

Crestron Adagio™ AMS-AIP

Adagio

Media System

w/Advanced Image Processing



- > Integrated surround sound processor and amplifier
- > Audyssey MultEQ advanced automatic equalization
- > High-definition analog and HDMI/DVI digital video switching
- > Advanced video image processing
- > Audio distribution for 4 to 6 rooms, expandable up to 24
- > Choice of 12-button room keypads or APAD LCD controllers
- > Accepts up to 3 dual radio tuner cards for XM and SIRIUS Satellite Radio, and AM/FM radio with RDS/RBDS (1 tuner card included)
- > Plug-and-play support for Adagio Audio Server and iPod interface¹
- > Set up via front panel or software
- > 2-Series Ethernet control system — programmable to support Crestron touchpanels, wireless remotes, lighting dimmers, thermostats, and much more!

The Adagio AIP Media System (AMS-AIP) delivers a high-performance digital home theater and multi-room audio distribution solution in one elegant yet cost-effective package. Right out of the box, the AMS-AIP provides sophisticated surround processing, amplification, and digital video processing for a complete home theater, plus audio signal routing for 4 or more pairs of remote room speakers. Its built-in Crestron control system enables enhanced control and integration capability for AV and home automation.

Advanced Image Processing—The AMS-AIP scales video input signals to match the native resolution of your high-definition display, supporting output resolutions up to 1080p with a choice of component, HDMI, DVI, or RGB connectivity. Featuring Gennum's Visual Excellence Processing™ with TruMotionHD™ fully adaptive deinterlacing, the AMS-AIP achieves exceptional image sharpness and resolution from both SDTV and HDTV sources. RealityExpansion™ 10-bit image processing employing FidelityEngine™ image enhancement delivers astounding realism and detail. FineEdge™ dynamic directional interpolation eliminates jaggy artifacts typical of traditional deinterlacing algorithms. Onscreen graphics provides useful feedback during setup and operation, and can even be customized like an Isys® touchpanel for a personalized appearance. PIP and PBP processing with alpha blending enable versatile windowing capabilities for displaying combinations of any two video sources, or video plus graphics.

HDMI™ and DVI Technology—The AMS-AIP's HDMI inputs and output provide simplified connectivity for today's and tomorrow's high-end components, providing a single-cable digital interface that combines uncompressed high-definition video, multi-channel audio, and intelligent format and command data. HDMI (High Definition Multimedia Interface) switching supports the routing of DVD and DTV sources to a single HDTV display up to 1080p, and can decode digital audio signals from DVD-Audio, SACD, Dolby Digital and DTS sources. The addition of DVI affords increased compatibility for connecting multimedia computers and a wide range of professional video players, displays, and projectors.

7.1 Surround Sound—The AMS-AIP features a state-of-the-art surround sound processor and powerful 7-channel amplifier designed to deliver jaw-dropping sonic performance from all of today's digital sources. Dolby® Digital EX and DTS-ES 96/24 decoding achieve superlative sound quality from the latest generation of DVD video and audio titles, with a full set of decoding and processing modes provided to support and enhance the vast range of movies and music available.

High-End Audio Performance—A thunderous 7x100 Watts of amplification, plus discrete subwoofer/LFE balanced line output, are furnished to drive any 5.1, 6.1, or 7.1 theater speaker system with powered subwoofer. An advanced Class G amplifier topology produces the great sound of a classic Class AB design with near-digital efficiency. Independent six-band parametric EQ is provided on each output channel including the subwoofer/LFE output, as well as time-delay affording up to 100ms per channel for proper lip-sync and speaker placement compensation.

Audyssey MultEQ®—Audyssey MultEQ facilitates an optimum listening experience for every seat in your theater using an ingenious equalization solution that automatically corrects for time, level, and frequency response of each speaker within the space. MultEQ is the only technology of its kind capable of properly measuring sound information throughout the listening area, and combining that information to accurately represent the acoustical intricacies in the room. Based on these measurements, MultEQ meticulously calculates an equalization solution that effectively removes sound distortion at every listening position.

Copious AV Inputs and Outputs—To accommodate a full complement of audio sources, the AMS-AIP supplies a total of 10 S/PDIF digital audio inputs, 3 HDMI inputs, 10 analog stereo inputs, and one analog 7.1 surround input. In addition to its speaker and subwoofer outputs, the AMS-AIP furnishes unbalanced line-level audio outputs containing the 7.1 surround signal as well as a stereo downmix signal. High-definition video switching is also provided for 1 DVI and 3 HDMI high-resolution digital sources, plus 8 component, 4 S-Video, and 4 composite analog video sources.

