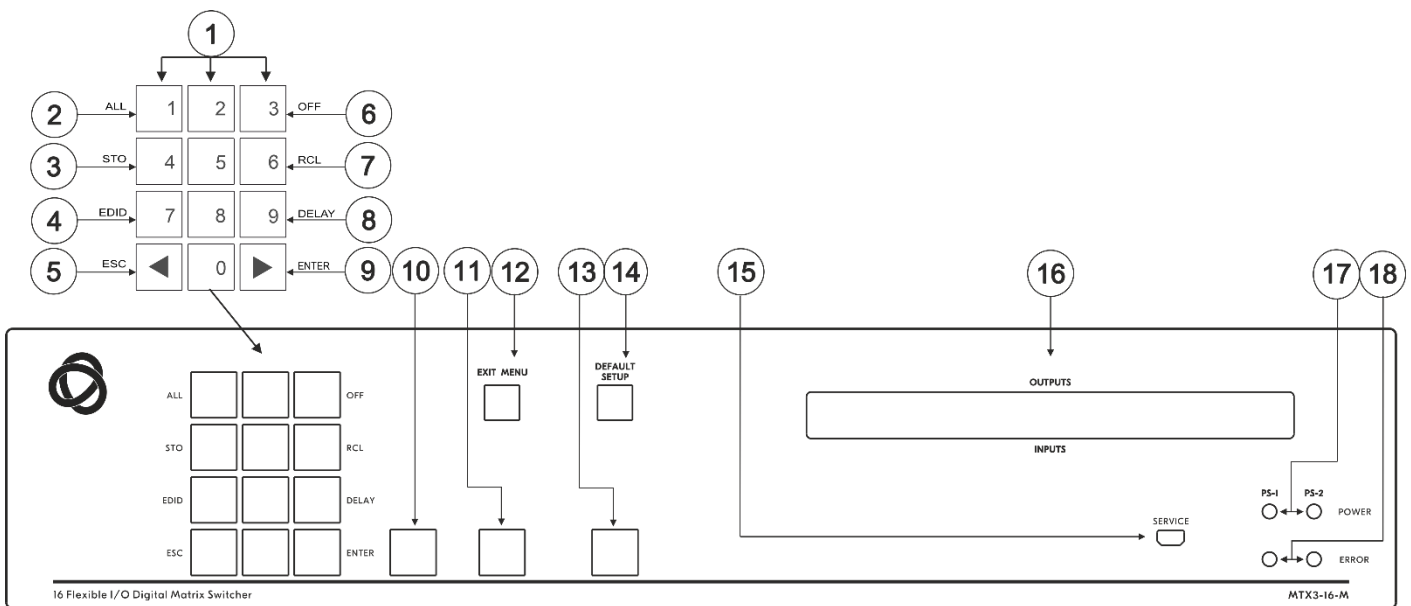# kramer

MTX3-16-M Quick Start Guide

This guide helps you install and use your **MTX3-16-M** for the first time.

Go to **www.kramerav.com/downloads/MTX3-16-M** to download the latest user manual and check if firmware upgrades are available.
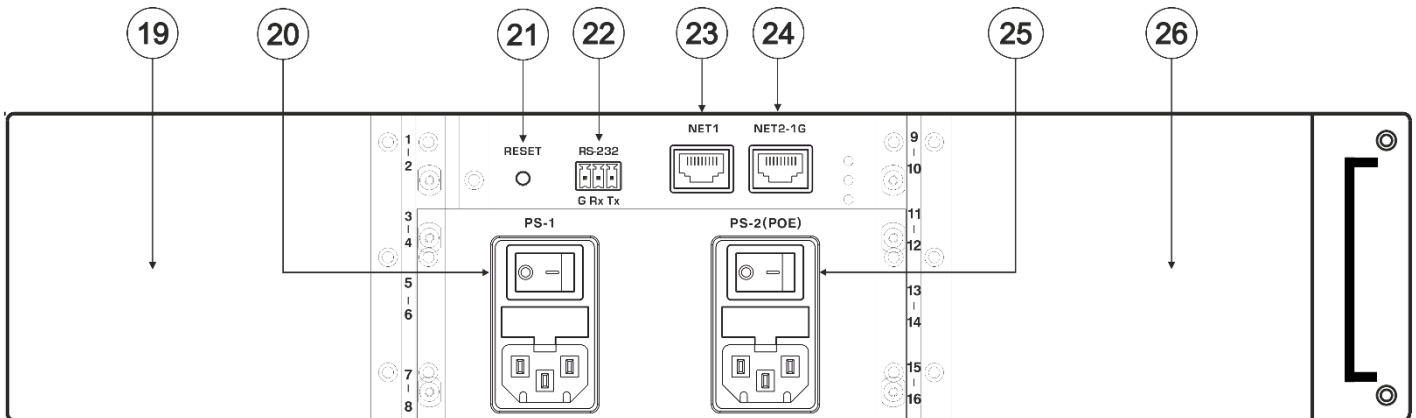
Step 1:   Check what's in the box

