

FROG Series □

Hardware Manual

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Safety Precautions



Users are strongly advised to adhere to directions and recommendations offered in this manual. Failure to do so may result in problems during operation.

- Make sure the correct voltage is being supplied before turning the power ON.
- Do not install with the power turned ON. Doing so may cause an electric shock.
- Do not install in a very humid environment. Doing so may cause an electric shock.
- Do not install in an area exposed to sun light or heat. Doing so may cause deformation or damage.
- Do not remove the product cover. Doing so may expose you to a hazard like electric shock.
- Do not use in areas containing inflammable materials like propane gas and gasoline or in areas that generate dust. Doing so may cause an explosion or fire.
- Do not dismantle, repair or modify the product. Doing so may cause damage or an electric shock. Refer all servicing to qualified personnel.
- Do not use water, thinner or organic solvent for cleaning the product exterior. Doing so may cause damage or an electric shock. Use a dry cloth instead and turn OFF the power before cleaning.

1. Introduction

FROG-E4 compresses video/audio data and transmit the compressed video/audio data through the network in real time. FROG-E4 provides a high quality video image with a limited bandwidth and storage capacity. These products are ideally suited for a wide range of surveillance and remote monitoring applications. Main features are highlighted below.

Main features

- High Quality Compression in real time streaming
- FROG-E4 provides high quality MPEG-4 and MJPEG encoding at D1 in real time.

Network

- RTP/RTSP and unicast/multicast are supported.

Streaming

- FROG-E4 support dual streaming mode such as different codec/resolution/bit rate and so on.
- FROG-E4 supports de-interlacing by hardware.

Video/Audio

- Loop out is supported (FROG-E4 requires a T-BNC connector).
- FROG-E4 supports quad view in external monitor.
- FROG-E4 supports two ways audio (NVE100 supports only audio input)
 - Transmits to client - G.711 by software
 - Receives from client - one digital audio

Additional Features

- RS-485 serial port for Pan/Tilt/Zoom.
- RS-232C serial port for some devices like a POS terminal.
- Motion detection by hardware.
- On Screen Display (OSD) by hardware.

SDK

- Three types (RTSP, UDA5, and HTTP-API) are provided for application development.

2. Product Description

2.1. Specifications

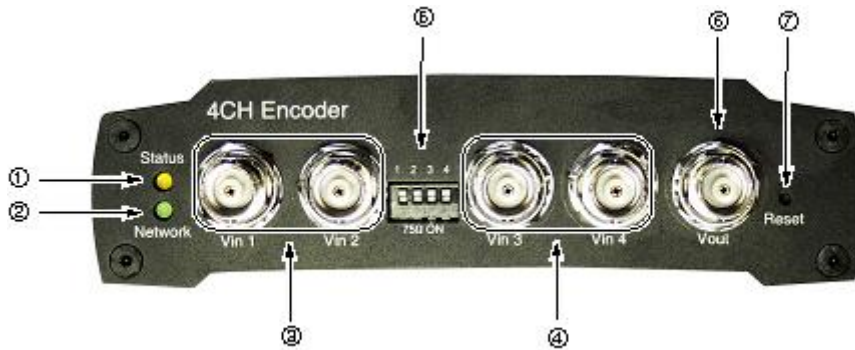
Table1

		FROG-E4					
						4ch MPEG-4 100/120fps@D1	
						Single Mode	Dual Mode
Video	Input channel					4ch	2ch
	Output Channel					1 Quad	2 Loop Out
	Compression	MPEG-4, MJPEG Selectable per Channel					
	Resolution	D1, 2CIF, CIF, QCIF					
	Compression FPS	25/30fps@D1	25/30fps@D1	50/60fps@D1	100/120fps@D1		
Audio(Optional)	Input/Output Channel	1/- ch	1/1ch	2/1ch	1/1ch	4/1ch	2/1ch
	Data Format	PCM(software compression : G.711, uLaw)					
Network		10/100 Base-T					
DI/DO			2/2	2/2	4/4		
RS-232C		-	Supported				
RS-485		-	Supported				
Power over Ethernet		Optional					
De-interlacing		Supported by hardware					
Motion Detection		Supported by hardware					
OSD		Supported by hardware					
Video Stream Encryption		AES					
Protocols		SNTP, DHCP, UDP, TCP, RTP, RTSP(unicast/ multicast)					

Table 1. Specification for FROG-E4

2.2. Functions

2.2.1. Front Panel



①, ② Indicator LED (Status, Network)

Status (Orange) and Network (Green) indicators display the following system information:

	Status (Orange)	Network (Green)
Power OFF	OFF	OFF
Booting in progress	ON	OFF
Successful network connection	ON	Blinking
Failed network connection	ON	OFF
Data transmission in progress	Blinking(Slow)	Blinking (Fast)

1. System initialization and booting

When power is supplied to NVE4000, it is initialized for approximately 1 second. During this time, the orange Status LED is turned on. After completion of booting, for a successful network connection, the green Network LED blinks indicating that data is being transmitted. If network connection fails, please check the LAN cable is connected or restart NVE.