Multi-Room Audio—In addition to surround sound in the home theater, the AMS-AIP also distributes stereo audio to feed several pairs of remote room speakers. Listeners in each room can enjoy their own choice of radio stations, CDs and MP3s, or even a stereo downmix of the surround sound output. Each room includes its own volume, bass, and treble controls, with the ability to combine a group of rooms easily at the press of the "Party Mode" button.

The integrated multi-room amplifier delivers a robust 45 watts per channel to each of 4 rooms. A fifth stereo room, or up to 2 mono rooms, can be supported using spare surround channels if the theater is configured as 6.1, 5.1, or lower. And without requiring any programming, the AMS-AIP can easily be expanded to support another six rooms by adding an AAE Audio Expander. In fact, a total of three AAE's may be added, with simple setup afforded using Crestron Adagio Composer software, supporting up to 24 rooms in all (plus the theater).

2-Channel Steering—For homes that combine their theater with their main living space, some additional signal routing flexibility is needed. Listening to stereo music through the theater's main front speakers can have a distracting effect when there's music playing throughout the house. With 2-channel and multi-channel steering capability, the AMS-AIP lets you listen through the theater's side or rear speakers instead of, or in addition to, the front speakers for the most cohesive whole-house listening experience.

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Satellite Radio—Up to 3 dual radio tuner cards can be installed in the AMS-AIP to enable combinations of up to 6 AM/FM, XM and SIRIUS® Satellite Radio tuners, letting listeners in different rooms each enjoy their own choice of music, news, sports and talk. For satellite and most FM stations, the AMS-AIP displays data such as the radio station name, song and artist, traffic, weather, and phone numbers. The AMS-AIP comes with one tuner card included.

MP3 Audio Servers—Plug-and-play compatibility with Crestron's AAS Adagio Audio Server¹ and CEN-IDOC Interface for Apple iPod[®] delivers instant access to an entire collection of music from any room in the house with full capability for browsing by album, artist, and song title.

Enhanced Front Panel Control—With its large backlit LCD display, Room and Preset buttons, 4 softkeys and dual rotary encoders, the AMS-AIP front panel provides a very powerful, yet friendly user interface for setting up and controlling the theater along with a houseful of speakers. Custom naming of rooms, groups, and sources is facilitated on the LCD display, and also on the custom label strip using Crestron Engraver software. A selection of pre-made labels is also included.

Versatile Room Controls—A choice of basic 12-button keypads or the advanced APAD Wall Mount LCD Controller enables versatile control of the AMS-AIP in every room. A keypad provides the essential controls for adjusting volume, selecting sources, and toggling up and down through tracks and radio channels. For more elegant control, the APAD actually extends the many functions of the AMS-AIP front panel to each room, providing true feedback for display of audio sources, radio stations, CD titles, artists, and tracks by name, plus audio settings and many other parameters.

2-Series Ethernet Control System—Adagio brings Crestron's industry-leading Total Home Technology to homes of any size and budget. At the heart of the AMS-AIP is the powerful 2-Series control engine. With both Cresnet and Ethernet connectivity, plus custom programmability using Crestron SystemBuilder™ software, the AMS-AIP allows nearly limitless expansion and customization using Crestron's entire line of touchpanels, wireless remotes, and hundreds of other devices. The built-in Web server with native e-Control[®]2 XPanel support enables full remote control over IP from computers and PDA devices, as well as remote diagnostics and updates. Built-in IR, RS-232, relay and digital input ports are included to interface the AMS-AIP with non-Crestron devices ranging from CD changers to security systems.

Home Automation and Integration—More than just a home audio video system, the AMS-AIP can actually grow as part of a complete home automation solution supporting all of Crestron's Cresnet and iNET™ controllable dimmers, shade controllers, thermostats, and so much more.

