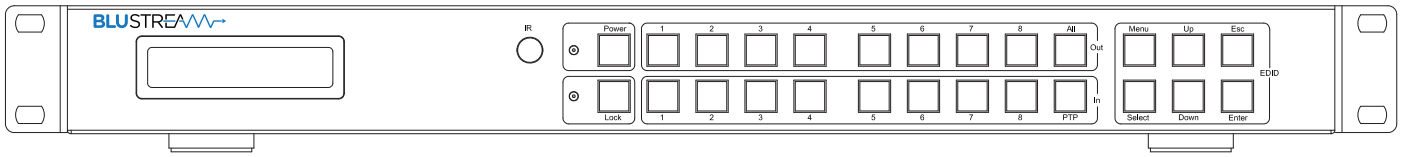


HMXL88

User Manual

Thank you for purchasing this product.

For optimum performance and safety, please read these instructions carefully before connecting, operating or adjusting this product. Please keep this manual for future reference.

Surge protection device recommended

This product contains sensitive electrical components that may be damaged by electrical spikes, surges, electric shock, lightning strikes, etc. Use of surge protection systems is highly recommended in order to protect and extend the life of your equipment.

Safety And Performance Notice

The transmission distances of HDMI over UTP cables are measured using TE CONNECTIVITY 1427071-6

EIA/TIA-568-B termination (T568B) of cables is recommended for optimal performance.

To minimize interference of the unshielded twisted pairs in the CAT5e/6 cable do not run the HDBaseT / Cat5e/6/6a cabling with or in close parallel proximity to mains power cables.

Do not substitute or use any other power supply other than the enclosed unit, or a Bluestream approved replacement.

Do not disassemble either the Transmitter or Receiver units for any reason. Doing so will void the manufacturer's warranty.

Contents

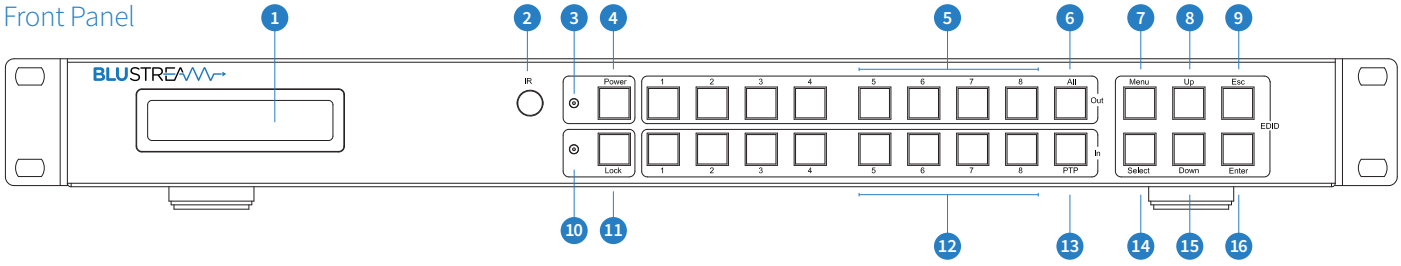
Introduction

Our essential 8x8 HDBaseT™ Matrix offers unprecedented performance and value for the custom installation market. The HMXL88 is a 4K UHD 8x8 matrix with a combination of 6 x HDBaseT™ and 2 x HDMI outputs. This allows for cost-effective integration of local displays or AV receivers within an installation. The matrix delivers HDMI, Bi-directional IR and PoH (PoE) up to lengths of 70m over a single CAT cable. It can also be seemlessly controlled by 3rd party control systems via RS-232 or TCP/IP.

FEATURES:

