FILMOSCOPE
SIMPLE MULTIMEDIA EQUIPMENT LAB

35 WATS PER CHANNEL DIGITAL MINI-AMPLIFIER

Installation Manual

EA-MINI-2D-35 EA-MINI-3D-35

FILMOSCOPE SIMPLE MULTIMEDIA EQUIPMENT LAB
MMXIII
FILMOSCOPE LAB
filmoScope-lab.com

35 WATS PER CHANNEL DIGITAL MINI-AMPLIFIER

1. Important Safety Instructions

Warning: To reduce the risk of fire or electric shock, do not expose this apparatus to rain or moisture. Do not remove cover. No user serviceable parts inside. Refer servicing to qualified service personnel.

1. Read and follow all instructions and warnings in this manual. Keep for future reference.
2. Do not use this apparatus near water.
3. Clean only with a dry cloth.
4. Do not block any ventilation openings. Install according to manufacturer's instructions.
5. Do not install near any heat sources such as radiators, heat registers, stoves or other apparatus (including amplifiers) that produce heat.
6. Do not override the safety purpose of the polarized or grounding-type plug. A polarized plug has two blades - one wider than the other. A grounding type plug has two blades and a third grounding prong. The wide blade or the third prong is provided for your safety. If the provided plug does not fit into your outlet, consult an electrician for replacement of the obsolete outlet.
7. Protect the power cord from being walked on or pinched particularly at plug, convenience receptacles, and the point where it exits from the apparatus.
8. Only use attachments/accessories specified by the manufacturer.
9. Refer all servicing to qualified service personnel. Servicing is required when the apparatus has been damaged in any way, such as when the power-supply cord or plug is damaged, liquid has been spilled or objects have fallen into the apparatus, the apparatus has been exposed to rain or moisture, does not operate normally, or has been dropped.
10. DO NOT EXPOSE THIS EQUIPMENT TO DRIPPING OR SPLASHING AND ENSURE THAT NO OBJECTS FILLED WITH LIQUIDS, SUCH AS VASES, ARE PLACED ON THE EQUIPMENT.
11. TO COMPLETELY DISCONNECT THIS EQUIPMENT FROM THE AC MAINS, DISCONNECT THE POWER SUPPLY CORD PLUG FROM THE AC RECEPTACLE.
12. THE MAINS PLUG OF THE POWER SUPPLY CORD SHALL REMAIN READILY OPERABLE.

CAUTION

CAUTION: TO REDUCE THE RISK OF ELECTRICAL SHOCK.

DO NOT REMOVE COVER. NO USER SERVICEABLE PARTS INSIDE.

REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of un-insulated dangerous voltage within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.

The exclamation point within an equivalent triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

Table of Contents

2. Welcome to FilmoScope

FilmoScope is one of the most highly-regarded brands of audio products available today. We appreciate your business, and we stand committed to providing our customers with the highest degree of quality and service in the industry.

Mini amplifiers are built on the latest digital technology and were designed to deliver efficient, clean power to a soundbar or stereo speaker zone from either of two source inputs. A wide range of control options and configurability make it ideal for almost any small speaker zone application.

3. Features

Durable Audiophile Design
These amplifiers use the latest digital technology to deliver cool-running performance from a compact, reliable package. Plus, they feature superior-quality components for outstanding sound quality and short circuit protection for all inputs and outputs.

Compact Size and Layout
Mini Amplifier is designed to be tucked away for great looking and sounding installations.
With compact controls, efficiently placed connections, and an integrated 5V DC power output for a wireless subwoofer adapter (ES-SUB-WIRELESS), this amp is ready to perform without having to be seen.

IR Pass-Through with Command Capture
IR pass-through eliminates the need for extra flashers and wires, while still allowing control of the amplifier.

Built-In Digital Sound Processing
DSP modes, including Music / Movies / Voice / Night Mode / Special Enhancement, can all be changed by IR remote command for on-the-fly changes to suit music, movies, or vocal audio.

