

4 Channels H.264 IP Video Encoder

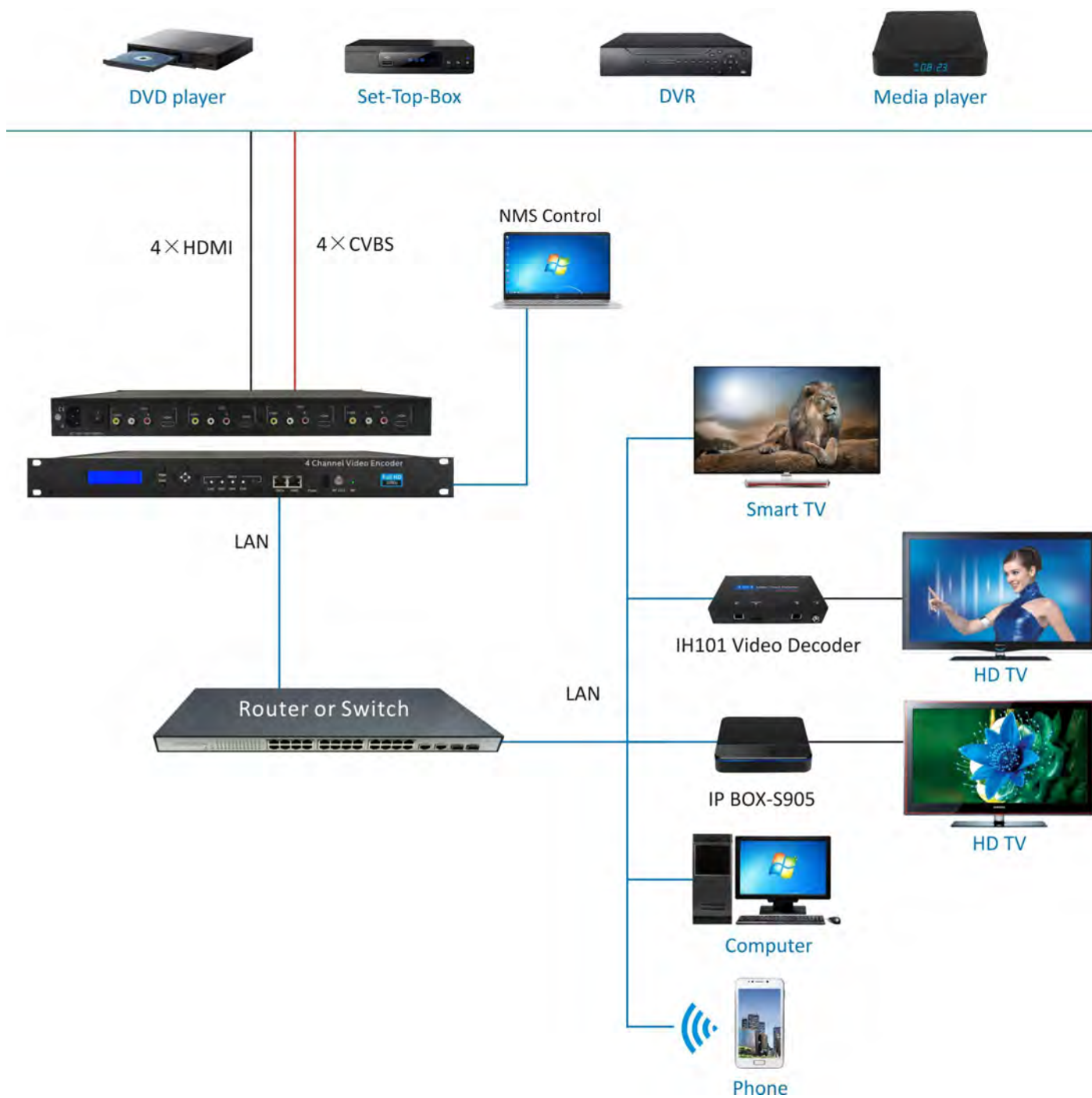


KC401

TECHNICAL SPECIFICATIONS

Interfaces	
Input	4 x HDMI , 4 x CVBS
Output	1 x RJ45, 1Gbps IP Streaming IP: UDP/RTP(Unicast/Multicast) 4 x SPTS and 1 x MPTS, HLS, HTTP Streaming, RTMP
Control	LCD with 6 keys & 1 x RJ45 (Web NMS)
Video Encoding	
Format	HD:H.264 AVC/HP@L4.0 SD:MPEG-2/MP@ML
Resolution	Input: 1080 50/60p, 1080 50/60i, 720 50/60p, 480i, 576i Output: up to 1080 30p
Bitrate	HDMI: 3~12Mbps CVBS: 1~6Mbps
Rate Control	CBR/VBR
Chroma Sample	4:2:0, 4:2:2
H.264 Profile	High/Main Profile
H.264 Level	3.0, 3.1, 3.2, 4.0, 4.1, 4.2
GOP Structure	IBP/IPPP
Audio Encoding	
Format	Mpeg1L2, AAC, AC3
Bitrate	64 ~ 384Kbps
Sample Rate	44.1 KHz, 48.0 KHz
General	
Multiplexing	PID remapping (automatically or manually)
Power Supply	AC 100~240V 50/60Hz
Display	LCD panel @ 2 x 16 characters LED x 5(Ch1~4+Power)
Dimension	483 x 257 x 44.4mm
Weight	2000g
Environmental For Operating	Temperature: 5°C- 40°C Relative Humidity: 80% @ 30°C

