

SAVANT

Savant® IP Audio 125 with Savant Music Quick Reference Guide

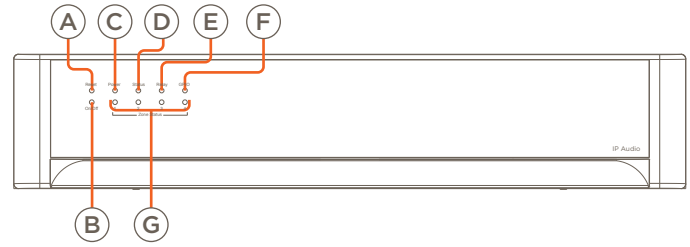
Box Contents

- (1) IP Audio 125 (PAV-SIPA125SM-xx)
- (1) Install Kit (075-0202-xx)
 - (1) Power Cord (064-0431-xx)
 - (2) 2U Chassis mounting ears (071-0113-xx)
 - (4) M5X12mm Screws (039-0034-xx)
 - (4) 4-pin Speaker connector (028-0702-xx)
 - (2) 6-pin Control connector (028-0664-xx)
 - (2) 3-pin Control connector (028-0665-xx)
- (1) Product Information and Regulatory Statement (009-1950-xx)

Specifications

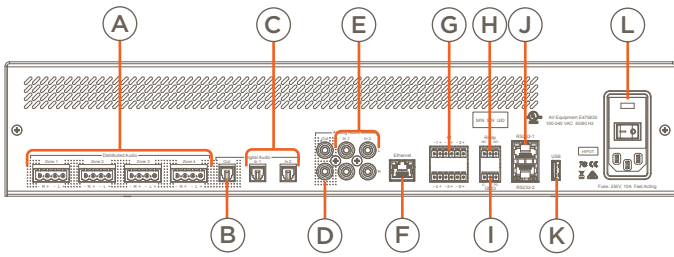
Environmental	
Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 90% Relative Humidity (non-condensing)
Maximum BTU	1750 BTU/HR
Dimensions and Weights	
	Height Width Depth Weight
Device	3.46 in (8.79 cm) 17.30 in (43.94 cm) 14.24 in (36.18 cm) 14.4 lb (6.5 kg)
Shipping	7.5 in (19.05 cm) 24.0 in (60.96 cm) 19.0 in (48.26 cm) 18.5 lb (8.4 kg)
Rack Space	2U
Add 1.70 inches to the width dimension when the mounting brackets are installed. (.85 in per side)	
Power	
Input Power	100/240V AC (50/60 Hz) 10A
Maximum Power	515W
Operating Parameters	
Rated Power (Speaker Output)	125 WPC at 8 ohms (THD+N < 0.1%)
Frequency Response	20 Hz - 20 kHz +/- 0.5 dB, speaker output
Signal-to-Noise Ratio (SNR)	>100 dB, speaker output
Supported Digital Input Formats	44.1 kHz / 48 kHz / 96 kHz at 16-bit / 20-bit / 24-bit resolution
Regulatory	
Safety and Emissions	FCC Part 15B CE Mark C-Tick UL LISTED UKCA
RoHS	Compliant
Supported Releases	
PAV-SIPA125SM-00	da Vinci 9.0.2
PAV-SIPA125SM-05	Enhanced DSP function requires da Vinci 9.1 or higher
PAV-SIPA125SM-10	da Vinci 9.4.2 or higher
Music Steaming	
The Savant IP Audio has a built-in single stream of Savant Music. (Streaming service fees may apply.)	

Front Panel



- (A) Reset** Hold Reset Button for 5 seconds while powered On to clear network settings. Status LED will rapidly blink red when reset is complete.
 - On:** Fully enables all internal power rails and processor.
 - Off:** Disables internal power rails and processor, but not internal AC/DC power supply. To fully power off unit, press the I/O power switch on the rear panel to Off [O].
- (B) On/Off**
 - Standby Mode:** Hold On/Off button for about 5 seconds. Hold On/Off button for about 1 second to take system out of standby mode. The I/O power switch on the back of unit must be On (I) to enable this function.
 - Green:** System has power and is operating normally.
 - Red:** System is in standby mode and most of the controller circuitry is powered down.
 - Off:** System is not receiving power.
 - Green Blinking:** Embedded system is ready, but no communication has been established with the Host.
 - Green:** Host has established communications with the embedded system.
 - Red Blinking:** Embedded firmware is running, but has not received a DHCP IP Address.
 - Red:** Host has determined the firmware needs to be updated, but a problem occurred during the process that will initiate a reset.
- (C) Power LED**
 - Green Blinking:** Embedded system has a valid link local IP Address and is connecting to the Host.
 - Amber:** Host is updating the embedded firmware.
 - Off:** Embedded processor is resetting, or is powered up, and is booting the embedded firmware.
 - Hardware Failure:** If hardware failure occurs, the status LED will be interrupted every three seconds with a solid red indication.
- (D) Status LED**
 - Green:** Relay port activity.
 - Off:** No Relay port activity.
 - Green:** GPIO port activity.
 - Off:** No GPIO port activity.
 - Green:** Zone in use.
 - Red:** Protection mode has been enabled to protect a zone/channel; typically indicates thermal protection, clipping, or over current.
 - Off:** Zone is off and protection mode has not been enabled.
- (E) Relay LED**
- (F) GPIO LED**
- (G) Zone Status**