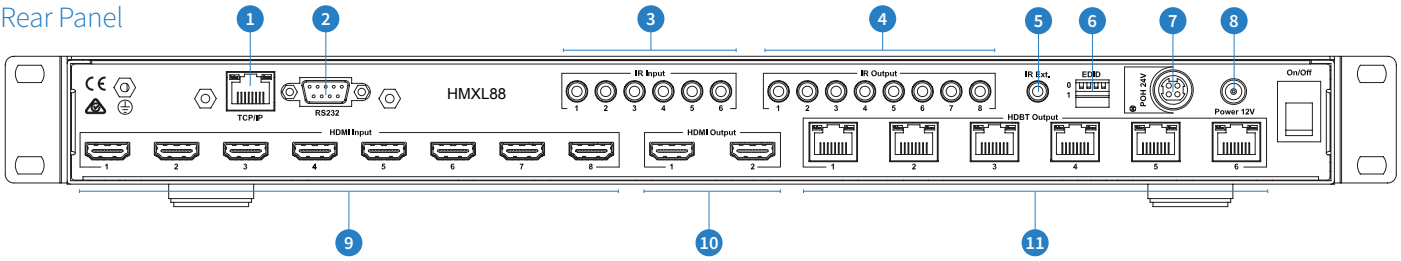
- Features 8x HDMI inputs which can be independantly routed to 6x HDBaseT™ outputs and 2x independent HDMI outputs
- Extends HDMI up to a distance of 70m over single CAT cable
- Supports 4K UHD video up to 40m (3840 x 2160 @30Hz 4:4:4, 4096 x 2160 @24Hz 4:4:4, and 4K @60Hz 4:2:0)
- Supports all industry standard video resolutions including VGA-WUXGA and 480i-4K
- Supports 3D signal display
- Supports all known HDMI audio formats including Dolby TrueHD, Dolby Atmos, Dolby Digital Plus and DTS-HD Master Audio transmission
- Supports bi-directional IR from all input and output locations
- Control via front panel, IR, RS-232 and TCP/IP
- Supports PoH (Power over HDBaseT™) to power compatible HDBaseT™ receivers
- 3rd Party drivers available for all major home control brands
- Advanced EDID management
- HDCP compliant
- 1U Design for 19” rack mount integration - mounting kit included

Front Panel



1. LCD display – Show the status of input-output selection, menu and EDID info.
2. IR receiver window – Receives IR from a hand held remote control or processor.
3. Power LED indicator – Indicates the power status of the matrix.
4. Power button – Press to toggle the power of the matrix on/off.
5. HDMI output selection button 1 to 8 – Press to select the output from 1 to 8.
6. All button for HDMI outputs – Press to select all of the outputs from 1 to 8.
7. Menu button – Press to enter EDID setup mode. Three EDID segments will display on the LCD panel listed as: INPUT, VIDEO and AUDIO, for example: IN1 1080P 2.0CH, means to set 1080P 2.0CH EDID to INPUT1. The blinking segment is the adjustable parameter.
8. Up – Press to change up through the adjustable values.
9. ESC – Press to quit EDID setup menu.
10. Lock LED indicator – Indicate the status of the key lock.
11. Lock button – Press to lock the buttons on the front panel.
12. HDMI input selection button 1 to 8 – Press to select the input from 1 to 8.
13. PTP – Press to mirror all inputs and outputs (e.g. output 1 to input 1, output 2 to input 2 and so on).
14. Select – Press to select an EDID parameter to change. Selected segment will blinking.
15. Down – Press to change down through the adjustable values.
16. Enter – Press to set EDID to specified INPUT or copy EDID from specified OUTPUT to specified INPUT.

Rear Panel



1. RJ45 – TCP/IP control (Connect to LAN)
2. RS232 port – Connect to this port for the control of the matrix from a computer or control processor.
3. IR inputs 3 to 8 – 3.5mm stereo jack (IR sensor or control processor input) to send IR out to corresponding zones HDBT IR Tx port to control the zones TV.
4. IR outputs 1 to 8 – 3.5mm stereo jack for routed IR emitter outputs for discrete source control from sensors located in the zones and connected to Bluestream HDBT receiver Rx (IR Rx "input" port). This output routing is determined by what source is selected in a zone.
5. IR extension receiver input – 3.5mm stereo plug input for connection of a remote IR sensor or control processor for remote IR control over the matrix.
6. EDID DIP switch – Used for global EDID settings
7. POH power port – Use included 24V/6.25A DC adaptor to power the remote receivers.
8. Power port – Use included 12V/6.25A DC adaptor to power the matrix switcher.
9. HDMI inputs 1 to 8 – Connect HDMI sources.
10. HDMI outputs 1 to 2 – Output for displays.
11. HDBT outputs 3 to 8 – Output for displays.

EDID Control

EDID (Extended Display Identification Data) is a data structure that is used between a display and a source. This data is used by the source to find out what audio and video resolutions are supported by the display then from this information the source will determine what the best audio and video resolutions need to be outputted.

