



Mono Amplifier

Model: SEI-AMP30011



User Guide

Introduction

- Please read this User Guide before installation and use.

Features

The Mono Amp includes the following features.

- Compact marine / powersports HD 1-channel amplifier with 300 W RMS @ 4 ohms.
- Perfect for any outdoor vehicle where space is at a premium. The Mono Amp is ideal for UTVs, ATVs, boats, and golf cars.
- Integrating top-of-the-line Texas Instruments High-Definition amplifier integrated circuit.
- Built-in DSP Crossover Frequency controls provide the widest frequency filter adjustments. From 20Hz- 6Khz, 24 dB/Octave for high-pass and 55Hz to 6kHz, 24dB/Octave for low-pass.
- In addition to the Crossover Frequency settings, the Bass and Treble settings make this amplifier the de facto standard to power your audio devices, from subwoofers to audiophile dedicated tweeters!
- 100% waterproof and dirtproof, you can rinse off your Mono Amp with a hose. The die-cast aluminum chassis is sealed to keep all the components free of water, dirt, sand, and salt.

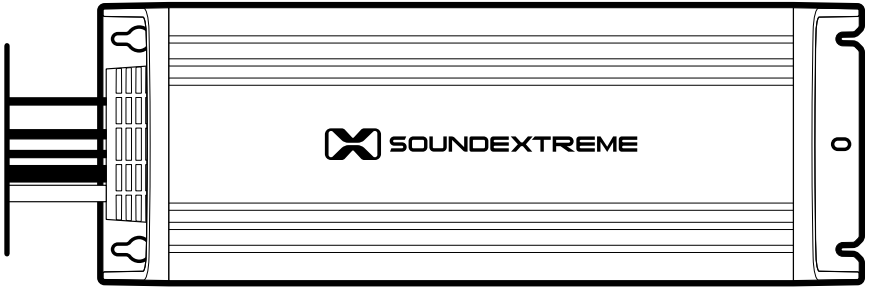
Important

- The Mono Amp requires +12V DC voltage for the power input. If your vehicle battery power is not 12V (e.g., 24V, 36V, or 48V), you will need a DC-DC voltage converter with 12V output (e.g. a 48V-to-12V converter). Connecting the Mono Amp directly to higher voltages will cause damage to the amp and **VOID THE PRODUCT WARRANTY**.
- The Mono Amp power input has an in-line 35 Amp fuse. Do **NOT** replace the fuse with one of a different value and never bypass the fuse.

- The Mono Amp has a Remote Turn-On Input feature; this is to ensure that the amplifier is completely powered off (no battery consumption) when your vehicle is not in use. When the input has a signal between 10V and 15V, the amp will turn on. When the input voltage is lower than 10V or there is no input voltage, the amplifier will turn off. In general, this Remote Turn-On Input connects to your audio source's Amp-On output.
- The Mono Amp will put an increased load (maximum 30A, 12V) on a vehicle's battery and charging system. We recommend checking your alternator and battery condition to ensure that the electrical system has enough capacity to handle the increased load from your stereo system.
- The Mono Amp's Settings and Controls Panel is located on the right side, behind a cover with a waterproof gasket. Unscrew the left and right screws to remove the cover to change the amplifier's settings. After completing the adjustments, please reinstall the cover back to the panel tightly, ensuring the panel is sealed. Failing to do so will result in potential water or moisture intrusion and damage to the electronics inside.
- **BEFORE** installation, disconnect any and all negative leads from the battery's negative (-) terminal to prevent damage to the unit, fire, and/or possible injury.
- **BEFORE** wiring and connecting the Mono Amp, disconnect the device(s) you are connecting to from their respective power source(s) to ensure no damage is done to the amplifier or audio source devices. Failure to do so could result in permanent damage to the audio system, amplifier, or connected speaker(s).
- **Hearing Damage Warning** - Listening to audio at a high volume for a prolonged period of time can cause damage to your hearing.
- **Recommendation:** If you are not familiar with the vehicle's battery connections, consult your vehicle's manual or a technician. Incorrect connections to your vehicle's battery terminal may cause damage to your speaker and your vehicle.

