DL-HDM88AS-H2 Owners Manual

DIGITALINX
VALUE-ENGINEERED DIGITAL SOLUTIONS

Rev 230528

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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.

Table of Contents

Product Overview

The DigitaLinx DL-HDM88AS-H2 is an eight input by eight output HDMI 2.0 matrix switcher with HDCP 2.2 support and capable of handling resolutions up 4K@60Hz 4:4:4 / 8 bit color with static and dynamic HDR output support for each channel. The matrix features advanced independent EDID management control for each HDMI input. The analog and digital audio outputs on the DL-HDM88AS-H2 can be set to follow the HDMI video or ARC. Built in re-clocking circuitry ensures the switcher is backwards compatible with sources with older HDMI version chip sets.

The DL-HDM88AS-H2 can be controlled via front panel buttons, front panel IR, RS232, and Ethernet. The matrix includes a simple IR remote control to allow IR switching. The matrix also features a full command set for RS232 and Ethernet control with third party control systems, plus control via web user interface.

Product Overview

- DL-HDM88AS-H2 Matrix Switcher
- (1) Matrix IR Remote
- (1) AC power adapter with US, UK, EU and AU power plugs
- (8) Phoenix Male Connector (3.5mm, 3 Pins)
- (2) Rack mounting clips with mounting screws

Front and Rear Panels

Front Panel

1. **OUTPUT CHANNEL INDICATOR** - Indicates input for output port 1-8
2. **IR** - Receives signals from IR remote
3. **Output Select Left (<) / Right (>) :** press to select output channels.
4. **Input Select Up / Down :** press to select input.
5. **Enter :** Press to implement input and output selection

Rear Panel

1. **AC** - AC power cord input
2. **HDMI IN (1-8)** - HDMI input ports for connections to HDMI video sources
3. **HDMI OUT (1-8)** - HDMI output ports for connections to displays
4. **LAN** - RJ45 port for LAN connection to network or control system for telnet control
5. **RS232** - Phoenix port for connection to control system for serial control
6. **AUDIO OUT** - Audio de-embedded outputs for 1-8; phoenix for analog 2 channel audio and RCA for digital S/PDIF multichannel

Installation Instructions

Mount the Matrix

At least 2 inches of free air space is required on both sides of the DL-HDM88AS-H2 for proper side ventilation. Avoid mounting the DL-HDM88AS-H2 near a power amplifier or any other source of significant heat.

Rack Mounting Instructions

Remove the rubber feet from the bottom of the matrix. Remove the larger two screws on both sides of the DL-HDM88AS-H2.

Attach the supplied rack ears to the sides of the DL-HDM88AS-H2 matrix. The matrix requires one rack unit (1 RU) of space. It is recommended that you leave an empty rack space above and below the DL-HDM88AS-H2 for additional cooling.

Connect Sources

Connect the source devices to HDMI inputs using HDMI cables that are less than or equal to 1.5 meters in length for 4k60 signals. For source devices that are further away, it is highly recommended to install a Digitalinx DL-HD70-H3, DL-HDE100-H3 or the DL-AVX2100-H2.

Connect Displays

Connect the display devices to HDMI outputs using HDMI cables that are less than or equal to 1.5 meters in length for 4k60 signals.. For display devices that are further away, it is highly recommended to install a Digitalinx DL-HD70-H3, DL-HDE100-H3 or the DL-AVX2100-H2.

Applying Power

Insert the matrix power supply included and switch on power located on the front panel. Check that the front panel LED screen is on to indicate the matrix is ready for use.

Switching Capabilities

Switch between sources and displays using the matrix front panel buttons, IR remote control, serial RS232, or LAN. To set a route using the front panel of the DL-HDM88AS-H2, press the Left/Right button (Source) and desired Up/Down button (Display), then press Enter.

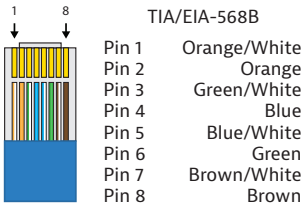
Connect RS232 Control

The RS232 connection on the matrix is a phoenix connector. User can use a USB to UART cable for matrix control. See below for control system configuration.

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

Connect Ethernet (Web Browser) Control

The DL-HDM88AS-H2 may be controlled via Ethernet through a web browser interface.



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:
DHCP

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

Router Connection

1. Configure the router for DHCP
2. Connect the computer to the router.
3. Connect the DL-HDM88AS-H2 to the router

PC Connection

1. Configure the computer to use the same network prefix as the IP address assigned to the matrix. *For example, the Matrix is DHCP as default so set computer for DHCP.*
2. Connect the network cable to the computer and to the TCP/IP port on the DL-HDM88AS-H2. Press up and down buttons for 3 seconds to see IP address of Matrix. If computer is in the same range open broswer and type in IP address of switch.

Web Browser Control

The DL-HDM88AS-H2 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.

Web Browser Control / System Settings

Matrix Control

Connecting to Web Control Interface

Open a web browser and type in IP address of the DL-HDM88AS-H2. The DL-HDM88AS-H2 is DHCP by default. You can use the front buttons to display the IP address. Hold down the Up and Down buttons for 3 seconds. Be sure the computer you are using to connect to the DL-HDM88AS-H2 is in the same IP range.