AVAILABLE MODELS

AMS-AIP Adagio Media System AIP with Dual AM/FM Radio Tuner Card

AMS-AIP-SR Adagio Media System AIP with AM/FM and Sirius Satellite Radio Tuner Card

AMS-AIP-XM Adagio Media System AIP with AM/FM and XM Satellite Radio Tuner Card

SPECIFICATIONS

Control Processor

CPU: 32-bit Freescale ColdFire® Microprocessor

Memory: 16MB Flash, 32MB SDRAM, 256kB NVRAM

Operating System

Real-time, preemptive, multitasking kernel, multi-threaded, FAT32 file system with long names; supports SIMPL™ Windows® and SIMPL+®

Ethernet

10/100BaseT, static IP or DHCP/DNS, SSL, autonegotiating, full duplex TCP/IP, UDP/IP, SMTP, SNMP, built-in Web server and e-mail client; supports Crestron e-Control 2 XPanel and RoomView applications

Graphic Engine

24-bit graphics + 8-bit alpha channel transparency, 16.7 million colors, Synapse image rendering algorithm, full-motion (60 fps) animation, transition effects, PNG translucency, color key video windowing

Graphics Processor

CPU: 32-bit Freescale ColdFire® Microprocessor

Memory: 32MB Flash, 32MB DRAM

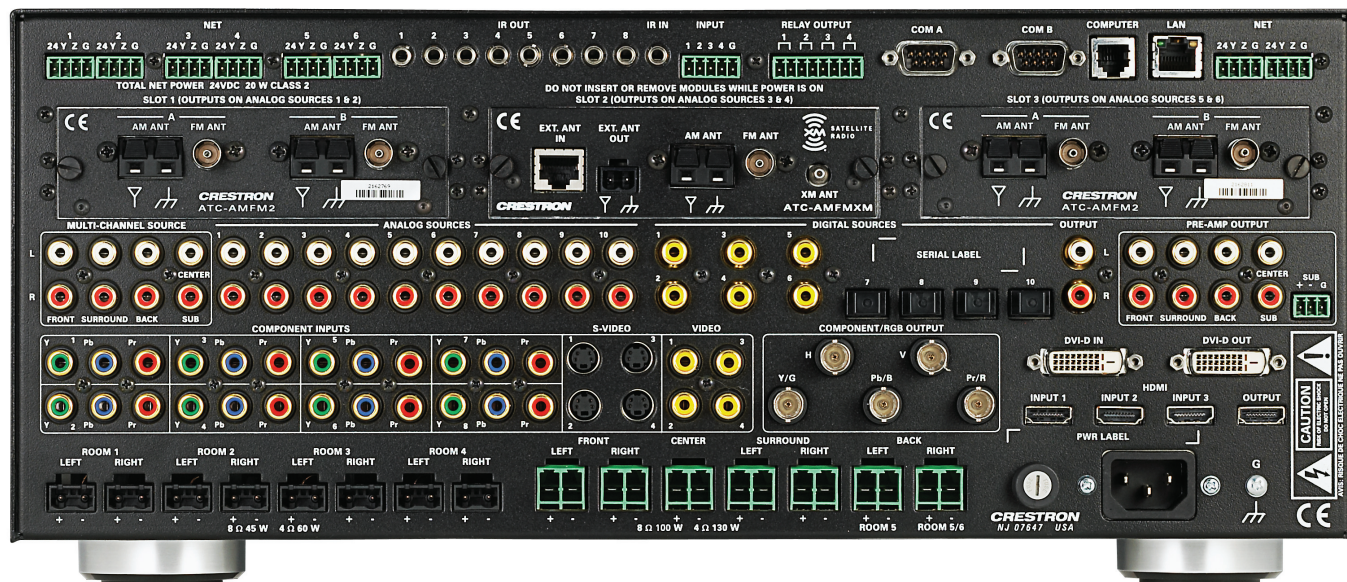
Video

Scaling Processor: Gennum VXP™ with dual channel image processor

Input Signal Types: HDMI, DVI, component (YPbPr), S-Video (Y/C), and composite video

Output Signal Types: HDMI, DVI, component (YPbPr), RGB

Input Formats: NTSC or PAL, HDTV up to 1080i/1080p (1080p via HDMI/DVI only)



Rear View — Shown with (2) ATC-AMFM2 and (1) ATC-AMFMXM Tuner Cards installed

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Input Resolutions, Interlaced: 480i, 576i, 1080i

Input Resolutions, Non-Interlaced: 640 x 480 min. to 1600 x 1200 @ 60Hz max.

