

# OMEGA™

## 4x2 Matrix Switcher with USB Hub and HDBaseT Input

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Application Programming Interface  
1.0

## Version Information

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Version	Release Date	Notes
1	Jun 2024	Initial release

# Introduction

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## General

This document provides an alphabetical list of commands available for AT-OME-MS42-HDBT. Commands are case-sensitive. If the command fails or is entered incorrectly, then the feedback is “Command FAILED”. Commands can be sent using RS-232, Telnet, SSH, or TCP. There should be a 500 millisecond delay between each command sent to the unit. The default port for Telnet is 23. TCP ports are 9000, 9001, 9002, and 9003.



**IMPORTANT:** Each command is terminated with a carriage-return (0x0d) and the feedback is terminated with a carriage-return and line-feed (0x0a).

## Ports

This product can communicate directly with local and remote RS-232 (over HDBaseT) ports using a direct TCP socket connection. The default port assignment is from left-to-right, viewed from the rear panel. Refer to the table below for the port assignment for this product. For ports connected to RS-232 interfaces, no additional payload is required to transmit data to the device. All data sent to the respective TCP port will be sent bit-for-bit to the RS-232 output. Note that if feedback is required from the RS-232 device, the TCP socket must be kept open. This product does not provide buffer or queuing registers. Therefore, any data from the RS-232 port that is received while the TCP socket connection is closed, will be lost.

Port	Description
9000	MCU (similar to Telnet)
9001	HDBaseT Input
9002	HDBaseT Output
9003	Local RS-232

### Example:

With the device IP address of 192.168.1.100 and a PJLINK projector connected to the RS-232 of the HDBaseT output.

1. Open a TCP socket to 192.168.1.100:9002 and send the following command string:

```
%1POWR 1\x0D
```

2. The projector will respond with the following, using the same socket connection:

```
$1POWR=OK\x0D
```

## RS-232

A 3-pin captive screw connector is included for RS-232, and should be wired as shown. Refer to the *AT-OME-MS42-HDBT User Manual* for details on RS-232 control.



**NOTE:** Typical DB9 connectors use pin 2 for TX, pin 3 for RX, and pin 5 for ground. On some devices functions of pins 2 and 3 are reversed.

The table below lists the default RS-232 settings for **RS-232**, **HDBaseT IN**, and **HDBaseT OUT** ports.

Default RS-232 Settings	
Baud rate	115200
Parity	N
Data bits	8
Stop bits	1

## Commands

Command	Description
Blink	Enables or disables blinking of the <b>POWER</b> button on the front panel.
DispBtn	Simulates pressing the DISPLAY button on the front panel.
help	Displays a list of available help commands.
InputStatus	Displays the status for each input.
IP802.1x	Sets the security authentication type.
IPCFG	Displays IP address configuration.
IPDHCP	Turns DHCP on / off.
IPStatic	Sets a static IP address.
Lock	Locks the buttons on the front panel.
LRAUD	Enables or disables the analog audio output.
Mreset	Sets the unit back to default settings.
OutHdmi5vKeep	sets the +5V pin on the <b>HDMI OUT</b> port to the desired setting.
PWOFF	Execute this command to power-off the unit.
PWON	Execute this command to power-on the unit.
PWSTA	Displays the power state of the unit.
Reboot	Performs a soft reboot of the AT-OME-MS42-HDBT.
RS232zone	Triggers the unit to send the RS-232 command to the display connected to the HDBaseT receiver's RS-232 port.
Status	Displays the routing state of the unit.
Type	Displays the model of the unit.
Unlock	Unlocks the buttons on the front panel.
USBHostLogic	Sets the USB mode of the unit.
USBHostRoute	Sets the routing state of the USB host.
UsbVbusControl	Toggle the setting for the USB Vbus.
Version	Displays the current firmware version of the unit.
VOUTMute	Mutes the output volume for the specified output.
xY\$	Mutes/Unmutes AV signals for the specified output channel.
xYAVxZ	Switches the specified input to the specified output.

### Blink

Enables or disables blinking of the **POWER** LED indicator on the front panel. When set to on, the **POWER** indicator will flash blue, and can be used to physically identify the unit on a network. The **POWER** indicator will flash until the Blink off command is executed or the unit is rebooted. on = enables blinking; off = disables blinking; sta = displays the current setting. The default setting is off.

#### Syntax

```
Blink X
```

Parameter	Description	Range
X	Value	on, off, sta

#### Example

```
Blink on
```

#### Feedback

```
Blink on
```

### DispBtn

This command emulates pressing the **DISPLAY** button on the front panel. This command can perform different functions, depending on which value it is assigned.

