



Instruction Manual

1T-MV-8474

4K Multiviewer



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Liability Statement

This product is intended for professional use. This product is not intended for use in a medical environment and does not have the required certifications for such use. Similarly, use aboard any aircraft or spacecraft while in flight or as an adjunct to any surface, airborne or marine navigation system or any offshore marine activity, including control of any watercraft, or any use similar to those specifically herein mentioned is prohibited. Use in the aforementioned circumstances would require additional testing and certification.

No warranty is made either expressed or implied including but not limited to any implied warranties of merchantability or fitness for a particular purpose. In no event shall the supplier or manufacturer of this product be liable for errors found within, or be liable for any direct, indirect or consequential damages or loss in connection with the purchase or use of this hardware, software or manual. The sole and exclusive liability to the supplier and manufacturer regardless of the form of action shall not exceed the replacement cost of the materials described herein.

tvONE reserves the right to revise any of its hardware and software products following its policy to modify and/or improve its products where necessary or desirable. This statement does not affect the legal rights of the user in any way.

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E&OE

Safety Precautions

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

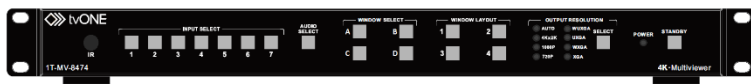
Introduction

The 1T- MV-8474 is a 4K Multiviewer designed for easy collaboration in huddle rooms, conference facilities, medical, education, government applications or control rooms – anywhere that single or multiple inputs are required, whatever the resolution, to be displayed on a single 4K screen. Control is quick and simple either using the front panel, a remote control or a fully featured web interface.

The 1T- MV-8474 supports native 4K inputs (resolutions up to 3840x2160@30 on HDMI and 3840x2160@60 via DisplayPort) together with up/down conversion, audio breakaway and selectable audio delay. Offering seven multi-format video inputs (4x HDMI, 2x DisplayPort, 1x VGA/YPbPr) the system can display up to four video windows simultaneously via sixteen different fixed layouts which can be simply recalled to present your content in a variety of combinations. The sixteen layouts include Quad split, Picture-In-Picture, Triple, Side-By-Side, Full screen and other, more complex, layouts with multiple layers. A single scaled HDMI output is capable of supporting resolutions up to 3840x2160@30. In addition, seven independent stereo analog inputs and outputs, allow you to switch audio separately from the HDMI stream and also integrate 7.1 audio with external equipment.

The on board web interface gives access from your PC to system setup, Full EDID management and audio control including delay and volume adjustments, making it easy to integrate the 1T-MV-8474 into complex systems. Control is via a Web interface, RS232, Ethernet, Infrared remote or from the front panel buttons.

The 1T-MV-8474 is an extremely flexible Multiviewer and a capable Presentation Switcher making it an excellent fit for many different user applications.

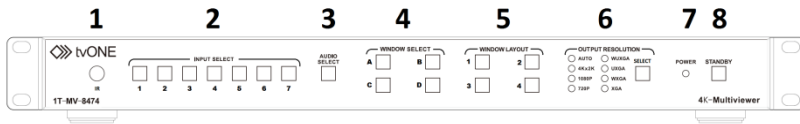


Key Benefits

- Multiple inputs: 4 x HDMI, 2 x DisplayPort, 1 x RGB/YPbPr.
- HDMI, DisplayPort source input with 4Kx2K@30Hz support.
- Supports MHL in the four HDMI input ports.
- Supports multiple HDMI output resolutions, such as 4Kx2K@30Hz and 1080P.
- Supports Auto Scaler in each source input.
- Auto-detect EDID.
- Supports different multiple-window modes: quadruple windows; triple windows; double windows and a single window, outputting to a display device through one HDMI output.
- Supports up to four window inputs and sixteen pre-defined multiple-window mode.
- HDCP compliant.
- Fast switch between input ports.
- Supports 7.1 analog and digital audio.
- Supports multiple-channel HDMI, DisplayPort audio de-embedding, optical TOSLINK and eight-channel analog outputs.
- Easy-to-use panel and WebGUI.
- Control methods – Assignable Front Panel, IR, LAN (WebGUI, Telnet & UDP) and RS232
- Firmware upgrading through LAN, RS232 or USB ports.
- 1 RU Height, 19” width standard enclosure, rack mountable design

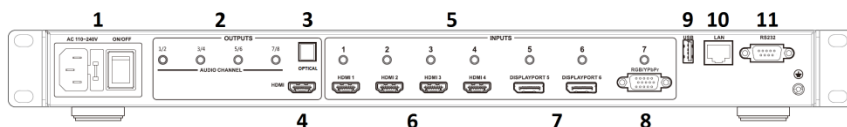
Getting Started

Front Panel



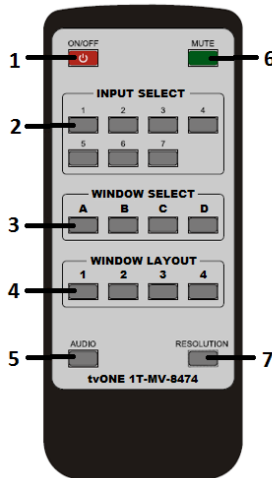
ID	Name	Description
1	IR receiver window	Infrared sensor for use with the remote control.
2	Input Select	Buttons 1-7 to correspond with video or audio inputs. The indicators mean the corresponding status of the video or audio input.
3	Audio Select	Press to select the Audio Input required. The designated Input will light up, and the others will flash.
4	Window Select	A-D represents the 4 possible windows. Pressing one will show which designated Input is selected, and the others will flash.
5	Window Layout	Select the Window Layout mode from the four options: single window, double windows, triple windows and quadruple windows. These layouts can be reprogrammed using the web GUI from a choice of 16 layouts.
6	Output Resolution	Press to scroll through the different resolutions. A light indicates the current output.
7	Power	Indicates when the unit has power.
8	Standby	Switches between standby and working mode. The switch lights up when standby mode is selected.

