Ascentic SIG-0 Communication Bridge Network Adapter User Manual

Ascentic™
RETAIL ENGINEERING
by Audio Authority®

User Manual
SIG-0 Communication Bridge
Network Adapter

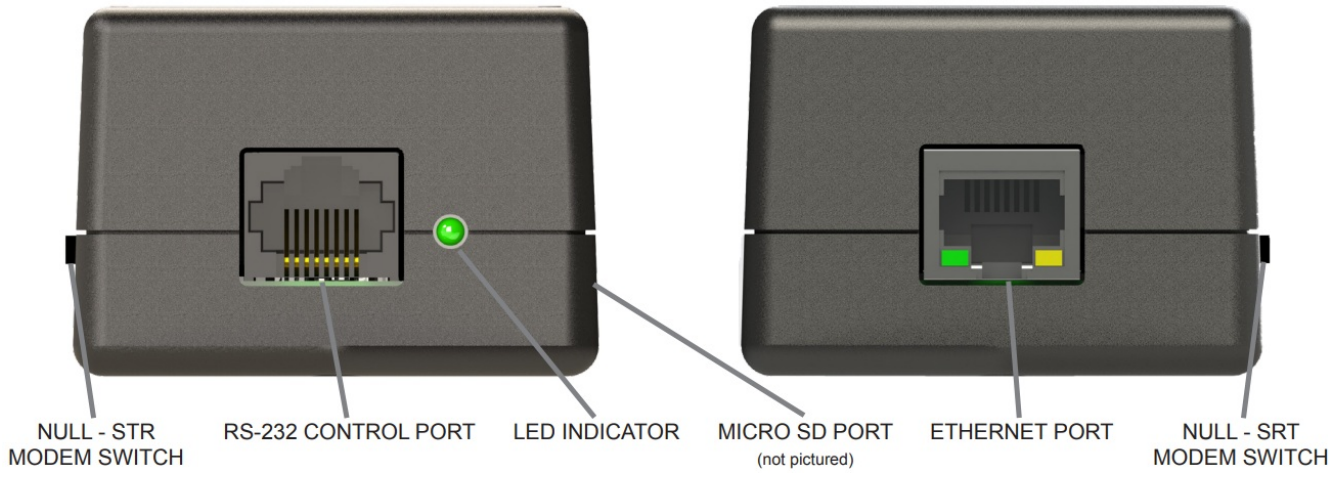
Contents

Introduction

The SIG-0 Communication Bridge connects an RS-232 port and a TCP socket to facilitate communication between the RS-232 and your network devices. Configure and store data directly on the device via the integrated microSD port or serial commands. The device can be mounted directly to a flat surface using the mounting flanges.

Features

- Serves as a communication bridge between an RS-232 device and a network device.
- Able to load, configure, and store information via serial commands or a configuration file on a microSD card.
- Packages incoming RS-232 data for export to the controlled device.
- SIG-0 device is able to be configured via RS-232 port after entering configuration mode.
- LED indicator to confirm network connection.
- Multiple ways to update firmware via microSD or RS-232 Port.



Configuration Methods

microSD Configuration

The SIG-0 accepts configuration commands from a microSD card on the boot.

- Create an empty text file in the root directory of a microSD Card titled `AacConfig.txt.
- In the AacConfig file, add any configuration commands you would normally send via RS-232 in Configuration mode as a new line (see above).
- Insert the microSD card into the unpowered device, then apply power. The configuration will then be loaded into flash memory on boot until the microSD is removed.

NOTE: You will not be able to use the device until the microSD is removed.

Configuration Mode

Configuration mode allows the device to be configured over an RS-232 port. The following list of commands is accepted: See page 2

Name	Description	Format	Response
Enter Configuration	Enables Config Mode	+++	n/a
Exit Configuration	Returns to command mode	[DEV=254;EXIT]	n/a
Query Link Status	Ethernet link up/down	[DEV=254;NET;LINK?]	[DEV=254;NET;LINK=UP]
Query IP Address	Returns the SIG-0's current IP Address	[DEV=254;NET;LINK;IP?]	[DEV=254;NET;LINK; IP=10.0.0.2]
Query Server TCP Port	Returns currently set Server TCP Port	[DEV=254;NET;SERVER;PORT?]	[DEV=254;NET;SERVER; PORT=23]
Set Server TCP Port	Changes the target Server Port	[DEV=254;NET;SERVER;PORT=23]	n/a
Reset Defaults	Resets the SIG-0 to factory defaults	[DEV=254;RESET;DEFAULT]	n/a
Reboot Device	Reboots the SIG-0 to implement change	[DEV=254; REBOOT]	n/a

NOTE: All commands except "Enter Configuration" should be terminated by a carriage return. Some set commands require a device reboot to take effect. Not all commands will have an associated response.
The full command set is available upon request. It is recommended to reboot the SIG-0 after any configuration changes. This can be done serially, and after reboot, the device will be in Command Mode by default.

Communication

Control Bus (RS-232)

The SIG-0 Communication Bridge has the default device ID 254. It can send and receive serial commands via RS-

232 at 115200 Baud, 8-N-1, and full-duplex. The port may be set for null or straight using the switch located on the side of the device opposite the microSD port. The port is a modular RJ-45 jack with the following pinout:

RJ-45 Pinout:

Pin #	Function	Pin #	Function
P1	Orange White – Ground	P5	+12V DC Power
P2	Orange – Ground	P6	Green – RX or TX
P3	Green White – TX or RX	P7	Brown White – Ground
P4	+12V DC Power	P8	Brown – Ground

Quick Start Instructions

- Connect the SIG-0's RS-232 port to another RS-232 device with a power injector.
- Ensure that settings have been configured correctly for both devices. (This can be done serially or via an SD Configuration update.)
- Connect the SIG-0's Ethernet port to the device to be controlled and power both devices.
- Ensure that the Ethernet LEDs are both illuminated, and the power LED is blinking steadily. (The connected network device should be given an IP address of 192.168.0.2 by default.)
- Communicate directly with the end device.