While the objective of EDID is to make connecting a digital display to a source a simple plug and play procedure issues do arise when multiple displays or video matrix switching is introduced because of the increased number of variables.

By pre-determining the video resolution and audio format of the source and display device you can reduce the time need for EDID hand shaking thus making switching quicker and more reliable. Instructions on these setting can be found on the right

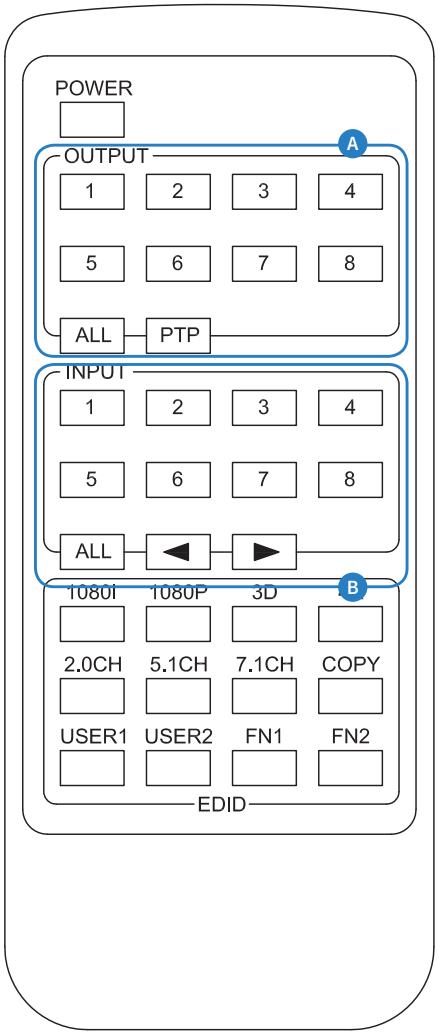
EDID content options

INPUT	VIDEO	AUDIO	NOTE
IN1	1080I	2.0CH.	
IN2	1080P	5.1CH	
IN3	3D	7.1CH	
IN4	4K2K	NONE	
IN5	D1024		D1024=DVI 1024 x 768
IN6	D1080		D1080=DVI 1920 x 1080
IN7	D1200		D1200=DVI 1920 x 1200
IN8	OUT1		OUT1=Copy OUTPUT1 EDID to INPUTx
ALL	OUT2		ALL=Set EDID to ALL INPUTs OUT2=Copy OUTPUT2 EDID to INPUTx
	OUT3		OUT3=Copy OUTPUT3 EDID to INPUTx
	OUT4		OUT4=Copy OUTPUT4 EDID to INPUTx
	OUT5		OUT5=Copy OUTPUT5 EDID to INPUTx
	OUT6		OUT6=Copy OUTPUT6 EDID to INPUTx
	OUT7		OUT7=Copy OUTPUT7 EDID to INPUTx
	OUT8		OUT8=Copy OUTPUT8 EDID to INPUTx

Global EDID settings

DIP ON ▼/OFF▲ SWITCHING POSITIONS				
1	2	3	4	EDID TYPE
OFF	OFF	ON	OFF	1080p 3D/2.0
OFF	ON	OFF	OFF	1080p/2.0
OFF	ON	ON	OFF	1080i/2.0
ON	OFF	OFF	OFF	1080p/5.1
ON	OFF	ON	OFF	1080p/7.1
ON	ON	OFF	OFF	4K
OFF	OFF	OFF	OFF	Copy sink EDID

Remote Control Description



OUTPUT AND INPUT SELECTION

A Select the zone OUTPUT you wish to change the source on (Numbers 1-8 correspond to the zone outputs 1-8)

B Select the source INPUT you wish to change on the selected zone to (Numbers 1-8 corre-sponds to the source inputs 1-8)

EXAMPLE

To switch source 2 to zone 8 you would press 8 in the Output box (A) followed by 2 in the input box (B)

ALL button: The all button selects all the inputs or outputs in its corresponding box. Example: (The "All" button in the Output box selects all the zones so all zones will change when a source is selected)

PTP: This button will align all the zone outputs with the like numbered source input. Example: Input 1 to output 1, input 2 to output 2, etc

