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VS-88HDxl Quick Start Guide

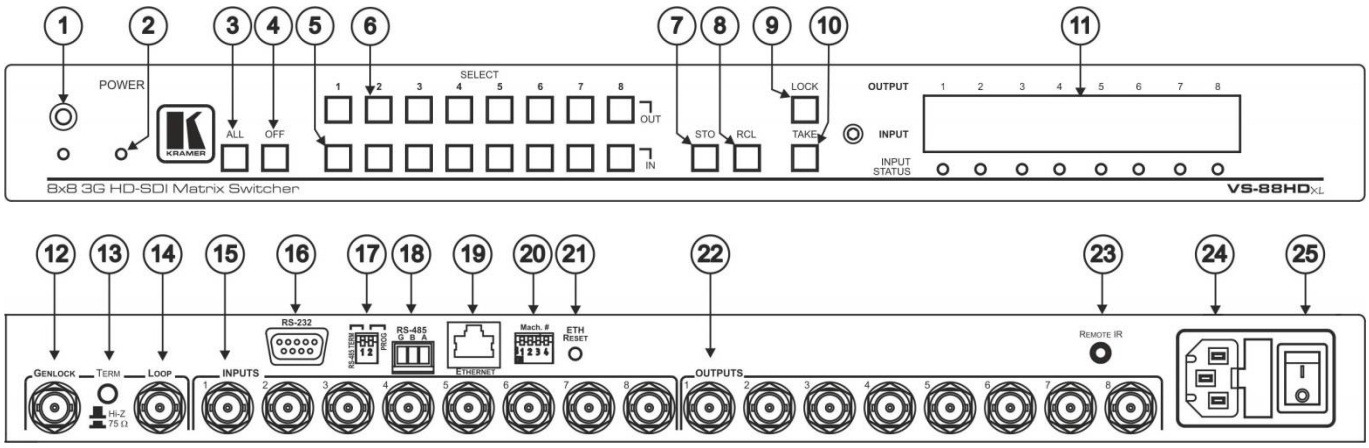
This guide helps you install and use your **VS-88HDxl** for the first time.

Go to www.kramerav.com/downloads/VS-88HDxl to download the latest user manual and check if firmware upgrades are available.

Step 1: Check what's in the box

- ☑ **VS-88HDxl 8x8 3G SD/HD-SDI Matrix Switcher**
- ☑ **RC-IR3** IR remote control transmitter
- ☑ 1 Set of rack ears
- ☑ 1 Power cord
- ☑ 4 Rubber feet
- ☑ 1 Quick start guide

Step 2: Get to know your VS-88HDxl



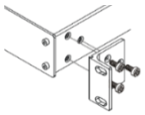
#	Feature	Function
1	IR Receiver	Receives signals from the IR remote control transmitter. Lights yellow when receiving signals.
2	*POWER* LED	Lights when the unit is ON.
3	*ALL* Button	Press *ALL* and then press an *IN* button to connect the selected input to all outputs.
4	*OFF* Button	Press *OFF* + *OUT* to disconnect the selected output from the inputs. Press *OFF* + *ALL* to disconnect all outputs. Press and hold OFF to toggle between dual link and normal mode.
5	*IN SELECT* Buttons	Press to select the input to switch to the output. Press and hold buttons IN1 to IN5 to change the genlock timing (see Step 4)
6	*OUT SELECT* Buttons	Press to select the output to which the input is switched.
7	*STO* (STORE) Button	Press *STO* and then press an *IN/OUT SELECT* key to store the current setting.
8	*RCL* (*RECALL*) Button	Press *RCL* and the relevant *IN/OUT SELECT* key to recall a setup from the non-volatile memory.
9	*LOCK* Button	Press and hold for three seconds to disable/enable the front panel buttons.
10	*TAKE* Button	Press to confirm a command in Confirm mode (see Step 6).
11	7-segment *INPUT* Display	Displays each input under the output number that it is switched to.
12	*GENLOCK* BNC Connector	Connect to the genlock source.
13	*TERM HI-Z/75Ω* Pushbutton	Press to terminate the genlock source (75Ω) or release for looping.
14	*LOOP* BNC Connector	Connect to the genlock connector of the next unit in the line.
15	*INPUT* BNC Connectors	Connect to the serial digital video sources.
16	*RS-232* 9-pin D-sub (F) Port	Connect to a PC or a control device.

