savant
NOW YOU CAN

Description

The Savant AMP-2000 is a 16-channel, highly efficient class D amplifier for distributed audio applications.

The AMP-2000 compliments Savant's multi-room audio solutions, and can be fine-tuned for any listening environment using the on-board independent gain controls for each channel.

The AMP-2000 is an ultra-efficient Class D amplifier delivering 16 channels of reliable amplification rated at 40 watts per channel at 8 ohms in a 3U rack-space metal enclosure.

The extraordinary power supply design provides the energy necessary to deliver a rich musical experience to a house full of speakers.

The audio sense mode allows the turn-on sensing circuitry to detect an audio signal on an individual channel and turn the associated zone on. After the audio signal stops, the sensing circuit waits five minutes and then turns that amplifier zone off. The amplifier is off when there is no audio signal present at any of the 16 inputs, but the sensing circuitry is on.

The AMP-2000 features RCA phono input jacks and screw terminal speaker connections that can accommodate up to 14-gauge standard speaker wire.

Feature Summary

- Class D amplifier design delivering low heat and high efficiency

- Independent level controls for all channels

- Easily configured for stereo or mono applications

- Manual and trigger turn-on modes

- Fanless design with overload protection front panel status indicators

- Savant industrial design—can be rack or shelf-mounted.

- Use RacePoint Blueprint™ design tool to configure and customize AMP-2000
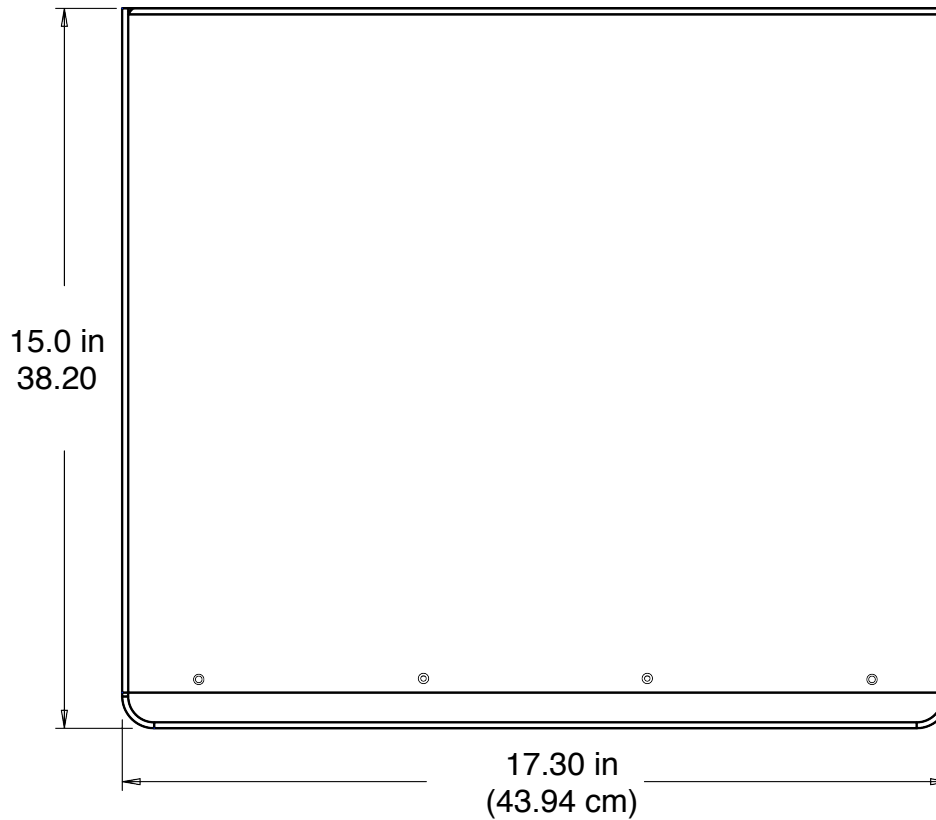