NOTE: *EDID Set Up from remote control is not available for HMXL88*

Specifications

Video Input Connectors: 8x HDMI Type A, 19-pin, female, locking

Video Output Connectors: 8x HDBaseT™ RJ45 connector

RS-232 Serial Port: DB-9, female

TCP/IP Control: RJ45, female

IR Input Ports: 9x 3.5mm stereo jack

IR Output Ports: 8x 3.5mm mono jack

Rack-Mountable: 1U rack height, rack ears included

Dimensions (WxDxH): 428x300x-43mm, without feet

Shipping Weight: 2.7kg

Operating Temperature: 32°F to 104°F (0°C to 40°C)

Storage Temperature: -4°F to 140°F (-20°C to 60°C)

Power Supply: 12V/6.25A DC, screw type connector

Compatible with (HDBaseT™ receivers): HEX70B-RX, HEX70ED-RX (where RS-232 pass thru is required), RX70AMP (where audio breakout is required within the zone)

NOTE: *Specifications are subject to change without notice. Weight and dimensions are approximate.*

Package Contents:

- 1 x HMXL88
- 1 x Rack mounting kit
- 1 x 24V/6.25A power supply
- 1 x 12V/6.25A power supply
- 1 x Remote control
- 1 x IR receiver
- 6 x IR control cables - 3.5mm-3.5mm cable
- 8 x IR emitters
- 1 x User manual