- ☑ **MTX3-16-M Flexible I/O Digital Matrix Switcher**
- ☑ 2 Power cords
- ☑ 1 Set of rack ears (attached)
- ☑ 1 Quick start guide

Step 2:   Get to know your MTX3-16-M

#	Feature		Function	
1	Numeric Keypad	Numbers	1 to 0	
		◄ (Backward)	Move the LCD display left (when there is an extended display).	
		► (Forward)	Move the LCD display right (when there is an extended display).	
2	Double-Function Selector Buttons Area. Enabled and lit after pressing the MENU button 4 times.	Menu Button Function	ALL	Connect an input to all outputs.
3			STO	Store the current setup in a preset.
4			EDID	Assign EDID channels.
5			ESC	Exit the current operation.
6			OFF	Turn off an output.
7			RCL	Recall a preset.
8			DELAY	Set the delay between confirming an action and the execution of the action on an output port.
9			ENTER	Confirm 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. Press to enter the options in a setup menu.
10	TAKE Button		Confirm action.	
11	MENU Button		Enable the ALL, STO, EDID, ESC, OFF, RCL, DELAY and ENTER buttons. Press again to enter the configuration menu. When in a menu, press to cycle through the menu items.	

HDMI™
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P/N: 2900-301597QS   Rev: 3

#	Feature	Function
12	EXIT MENU Button	Press to exit a menu or return to switching mode.
13	LOCK Button	Press and hold for approximately 2 sec to lock/unlock the front panel buttons. A short press returns the LCD display to the default window.
14	DEFAULT SETUP Button	Press to open the reset menu on the display.
15	SERVICE Mini USB Connector	Connect to a PC to send Protocol 3000 commands.
16	OUTPUTS/INPUTS LCD Display	Displays the outputs (upper row) routed to the selected inputs (lower row). Displays user interface messages and menus.
17	POWER LED (PS-1 / PS-2)	Lights green when the power supply is active.
18	ERROR LED (PS-1 / PS-2)	Lights red when an error is detected. Briefly lights red immediately following a power disruption (e.g., cable disconnection, power off, and so on).

#	Feature	Function
19	Slots for up to 4 card modules	The left side of **MTX3-16-M** has 4 slots for insertion of card modules and the right side (26) has another 4 slots. In total 8 card modules can be inserted. **MTX3-16-M** uses hot plugging, so cards can be inserted while the device is operating, and the card's ports will automatically be categorized as input or output. Use the system menus to change input/output designations and to create flexible connections between the ports on different cards. **MTX3-16-M** identifies ports by the ID numbers it allocates to each card slot: See MTX3-16-M ID numbers below to understand how they are defined.
20	PS-1 Power Module and Switch	Supplies power to the device and has a fuse holder. The device only operates when PS-1 is switched on. Connect to the mains supply and switch on to power the device. The PS1 power LED (17) lights green.
21	RESET Recessed Button	Press to reboot the **MTX3-16-M** control card.
22	RS-232 3-pin Terminal Block Connector	Connect to a remote operation PC or a remote controller.
23	NET 1 RJ-45 Connector	Connect to a PC or controller via the Ethernet LAN (100Mb).
24	NET 2-1G RJ-45 Connector	Connect to a PC or controller via the Ethernet LAN (100/1000Mb).
25	PS-2 (POE) Power Module and Switch	Supplies 48V for inserted cards delivering PoE (power over ethernet) and has a fuse holder. PoE will be supplied if PS-2 is on and PS-1 is off, but **MTX3-16-M** itself won't operate. Connect PS-2 to the mains supply and switch on if required, the PS2 power LED (18) lights green.
26	Slots for up to 4 card modules	See (19) for the explanation. The 4 card insertion slots on the right side of the device use IDs 9 to 16.

