6x1 4K Presentation Switcher with Multi-view
DL-PSMV62

Rev 220109

LIBERTY
AV SOLUTIONS

Table of Contents

Important Safety Instructions

» Please completely read and verify you understand all instructions in this manual before operating this equipment.

» Keep these instructions in a safe, accessible place for future reference.

» Heed all warnings.

» Follow all instructions.

» Do not use this apparatus near water.

» Clean only with a dry cloth.

» Do not install near any heat sources such as radiators, heat registers, stoves, or other apparatus (including amplifiers) that produce heat.

» Use only accessories specified or recommended by Intelix.

» Explanation of graphical symbols:

  ◊ Lightning bolt/flash symbol: the lightning bolt/flash and arrowhead within an equilateral triangle symbol is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product enclosure which may be of sufficient magnitude to constitute a risk of shock to a person or persons.

  ◊ Exclamation point symbol: the exclamation point within an equilateral triangle symbol is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the product.

» **WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPARATUS TO RAIN OR MOISTURE AND OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, SHOULD NOT BE PLACED ON THIS APPARATUS.**

» Use the mains plug to disconnect the apparatus from the mains.

» **THE MAINS PLUG OF THE POWER CORD MUST REMAIN READILY ACCESSIBLE.**

» Do not defeat the safety purpose 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 is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of your obsolete outlet. **Caution! To reduce the risk of electrical shock, grounding of the center pin of this plug must be maintained.**

» Protect the power cord from being walked on or pinched particularly at the plugs, convenience receptacles, and the point where they exit from the apparatus.

» Do not block the air ventilation openings. Only mount the equipment per Intelix's instructions.

» Use only with the cart, stand, table, or rack specified by Intelix or sold with the equipment. When/if a cart is used, use caution when moving the cart/equipment combination to avoid injury from tip-over.

» Unplug this apparatus during lightning storms or when unused for long periods of time.

» **Caution!** Shock Hazard. Do not open the unit.

» Refer to qualified service 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.

PRODUCT OVERVIEW

The DigitaLinx Series is a family of extension, routing, and switching products designed to allow digital signals to extend beyond their limitations. Liberty's latest addition, DL-PSMV62, is an HDMI 1.4 and HDCP 2.2 compliant presentation switcher that offers four HDMI, one display port and one USB-C input with power charging capability along with mirrored HDMI and HDBaseT outputs. The HDBaseT output supports PoC and can be paired with the Digitalinx DL-HD70-RX HDBaseT receiver to extend 4k@30Hz/1080P signal up to 40 meters (131ft) / 70 meters (230ft) all over a single CATx cable.

The switcher features external line audio input that can be embedded into any HDMI input, and provides microphone input for voice lift. The presentation switcher provides multi-view functionality and supports up to 20 layouts. The switcher features a wide range of control flexibility via TCP/IP, front panel buttons, built-in web GUI, IR remote, RS232 and CEC.

PACKAGE CONTENTS

- 6x2 HDMI Switcher
- (2) Mounting Ears with 4 Screws
- (4) Plastic Cushions
- (2) 3-pin Terminal Blocks
- (2) 5-pin Terminal Blocks
- (1) IR Remote
- (1) IR Receiver
- (1) IR Emitter
- (1) RS232 Breakout Cable
- (1) DC24V 5A power supply with US, AU, EU and UK power adapters

FRONT AND REAR PANELS

Front Panel
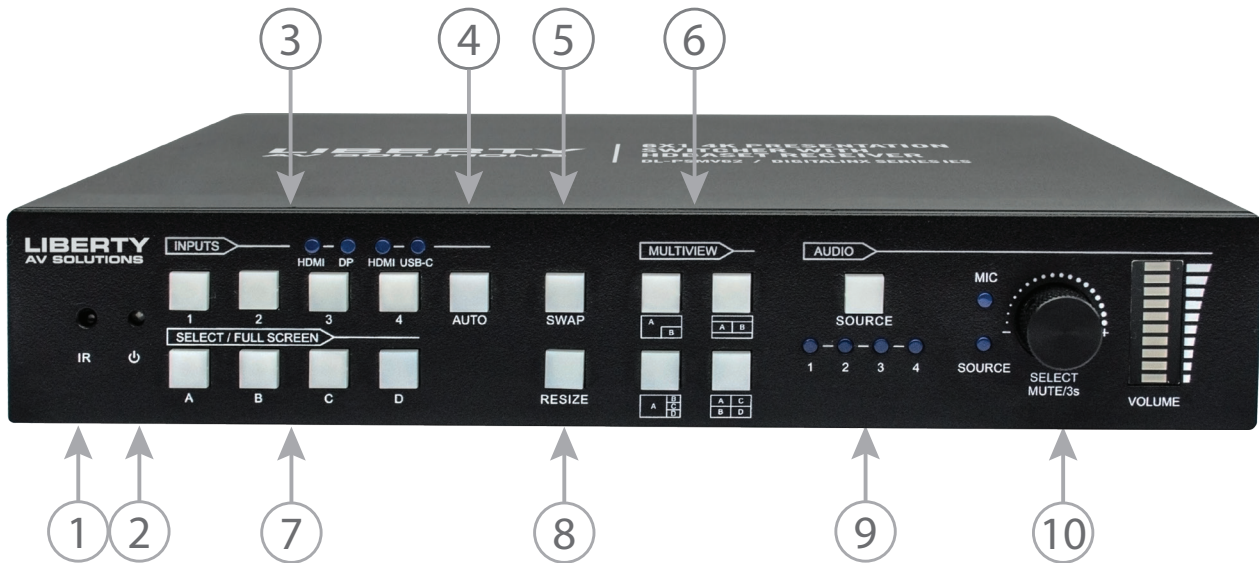
1. **IR LED:** Built-in IR sensor, receives IR signal sent from IR remote.

2. **POWER LED:** Illuminates red when switcher is in standby mode or illuminates green when device is powered on.

3. **INPUT BUTTONS (1~4) and LEDs:** Input source selectors and LEDs.

   • *HDMI/DP LED:* Indicates HDMI or DP source for the third input channel.

   • *HDMI/USB-C LED:* Indicates HDMI or USB-C source for the fourth input channel.

4. **INPUT BUTTONS (1~4):** Input source selectors.

5. **SWAP**: Cycle swaps the video source of the multi-view window display counter clockwise.

6. **MULTIVIEW:** Multi-view mode, toggles through 4 preset multi-view layouts.

7. **SELECT/FULL SCREENS (A~B):** Four buttons for window selection and full screen setting.

8. **RESIZE:** Adjusts the windows size.

9. **AUDIO SOURCE:** Select the audio source, and the corresponding LED (1~4) will illuminate blue. When LINE audio is selected, the button illuminates blue.

10. **VOLUME:** Variable audio control.

    • Press the volume knob to select microphone or source audio control.

    • Rotate the knob to increase or decrease the volume of the selected audio.

    • Press and hold the knob at least 3 seconds to mute the selected audio, rotate the knob to unmute.

Rear Panel
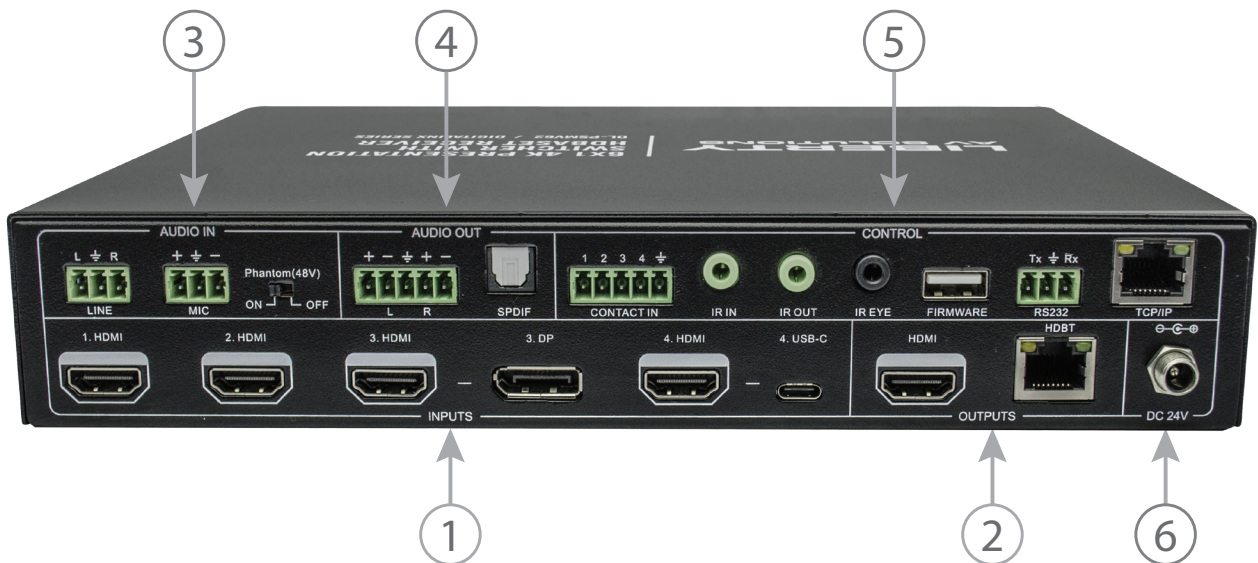
1. **INPUTS:** Four HDMI inputs, one Display Port and one USB-C input.

   - *Note:* USB-C provides up to 60 watts of charging power for connected device.

2. **OUTPUTS:** One HDMI and one HDBaseT output. The HDBaseT output supports 48V PoC.

3. **AUDIO IN:**

   - *LINE:* Line audio input which can be embedded in any HDMI input.

