

VN-Matrix® 225 • Setup Guide

The Extron VN-Matrix 225 Series provides real-time transmission of high resolution audio visual content across standard IP networks for live viewing, collaboration, storage, and playback. The VN-Matrix 225 Series encodes video or graphics sources at resolutions up to HD or WUXGA, streams the video and audio over an IP network, then decodes the content back to the original source resolution. VN-Matrix applies the Extron PURE3™ Codec, a unique wavelet-based compression technology. The VN-Matrix 225 Series offers real-time streaming and low latency, making it ideal for remote collaborative and interactive or control applications. It can be deployed in live event streaming and high level conferencing for specialized projects.

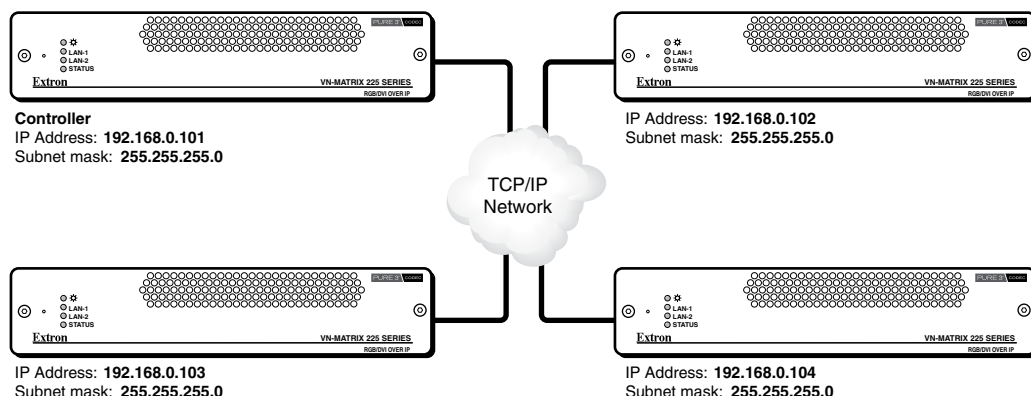
IMPORTANT:
Refer to www.extron.com for the complete user guide and installation instructions before connecting the product to the power source.

NOTE: For full installation, configuration, and operation details, refer to the *VN-Matrix 225 User Guide*, at www.extron.com.

Before You Connect to a Network

Before connecting each VN-Matrix to a network you must change its default network settings. On an existing network, check with the network administrator for a range of suitable IP addresses.

On a closed network, used exclusively by VN-Matrix, we recommend that you use addresses in the range 192.168.0.1 to 192.168.0.254 with a subnet mask of 255.255.255.0. The following diagram shows an example addressing scheme for a simple system comprised of four VN-Matrix units:



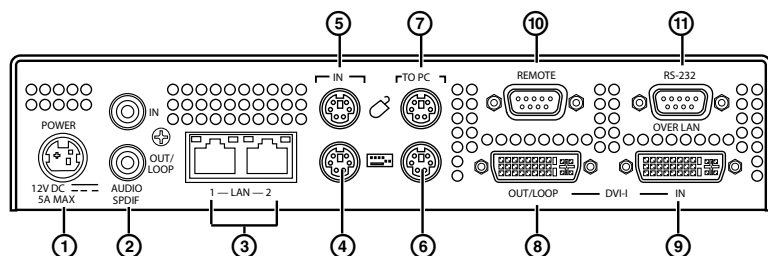
VN-Matrix Controller

One VN-Matrix device in a group must be designated as the "controller." All system configuration is achieved via a web interface that is served up by the controller. In the above example, the unit at address 192.168.0.101 is designated the controller for this group of VN-Matrix devices. Note that the controller IP value on each device is set to this address.

Setup Procedure

Follow the step-by-step instructions in the "Initial Setup" section for each VN-Matrix, then follow the "Operation" section instructions to create a simple VN-Matrix system. For more detailed information and advanced setup procedures refer to the user guide.

Rear Panel Features



- ① **DC power connector** — The VN-Matrix 225 requires a 12 VDC regulated power supply (rated at 5A) via this connector. A suitable power supply unit (PSU) is provided.
- ② **Digital audio connectors** — Use these two female RCA connectors for input or output digital audio signals through S/PDIF coaxial cables.
- ③ **Network connectors (1 and 2)** — Two female RJ-45 connectors are used to connect the VN-Matrix 225 to an Ethernet network. Typically, port 1 is used for data streaming and device configuration (using the Web interface). Port 2 is reserved for future use and special applications.
- ④ **Peripheral keyboard connector** — Connect the keyboard to the PS/2 port.

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- ⑤ **Peripheral mouse connector** — Connect the mouse to the PS/2 port.
- ⑥ **PC keyboard connector** — Connect the VN-Matrix 225 PS/2 keyboard port to the PS/2 keyboard port of the PC.
- ⑦ **PC mouse connector** — Connect the VN-Matrix 225 PS/2 mouse port to the PS/2 mouse port of the PC.
- ⑧ **DVI-I output connector** — Connect the computer monitor to this female DVI-I output port.
- ⑨ **DVI-I input connector** — Connect the DVI-I output port of the computer to this female DVI-I input port.
- ⑩ **Remote serial input-output connector** — This male 9-pin port is used to configure the VN-Matrix 225. Connect it to RS-232 (com) port of the PC.
- ⑪ **RS-232 over LAN serial input-output connector** — This male 9-pin port is used to transmit and receive data across a network.

