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› 4K HDMI Matrix Switch 4x4, 4K@30Hz HDMI Matrix Switcher Splitter 4 in 4 Out with Backlit Button, Support HDCP EDID Management RS232 Control Downscale 4K & 1080P Together

Yinker HD414

Yinker 4K HDMI Matrix Switch 4x4 User Manual

Model: HD414

1. INTRODUCTION

This user manual provides comprehensive instructions for the installation, operation, and maintenance of the Yinker 4K HDMI Matrix Switch 4x4. This device is designed to connect up to four HDMI input sources and distribute them to four HDMI output displays simultaneously or individually, functioning as both a switcher and a splitter without the need for frequent cable changes.

2. PRODUCT OVERVIEW

The Yinker 4K HDMI Matrix Switch 4x4 is a versatile audio/video distribution solution. It supports high-resolution video up to 4Kx2K@30Hz and 1080P@60Hz downscaling, along with 3D video and 36-bit color depth. It is compatible with HDMI 1.4B and HDCP 1.2 standards, and supports various audio formats including PCM, DSD, Dolby, TrueHD, and DTS-HD. The matrix switch allows for flexible control via panel buttons, an IR remote, or RS232 serial commands.



Figure 2.1: Yinker 4K HDMI Matrix Switch 4x4, showcasing its ability to display different content on multiple screens.

3. KEY FEATURES

- **4 In 4 Out Matrix:** Connects 4 HDMI input sources to 4 HDMI output displays simultaneously or individually.
- **High Resolution Support:** Supports resolutions up to 4Kx2K@30Hz and 1080P@60Hz downscale. Compatible with 3D, 36-bit color depth, HDMI1.4B, and HDCP1.2.
- **Audio Compatibility:** Supports PCM, DSD, Dolby, TrueHD, and DTS-HD audio formats.
- **Multiple Switching Methods:** Control the matrix via front panel buttons, IR remote, or RS232 serial commands.
- **Backlit Buttons & LCD Display:** Features vision-friendly backlit buttons and an LCD info screen to display current status and information.
- **EDID Management:** Supports auto-scan EDID data and built-in EDID formats for optimal display compatibility.
- **Power-Off Memory:** Automatically restores the previous screen configurations when power is turned on.
- **Signal Transmission:** Capable of transferring signals up to 50ft with HDMI 1.4/2.0 cables and up to 65ft with HDMI Fiber cables.

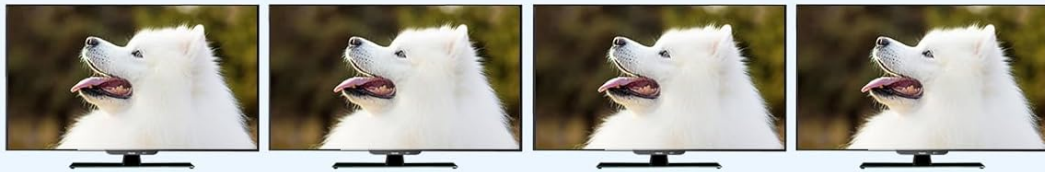
Various Screen Configuration

allows you to send any input to any output without the need to change any wires around

- 1 Each display select a standalone input source



- 2 All display share the same input source



- 3 Part of displays share the same input source



Figure 3.1: Illustration of various screen configurations possible with the Yinker HDMI Matrix Switch, demonstrating its flexibility in routing inputs to outputs.