   - *MIC:* Microphone input for audio mixing. Set 48V phantom power mode switch as needed: ON for Condenser microphone; OFF for Dynamic microphone.

4. **AUDIO OUT:**

   - *L+R:* Balanced analog audio ouput for audio de-embedding.

   - *SPDIF:* Digital SPDIF audio output for audio de-embedding.

5. **CONTROL**:

   - *CONTACT IN: Contact external sensors, buttons and other devices for input source selection.*

   - *IR IN: Connects to IR receiver for IR pass-through.*

   - *IR OUT: Connects to IR emitter for IR pass-through.*

   - *IR EYE: Connects to IR receiver for local switcher control.*

   - *FIRMWARE: Type-A USB for firmware upgrade.*

   - *RS232: 3-pin terminal block for RS232 control.*

   - *TCP/IP: RJ45 port to control the switcher via GUI and over network.*

Installation Instructions

Mount the Matrix

At least 2 inches of free air space is required on both sides of the DL-PSMV62 for proper side ventilation. Avoid mounting the DL-PSMV62 near a power amplifier or any other source of significant heat.

Rack Mounting Instructions

Attach the supplied mounting clamps to the sides of the DL-PSMV62 matrix. The switcher requires one rack unit (1 RU) of space. It is recommended that you leave an empty rack space above and below the DL-PSMV62 for additional cooling.

Connect Sources

Video Inputs

Connect source devices to the HDMI, Display Port or USB-C inputs. When using HDMI cables for source inputs, use a High Speed HDMI cable that is less than or equal to 1.5 meters in length for 4k60 signals and 5 meters for 1080p signals.

When connecting a source device to the USB-C input using a USB-C cable, be sure the USB-C cable is a USB 3.2 Gen1 cable capable of supporting video and is no longer than 3 meters (10') in total length. The DL-PSMV62 USB-C input supports ALT-DP mode for video, to ensure a laptop is compatible with the DL-PSMV62 check the laptops capability of supporting this mode.

Note that not all laptops with USB-C port options will support video or more specifically ALT-DP video mode.

Connect Displays

HDMI Outputs

Connect display devices to the HDMI output using a High Speed HDMI cable that is less than or equal to 1.5 meters in length for 4k60 signals and 5 meters for 1080p signals.

HDBaseT Output

Connect a solid core CAT6 F/UTP rated category cable to the DL-PSMV62 HDBaseT output and the DL-HD70-RX HDBaseT receiver (OPTIONAL). Use TIA/EIA-568B wiring for Category 6 connection between the DL-PSMV62 and the receiver

Connect a display device to the HDMI output of the HDBaseT receiver using a High Speed HDMI cable that is less than or equal to 1.5 meters in length for 4k60 signals and 5 meters for 1080p signals.

Note: The HDBaseT transmitter supports up to 40m/132' for 4K@30Hz / 4:4:4 / 8 bit color signals (up to 10Gbps) and 70m/232' for 1080p signals using CAT6 F/UTP cable

HDBaseT Cabling

To ensure proper performance of the DL-PSMV62, it is recommended that you use solid core, shielded Category 6 F/UTP cabling at a minimum. Category 5e F/UTP may perform well but may not support power over HDBaseT reliably over longer distances.

When using shielded category cabling *ALWAYS...*

....use shielded connectors
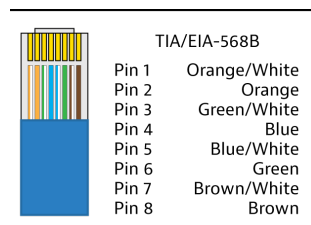....properly ground the category cable

For optimized HDBaseT performance use the following Liberty Wire and Cable branded cabling;

Category 6 plenum; **24-4P-P-L6SH**
Category 6A plenum; **24-4P-P-L6ASH**

Category 6 NON-plenum; **24-4P-L6SH**
Category 6A NON-plenum; **24-4P-L6ASH**

TIA/EIA-568B

| Pin 1 | Orange/White |
Pin 2	Orange
Pin 3	Green/White
Pin 4	Blue
Pin 5	Blue/White
Pin 6	Green
Pin 7	Brown/White
Pin 8	Brown

Twisted Pair Wiring
Use TIA/EIA-568B wiring for Category 6 connection between send and receive units.

Connect Audio Inputs

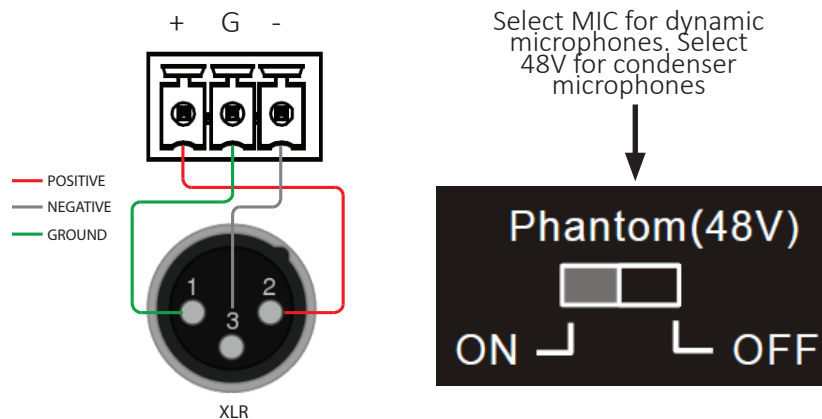The DL-PSMV62 supports a stereo unbalanced (LINE) and a balanced (MIC) audio input.

Unbalanced - TRS 3.5mm

Connect an unbalanced line level audio source to the switchers *LINE* input with the following TRS 3.5 pin-out.
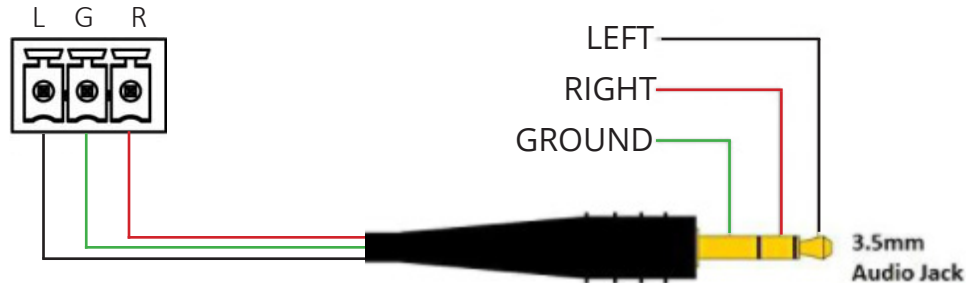
Balanced - XLR

Connect a balanced mic level audio source to the switchers MIC input with the following pin out for mic audio, be sure to use 48V option when using condenser microphones that require phantom power.


NOTE: The *MIC* audio input may be balanced using (+) and (-) input, or unbalanced using (+) input for signal and connecting (-) input to (G) and signal source ground.

Connect Audio Outputs

The DL-PSMV62 supports stereo unbalanced and a balanced analog and outputs as well as digital audio outputs via SPDIF.

Connect an audio amplifier to the audio output of the DL-PSMV62, the switcher features a left and right balanced audio output and a digital SPDIF output.

> **NOTE:** The *AUDIO OUT* may be balanced using (+) and (-) input, or unbalanced using (+) input for signal and connecting (-) input to (G) and signal source ground.
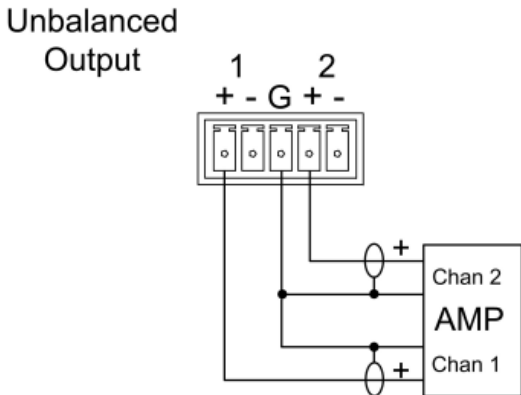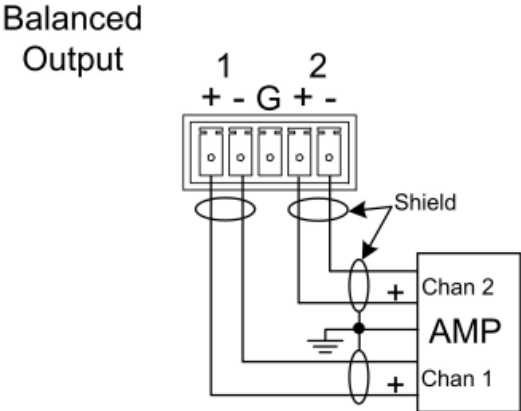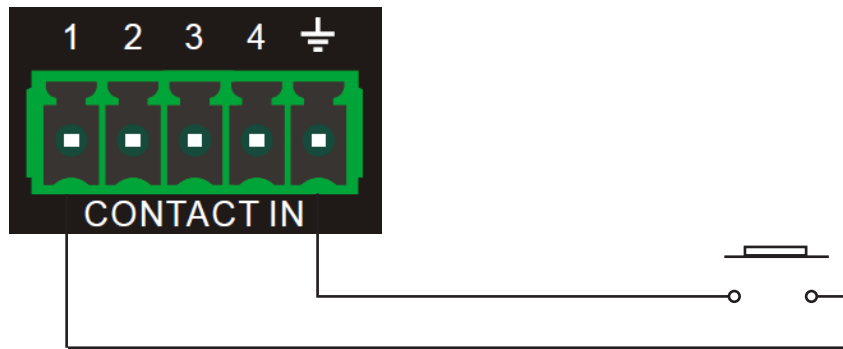
Connecting Control

Contact Closures

The contact closures changes the input of the DL-PSMV62. Use the following pin-out configuration with any standard normally open, momentary switch.

