KRAMER

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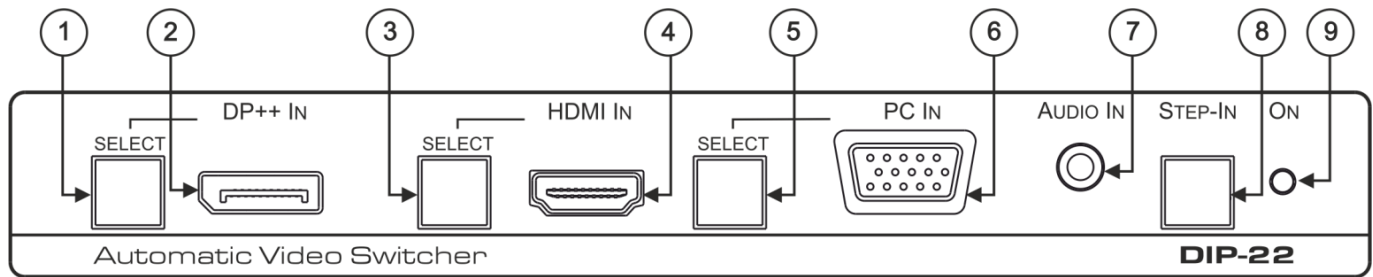
This guide helps you install and use your **DIP-22** for the first time.

Go to www.kramerav.com/downloads/DIP-22 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 **DIP-22** is powered via power adapter or PoE over HDBaseT. Lights red when **DIP-22** provides PoE over HDBaseT to a compatible PoE acceptor.
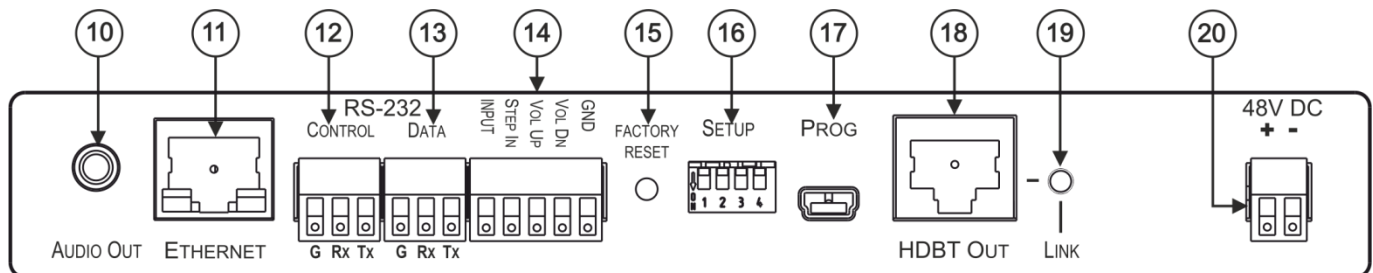
#	Feature	Function
10	AUDIO OUT 3.5mm Mini Jack	Connect to an unbalanced, stereo audio acceptor.
11	ETHERNET RJ-45 Connector	Connect to a PC via a LAN to control **DIP-22**.

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| #	Feature	Function
12	CONTROL (G, Rx, Tx)Terminal Block Connectors	Connect to the PC or to a serial remote controller to control **DIP-22**.
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, **TP-780Rxr**, **TP-588D** or **TP-580Rxr**) 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.

Step 3: Install the 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.
  For more information go to www.kramerav.com/downloads/DIP-22.
- Mount the unit in a rack using an optional **RK-T2B** rack adapter.
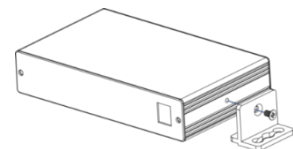
Step 4: Connect the inputs and outputs

Always switch OFF the power on each device before connecting it to your **DIP-22**. For best results, we recommend that you always use Kramer high-performance cables to connect AV equipment to **DIP-22**.
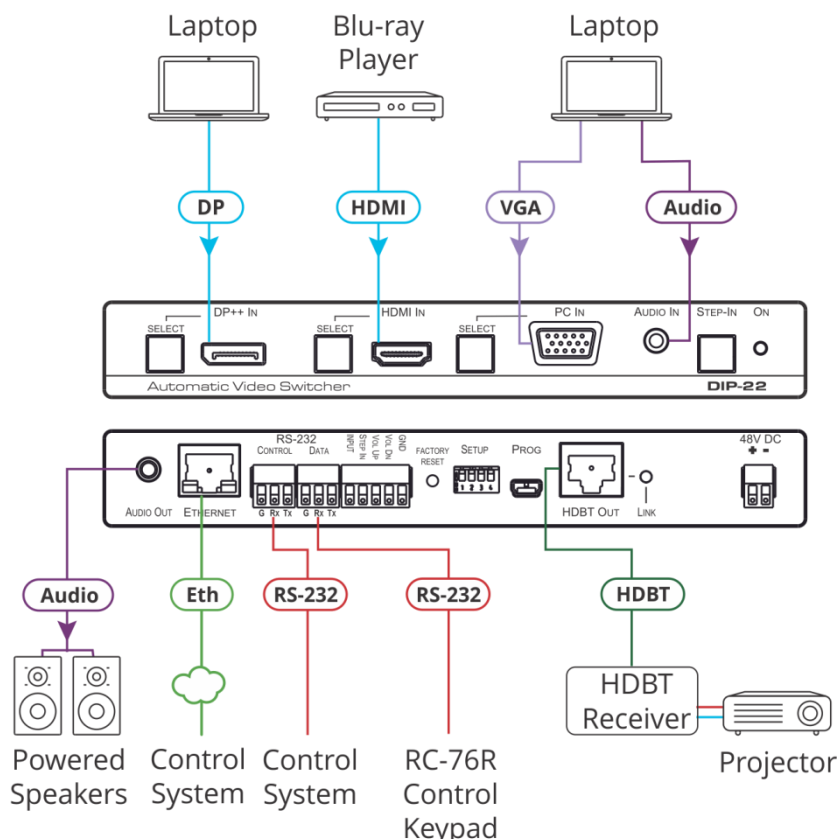
Step 5: Connect the power

Connect the 48V DC power supply to **DIP-22** and plug it into the mains electricity or accept power over Ethernet (PoE) from an HDBaseT receiver.

Safety Instructions

⚠ **Caution:** There are no operator serviceable parts inside the unit.
Warning: Use only the Kramer Electronics power supply that is provided with the unit.
Warning: Disconnect the power and unplug the unit from the wall before installing.
See www.KramerAV.com for updated safety information.

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).

RS-232/Ethernet			
Baud Rate:	115,200	Parity:	None
Data Bits:	8	Command Format:	ASCII Protocol 3000
Stop Bits:	1		
Example (Route input 1 to HDBT output):			"#ROUTE 1,1,1",0x0D
Ethernet Parameters			
IP Address:	192.168.1.39	Default TCP Port #:	5000
Subnet Mask:	255.255.0.0	Default UDP Port #:	50000
Default Gateway:	192.168.0.1		
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:
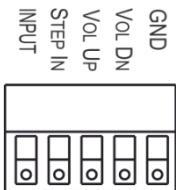
INPUT—input selection/VGA phase shift adjustment	Short press—Input toggle Long press—Adjusts the VGA phase shift
STEP IN	Activates the step-in function if relevant
VOL UP—analog audio output volume increase control	Short press—Increases the volume one step Long press—Increases the volume from 0% to 100% 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.