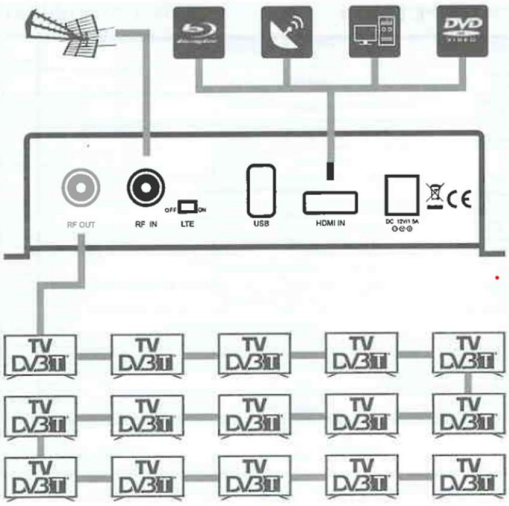

HDMI to DVB T Modulator

User Manual

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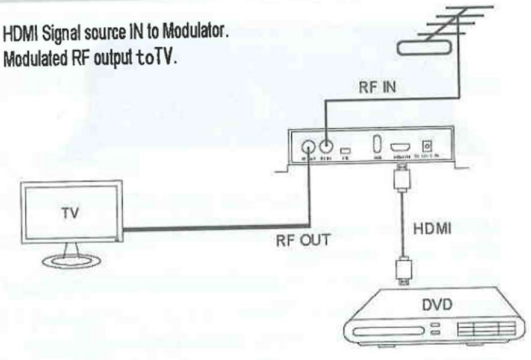
1. Rear Panel

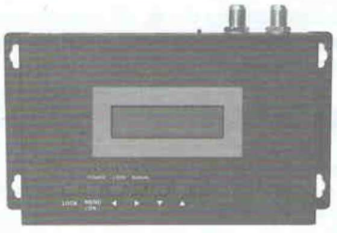
1.RF OUT: RF output terminal. For mix with RF IN signal.
2.RF IN : connection of IN signal.
3.LTE switch: To switch 4G LTE signal Filter ON/OFF. "ON" > LTE signal is filtered. "OFF" > LTE signal NOT filtered.
4.USB : USB 2.0 , connect to USB for software upgrade or configuration data backup.
5.HDMI IN : HDMI Input signal.
6.DC 12V: For connection of an external 12V adapter.

2. Installation Guide Diagram:

HDMI Signal source IN to Modulator.
Modulated RF output toTV.



3. Front panel



1. LOCK: (DOUBLE USE BUTTON): 1. locks the use of the buttons. "LOCK" led lights up when pressed 1 time for locking. To release lock state, press again. 2.also functions as "Delete"(Space) button while editing menu "Name".

2. MENU/OK: One time press: "MENU" button.
Two times press: "Confirm" button.
3. « ◀ » Left : backward selection.
4. « ▶ » Right: forward selection.
5. « ▼ » Down: list down selection.
6. « ▲ » Up: list up selection.

4. Operating instructions

4.1 Parameters Setup

4.1.1 Output channel Setup

Press "MENU/OK" button and the OLED display displays "Freq/CH_xx". Press "▲"Up or "▼"Down button to select the desired output channel. If you do not want to setup other parameters, press "MENU/OK" button and on the display appears "Save config? Yes(*) No( ). Press "MENU/OK" again to save the setting. If you want to setup other parameters also, please do not press this button. For more setup options, press "◀"(Left) or "▶" (Right) button to select other parameters. When all your settings are complete, press "MENU/OK" button two times to save the settings .

4.1.2 Setup Cons(tellation), FEC, FFT, Guard Interval, RF Level, Audio Bit Rate. Audio Format.

Press the"MENU/OK" button. Then use "◀ "(Left) or "▶"(Right) button to select the desired setup item. Use "▲"(UP) or "▼"(DOWN) button to set the correct value. Press "MENU/OK" button two times to complete and save the setup.

4.1.3 Output program "Name" Setup

Press "MENU/OK" button. Then use "◀"(Left) or "▶"(Right) button to select "Name" option. Press "▲"(UP) and first character on left side will flicker. You can use "◀"(Left) or "▶"(Right) button to change the character. To stop editing, press "▲"(UP) button Or press "▼"(DOWN) button to edit another character. Use "LOCK" button to delete the flickering character. 'LOCK' button also functions as "Space" button. To end editing, press "MENU/OK" button two times and save the "Name" field that you edited. To select other parameters, press "▲"(UP) button to end "Name" editing function and use "◀"(Left) or "▶"(Right) button to choose other programming options.

