

DIGI-HD-8X8

8 INPUT BY 8 OUTPUT MATRIX SWITCHER






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DESIGN WITH INTELLIGENCE
Rev. 1004

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

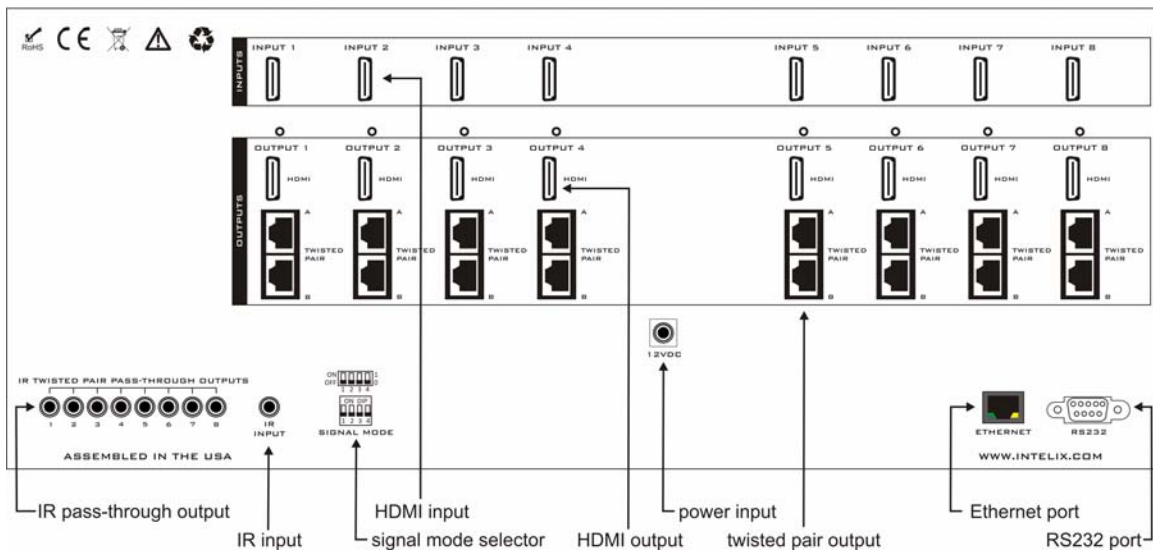
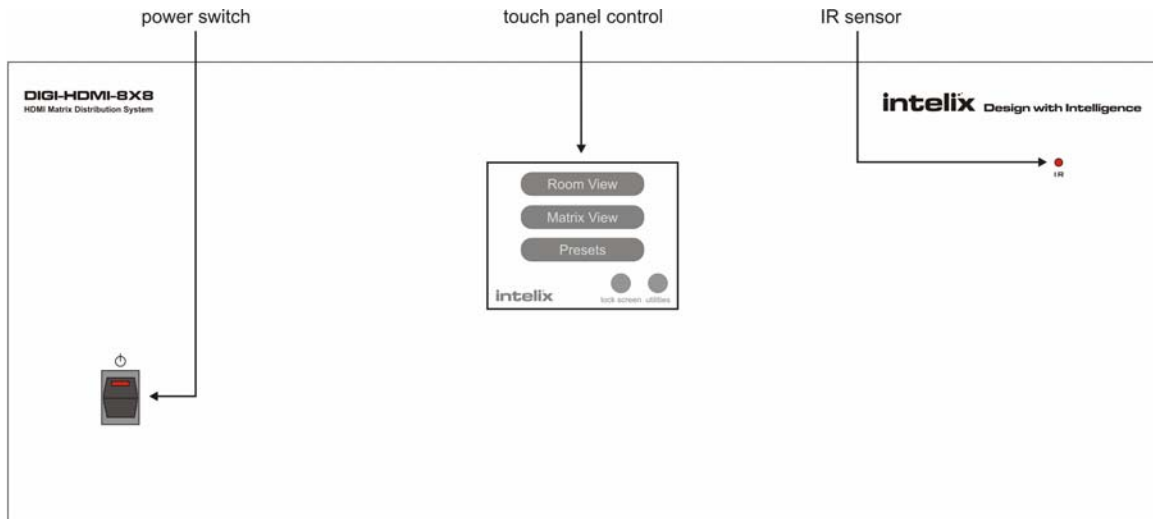
The Intelix DIGI-HD-8X8 combines professional-grade performance with comprehensive control options, providing an easy-to-use, flexible, and powerful solution for high-definition audio/video distribution applications. A true matrix switcher, the DIGI-HD-8X8 features eight HDMI inputs, eight HDMI outputs 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.

