Omega
4x2 Matrix Switcher with USB
Application Programming Interface 1.0
## Version Information

<table>
<thead>
<tr>
<th>Version</th>
<th>Release Date</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Oct 2019</td>
<td>Initial release</td>
</tr>
</tbody>
</table>
Introduction

General

This document provides an alphabetical list of commands available for AT-OME-MS42. 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 and 9001.

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.

<table>
<thead>
<tr>
<th>Port</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>9000</td>
<td>MCU (similar to Telnet)</td>
</tr>
<tr>
<td>9001</td>
<td>HDBaseT RS-232 port</td>
</tr>
<tr>
<td>9002</td>
<td>Local RS-232 port</td>
</tr>
</tbody>
</table>

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 192.168.1.100:9001 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
## Commands

<table>
<thead>
<tr>
<th>Command</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blink</td>
<td>Enables or disables blinking of the <strong>POWER</strong> button on the front panel</td>
</tr>
<tr>
<td>DispBtn</td>
<td>Simulates pressing the DISPLAY button on the front panel</td>
</tr>
<tr>
<td>help</td>
<td>Displays a list of available help commands</td>
</tr>
<tr>
<td>InputStatus</td>
<td>Displays the status for each input</td>
</tr>
<tr>
<td>IP802.1x</td>
<td>Sets the security authentication type</td>
</tr>
<tr>
<td>IPCFG</td>
<td>Displays IP address configuration</td>
</tr>
<tr>
<td>IPDHCP</td>
<td>Turns DHCP on / off</td>
</tr>
<tr>
<td>IPStatic</td>
<td>Sets a static IP address</td>
</tr>
<tr>
<td>Lock</td>
<td>Locks the buttons on the front panel</td>
</tr>
<tr>
<td>LRAUD</td>
<td>Enables or disables the analog audio output</td>
</tr>
<tr>
<td>Mreset</td>
<td>Sets the unit back to default settings</td>
</tr>
<tr>
<td>PWOFF</td>
<td>Execute this command to power-off the unit</td>
</tr>
<tr>
<td>PWON</td>
<td>Execute this command to power-on the unit</td>
</tr>
<tr>
<td>PWSTA</td>
<td>Displays the power state of the unit</td>
</tr>
<tr>
<td>RepCmdTime</td>
<td>Sets the number of times a command is repeated</td>
</tr>
<tr>
<td>RepeatCmd</td>
<td>Enables or disabled the RepCmdTime feature</td>
</tr>
<tr>
<td>RS232zone</td>
<td>Triggers the unit to send the RS-232 command to the display connected to the HDBaseT receiver's RS-232 port</td>
</tr>
<tr>
<td>Status</td>
<td>Displays the routing state of the unit</td>
</tr>
<tr>
<td>Type</td>
<td>Displays the model of the unit</td>
</tr>
<tr>
<td>Unlock</td>
<td>Unlocks the buttons on the front panel</td>
</tr>
<tr>
<td>USBHostLogic</td>
<td>Sets the USB mode of the unit</td>
</tr>
<tr>
<td>USBHostRoute</td>
<td>Sets the routing state of the USB host</td>
</tr>
<tr>
<td>Version</td>
<td>Displays the current firmware version of the unit</td>
</tr>
<tr>
<td>VOUTMute</td>
<td>Mutes the output volume for the specified output</td>
</tr>
<tr>
<td>xY$</td>
<td>Mutes/Unmutes AV signals for the specified output channel</td>
</tr>
<tr>
<td>xYAVxZ</td>
<td>Switches the specified input to the specified output</td>
</tr>
</tbody>
</table>
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.

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Blink X</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Value</td>
<td>on, off, sta</td>
</tr>
</tbody>
</table>

**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.

<table>
<thead>
<tr>
<th>Syntax</th>
<th>DispBtn X</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>State</td>
<td>on, off, tog, sta</td>
</tr>
</tbody>
</table>

**Example**
DispBtn on

**Feedback**
DispBtn on
Commands

**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]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Command name (optional)</td>
<td>Command</td>
</tr>
</tbody>
</table>

**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
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Security setting</td>
<td>disable, PEAP, TTLS, TLS, sta</td>
</tr>
</tbody>
</table>

**Example**

```
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 mode; sta = displays the current setting. If this feature is disabled, then a static IP address must be specified for the unit. Refer to the IPStatic command for more information.

**Syntax**

```
IPDHCP X
```

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Value</td>
<td>on, off, sta</td>
</tr>
</tbody>
</table>

**Example**

