# **MPEG4 HDMI DVB-C/T Encoder Modulator**



KC320WCT

# SAFETY INSTRUCTIONS

#### **1. CONNECTING TO THE MAINS SUPPLY**

This product has to be connected to the mains supply.

Before carrying out maintenance operation or modification of the installation, the device has to be disconnected.

#### 2. OVERVOLTAGE

An over-voltage cause short-circuits or fire. Never overload the power lines. Always use the power supply provided for single channel series.

#### 3. LIQUIDS

should be protected from splashes; Do not place objects filled with liquids on it; If any liquid should accidentally fall into the cabinet, disconnect the power plug.

#### 4. CLEANING

Disconnect the module before cleaning. Use only a humid cloth without solvent.

#### **5. VENTILATION**

the ventilation holes should not be obstructed;

not be installed in a hermetically sealed environment;

Other electronic products or heat producing items keep a minimum distance of 15 cm around the apparatus for sufficient ventilation;

#### 6. ACCESSORIES

Only use the supplied power adaptor;

The use of accessories not manufactured by the manufacturer can cause damage to the module.

#### 7. INSTALLATION OF THE MODULE

Do not expose the unit to rain or moisture; Do not installed in direct sunlight or in humid place; Respect the minimum and maximum temperature specifications

# PACKAGE CONTENT

Device	1pc
Power Adapter	1pc

# **GENERAL DESCRIPTION**

The device is designed to make your HD device use more convenient, productive and cost efficient. The Video-Audio devices can be from surveillance cameras, Blue-ray DVD, media -players, satellite and terrestrial receivers or computers.

The device can do digital coding processing for HDMI signal with DTV technology. The product adopts RF modulation technology characteristic to transmit the multiple RF signal through one common coaxial cable for long distance transmission without amplification. The device can distribute your HD source to HD resolution to an unlimited number of displays over almost any distance. By adding DTV network mixer at the RF cable, you can easily achieve a large number of displays or DTVs.

The device offer solution for such as hotels, stadiums, entertainment facilities, or broadcast environments.

# **FEATURES**

- Supports output resolutions up to 1080 60p
- LCD display、 key buttons & Web controlled, updated via Web
- DVB-C / DVB-T 2 in 1, free selectable at any time
- Compact and wall mountable
- Support wall-mount type
- Good ventilation for the device
- Install multiple units onto your TV system

### **APPEARANCE INTRODUCE**



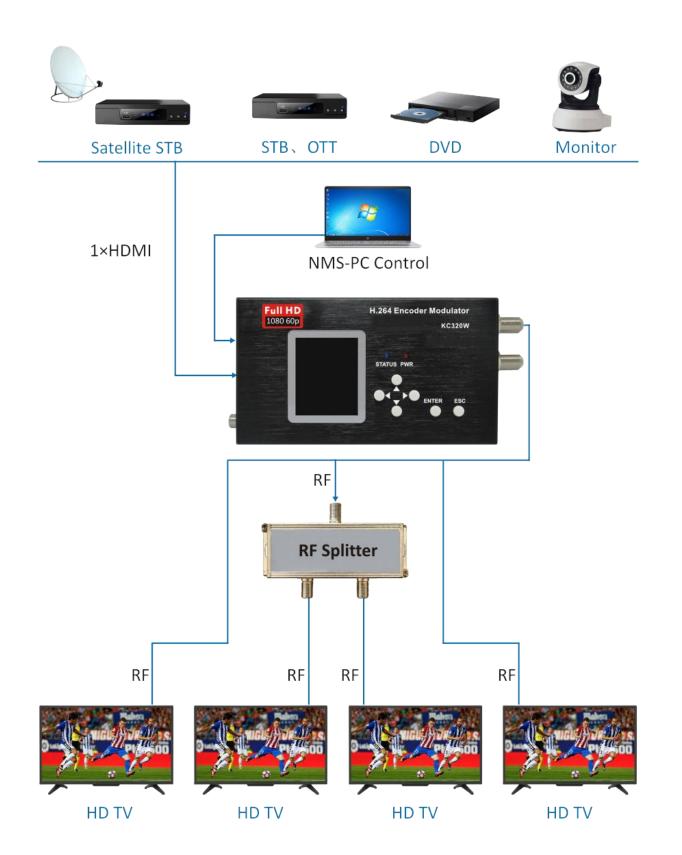
- 1. NMS Control
- 2. HDMI input
- 3. LCD Screen
- 4. Power input
- 5. Status & Power LED

- 6. Directional keys (up,down,left,right)
- 7. RF output
- 8. RF input
- 9. Enter Key
- 10. ESC(Cancel/Return)