Rear Panel



ID	Name	Description
1	Power Switch and 110/220 AC Power Receptacle	Power ON or OFF using this switch. Connect the AC power cord provided to an available electrical outlet.
2	Analog audio output	8 channel analog audio output, Connect a 3.5mm stereo input to the Line In jack of a multimedia system.
3	Optical output	Connect the optical output port to the digital audio input port of your amplifier.
4	HDMI output	Connect an HDMI cable from this port to an HD or 4K display.
5	Analog audio input 1-7	7 channel stereo analog audio input, Connect a 3.5mm stereo input from the Line Out jack on the audio source to this jack.
6	HDMI input 1-4	Connect up to four Hi-Def sources to these inputs using HDMI cables.
7	DisplayPort input 1-2	Connect up to two Hi-Def sources to these inputs using DisplayPort cables.
8	RGB/YPbPr input	Connect up to a Hi-Def sources to this input using DB-15 cable or YPbPr-VGA cable.
9	USB	USB socket for firmware updates.
10	IP Cont.	Connect an Ethernet cable between this jack and a LAN to use IP control. Refer to RS-232 and IP Configuration for more information on setting up IP control.
11	RS-232	Connect an RS-232 cable from this port to an RS-232 device. See RS-232 and IP Configuration for more information on setting up RS-232 control.

IR Remote Control Unit



ID	Name	Description
1	Power	Power the Multiviewer ON or OFF
2	Input 1-7	Press "1-7" to select the corresponding video input or audio input
3	Windows A-D	A-D represents the 4 possible windows. Pressing one will show which designated Input is selected, and the others will flash.
4	Window Layout	Select the Window Layout mode from the four options: single window, double windows, triple windows and quadruple windows. These layouts can be reprogrammed using the WebGUI from a choice of 16 layouts.
5	Audio	Press this button and then press the "1-7" buttons to select the required audio input
6	Mute	Toggle between Mute and Unmute
7	Resolution	Scroll through the different resolutions. A light indicates the current output on the front of the Multiviewer Switcher HDMI output resolution

Package Contents

- 1T-MV-8474 4K Multiviewer
- 19 Button remote control
- AC Power cord
- 2x Rack ears
- Instruction Manual

Installation

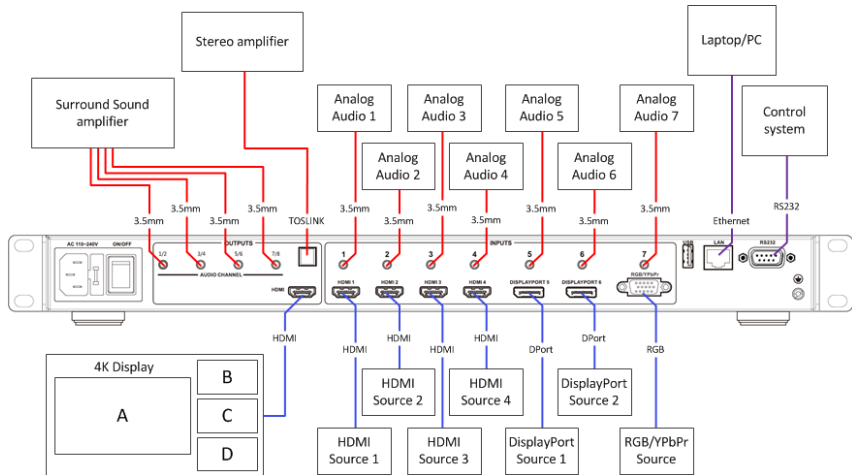
How to Connect the Multiviewer

1. Connect up to four 4K or HD HDMI sources to the input ports (HDMI 1 - HDMI 4), Connect up to two 4K or HD DisplayPort sources to the input ports (DISPLAYPORT 5 - DISPLAYPORT 6), Connect up to one VGA or YPbPr sources to the input ports (RGB/YPbPr) on the Multiviewer.
2. Connect a UHD 4K or HD (1080p or 720p) display to the HDMI Output port on the unit.

Optional steps include:

- Connect up seven stereo analog audio sources to audio input ports (1-7) on the unit.
 - Connect four 3.5mm stereo inputs from the jacks on the Multiviewer to the Line In jack of a multimedia system, or Connect an optical cables from the OPTICAL on the unit to the Optical In of a multimedia system.
 - Connect an RS-232 cable from the RS-232 port on the unit to the RS-232 connector on the serial controller.
 - Connect an Ethernet cable from the LAN port on the unit to a Local Area Network (LAN).
3. Connect the AC power cord to the unit and connect the plug to an available electrical outlet.

Wiring Diagram



Operating

Standby and Work Mode

The Power LED on the front panel illuminates red to indicate the unit has power. If the indicator does not illuminate, check the power supply is attached correctly.

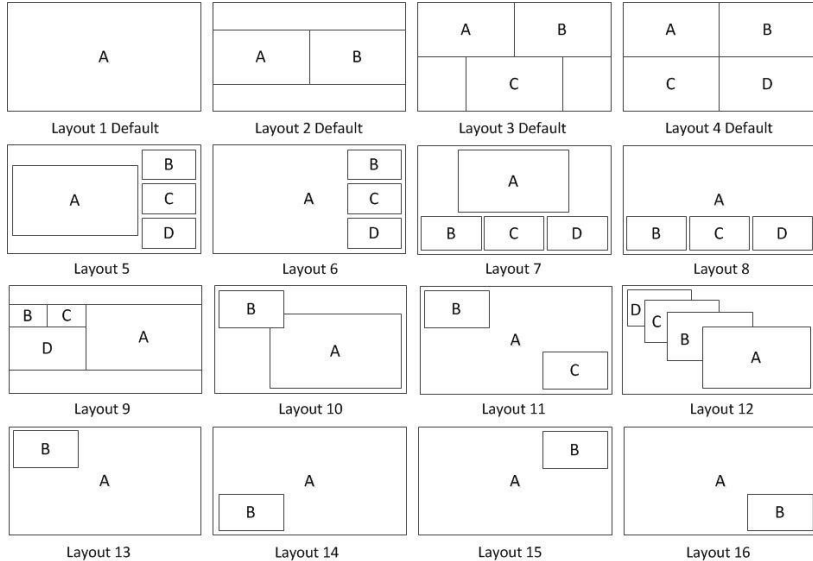
When the unit is in standby mode, the indicator light will display as green. In normal working mode the indicator light turns off.

