

# HD-1600 Single Input MPEG-4 DVB-T HD Encoder/Modulator User Guide and Install Manual

## Table of Contents

Safety Precautions.....	2
Package Contents.....	2
Product Description.....	3
Specification.....	3
Installation.....	4
Hardware Installations and Connections.....	4
Modulator Setup and Configuration.....	5
Procedure to Connect to HD-1600 via Web Management Port.....	6
Saving your configuration files.....	9
digi-MOD HD-1600 Product Notes.....	10
Notes.....	11

## 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 HD-1600 Encoder / Modulator
- One Power Supply
- One installation / configuration manual

Inspect the package before starting installation to ensure there is no damage and all supplied contents are present. Contact your distributor or dealer should the device be damaged or package contents are incomplete.

## Product Description

The resi-linx digi-MOD HD-1600 Encoder/Modulator provides an MPEG-4 DVB-T output stream, making it ideal for any Commercial RF Network. The high quality HD design allows for watching action packed movies and sports channels on any MPEG-4 HDTV. The space saving design delivers a High Quality HD DVB-T channel.

### FEATURES:

- Front panel LCD Display for basic installation
- High Resolution Output - up to 1080p
- LCN Adjustment & Mode
- HDMI (unencrypted) Input
- HDMI Loop Through Output
- MPEG-4 (AVC) Video Output
- Selectable Constellation
- Closed Captioning Support
- 85dB Output
- Compact housing with Cool & silent operation
- IR Return Path with Power Through option



## Specification

### VIDEO INPUTS (Video by Priority)

HDMI Version	1.4
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### VIDEO ENCODER

Mode	MPEG-4 (AVC)
Video Resolution	1080p, 1080i, 720p, 576p, 576i, 480p, 480i

### AUDIO ENCODER

Audio Compression	MPEG-1 Layer II, AAC
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### RF DVB-T SUPPORT

RF Channel Output	Single DVB-T Channel between 6-12VHF & 28-69 UHF
Constellation	64QAM (16QAM)
Bandwidth	7 MHz
RF Level Output	85dB
MER	>36dB Typical
FEC	7/8
Guard Interval	1/32
OFDM	8K (2K)
Attenuation	Variable
RF Output	"F" - Female 75 ohm

### MANAGEMENT / CONTROL

Front Panel LCD Control	RF Output Channel and LCN Adjustment (Up/Down/OK Buttons)
GUI	IE9, Firefox, Chrome, Safari

\*\*Subject to change without prior notice

## Installation



System Installer must adhere to Australian Standards AS1367:2007 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. Use a HDMI cable to connect the video source to the HD-1600 HDMI IN.
2. Use a HDMI cable to connect from the HD-1600 HDMI OUT (loop through) port to the local TV.
3. Use a coaxial cable lead to connect from the HD-1600 RF OUT to the TV system.
4. Connect the included power supply to the HD-1600 DC 12V power jack.
5. Connect the power supply the power point
6. If you require Web Management, connect an RJ45 cable to your PC (refer to page 6 for connection procedure)
7. If IR return Path is required, connect an IR Emitter (RL-IR700/800) to the IR Repeater Port and attach to your source you wish to control. For IR return path to work, please use with RL-RF380, RL-IR700/800 & RL-RF210 Target and follow instructions (please refer to install manual with RL-RF380 for instructions)

#### **NOTE:**

**It is highly recommended that you use a high quality HDMI cable for all source connections.**

# Modulator Setup and Configuration

## Initial Setup

The HD-1600 front panel is used to configure the modulator RF Output & LCN.

## Modulator Configuration

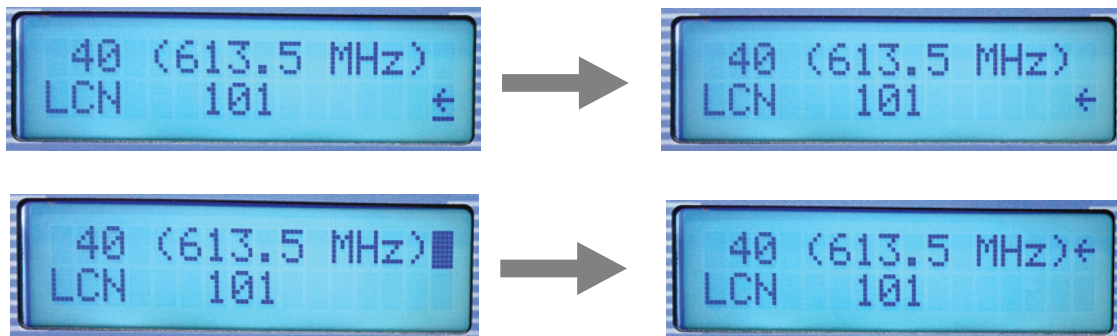
Once the HD-1600 is powered up it will go through an initial booting process. When booting process is finished, the LCD display will show default channel number and LCN.