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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, affix the 19" rack ears to the DIGI-HD-8X8. The DIGI-HD-8X8 requires 3 rack units of spacing.
2. Power-off the source and destination audio and video devices.

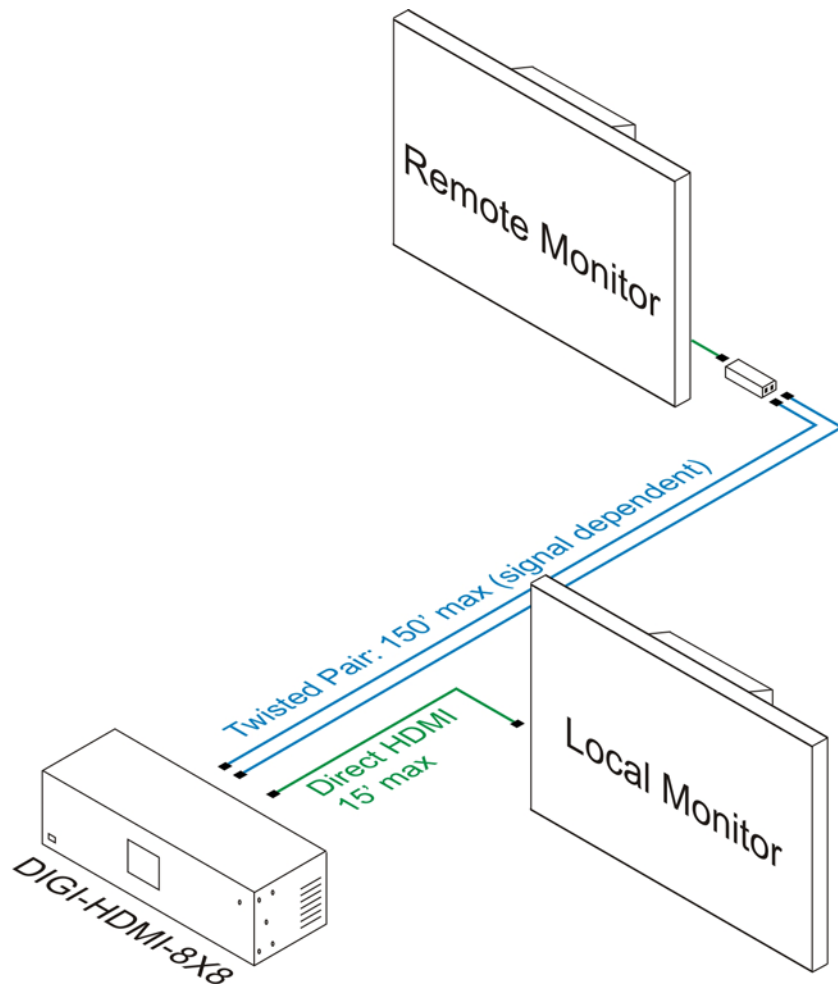
Note: All connecting audio-visual equipment must be powered off.

3. Connect the input sources to the DIGI-HD-8X8 using high-quality HDMI cables.

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.

4. Connect the output destinations to the DIGI-HD-8X8 using high-quality HDMI cables.
5. For long distance destinations, connect two runs of twisted pair cable per run to the DIGI-HD-8X8 (twisted pair receivers sold separately).



Product	1080i Max Distance	1080p Max Distance	IR
DIGI-HDMI-HR-R	150 feet	60 feet	No
DIGI-HDMI-IR-R	150 feet	100 feet	Yes

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.