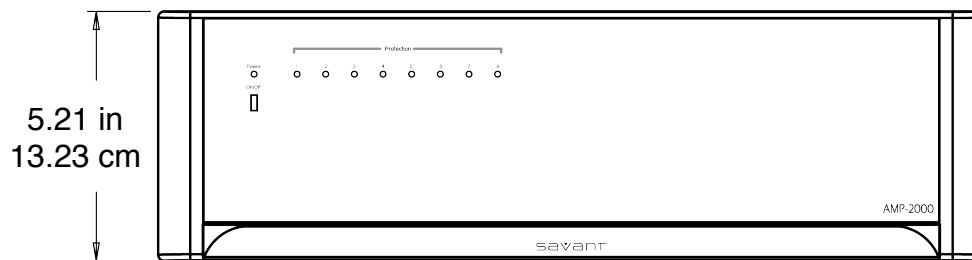**Front View of AMP-2000** (above)
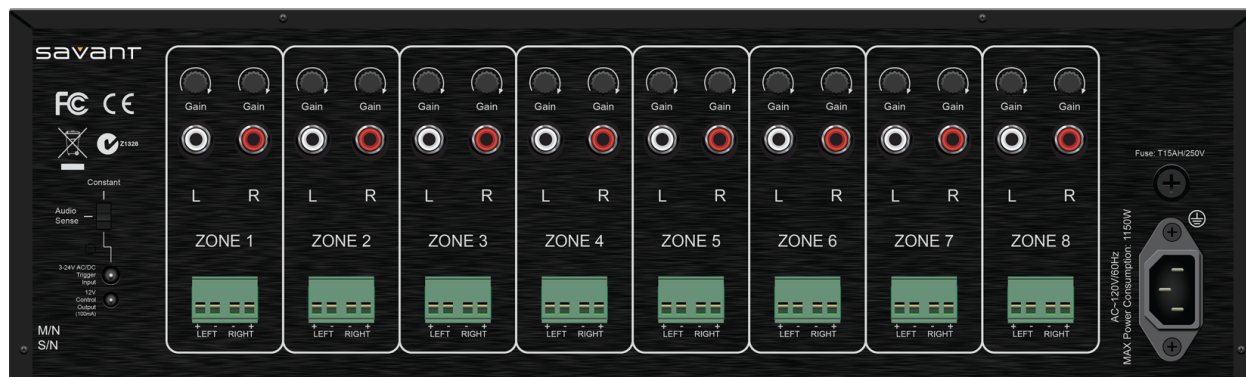
Rear View of AMP-2000 (above)

Dimensions

The next figures show the top and front dimensions in inches of the AMP-2000.
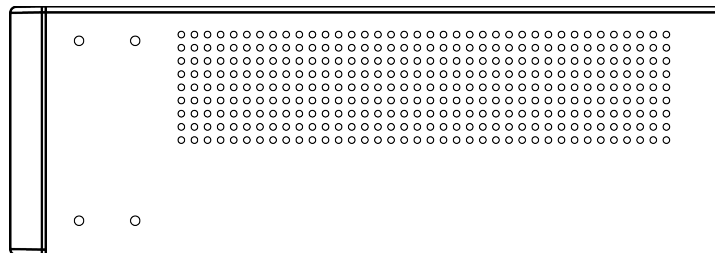
Top View

15.0 in
38.20

17.30 in
(43.94 cm)

Front View (below)