There are three ways to start the device:

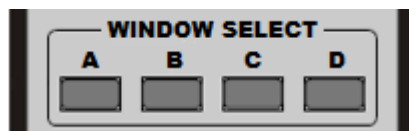
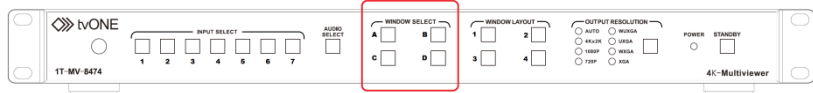
- Power On (button on reverse of unit), then press the Standby button,
- Use ON/OFF button on the Remote control,
- or using LAN or RS232 commands.

Screen layout Configuration

Multiviewer Switcher offers up to 16 window configurations through the web interface, with four of them available at any one time via the front panel or remote control. The default configuration consists of: single, double, triple or quadruple windows on buttons 1 through to 4. The 16 screen configurations consist of the following layouts (with numbers 1-4 being the factory defaults):



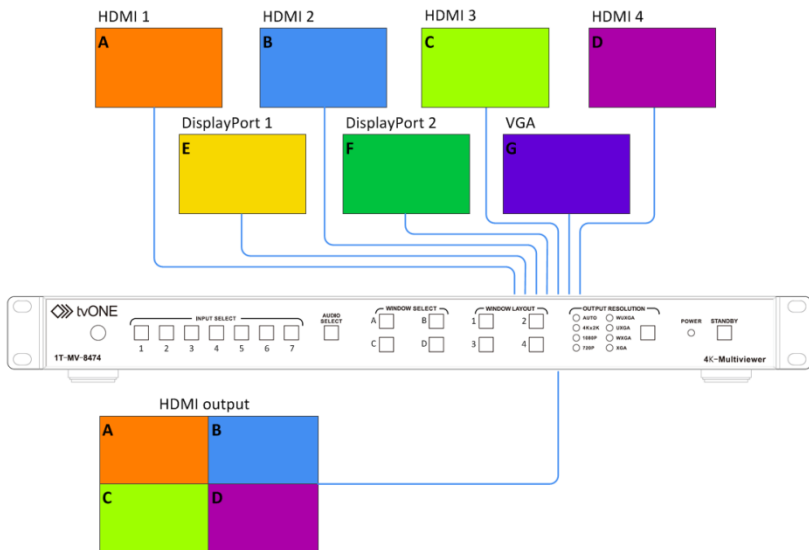
Pressing one of the four options will display the Screen Layout, and the button will remain illuminated. You will also notice that in Window Select that the buttons A-D will illuminate to reflect the number of potential windows available in that layout.

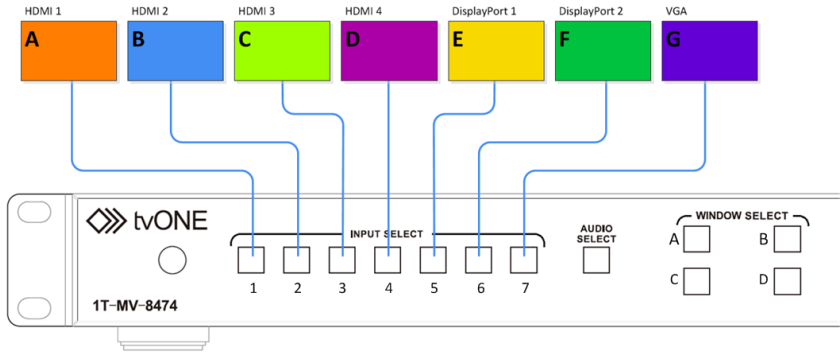


Multiviewer displays up to four sources. When multiple sources are displayed on the screen, each source is regarded as a single window, and each window is defined as an input.

Examples of configurations

This section demonstrates how a series of configurations are created. To assist with the description we will use the following example to illustrate a configuration.





Single Window

1. Select the Window Layout 1 button on the front panel or on the remote to set single window mode, Windows Select A button indicator lights up, Input Select 1 indicator lights up.
2. HDMI output configures the HDMI 1 input, the window is shown as follows.



3. If you want to switch to the signal of DisplayPort5, either:
 - Press 5 in the Input select or on the remote, or
 - Press A in the Windows Select or on the remote. Within the input section a solid light denotes the current selection, any flashing buttons denote a source that can be selected. Press 5 to complete the selection.
4. Input 5 changes to a solid light and the HDMI output picture is changed to the signal of DisplayPort5. (Example Input 5 E)



Double Windows

1. Select the Window Layout 2 button on the front panel or on the remote to change the mode of double window. Video A and B button indicators on the front panel light up. Within the Input Select two buttons will light to denote the current selection.
2. Press Windows Select A, the Inputs will flash. Select the required Input. (Example Input 5 E).
3. Press Windows Select B, the Inputs will flash. Select the required Input. (Example Input 6 F).

Alternatively, you can press the Input channel required, select Windows Select A, after a few seconds the channel will display. Press the second Input you require and press Windows Select B.

In Double Window, you will finish with two Inputs lit, Windows Select A and B, and Windows Layout 2.

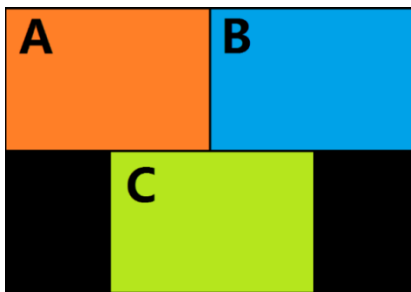


Triple Windows

1. Select the Window Layout 3 button on the front panel or on the remote to set to triple windows mode, Windows Select A, B and C button indicators on the front panel light up.
2. Press Windows Select A, the Inputs will flash. Select the required Input. (Example Input 1 A).
3. Press Windows Select **B**, the Inputs will flash. Select the required Input. (Example Input 2 B).
4. Press Windows Select **C**, the Inputs will flash. Select the required Input. (Example Input 3 C).

Alternatively, you can press the Input channel required, select Windows Select A, after a few seconds the channel will display. Press the second Input you require and press Windows Select B. Select the third Input you require and Press Windows Select C.

