AT-OME-RX21

Omega™ 2x1 AV Switcher and HDBaseT Receiver

API Command Reference

October 2026

Table of Contents

Version Information....3
Sales & Customer Support....3
Introduction....4
General....4
Ports....4
RS-232....4
Command Quick Reference....6
Commands....7

Version Information

This document lists the commands for controlling the AT-OME-RX21 over RS-232, Telnet, SSH, and TCP. Its version history follows the original command reference.

Version	Date	Notes
3	Oct 2022	Added TCP proxy info. Added Reboot command.
4	June 2025	Added HDMI 5V command
HR 1.0	October 2026	Converted to the Hall Research document format. No command changes.

Sales & Customer Support

Item	Details
Main Office (US)	Hall Research, 1234 Lakeshore Dr Suite #150, Coppell, TX 75019
Support Hours	Monday – Friday, 8:00 a.m. – 6:00 p.m. (CST)
Website	https://www.hallresearch.com
Product Page (AT-OME-RX21)	https://www.hallresearch.com/product/AT-OME-RX21

IMPORTANT: Visit hallresearch.com/product/AT-OME-RX21 for the latest firmware updates and documentation.

Introduction

General

This document provides an alphabetical list of the commands available for the AT-OME-RX21. Commands are case-sensitive. If a command fails or is entered incorrectly, the feedback is “Command FAILED”. Commands can be sent using RS-232, Telnet, SSH, or TCP. Allow a 500 millisecond delay between commands sent to the unit. The default Telnet port is 23 and the SSH port is 22. 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. For ports connected to RS-232 interfaces, no additional payload is required: all data sent to the TCP port is sent bit-for-bit to the RS-232 output. If feedback is required from the RS-232 device, keep the TCP socket open. The product does not buffer or queue data, so any data received from the RS-232 port while the TCP socket is closed is lost.

TCP Port	Description
9000	MCU (similar to Telnet)
9001	HDBaseT input
9002	Local RS-232 port 1

Example: with the device at IP address 192.168.1.100 and a PJLink projector connected to the RS-232 port of the HDBaseT receiver:

- Open a TCP socket to 192.168.1.100:9001 and send the command string:

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

- The projector responds on the same socket connection with:

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

RS-232

A 5-pin captive screw connector is included for two RS-232 ports: port 1 controls the display and port 2 is for unit control. The two ports share the ground pin. Wire each as TX (transmit), RX (receive), and GND (ground) according to the RS-232 cable.

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

The baud parameters must match for control signals to pass. They can be changed in the built-in web interface. The default settings are:

Port	Default Settings
Port 1 (display control)	9600 baud, 8 data bits, no parity, 1 stop bit
Port 2 (unit control)	115200 baud, 8 data bits, no parity, 1 stop bit

Command Quick Reference

Select a command name to go to its full description.

Command	Description
Blink	Enables or disables blinking of the POWER LED indicator on the front panel
DispBtn	This command executes the listed arguments on the connected display
HDMIAUD	Enables or disables audio on the HDMI output of the receiver
help	Displays the list of available commands
InputStatus	Displays the status of the inputs as either a 0 or 1
IPCFG	Displays the current network settings for the unit
IPDHCP	Enables or disables DHCP mode on the unit
IPStatic	Sets the static IP address, subnet mask, and gateway (router) address of the unit
Lock	Locks the buttons on the front panel
LRAUD	Enables or disables the analog audio output
Mreset	Resets the unit to factory-default settings
OutHdmi5vKeep	This option sets the +5V pin on the HDMI OUT port to the desired setting
Reboot	Reboots the unit
RelayAct	Sets the initial state of the relay: normally-open (NO) or normally-closed (NC)
RHostName	Displays the hostname of the unit
RS232zone	Sends commands over the local RS-232 display port
SHostName	Sets the hostname of the unit
Status	Displays which input is routed to which output
Type	Displays the model information of the unit
Unlock	Unlocks the buttons on the front panel
Version	Displays the current firmware version of the unit
VOUT	Increases or decreases the audio output level
VOUTMute	Mutes / unmutes the output volume

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 perfom 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
```

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

Example

```
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 VDM (Velocity Device Manager). 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
```

VOUTMute

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

```
VOUTMute Y
x?AVx1
```

Parameter	Description	Range
Y	State	on, off, sta
?	Input	1, 2

Example

```
VOUTMute off
x?AVx1
Switches the input to the specified output. The first argument
x2AVx1
```

Feedback

```
VOUTMute off
references the input: 1 = HDBaseT 1, 2 = HDBaseT 2.
x2AVx1
InputStatus 01
```