

Description

The SmartMedia Distributed Audio Solution (SSM-3100) is a system that delivers distributed audio/video switching, a single zone of TrueCommand™, and integrated control capability, all within a 2U fanless chassis.

The SSM-3100 is capable of distributing music in up to eight zones with the flexibility to play the same content throughout the home, or unique content in each room simultaneously and independently.

As part of the line of Savant SmartSystems control solutions, the SSM-3100 delivers 6 x 8 audio distribution, 6 x 1 video, TrueCommand™ on-screen display (OSD), and integrated control.

Six video inputs are available with the SSM-3100:

- (4) HDMI™
- (1) Component YPbPr
- (1) VGA, Analog RGBHV

SSM-3100 has sixteen RCA jack connections for passing analog line-level audio signals to an external multi-channel amplifier, for a distributed audio solution. See also, the technical specifications for AMP-2000/AMP-2000I.

SSM-3100 supports audio time-delay on stereo outputs 1-4 to compensate for lip sync errors. Audio can be delayed from 0 to 170 milliseconds (ms) in 1ms increments for proper lip sync compensation.

SSM-3100 also provides broadcast-quality video processing, scaling and calibration features.

The SSM-3100 enables Savant TrueCommand™ technology—an on-TV menu system used for navigating, browsing, and selecting diverse control subsystems and multimedia presented on HD displays.

Feature Summary

- Control and automation formats—Serial, IR, Relay, and General Purpose IO (GPIO)
- Multi-room audio distribution— any six audio sources to eight rooms or zones
- Video switching 6 x 1—HDCP compliant
- Video Processing and Scaling
 - Enables Savant TrueCommand™ technology
- 6 x 1 fast video switching—HDMI compatible and HDCP compliant
- Professional video processing, scaling and de-interlacing
- Integrated controller with twelve control ports including stereo preamp processing including independent control of volume, balance, bass, treble, and mute
- Complete control of all rooms, music and video when paired with Savant interfaces
- Playback of up to four independent iTunes® sources (external host required, not included)
- iTunes® Digital Media Server provided by the External Host (sold separately)
- Use RacePoint Blueprint™ design tool to configure and customize SSM-3100



