

# OMEGA<sup>™</sup>

## 2×1 AV Switcher and Receiver with Scaler HDBaseT and HDMI Inputs

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### Application Programming Interface

## Version Information

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| Version | Release Date | Notes                                                 |
|---------|--------------|-------------------------------------------------------|
| 3       | Oct 2022     | Added TCP proxy info.<br>Added <b>Reboot</b> command. |
| 4       | June 2025    | Added HDMI 5V command                                 |

# Introduction

## General

This document provides an alphabetical list of commands available for AT-OME-RX21. 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 and 22 for SSH. TCP ports are 9000, 9001, and 9002.



**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 | Local RS-232 port 1     |

### 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
```

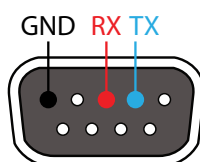
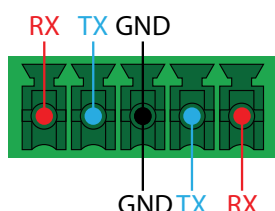
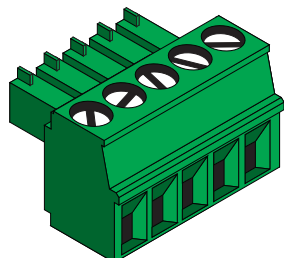
2. The projector will respond with the following, using the same socket connection:

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

### RS-232

A 5-pin captive screw connector has been included for RS-232.

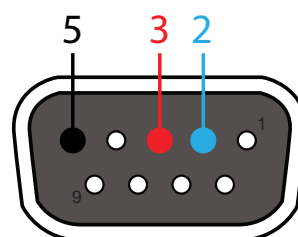
**i NOTE:** Port 1 will control the display and port 2 is for unit control.



Pin out will be determined by the RS-232 cable and connect as RX (receive), TX (transmit) and  $\perp$  (Ground). Ground will be shared between port 1 and port 2.

RS-232 is often connected through a DB 9-pin to captive screw connector. The pins will have functions associated with them, some will be unassigned.

**i 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.



Baud parameters must be met for control signals to pass. The parameters can be updated through the built in webGUI. The defaults for the RS-232 ports are:

**Port 1 (display control)** - 9600, 8-bit, None, 1

**Port 2 (unit control)** - 115200, 8-bit, None, 1

## Commands

The following tables provide an alphabetical list of commands available on the AT-OME-RX21.

| Command       | Description                                                                        |
|---------------|------------------------------------------------------------------------------------|
| Blink         | Enable/Disable blinking of the front panel POWER LED                               |
| DispBtn       | Sets the command triggered through display control (set in the webGUI)             |
| HDMIAUD       | Enable/disable the HDMI audio output                                               |
| help          | Displays the list of available commands                                            |
| InputStatus   | Displays the status for each input                                                 |
| 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         | Turns on/off analog audio output                                                   |
| Mreset        | Sets the unit back to default settings                                             |
| OutHdmi5vKeep | Sets the +5V pin on the HDMI OUT port to the desired setting                       |
| Reboot        | Reboots the unit                                                                   |
| RelayAct      | Opens and closes the relay ports                                                   |
| RHostName     | Displays the host name of the unit                                                 |
| RS232zone     | Use to trigger the RX21's RS-232 port to send the specified command to the display |
| SHostName     | Sets the host name of the unit                                                     |
| Status        | Displays the routing state of the unit                                             |
| Type          | Displays the model of the unit                                                     |
| Unlock        | Unlocks the buttons on the front panel                                             |
| Version       | Displays the current firmware version of the unit                                  |
| VOUT          | Adjusts the analog audio volume level                                              |
| VOUTMute      | Mutes/Unmutes audio output volume                                                  |
| x?AVx1        | Switch a specific input to the output                                              |

## Commands

### Blink

Enables or disables blinking of the **POWER** LED indicator on the front panel. When set to on, the **POWER** indicator will flash green, 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 executes the listed arguments on the connected display. The commands for on/off/tog may send RS232/CEC/IP, if configured. Configuration is performed under the Display Control page of the built-in web server. However, if nothing is configured, then the on/off/tog commands will only perform an A/V mute on the video. Refer to the User Manual for more information on the Display Control page.

| Syntax    |
|-----------|
| DispBtn X |

| Parameter | Description | Range                               |
|-----------|-------------|-------------------------------------|
| X         | State       | on, off, tog, mute, vol+, vol-, sta |

#### Example

DispBtn on

#### Feedback

DispBtn on

### HDMIAUD

Enables or disables audio on the HDMI output of the receiver. on = enables HDMI audio output; off = disables HDMI audio output. Use the sta argument to return the current HDMI audio output state.

| Syntax    |
|-----------|
| HDMIAUD X |

| Parameter | Description | Range        |
|-----------|-------------|--------------|
| X         | Value       | on, off, sta |

#### Example

HDMIAUD off

#### Feedback

HDMIAUD off

## 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] |

| Parameter | Description             | Range   |
|-----------|-------------------------|---------|
| X         | Command name (optional) | Command |

#### Example

help

#### Feedback

Blink  
 DispBtn  
 HDMIAUD  
 help  
 ...  
 ...

### 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. If no argument is specified, then the status of all inputs will be displayed.

| Syntax       |
|--------------|
| InputStatusX |

| Parameter | Description | Range   |
|-----------|-------------|---------|
| X         | Input       | 1 ... 3 |

#### Examples

InputStatus1  
 InputStatus

#### Feedback

InputStatus 1  
 InputStatus 010

### 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      |
| IP 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
```