There are two parameters to setup:

1. Channel number
2. LCN

For switching between the two settings, press the OK Button until the arrow flashes. Press the UP/DOWN buttons to select the desired setup parameters. Once completed – press the OK Button again to confirm



**Output Channel** – Use the Scroll Up/Down button to change the output channel. Available channels are depending on your local system. Once a desired output channel is selected, press the OK Button to set the channel. NOTE: Default RF Output channel is set to UHF 21 – please move to available channel for your installation as this channel is not available in most tuners.

**LCN** – Use the Up/Down button to change the LCN (Logic Channel Number) The LCN default value is 101. Once the desired LCN is selected, press the OK Button to set the LCN

**Reset to Default** – Turn OFF the HD-1600 for button on rear of unit. While holding down the UP and DOWN buttons, turn ON the unit. Release the UP and DOWN buttons when the LCD shows “Reset to Default”. The unit will reset to factory default.

**Caution** – Reset to Default will reset the HD-1600 – all settings in the encoder will be lost.

# Procedure to Connect to HD-1600 via Web Management Port

The following procedure will allow the installer to setup the encoder via the GUI.

## STEP 1:

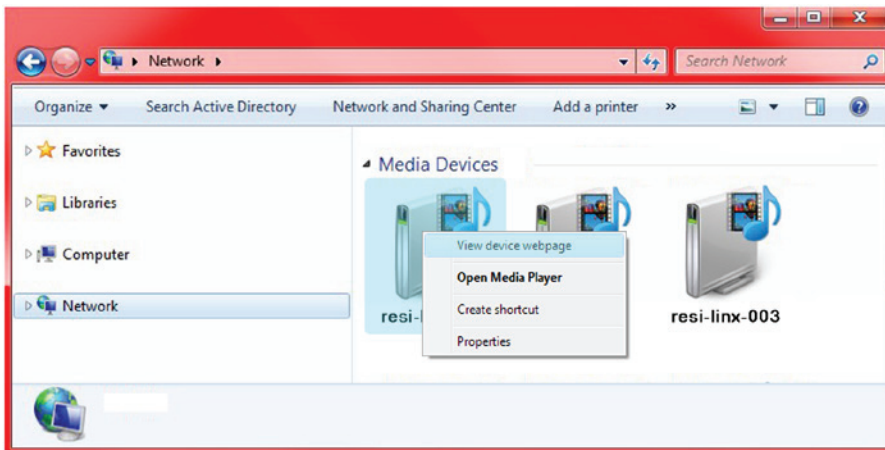
Connect a PC directly to the web management port with a standard CAT5e network cable.

## STEP 2:

- Select Start ==> Computer ==> Network

The HD -1600 icon will be shown in the window labelled "Media Devices".

Right Click on the HD-1600 icon and Select 'View Device Webpage'.



## STEP 3:

Once the Welcome Page is displayed select the Encoder Setup tab and the below Login "Authentication Required" screen will be presented. Enter the User Name and Password then click Login.

User Name: admin      Default Password: Admin123



A screenshot of the HD-1600 web management interface. On the left is a red navigation menu with items: Overview, Common Setup, RF Setup, Encoder Setup, Network Setup, and Administration. The main content area has a 'Welcome!' heading. Below it, the 'Device Name' is 'resi-linx-001' and the 'Model Number' is 'HD-1600'. To the right is a pie chart with a label 'CH1: 14,000'. A 'Windows Security' dialog box is overlaid in the center, showing a login form with 'admin' in the username field and a masked password field. Below the form is a 'Remember my credentials' checkbox. At the bottom of the dialog are 'OK' and 'Cancel' buttons. Below the dialog, the following settings are listed: Channel Name: CHANNEL-1, Video Source: HDMI, Video Output: AVC, Audio Output: MP2, and Input Bitrate: 14.000.

## STEP 4: Common Setup

This page allows you to configure the encoder common settings. After making any change, click "Save Config" to apply changes.



- Overview
- Common Setup
- RF Setup
- Encoder Setup
- Network Setup
- Administration

## Common Setup

This page allows to configure the encodulator's common settings. After making any change, click **Save Config** to apply the change.

Output Channel:	40 (613.5 MHz) ▾
Attenuation:	0 dB ▾
LCN Mode:	AUSTRALIA ▾
Device Address:	1 ▾

Save Config

## STEP 5: Attenuation

Adjust the attenuator on the rear of the HD-1600 to desired level.



## STEP 6: RF Setup

This page allows you to configure the encoder common settings. After making any change, click "Save Config" to apply change.



- Overview
- Common Setup
- RF Setup
- Encoder Setup
- Network Setup
- Administration

## RF Setup

This page allows to configure the encodulator's RF output settings. After making any change, click **Save Config** to apply the change.