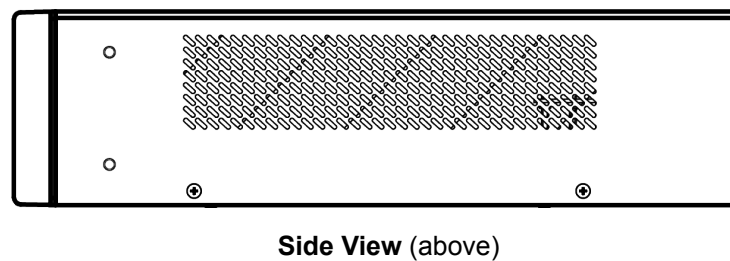
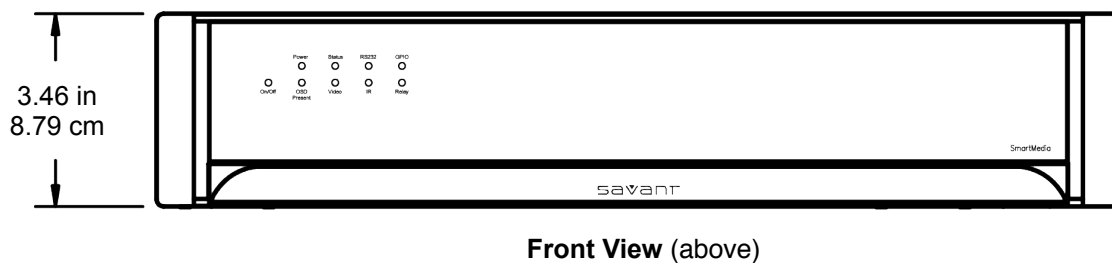
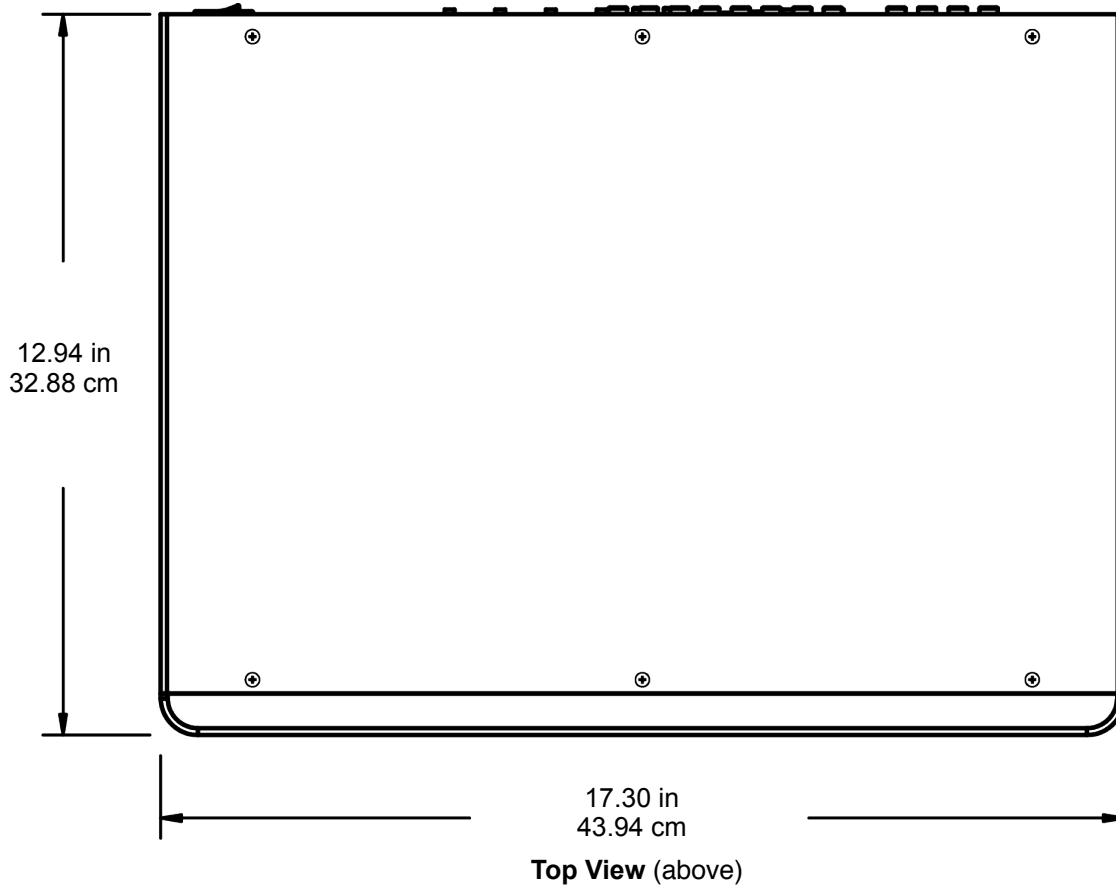
Front View of SSM-3100 (above)



Rear View of SSM-3100 (above)

Dimensions

The next figures show the top and front dimensions of the SSM-3100.