Mono Amp Overview

Mono Amp Layout



Front

Speaker Outputs:

- Speaker (+)
- Speaker (-)

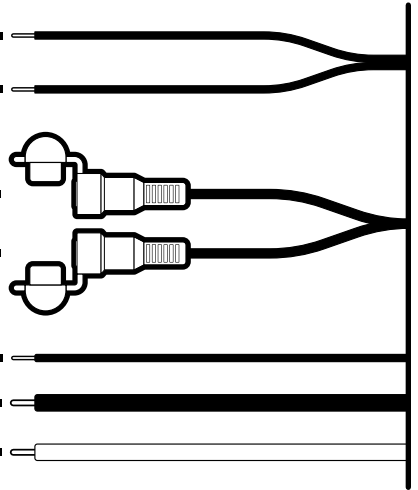
Audio Inputs: RCA Aux-In

- Left (White)
- Right (Red)

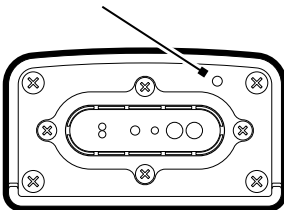
Remote Turn-On Wire (Turquoise)

Ground (GND) Wire (Black)

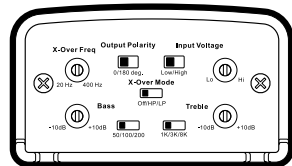
Power-In (+12V) Wire (Red)



LED Status Indicator



Connectors Panel



Settings and Controls Panel

Connectors Panel

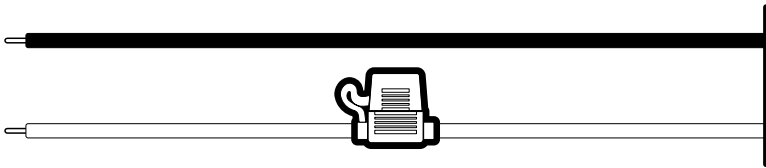
LED Status Indicator

- No light: The Mono Amp is powered off.
- Solid Green: The Mono Amp is on and operating normally.
- Flashing Orange and Green: The Mono Amp is in Protected Mode from overcurrent, short-circuit, or overheating. Refer to **Troubleshooting** for more details.

Note: The Mono Amp will enter Protected Mode to prevent product failure, shutting down to protect the device's circuitry. When the problem is corrected, the Mono Amp will return to normal operation and the LED Status Indicator should shine solid Green.

- Solid Orange: Contact SoundExtreme customer service for technical support.

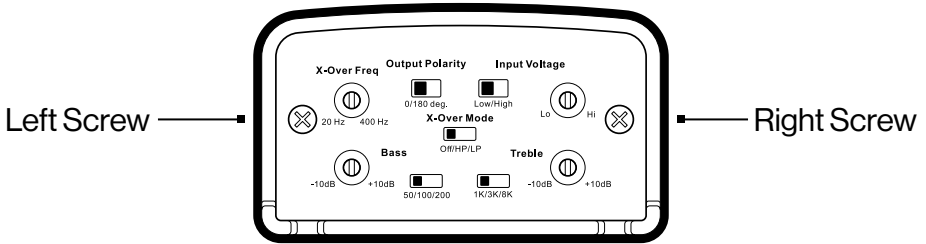
Connectors



- Power Input: +12V and GND bare wire connectors, with in-line 35 Amp Fuse Holder.
- Remote Turn-On Input: When the input signal is +10V to +15V, the Mono Amp is turned on. When the input signal is lower than +10V, the Amp is turned off.
- Audio Signal Inputs: 1 pair of stereo RCA connector jacks – Left (White) and Right (Red).
- Speaker Outputs: 2 speaker output wires – Speaker Output (+) and Speaker Output (-).

Mono Amp Overview

Settings and Controls Panel



The Mono Amp's Settings and Controls Panel is located on the right side of the unit, behind a waterproof Panel Cover. Unscrew the left and right screws to find and access the switches and dials for changing the amplifier's settings.

Recommendation: Use a flathead screwdriver to turn the dials.

The panel has four settings:

1. Input Voltage Signal Range
2. Crossover Frequency
3. EQ: Bass and Treble
4. Output Polarity

IMPORTANT: After completing any changes to the settings on the device, be sure to put the Panel Cover back in place and tightly screw in the panel to ensure the device is properly sealed. Failing to properly seal your device may result in potential moisture intrusion that may damage the internal electronics.