2. Video streaming service

When an application runs, the Status LED blinks each second. The Network LED blinks at a rate proportional to the amount of data being transmitted.

③, ④, ⑤ Video Input BNC Connector (Vin 1, Vin 2, Vin 3 and Vin 4)

It is mainly used for video inputs, however it can be used for video loop-out some case as following Table 3.

Model	Single Stream		Dual Stream	
	Video Input	Video Loop-out	Video Input	Video Loop-out
NVE4000	Vin1, Vin2, Vin4	T-BNC Connector	Vin1, Vin3	Vin2, Vin4

Table 3. Video Connector Usage



Termination Resistor DIP Switch may be applied, when Video Input BNC Connector is used for video loop-out.
T-BNC connector is not included in FROG-E4 package.

⑤ Termination Resistor DIP Switch (75Ω ON)

A switch to turn ON/OFF a 75Ω termination resistor is provided for each video input. Factory default setting is ON. If impedance is mismatched between video inputs and outputs that are connected together, you need to turn this DIP switch on/off to match the impedance to 75Ω.

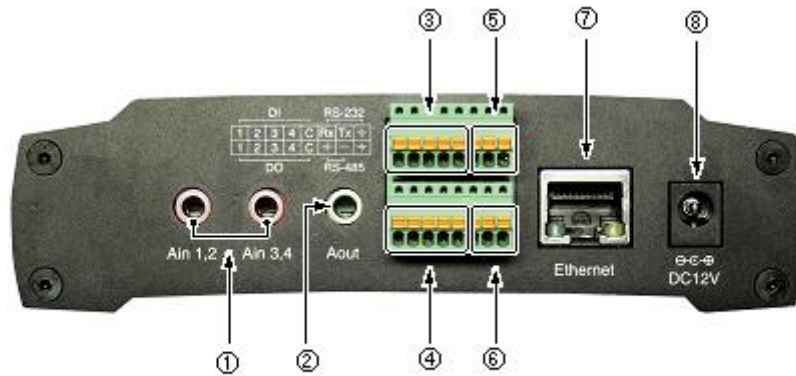
⑥ Video Output BNC Connector (Vout - Only FROG-E4)

Vout is used for FROG-E4 to display quad, switching view in external monitor.

⑦ Reset Switch (Reset)

Reset switch is used for restarting FROG-E4 or resetting FROG-E4 as Factory Default (FD). Refer to ‘4.1. Factory Default Settings’ for detailed procedures.

2.2.2. Rear Panel



①, ⑨ Audio Input Jack (Ain 1,2 and Ain 3,4)

FROG-E4 have mono audio input channels using stereo audio socket. Therefore, a special cable is needed to connect audio devices. There are two kinds of cables. Stereo cable is a stereo jack to 2 RCA connectors (for FROG-E4).

