



Connect Spark: NC1S-HDMI-3G

USER MANUAL



About our user manual

Thank you for purchasing NewTek™ NC1S-HDMI-3G WIFI video encoder.

Before install NC1S-HDMI-3G video encoder, please read this user manual carefully. Please strictly to follow our manual to install and use our encoder, or install and use under guiding by professional person, to protect your body safety and to avoid the encoder damage from physical and electrical. The encoder may be damaged if incorrect electrical connection or the physical installation, even threaten the operator safety.

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Manual

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1 Device connection

1.1 Connect video signal

(1) Connect HDMI signal

Connect HDMI signal to corresponding NC1S-HDMI-3G HDMI input port through the corresponding cable from the signal source (such as camera or other HDMI devices).



To improve signal quality and ensure the effective transmission distance of HDMI signal, please use high quality HDMI coax. Inferior coax may seriously cause the signal quality, like snow, streaking, smear, blurring, or worse, no signal input.

1.2 Connect internet

Connect one end of the network cable to the encoder Ethernet interface. The other end is connected to the network switch, or the computer's Ethernet port.



Please note: When using the common network cable directly to the computer's network port, the port should have automatic transfer function. Otherwise, please use a crossover cable to connect.

1.3 Connect analog audio input/output (option)

Audio input/output interface is 3.5mm analogy audio.

1.4 Connect the power adapter

Using the power adapter (DC12V1A) connect to the main product, after the power is turned on, then the product starts working immediately.



Be sure to use the original power adapter, or compatible with the electrical/mechanical characteristics of device power adapter. Improper power adapter may damage the device, and even endanger the operator safety! When you use a charger for charging, adapter shall be installed near the equipment and shall be easily accessible.

Manufacturer of Power Adapter: Dongguan Xiaoerduo Electronics Co., LTD.

Parameters of Power adapter: Input voltage: 100-240VAC 50/60Hz; Output voltage: 12V; Product name: AC/DC Adapter; Model No.: STD-412K-A+

2 LED indicator descriptions

Name	Color	State	Descriptions
RUN	green	flashing	the device is start to encode, or encoder is not start, or restore device to factory settings (and LINK lights flashing simultaneously)
		off	device not working properly
LINK	green	always on	network cable is connected
		flashing	restore device to factory settings (and LINK lights flashing simultaneously)
		off	network cable is not connected
POWER	red	always on	power supply is connected
		off	power supply is not connected

3 Device Configuration and Management

3.1 Factory default IP address



Encoder default IP address is 192.168.1.168, net Mask is 255.255.255.0. You can log in WEB management interface to change the address.

3.2 Log in management interface via WEB browser

Before log in NC1S-HDMI-3G Web management interface, please ensure that the following network conditions are connected:

- Your computer is connected with encoder correctly;
- Insure your computer IP address and the IP address of the encoder in same network segment;
- Try using PING and other network testing tools to identify and insure to be communicated with the encoder based on TCP / IP protocol.

After reaching the above conditions, use a Web browser to access the following address:

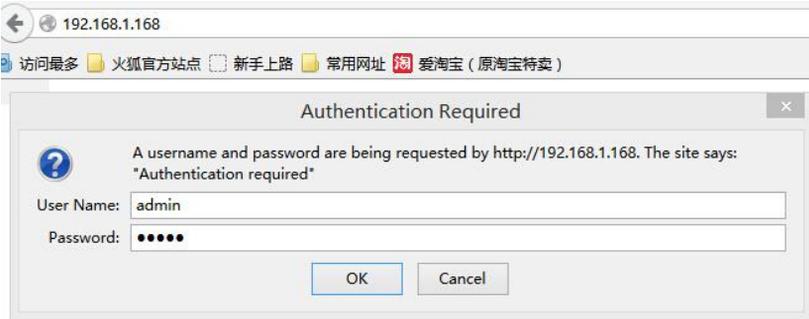


`http://<device IP address>`

For example, if the factory default IP address is 192.168.1.168, then access the following address: <http://192.168.1.168>, then the authentication dialog box will appear.



Default log in name is admin, and default password is admin.



3.3 Device working status

After logging in to the WEB management interface, first appeared the working status in the information page. You can also manually click the WEB management interface of the "**Basic Settings**" menu to appear the status page.