Initial Setup

1. Connect the PC to the 9-pin Remote port ⑩ of the VN-Matrix 225.
2. To initiate communication between the computer and the VN-Matrix 225, run HyperTerminal from the PC. Set the communications settings as shown below.

Baud rate: 115200
Data bits: 8
Parity: None
Stop bits: 1
Flow control: None

3. Connect the power supply to the VN-Matrix 225 ①.
4. After receiving the following "login:" prompt, type **config** then press the <Enter> key.

VN Matrix (R) Maintenance Console: ver3.3c

192.168.0.1 login:

Password:

When prompted for Password:, type **config** then press the <Enter> key. The option menu is displayed.

```

      Network Port 1
      =====
0. Speed/Duplex: auto_10_100_1000
1. Boot method: static [dhcp]
2. address:      192.168.0.102
3. netmask:      255.255.255.0
4. gateway:      192.168.0.253
5. broadcast:
6. mtu:           1500
7. controller ip: 192.168.0.101
8. controller port: 5432
9. Exit

      Network Port 2
      =====
10. Speed/Duplex: auto_10_100_1000
11. Boot method: static [dhcp]
12. address:      192.168.1.3
13. netmask:      255.255.255.0
14. gateway:
15. broadcast:
16. mtu:           1500
17. ip forwarding: 0

Please select an option:
```

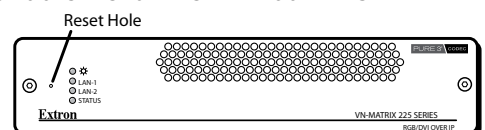
NOTE: The version of the firmware shown here may not match the version fitted to your Matrix devices.

5. Change the settings as needed by typing the option number and then press the <Enter> key. Next, type in the new setting and press the <Enter> key.

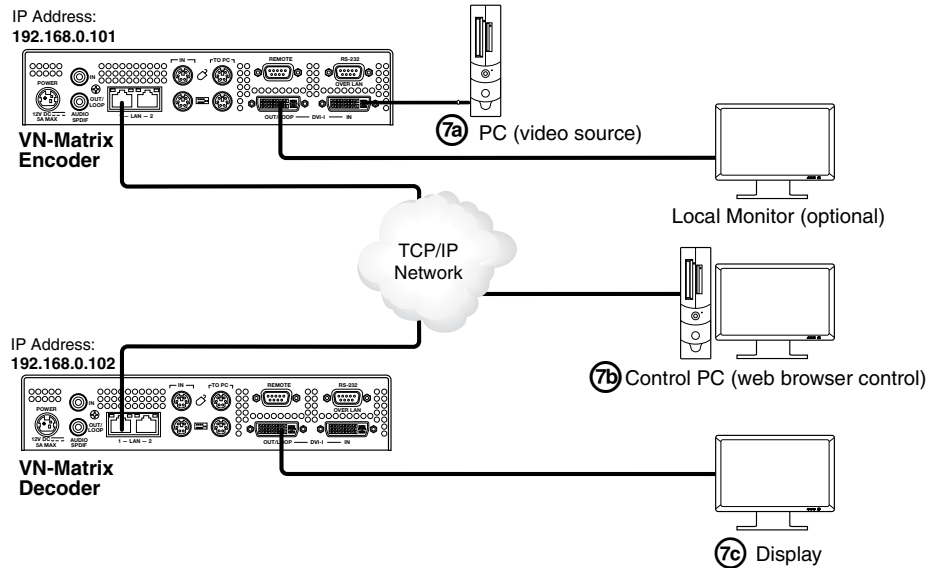
NOTE: Do not include any extra zeros when typing in IP addresses. For example, type 192.168.0.18; **do not** type 192.168.000.018.

Once all the changes have been made, type **9** and press the <Enter> key to exit the menu. The VN-Matrix 225 will automatically reboot to implement the new settings.

6. Reboot each VN-Matrix 225 once it is connected to the network by inserting a very small screwdriver or straightened paperclip into the small hole on the front panel just to the left of the LED indicators as shown in the figure.



1. A typical VN-Matrix network includes an Encoder (PC input), a Decoder (display output), and a PC (control). See the following example connection diagram and explanations.



- a. Connect a video source to the VN-Matrix Encoder as shown above.

NOTE: An optional local monitor may be connected to the Encoder.

- b. Connect a video display to the VN-Matrix Decoder as shown above.

- c. Connect a PC to the network for control, as shown above.

NOTE: The control computer must be on the same subnet as the VN-Matrix units.