Application Example - IP to RF Modulator



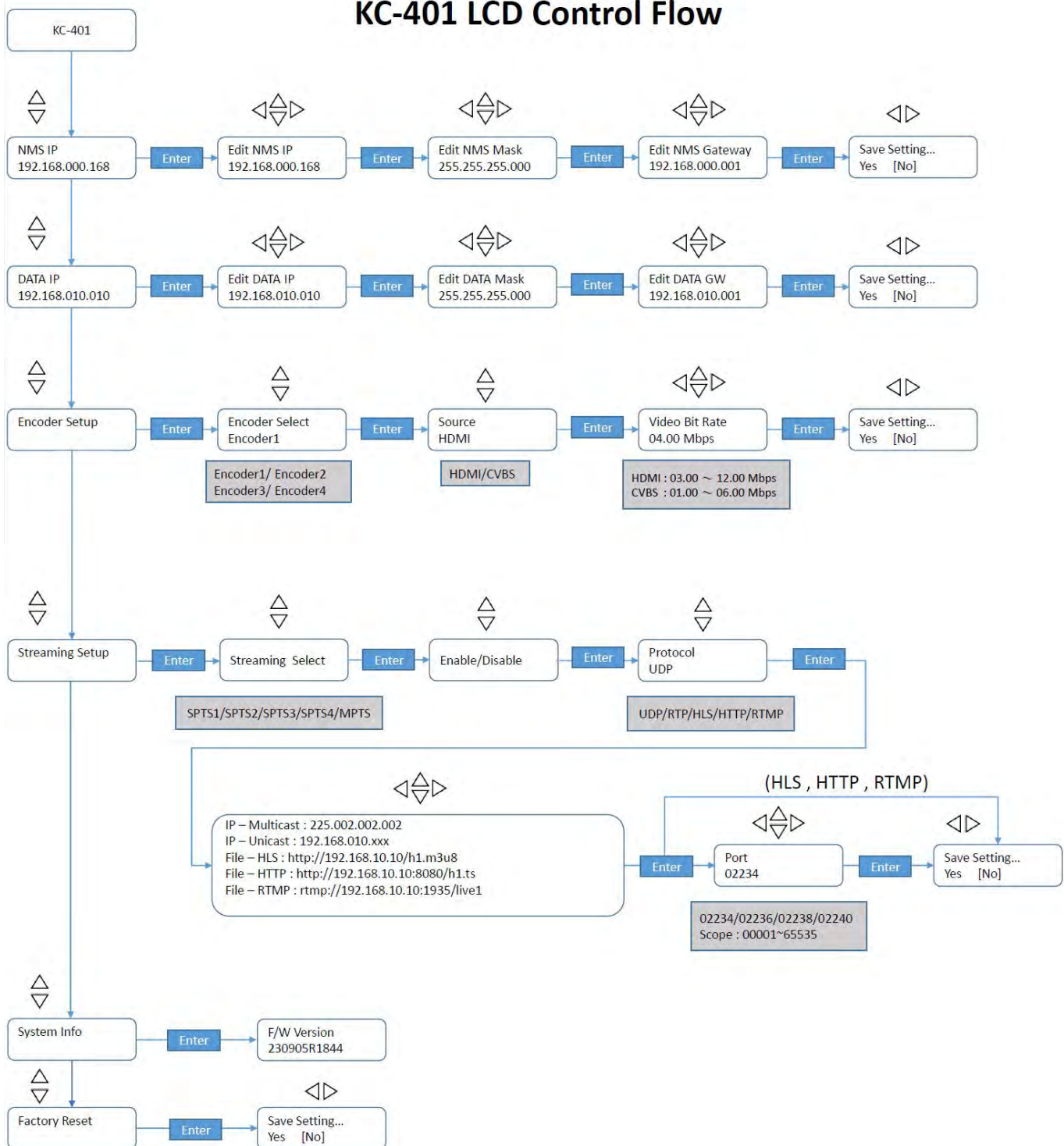
LED LAMP

HDMI: Blue CVBS: Green IP: Blue

		CH1 LED	CH2 LED	CH3 LED	CH4 LED	IP Output LED: Blue
HDMI source	Plug in and Encoder TS Input	Blue light	Blue light	Blue light	Blue light	Blue light
	RJ45 cable unplug					X
	Unplug or Encoder TS Stop Input	Blue light blinks	Blue light blinks	Blue light blinks	Blue light blinks	X
CVBS source	Plug in or Encoder TS Input	Green light	Green light	Green light	Green light	Blue light
	RJ45 cable unplug					X
	Unplug or Encoder TS Stop Input	Green light blinks	Green light blinks	Green light blinks	Green light blinks	X