Output Resolutions, Interlaced: 1080i

Output Resolutions, Non-Interlaced: 800x600 SVGA, 1280x720p, 1024x768 XGA, 1280x768 WXGA, 1365x768 WXGA, 1366x768 WXGA, 1280x960, 1280x1024 SXGA, 1400x1050 (up to 75Hz) SXGA+, 1920x1080p

Output Aspect Ratios: 4:3, 5:4, 15:9, or 16:9

Gain: 0dB (75 ohms terminated)

Bandwidth: 400MHz

Crosstalk: >54dB

S/N: >70dB

Audio – Surround Sound Processor

Processor: Texas Instruments DA610 Aureus™ 32-bit floating point DSP w/Audyssey MultEQ® setup algorithms

Analog-To-Digital Conversion: 24-bit 48 kHz

Digital-To-Analog Conversion: 24-bit 48 kHz

Supported Formats/Modes: Bypass, Stereo, PCM 96/24, 2-channel steering (surround or rear), Multi-channel stereo, Ambience Effects (Cathedral, Hall, Stadium, Jazz Club), Dolby® Pro Logic IIx, Dolby Digital 5.1, Dolby Digital EX, DTS Neo:6, DTS Virtual, DTS Digital 5.1 Discrete, DTS ES 6.1 Discrete, DTS ES 6.1 Matrix, DTS 96/24

Surround Sound Master Volume: -80dB to +20dB, 0.5dB steps

Speaker Compensation: ±6dB, 0.5dB steps

Low Frequency Effects (LFE): -10dB to +0dB, 0.5dB steps

Mode Trim (Level Preset): ±12dB, 0.5dB steps (master); ±12dB, 0.5dB steps (per output); -10dB to +0dB, 0.1dB steps (LFE)

Input Compensation: ±10dB, 0.5dB steps

Mute: -80dB (electronic), >-100dB (relay)

Bass Gain Range: ±12dB, 0.1dB steps

Treble Gain Range: ±12dB, 0.1dB steps

EQ Modes: Audyssey MultEQ or 6-band parametric or graphic per surround/subwoofer output channel

PEQ Filter Gain: ±12dB, 0.5dB steps

PEQ Filter Bandwidth: 0.02 to 2.0 octaves

PEQ Filter Center Frequency: 20Hz to 20kHz

GEQ Filter Gain: ±10dB, 0.5dB steps

GEQ Filter Center Frequencies: 50, 180, 630, 2.3k, 8k Hz

Crossover/High-Pass Frequency: 40 to 200 Hz, 10Hz steps

Maximum Delay: 100mS per channel for picture delay + speaker distance compensation

Dynamic Range (compression): Minimum, Standard, Maximum

Frequency Response: 20Hz to 20kHz, ±0.2dB (preamp), ±0.75dB (power amp)

THD+N: <0.05% (preamp), 0.05% (power amp) 20Hz to 20kHz

S/N Ratio: >100dB (preamp), 100dB (power amp) 20Hz to 20kHz A-weighted

Dynamic Range: >113dB

Channel Separation: >90dB (preamp), >80dB (power amp)

Audio – Multiroom Distribution

Typical of up to 5 Stereo, or 4 Stereo + 2 Mono Room Outputs:

Controls: Volume, Balance, Bass, Treble, Loudness, Mute, Mono, Input Compensation

Volume Gain Range: -80dB to +20dB, 1 dB steps

Mute: -100dB (electronic), -120dB (relay/room off)

Input Compensation: ±10dB

Bass Gain Range: ±12dB @ 100Hz, 2 dB steps

Treble Gain Range: ±12dB @ 10kHz, 2 dB steps

Frequency Response: 20Hz to 20kHz, ±0.2dB (preamp), ±0.75dB (power amp)

S/N Ratio: >100dB (preamp), 100dB (power amp) 20Hz to 20kHz A-weighted

THD+N: <0.05% (preamp), 0.05% (power amp) 20Hz to 20kHz

Stereo Separation: >80dB (preamp), >75dB (power amp)

Connectors – Control

NET 1 – 6: (6) 4-pin 3.5mm detachable terminal blocks, Cresnet Master ports
Provide data and power for keypads and other Cresnet devices

IR OUT 1 – 8: (8) 3.5mm TRS mini-phone jack, IR/Serial port

IR output up to 1.2 MHz, 1-way serial TTL/RS-232 (0-5V) up to 9600 baud

IR IN: (1) 3.5mm TRS mini-phone jack

For connection of the CNXRMIIRD IR receiver (sold separately); allows IR wireless control from Crestron and third-party remotes using RC-5 IR commands

INPUT 1 – 4: (1) 5-pin 3.5mm detachable terminal block comprising (4) digital inputs
Rated for 0-24 Volts DC, referenced to GND

