

VN-Matrix 200™ • Setup Guide

The Extron® VN-Matrix 200 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 200 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 200 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.

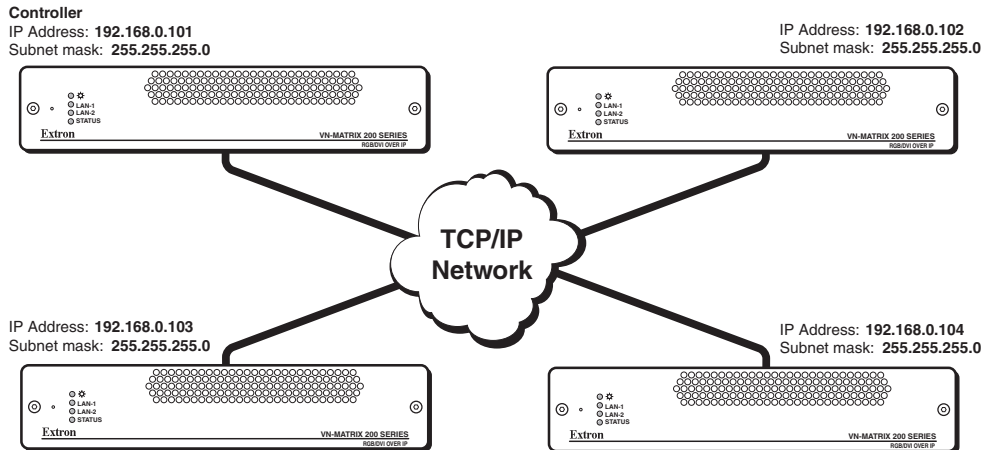
IMPORTANT:
Refer to www.extron.com for the complete user guide and installation instructions before connecting the product to the power source.

NOTE: For full installation, configuration, and operation details, refer to the *VN-Matrix 200 User Guide*, available 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 comprising four VN-Matrix units:



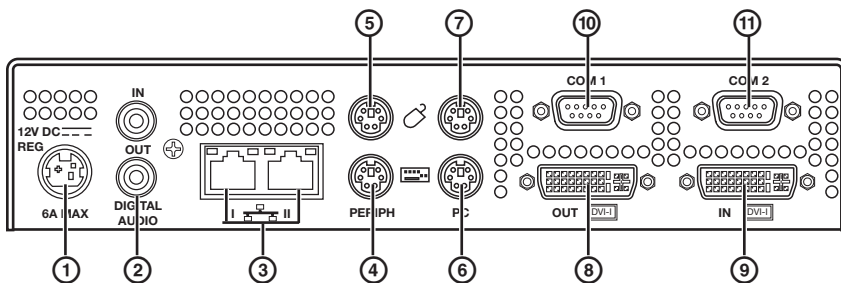
VN-Matrix Controller

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 200 requires a 12 VDC regulated power supply (rated at 6 A) 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.

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- ③ **Network connectors (I and II)** — Two female RJ-45 connectors are used to connect the VN-Matrix 200 to an Ethernet network. Typically, port I is used for data streaming and device configuration (using the Web interface). Port II is reserved for future use and special applications.
- ④ **Peripheral keyboard connector** — Connect the keyboard to the PS/2 port.
- ⑤ **Peripheral mouse connector** — Connect the mouse to the PS/2 port.
- ⑥ **PC keyboard connector** — Connect the VN-Matrix 200 PS/2 keyboard port to the PS/2 keyboard port of the PC.
- ⑦ **PC mouse connector** — Connect the VN-Matrix 200 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 **COM 1 serial input-output connector** — This male 9-pin port is used to configure the VN-Matrix 200. Connect it to RS-232 (com) port of the PC.
- ⑪ **COM 2 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 COM 1 port ⑩ of the VN-Matrix 200.
2. To initiate communication between the computer and the VN-Matrix 200, 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 200 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:
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