LCD Control Flow

KC-401 LCD Control Flow



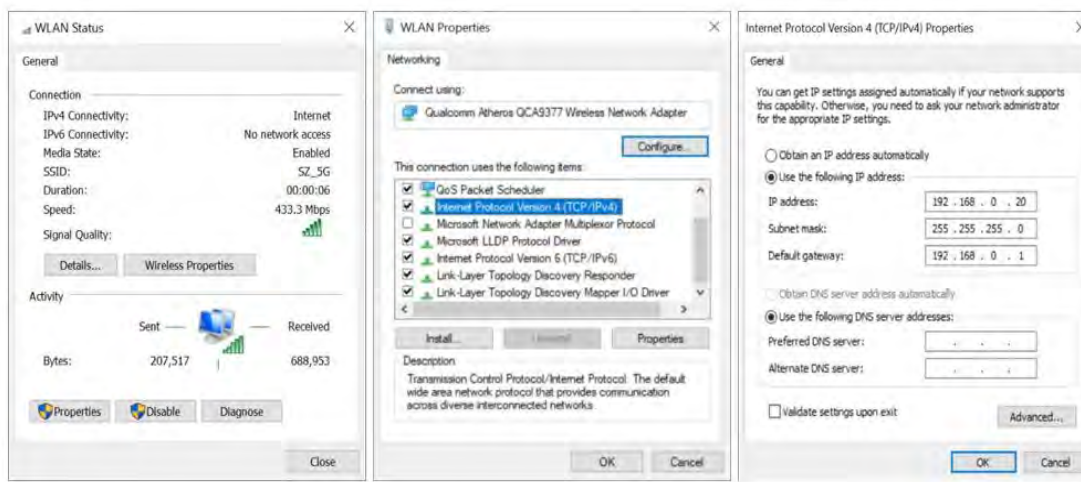
WEB OPERATION INSTRUCTION

The device is configured using NMS. Access to the NMS is via the network connection

1. IP Address of Computer Setting

We must choose the static IP address according to the default gateway address. The first three numbers must be the same (192.168.0.x in the example).

System Control> Network Connections> LAN Connection> Properties> Internet Protocol Version 4 TCP/IPv4 (or Version6 TCP/IPv6)> Properties> Use the following IP address:
IP address Computer: 192.168.0.20 and Subnet mask: 255.255.255.0.

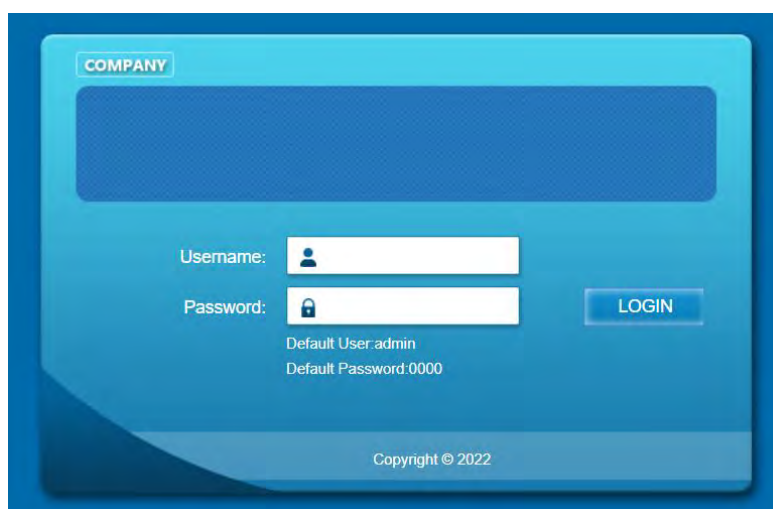


2. IP Address of Computer Setting

2.1 Each machine can have different username and password settings.

2.2 Please log in before operation.

Default IP is 192.168.0.168; Username : admin; Password: 0000



3. NMS Home Page& Status

Contents of the home page includes Device Information/Encoder Setup/Streaming Setup/ Network/ Password/Upgrade/Configuration.

The Device Information page will show some device parameters. Here you can know the

Model Name, Serial Number, Firmware version, Boot Version, Encoder1~4 Version, DATA MAC Address, NMS MAC Address

Streaming server

Web Management Logout 02:59

Device Information

Model Name	KC401	Serial Number	0H2305001
Firmware Version	230516R1612	BOOT Version	230516R1612
Encoder 1 Version	V2.10R35	Encoder 2 Version	V2.10R35
Encoder 3 Version	V2.10R35	Encoder 4 Version	V2.10R35
Data MAC Addr	00:1E:97:6F:1A:60	NMS MAC Addr	00:1E:97:6F:1A:61
Modulator Version	R0217	Standard	DTMB

4. Encoder Setup

Use the Setting Setup Page to set the Encoder setup. You can choose the signal source is HDMI or CVBS. You can also change the Video Encoder (HDMI Only H.264/ CVBS can chose H.264/mpeg), Video Bit Rate(Mbps),Rate Mode(CBR/VBR), Audio Encoder(AC3/AAC/MPEG), Audio Bitrate,H.264 Profile, H.264 Level, GOP Structure, PMT PID, PCR PID, Video PID, Audio PID, TS ID, Service Provider, Service Name.. Parameters.

