

# VEO-SWM45

SWITCHER

*4K 5x1 presentation switcher with HDBaseT extender*



## USER MANUAL

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## 1. IMPORTANT REMARK



WARNING: SHOCK HAZARD - DO NOT OPEN  
AVIS: RISQUE DE CHOC ÉLECTRIQUE - NE PAS OUVRIR



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated “dangerous voltage” within the product’s enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

**WARNING (If applicable):** The terminals marked with symbol of “” may be of sufficient magnitude to constitute a risk of electric shock. The external wiring connected to the terminals requires installation by an instructed person or the use of ready-made leads or cords.

**WARNING:** To prevent fire or shock hazard, do not expose this equipment to rain or moisture.

**WARNING:** An apparatus with Class I construction shall be connected to a mains socket-outlet with a protective earthing connection.

## 2. IMPORTANT SAFETY INSTRUCTIONS

1. Read these instructions.
2. Keep these instructions.
3. Heed all warnings.
4. Follow all instructions.
5. Do not use this apparatus near water.
6. Clean only with dry cloth.
7. Do not block any ventilation openings. Install in accordance with the manufacturer’s instructions.

8. Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.
9. Do not defeat the safety purpose of the polarized or grounding type plug. A polarized plug has two blades with one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong are provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
10. Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and at the point where they exit from the apparatus.
11. Only use attachments/accessories specified by the manufacturer.
12. Unplug the apparatus during lightening sorts or when unused for long periods of time.
13. Refer all servicing to qualified personnel. Servicing is required when the apparatus has been damaged in any way, such as power supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
14. Disconnecting from mains: Switching off the POWER switch all the functions and light indicators of the amplifier will be stopped, but fully disconnecting the device from mains is done unplugging the power cord from the mains input socket. For this reason, it always shall remain readily operable.
15. Equipment is connected to a socket-outlet with earthing connection by means of a power cord.
16. The marking information is located at the bottom of apparatus.
17. The apparatus shall not be exposed to dripping or splashing and that no objects filled with liquids, such as vases, shall be placed on apparatus.

**NOTE:** This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



**WARNING:** This product must not be discarded, under any circumstance, as unsorted urban waste. Take to the nearest electrical and electronic waste treatment centre.

**NEEC AUDIO BARCELONA, S.L.** accepts no liability for any damage that may be caused to people, animal or objects due to failure to comply with the warnings above.

### 3. IMPORTANT NOTE

Thank you for choosing our VEO-SWM45 switcher. It is very important to carefully read this manual and to fully understand its contents before making any connection in order to maximize your use and get the best performance from this equipment.

To ensure optimal operation of this device, we strongly recommend that its maintenance be carried out by our authorised Technical Services.

The VEO-SWM45 comes with a 3-year warranty.

### 4. INTRODUCTION

Ecler VEO-SWM45 is a 5x1 presentation switcher and scaler that supports 4K/UHD video signal. 5 inputs include 3 HDMI ports, 1VGA (YPbPr/CVBS) and 1 DisplayPort scaled to one HDMI output with a mirrored HDBaseT extension. VEO-SWM45 control options include auto-switching feature, front panel touch buttons, logic inputs, Telnet, Web GUI, RS-232 and IR using the included remote control. An integrated audio matrix consisting of unbalanced Line inputs and outputs ensures that VEO-SWM45 has a great flexibility for embedding and de-embedding audio signal, while a balanced Mic/Line input for a Presenter microphone skips the need of external preamplifiers. VEO-SWM45 supports EDID management and it is HDCP 2.2 compliant. It represents a perfect solution in a large number of purposes including educational, corporate and commercial applications.

#### Features:

- Ultra High Definition source selector with presentation features and integrated scaler
- Three HDMI 2.0 Inputs, one VGA (YPbPr/CVBS) and one DisplayPort video inputs
- Five Unbalanced Stereo and one Balanced Microphone/Line Inputs with 48V phantom power
- Digital video resolution up to 4Kx2K (4096x2160@60Hz YUV 4:4:4)
- VGA resolution up to 1920x1200@60Hz
- Output resolution up to 4096x2160@30Hz
- Mirrored HDBaseT output for extension up to 70m (230 feet)
- HDCP 2.2 Compliant
- Supports automatic and manual switching
- Supports EDID management
- Supports PCM stereo pass-through

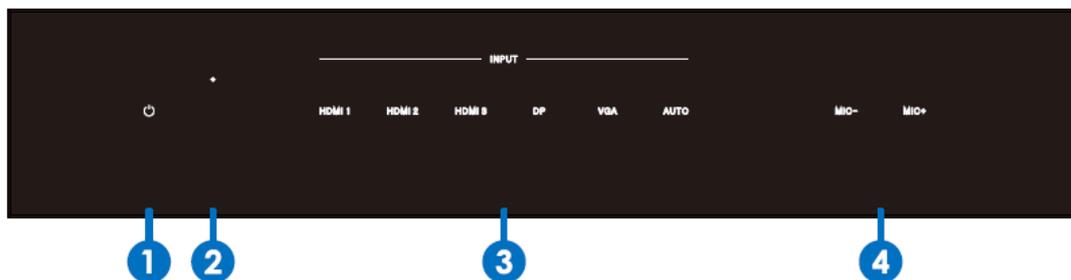
- Touch Panel buttons, Embedded Web GUI, IR Remote Control, Logic contacts and RS-232 control

## 5. PACKAGE CONTENTS

- 1 x HDMI 5x1 4K Presentation Switcher
- 1 x HDBaseT Receiver
- 2 x Mounting Ears
- 1 x Remote Control
- 2 x IR Receiver Cable
- 2 x IR Blaster Cable
- 1 x 24V/1A International Power Supply
- 1 x 3RCA (Female) to D-SUB (Male) Adapter

## 6. PANEL DESCRIPTION

### 6.1. Front Panel

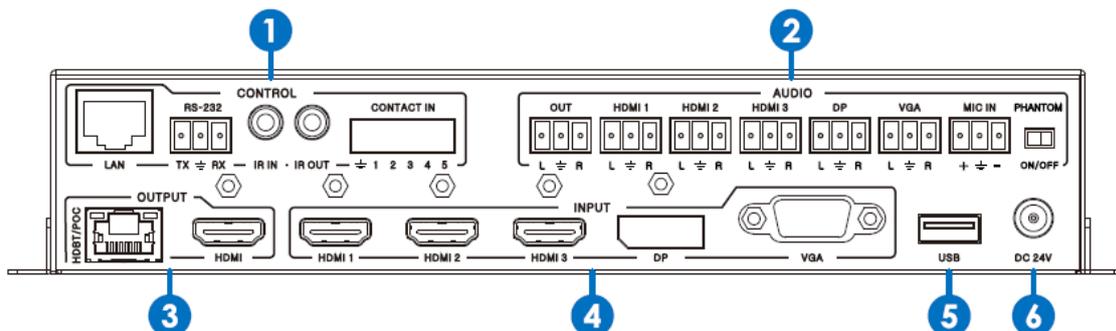


- 1. Power Button and LED Indicator:** When the device is switched ON by pressing the Power button, the indicator will illuminate blue. When the device is in standby mode, the indicator will illuminate red.
- 2. IR Window**
- 3. Source Selection buttons:** Press these buttons for source selection. The corresponding selected source indicator will be illuminated blue.

#### 4. Operation Buttons:

- The OK/MENU button allows entering the OSD menu and confirming the selected options:
- The EXIT/AUTO button allows exiting the OSD menus. Push EXIT/AUTO for more than 5 seconds in order to activate the Auto-switching mode. When this function is enabled, the button will illuminate blue.
- Pressing MIC-/+ buttons allows to decrease or increase the Microphone volume.
- Pressing VOL-/+ buttons allows to decrease or increase the Master volume.
- Pressing MIC- and MIC+ simultaneously will reset the output HDMI and HDBaseT resolution to 720P/60Hz.
- Pressing VOL- and VOL+ simultaneously will lock/unlock the front panel buttons. When the panel is locked, the two buttons will illuminate.

#### 6.2. Rear Panel



##### 1. CONTROL Ports:

- **LAN Port:** This port is the link for Web GUI and Telnet control.
- **RS-232 Port:** Serial control port suitable for controlling VEO-SWM45 switcher or any device connected to RS232 port of the HDBaseT receiver.
- **IR Input Port:** Connect the provided IR Receiver cable. It allows sending IR commands to remote device through the HDBaseT extender IR Out port.
- **IR Input Port:** Connect the provided IR Transmitter cable. It allows receiving IR commands from a remote IR control through the HDBaseT extender IR Input Port.