The screenshot displays the 'SYSTEM STATUS' page of the HDMI Professional Wireless Encoder. The interface includes a sidebar with navigation options like 'Basic Settings', 'Audio&Video Adjustments', and 'Reboot'. The main content area is divided into several sections:

- SYSTEM:** Shows device start time (2016/12/20 16:02:45), persistent time (59 seconds), system and data space usage (49MB and 71MB available), and CPU payload (17%) and free memory (619 MB).
- VIDEO/AUDIO Signals:** Indicates video signal lock is 'LOCKED' and video format is 'UNKNOWN'. It lists settings for crop picture source, scale, and rotation. A 'Select' button is shown next to the video signal source 'HDMI Input'.
- Main Stream:** Displays video details (H.264, 1920x1080) and audio details (AAC, 64000 Kbps). It includes a clapperboard icon and a 'SET' button. Below this, it shows 'RTSP' service status (always starts) and 'KMP Media Service' status (disabled).
- Sub Stream:** A section where the sub stream is currently disabled, with a note to click the 'Multiple stream control' icon to enable/disable it.
- GLOBAL NETWORK STATUS:** A section at the bottom for network-related information.

3.4 Audio signal source option

Click the "Select Source" in the WEB management interface.

The screenshot shows the 'Audio Source Selection and Adjustment' page in the Web Management Interface. On the left is a sidebar with navigation options: Basic Settings (+), Audio & Video Adjustments (-), Video Source and Adjustment, Audio Source and Adjustment, Encoding & Stream (+), Network Settings (+), Quick Reset, Logs & Debug, and a red Reboot button. Below the sidebar is a 'System Information' section showing Serial No., Hardware Ver., Firmware Ver., and Software Ver. The main content area is titled 'Audio Source Selection and Adjustment' and contains an informational box with the following text:

About Audio Source Selection and Adjustment

You can select the audio source port here. And you can adjust the analog audio gain here too.

- Audio source 'Auto Selection' means the audio source port is auto selected decided by which video source current is. If the video source is 'HDMI' or 'SDI' which has embedded audio, the audio source is embedded digital audio; otherwise, the audio source is Line in.
- 'Audio Gain' is set by 'db'. 0db is the original audio gain, +/- 3db means increment/decrement 50% gain and +/- 6db means increment/decrement 100% gain.

Below the box, there are two dropdown menus: 'Audio Source' (set to 'Auto Selection') and 'Line In Gain' (set to '0 db (Default)'). There are also 'SET' and 'Reset' buttons.

Or select Web Management Interface "Source selection & scaling" → "source selection & cropping," sub-function (see right), you can select the video and audio via software configuration:

Video/Audio signal source option:

Parameter	Option	Description
Video source port	HDMI video input	Input, loopback
Audio source port	HDMI embedded audio	Audio signal source is embedded digital audio.
	analog audio input	The audio source is Line in, whatever which video port input.



After switching the audio source, the encoder will quickly reset (currently connected

decoder will be disconnected), this process takes about three seconds.

3.5 Decoder/video decoder software connect the encoder

The encoder uses the standard of RTSP Media Transfer Protocol to transmit the encoded video and audio, the products which support the standard RTSP transport protocol and which support H.264 decoding (such as the company's KV-DC series decoders, PC client software) all can be connected to the encoder device and obtain the encoded video and audio.

How does the RTSP of encoder visit URL:

Main streaming:



rtsp://<encoder address>/ch01

(For example: rtsp://192.168.1.168/ch01) Secondary streaming:



rtsp://< encoder address >/sub01

(For example: rtsp://192.168.1.168/sub01)

ch01, sub01 is RTSP session ID (Session ID).

If the encoder involves firewall / NAT traversal issues, please refer to 7.8 firewall / NAT traversal setup instructions. If the encoder set the mapping on the firewall / NAT port, then the RTSP of encoder access URL is:

Main streaming:



rtsp://<firewall/NAT device's public network address>:<RTSP mapping port>/ch01

(for example: rtsp://211.0.0.1:554/ch01)

Sub streaming:



rtsp://<firewall/NAT device's public network address>:<RTSP mapping port>/sub01

(for example: rtsp://211.0.0.1:554/sub01)

RTSP supports media capture, parameter setting and PTZ remote control.

3.6 Restore factory settings

Restore factory settings two methods:

1. Via the WEB interface, "Basic Setup > restore factory settings" function;
2. Through RESET button:

Pressing on RESET button for 3 seconds, device will restore factory settings. Restoring factory setting will lead to the device hard restart, restarting course will last 1 minute.

