

DIGI-HD-8X8

8 INPUT BY 8 OUTPUT MATRIX SWITCHER

THIS MANUAL IS OPTIMIZED FOR VERSION 2.0 MATRICES



Table of Contents

Overview 4

Installation..... 5

Operation..... 8

Technical Specifications14

Appendix A: Communication Protocol15

Appendix B: Troubleshooting in Dual UTP Mode.....31

Appendix C: Troubleshooting in Single UTP Mode..... 33

Appendix D: Touch Screen Tour 35

Appendix E: Touch Screen How-To..... 39

Appendix F: Web Browser Control41

Warranty 42

Contact Information..... 44

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 SUPPLY 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, tripod, bracket, 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.
- Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as the 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.



Overview

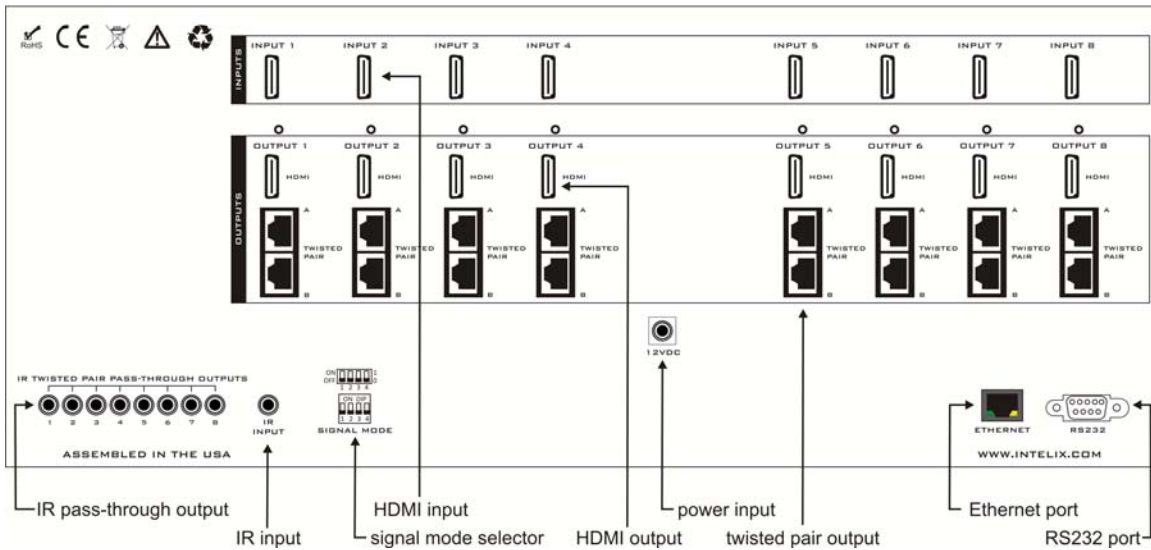
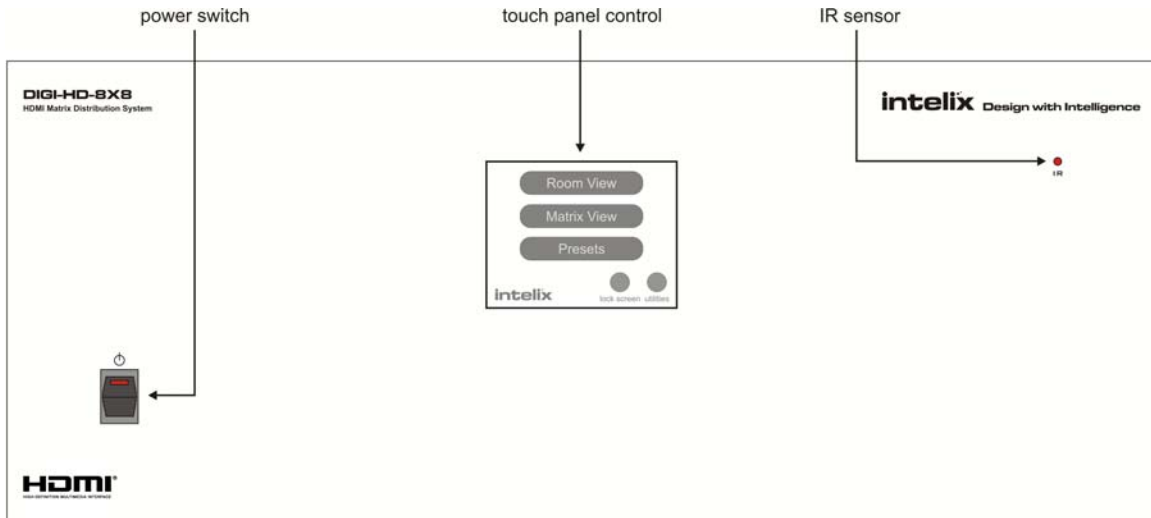
The Intelix DIGI-HD-8X8 combines professional-grade performance with comprehensive control options, providing an easy-to-use, flexible, and powerful solution for high-definition audio/video distribution applications. A true matrix switcher, the DIGI-HD-8X8 features eight HDMI inputs, eight HDMI outputs and eight twisted pair extender outputs. The matrix supports 1080p high-definition video and is HDMI 1.3/HDCP compliant. Switching is controlled via a diagnostic front panel touch screen or remotely via RS232, IR, or Ethernet.

In addition, the DIGI-HD-8X8 features eight pass-through IR channels which distribute remote IR commands from in-room controllers, through compatible Intelix twisted pair extenders, up to 150 feet over twisted pair cable, and out of the matrix, allowing complete control of remote sources from the destination.

Design with Intelix and Design with Intelligence.

DIGI-HD-8X8 Package Contents

- DIGI-HD-8X8 matrix switcher
- 12 VDC power supply
- 19" rack-mounting ears
- Remote control
- IR receiver
- Manual



Installation

To install the Intelix DIGI-HD-8X8 matrix switcher, please perform the following steps.

1. If mounting in a 19" audio/video rack, attach the 19" rack ears to the DIGI-HD-8X8. The DIGI-HD-8X8 requires 4 rack units of spacing.
2. Power-off the source and destination audio and video devices.

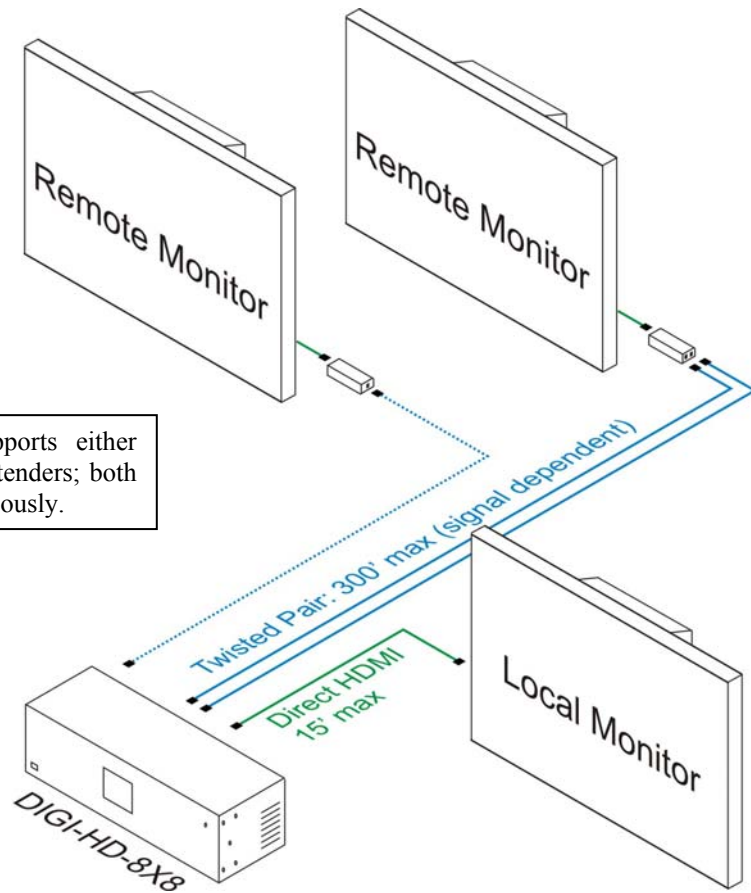
Note: All connecting audio-visual equipment must be powered off.

3. Connect the input sources to the DIGI-HD-8X8 using high-quality HDMI cables.
4. Connect the output destinations to the DIGI-HD-8X8 using high-quality HDMI cables.
5. For long distance destinations, connect twisted pair cable to the DIGI-HD-8X8 (twisted pair receivers sold separately).

Ventilation when Rack Mounting

- At least 2 inches of free air space is required on both sides of the DIGI-HD-8X8 for proper side ventilation.
- Ensure there are no closeable doors on the rack that might seal the DIGI-HD-8X8 from a steady supply of cool air.
- Avoid mounting the DIGI-HD-8X8 near a power amplifier or any other source of significant heat.
- It is recommended that you leave an empty rack space above and below the DIGI-HD-8X8 for additional cooling.

Note: The DIGI-HD-8X8 supports either single or double twisted pair extenders; both styles may not be used simultaneously.



Recommended Twisted Pair Receivers

	Signals	Twisted Pair Cables Required
DIGI-HD-UHR2-R	HDMI	1
DIGI-HD-IR2-R	HDMI and IR	2

Recommended Twisted Pair Distances

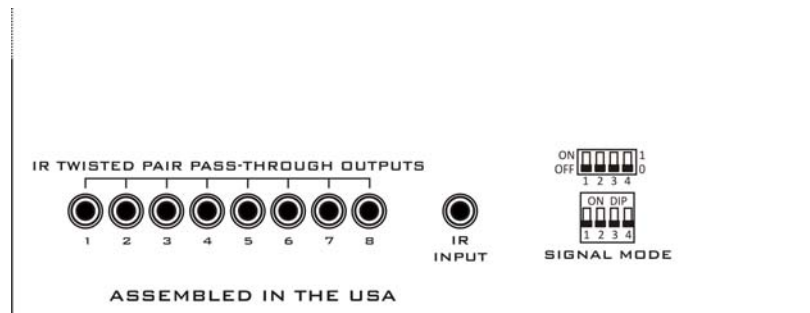
	1080p	1080i	720p	480i/p
Cat 6 (low-skew)	150'	300'	300'	350'
Cat 6	110'	220'	220'	220'
Cat 5e	100'	200'	200'	200'

6. Connect the included 12 VDC power supply to the DIGI-HD-8X8.
7. If controlling remotely, connect RS232, Ethernet, or IR control cables.
8. Power-on the DIGI-HD-8X8.
9. Power-on the source and destination audio and video devices.