5.21 in
13.23 cm

Protection

Power
On/Off

AMP-2000

savant

Side View

Savant Confidential and Proprietary

121812 009-0493-00

Specifications

Environmental	
Temperature	32° to 104° F (0° to 40° C)
Humidity	10% to 80% Relative Humidity (non-condensing)
Cooling	202 cubic feet per minute (CFM) recommended.
Maximum BTUs	3925 BTUs per hour at maximum load
Dimensions and Weight	
Height	5.21 in/13.23 cm
Width	17.30 in/43.94 cm
Depth	15.00 in/38.20 cm
Weight	43 lb/19.5 kg (shipping weight)
Rack Space	3U
Power	
Input Power	120V AC, 60 Hz, 10 A - Model AMP-2000-00 (N. America)
Maximum Power	1150 W
Rated Current Draw	10A (1150 maximum wattage consumption)
Fuse Rating	T15AH/250V (120V area)
Power Connection	IEC 320 power connector with three-pole detachable power cord
Operating Parameter	
Rated Current Draw	40 WPC at 8 ohms, 50 WPC at 4 ohms (0.1% THD+N, 1kHz)
Input Impedance	33K ohms
Input Sensitivity	750mV for 40W at 8 ohms
Overall Voltage Gain	27.5 dB
Frequency Response	Bandwidth limited from 20 Hz to 20,000 Hz + 0.8 dB
Distortion (THD + N)	< 0.07% THD+N from 20Hz to 20,000 Hz, All channels driven at 8 ohms
Signal-to-Noise Ratio	>90dB
Input Triggers	3 – 24V AC/DC (5 mA)
Output Triggers	12V DC (100 mA)
Front Panel	
LEDs	The LEDs on the front panel are used for diagnostic purposes and to indicate protection modes. A description of the LEDs is available in the Amplifier AMP-2000 Quick Reference Guide. The central potential protection mode is the only mode, which activates the Protection LEDs on the front panel. This mode is more commonly known as the DC potential protection mode and is designed to protect the connected speakers from any DC voltage that is output from the AMP-2000. When the central potential protection mode is activated, the LED for that respective channel will be turned on (Red). When a channel is in the central potential protection mode other active channels will remain operational unless they are in a protection mode. After the fault is fixed, the AMP-2000 will automatically restart the disabled zone/channel.
Power Button	The Power button is the master power switch. No matter which turn-on mode you have selected, the Power button will turn off all circuitry—including the sensing circuitry.
Rear Panel	
See *Rear Panel Capabilities and Connectors,* page 5.	
Enclosure	
Metal enclosure, matte black	

45 Perseverance Way, Hyannis, MA 02601 ▼ P: 508-683-2500 ▼ F: 508-683-2600 ▼ www.SavantSystems.com   3 of 8
Savant Confidential and Proprietary

121812 009-0493-00

Included Items

The individual components included with the AMP-2000 are outlined in the next table.

Description	Quantity
Rack Mounting Brackets	2
Pan Head Phillips Screws for Brackets (M3x8mm)	4
AC Power Cord—6 ft	1
Screw Down Plug-In Connector for speaker output terminals	8
Rubber Chassis Feet	4
Audio Trigger Cable	1
Machine Screws - M4x12 mm PH-FL-MS-STL-BLK	8

Required System Components

The system components required for use with the AMP-2000 are outlined in the next table.

| Description	Model Number
Host Controllers	HST-4001, HST-4002, SVR-4100, or SVR-4100S
Ethernet Network	Enterprise-grade network deployment

Optional Accessories

The optional accessories available for use with the AMP-2000 are outlined in the next table.

Description	Model Number
SmartMedia Server—five-source digital audio player	SMS-005A
SmartMedia Server—two-source digital audio player	SMS-002A
1000 watt Subwoofer Amplifier	SPK-SUBAMP-00
4-Inch In-Wall Speaker	SPK-40IW-00
6.5-Inch In-Wall Speaker Pair	SPK-60IW-00
6.5-Inch In-Wall Speaker	SPK-65IW-00
8-Inch In-Wall Speaker Pair	SPK-80IW-00
7-Inch In-Ceiling Speaker Pair	SPK-70IC-00
7-Inch DVC In-Ceiling Speaker	SPK-72IC-00
7-Inch In-Ceiling Speaker	SPK-75IC-00
7-Inch Audiophile In-Ceiling Speaker	SPK-78IC-00
In-Wall Subwoofer Speaker	SPK-USUB-00
Speaker Bracket for SPK-40IW Pair	SPK-BR40-00
In-Wall Speaker Bracket	SPK-BR60-00
Speaker Bracket for Pair	SPK-BR68-00
In-Wall Sub Bracket	SPK-BR70-00
In-Ceiling Speaker Back Box	SPK-MFLR-00
PC Series 70 Volt Transformer (For SPK-70IC, SPK-72IC, SPK-75IC)	SPK-PC70V-00
8-Channel Digital Audio Amplifier	AMP-8125

