TORO®

ACTIVE SUBWOOFER

SLIM 10

300 W SUPERSLIM ACTIVE SUBWOOFER

Owners Manual

Please read through this manual to familiarize yourself with your new amplifier. Should your TORO TECH mobile amplifier ever require service, you will need to have the original dated receipt.

TORO®

Thank you and Congratulations

Thank you for your decision to purchase a TORO TECH amplifier! Our amplifiers and subwoofers are the result of extensive engineering, testing, and bullet proof construction. Their versatility enables compatibility with optional signal and audio processors. These high quality MOSFET amplifiers may be configured to allow maximum flexibility in designing different speaker and subwoofer options.

HIDEAWAY POWERED SUBWOOFER

The SLIM 10 is a hideaway powered subwoofer with a built-in Class A/B amplifier specifically designed to produce powerful high quality low frequency sound for vehicles with limited space. It is important that you follow the wiring instructions contained in this owners manual so that you properly install and adjust your new TORO TECH subwoofer.

Caution

High powered audio systems in a vehicle are capable of generating higher than "Live concert" levels of sound pressure. Continued exposure to excessively high volume sound levels will cause hearing loss or damage. Also, operation of a motor vehicle while listening to audio equipment at high volume levels may impair your ability to hear external sounds such as horns, warning signals, or emergency vehicles-thus creating a potential traffic hazard. In the interest of safety, TORO TECH highly recommends listening at lower volume levels when driving.

TECHNICAL FEATURES

- High Efficiency Design for Subwoofers
- Built-In Auto Sensing Turn-On Function (Hi-Inputs)
- MOSFET Power Supplies for High Power Output and Best Stability into Low Impedance Loads
- Soft Delay Remote Turn On/Off Circuit Eliminates Pops and Clicks
- Variable Low Pass Electronic Crossover
- Selectable Bass Boost
- Self-Diagnostic Protection Circuit with LED Status Indicator for; Impedance Over-load, Speaker Short
- Circuit, Thermal Overheating, and DC Output
- Variable Level Control
- Remote Level Control Port (for Remote Gain Controller)

INSTALLATION EXPERIENCE

Installation of TORO TECH mobile amplifiers require detailed knowledge of electronic wiring and proper speaker impedance. We strongly recommend installation by an authorized TORO TECH dealer or certified MECP installer. This Owners Manual only provides general installation and operation instructions. If you have any reservations about your installation skills, please contact your local TORO TECH dealer for assistance. IMPORTANT: This amplifier is designed for operation in vehicles with 12-Volt negative ground electrical systems only.

PREPARING FOR INSTALLATION

NOTE: The tools listed below may be required for basic installation

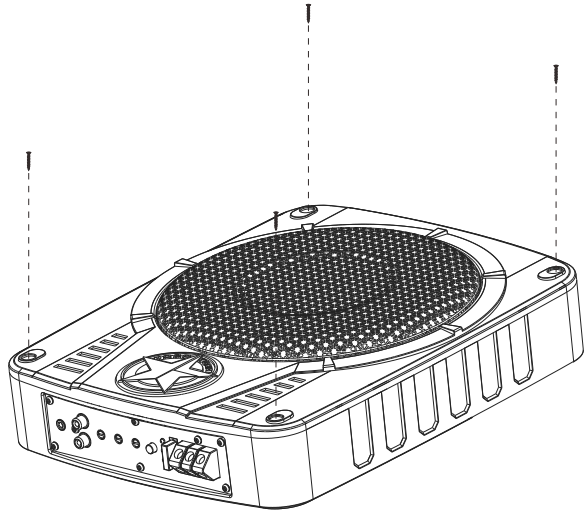
- An electric drill with bits
- Phillips head and standard screwdrivers
- Wire strippers
- Crimping tool
- VOM (electronic volt ohm meter)
- Heat shrink tubing and heat gun
- Soldering iron
- Electronic (Rosen Core not Acid Core) Solder

INSTALLATION PRECAUTIONS

NOTE: Proceed only if you are a qualified installer, otherwise; see your Authorized TORO TECH Dealer or MECP Certified Installer to professionally install this amplifier. Always wear protective eyewear when using tools.