In Triple Window mode, you will finish with up to 3 Inputs lit*, Windows Select A, B and C; and Windows Layout 3. (*You could have one Input used in two Video windows).

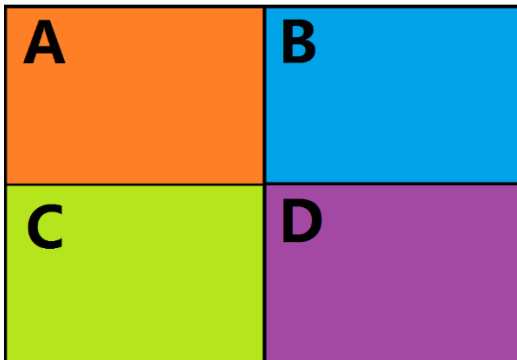


Quadruple Windows

1. Select the Windows Layout 4 button on the front panel or on the remote to set to quadruple windows mode, Windows Select A, B, C and D button indicators on the front panel light up.
5. Press Windows Select A, the Inputs will flash. Select the required Input. (Example Input 1 A).
6. Press Windows Select B, the Inputs will flash. Select the required Input. (Example Input 2 B).
7. Press Windows Select C, the Inputs will flash. Select the required Input. (Example Input 3 C).
8. Press Windows Select D, the Inputs will flash. Select the required Input. (Example Input 4 D).

Alternatively, you can press the Input channel required, select Windows Select A, after a few seconds the channel will display. Press the second Input you require and press Windows Select B. Select the third Input you require and Press Windows Select C. Select the fourth Input you require and Press Windows Select D.

In Quadruple Windows mode, you will finish with up to 4 Inputs lit*, Windows Select A, B, C and D and Windows Layout 4. (*You could have one Input used in several Video windows).



Output Resolution

HDMI output resolutions support multiple modes with the indicator indication.

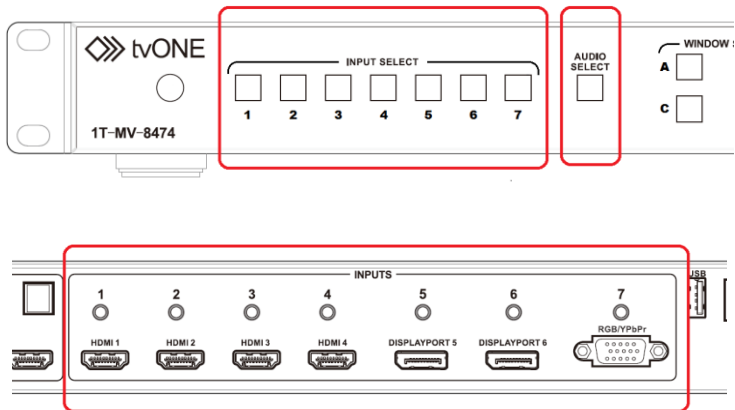
- Auto - Auto means that it outputs the HDMI resolutions based on the EDID information read from the display device.
- 4K * 2K (3840 * 2160 @30Hz)
- 1080P (1920 * 1080 @ 60Hz)
- 720P (1280 * 720 @ 60Hz)
- WUXGA (1900 * 1200 @ 60Hz)
- UXGA (1600 * 1200 @ 60HZ)
- WXGA (1280 * 800 @ 60Hz)
- XGA (1024 * 768 @60Hz)

To change the Resolution, press the button repeatedly to scroll through the sequence, noting that the LED panel flashes to reflect the current selection. Once the required selection is made, the light will stop flashing and become solid, and the attached screen will adopt that resolution.

Audio Setting

Audio Input Select

When selecting the video input, you can assign one of seven external analog inputs as an alternative to the embedded digital stream on HDMI or DisplayPort. If the HDMI or DisplayPort input has no audio, it will automatically select the audio input from the corresponding 3.5 mm stereo input.



Selecting the Audio:

There are two ways of selecting the Audio channel:

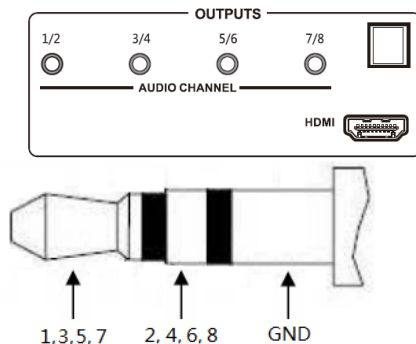
1. Press Audio. The current selected audio input channel will light up constantly to show it is selected, the other indicators blink.
2. Press the required Input channel. The Audio input switches to this channel and the Input lights stop blinking.
3. If no further operations are performed within 5 seconds, this status will be adopted.

Alternatively

1. Press the required Input channel. The Audio and Window Select lights will blink.
2. Press Audio, The input channel selected in step 1 is now the selected audio output channel. The Inputs indicator and audio indicator stop blinking.
3. If no further operation is performed within 5 seconds, this status will be adopted.

Notes:

- If you need to check where the audio input is coming from, press Audio, the Inputs indicator of the configured audio source turns solid on, the other indicators blink. Leave the unit for 5 seconds and the indicators will return to normal.
- HDMI and DisplayPort's have 3.5mm stereo inputs assigned to them. If the HDMI or DisplayPort have no embedded digital audio input signal the analog output will automatically switch to 3.5mm stereo input.



Audio Format	Channel							
	1	2	3	4	5	6	7	8
2.0	L	R						
2.1	L	R	LFE					
5.1	FL	FR	LFE	FC	RL	RR		
7.1	FL	FR	LFE	FC	RL	RR	RLC	RRC

Audio Output Instructions

There are three methods of audio output:

- HDMI output
- Optical output (TOSLINK)
- Analog output, 8 channels

If the input audio format is only 2 channels (Stereo), it will use channels 1 & 2 of the analog outputs. If the input format is 5.1 it will use channels from 1 to 6 to output the audio. If the input format is 7.1 it will use channels from 1 to 8 to output the audio.

Note: Optical outputs (TOSLINK) only support stereo.

