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## DIP-22 Quick Start Guide

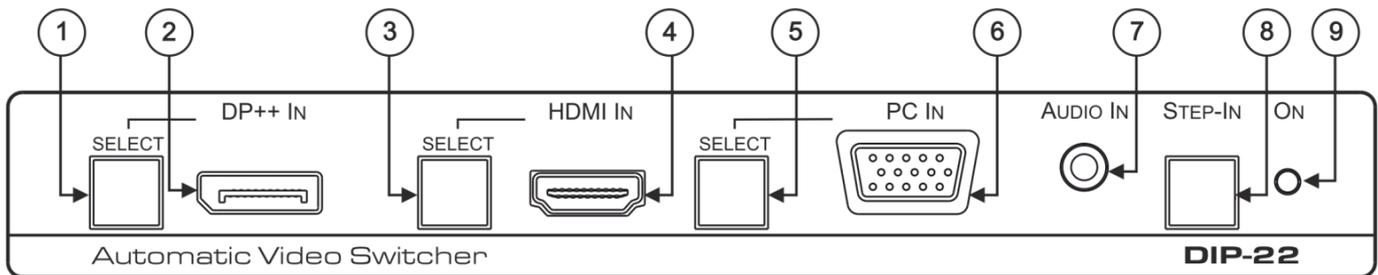
This guide helps you install and use your DIP-22 for the first time.

Go to [www.kramerav.com/downloads/DIP-22](http://www.kramerav.com/downloads/DIP-22) to download the latest user manual and check if firmware upgrades are available.

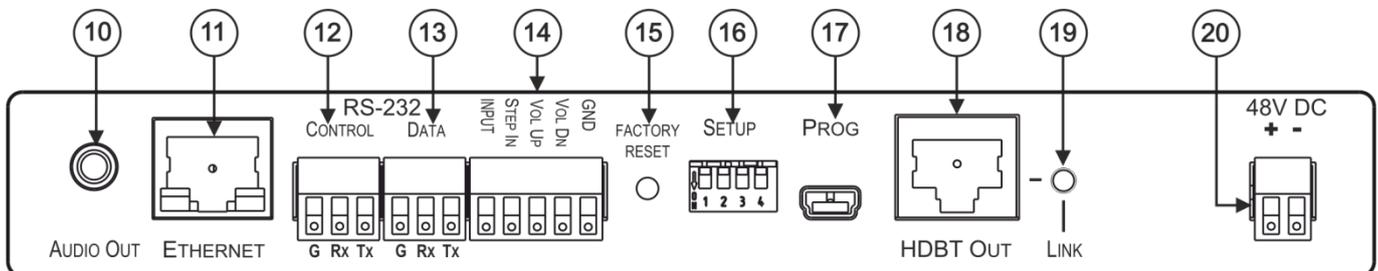
### Step 1: Check what's in the box

- ✓ DIP-22 Automatic Video Switcher
- ✓ 1 Bracket set
- ✓ 1 Quick start guide
- ✓ 1 Power adapter and cord
- ✓ 4 Rubber feet

### Step 2: Get to know your DIP-22



#	Feature	Function
1	DP++ IN SELECT Button	Press to select the DP++ input. Button lights red when analog audio is selected and green when embedded audio is selected.
2	DP++ Connector	Connect to a DisplayPort source.
3	HDMI™ IN SELECT Button	Press to select the HDMI input. Button lights red when analog audio is selected and green when embedded audio is selected.
4	HDMI IN Connector	Connect to an HDMI source.
5	PC IN SELECT Button	Press to select the PC graphics input. Button lights red when analog audio is selected and green when embedded audio from the HDMI IN/DP++ IN is selected.
6	PC IN 15-pin HD Connector	Connect to a computer graphics source.
7	AUDIO IN 3.5mm Mini Jack	Connect to an unbalanced stereo audio source.
8	STEP-IN Button	Press to take control of the input that this device is connected to on a compatible switcher.
9	ON LED	Lights green when <b>DIP-22</b> is powered via power adapter or PoE over HDBaseT. Lights red when <b>DIP-22</b> provides PoE over HDBaseT to a compatible PoE acceptor.



#	Feature	Function
10	AUDIO OUT 3.5mm Mini Jack	Connect to an unbalanced, stereo audio acceptor.
11	ETHERNET RJ-45 Connector	Connect to a PC via a LAN to control <b>DIP-22</b> .
12	CONTROL (G, Rx, Tx)Terminal Block Connectors	Connect to the PC or to a serial remote controller to control <b>DIP-22</b> .

