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## VS-1616DN-EM Quick Start Guide

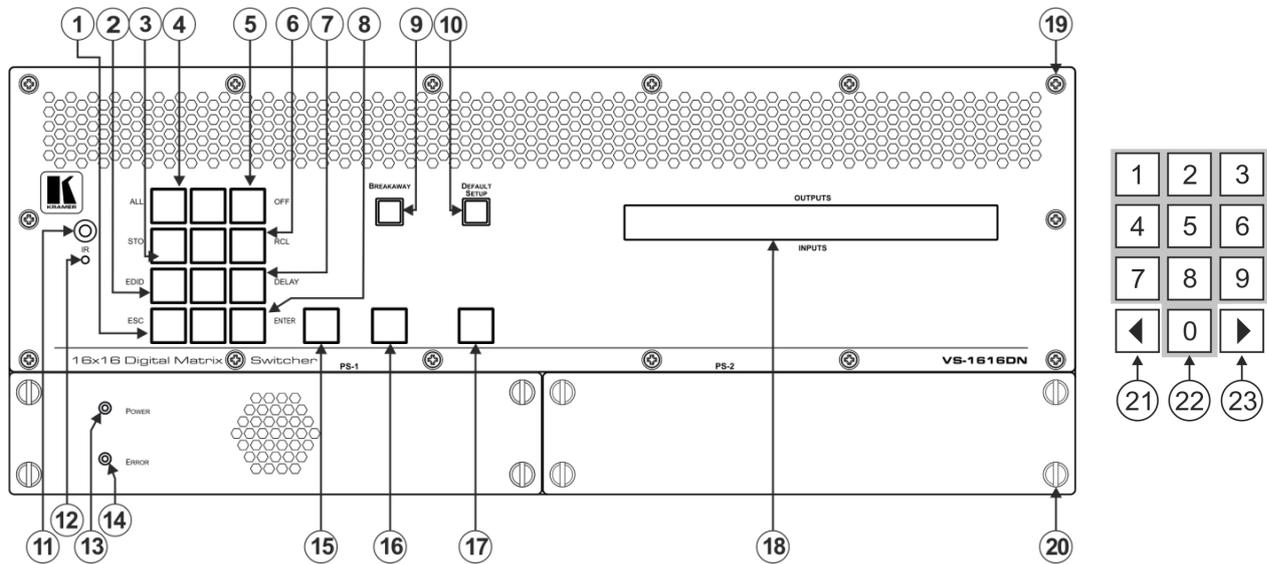
This guide helps you install and use your VS-1616DN-EM for the first time.

Go to [www.kramerav.com/downloads/VS-1616DN-EM](http://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

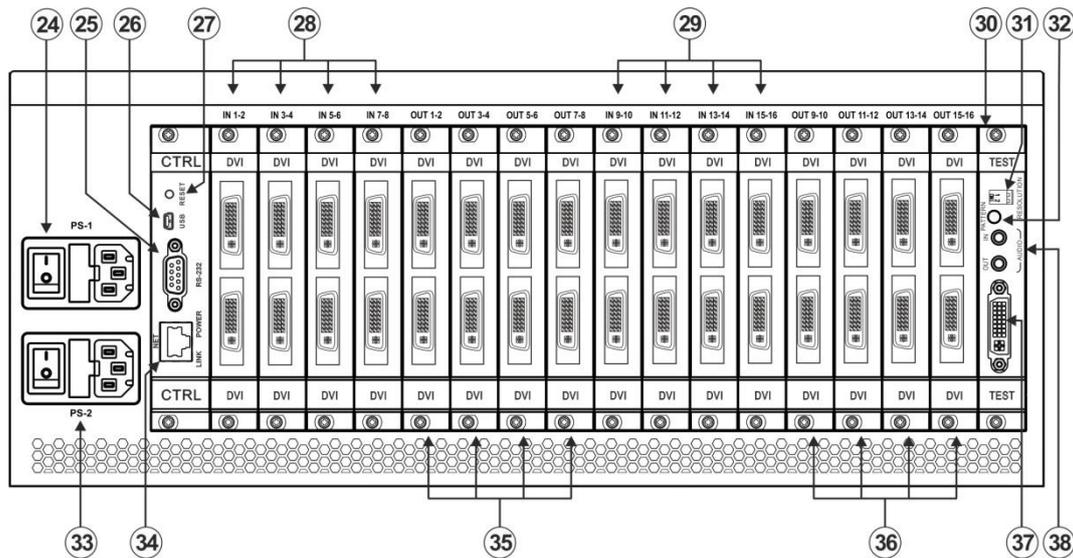
- ✓ VS-1616DN-EM 2x2 to 16x16 Modular Multi-Format Managed Digital Matrix Switcher
  - ✓ Infrared remote control transmitter with batteries (for future use)
- ✓ 1 Power cord
  - ✓ 1 Set of rack ears (attached)
- ✓ 1 Quick start guide

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



#	Feature	Function
1	Double-function Selector Buttons Area	ESC
2		EDID
3		STO
4		ALL
5		OFF
6		RCL
7		DELAY
8		ENTER
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 (for future use).
12	IR LED	Lights yellow when receiving commands from the IR remote control transmitter (for future use).
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.