Specifications

Environmental				
Temperature	32° to 104° F (0° to 40° C)			
Humidity	10% to 80% Relative Humidity (non-condensing)			
Cooling	10 cubic feet per minute (CFM) recommended.			
Maximum BTUs	188 BTUs per hour			
Dimensions and Weight				
Height	3.46 in/8.79 cm			
Width	17.30 in/43.94 cm			
Depth	12.94 in/32.88 cm			
Weight	15.5 lb/7.03 kg			
Rack Space	2U			
Power				
Input Power	100-240V AC, 50/60 Hz			
Nominal Power	35 watts (75 VA)			
Maximum Power	55 watts (120 VA)			
Compliance				
Safety and Emissions	FCC Part 15 S Mark CE Mark C-Tick			
RoHS	Compliant			
Front Panel				
The LEDs on the front panel are used for diagnostic purposes. A description of the LEDs is available in the SSM-3100 Quick Reference Guide. The On/OFF pinhole is used to take the system out of standby mode.				
Rear Panel				
See <i>Rear Panel Capabilities and Connectors</i> , page 5.				
Video Inputs and Outputs		Audio Inputs and Outputs		
<ul style="list-style-type: none">• Host HDMI<ul style="list-style-type: none">- Input port for HST-4001, HST-4002- Distributes up to four iTunes® sources from External Host• VGA Component YP_BP_R (1)• HDMI In (4)• HDMI Out (1)• Six Video Inputs:<ul style="list-style-type: none">- HDMI™ (4)- Component YP_BP_R (1)- VGA Analog RGBHV (1)• Video Switching 6 x 1, HDCP compliant• Output of 3D Video Resolutions<ul style="list-style-type: none">- 1080p at 24 Hz (Frame Packed/Top and bottom)- 720p at 50/60 Hz (Frame Packed/Top and bottom)- 1080i at 50/60 Hz (Side by Side)• Video Processing and Scaling (HDMI Out)<ul style="list-style-type: none">- Video resolutions up to 1080p60 or 1920x1200@60Hz- Supports Frame Rate Conversion- Adaptive mosquito noise reduction, block artifact, and temporal noise reduction- Hue, Saturation, Brightness and Contrast (HSBC) control- Aspect Ratio: anamorphic and panoramic full screen, and pillar box.	<ul style="list-style-type: none">• Audio switching and processing<ul style="list-style-type: none">- Multi-room audio switching, up to 6 x 8 (digital and analog inputs)- Stereo Preamp Processing: Independent control of volume, balance, bass, treble, mono, and mute• Digital Audio Out (1)• Stereo Out (8)• Digital Audio In (2)• Stereo In (4)			
	Source Signal Type	Audio Output Connector Type		
		HDMI	Digital Coaxial	2.0 Stereo RCA
	Dolby TrueHD	✓		
	DTS-HD Master Audio	✓		
	Dolby Digital	✓	✓	
	Dolby Digital EX	✓	✓	
	DTS Digital Surround	✓	✓	
	DTS -ES Discrete 6.1	✓	✓	
	DTS-ES Matrix 6.1	✓	✓	
	DTS 96/24	✓	✓	
	Stereo PCM	✓	✓	✓
	Enclosure			
	Metal enclosure, matte black			

Included Items

The individual components contained in the installation kit (075-0075-XX) for the Savant SmartMedia (SSM-3100) are outlined in the next table.

Description	Quantity
2U Rack Mounting Brackets	2
Phillips Screws for Brackets (M5X12MM FLAT)	4
AC Power Cord (6 ft)	1
6-Pin Screw Down Connector for IR ports	2
3-Pin Screw Down Connector for GPIO and Relay ports	2
HDMI Locking Cable (3 ft)	1
Quick Reference Guide	1

Required System Components

The system components required for use with the SSM-3100 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

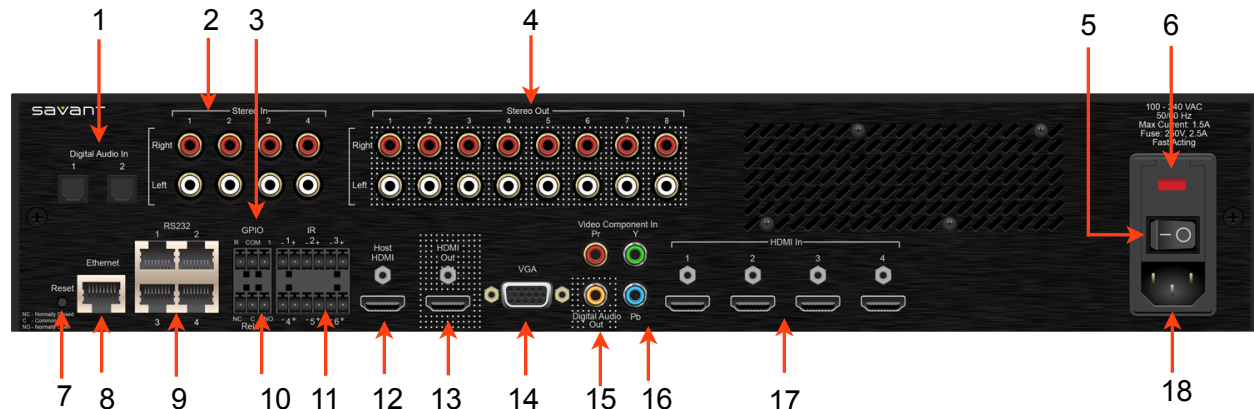
Optional Accessories

The optional accessories available for use with the SSM-3100 are outlined in the next table.