| 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  |

| 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

### Reboot

Reboots the unit. Configuration and IP settings are preserved. To perform a factory-reset, use the **Mreset** command.

| Syntax |
|--------|
| Reboot |

**This command does not require any parameters**

**Example**  
Reboot

**Feedback**  
Reboot

### RelayAct

Sets the initial state of the relay: normally-open (NO) or normally-closed (NC). The first argument specifies the relay number. The second argument sets the state. open = opens the relay, close = closes the relay; sta = displays the current setting.

| Syntax      |
|-------------|
| RelayActX Y |

| Parameter | Description | Range            |
|-----------|-------------|------------------|
| X         | Relay       | 1, 2             |
| Y         | State       | open, close, sta |

#### Example

RelayAct1 open

#### Feedback

RelayAct1 open

### RHostName

Displays the hostname of the unit. Execute the **SHostName** command to set the hostname of the unit.

| Syntax    |
|-----------|
| RHostName |

**This command does not require any parameters**

#### Example

RHostName

#### Feedback

OMERX21-CONF

### RS232zone

Sends commands over the local RS-232 display port. 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. Note that this command is deprecated and is for legacy use.

| Syntax       |
|--------------|
| RS232zone[X] |

| Parameter | Description | Range  |
|-----------|-------------|--------|
| X         | Command     | String |

#### Example

RS232zone[VOL23]

#### Feedback

RS232zone[VOL23]

### SHostName

Sets the hostname of the unit. This value can be changed to easily identify the unit on a network or within the Atlona Management System (AMS). If using a custom hostname, it must conform to the hostname standards defined here: <https://tools.ietf.org/html/rfc1123>

| Syntax    |
|-----------|
| SHostName |

| Parameter | Description | Range  |
|-----------|-------------|--------|
| X         | Hostname    | String |

#### Example

SHostName RX21-Conf1

#### Feedback

SHostName RX21-Conf1

### Status

Displays which input is routed to which output. Refer to the **x?AVx1** command for more information.

| Syntax |
|--------|
| Status |

This command does not require any parameters

#### Example

Status

#### Feedback

x2AVx1

### Type

Displays the model information of the unit.

| Syntax |
|--------|
| Type   |

This command does not require any parameters

#### Example

Type

#### Feedback

AT-OME-RX21

### 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

### Version

Displays the current firmware version of the unit.

| Syntax  |
|---------|
| Version |

**This command does not require any parameters**

#### Example

Version

#### Feedback

1.0.00

### VOUT

Increases or decreases the audio output level. The + and - arguments can be used to increase or decrease the output level by 1 dB, respectively. Values must be specified as intergers. Use the sta argument to display the current setting.

| Syntax |
|--------|
| VOUT   |

| Parameter | Description | Range                |
|-----------|-------------|----------------------|
| X         | Level       | -80 ... 0, +, -, sta |

#### Example

VOUT -6

#### Feedback

VOUT -6

### VOU TMute

Mutes / unmutes the output volume. Do not include a space between the command and the first argument. Use the sta argument to display the current setting.

| Syntax      |
|-------------|
| VOU TMute Y |

| Parameter | Description | Range        |
|-----------|-------------|--------------|
| Y         | State       | on, off, sta |

#### Example

VOU TMute off

#### Feedback

VOU TMute off

### x?AVx1

Switches the input to the specified output. The first argument references the input: 1 = HDBaseT 1, 2 = HDBaseT 2.

| Syntax |
|--------|
| x?AVx1 |

| Parameter | Description | Range |
|-----------|-------------|-------|
| ?         | Input       | 1, 2  |

#### Example

x2AVx1

#### Feedback

x2AVx1  
InputStatus 01