FROG-E4

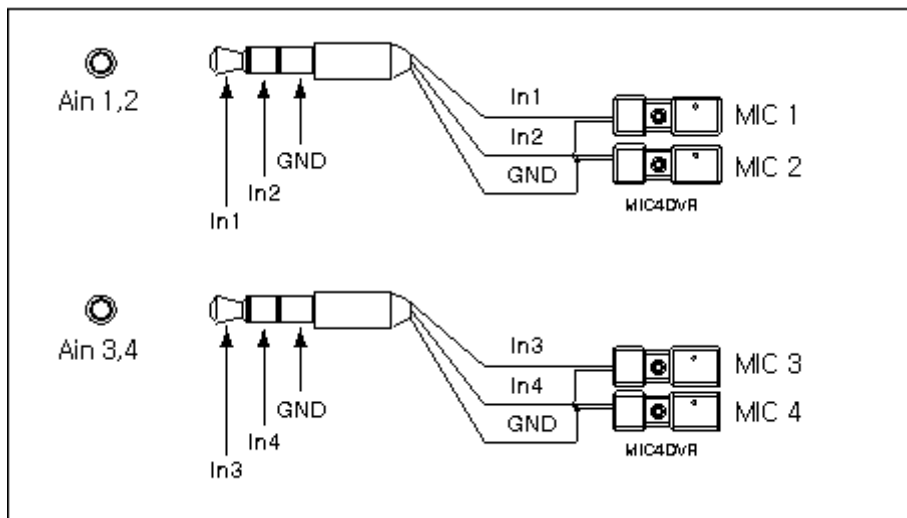


Figure 6. FROG-E4 Audio Input Connection



Please pay attention to electric characteristics during installation.
(Detailed instructions are being prepared.)

② Audio Output Jack (Aout)

FROG-E4 provides one mono audio by using the stereo socket. Even if a stereo speaker is connected, the both side have the same sound (mono output).

FROG-E4 audio outputs very low-watt, therefore it requires amplifier speaker (Do not use headphone /earphone directly)

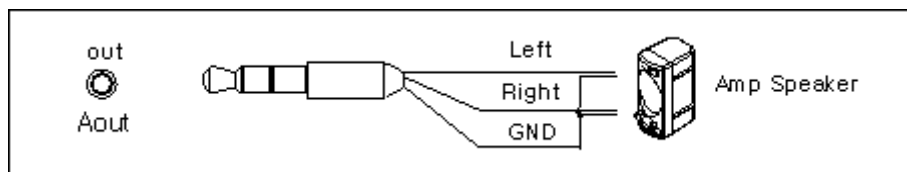


Figure 7. FROG-E4 Audio Output Connection



Please pay attention to electric characteristics during installation.
(Detailed instructions are being prepared.)

⑤ RS-232C Terminal Block (RS-232C)

RS-232C Terminal Block is used for some devices such as POS terminal block.

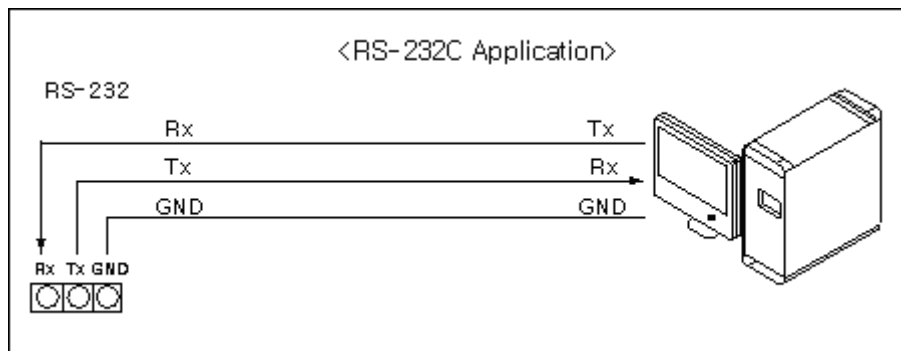


Figure 11. RS-232C Connection

⑥ RS-485 Terminal Block (RS-485)

The RS-485 serial port consists of DATA+, DATA- and GND as following Figure 12.

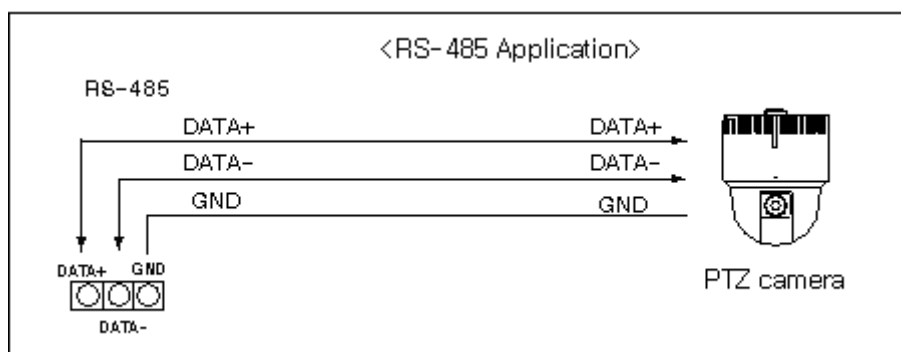


Figure 12. RS-485 Connection

⑦, ⑩ LAN Connector (Ethernet)

This is a RJ45 LAN connector for 10/100 Base-T Ethernet.