- **Contact IN:** These ports allow to select a source closing the corresponding dry contact to the GND pin (marked as  $\overline{\text{GND}}$ ), as reported in the following table:

Pin number	Source
Pin 1	HDMI1
Pin 2	HDMI2
Pin 3	HDMI3
Pin 4	DisplayPort
Pin 5	VGA/YpPr/CVBS

## 2. AUDIO Ports:

- **OUT:** This unbalanced stereo line output provides a de-embedded version of the selected video source audio signal, mixed with the MIC input. Using the Web GUI or the OSD menu it is possible to associate every EXT analog audio input to each video source.
- **EXT1/EXT2/EXT3/EXT4/EXT5:** These unbalanced stereo line inputs allow embedding an external analog signal to each video source. The selection can be done using Web GUI or OSD menu. The VGA Source selects EXT5 as default audio input.
- **MIC IN:** Through this Mic/Line balanced input it is possible to connect a presenter microphone that can be mixed with the main audio or prioritized through the internal audio ducker.
- **48V/MIC/LINE selector:** This selector allows selecting the type of signal routed to the MIC IN input. Select the 48V position for condenser microphones that need 48V DC standard phantom power. Select the MIC position for microphone level signal such as signal coming from dynamic microphones. Select the LINE position for pre-amplified signal such as signal coming from wireless microphone system or any other paging system.

## 3. OUTPUT Ports:

- **HDMI OUT:** Connect local HDMI display or AV receiver for video and/or audio output.
- **HDBT/PoC Port:** Connect the included HDBaseT receiver through a CAT5e-CAT7 standard cable. This port will provide a remote mirrored HDMI OUT. It supports 24V PoC feature that allows to power the HDBaseT receiver from remote without the need of any external PSU.

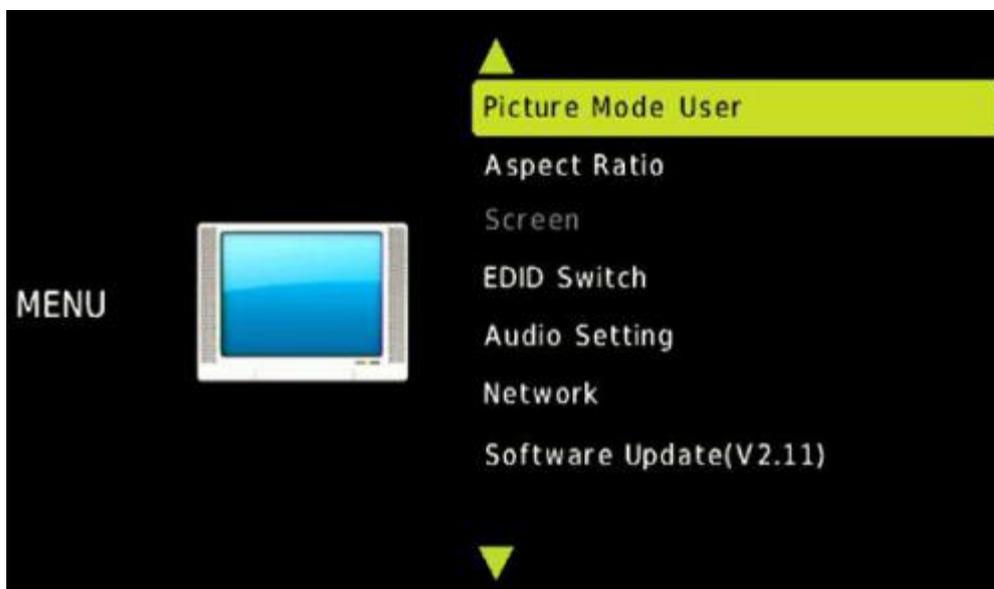
- 4. INPUT Ports:** These video input ports include 3 HDMI inputs, 1 DisplayPort input and 1 VGA analog input. The VGA port supports VGA, YpPr and CVBS format. Factory default is VGA format.

- 5. **USB Port:** This port is reserved for firmware update
- 6. **DC 24V Power Connector:** Plug the included 24V DC power supply.

## 7. OSD MENU

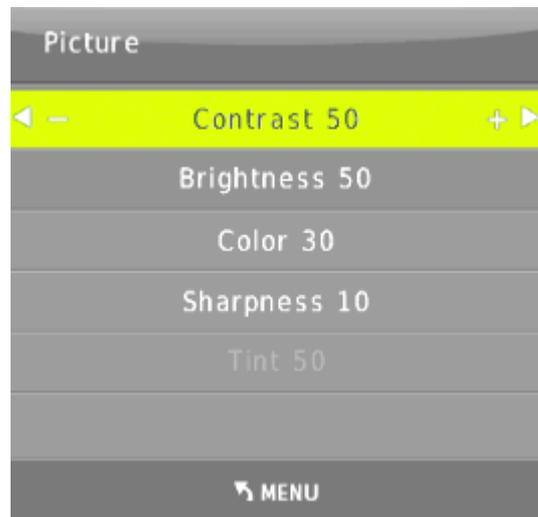
VEO-SWM45 provides a user friendly OSD operation menu. Press the MENU button on IR remote control or from the front panel to enter main menu and configure the switcher.

Main MENU includes the following options: Picture Mode, Aspect Ratio, Screen, EDID switch, Audio settings, Network and Software Update.



### 7.1. Picture mode User

This option allows improving picture quality by adjusting the following parameters:



- Contrast 0-100 (Default 50)
- Brightness 0-100 (Default 50)
- Color 0-60 (Default 30)
- Sharpness 0-20 (Default 10)
- Tint 0-100 (Default 50, for CVBS and NTSC format only)

### 7.2. Aspect Ratio

This option allows to adjust the output aspect ratio to 4:3, 16:9 or 16:10



### 7.3. Screen

Screen menu affects the VGA input only. The user can adjust Horizontal position, Vertical Position, Clock and Phase.



### 7.4. EDID Settings

EDID Menu settings will affect HDMI and DisplayPort inputs only.



Different EDID options will allow source devices to negotiate their output resolution as described in the following table:

EDID 1.4	4K2K30, PCM 2.0
EDID 2.0	4K2K60, PCM 2.0
EDID From HDMI	EDID copy from local HDMI port
EDID From HDBT	EDID copy from HDBaseT Receiver HDMI port
EDID AUTO	Auto compare HDMI and HDBT Receiver HDMI port EDID and select the highest common resolution

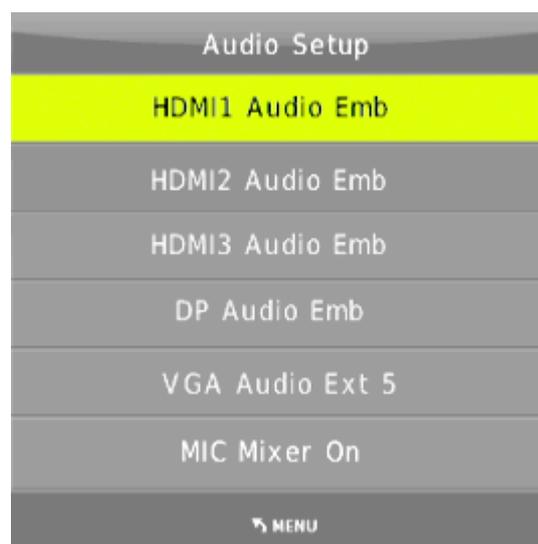
### 7.5. Audio Setup

In Audio menu you can assign Embedded or External analog audio to each HDMI and DP input ports. Furthermore it will be possible to select the microphone mixing mode between ON, AUTO and OFF:

**MIC Mixer ON:** Switcher mixes audio related to the selected video source and the MIC signal, sending the sum to the audio outputs (HDMI, HDBT, Audio output port).