Single screen supports 4K*2K@30Hz

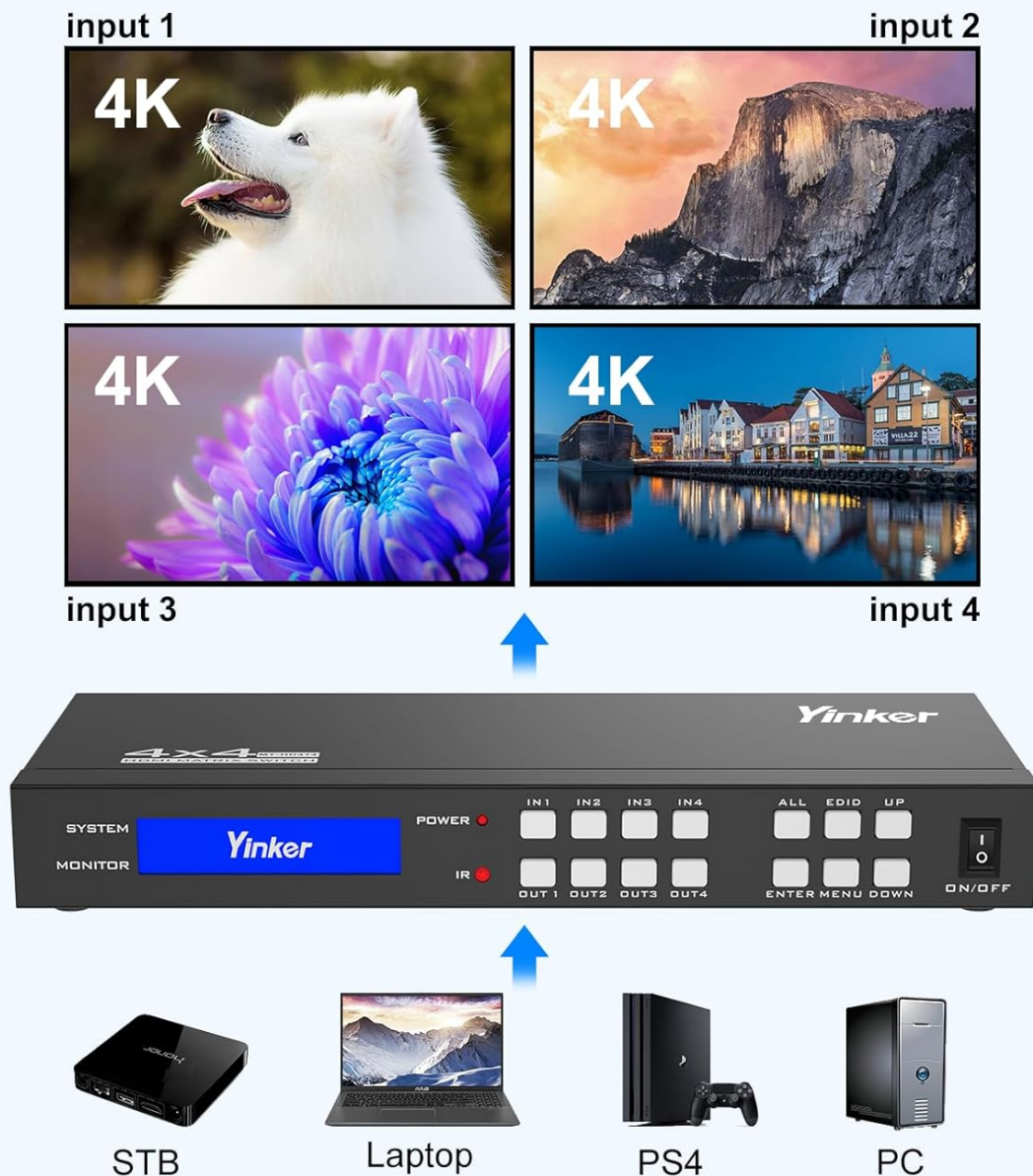


Figure 3.2: The Yinker HDMI Matrix Switch supports 4K resolution on single screens, connecting various input devices like STB, Laptop, PS4, and PC.

4. PACKAGE CONTENTS

Please verify that all items listed below are included in your package:

- HDMI Matrix Switch (4x4) x1
- RS232 Cable x1
- IR Remote x1
- User Manual x1
- Power Adapter x1
- CD Driver x1 (for RS232 software, external CD drive may be required)



Figure 4.1: All components included in the Yinker 4K HDMI Matrix Switch package.

5. SETUP INSTRUCTIONS

Follow these steps to set up your Yinker 4K HDMI Matrix Switch:

1. **Power Off Devices:** Ensure all HDMI source devices (e.g., PC, Blu-ray player, game console) and display devices (e.g., TVs, monitors, projectors) are powered off before making connections.
2. **Connect HDMI Inputs:** Connect your HDMI source devices to the HDMI INPUT ports (IN1, IN2, IN3, IN4) on the rear panel of the matrix switch using high-quality HDMI cables.
3. **Connect HDMI Outputs:** Connect your HDMI display devices to the HDMI OUTPUT ports (OUT1, OUT2, OUT3, OUT4) on the rear panel of the matrix switch.
4. **Connect Power:** Plug the provided power adapter into the DC 5V port on the matrix switch and then into a power outlet.
5. **Optional RS232 Connection:** If using RS232 control, connect the RS232 cable from your control device (e.g., PC) to the CONSOLE port on the matrix switch. Install the provided software from the CD driver if needed.
6. **Power On:** Power on the matrix switch, then power on your HDMI source devices and display devices.



