KRAMER

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# VS-1616DN-EM Quick Start Guide

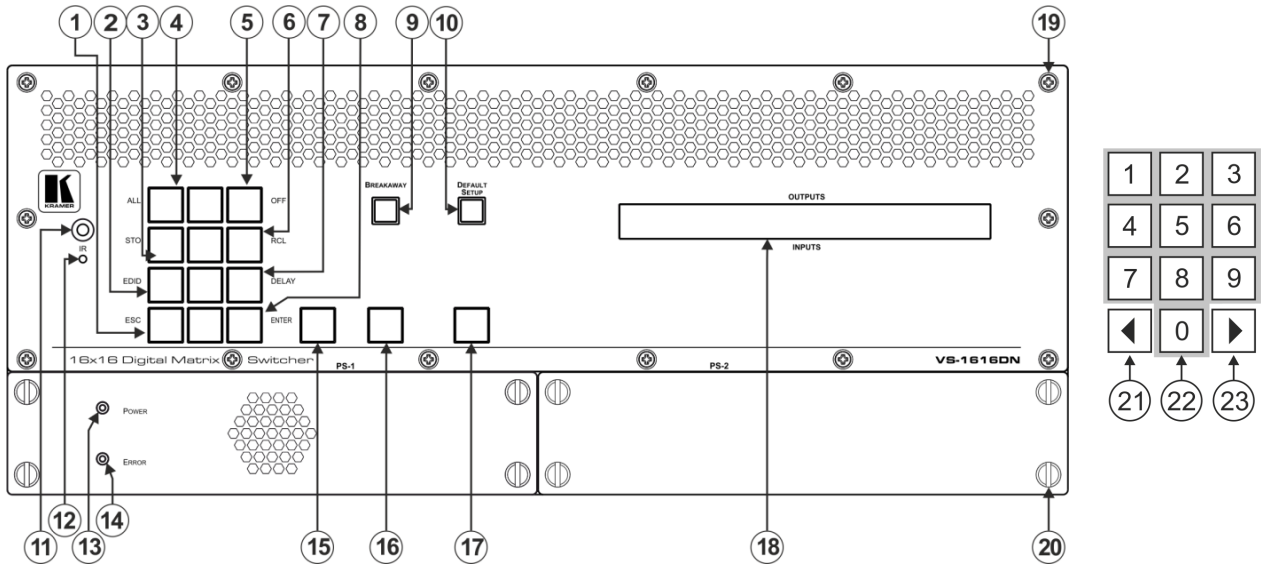
This guide helps you install and use your **VS-1616DN-EM** for the first time.

Go to www.kramerav.com/downloads/VS-1616DN-EM to download the latest user manual and check if firmware upgrades are available.

## Step 1: Check what's in the box

- **VS-1616DN-EM** 2x2 to 16x16 Modular Multi-Format Managed Digital Matrix Switcher
- Infrared remote control transmitter with batteries (for future use)
- 1 Power cord
- 1 Set of rack ears (attached)
- 1 Quick start guide