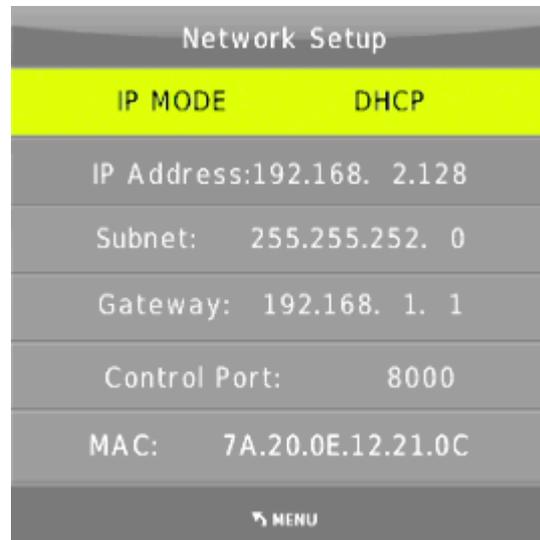
**MIC Mixer AUTO:** Switcher will act as a ducker: the source audio volume will be automatically reduced when a MIC audio signal is detected. On the Web GUI Audio page it is possible to adjust the ducker parameters.

**MIC Mixer OFF:** Switcher will mute the MIC audio input.



## 7.6. Network Setup

Network Setup menu reports all network settings. Through this menu it is possible to set up switcher as DHCP client or assign it a static IP address:



## 7.7. System Setup

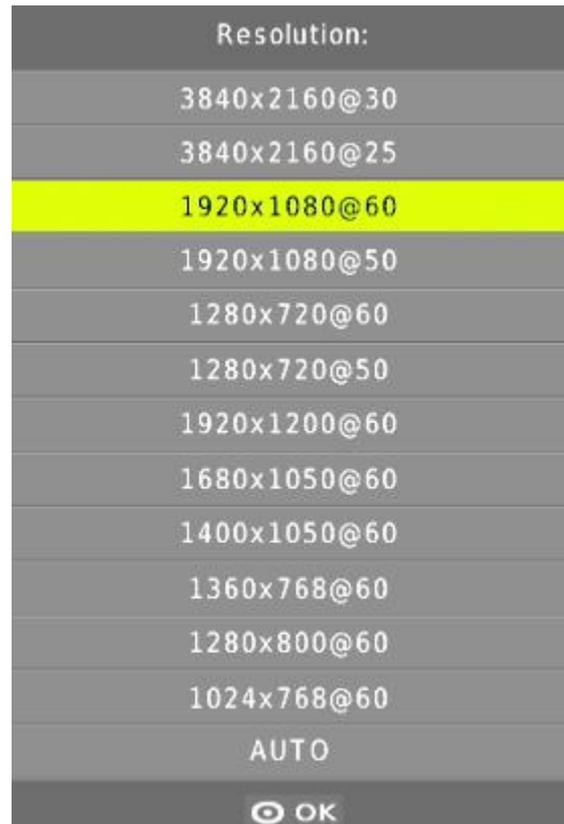
System setup menu includes the following sub-menu: Output Resolution, Output HDCP, Sleep Timer, OSD time out, RS-232 Baud Rate, Test Pattern and Factory reset.



### 7.7.1 Resolution

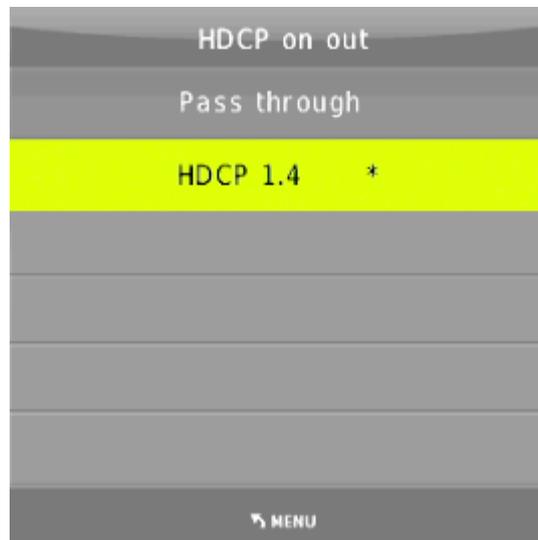
VEO-SWM45 HDMI output resolution support multiple modes. The resolution in use can be changed using the system setup menu or by pressing the “RES” button on the IR remote control. The user can force a custom output resolution for its own HDTV or Monitor.

**Auto** means that the output resolution will be automatically negotiated between the switcher and the display through the EDID information of the display device.



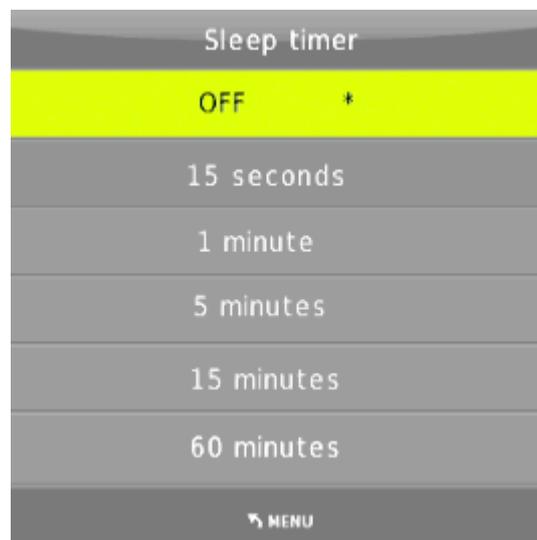
### 7.7.2. HDCP on out

Set the HDMI and HDBT port output HDCP status. Pass-through means the output HDCP follows the selected input source HDCP version. HDCP 1.4 means output HDCP is set to version 1.4.



### 7.7.3 Sleep timer

Switcher sleep timer is set for the switcher to go into standby mode if it does not detect any signal coming from the selected source. The default timer is set to OFF.



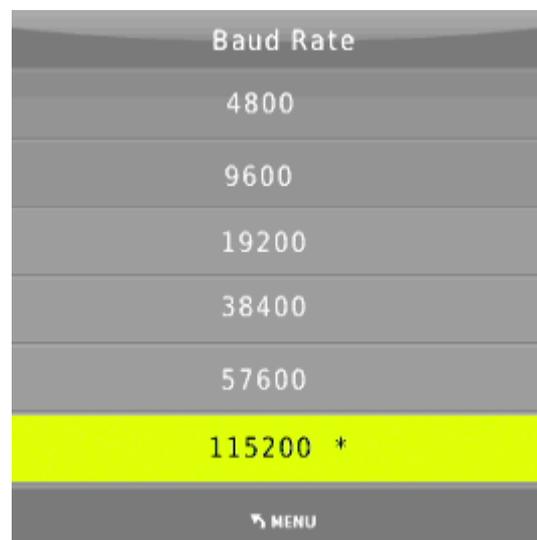
#### 7.7.4 OSD time out

Set the OSD display time, default time is 10 seconds.



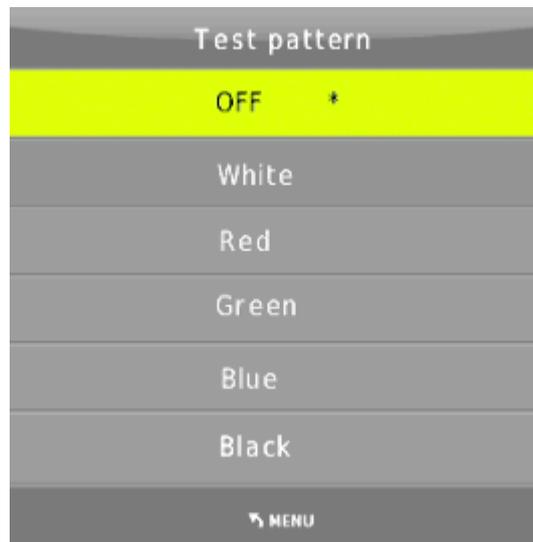
#### 7.7.5 Baud Rate

Set the switcher RS-232 control port baud rate. Default value is 115200bps.



### 7.7.6 Test pattern

Set a test pattern screen that will be displayed on the output screen.



### 7.7.7 Reset default

All settings will be set to factory defaults (HDMI input 1, audio mixer on, Output resolution set to 1920x1080@60Hz, Baud rate set to 115200 bit/s etc.).

## 7.8 Software update

Please contact [www.ecler.com](http://www.ecler.com) for information regarding software update.

## 8. AUTO-SWITCHING FUNCTION

VEO-SWM45 includes auto-switching and manual-switching modes. When auto-switching mode is active, the switcher will act as follows:

### 8.1. New Input

Once a new input signal is detected, VEO-SWM45 will switch to this new signal automatically.