4.1.4 LCN Setup, Network Name, Audio pid, Video pid, Pmt pid, Program num. Video Bit rate.

Press "MENU/OK" button. To select the desired option press "◀ "(Left) or "▶"(Right). For example, edit LCN: Press "▲"(UP) button. then left side first character flickering. To change the number, use "◀ "(Left) or "▶"(Right) button. To select next number to be edited, press "▼"(DOWN) button. To end editing, press "▲"(UP) button. To edit another item, press "◀ "(Left) or "▶ "(Right) button. Press "MENU/OK" button two [2] times to save configuration.

4.1.5 Turn off OLED display

Press "MENU/OK" button to enter setup. Use "◀"(Left) or "▶"(Right) button to select "Led off?" option. Press "▲" (UP) button" to turn off the oled display. Press "MENU/OK" button again to activate the oled display again.

4.1.6 Reset to Factory default values

Press "MENU/OK" button to enter setup. Use "◀" (Left) or "▶" (Right) button to select "Factory reset" to default values. Press "▲"(UP) button" to start reset to factory default values. The display will appear "Success!" when the procedure is completed.

4.1.7 Save configuration to USB.

Press "MENU/OK" button to enter setup menu. Use "◀"(Left) or " ▶"(Right) button to select "Save to usb" option. Press "▲"(UP) button" to start saving process and then the display will appear "Success!" when the procedure is completed.

4.1.7 How to upgrade software

1: Copy the "jedi.img" file to the USB device.
2: POWER OFF the modulator.
3: Plug the usb device into USB port on the back of the device.
4: POWER ON the modulator.
5: When on the OLED display appears "Upgrade Yes(*) No( )", press "MENU/OK" button to start upgrade process.

Upgrade procedure will finish after 10 seconds approximately.
WARNING! DO NOT power off the modulator while upgrading!! Damage to the device may occur !

If you do not want to upgrade software, press "▼"(DOWN) button to select "No (*)" and then press "MENU/OK" button to end upgrade submenu.

5. Specification of Hardware

Class	Sub class	Designation	Expected Features
Encoder	Processor	Processor frequency	Host CPU: 200MHZ 32Bits RISC Security Processor :200Mhz 32Bits Audio Processor:200MHZ 32Bits
	Memory	RAM	DDRII 16bit 512Mbitsx1 (Embedded)
		Flash	NOR Flash 32Mbit x 1
	Video	Video encoder	ISO/IEC 11172-2 MPEG1 ISO/IEC 13818-2 MPEG2 MP@HL ISO/IEC 14496 MPEG4 compliant Support SP@L3 to ASP@L5 ISO/IEC 14496-10 AVC, HP@level 4.1, MP@level 4.1 H.264 profile 0 JPEG base-line, progressive
		Aspect Ratio	16:9 wide screen, 4:3 letter box, 4:3 pan scan, support AFD(DTG, MingDTG)
		Resolution	1080i, up to 1080p@30FPS
	Audio	Audio encoder	MPEGI layer1/2, MPEGII Layer II AAC LC, HE-AAC v1/V2 (2-CH)
Modulation		Output frequency range	174~233MHZ(VHF III) ,470 - 858 [MHz](UHF)
		Output Impedance	75 [Ω]
		Input Impedance (Loop to Output)	75 [Ω]
		Forward Error Correction (FEC)	1/2,2/3,3/4, 5/6, 7/8
		Guard Interval	1/4,1/8,1/16,1/32
		Constellations	QPSK,16QAM,64QAM
		RF Output Level	Default: 90 dBμV Adjustable: 0 to -14 dB 0 to + 6 dB
		Band Wide	7MHZ(VHF),8MHZ(UHF)
		FFT	2K,8K
		Reed Solomon	202,188,T=8
		Symbol rate range	up to 31.668 MBPS
		MER	More than 35dB at Maximum RF Level output

Rear Panel		RF Input (LOOP to Output)	Impedence: 75 Ohm Input type: F-type female
		RF Output	Impedence: 75 Ohm Output type: F-type female
		USB Connector (software upgrade)	Number: 1 Type: Host 2.0
		LTE(Long Term Evolution)Filtering switch	ON/OFF Cut Off Frequency: 790MHZ
		HDMI Input	Number: 1, High Definition Media Interface HDMI V1.4a HDCP1.4
		Power DC Input Connector	X1 DC(12V,1.5A)
Front Panel	Display	Display	128x32 dots OLED Display (IIC or SPI communication protocal)
	LED	Power & work state LED	POWER/LOCKED/SIGNAL indicator
	Buttons	Tact switch X6(UP/DOWN/ LEFT/RIGHT,MENU/ OK,LOCK	Set Output channel/FEC/ CONSTELLATION/FFT/ Channel Name etc.

Power Supply		Power supply unit type	Adapter Input:100~240V AC,Output:DC 12V/1.5A
		Power consumption in normal working mode	< 10W
Mechanical Design	Demension	164(W)X104(D)X41(H)mm	
	Material and structure	Metal cabinet and 2 layers PCB structure	With enough heat radiation holes on cabinet