Customizable Control with Optional IR Learning
Auto-input priority allows for hassle-free input selection while allowing inputs to be toggled manually at any time. Power can be toggled on and off or controlled using auto-sense to detect input signals. A full IR protocol is available for custom programmed control, or IR learning may be set up to enable control from source remotes.

4. Package Contents

(1) EA-MINI-XD-35
(4) Rubber Adhesive-Back Feet
(4) Module Mounting Pins
(1) Installation Manual
(1) IR Learning Guide
(1) Detachable 6ft IEC Power Cable

5. Installation Recommendations

5.1. Tools

- #2 Philips Screwdriver
- Wire Strippers

5.2. Cables and Wiring

- **Speaker Wire**
  Use high-quality, 2 or 4-conductor, 14-18 gauge (AWG) speaker wire. The higher the strand count, the better the sound quality will be.
- **RCA Input and Subwoofer Output Cables**
  Use high-quality pre- or field-terminated RCA cables and connectors rated at 75 Ohms impedance. Binary™ cables and connectors are recommended.
- **Toslink Input Cables**
  Use high-quality Toslink cables with standard connectors. Binary™ cables are recommended. (Set sources to output only 2-channel PCM stereo audio)

5.3. Speakers

- The minimum load for EA-MINI-XD-35 is 4-ohm per channel.
- Output power is 35 watts per channel with a 4- or 6-ohm load, and 26 watts with an 8-ohm load.
- Use matched speakers for all channels to achieve the best audio quality during use.

5.4. Subwoofer

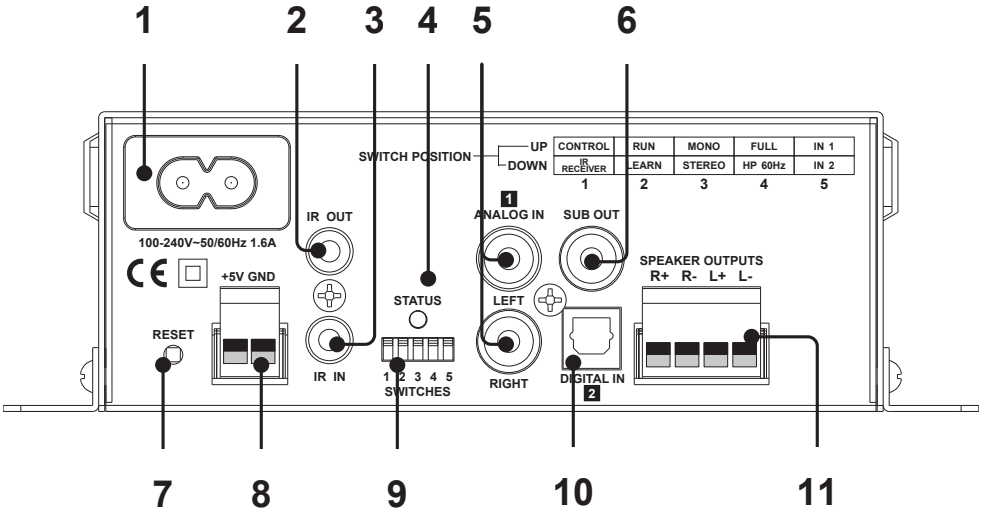
- The optional subwoofer SUB OUT port can be connected to a powered subwoofer or subwoofer amplifier.
- The 5 volt output on the amplifier can provide power for the wireless subwoofer kit without using up valuable space where the amplifier gets installed.
- If a subwoofer system will be installed, be sure to provide an RCA cable or purchase an Episode ES-SUB-WIRELESS kit to provide signal for the sub.