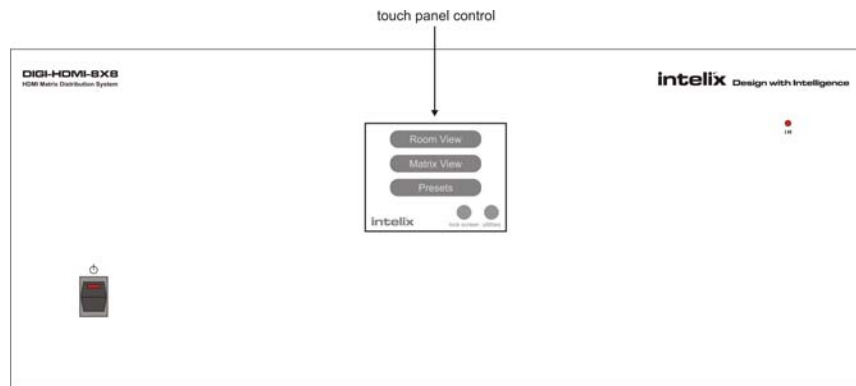
Operation

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 during power off and restored during power on. Additional system saves occur automatically every five minutes.

Front Panel Control

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

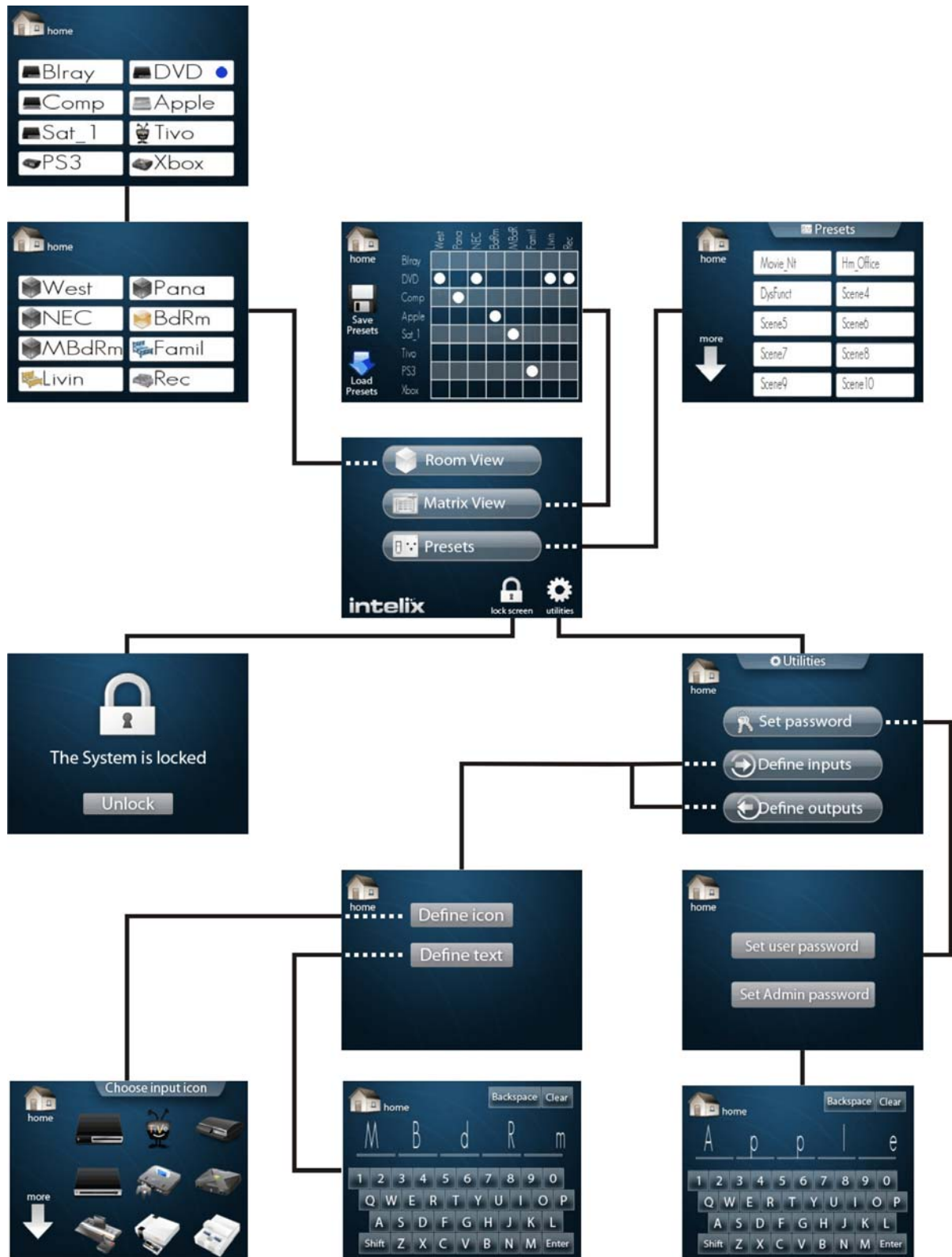


1. Determine if the DIGI-HD-8X8 front panel is locked. If the panel is locked, the *System is Locked* screen will appear. The user password must be entered.

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.



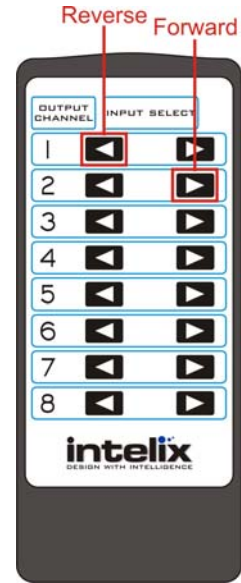
Touch Screen Flow Diagram

*note that not all system screens are portrayed

Included Remote Control

The DIGI-HD-8X8 includes a wireless remote control for switching inputs to the various outputs. Each output is represented by a bank of buttons on the remote control.

1. Determine which output you wish to change.
2. On the determined output, select the *forward* or *reverse* button until the desired source is displayed.



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 IR cable directly to the matrix.