Streaming server

Web Management Logout 03:00

Encode

	Encode 1	Encode 2	Encode 3	Encode 4
Source	HDMI	HDMI	HDMI	HDMI
Video Encode	H.264	H.264	H.264	H.264
Video Bit Rate (Mbps)	8.00	8.00	8.00	8.00
Rate Mode	CBR	CBR	CBR	CBR
Audio Encode	MPEG	MPEG	MPEG	MPEG
Audio Bit Rate (Kbps)	128	128	128	128
H.264 Profile	High Profile	High Profile	High Profile	High Profile
H.264 Level	4.0	4.0	4.0	4.0
GOP Structure	IBP	IBP	IBP	IBP
PMT PID	100	200	300	400
PCR PID	101	201	301	401
Video PID	102	202	302	402
Audio PID	103	203	303	403
Service ID	1	2	3	4
TS ID	1	2	3	4
Service Provider	TVProvider-1	TVProvider-2	TVProvider-3	TVProvider-4
Service Name	HDTV-1	HDTV-2	HDTV-3	HDTV-4
Resolution	1080i60	1080i60	1080i60	1080i60
Bit Rate	8.07 Mbps	8.06 Mbps	8.08 Mbps	8.06 Mbps

Cancel Apply

5. Streaming Setup

Use the Streaming Setup Page to setup your required streaming method. You can choose UDP/RTP multicast or unicast, HLS, Http, RTMP
 The multicast range is 224.0.0.0 to 239.255.255.255, with 224.0.0.0 to 224.0.0.255 reserved exclusively for local network management and maintenance.

Streaming server

Web Management
Logout
03:00

Summary

- ▶ Device Information

Parameters

- ▶ Encoder Setup
- ▶ Streaming Setup

System

- ▶ Network Setup
- ▶ Password
- ▶ Upgrade
- ▶ Configuration

IP Streaming

	Protocol	Play Mode	Group IP / Destination IP / File	Port	TTL
<input checked="" type="checkbox"/> SPTS 1	UDF ▼	Multica: ▼	225.2.2.2	2234	128
<input checked="" type="checkbox"/> SPTS 2	UDF ▼	Multica: ▼	225.2.2.2	2236	128
<input checked="" type="checkbox"/> SPTS 3	UDF ▼	Multica: ▼	225.2.2.2	2238	128
<input checked="" type="checkbox"/> SPTS 4	UDF ▼	Multica: ▼	225.2.2.2	2240	128
<input type="checkbox"/> MPTS	UDF ▼	Multica: ▼	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

NIT

	ON/OFF	ON ID	Network ID	Network Name	PDS	LCN
SPTS 1	OFF ▼	1	1	Network1	00000029	1
SPTS 2	OFF ▼	2	2	Network2	00000029	2
SPTS 3	OFF ▼	3	3	Network3	00000029	3
SPTS 4	OFF ▼	4	4	Network4	00000029	4
						5
MPTS	OFF ▼	5	5	Network5	00000029	6
						7
						8

TVCT

	ON/OFF	Major Channel	Minor Channel	Short Name
SPTS 1	OFF ▼	10	1	HDTV-1
SPTS 2	OFF ▼	10	2	HDTV-2
SPTS 3	OFF ▼	10	3	HDTV-3
SPTS 4	OFF ▼	10	4	HDTV-4
		10	5	HDTV-5
MPTS	OFF ▼	10	6	HDTV-6
		10	7	HDTV-7
		10	8	HDTV-8

CVCT

	ON/OFF	Modulator	Major Channel	Minor Channel	Short Name
SPTS 1	OFF ▼	64QAM ▼	10	1	HDTV-1
SPTS 2	OFF ▼	64QAM ▼	10	2	HDTV-2
SPTS 3	OFF ▼	64QAM ▼	10	3	HDTV-3
SPTS 4	OFF ▼	64QAM ▼	10	4	HDTV-4
			10	5	HDTV-5
MPTS	OFF ▼	64QAM ▼	10	6	HDTV-6
			10	7	HDTV-7
			10	8	HDTV-8

Cancel
Apply

Notice:

- (1) If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps
- (2) All devices need to be on the same LAN

5.1. Multicast UDP Setup

IP Streaming

Stream	Output	Protocol	Play Mode	IP / File	Port	TTL
SPTS 1	ON ▾	UDP ▾	Multicast ▾	225.2.2.2	2234	128
SPTS 2	ON ▾	UDP ▾	Multicast ▾	225.2.2.2	2236	128
SPTS 3	ON ▾	UDP ▾	Multicast ▾	225.2.2.2	2238	128
SPTS 4	ON ▾	UDP ▾	Multicast ▾	225.2.2.2	2240	128
MPTS	OFF ▾	UDP ▾	Multicast ▾	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