Input Signal Voltage Range Settings

1. Input Voltage Switch – 2-position switch
 - Low position: RCA/Preamp Level Range (500mV – 3V).
 - High position: RCA/Preamp or Speaker Level Range (3V – 14.5V).

2. Input Voltage Dial: Adjust the input signal for attenuation so that it does not exceed the amplifier signal input limit.
 - Higher Voltage Input: Turn the dial clockwise to decrease the volume.
 - Lower Voltage Input: Turn the dial counterclockwise to increase the volume.

Crossover Frequency Settings

The Mono Amp has DSP Crossover Frequency controls, providing the widest frequency high-pass and low-pass filter adjustments.

1. Crossover Frequency Settings

a. 3-Position X-Over Mode Switch – Off, High, and Low.

- Off: This allows all frequencies to pass through, no matter the X-Over Freq Dial setting.
- High Pass: This only allows frequencies **ABOVE** the X-Over Freq Dial setting to pass through.
- Low Pass: This only allows frequencies **BELOW** the X-Over Freq Dial setting to pass through.

b. X-Over Freq Dial: Adjusts the filter cutoff frequency of the selected X-Over Mode.

- When the X-Over Mode Switch is off, the Dial setting does not apply.
- When the X-Over Mode Switch is set to High or Low, the Dial setting range is 20Hz to 400Hz.

Mono Amp Overview

EQ Settings: Bass and Treble

In addition to the Crossover Frequency settings, the Mono Amp also has Bass and Treble settings to further boost the low and high frequency response.

1. Bass Settings

- a. 3-Position Switch – 50, 100, and 200Hz.
- b. Bass Dial: Adjust the Bass level from -10dB to +10dB.
 - Turn the dial clockwise to increase the level.
 - Turn the dial counterclockwise to decrease the level.
 - Full-range can be reached with a 0.7 Q factor.

2. Treble Settings

- a. 3-Position Switch – 1k, 3k, and 8kHz.
- b. Treble Dial: Adjust Treble level from -10dB to +10dB.
 - Turn the dial clockwise to increase the level.
 - Turn the dial counterclockwise to decrease the level.
 - Full-range can be reached with a 0.7 Q factor.

Output Polarity Setting

The Mono Amp also has an Output Polarity Setting. This is a 2-position switch – 0 and 180 degrees.

- 0 degree – Normal speaker polarity.
- 180 degrees – Polarity reversed 180 degrees.

The Bass and Treble adjustments provide flexibility to optimize the Mono Amp's EQ settings for different speaker frequency responses. Below are the 3 most common examples of different speaker applications to help illustrate how the Bass and Treble settings work together with the Crossover Frequency settings.

Full Range Speaker

If you use the Mono Amp to drive a full range speaker, use the following settings:

1. Set the X-Over Mode Switch to Off: This will disable the Low and High Pass filters. Therefore, the X-Over Freq Dial does not have any impact on the EQ settings.
2. Determine the Bass center frequency (50, 100, or 200Hz) and set the Bass Switch to the corresponding position.
3. Turn the Bass Dial to get the proper dB for the Bass.
4. Determine the Treble center frequency (1k, 3k, or 8kHz) and set the Treble Switch to the corresponding position.
5. Turn the Treble Dial to get the proper dB for the Treble.

Mid and High Range Tweeter

If you use the Mono Amp to drive a mid and high range tweeter, use the following settings:

1. Set the X-Over Mode Switch to High and turn the X-Over Freq Dial to a selected Crossover Frequency between 20Hz and 400Hz. This will filter out the audio signals with frequencies below the selected Crossover Frequency.
2. Determine the Treble center frequency (1k, 3k, or 8kHz) and set the Treble Switch to the corresponding position.
3. Turn the Treble Dial to get the proper dB for the Treble.

EQ Settings

Note: When the X-Over Mode Switch is set to High, the Bass Switch and Dial settings do not have a noticeable impact on the amplifier's EQ.

Subwoofer

If you use the Mono Amp to drive a subwoofer, use the following settings:

1. Set the X-Over Mode Switch to Low and turn the X-Over Freq Dial to a selected Crossover Frequency between 20Hz and 400Hz. This will filter out the audio signals with frequencies above the selected Crossover Frequency.
2. Determine the Bass center frequency (50, 100, or 200Hz) and set the Bass Switch to the corresponding position.
3. Turn the Bass Dial to get the proper dB for the Bass.