Note: Operation of the rear panel IR input will disable the front panel IR sensor.

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
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.

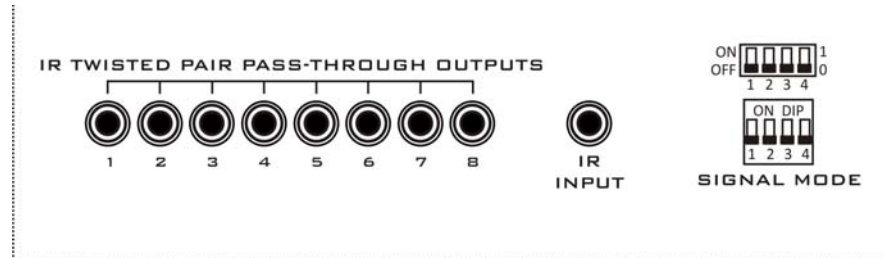
2. Connect the opposite end of the Ethernet cable to a LAN port. Within 10 seconds of connecting the DIGI-HD-8X8 to the LAN, the yellow LED on the matrix's Ethernet port will stop blinking and the green LED will blink intermittently.

Connection Troubleshooting: If the matrix does not respond with a green LED, please follow the steps below: <ul style="list-style-type: none">- Verify the LAN has DHCP support.- 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.
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Note: For Ethernet programming and command information, see Appendix A.
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IR Twisted Pair Pass-Through

When used with compatible Intelix receivers (DIGI-HDMI-IR-R), the DIGI-HD-8X8 supports eight pass-through IR channels which distribute remote IR commands from in-room controllers, up to 150 feet over twisted pair cable, and out of the matrix.