Figure 5.1: Detailed connection diagram illustrating how to connect HDMI input sources and output displays to the matrix switch.

Support 3 Switching Modes



1 Panel Button



2 IR remote control



3 RS232

Figure 5.2: The front panel of the Yinker HDMI Matrix Switch, featuring backlit buttons for input and output selection, and an LCD display for status.

6. OPERATING INSTRUCTIONS

The Yinker 4K HDMI Matrix Switch offers three primary methods for operation:

6.1. Front Panel Button Control

The front panel features backlit buttons for intuitive control. The LCD display shows the current switching status.

- **Input Buttons (IN1-IN4):** Select the desired HDMI input source.
- **Output Buttons (OUT1-OUT4):** Select the desired HDMI output display(s).
- **ENTER/MENU/DOWN/UP Buttons:** Used for navigating menus and confirming selections, particularly for EDID management.
- **ALL Button:** Assigns the currently selected input to all output displays.
- **EDID Button:** Accesses EDID management settings.

- **ON/OFF Switch:** Powers the device on or off.

To switch an input to an output: Press the desired **IN** button, then press the desired **OUT** button(s), and finally press the **ENTER** button. The LCD display will confirm the switch.



Figure 6.1: Front panel controls with backlit buttons and LCD display for easy operation.

6.2. IR Remote Control

The included IR remote provides convenient wireless control over the matrix switch.

- Point the remote directly at the IR receiver on the front panel of the matrix switch.
- Use the numbered buttons (1-4) to select inputs and outputs.
- The remote also includes dedicated buttons for ALL, EDID, and navigation.

6.3. RS232 Control

For advanced control and integration into larger systems, the matrix switch can be controlled via RS232 serial commands. Refer to the detailed RS232 command set in the full user manual (provided on CD or available from Yinker support) for specific commands and protocols.



Figure 6.2: The Yinker HDMI Matrix Switch supports three control methods: front panel buttons, IR remote, and RS232 serial port.

6.4. EDID Management

The EDID (Extended Display Identification Data) management feature ensures optimal compatibility between the source and display devices. The matrix switch can auto-scan EDID data or use built-in EDID formats. This helps in resolving display issues related to resolution or audio formats.

The device also supports saving and recalling up to 16 display scenes, which is useful for quickly switching between predefined configurations.

6.5. Power-Off Memory Function

The matrix switch retains its last active configuration even after being powered off. Upon power restoration, it will automatically revert to the previously set input-to-output routing.

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Video 6.1: An overview of the Yinker HDMI Matrix Switch, demonstrating its features including the backlit buttons, LED display, and heat emission holes. This video highlights the physical aspects and basic functionality of the device.

7. MAINTENANCE

To ensure the longevity and optimal performance of your Yinker 4K HDMI Matrix Switch, please observe the following maintenance guidelines:

- **Cleaning:** Use a soft, dry cloth to clean the exterior of the device. Avoid using liquid cleaners or aerosols, as they may damage the unit.
- **Ventilation:** Ensure proper ventilation around the device. Do not block the heat emission holes on the sides of the unit.
- **Environment:** Keep the device in a cool, dry place, away from direct sunlight, excessive heat, humidity, and dust.
- **Handling:** Handle the device with care. Avoid dropping or subjecting it to strong impacts.
- **Cables:** Periodically check HDMI and power cables for any damage or loose connections.

8. TROUBLESHOOTING

If you encounter issues with your Yinker 4K HDMI Matrix Switch, please refer to the following common troubleshooting steps:

Problem	Possible Cause	Solution
No video output on display.	Loose HDMI cable connection; Incorrect input/output selection; Power issue; EDID incompatibility.	<p>Ensure all HDMI cables are securely connected.</p> <p>Verify the correct input is selected for the desired output using panel buttons or remote.</p> <p>Check if the power adapter is properly connected and the device is powered on.</p> <p>Try using the EDID management function to auto-scan or select a compatible EDID mode.</p> <p>Test with different HDMI cables or displays.</p>
Poor video quality or flickering.	Cable quality/length; Resolution mismatch; EDID issue.	<p>Use high-quality HDMI 1.4/2.0 cables, especially for longer runs.</p> <p>Ensure the output resolution is supported by your display.</p> <p>Adjust EDID settings if necessary.</p>
Remote control not working.	Batteries depleted; Obstruction; Remote not pointed correctly.	<p>Replace batteries in the IR remote.</p> <p>Ensure there are no obstructions between the remote and the matrix switch's IR receiver.</p> <p>Point the remote directly at the IR receiver.</p>
Switching delay.	Normal operation for HDMI handshaking; Complex setup.	<p>A brief delay (a few seconds) during switching is normal as the devices establish an HDMI handshake.</p> <p>Ensure all devices are fully powered on and stable.</p>