5.5. IR Control

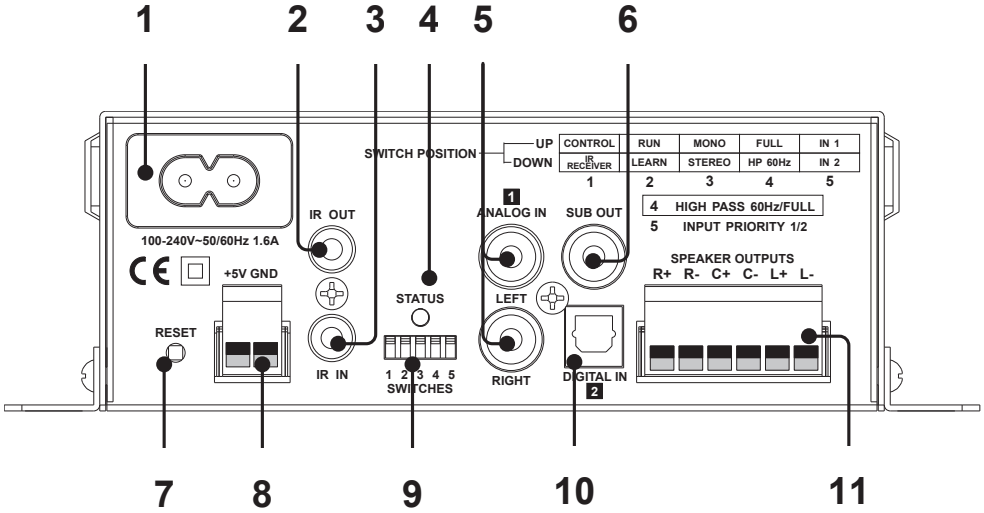
- Be sure that a control system with IR output can be set up to control the amplifier if local IR remotes will not be used.
- No IR receiver is included. Even if it won't be used after installation, it is suggested to have an IR receiver on hand for use during setup.
- Be sure to supply an IR receiver for installation if an in-room IR remote is used for control.

6. Device Layout

6.1. EA-MINI-2D-35



6.2. EA-MINI-3D-35



6.3. Layout Description

1. **Power Connector**
   Attach the included IEC cable to this port for power.

2. **IR Out**
   3.5mm mono mini port to send IR commands from IR IN to other equipment.

3. **IR In**
   3.5mm stereo mini connection for attaching an IR receiver or an IR flasher output from other equipment. Commands for the amplifier are captured via this input. All IR signals pass through to the IR OUT port.

4. **Status LED**
   Bi-color LED indicator for amplifier status in IR RUN mode:

Blue (Solid)	On
Blue (Blinking)	IR communication is occurring.
Red (Solid)	Standby
Pink (Blinking)	Mute

5. **Analog Input 1**
   RCA stereo input with left and right connections.

6. **Sub Out (RCA)**
   RCA line level output to feed powered subwoofer or amplifier.

7. **Reset Button**
   Reset the unit to factory default settings.

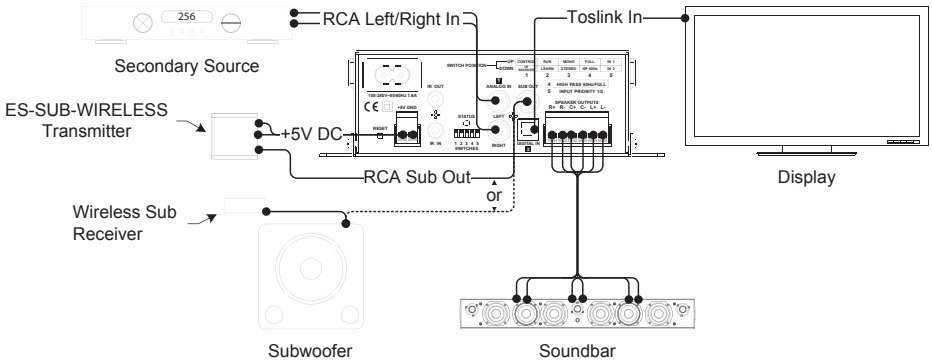
8. **5V DC Output**
   Power an Episode ES-SUB-WIRELESS kit without adding another power supply.

9. **DIP Switches**
   1. **IR RECEIVE/CONTROL** IR receiver port power.
   2. **RUN/LEARN** IR command learning.
   3. **STEREO/MONO** Speaker output mode.
   4. **HIGH PASS 60Hz/FULL** Frequency range for speaker outputs.
   5. **INPUT PRIORITY 1/2** Select the primary input.