Note: When X-Over Mode Switch is set to Low, the Treble Switch and Dial settings do not have a noticeable impact on the amplifier's EQ.

Installation and Wiring Safety

Wiring Considerations

- **IMPORTANT: BEFORE** installation, disconnect any and all negative leads from the battery's negative (-) terminal to prevent damage to the unit, fire, and/or possible injury.
- **BEFORE** wiring and connecting the Mono Amp, disconnect the device(s) you are connecting to from their respective power source(s) to ensure no damage is done to the amplifier or audio source devices. Failure to do so could result in permanent damage to the audio system, amplifier, or connected speaker(s).
- For easier assembly, it is recommended you run all wires prior to mounting your unit in place.
- Plan out your system layout and best wiring routes to save installation time. Carefully route all system wiring away moving parts and sharp edges; secure with cable ties or wire clamps and use rubber or plastic grommets where appropriate to protect from sharp edges.
- To avoid short-circuiting, cover any disconnected leads with electrical tape. It is important to insulate any unused wires, which, if left uncovered, may cause a short circuit.
- Route the RCA cables close together and isolated from the Mono Amp's power cables and any high-power / high-current wires and auto accessories, especially electric motors. This is to prevent coupling the noise from radiated electrical fields into the audio signal.
- When connecting two wires, make sure to seal the connection either by using electrical tape or heat shrink tubing. Failing to do this may result in long-term corrosion on the connection and cause a premature malfunction.

Installation and Wiring

- Use high-quality, audio cables and connectors to minimize signal or power loss.
- Do **NOT** connect the Power Cable to your Vehicle's battery until all the installations and wirings are completed.

Mounting Considerations

- Mount the Mono Amp in a dry, well-ventilated location, not in a spot exposed to direct sunlight or excessive heat.
- Be sure that the Mono Amp's Control Panel will be easily accessible if future adjustments are desired.
- Securely mount the amplifier so that it does not come loose due to severe conditions or sudden stops.

Input Voltage and Cross Over Frequency Considerations

Before you connect your audio source's outputs into the Mono Amp's inputs, you need to check what the audio source's output voltage level is in order to set the Input Voltage Switch to the correct position.

- If your audio source's output voltage is between 500 mV and 3V, set the switch to the Low position.
- If the voltage is between 3V and 14.5V, set the switch to High.

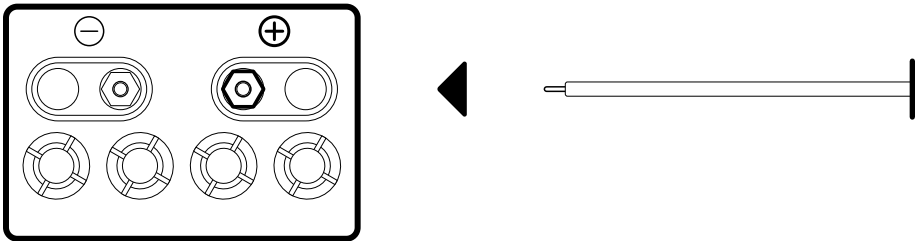
If you don't have your audio source's output voltage information, you can follow the guidance below:

- If you connect the audio source's RCA/Preamp outputs into the Mono Amp's input, set the Input Voltage Switch to Low.
 - If you find that the Mono Amp's speaker output signal is distorted, then change the Switch setting to High.
- If you connect the audio source's speaker outputs into the Mono Amp's input, set the Input Voltage Switch to High.

After you select the Input Voltage settings, you will need to adjust the Crossover Frequency settings based on the type of speaker you want the Amp to drive, as described under **EQ Settings**.

System Wiring

1. **BEFORE** connecting any wires / cables, turn off all the audio devices (powered speakers, amplifier, and audio source), then disconnect any and all negative leads from the battery's negative (-) terminal to prevent damage to the unit, fire, and / or possible injury. Secure the disconnected cables to prevent accidental reconnection during installation.
2. Grounding: Locate a proper ground point on the vehicle's chassis and remove all paint, dirt or debris to reveal a bare metal surface. Attach the ground wire (not included) to that contact point. Connect the opposite end of the ground wire to the Amp's **BLACK** Power Input GND wire. If no metal chassis ground is available, it may be necessary to make this connection to the **NEGATIVE (-)** battery terminal. All ground connections (audio source unit and amplifiers) should be made at the same location.