MTX3-16-M ID numbers

When a card module is inserted into **MTX3-16-M**, it is allocated 2 ID numbers which are used to identify the card's input/output ports. In total there are 16 ID numbers available, 2 for each inserted card. The ID numbers available for each slot are written on the chassis, next to the insertion points.

Ports on the left side of an inserted card module receive one ID number and ports on the right side of the card module receive the next consecutive ID number. Input/output directions are defined per ID number.

Card modules can have up to 4 input/output ports. If one side of a card module has more than 2 ports, those ports have the same ID and input/output direction.

Step 3: Install the MTX3-16-M

To rack mount the machine, attach both rack ears (by removing the screws from each side of the machine and replacing those screws through the rack ears) or place the machine on a table.
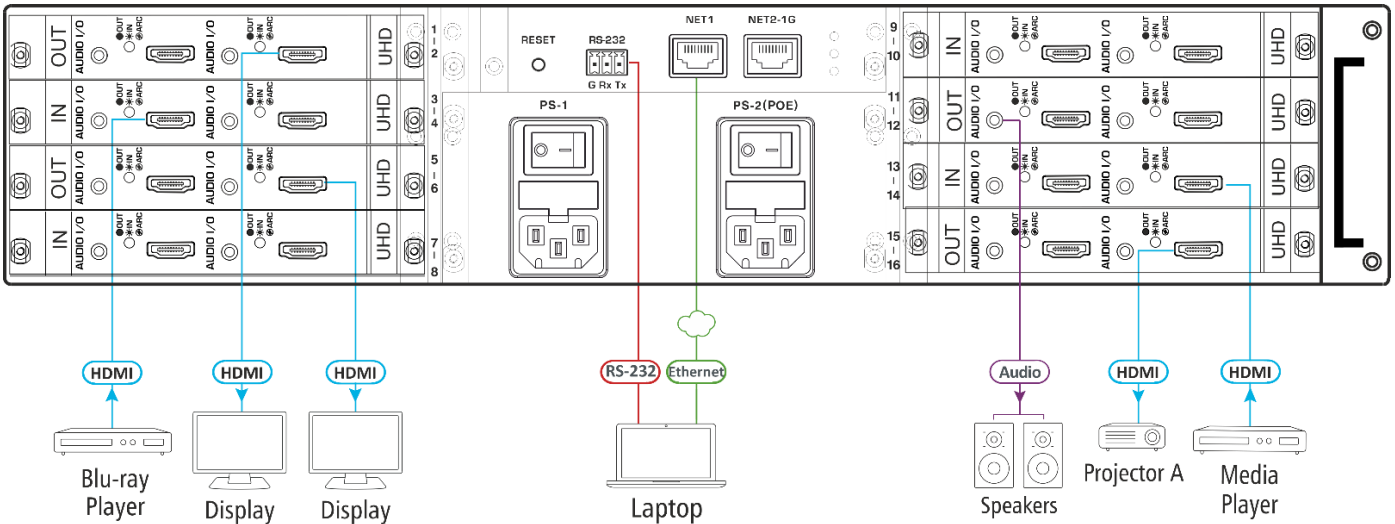
- Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible for the device.
- Avoid uneven mechanical loading.
- Make appropriate consideration of equipment nameplate ratings to avoid overloading the circuits.
- Maintain reliable earthing of rack-mounted equipment.

Step 4: Connect the inputs and outputs

Insert the input and output cards into the card slots and then connect the inputs and the outputs.

ⓘ You can insert cards into slots while the device is powered.

ⓘ For optimum range and performance use the recommended Kramer cables available at www.kramerav.com/product/MTX3-16-M.
Using third-party cables may cause damage!

Step 5: Connect the power

Connect the power cord to **MTX3-16-M** and plug it into the mains electricity.