The matrix login screen will appear. The default password is *admin*

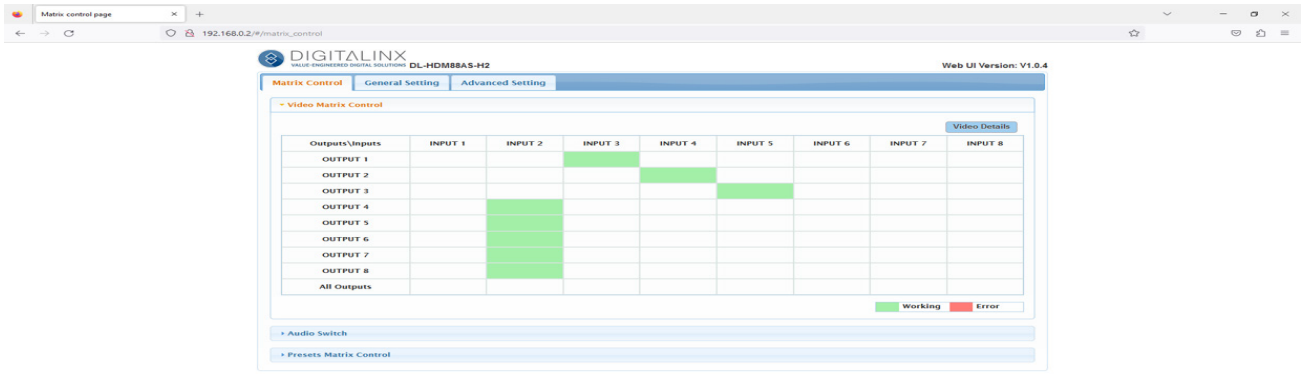
Audio / Video Switching

After logging in, the main screen appears. It contains three sub-menus; *Matrix Control, General Setting* and *Admin Setting* and defaults to *Matrix Control*.

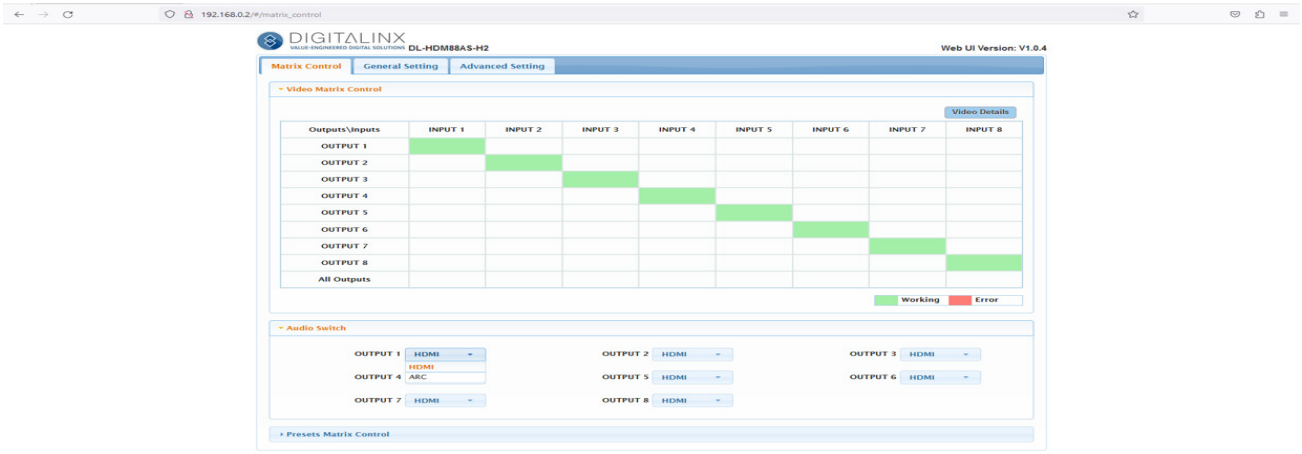
The *Matrix Control* menu allows you to control video routes and audio routes.

To switch the video route, check the desired output button corresponding to the desired input.

All: Checking the *ALL* button corresponding to the input will route the input signal to ALL outputs



By default the audio outputs 1-8 de-embed HDMI out 1-8 audio. Audio outputs can be switched to ARC.



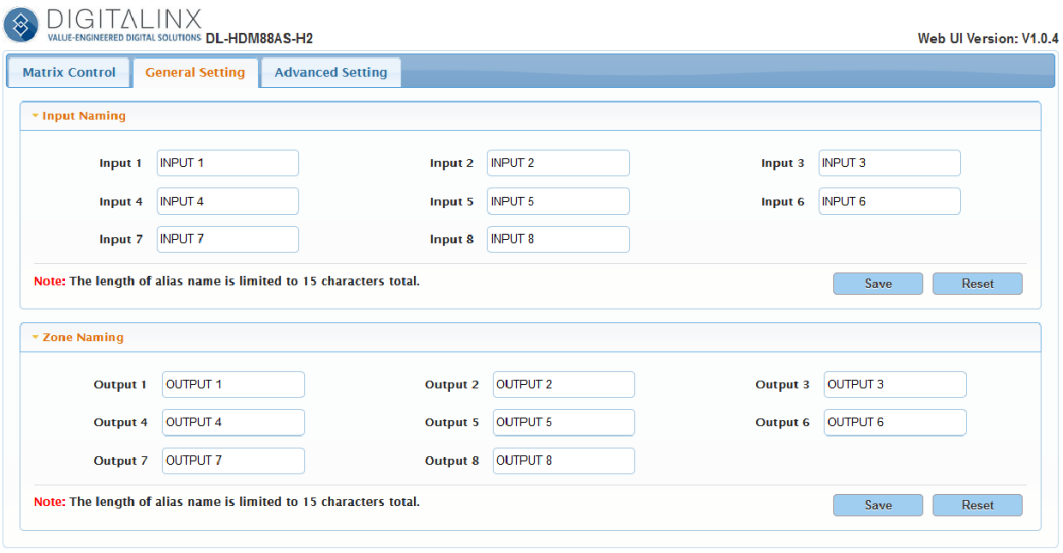
Saving and Loading Presets

In the *Matrix Control* section audio and video routes can be saved and recalled in presets.