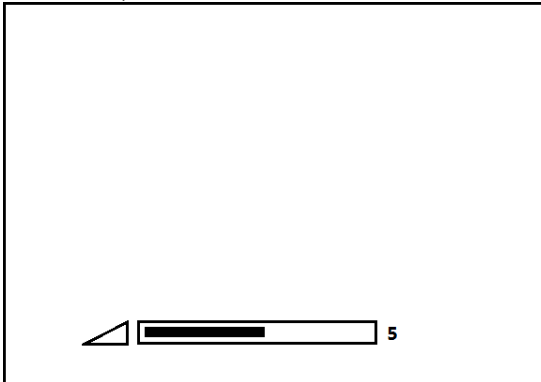
OSD

The On Screen Display (OSD) will only be displayed when it has been enabled in the WebGui. The displays are as follows:

1. After the initial Boot sequence by default OSD is set to On. Note: this can be turned off via the WebGui.
2. Each window OSD displays the input status and the source resolution of the incoming signal. If nothing is connected the OSD will prompt with x not connected (where x is the input type (HDMI1,2,3,4, DP5,6 and VGA))
3. Audio Mute indicates:



4. Volume adjustment:



5. VGA Auto Menu:
If OSD is activated it prompts with (Auto Adjust) underneath the VGA signal.
6. The IP address can be displayed by pressing any of the Windows layouts, it will appear after a brief pause and will remain on the screen for 10 seconds.

Advanced functions using the front panel

The following advanced functions can be done via the front panel on the unit.

Releasing Front Panel Lock

The front panel lock functionality is only available from the WebGUI, but if it has been set to either Admin or Complete, the unit can be unlocked by pressing Windows A and D at the same time. The standby button will flash once to confirm unlock has happened.

Note: If it is set to Admin Lock you may need to press Windows A and D twice to cycle through the lock states.

Factory Reset Button

The unit can also be reset to factory default via the front panel.

1. Press and hold the input 5 button on the front panel
2. Press the Standby button to wake the unit from standby mode.
3. You'll see all the front panel button LEDs blink to indicate the unit is being set to factory default.

Firmware Updates

1T-MV-8474 can be updated through a USB drive as follows.

1. Copy the updating file "MERGE.bin" to the root directory of the USB drive.
2. Connect the USB drive to the USB port on the rear of the device.
3. Attention: The USB port can only support maximum 500mA.
4. Connect a HDMI display to the 1T-MV-8474.
5. Turn on 1T-MV-8474. The display device displays the HDMI output signal after normal boot of the device.
6. Press and hold the INPUTS 1 button for more than five seconds, "System is upgrading..." is displayed in the display device, at the same time, all buttons indicators on the front panel blink.

Attention: Do not power-off until the upgrade process is completed, or the unit firmware will be corrupted.

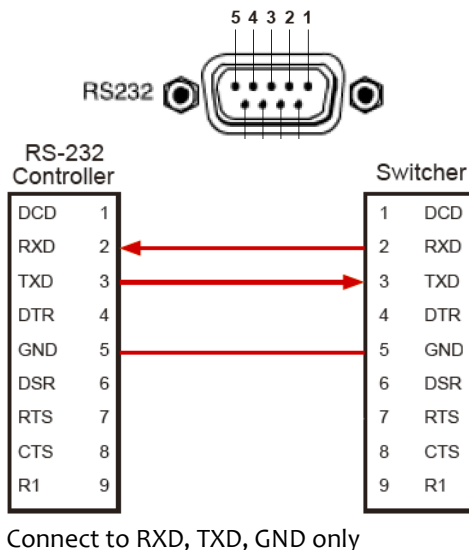
7. After updating, “Upgrading is successful, system will reboot” is displayed in the display device. After a few seconds, the unit will reboot.
8. The unit reboots automatically.
9. The upgrade process is now complete.

Once the upgrade is complete, cycle the power by using the switch on the rear of the box.

External Controls

Connection via RS232

RS-232 port:



RS-232 Settings:

Description	Setting
Baud rate	9600
Data bits	8
Parity	None
Stop bits	1
Hardware flow control	None

Note: For more information about serial command lines, see the Separate 1T-MV-8474 API Document.

IP Connectivity

1T-MV-8474 supports IP control, Telnet, UDP and TCPIP. The IP address and port number is displayed when the unit is powered on, or the screen layout is changed via the OSD when it is enabled. By factory default the OSD is turned on.

WEB Connectivity

1T-MV-8474 can be controlled via a Web browser, which gives access to the unit's internal settings. By default the unit will obtain an IP address using DHCP when it is connected to a valid network.

Note Factory Default IP address is 10.0.0.10

In this example, the obtained IP address is 192.168.1.123 and port number is 23.

Input `http://192.168.1.123` in the address bar of the web browser.

The WebGUI is separated into four tabs:

- General
- Advanced
- EDID
- Network

General

The screenshot shows the WebGUI interface for the tvONE 1T-MV-8474 4K Multiviewer. The 'General' tab is selected, showing various configuration options. The interface includes a top navigation bar with tabs for 'General', 'Advanced', 'EDID', and 'Network'. The main content area is divided into several sections: 'Input Select' with dropdowns for Window A, B, C, and D; 'Aspect Ratio' with dropdowns for Window A, B, C, and D; 'Audio Input' with a dropdown and a volume slider; 'Audio Input Configuration' with dropdowns for 1 through 6; 'Output Resolution' with a dropdown; 'Window Layout' with a grid of 16 input slots (1-16) and a 'Submit' button; 'Button Configuration' with dropdowns for Button 1 through 4; and 'Submit' buttons for the 'Window Layout' and 'Button Configuration' sections. The footer contains the website URL www.tvone.com, contact information for NCSA, EMEA, and other regions, and an email address info@tvone.com.

The General settings tab contains the following options:

- Input Select
- Aspect Ratio
- Audio Input
- Audio Input Configuration
- Output Resolution
- Windows Layout
- Button Configuration

Input Select

Window A-D. Select the Video Input channel (1-7) for each of the required windows. Screen Layout Single = Window A; Double Window = A, B; Triple Window = A, B, C; Quadruple Window = A, B, C, D.

Select the related Input and click Submit to make the changes take effect.

