



H.264 (HDMI/ SDI/ CVBS) IP Video Encoder

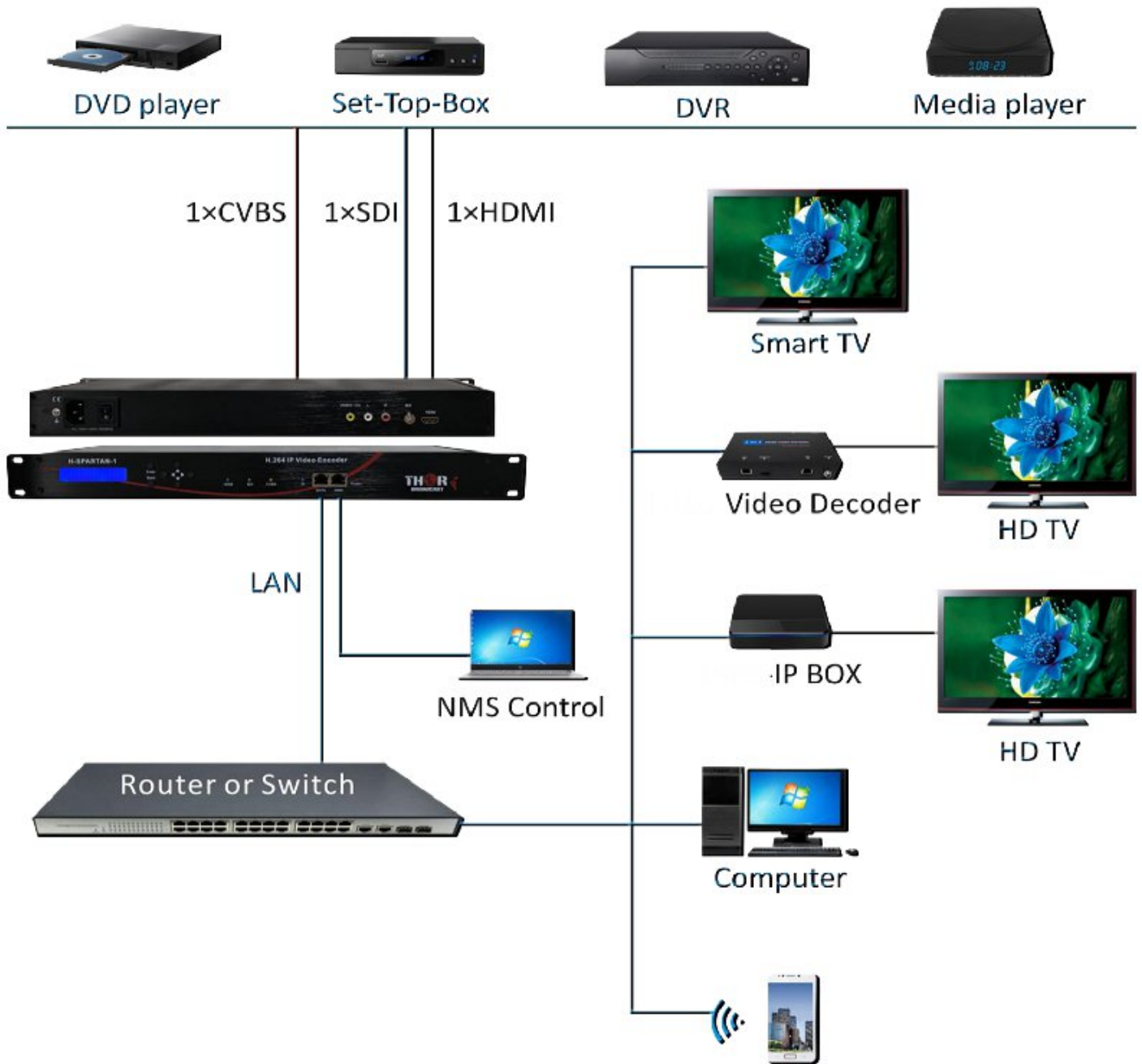


H-SPARTAN-1

TECHNICAL SPECIFICATIONS

Interfaces	
Input	1×HDMI, 1×SDI, 1×CVBS
Output	UDP/RTP(Unicast/Multicast), HLS, HTTP, RTMP, RTMP Live (Youtube Live stream)
Control	LCD with 6 keys & 1 x RJ45 (Web NMS)
Network Interface	
Management	1x1000Base-T Ethernet(RJ 45)
Data	1x1000Base-T Ethernet(RJ 45)
Protocol	IEEE 802.3 Ethernet
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:2~12Mbps SDI:2~12Mbps CVBS:2~6Mbps
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
Close Caption	608/708
Audio Encoding	
Format	Mpeg1L2, AAC, AC3
Bitrate	64 ~ 384Kbps
Sample Rate	44.1KHz, 48.0KHz
General	
Power Supply	AC 100~240V 50/60Hz
Display	LCD panel @ 2×16 characters, LED×5 PW(Red)/ HDMI(Blue)/ SDI (Green)/ CVBS(Yellow)/ IP(Blue)
Dimension	483×135×45mm
Weight	1000g
Environmental For Operating	Temperature: 5°C- 40°C Relative Humidity: 80% @ 30°C

Application Example - Point to Point



LED Indicators functionality table

HDMI: Blue SDI: Green CVBS: Yellow IP: Blue