5.2. Multicast RTP Setup

IP Streaming

Stream	Output	Protocol	Play Mode	IP / File	Port	TTL
SPTS 1	ON ▾	RTP ▾	Multicast ▾	225.2.2.2	2234	128
SPTS 2	ON ▾	RTP ▾	Multicast ▾	225.2.2.2	2236	128
SPTS 3	ON ▾	RTP ▾	Multicast ▾	225.2.2.2	2238	128
SPTS 4	ON ▾	RTP ▾	Multicast ▾	225.2.2.2	2240	128
MPTS	OFF ▾	UDP ▾	Multicast ▾	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

5.3. Unicast UDP Setup

IP Streaming

Stream	Output	Protocol	Play Mode	IP / File	Port	TTL
SPTS 1	ON ▾	UDP ▾	Unicast ▾	192.168.10.20	2234	128
SPTS 2	ON ▾	UDP ▾	Unicast ▾	192.168.10.20	2236	128
SPTS 3	ON ▾	UDP ▾	Unicast ▾	192.168.10.20	2238	128
SPTS 4	ON ▾	UDP ▾	Unicast ▾	192.168.10.20	2240	128
MPTS	OFF ▾	UDP ▾	Multicast ▾	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

5.4. Unicast RTP Setup

IP Streaming

Stream	Output	Protocol	Play Mode	IP / File	Port	TTL
SPTS 1	ON ▾	RTP ▾	Unicast ▾	192.168.10.20	2234	128
SPTS 2	ON ▾	RTP ▾	Unicast ▾	192.168.10.20	2236	128
SPTS 3	ON ▾	RTP ▾	Unicast ▾	192.168.10.20	2238	128
SPTS 4	ON ▾	RTP ▾	Unicast ▾	192.168.10.20	2240	128
MPTS	OFF ▾	UDP ▾	Multicast ▾	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

5.5. HLS

IP Streaming

Stream	Output	Protocol	Play Mode	IP / File	Port	TTL
SPTS 1	ON ▾	HLS ▾	▾	http://192.168.10.10/h1.m3u8		
SPTS 2	ON ▾	HLS ▾	▾	http://192.168.10.10/h2.m3u8		
SPTS 3	ON ▾	HLS ▾	▾	http://192.168.10.10/h3.m3u8		
SPTS 4	ON ▾	HLS ▾	▾	http://192.168.10.10/h4.m3u8		
MPTS	OFF ▾	UDP ▾	Multicast ▾	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

5.6. HTTP

IP Streaming

Stream	Output	Protocol	Play Mode	IP / File	Port	TTL
SPTS 1	ON ▾	HTTP ▾	▾	http://192.168.10.10:8080/h1.ts		
SPTS 2	ON ▾	HTTP ▾	▾	http://192.168.10.10:8080/h2.ts		
SPTS 3	ON ▾	HTTP ▾	▾	http://192.168.10.10:8080/h3.ts		
SPTS 4	ON ▾	HTTP ▾	▾	http://192.168.10.10:8080/h4.ts		
MPTS	OFF ▾	UDP ▾	Multicast ▾	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

5.7. RTMP

IP Streaming

Stream	Output	Protocol	Play Mode	IP / File	Port	TTL
SPTS 1	ON <input type="checkbox"/>	RTMP <input type="checkbox"/>	<input type="checkbox"/>	rtmp://192.168.10.10:1935/live1	<input type="text"/>	<input type="text"/>
SPTS 2	ON <input type="checkbox"/>	RTMP <input type="checkbox"/>	<input type="checkbox"/>	rtmp://192.168.10.10:1935/live2	<input type="text"/>	<input type="text"/>
SPTS 3	ON <input type="checkbox"/>	RTMP <input type="checkbox"/>	<input type="checkbox"/>	rtmp://192.168.10.10:1935/live3	<input type="text"/>	<input type="text"/>
SPTS 4	ON <input type="checkbox"/>	RTMP <input type="checkbox"/>	<input type="checkbox"/>	rtmp://192.168.10.10:1935/live4	<input type="text"/>	<input type="text"/>
MPTS	OFF <input type="checkbox"/>	UDP <input type="checkbox"/>	Multicast <input type="checkbox"/>	225.2.2.2	2242	128

Notice: If 4 channels of SPTS and MPTS are opened at the same time, please adjust bit rate of encoder under 8 Mbps.