These contact closure inputs are intended to be connected directly to relays or switches. To activate simply short the associated terminal to the ground terminal.
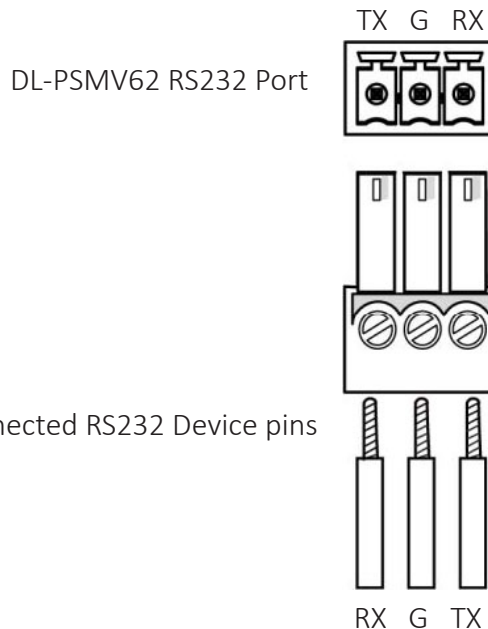

RS232 Port Wiring

Connect a control system to the DL-PSMV62 via RS232 for switcher control.

RS232 Wiring
Connect the system controller RX signal to TX on the DL-PSMV62 , then connect the controllers TX signal to RX on the DL-PSMV62.

RS232 Settings:
- 9600 baud
- 8 Data Bits
- 1 Stop Bit
- Parity = none

DL-PSMV62 RS232 Port

Connected RS232 Device pins

Connecting Ethernet Control

The DL-PSMV62 can be controlled via Ethernet through a web browser interface and listens to TCP commands on port 4001.

TIA/EIA-568B

Pin 1   Orange/White
Pin 2   Orange
Pin 3   Green/White
Pin 4   Blue
Pin 5   Blue/White
Pin 6   Green
Pin 7   Brown/White
Pin 8   Brown

The TCP/IP port requires a standard straight-through Category 5 or greater cable with the TIA/EIA-568B crimp pattern for optimal operation.
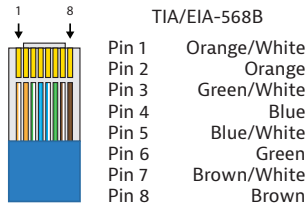
The default settings for the TCP/IP port are: 4001
IP address: 192.168.0.178

Connect the Ethernet cable between to the switcher and a router with a straight-through cable or between the matrix and a computer with a crossover cable.

Web Browser Control

The DL-PSMV62 includes a web portal to allow control of the matrix via a standard web browser. The IP address is the same address that is used for TCP/IP control.

Connecting IR Control

Use only the supplied IR receiver or emitter to the switcher for IR control. With the DL-PSMV62 switcher you are able to pass through IR control to and from the switcher using the optional DL-HD70RX HDBaseT receiver. The IR EYE input on the DL-PSMV62 is only designed for an IR receiver to support the included switcher IR remote.

Below is a diagram of IR usage when paired with the DL-HD70RX HDBaseT receiver.
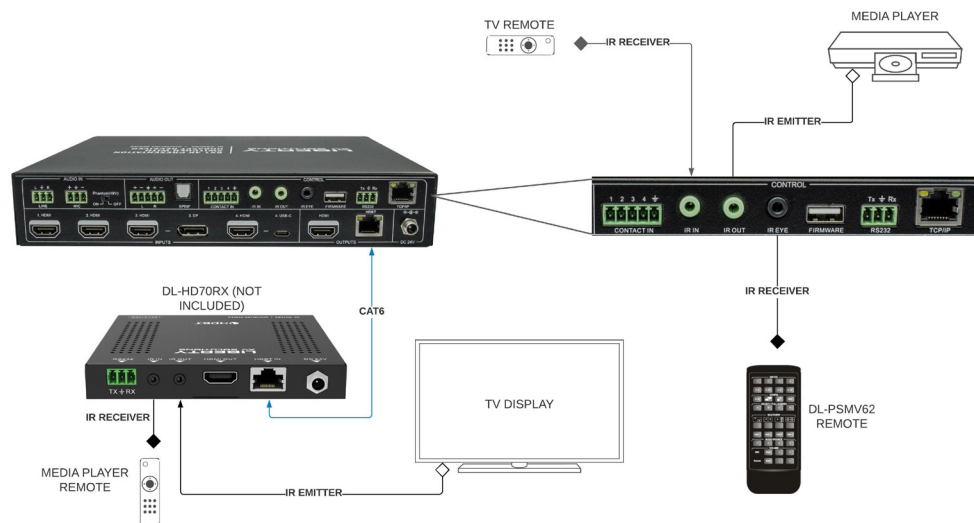
Applying Power

Connect the included power supply to the DL-PSMV62 power port, connect the IEC power cord connected to power supply to a power source.

Front Panel Control

Signal Switching

Full Screen Mode

There are two switching modes in full screen mode; Manual and Auto switching. The latter only works in full screen mode. Press the *AUTO* button to enable or disable the auto-switching mode.
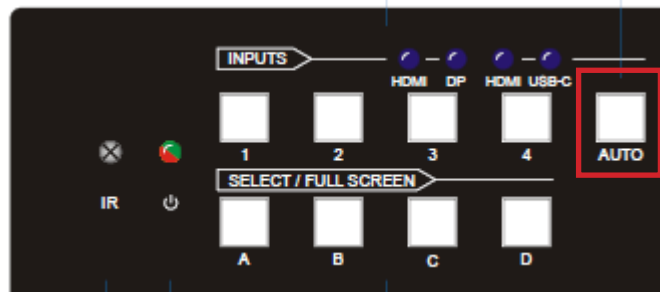
When in auto switching mode, the switcher will switch to the available active inputs with the following priority: 1-HDMI > 2-HDMI > 3-HDMI > 3-DP > 4-HDMI > 4-USB-C. When an input source and output window are connected, the corresponding LEDs will illuminate blue.

To manually make an input switch press the *AUTO* button to disable auto switching mode, then press the desired *INPUT* button.

Multi-view Mode

When in multi-view mode and using a multi-view layout (see Multi-View Mode Selection), you can manually assign inputs 1-4 to the A-D windows in the layout.

To do so, press an *INPUT* button. The input LED illuminates blue, the windows A~D LEDs flash. Then press the desired window button (*A-D*). All window LEDs, besides selected window LEDs will go out, then the selected input and selected window LED will flash three times. Lastly, the selected input LED goes out and windows A~D LEDs illuminate blue.

Switching Status Inquiry

Press and hold a windows button (A-D) at least 3 seconds. Inputs LEDs not assigned to the window button will go out, the corresponding input source LED will illuminate blue. After 3 seconds, Window A, B, C and D LED illuminate blue.

Multi-view Mode Selection

There are four multi-view modes can be selected by front panel buttons.
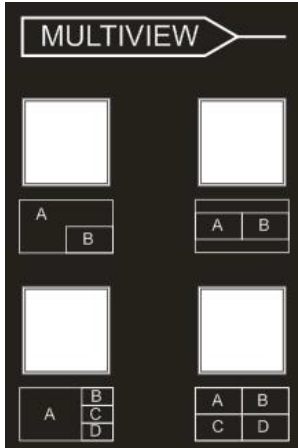
The factory default multi-view mode is quartered window mode, and there is a one-one correspondence between the four input sources and the four output windows:

Input 1 -> window A
Input 2 -> window B
Input 3 -> window C
Input 4 -> window D

The button LEDs (A~D) illuminate blue.

When switching to two-window (A&B) mode, the corresponding mode LED will illuminate blue, and window A and B LEDs will illuminate blue. The factory default correspondence between the two input sources and the two output windows is: input 1 -> window A, input 2 -> window B
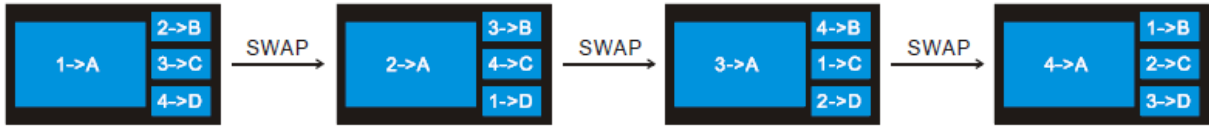
Full Screen Mode Selection
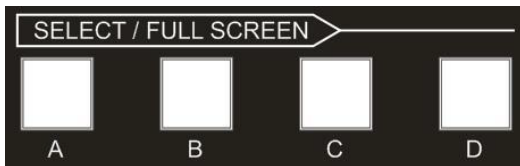
Press *FULL SCREEN* A~D button to select the corresponding window to display in full-screen mode. The corresponding input source button LED and *FULL SCREEN* button LED will illuminate blue, other window buttons and previous multi-view mode button LED goes out.
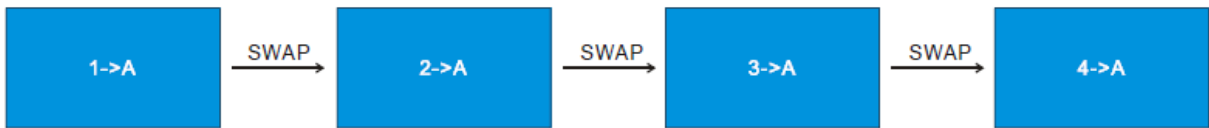
Swap Setting

Press SWAP button to cycle swap the video source of window display in a counter clockwise fashion, the SWAP LED illuminates once the button is pressed once. Below is an example when the SWAP button is pressed repeatably.