⑧, ⑪ Power Adaptor Connector (DC 12V)

NVE4000 needs a DC 12V 3A adapter for power supply, and NVE1000/2000 uses a DC 12V 1A adapter.

⑫ Reset Switch (Reset)

Reset switch is used for restarting NVE or resetting NVE as Factory Default (FD). Refer to '4.1. Factory Default Settings' for detailed procedures.

⑬ Video Input BNC Connector (Vin)

This connector is used for video input.

2.3. Serial Number / MAC Address

Serial number and MAC address is attached on the bottom as shown in Figure 13.

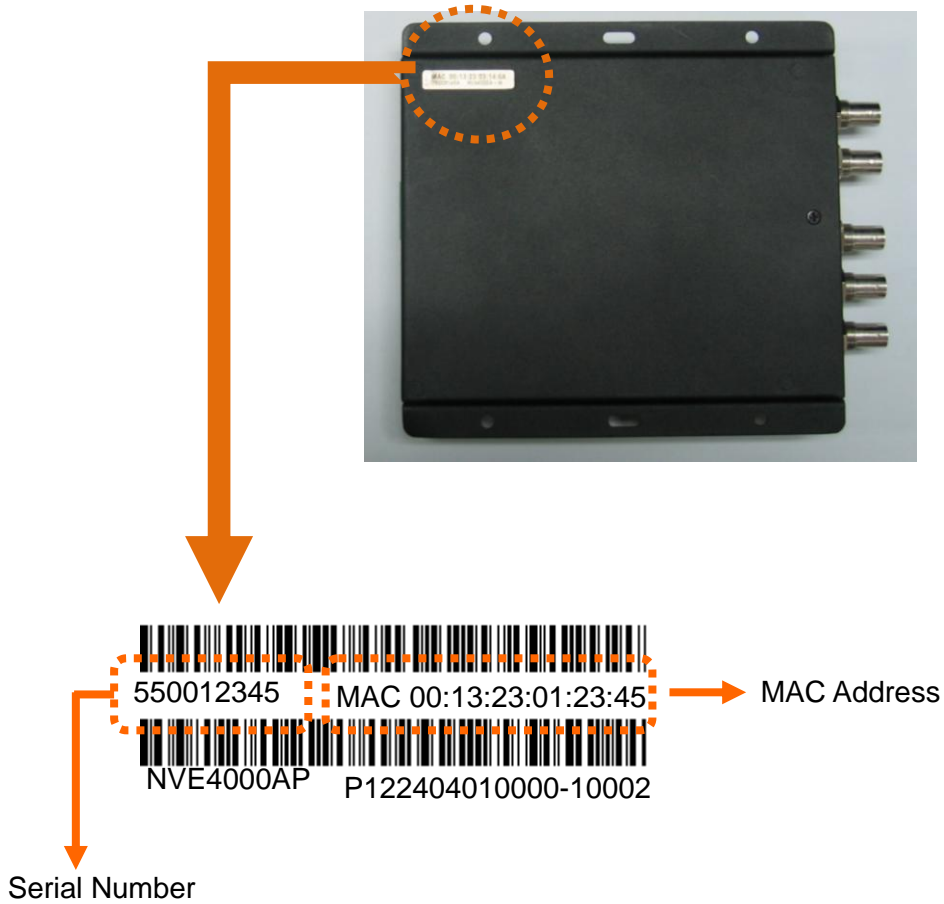


Figure 13. Serial Number/ MAC Address

4. Operation Description

4.1. Factory Default Settings

Factory default settings are as follows:

- IP address: 192.168.xx.yy (refer to 2.3 Serial Number / MAC Address)
- Mask: 255.255.0.0
- Gateway: 192.168.0.1
- User ID: root
- Password: pass



MAC address = 00-13-23-01-23-45 → IP address = 192.168.35.69

Convert the Hexadecimal number to Decimal number

Factory Default (FD) initialization procedure is as follows:



Figure 17. Indicator LEDs and Reset Switch

1. Turn ON the power.
2. Press “Reset” button when Status LED starts blinking rapidly.
3. Release “Reset” button when Status LED blinks slowly. (About 5 seconds after booting)

4.2. Rebooting

Reset can be carried out as follows:

1. Press Reset for 1 second.
When Reset function is activated, Status LED and Network LED will blink together, twice. User may stop pressing Reset at this point.
2. When “Reset” function has been completed, LEDs will stop blinking.