To save the current routing scheme into a predefined preset to be recalled at a later time, click the *SAVE* button in the *Presets* section into preset location 1, 2 or 3. To recall the preset check the *LOAD* button.

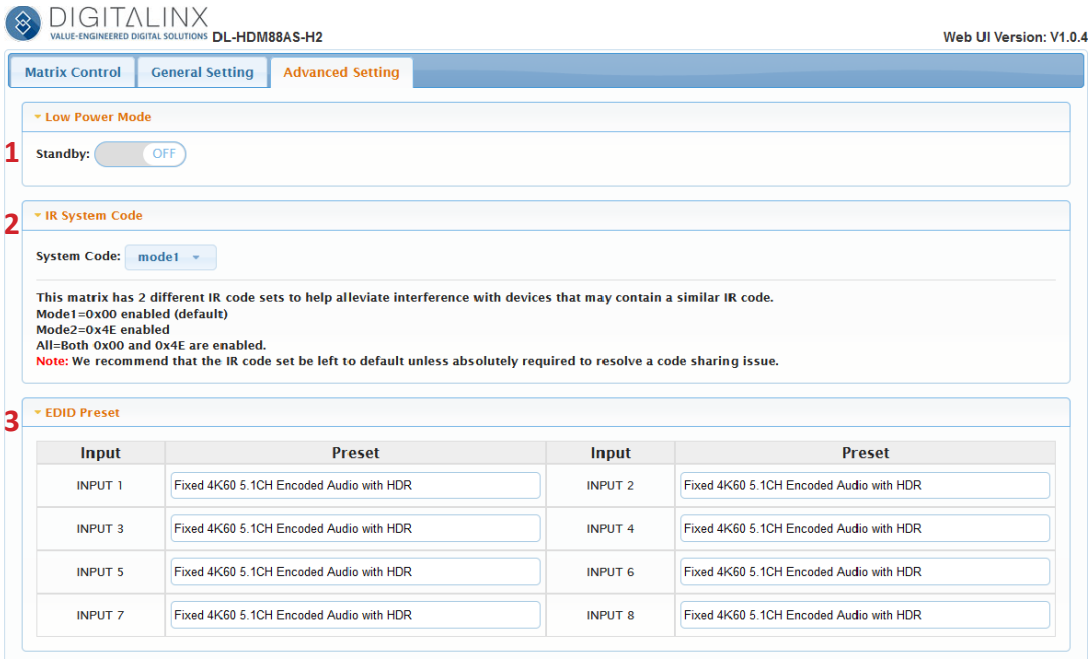
General Settings

In the *Matrix Control* section you can rename the inputs and outputs.



Advanced Settings

To adjust the advanced settings for the DL-HDM88AS-H2, click on *Advanced setting*