10. **Toslink Optical Input 2**
    Digital optical input. **No surround sound formats can be converted. Set source to output only 2-channel PCM stereo.**

11. **Speaker Wire Connectors**
    Set-screw connectors to attach speaker wires for left, center, and right channels (left and right only on EA-MINI-2D-35).

7. Installation



Note: *To avoid confusion, IR connections have been omitted in this diagram. See pages 12-14 for complete details and instructions for IR connections and setup.*

Important: DO NOT plug in or power the EA-MINI-XD-35 until it is indicated to do so.

1. **Plan and prepare the amplifier location. (Page 9)**
2. **Install and set up the speakers and powered subwoofer (optional). (Page 10)**
3. **Connect the sources to the inputs. (Page 11)**
4. **Install and set up the IR receiver or cabling to the amplifier and other equipment. (Page 12)**
5. **Set up the amplifier control method. (Pages 11-14, Control Protocol)**
6. **Plug in all equipment and power on the system. Set up sources and audio equalization as needed. (Page 15)**
7. **Mount the amplifier in its final location after testing the system. Installation is complete! Troubleshoot any issues using the Troubleshooting section if needed. (Page 16)**

8. Positioning the Amplifier

8.1.1. Vertical Mounting (Walls or Enclosures)

- The amplifier may be mounted on any surface using fasteners suited for the surface material (not included).
- The included module mounting pins may be used to secure the amplifier inside structured wiring enclosures.
- The included rubber feet can be attached to dampen vibrations if needed.

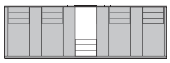
8.1.2. Horizontal Placement

The included rubber adhesive-back feet can be used for shelf placement of the amplifier. Using these will prevent vibration and movement of the amplifier. Attach one of the four feet to each corner of the unit.

Warning! Do not stack anything on top of the amplifier to prevent instability.

9. Speaker Connections and Setup

9.1.1. Stereo/Mono Dip Switch (Switch 3)

 1 2 3 4 5 SWITCHES	Position	Output Mode	Descrpition
	Up	Mono	All speakers play the same mixed audio
	Down	Stereo	Each speaker plays its own audio channel

Set the output from the speakers to be mono or stereo format. Use mono for applications where left and right can't be balanced. Use stereo to provide the most accurate recreation of audio for movies and television.

9.1.2. Analog RCA Subwoofer Output

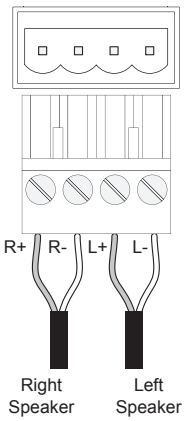
Connect an RCA cable between the amplifier's SUB OUT port and a powered subwoofer or subwoofer amplifier. Use the crossover cutoff in the subwoofer amplifier to set the frequency range.

Note: *The subwoofer output volume may be controlled independently by using the EA-MINI-RC accessory remote, or by using commands from the IR protocol. Visit the product page for the EA-MINI-XD-35 at www.snapav.com for these items.*

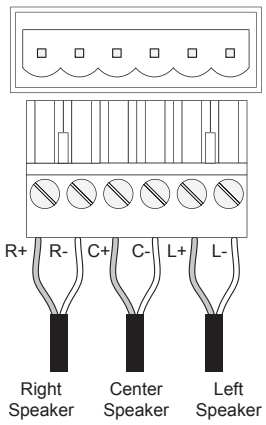
9.1.3. Speaker Wire Terminiation

1. Strip the outer jacket (if applicable) of the speaker cable back about 2", and then strip the insulation of each wire back ¼".
2. Loosen the set screws on the connector using a 1/8" flat blade screwdriver.
3. Twist the wires clockwise, insert them into the correct holes per the diagram on the amplifier, and tighten the screws. Do not allow any strands of copper to touch between the terminals to avoid short circuits.