- Turn off all stereo and other electrical devices before you begin
- Disconnect the negative (-) lead from your vehicle's battery
- Locate all fuel lines, brake lines, oil lines, and electrical cables when planning the install
- Make sure there is at least 2-inches (5 cm) around the air vents on the amplifier.
- When connecting ground points, make sure all paint is carefully scrapped away from the vehicle's chassis and contact is make with bare metal
- Use a utility knife to trim away fabric from hole locations before drilling or cutting
- When running power cables through sheet metal, be sure to use grommets to properly insulate the metal edges from the wire insulation
- If possible, use tubing through grommets

MOUNTING THE AMPLIFIER



Mounting Amplifier

Due to the high-power output of the mobile audio amplifiers produce a considerable amount of heat when in operation.For this reason, the amplifier should be mounted in a location which will allow air to circulate freely. A clearance of at least 2-inches (5 cm) to all sides of the amplifier is necessary not only for proper cooling, but also for gaining access to the inputs and other variable controls. Be sure that the power and signal cable connections can enter and leave the amplifier in a straight line to avoid the risk of kinked wires causing malfunction.

MOUNTING LOCATION

Find a clear and well-ventilated area to mount your amplifier that is unobstructed by any objects that will cause harm or block ventilation. Despite the fact that this amplifier is compact, it still needs air to cool the heat-sink fins. Do not mount under a carpet or an area with dead or stagnant air. Without proper air flow the amplifier may overheat and go into protection where the thermal overload circuitry will shut down the amplifier.

You may use the amplifier as a template and mark the four screw locations with a felt tip pen. Set the amplifier aside before drilling. Use caution to make sure there are no objects behind the installation surface that may become damaged during drilling.

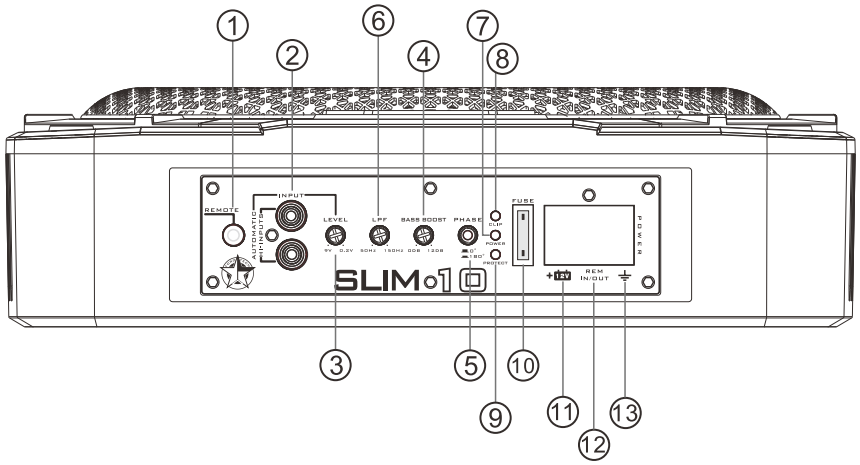
The amplifier should be protected from exposure to moisture and direct sunlight. The best places to mount your amplifier are: The floor of the trunk, under the driver's seat, or on the back of the rear seat. For alternate installation locations, please consult your authorized TORO TECH Dealer.

NOTE: Do not use a drill with driver bit to mount the amplifier. Excessive force could cause the plastic mounting feet to crack.

*** WARNING ***

- Upside down mounting will compromise heat dissipation through the heat-sink and could engage the thermal protection circuit.
- Try to avoid mounting the amplifier on a subwoofer enclosure, as extended exposure to vibration may cause malfunction of the amplifier.
- Don't mount the amplifier so that the wire connections are unprotected or are subject to pinching or damage from nearby objects.
- The DC power wire must be fused at the battery positive (+) terminal connection before making or breaking power connections at the amplifier power terminals, disconnect the DC power wire at the battery end.
- The battery of the car audio system must be disconnected until the entire wiring and installation is completed.
- Do not use a power drill to tighten the power, ground, remote or speaker output terminals on the amplifier to avoid stripping the terminal screws. It is best to hand tighten these connections.
- The use of Ring and Spade terminals (not included) provide the best electrical connection for use with the clamp style connections on this amplifier.

CONTROL PANEL LAYOUT



AMPLIFIER FUNCTIONS

1. REMOTE LEVEL CONTROL PORT

Attach the included remote level control to control the volume level of the subwoofer independently.