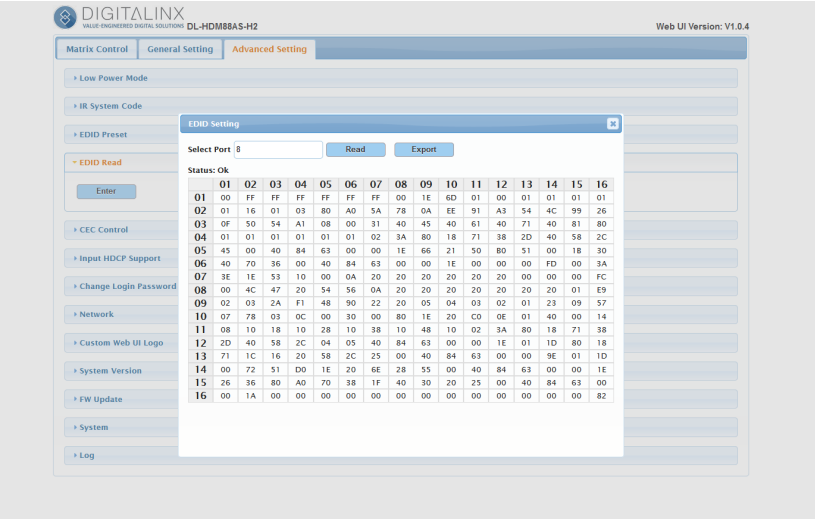


1. Standby : Clicking on standby will cause the DL-HDM88AS-H2 to turn off the video outputs.

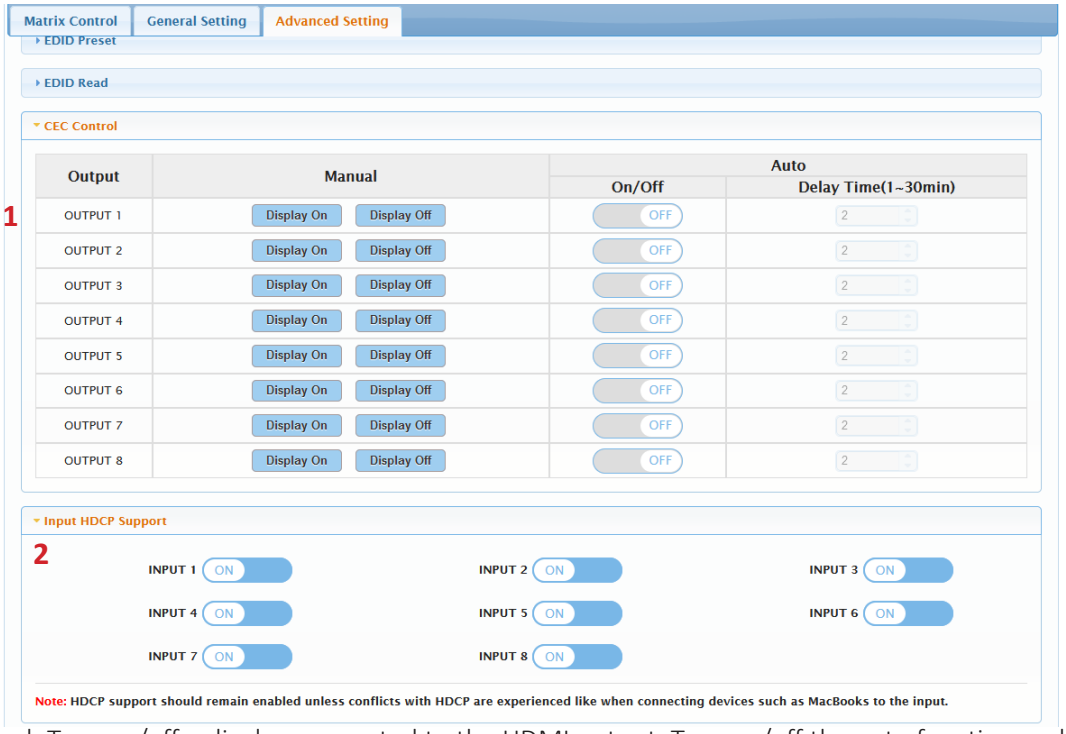
2. IR system Code: This allows you to switch the IR code set that controls the DL-HDM88AS-H2 if there is IR interference in the area.

3. EDID Preset: Here you can set the EDID on a per input bases. Select one of the fixed EDID or copy from one of the outputs. There is an option to write an EDID from a file.

Advanced Settings *continued..*



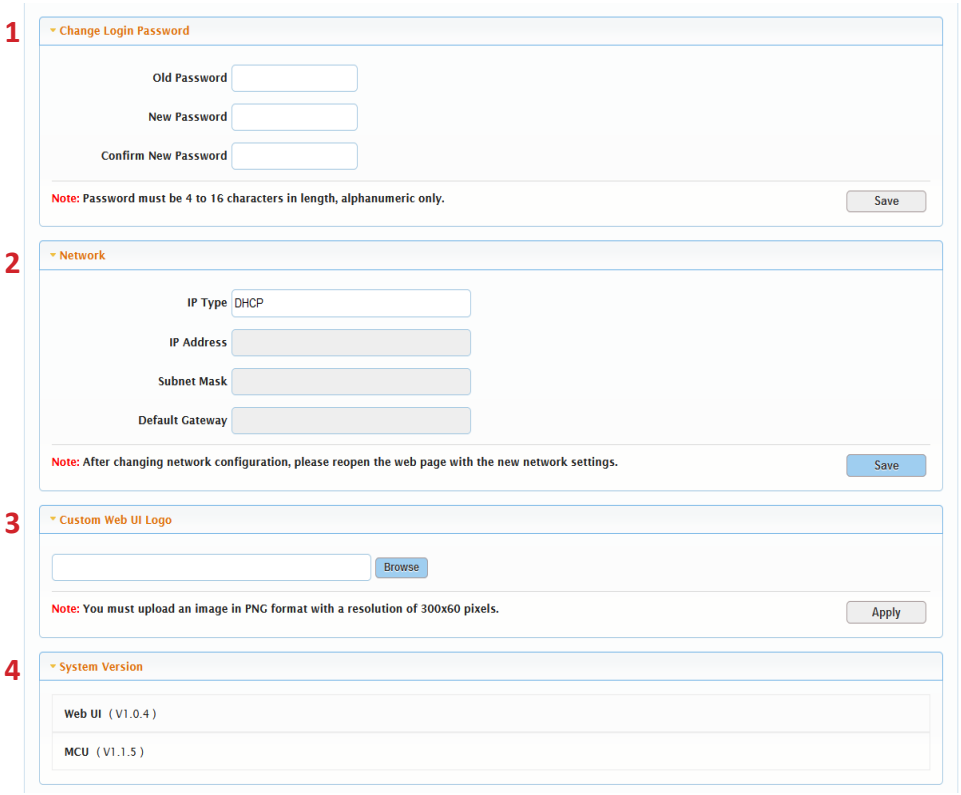
Select output and then press Read . Once done click on Export.



1. CEC Control: Turn on/off a display connected to the HDMI output. Turn on/off the auto function and adjust the delay time.

2. HDCP Support: Enable or disable HDCP on a per port bases. If using a codec you might need to disable HDCP for the inputs routed to the codec.