Note: The DIGI-HD-8X8 supports dual and single twisted pair receivers. Different modes of operation are toggled through the rear panel DIP switches, as shown on the following page. The DIGI-HD-8X8 must be in either single or dual twisted pair mode—both modes cannot operate simultaneously.

Signal Mode Settings: HDshāk Inside

The DIGI-HD-8X8 features HDshāk processing, which is activated and toggled through the signal mode DIP switches on the rear of the unit.



To change the signal mode:

1. Power off the DIGI-HD-8X8.
2. Set the DIP switches to the desired setting.
3. Power on the DIGI-HD-8X8.

DIP 1	DIP 2	DIP 3	DIP 4	EDID Function
off	on	on	off	Dual Twisted Pair Auto-mix Mode The matrix mixes the EDID data of all destinations which choose the same source. This data is then transmitted by the matrix to the source device.
off	on	off	off	Dual Twisted Pair Copy Mode EDID data is copied from the outputs and transmitted to the inputs.
on	off	off	off	Dual Twisted Pair HDMI 1.2 with stereo audio The matrix is preset with EDID data for HDMI 1.2 video and stereo audio.
on	off	on	off	Dual Twisted Pair HDMI 1.2 with 5.1 audio The matrix is preset with EDID data for HDMI 1.2 1080p video and 5.1 audio.
on	on	off	off	Dual Twisted Pair HDMI 1.3 with stereo audio The matrix is preset with EDID data for HDMI 1.3 1080p video and stereo audio.
on	on	on	off	Dual Twisted Pair HDMI 1.3 with 5.1 audio The matrix is preset with EDID data for HDMI 1.3 1080p video and 5.1 audio.
off	on	off	on	Single Twisted Pair Copy Mode EDID data is copied from the outputs and transmitted to the inputs.
on	off	off	on	Single Twisted Pair HDMI 1.2 with stereo audio The matrix is preset with EDID data for HDMI 1.2 video and stereo audio.
on	off	on	on	Single Twisted Pair HDMI 1.2 with 5.1 audio The matrix is preset with EDID data for HDMI 1.2 1080p video and 5.1 audio.
on	on	off	On	Single Twisted Pair HDMI 1.3 with stereo audio The matrix is preset with EDID data for HDMI 1.3 1080p video and stereo audio.
on	on	on	on	Single Twisted Pair HDMI 1.3 with 5.1 audio The matrix is preset with EDID data for HDMI 1.3 1080p video and 5.1 audio.

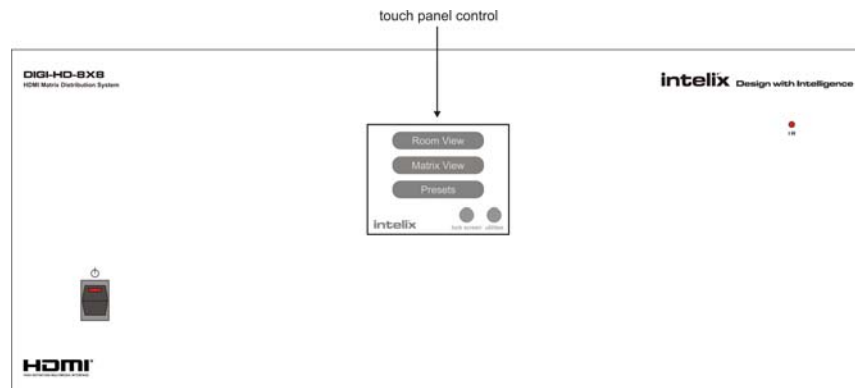
Operation

To operate the Intelix DIGI-HD-8X8 matrix switcher, please perform the following steps.

Note: The DIGI-HD-8X8 features on-board memory. Settings are stored when exiting the *Utilities* screen and restored during power on.

Front Panel Control Basics

The DIGI-HD-8X8 features a front panel touch screen for programming and control.



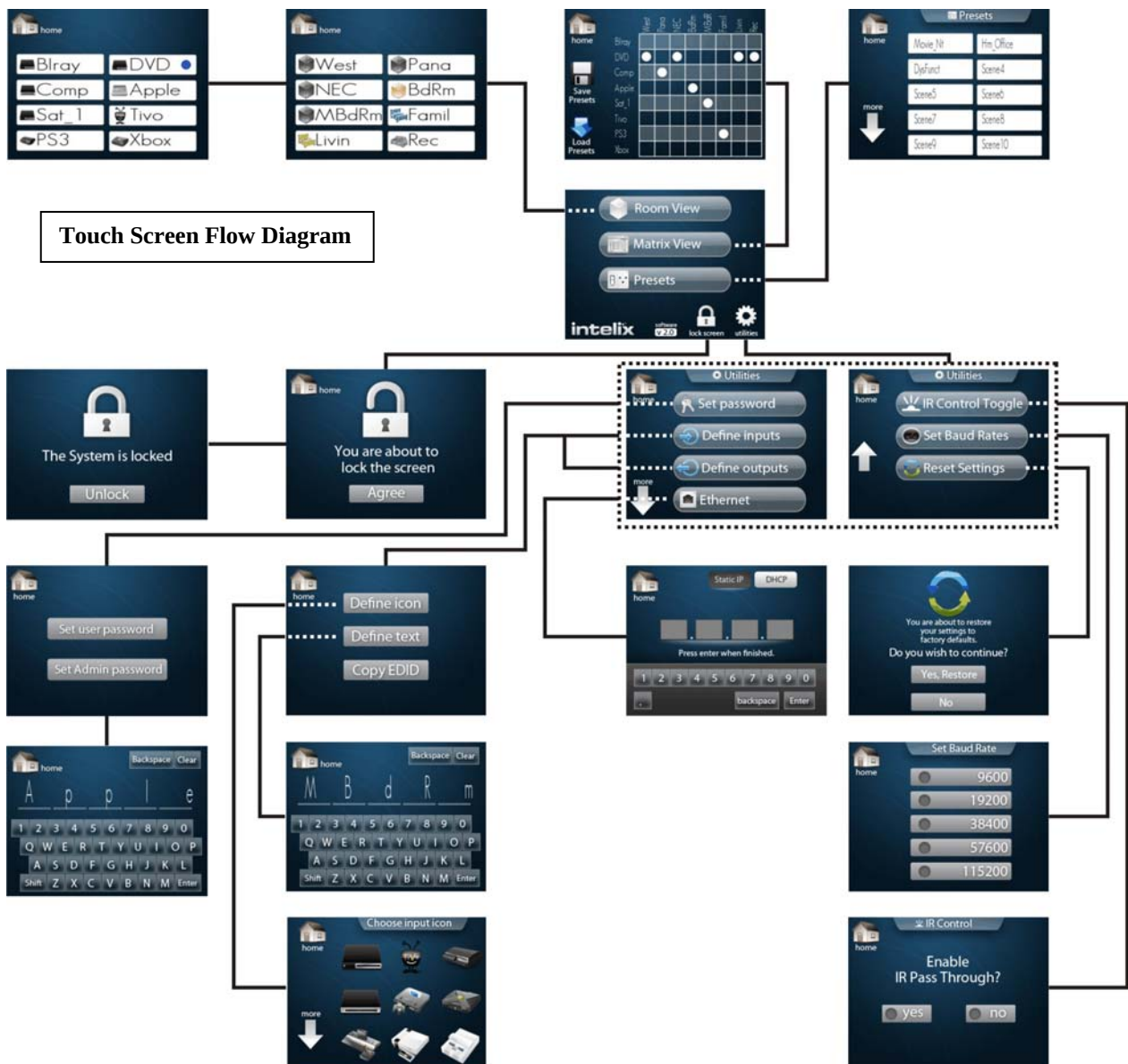
1. Determine if the DIGI-HD-8X8 front panel is locked. If the panel is locked, the *System is Locked* screen will appear. The user password must be entered.

Note: The DIGI-HD-8X8 features two levels of security: one for the contractor (admin password) and one for the owner (user password). The user password locks the system, the admin password locks the programming.

Default Passwords

User: 1234
Admin: HDMI

2. Determine which output or preset you wish to change.
3. If changing a preset (scene), select the *Preset* button. Select the desired preset.
4. If changing output routing, select *Room View* or *Matrix View*. Select the desired output and source.



Included Remote Control

The DIGI-HD-8X8 includes a multi-function wireless remote control for switching inputs to the various outputs.

Communicating Directly to the Matrix

When communicating directly to the matrix, the remote control provides scrolling for each destination. Buttons 1-8 represent destinations; the back arrow button selects the previous source and the forward arrow button selects the next source.

Communicating to the Matrix through Extenders

When communicating to the matrix remotely, the remote control provides independent source selection within the zone. Buttons S1-S8 represent inputs; the back arrow button jumps to the corresponding input source. The forward arrow button is deactivated in this mode.



IR Remote Control

The DIGI-HD-8X8 supports remote control through a front panel IR sensor and a rear panel 1/8" (3.5 mm) input jack.

1. If controlling the DIGI-HD-8X8 through the 1/8" (3.5 mm) input jack on the rear panel, connect the included IR receiver (eye) directly to the matrix.

Note: Operation of the rear panel IR input will disable the front panel IR sensor. Third-party IR devices are not compatible with the rear panel IR input.

2. If controlling the DIGI-HD-8X8 through the IR sensor on the front panel, place an IR emitter directly over the front panel sensor.

IR Emitter Mounting Tips

- Surrounding electrical equipment may be producing high levels of IR noise. Plasma TVs and compact fluorescent lights are known polluters. Shield the outside of the emitter and the hardware's IR window with electrical tape.
- Verify the emitter is directly on the hardware's IR window and directly over the IR sensor. Operation may be intermittent if the emitter is too far away from the sensor.
- Clean the DIGI-HD-8X8 IR sensor window with an alcohol-based cleaner before applying the emitter to guarantee adhesion.
- Should the emitter not adhere to the DIGI-HD-8X8 sensor window, apply a small drop of glue to the adhesion pad on the emitter and re-apply.

RS232 Remote Control

The DIGI-HD-8X8 supports remote control through a rear panel RS232 control port.

1. If controlling the DIGI-HD-8X8 through the RS232 control port on the rear panel, connect a straight-through serial cable directly to the matrix.

Note: For RS232 programming and command information, see Appendix A.

115200 baud rate (default baud rate)
8 data bits
1 stop bit
No handshake



Ethernet Remote Control

The DIGI-HD-8X8 supports remote control through a rear panel Ethernet control port. The matrix accepts control messages when integrated to a local area network (LAN).