#	Feature	Function
16	MENU Button	Press once to enable the ALL, OFF, STO and RCL buttons. Press again to enter the configuration menu. 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 LCD Display	Displays the outputs (upper row) switched to the selected inputs (lower row). 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 <b>VS-1616DN-EM</b> 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 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 <b>VS-1616DN-EM</b> .
28	IN 1~8 Connectors	INPUTS Connect to the relevant video sources, depending on the cards installed (1 to 8). Connect to the relevant video sources, depending on the cards installed (9 to 16).
29	IN 9~16 Connectors	
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. 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). Connect to the relevant video acceptors, depending on the cards installed (9 to 16).
36	OUT 9~16 Connectors	
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

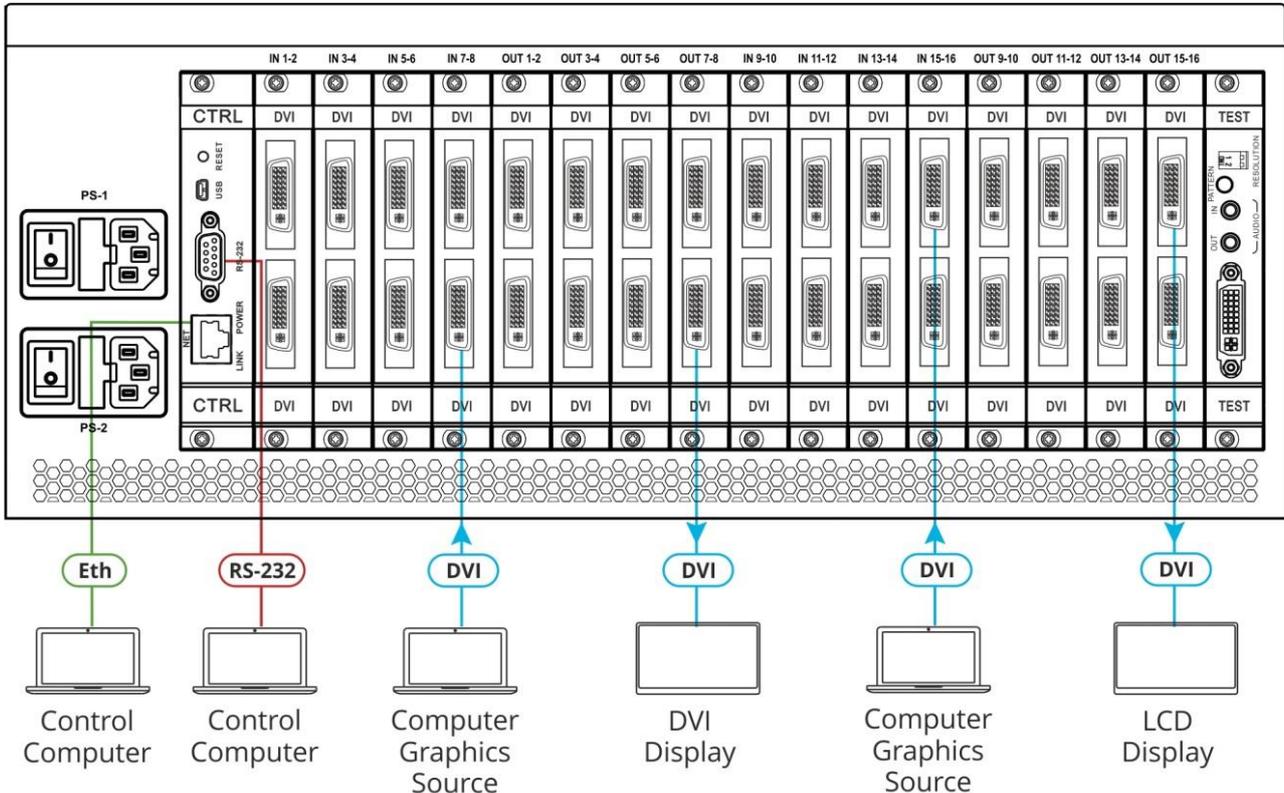
To rack mount the machine, the **VS-1616DN-EM** is pre-assembled with ear brackets attached to the machine.



- 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:

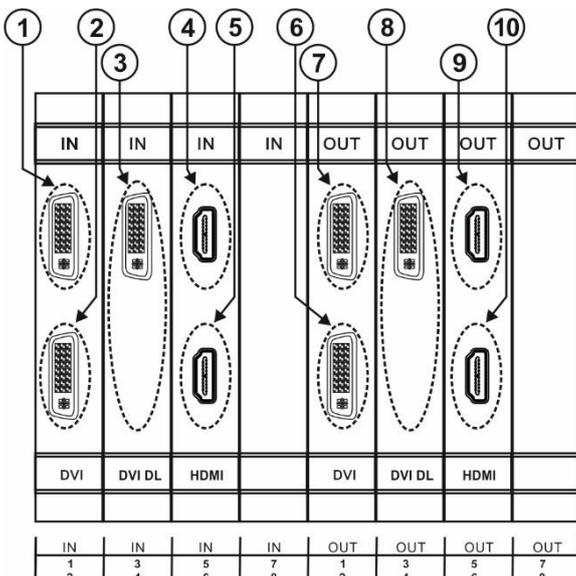


Diagram #	Actual Port #
1	IN 1
2	IN 2
3	IN 3
4	IN 5
5	IN 6
6	OUT 2
7	OUT 1
8	OUT 3
9	OUT 5
10	OUT 6

## 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](http://www.kramerav.com) for updated safety information)

**Caution:**

- For products with relay terminals and GPIO 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