Aspect Ratio

Set the required aspect ratio for each of the Windows (A-D) from either:

- Normal - Set the picture in the window as the original aspect ratio.
- Full - Set the picture in the window to fill the entire window.
- 16:9 - Set the picture in Window A as the 16:9 aspect ratio.
- 4:3 - Set the picture in Window A as the 4:3 aspect ratio

Select the related parameters, and click Submit to make the changes take effect.

Audio Input

Audio input selection ranges from 1-7, corresponding to the seven audio inputs. Select the related input and click Submit to complete the selection.

Volume

Output volume ranges from 0 to 10. 0 is mute, and 10 is the maximum volume. Select the required level and click Submit to complete the selection.

Audio Input Configuration

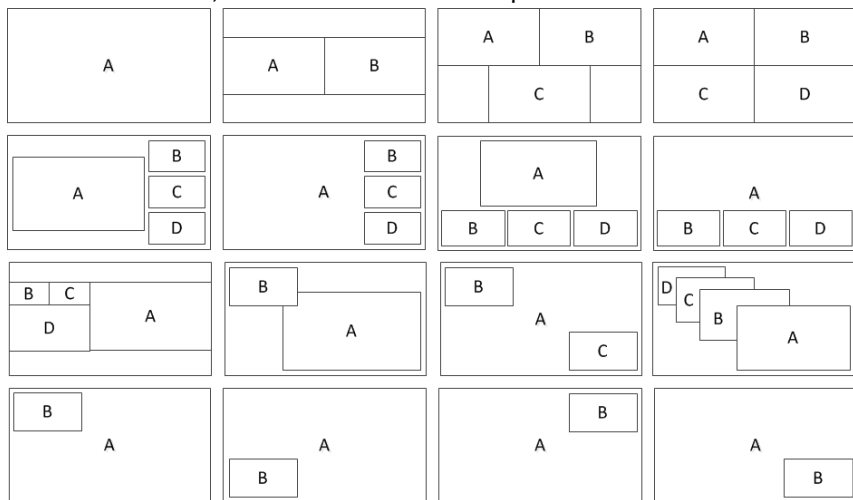
The Audio Input can be configured for Input 1-6 for either Auto or External. Note that Input 7 (VGA) has no automatic (embedded audio) and requires an external connection. Click on Submit to implement any changes.

Output Resolution

Select the HDMI output resolution selection: AUTO (auto adjustment of the output resolution based on the EDID of the display device), 4Kx2K@30Hz, 1920x1080@60Hz, 1280x720@60Hz, 1920x1200@60Hz, 1600x1200@60Hz, 1280x800@60Hz, 1024x768@60Hz. Select the required parameters, and click Submit to complete the selection.

Windows Layout

Using the WebGUI you can highlight one of the 16 defined screen layouts with a mouse click, and select Submit to complete the selection.



Note Button presses on the front of the unit will not automatically update the WebGUI. The WebGUI will update by refreshing your web browser.

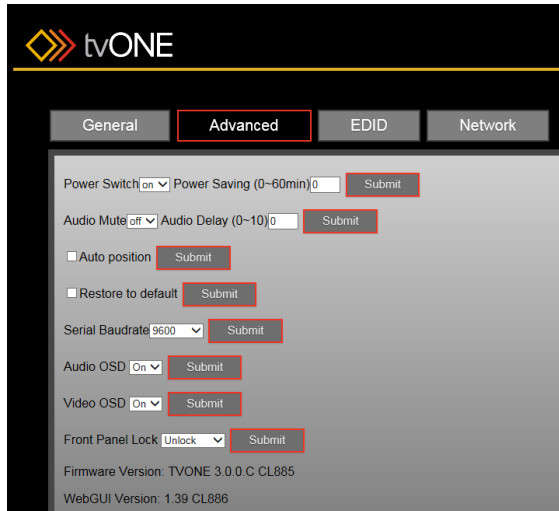
Button Configuration

A unique feature of the WebGUI, opposed to controlling the 1T-MV-8474 panel or remote, is that you can reassign the layouts selected by the four Screen Layout buttons. Instead of being limited to just the default single, double, triple or quadruple window layouts, you can assign any of the 16 layouts to a designated button.

Set the required layouts (from layout 1-16) against each button, and click on Submit to complete the configuration.

Note: It is worth noting that when this is configured, there is no way of identifying from the front of the unit, which layouts have been configured.

Advanced



The Advanced tab contains the following options:

- Power Switch
- Power Saving (0-60min)
- Audio Mute
- Audio Delay (0~10)
- Auto Position
- Restore to default
- Serial Baudrate
- Audio OSD
- Video OSD
- Front Panel Lock (unlock admin complete)

It also shows the Firmware and WebGUI version information.

Power Switch

Setting this to Off, and clicking Submit turns the unit to Standby mode.

Power Saving

To save power, when no signal is input in all the windows, it enters the status of auto setting the standby time. Time options range from 0 min to 60 min. It's recommended that you use 0 min, 5 min, 10 min, 15 min, 30 min and 60 min. 0 is off, meaning turning off this function. Select the related parameters, and click Submit to make the changes take effect.

Audio Mute

Setting this to OFF turns mute off and audio will be output normally. Setting this to On enables mute and will stop audio output. At the same time, OSD (if activated) prompts the related icons.



Select the related parameters, and click Submit to make the changes take effect.

Audio Delay

Audio output time-delay selection: 0~10. 0 denotes that the time-delay function is off. Select the required parameters, and click Submit to initiate the setting.

Auto Position

Auto position allows you to reposition an analog source to compensate for variable video timings.

When VGA is selected, select the checkbox to perform this function to automatically adjust the VGA picture. Adjustment parameters contain Horizontal Position, Vertical Position, Clock and Phase. Click Submit to perform the settings.

If OSD is activated it prompts with (Auto Adjust) underneath the VGA signal.

Restore to default Setting

Tick the checkbox and click on Submit to restore the unit to factory defaults.

Note: Be aware that will reset the IP address of the unit, and you may need to obtain the new IP address before browsing to the WebGUI.

Serial Baud Rate Setting

Select a baud rate from 9600, 14400, 19200, 28800, 38400, 57600, 115200. It is recommended that you use 9600. Select the related parameters, and click Submit to confirm the selection.