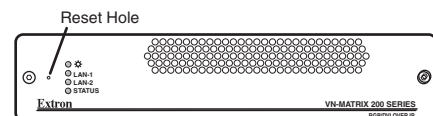
Please select an option:
```

5. Change the settings as needed by typing the option number then pressing 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 200 will automatically reboot to implement the new settings.

6. Reboot each VN-Matrix 200 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 at right.
7. 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.



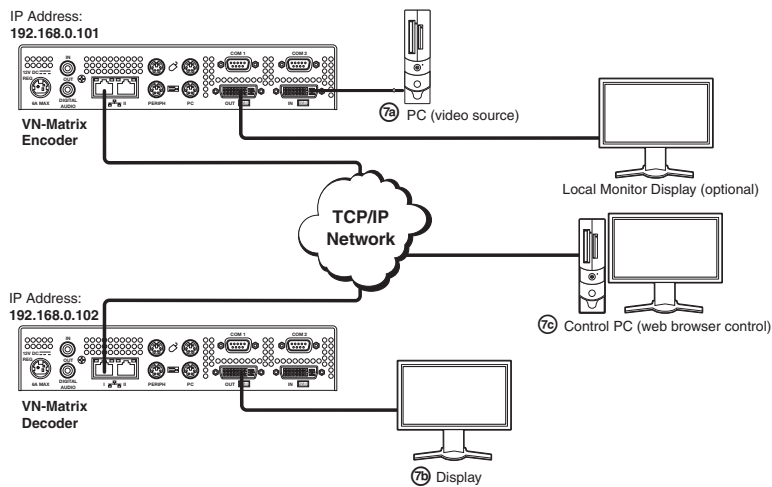


Figure 1. A Typical VN-Matrix System

- 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, as shown above, for control.

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

Operation

Once all VN-Matrix 200 devices have been correctly set up, any further system configuration and operation is via the VN-Matrix 200 network interface. Built-in HTML pages provide access to various system parameters. The VN-Matrix 200 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, it 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 200 device that is configured as the controller.
2. Enter the IP address of the VN-Matrix 200 unit that is configured as the controller into the address bar of the web browser.
3. Press the keyboard <Enter> key. The login screen appears.
4. Enter the username and password.

NOTE: The VN-Matrix 200 devices have two user accounts (usernames):

- **admin** — which allows full read/write access to all setup parameters,
- **public** — which 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 200 web page opens to the **Device List** tab, shown below. This page lists all VN-Matrix devices that are connected to the system controller.

Device	Mode	Status	Name	IP Address	Version	Del
RGB-DVI	RGB-DVI	ON	device620065	192.168.0.104	ver3.8f	✗
RGB-DVI	RGB-DVI	ON	device620091	192.168.0.102	ver3.8f	✗
RGB-DVI	RGB-DVI	ON	device620097	192.168.0.101	ver3.8f	✗
RGB-DVI	RGB-DVI	ON	device720202	192.168.0.103	ver3.8f	✗

Configure the VN-Matrix 200 Units as Encoders or Decoders

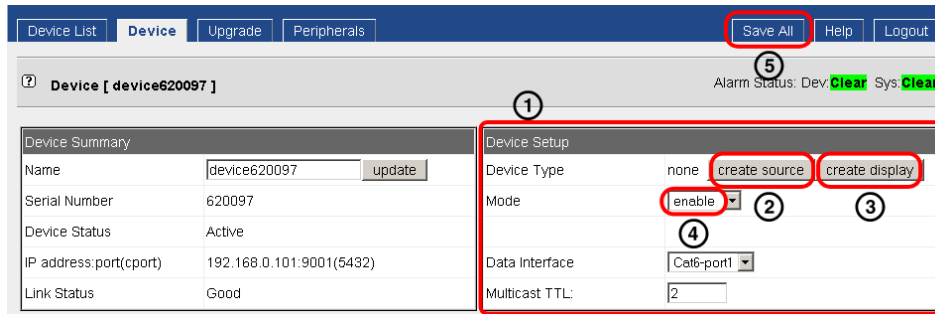
The Mode column on the Device List tab shows how each VN-Matrix 200 unit is configured using the following icons:

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

NOTE: The VN-Matrix Recorder 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.

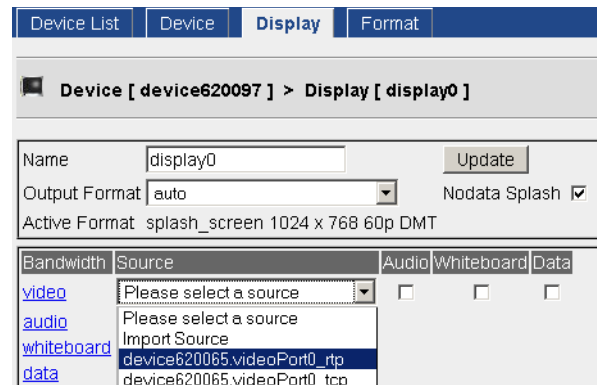
Configure the device as an encoder or decoder as follows:

1. In the device list double-click any of the list entries for a device to be configured. The following web page is displayed.



2. In the **Device Setup** box ① shown above, 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.
3. After configuring the device, set the Mode to enable ④ and save the configuration by selecting the **Save All** tab ⑤.





4. From the Display page of the decoder select an encoder source device. See the illustration on the right.



Local Monitor and Display Messages

- "No Source Present" — An encoder message indicating that either no source device is connected or it is not compatible with the VN-Matrix 200.
- "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. 
- 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.  STATUS

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