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.
- When connecting the device to power, only use a grounded socket.
- 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.
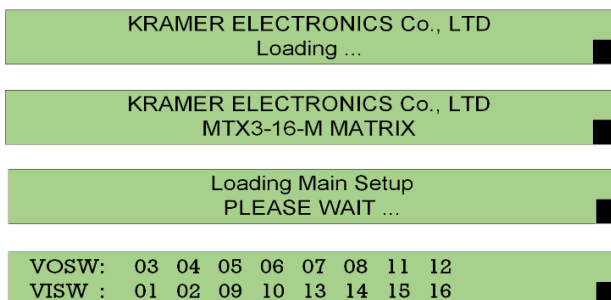
Step 6: Set operation parameters

To operate **MTX3-16-M** from the front panel, use the numeric keypad.

When the unit is powered-on, the last matrix setup that was used is loaded.

To retrieve another setup, use **recall setup** (4 presses of the Menu button) to load a stored configuration from a preset or press **Default Setup** to reset the matrix to the default setup or factory default setup.

VOSW lists video output port IDs and VISW shows the video input port ID connected to the ID above it.

While powering up, the LCD display shows the following screens in sequence:

```
KRAMER ELECTRONICS Co., LTD
        Loading ...                ■
```

```
KRAMER ELECTRONICS Co., LTD
      MTX3-16-M MATRIX            ■
```

```
      Loading Main Setup
        PLEASE WAIT ...           ■
```

```
VOSW:  03  04  05  06  07  08  11  12
VISW : 01  02  09  10  13  14  15  16  ■
```

Step 7: Operate the MTX3-16-M
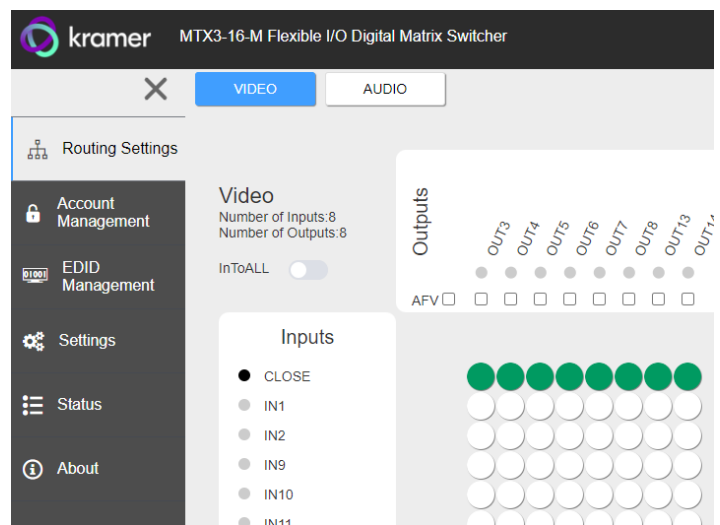
Operate **MTX3-16-M** via:

- Front panel buttons.
- Embedded web pages over the Ethernet. The first time you enter, you will be asked to set a new password.
- Remotely, using RS-232 serial commands transmitted from a touch screen system, PC or a serial controller.
- Protocol 3000 commands transmitted over the Ethernet.
- Protocol 3000 commands transmitted through the mini-USB Service port.

RS-232 Control / Protocol 3000			
Baud Rate:	115,200	Parity:	None
Data Bits:	8	Command Format:	ASCII
Stop Bits:	1		
Example: (Switch video input 2 to output 4): #Vid 2>4<CR>			
Default Ethernet Parameters			
IP Address:	192.168.1.39	UDP Port #:	50000
Subnet mask:	255.255.0.0	TCP Port #:	5000
Gateway:	192.168.0.1	Default User: Default Password:	admin M01@kramer

Using the embedded web pages

Click the navigation pane to open the following pages:

- **Routing Settings** – Change the video or audio input/output routing.
- **Account Management** – Create new users with two levels of authorization.
- **EDID Management** – Copy EDIDs from outputs to inputs.
- **Settings** – Change device, card and port configuration, including IP, firmware and factory reset.
- **Status** – Monitor operation status of cards, power supplies, PoE and fans.
- **About** – View current webpage version and manufacturer information

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