

User Manual

MediaHub

With 4-way Video Distribution

BrightSign[®]
Built-In



Model MH4-HD

Audio  Authority[®]

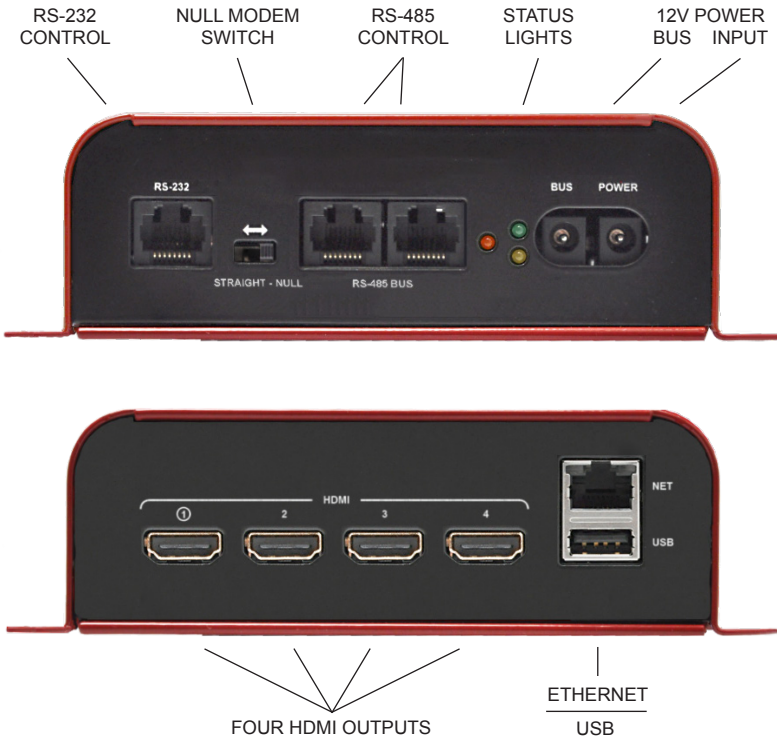
Introduction

The Model MH4-HD adds multiple video outputs to the MediaHub platform. For demo systems that require multiple video sinks, the Model MH4-HD acts as its own 1:4 distribution amplifier. Connect up to four HDMI sinks (televisions, soundbars, A-V receivers, etc.) to the player; each output provides identical 1080p video signal, and individual CEC control of the sink.



Features

- BrightSign® Digital Signage Module
- Four HDMI® outputs (1080p60), digital audio
- Individual CEC control via HDMI
- Dual-purpose 3.5mm audio output jack (digital or analog)
- Customizable push-button ports (RJ9 x4)
- Control ports for peripherals (RJ45)
- USB port for touch screen or other peripherals
- Ethernet port for remote updates



Four HDMI Outputs

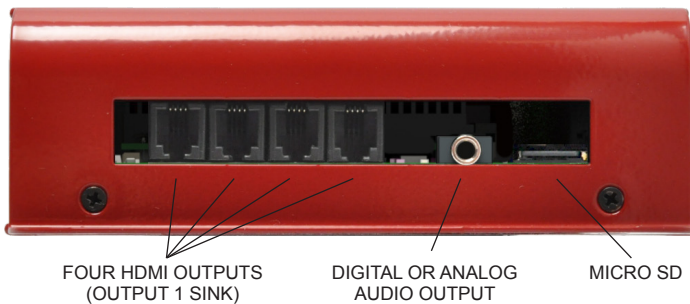
The four HDMI outputs deliver video, and 5-channel digital audio via HDMI cables to four HDMI display screens, AVRs or sound bars. CEC commands can be used to control the sync device.

Video File Information

The MH4-HD supports multiple video codecs including MPEG4, with maximum video resolution up to 1080p. Test all files before deployment. See BrightSign specifications for details: www.brightsign.biz/application/files/3715/0533/7941/HD-Module-091317-web.pdf

Audio Output

The MH4-HD connects to any device that can accept digital Toslink®, or low-level analog audio via its dual-purpose output jack. The jack outputs digital or analog audio as directed by BrightAuthor settings. The audio signals on each HDMI output may be turned off and on via software.