### 8.2. Power rebooting

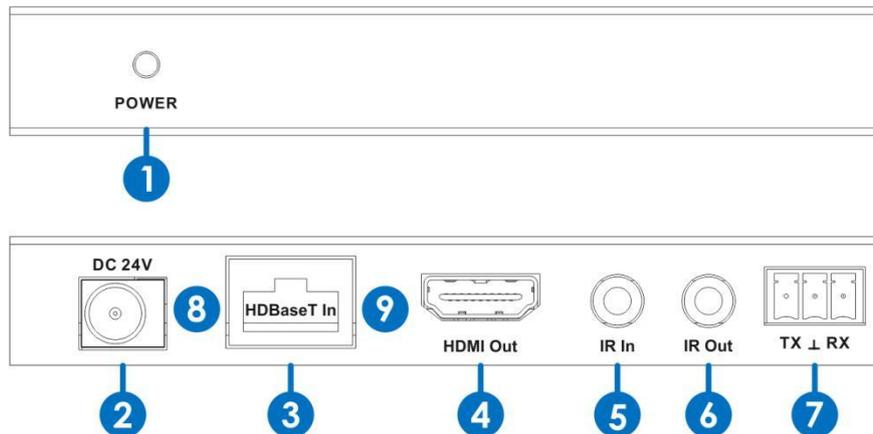
Once the unit is switched on, the last signal used before powering it off will be automatically selected. The auto-switch mode function will be still active. If the last used input signal is still available, it will be displayed automatically. If not, the switcher will detect all available input signals with priority on HDMI1->HDMI2->HDMI3->DP->VGA (YPbPr/CVBS).

### 8.3. Signal removing

Once the currently selected signal is removed, the switcher will start to detect all input signals with priority on HDMI1->HDMI2->HDMI3->DP->VGA (YPbPr/CVBS); the first detected signal will be displayed on the outputs.

**Notice:** Auto-switching function works only when a new input signal is connected or if an input signal is removed.

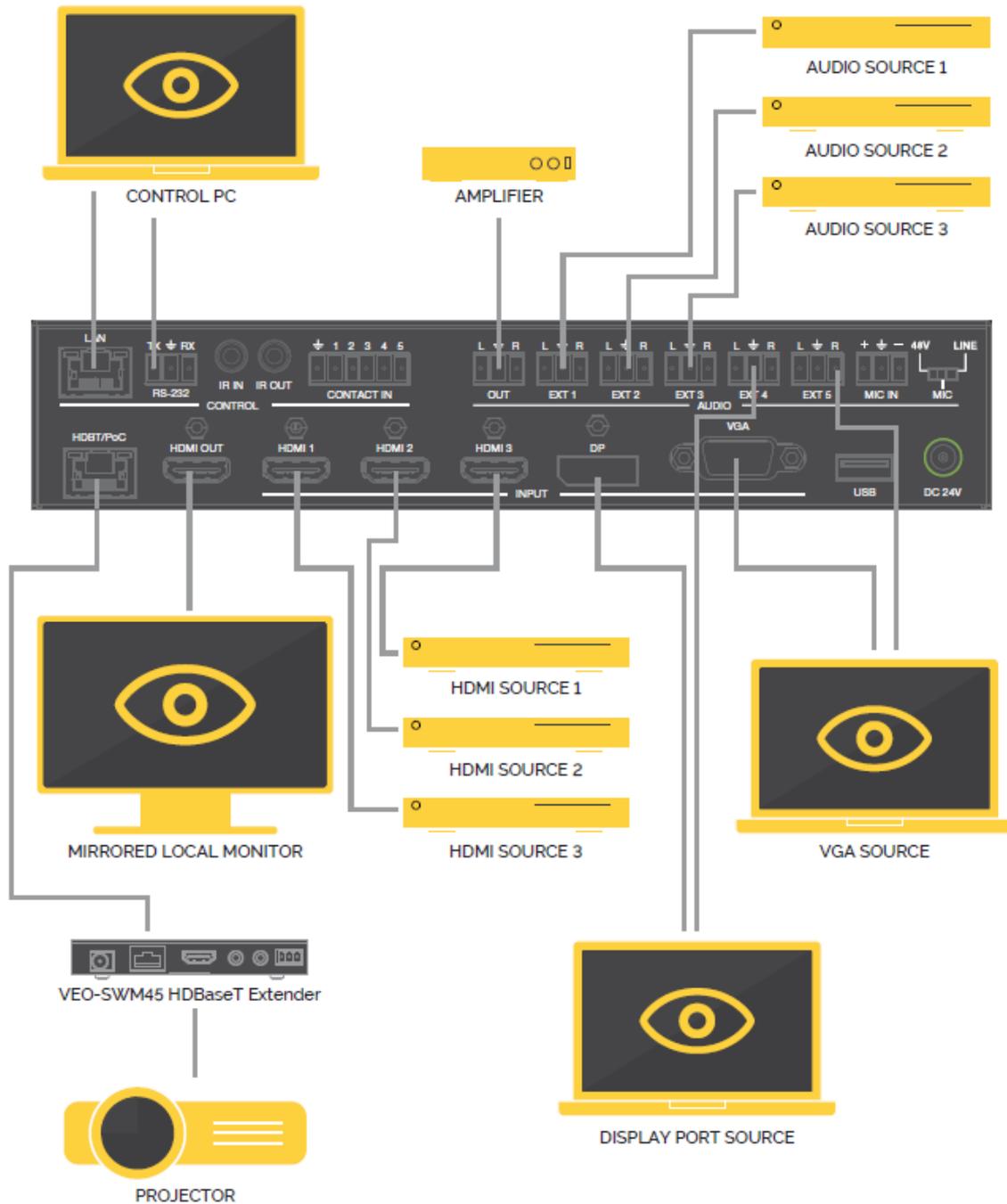
## 9. HDBT Receiver



1. **POWER LED Indicator:** This LED illuminates when device is connected to power supply
2. **DC 24V Power Connector**
3. **HDBaseT Input Port:** Connect it through a CAT5e-CAT7 standard cable to the VEO-SWM45. This link will provide AV and control signal to the receiver and it allows to power it from remote without need of any external PSU.
4. **HDMI Output Port**
5. **IR Input Port:** Connect the included IR Receiver cable. It allows to remotely control source installed near the switcher from remote.
6. **IR Output Port:** Connect the included IR Transmitter cable. It allows control, for example, a display device connected to the receiver.
7. **RS-232:** Serial control port suitable for bi-directional RS232 pass-through via the HDBaseT connection.
8. **Connection Signal Indicator Lamp**
  - **Lit:** Transmitter and Receiver are in good connection status.
  - **Flashing:** Connection issues.
  - **Off:** Transmitter and Receiver are not connected.
9. **Data Signal Indicator Lamp**
  - **Lit:** The HDMI signal is HDCP encrypted
  - **Flashing:** The HDMI signal is not HDCP encrypted.
  - **Off:** No HDMI signal.

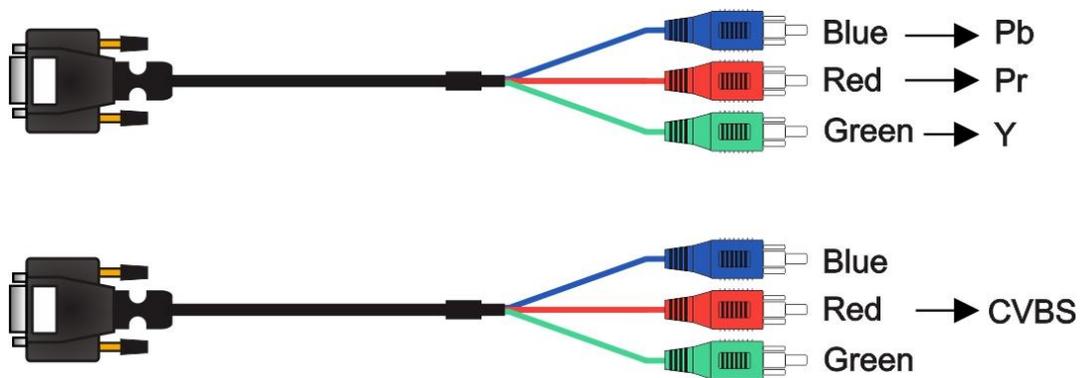
## 10. CONNECTIONS

### 10.1. Connection diagram



## 10.2. VGA/YPbPr/CVBS input

The VGA input port is a **multiple** format port. It supports VGA/YPbPr/CVBS input signals. The switcher will auto detect the input signal type and format. The user can use the converter cable for YPbPr or CVBS signal input.