<b>RF Output 1</b>	
Constellation:	64QAM ▾
FEC:	7/8 ▾
Guard Interval:	1/32 ▾
OFDM Mode:	8k ▾
RF Output:	Normal ▾
Cell ID:	0
TS ID:	1000
Network ID:	12801
Original Network ID:	8228
Network Name:	resi-linx

Save Config

## STEP 7: Encoder Setup

This Page allows you to configure the encoder common settings. After making any change, click "Save Config" to apply change.



- Overview
- Common Setup
- RF Setup
- Encoder Setup
- Network Setup
- Administration

## Encoder Setup

This page allows to configure the encodulator's encoder settings. After making any change, click **Save Config** to apply the change.

**Encoder 1**

<b>Video Input:</b>	HDMI
<b>Program Number:</b>	1
<b>Channel Name:</b>	CHANNEL-1
<b>Provider Name:</b>	resi-linx
<b>LCN:</b>	101
<b>Aspect Ratio:</b>	16:9
<b>Video Output:</b>	AVC CBR
<b>HDCP Enable:</b>	<input checked="" type="checkbox"/>
<b>Audio Input:</b>	HDMI
<b>Audio Output:</b>	MPEG1 Layer2 (MP2)
<b>Closed Caption:</b>	<input type="checkbox"/>
<b>Brightness:</b>	<input type="range" value="50"/>
<b>Contrast:</b>	<input type="range" value="50"/>
<b>Saturation:</b>	<input type="range" value="50"/>
<b>Hue:</b>	<input type="range" value="50"/>

Save Config

## STEP 8: Network Configuration



- Overview
- Common Setup
- RF Setup
- Encoder Setup
- Network Setup
- Administration

## Network Setup

This page allows to configure the encodulator's network settings. After making any change, click **Save Config** to apply the change.

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

Enter the new settings for the encodulator below:

<b>MAC Address:</b>	F8:0D:EA:40:B5:B7
<b>Host Name:</b>	RESI-LINX-### RESI-LINX-001
	<input checked="" type="checkbox"/> Enable DHCP
<b>IP Address:</b>	192.168.1.2
<b>Subnet Mask:</b>	255.255.255.0
<b>Gateway:</b>	192.168.1.1

Save Config



## STEP 9: Administration

<b>Overview</b>	<h1>Administration</h1>								
<b>Common Setup</b>	<input type="button" value="Reboot"/>								
<b>RF Setup</b>	Reboot the system.								
<b>Encoder Setup</b>	<input type="button" value="Reset to Default"/>								
<b>Network Setup</b>	Reboot and reset all configuration settings to factory default.								
<b>Administration</b>	<input type="button" value="Backup"/>								
	User can backup and download all configuration settings from the device to a local file.								
	Config File: <input type="button" value="Choose File"/> No file chosen <input type="button" value="Upload"/>								
	User can upload the file with pre-saved configuration settings to device.								
	<b>CAUTION:</b> The new password must:								
	<ul style="list-style-type: none"><li>• matches a string of 6~8 characters;</li><li>• that contains at least one digit;</li><li>• at least one uppercase character; and</li><li>• at least one lowercase character:</li></ul>								
	After changing the admin's password, it needs to close current web browser, and open a new browser to use new password.								
	<table><tr><td><b>Old Password:</b></td><td><input type="text"/></td></tr><tr><td><b>New Password:</b></td><td><input type="text"/></td></tr><tr><td><b>Retype New Password:</b></td><td><input type="text"/></td></tr><tr><td></td><td><input type="button" value="Submit"/></td></tr></table>	<b>Old Password:</b>	<input type="text"/>	<b>New Password:</b>	<input type="text"/>	<b>Retype New Password:</b>	<input type="text"/>		<input type="button" value="Submit"/>
<b>Old Password:</b>	<input type="text"/>								
<b>New Password:</b>	<input type="text"/>								
<b>Retype New Password:</b>	<input type="text"/>								
	<input type="button" value="Submit"/>								

## 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 Settings” to install the configuration files. This function is helpful to the installer when installing a large number of encoders in a single system.

We highly recommend saving the settings of your encoder.

A “config.cfg” file will be created. Locate the file My Computer> C Directory > Documents and Settings> User>My Documents>Downloads>configs.cfg.

# digi-MOD HD-1600 Product Notes

ITEM	VALUE
Password	
Serial Number	
Installation Date	
Purchase Date	
Device Name	
Firmware Version	
Streaming Method	



# digi-MOD<sup>®</sup> HD

[www.resi-linx.com](http://www.resi-linx.com)

#### WARRANTY

Vcomm Pty Ltd states that the warrant that the customer can rely on is that provided by the manufacturer. In the event of any warranty claim please contact us and we will forward it to the manufacturer. The manufacturer will then determine the extent of their liability. This expressly negates, to the extent possible by Australian law, any warranty reliance on Vcomm Pty Ltd.

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