1. If controlling the DIGI-HD-8X8 through the Ethernet control port on the rear panel, connect an Ethernet cable directly to the matrix.

Note: The DIGI-HD-8X8 will automatically be assigned an IP address when connected to a DHCP-enabled network. By default, DHCP is enabled.

2. Connect the opposite end of the Ethernet cable to a LAN port. Within 10 seconds of connecting the DIGI-HD-8X8 to the LAN, the yellow LED on the matrix's Ethernet port will stop blinking and the green LED will blink intermittently.

Connection Troubleshooting: If the matrix does not respond with a green LED, please follow the steps below:

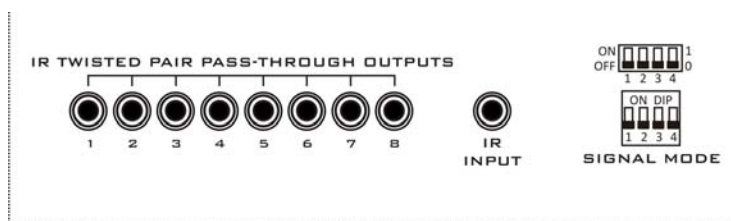
- Verify the LAN has DHCP support and the matrix is in DHCP mode.
- Verify the LAN port is active.
- Verify the Ethernet cable has the correct wiring (568A or B, straight-through) and the RJ45 connector is properly terminated.
- Verify the connecting computer is configured to use DHCP.
- Verify the connecting computer successfully connects to the internet. If it does not, contact the network administrator for assistance.

Note: For Ethernet programming and command information, see Appendix A.

Note: To test transmission, connect a controller (software or hardware that generates a serial message) and send the command F1h 02h 00h 00h 00h to the matrix's IP address and to port 8001 on the network. This is an "are you there" or *ping* command.

IR Twisted Pair Pass-Through

When used with compatible Intelix receivers (DIGI-HD-IR2-R), the DIGI-HD-8X8 supports eight pass-through IR channels which distribute remote IR commands from in-room controllers, up to 300 feet over twisted pair cable, and out of the matrix.

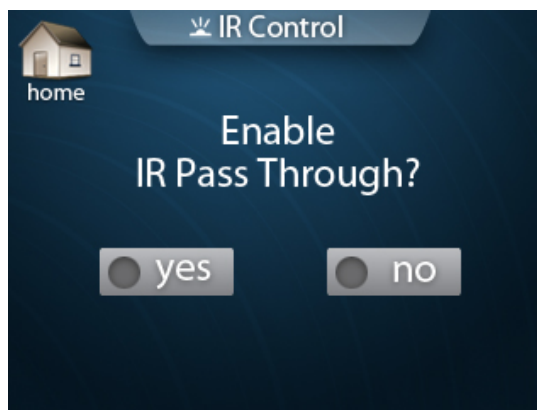


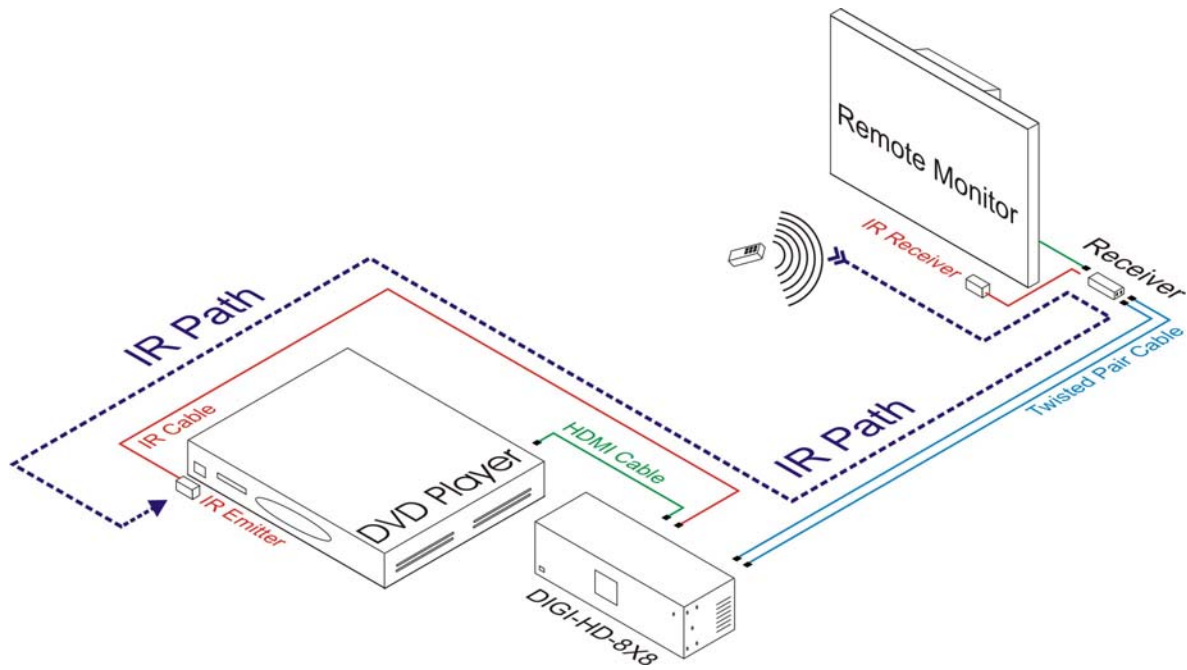
1. Determine which devices you wish to control via the IR pass-through outputs.

Note: By default, IR transmit output one corresponds to HDMI input one, IR transmit output two corresponds to HDMI input two, IR transmit output three corresponds to HDMI input three, etc. Therefore, the IR output port will control the source connected to the HDMI input.

2. Connect an IR emitter to the desired IR transmit output port.
3. Repeat for up to eight devices.
4. All of the remote receive baluns transmit IR commands from the included remote control, thereby allowing remote control of the matrix itself.
5. Verify that IR pass-through is enabled in the front panel LCD *Utilities* screen.

Note: Optionally, IR commands for the matrix may be transmitted from a remote DIGI-HD-IR2.





Technical Specifications

Vertical Frequency Range	24 - 60 Hz
Output Video	HDMI 1.2/HDMI 1.3
Signaling Rate	2.25 gigabits per second
Input DDC Signal	5.0 volts p-p (TTL)
Input Video Signal	0.5 – 1.0 volts p-p
Video Amplifier Bandwidth	255 MHz
Input Connectors	Eight (8) HDMI type A connectors
Output Connectors	Eight (8) HDMI type A connectors with locking screws Eight (8) dual twisted pair connectors
Supported Video Resolutions	480i, 480p, 576i, 576p, 720p, 1080i, 1080p 8, 10, 12 bits per channel
Supported Audio	Dolby TrueHD 7.1, Dolby TrueHD 5.1, Dolby Digital 5.1 DTS-HD Master Audio 7.1, DTS-HD Master Audio 5.1, DTS 5.1, PCM 2.0, PCM 5.1
Status Indicators	Front panel LCD
Operating Temperature Range	-41 to 95 degrees F -5 to 35 degrees C
Operating Humidity Range	5 to 90% non-condensing
Included Accessories	One (1) 12 VDC power supply Two (2) 19" rack mounting ears One (1) remote control One (1) IR receiver Eight (8) IR emitters Four (4) shelf feet
Control	Front panel, RS232, IR and Ethernet
Dimensions (WxHxD)	17.25" x 7.00" x 8.25" 4 RU
Enclosure	Black metal
Max Power Consumption	60 watts
Power	12V 5A
Regulatory	CE, RoHS
Compatible Intelix Twisted Pair Receivers	DIGI-HD-UHR2-R DIGI-HD-IR2-R
Shipping Weight	12 lbs
Intelix Part Number	DIGI-HD-8X8
Warranty	2 years



Appendix A: Communication Protocol

Serial Message Protocol Overview—Simple escaped—Version

The Intelix Simple escaped version serial message protocol can be related to the data link layer (layer 2) of the ISO layered communications model. It is a connectionless datagram messaging protocol.

Serial Message Fields

All serial messages, whether they are transmitted to or from an Intelix device, use the same message format. Each message contains several distinct fields. **All values are transmitted in hexadecimal format e.g. 0Ah.**

Serial Message Fields; Version 3

Send Message Frame (Simple escaped Protocol)

Protocol Start	Length	Data
1 byte	1 byte	0<n<255 bytes
F1h	##h	

The first field of a message is *always* the START byte. The second field is a 1-byte length. The value of the length field is the number of bytes in the third field, the data field. The third field, the data field, holds the parameters of the message e.g. Message Class, Message ID, Parameters, etc.

Hexadecimal Transmission

The Intelix Matrix Mixer *must receive all messages in hexadecimal number code*. If messages are transmitted in decimal or ASCII codes, they will fail to work. Hexadecimal is a base 16 number code that uses numerals 0-10 and letters A, B, C, D, E, F. In this document hex numbers are represented in the form “xxh”, where xx are the two hex characters.

ASCII values

When you send commands to an Intelix Device, there is *one and only one case when you use ASCII codes*. That case is when you send names. Whenever a name field appears in an example in this manual, the example is enclosed in quotation marks. Any other use of ASCII values will cause the command to fail. For example the command **Set Matrix Mixer Name** uses as an example name field “Emmanuel Lutheran Church”. The quotes indicate that this data should be sent as ASCII values. To do this use an ASCII table to obtain the hex value for each character, and transmit these values. *Do NOT transmit the quotation marks unless you want the quotation marks included in the Name data written to the device. The Quotation marks in the examples are ASCII text delimiters for the user of this manual.*

Byte Escape Sequence

The Simple escaped version message protocol used an “escape byte” sequence to insure unambiguous recognition of protocol control bytes (F0 – FFh). If a byte in the length, data, or checksum fields falls within the range F0h through FFh inclusive, an escape sequence is used to transmit the value. The value is translated by sending two bytes: the ESCAPE byte (F0h) itself, followed by the difference between the value and the ESCAPE byte. Example; If value => ESCAPE, then value = (value - ESCAPE). These two bytes are transmitted instead of the single, large-value byte. The receiving device converts the two bytes back into the original single byte value through simple addition. *These operations do not affect the values of the length or checksum fields. i.e., The Escape byte algorithm is applied to the message string last on transmission and first upon receipt (skipping the start byte).*

In the following example, the data field of a message is (02h, 03h, 03h, 06h, FFh). The byte FFh must be “escaped” into the ESCAPE byte (F0h) followed by the difference between FFh and ESCAPE (FFh – F0h = 0Fh). The bytes actually transmitted are: (02h, 03h, 03h, 06h, F0h, 0Fh). Since the second byte of an escape sequence must fall within the range 00h through 0Fh

inclusive, any second byte outside of that range indicates that a transmission error has occurred, and the Ack byte will not be sent.