Input Impedance: 2.2k ohms pulled up to 5 Volts DC

Logic Threshold: 2.5 Volts DC nominal

RELAY OUTPUT 1 – 4: (1) 8-pin 3.5mm detachable terminal block

Comprises (4) normally open, isolated relays

Rated 1 Amp, 30 Volts AC/DC; MOV arc suppression across contacts

COM A – B: (2) DB9 male, bidirectional RS-232 ports

Up to 115.2k baud, hardware and software handshaking support

COMPUTER: (1) 6-pin RJ11 female, bidirectional RS-232 computer console port

LAN: (1) 8-wire RJ45 with 2 LED indicators, 10/100BaseT Ethernet port

Green LED indicates link status, yellow LED indicates Ethernet activity

NET: (2) 4-pin 3.5mm detachable terminal blocks

Cresnet Master ports, paralleled with NET ports 1 through 6

Connect to AAE(s), RF Gateway, and other Cresnet devices

USB (front): (1) USB Type B female (behind label strip)

USB 1.1 computer console port (cable included)

Connectors – Audio

SLOT 1 – 3: (3) Adagio tuner card slots, accept choice of dual tuner cards

Outputs from the tuner cards parallel with ANALOG SOURCES 1 – 6

MULTI-CHANNEL SOURCE: (8) RCA female

Unbalanced line-level 7.1 Surround Sound audio inputs

Maximum Input: 3.2 V_{RMS} (flat)

Input Impedance: 47k ohms

ANALOG SOURCES 1 – 10: (20) RCA female comprising (10) unbalanced stereo line-level audio inputs; inputs 1 through 6 parallel with outputs from tuner card slots

Maximum Input: 3.2 V_{RMS} (flat)

Input Impedance: 47k ohms

DIGITAL SOURCES 1 – 6: (6) RCA female, S/PDIF coaxial digital audio inputs

Input Impedance: 75 ohms

DIGITAL SOURCES 7 – 10: (4) JIS F05 female (TOSLINK) optical fiber connectors

S/PDIF optical digital audio inputs

OUTPUT: (2) RCA female, unbalanced stereo line-level audio output containing a stereo mix of all internal surround sound processor outputs;

Maximum Output Level: 2.5 V_{RMS}

Output Impedance: 50 ohms

PRE-AMP OUTPUT: (8) RCA female

Unbalanced line-level 7.1 surround sound audio outputs

Maximum Output Level: 2.5 V_{RMS} (front, surround, back, center); 6.3 V_{RMS} (sub)

Output Impedance: 50 ohms

SUB (balanced): (1) 3-pin 3.5mm detachable terminal block

Balanced line-level subwoofer audio output

Maximum Output Level: 12.6 V_{RMS}

Output Impedance: 100 ohms

ROOM 1 – 4: (8) 2-pin 7.62mm detachable terminal blocks, multi-room amplifier outputs

Wire Size: Terminals accept up to 12 AWG

Output Power: 45 Watts/Ch. at 8 ohms, 60 Watts/Ch. at 4 ohms

FRONT, CENTER, SURROUND, BACK or ROOM 5/6: (7) 2-pin 7.62mm 20A detachable terminal blocks, power amplifier outputs;

Wire Size: Terminals accept up to 10 AWG

Output Power: 100 Watts/Ch. at 8 ohms, 130 Watts/Ch. at 4 ohms

Microphone (front): (1) 3.5mm TRS mini-phone jack (behind label strip), input for calibrated microphone (part of CSSTK Surround Sound Tuning Kit, sold separately)

Connectors – Video

COMPONENT INPUTS 1 – 8: (24) RCA female

Comprise (8) component/HDTV (Y_PP_P) video inputs w/input signal sensing on “Y”

Input Level: 1 V_{P-P} nominal (Y), 0.7 V_{P-P} nominal (P_PP_P)

Input Impedance: 75 ohms nominal

S-VIDEO 1 – 4: (4) 4-pin mini-DIN female

S-Video (Y/C) video inputs w/input signal sensing on “Y”

Input Level: 1 V_{P-P} nominal (Y), 0.7 V_{P-P} nominal (C)

Input Impedance: 75 ohms nominal

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VIDEO 1 – 4: (4) RCA female, composite video inputs w/input signal sensing

Input Level: 1 V_{P-P} nominal

Input Impedance: 75 ohms nominal

COMPONENT/RGB OUTPUT: (5) BNC female, RGB or component/HDTV video output

Formats: RGBHV or YPbPr

RGB Output Level: 0.7 V_{P-P} nominal

HV Sync Output Level: TTL, 5 V_{P-P}

YPbPr Output Level: 1 V_{P-P} nominal (Y), 0.7 V_{P-P} nominal (PbPr)