P/N: 2900-301256QS Rev: 2

#	Feature	Function
17	*PROG/RS-485 TERM* DIP Switches	*PROG* DIP switch enables microcontroller firmware upgrade. *RS-485 TERM* DIP switch terminates the RS-485 line with a 120Ω load.
18	*RS-485* Terminal Block Port	Connect to a RS-485 control device (see Step 4).
19	*ETHERNET* RJ-45 Connector	Connects to a PC or other serial controller through computer networking LAN.
20	*MACH #* DIP Switches	Use the set the Machine number of the unit (see Step 4).
21	*ETH RESET* Button	Press to reset to factory default definitions: IP number – 192.168.1.39, Mask – 255.255.0.0, Gateway – 0.0.0.0
22	*OUTPUT* BNC Connectors	Connect to the serial digital video acceptors.
23	*REMOTE IR* 3.5mm Mini Jack	Connect to an external IR receiver unit for controlling the machine via an IR remote control (instead of using the front panel IR receiver).
24	Power Connector with Fuse	Connect to the electricity mains using the power cord.
25	Power Switch	Turns the power to the unit ON and OFF.

Step 3: Mount VS-88HDxl

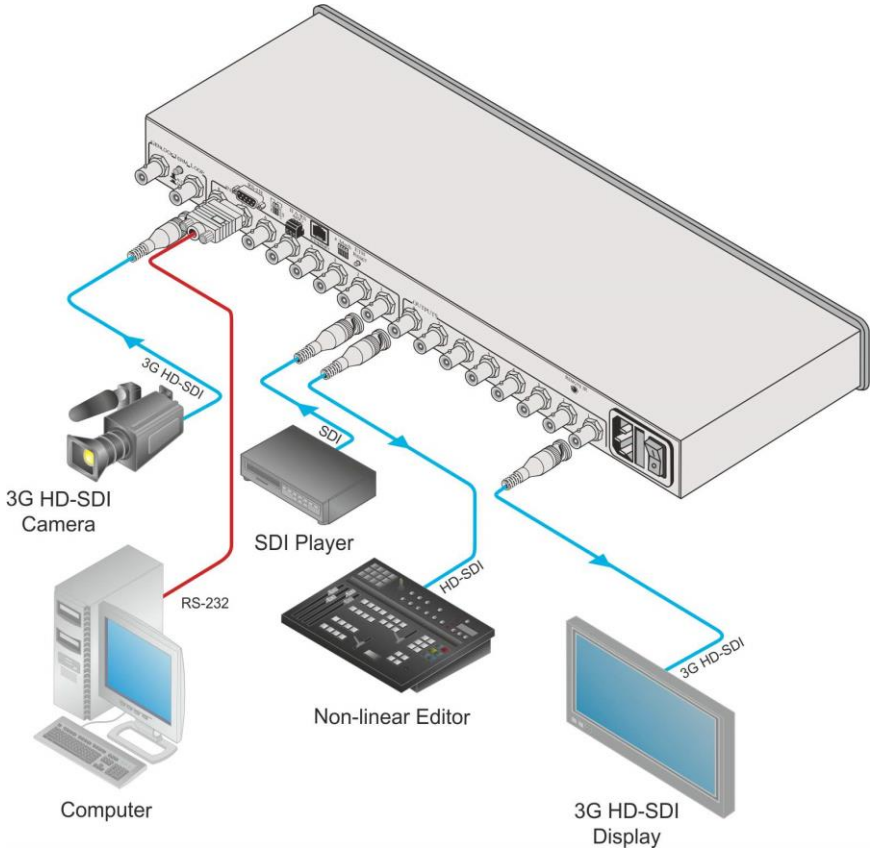
To rack mount the machine, attach both rack ears (by removing the screws from each side of the machine and replacing those screws through the rack ears) or place the machine on a table.



- Ensure that the environment (e.g., maximum ambient temperature & air flow) is compatible for the device.
- Avoid uneven mechanical loading.
- 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 inputs and outputs

Always switch OFF the power on each device before connecting it to your **VS-88HDxl**.



RS-232 Connection:

Use a 9-wire straight cable and connect only pin 2 to pin 2, pin 3 to pin 3, and pin 5 to pin 5 to the RS-232 9-pin D-sub port on your PC. **Note:** A null-modem adapter/connection is not required.

RS 485 Connection:

You can operate the **VS-88HDxl** via the RS-485 port from a distance of up to 1200m (3900ft).

To connect a control device with a RS-485 port to the **VS-88HDxl**:

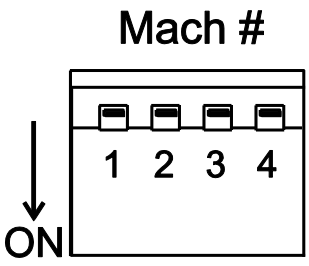
1. Set the **VS-88HDxl** RS-485 machine number and bus termination.
2. Connect the A (+) pin, B (–) pin, and G pin on the RS 485 port of the PC to the corresponding pins on the RS 485 port on the rear panel of the **VS-88HDxl**. Note: Pin G may be connected to the shield, if required.

Setting the Machine Number:

- When using a single **VS-88HDxl** unit, set the unit to Machine # 1.
- When connecting more than one **VS-88HDxl** unit set a unique Machine # for each unit. The units do not have to be numbered sequentially. The master unit must be set to Machine #1.