121812 009-0493-00

Rear Panel Capabilities and Connectors

The next figure shows the rear panel of an AMP-2000. The callouts on the figure are explained in the next table.
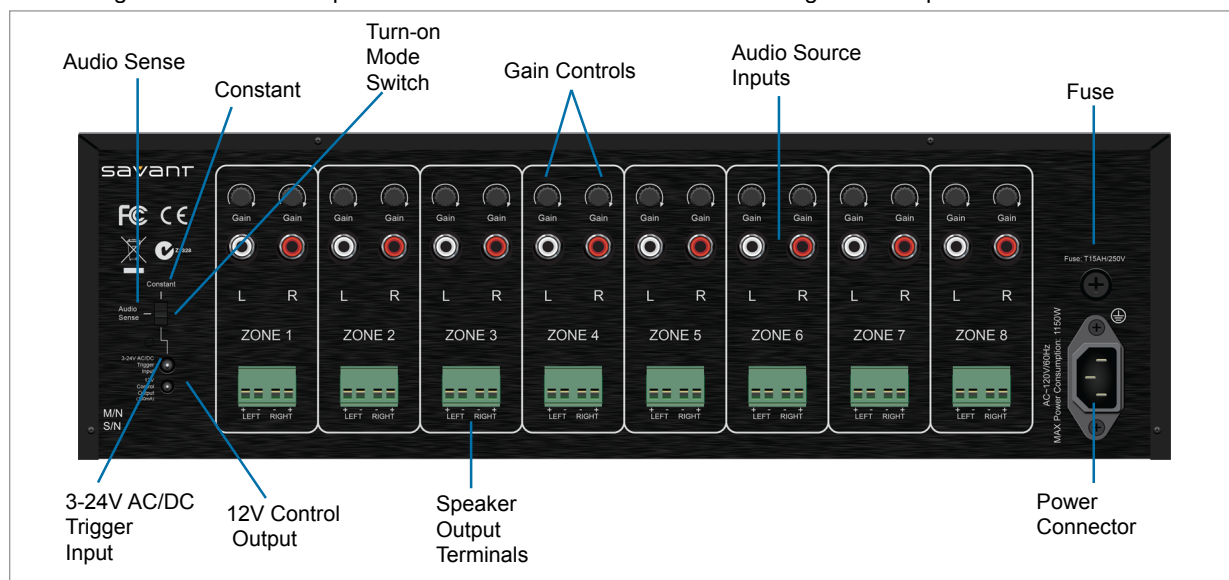
The next table provides descriptions of the callouts (right to left) on the previous figure.

Item	Description
Audio Sense	One of three options for determining when and how the amplifier will turn on—the audio sense mode allows the turn-on sensing circuitry to detect an audio signal on an individual channel and turn the associated zone on. Once the audio signal stops, the sensing circuit waits five minutes and then turns that amplifier zone off. The amplifier is off when there is no audio signal present at any of the 16 inputs, but the sensing circuitry is on.
Constant	One of three options for determining when and how the amplifier will turn on—Constant (manual turn-on via the front panel master Power button). In this mode the amplifier is always on. The front panel master Power button operates the amplifier.
Turn-on Mode Switch	The rear panel turn-on mode three-position slide switch determines when and how the amplifier will turn on. This switch provides three options for turning the AMP-2000 on and off. - Constant - Audio Sense - 3-24 AC/DC Voltage Trigger (External)
Gain Controls	The output level of each channel that can be fined tuned using the gain control for each channel on the rear panel.
Audio Source Inputs	Supports eight analog stereo inputs
Fuse	15 Amp/250V (replaceable)
3-24V AC/DC Trigger Input	Assuming the front panel power button is set to ON, the voltage trigger input provides the sensing circuitry that detects a voltage, all adjacent pairs of amplifier channels that are receiving an audio signal turn on. The amplifier is off when there is not a 3V-24V AC or DC voltage applied to the voltage trigger input. Once the voltage stops, the sensing circuit instantly turns the amplifier off. Voltage triggers can be supplied by Savant control platforms, some video projectors, or some surround sound processors.
12V Control Output	This port provides a 12V DC signal suitable for triggering an additional Savant AMP-2000 amplifier. This voltage is present only when the amplifier is active or on. When the amplifier turns off, the 12V signal is off.
Speaker Output Terminals	Ports used to connect speakers to the amplifier.When designing system, specify four to eight ohm speakers.
Power Connector	Removable IEC 320 power connector with three-pole AC power cord.

Distributed Audio

The AMP-2000 is an ideal eight-zone multi-room music system, as shown in the next figure, when paired with a Savant multi-room audio solution. A multi-room distributed audio solution is defined by how many listening zones it has. Within a listening zone you can only listen to one audio source—for example, internet radio, CD, or music server at a time.

An audio zone can consist of a single room or a group of rooms. When designing your distributed audio system, take into account who will use the system and when they will use it. For install _____ background music and your living room for surround sound.