Example: In Multi-view Mode

Example: In Full Screen Mode

Window Size Setting

The window A/B/C/D size can be adjusted by repeatedly pressing the RESIZE button, the button LED illuminates once when press its button once.

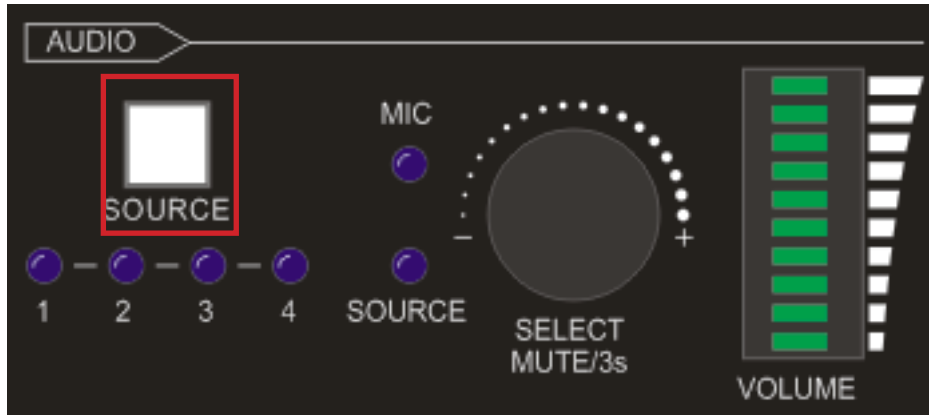Example: PIP (Picture in Picture)

Example: Bisection

Example: One large and three small

Audio Control

By default, the HDMI and HDBT output audio follows the video source in the full screen mode, but in the Multi-view mode, the output audio is from the 1-HDMI input. The audio source can be changed by pressing the SOURCE button.

Press the volume knob to select microphone or source audio control. Rotate the knob to increase or decrease the volume of the selected audio. Press and hold the knob at least 3 seconds to mute the selected audio, rotate the knob to unmute.
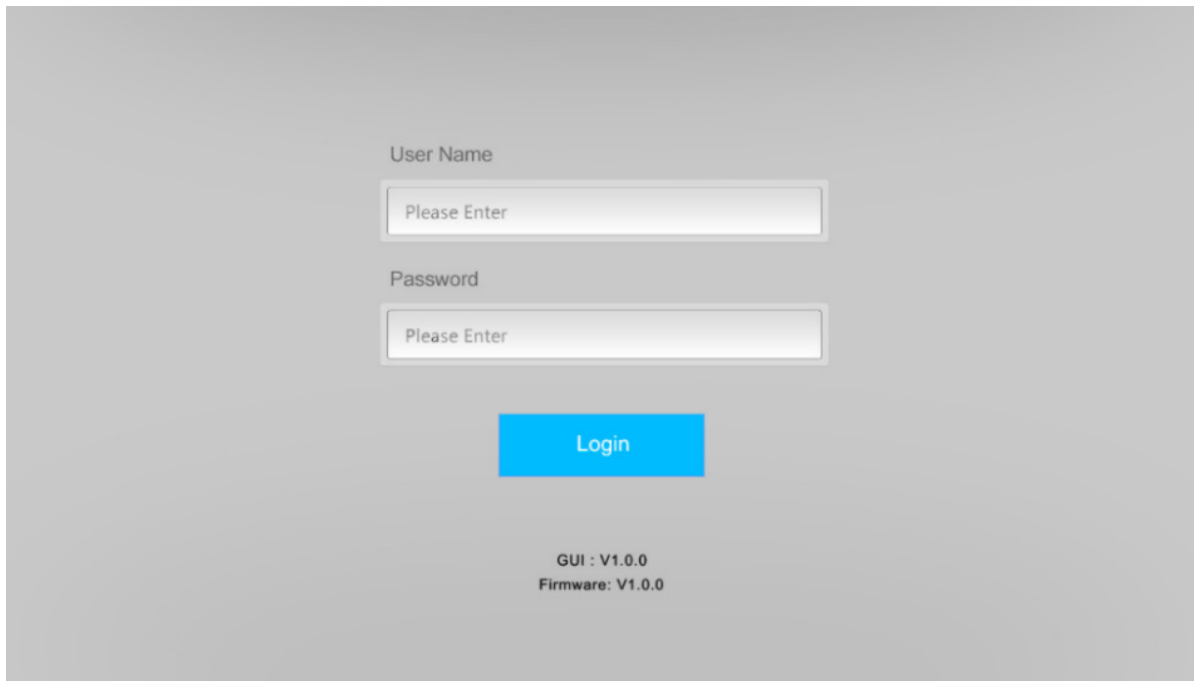
IR Remote Control
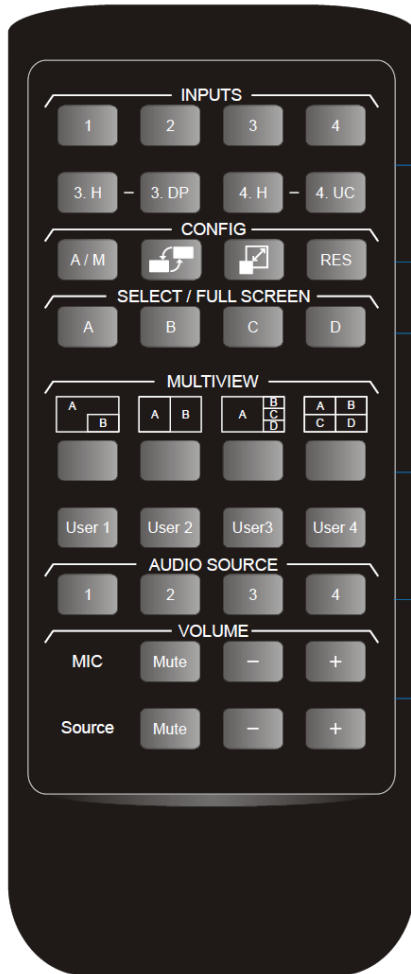
1. **INPUTS:** Six buttons for input source selection.

2. **CONFIG:**
   - A/M button for auto-switching mode setting.
   - SWAP button for cycle swap the video source of window display.
   - RESIZE button for window size adjustments.
   - RES button for output resolution selection.

3. **SELECT/FULL SCREEN:** A~D buttons for output window selection and full screen setting.

4. **MULTIVIEW:** Four buttons for built-in multiview mode selection and four buttons for user-defined mode selection. The user-defined multiview modes can be set via GUI.

5. **AUDIO SOURCE:** Four buttons for audio source selection.

6. **VOLUME:**
   - Microphone audio: Mute, volume up and volume down.
   - Source audio: Mute, volume up and volume down.

Web GUI Control / System Settings

Connecting to Web GUI

Network a PC computer and the DL-PSMV62 then open a web browser and type in IP address of the DL-PSMV62. The default IP address is 192.168.0.178. Be sure the computer you are using to connect to the DL-PSMV62 is in the same IP range to access the web GUI / server.

The login screen will appear. The default user name and password is *admin*
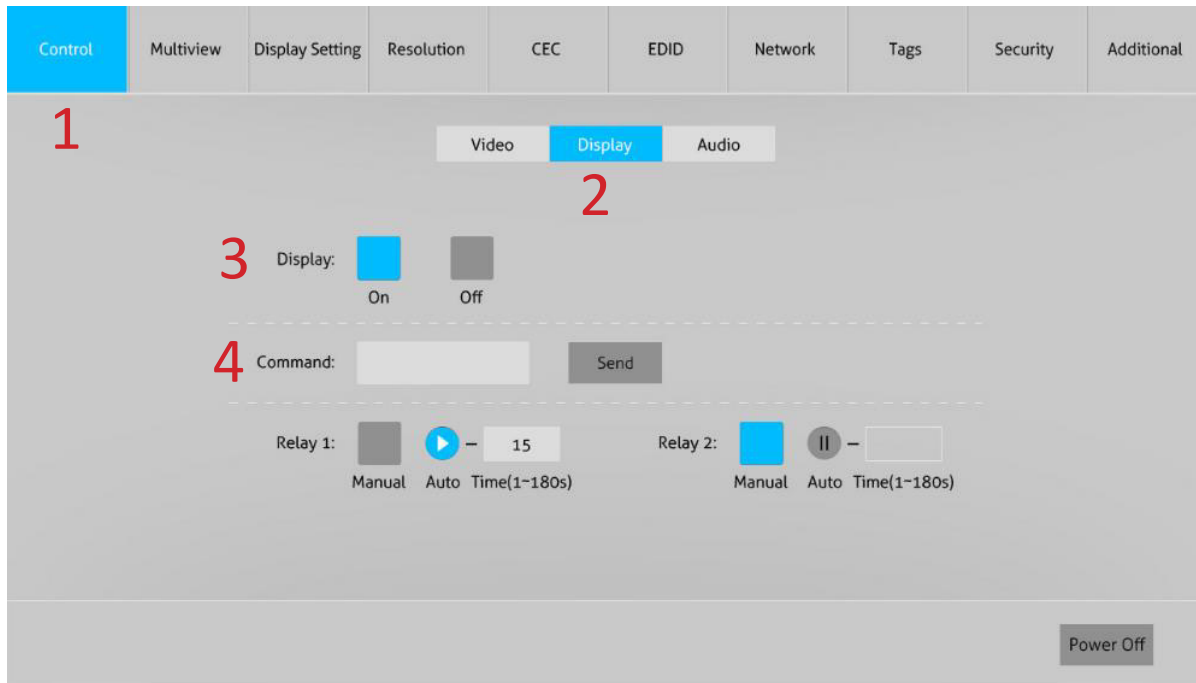
Switching

Video Control

1. Click the menu *Control*.

2. Click *Video* sub menu.

3. The source selection buttons, Auto button and full screen window A~D buttons operate the same as the buttons of front panel buttons. See *Front Panel Control* for reference.