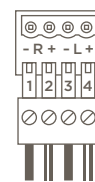
Rear Panel



	(4) Speaker output zones. Uses 4-pin Speaker Connectors.
A Speaker Connections	NOTE: Compatible with 8 ohm or 4 ohm speakers.
B Digital Audio Out	(1) Digital optical preamp output (TOSLINK), line-level 96kHz/24-bit output, fixed volume.
C Digital Audio In	(2) Digital optical audio inputs (TOSLINK). Supports up to 96kHz/24-bit digital audio in; PCM stereo format only.
D Analog Preamp Output	(1) Analog stereo line output (Left & Right). Direct Line Level 2.1- V_{RMS} Output.
E Analog Inputs	(2) Analog stereo inputs (Left & Right), RCA line-level inputs; 22 k Ω input impedance.
F Ethernet	8-pin RJ-45 port 10/100/1000 Base-T auto-negotiating port. Supports Audio Video Bridging (AVB). Activity LED: Green Blinking: Activity (Rx/Tx) Off: No Activity. Link LED: Green Solid: Ethernet Link is established. Off: Ethernet link is not established.
G IR	(6) IR Ports. Uses 6-pin IR Connectors to send IR signals to control devices with an IR input or IR receiver via an IR flasher (5V tolerant only). See IR Wiring section for important precautions regarding IR functionality before making any connections.
H Relay	3-pin Control Connector. See Relay Wiring for pinouts. Normally Open (NO) Normally Closed (NC) to control devices requiring basic on/off operation. DC Voltage Max: 30V DC 1A.
I GPIO	3-pin Control Connector See GPIO Wiring for pinouts GPIO Input: When configured as an input the processor will look for a low (<0.8V DC) or a high (>2.4V DC) state. Minimum 0V DC / Maximum 12V DC. GPIO Output: When configured as an output, the port provides a binary output of 0-12V DC 150mA max.
J RS-232	8-pin RJ-45 port used to transmit and receive serial binary data to and from serial controllable devices. CTS/RTS handshaking availability based on component profile. See RS-232 Connections section for pin-outs.
K USB	USB 2.0 Type A (reserved for future use)
L Power Input	100/240V AC (50/60 Hz) Fuse: 250V 10A slow blow fuse; field replaceable I/O (power switch): I (On): Powers On the chassis. O (Off): Powers Off the chassis.

Speaker Connections

Speaker wiring connections are made using the 4-pin Speaker Connectors supplied with the device. The wire slips into the hole and locks with a screw located at the top of the connector. Speaker connectors accept up to 12AWG speaker cable.



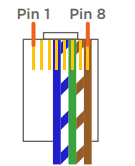
Pin 1	Right -
Pin 2	Right +
Pin 3	Left -
Pin 4	Left +

NOTES:

- Wire order shown does not represent any wiring standard.
- While not shown in the diagram above, Zones 2 to 4 follow the same wiring as Zone 1.

RS-232 Connections

Pins 7 and 8 are only required for CTS/RTS handshaking.



RJ-45 Connector (Gold pins facing up)

Pin 1	No Connection
Pin 2	No Connection
Pin 3	No Connection
Pin 4	GND (RS-232)
Pin 5	RXD (RS-232)
Pin 6	TXD (RS-232)
Pin 7	CTS (RS-232)
Pin 8	RTS (RS-232)

IMPORTANT: When wiring to this port, do not connect any wires within the cable that are not required for communication.

NOTES:

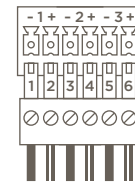
- CTS/RTS handshaking is supported for flow control based on the profile used in the configuration.
- Wire coloring is included to identify the pins used for this connection. Colors shown do not represent any wiring standard.
- The IP Audio 125 does not support RS-422/485.

RJ-45 to DB9 Adapter: Savant offers RJ-45 to DB9 adapters in a variety of configurations that can be used for RS-232 control.

