B-500-MTRX-230 HDBaseT Matrix Switchers

Overview

The following information will guide the installer through simple set up and programming for serial control of a B-500-MTRX-230 HDBaseT Matrix Switchers.

Please read the entire document before any RS-232 setup.

If you have any questions about serial control after reading this document, please contact SnapAV: Technical Support.

Contacting Technical Support

Phone: (866) 838-5052   (704) 909-5229

Email: TechSupport@SnapAV.com

Before Beginning

Make sure the following items are close at hand for setup:

- B-500-MTRX-230 Matrix Switcher

- Automation system with serial output

- Automation system documentation

- B-500-MTRX-230 Owner's Manual

- Serial cables and adapters for connection between controller and matrix

- List of the functions to program into the automation system

- Knowledge of this document and the automation system being used.

Firmware Version

The information contained in this document is intended for switchers with the latest version of firmware. Please verify that you have the latest version of firmware for each switcher in the system.

If the firmware version of the switcher is below the version listed here, it is recommended that it is updated.

Firmware Version: 1.0.0

Determining Firmware Version

To determine the firmware of the switcher use the programming software available on the SnapAV site.

RS232 Port Configuration

The Binary™ HDBaseT Matrix Switcher receives control data on pin 2 (Rxd – Data Receive) and transmits control data on pin 3 (TxD - Data Transmit) of the DB9 serial port at the back of the switcher. The connection cable between the switcher and the automation system will need to be configured so that pin2 (RxD) on the HD MATRIX is connected to the Automation Systems Txd pin, and pin3 (TxD) on the HD MATRIX is connected to the Automation Systems Rxd (Receive Data) pin. See below for details.

Configuration for the Automation System control ports can vary. Refer to the documentation for the automation system you are using to ensure proper connection and configuration.

DB9 Female Connection

RxD (Data Receive)
TxD (Data Transmit)
GND
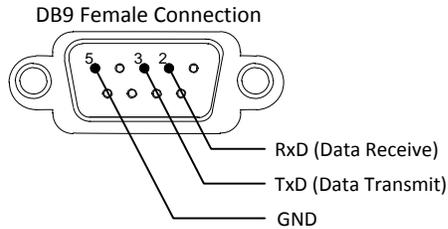
Pin	Function
2	RxD (Data Receive)
3	TxD (Data Transmit)
5	GND

In addition to the RS232 DB9, the 8x8,8x16, and 16x16 switchers add an Ethernet port that can be used to control the device using Telnet Protocol. This port follows 568 A/B standards, please refer to these standards when creating wiring.

Serial Communications Format

Set the serial communications to the following format on the automation system control port.

Baud Rate :   9600 bps
Data Bit :   8 bits
Parity :   None
Stop Bit :   1 bit

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Output/Input Commands

The commands for the switcher are sent and received in ASCII format. With a few exceptions, the commands for control and feedback are the output and input being controlled.

Direct Output/Input Selection

```
01   03  <CR>
              └── End Character
         └── Input (2 digits)
    └── Output (2 Digits)
```
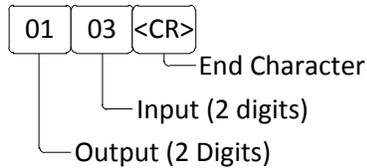
Example	Command	Response
Select Input 3 on Output 1	0103<CR>	o01i03
Select Input 2 on Output 3	0302<CR>	o03i02

Note: Command structure must be Output followed by Input.

Next/Previous Input Selection

```
01   +   <CR>
              └── End Character
         └── Command (+ =Next / - =Previous)
    └── Output (2 digits)
```
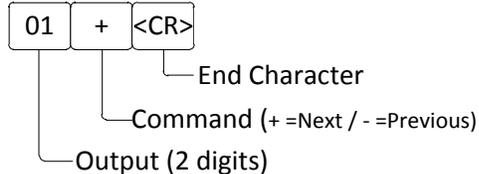
Example	Command	Response
Select the next Input on Output 1	01+<CR>	o01i04
Select the Previous Input on Output 1	01-<CR>	o01i03

Turn Outputs On and Off

```
01   00  <CR>
              └── End Character
         └── Command (L=On / 00=Off)
    └── Output (2 digits)
```
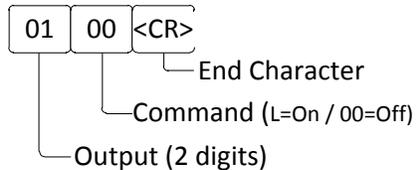
Operation	Command	Example Response
Turn Output 1 Off	0100<CR>	o01i00
Turn Output 1 On	01L<CR>	o01i03