Push-Buttons

To control media using push-buttons, connect EasyPlug push-buttons to each RJ9 position. Compatible push-buttons are available in several colors; shown below is the button illuminated with blue LED ring.

MicroSD Card Slot

The programming instructions for custom functionality are stored on a microSD card with the video and audio files. Media files placed on the root of the microSD card autoplay on power up. If the microSD card is updated to add new video files, check to make sure any custom programming remains on the card.



The EasyPlug push-button has an RJ9 connector for easy installation and long term reliability.

Serial Communication

Control Port (RS-232)

The MH4-HD can send and receive serial commands via RS-232. The the port may be set for Null or Straight using the switch located beside the RS-232 port. The port is a modular RJ-45 jack; adapter cables are available for 3.5mm or DB-9 serial ports.

Control Bus (RS-485)

The RS-485 control bus allows the MH4-HD to interact with devices such as the Audio Authority TouchSelect panels or the 1895 Visual Volume knob. The MH4-HD can also control switch modules or amplifiers that are linked via the Control Bus.

The MH4-HD is unit ID 0, all on-board push-button positions respond to commands addressed to ID 0. All commands are echoed on the RS-232 control port and RS-485 control bus, regardless of ID.

External Settings (RS-232)

Baud rate may be changed via BrightAuthor.

Default Baud Rate	115200
Data Bits	8
Parity	None
Stop Bits	1

Changing the Baud Rate (RS-232)

Control Bus Settings (RS-485)

Baud Rate	57600
Protocol	Control Bus (RS485)

In BrightAuthor, select the proper Baud rate to communicate to external serial devices. The MH4-HD is always ID 0.

STRUCTURE	EXAMPLE	RESULT
[BAUD#_#]	[BAUD0_9600]	MH4-HD ID 0 BAUD RATE SET TO 9600
[BAUD#_#]	[BAUD0_115200]	MH4-HD ID 0 BAUD RATE SET TO 115200
[BAUD#_#]	[BAUD0_19200]	MH4-HD ID 0 BAUD RATE SET TO 19200
[BAUD#_#]	[BAUD0_57600]	MH4-HD ID 0 BAUD RATE SET TO 57600
[BAUD#_#]	[BAUD0_38400]	MH4-HD ID 0 BAUD RATE SET TO 38400

Internal Settings

Port	0
Baud Rate	115200
Data Bits	8
Parity	None
Stop Bits	1
Protocol	ASCII
Send EOL	CR
Receive EOL	CR

Sample Button Commands

STRUCTURE	EXAMPLE	RESULT
[PRESS#=#]	[PRESS0_2]	MH4-HD PSB 2 PRESS SENT
[RELEASE#]	[RELEASE0_2]	MH4-HD PSB 2 RELEASE SENT
[BLINK#_#]	[BLINK0_4]	MH4-HD PSB 4 LED BLINKS
[BLINK#_#,#,#,#]	[BLINK0_1,2,3,4]	MH4-HD PSB 1,2,3,4 LEDS BLINK
[LEDON#_#]	[LEDON0_6]	MH4-HD PSB 6 LED ACTIVATES
[LEDON#_#,#,#,#]	[LEDON0_3,4,5,6]	MH4-HD PSB 3,4,5,6 LEDS ACTIVATE
[LEDOFF#_#]	[LEDOFF0_6]	MH4-HD PSB 6 LED DEACTIVATES
[LEDALLOFF]	[LEDALLOFF]	DEACTIVATES ALL LEDS ON ALL DEVICES

BrightAuthor CEC Settings for the MH4-HD

Select BrightControl for CEC routing of HDMI 1-4 commands. Use [CECSELECT#] where # equals HDMI output 1 through 4.

