

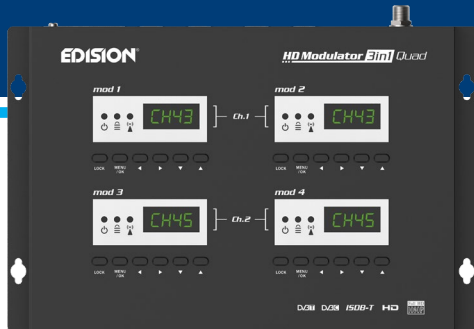
# EDISION®

## ***HD Modulator Bin1 Quad***

Digital Quad HD Modulator to 2 x DVB-T, DVB-C or ISDB-T MPEG4



### User's Guide



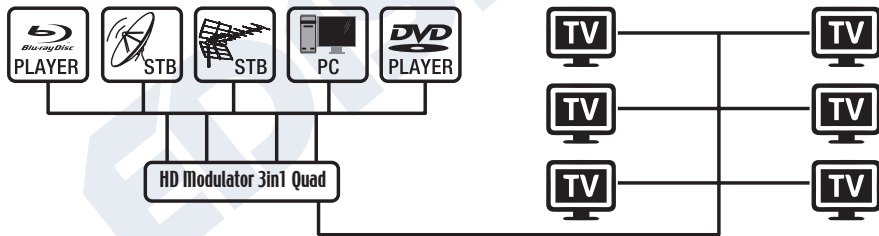
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The CE certificate of the product is available on our webpage, by visiting this link:  
**<https://www.edision.gr/en/support>**

## ► INTRODUCTION

Digital quad-channel FULL HIGH DEFINITION modulator. HD signal input from up to four (4) HD sources (Terrestrial & Satellite TV receivers, Cameras, DVD's, DVR's, Digital Signage etc) can be converted to two (2) channels FULL HIGH DEFINITION 1080p, Digital Terrestrial DVB-T, ISDB-T or Cable DVB-C MPEG4 signal output, in VHF/UHF band. Produces excellent quality signal output, combined with reliable, easy and fast configuration with the Pre- Config Function and stable operation in any installation scheme.



## ► FEATURES

- INPUT signal: 4 X HD
- OUTPUT signal: 2 X Digital Terrestrial DVB-T, ISDB-T or Cable DVB-C MPEG4
- High Video Resolution up to 1080p
- Frequency Range  
DVB-T: VHF (CH.5-12) & UHF (CH.21-69)  
ISDB-T: VHF (CH.7-13) & UHF (CH.14-69)  
DVB-C: 47-862 MHz
- MER more than 35dB
- Adjustable RF Output Level / Default 90dbuV
- Fast Pre-Config Function / 50 ID's Selectable
- Backup Config File by USB
- Software Upgrade by Service Port
- Ports: 4 X HD IN, RF OUT, 4 X USB, DC 12V, SERVICE PORT, GROUND
- Four (4) X 4-digit LED Displays
- Low Power Consumption

## ► TECHNICAL SPECIFICATIONS

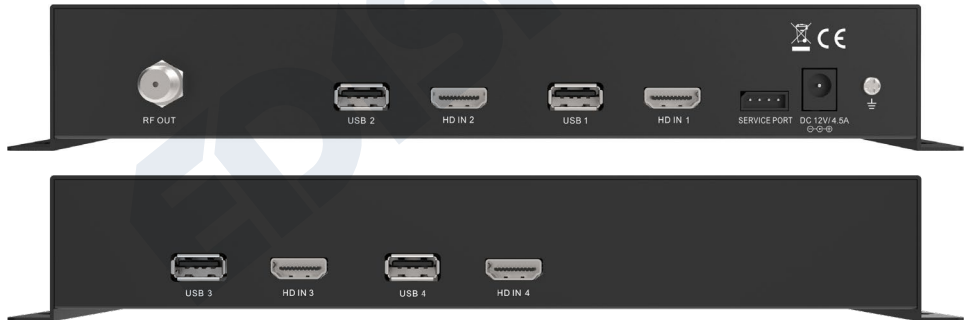
<b>Processor</b>	4 x 200MHZ 32Bits RISC
<b>Memory</b>	4 x DDRII 16bit 512Mbits (Embedded) & NOR Flash 32Mbit
<b>HD Input</b>	4 x HD v1.4a
<b>USB Type</b>	4 x USB 2.0 HOST, Supports Fat32
<b>Power Consumption</b>	20W maximum, 100-240V AC to DC power supply unit 12V 3A
<b>Video Encoder</b>	MPEG1, MPEG2 MP@HL, MPEG4 SP@L3 to ASP@L5, MPEG4 AVC HP@level4.1, MP@level4.1
<b>Aspect Ratio</b>	16:9 wide screen, 4:3 letter box, 4:3 pan scan
<b>Resolution</b>	Up to 1080p@30FPS
<b>Audio encoder</b>	MPEGI L1/2, MPEGII LII, AAC LC, HE-AAC v1/v2 (2-CH)