3. Connect the Amp's **RED** Power Input wire to the **POSITIVE** (+12V) battery terminal. An 8 AWG (or higher) extension cable is recommended. (Extension cable not included).

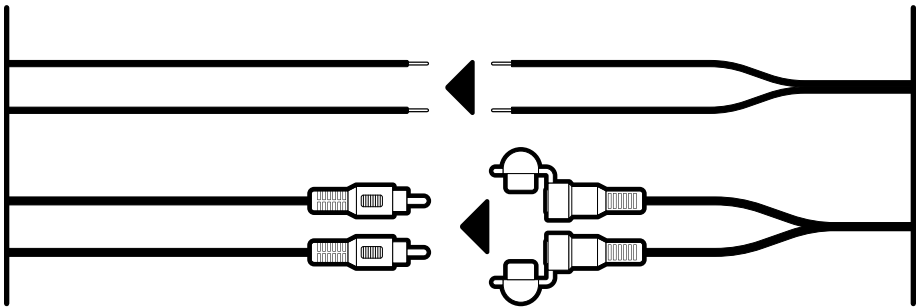
Installation and Wiring



4. Connect the **TURQUOISE** Remote Turn-On wire to the audio source unit's positive (+12V) amplifier-on or remote turn-on output.

If your audio source unit does not have a dedicated amplifier-on or remote turn-on output, the Amp's Remote Turn-on Input cable can be connected to a +12V input via a switch that derives power from an ignition-switched circuit.

5. Based on your audio system configurations, audio input level, and speaker type, do the following:
 - Set the Input Voltage Switch to Low or High, depending on the audio source.
 - Set the X-Over Mode Switch to Off, High, or Low, based on the speaker type.



- Make the audio input and speaker output connections.
6. Perform a final check of the completed system wiring to ensure that all connections are accurate. Check all power and ground connections.
 7. Turn the Amp's Input Voltage levels all the way down (clockwise).

8. Reconnect the vehicle's negative battery cable back to the battery. Also reconnect any additional devices back to their respective power sources.
9. Turn on the Audio Source.
10. Check if the Amp's LED Status Indicator shines solid Green. If not, refer to **Troubleshooting**.
11. While the audio is playing, make any necessary adjustments.
 - Slowly turn up the Input Voltage Dial level (turn counterclockwise) so that the audio volume is maximized without clipping.

IMPORTANT: The Input Voltage Dial needs to be set to a proper level where no audio distortion is heard when the audio source plays music at least one or two steps lower than maximum volume.
 - Slowly turn the X-Over Freq Dial until a desired crossover point is achieved. If you set the X-Over Mode to off, skip to the next step.
 - Depending on the X-Over Mode Switch setting, set Bass and/or Treble accordingly as described under **EQ Settings**.
 - If you find that a speaker's audio output is out of phase to another speaker in the audio system, set the Output Polarity Switch to the opposite position. E.g., if the sound output is out of phase when the Switch is set to 0, change the Switch setting to 180.
12. Once the installation is completed, put the Cover back on the Settings and Controls Panel and tightly screw in the panel to ensure it is properly sealed. Failing to properly seal your device may result in potential moisture intrusion that may damage the internal electronics.

Troubleshooting

PROBLEM	CAUSE
Amp LED off	No power at Remote Turn-On Wire
	No power at Power-In Wire
	Insufficient Ground connection
	Blown power fuse
Amp LED on, but no Audio Output	Audio source volume is off
	Speaker connections incomplete
	Input Voltage level too low
Distorted Audio Output	Audio source volume set too high
	Amp Input Gain set too high
LED Status Indicator flashing Orange and Green	Speaker output short-circuit
	Amp output current too high
	Amp is overheated