Advanced Settings *continued..*



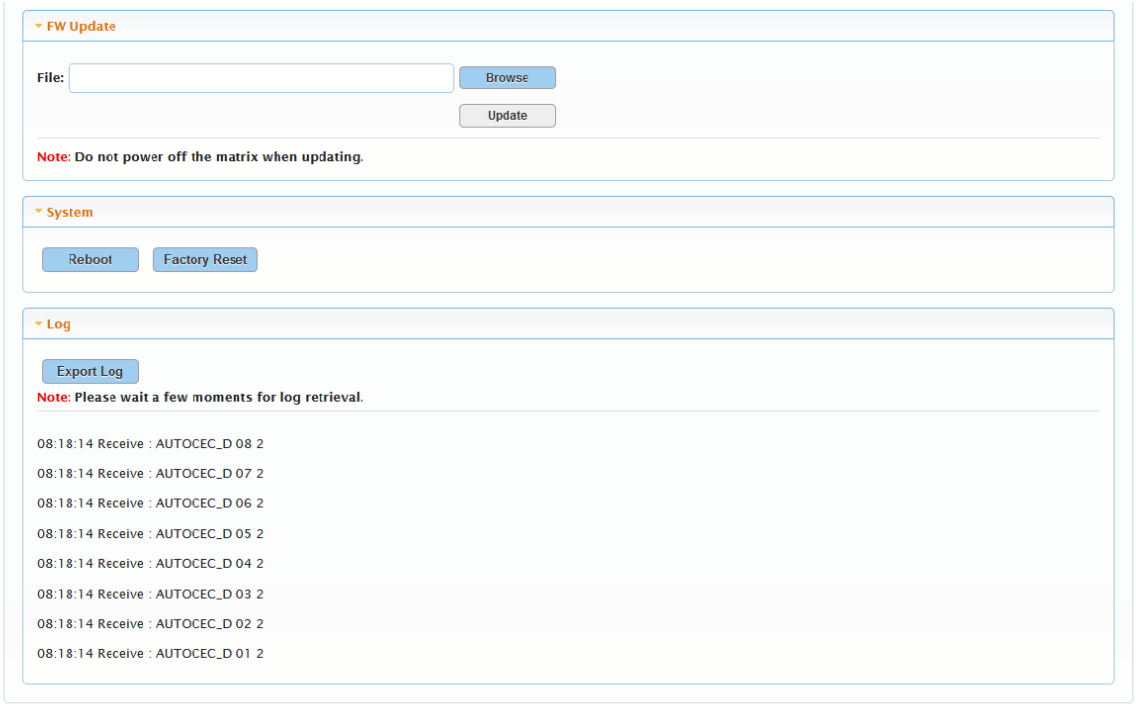
1. Change Login Password: Default password is admin, new password must be 4 to 16 characters in length, Letters only.

2. Network: Switch from DHCP (which is default) to Static. In Static mode Enter in the IP address, Subnet, and Gateway. Once done click Apply.

3. Custom Web UI Logo: This area allows you to load a custom logo to the GUI. The logo must be under 300 pixels wide by 60 pixels high (300x60).

4. System Version: This area allows you to see the current firmware version installed on the unit.

Advanced Settings *continued..*



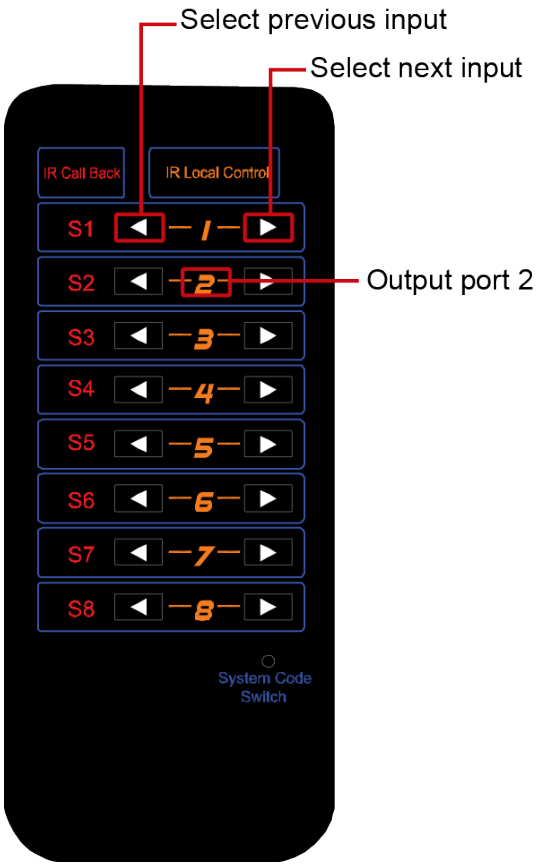
1. FW Update: This section allows you to update firmware

2. System: This section allows you to reboot switch or do a factory reset.

3. Log: This section shows web UI changes, and API command changes. Click the Export log if you want to save the log to your computer.

IR Remote Control

The DL-HDM88AS-H2 includes a IR remote which performs routing functions available on the front panel of the matrix. When using the remote control locally, i.e., pointed directly at the matrix, the previous/next buttons are used to scroll between the input sources connected to the matrix for each individual output display.