Refer to the [RS-232 Conversion to DB9 and Pinout Application Note](#) located on the [Savant Customer Community](#) for more information on RJ-45 to DB9 adapters.

IR Wiring

IR connections are made using the 6-pin IR Connectors supplied with the device. The wire slips into the hole and locks with a screw located at the top of the connector.



Pin 1	IR 1 -
Pin 2	IR 1 +
Pin 3	IR 2 -
Pin 4	IR 2 +
Pin 5	IR 3 -
Pin 6	IR 3 +

Use white stripe for positive (+)

IMPORTANT NOTES:

- Ensure that all IR emitters are within 15 feet (4.6 meters) from the controller's location.
- Use of 3rd party blinking IR emitters with Talk Back is **not supported**. These types of emitters can draw voltage away from the IR signal that can degrade IR performance.
- While not shown in the diagram above, IR connections 4 to 6 follow the same wiring as 1 to 3.

Relay Wiring

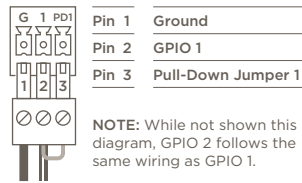
Relay ports are used when a device is controlled via a normally open (NO) or normally closed (NC) relay.



Pin 1	Normally Closed (NC)
Pin 2	Common (C)
Pin 3	Normally Open (NO)

GPIO Wiring

General Purpose Input/Outputs (GPIO) are binary I/O ports used on Savant controllers to trigger an action within the system. Events can control a device, such as turning on an amplifier (output) or detecting a state change for a device (input) to perform a workflow. Pin 2 is used for input or output depending on configuration.



GPIO Pull Down Resistor (PD) Usage

GPIO pins are configured as inputs and are pulled high to 12V while the Host is booting up. To make the GPIO signal low during a Host reboot and/or a power cycle, attach the GPIO 1 pin to the PD pin. The PD pin is a 1K ohm pull down resistor (to signal ground) which keeps the GPIO output below 0.8V during processor boot times.

Network Requirements

Connect all Savant devices to the same local area network (LAN) or subnet as the host. Savant recommends not implementing any type of traffic or packet shaping in your network topology for the Savant devices as this may interfere with performance. For more information on Savant's network requirements see the **Savant Device Networking Guidelines** article on the Savant Customer Community.

Expansion

Savant IP Audio devices can be connected in a single system, providing a virtual audio switch that can be configured to suit almost any need. The maximum number of AVB devices is governed by the active da Vinci version and Host type. For the exact maximum in the system being deployed reference the **Release Readme** for that release found on the [Savant Customer Community](#).

Additional Documentation

Refer to the following documents located on the **Savant Customer Community** for additional information.

- Savant IP Audio Deployment Guide (009-1571-xx)
- Savant Media Server/Savant Music Supported Streaming Services Application Note
- The Spotify Software is subject to third-party licenses found here: <https://www.spotify.com/connect/third-party-licenses>.

Replacing Fuse

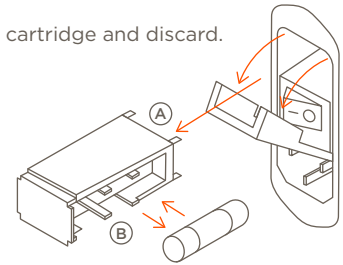
ELECTRIC SHOCK HAZARD: Disconnect the unit from AC power by removing the power cord from the AC outlet and the unit before replacing the fuse.

IMPORTANT: The orientation of the cartridge within the unit and location of the fuse within the cartridge are crucial to proper operation. Make note of the orientation of the cartridge and the fuse location within the cartridge before removing.

1. Disconnect the unit from AC power by removing the power cord.
2. Open the fuse cover on the AC power input using a flat head screwdriver or similar thin flat head tool. This will allow access to the fuse cartridge.
3. Using a flat head screwdriver or similar thin flat head tool, gently loosen the cartridge and pull the cartridge out of the unit slowly. As the cartridge is removed, make note of the orientation, as it is important to proper operation.

TIP: Mark the chassis and fuse holder with a marker in order to align when replacing.

4. Remove the old fuse from the cartridge and discard.
5. Gently place the new fuse in the cartridge and place the cartridge part way into the receptacle aligning it as defined in the diagram.



- (A) Connection Pins Towards Unit
- (B) Open Side of Cartridge Towards Power Switch

6. Gently press on the cartridge the rest of the way until it seats into the terminals at the rear of the slot.

NOTE: If any resistance is encountered during seating the cartridge, **DO NOT** apply more pressure. Stop pressing on the cartridge, remove it, verify the orientation, and repeat step.