```
IPDHCP on
```

**Feedback**

```
IPDHCP on
```
Commands

**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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>IP address</td>
<td>0 ... 255 (per byte)</td>
</tr>
<tr>
<td>Y</td>
<td>Subnet mask</td>
<td>0 ... 255 (per byte)</td>
</tr>
<tr>
<td>Z</td>
<td>Gateway (router)</td>
<td>0 ... 255 (per byte)</td>
</tr>
</tbody>
</table>

**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

**Example**
Lock

**Feedback**
Lock

**This command does not require any parameters**

**LRAUD**
Enables or disables the analog audio input.

**Syntax**
LRAUD

**Parameter** | **Description** | **Range**
---|---|---
X | State | on, off, sta

**Example**
LRAUD on

**Feedback**
LRAUD on
**Commands**

**Mreset**
Resets the unit to factory-default settings.

**Syntax**

```
Mreset
```

**Feedback**

This command does not require any parameters

<table>
<thead>
<tr>
<th>Example</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mreset</td>
<td>Mreset</td>
</tr>
</tbody>
</table>

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

**Syntax**

```
PWOFF
```

**Feedback**

This command does not require any parameters

<table>
<thead>
<tr>
<th>Example</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWOFF</td>
<td>PWOFF</td>
</tr>
</tbody>
</table>

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

**Syntax**

```
PWON
```

**Feedback**

This command does not require any parameters

<table>
<thead>
<tr>
<th>Example</th>
<th>Feedback</th>
</tr>
</thead>
<tbody>
<tr>
<td>PWON</td>
<td>PWON</td>
</tr>
</tbody>
</table>
Commands

**PWSTA**
Displays the current power state of the unit.

**Syntax**
PWSTA

**Feedback**

*This command does not require any parameters*

**Example**
PWSTA

**RepCmdTime**
Sets the number of times a command will be sent. This may be required in systems where a command must be transmitted more than once, before an acknowledgement message is received. Specify the sta argument to display the current setting.

**Syntax**
RepCmdTime X

**Parameter** | **Description** | **Range**
--- | --- | ---
X | Times to repeat command | 2 ... 4, sta

**Example**
RepCmdTime 3

**Feedback**
RepCmdTime 3

**RepeatCmd**
Enables / disables the RepCmdTime feature. Specify the sta argument to display the current setting.

**Syntax**
RepeatCmd X

**Parameter** | **Description** | **Range**
--- | --- | ---
X | State | on, off, sta

**Example**
RepeatCmd on

**Feedback**
RepeatCmd on
# Commands

**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. The command line must not contain any spaces. Since the AT-OME-MS42 has only one HDBaseT output (zone), “1” must be specified as the first argument. Note that this command is deprecated and for legacy use. It is recommended to use the TCP socket functionality mentioned above.

**Syntax**

RS232zone[X]

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Command</td>
<td>String</td>
</tr>
</tbody>
</table>

**Example**

RS232zone1[test]

**Feedback**

RS232zone1[test]

**Status**

Displays which input is routed to which output. Refer to the xYAVxZ command for more information.

**Syntax**

Status

**Example**

Status

**Feedback**

x2AVx1,x2AVx2

**Type**

Displays the model information of the unit.

**Syntax**

Type

**Example**

Type

**Feedback**

AT-OME-MS42
Commands

Unlock

Unlocks the buttons on the front panel. Also refer to the Lock command.

<table>
<thead>
<tr>
<th>Syntax</th>
<th>Unlock</th>
</tr>
</thead>
</table>

This command does not require any parameters

Example
Unlock

Feedback
Unlock

USBHostLogic

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

<table>
<thead>
<tr>
<th>Syntax</th>
<th>USBHostLogic X</th>
</tr>
</thead>
</table>

Parameter | Description | Range                   |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Mode</td>
<td>follow usb, follow video, manual, sta</td>
</tr>
</tbody>
</table>

Example
USBHostLogic follow video

Feedback
USBHostLogic follow video

USBHostRoute

Sets the routing state of the USB host. The argument USB3 is used as a reference to the remote USB host port on the device connected using HDBaseT. Use the sta argument to display the current setting.

<table>
<thead>
<tr>
<th>Syntax</th>
<th>USBHostRoute X</th>
</tr>
</thead>
</table>

Parameter | Description | Range                   |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Port</td>
<td>USB, USB1, USB2, USB3, sta</td>
</tr>
</tbody>
</table>

Example
USBHostRoute USBC

Feedback
USBHostRoute USBC
**Commands**

**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**

```
VOUTMute X Y
```

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

**Example**

VOUTMute 2 off

**Feedback**

VOUTMute 2 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
Commands

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

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Description</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Y</td>
<td>Input</td>
<td>1 ... 4</td>
</tr>
<tr>
<td>Z</td>
<td>Output</td>
<td>1, 2</td>
</tr>
</tbody>
</table>

Example

x3AVx1

Feedback

x3AVx1, x3AVx2