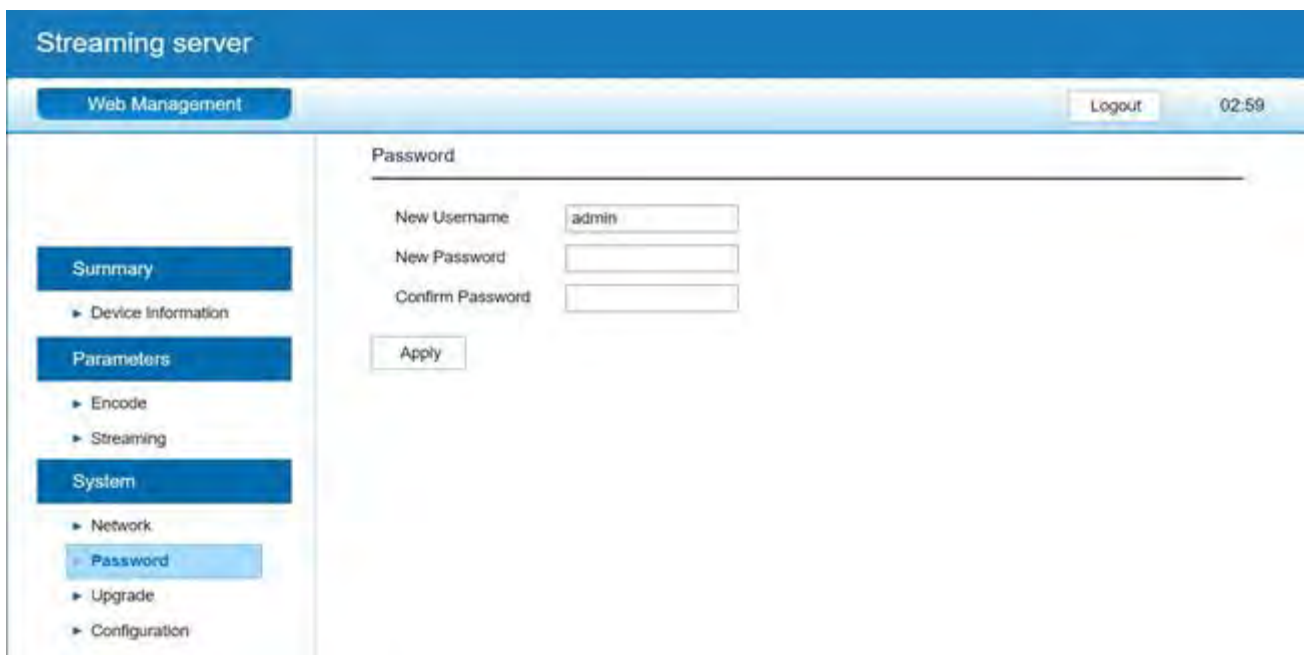
6. Network Setup

The IP Out default setting is 192.168.10.10 The Web Management default setting is 192.168.0.168. You can modify the IP of NMS and DATA by yourself, please note that the IP addresses of NMS and DATA cannot be set in the same LAN

The screenshot shows the 'Streaming server' Web Management interface. The 'Network' configuration page is active, displaying settings for NMS IP and Data IP. The NMS IP is set to 192.168.0.168 with a Subnet Mask of 255.255.255.0 and a Default Gateway of 192.168.0.1. The Data IP is set to 192.168.10.10 with a Subnet Mask of 255.255.255.0 and a Default Gateway of 192.168.10.1. The interface includes a sidebar with navigation options like Summary, Parameters, and System, and a top navigation bar with 'Web Management' and 'Logout' buttons.

7. Password

You can modify the user name and password. In the New password field, enter the new password you want to change, also the same password as the new password to confirm.



The screenshot shows the 'Streaming server' web management interface. The top navigation bar includes 'Web Management' and 'Logout' with a timestamp of '02:59'. The left sidebar contains a menu with categories: Summary, Parameters, and System. Under 'System', the 'Password' option is selected. The main content area is titled 'Password' and contains three input fields: 'New Username' (with 'admin' entered), 'New Password', and 'Confirm Password'. An 'Apply' button is located below the input fields.