SOLUTION

Supply +12V to terminal

Supply +12V to terminal

Check Ground connection

Check the root cause and replace fuse

Increase audio source volume

Complete Speaker Output connections

Turn the Input Voltage Dial counterclockwise to increase the volume

Lower audio source volume

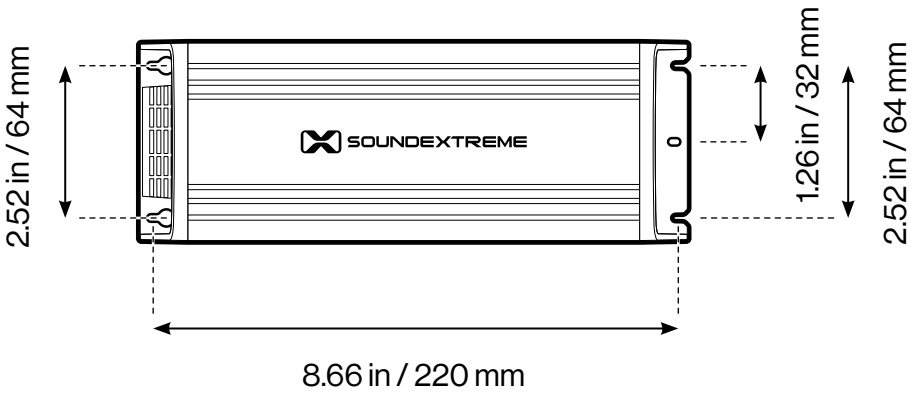
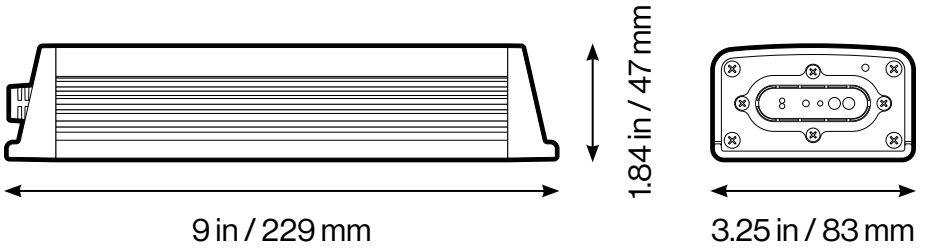
Turn the Input Voltage Dial clockwise to lower the volume

Check speaker output wiring and fix if connections are wrong

Lower audio source volume

Specifications

Dimensions



Unit Weight

2 lbs (907 g)

Operating Voltage Range

11.5V – 18V

Remote Turn-On Operating Voltage Range

10V – 15V

Power Input in-line Blade Fuse

35A, 32V

Power Output

300 Watts RMS

Amplifier Class

Class D

Current Draw

Standby 5mA / On 390mA,
@ 14.4V

Input Voltage Range

- Low Position: 500mV – 3V
- High Position: 3V – 14.5V

Frequency Response

20Hz – 20kHz, +/-1dB

High Pass Filter

20Hz – 6kHz, 24dB /Octave

Low Pass Filter

55Hz – 6kHz, 24dB /Octave

Input Impedance

15k ohms

Input Sensitivity

500mV @ rated power
output, 4 ohms

Signal to Noise Ratio

- Low Voltage Input: 86dB @
rated power output, 4 ohms
- High Voltage Input: 93dB @
rated power output, 4 ohms

Connector Cables – Length

11 in (279.4 mm)

Waterproof / Dust Rating

IP67

Storage Temperature

-40°F to 122°F / -40°C to 50°C

Operating Temperature

23°F to 95°F / -5°C to 35°C

Important Legal Information

FCC STATEMENT:

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- 1.) This device may not cause harmful interference, and
- 2.) This device must accept any interference received, including interference that may cause undesired operation.

WARNING: Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

NOTE: FCC's RF Exposure guidelines, this equipment should be installed and operated with minimum distance between 20cm the radiator to your body.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures: reorient or relocate the receiving antenna, increase the separation between the equipment and receiver, connect the equipment into an outlet on a circuit different from that to which the receiver is connected, consult the dealer or an experienced radio/TV technician for help.

RF WARNING STATEMENT:

The device has been evaluated to meet general RF exposure requirement. The device can be used in portable exposure condition without restriction.

IC STATEMENT:

This device complies with Industry Canada licence-exempt RSS standard(s). Operation is subject to the following two conditions:

- 1.) This device may not cause interference, and
- 2.) This device must accept any interference, including interference that may cause undesired operation of the device.