## ► RF SPECIFICATIONS

<b>Frequency Range</b>	DVB-T, ISDB-T or DVB-C / VHF & UHF band
<b>Output Frequency Range</b>	<b>DVB-T: VHF (CH.5-12) &amp; UHF (CH.21-69)</b> <b>Option 1:</b> Change preset Channels from the screen <b>Option 2:</b> Change preset Channels with USB Config <b>ISDB-T: VHF (CH.7-13) &amp; UHF (CH.14-69)</b> <b>Option 1:</b> Change preset Channels from the screen <b>Option 2:</b> Change preset Channels with USB Config <b>DVB-C: 47-862 MHz</b> <b>Option 1:</b> Change the frequency in steps of 10KHz from the screen <b>Option 2:</b> Change frequency in steps of 1KHz with USB Config
<b>Impedance</b>	50Ω
<b>FEC</b>	1/2, 2/3, 3/4, 5/6, 7/8
<b>Guard Interval</b>	1/4, 1/8, 1/16, 1/32
<b>Constellation</b>	QPSK, 16QAM, 64QAM
<b>RF Output level</b>	2 x 90dBμV, adjustable attenuation 0 ... -14dB, adjustable gain 0 ... +6dB
<b>Bandwidth</b>	<b>DVB-T:</b> 7MHZ, 8MHZ <b>ISDB-T:</b> 6MHZ <b>DVB-C:</b> 7MHZ, 8MHZ
<b>FFT</b>	2K, 4K, 8K
<b>Reed Solomon</b>	202, 188, T=8
<b>Symbol Rate</b>	6MHZ = Up to 2x8000 MBPS, 7MHZ = Up to 2x9000 MBPS, 8MHZ = Up to 2x10000 MBPS
<b>MER</b>	>35dB, at maximum RF level output.

## ► CONNECTION & OPERATION

1. Connect up to 4 HDMI Cables from up to 4 HD source devices to the respective HD Modulator HD inputs (HD IN 1, 2, 3, 4).
2. Connect an RF Cable from RF OUT to the RF Network.
3. Connect the power supply to the HD Modulator.
4. Select configuration signals from the MENU TV STANDARD (STAN) between DVB-T, DVB-C or ISDB-T
5. Select the desired RF Channel outputs from the modulator display 1 and 3.
6. If there are more than one Quad-HD Modulator units in the same installation, select ID for each output channel. The ID selection is made for each quad modulator unit in its own 4 displays, separately in each display.
7. Proceed with channel scanning on your TV/STB



## ► PACKAGE INCLUDES

1. HD Modulator 3in1 Quad
2. Power Adapter
3. Mounting screws
4. User Manual



### KEY LOCK

Press the key lock and when the green led lights up the keypad is locked. Press once again to unlock.

### HD SIGNAL

Connect the HDMI cable to HD IN and when the green led lights up, the signal is active.