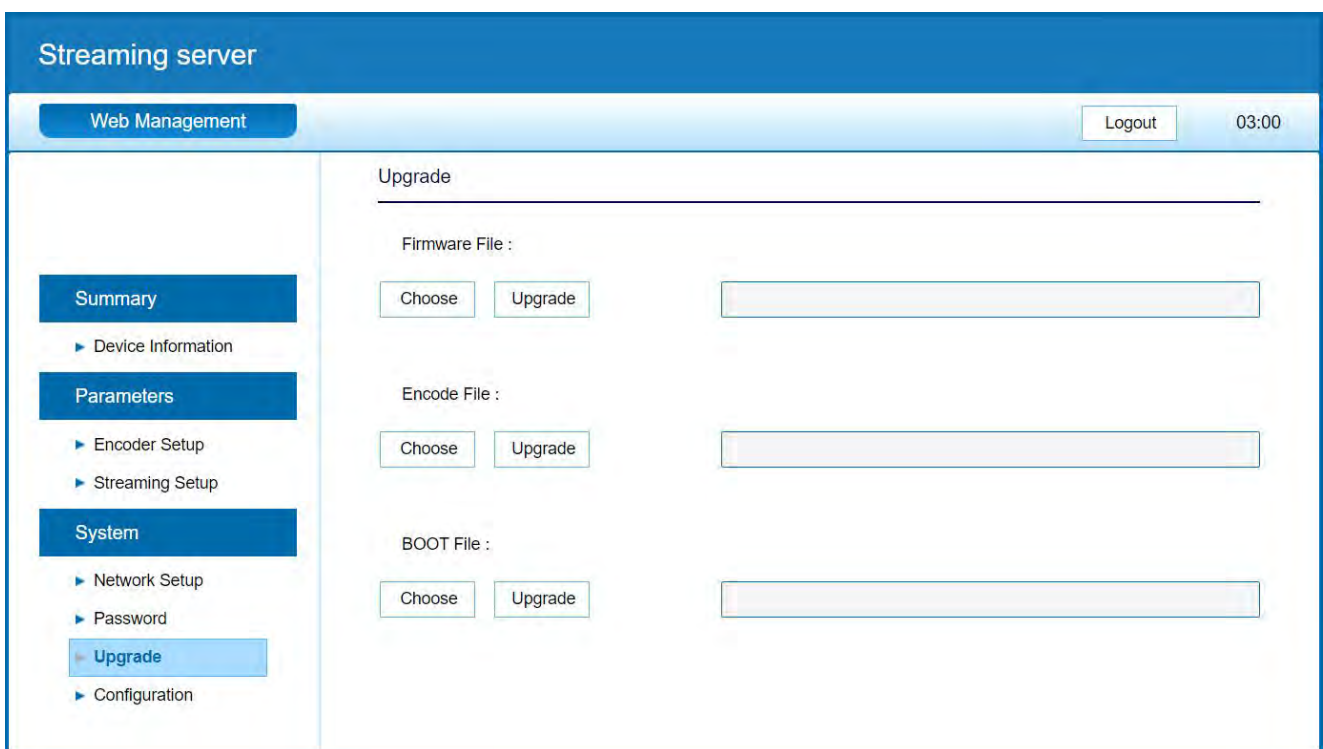
8. Upgrade

Use the Upgrade page to update system firmware, Encoder firmware, and Boot code.

Step1. Download the firmware zip file and unzip the firmware file. The file is image.ub

Step2. Login to NMS.

Step3. Select to upgrade page. Select the "Choose" button of Firmware File



The screenshot shows the 'Streaming server' web management interface. The top navigation bar includes 'Web Management' and 'Logout' with a timestamp of '03:00'. The left sidebar contains a menu with categories: Summary, Parameters, and System. Under 'System', the 'Upgrade' option is selected. The main content area is titled 'Upgrade' and contains three sections: 'Firmware File', 'Encode File', and 'BOOT File'. Each section has a 'Choose' button, an 'Upgrade' button, and an empty input field.

Step4. Select the firmware to update


名稱	修改日期	類型	大小
 image.ub	2022/3/23 下午 12:59	UB 檔案	15,705

Step5. Select the “Upgrade” button to update Firmware. Please wait about 1 minute for the system to reboot



Streaming server 192.168.0.168 顯示
Are you sure?