Display Control

1. Click the menu *Control*.

2. Click *Display* sub menu.

3. Click *On* or *Off* for *Display* control.

4. Type command in this box to be send to control the display device, and then click *Send*.
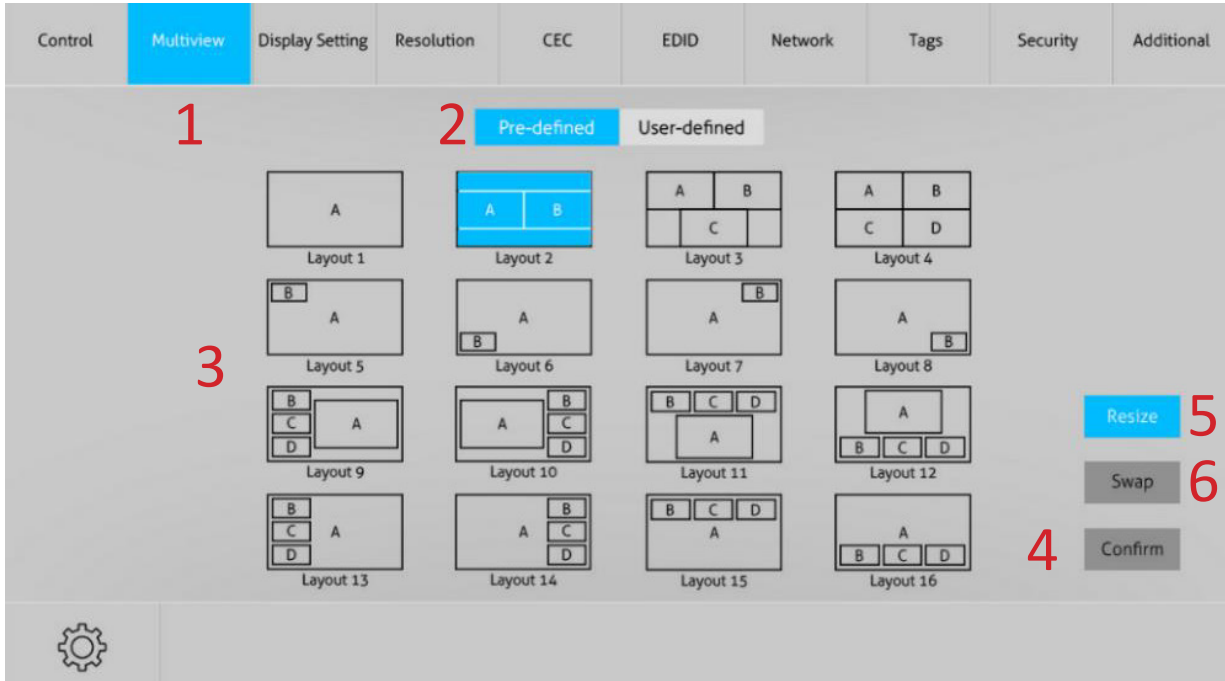
Audio Control

1. Click the menu *Control*.

2. Click *Audio* sub menu.

3. Select audio source for both audio HDMI and HDBaseT outputs.

4. Set the delay time of audio output to 0-150ms.

5. Turn on or off the microphone input.

6. Volume bar, volume up, volume down and mute buttons for microphone audio control.
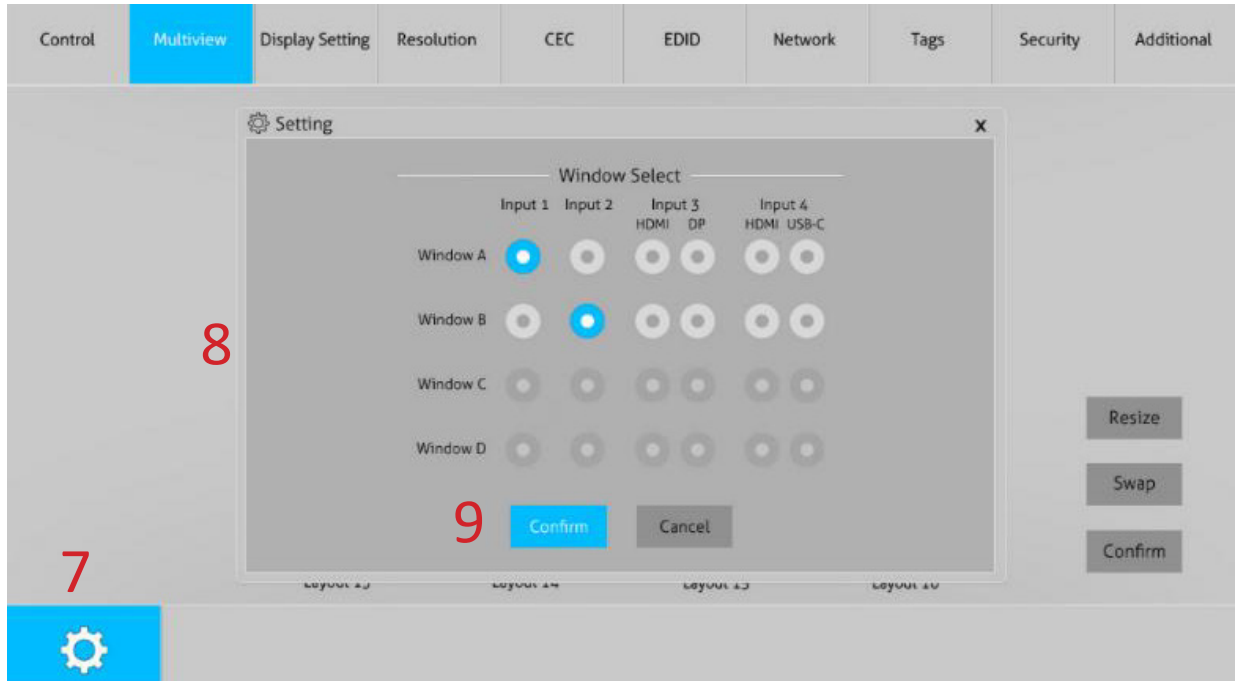
Multi-view Configuration

Pre-defined Layout

1. Click the menu *Multiview*.

2. Click *Pre-defined* sub menu.

3. Choose a multi-view layout.

4. Click *Confirm.*

5. *RESIZE:* Click the button to adjust the window size in a layout. Note that only Layout 2, Layout 5-Layout 8 and Layout 9~Layout 12 can be adjusted.

6. *SWAP:* Click the button to cycle swap the video source of window display in counter clockwise fashion.
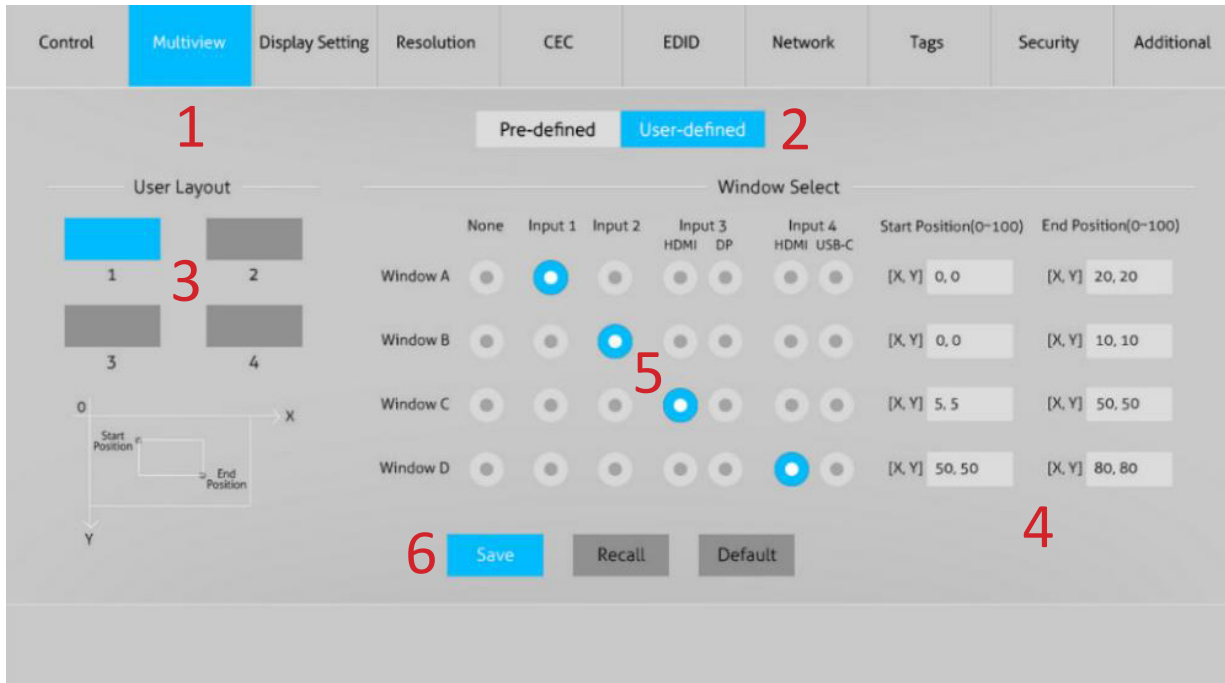
Pre-defined Layout Continued....

7. Click the menu Settings COG .

8. Choose what inputs you will use for the multi-view windows in the layout.

9. Click *Confirm.*

Multi-view Configuration Continued....