EA-MINI-2D-35



EA-MINI-3D-35



10. Input Connections and Setup

10.1.1. RCA Input 1 (Left and Right Stereo)
Connect a source using left and right analog RCA cables.

10.1.2. Toslink Input 2
Connect a source using a Toslink optical audio cable. **No surround sound formats can be converted by the amplifier. Set source to output only 2-channel PCM stereo.**

Note: *The EA-MINI-3D-35 will mix the signal from left and right channel inputs together to output to center channel.*

10.1.3. Input Priority Switch

1 2 3 4 5
SWITCHES

Position	Priority Input
Up	1 (Toslink)
Down	2 (RCA Left/RIght)

The EA-MINI-XD-35 amplifier is always set to show priority for one of the two inputs. Set the priority input to the one that will be used most.

Operation Limitations and Notes

- If the amplifier is switched away from the priority input via IR command, auto input priority will be disabled until the system is powered off and back on.
- If the priority source is turned off but the amplifier is left on, the secondary input will begin to play if signal is present until the priority source signal returns.
- If the amplifier senses no signal on either input for 20 minutes, it will automatically shut off.
- If a control system is controlling the amplifier, it is recommended to use discrete input or toggle commands to change the source as needed.
- If input commands are included, send a discrete input command ahead of power-on commands for sources. This will disable priority switching automatically, eliminating the possibility of the secondary source playing unexpectedly (recommended).

11. IR Connections and Setup

11.1. IR Connections and Controls

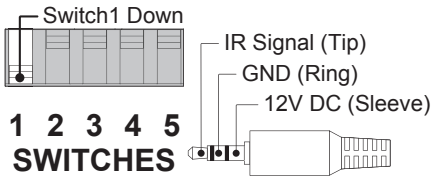
IR In Port

Connect an IR Receiver or a 3.5mm mono mini cable to this port to input IR commands for amplifier control. Be sure to set the IR Receive/Control dip switch correctly to configure the port for the desired pinout.

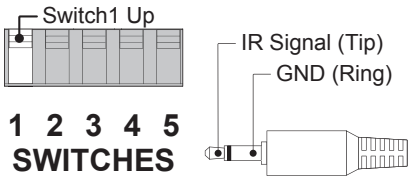
IR Receive/Control Dip Switch

Controls the pinout of the IR In port to provide power for an IR Receiver if needed. The pinout of each setting is described below:

IR Receiver



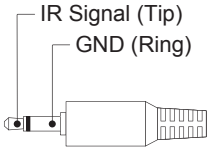
Control



IR Out Port

The IR Out port repeats all commands received from the IR In port. Connect IR flashers to this port for control of other equipment.

If more flashers are required, connect the port to an IR distribution block to power additional flashers.

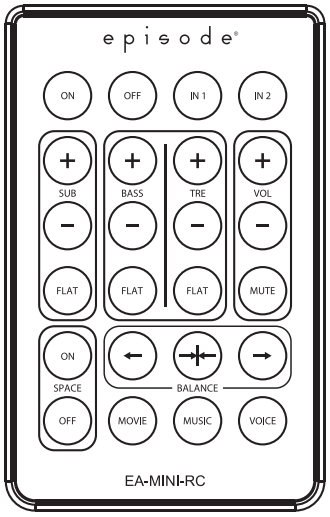


11.2. IR Control Options

11.2.1. Optional Accessory Remote (EA-MINI-RC)

The optional accessory remote (EA-MINI-RC) is designed to include most functions necessary for setup. It may also be used for regular control.

For more information please visit the EA-MINI-RC product page at filmoscope-lab.com.



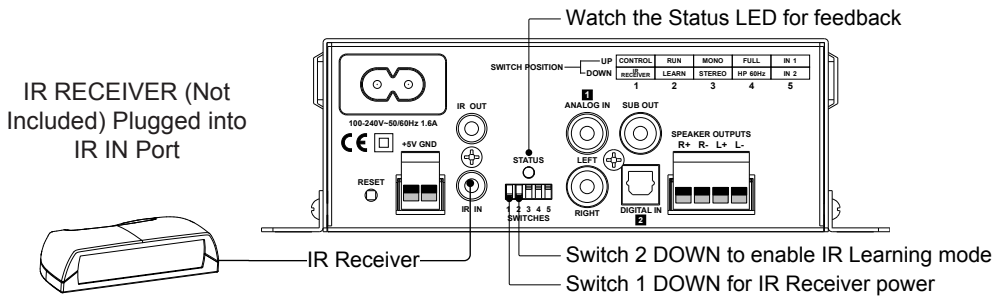
11.2.2. IR Control with Programmed Commands

For IR codes to be programmed into a control system or remote, visit the product page for the EA-MINI-XD-35 at www.SnapAV.com to download. Follow the control system manufacturer instructions to configure commands for use.

