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## VCO-1, VCO-5UHD, VCO-8, VCO-16 Quick Start Guide

This guide helps you install and use your **VCO** device for the first time.

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

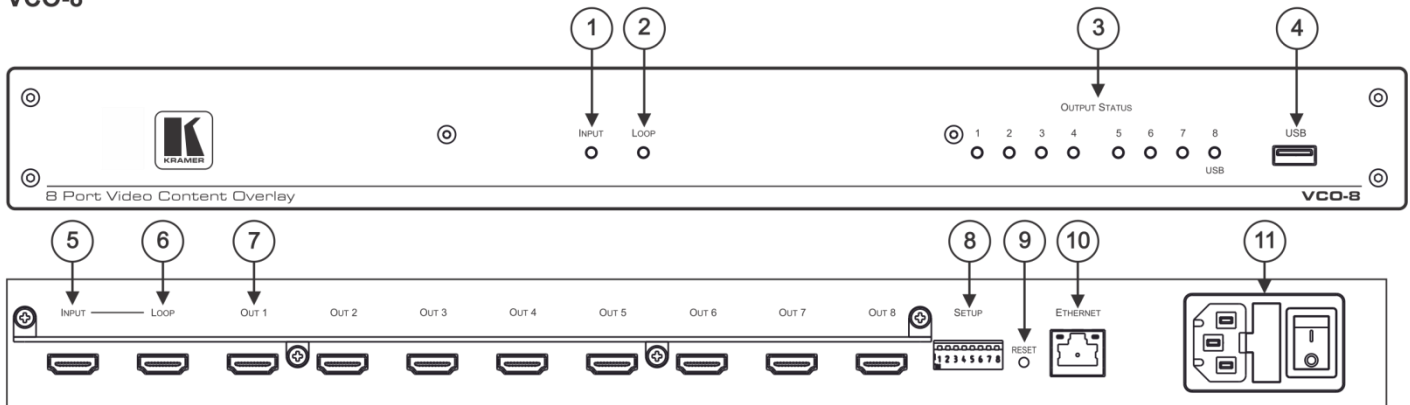
### Step 1: Check what's in the box

- ✓ VCO-1, VCO-5UHD, VCO-8, VCO-16
- ✓ 4 Rubber feet
- ✓ 1 Bracket set (VCO-1)
- ✓ 1 Power adapter and cord (VCO-1, VCO-5UHD)
- ✓ 1 Quick start guide
- ✓ 1 Set of rack ears (VCO-8, VCO-16)
- ✓ 1 Power cord (VCO-8, VCO-16)

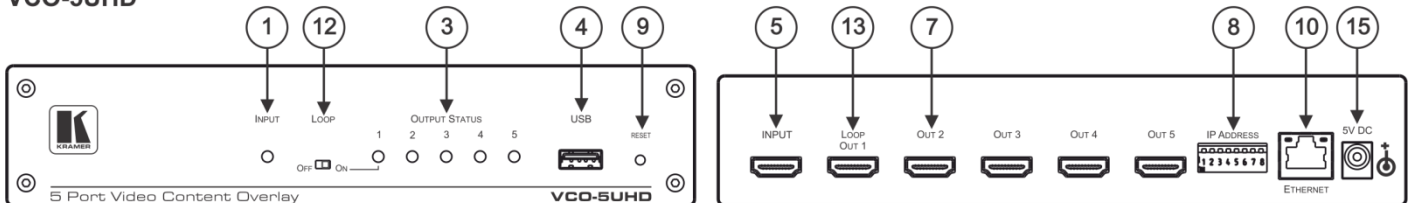
### Step 2: Get to know your VCO-1, VCO-5UHD, VCO-8, VCO-16

Note that **VCO-8** and **VCO-16** are identical, except for the number of outputs: 8 for **VCO-8** and 16 for **VCO-16**.