After restoring factory settings, below parameters will be changed as default value:

- * Log in will be still as admin;
- * Network address capture way is restored as manual capture;
- * IP address will be still 192.168.1.168, subnet mask will be 255.255.255.0;
- * All video, audio encoding parameters will be restored as default value;
- * RTSP setting will be restored as default value.

lick on the "Delete user" icon  in user interface list, you can delete the user.

3.7 Firmware upgrading

The encoder supports online firmware upgrade, use for updating the software version .

Via the WEB management interface, "**Basic Setup> update firmware/software**", you can online upload the firmware upgrade file which provide by the manufacturer.



Firmware and software upgrading

Current Firmware Version: 2.5.0
Current Software Version: 3.02.0084
Device Serial No: 0000000000

Please check the device type and software/firmware version is correct before upgrading. Upload the firmware below.
NOTE: It need reboot the device to finish the upgrading while firmware uploaded!

Upload Firmware: 未选择任何文件

System Information

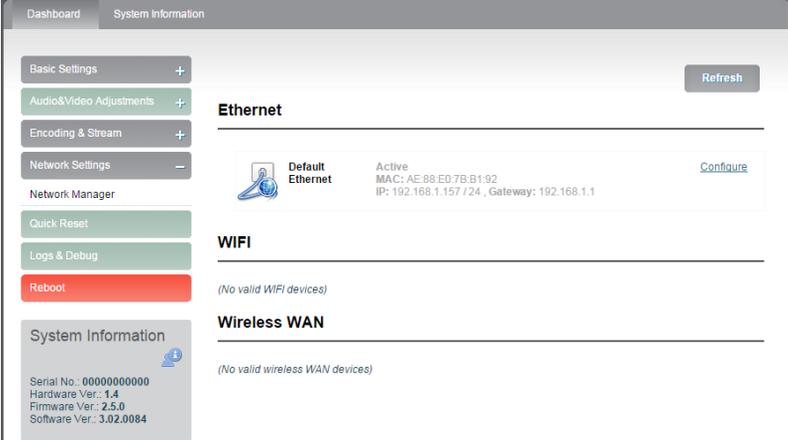
Serial No.:
0000000000
Hardware Ver.: 1.4
Firmware Ver.: 2.5.0
Software Ver.:
3.02.0084

Kindly noted:

1. The speed of firmware upgrades file upload is slow, please be patient.
2. After uploading firmware file successfully, the encoder will automatically restarts the encoder, this process will takes about 1-2 minutes (the time will be different according to upgrade content), and please be patient.
3. Please do not upload the unofficial release of the firmware upgrade file, or other illegal files, in order to avoid permanent damage the encoder.
4. After the upgrade is complete, via the WEB interface "**system information>version information**" to check whether the latest version information in accordance with expectations, and confirm the upgrade is successful.

3.8 Network Configuration

Via the WEB management interface function "**Network Settings>Network Parameters**", you can configure the encoder IP address and related network parameters.



Dashboard System Information

Basic Settings +

Audio&Video Adjustments +

Encoding & Stream +

Network Settings -

Network Manager

Quick Reset

Logs & Debug

Reboot

System Information

Serial No.: 0000000000
Hardware Ver.: 1.4
Firmware Ver.: 2.5.0
Software Ver.: 3.02.0084

Ethernet

Default Ethernet Active
MAC: AE:89:E0:7B:B1:92
IP: 192.168.1.157 / 24, Gateway: 192.168.1.1 [Configure](#)

WIFI

(No valid WIFI devices)

Wireless WAN

(No valid wireless WAN devices)

Refresh



Note: After setting the address obtains way is "**DHCP dynamic obtain**", please manually restart the encoder to update the DHCP address obtain.

3.9 Quick Reset

"**Quick Reset**" is quickly reset the video encoding function of encoder. When the video signal instability or improper parameter setting cause the encoder does not work, try to set the device quickly reset. The quickly reset probably need to wait three seconds or so.

3.10 Reboot

"Reboot" is for encoder performs a **warm reboot**, when the encoder still does not work after quick reset, please try to reboot the device. Device reboot last around one minute.

4 Notice and Statement

The product shall only be connected to a USB interface of version USB2.0.

Extreme Temperature: -20°C~80°C max.

FCC Statement:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Caution: Any changes or modifications to this device not explicitly approved by manufacturer could void your authority to operate this equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

The device has been evaluated to meet general RF exposure requirement.

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment.

This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.