Non-escaped example:

Serial_Start	Length	Class	Message ID	Input	Output	Target Value
F1h	05h	02	03h	03h	02h	F6h

Escaped example:

Serial_Start	Length	Class	Message ID	Input	Output	Target Value
F1h	05h	02	03h	03h	02h	F0h 06h

Reserved Bytes

The following table lists the bytes which have special meaning in all Intelix Serial Message protocols:

FF	Reserved
FE	Error
FD	ACK (Version 4 sequence bit 1)
FC	Version 3 ACK (Version 4 sequence bit 0)
FB	Start byte (Version 2 protocol)
FA	Start byte (Version 3 protocol)
F9	Start byte (Version 3 escaped protocol)
F8	Start byte (Version 4 protocol)
F7	Reserved
F6	Reserved
F5	Reserved
F4	Reserved
F3	Reserved
F2	Reserved
F1	Start bytes (simple escaped protocol)
F0	Escape byte

Simple Escaped RS232 Com Port Communication Details

115200 baud
8 data bits
1 stop bit
No parity
DCE unit (straight through serial cable)

Command Protocol

The DIGI-HD-8X8 protocol will allow the user setup and control functions of the HDMI switcher.

Note: This is a representation of the most popular commands. A complete list of commands is available in the *Intelix DIGI-HD-8X8 Master Communication Protocol Manual*.

Class 0 – Device Configuration Commands

Are You There (ID 0)

<Description> This command is sent to the matrix as a ping request.

<Example> F1h 02h 00h 00h

<Reply> I Am Here (Class 0 ID 1)

<Notes> None

I Am Here (ID 1)

<Description> This command is sent by the matrix to reply to the Are You There (Class 0 ID 0) command.

<Example> F1h 02h 00h 01h

<Reply> None

<Notes> None

Unlock Panel (ID 2)

<Description> This command is sent by the software to check the password against the stored user password.

<Example> F1h 06h 00h 02h AAh BBh CCh DDh

Where AAh is the first character of the Password entry. AA should be sent as the hex representation of the ASCII character. Where BBh is the second character of the Password entry. BB should be sent as the hex representation of the ASCII character. Where CCh is the third character of the Password entry. CC should be sent as the hex representation of the ASCII character. Where DDh is the fourth character of the Password entry. DD should be sent as the hex representation of the ASCII character.

<Reply> Lock Status Report (Class 0 ID 4)

<Notes> Password must be 4 characters in length

Get Lock Status (ID 3)

<Description> This command is sent to the matrix to check the current lock status.

<Example> F1h 02h 00h 03h

<Reply> None

<Notes> None

Lock Status Report (ID 4)

<Description> This command is sent by the matrix to report the current lock status.

<Example> F1h 03h 00h 04h AAh

Where AAh is the lock status bit. Valid responses include 00 for Locked and 01 for Unlocked.

<Reply> None

<Notes> None

Unlock Admin (ID 5)

<Description> This command is sent to the matrix to check the Admin password against the stored admin password.

<Example> F1h 06h 00h 05h AAh BBh CCh DDh

Where AAh is the first character of the Password entry. AA should be sent as the hex representation of the ASCII character. Where BBh is the second character of the Password entry. BB should be sent as the hex representation of the ASCII character. Where CCh is the third character of the Password entry. CC should be sent as the hex representation of the ASCII character. Where DDh is the fourth character of the Password entry. DD should be sent as the hex representation of the ASCII character.

<Reply> Admin Lock Status Report (Class 0 ID 7)

<Notes> Password must be 4 characters in length. Access to any edits in configuration must be done with the admin lock status unlocked.

Get Admin Lock Status (ID 6)

<Description> This command is sent to the matrix to check the current Admin lock status.

<Example> F1h 02h 00h 06h

<Reply> Admin Lock Status Report (Class 0 ID 7)

<Notes> None

Admin Lock Status Report (ID 7)

<Description> This command is sent by the matrix to report the current Admin lock status.

<Example> F1h 03h 00h 07h AAh

Where AAh is the admin lock status bit. Valid responses include 00 for Locked and 01 for Unlocked.

<Reply> None

<Notes> None

Set Unlock Password (ID 8)

<Description> This command is sent to the matrix to change the User password.

<Example> F1h 06h 00h 08h AAh BBh CCh DDh

Where AAh is the first character of the Password entry. AA should be sent as the hex representation of the ASCII character. Where BBh is the second character of the Password entry. BB should be sent as the hex representation of the ASCII character. Where CCh is the third character of the Password entry. CC should be sent as the hex representation of the ASCII character. Where DDh is the fourth character of the Password entry. DD should be sent as the hex representation of the ASCII character.

<Reply> Set Unlock Password Report (Class 0 ID 9)

<Notes> Password must be 4 characters in length. Admin Lock Status must be Unlocked or Password change will fail.

Set Unlock Password Report (ID 9)

<Description> This command is sent by the matrix to inform external software / controllers if the Set Unlock Password command was successful.

<Example> F1h 03h 00h 09h AAh

Where AAh is the success status bit. Valid responses include 00 for Success and 01 for Fail.

<Reply> None

<Notes> None

Set Admin Password (ID 10)

<Description> This command is sent to the matrix to change the Admin password.

<Example> F1h 06h 00h 0Ah AAh BBh CCh DDh

Where AAh is the first character of the Password entry. AA should be sent as the hex representation of the ASCII character. Where BBh is the second character of the Password entry. BB should be sent as the hex representation of the ASCII character. Where CCh is the third character of the Password entry. CC should be sent as the hex representation of the ASCII character. Where DDh is the fourth character of the Password entry. DD should be sent as the hex representation of the ASCII character.

<Reply> Set Admin Password Report (Class 0 ID 11)

<Notes> Password must be 4 characters in length Admin Lock Status must be Unlocked or Password change will fail.

Set Admin Password Report (ID 11)

<Description> This command is sent by the matrix to inform external software/controllers if the Set Admin Password command was successful.

<Example> F1h 03h 00h 0Bh AAh

Where AAh is the success status bit. Valid responses include 00 for Success and 01 for Fail.

<Reply> None

<Notes> None

Set Lock (ID 12)

<Description> This command is sent to the matrix to lock the matrix.

<Example> F1h 02h 00h 0Ch

<Reply> Lock Status Report (Class 0 ID 4)

<Notes> None

Set Admin Lock (ID 13)

<Description> This command is sent to the matrix to lock the Admin abilities in the matrix.

<Example> F1h 02h 00h 0Dh

<Reply> Admin Lock Status Report (Class 0 ID 7)

<Notes> None

Set DHCP Mode (ID 14)

<Description> This command is sent to the matrix to turn on or off DHCP in the communications board.

<Example> F1h 03h 00h 0Eh AAh

Where AAh is the DHCP mode bit. Valid responses include 00 for Static and 01 for Enable DHCP.

<Reply> DHCP Mode Report (Class 0 ID 16)

Get DHCP Mode (ID 15)

<Description> This command is sent to the matrix to request the current DHCP mode status.

<Example> F1h 02h 00h 0Fh

<Reply> DHCP Mode Report (Class 0 ID 16)

DCHP Mode Report (ID 16)

<Description> This command is sent from the matrix to report the current DHCP mode status.

<Example> F1h 03h 00h 10h AAh

Where AAh is the DHCP mode bit. Valid responses include 00 for Static and 01 for DHCP enabled.

<Reply> None

Set IP Address (ID 17)

<Description> This command is sent to the matrix to specify an IP address.

<Example> F1h 06h 00h 11h AAh BBh CCh DDh

Where the AA, BB, CC and DD correspond to AA.BB.CC.DD of the IP address.

<Reply> IP Address Report (Class 0 ID 19)

Get IP Address (ID 18)

<Description> This command is sent to the matrix to request the current IP address.

<Example> F1h 02h 00h 12h

<Reply> IP Address Report (Class 0 ID 19)

IP Address Report (ID 19)

<Description> This command is sent by the matrix to report the current IP address.

<Example> F1h 06h 00h 13h AAh BBh CCh DDh

Where the AA, BB, CC and DD correspond to AA.BB.CC.DD of the IP address.

<Reply> None

Set IR Control (ID 23)

<Description> This command is sent to the LAN Board to enable/disable IR Control up the UTP.

<Example> F1h 03h 00h 17h AAh

Where AAh is Enable/Disable bit. Valid responses include 00 for Disable IR control and 01 for Enable IR control.

<Reply> IR Control Report (Class 0 ID 25)

Get IR Control (ID 24)

<Description> > This command is sent to the LAN Board to request the current state of the IR Control feature.

<Example> F1h 02h 00h 18h

<Reply> IR Control Report (Class 0 ID 25)

<Notes> None

IR Control Report (ID 25)

<Description> LAN board reply to ID 23 Set or ID 24 Get messages.

<Example> F1h 03h 00h 19h AAh

Where AAh is Enable/Disable bit. Valid responses include 00 for IR control disabled and 01 for IR control enabled.

<Reply> None

Set External Baud Rate (ID 26)

<Description> This command is sent to the LAN Board to set the external baud rate.

<Example> F1h 03h 00h 1Ah AAh

Where AAh is baud rate bit. Valid responses include:

00 – 9600

01 – 19200

02 – 38400

03 – 57600

04 – 115200

<Reply> External Baud Rate Report (Class 0 ID 28)

Get External Baud Rate (ID 27)

<Description> > This command is sent to the LAN Board to request the current state of the external baud rate.

<Example> F1h 02h 00h 1Bh

<Reply> External Baud Rate Report (Class 0 ID 28)

External Baud Rate Report (ID 28)

<Description> LAN board reply to ID 26 Set or ID 27 Get messages.

<Example> F1h 03h 00h 1Ch AAh

Where AAh is baud rate bit. Valid responses include:

00 – 9600

01 -19200

02 – 38400

03 – 57600

04 - 115200

<Reply> None

Copy EDID Data from Output to Input (ID 29)

<Description> This command is sent to the LAN board to have the LAN board tell the Main MCU to Initiate an EDID copy on the specified input output combination.

<Example> F1h 04h 00h 1Dh AAh BBh

Where AAh is the input number and BBh is the output number. (Input and Output numbers will be one based in this message.)