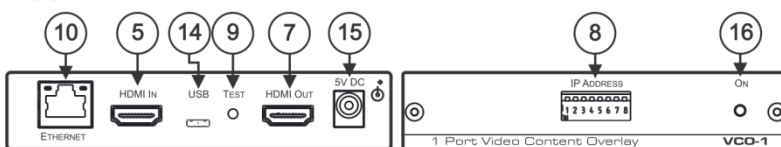
#### VCO-8



#### VCO-5UHD



#### VCO-1

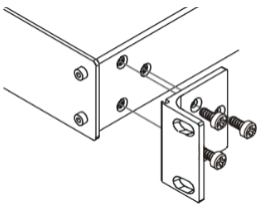


#	Feature	Function
1	INPUT LED	Lights when an input signal is active; flashes slowly when no input signal is detected.
2	LOOP LED	Lights on the looped device when a looped signal is in use.
3	OUTPUT STATUS LEDS	Lights when an output signal is active.
4	USB CONNECTOR	Used to import graphic images.
5	INPUT HDMI Connector	Connect to the source.
6	LOOP HDMI Connector	Connect to an additional VCO device to daisy chain additional displays.
7	HDMI OUT Connector	Connect to the displays from 1 to 8 ( <b>VCO-8</b> ); from 1 to 16 ( <b>VCO-16</b> ); from 1 to 5 ( <b>VCO-5UHD</b> ); 1 ( <b>VCO-1</b> ).
8	SETUP DIP-Switches	For setting the last number in the machine LAN IPv4 address.
9	RESET/TEST Button	RESET (for <b>VCO-5UHD</b> , <b>VCO-8</b> , <b>VCO-16</b> ), TEST (for <b>VCO-1</b> ) Press for 5 seconds to reset IP settings to factory default values. Press briefly to enter the test pattern mode. The input signal is replaced with a test pattern at 1080p. Press briefly again to cycle between available test patterns or return to the input signal. Test pattern mode is useful for initial setup of the system.
10	ETHERNET Connector	Connects to the PC or other LAN controller through computer networking.
11	Power Connector with Fuse	AC connector, enabling power supply to the unit.
12	LOOP Switch	Set LOOP switch to ON to define OUTPUT 1 as a video pass-through channel (looping the input to an additional VCO device) that does not accept any overlays, even if they were uploaded. Set to OFF for OUTPUT 1 to function as a regular output.
13	LOOP OUT 1 HDMI Connector	When LOOP switch is set to OFF, functions as a regular output, accepting overlays. When LOOP switch is set to ON, functions as a pass-through channel.
14	Micro USB Port	Used to import graphic images.
15	5V DC	+5V DC connector for powering the unit.
16	ON LED	Lights when an input signal is active; flashes slowly when no input signal is detected.

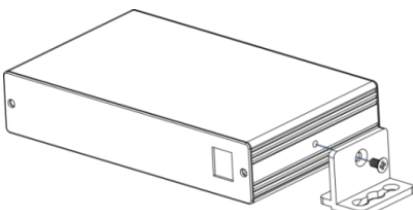
### Step 3: Install VCO-1, VCO-5UHD, VCO-8, VCO-16

Install **VCO** devices using one of the following methods:

- **VCO-1, VCO-5UHD, VCO-8, VCO-16:** Attach the rubber feet and place the unit on a flat surface.
- **VCO-8, VCO-16:** Remove the three screws from each side of the unit, reinsert those screws through the rack ears and mount on a 19" rack.



- **VCO-1:** 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/VCO-1](http://www.kramerav.com/downloads/VCO-1).

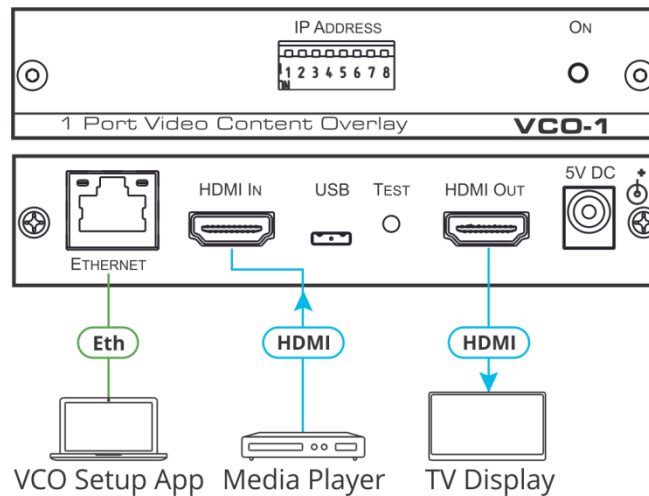


- Mount the unit in a rack using an optional **RK-3T** rack adapter for **VCO-1** and **RK-1** rack adapter for **VCO-5UHD**.