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:DHCP press up & down arrow together to see IP address), port 23

There are no spaces between any of the characters in the command string. The commands are case sensitive

All responses end in a carriage return (hex 0D) and a line feed (hex 0A).
<CR> = Carriage return (Hex 0D)

HDCP Management Commands

Description	Command	Examples
Turns HDCP support ON/OFF *[p]* on matrix input port *[i]*	SET HDCP IN *[i] [p]* *[i] = [01-08]* *[p] = [on, off]*	*Command:* *SET HDCP IN 01 on<CR><LF>* *Response:* *HDCP IN 01 on<CR><LF>*
Query HDCP status of a source input *[i]*	GET HDCPV IN *[i]* *[i] = 01-08*	*Command:* *GET HDCPV IN 01<CR><LF>* *Response:* *HDCPV IN 01 14<CR><LF>* 14 = HDCP 1.4 22 = HDCP 2.2 off = Non-HDCP
Query HDCP support status of matrix input port *[i]*	GET HDCP IN *[i]* *[i] = 01-08*	*Command:* *GET HDCP IN 01<CR><LF>* *Response:* *HDCP IN 01 on<CR><LF>*
Query HDCP version of an input *[i]*	GET HDCPV IN *[i]* *[i] = 01-08*	*Command:* *GET HDCPV IN 01<CR><LF>* *Response:* *HDCPV IN 01 14<CR><LF>* 14 = HDCP 1.4 22 = HDCP 2.2 off = Non-HDCP
Query HDCP version of an output *[o]*	GET HDCPV OUT *[o]* *[o] = 01-08*	*Command:* *GET HDCPV OUT 01<CR><LF>* *Response:* *HDCPV OUT 01 14<CR><LF>* 14 = HDCP 1.4 22 = HDCP 2.2 off = Non-HDCP

Matrix Routing Commands

Description	Command	Examples
Set input *[i]* to output *[o]* route	SET *[i] [o]* *[i] = [01-08]* *[o] = [01-08]*	*Command:* *SET 04 02<CR><LF>* *Response:* *04>02<CR><LF>*
Query a specific output port *[o]* route	GET *[o]* *[o] = [01-08]*	*Command:* *GET 02<CR><LF>* *Response:* *02>01<CR><LF>*
Set an input *[i]* route to all outputs	SET *[i] ALL<CR><LF>* *[i] = [01-08]*	*Command:* *SET 02 ALL<CR><LF>* *Response:* *02>01<CR><LF>* *02>02<CR><LF>* *02>03<CR><LF>* *02>04<CR><LF>* *02>05<CR><LF>* *02>06<CR><LF>* *02>07<CR><LF>* *02>08<CR><LF>*
Query routing status of all inputs to all outputs	GET ALL*<CR><LF>*	*Command:* *GET ALL<CR><LF>* *Response:* *01>01<CR><LF>* *02>02<CR><LF>* *03>03<CR><LF>* *04>04<CR><LF>* *05>05<CR><LF>* *06>06<CR><LF>* *07>07<CR><LF>* *08>08<CR><LF>*

Audio Commands

NOTE: By default the audio de-embedded outputs follow the video route.

Description	Command	Examples
Set audio source mapping (ARC, HDMI) to the output	SET AUDIOSW *[P] (o)* *[P] = [01 = HDMI]* *[02 = ARC]* *(o) = (01,02,03,etc)*	*Command:* *SET AUDIOSW 02 01<CR><LF>* *Response:* *AUDIOSW 02 01<CR><LF>*
Query audio source mapping	GET AUDIOMP (o)	*Command:* *GET AUDIOMP 01<CR><LF>* *Response:* *AUDIOMP 02 01<CR><LF>*

EDID Commands

Description	Command	Examples
Copies the EDID from the output to the specified input.	Command: EDIDC output input<CR><LF> Return: EDIDC output>input<CR><LF> Description: input = {01: input1, 02: input2, 03: input3, 04: input4, 05: input5, 06: input6, 07: input7, 08: input8, 10: all inputs} output = {01 - output1, 02 - output2, 03 - output3, 04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8};	*Command:* *EDIDC 01 01<CR><LF>* *Return:* *EDIDC 03>01<CR><LF>* *EDIDC 03>02<CR><LF>* *EDIDC 03>03<CR><LF>* *EDIDC 03>04<CR><LF>* *EDIDC 03>05<CR><LF>* *EDIDC03>06<CR><LF>* *EDIDC 03>07<CR><LF>* *EDIDC 03>08<CR><LF>*
Read EDID content from one output	*Command:* *GET EDID_R out <CR><LF>* *Return:* *EDID_R out prm1 prm2 <CR><LF>* *Parameter:* *out = {01,02...08};* *prm1 = {block0, block1};* *prm2 = {one block of 256 bytes edid ascii data with no* *Spaces (hex data need conversion into ASCII code), error, unconnect};* *Description:* *Read EDID content form output.*	Command: GET EDID_R 01 <CR><LF> Return: EDID_R 01 block0 XX…XX <CR><LF> EDID_R 01 block1 XX…XX <CR><LF> Description: EDID_R 01 block0 XX…XX <CR><LF> --- Read EDID ok or EDID_R 01 error <CR><LF> --- Check Sum Error or EDID_R 01 unconnect <CR><LF> --- Sink unconnect