<Reply> Copy EDID Data Report (Class 0 ID 30)

Copy EDID Data Report (ID 30)

<Description> This command is sent to the LAN board to have the LAN board tell the Main MCU to Initiate an EDID copy on the specified input output combination.

<Example> F1h 04h 00h 1Eh AAh

Where AAh is the success/fail bit. 00 means fail, 01 means success.

<Reply> None

Read Video Main MCU Settings (ID 31)

<Description> This command is sent to the LAN board to have the LAN board request and reply the Video Main MCU settings.

<Example> F1h 02h 00h 1Fh

<Reply> Video Main MCU Settings Report (Class 0 ID 32)

Video Main MCU Settings Report (ID 32)

<Description> This command is sent by the LAN board to report the settings of the Video subsystem.

<Example> F1h 04h 00h 20h AAh BBh CCh DDh

Where AAh is the UTP settings. 00 means Dual UTP, 01 means Single UTP.

Where BBh is the Debug Mode bit. 00 means Normal mode (Debug Disabled), 01 means Debug Mode enabled.

Where CCh is the Switch Mode bit. 00 means Normal mode.

Where DDh is the DIP switch bit. These 4 bits indicate the current settings of the DIP switches.

<Reply> None

Class 1 – Input and Output Commands

Set Input Name (ID 0)

<Description> This command is sent to the matrix to set an input name.

<Example> F1h 08h 01h 00h AAh BBh CCh DDh EEh FFh

Where AAh is the input number. Where BBh is the first character of the name. BB should be sent as the hex representation of the ASCII character. Where CCh is the second character of the name. CC should be sent as the hex representation of the ASCII character. Where DDh is the third character of the name. DD should be sent as the hex representation of the ASCII character. Where EEh is the fourth character of the name. EE should be sent as the hex representation of the ASCII character. Where FFh is the fifth character of the name. FF should be sent as the hex representation of the ASCII character.

<Reply> Input Name Report (Class 1 ID 2)

<Notes> Maximum String length is 5 characters. Transmit a space for empty characters.

Get Input Name (ID 1)

<Description> This command is sent to the matrix to get an input name.

<Example> F1h 03h 01h 01h AAh

< Where AAh is the input number.

Reply> Input Name Report (Class 1 ID 2)

<Notes> Maximum String length is 5 characters.

Input Name Report (ID 2)

<Description> This command is sent by the matrix to report the input name.

<Example> F1h 08h 01h 02h AAh BBh CCh DDh EEh FFh

Where AAh is the input number. Where BBh is the first character of the name. BB should be sent as the hex representation of the ASCII character. Where CCh is the second character of the name. CC should be sent as the hex representation of the ASCII character. Where DDh is the third character of the name. DD should be sent as the hex representation of the ASCII character. Where EEh is the fourth character of the name. EE should be sent as the hex representation of the ASCII character. Where FFh is the fifth character of the name. FF should be sent as the hex representation of the ASCII character.

<Reply> None

<Notes> Maximum String length is 5 characters. A space is transmitted for empty characters.

Set Input Icon (ID 3)

<Description> This command is sent to the matrix to set the input icon (symbol, image).

<Example> F1h 04h 01h 03h AAh BBh

Where AAh is the input number. Where BBh is the icon number.

<Reply> Input Icon Report (Class 1 ID 5)

<Notes> None

Get Input Icon (ID 4)

<Description> This command is sent to the matrix to request the current icon for an input.

<Example> F1h 03h 01h 04h AAh

Where AAh is the input number.

<Reply> Input Icon Report (Class 1 ID 5)

<Notes> None

Input Icon Report (ID 5)

<Description> This command is sent by the matrix to report the current input icon.

<Example> F1h 03h 01h 05h AAh BBh

Where AAh is the input number. Where BBh is the icon number.

<Reply> None

<Notes> None

Get Output Name (ID 6)

<Description> This command is sent to the matrix to set an Output name.

<Example> F1h 08h 01h 06h AAh BBh CCh DDh EEh FFh

Where AAh is the output number. Where BBh is the first character of the name. BB should be sent as the hex representation of the ASCII character. Where CCh is the second character of the name. CC should be sent as the hex representation of the ASCII character. Where DDh is the third character of the name. DD should be sent as the hex representation of the ASCII character. Where EEh is the fourth character of the name. EE should be sent as the hex representation of the ASCII character. Where FFh is the fifth character of the name. FF should be sent as the hex representation of the ASCII character.

<Reply> Output Name Report (Class 1 ID 8)

<Notes> Maximum String length is 5 characters. Transmit a space for empty characters.

Get Output Name (ID 7)

<Description> This command is sent to the matrix to get an Output name.

<Example> F1h 03h 01h 07h AAh

Where AAh is the output number.

<Reply> Output Name Report (Class 1 ID 8)

<Notes> Maximum String length is 5 characters.

Output Name Report (ID 8)

<Description> This command is sent by the matrix to report the Output name.

<Example> F1h 08h 01h 08h AAh BBh CCh DDh EEh FFh

Where AAh is the output number. Where BBh is the first character of the name. BB should be sent as the hex representation of the ASCII character. Where CCh is the second character of the name. CC should be sent as the hex representation of the ASCII character. Where DDh is the third character of the name. DD should be sent as the hex representation of the ASCII character. Where EEh is the fourth character of the name. EE should be sent as the hex representation of the ASCII character. Where FFh is the fifth character of the name. FF should be sent as the hex representation of the ASCII character.

<Reply> None

<Notes> Maximum String length is 5 characters. A space is transmitted for empty characters.

Set Output Icon (ID 9)

<Description> This command is sent to the matrix to set the Output icon (symbol, Image).

<Example> F1h 04h 01h 09h AAh BBh

Where AAh is the output number. Where BBh is the icon number.

<Reply> Output Icon Report (Class 1 ID 11)

<Notes> None

Get Output Icon (ID 10)

<Description> This command is sent to the matrix to request the current output icon.

<Example> F1h 03h 01h 0Ah AAh

Where AAh is the output number.

<Reply> Output Icon Report (Class 1 ID 11)

<Notes> None

Output Icon Report (ID 11)

<Description> This command is sent by the matrix to report the current Icon of an Output.

<Example> F1h 04h 01h 0Bh AAh BBh

Where AAh is the output number. Where BBh is the icon number.

<Reply> None

<Notes> None

Class 2 – Crosspoint Commands

Set Crosspoint (ID 0)

<Description> This command is sent to the matrix to set a crosspoint.

<Example> F1h 04h 02h 00h AAh BBh

Where AAh is the input number.

Where BBh is the output nubmer.

<Reply> Crosspoint Status Report (Class 2 ID 2)

<Notes> When a set crosspoint message is sent for an output the current input route is automatically turned off. Only one input can be routed to an output at any time.

Get Crosspoint Status (ID 1)

<Description> This command is sent to the matrix to request the current output route. The matrix will reply with the input and output combination.

<Example> F1h 03h 02h 01h AAh

Where AAh is the output nubmer.

<Reply> Crosspoint Status Report (Class 2 ID 2)

<Notes> None

Crosspoint Status Report (ID 2)

<Description> This commmand is sent by the matrix to report the current input source for a particular output.

<Example> F1h 04h 02h 02h AAh BBh

Where AAh is the input number.

Where BBh is the output nubmer.

<Reply> None

<Notes> None

Set Crosspoint Multiple (ID 3)

<Description> This command is sent to the matrix to set multiple crosspoints.

<Example> F1h XXh 02h 03h AAh BBh ... AAh BBh

Where XXh is the length. The length is equal to $((N*2)+2)$. Where N is the number of crosspoint being set in the message. Where AAh is the input number. Where BBh is the output number.

<Reply> All Crosspoints Status Report (Class 2 ID 6)

<Notes> -This messages can vary in length. Send Input to select, then the output to route the input.

Set All Crosspoints (ID 4)

Respond with All Crosspoints Status Report (ID 6)

<Description> This command is sent to the matrix to set all outputs to the same input.

<Example> F1h 03h 02h 04h AAh

Where AAh is the input number.

<Reply> All Crosspoints Status Report (Class 2 ID 6)

<Notes> All outputs are routed to the input specified.

Get All Crosspoints Status (ID 5)

<Description> This command is sent to the matrix

<Example> F1h 02h 02h 05h

<Reply> All Crosspoints Status Report (Class 2 ID 6)

<Notes> None

All Crosspoints Status Report (ID 6)

<Description> This command is sent by the matrix to report the status of all the outputs.

<Example> F1h XXh XXh 02h 06h AAh BBh CCh DDh ... NNh

Where XXh XXh is the length. The length is equal to $(N+2)$. Where N is the maximum number of outputs in the matrix. Where AAh is the input number that is currently routed to output 1. Where BBh is the input number that is currently routed to output 2. Where CCh is the input number that is currently routed to output 3. Where DDh is the input number that is currently routed to output 4.

Where AAh is the input number that is currently routed to output N (where N is the maximum number of outputs).

<Reply> None

<Notes> This message will reply with the current input source number for each output up to the maximum number of outputs in the matrix.

Class 3 – Preset Commands**Set Preset (ID 0)**

<Description> This command is sent to the matrix to setup a preset.

<Example> F1h XXh XXh 03h 00h AAh BBh CCh DDh EEh ... NNh

Where XXh XXh is the length. The length is equal to $(N+3)$. Where N is the maximum number of outputs in the matrix. Where AAh is the preset number. Where BBh is the input number that is routed in the preset to output 1. Where CCh is the input number that is routed in the preset to output 2. Where DDh is the input number that is routed in the preset to output 3. Where EEh is the input number that is routed in the preset to output 4. Where NNh is the input number that is routed in the preset to output N. (where N is the maximum number of outputs.)

<Reply> Preset Report (Class 3 ID 2)

<Notes> None

Get Preset (ID 1)

<Description> This command is sent to the matrix to request the preset's routes.

<Example> F1h 03h 03h 01h AAh

Where AAh is the preset number.

<Reply> Preset Report (Class 3 ID 2)

<Notes> None

Preset Report (ID 2)

<Description> This command is sent by the matrix to report the preset routes.

<Example> F1h XXh XXh 03h 02h AAh BBh CCh DDh EEh ... NNh

Where XXh XXh is the length. The length is equal to (N+3). Where N is the maximum number of outputs in the matrix. Where AAh is the preset number. Where BBh is the input number that is routed in the preset to output 1. Where CCh is the input number that is routed in the preset to output 2. Where DDh is the input number that is routed in the preset to output 3. Where EEh is the input number that is routed in the preset to output 4. Where NNh is the input number that is routed in the preset to output N (where N is the maximum number of outputs).