Firmware Update

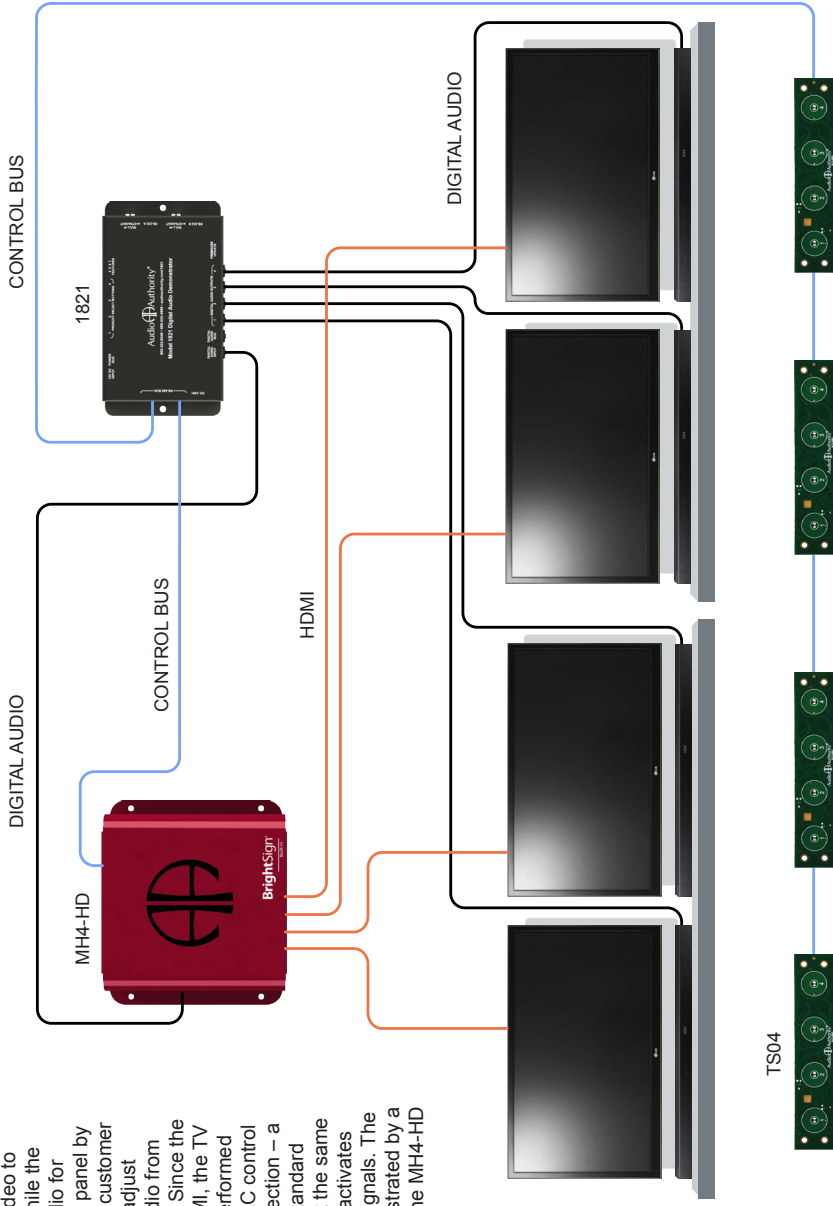
Visit www.audioauthority.com/MH4-HD for firmware update instructions.

Installation

- Attach the player to a flat surface with the screws provided.
- Load programming and media files onto a compatible and properly formatted microSD card.
- Connect EasyPlug push-buttons, touch panels or touch screen.
- Connect power adapter to AC power, then to the MH4-HD power port.
- Connect audio output(s) to an amplifier, headphone amplifier or switching system if desired.
- Connect HDMI cables from the display sinks to the four MH4-HD HDMI ports.
- For more information check our website: audioauthority.com/MH4-HD.

Example System: Sound Bar vs. TV Sound Comparison

The MH4-HD distributes video to four HDMI sink devices, while the 1821 switcher handles audio for sound bars. A TouchSelect panel by each sound bar allows the customer to activate the sound bar, adjust volume, and toggle the audio from sound bar to TV speakers. Since the TVs receive audio via HDMI, the TV sound toggle function is performed by muting the TV using CEC control signals via the HDMI connection – a function not available on standard HDMI distribution amps. At the same instant, the 1821 switcher activates the sound bar via optical signals. The whole experience is orchestrated by a BrightAuthor program on the MH4-HD MediaHub.





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