A multi-zone system allows different sources to be heard in each of the zones _____ figure shows four audio sources connected to the Savant SmartAudio platform with 4 stereo preamps and 8 stereo outputs connected to the AMP-2000 for a 4 x 8 audio distribution solution (using an external trigger connection.)
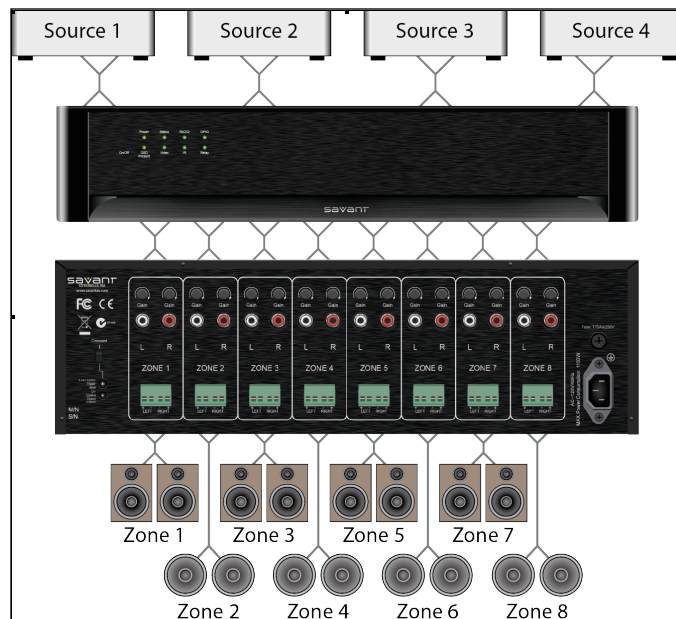
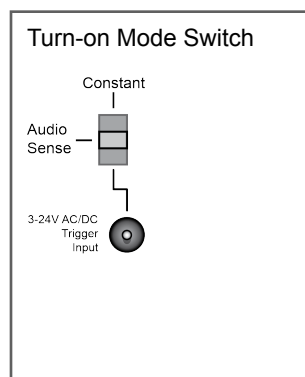**4 x 8 Audio Distribution Solution**

Wiring Considerations

The AMP-2000 connects to your Savant multi-room audio solution using shielded line level audio cables with RCA phono plugs. High quality RCA cables must be used to connect the multi-room audio to the amplifier inputs.

The AMP-2000 connects to your speakers using 2-conductor speaker wire. For most applications, Savant recommends using 16 or 18 gauge wire. For wiring runs longer than 80 feet Savant recommends using 14-gauge wire. Each channel features a removable screw terminal speaker connection for easy installation in tight spaces. The terminal connector can accommodate up to 14-gauge stranded speaker wire.

Bare speaker wire can be split so that at least two inches of each conductor are _____ and inserted into the appropriate _____ speaker connection.

TECH TIP
Wire size is expressed by its AWG (American Wire Gauge) number. The lower the number, the larger the wire, i.e. twelve AWG is physically larger than fourteen AWG.

Turn-on Mode Switch

Turn-on Mode Switch

The turn-on mode switch determines when and how the amplifier will turn on. This switch provides three options for turning the AMP-2000 on and off.
- Constant (manual turn-on via the front panel master Power button)
- Audio Sense
- 3-24 AC/DC Voltage Trigger (External)

Constant – In this mode the front panel master Power button is in the On position. The amplifier is always on. The front panel master Power button operates the amplifier.

**Audio Sense** – This mode provides for the following:
- The master Power switch on the front panel must be in the On position.
- The amplifier is off when there is no audio signal present at any of the 16 inputs, but the sensing circuitry is on.
- The turn-on sensing circuitry will detect an audio signal on an individual channel and turn the associated zone on.
- Once the audio signal stops, the sensing circuit, waits five minutes and then turns that amplifier zone off.

NOTE: The Audio Sensing threshold will turn on when the combined left and right jack input of each individual zone rises above -46dBV. When the level goes below the threshold for several minutes the zone will go to standby power mode.