## 10.3. Connection of microphones and line sources

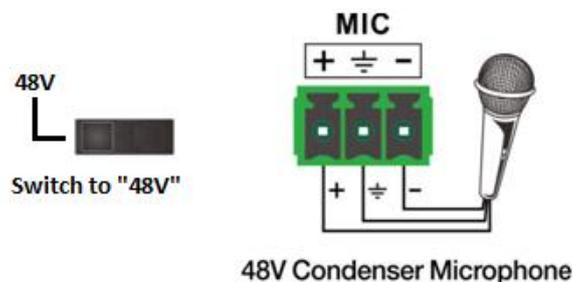
The switcher provides 3 levels MIC/Line input to accommodate different microphone input modes, including 48V phantom power mode, MIC mode and Line Mode.

### 10.3.1. 48V mode

When switched to “48V” the MIC input will provide a 48V phantom power and high sensitivity. This setting is used for condenser microphones that need phantom power.

#### Balanced Connections:

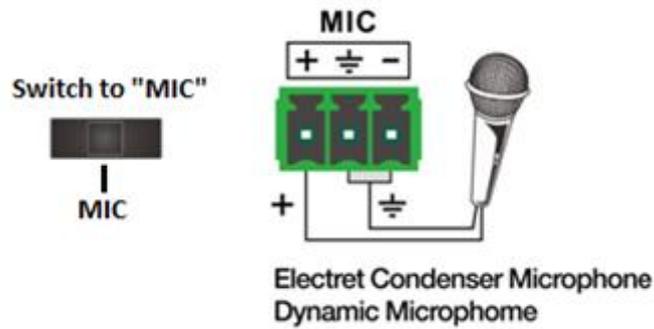
“+” connects to positive, “-” connects to negative and “ $\perp$ ” to ground.



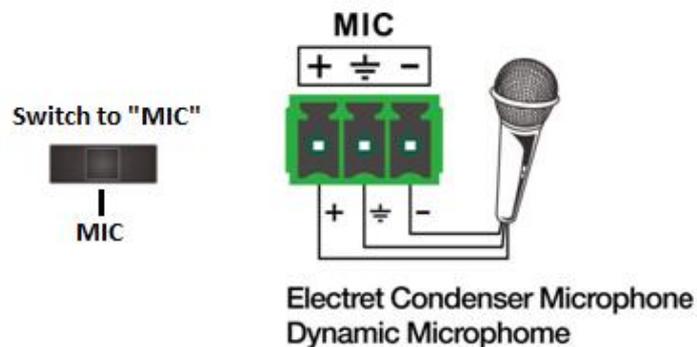
### 10.3.2. MIC mode

When switched to “MIC” the microphone input is used for connecting dynamic microphones and electrets condenser microphone.

- **Unbalanced connection:** “-” and “ $\text{⏏}$ ” connect to ground, and “+” connects to signal.



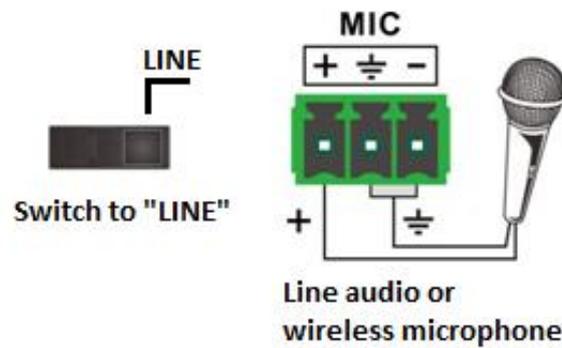
- **Balanced connection:** “+” connects to positive, “-” connects to negative and “ $\text{⏏}$ ” connects to ground.



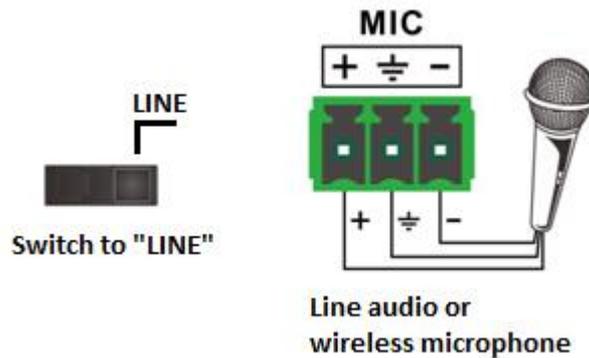
### 10.3.3. Line mode

When switched to “LINE” the microphone input is used for connecting line level signals coming from paging systems or wireless microphones.

- **Unbalanced connection:** “-” and “ $\text{⏏}$ ” connect to ground, and “+” connects to signal.

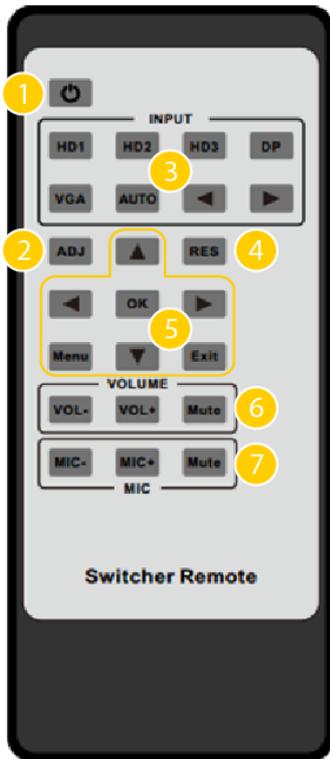


- **Balanced connection:** “+” connects to positive, “-” connects to negative and “ $\text{⏏}$ ” connects to ground.



## 11. REMOTE CONTROL AND IR OPERATION

### 11.1. Remote Control



1. Power: Press this button to power on switcher or for setting it to standby mode.

2. ADJ: Press this button for operating VGA input auto adjustment function;

3. INPUT: Press these buttons for selecting input sources.

4. RES: Press this button to select HDMI output resolution. (Pressing and holding RES for 5 seconds or more will reset HDMI output resolution to 720p60Hz.)

5. Menu operation buttons:

- MENU: press to enter OSD menu.
- EXIT: press to exit OSD menu.
- OK: confirm button
- UP/DOWN/LEFT/RIGHT buttons: OSD value setting.

setting.

6. VOLUME: Master audio volume control.

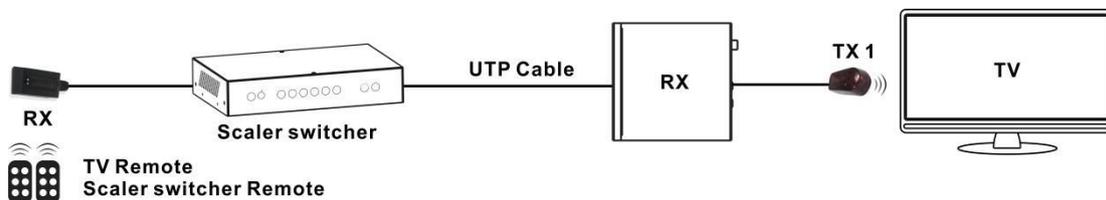
7. MIC: MIC input volume buttons.

### 11.2. IR operation

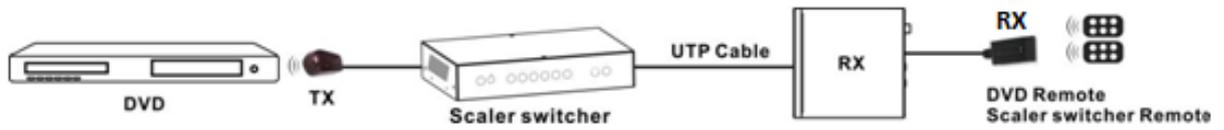
The IR signal can be bi-directionally transmitted between the switcher and the HDBT receiver described in the following two possible scenarios:

#### 11.2.1. Control remote devices

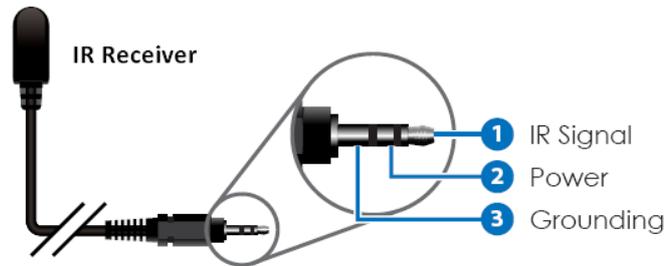
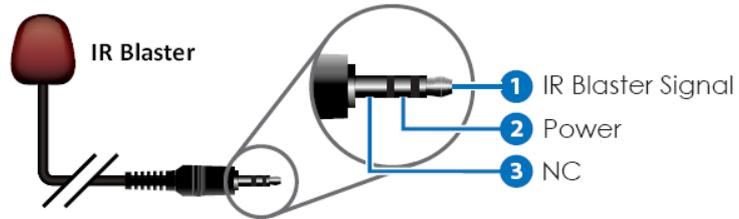
Control of a remote display device by using its corresponding remote control.