Audio OSD

Select to turn the On Screen Display (OSD) for Audio On or Off, then click Submit to complete.

Video OSD

Select to turn the On Screen Display (OSD) for Video On or Off, then click Submit to complete.

Front Panel Lock

Select from Unlock, Admin (Standby and Resolution buttons locked) and Complete (all buttons locked) and click Submit to complete.

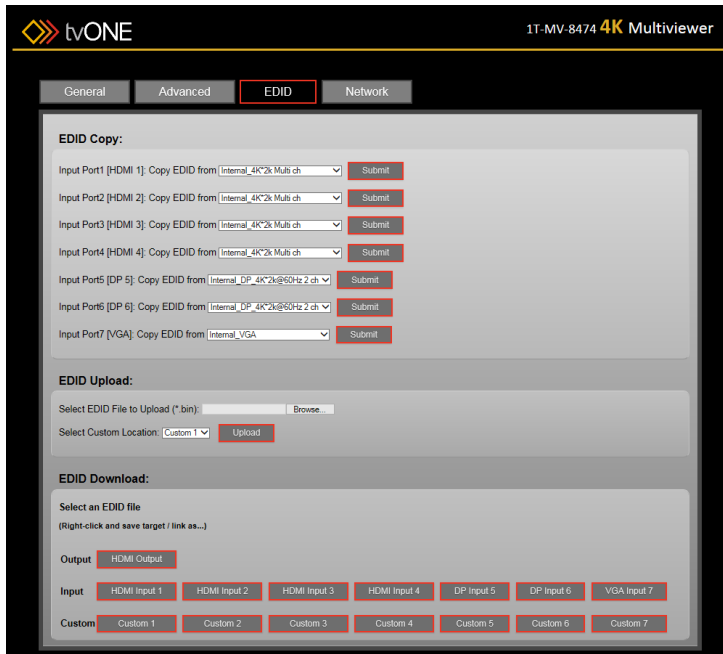
Note: To unlock the front panel of the unit, press and hold down Windows A and D to unlock. The standby button will flash once to confirm unlock has happened.

If it is set to Admin Lock you may need to press Windows A and D twice to cycle through the lock states.

EDID

Extended display identification data (EDID) is a data structure provided by a digital display to describe its capabilities to a video source (e.g. graphics card or set-top box). It is what enables a modern personal computer to know what kinds of monitors are connected to it.

The EDID tab provides the option to copy, upload or download the EDID.



EDID Copy

For each of the Inputs 1-7 you have a choice to select an EDID to apply to it from a drop down selection. Select the required parameters, and click Submit to initiate the setting.

EDID Upload

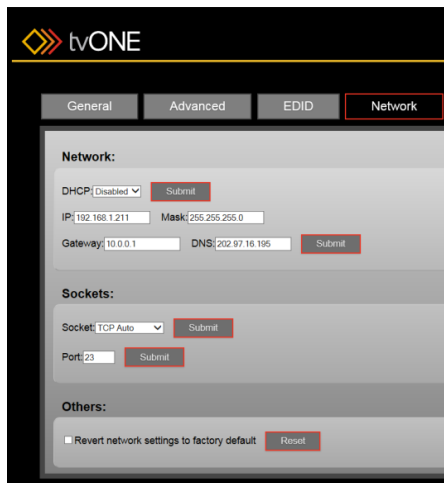
If you have a specific EDID file that you want to load it can be imported on the Multiviewer from a local location by browsing to it. It needs to be in a *.bin format.

When you have selected the file, select a custom location, there are a choice of 7, and click on Upload. Your EDID format will now be available in the EDID copy dropdown list.

EDID Download

To download an EDID file it is recommended that you right click on the required output, input, or custom button and select 'Save Target as ...'. This will save the required *.bin file to a local area of your choice.

Network



The screenshot shows the Network configuration page of the tvONE interface. At the top, there are four tabs: General, Advanced, EDID, and Network. The Network tab is selected. Below the tabs, the Network configuration section is divided into three sub-sections: Network, Sockets, and Others. In the Network section, there is a DHCP dropdown menu set to 'Disabled', a 'Submit' button, an IP address field with '192.168.1.211', a Mask field with '255.255.255.0', a Gateway field with '10.0.0.1', a DNS field with '202.97.16.195', and another 'Submit' button. In the Sockets section, there is a Socket dropdown menu set to 'TCP Auto', a 'Submit' button, a Port field with '23', and another 'Submit' button. In the Others section, there is a checkbox for 'Revert network settings to factory default' and a 'Reset' button.

On the Network tab you have the ability to configure the Network address:

Networks

DHCP – Enabled / Disabled then click on Submit to confirm.

Set IP, Mask, Gateway and DNS, then click on Submit to confirm.

Note: that changes may mean that unit/laptop will be on different address ranges and you may need to modify the laptop address to connect back to the unit.

Sockets

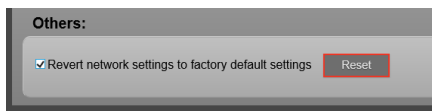
Choose the required socket from TCP Server, TCP Client, or TCP Auto, UDP Mode or UDP Multicast and click Submit to confirm selection.

Enter the required Port Number. Default is 23. Click on Submit to confirm selection.

Others:

The unit can be reset to factory default settings. This is done as a two-step process within the WebGUI. You need to tick the checkbox to the left of the caption 'Revert network setting to factory default settings' then click on Submit. The screen will change to say that the unit is being reset.

Note: This will reset the IP address to a default setting as well, so the WebGUI may not be able to connect until the IP address range between the laptop, and the unit is in the same range.



