streaming. Here you may save the changed values into browser's session storage. After you review all your updates for all setup, you can upload them all together and reboot the device.

### Network Setup

Enable DHCP

**IP Address:**

**Subnet Mask:**

**Gateway:**

### Streaming Setup

**Stream Method:**  *local*

**Destination IP:**

**Destination Port:**

**Time to Live:**

Use the IP Streaming setup page to set your device's IP streaming IP Address, and select your streaming method protocol and Destination IP, Port, and TTL settings.

### Streaming 1 Setup

**Stream Method:**

**Destination IP:**

**Destination Port:**

**Time to Live:**

### Streaming 2 Setup

**Stream Method:**

**Destination IP:**

**Destination Port:**

**Time to Live:**

The Quad Encoder allows the integrator to create 2 Destination IP Addresses. Two (2) video streams will be carried on each Destination IP address. Select Streaming 1 or Streaming 2 tab as required.

## Step 10: Local Save

Perform a Local Save once all parameters are set.

\*\*\* Ensure all Encoder changes have been locally saved before performing Step 11 \*\*\*

## Step 11: Upload and Reboot

Once all the encoder's settings are changed and a **Local Save** performed for each Setup tab **Select “Upload and Reboot”** on the IP Streaming page. This function will upload and save all parameters set in the Common, RF, Encoder, IP Streaming sections of the device. Your device will quickly reboot.

**Reminder:** If changing only a setting on a specific setup page- remember to **perform a Local Save and Upload and Reboot.**

**We highly recommend you save your encoder configuration files. See Administration tab for how to backup your settings.**

## Step 12: Network Configuration Tab

### Network Configuration

## Network Configuration

This page allows to configure the encodulator's network settings.

**CAUTION:** Incorrect settings may cause the encodulator to lose networkconnectivity. Recovery options will be provided on the next page.

Enter the new settings for the encodulator below:

<b>Host Name:</b>	<input type="text" value="HDME-202"/> HDME-202
	<input type="checkbox"/> Enable DHCP
<b>IP Address:</b>	<input type="text" value="192.168.10.110"/>
<b>Subnet Mask:</b>	<input type="text" value="255.255.255.0"/>
<b>Gateway:</b>	<input type="text" value="0.0.0.0"/>
	<input type="button" value="Save Config"/>

Use the Network Setup Tab to configure the device's IP address, Subnet Mask, Gateway, Enable/Disable DHCP, and set Host Name.

## Step 13: Save Network Configuration

**Save Config:** Once all parameters are set you are **required** to select **Save Config**. This function will reboot and save the changes setting for the Network Configuration.

**Note:** Only the Network Configuration changes will be saved.

## Step 14: Administration

### Administration

**Administration**

**Reboot**  
Reboot the system, and forget the local changes.

**Reset to Default**  
Reset all configuration of modulator and encoders to factory default, and clean-up the local saved changes.

**Backup**  
User can backup and download all configuration settings from the device to a local file.

Config File:  no file selected

User can upload the file with pre-saved configuration settings to device.

**CAUTION:**The new password must:

- matches a string of 6~8 characters;
- that contains at least one digit;
- at least one uppercase character; and
- at least one lowercase character:

After changing the admin's password, it needs to close current web browser, and open a new browser to use new password.

**Old Password:**   
**New Password:**   
**Retype New Password:**

Administration Page Functions	Actions
Reboot	Reboot device. All unsaved settings will be lost.
Reset to Default	Reset all settings back to original factory settings
Backup	Download all settings of device
Upload	Upload a saved config file
New Password	Create and save new password for GUI

\*\*\*\*Caution\*\*\*\*

Selecting “Reset to Default” will automatically reset all saved settings back to factory default settings. All saved settings will be lost.

\*\*\*\*Caution\*\*\*\*

**Step 15:** If required- change GUI Password and Submit.

**Note:** When setting a new password you must use the **Submit** button.

This password is for access to the GUI only. The LCD front Panel Password will not be changed and is set to prevent unauthorized users access to your device.