## Step 2: Get to know your VS-1616DN-EM

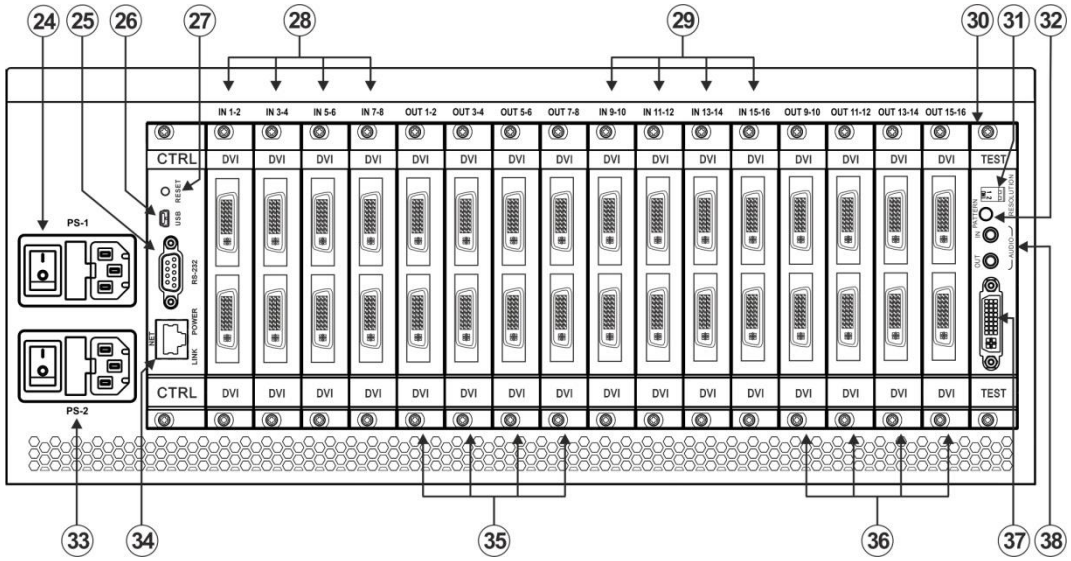



| # | Feature | | | Function |
|---|---|---|---|---|
| 1 | Double-function Selector Buttons Area | Menu Button Functions | ESC | Press to exit the current operation. |
| 2 | | | EDID | Press to assign EDID channels. |
| 3 | | | STO | Press to store the current setup in a preset. After pressing the MENU button, this button lights and is enabled. |
| 4 | | | ALL | Press to connect an input to all outputs. After pressing the MENU button, this button lights and is enabled. |
| 5 | | | OFF | Press to turn off an output. After pressing the MENU button, this button lights and is enabled. |
| 6 | | | RCL | Press to recall a preset. After pressing the MENU button, this button lights and is enabled. |
| 7 | | | DELAY | Press to set the delay between confirming an action and the execution of the action. |
| 8 | | | ENTER | Press to complete the input-output setup when using a one-digit number instead of two digits. For example, to enter input 5, you can press either 05 or 5, ENTER.<br>Press to enter the options in a setup menu. |
| 9 | BREAKAWAY Button | | | Press to exit a menu. |
| 10 | DEFAULT SETUP Button | | | Press to recall the default setup. |
| 11 | IR Receiver | | | Infrared remote control sensor. |
| 12 | IR LED | | | Lights yellow when receiving commands from the IR remote control transmitter. |
| 13 | PS-1 POWER LED | | | Lights green when power supply is active. |
| 14 | PS-1 ERROR LED | | | Lights red when an error is detected. Briefly lights red immediately following a power disruption (e.g., cable disconnection, power off, and so on). |
| 15 | TAKE Button | | | Press to confirm actions. |



P/N: 2900-301383QS Rev: 4

| # | Feature | Function |
|---|---|---|
| 16 | MENU Button | Press once to enable the ALL, OFF, STO and RCL buttons.<br>Press again to enter the configuration menu.<br>When in a Menu, press to cycle through the menu items. |
| 17 | LOCK Button | Press and hold for approximately 2 sec to lock/unlock the front panel buttons. |
| 18 | OUTPUTS/INPUTS<br>LCD Display | Displays the outputs (upper row) switched to the selected inputs (lower row).<br>Displays user interface messages and menus. |
| 19 | Front Panel Locking Screws | Release the 14 front panel locking screws to open the front panel and access the fan arrays. |
| 20 | Power Supply Thumbscrews | Release the 4 power supply thumbscrews to install / remove the **VS-1616DN-EM** power supply. |
| 21 | ◄ (Backward) | Press to shift the sliding window to the right (the LCD display only shows 13 cross-points out of a total of 16). |
| 22 | 1, 2, 3, 4, 5, 6, 7, 8, 9, 0 | Numeric keypad, 1 to 0. |
| 23 | ► (Forward) | Press to shift the sliding window to the left (the LCD display only shows 13 cross-points out of a total of 16). |




| # | Feature | | Function |
|---|---|---|---|
| 24 | PS-1 AC Mains Power Module | | Power supply 1: Fuse holder and power cord socket. Connect to the AC mains supply. |
| 25 | RS-232 9-pin D-sub Port | | Connects to the remote operation PC or remote controller and perform firmware upgrade of the device and compatible input/output cards. |
| 26 | USB Virtual COM Port<br>USB Mini-B Connector | | Connect to a PC or remote controller and perform firmware upgrade of the device and compatible input/output cards. |
| 27 | RESET Button | | Press to restart the **VS-1616DN-EM**. |
| 28 | IN 1~8 Connectors | INPUTS | Connect to the relevant video sources, depending on the cards installed (1 to 8). |
| 29 | IN 9~16 Connectors | | Connect to the relevant video sources, depending on the cards installed (9 to 16). |
| 30 | TEST Module | | Signal generator module for testing video and audio outputs. |
| 31 | RESOLUTION DIP-switches | | Set the resolution for video generated by the Test module. |
| 32 | PATTERN Button | | Press the button repeatedly to change the video pattern generated by the Test module. |
| 33 | PS-2 AC Mains Power Module | | Power supply 2: Fuse holder and power cord socket. Connect to the AC mains supply. Only connect when a second power supply is installed in PS-2. |
| 34 | NET Ethernet RJ-45 Connector | | Connect to a PC or controller via the Ethernet LAN and perform firmware upgrade of the device and compatible input/output cards.<br>LINK LED flashes when communication is active. POWER LED lights when the interface receives power. |
| 35 | OUT 1~8 Connectors | OUTPUTS | Connect to the relevant video acceptors, depending on the cards installed (1 to 8). |
| 36 | OUT 9~16 Connectors | | Connect to the relevant video acceptors, depending on the cards installed (9 to 16). |
| 37 | Test Module DVI Molex 24-pin Video Connector | | Connect to one of the relevant video inputs/outputs to aid in troubleshooting. |
| 38 | Test Module 3.5mm Mini Jack Unbalanced Analog Audio Connector | | Connect to one of the relevant audio inputs/outputs to aid in troubleshooting. |