Web Management 確定 取消 Logout 02:59

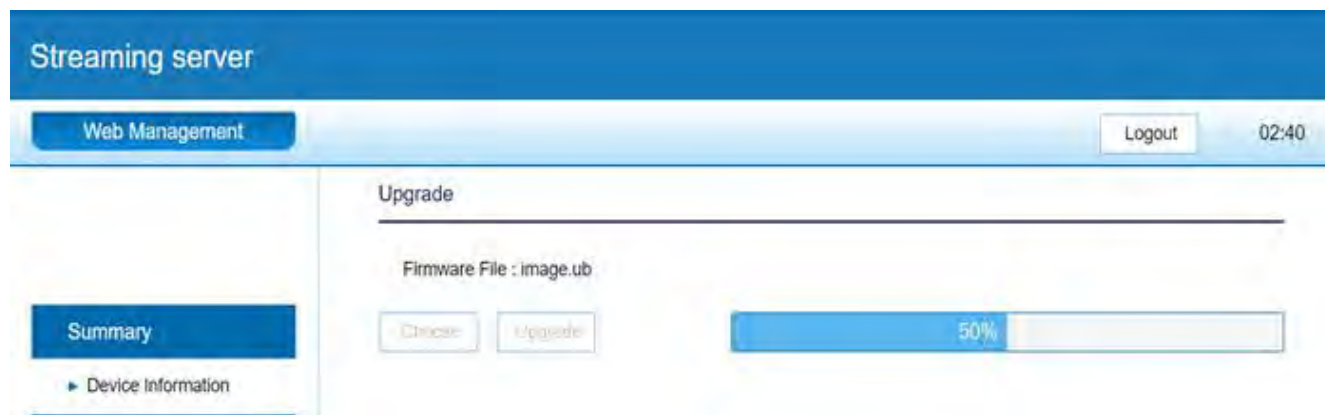


Upgrade

Firmware File : image.ub

Choose Upgrade

Summary
▶ Device Information



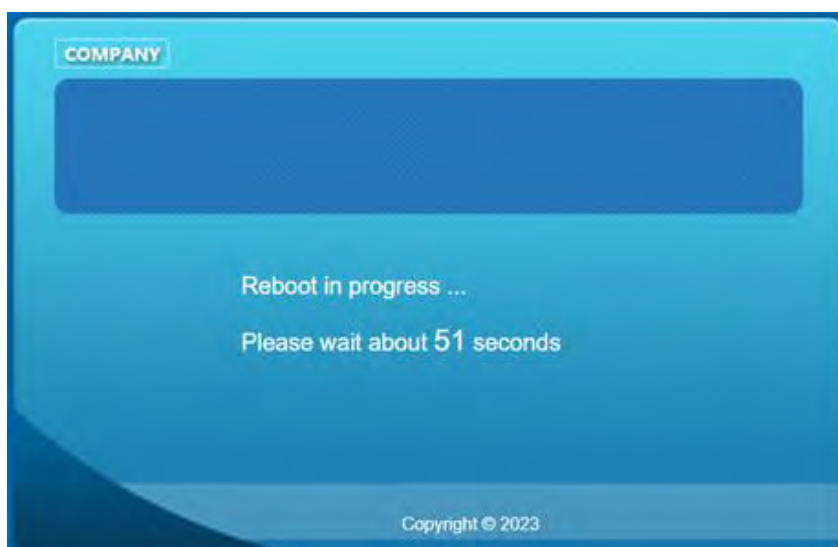
Streaming server Logout 02:40

Upgrade

Firmware File : image.ub

Choose Upgrade 50%

Summary
▶ Device Information



COMPANY

Reboot in progress ...
Please wait about 51 seconds

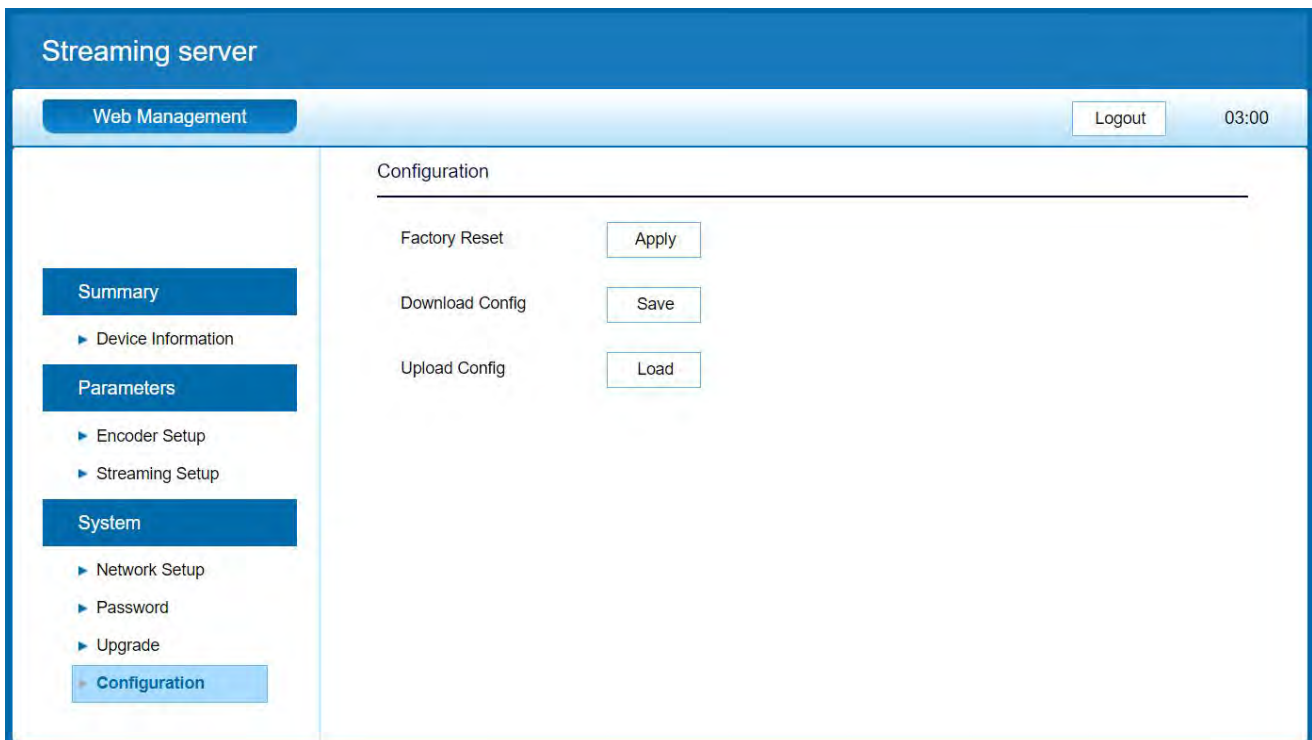
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9. Configuration

Use the “Factory Reset” to reset configuration to factory default.

Use the “Download Config” to saved device setting configuration setting to PC.

Use the “Upload Config” to upload the file with pre-saved configuration settings to device.



The screenshot displays the web management interface for a Streaming server. The page title is "Streaming server". At the top, there is a "Web Management" tab and a "Logout" button with the time "03:00". The main content area is titled "Configuration" and contains three rows of controls:

Configuration	
Factory Reset	<input type="button" value="Apply"/>
Download Config	<input type="button" value="Save"/>
Upload Config	<input type="button" value="Load"/>

The left sidebar contains a navigation menu with the following sections:

- Summary
 - ▶ Device Information
- Parameters
 - ▶ Encoder Setup
 - ▶ Streaming Setup
- System
 - ▶ Network Setup
 - ▶ Password
 - ▶ Upgrade
 - ▶ Configuration (highlighted)