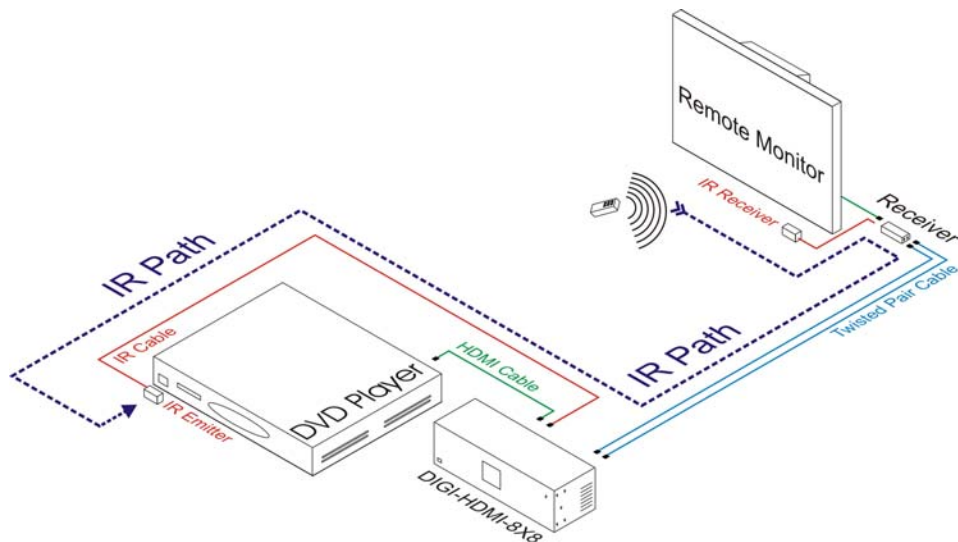


1. Determine which devices you wish to control via the IR pass-through outputs.

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, and IR transmit output four corresponds to HDMI input four. Therefore, the IR output port will control the source connected to the HDMI input.

2. Connect an IR cable to the desired IR transmit output port.
3. Repeat for up to eight devices.

Note: Optionally, IR commands for the matrix may be transmitted from a remote receive balun. For successful operation, the output of the IR transmit output port must be routed to the 1/8" (3.5 mm) IR rear panel connector or the front panel IR sensor.



4. All of the remote receive baluns transmit IR commands from the included remote control, thereby allowing remote control of the matrix itself.

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
Diagnostic.....	Front panel input to output LEDs Front panel keylock LED
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
Control.....	Front panel, RS232, IR and Ethernet
Dimensions	17.25” x 7.00” x 8.25” 3 RU
Enclosure	Black metal
Max Power Consumption	11 watts
Power.....	5 VDC
Regulatory	CE, RoHS
Compatible Intelix Twisted Pair Receivers	DIGI-HDMI-HR-R DIGI-HDMI-IR-R
Shipping Weight.....	12 lbs
Intelix Part Number	DIGI-HD-8X8
Warranty	2 years

Addendum 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*.

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 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

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 number.

<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 number.

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

<Notes> None

Crosspoint Status Report (ID 2)

<Description> This command 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 number.

<Reply> None

<Notes> None

Set Crosspoint Multiple (ID 3)

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

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

Where XXh 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.

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

<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

Misc. Commands	
Function	Code
Output 1 to Input 1	0000 006f 0000 0022 0151 00a7 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 0015 0015 0015 0015 0015 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5
Output 1 to Input 2	0000 006f 0000 0022 0151 00a7 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 003f 0015 0015 0015 0015 003f 0015 0015 0015 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5
Output 1 to Input 3	0000 006f 0000 0022 0151 00a7 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 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5
Output 1 to Input 4	0000 006f 0000 0022 0151 00a7 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 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5
Output 1 to Input 5	0000 006f 0000 0022 0151 00a7 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 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5
Output 1 to Input 6	0000 006f 0000 0022 0151 00a7 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 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5
Output 1 to Input 7	0000 006f 0000 0022 0151 00a7 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 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5
Output 1 to Input 8	0000 006f 0000 0022 0151 00a7 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 003f 0015 003f 0015 003f 0015 003f 0015 003f 0015 0015 0016 05d5

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