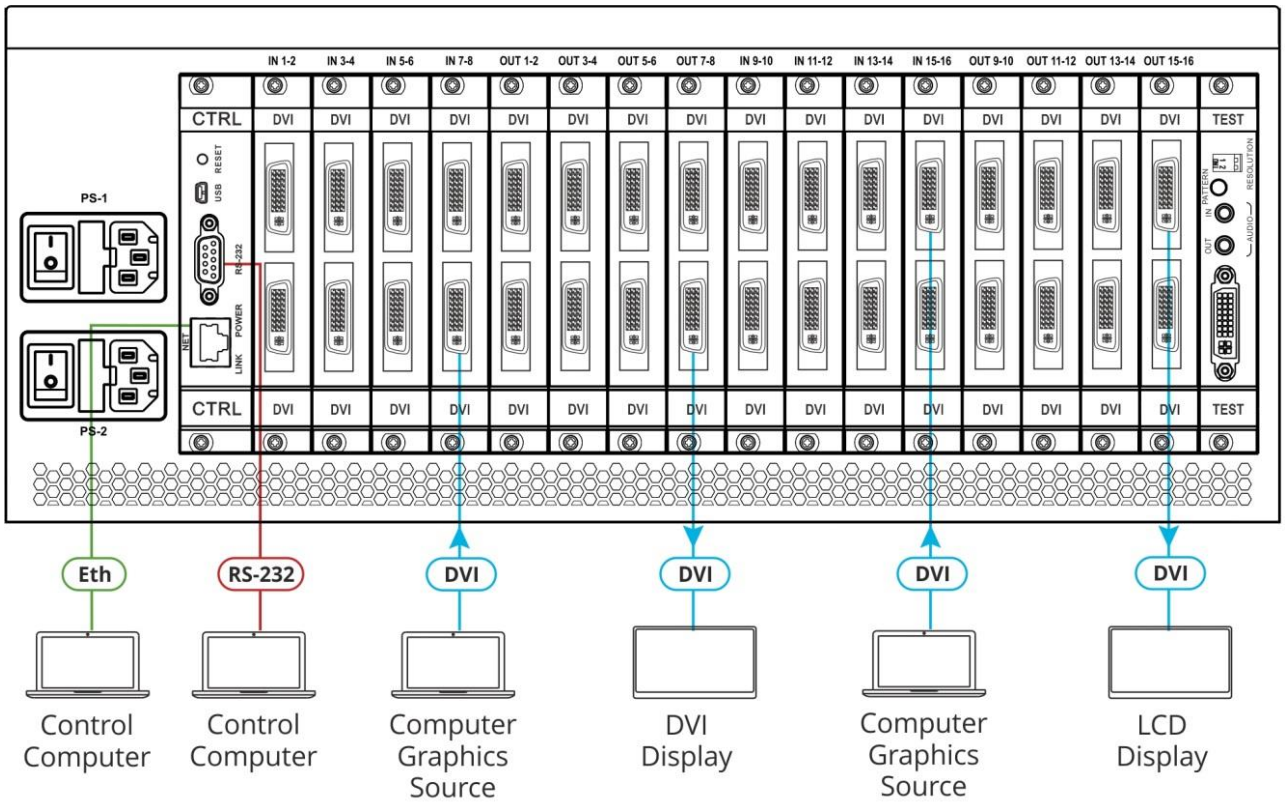
## Step 3: Install the VS-1616DN-EM

To rack mount the machine, the **VS-1616DN-EM** is pre-assembled with ear brackets attached to the machine.

- Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible for the device.
- Avoid uneven mechanical loading.
- Appropriate consideration of equipment nameplate ratings should be used for avoiding overloading of the circuits.
- Reliable earthing of rack-mounted equipment should be maintained.