Description	Model Number
RS-232 Adapter Kit (5 pack)	SAK-1000
Infrared (IR) Emitter	IRB-1000
Infrared (IR) Emitters (10 pack)	IRB-1010
HDMI locking cable (3 ft)	CBL-3LHDMI
HDMI locking cable (6 ft)	CBL-6LHDMI
HDMI over Cat 5/6 Solution Set	HCX-1010
HDMI over COAX Solution Set	HCX-1100
HDMI over Multi-Mode Fiber Optic Cable Solution Set	HCX-1200
Structured Wire Bundle (3) Cat 5E + (1) 14/2 AWG	CBL-1000
RJ-45 Serial Adapters Flow Null (10-pack)	CON-10FN
RJ-45 Serial Adapters Flow No Null (10-pack)	CON-10FNN
DB-9 Mini Gender Changer (10 pack)	CON-10GEN
RJ-45 Serial Adapters No Flow Null (10-pack)	CON-10NFN
RJ-45 Serial Adapters No Flow No Null (10-pack)	CON-10NFNN
3-pin Screw-Down Connector (25 pack)	CON-STC3
6-pin Screw-Down Connector (25 pack)	CON-STC6
USB 2.0 over Cat 5E Digital Extender Set	UCX-2000

Rear Panel Capabilities and Connectors

The next figure shows the rear panel of an SSM-3100. The numbered callouts in the figure are explained in the next table.

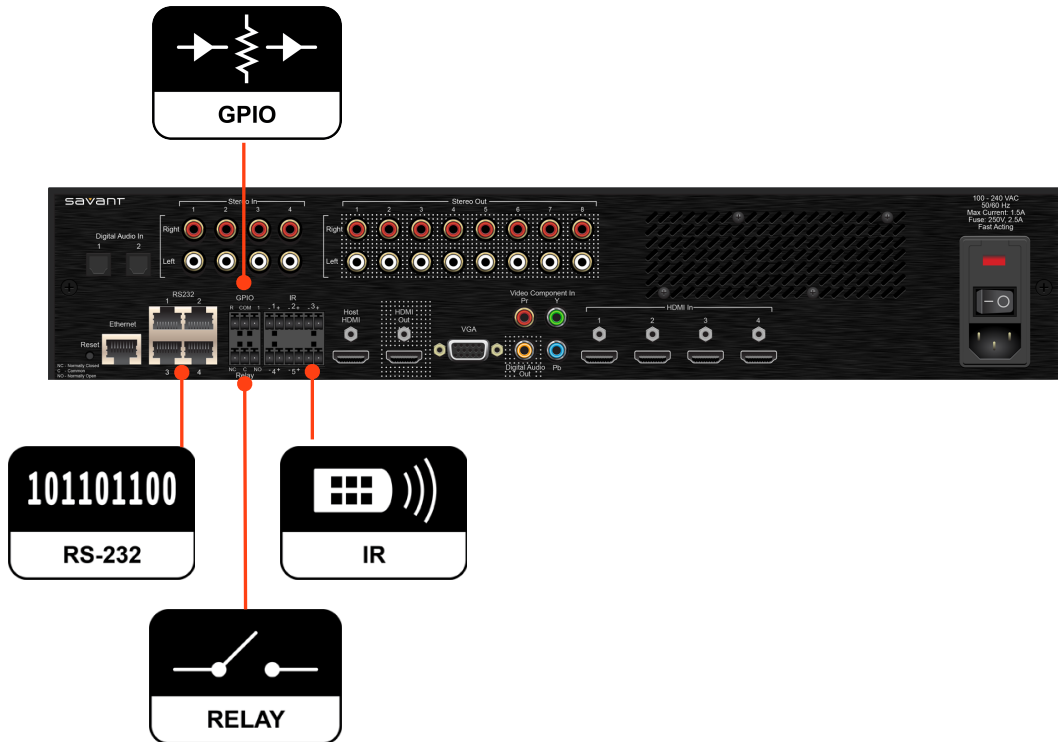


The next table describes the numbered callouts in the previous figure.