To set the machine # for each unit, set the DIP switches according to the relevant row in the following table:

Machine #	DIP-SWITCH			
	1	2	3	4
1 (Single or master unit)	OFF or ON	OFF	OFF	OFF
2	OFF	ON	OFF	OFF
3	ON	ON	OFF	OFF
4	OFF	OFF	ON	OFF
5	ON	OFF	ON	OFF
6	OFF	ON	ON	OFF
7	ON	ON	ON	OFF
8	OFF	OFF	OFF	ON
9	ON	OFF	OFF	ON
10	OFF	ON	OFF	ON
11	ON	ON	OFF	ON
12	OFF	OFF	ON	ON
13	ON	OFF	ON	ON
14	OFF	ON	ON	ON
15	ON	ON	ON	ON

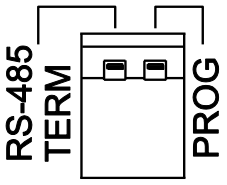


Note: After changing the machine #, the unit must be reset by turning it OFF and ON.

Setting the RS-485 Line Termination:

The *RS-485 TERM DIP* switch on the first and last units on the RS-485 line must be set to ON (terminated) and all other units must be set to OFF (not terminated).

Note: The master unit may be located at any part of the line.



Setting the Genlock Video Signals:

To set the Genlock video signals according to timing of the Genlock reference input:

1. Connect the Genlock cable.
2. Press and hold, for 3 seconds, the relevant *IN SELECT* button according to the table:

IN SELECT Button	Genlock Setting
1	1080i/p @60Hz
2	1080i/p @50Hz
3	720p @60Hz
4	PAL @50Hz
5	NTSC @60Hz

The Genlock setting changes and the new setting is displayed in the *INPUT* display.

To achieve specified extension distances, use the recommended Kramer cables available at www.kramerav.com/product/VS-88HDxl.
Using third-party cables may cause damage!

Step 5: Connect power

Connect the power cord to **VS-88HDxl** 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.
- 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: Operate VS-88HDxl

IR remote control:

RS-232/RS-485 and Ethernet:

RS-232			
Protocol 2000		**Protocol 3000**	
Baud Rate:	9600	Baud Rate:	115200
Data Bits:	8	Data Bits:	8
Stop Bits:	1	Stop Bits:	1
Parity:	None	Parity:	None
Command Format:	HEX	Command Format:	ASCII
		Example: (Switch video input 2 to output 4): #V 2>4<CR>	

Switching Protocol			
P2000 -> P3000		**P3000 -> P2000**	
Command:	0x38, 0x80, 0x83, 0x81	Command:	#P2000<CR>
Front Panel:	Press and hold LOCK and OUT 3 simultaneously	Front Panel:	Press and hold LOCK and OUT 2 simultaneously

Default Ethernet Parameters			
IP Address:	192.168.1.39	UDP Port #:	50000
Subnet mask:	255.255.0.0	TCP Port #:	5000
Default gateway:	0.0.0.0.		

Power On Display:

When **VS-88HDxl** is powered on, the display briefly shows the 4-digit firmware version number and the genlock timing setting before showing the normal operating display.

Opration Modes:

VS-88HDxl can operate in the following two modes:

- At Once – pressing buttons on the front panel immediately executes a command.
- Confirm – pressing buttons on the front panel does not execute a command until the *TAKE* button is pressed, to protect against incorrect switching. The mode also enables keying in several commands and then, simultaneously executing them by pressing the TAKE button.

To toggle between At Once and Confirm modes, press the *TAKE* button when there are no commands pending.

Note: The *TAKE* button remains lit in Confirm mode.

To simultaneously execute several commands in Confirm mode:

1. Press the required OUT-IN combinations in sequence.
   The *INPUT* display flashes.
2. Press the *TAKE* button to confirm all the actions.
   The actions are executed and the 7-segment display stops flashing.

Storing Configurations:

You can save up to 16 input/output configurations in the **VS-88HDxl** memory and load them as presets.

To save the current configuration:

1. Press the *STO* button.
   The *STO* button flashes.
2. Press one of the *IN/OUT SELECT* buttons.
   The current configuration is saved in the memory for the selected button.

To load an input/output configuration:

1. Press the *RCL* button.
   The RCL button flashes.
2. Press the *IN/OUT SELECT* button that corresponds to the required configuration.
   The selected preset configuration is loaded from memory.

Note: Recalling an invalid preset activates an error indication (the *STO*, *RCL*, *LOCK*, and *TAKE* buttons flash).

If you cannot remember which of the *IN/OUT SELECT* buttons corresponds to the required configuration, set **VS-88HDxl** to Confirm mode and manually scan all the configurations until you locate it.