11.2.3. IR Learning

IR Learning allows control of the amplifier using the remote for a display or any other remote on a job. After completing the learning procedure, the same buttons for power toggle, volume up, volume down, mute toggle, and input toggle on the selected remote will also control these settings for the amplifier.

See the full color IR Learning Guide in the box for setup instructions. Basic instructions are below if the guide has been misplaced. Download a new copy from the EA-MINI product product page at www.SnapAV.com.



Basic Instructions

When learning commands, the order of commands programmed will always be the same:

Command	Description
1. Power Toggle	Turn amplifier power on and off.
2. Volume Up	Turn volume up (louder).
3. Volume Down	Turn volume down (quieter).
4. Mute Toggle	Toggle mute mode (no volume) on and off.
5. Input Toggle	Switch between inputs 1 and 2.

1. Set amplifier dip switch 2 (RUN/LEARN) to the LEARN (DOWN) position. The Status LED will turn from solid BLUE (RUN mode) to PINK for about 1 second, and then the LED will flash blue. This indicates that the amplifier is in Learning Mode.
2. Press and release the desired command button to be learned until the Status LED flashes BLUE twice as fast the command is received, and then returns to normal flashing.
3. Press the same command button for a second time to confirm it. The LED should flash BLUE twice as fast, then PINK for 1 second, and then return normal flashing.
4. Repeat steps 2 and 3 for each command. If a RED LED flashes there is an error. Try pressing the same button again. If RED is followed by PINK, the current command needs to re-learned.
5. After the last command is learned, or if none are received for 20 seconds, the amplifier will revert to regular operation. Return dip switch 2 to the RUN (UP) position and test the learned commands.

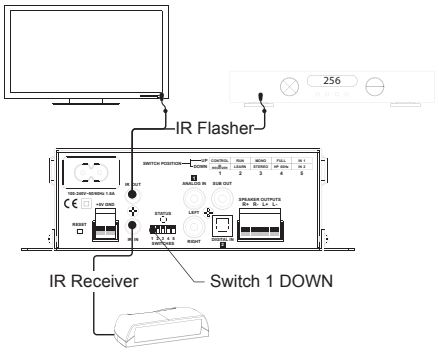
See the IR Learning Guide for more information about error codes and troubleshooting.

11.3. IR Application Diagrams

11.3.1. Using In-Room IR Receiver and Remote

To control the amplifier with an in-room IR remote (commands transmit directly from the remote):

1. Set dip switch 1 to the DOWN position.
2. Connect the IR Receiver to the IR In port.
3. Position the receiver so that commands are received reliably.
4. Control additional equipment by attaching an IR flasher to the IR Out port.

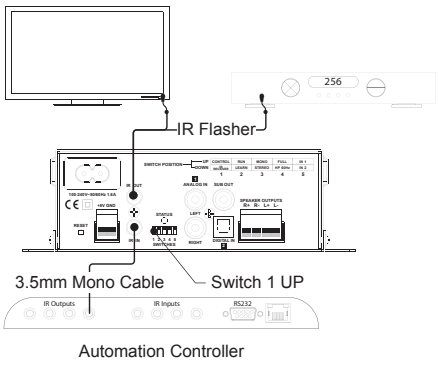


11.3.2. Programmed Control System

To control the amplifier with a control system:

1. Set dip switch 1 to the UP position.
2. Connect a 3.5mm mono mini cable from the flasher output of the controller to the IR In port on the amplifier.
3. Program the control system using the IR control protocol.
4. Control additional equipment by attaching an IR flasher to the IR Out port.

All IR commands may be found in the EA-MINI-XD-35 Control Protocol which may be downloaded from the amplifier product page at filmoscope-lab.com.