# **TECHNICAL SPECIFICATIONS**

<b>Encoding Section-Vi</b>	deo			
Encoding	MPEG4 AVC / H.264			
Interface	HDMI*1			
	Input	Output		
Resolution	720@50p,720@60p	-	)80@60p	
	1080@50i/p,1080@60i/p			
Bit rate	Max. 20Mbps			
Encoding Section-Au	idio			
Encoding	MPEG-1 Layer2, AAC			
Sample rate	48KHz			
System				
Management	LCD + Control buttons/Ether	rnet		
Language	English			
Upgrade	Ethernet			
Menu Configuration				
General	Frequency/ RF Attenuation/	Service Name	/Modulation/LCN	
Advanced	PMT PID/VPID/APID/PCR PID/TS ID/Service ID/NetworkID/			
•••••	ONID/Service provider/Netw		• • •	
Network	IP Address/Subnet Mask/ De	-	/MAC Address	
Update Modulator Section	Modulator Firmware/Main	МСО		
	Ture 25 dD			
MER RF range	Typ. 35dB 50-950MHz, 1KHz step			
RF output level	100dBµV(30dB Attenuation			
Standard	DVB-T	DVB-C		
Bandwidth	6,7, 8M	Constellation	16QAM, 32QAM	
Constellation	QPSK, 16QAM, 64QAM	-	64QAM, 128QAM,	
Code Rate	1/2, 3/5, 2/3, 3/4, 5/6, 7/8		256QAM	
Guard interval	1/4, 1/8, 1/16, 1/32	Symbol rate	5.000-8.000Msps	
FFT	2К, 8К	-	ADJ	
General	1	I	1	
Power Supply	DC 12V 1A			
Dimension	136x 36 x 27mm			
Weight	252g			

# **APPLICATION DIAGRAM**



# WEB OPERATION INSTRUCTION

For setting configurations, you can use the Web NMS to control and set by connecting the device to a computer's RJ45 Port. The default IP of device is 192.168.0.168. Your computer will require a static IP address in the range 192 . 168 . 0 . xxx except device's ; otherwise, it would cause an IP conflict

### 1. Computer static IP address Setting

The IP Address of the computer must be in the same participation as device's. System Control >Network Connections > LAN Connection > Properties >Internet Protocol Version 4 TCP/IPv4 > Properties, as the picture:

∉ WLAN Status ×	WLAN Properties ×	Internet Protocol Version 4 (TCP/IPv4) Properties
Seneral	Networking	General
Connection IPv4 Connectivity: Internet IPv6 Connectivity: No network access Media State: Enabled SSID: SZ_SG Duration: 00:00:06 Speed: 433.3 Mbps Signal Quality: Mireless Properties	Connect using: Couldcomm Atheros QCA9377 Wireless Network Adapter Configure This connection uses the following items: Configure This connection uses the following items: Configure This connection uses the following items: Configure Configure This connection uses the following items: Configure	You can get IP settings assigned automatically if your network supports this capability. Otherwise, you need to ask your network administrator for the appropriate IP settings.         O Obtain an IP address automatically            • Use the following IP address:          IP address:         192 . 168 . 0 . 20         Subnet mask:         255 . 255 . 05         Default gateway:
Activity Sent — Received Bytes: 207,517   688,953	Link-Layer Topology Discovery Mapper I/O Driver	Obtain DNS server address automatically  Outse the following DNS server addresses:  Preferred DNS server:  Alternate DNS server:
Properties Disable Diagnose	across diverse interconnected networks.	Validate settings upon exit Advanced.
Close	OK Cancel	OK Can

#### 2. Device set up and Log in

- 1. Connect the PC to the Ethernet port of the Device.
- 2. Launch the web browser and delete browsing history.
- 3. When log in to the IP (192.168.0.168), you will see the log in page.

The factory password is "admin". Enter the password and click button "Apply" Username: admin Password: admin

COM	MONLY USE			<u>Log In</u>
Log In				
All fields are case sensitive	Username	admin		
	Password			
	1	Apply	Change	

Also, user can changed the Username and Password by click **"Change"**, details display as following page.

COMMONLY USED	) SETTINGS SYSTEM INFO	<u>Log Ou</u>
Login Settings		
All fields are case sensitive		<u></u>
Current Username	admin	
Current Password		
New Username	admin	
New password		
Confirm new password		
	Apply	

### **3.General Section**

In "General" section, you can change basic settings as following format description.

### 3.1 DVB-C Mode

	COMMONLY USED SETTIN					Log Ou
General	General					
Stream	Source	HDMI	~	HDCP	Off	~
Network	System	DVB-C	$\checkmark$	Modulation	64QAM	~
Update	Frequency(KHz)	474000		Symbol Rate (K)	6875	
opullo	RF Attenuation (dB)	0		Logic Channel Number	1	
	Service Name	KSETI HD1				

Parameter	Range
Source	HDMI
System	DVB-C
Frequency(MHz)	50000-950000
RF Attenuation(dB)	0-30
Service Name	up to 15 alphanumeric characters
HDCP	On/Off
Modulation	16QAM, 32QAM, 64QAM, 128QAM, 256QAM
Symbol Rate (K)	5000-8000
LCN	1-1023

### 3.2 DVB-T Mode

	COMMONLY USED SETTIN					Log Out
General	General					
Stream	Source	HDMI	~	HDCP	Off	~
Network	System	DVB-T	~	Modulation	64QAM	~
Update	Frequency(KHz)	474000		Bandwidth (MHz)	8	$\sim$
Opulae	RF Attenuation (dB)	0		Logic Channel Number	1	
	Service Name	KSETI HD1				
	FFT	8K	~	Guard Interval	1/16	~
	Code Rate	5/6	~			