## Step 4: Connect the inputs and outputs

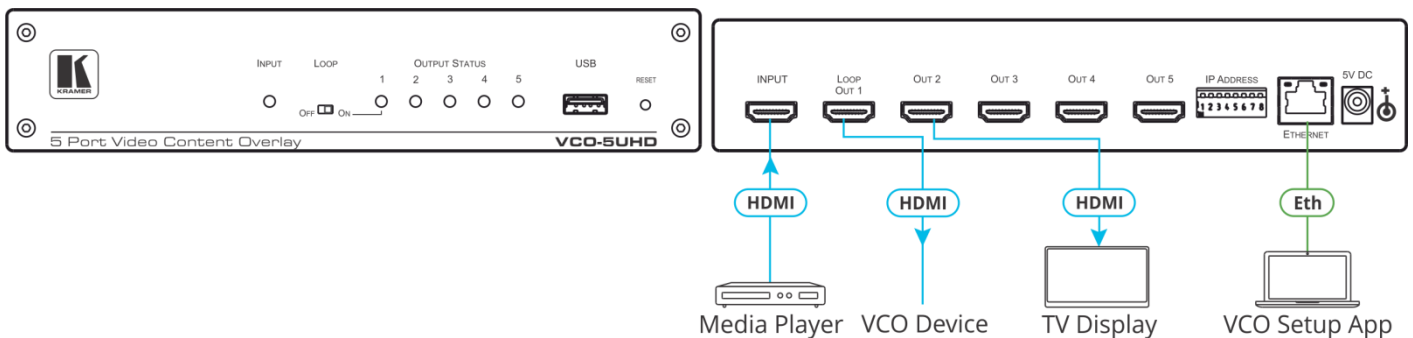
Always switch OFF the power on each device before connecting it to your **VCO-1/VCO-5UHD/VCO-8/VCO-16**. For best results, we recommend that you always use Kramer high-performance cables to connect AV equipment to **VCO-1/VCO-5UHD/VCO-8/VCO-16**.

### Connecting VCO-1



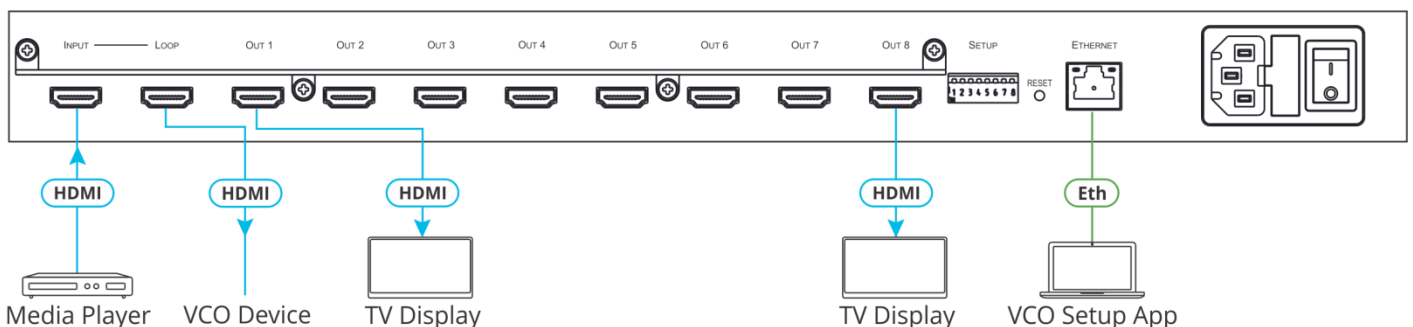
### Connecting VCO-5UHD

LOOP is switched to ON to define OUTPUT 1 as a video pass-through channel (looping the input to an additional VCO device).