Number	Item	Description
1	Digital Audio In: 1, 2	Input ports support TosLink to receive digital audio signals.
2	Stereo In: 1,2,3,4	Right and Left (8) RCA jacks for audio input
3	GPIO	General Purpose Input and Output ports—uses 3-pin screw-down connector. The digital GPIO ports are binary I/O ports used for contact closure, trigger (output), or detect (input). R is reserved (not used). The COM pin is used for common ground. Pin 1 is used for input or output.
	GPIO Input	When configured as an input, the port detects a voltage present (GPIO input). GPIO inputs can safely detect the presence of a voltage of 0-30V DC with a threshold of approximately 2.4V DC.
	GPIO Output	When configured as an output, a GPIO port outputs a voltage between 0-12V DC. The maximum current per port is 150 milliamps. An overcurrent condition shuts down the output until that condition is removed.
4	Stereo Out: 1,2,3,4,5,6,7,8	Right and Left (16) RCA jacks for audio output
5	I/O	On/Off button - 1 is used to power the controller (chassis) to the On state. 0 is used to power the controller (chassis) to the Off state.
6	Fuse	250V, 5A—Fast acting fuse. This is replaceable.
7	Reset button	Resets the CPU and reboots the system.
8	Ethernet	RJ-45 10/100 Base-T, auto-negotiating port
9	RS-232	RJ-45 ports used to transmit and receive serial binary data transmission.
10	Relay NC/C/NO (Normally Closed/Common Normally Open)	This port provides dry contacts (open/closed) to control devices requiring basic on/off operation. A single relay port can carry a maximum of 30V DC with a maximum current of 1.0 amps. Input from a device to the Savant controller is not supported through a relay. Uses a 3-pin screw-down connector (3.81 mm)
11	IR 1-6	Infrared transmitter ports (Two 6-pin 3.81mm screw down connectors)
12	Host HDMI	Input port for external host (HST-4001, HST-4002)—locking HDMI connectors
13	HDMI Out	HDMI output port to HDTV (for example)
14	VGA	Input analog RGBHV signal port—Component YPbPr capable.
15	Digital Audio Out	Digital Coaxial connector. See compatible audio <i>Source Signal Types</i> , page 3.
16	Video Component In	RCA jacks for component input: YPbPr
17	HDMI In (1-4)	Input ports for devices using High-Definition Multimedia Interface
18	Input Power	100-240V AC, 50/60 Hz

Devices Supported by SSM-3100

The next figure shows a rear view of the SSM-3100. Some of the devices that can be controlled using the control ports in an SSM-3100 are described in the next table.



The next table describes the typical uses associated with the ports on the SSM-3100.

Port Quantity	Port Type	Port Icon	Typical Uses
4	Serial		Lighting, Displays, Door Entry Systems, and Heating Ventilation Air Conditioning (HVAC)
6	Infrared		Blu-ray Players, Displays, and Set Top Boxes (Cable and Satellite)
1	General Purpose Input Output		Equipment Power Sensing, and Voltage Control Applications
1	Relay		Shade Control, Gate Controllers, Door Latches, and Motorized Lifts