Control a local source device from remote using its corresponding remote control.



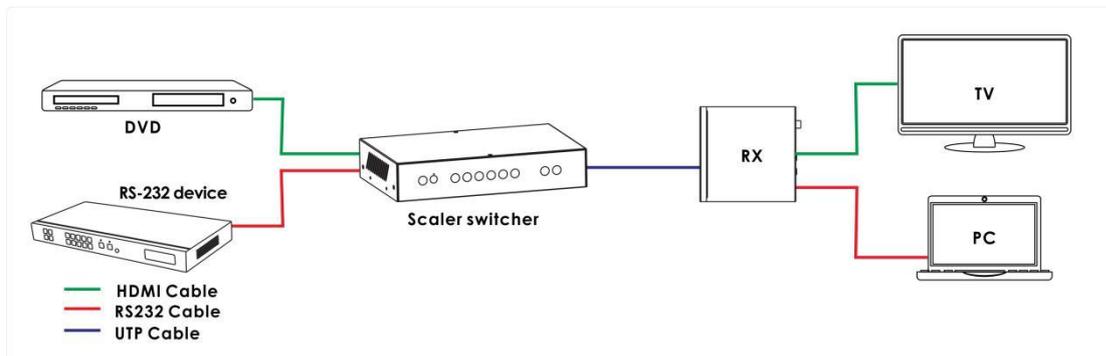
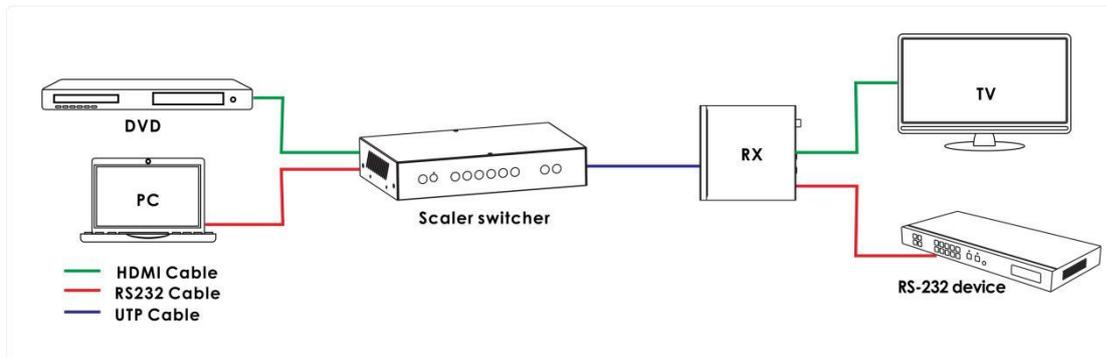
IR (20KHz-60KHz) cable connections



## 12. RS-232 AND TELNET CONTROL OPERATION

A bi-directional RS-232 communication can be established between switcher and the HDBaseT receiver to control the VEO-SWM45 switcher from a third party control system.

### 12.1. Control Switcher from 3rd Party Device and RS-232 extension



### 12.2. RS-232 Connection

The included RS-232 cable with DB-9 male-female cable can be cut in order to be connected to the Euroblock connector on the VEO-SWM45 and on the HDBaseT receiver. The pinout of the DB-9 cable is the following on both sides:

**PIN2**=RX: Purple

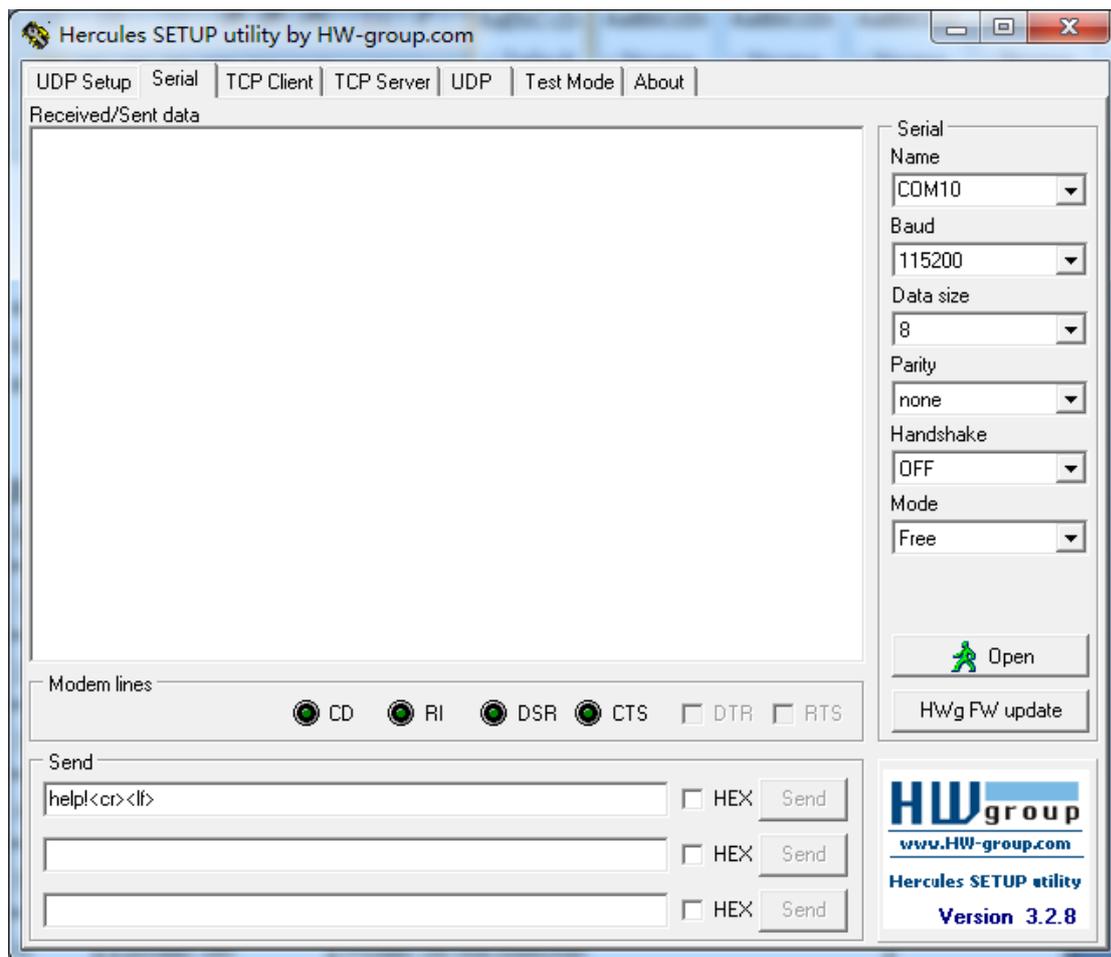
**PIN3**=TX: Orange

**PIN5**=GND: Blue

Please check the connections to ensure a correct serial communication.