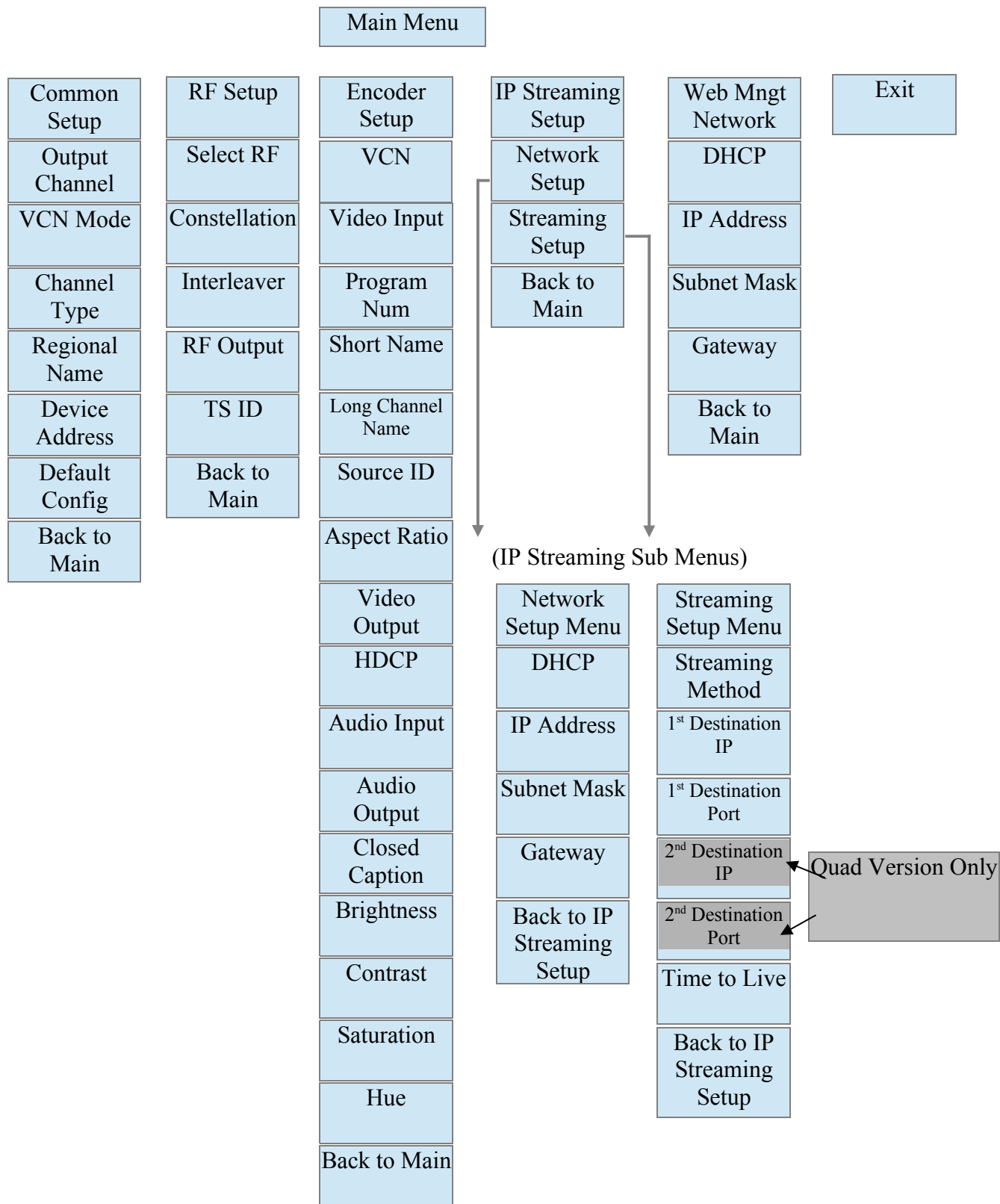
### Saving your configuration files

We highly recommend you save your encoder configuration files. Simply Click the “Backup” button and the config files will be saved to your computer.

To upload a configuration file- simply click “Choose File” then locate the file you want to upload. Click “Upload” to install the configuration files. This function is helpful to the installer when installing a large number of encoders in a single system.

# Setup Using Front Panel LCD

## Front Panel LCD Encoder Menu Map





## Modulator Configuration via Front Panel LCD

Once the encoder is powered up it will go through its initial booting process. Once the unit has completed its initial “Booting” up process the LCD will display IN-1..., Bit Rate information, MYDTV-1..., and other information in the LCD Display Window. When visible the unit is ready for programming or operation.

The LCD will display data as it cycles through the available information.