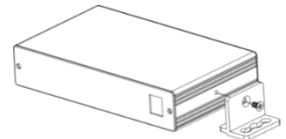
13	DATA (G, Rx, Tx) Terminal Block Connectors	Connect to a serial data source (for example, a room controller) or to an acceptor for tunneling control commands via HDBaseT.
14	Remote 5-pin Terminal Block Connector	Connect to contact closure switches (by momentary contact between the desired pin and G pin). INPUT – Short press—toggles between the PC, DP++ and HDMI inputs; Long press—adjusts the VGA phase shift. STEP-IN – activate the STEP-IN function. VOL UP, VOL DOWN – Short press—increases/decreases the volume by one step; Long press—Increases/decreases the volume from 0% to 100%/100% to 10% in 10 seconds.
15	FACTORY RESET Button	Short press – Power cycle (reboot) the device. Long press – Reset IP settings to factory default values.
16	SETUP 4-way DIP-switches	Set the device behavior.
17	PROG Mini USB Port	Connect to a PC to perform firmware upgrade.
18	HDBT OUT RJ-45 Connector	Connect to an HDBaseT receiver (for example, <b>TP-780Rxr</b> , <b>TP-588D</b> or <b>TP-580Rxr</b> ) and provide or accept power (bidirectional PoE).
19	LINK LED	Lights green when there is a valid HDBT link.
20	48V DC Power Terminal Block Connector	Connect to the Kramer power adapter.

The terms HDMI, HDMI High-Definition Multimedia Interface, and the HDMI Logo are trademarks or registered trademarks of HDMI Licensing Administrator, Inc.

## Step 3: Mount DIP-22

Install **DIP-22** using one of the following methods:

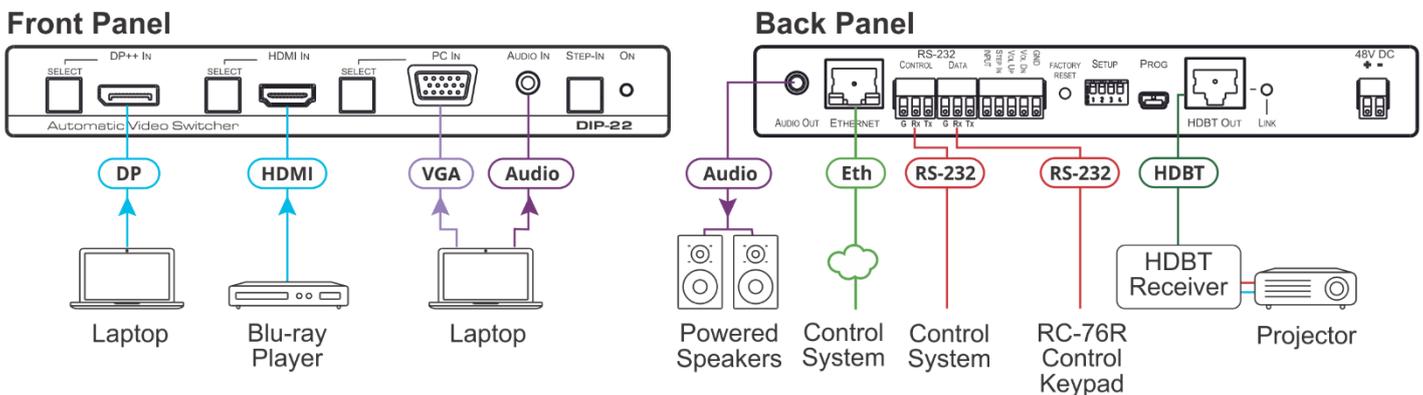
- Attach the rubber feet and place the unit on a flat surface.
- Fasten a bracket (included) on each side of the unit and attach it to a flat surface (see [www.kramerav.com/downloads/DIP-22](http://www.kramerav.com/downloads/DIP-22)).
- Mount the unit in a rack using the recommended rack adapter (see [www.kramerav.com/product/DIP-22](http://www.kramerav.com/product/DIP-22)).



- 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.
- Maximum mounting height for the device is 2 meters.

## Step 4: Connect inputs and outputs

Always switch OFF the power on each device before connecting it to your **DIP-22**.



To achieve specified extension distances, use the recommended Kramer cables available at [www.kramerav.com/product/DIP-22](http://www.kramerav.com/product/DIP-22).

Using third-party cables may cause damage!

## Step 5: Connect power

Connect the power cord to **DIP-22** and plug it into the mains electricity.

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.