### DVB-T or ISDB-T Mode



### DVB-C Mode





## ► HD MODULATOR 3in1 QUAD FRONT PANEL





## ► MAIN MENU

Press **Menu/OK** to enter the MENU. Navigate through the MENU by using the buttons “**Left**” / “**Right**” in each modulator display separately (MOD1, MOD2, MOD3, MOD4)

**MOD1 & MOD2** in pair, produce one COFDM DVB-T, ISDB-T or QAM DVB-C MUX which includes 2 TV channels. e.g. **TV-1 & TV-2**

**MOD3 & MOD4** in pair, produce another COFDM DVB-T, ISDB-T or QAM DVB-C MUX which includes 2 TV channels. e.g. **TV-3 & TV-4**

### **IMPORTANT:**

1. The Menu selections for: **CHANNEL, FREQUENCY, QAM, RF LEVEL, FACTORY DEFAULTS, TV STANDARD** are made only from **Modulator Display MOD1 & MOD3** and automatically adjust their pair units **Modulator Display MOD2 & MOD4**, respectively.
2. Each **HD source input** is addressed to its **HD Modulator**.  
HD IN 1 = mod 1 (configuration Display)  
HD IN 2 = mod 2 (configuration Display)  
HD IN 3 = mod 3 (configuration Display)  
HD IN 4 = mod 4 (configuration Display)
3. Each **HD Modulator** has its own **USB port**, for **CFG** (Config File) function.  
USB 1 = mod 1 (configuration Display)  
USB 2 = mod 2 (configuration Display)  
USB 3 = mod 3 (configuration Display)  
USB 4 = mod 4 (configuration Display)



**CH:** Shows the selected RF output channel in the DVB-T or ISDB-T terrestrial signal modulation selection. Use the “**Up**”, “**Down**” keys to change the selection



**FR:** Shows the selected RF output frequency on the DVB-C modulation cable signal. With the «**Up**», «**Down**» keys you change the selection.



**QAM:** Shows the QAM in the DVB-C modulation. Use the “**Up**”, “**Down**” keys to change the 16QAM, 32QAM, 64QAM, 128QAM or 256QAM selection.



**ID:** Shows the current ID. Use the keys **Up & Down** to set the desired ID.



**RF:** Shows the RF output level. Use the keys **Up & Down** to adjust to the desired RF level.



**LCN:** Shows the current LCN type. Use the keys **Up & Down** to set the desired LCN type.



**FACT:** Factory defaults. Press key **UP** to restore factory defaults.



**CFG:** Configuration file extraction. Press key **UP** to extract the current configuration to the USB storage device.



**SOFT:** Shows the SW version. Use the key **Up & Down** to display the current SW version.



**STAN:** Shows the TV STANDARD modulation signals. Use the “**Up**”, “**Down**” keys to change the DVB-T, DVB-C, or ISDB-T selection.



To save the selected configuration press once the **MENU/OK** key and confirm with **YES** or **NO** by pressing the **LEFT** and **RIGHT** keys and press **MENU/OK** key once again. The configuration is being saved, please **DO NOT** power off the unit! This procedure must be made separately, in each one of the 4 **MODULATOR** displays (MOD1, MOD2, MOD3, MOD4).

## ► CONFIGURATION EXTRACTION (CFG)

For an advanced configuration of the HD modulator QUAD, you must extract the configuration file one by one for each MODULATOR (MOD1, MOD2, MOD3, MOD4) separately, to a USB drive, modify it and import it again in the respective HD modulator. To extract the configuration file named **jedi\_config.txt\***, you must connect a USB drive\*\* to the USB slot, enter the **Main Menu**, **select CFG** and press **key UP** to extract the file to the USB drive. When the message **SUCC** appears, the process has been successfully completed.



**\*IMPORTANT:** The configuration file **jedi\_config.txt** should not be renamed!

**\*\*IMPORTANT:** Use only FAT32 partitions! In any other case, the message **FAIL** will indicate that the process has not been completed.



