



Ascentic SIG-1 Communication Bridge Serial to Internet Gateway User Manual

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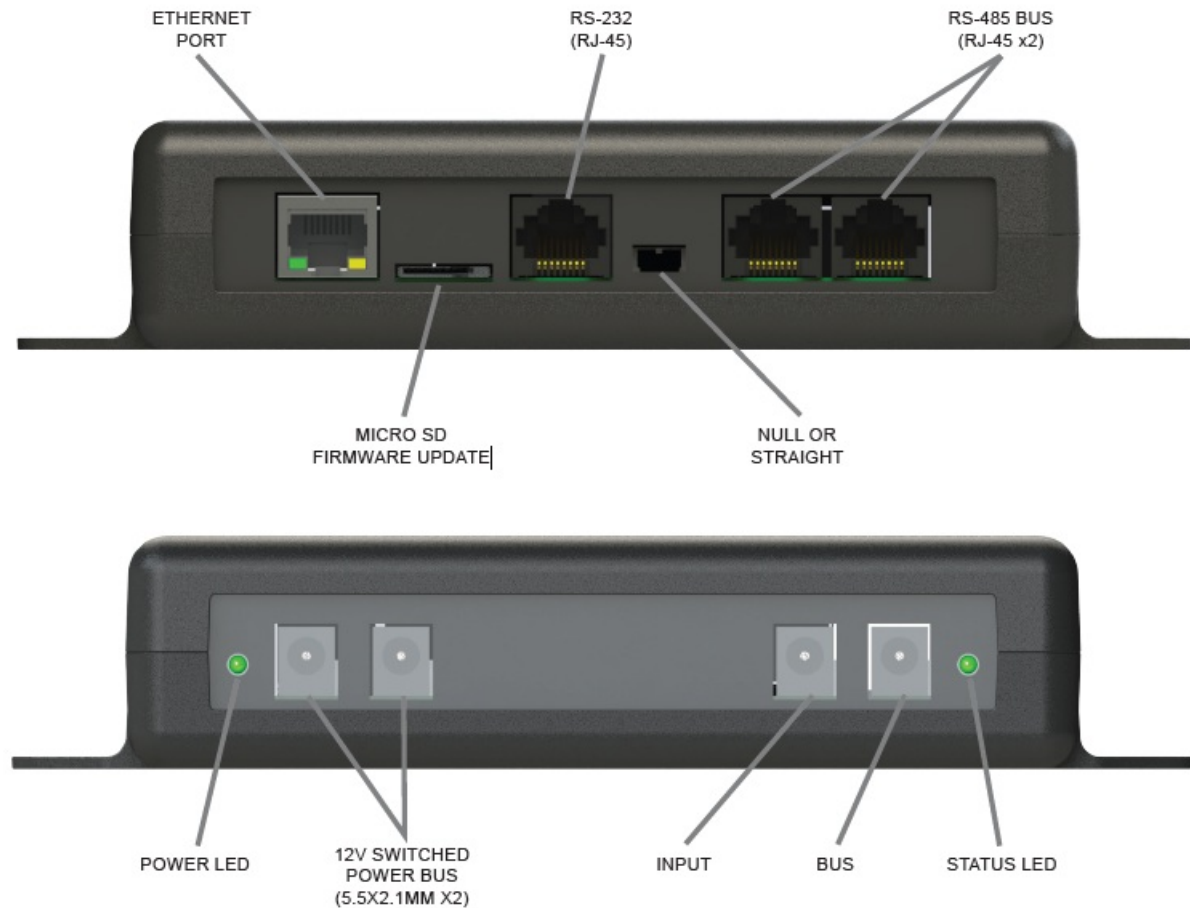
Ascentic SIG-1 Communication Bridge Serial to Internet Gateway



Introduction

The SIG-1 Communication Bridge facilitates the communication between serially-connected devices (RS-232 and/or RS-485) and your network. The Telnet network communication allows for remote monitoring, control, and power cycling of a connected system. The SIG-1 mounts directly to a flat surface using the mounted flanges.