45 Perseverance Way, Hyannis, MA 02601 ▼ P: 508-683-2500 ▼ F: 508-683-2600 ▼ www.SavantSystems.com   6 of 8
Savant Confidential and Proprietary

121812 009-0493-00

3-24V AC/DC Voltage Trigger

The 3-24 AC/DC voltage trigger mode allows you to configure the amplifier to turn on automatically. The 3-24 AC/DC voltage trigger mode which is selected using the three-position slide button (Turn-on-Mode Switch) assumes the following:
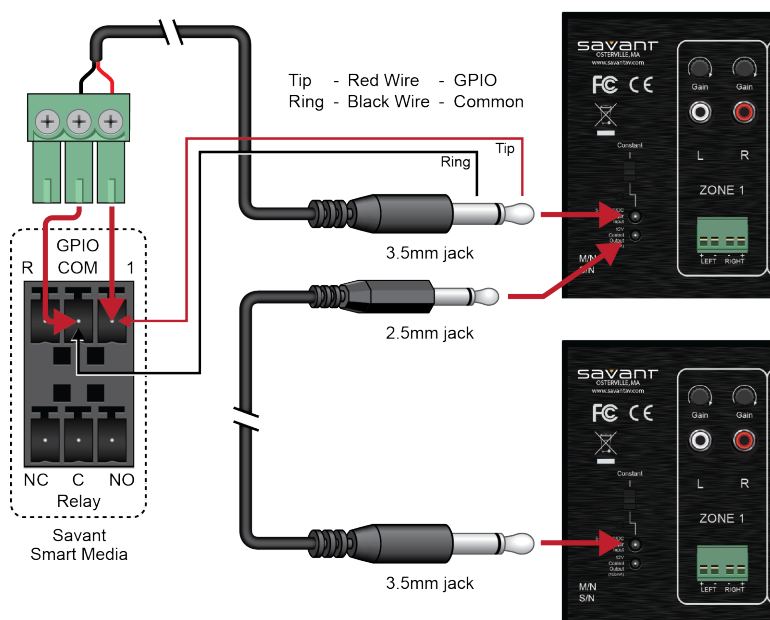
- The master Power button on the front panel must be in the On position.
- The amplifier is off when there is not a 3-24V AC or DC voltage applied to the voltage trigger input.
- Once the sensing circuitry detects a voltage, all adjacent pairs of amplifier channels that are receiving an audio signal turn on.
- Once the voltage stops, the sensing circuit instantly turns the amplifier off.
- Voltage triggers can be supplied by Savant control platforms, some video projectors, or some surround sound processors.
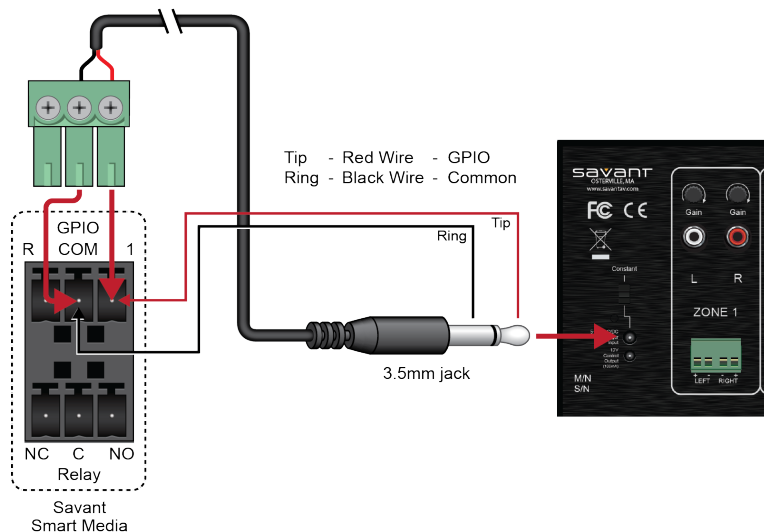
NOTE: A DC wall adapter must not be used. The long discharge time of the DC adapter's filter capacitor will delay the turn-off of the amplifier.