Troubleshooting

No RS-232 communication:

- Ensure connections are fully seated.
- Ensure devices are using the correct protocol settings.
- Ensure the Null/Straight selector is set correctly.

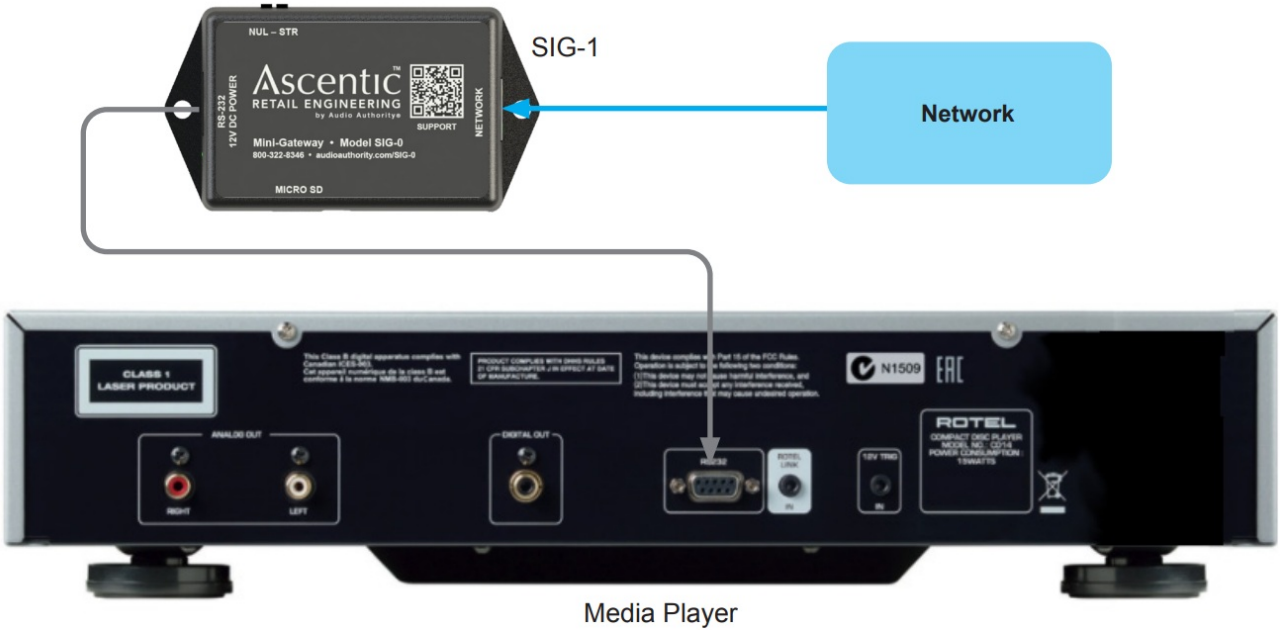
No Ethernet Connectivity Lights

- Ensure connections are fully seated.
- Ensure the End Device is powered on with Ethernet enabled.
- Power cycle all devices to clear out previous TCP connections.

LED periodically blinks fast (no TCP Socket connection)

- Ensure connections are fully seated.
- Ensure both the SIG-0 and end devices have been configured correctly.
- Power cycle all devices to clear out previous TCP connections.*
  *Some devices have a limitation on the number of connected TCP clients and may require a delay period or reboot to clear.

Example System:
SIG-0 Bridge Between RS-232 and Network
This display utilizes a SIG-0 communication bridge to connect a media device with an RS-232 to connect to a network. Commands stored on the SIG-0 are used to automate run times for the device.



Media Player

Firmware Update Process

The SIG-0 communication bridge is updatable via the microSD port on the side of the module:

- Copy the new firmware ".FWU" file onto a blank microSD Card (FAT).
- Insert Firmware Update SD into the device with device power disconnected.
- Apply power to the device, monitoring the power LED Indicator.
- When the power LED indicator returns to a slow blink, the update is complete.
- To verify the firmware update, send the firmware version query listed in the Commands List (see above) and ensure the response matches the firmware version expected.

Product Specifications

Inputs and Outputs

Standard Inputs: 1x microSD Card
Standard In/Out: 1x RS-232 Port w/ Null/Straight Switch (RJ-45), 1x Ethernet Port (RJ-45)
Indicators: 1x Green Power Heartbeat/Connection Indicator

Power Input Specification

Power Entry Port: 1x RJ-45 via RS-232 Port
Voltage: 12V DC
No-Load Current: 60mA
Maximum Load Current: 80mA

Mechanical Details

Case Type: Molded ABS with Cutouts
Case Dimensions (Inches, WxLxH): 3.00 x 2.00 x 1.49
Case Dimensions (millimeters, WxLxH): 76.20 x 50.80 x 37.85
Mounting Locations: Molded Flanges

SUPPORT
https://www.audioauthority.com/SIG-0

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Documents / Resources

	Ascentic SIG-0 Communication Bridge Network Adapter [pdf] User Manual SIG-0, Communication Bridge Network Adapter, SIG-0 Communication Bridge Network Adapter

References

- Audio Authority - Products