Electrical Parameters

Unit Functionality	
Video Input Formats	HDMI, DVI, DisplayPort, RGBHV, YPrPb
Audio Input Formats	HDMI and DisplayPort: embedded digital external analog stereo audio: 20 k Ω impedance
Video Output Formats	HDMI
Audio Output Formats	HDMI: embedded digital audio 7.1 Surround analog audio: 20 k Ω impedance TOSLINK: Digital Optical Audio
Format Compliance	HDMI v1.4 / DVI v1.0 / DisplayPort v1.2 HDCP v1.4
Color Depth	8-bit / 10-bit / 12-bit
EDID Memory	Advanced EDID utilities
Audio Bandwidth	20 Hz to 20 kHz
Audio Sampling Rate	48 kHz / 8CH / LPCM
Audio Levels	Stereo Audio: unity / nominal Stereo Audio: 0.5 - 1.0 Vpp
Audio Delay	User-adjustable from 0 - 400ms in increments of 40ms
Inputs	
Video	6x digital and 1x analog RGB
Audio	6x digital and 7x stereo analog
Output	
Video	1x HDMI/DVI
Audio	1x digital optical, embedded HDMI 4x stereo (analog 7.1)
Input Connectors	
HDMI/DVI	4x HDMI 19-pin female connectors
DisplayPort	2x 20-pin female locking connectors
Analog RGB	1x HD15 (VGA) female connector
Analog Audio	7x stereo 3.5mm female connectors
Power	1x IEC C14 power connector

Output Connectors	
HDMI/DVI	1x HDMI 19-pin female connector
Digital audio	1x TOSLINK Optical female connector
Analog audio	4x 3.5mm female connectors
Control	
Configuration	Web Interface, RS232, Ethernet, IR remote front panel buttons
Application	Web Interface
Buttons	7.5mm square colored LED backlit
Mechanical	
Size	(H x W x D)
Without feet or ears	44 x 439 x 279mm (1.7" x 17.3" x 11.0")
With feet (H)	51mm (2.0")
With ears (W)	483mm (19.0")
Weight	3.3kg (7.3lbs)
Power	
AC Power	100~240VAC / 50-60Hz
Power Consumption	15 Watts (max.)
Construction/Material	
Front panel	10mm aluminum alloy with black finish
Chassis	1mm pressed steel with matte black finish
Environmental	
Operating Temperature	0° to +40° C (+32° to +104° F)
Storage Temperature	-20°C to 60°C (-4°F~140°F)
Operating Humidity	20% to 90% Non-Condensing
Product Item Number	
1T-MV-8474	4K Multiviewer
Accessories	
Included	19 Button remote control, AC power cord User Guide and 2x rack ears
Warranty	
Limited Warranty	3 Years Parts and Labor
Regulatory Compliance	
Main Unit	FCC, CE, RoHS

Input Resolution

Resolution	P/I	HDMI	DisplayPort	VGA
640x350	P	85		
640x400	P	85		85
640x480	I	30		
640x480	P	60/75/85		75/85
720x400	P	85		
720x480	I			60
720x576	I	25		50
720x576	P	50/100		
800x600	P	60/75/85	60	60
848x480	P			60
1024x768	P	60/75/85		60/70/75
1152x864	P			75
1280x720	P	50/60	60	50/60
1280x768	P	60/75/85		60/75/80
1280x960	P	60/85		
1280x1024	P	60/75/85		60/75
1366x768	P			60
1600x900	P		60	
1600x1024	P	60		
1600x1200	P	60		60/65/70/75
1680x1050	P			60
1792x1344	P			60
1856x1392	P			60
1920x1080	I	25/30		50/60
1920x1080	P	24/25/30/50/60	60	24/25/30/60
1920x1200	P	60		60
1920x1440	P			60
2048x1152	P		60	
3840x2160	P	24/30	30/60	

Output Resolution

HDMI Output			
Auto	3840x2160@30 (4K)	1920x1080@60 (1080p)	1280x720@60 (720p)
1920x1200@60 (WUXGA)	1600x1200@60 (UXGA)	1280x800@60 (WXGA)	1024x768@60 (XGA)

Limited Warranty

tvONE warrants the original purchaser that the equipment it manufactures or sells will be free from defects in materials and workmanship for a fixed term from the date of purchase. The warranty term for specific product lines is defined below.

1. tvONE branded products based on tvONE's CORIO technology are warranted for a period of five years from the date of purchase. This includes products with the model number prefix of C2, 1T-C2, CX, A2 or S2.
2. tvONE products, other than those based on tvONE's CORIO technology mentioned above, are warranted for a period of three years from the date of purchase. This includes products with the model number prefix of 1T, with the exception of 1T-C2.
3. LCD Monitors are warranted for a period of three years from the date of purchase, with the exception of the LCD panels integrated into the monitors that are supplied by third parties. LCD panels are limited to the term and conditions of the warranty offered by the respective LCD panel manufacturer. Such specific LCD panel warranties are available upon request to tvONE.

Should a product, in tvONE's opinion, prove defective within this warranty period, tvONE, at its discretion, will repair or replace this product without charge. Any defective parts replaced become the property of tvONE. This warranty does not apply to those products which have been damaged due to accident, unauthorized alterations, improper repair, modifications, inadequate maintenance and care, or use in any manner for which the product was not originally intended.

If repairs are necessary under this warranty policy, the original purchaser must obtain a Return Authorization Number from tvONE and return the product to a location designated by tvONE, freight prepaid. After repairs are complete, the product will be returned, freight prepaid.

LIMITATIONS - All products sold are "as is" and the above Limited Warranty is in lieu of all other warranties for this product, expressed or implied, and is

strictly limited to the stated number of years from the date of purchase. tvONE assumes no liability to distributors, resellers or end-users or any third parties for any loss of use, revenue or profit.

tvONE makes no other representation of warranty as to fitness for the purpose or merchantability or otherwise in respect of any of the products sold. The liability of tvONE with respect to any defective products will be limited to the repair or replacement of such products. In no event shall tvONE be responsible or liable for any damage arising from the use of such defective products whether such damages be direct, indirect, consequential or otherwise, and whether such damages are incurred by the reseller, end-user or any third party.

Regulatory Compliance

The 1T-322-UK and 1T-322-US Controller products have been tested for compliance with appropriate FCC and CE rules and regulations. The power adaptor/supply has been tested for compliance with appropriate UL, CUL, CE, PSE, GS Rules, regulations and/or guidelines. This product and power adapter is RoHS compliant.

Contact Information

Should you have questions or require assistance with this product in areas not covered by this manual, please contact tvONE at the appropriate location shown below.

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Version Control:
1T-MV-8474 manual
Version: 1.1
Date: March 30, 2016
Author: Mark Kent

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