Features



- Serves as a communication bridge between serial devices and network portal devices.
- Enables control of a system from a remote location via Telnet
- Records time-stamped activity logs of all serial traffic for a session
- Measures and reports current draw for the connected system
- Controls switch power on and off to a +12V DC system up to 7A remotely
- Logs any known RS-485 or RS-232 commands for remote log analysis
- Configures information into memory via serial commands or a configuration file on a microSD card.

MicroSD Configuration

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

Firmware Update Process

microSD

- Copy new firmware ".FWU" file onto a blank microSD Card (FAT)
- Insert Firmware Update SD into the device with device power disconnected

- Apply power to device, monitoring the power LED Indicator
- When power LED indicator returns to a slow blink, update is complete
- To verify the firmware update, send the firmware version query listed in the Commands List (see above) and ensure response matches the firmware version expected.

Communication

The SIG-1 Communication Bridge has the default device ID 254. It can send and receive serial commands via RS-485 at 57600 Baud, 8-N-1, and Half-Duplex; and via RS-232 at 115200 Baud, 8-N-1, and Full-Duplex. The device may be set for Null or Straight using the switch located between the RS-232 port. Both ports utilize a modular RJ-45 jack with the following pinouts:

RS-485 Pinout:

Pin #	Function	Pin #	Function
P1	Orange White – Ground	P5	Blue White – Switched Power Bus (12V Dev Only)
P2	Orange – Ground	P6	Green – Data B Negative
P3	Green White – Data A Positive	P7	Brown White – Ground
P4	Blue – Switched Power Bus (12V Devices Only)	P8	Brown – Ground

RS-232 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

Commands			
Name	Description	Format	Response
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]
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

Quick Start Instructions

- Connect the SIG-1 device to RS-232 and/or RS-485 devices. Connect +12V power out to any devices that are not connected to, or able to be powered by, the RS-485 bus.
- Connect the SIG-1 device to a known-working network port, then power on the device. The SIG-1 will power up other devices after a few seconds.
- Communicate with the SIG-1 Device, as well as interact with other devices.
- From the Telnet connection, send a log query command to the SIG-1 to have it respond with the next available log entry. Repeat until the log is empty.

