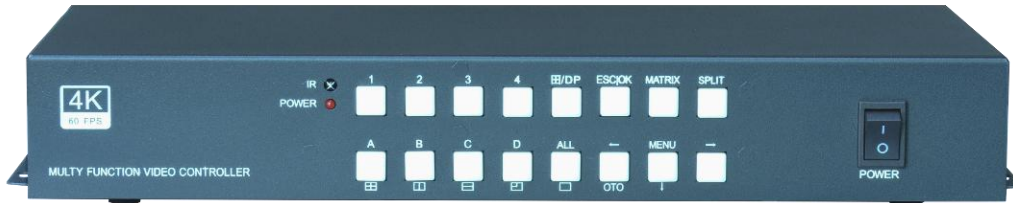


# 4K Video Wall Matrix Processor

## Specification & User Guide

Model: LM-TVM04B



<b>Device Type</b>	Integrated 4K video wall processor and matrix switcher
<b>Control Methods</b>	Front panel, IR remote, RS232 and central control

## 1. Overview

This is an integrated processor that combines 4K video wall processing and matrix switching in a single chassis. It can switch freely between Video Wall Mode and Matrix Mode, allowing one device to serve two applications. In video wall operation, it supports up to five 4K input sources for splicing and flexible multi-window display. In matrix operation, it works as a 4x4 seamless matrix switcher with preview capability, greatly improving equipment utilization and installation flexibility.

The unit provides 4 HDMI inputs and 1 DisplayPort input, together with 4 HDMI outputs (with an optional 5th HDMI output configuration). It is suitable for control rooms, surveillance projects, exhibition halls, commercial display systems, and other professional AV applications.

## Typical Applications

- Video wall display systems for monitoring and control centers
- Exhibition halls, digital signage, and showroom presentation systems
- Multi-screen routing and display management in commercial AV projects

## 2. Key Features

- Integrated video wall processor and matrix switcher, with one-key mode switching.
- Front-panel indicator lights for quick identification of current operating status.
- 1 x DP input and 4 x HDMI inputs; HDMI 1/2 support up to 4K@30Hz, while HDMI 3/4 and DP support up to 4K@60Hz, with backward compatibility.
- 4 x HDMI outputs as standard, with an optional 5th HDMI output; selectable output resolutions include 1024x768@60Hz, 1280x800@60Hz, 1280x720@60Hz, 1920x1080@60Hz, and 1920x1200@60Hz (video wall mode only).
- Embedded HDMI audio plus 1 x independent 3.5 mm stereo audio output; audio source can be switched freely.
- Supports IR remote control, RS232 control, and front-panel button control.
- Matrix mode supports seamless switching and two-key quick switching.
- Matrix mode supports quad-view on any selected output.
- Video wall mode supports 180-degree rotation and left-right mirror for individual display units, which is useful for upper-row inverted LCD installations.
- Video wall mode supports overall brightness and contrast adjustment.
- Supports 1x2, 2x1, 2x2, 1x3, 3x1, 1x4, and 4x1 video wall layouts.
- In any video wall layout, the system supports quad split, left-right split, top-bottom split, and picture-in-picture display with freely selectable input sources.
- Supports 90 / 180 / 270-degree rotation of the overall input image.
- Supports edge masking and horizontal/vertical bezel adjustment in video wall mode.

## 3. Functional Description

### 3.1 Input and Output Signals

The device supports 4 HDMI inputs and 1 DP input. The maximum supported input resolution is up to 4K@60Hz. HDMI 1 and HDMI 2 support up to 4K@30Hz, while HDMI 3, HDMI 4, and the DP input support up to 4K@60Hz. In matrix mode, any four inputs can be selected for switching and display. The standard configuration provides 4 HDMI outputs, with an optional 5th HDMI output. Output resolution is selectable according to system requirements.

### 3.2 Free Switching Between Matrix and Video Wall Modes

The processor integrates both matrix and video wall processing without requiring additional hardware. Users can quickly switch operating modes through the remote control or the front-panel buttons, making it convenient to alternate between a large spliced image and independent multi-screen display.



### 3.3 Seamless Matrix Switching

In matrix mode, the unit operates as a 4x4 seamless matrix switcher. It supports arbitrary switching among the available inputs and outputs, two-key quick switching, and preview mode that shows four input sources simultaneously on one display. Seamless switching helps avoid black screens during source changes.



### 3.4 Video Wall Functions

A single unit supports multiple splicing layouts including 1x2, 2x1, 2x2, 1x3, 3x1, 1x4, and 4x1. Within these layouts, the full wall can also display quad split, left-right split, top-bottom split, or picture-in-picture, and each window can be assigned a different input source.



Quad split



Left-right split



Top-bottom split



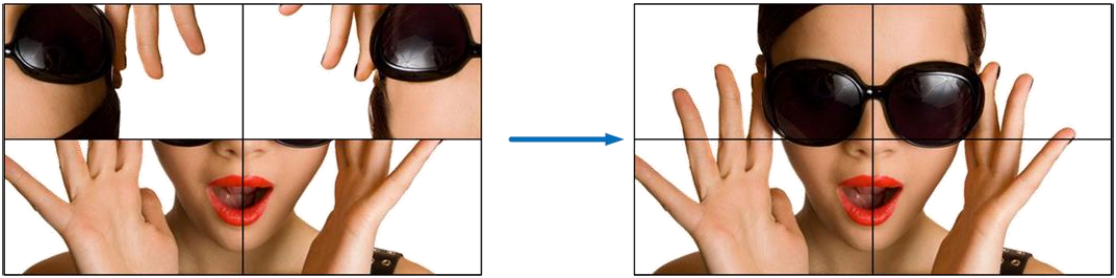
Picture-in-picture (top left corner)



2x2 Video Wall

### 3.5 Image Rotation and Mirroring

The processor supports 180-degree rotation and mirror adjustment for individual display units, which is especially useful when the upper row of LCD panels is installed upside down to reduce visible bezel seams. It also supports 90 / 180 / 270-degree rotation of the entire input image for portrait video wall applications.