DVI-D IN: (1) 24-pin DVI-D female

DVI 1.0 digital video input, includes HDCP 1.1 protocol

DVI-D OUT: (1) 24-pin DVI-D female

DVI 1.0 digital video output, includes HDCP 1.1 protocol

HDMI INPUT 1 – 3: (3) 19-pin Type A HDMI 1.1 digital video/audio input

Includes HDCP 1.1 protocol

HDMI OUTPUT: (1) 19-pin Type A HDMI 1.1 digital video/audio output

Includes HDCP 1.1 protocol

Connectors – Power

FUSE: Main fuse holder; 3AG, 10 Amps, 250 Volts, time lag

120V~50-60Hz: (1) IEC Male, mates with removable power cord (included)

G: 6-32 screw, chassis ground lug

Power Requirements

Main Power Consumption: 1000 Watts (8.33 Amps) @ 120 Volts AC, 50-60Hz ²

Available Cresnet Power: 20 Watts (0.83 Amps @ 24 Volts DC)

Environmental

Temperature: 41° to 104°F (5° to 40°C)

Humidity: 10% to 90% RH (non-condensing)

Enclosure

Black metal with molded ABS/PC front panel, left and right side ventilation

Dimensions

Height: 7.39 in (18.78 cm)

Width: 17.16 in (43.59 cm)

Depth: 18.80 in (47.75 cm)

¹ DHCP Ethernet router required.

² 230V International Version, Model AMSI-AIP, also available.

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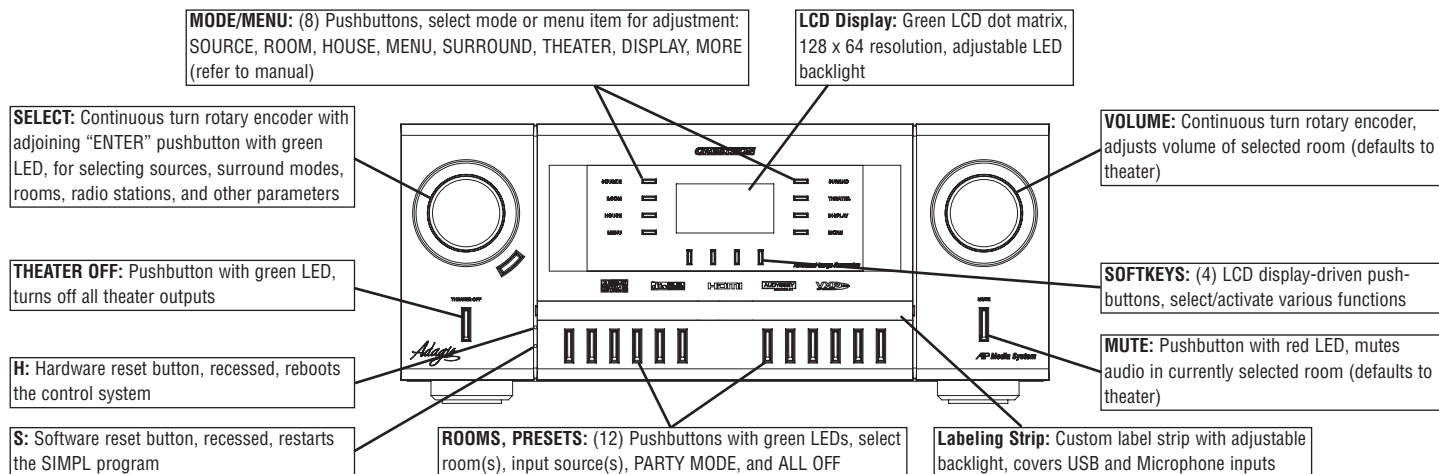
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Front Panel Controls



AVAILABLE ACCESSORIES

APAD

Wall Mount LCD Controller

C2N-DBF12

12-Button Decorator Function Keypad

AAE

Adagio Audio Expander

ATC-AMFM2

Dual AM/FM Tuner Card

ATC-AMFMXM

AM/FM and XM Satellite Radio Tuner Card

ATC-AMFMSR

AM/FM & SIRIUS Satellite Radio Tuner Card

AAS

Adagio Audio Server

CEN-IDOC

Interface for Apple iPod®

CNXRMRD

IR Receiver

STIRP

IR Probe

CNSP-XX

Custom Serial Interface Cable

C2N-TXM-C50

XM Antenna Extension Cable

CSSTK

Surround Sound Tuning Kit