### Connecting VCO-8 and VCO-16

Note that **VCO-8** and **VCO-16** are identical, except for the number of outputs: 8 for **VCO-8** and 16 for **VCO-16**.



## Step 5: Connect the power

Connect the 5V DC power adapter (to **VCO-1**, **VCO-5UHD**) or connect the power cord (to **VCO-8**, **VCO-16**), and plug it into the mains electricity.

### Safety Instructions (for all the devices, unless otherwise specified)



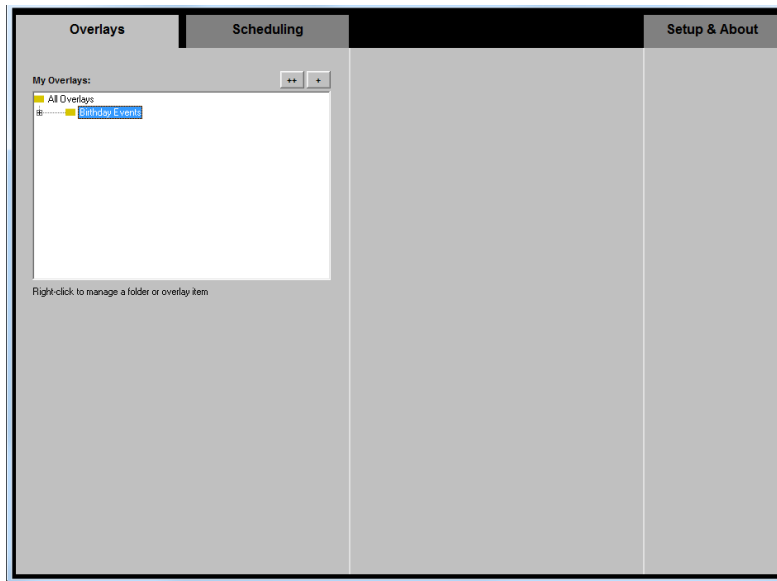
- Caution:** There are no operator serviceable parts inside the unit.
- Warning:** Use only the power cord that is supplied with the unit (**VCO-8**, **VCO-16**).  
Use only the Kramer Electronics power supply that is provided with the unit (**VCO-1**, **VCO-5UHD**).
- Warning:** Do not open the unit. High voltages can cause electrical shock! Servicing by qualified personnel only (**VCO-8**, **VCO-16**).
- Warning:** Disconnect the power and unplug the unit from the wall before installing.  
See [www.KramerAV.com](http://www.KramerAV.com) for updated safety information.

## Step 6: Operate the VCO-1, VCO-5UHD, VCO-8, VCO-16

Use the Kramer VCO Setup application to manage **VCO-1 / VCO-5UHD / VCO-8 / VCO-16**.

Download the KramerVCO-Setup.exe file from our Web site at: [www.kramerav.com/downloads/VCOs](http://www.kramerav.com/downloads/VCOs).

The VCO Setup App allows you to take a template which can include one or more graphic files and a playback program, modify the program and settings if needed, and load the resulting overlay onto specific device outputs (via LAN) according to a predefined schedule.



In this TV Showroom example (also applies to coffee shops, sports bars, public areas, and so on), **VCO-16** is connected to 16 TV outputs and a specific overlay (the price) is sent to each of the outputs:



### Default communication parameters:

Ethernet	
IP Address:	192.168.1.39
Subnet mask:	255.255.255.0
Default gateway:	192.168.1.254
TCP Port #:	5000
Full Factory Reset	
Reset/Test button:	While power is switched on, press and hold the RESET (or TEST) button for at least 5 seconds. Set the DIP-switches to 1 1 1 0 0 1 0 0 positions (DIP#1 to DIP#8, 1=on, 0=off).
Ethernet (TCP/IP) Command Protocol	
Command Format:	ASCII protocol 3000
Example (Stop playback, and remove overlay from the screen for output 1):	#Y 0,150,0,0<CR>