Troubleshooting

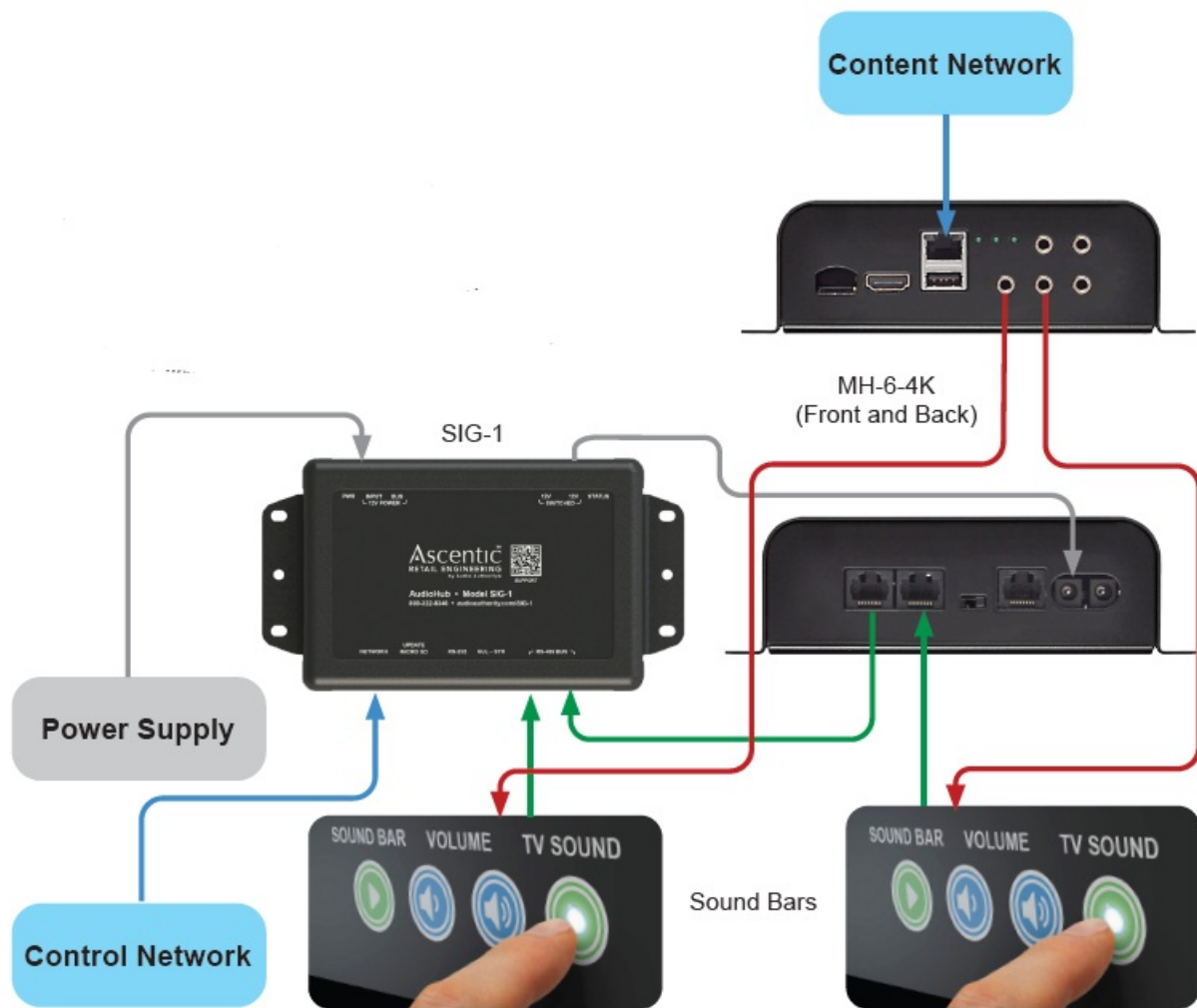
No RS-232 communication:

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

No Ethernet Connectivity Lights

- Ensure connections are fully seated.
- Ensure end device is powered on with Ethernet enabled.
- Power cycle devices to clear 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 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-1 Bridge Between RS-232 and Network

This Display uses audio to attract and communicate.

It leverages the MH6 MediaHub's multiple audio output options to demonstrate a variety of products. Each of the four audio output jacks can play either digital or analog audio, depending on the requirements of the device. The Ethernet port interfaces with the network to receive commands and output analytics; with the added capability to control and monitor the system remotely. The sound bar connects directly to an RS-485 port and is visually highlighted by a lit platform.

Product Specifications

Inputs and Outputs

- Standard Inputs: 1x microSD Card
- Standard Outputs: 2x Switched Power Bus (5.5 x 2.1mm barrel jacks)\

- Standard In/Out:
 - 1x RS-232 Port w/ Null/Straight Switch (RJ45)
 - 1x Ethernet Port (RJ45)
 - 2x RS-485 Ports with Switched Power (RJ45)

Indicators: 1x Green Power Heartbeat/Connection Indicator, 1x Green Status Indicator

Power Input Specification

Power Entry Port: 2x Barrel Jack Connectors (5.5 x 2.1mm, bussed, Center Positive) Voltage: 12VDC


Mechanical Details

- Case Type: AAC Universal Case, Molded ABS
- Case Dimensions (Inches, WxLxH): 7.5 x 4.1 x 1.5
- Case Dimensions (millimeters, WxLxH): 190 x 104 x 38
- Mounting Locations: Molded Flanges
 - 2x 0.165" (4.5mm) Diameter centerline holes
 - 4x 0.165" x 0.28" (4.5mm x 7mm) Slots
 - 1.0" (25.4mm) Above/Below centerline holes

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Documents / Resources

	<p>Ascentic SIG-1 Communication Bridge Serial to Internet Gateway [pdf] User Manual SIG-1 Communication Bridge Serial to Internet Gateway, SIG-1, Communication Bridge Serial t o Internet Gateway</p>
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References

-  [Audio Authority - Products](#)