## Step 4: Connect the inputs and outputs

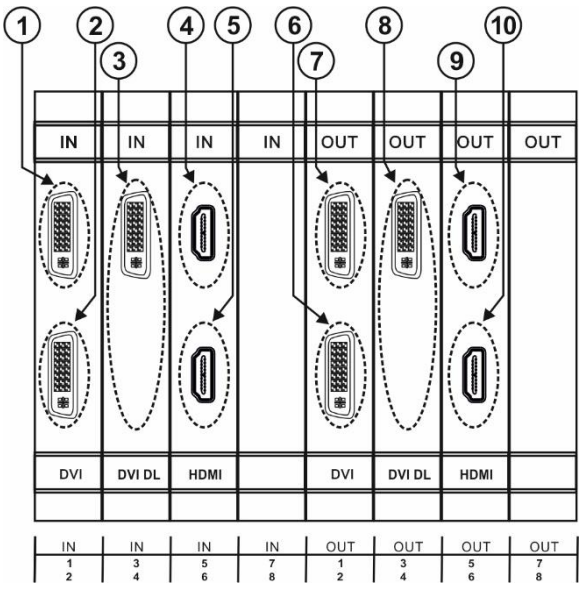
Always switch OFF the power on each device before connecting it to your **VS-1616DN-EM**. For best results, we recommend that you always use Kramer high-performance cables to connect AV equipment to the **VS-1616DN-EM**.




**Note:** the maximum number of ports may vary.

**Port Numbering:**

On all cards apart from the DVI dual link cards, there are two physical ports on each card and numbering of ports is sequential from top to bottom and left to right. Each DVI dual link card provides one physical port which causes the loss of one number in the numbering sequence of that card only:




| Diagram # | Actual Port # |
|---|---|
| 1 | IN 1 |
| 2 | IN 2 |
| 3 | IN 3 |
| 4 | IN 5 |
| 5 | IN 6 |
| 6 | OUT 2 |
| 7 | OUT 1 |
| 8 | OUT 3 |
| 9 | OUT 5 |
| 10 | OUT 6 |

## Step 5: Connect the power

Connect the power cord to the rear of the **VS-1616DN-EM**, to PS-1, switch on its power and then switch on the power of connected devices. If a second power supply is installed, also connect and switch on PS-2.

Safety Instructions (See www.kramerav.com for updated safety information)

**Caution:**

- For products with relay terminals and GPI\O ports, please refer to the permitted rating for an external connection, located next to the terminal or in the User Manual.
- There are no operator serviceable parts inside the unit.

**Warning:**

- Use only the power cord that is supplied with the unit.
- Disconnect the power and unplug the unit from the wall before installing.
- Do not open the unit. High voltages can cause electrical shock! Servicing by qualified personnel only.
- To ensure continuous risk protection, replace fuses only according to the rating specified on the product label which located on the bottom of the unit.

## Step 6: Set operation parameters

The **VS-1616DN-EM** does not have separate output and input buttons. Instead, the front panel includes a numeric keypad.

When the unit is powered-on, the last matrix setup that was used is loaded. Use either the setup recall (records a stored configuration from a preset) or default setup recall (for quick retrieval of a commonly used programmable default setup) functions to retrieve other setups.

The LCD display can show only 13 out of the 16 available matrix combinations at once. To view any of the matrix combinations use the ◄ or the ► buttons on the front panel to shift the sliding window to the right or left.

After switching on the power, the LCD display shows the following screens in sequence:

```
KRAMER ELECTRONICS. LTD
16 SERIES MATRIX
```

```
Load Main Setup
```

```
01 02 03 04 05 06 07 08 09 10 11 12 13
01 02 03 04 05 06 07 08 09 10 11 12 13
```

## Step 7: Operate VS-1616DN-EM

Operate **VS-1616DN-EM** via:

- Front panel buttons.
- Remotely, by RS-232 serial commands transmitted by a touch screen system, PC, or other serial controller via RS-232, USB or Ethernet port.
- Embedded web pages via the Ethernet.

| **RS-232 Control / Protocol 3000** | | | |
|---|---|---|---|
| Baud Rate: | 115,200 | Parity: | None |
| Data Bits: | 8 | Command Format: | HEX |
| Stop Bits: | 1 | | |
| Example: (Switch video input 4 to output 2): #VID 4>2 | | | |
| **Default Ethernet Parameters** | | | |
| IP Address: | 192.168.1.39 | UDP Port #: | 50000 |
| Subnet mask: | 255.255.255.0 | TCP Port #: | 5000 |
| | Concurrent TCP Connections: | | 32 |
| Default User: | Admin | Default Password: | Admin |
| **Full Factory Reset** | Press front panel MENU button twice. Select Total Matrix Reset > Factory Reset. Press TAKE twice. | | |
| **EDID** | EDID data is passed between Output 1 and Input 1 | | |

**Using the embedded web pages:**

Click the navigation pane to open the following pages:

- **Routing Settings** – Change the input to output routing.
- **EDID Management** – Copy EDIDs from outputs to inputs.
- **Settings** – Change device name and IP settings, configure card settings and upgrade card firmware, and perform factory reset.
- **About** – View current FW version and manufacturer information