		HDMI LED: Blue	SDI LED: Green	CVBS LED: Yellow	IP Output LED: Blue
HDMI source	Plug in and Encoder TS Input	Blue light	X	X	Blue light
	RJ45 cable unplug				Blue light blinks (The settings of DATA IP and LAN are different)*
	Unplug or Encoder TS Stop Input	Blue light blinks	X	X	X
SDI source	Plug in and Encoder TS Input	X	Green light	X	Blue light
	RJ45 cable unplug				Blue light blinks (The settings of DATA IP and LAN are different)*
	Unplug or Encoder TS Stop Input	X	Green light blinks	X	X
CVBS source	Plug in or Encoder TS Input	X	X	Yellow light	Blue light
	RJ45 cable unplug				Blue light blinks (The settings of DATA IP and LAN are different)*
	Unplug or Encoder TS Stop Input	X	X	Yellow light blinks	X

*** DATA IP Default: 192.168.10.10**

WEB NMS (default IP 192.168.0.188 / admin/0000)

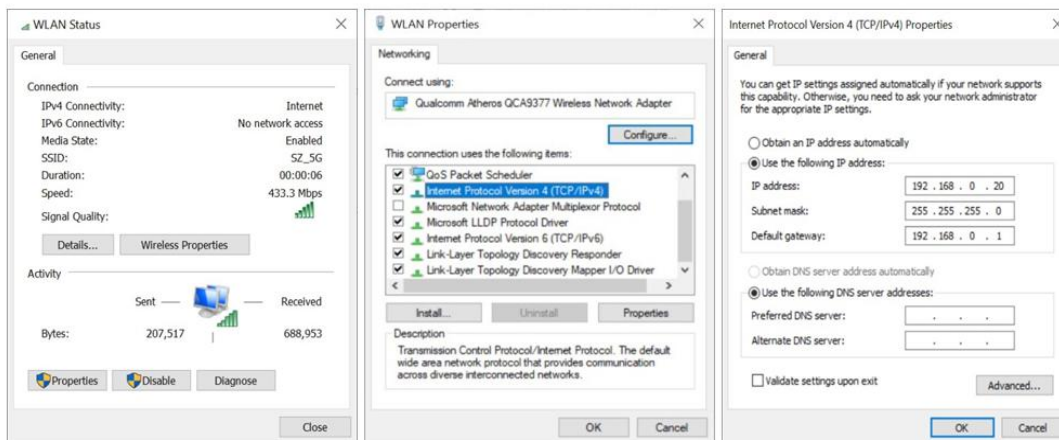
The device is configured using NMS. Access to the NMS is via the network connection

1. Set the Static Computer IP address

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 > Properties> Use the following IP address:

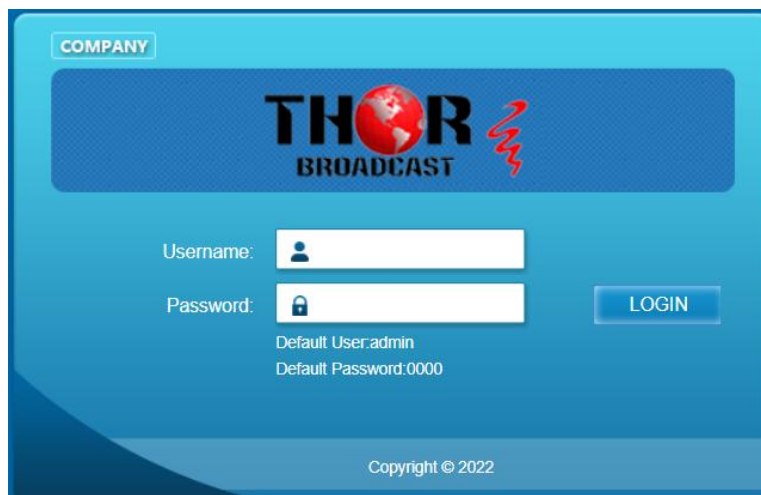
IP address Computer: 192.168.0.20 and Subnet mask: 255.255.255.0.



2. NMS connection

2.1 Each machine can have different username and password settings.

2.2 Please log in before operation. **Default IP is 192.168.0.188; Password: 0000**



3. NMS Home Page & Status

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

And device's Device Information details are also show on this page. Here you can know the

Model Name, Serial Number, Firmware version, Boot Version, Encoder Version, Data MAC Address, NMS MAC Address.

The screenshot shows the 'Streaming server' web management interface. The top navigation bar includes 'Web Management' and a 'Logout' button with the time '02:59'. On the left, there is a sidebar with the 'THOR BROADCAST' logo and a menu with sections: 'Summary', 'Device Information' (highlighted), 'Parameters' (with sub-items 'Encode' and 'Streaming'), and 'System' (with sub-items 'Network', 'Password', 'Upgrade', and 'Configuration'). The main content area is titled 'Device Information' and contains a table of device details:

Model Name	H-SPARTAN-1	Serial Number	022302002
Firmware Version	230308R1416	BOOT Version	230308R1416
Encoder Version	V0.3R7	Data MAC Addr	00:1E:97:6F:18:E6
NMS MAC Addr	00:1E:97:6F:18:E5		

4. Encoder Setup

Use the Setting Setup Page to set the Encoder setup. You can change the program name, or choose the signal source is HDMI or CVBS or SDI. You can also change the Video Encoder (HDMI / SDI Only H.264/ CVBS can chose H.264/mpeg) You can also change the Source, Video Encoder, Video Bitrate, Rate Mode, Audio Encoder, Audio Bitrate, CC Enable, H.264 Profile, H.264 Level, GOP Structure, PMT PID, Video PID, Audio PID, Service provider service Name .

The screenshot shows the 'Streaming server' web management interface with the 'Encode' configuration page selected. The top navigation bar includes 'Web Management' and a 'Logout' button with the time '03:00'. The left sidebar is identical to the previous screenshot, but 'Encode' is highlighted under the 'Parameters' section. The main content area is titled 'Encode' and contains a list of configuration parameters:

	Encode
Source	HDMI
Video Encode	H.264
Video Bit Rate(Mbps)	8.00
Rate Mode	CBR
Audio Encode	AC3
Audio Bit Rate	128 Kbps
CC Enable	OFF
H.264 Profile	High Profile
H.264 Level	4.0
GOP Structure	IBP
PMT PID	100
Video PID	101
Audio PID	102
Service ID	1
TS ID	1
Service Provider	TVProvider-1
Service Name	HDTV-1
Resolution	1080p30
Bit Rate	8.57 Mbps

At the bottom of the page are 'Cancel' and 'Apply' buttons. A black arrow points to the 'Source' dropdown menu, which is currently set to 'HDMI'.



Summary

▶ Device Information

Parameters

▶ Encode

▶ Streaming

System

▶ Network

▶ Password

▶ Upgrade

▶ Configuration

Encode

	Encode
Source	CVBS
Video Encode	H.264
Video Bit Rate(Mbps)	6.00
Rate Mode	CBR
Audio Encode	AC3
Audio Bit Rate	128 Kbps
CC Enable	OFF
H.264 Profile	High Profile
H.264 Level	4.0
GOP Structure	IBP
PMT PID	100
Video PID	101
Audio PID	102
Service ID	1
TS ID	1
Service Provider	TVProvider-1
Service Name	HDTV-1
Resolution	1080p30
Bit Rate	9.39 Mbps