<Reply> None

<Notes> None

Set Preset Name (ID 3)

<Description> This command is sent to the matrix to set a preset's name.

<Example> F1h 0Bh 03h 03h AAh BBh CCh DDh EEh FFh GGh HHh IIh

Where AAh is the preset number. Where BBh is the first character of the name. BBh should be sent as the hex representation of the ASCII character. Where CCh is the second character of the name. CCh should be sent as the hex representation of the ASCII character. Where DDh is the third character of the name. DDh should be sent as the hex representation of the ASCII character. Where EEh is the fourth character of the name. EEh should be sent as the hex representation of the ASCII character. Where FFh is the fifth character of the name. FFh should be sent as the hex representation of the ASCII character. Where GGh is the sixth character of the name. GGh should be sent as the hex representation of the ASCII character. Where HHh is the seventh character of the name. HHh should be sent as the hex representation of the ASCII character. Where IIh is the eighth character of the name. IIh should be sent as the hex representation of the ASCII character.

<Reply> Preset Name Report (Class 3 ID 5)

<Notes> Maximum String length is 8 characters. Transmit a space for empty characters.

Get Preset Name (ID 4)

<Description> This command is sent to the matrix to request a preset's name.

<Example> F1h 03h 03h 04h AAh

Where AAh is the preset number.

<Reply> Preset Name Report (Class 3 ID 5)

<Notes> Maximum String length is 8 characters.

Preset Name Report (ID 5)

<Description> This command is sent by the matrix to report the name of a preset.

<Example> F1h 0Bh 03h 05h AAh BBh CCh DDh EEh FFh GGh HHh IIh

Where AAh is the preset number. Where BBh is the first character of the name. BBh should be sent as the hex representation of the ASCII character. Where CCh is the second character of the name. CCh should be sent as the hex representation of the ASCII character. Where DDh is the third character of the name. DDh should be sent as the hex representation of the ASCII character. Where EEh is the fourth character of the name. EEh should be sent as the hex representation of the ASCII character. Where FFh is the fifth character of the name. FFh should be sent as the hex representation of the ASCII character. Where GGh is the sixth character of the name. GGh should be sent as the hex representation of the ASCII character. Where HHh is the seventh character of the name. HHh should be sent as the hex representation of the ASCII character. Where IIh is the eighth character of the name. IIh should be sent as the hex representation of the ASCII character.

<Reply> None

<Notes> Maximum String length is 8 characters. A space is transmitted for empty characters.

Trigger Preset (ID 6)

<Description> This command is sent to the matrix to recall a preset to the live state.

<Example> F1h 03h 03h 06h AAh

Where AAh is the preset number.

<Reply> All Crosspoints Status Report (Class 2 ID 6)

<Notes> None

DIGI-HD-8X8 IR Codes

	Input 1	Input 2	Input 3	Input 4	Input 5	Input 6	Input 7	Input 8
Output 1	0x80	0x81	0x82	0x83	0x84	0x85	0x86	0x87
Output 2	0x90	0x91	0x92	0x93	0x94	0x95	0x96	0x97
Output 3	0xa0	0xa1	0xa2	0xa3	0xa4	0xa5	0xa6	0xa7
Output 4	0xb0	0xb1	0xb2	0xb3	0xb4	0xb5	0xb6	0xb7
Output 5	0xc0	0xc1	0xc2	0xc3	0xc4	0xc5	0xc6	0xc7
Output 6	0xd0	0xd1	0xd2	0xd3	0xd4	0xd5	0xd6	0xd7
Output 7	0xe0	0xe1	0xe2	0xe3	0xe4	0xe5	0xe6	0xe7
Output 8	0xf0	0xf1	0xf2	0xf3	0xf4	0xf5	0xf6	0xf7

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Output 3 to Input 1	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0016 05d5
Output 3 to Input 2	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0016 05d5
Output 3 to Input 3	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0016 05d5

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Output 4 to Input 7	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 003f 0015 0015 0016 05d5
Output 4 to Input 8	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 0015 003f 0015 0015 0016 05d5

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Output 6 to Input 1	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0016 05d5
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	0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 003f 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0016 05d5
Output 7 to Input 6	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 003f 0015 0015 0015 0016 05d5
Output 7 to Input 7	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 003f 0015 003f 0015 0015 0015 0016 05d5
Output 7 to Input 8	0000 006f 0000 0022 0151 00a7 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 003f 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 0015 0015 0016 05d5

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Appendix B: Dual UTP Extender Troubleshooting

The DIGI-HD-8X8 ships with all the DIP switches in the *OFF* position. This mode passes the basic EDID information of the display to the source device over HDMI and DIGI-HD-IR2-R baluns. This will work for most installations. However, there are times when a little fine tuning is needed.

DIP 1	DIP 2	DIP 3	DIP 4	EDID Function
off	on	on	off	Dual Twisted Pair Auto-mix Mode The matrix mixes the EDID data of all destinations which choose the same source. This data is then transmitted by the matrix to the source device.
off	on	off	off	Dual Twisted Pair Copy Mode EDID data is copied from the outputs and transmitted to the inputs.
on	off	off	off	Dual Twisted Pair HDMI 1.2 with stereo audio The matrix is preset with EDID data for HDMI 1.2 video and stereo audio.
on	off	on	off	Dual Twisted Pair HDMI 1.2 with 5.1 audio The matrix is preset with EDID data for HDMI 1.2 1080p video and 5.1 audio.
on	on	off	off	Dual Twisted Pair HDMI 1.3 with stereo audio The matrix is preset with EDID data for HDMI 1.3 1080p video and stereo audio.
on	on	on	off	Dual Twisted Pair HDMI 1.3 with 5.1 audio The matrix is preset with EDID data for HDMI 1.3 1080p video and 5.1 audio.
off	on	off	on	Single Twisted Pair Copy Mode EDID data is copied from the outputs and transmitted to the inputs.
on	off	off	on	Single Twisted Pair HDMI 1.2 with stereo audio The matrix is preset with EDID data for HDMI 1.2 video and stereo audio.
on	off	on	on	Single Twisted Pair HDMI 1.2 with 5.1 audio The matrix is preset with EDID data for HDMI 1.2 1080p video and 5.1 audio.
on	on	off	On	Single Twisted Pair HDMI 1.3 with stereo audio The matrix is preset with EDID data for HDMI 1.3 1080p video and stereo audio.
on	on	on	on	Single Twisted Pair HDMI 1.3 with 5.1 audio The matrix is preset with EDID data for HDMI 1.3 1080p video and 5.1 audio.

Use Built-In EDID Settings

Quite often the built-in EDID settings that are available in the DIGI-HD-8X8 will streamline the performance of the system.

- Set the DIP switches to a setting that is compatible with all displays connected to the DIGI-HD-8X8.
- Power cycle the matrix to reset the matrix to the updated DIP switch setting.

Copy the EDID from the display to the DIGI-HD-8X8

1. Set the DIP switches on the DIGI-HD-8X8 to *Dual Twisted Pair Copy Mode*.
2. Connect the display to the DIGI-HD-8X8 via an HDMI cable.
3. On the front panel of the DIGI-HD-8X8, go into the *Utilities Menu*.
4. Select *Define Inputs*.
5. Press the button of the input you want to have routed to your display.
6. Press the *Copy EDID* button.
7. Press the button of the output which you are copying from.
8. "Copy Success" should appear at the top of the front panel of the DIGI-HD-8X8.
9. Continue the process for other inputs which are not showing video to the display.

Sparkles or White Dots in the Picture

These are caused by the bandwidth being exceeded over the UTP and/or HDMI cables.

- Verify your UTP cables are crimped in compliance with the EIA/TIA 568B specification.
- Verify your UTP cables are within the published specifications for cable distance and resolution.
- Verify your HDMI cables are in good working condition. Even brand new cables have tested badly in the field.
- Swap the roles of the UTP cables: move the cable from port A on both ends to port B and vice versa.
- Shorten the length of the UTP cables or use shorter HDMI cables.
- Set the DIP switches to a setting which specifies stereo audio.

Picture Occasionally Drops Out

This is typically a symptom of an HDCP synchronization failure or bad wiring.

- Verify your UTP cables are crimped in compliance with the EIA/TIA 568B specification.
- Verify your UTP cables are within the published specifications for cable distance and resolution.
- Verify your UTP cables have no kinks or damage to the cable insulation.
- Verify your HDMI cables are in good working condition. Even brand new cables have tested badly in the field.
- Swap the roles of the UTP cables: move the cable from port A on both ends to port B and vice versa.
- Shorten the length of the UTP cables or use shorter HDMI cables.

No Picture on the Display

There are some displays that do not work well with the built-in EDID configurations that ship with the DIGI-HD-8X8.

- Verify the Power and Status LEDs are lit on the DIGI-HD-IR2-R.
- Verify the source and display are powered on.
- Verify your UTP cables are crimped in compliance with the EIA/TIA 568B specification.
- Verify your UTP cables are within the published specifications for cable distance and resolution.
- Verify your UTP cables have no kinks or damage to the cable insulation.
- Verify your HDMI cables are in good working condition. Even brand new cables have tested badly in the field.
- Swap the roles of the UTP cables: move the cable from port A on both ends to port B and vice versa.
- Shorten the length of the UTP cables or use shorter HDMI cables.
- Copy the EDID from the display.

Appendix C: Single UTP Extender Installation Troubleshooting

The DIGI-HD-8X8 ships with all the DIP switches in the *OFF* position. This mode passes the basic EDID information of the display to the source device over HDMI and DIGI-HD-IR2-R baluns. DIGI-HD-UHR2-R baluns require the use of the built-in EDID settings for a single twisted pair cable.