180-degree rotation



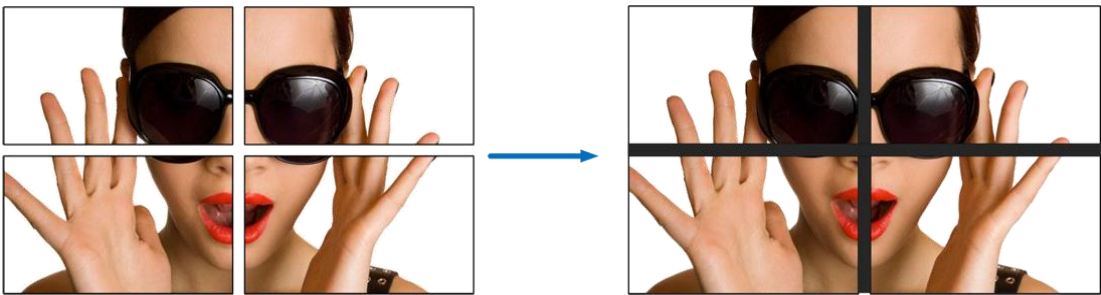
Portrait video wall



Mirror adjustment

### 3.6 Edge Masking

Physical bezels naturally create visible gaps between display units. The edge masking function helps reduce unnatural stretching or separation of the image across these gaps, resulting in a more natural visual effect.



### 3.7 Control Methods

The unit supports three primary control methods: IR remote control, front-panel button control, and RS232 serial control. It also allows integration with a central control system by using the available control commands.

### 3.8 Audio Output

The processor provides 1 independent 3.5 mm stereo audio output. Each HDMI output also supports embedded audio, allowing synchronized audio and video output with flexible audio source selection.

### 3.9 Front-Panel Status Indication

LED indicators on the front panel provide quick visual feedback on the active working mode, input signal status, and corresponding output selection.

## 4. Technical Specifications

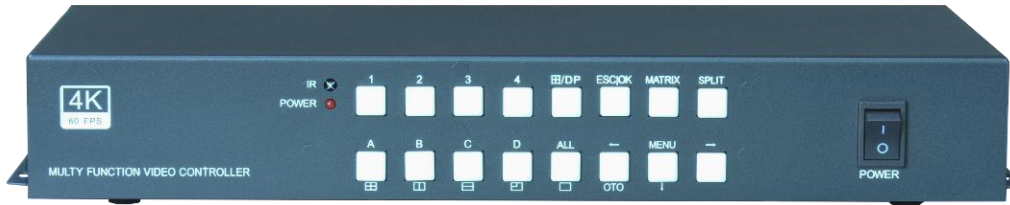
Item	Specification
<b>Input Interfaces</b>	4 x HDMI input, 1 x DP input
<b>Input Resolution</b>	DP: up to 4K@60Hz; HDMI 1/2: up to 4K@30Hz; HDMI 3/4: up to 4K@60Hz; backward compatible
<b>Output Interfaces</b>	4 x HDMI outputs standard, optional 5th HDMI output; 1 x 3.5 mm stereo audio output
<b>Output Resolution</b>	1024x768@60Hz, 1280x800@60Hz, 1280x720@60Hz, 1920x1080@60Hz, 1920x1200@60Hz (video wall mode only)
<b>Color Format</b>	RGB 4:4:4
<b>Control Methods</b>	Front panel, IR remote, RS232, central control
<b>Power Supply</b>	DC 12V / 3A
<b>Display Layouts</b>	1x2, 2x1, 2x2, 1x3, 3x1, 1x4, 4x1
<b>Device Dimensions</b>	302 x 148 x 45 mm
<b>Device Weight</b>	1.50 kg
<b>Package Dimensions</b>	400 x 250 x 95 mm
<b>Package Weight</b>	2.05 kg
<b>Power Consumption</b>	Max. 25W

## 5. Notes

- The optional 5th HDMI output depends on the selected hardware configuration.
- 1920x1200@60Hz output is available in video wall mode only.

## 6. Front Buttons & Rear Ports

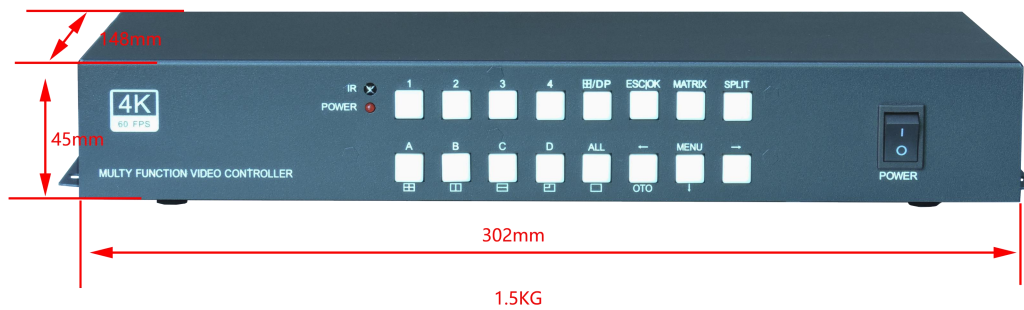
### 6.1 Front panel



### 6.2 Rear panel



### 6.3 Product Size



## 7. Connection Diagram