## Configuration file details (jedi\_config.txt)

<attribute>value<attribute>	Description: Allowed values
<constellation> <b>2</b> <\constellation>	Constellation: <b>0</b> QPSK, <b>1</b> 16QAM, <b>2</b> 64QAM
DVB-T or ISDB-T MODE <channel> <b>43</b> <\channel>	RF channel: DVB-T <b>05-12</b> & <b>21-69</b> ISDB-T <b>07-13</b> & <b>14-69</b>
DVB-C MODE <frequency> <b>474000</b> <\frequency>	RF Output Frequency: DVB-C <b>47-862 MHz</b>
DVB-C MODE <qam> <b>4</b> <\qam>	DVB-C QAM <b>0=16QAM, 1=32QAM, 2=64QAM, 3=128QAM, 4=256QAM</b>
DVB-C MODE <symbolrate> <b>6900000</b> <\symbolrate>	DVB-C Symbolrate Width: <b>200</b> up to <b>6960000 KHz</b>
<bandwidth> <b>8000</b> <\bandwidth>	Channel Bandwidth: <b>6000, 7000, 8000</b> KHz
<FEC> <b>2</b> <\FEC>	FEC: <b>0: 1/2, 1: 2/3, 2: 3/4, 3: 5/6, 4: 7/8</b>
<FFT> <b>1</b> <\FFT>	FFT: <b>0: 2K, 1: 8K, 2: 4K</b>
<GI> <b>0</b> <\GI>	Guard Interval: <b>0: 1/32, 1: 1/16, 2: 1/8, 3: 1/4</b>
<Name> <b>TV-1</b> <\Name>	Channel Name: Max 12 characters
<RF_Level> <b>0</b> <\RF_Level>	RF Level: <b>6,4,2,0,-2,-4,-6,-8,-10,-12,-14</b>
<LCN_Type> <b>1</b> <\LCN_Type>	LCN Type: <b>0: ITC(Norway), 1: Italy</b>
<LCN> <b>1</b> <\LCN>	LCN: <b>1</b> to <b>999</b>
<TSID> <b>1</b> <\TSID>	Transport Stream ID: <b>1</b> to <b>65534</b>
<ONID> <b>1</b> <\ONID>	Original Network ID: <b>1</b> to <b>65534</b>
<NetworkID> <b>1</b> <\NetworkID>	Network ID: <b>1</b> to <b>65534</b>

<audio_bitrate> <b>3</b> <\audio_bitrate>	Audio Bitrate: <b>0</b> =64kbps, <b>1</b> =96kbps, <b>2</b> =128kbps, <b>3</b> =192kbps, <b>4</b> =256kbps, <b>5</b> =320kbps, <b>6</b> =384kbps
<PCR_GAP> <b>0</b> <PCR_GAP>	PCR Gap: Audio/Video sync max <b>+5</b>
<audio_format> <b>0</b> <\audio_format>	Audio format: <b>0</b> MPEG2 L2, <b>1</b> AAC MPEG2
<videopid> <b>1002</b> <\videopid>	Video PID: <b>1</b> to <b>8000</b>
<audiopid> <b>1001</b> <\audiopid>	Audio PID: <b>1</b> to <b>8000</b>
<pmtpid> <b>1003</b> <\pmtpid>	PMT PID: <b>1</b> to <b>8000</b>
<serviceID> <b>1000</b> <\serviceID>	Service ID: <b>1</b> to <b>9999</b>
<video_bitrate> <b>12500</b> <\video_bitrate>	Video Bitrate: <b>6MHZ</b> = from <b>0</b> to <b>8000</b> (per Modulator, total 2 x 8000) <b>7MHZ</b> = from <b>0</b> to <b>9000</b> (per Modulator, total 2 x 9000) <b>8MHZ</b> = from <b>0</b> to <b>10000</b> (per Modulator, total 2 x 10000)
Netname> <b>EDISION</b> <\Netname>	Network Name, <b>Max 12 characters</b>
<TV_Standard> <b>0</b> <\TV_Standard>	<b>0</b> DVB-T, <b>1</b> DVB-C, <b>2</b> ISDB-T

## ► CONFIGURATION IMPORT (CFG)

To import the configuration file **jedi\_config.txt**, to each MODULATOR (MOD1, MOD2, MOD3, MOD4) separately, you must save the configuration file one by one in the root directory\* of a USB drive, insert the drive to the respective USB1, USB2, USB3 or USB4 slot and connect the PSU power to your HD Modulator. When you see this message CFG, press the **MENU/OK** button to confirm the import process. When the process is completed, the unit will reboot with the new configuration!



**\*IMPORTANT:** Use only **FAT32** partitions. In any other case, the configuration file will not be read and the device will reboot normally!