## Step 6: Operate DIP-22

Operate DIP-22 via:

- Front panel SELECT buttons and STEP-IN button.
- Contact closure switches.
- Remotely, by RS-232 serial commands transmitted by a touch screen system, PC, or other serial controller.
- Embedded web pages via the Ethernet (including Maestro for configuring single-trigger room element automation scenarios).

### Default RS-232 Communication Parameters

Parameter	Values
Baud Rate	115200
Data Bits	1
Stop Bits	1
Parity	None
Command Format	ASCII

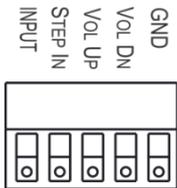
### Ethernet Parameters

Parameter	Values
IP Address:	192.168.1.39
Subnet Mask:	255.255.0.0
Default Gateway:	192.168.0.1
Default TCP Port #:	5000
Default UDP Port #:	50000

### Full Factory Reset

Full Factory Reset	
FACTORY RESET Button:	Long press to reset IP settings to factory default values.
Protocol 3000:	"#factory" command.
Web Pages:	In the Device Settings page, click Reset.

### Contact Closure Switches:



INPUT—input selection/VGA phase shift adjustment	Short press—Input toggle Long press—Adjusts the VGA phase shift
STEP IN	Activates the step-in function if relevant
VOL UP—analog audio output volume increase control	Short press—Increases the volume one step Long press—Increases the volume from 0% to 100% in 10 seconds
VOL DN—analog audio output volume decrease control	Short press—Decreases the volume one step Long press—Decreases the volume from 100% to 0% in 10 seconds
GND	Connect to the common side of the switches

### DIP-switch Setup:

A switch that is down is on; a switch that is up is off. By default, all the switches are up (off).

After changing a DIP-switch you must power cycle the device to implement the change.

### Video Switching Selection:

DIP-switch 1	DIP-switch 2	Video Input Selection
Off (up)	Off (up)	Automatic—Last connected. Where more than one source is connected the last one connected has priority
Off (up)	On (down)	Automatic—Priority selection. DP++ IN → HDMI IN → PC IN (default, high to low priority)
On (down)	Off (up)	Manual
On (down)	On (down)	Manual

### Audio Switching Selection:

DIP-switch 3	DIP-switch 4	Audio Input Selection
Off (up)	Off (up)	Automatic—Priority selection. Embedded Audio → analog Audio In (high to low priority)
Off (up)	On (down)	Automatic—Priority selection. Analog Audio In → embedded Audio (high to low priority)
On (down)	Off (up)	Embedded Audio
On (down)	On (down)	Analog Audio In

## Using Maestro:

Maestro is a powerful software tool that enables you to configure single-trigger room element automation scenarios without the need for complicated programming. Choose prepared commands from a database, drag and drop the commands to define actions and execute the actions with predefined triggers.

Maestro turns the device into a much more powerful output device controller. The following table compares the control capabilities of the non-Maestro and Maestro devices:

	Non-Maestro	Maestro
Max. Ports	1	10 (1 RS-232 + 9 Ethernet)
Max. Commands per Action	2	30
Max. Actions	2	20

### Scenario configuration follows a simple 4-step process:

1. **Configure the ports** – Define and configure a **DIP-22** communication port to control remote devices:
  - RS-232 and Ethernet – Select and enter the details of the controlled device to control it.
  - Internal – Select to send commands and control the **DIP-22**.
  - WOL – Select and enter the MAC address of the device you want to Wake-On-LAN.
2. **Enter commands** – Create commands or use ready-made commands from a database that was preinstalled on a PC in the network (for example, Audio\_Mute\_On).
3. **Create actions** – Create a new action and then drag and drop the created commands to the Editor section to build the action macro (an action includes a group of commands that is operated according to a trigger).
4. **Specify a trigger** – Select a trigger from the list of triggers and associate it with a previously defined action (triggers are the events that cause actions to run).

The screenshot displays the Maestro software interface for Room Automation. At the top right, there are 'Cancel' and 'Save All' buttons. The main area is divided into two panels. The left panel, titled 'Ports', contains a table with columns for Name, Type, and Details. The table lists three ports: 'HDBT OUT 1' (RS-232, 2,9600,1,None,8), 'WOL 7' (WOL, 7), and 'WOL 9' (WOL, 9). Below the table are three expandable sections: 'Actions', 'Scripts', and 'Triggers'. The right panel, titled 'Port', shows the configuration for the selected 'HDBT OUT 1' port. It includes fields for Name (HDBT OUT 1), Type (RS-232), and Properties: Port ID (2), Baud Rate (9600), Stop Bits (1), Parity (None), and Data Bits (8). A 'Cancel' button is located at the bottom right of the Port configuration panel.