System Commands

Description	Command	Examples
GET IP address	Command: GET IPADDR<CR><LF> Return: IPADDR xx.xx.xx.xx<CR><LF> Description: GET IP address.	*Command:* *GET IPADDR<CR><LF>* *Return:* *IPADDR 192.168.20.243<CR><LF>*
Get firmware version	Command: GET VER<CR><LF> Return: VER 1.0<CR><LF> Description: Get all module firmware version.	*Command:* *GET VER<CR><LF>* *Return:* *VER ARM_V1.0.1 MCU_V1.1.5*
Restores the matrix to factory defaults	RST	*Command:* *RST<CR><LF>* *Response:* *RESTORING FACTORY DEFAULTS<CR><LF>*
System Reboot	REBOOT	*Command:* *REBOOT<CR><LF>* *Response:* *Reboot the device<CR><LF>*
Switch to Standby Mode	STANDBY	*Command:* *STANDBY<CR><LF>* *Response:* *STANDBY!<CR><LF>*
Switch to Wake Mode	WAKE	*Command:* *WAKE<CR><LF>* *Response:* *WAKE!<CR><LF>*
Get Standby Status	GET STANDBY	*Command:* *GET STANDBY<CR><LF>* *Response:* *STANDBY!<CR><LF>*
Get the API list	Command: help<CR><LF> Return: xxxx Description: Get the API list.	*Command:* *help<CR><LF>* *Return:* *xxxx* *Description:* *Get the API list*

System Commands Continued

Description	Command	Examples
Get the input connection status	Command: GET VIDIN_CONNECT input<CR><LF> Return: VIDIN_CONNECT input prm<CR><LF> Parameter: input = {01: input1, 02: input2, 03: input3, 04: input4, 05: input5, 06: input6, 07: input7, 08: input8} prm = {DISCONNECTED, CONNECTED} Description: Get the status of the video input.	*Command:* *GET VIDIN_CONNECT 01<CR><LF>* *Return:* *VIDIN_CONNECT 01 DISCONNECTED<CR><LF>*
Get the status of the video input	*Command:* *GET VIDIN_SIG input<CR><LF>* *Return:* *VIDIN_SIG input prm<CR><LF>* *Parameter:* *input = {01: input1, 02: input2, 03: input3, 04: input4, 05: input5, 06: input6, 07: input7, 08: input8}* *prm = {fail, pass}* *Description:* *Get the status of the video input.*	Command: GET VIDIN_SIG 01<CR><LF> Return: VIDIN_SIG 01 pass<CR><LF>
Get the audio format information of output	Command: GET AUDOUT_FORMAT output<CR><LF> Return: AUDOUT_FORMAT ouput prm<CR><LF> Parameter: output = { 01 - output1, 02 - output2, 03 - output3, 04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8} prm = {<NONE/COMPRESSED/PCM / HBR>; <Sampling rate>} Description: Get the audio format of the output.	*Command:* *GET AUDOUT_FORMAT 01<CR><LF>* *Return:* *AUDOUT_FORMAT 01 PCM;48kHZ<CR><LF>*

Preset Commands

Description	Command	Examples
Saves a matrix state to one of three presets locations *{p}*	Command: SAVE *{p}* *{p} = [01-03]*	*Command:* *SAVE 02<CR><LF>* *Response:* *PRESET SAVED<CR><LF>*
Loads a matrix state from one of three memory locations *{p}*	LOAD *{p}* *{p} = [01-03]*	*Command:* *LOAD 02<CR><LF>* *Response:* *AUDIOMP* hdmi1 audioout1<CR><LF> *AUDIOMP* hdmi1 audioout2<CR><LF> *AUDIOMP* hdmi1 audioout3<CR><LF> *AUDIOMP* hdmi1 audioout4<CR><LF> *AUDIOMP* hdmi1 audioout5<CR><LF> *AUDIOMP* hdmi1 audioout6<CR><LF> *AUDIOMP* hdmi1 audioout7<CR><LF> *AUDIOMP* hdmi1 audioout8<CR><LF>

CEC Commands

Description	Command	Examples
Set CEC POWER ON/ OFF	Command: SET CEC_PWR output prm<CR><LF> Return: CEC_PWR output prm<CR><LF> Parameter: prm = {on, off} output = { 01 - output1, 02 - output2, 03 - output3,04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8}; Description: Set sink power on or off.	*Command:* *SET CEC_PWR 01 on<CR><LF>* *Return:* *CEC_PWR 01 on<CR><LF>* *Description:* *Set sink hdmi output 1 power on.*
Set CEC AUTO POWER ON/OFF	Command: SET AUTOCEC_FN output prm<CR><LF> Return: AUTOCEC_FN output prm<CR><LF> Parameter: prm = {on, off} output = { 01 - output1, 02 - output2, 03 - output3,04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8} Description: Set sink auto power Function to ON or OFF.	*Command:* *SET AUTOCEC_FN 01 on<CR><LF>* *Return:* *AUTOCEC_FN 01 on<CR><LF>* *Description:* *Set sink hdmi output 1 auto power to ON.*

CEC Commands Continued

Description	Command	Examples
Get CEC AUTO POWER ON/OFF Status	Command: GET AUTOCEC_FN prm<CR><LF> Return: AUTOCEC_FN output prm<CR><LF> Parameter: prm = {on, off} output = { 01 - output1, 02 - output2, 03 - output3,04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8} Description: Get Sink auto power Function ON or OFF Status	*Command:* *GET AUTOCEC_FN 01<CR><LF>* *Return:* *AUTOCEC_FN 01<CR><LF>* *Description:* *Get Sink auto power status, and the status is ON.*
Set CEC POWER Delay Time	Command: SET AUTOCEC_D output prm<CR><LF> Return: AUTOCEC_D output prm<CR><LF> Parameter: output = { 01 - output1, 02 - output2, 03 - output3,04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8} prm = {1,2,3…,}// according to the actual time counter,1 means 1 minute ,2 means 2 minutes, Default wait time is 2 minutes, Max wait time is 30 minutes. 0 means when no active signal ,the unit auto power off immediately. Description: AUTOCEC_D is short for CEC auto Power Delay Timing.	*Command:* *SET AUTOCEC_D 01 2<CR><LF>* *Return:* *AUTOCEC_D 01 2<CR><LF>* *Description:* *When no active signal to hdmi1, 2 minutes later, the unit will auto power off.*