### Screen Views:

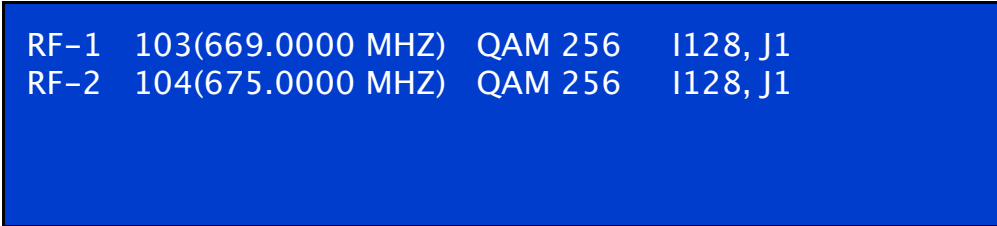
1: Inputs, Mbps, Channel Names, Video Output Type, Audio Output type



IN-1	8.231Mbps	MY-DTV1	MPEG2	MP2
IN-2	8.435Mbps	MY-DTV2	MPEG2	MP2

Note: If your device is a QUAD version the below screen will display all input data as it cycles through the data available.

2: Use the Scroll Up/Down button to display RF-1 / RF-2 data, Physical Output Channel, Constellation, and Interleaver.



RF-1	103(669.0000 MHZ)	QAM 256	I128, J1
RF-2	104(675.0000 MHZ)	QAM 256	I128, J1

3: Use the Scroll Up/Down button to display IP address



1<sup>st</sup> Destination IP 172.1.252.10  
1<sup>st</sup> Destination Port 10000

- **Main Menu**– To access the Main Menu first enter the password by pressing the OK button. Use the Scroll Up/Down buttons to enter the password. Once the password is entered press the OK button again and the LCD Screen will display “Main Menu Common Setup”.
- **Password** – Use the Scroll Up/Down buttons to enter the password. Password is **0000**. Press the OK button for each number to enter the password. Press OK again after the display shows ..... HD Series.



PASSWORD=?  
0

## Common Setup Menu

- **Output Channel** – Use the Scroll Up/Down button to change the output channel. Use the Scroll Up/Down buttons to select the desired Output Channel. Once the desired output channel is selected press the OK button to set the channel.

The LCD Display will show both the channel number and the frequency number of the output channel (example: 103 669.0000MHz)

Note: The RF2 Physical Channel output is determined by the selection of output channel of RF1. The Quad Encoder prevents you from selecting the last channel in the device.

\*\*See “*Notes on Channel Selection*” for more information on this topic.

- **VCN Mode** - To enable Virtual Channel Number / Mapping Scroll to VCN Menu. Press OK to enter the VCN menu. Select Enable to turn on VCN functionality. If VCN is not enabled- the output channels will be dependent on the output channel /physical number. Factory default: Disable.
- **Channel Type** – Use the Scroll Up/Down button to select Channel Type. Press the OK button to enter the Channel Type menu. Menu options are STD, HRC and IRC. Factory default: STD. Use the Scroll Up/Down button to select the desired Channel Type and press the OK button to set.
- **Regional Name** - Note: Do not Change. Skip this function. Default: USA.
- **Device Address** – Use the Scroll Up/Down button to select Device Address. Press the OK button to enter the Device Address menu. Use the Scroll Up/Down to select the Desired Address ranging from 1 to 255 then press OK to set. A unique device address is required if setting up more than 1 encoder per site. This allows the user to distinguish each device.
- **Default Configuration** –To reset the Encoder/Modulator back to the factory default select the Default Configuration Menu. Press OK to enter the Default Configuration Menu. Using the Up/Down button select YES to reset all programmed settings back to the factory default setting. Factory Default: NO.

**Caution:** Once the “YES” button is pressed the unit will automatically reset to the factory default settings. All settings or changes to the encoder/modulator will be lost.

- **Back to Main-** Select Back to Main to escape the Common Setup Menu.

## RF Setup Menu

- **Select RF-** Press the OK button to enter the Select RF menu. Use the Scroll Up/Down button to Select the RF section of the Encoder. Select 1 or Select 2.

The Single and Dual versions of this product will have Select 1 only.

**Note:** The QUAD version of the HDME has 2 RF Sections or QAM outputs. The Quad will place 2 RF channels in the first QAM output and 2 RF Channels in the second QAM output. (6MHz per QAM).

- **Constellation** – Use the Scroll Up/Down button to select Constellation. Press the OK button to enter the Constellation menu. Select QAM256 or QAM64. Select the desired Constellation then press the OK button to set. Factor Default: QAM256. HDME-202 and HDME-402 are fixed at QAM 256.
- **Interleaver-** Use the Scroll Up/Down button to select the appropriate Interleaver selection. Press the OK button to enter the Interleaver menu. Use the Scroll Up/Down button to select the desired Interleaver value and press the OK button to set. Factory default: I=128, J=1.