### 12.3. RS-232 Control

VEO-SWM45 can be controlled by a third party control system or it can act as RS-232 pass-through extension. For testing purposes, serial terminal software can be used (e.g. Hercules, Putty). Please connect switcher to your computer with serial terminal software installed. **Attention: switcher RS-232 port settings and software settings (eg: baud rate, data bits, parity, stop bits) must match. Default settings are 115200, 8,N,1, like in the following example. Carriage Return <CR> (0x0D) is required at the end of the command string.**



## 12.4. RS-232 Communication Commands

Item	Command	Description
0	help!	Display all communication commands
1	s factory reset!	Restore to factory settings
2	r version!	Get current FW version
3	xyz!	Upgrading firmware on the switcher
4	r power!	Get switcher power status
5	s power on!	Power ON
6	s power off!	Power OFF
7	r lock!	Get panel lock status
8	s lock on!	Lock panel control
9	s lock off!	Unlock panel control
10	s beep on!	Enable Beep notification
11	s beep off!	Disable Beep notification
12	r source!	Get current input source
13	s source 1!	Switch HDMI1 input (1: HDMI1, 2: HDMI2, 3: HDMI3, 4: DisplayPort, 5: VGA/YPBPR/C-VIDEO)
14	r auto switch!	Get auto switch function status
15	s auto switch mode 1!	Enable auto switch function (1: Last connected source mode, 2: First connected source mode, 3: Priority source mode)
16	s auto switch off!	Disable auto switch function
17	r output!	Get output resolution

18	s output 1!	Set output resolution to 3840x2160@30Hz (1: 3840x2160@30Hz, 2: 3840x2160@25Hz, 3: 1920x1080@60Hz, 4: 1920x1080@50Hz, 5: 1280x720@60Hz, 6: 1280x720@50Hz, 7: 1920x1200@60Hz, 8: 1680x1050@60Hz, 9: 1400x1050@60Hz, 10: 1360x768@60Hz, 11: 1280x800@60Hz, 12: 1024x768@60Hz, 13: Out display EDID native resolution)
19	r hdcp!	Get HDMI/HDBT output HDCP status
20	s hdcp bypass!	Set HDMI/HDBT output to HDCP pass-through mode
21	s hdcp 1.4!	Set HDMI/HDBT output to HDCP 1.4 version
22	r contrast!	Get picture contrast status
23	s contrast 0!	Set picture contrast 0 (range: 0-100)
24	r brightness!	Get picture brightness status
25	s brightness 0!	Set picture brightness 0 (range: 0-100)
26	r color!	Get picture color status
27	s color 0!	Set picture color 0 (range: 0-60)
28	r sharpness!	Get picture sharpness status
29	s sharpness 0!	Set picture sharpness 0 (range: 0-20)
30	r tint!	Get picture tint status
31	s tint!	Set picture tint 0 (range: 0-100, for CVBS NTSC format only)
32	r aspect ratio!	Get current input source output picture aspect ratio
33	s aspect ratio 1!	Set current input source output picture aspect ratio at 16:9 (1: 16:9, 2: 4:3, 3: 16:10)
34	r h size!	Get current input source output horizontal overscan value

35	s h size X!	Set output horizontal overscan to (100+X)%(the default X value is 0 and the range is -10~10, the value is set for current input source)
36	r v size!	Get current input source output vertical overscan value
37	s v size X!	Set output vertical overscan to (100+X)%(the default X value is 0 and the range is -10~10, the value is set for current input source)
38	r edid!	Get switcher EDID status on input port
39	s edid 1!	Set input port EDID at HDMI 1.4 standard (1: EDID1.4, 2: EDID2.0, 3: EDID copy HDMI 4: EDID copy HDBT, 5: EDID AUTO)
40	s vga auto!	Enable VGA auto adjust function
41	r vga hpos!	Get VGA horizontal position
42	s vga hpos up!	Set VGA horizontal position up
43	s vga hpos up!	Set VGA horizontal position down
44	r vga vpos!	Get VGA vertical position
45	s vga vpos up!	Set VGA vertical position up
46	s vga vpos down!	Set VGA vertical position down
47	r vga clock!	Get VGA input ADC sampling clock value
48	s vga clock up!	Increase VGA input ADC sampling clock value
49	s vga clock down!	Decrease VGA input ADC sampling clock value
50	r vga phase!	Get VGA picture phase
51	s vga phase up!	Set VGA picture phase up
52	s vga phase down!	Set VGA picture phase down
53	r mixer!	Get MIC mixer status
54	s mixer on!	Set mic mixer ON

55	s mixer off!	Set mic mixer OFF
56	s mixer auto!	Set mic mixer auto
57	s auto vol!	Set source audio volume when set to mixer auto mode
58	r auto vol!	Get source audio volume when set to mixer auto mode
59	r fade in time!	Get source audio fade in time when set to mixer auto mode
60	s fade in time 1000!	Set source audio fade in time when set to mixer auto mode. (The fade in time range is 0~5000ms)
61	r fade out time!	Get source audio fade out time when set to mixer auto mode
62	s fade out time 1000!	Set source audio fade out time when set to mixer auto mode (The fade out time range is 0~5000ms)
63	r out vol!	Get output audio volume
64	s out vol 0!	Set output audio volume 0 (0~32)
65	s out vol up 1!	Increase output audio volume by 1 level
66	s out vol down 1!	Decrease output audio volume by 1 level
67	r mic vol!	Get mic volume
68	s mic vol 0!	Set mic volume 0 (0~32)
69	s mic vol up 1!	Increase mic input audio volume 1 level
70	s mic vol down 1!	Decrease mic input audio volume 1 level
71	s mic mute on!	Mute mic input audio
72	s mic mute off!	Unmute mic input audio
73	s audio mute on!	Mute source input audio
74	s audio mute off!	Unmute source input audio
75	s mute on!	Mute source and mic input audio
76	s mute off!	Unmute source and mic input audio
77	r hdmi1 audio!	Get HDMI1 audio source

78	s hdmi1 audio 0!	Choose audio source as HDMI1 audio input (0: Emb, 1: Ext1, 2: Ext2, 3:Ext3, 4:Ext4, 5:Ext5)
79	r hdmi2 audio!	Get HDMI2 audio source
80	s hdmi2 audio 0!	Choose audio source as HDMI2 audio input (0: Emb, 1: Ext1, 2: Ext2, 3: Ext3, 4: Ext4, 5: Ext5)
81	r hdmi3 audio!	Get HDMI3 audio source
82	s hdmi3 audio 0!	Choose audio source as HDMI3 audio input (0: Emb, 1: Ext1, 2: Ext2, 3: Ext3, 4: Ext4, 5: Ext5)
83	r dp audio!	Get DisplayPort audio source
84	s dp audio 0!	Choose audio source as DisplayPort audio input (0: Emb, 1: Ext1, 2: Ext2, 3: Ext3, 4: Ext4, 5: Ext5)
85	r vga audio!	Get DisplayPort audio source
86	s vga audio 1!	Choose audio source as VGA audio input (1: Ext1, 2: Ext2, 3: Ext3, 4: Ext4, 5: Ext5)
87	r ip mode!	Get IP mode
88	s ip mode 1!	Set IP mode at Static (1:Static, 2:DHCP)
89	r ip addr!	Get IP address
90	s ip addr 192.168.1.255!	Set IP address to 192.168.1.255
91	r subnet!	Get subnet address
92	s subnet 255.255.255.252!	Set subnet to 255.255.255.252
93	r gateway!	Get gateway address
94	s gateway 192.168.1.1!	Set gateway to 192.168.1.1
95	r port!	Get network port
96	s port 8000!	Set control port to 8000
97	r sleep time!	Get switcher sleep time (no signal to standby mode time)

98	s sleep time 1!	Set switcher sleep time (no signal to standby mode time) (1: OFF, 2: 15seconds, 3: 1minutes, 4: 5minutes, 5: 15minutes, 6: 60minutes)
99	r osd time!	Get OSD time out
100	s osd time 1!	Set OSD time out (1: 5seconds, 2: 10seconds, 3: 15seconds, 4: 20seconds, 5: 25seconds, 6: 30seconds)

The same command strings can be sent using a **standard TCP/IP connection to the port indicated in Network Settings, or using the standard Telnet port 23**. The strings can be tested using a TCP/IP client terminal like Hercules: just open a connection using the switcher IP address and the port indicated in Network Settings and send the command string followed by “Carriage Return” <CR>.

### 13. Web GUI Control

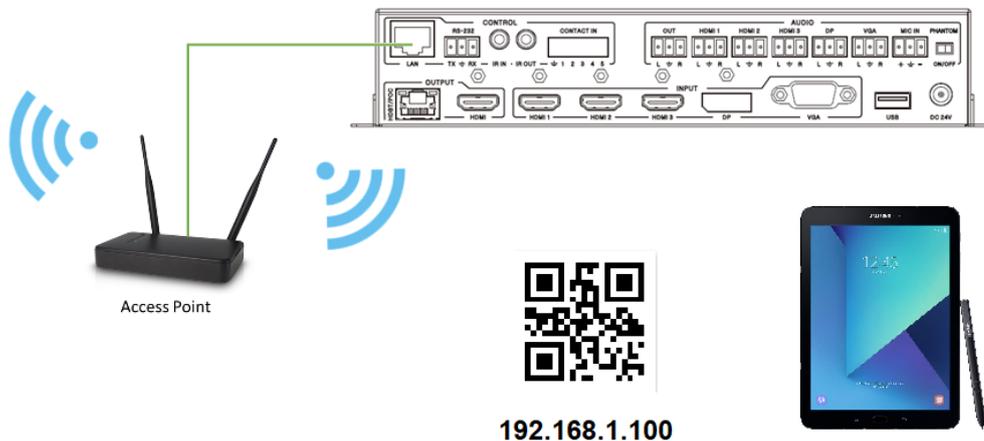
Switcher can be controlled with web interface, just type VEO-SWM45’s IP address in address bar in web browser. If the IP address is unknown, there are two methods to obtain it:

- UIn OSD Menu by using the IR remote control.
- Using RS-232 command string.