User-defined Layout

1. Click the menu *Multiview*.

2. Click *User-defined* sub menu.

3. Choose a layout number.

4. Enter in the pixel starting and end position for each window.

5. Choose what inputs you will use for the multi-view windows in the layout.
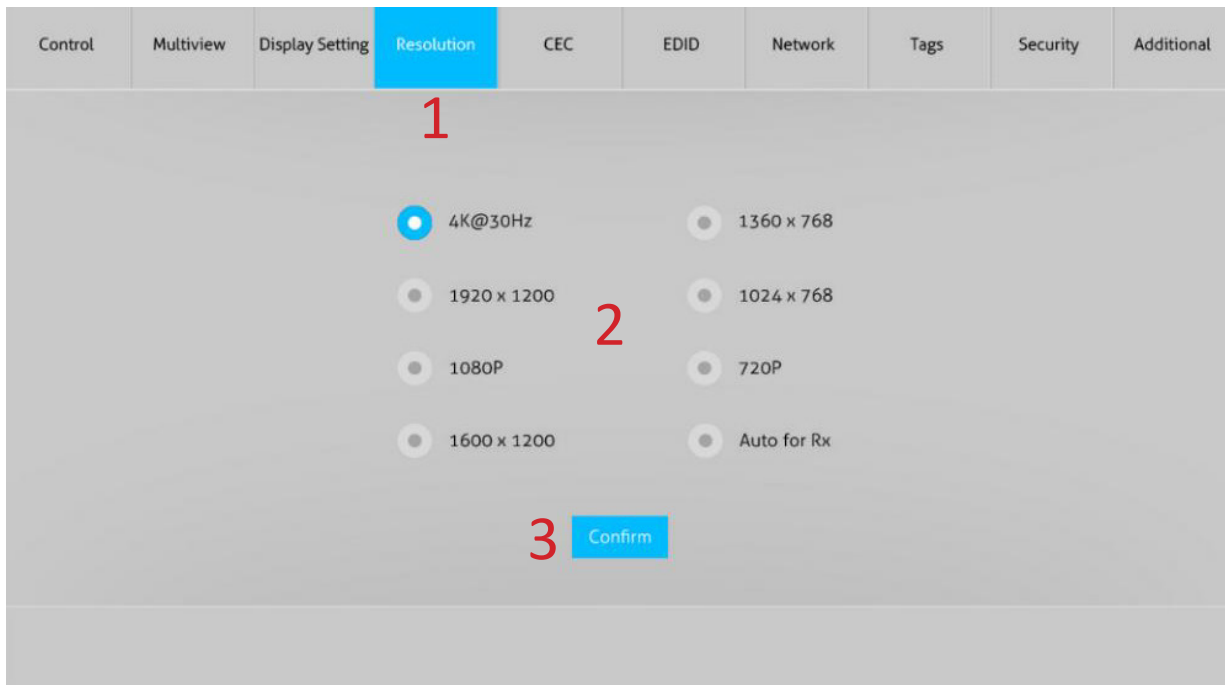
6. Click *Confirm.*

Auto Display Control

1. Click the menu *Display Setting*.

2. Enable or disable automatic control.

3. Set the auto power off time that the display device will automatically power off after no signal is detected and the setting time is up.

4. Set *Baud Rate* then click *Save.*

5. The default command format is ASCII, tick *HEX* if needed.

6. Choose command terminator: *NULL, CR, LF or CR+LF*, then click *Save.*

7. Type RS232 command to turn ON display device, then click *Save.*

8. Set the delay time in seconds between the *"Display On"* and *"Display Input Select"* commands.

9. Enter RS232 command to turn OFF display device, and then click *Save*. Select *x2* to send the command twice.

10. Set the delay time of sending the *Display Off* command again, and then click *Save*.

11. Type the RS232 command to select the desired input for the display device.

Output Resolution

1. Click the menu *Resolution*.

2. Select the output resolution for HDMI and HDBaseT outputs.

   • Select "Auto for Rx" to have the output resolution sync to compatible resolution of connected display.

3. Click Confirm.

CEC Control

Source Control

1. Click the menu *CEC*.

2. Click *Source* sub menu.

3. Choose an input.

4. Click the desired function.

CEC Control Continued....

Display Control
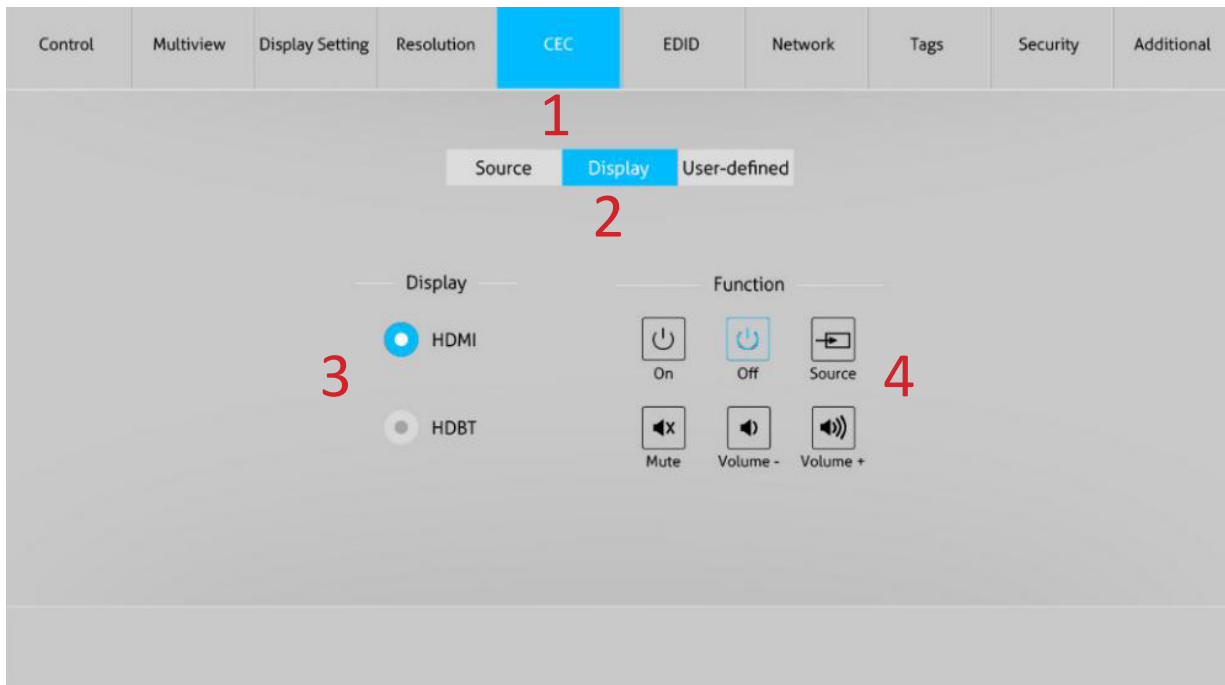
1. Click the menu *CEC*.

2. Click *Display* sub menu.

3. Choose an output.

4. Click the desired function.

EDID

Pre-defined EDID Setting

1. Click the menu *EDID*.

2. Choose *Setting*.

3. Select an input.

4. Choose an EDID configuration.

5. Click *Confirm*.

EDID Continued....

User-defined EDID Setting
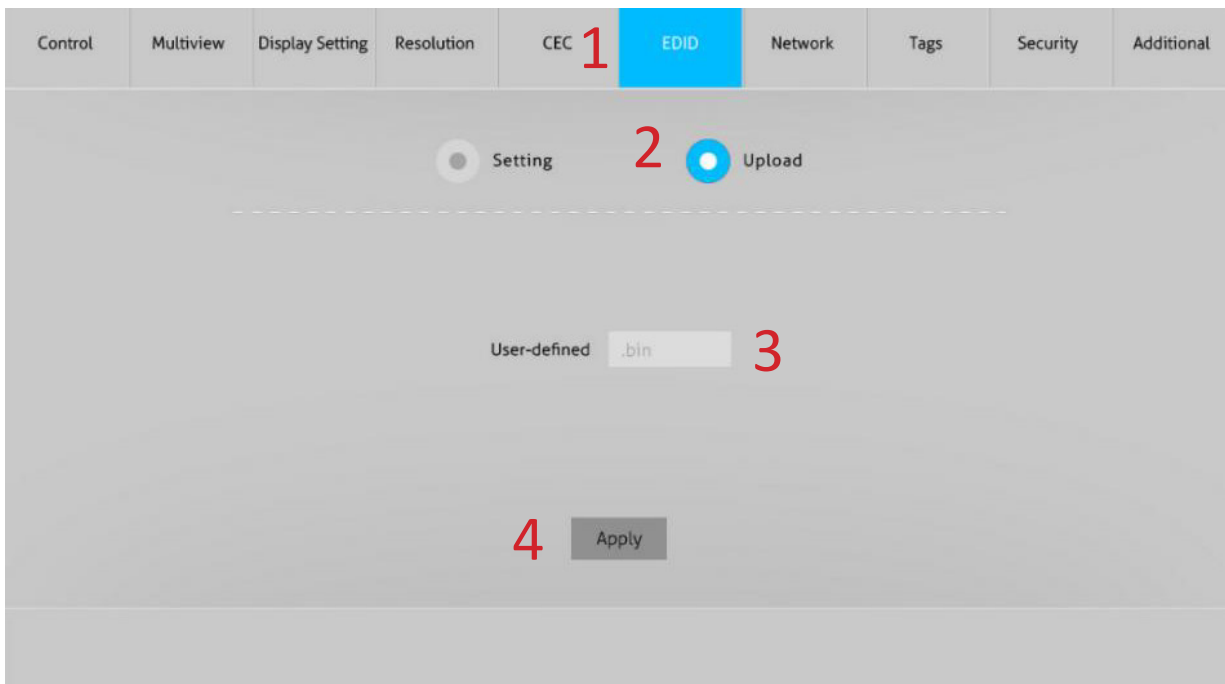
1. Click the menu *EDID*.