- **RF Output** – Use the Scroll Up/Down button to select RF Output. Press the OK button to enter the RF Output menu. Options are Normal, Inverted, or C.W. Factory default: Normal. Use the Scroll Up/Down button to select the desired RF Output and press the OK button to set.
- **TS ID** – Use the Scroll Up/Down button to select TS ID. Press the OK button to enter the TS ID menu. Use the Scroll Up/Down button to select the desired Stream ID ranging from 0 to 65535 then press the OK button to set.
- **Back to Main**- Select Back to Main to escape the RF Setup Menu.

## Encoder Setup Menu

- **Select Encoder**- Use the OK button to enter the Select Encoder Menu. Using the Scroll Up/Down buttons select the encoder you wish to program. Use the OK button to set the Encoder. Select Encoder 1, 2, 3, or 4 based on your model number.

Once Selected the Display will indicate which Encoder you are programming while in the setup function



- **VCN**- Use the Scroll Up/Down button to select VCN Menu. Press the OK button to enter the VCN menu. Set the VCN Channel using the Scroll Up/Down buttons. Set VCN Channel from 1-16383.

If the unit has VCN enabled - program each Encoder by using the Select Encoder Menu in this section of the Encoder Menu then set each VCN as required.

Set Virtual Channel from 1-16383

**NOTE: We recommend setting a unique number for each program**

Default: VCN 1: 101, VCN 2: 102, VCN 3: 103, VCN 4: 104

*Example:* The output channel is set to 103(699.0000MHz). The user can set a VCN (Virtual Channel Number) by enabling the VCN function. The Integrator can map the Virtual Channel number to 57. The Virtual Channel Number displayed would be **57**. The VCN is independent of the output / physical channel.

- **Video Input** – Use the Scroll Up/Down button to select Video Input. Press the OK button to enter the Video Input menu. Use the Scroll Up/Down button to select the Video Input option: Auto, Composite, Component, or HDMI. Factory default: Auto. Press the OK button to set.  
The HDME series of Encoder/Modulators is designed with Intelligent Input Detection (IID) technology. If you select Auto, the unit will detect the video input.
- **Program Num** - Use the Scroll Up/Down button to set 1 Program Num(Number). Press the OK button to enter the Program Num menu. Use the Scroll Up/Down to select the Program Num ranging from 1 to 65535 then press OK to set.

- **Short Channel Name** – Use the Scroll Up/Down button to select Short Channel Name. Press the OK button to enter the Short Channel Name menu. Use the Scroll Up/Down menu to select the first character of the desired Short Channel Name then press the OK button to set. Repeat the process until the Short Channel Name is completed. If the modulator has more than one video input scroll through the Advanced Menu for additional Short channel name menus.

**The Short Name can be 7 characters long.** Factory Default: MY-DVT1/MY-DVT2, MY-DVT3, MY-DVT4.

- **Long Channel Name** – Use the Scroll Up/Down button to select Long Channel Name. Press the OK button to enter the Long Channel Name menu. Use the Scroll Up/Down menu to select the first character of the desired Long Channel Name then press the OK button to set. Repeat the process until the Long Channel Name is completed. If the modulator has more than one video input scroll through the Advanced Menu for additional Long channel name menus. Factory Default: ATSC-Digital-TV1/ATSC-DIGITAL-TV2, ATSC-Digital-TV3/ATSC-DIGITAL-TV4. The Long Channel Name can be 16 characters long.
- **Source ID** - Use the Scroll Up/Down button to set Source ID. Press the OK button to enter the Source ID menu. Use the Scroll Up/Down to set the Source ID. Range: 1 to 65535. Press OK to set
- **Aspect Ratio** – Use the Scroll Up/Down button to select Aspect Ratio. Press the OK button to enter the Aspect Ratio menu. Use the Scroll Up/Down button to select the desired Aspect Ratio option of 4:3 or 16:9 then press the OK button to set. Factory default: 4:3.
- **Video Output** – Encoder / Modulators may be Dual MODE Capable. The user may select to output video in either MPEG2 or AVC (MPEG4). Use the Scroll Up/Down button to select Video Output. Press the OK button to enter the Video Output menu. Use the Scroll Up/Down button to select the Video Output option: MPEG2 or AVC. Factory default: MPEG2. Press the OK button to set.

Note: The Dual and Quad Input allows the installer to select a combination of Video Output formats. Some versions of this device will allow the user to have both outputs broadcasting in either MPEG2 or AVC (MPEG4) or a combination of both MPEG2 and AVC (MPEG4).