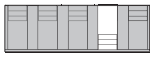


12. Sound Calibration

The EA-MINI-XD-35 features built-in digital sound processing to allow for the dealer or end user to fine-tune settings such as balance, subwoofer volume, and treble and bass equalization. Additionally, there are three preset options optimized for movie, music, and vocal audio.

To change DSP settings, use the accessory remote or a programmed universal remote. The commands for DSP cannot be set up via IR learning.

12.1. HIGH PASS 60Hz / FULL Dip Switch

	Position	Frequency Mode
 1 2 3 4 5 SWITCHES	Up	Full frequency audio to speakers
	Down	Frequencies < 60Hz not routed through speakers

This switch controls the output frequency of the speaker level outputs. Set the high pass filter switch to the down position to protect both the amplifier and the speakers it is powering if smaller speakers are used or if a subwoofer is used.

12.2. Audio Settings

1. Music Mode	Preset bass and treble levels, optimized for playing music, movies, or vocal audio.
2. Movie Mode	
3. Voice Mode	
4. Space Enhancement	Preset levels optimized for use in large or noisy spaces.
5. Treble	Bass and treble levels can be set discretely to flat or customized as needed.
6. Bass	
7. Balance	Left and right channel balance can be changed as much as needed, or be set discretely to center.
8. Subwoofer	Subwoofer volume can be adjusted as needed. (Set crossover levels using the powered subwoofer amplifier.)

13. Troubleshooting

No audio	• Power cable to the amplifier is incorrectly connected or plugged into an outlet that does not have power. Check connections and verify power on the outlet. • Audio cable to the source component is not connected properly, is connected to the incorrect input, or the cable is defective. • Set the input volume level higher. • Check audio output of source for correct setup. • Check the speaker connections and wiring for proper setup.
Hum or buzzing sound is heard	• Check RCA input cables by removing them one at time (powering down the amplifier before disconnecting) and checking to see if a connection or cable is to blame.
Amplifier will not turn on	• The amplifier must be plugged into a live outlet. • The power switch on the back panel must be on.
Amplifier will not turn on or switch inputs automatically.	• Auto-On is automatically disabled when discrete or toggle power commands are used. Power cycle the amplifier to reset Auto-On and set the amplifier up to use only Auto-On or only IR power commands. • Auto-On can be disabled by switching it off using a custom IR command. Toggle the setting back to On. • Auto-Input is disabled when inputs are changed manually until the system is shut down and powered back on. • Auto-Input can be disabled by switching it off using a custom IR command. Toggle the setting back to On.
Low frequencies are not playing properly through the speakers.	• Set dip switch 4 UP to FULL to allow full frequency audio through the normal speakers.

14. Specifications

Continuous Power Output (Both channels driven)	26 watts RMS at 8 ohms	
	35 watts RMS at 6 ohms	
	35 watts RMS at 4 ohms	
Input Sensitivity	**Analog (Gain: 29dB)**	4 ohms: 420mV
		6 ohms: 500mV
		8 ohms: 500mV
	Digital (Gain: 40dB) (Vrms/FS)	4 ohms: -20dBFS
		6 ohms: -18dBFS
		8 ohms: -18dBFS
Input Impedance	RCA Analog input: 20K ohms	
Auto On (Audio Sense) Sensitivity (RCA input)	2.5 mV	
S/N ratio	**Analog**	77dB
	Digital Optical	90dB
Frequency Response (Speaker)	20 Hz to 20 kHz	
Frequency Response (Sub)	20 Hz to 500 Hz	
Distortion	Less than 1% THD+N 20 Hz- 20 kHz, 22KHz BW	
IR Input Jack / Operation Voltage	1/8” 3.5mm / 12 VDC	
IR Output Jack / Operation Voltage	1/8” 3.5mm / 12 VDC	
AC Main Inputs	100-240V ~ 50/60Hz 1.6A	
Power Consumption	Typical Power: 60 watts	
Dimensions	5.40”W x 6.90”H x 2.00”D (without mounting ears)	
	6.50”W x 6.90”H x 2.00”D (with mounting ears)	
Weight	2.5 lbs.	
Certification	EMC, FCC, UL	

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15. Dimensions