DIP 1	DIP 2	DIP 3	DIP 4	EDID Function
off	on	on	off	Dual Twisted Pair Auto-mix Mode The matrix mixes the EDID data of all destinations which choose the same source. This data is then transmitted by the matrix to the source device.
off	on	off	off	Dual Twisted Pair Copy Mode EDID data is copied from the outputs and transmitted to the inputs.
on	off	off	off	Dual Twisted Pair HDMI 1.2 with stereo audio The matrix is preset with EDID data for HDMI 1.2 video and stereo audio.
on	off	on	off	Dual Twisted Pair HDMI 1.2 with 5.1 audio The matrix is preset with EDID data for HDMI 1.2 1080p video and 5.1 audio.
on	on	off	off	Dual Twisted Pair HDMI 1.3 with stereo audio The matrix is preset with EDID data for HDMI 1.3 1080p video and stereo audio.
on	on	on	off	Dual Twisted Pair HDMI 1.3 with 5.1 audio The matrix is preset with EDID data for HDMI 1.3 1080p video and 5.1 audio.
off	on	off	on	Single Twisted Pair Copy Mode EDID data is copied from the outputs and transmitted to the inputs.
on	off	off	on	Single Twisted Pair HDMI 1.2 with stereo audio The matrix is preset with EDID data for HDMI 1.2 video and stereo audio.
on	off	on	on	Single Twisted Pair HDMI 1.2 with 5.1 audio The matrix is preset with EDID data for HDMI 1.2 1080p video and 5.1 audio.
on	on	off	On	Single Twisted Pair HDMI 1.3 with stereo audio The matrix is preset with EDID data for HDMI 1.3 1080p video and stereo audio.
on	on	on	on	Single Twisted Pair HDMI 1.3 with 5.1 audio The matrix is preset with EDID data for HDMI 1.3 1080p video and 5.1 audio.

Use Built-In EDID Settings

Quite often the built-in EDID settings that are available in the DIGI-HD-8X8 will streamline the performance of the system.

- Set the DIP switches to a setting that is compatible with all displays connected to the DIGI-HD-8X8.
- Power cycle the matrix to reset the matrix to the updated DIP switch setting.

Copy the EDID from the display to the DIGI-HD-8X8

1. Set the DIP switches on the DIGI-HD-8X8 to *Single Twisted Pair Copy Mode*.
2. Connect the display to the DIGI-HD-8X8 via an HDMI cable.
3. On the front panel of the DIGI-HD-8X8, go into the *Utilities Menu*.
4. Select *Define Inputs*.
5. Press the button of the input you want to have routed to your display.
6. Press the Copy EDID button.
7. Press the button of the output which you are copying from.
8. "Copy Success" should appear at the top of the front panel of the DIGI-HD-8X8.
9. Continue the process for other inputs which are not showing video to the display.

Sparkles or White Dots in the Picture

These are caused by the bandwidth being exceeded over the single twisted pair cable and/or HDMI cables.

- Verify your single twisted pair cable is crimped in compliance with the EIA/TIA 568B specification.
- Verify your single twisted pair cable is within the published specifications for cable distance and resolution.
- Verify your HDMI cables are in good working condition. Even brand new cables have tested badly in the field.
- Shorten the length of the UTP cables or use shorter HDMI cables.
- Set the DIP switches to either HDMI 1.2 or 1.3 1080p with stereo audio mode. Don't forget to power cycle the DIGI-HD-8X8 after changing the DIP switches.

Picture Occasionally Drops Out

This is typically a symptom of an HDCP synchronization failure or bad wiring.

- Verify your single twisted pair cable is crimped in compliance with the EIA/TIA 568B specification.
- Verify your single twisted pair cable is within the published specifications for cable distance and resolution.
- Verify your single twisted pair cable has no kinks or damage to the cable insulation.
- Verify your HDMI cables are in good working condition. Even brand new cables have tested badly in the field.
- Shorten the length of the single twisted pair cable or use shorter HDMI cables.

No Picture on the Display

There are some displays that do not work well with the built-in EDID configurations that ship with the DIGI-HD-8X8.

- Verify the Power and Status LEDs are lit on the DIGI-HD-UHR2-R.
- Verify the single twisted pair cable is plugged into port A on the proper output on the DIGI-HD-8X8.
- Verify the source and display are powered on.
- Verify your single twisted pair cable is crimped in compliance with the EIA/TIA 568B specification.
- Verify your single twisted pair cable is within the published specifications for cable distance and resolution.
- Verify your single twisted pair cable has no kinks or damage to the cable insulation.
- Verify your HDMI cables are in good working condition. Even brand new cables have tested badly in the field.
- Shorten the length of the single twisted pair cable or use shorter HDMI cables.
- Copy the EDID from the display.

Appendix D: Touch Screen Tour

The Intelix DIGI-HD-8X8 features intelligent control for ease of use and sophisticated control. The DIGI-HD-8X8 touch screen is divided into four areas: the *Home Screen*, the *User Screens*, the *Utilities Screens* and the *Lock Screen*, all of which allow the user and installer to setup and control the matrix.

Home Screen

The *Home Screen* is the main screen that allows the user to access the control and utilities (setup) screens. The Home screen has five buttons as seen below.

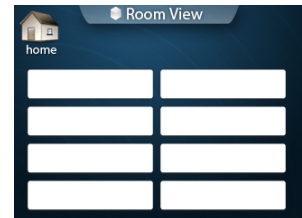


Screen Description	
<i>Room View</i>	Allows the user to select an output destination and view or change the current input source selection.
<i>Matrix View</i>	Allows the user to view or change all the input/output selections on a single grid.
<i>Presets</i>	Allows the user to recall a preset from memory to the current state.
<i>Lock</i>	Locks the panel. The user must type in a password to use touchscreen after locking.
<i>Utilities</i>	Allows the administrator to setup names, icons, copy EDID's, change the external baud rate, setup the Ethernet connection, setup the IR pass-through, change the user password, change the utilities password and reset the device to factory settings.

Room View and Room View Select Screens

The *Room View* and *Room View Select* screens allow the user to select the output destination zone and then view or change the input source selection.

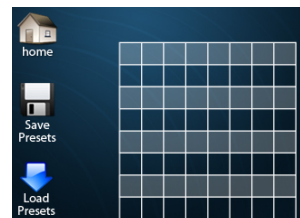
There are nine buttons on both the *Room View* and *Room View Select* screens. The *Room View* screen's eight buttons represent each output of the matrix. Upon selecting an output the *Room View* screen shown above is populated with input names and the current route is highlighted. Pushing one of the input names will change the routing for the selected output.



Matrix View Screens

The *Matrix View* allows the user to view or change the input source selection for all of the output destination zones on a single grid.

There are 67 buttons on the *Matrix View* screen. 64 buttons are contained in the routing grid. The output destinations are listed in the eight columns. The input sources are listed in the eight rows. Selecting a row / column intersection will cause a change to the current input for that output.



The *Save Presets* button saves the current snapshot of the matrix video routes.

The *Load Presets* button allows the user to recall a previously saved routing configuration.

Presets Screen

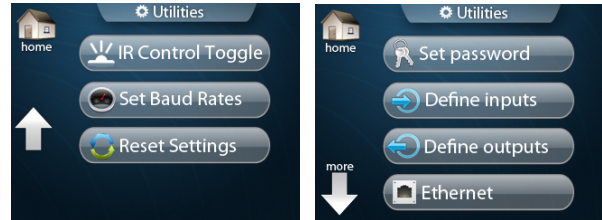
The *Presets* screen allows the user to recall a previously saved state. The matrix allows for 64 unique presets to be saved from the *Matrix View* screen.

There are thirteen buttons on the *Presets* screen. Ten buttons allow one of 64 unique presets to be recalled from a previous saved state. There are page up and page down buttons for navigating throughout the 64 presets.



Utilities

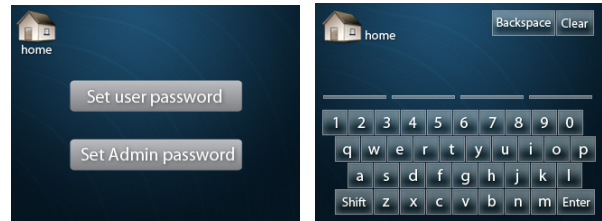
The *Utilities* menu allows the administrator to perform all the matrix setup and configuration options. The DIGI-HD-8X8 is capable of storing administrator configurable passwords, names and icons, changing the external baud rate for control, setting up a DHCP or Static Ethernet connection, turning on or off the IR pass-through function and restoring the matrix to factory defaults.



There are two pages of *Utilities* options consisting of ten buttons. There are page up and page down buttons for navigating throughout the *Utilities* pages.

Set Passwords Screen

The *Set Passwords* screen allows the administrator to change the passwords for both unlocking the LCD panel (User Password) and entering the *Utilities* screens (Admin Password).



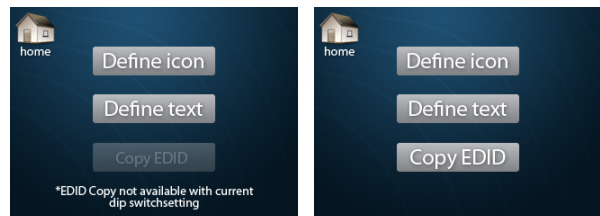
There are three buttons on the *Set Passwords* screen. The “*Set user password*” button allows the administrator to change the password that unlocks the LCD panel from a lock state. The “*Set Admin password*” allows the administrator to change the password for entering the *Utilities* pages.

Choosing either of the *Set* buttons prompts the administrator to enter a new four character password. Press *Enter* and the administrator will be prompted for the new password confirmation. If the passwords match then the password is changed immediately. Choosing *Home* in either of the keyboard screens will result in no change to the password and will return to the *Utilities* menu.

Define Inputs Screen

The *Define Inputs* screen allows the administrator to change the names, icons and copy EDID data from an output to the desired input.

There are four buttons on the *Define Inputs* screen. The *Define icon* button allows the administrator to change the icon displayed in the *Room View Selection* screen. The *Define tex*” button allows the administrator to change the name of the input.

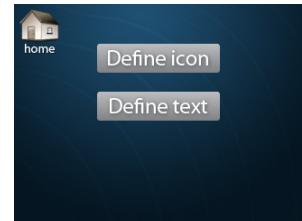


The *Copy EDID* button allows the administrator to select the output EDID to be copied to the current input. The screen will print a *Success* or *Fail* notification.

Define Outputs Screen

The *Define Outputs* screen allows the administrator to change the names and icons of the desired output.

There are three buttons on the *Define Outputs* screen. The *Define icon* button allows the administrator to change the icon displayed in the *Room View* screen. The *Define text* button allows the administrator to change the name of the output.



Ethernet Screen

The *Ethernet* screen allows the administrator to select DHCP or Static Mode, view the IP address, and set the IP address in Static mode.

There are three buttons on the *Ethernet* screen. The *Static IP* button allows the administrator to change the IP mode to a static IP address. The *DHCP* button allows the administrator to change the IP mode to accept an address from the networks DHCP server.

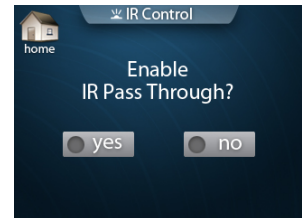


In *Static IP* mode a keyboard appears at the bottom of the screen. No changes are made until the enter button is pressed. If the enter button is not pressed and the administrator presses home to return to the *Utilities* menu all changes will be discarded.