2. Choose *Upload*.

3. Select an input.

4. Choose an EDID .bin file configuration from PC.

5. Click *Apply*.

Network Settings

1. Click the menu *Network*.

2. Choose from *DHCP* or *Static IP* mode.

3. If entering in a *Static IP*, enter in the IP address, subnet mask and gateway manually.

4. Click *Confirm*.

Multi-view Layout Naming

1. Click the menu *Tags*.

2. Choose a name for the various layouts.

3. Click *Confirm*.

Security

1. Click the menu *Security*.

2. Choose a password, then click *Confirm*.

3. Enable *Front Panel Lock* if desired.

RS232 Communication
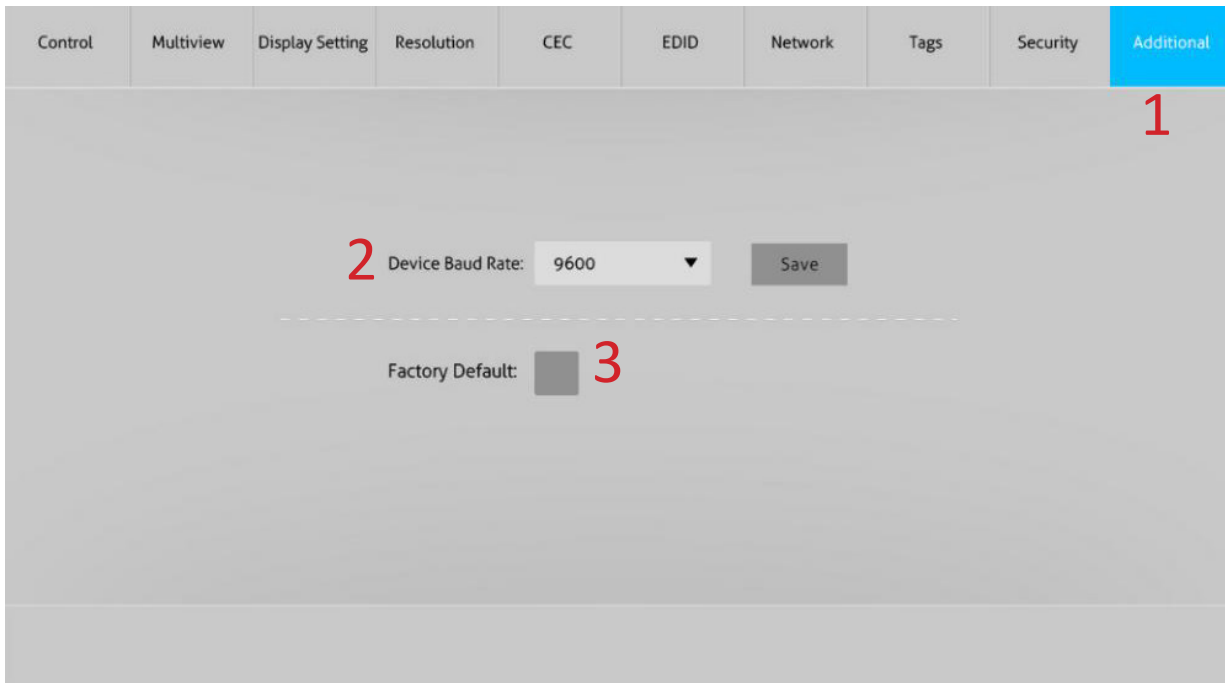
1. Click the menu *Additional*.

2. Choose desired *Baud Rate* of the DL-PSMV62, then click *Save*.

3. Check *Factory Default* to set switcher back to factory settings.

Note: The baud rate listed here changes the baud rate of the switcher and passes any command (besides a DL-PSMV62 switcher API command) through to the HDBaseT RS232 output. The baud rate of the switcher and the receiver will need to always be the same.

RS232 and TCP/IP Control

RS232 Settings: 9600 baud, 8 Data bits, 1 Stop bit, Parity = None
TCP/IP Settings: User defined IP address (default IP address:192.168.0.178), port 4001

All commands are terminated with carriage return and line feed <CR> <LF>. There are no spaces between any of the characters in the command string. The commands are case sensitive.

Note: In order to use the switching commands below, the switcher must be in manual switching mode only. System will not respond to switching commands in auto switching mode.

Video Switching

Description	Command	Examples
Enables/disables auto switching mode.	>SetAutoSwitch <s> <s> = EN (Enable), Dis (Disable	*Command:* *>SetAutoSwitch EN<cr><lf>* *Response:* *<AutoSwitch True*
Queries current switch mode.	>GetAutoSwitch	*Command:* *>GetAutoSwitch<cr><lf>* *Response:* *<AutoSwitch True*
Switches video input source.	>SetAV <in> <in> = 1-6	*Command:* *>SetAV 1<cr><lf>* *Response:* *<AV 1*
Queries current input.	>GetAV	*Command:* *>GetAV<cr><lf>* *Response:* *<Video* *OUT A B C D* *IN 1 2 3 4* *<AudioSource 1* *<Video 1,A*

Audio Switching / Control

Description	Command	Examples
Set the source audio.	>SetAudioSource <s> <s> = [1-5] 1 – HDMI 1 (Default) 2 – HDMI 2 3 – HDMI/DP 3 4 – HDMI/USB-C 4 5 – LINE IN	*Command:* *>SetAudioSource 2<cr><lf>* *Response:* *<AudioSource 2*
Queries current source selected.	>GetAudioSource	*Command:* *>GetAudioSource<cr><lf>* *Response:* *<AudioSource 2*
Change source volume level.	>SetSourceVOL <v> <v> = 0-60	*Command:* *>SetSourceVOL 6<cr><lf>* *Response:* *<SourceVOL 6*
Queries current source volume level.	>GetSourceVOL	*Command:* *>GetSourceVOL<cr><lf>* *Response:* *<SourceVOL 6*
Mutes/unmutes source audio.	>SetSourceAudioMute <m> <m> = EN (Enable), Dis (Disable	*Command:* *>SetSourceAudioMute EN<cr><lf>* *Response:* *<SourceAudioMute True*
Queries current mute status.	>GetSourceAudioMute	*Command:* *>GetSourceAudioMute<cr><lf>* *Response:* *<AutoSwitch True*

Audio Switching / Control Continued....

Description	Command	Examples
Change source volume level.	>SetMicVOL <v> <v> = 0-60	*Command:* *>>SetMicVOL 6<cr><lf>* *Response:* *<MicVOL 6*
Queries current source volume level.	>GetMicVOL	*Command:* *>GetMicVOL<cr><lf>* *Response:* *<MicVOL 6*
Mutes/unmutes source audio.	>SetMicAudioMute <m> <m> = EN (Enable), Dis (Disable	*Command:* *>SetMicAudioMute EN<cr><lf>* *Response:* *<MicAudioMute True*
Queries current mute status.	>GetMicAudioMute	*Command:* *>GetMicAudioMute<cr><lf>* *Response:* *<MicAudioMute False*

Multi-view Switching

Description	Command	Examples
Changes multi-view layout modes, refer to section *Web GUI Control, Multi-view Configuration* for layout reference.	>SetMvMode <l> <l> = [1-20]	*Command:* >SetMvMode 1<cr><lf> *Response:* <MvMode 1
Queries current multi-view layout selected.	>GetMvMode	*Command:* >GetMvMode<cr><lf> *Response:* <MvMode 1
Sets video input for a window within the multi-view layout.	>SetAV <in>,<out> <in> = 1-6 <out> = A-D	*Command:* >SetAV 1,A<cr><lf> >SetAV 2,B<cr><lf> *Response:* <AV 1,A <AV 2,B
Queries current window input selection.	>GetAV	*Command:* >GetAV<cr><lf> *Response:* <Video OUT A B C D IN 1 2 3 4 <AudioSource 1 <Video 1,A
Swaps sources in the window layout in a counter clockwise fashion.	>SetSwapSource	*Command:* >SetSwapSource<cr><lf> *Response:* <Video OUT A B C D IN 2 3 4 1 <AudioSource 1
Adjusts the window size in a layout. Note that only Layout 2, Layout 5-Layout 8 and Layout 9~Layout 12 can be adjusted.	>SetResizeWin	*Command:* >SetResizeWin<cr><lf> *Response:* <ResizeWin

CEC Control

Description	Command	Examples
Turns ON source devices connected to HDMI inputs 1-4.	>SetCecSrcOn <i> <i> = [1-4]	*Command:* *<CecSrcOn 1<cr><lf>* *Response:* *<CecSrcOn 1*
Turns OFF source devices connected to HDMI inputs 1-4.	>SetCecSrcOff <i> <i> = [1-4]	*Command:* *<CecSrcOff 1<cr><lf>* *Response:* *<CecSrcOff 1*
Turns ON display devices connected to either the HDMI and HDBaseT outputs.	>SetCecDisplayOn <o> <o> = [1 = HDMI] [2 = HDBaseT]	*Command:* *>SetCecDisplayOn 1<cr><lf>* *Response:* *<SetCecDisplayOn 1*
Turns OFF display devices connected to either the HDMI and HDBaseT outputs.	>SetCecDisplayOff <o> <o> = [1 = HDMI] [2 = HDBaseT]	*Command:* *>SetCecDisplayOff 1<cr><lf>* *Response:* *<SetCecDisplayOff 1*