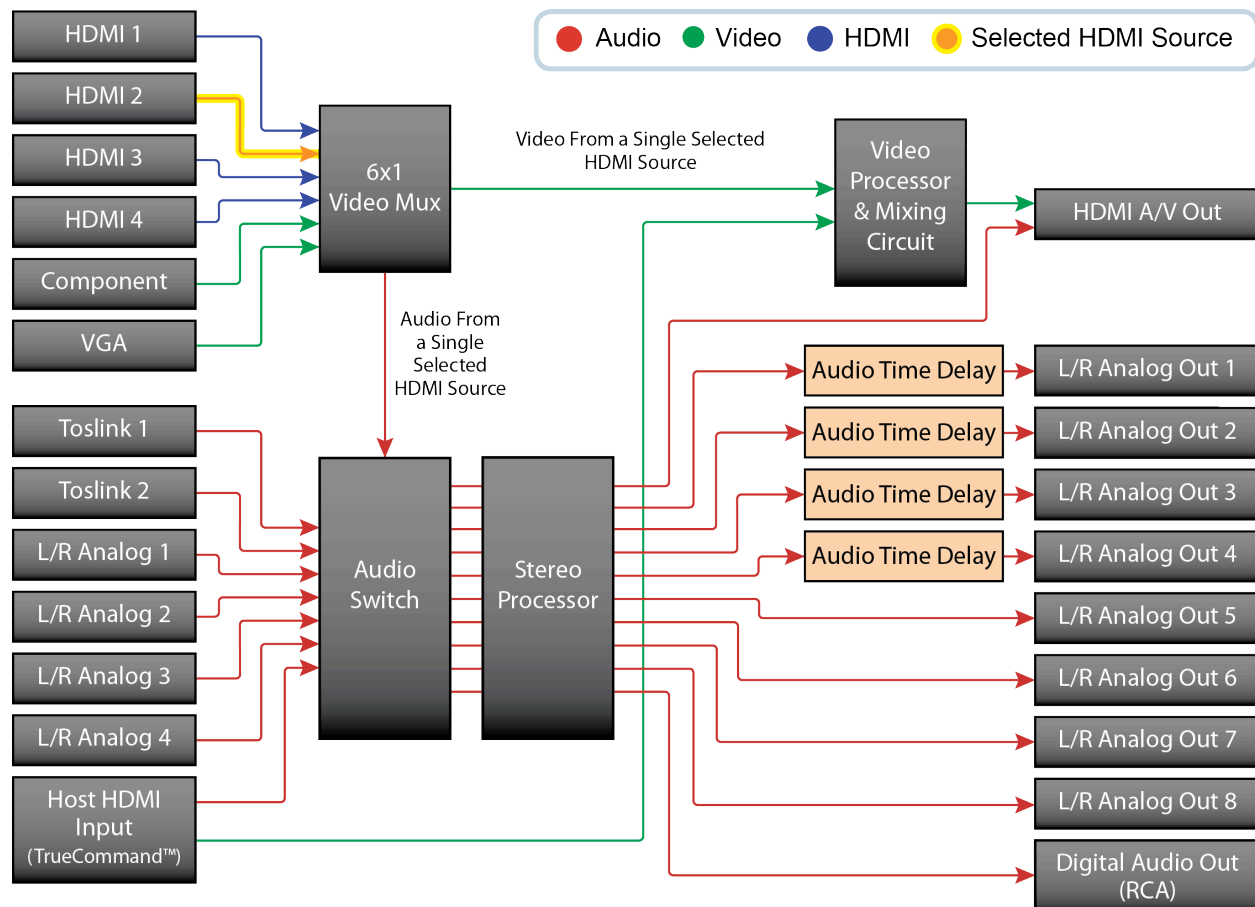
System Design Considerations

On an SSM-3100, the HDMI input port that is the source for the video out, can send and share its audio with the audio matrix switch internally. The other three HDMI input ports are standing idle and ready for the *HDMI OUT* to select it as a source.

In the top half of the next figure the video multiplexer (MUX) processes the inputs and outputs plus mixing in the host OSD (True Command™). The bottom half of the figure shows the audio matrix switcher with the inputs and outputs. The active video selected to go out can also be added to the audio matrix switcher. The Audio line delay is also shown in relation to the analog outputs.

Audio Time Delay

Since the SSM-3100 supports audio time-delay on stereo outputs 1-4, it has the ability to allow programmable lip-sync delay up to 170 milliseconds (ms) per channel in 1ms increments through **System Monitor**— which is packaged with Savant's platform, RacePoint Blueprint™. When audio is outputted on stereo outputs 1-4, the audio delay is used to compensate for long video processing delays on some displays (TVs).



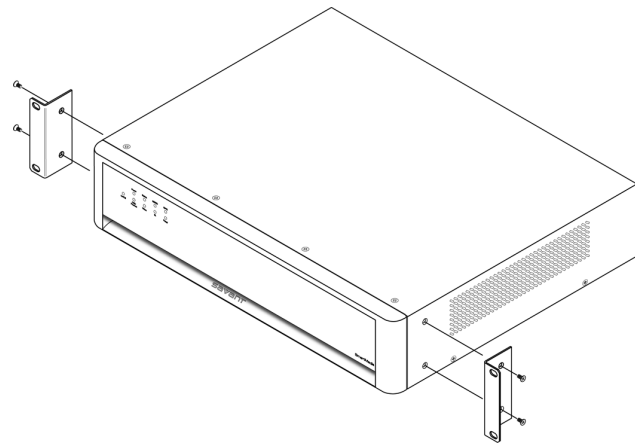
SmartMedia Audio and Video Routing: SSM-3100

Specifications for Installing Device in Rack

The SSM-3100 can be mounted in a 2U rack style enclosure. The next figure shows a partial view of a typical rack used to house an SSM-3100 and other devices. The SSM-3100 is compatible with all standard 19-inch National Electrical Manufacturers Association (NEMA) rack-mounts.



SSM-3100



SSM-3100 with 2U
mounting brackets (above)

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.