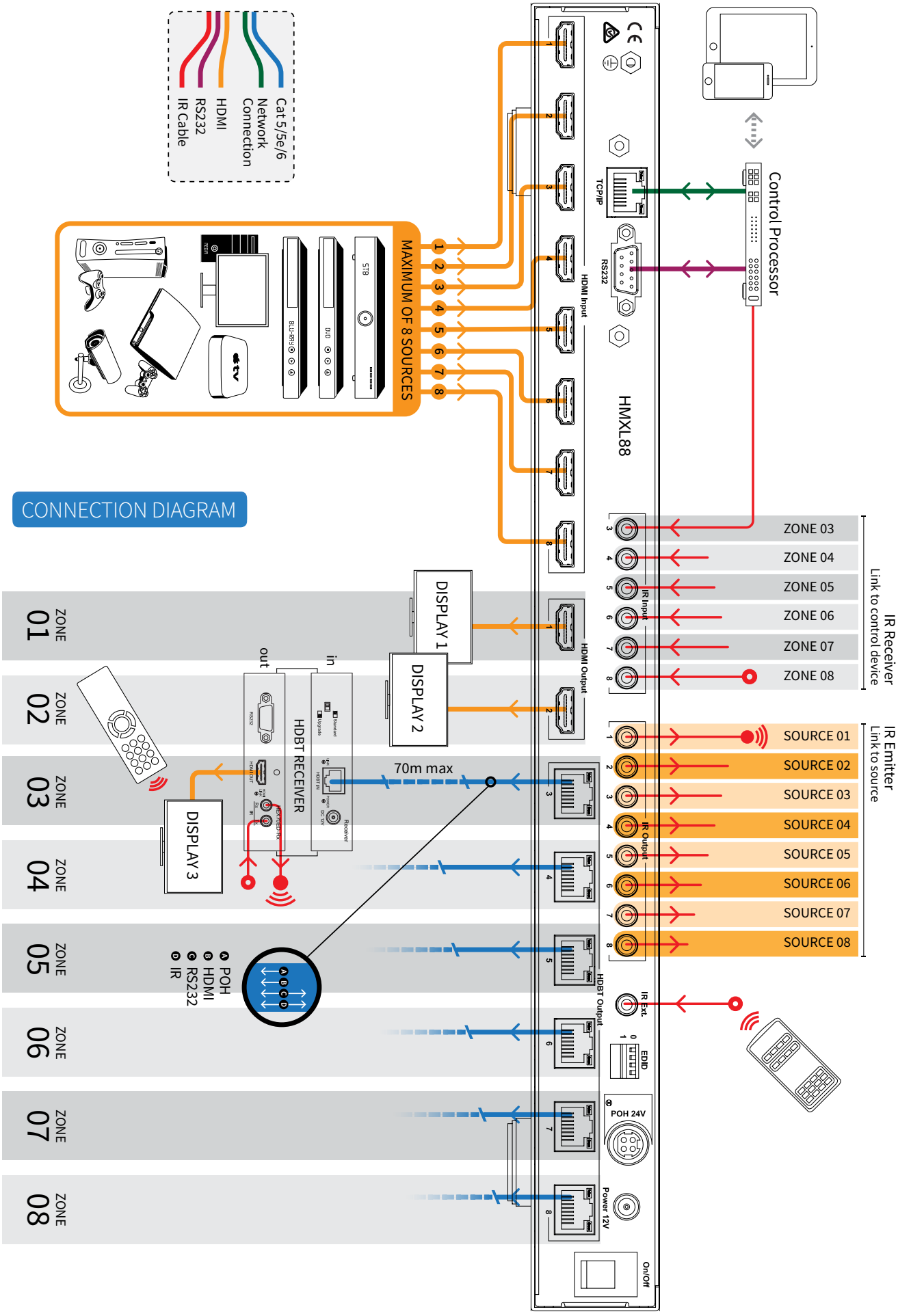
RS232 Pin Assignment

MT0404-QFI		REMOTE CONTROL CONSOLE	
PIN	Assignment	PIN	Assignment
1	NC	1	NC
2	Tx	2	Rx
3	Rx	3	Tx
4	NC	4	NC
5	GND	5	GND
6	NC	6	NC
7	NC	7	NC
8	NC	8	NC
9	NC	9	NC

Baud Rate: 57600 bps
Data Bit: 8-bit
Parity: None
Stop Bit: 1-bit
Flow Control: None

Maintenance

Clean this unit with a soft, dry cloth. Never use alcohol, paint thinner or benzene to clean this unit.


CONNECTION DIAGRAM
Cat 5/5e/6
Network
Connection
HDMI
RS232
IR Cable
MAXIMUM OF 8 SOURCES
HMXL88
Control Processor
TCP/IP
RS232
HDMI Input
HDMI Output
IR Input
IR Output
IR Receiver
Link to control device
IR Emitter
Link to source
ZONE 03
ZONE 04
ZONE 05
ZONE 06
ZONE 07
ZONE 08
SOURCE 01
SOURCE 02
SOURCE 03
SOURCE 04
SOURCE 05
SOURCE 06
SOURCE 07
SOURCE 08
DISPLAY 1
DISPLAY 2
DISPLAY 3
HDBT RECEIVER
70m max
HDBT Output
IR Ext.
EDID
POH 24V
Power 12V
On/Off
A POH
B HDMI
C RS232
D IR
ZONE 01
ZONE 02
ZONE 03
ZONE 04
ZONE 05
ZONE 06
ZONE 07
ZONE 08