System Commands

Description	Command	Examples
Turns switcher power on/off.	>SetPowerOn <p> <p> = EN (Enable), Dis (Disable	*Command:* *>SetPowerOn EN<cr><lf>* *Response:* *<PowerOn True*
Queries switcher power status.	>GetPowerOn	*Command:* *>GetPowerOn<cr><lf>* *Response:* *<PowerOn True*
Reboots the switcher	>SetReboot	*Command:* *>SetReboot<cr><lf>* *Response:* *<Reboot_EN*
Sets switcher to factory defaults.	>SetFactoryReset	*Command:* *>SetFactoryReset<cr><lf>* *Response:* *<FactoryReset_True*
Queries switcher system status.	>GetStatus	*Command:* *>GetStatus<cr><lf>* *Response:* *<V1.0.0* *<Video* *OUT A B C D* *IN 1 2 3 5* *<AudioSource 1*
Queries switcher IP address.	>GetIpAddress	*Command:* *>GetIpAddress<cr><lf>* *Response:* *<IpAddress: 192.168.0.178* *<SubNetMask: 255.255.255.0* *<GateWay: 192.168.0.1*
Queries current firmware version.	>GetFirewareVersion	*Command:* *>GetFirewareVersion<cr><lf>* *Response:* *<V1.0.0*

APPLICATION EXAMPLE

Line Audio

Mic Audio

Audio Amp

Wall Plate Control
Contact Closure

Control System

AUDIO IN

AUDIO OUT

CONTROL

HDMI Source

Laptop Source

OR

Laptop Source

OR

up to 70m / 232'

Optional
DL-HD70RX
Receiver

HDMI
CATx
DP
USB-C
AUDIO
RS232
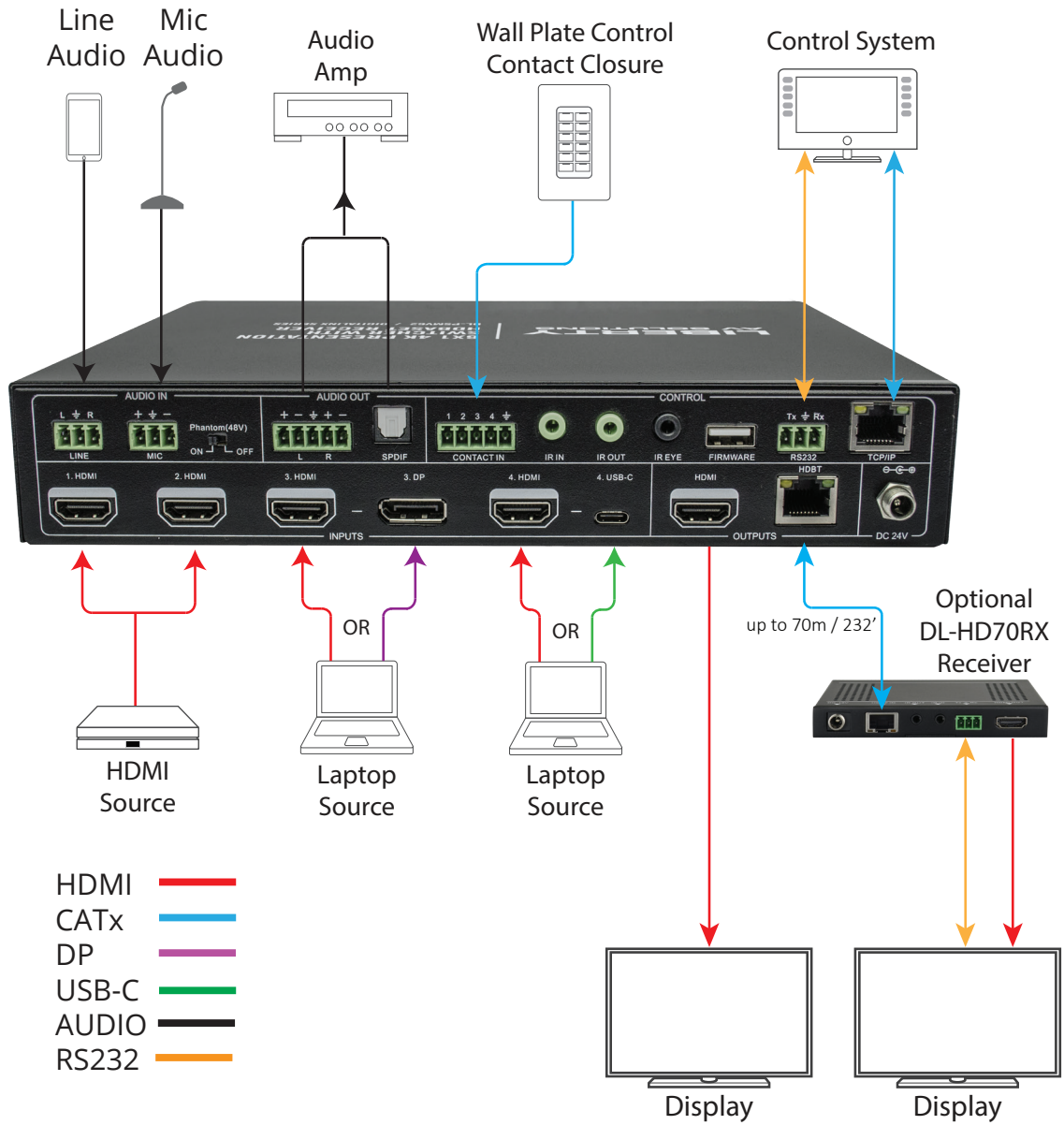
Display

Display

Technical Specifications

Video	
Video Inputs	(4) HDMI IN (1-4), (1) Display Port, (1) USB-C
Video Input Connectors	(4) Type-A female HDMI, (1) Display Port, (1) Type-C USB
Input video Signal	HDMI 1.4 for HDMI input, ALT-DP Mode for USB-C 3.2 Gen 1, DP Version 1.2 for Display Port input
HDMI Input Resolution Support	Up to 4Kx2K@30Hz 4:4:4 / 8 bit deep color
USB C Input Resolution Support	Up to 4Kx2K@30Hz 4:4:4 / 8 bit deep color
Display Port Input Resolution Support	Up to 4Kx2K@30Hz 4:4:4 / 8 bit deep color
Video Output	(1) HDMI, (1) HDBaseT
Video Output Connector	(1) Type-A Female HDMI, (1) RJ45
Output Resolution Support	Up to 3840 x 2160 @30Hz / 4:4:4 / 8 bit deep color
Video Compliance	HDMI 1.4, HDCP 2.2
Bandwidth	**All inputs / outputs**: 10.2Gbps
24V DC Power	One (1) Locking Barrel (5.5 mm OD, 2.1 mm ID)
Audio Input	
Audio Input	(1) Balanced mic level audio (MIC) (1) Unbalanced line level audio (LINE)
Audio Input Connector	(2) 3-pin terminal blocks
Frequency Response	20Hz – 20KHz, ±3dB
Max Input Level	2.0Vrms ± 0.1dB. < 0.3dB, 1kHz sine at 0dBFS level.
Input Impedance	>10KΩ
LINE/MIC Audio Format	PCM 2.0
HDMI/Display Port Audio Format	PCM 2.0 48K
Audio Output	
Audio Output	(1) Balanced audio (L+R) (1) Digital SPDIF audio (L+R)
Audio Output Connector	(1) 5-pin terminal blocks (1) Toslink connectors
Frequency Response	20Hz – 20KHz, ±1dB
Max Output Level	Analog: 2.0 ± 0.1Vrms, Toslink: ±0.3dBFS
THD+N	< 0.05%, 20Hz ~ 20kHz bandwidth, 1kHz sine at 0dBFS level (or max level)
Signal to Noise Ratio	Analog: > 80dB, 20Hz ~ 20kHz bandwidth, Toslink: > 90dB, 20Hz ~ 20kHz bandwidth
Output Impedance	70Ω
Audio Format	PCM 2.0

Technical Specifications

Control	
Control Ports	(1) Contact Closure, (2) Rs232, (1) IR Eye, (2) IR IN, (1) IR OUT, (1) TCP/IP, (1) Firmware
Control Connectors	(1) 5-pin terminal blocks, (1) 3-pin terminal block, (3) 3.5mm jacks, (1) RJ45, (1) Type-A USB
IR Carrier Frequency Range	33-55kHz at 5 volts
HDBaseT Signal Characteristics	
Maximum Distance	*HDBaseT Output (Transmitter):* 70 m (up to 1080p) , 40 m (up to 4K@30Hz / 4:4:4 / 8 bit deep color)
Cable Requirements	Solid core shielded Category 6 F/UTP cable or greater with TIA/EIA-568B crimp pattern
Bandwidth	*HDBaseT Output (Transmitter):* 10.2 Gbps
Chassis and Environmental	
Dimensions (WxHxD)	250 mm x 44 mm x 200 mm (17 in x 1.7 in x 14 in) – 1RU
Shipping Weight	1.6kg (6.3 lbs.)
Operating Temperature	0° to +55° C (+32° to +131° F)
Operating Humidity	10% to 90%, Non-condensing
Storage Temperature	-20° to +70° C (+14° to +158° F)
Storage Humidity	10% to 90%, Non-condensing
Power, ESD, and Regulatory	
Power Supply Input	100V-240VAC / 50-60 Hz
Power Supply Output	24VDC / 5A
Power Consumption	90 watts (max)
USB-C Power Charging	60 watts (max)
ESD Protection	15kV
Product Regulatory	FCC, CE, RoHS
Power Supply Regulatory	CE, RoHS
Other	
Standard Warranty	5 years
Compatible Transmitters	DL-HD70RX

Distances and picture quality may be affected by cable grade, cable quality, source and destination equipment, RF and electrical interference, and cable patches.

Thank you for your purchase.

For technical support please call our
toll-free number at 800-530-8998
or email us at supportlibav@libav.com