External Trigger Connection

External Trigger Connection - Daisy Chained

45 Perseverance Way, Hyannis, MA 02601 ▼ P: 508-683-2500 ▼ F: 508-683-2600 ▼ www.SavantSystems.com   7 of 8
Savant Confidential and Proprietary

121812 009-0493-00

Specifications for Installing Device in Rack

The AMP-2000 can be mounted in a 3U rack style enclosure. The next figure shows a partial view of a typical rack used to house an AMP-2000 and other devices. The AMP-2000 is compatible with all standard 19-inch National Electrical Manufacturers Association (NEMA) rack-mounts.
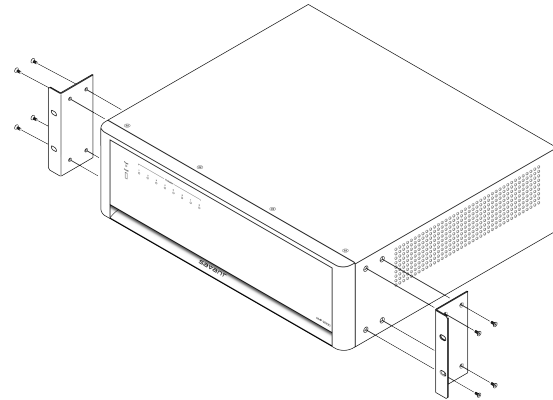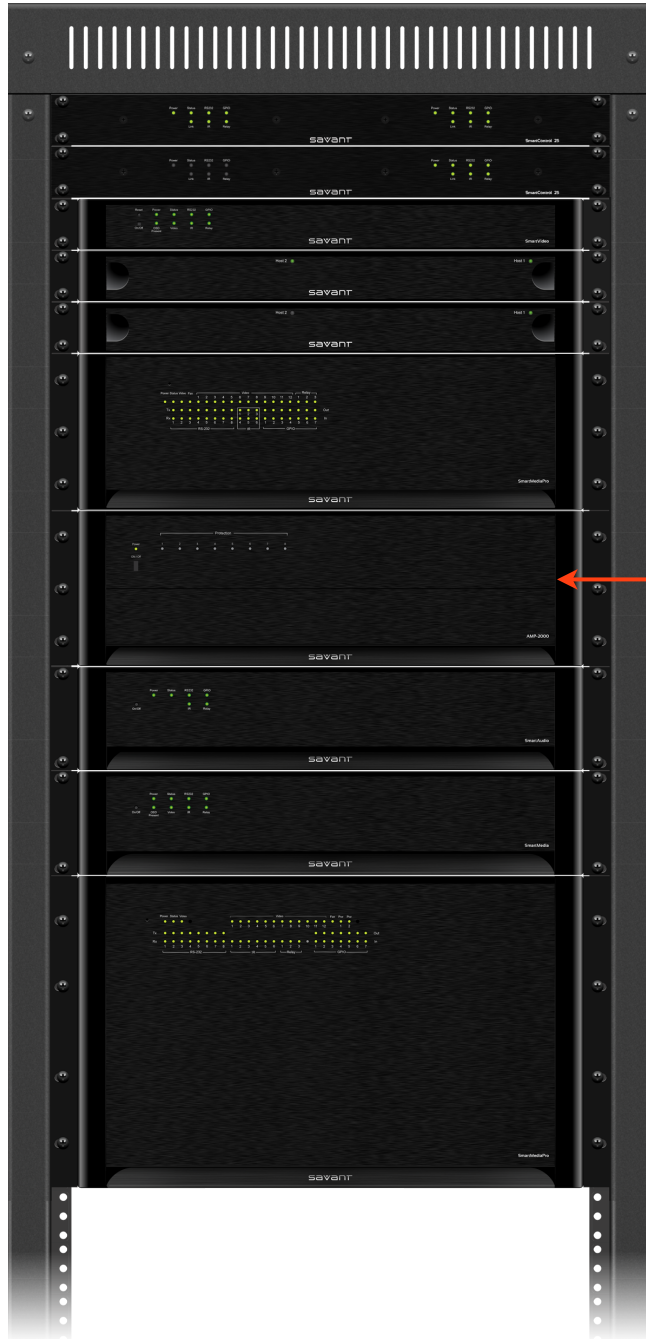
AMP-2000 with 3U mounting brackets (above)

AMP-2000

Installation Considerations

Savant recommends using cable supports on the rear of the chassis for audio/video control cabling.

This chassis needs adequate space on each side for air intake and exhaust—a minimum of two inches on each side. A minimum of three inches of clearance is required above and behind the amplifier.

45 Perseverance Way, Hyannis, MA 02601 ▼ P: 508-683-2500 ▼ F: 508-683-2600 ▼ www.SavantSystems.com   8 of 8
Savant Confidential and Proprietary

121812 009-0493-00