IR Control Toggle Screen

The *IR Control Toggle* screen allows the administrator to enable / disable the IR Pass Through function of the matrix.

There are three buttons on the *IR Control Toggle* screen. The *yes* button allows the administrator to enable the IR Pass Through function of the matrix. The *no* button allows the administrator to disable the IR Pass Through function of the matrix.

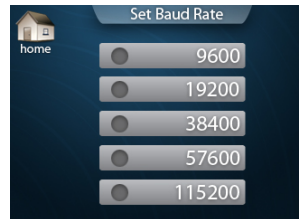


Note: IR Pass Through function requires the use of Intelix compatible HDMI with IR extenders. The DIGI-HD-IR2-R is compatible with the IR Pass Through function. The IR Pass Through function receives IR commands from the remote zone and will process Intelix IR switch commands or route third-party commands out the currently selected source IR port to the IR emitter.

Set Baud Rate Screen

The *Set Baud Rate* screen allows the administrator to change the baud rate of the external RS232 control port.

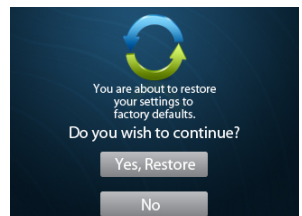
There are six buttons on the *Set Baud Rate* screen. Five of the buttons select a desired baud rate. Select the baud rate that matches the control system or computer that is controlling the matrix.



Restore Settings Screen

The *Restore Settings* screen allows the administrator to set the matrix back to factory defaults. All settings will be lost.

There are two buttons on the *Restore Settings* screen. The *Yes, Restore* button erases all the settings in the matrix and returns the matrix to factory defaults. The *No* button returns the administrator to the *Utilities* screen with affecting any of the matrix data.

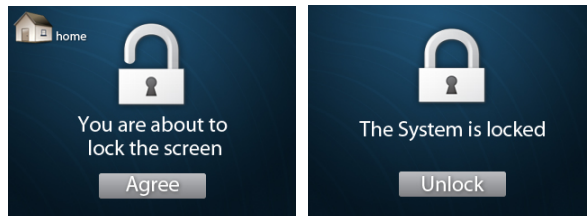


Lock

The *Lock* screens allow the user to lock the LCD. In order to make any changes to the matrix through the LCD screen the user must first unlock the LCD panel.

There are two buttons on the *Lock Confirm* screen. The *Agree* button locks the panel. Once the LCD panel is locked there is only an *Unlock* button. The *Unlock* button prompts the user for a password with a keyboard screen.

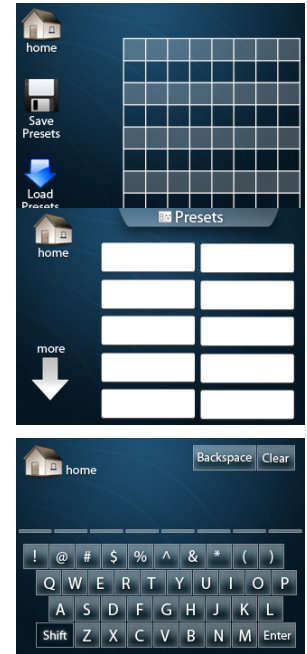
Note: Passwords are case sensitive.



Appendix E: Touch Screen How-To

Create a New Preset

1. In the *Matrix View* screen setup the matrix by selecting the input source and output destination routing that will exist in the new preset.
2. On the left-hand side of the screen choose *Save Preset*". Selecting *Save Presets* will bring up the *Presets* screen. Choose the preset location to save the new preset.
3. Now a keyboard screen appears. Enter the name of the new preset and then press enter. The preset name can be a maximum of eight characters.
4. The new name and routes are now saved and appear in the *Preset View*.



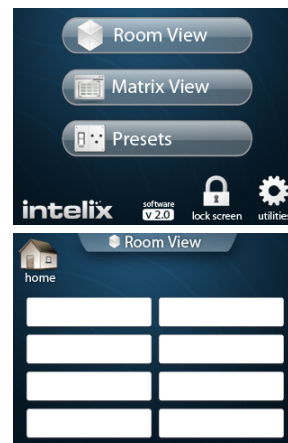
Recall a Preset



1. From the *Home* screen select *Presets*.
2. In the *Presets* screen navigate to the desired preset using the *Page Up* and *Page Down* buttons.
3. To recall the desired preset press the desired preset button. The matrix will apply the preset and redirect to the *Matrix View* screen.

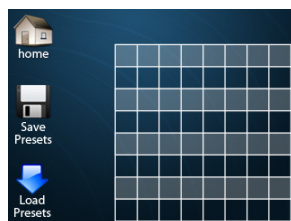
Changing Source to Destination Routing through the Room View Screen

1. From the *Home* screen select *Room View*.
2. Select the output or *Room* to change the source.
3. Select the new source.



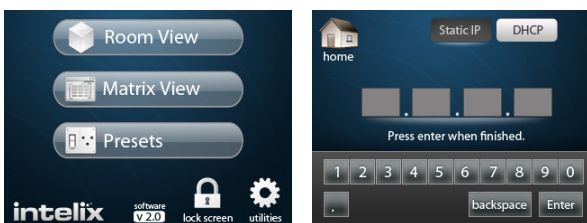
Matrix View Method

1. From the *Home* screen select *Matrix View*.
2. In *Matrix View* select the desired new input source output destination combinations.



Setting a Static IP address

1. From the *Home* screen select *Utilities* and type in the proper Admin password (Factory Default is "HDMI") and press *enter* on the keyboard.
2. Select *Ethernet* from the *Utilities* screen.
3. Select *Static* from the *Ethernet* screen.
4. Using the on-screen keyboard, type a desired network address. When finished, press *Enter*.



Appendix F: Web Browser Control

The DIGI-HD-8X8 is controllable through a web browser on a networked computer.

1. Verify the DIGI-HD-8X8 and controlling computer are connected to the same network.
2. Open the web browser on the connected computer.
3. Type the IP address of the DIGI-HD-8X8 which will be controlled.

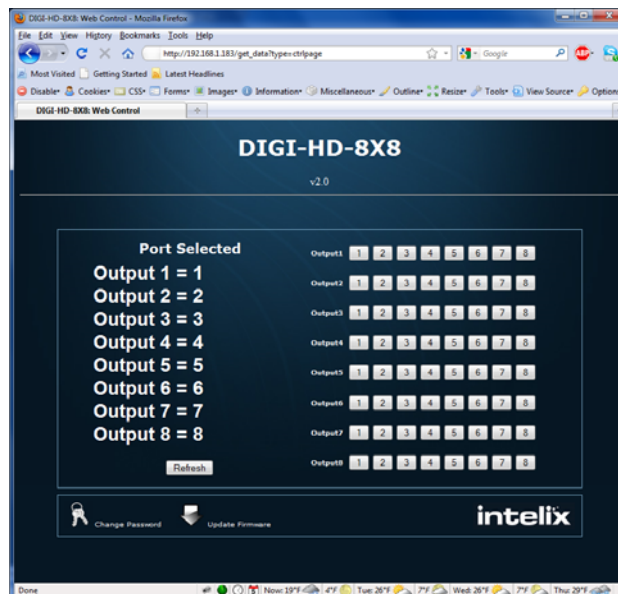
Note: To find or set the matrix IP address, see *Appendix D: Touch Screen Tour* in this manual.



4. Enter the password. The loading screen will briefly appear.

Note: The default password is *HDMI*.

5. Upon successful connection, the matrix routing screen will appear. The matrix is now able to be controlled through the web browser.



Warranty

Intelix warrants to the original purchaser of new and B-stock products that the product will be free from defects in material and workmanship for a period of 2 years from the date of purchase from an authorized Intelix reseller, subject to the terms and conditions set forth below.

All Intelix products are guaranteed against malfunction due to defects in materials or workmanship for two years after date of purchase. If a malfunction does occur during the specified period, the defective product will be repaired or replaced at Intelix's option without charge. As a condition to receiving the benefits of this warranty, you must provide Intelix with documentation that establishes you were the original purchaser of the Intelix products. If you are not the original purchaser, the Intelix equipment must be returned to the original purchaser or another authorized Intelix reseller accompanied by dated documentation of proof of purchase. Please contact Intelix for a list of authorized resellers.

This warranty does not cover: 1) Malfunction resulting from use of the product other than as specified in the user manual; 2) Installation specific wiring; 3) Malfunction resulting from abuse or misuse of the product; 4) Exterior chassis appearance; 5) Malfunction occurring after repairs have been made by anyone other than Intelix or any of its authorized service representatives; 6) Acts of nature; 7) Optional software upgrades or updates.

This warranty will be void if the product's serial number or quality control sticker has been removed or defaced, or if the product has been altered, subjected to damage or abuse, repaired by any person not authorized by Intelix to make repairs, or installed in any manner that does not comply with Intelix's recommendations.

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Warranty service is only offered after a return authorization (RA) number has been generated by an authorized Intelix factory representative. If you purchased the Intelix goods directly from Intelix, please contact Intelix Applications for an RA number. If you purchased the Intelix good from an authorized Intelix reseller, please contact your authorized reseller for an RA number. This RA number must be clearly referenced on the outside of all packages shipped to Intelix. Intelix Applications must be contacted prior to any return of goods; all return shipments received by Intelix without an RA number will be refused. All shipments must be received within 30 days from the RA number issue date.

At Intelix's option, Intelix will advance replace failing Intelix goods on approved accounts within 90 days of shipment from Intelix. The advanced replaced goods will be invoiced and payment will be due under standard terms if the failing goods are not received within 14 days of the advanced replacement shipment.

Intelix will match shipping method for units still under warranty. If a unit which is out of warranty needs repair, the dealer must pay for shipping, replacement parts, and a fixed \$100/hr* labor fee. Normal Intelix credit terms apply to billable repairs. If a unit is returned and found to work according to factory specifications, a \$100 service fee* is billed regardless of warranty status. All repairs are made in a reasonably quoted amount of time; a rush shipment fee of \$50* may apply to repairs needing a quicker than usual turn-around time.

All goods outside of the standard warranty period which are repaired by Intelix are covered by an additional 90 day warranty. This 90 day warranty only covers the specific repaired components. All other standard warranty limitations apply.

**Or current applicable rate/fee.*

Warranty terms and conditions subject to change and do not apply outside of United States and Canada.

Intelix Warranty is subject to change. Please contact the factory for the most up-to-date information.

Thank you for your purchase.

We appreciate your business. Please contact us with your questions and comments.

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