#### Syntax

```
DispBtn X
```

Parameter	Description	Range
X	State	on, off, tog, sta

#### Example

```
DispBtn on
```

#### Feedback

```
DispBtn on
```

### help

Displays the list of available commands. To obtain help on a specific command, enter the **help** command followed by the name of the command.

#### Syntax

```
help [X]
```

Parameter	Description	Range
X	Command name (optional)	Command

#### Example

```
help
```

#### Feedback

```
Blink
DispBtn
System
IPCFG
IPStatic
...
...
...
```

### InputStatus

Displays the status of the inputs as either a 0 or 1. If a source is detected on the input, then a 1 will be displayed. Inputs with no source connected will display a 0.

#### Syntax

```
InputStatus
```

**This command does not require any parameters**

#### Example

```
InputStatus
```

#### Feedback

```
InputStatus 0100
```

### IP802.1x

Sets the security setting for use with RADIUS server authentication. Use the `sta` argument to display the current setting.

#### Syntax

```
IP802.1x X
```

Parameter	Description	Range
X	Security setting	disable, PEAP, TTLS, TLS, sta

#### Example

```
IP802.1x TTLS
```

#### Feedback

```
IP802.1x TTLS
```

### IPCFG

Displays the current network settings for the unit.

#### Syntax

```
IPCFG
```

**This command does not require any parameters**

#### Example

```
IPCFG
```

#### Feedback

```
IP Addr:    10.0.1.101
Netmask:    255.255.255.0
Gateway:    10.0.1.1
Telnet Port: 23
```

### IPDHCP

Enables or disables DHCP mode on the unit. `on` = enables DHCP mode; `off` = disables DHCP and sets the unit to the defined Static IP mode; `sta` = displays the current setting. A static IP address must be configured for the unit first before disabling DHCP. Refer to the [IPStatic](#) command for more information.

#### Syntax

```
IPDHCP X
```

Parameter	Description	Range
X	Value	on, off, sta

#### Example

```
IPDHCP on
```

#### Feedback

```
IPDHCP on
```



### IPStatic

Sets the static IP address, subnet mask, and gateway (router) address of the unit. Before using this command, DHCP must be disabled on the unit. Refer to the **IPDHCP** command for more information. Each argument must be entered in dot-decimal notation and separated by a space. The default static IP address is 192.168.1.254.

#### Syntax

```
IPStatic X Y Z
```

Parameter	Description	Range
X	IP address	0 ... 255 (per byte)
Y	Subnet mask	0 ... 255 (per byte)
Z	Gateway (router)	0 ... 255 (per byte)

#### Example

```
IPStatic 192.168.1.112 255.255.255.0 192.168.1.1
```

#### Feedback

```
IPStatic 192.168.1.112 255.255.255.0 192.168.1.1
```

### Lock

Locks the buttons on the front panel. This feature is useful when the unit is installed in a rack environment or other remote location, to prevent unauthorized tampering or accidental pressing of the front-panel buttons. Also refer to the **Unlock** command.

#### Syntax

```
Lock
```

**This command does not require any parameters**

#### Example

```
Lock
```

#### Feedback

```
Lock
```

### LRAUD

Enables or disables the analog audio output.

#### Syntax

```
LRAUD X
```

Parameter	Description	Range
X	State	on, off, sta

#### Example

```
LRAUD on
```

#### Feedback

```
LRAUD on
```

### Mreset

Resets the unit to factory-default settings.

#### Syntax

```
Mreset
```

This command does not require any parameters

#### Example

```
Mreset
```

#### Feedback

```
Mreset
```

### OutHdmi5vKeep

This option sets the +5V pin on the **HDMI OUT** port to the desired setting. This feature allows a display to go to sleep when there is no signal present. It's also used for VTC codecs that need to see a change in HDMI +5V in order to change modes. If faster switching times are desired, then this should be set to on. Use the sta argument to fetch the current setting.

#### Syntax

```
OutHdmi5vKeep X
```

Parameter	Description	Range
X	Value	on, off, sta

#### Example

```
OutHdmi5vKeep on
```

#### Feedback

```
OutHdmi5vKeep on
```

### PWOFF

Executing this command will power-off the unit. Execute the **PWON** command to power-on the unit.

#### Syntax

```
PWOFF
```

This command does not require any parameters

#### Example

```
PWOFF
```

#### Feedback

```
PWOFF
```

### PWON

Executing this command will power-on the unit. Use the **PWOFF** command to power-off the unit.