## ► FAST PRE-CONFIG FUNCTION / 50 IDS SELECTABLE

This feature enables the user to operate the unit hassle free by automatically setting the appropriate broadcasting table information [ID] to provide a more convenient installation, easy to adjust anytime with no tools required\*! This feature is important when there are more than one HD modulators operating within the same TV coaxial distribution network. The user should change each unit's broadcasting table information [ID] to be able for the end user devices to receive the channel.

**The HD Modulator 3in1 QUAD is pre-configured with the following IDs.**

HD 1 / mod 1 = ID-01 / TV-1 HD 2 / mod 2 = ID-02 / TV-2

HD 3 / mod 3 = ID-03 / TV-3 HD 4 / mod 4 = ID-04 / TV-4

**\*IMPORTANT:** In order to change the **Channel Name**, you have to use the CFG function to extract, edit and load the modified configuration file.

### Example of 7\* different ID's:

	ID01	ID02	ID03	ID04	ID05	ID06	ID07
Name	TV-1	TV-2	TV-3	TV-4	TV-5	TV-6	TV-7
LCN	1	2	3	4	5	6	7
TSID	1	2	3	4	5	6	7
ONID	1	2	3	4	5	6	7
NetworkID	1	2	3	4	5	6	7
Videopid	2101	2102	2103	2104	2105	2106	2107
audiopid	2201	2202	2203	2204	2205	2206	2207
pmtplD	2301	2302	2303	2304	2305	2306	2307
serviceID	2401	2402	2403	2404	2405	2406	2407

**\*IMPORTANT:** 7 sample ID configurations, out of 50 installed in the HD Modulator 3in1 QUAD.

## ► TROUBLESHOOTING

### **The device does not boot**

- Make sure the power supply is connected
- Check power supply voltage

### **I cannot export configuration file**

- Make sure your USB drive is working
- Make sure that the file system is FAT32

### **I get “No signal” message on the screen**

- Please check your HD cable or the HD source device
- Make sure that the HD signal complies with the supported standards

### **The channel number on the list does not appear properly**

- Make sure you have selected correct LCN type
- Make sure you have no conflicting LCN numbers

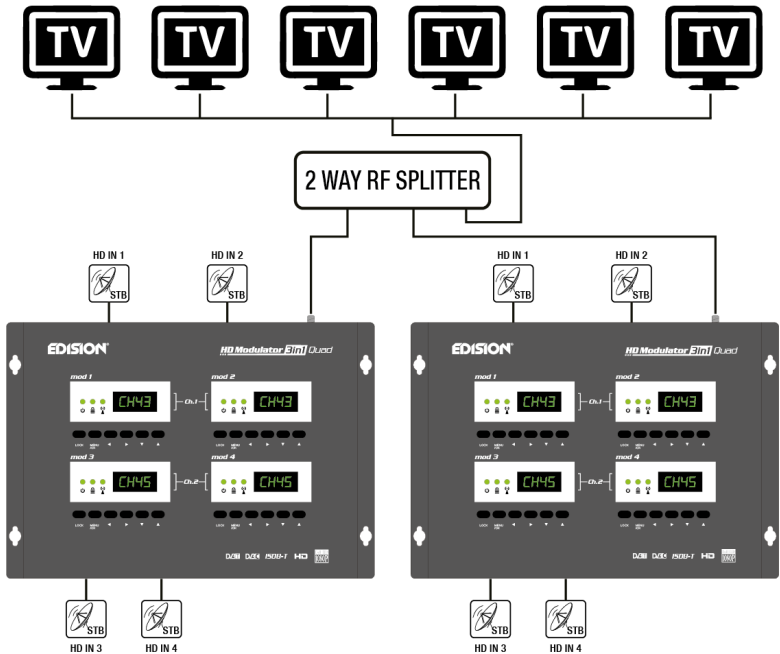
### **The video of the modulator appears to be from another modulator**

- Make sure your Fast Pre-Config ID does not conflict with another unit

### **The sound is not synchronized with the video**

- Please adjust the PCR gap each time until you get the perfect A/V sync

For more queries or advanced troubleshooting,  
please contact our technical support at **support@edision.gr**





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