If the IP address is 192.168.1.100 (default) just type:

**http://192.168.1.100**

As a web based GUI, it can also be managed using mobile devices. If the VEO-SWM45 is connected to a wireless network, the presenter can control the switcher using his own mobile device if the devices are connected to the same WI-FI network. In order to make the connection easier, a QR-Code with the switcher IP address can be generated with a free QR code generator.



:

### 13.1. General

General
Video
Audio
Network
Advanced
5x1 Presentation Switcher

INPUT

Audio Emb

Auto Switch OFF

HDMI 1

HDMI 2

HDMI 3

DP

VGA

OUTPUT

Resolution 1920x1080@60

Aspect Ratio 16 : 9

EDID/HDCP

Set EDID EDID 1.4

Set HDCP HDCP 1.4

### 13.2. Video

General Video Audio Network Advanced 5x1 Presentation Switcher

#### Picture

Contrast  50

Brightness  50

Color  30

Sharpness  10

H Size  0

V Size  0

#### VGA

Auto Adjust

H Position  0

V Position  0

Clock  0

Phase  0

### 13.3. Audio

General Video Audio Network Advanced 5x1 Presentation Switcher

#### Volume

Audio Volume  32

MIC Volume  25

#### Mic Mixer

Mixer  ON  AUTO  OFF

Audio Volume:

AudioVol:16

Fade in time:  ms

Time:1000

Fade out time:  ms

Time:1000

### 13.4. Network

General Video Audio **Network** Advanced 5x1 Presentation Switcher

#### Network Configuration

Static  DHCP Status

IP

Subnet  Set

Gateway

MAC

---

port  Set

#### Status Log

```

DHCP: ON
IP: 192.168.2.229
Subnet: 255.255.252.0
Gateway: 192.168.1.1
Port: 8000
MAC: 00:1c:91:03:80:01
                    
```

### 13.5. Advanced

General Video Audio Network **Advanced** 5x1 Presentation Switcher

Beep off  on  Power off  on

Factory Reset

Serial Baudrate  ▼

Sleep Timer  ▼

OSD Time Out  ▼

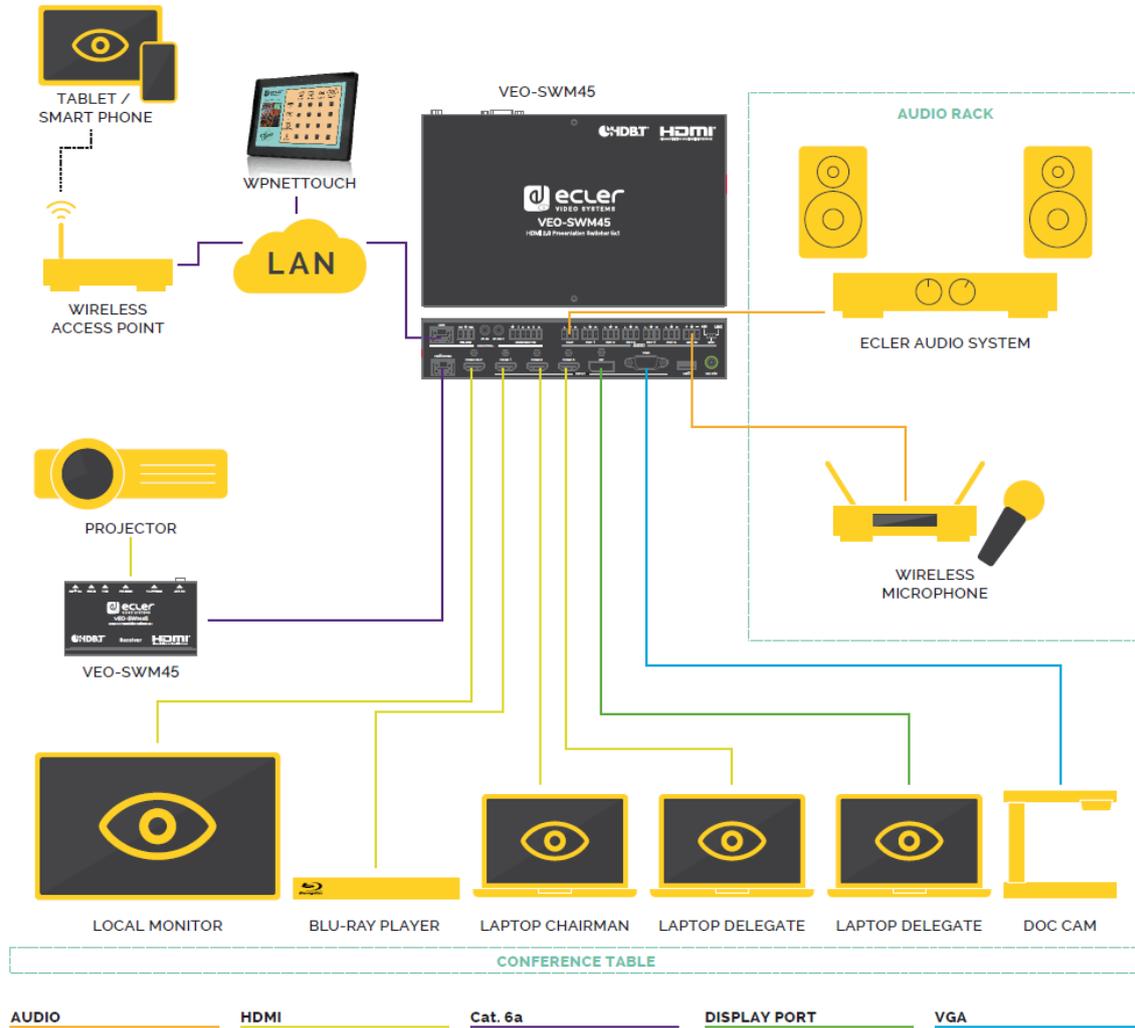
Please insert the USB flash drive.

Upgrade Scaler

FW Version: 2.18

WebGUI Version: V2.09

## 14. APPLICATION DIAGRAM



## 15. TECHNICAL SPECIFICATIONS

### Supported Resolutions

<b>Input</b>	HDMI/DisplayPort: up to 3840x2160@50/60Hz (4:4:4)  CVBS: PAL/NTSC3.58/NTSC4.43/SECAM/PAL M/PAL N  YPBPR: 480i to1080p  VGA: 640x480/60 up to 1920x1200/60
<b>Output</b>	3840x2160@30, 3840x2160@25, 1920x1080p60, 1920x1080p50, 1280x720p/60, 1280x720p/50, 1024x768/60, 1280x800/60, 1360x768/60, 1400x1050/60, 1680x1050/60, 1920x1200/60
<b>Color depth</b>	up to 12-bit
<b>Signal Bandwidth</b>	18 Gbps Inputs / 10.2Gbps Output and HDBaseT
<b>HDCP</b>	2.2, 1.4 Compliant
<b>Audio Formats</b>	LPCM 2Ch
<b>Sample Rate</b>	32kHz, 44.1kHz, 48kHz, 88.2kHz, 96kHz, 176.4kHz, 192kHz
<b>Bitrate</b>	up to 24-bit
<b>HDMI Distance</b>	up to 10 meters (33 feet) with Ecler VEO cables
<b>Operating Temperature</b>	0°C - 40°C / 32°F - 104°F
<b>Humidity</b>	20 - 90% RH (no condensation)
<b>Power Consumption</b>	18W Maximum
<b>Power Supply</b>	AC100~240V 50/60Hz Output: DC 24V/1A
<b>Dimensions H x W x D</b>	150mm x 220mm x 44mm (5.90" x 8.66" x 1.73")
<b>Weight</b>	1250g (2.75 lbs)

All product characteristics are subject to variation due to production tolerances. **NEEC AUDIO BARCELONA S.L.** reserves the right to make changes or improvements in the design or manufacturing that may affect these product specifications.

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