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Turn Switcher On or Off

00	<CR>

— End Character

— Command (01=On / 00=Off)
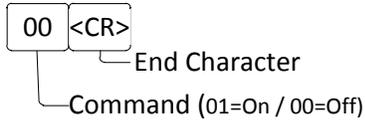
Operation	Command	Example Status
System On	01<CR>	p01
System Off	00<CR>	p00

Output/Input Command Response

Whenever a serial or IR command is sent, a string identifying the state of the switcher is returned. At the end of response line the system sends a <CR> and <LF>.

Output/Input Status

o	01	i	03	<CR>	<LF>

— Line Feed

— Carriage Return

— Input (2 Digits)

— Identifier (i=Input)

— Output (2 Digits)

— Identifier (o=Output)
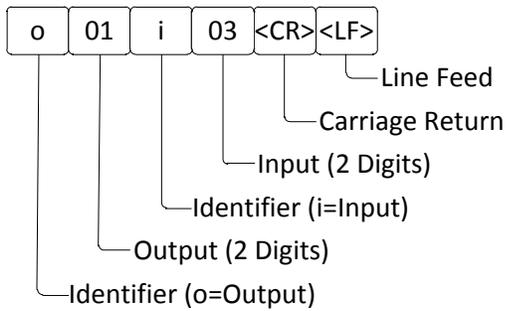
Status Commands

Input to Output Mapping

Command	Function
STMAP	Request Input to Output Mapping

Response

o	01	i	03	<CR>	<LF>

- Line Feed
- Carriage Return
- Input (2 Digits)
- Identifier (i=Input)
- Output (2 Digits)
- Identifier (o=Output)
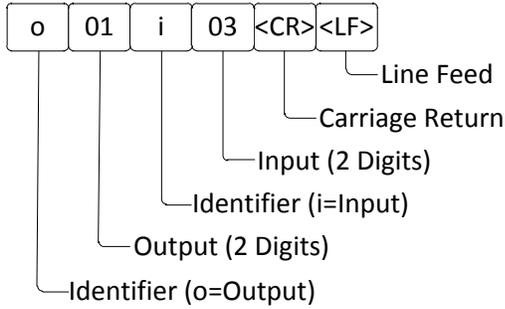
When returned the response will list all outputs and their associated input for the available number on inputs on the switcher.

4x4 Switcher Example	8x8 Switcher Example	8x16/16x16 Switcher Example
o01i01	o01i01	o01i01
o02i02	o02i02	o02i02
o03i03	o03i03	o03i03
o04i04	o04i04	o04i04
	o05i05	o05i05
	o06i06	o06i06
	o07i07	o07i07
	o08i08	o08i08
		o09i02
		o10i03
		o11i05
		o12i01
		o13i01
		o14i0
		o15i05
		o16i08

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Firmware Version

Command	Function
VR	Request Firmware Version

Response

FW: B100. 4x4. 0.00.1 ─── Firmware Version
───── Product Model (4x4 or 8x8)
───── Product Series (B100 or B300)
───── Identifier (FW=Firmware)
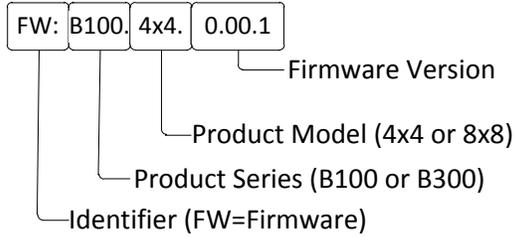
Example
FW:B100.4x4.0.00.1

IP Address (8x8 Only)

Command	Function
IP	Request IP Address

Response

192.168.1.21 ─── IP Address (8x8 Only)

Example
192.168.1.21

Factory Defaults

Command	Function
FASET	Reset Switcher to Factory Settings

Response

Set to Default Value ─── Factory Setting
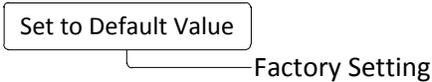
Example
Set to Factory Value

Factory Values:

EDIDs: 1080p 24 bit, 2ch Stereo (embedded EDID #2)

I/O: All Outputs set to Input 1

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