**Note:** The AVC version of this device is set to AVC Video Output.

- **Audio Input** – Use the Scroll Up/Down button to select. Press the OK button to enter the Audio Input menu. Use the Scroll Up/Down button to select the Audio Input option: Analog. Factory Set: Analog.
- **Audio Output** – Use the Scroll Up/Down button to select Audio Output. Press the OK button to enter the Audio Output menu. Use the Scroll Up/Down button to select the Audio Output option: MP2 (MPEG2 Layer I Audio), AAC, or AC3 (Dolby Digital Encoding). Factory default: MP2. Press the OK button to set.
- **Closed Caption-** Use the Scroll Up/Down button to select the Closed Caption Menu. Press the OK button to enter the Closed Caption menu. Enable / Disable Closed Caption control. Each Encoder will require you to Enable the Closed Caption option if you require Closed Captioning Support on a particular video output.

*NOTE: WHEN USING CLOSED CAPTIONING- USER MUST CONNECT FROM THE CONTENT SOURCE THE COMPOSITE OUTPUT OR CC OUTPUT SOURCE TO THE ENCODER'S CVBS INPUT CONNECTOR.*

- **Brightness** – Use the Scroll Up/Down button to select Brightness. Press the OK button to enter the Brightness menu. Use the Scroll Up/Down button to select the desired Brightness value (0 to 255) and press the OK button to set. Factory default: 128.
- **Contrast** – Use the Scroll Up/Down button to select Contrast. Press the OK button to enter the Contrast menu. Use the Scroll Up/Down button to select the desired Contrast value (0 to 255) and press the OK button to set. Factory default: 128.
- **Saturation** – Use the Scroll Up/Down button to select Saturation. Press the OK button to enter the Saturation menu. Use the Scroll Up/Down button to select the desired Saturation value (0 to 255) and press the OK button to set. Factory default: 128.
- **Hue** – Use the Scroll Up/Down button to select Hue. Press the OK button to enter the Hue menu. Use the Scroll Up/Down button to select the desired Hue value (0 to 255) and press the OK button to set. Factory default: 128.
- **Back to Main**- Select Back to Main to escape the Encoder Setup Menu.

## **IP Streaming Setup**

### **Network Setup**

- **DHCP** – Use the Scroll Up/Down button to select DHCP. Press the OK button to enter the DHCP menu. Use the Scroll Up/Down button to Enable/Disable. Press the OK button to set.
- **IP Address** – Use the Scroll Up/Down button to select IP Address. Press the OK button to enter the IP Address menu. Use the Scroll Up/Down button to enter the IP address. Use the Scroll Up/Down menu to select the first number of the desired IP Address then press the OK button to set. Repeat the process until the IP Address is completed. Press the OK button to set. **Note:** If DHCP is enabled you will not be able to set an IP address. Select DHCP disabled if Static IP Address required.

#### **IP Address Range(s):**

- (1) 10.0.0.0 ~ 10.255..255.255
  - (2) 172.16.0.0 ~ 172.31.255.255
  - (3) 192.168.0.0 ~ 192.168.255.255
- **Subnet Mask** – Use the Scroll Up/Down button to select Subnet Mask. Press the OK button to enter the Subnet Mask menu. Use the Scroll Up/Down button to enter the Subnet Mask. Use the Scroll Up/Down menu to select the first number of the desired Subnet Mask then press the OK button to set. Repeat the process until the Subnet Mask is completed. Press the OK button to set.
  - **Gateway Address** – Use the Scroll Up/Down button to select Gateway Address. Press the OK button to enter the Gateway Address menu. Use the Scroll Up/Down button to enter the Gateway Address... Use the Scroll Up/Down menu to select the first number of the desired Gateway Address then press the OK button to set. Repeat the process until the Gateway Address is completed. Press the OK button to set.

- **Back to Main-** Select Back to Main to escape the Network - IP Streaming Sub Menu.

## Streaming Setup

- **Streaming Method** – Use the Scroll Up/Down button to select Streaming Method. Press the OK button to enter the Streaming Method menu. Use the Scroll Up/Down button to select the Streaming Method required. Select: RTP UNICAST, UDP UNICAST, RPT MULTICAST, or UDP MULTICAST. Press the OK button to set.
- **1<sup>st</sup> Destination IP** – Use the Scroll Up/Down button to select 1<sup>st</sup> Destination IP (Address). Press the OK button to enter the 1<sup>st</sup> Destination IP Address menu. Use the Scroll Up/Down button to set the Destination IP Address. Note: By selecting Unicast in the Streaming Method Menu the default address begins at 192.168.1.20. Use the Scroll Up/Down button to set the Destination IP Address. Press the OK button to set. Multicast begins at 224.1.1.1. Press the OK button to set.