Cancel

Apply



Summary

▶ Device Information

Parameters

▶ Encode

▶ Streaming

System

▶ Network

▶ Password

▶ Upgrade

▶ Configuration

Encode

	Encode
Source	SDI
Video Encode	H.264
Video Bit Rate(Mbps)	8.00
Rate Mode	CBR
Audio Encode	AC3
Audio Bit Rate	128 Kbps
CC Enable	OFF
H.264 Profile	High Profile
H.264 Level	4.0
GOP Structure	IBP
PMT PID	100
Video PID	101
Audio PID	102
Service ID	1
TS ID	1
Service Provider	TVProvider-1
Service Name	HDTV-1
Resolution	1080p30
Bit Rate	9.53 Mbps

Cancel

Apply

5. Streaming Setup

Use the Streaming Setup Page to setup your required streaming method. You can choose UDP/RTP (unicast and multicast), HLS, HTTP, RTMP, RTMP Live. When choosing HLS/HTTP/RTMP/RTMP Live, the Video Bitrate is recommended to be below 4Mbps

Streaming server

Web Management Logout 02:59

- Summary
 - Device Information
- Parameters
 - Encode
 - Streaming**
- System
 - Network
 - Password
 - Upgrade
 - Configuration

IP Streaming

Protocol	Play Mode	IP / File	Port	TTL
UDP	Multicast	225.2.2.2	2234	128

NIT

Output	ON ID	Network ID	Network Name	PDS	LCN
OFF	1	1	Network1	00000029	1

TVCT

Output	Major Channel	Minor Channel	Short Name
OFF	10	1	HDTV-1

CVCT

Output	Modulator	Major Channel	Minor Channel	Short Name
OFF	64QAM	10	1	HDTV-1

Streaming server

Web Management Logout 02:57

- Summary
 - Device Information
- Parameters
 - Encode
 - Streaming**
- System
 - Network
 - Password
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 - Configuration

IP Streaming

Protocol	Play Mode	IP / File	Port	TTL
UDP	Multicast	227.2.2.2	2234	128

NIT

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TVCT

Output	Major Channel	Minor Channel	Short Name
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CVCT

Output	Modulator	Major Channel	Minor Channel	Short Name
OFF	64QAM	10	1	HDTV-1

live stream on YouTube or Facebook

Step1. Select "RTMP Live" item

Step2. Step3. Enter RTMP URL and Private Key

Step3. Press the apply button

6. Network Setup

The Web Management default setting 192.168.0.188.

Streaming server

Web Management Logout 02:59

THOR BROADCAST

Summary

- ▶ Device Information

Parameters

- ▶ Encode
- ▶ Streaming

System

- ▶ **Network**
- ▶ Password
- ▶ Upgrade
- ▶ Configuration

Network

NMS IP

IP Address

Subnet Mask

Default Gateway

Data IP

IP Address

Subnet Mask

Default Gateway

Cancel Apply

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.

Streaming server

Web Management Logout 03:00

THOR BROADCAST

Summary

- ▶ Device Information

Parameters

- ▶ Encode
- ▶ Streaming

System

- ▶ Network
- ▶ **Password**
- ▶ Upgrade
- ▶ Configuration

Password

New Username

New Password

Confirm Password

Apply

8. Update Page

The screenshot shows the 'Streaming server' Web Management interface. The top navigation bar includes 'Web Management', 'Logout', and '03:00'. The left sidebar contains the 'THOR BROADCAST' logo and a menu with sections: Summary (Device Information), Parameters (Encode, Streaming), System (Network, Password, Upgrade, Configuration). The main content area is titled 'Upgrade' and contains two sections: 'Firmware File' and 'BOOT File'. Each section has a 'Choose' button, an 'Upgrade' button, and a text input field.

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 shows the 'Streaming server' Web Management interface. The top navigation bar includes 'Web Management', 'Logout', and '03:00'. The left sidebar contains the 'THOR BROADCAST' logo and a menu with sections: Summary (Device Information), Parameters (Encode, Streaming), System (Network, Password, Upgrade, Configuration). The main content area is titled 'Configuration' and contains three rows: 'Factory Reset' with an 'Apply' button, 'Download Config' with a 'Save' button, and 'Upload Config' with a 'Load' button.