PRODUCT USE AND PROTECTION:

Read and follow all instructions. Use only as intended.

The SoundExtreme unit is intended to be used indoors or outdoors and in land or water environments. The unit has been tested to IP67 waterproofing standards, which means the unit can be exposed to dust and water, but should **NOT** be submerged underwater.

To prevent fire or shock, do **NOT** attempt to power this unit if it is wet or you suspect water has entered the unit. In this situation, please return the unit to SoundExtreme for a free assessment. If we have found that the unit has carried water, we will repair or replace the unit free of charge.

SAFETY ADVISORY & WARNING:

Read and follow all instructions. Use only as intended.

CAUTION: Do **NOT** open to repair. A qualified technician must carry out repair work.

ATTENTION: Do **NOT** connect to a 12VDC power supply while the unit is wet. Make sure all connections are dry **BEFORE** connecting to a power source. Failure to do so may result in electrical damage to the unit and may void the warranty.

 **WARNING:** Cancer and Reproductive Harm - www.P65Warnings.ca.gov

ATTENTION: Do **NOT** dispose of in a landfill. Contact SoundExtreme at www.gracesupport.com or a certified recycling agent to dispose of the unit.

SAFETY:

This product has a limited life span of use and should be replaced when it shows obvious signs of wear.

Do not modify or remove any original component parts of the speaker. Doing so could cause damage to the unit, allowing water to ingress. A unit with water ingress should not be charged due to potential risk of fire or shock.

Please exercise care and good judgment when using your SoundExtreme unit.

You should always

- 1.) Return the unit to SoundExtreme if you suspect water ingress into the unit or if the unit has experienced a severe impact that may have affected the integrity of the unit to take on water.

Important Legal Information

You should never

- 1.) Never power your SoundExtreme unit if you suspect water has entered the device. Powering a device with water inside could be potentially hazardous and cause fire or a spark.
- 2.) Never use your SoundExtreme unit if you have dropped it or thrown it against a hard surface which may have destroyed the integrity of the housing. In the event of a severe impact to your unit, please return the unit to SoundExtreme to review for potential damage.
- 3.) Never attempt to fix, repair your SoundExtreme unit. Please send it back to SoundExtreme for any assessments and repairs.

CARE, MAINTENANCE & PRECAUTIONS:

- 1.) Do **NOT** apply excessive force to any surfaces of the unit.
- 2.) Do **NOT** use or store the unit in places with high temperature.
- 3.) **AVOID** prolonged exposure to ultraviolet radiation (UV sunlight) and strong magnetic fields.

LIMITED MANUFACTURER'S WARRANTY:

The Mono Amplifier is covered by a 1-year limited warranty that covers defects in workmanship and / or materials for a period of 1 year from original purchase date. This warranty does not apply to any products which have been abused, neglected, modified or used for a purpose other than the one for which they were manufactured. Please refer to the above care and maintenance instructions for suggested care details. The warranty is valid only for the original owner who purchases the unit from an authorized dealer. Transfers do not qualify for warranty protection. SoundExtreme reserves the right to replace any out-of-stock or discontinued product with a comparable product. Discontinued products may not be available for warranty replacement. Any contents are **NOT** covered by the limited manufacturer's warranty. Warranty terms may be revised without notification at the discretion of the manufacturer. Please visit www.soundextreme.us for additional product & warranty information.



Mono Amplifier by SoundExtreme Inc., Houston, Texas.
Designed in Texas. Made in China.

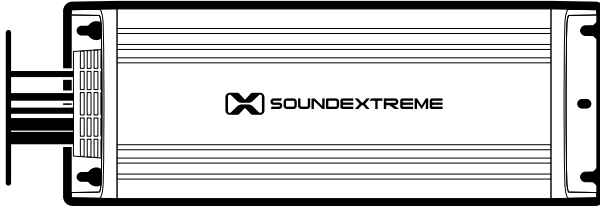




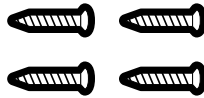
soundextreme.us

EXTREME INNOVATION
for YOUR LIFESTYLE

What's in the Box



Mono Amplifier



(4x) 1" Self-Tapping Screws



User Guide

V03.24