### Destination IP Address Range(s):

Unicast: 0.0.0.0 ~ 223.255.255.255

Multicast: 224.0.0.0 ~ 239.255.255.255

- **1<sup>st</sup> Destination Port Number** – Use the Scroll Up/Down button to select DES Port Number (Destination Port Number). Press the OK button to enter the 1<sup>st</sup> Destination Port Number menu. Use the Scroll Up/Down button to set. Press the OK button to set.

### For Quad Version Only ( 2<sup>nd</sup> Destination IP / 2<sup>nd</sup> Destination Port) Functions

- **2<sup>nd</sup> Destination IP** – Use the Scroll Up/Down button to select 2<sup>nd</sup> Destination IP (Address). Press the OK button to enter the 2<sup>nd</sup> Destination IP Address menu. Use the Scroll Up/Down button to set the Destination IP Address. Note: By selecting Unicast in the Streaming Method Menu the default address begins at 192.168.1.21. Use the Scroll Up/Down button to set the Destination IP Address. Press the OK button to set. Multicast begins at 224.1.1.2. Press the OK button to set.
- **Time To Live** – Use the Scroll Up/Down button to select Time To Live menu. Press the OK button to enter the Time To Live .menu. Use the Scroll Up/Down button to select TTL. Press the OK button to set. Default Settings: Unicast: 63. Multicast: 4. TTL Range: 1~ 255.
- **Back to Main-** Select Back to Main to escape the Streaming - IP Streaming Sub Menu.

## Web Management Network Setup

- **DHCP** – Use the Scroll Up/Down button to select DHCP. Press the OK button to enter the DHCP menu. Use the Scroll Up/Down button to Enable/Disable. Press the OK button to set.
- **IP Address** – Use the Scroll Up/Down button to select IP Address. Press the OK button to enter the IP Address menu. Use the Scroll Up/Down button to enter the IP Address. Use the Scroll Up/Down menu to select the desired IP Address then press the OK button to set. Repeat the process until the IP Address is completed. Press the OK button to set. Note: If DHCP is enabled you will not be able to set an IP address. Select DHCP disabled if Static IP Address required.
- **Subnet Mask** – Use the Scroll Up/Down button to select Subnet Mask. Press the OK

button to enter the Subnet Mask menu. Use the Scroll Up/Down button to enter the Subnet Mask. Use the Scroll Up/Down menu to select the first number of the desired Subnet Mask then press the OK button to set. Repeat the process until the Subnet Mask is completed. Press the OK button to set.

- **Gateway Address** – Use the Scroll Up/Down button to select Gateway Address. Press the OK button to enter the Gateway Address menu. Use the Scroll Up/Down button to enter the Gateway Address. Use the Scroll Up/Down menu to select the first number of the desired Gateway Address then press the OK button to set. Repeat the process until the Gateway Address is completed. Press the OK button to set.
- **Back to Main**- Select Back to Main to escape the Web Management Network Setup Menu.

## **ASI Output**

This device is equipped with an ASI combined output. Connect a BNC cable to the ASI output connector (75 Ω ) and to your Broadcast capable device.

## **EAS**

This is equipped with EAS Terminals/connections and CVBS (Video Input) and L/R audio input connections on the rear panel.

If applicable, connect your EAS Alert Device System outputs to the Encoder.

If the encoder receives the proper Event signal from your EAS device, the normal input audio/video would be replaced by the audio and video from the EAS system device. Once the encoder has received the proper signal from your EAS device the normal input video and audio would return to a normal operating mode.

**\*\*\*THIS DEVICE IS NOT AN EAS RECEIVER\*\*\***

**Note: It is the responsibility of the Installer/User to properly connect, verify, and test the EAS functionality of this device with the EAS receiver.**

**Note: It is the responsibility of the Installer/User to properly perform the required EAS tests as required by the FCC or your specific Government Agency.**

**If the EAS functions on this device fail for any reason it is the responsibility of the Installer/User to replace this device as required by the FCC or your specific Government Agency.**

Product Notes:

Item	Value
Password	
Serial Number	
Installation Date	
Purchase Date	
Video Input 1	
Video Input 2	
Video Input 3	
Video Input 4	

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