Operation

Once all VN-Matrix 225 devices have been correctly set up, any further system configuration and operation is via the VN-Matrix 225 network interface. Built-in HTML pages provide access to various system parameters. The VN-Matrix 225 device that you designated as the controller in the “[Before you Connect to a Network](#)” procedure functions as the network server. The HTML pages can be viewed by any web browser, such as Mozilla® Firefox®, ver. 1.3 or newer (preferred), or Microsoft® Internet Explorer®, ver. 6.0 or newer.

NOTE: Whichever browser you use must be configured to accept cookies and be Javascript-enabled.

Start up and Login

1. Connect a computer through the network to the VN-Matrix 225 device that is configured as the controller.
2. Enter the IP address of the VN-Matrix 225 unit that is configured as the controller into the address bar of the web browser.
3. Press the keyboard <Enter> key. The login screen displays.
4. Enter the username and password.

NOTE: The VN-Matrix 225 devices have two user accounts (usernames):

- **admin** — allows full read/write access to all setup parameters
- **public** — allows read-only access to setup parameters

As shipped from the factory, the password for both accounts is the same as the user name (the password is “admin” for the admin user account and “public” for the public account).

- The username and password are case sensitive.
- For the initial setup, use the **admin** username.

5. Click the **Login** button or press the keyboard <Enter> key. The VN-Matrix 225 web page opens to the **Device List** tab, shown on the next page. This page lists all VN-Matrix devices that are connected to the system controller.

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Device	Mode	Status	Name	IP Address	Version	Del
5ch-REC		Recorder		192.168.0.31	ver3.10.9	✖
200C-DVI		DisplayLeft		192.168.0.25	ver3.10.9	✖
200C-DVI		DisplayRight		192.168.0.24	ver3.10.9	✖

1.

5ch-REC	A 5 Channel VN Matrix recorder
200C-DVI	A 2xx series Codec (200 and 225 series devices have the same icon)
200E-DVI	A 2xx series encoder
200D-DVI	A 2xx series decoder

Configure the VN-Matrix 225 Units as Encoders or Decoders

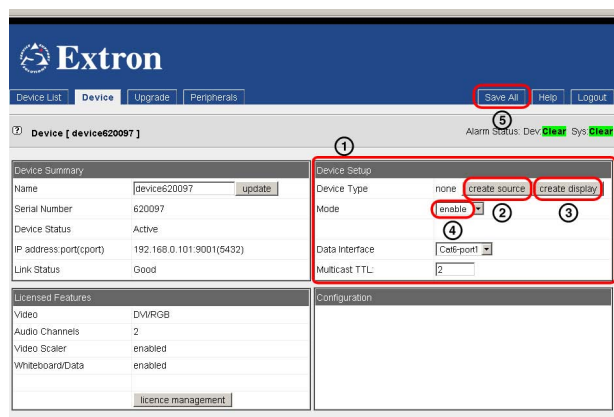
The Mode column on the Device List tab shows how each VN-Matrix 225 unit is configured using the following icons:

= Encoder = Decoder = Recorder or a playback device = Undefined

NOTE: The VN-Matrix Recorder/Undefined option is not documented here. The device list may show more devices than are in your system. This is because the controller maintains a list of devices that have been used previously, but may not be currently available. In this case, the IP address entry for that device is blank.

Configure the device as an encoder or decoder as follows:

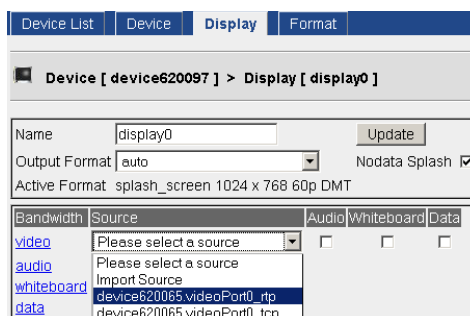
- In the device list double-click any of the list entries for a device to be configured. The web page shown to the right displays.
- In the **Device Setup** box ① shown to the right, click the **create source** ② button to configure the device as an encoder or click the **create display** ③ button to configure the device as a decoder. See "Device Setup" on the **Help** tab for more configuration details.
- After configuring the device, set the Mode to enable ④ and save the configuration by selecting the **Save All** tab ⑤.
- From the Display page of the decoder select an encoder source device. See the illustration below.



Local Monitor and Display Messages

NOTE: The following messages may be displayed on the local monitor connected to the decoder.

- "No Source Present" — An encoder message indicating that either no source device is connected or it is not compatible with the VN-Matrix 225.
- "No Source Datastream" — A decoder message indicating that either no encoder is selected or the chosen encoder is not streaming.



Front Panel LED indicators

- The top power LED lights green when the unit receives power; it flashes green when an over temperature, overload, or underload condition occurs. Cycle the power on and off to reset the unit. **STATUS**
- LAN-1 and LAN-2 LEDs indicate the status of the indicated network ports. They light or flash orange to indicate that data is being transmitted or received; an unlit state indicates no network or data activity. **LAN-1** **LAN-2**
- The Status LED lights green when source data is present but not being streamed (unit disabled or in standby mode); it flashes green when the source data is being streamed and received; an unlit state indicates that source data is neither detected nor received.

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