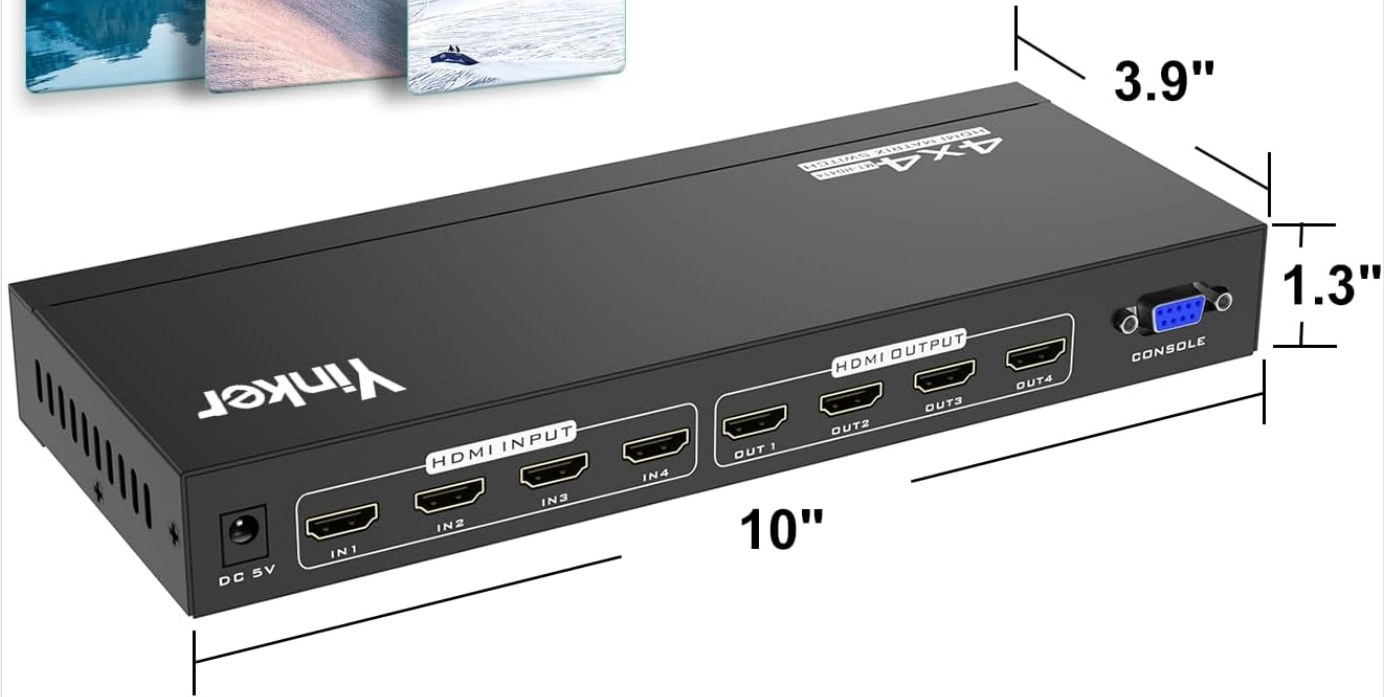
9. SPECIFICATIONS

Attribute	Value
Product Dimensions	10 x 3.9 x 1.3 inches (approx.)
Item Weight	2.38 pounds
Model Number	HD414
Color	Black
Connector Type	HDMI
Compatible Devices	Projector, Monitor, TVs, Blu-ray player, Personal Computer, Laptop, Game Console, Livestream devices
Cable Type	HDMI
Max Resolution	4Kx2K@30Hz, 1080P@60Hz (downscale)
HDMI Version	HDMI 1.4B
HDCP Version	HDCP 1.2



EDID Management

EDID automatically scan and adjust to the 4K high definition resolution



Built with Power-Off Memory Function, auto restore the previous screens when the power is turned on



Displaying



Power Off



Power On

Figure 9.1: Product dimensions of the Yinker 4K HDMI Matrix Switch.

10. WARRANTY AND SUPPORT

For any questions, problems, or support inquiries regarding your Yinker 4K HDMI Matrix Switch, please contact YINKER OFFICIAL customer support. Refer to the contact information provided in your product packaging or visit the official Yinker website for assistance.