Parameter	Range
Source	HDMI
System	DVB-T
Frequency(MHz)	50000-950000
RF Attenuation(dB)	0-30
Service Name	up to 15 alphanumeric characters
FFT	2К, 8К
Code Rate	1/2, 2/3, 3/4, 5/6, 7/8
HDCP	On/Off
Modulation	QPSK, 16QAM, 64QAM
Bandwidth(MHz)	6, 7, 8
LCN	1-1023
Guard Interval	1/4, 1/8, 1/16, 1/32
LCN	1-1023

### 4. Stream Section

In "Stream" section, you can change detail TS setting as following format description.

Transport Stream		Encoder		
PMT PID	32			
Video PID	48	Bitrate	19000	
Audio PID	49	Audio Encoder	MPEG	~
PCR PID	50	Half FPS	On	~
TS ID	1	FHD Output	Interlace	~
Service ID	1			
Network ID	1			
ON ID	1			
Service Provider	KSETI			

Parameter	Range
PMT PID	32-8190
Video PID	32-8190
Audio PID	32-8190
PCR PID	32-8190
TS ID	1-65535
Service ID	1-65535
Network ID	1-65535
ON ID	1-65535
Service Provider	up to 15 alphanumeric characters
Network Name	up to 15 alphanumeric characters
Bitrate	Max.20Mbps
Audio format	AAC, MPEG1
Half FPS	On/Off
FHD Output	Auto, Interlace

### 5. Network Section

The default IP is 192.168.0.168. Allow user manual change in this page.

IP Address	192.168.0.168	Subnet Mask	255.255.255.0
Default Gateway	192.168.0.1		
MAC Address	00:80:E1:02:58:4E		

### 6.Update Section

Click "Update" on the left side of the homepage to display the following page.

LCD Module		
Update Modulator Firmware		
Start Update Main MCU		

Remark:

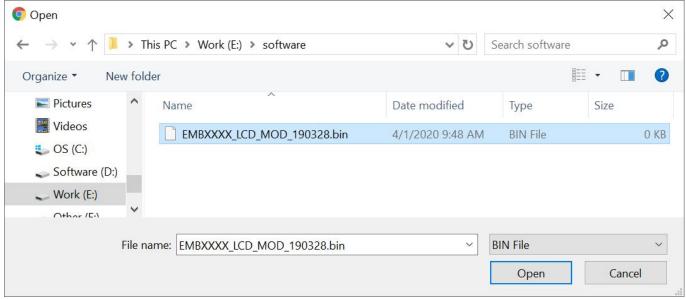
- 1. Make sure the network is stable before operation.
- 2. Avoid opening two pages with the same URL.

3. Avoid updating the FW & Main MCU through the router, which may cause the update to fail.

- 4. Ensures the route and power supply are not separated in the update process.
- 5. After the update, it takes a while for the device to automatically restart. And never turn off the power supply during this period.
- 6.After the update, if the page does not automatically response, please do not power off, and try to reload page, or use another browser to open again.
- 7.If the update doesn't work properly, hold the reset button for 5 seconds before reloading the web page.

### 6.1. Update LCD Module

- 1. Click " LCD Module " button and pop up a dialog box.
- 2. Choose the file[xxx.bin] to be uploaded.



3. After the update is completed, it will automatically return to the settings page.

### 6.2. Update Modulator Firmware

- 1. Click " Update Modulator Firmware " button and pop up a dialog box.
- 2. Choose the file[xxx.v2img] to be uploaded.
- 3. After the update is completed, it will automatically return to the settings page.

· -> • - 1 📔	> This	PC > Work (E:) > software	い く	Search software	۶
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📑 Videos		sdk2_img_bx_190726_10_23.v2img	11/26/2019 3:14	PM V2IMG File	
👟 OS (C:)					
🥪 Software (D:	)				
🔪 Work (E:)					
Other (Fr)	× ·	<			
	File nam	e: sdk2_img_bx_190726_10_23.v2img	~	V2IMG File	~

### 6.3. Update Modulator Firmware

- 1. Click " Start Update Main MCU " button, it will jump to another page as below picture.
- 2. Choose the file [xxx.bin] to upload then click " **Update** " button.
- 3. When update finished, will automatically return to homepage.

$\leftarrow$ $\rightarrow$ C (i) Not s	ecure   192.168.0.168	☆	٩	÷
Мос	lulator Network Management System			-
Choose Fi	in file then click update e No file chosen Choose [.bin] file to upload. Click 'Update' button to start.			

### 7. System Info Section

User can check the software version and Video sources information here.

The button " **Reload** " is to upload the file that saved settings before.

The button " Factory Default " is for the settings restore factory defaults.

COMMONLY USEE	SETTINGS S	YSTEM INFO		Log Out
System Info				
Version	2.4.29g			
Modulator Type	2.3			
Core Version	2.3.5.21			
Video Encoder	H264			
Video Format	1280x720p60			
1	Reload		Factory Default	