CEC Commands Continued

Description	Command	Examples
Get CEC POWER Delay Time Status	Command: GET AUTOCEC_D output<CR><LF> Return: AUTOCEC_D output prm<CR><LF> Parameter: output = { 01 - output1, 02 - output2, 03 - output3,04 - output4, 05 - output5, 06 - output6, 07 - output7 , 08 - output8} prm = {1,2,3…,}// according to the actual time counter,1 means 1 minute ,2 means 2 minutes, Default wait time is 2 minutes, Max wait time is 30 minutes. 0 means when no active signal ,the unit auto power off immediately. Description: AUTOCEC_D is short for CEC auto Power Delay Timing.	*Command:* *GET AUTOCEC_D 01<CR><LF>* *Return:* *AUTOCEC_D 01 2<CR><LF>* *Description:* *Get hdmi1 auto power delay time, the result is 2 minutes.*
Set CEC command for defined Poweron/ Poweroff	Command: SET CECCMD_EDIT output prm1 prm2<CR><LF> Return: CECCMD_EDIT output prm1 prm2<CR><LF> Parameter: output = { 01 - output1, 02 - output2, 03 - output3, 04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8} prm1 = {pwron, pwroff}, // prm2 = {...},// many hexadecimal numbers, the total is less than 16. Space separated Description: Set CEC command for defined Poweron/ Poweroff. If relevant commands are required, please refer to CEC specification for details.	*Command:* *SET CECCMD_EDIT 01 pwron 40 04<CR><LF>* *Return:* *CECCMD_EDIT 01 pwron 40 04<CR><LF>* *Description:* *Send CEC command.*

CEC Commands Continued

Description	Command	Examples
Get CEC command for defining Poweron/ Poweroff	Command: GET CECCMD_EDIT output prm1<CR><LF> Return: CECCMD_EDIT output prm1 prm2<CR><LF> Parameter: output = { 01 - output1, 02 - output2, 03 - output3, 04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8} prm1 = {pwron, pwroff}, // prm2 = {...},// many hexadecimal numbers, the total is less than 16. Space separated Description: Get CEC command for defining Poweron/ Poweroff	*Command:* *GET CECCMD_EDIT 01 pwron<CR><LF>* *Return:* *CECCMD_EDIT 01 pwron 40 04<CR><LF>*
Send CEC command	Command: SET CEC_CMD output prm<CR><LF> Return: CEC_CMD output prm<CR><LF> Parameter: output = { 01 - output1, 02 - output2, 03 - output3, 04 - output4, 05 - output5, 06 - output6, 07 - output7, 08 - output8} prm = {...},// many hexadecimal numbers, the total is less than 16. Space separated Description: Send CEC command If relevant commands are required, please refer to CEC specification for details.	*Command:* *SET CEC_CMD 01 40 04<CR><LF>* *Return:* *CEC_CMD 01 40 04<CR><LF>* *Description:* *Send CEC command.*

Technical Specifications

Input/Output Connections	
HDMI Inputs	Four (8) HDMI Type A Receptacle
HDMI Outputs	Four (8) HDMI Type A Receptacle
TCP/IP	One (1) 8P8C Port (Shielded RJ45 Female)
RS232	One (1) 3 pin phoenix Port Female
Power	One (1) IEC C14
Audio	- Eight (8) Analog 3-Pin 3.5mm Phoenix connectors - Eight (8) Digital S/PDIF audio outputs, RCA connectors
Supported Audio, Video, and Embedded Control	
Video Resolutions	Up to 4K@60Hz 4:4:4 8 bit Color Depth: 1080p 48bit / 4K 24bit
Maximum Passive HDMI Cable Distance	5m for 4k60 signals
Video Compliance	HDMI 2.0b and HDCP 2.2
Embedded Audio	Up to PCM 8 channel, Dolby Digital TrueHD, and DTS-HD Master Audio,DTS X, Dolby Atmos
De-embedded Audio	Analog L/R Out: PCM 2.0 Digital RCA S/PDIF Out: Up to Dolby 5.1, DTS 5.1
Device Control Parameters	
IR Carrier Frequency Range	38kHz at 5 volts
Ethernet	100BaseT
RS232 Baud Rate	9600 baud
Chassis and Environmental	
Enclosure	Painted Aluminum
Dimensions (H x W x D)	43.5 mm x 440 mm x 300 mm (1.71 in x 17.32 in x 11.81 in) – 1 RU
Shipping Weight	3.8kg (8.38 lbs.)
Operating Temperature	0° to +45° C (+32° to +113° F)
Operating Humidity	10% to 90%, Non-condensing
Storage Temperature	-20° to +70° C (-4° to +140° F)
Storage Humidity	10% to 90%, Non-condensing
Power, ESD, and Regulatory	
Power Supply	100V-240VAC / 50-60 Hz
Power Consumption	33.6W (Max.)
ESD Protection	8kV air, 4kV contact
Product Regulatory	FCC, CE, RoHS
Other	
Standard Warranty	5 years
Diagnostic Indicators	System LCD
Included Accessories	Quick Install Guide, IR Remote, Rack Mounting Ears with Screws, (1) AC power adapter with US, UK, EU and AU power plugs

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.

Please contact us with your questions and comments.

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