RS232 and Telnet Commands

NO.	COMAND	ACTION
1	?	Print Help Information
2	HELP	Print Help Information
3	STATUS	Print System Status And Port Status
4	PON	Power On, System Run On Normal State
5	POFF	Power Off, System Run On Power Save State
6	IR ON/OFF	Set System IR Control On Or Off
7	KEY ON/OFF	Set System KEY Control On Or Off
8	APM ON/OFF	Set Advanced Process Mode On Or Off
9	RESET	Reset System To Default Setting, (Should Type \"Yes\" To Confirm, \"No\" To Dis-card)
10	OUT xx ON/OFF	Set OUTPUT:xx On Or Off, xx=[01...04]
	OUT 01 ON/OFF	Set OUTPUT 1 ON or OFF
	OUT 02 ON/OFF	Set OUTPUT 2 ON or OFF
	OUT 03 ON/OFF	Set OUTPUT 3 ON or OFF
	OUT 04 ON/OFF	Set OUTPUT 4 ON or OFF
	OUT 05 ON/OFF	Set OUTPUT 5 ON or OFF
	OUT 06 ON/OFF	Set OUTPUT 6 ON or OFF
	OUT 07 ON/OFF	Set OUTPUT 7 ON or OFF
	OUT 08 ON/OFF	Set OUTPUT 8 ON or OFF
11	OUT xx FR yy	Set OUTPUT:xx From INPUT:yy, xx=00: Select All OUTPUT Port,xx=[01...08]: Select One OUTPUT Port,yy=[01...08]: Select One INPUT Port
	OUT 01 FR 01	OUTPUT 1 to INPUT 1
	OUT 01 FR 02	OUTPUT 1 to INPUT 2
	OUT 01 FR 03	OUTPUT 1 to INPUT 3
	OUT 01 FR 04	OUTPUT 1 to INPUT 4
	OUT 01 FR 05	OUTPUT 1 to INPUT 5
	OUT 01 FR 06	OUTPUT 1 to INPUT 6
	OUT 01 FR 07	OUTPUT 1 to INPUT 7
	OUT 01 FR 08	OUTPUT 1 to INPUT 8
	OUT 02 FR 01	OUTPUT 2 to INPUT 1
	OUT 02 FR 02	OUTPUT 2 to INPUT 2
	OUT 02 FR 03	OUTPUT 2 to INPUT 3
	OUT 02 FR 04	OUTPUT 2 to INPUT 4
	OUT 02 FR 05	OUTPUT 2 to INPUT 5
	OUT 02 FR 06	OUTPUT 2 to INPUT 6
	OUT 02 FR 07	OUTPUT 2 to INPUT 7
	OUT 02 FR 08	OUTPUT 2 to INPUT 8
	OUT 03 FR 01	OUTPUT 3 to INPUT 1
	OUT 03 FR 02	OUTPUT 3 to INPUT 2
	OUT 03 FR 03	OUTPUT 3 to INPUT 3
	OUT 03 FR 04	OUTPUT 3 to INPUT 4
	OUT 03 FR 05	OUTPUT 3 to INPUT 5
11	OUT 03 FR 06	OUTPUT 3 to INPUT 6
	OUT 03 FR 07	OUTPUT 3 to INPUT 7
	OUT 03 FR 08	OUTPUT 3 to INPUT 8
	OUT 04 FR 01	OUTPUT 4 to INPUT 1
	OUT 04 FR 02	OUTPUT 4 to INPUT 2
	OUT 04 FR 03	OUTPUT 4 to INPUT 3
	OUT 04 FR 04	OUTPUT 4 to INPUT 4
	OUT 04 FR 05	OUTPUT 4 to INPUT 5
	OUT 04 FR 06	OUTPUT 4 to INPUT 6
	OUT 04 FR 07	OUTPUT 4 to INPUT 7
	OUT 04 FR 08	OUTPUT 4 to INPUT 8
	OUT 05 FR 01	OUTPUT 5 to INPUT 1
	OUT 05 FR 02	OUTPUT 5 to INPUT 2
	OUT 05 FR 03	OUTPUT 5 to INPUT 3
	OUT 05 FR 04	OUTPUT 5 to INPUT 4
	OUT 05 FR 05	OUTPUT 5 to INPUT 5
	OUT 05 FR 06	OUTPUT 5 to INPUT 6
	OUT 05 FR 07	OUTPUT 5 to INPUT 7
	OUT 05 FR 08	OUTPUT 5 to INPUT 8
	OUT 06 FR 01	OUTPUT 6 to INPUT 1
	OUT 06 FR 02	OUTPUT 6 to INPUT 2
	OUT 06 FR 03	OUTPUT 6 to INPUT 3
	OUT 06 FR 04	OUTPUT 6 to INPUT 4
	OUT 06 FR 05	OUTPUT 6 to INPUT 5
	OUT 06 FR 06	OUTPUT 6 to INPUT 6
	OUT 06 FR 07	OUTPUT 6 to INPUT 7
	OUT 06 FR 08	OUTPUT 6 to INPUT 8
	OUT 07 FR 01	OUTPUT 7 to INPUT 1
	OUT 07 FR 02	OUTPUT 7 to INPUT 2
	OUT 07 FR 03	OUTPUT 7 to INPUT 3
	OUT 07 FR 04	OUTPUT 7 to INPUT 4
	OUT 07 FR 05	OUTPUT 7 to INPUT 5
	OUT 07 FR 06	OUTPUT 7 to INPUT 6
	OUT 07 FR 07	OUTPUT 7 to INPUT 7
	OUT 07 FR 08	OUTPUT 7 to INPUT 8
	OUT 08 FR 01	OUTPUT 8 to INPUT 1
	OUT 08 FR 02	OUTPUT 8 to INPUT 2
	OUT 08 FR 03	OUTPUT 8 to INPUT 3
	OUT 08 FR 04	OUTPUT 8 to INPUT 4
	OUT 08 FR 05	OUTPUT 8 to INPUT 5
	OUT 08 FR 06	OUTPUT 8 to INPUT 6
	OUT 08 FR 07	OUTPUT 8 to INPUT 7
	OUT 08 FR 08	OUTPUT 8 to INPUT 8

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