Syntax
PWON

This command does not require any parameters

**Example**

PWON

**Feedback**

PWON

### PWSTA

Displays the current power state of the unit.

Syntax
PWSTA

This command does not require any parameters

**Example**

PWSTA

**Feedback**

PWON

### Reboot

Performs a soft reboot of the AT-OME-MS42-HDBT. All system settings are preserved.

Syntax
Reboot

This command does not require any parameters

**Example**

Reboot

**Feedback**

Reboot

### RS232zone

Sends commands to the HDBaseT device. Refer to the User Manual of the display device for a list of available commands. Brackets must be used when specifying the command argument. Note that this command has been deprecated and is for legacy use. It is recommended to use the TCP socket functionality, under [Ports \(page 3\)](#).

#### Syntax

```
RS232zone[X]
```

Parameter	Description	Range
X	Command	String

#### Example

```
RS232zone[test]
```

#### Feedback

```
RS232zone[test]
```

### Status

Displays which input is routed to which output. Refer to the [xYAVxZ](#) command for more information.

#### Syntax

```
Status
```

**This command does not require any parameters**

#### Example

```
Status
```

#### Feedback

```
x2AVx1,x2AVx2
```

### Type

Displays the model information of the unit.

#### Syntax

```
Type
```

**This command does not require any parameters**

#### Example

```
Type
```

#### Feedback

```
AT-OME-MS42-HDBT
```

### Unlock

Unlocks the buttons on the front panel. Also refer to the [Lock](#) command.

#### Syntax

```
Unlock
```

This command does not require any parameters

#### Example

```
Unlock
```

#### Feedback

```
Unlock
```

### USBHostLogic

Sets the USB mode for the AT-OME-MS42-HDBT. Use the `sta` argument to display the current setting.

#### Syntax

```
USBHostLogic X
```

Parameter	Description	Range
X	Mode	follow usb, follow video, manual, sta

#### Example

```
USBHostLogic follow video
```

#### Feedback

```
USBHostLogic follow video
```

### USBHostRoute

Sets the routing state of the USB host. C = USB-C port, 1 = USB Host 1, 2 = USB Host 2, 3 = remote USB host connected over HDBaseT IN, 4 = remote USB host connected over HDBaseT OUT. Use the `sta` argument to display the current setting.

#### Syntax

```
USBHostRoute X
```

Parameter	Description	Range
X	Port	C, 1...4, sta

#### Example

```
USBHostRoute C
```

#### Feedback

```
USBHostRoute C
```

### UsbVbusControl

This feature provides the ability to toggle the USB Vbus. This allows the USB hub port to always provide power or follow the presence of the connected USB host. Use the sta argument to display the current setting.

#### Syntax

```
UsbVbusControl X
```

Parameter	Description	Range
X	State	on, off, sta

#### Example

```
UsbVbusControl on
```

#### Feedback

```
UsbVbusControl on
```

### Version

Displays the current firmware version of the unit.

#### Syntax

```
Version
```

**This command does not require any parameters**

#### Example

```
Version
```

#### Feedback

```
1.0.05
```

### VOUtmute

Mutes / unmutes the output volume for the specified output. The first argument references the output: 1 = HDMI, 2 = HDBaseT. Do not include a space between the command and the first argument. Use the sta argument to display the current setting.

#### Syntax

```
VOUtmuteX Y
```

Parameter	Description	Range
X	Output	1, 2
Y	State	on, off, sta

#### Example

```
VOUtmute2 off
```

#### Feedback

```
VOUtmute2 off
```

### xY\$

Enables / disables video for the specified output. The first argument references the output: 1 = HDMI, 2 = HDBaseT. The second argument enables or disables the video output. on = enable video; off = disable video. Use the sta argument to display the current setting.

#### Syntax

```
xY$ Z
```

Parameter	Description	Range
Y	Output	1, 2
Z	State	on, off, sta

#### Example

```
x2$ off
```

#### Feedback

```
x2$ off
```

### xYAVxZ

Switches the specified input to the specified output. The first argument references the input: 1 = USB-C, 2 = DisplayPort, 3 = HDMI 1, and 4 = HDMI 2. If the system is in matrix mode, then 1 or 2 can be specified as output flags.

#### Syntax

```
xYAVxZ
```

Parameter	Description	Range
Y	Input	1 ... 4
Z	Output	1, 2

#### Example

```
x3AVx1
```

#### Feedback

```
x3AVx1, x3AVx2
```