2.RCA INPUT/AUTO HI-LOW LINE CONVERTOR

These RCA input jacks connect with your source unit RCA low level outputs or via optional adapter with your source unit speaker high level outputs.The use of high quality twisted pair car audio cables is recommended to mind possibility of disturbance the audio signal.

3.LEVEL CONTROL

The level control will match the subwoofer sensitivity to the source units signal voltage.the operating range is 9V to 200mV.This is not meant to be used as a volume control and is adjusted to match the input voltage being sent to the amplifier.

4. BASS BOOST

The bass boost feature will increase the sound level in the bass frequencies.

5. PHASE SHIFT

Use this switch to help compensate for time alignment problems in the system. Such problems usually result from having the subwoofer at a different distance from the listener than the other speakers in the system.

6. LPF PASS FILTER

This control permits you define the frequency range you want the subwoofer amplifier to receive. The sub woofer will reproduce all sound BELOW the frequency you set.

If the rest of your system is weak on the mids, you may wish to set this control relatively high. If the midrange is well covered by the rest of your system, you will probably want the subwoofer to only receive lower frequency signal.

7.POWER STATUS LED

This LED will light up when subwoofer works properly.

8.CLIP

This LED indicates when clipping is present while playing source material,If the CLIP LED is flashing it also indicates clip limiter is engaging, At this point it is suggested to adjust the subwoofer gain level until the CLIP LED is only flashing on peak bass notes, The clip limiter can be overdriven resulting in possible damage to your speakers and/or the subwoofer.

9.PROTECTION INDICATOR

This RED LED will light up or will be flashing if there is a fault presented to the subwoofer.
please disconnect the subwoofer and resolve the fault before reconnecting the subwoofer.

10.FUSE

If the fuse blows, check the power connection and replace the fuse. If the fuse blows again after replacement, there may be an internal malfunction. In this case, consult your dealer.

11. (+)12 VOLT POWER

Connect the BATT terminal to the positive pole of the battery with a lead cable and add a fuse into the power cable at a distance of not more than 30 cm from the battery. The lead cable's diameter should be at least 4mm for a length of 3m, and 6mm for a length of 6m.

12.REM(ON/OFF) REMOTE CONTROL

Connect the REM terminal to the automatic antenna connector of your car radio. Now when turning on and off your car radio the amplifier automatically switches ON and OFF. A cable diameter of 0.5mm² is sufficient.

13.GND(-) = GROUND CONNECTION

Connect the GND terminal to the chassis ground of your car making sure you have a clean contact. In doing so, drill a hole into the car chassis near the amplifier then remove color, dirt or any other substance from the ground point. Then fasten the cable end with added ring terminal by using a screw. Ensure that the ground connection is as short as possible and that the cable diameter is sufficient (min 4mm"). Route the ground cables from the radio and all other equipment, like equalizer, active crossover network or other
amplifiers, to the same ground point.

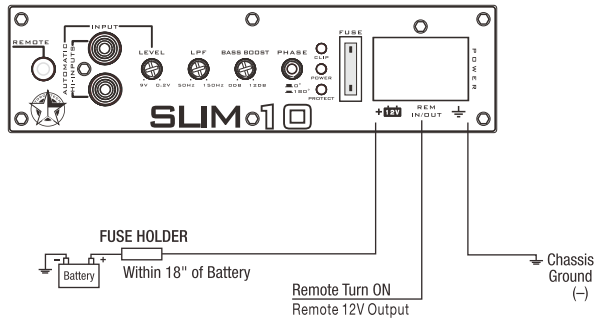
POWER WIRING AND SIGNAL CONNECTIONS

***** WARNING *****

Disconnect the negative (-) battery terminal before you start any wiring work! The battery of your car audio system must be disconnected until the entire wiring installation is completed.

TORO TECH subwoofer will draw large levels of current, so use the largest gauge power /ground cable possible. Using too small of a power cable can result in unnecessary over-heating of the amplifier,distortion at high volume levels and might even cause the thermal protection circuitry to shut-off the amplifier.Remember, bigger wire and pure copper is better! For the best results we recommend a 100% Pure Copper amplifier install kit available at your local TORO TECH dealer.

- Use rubber grommets when running cables through any metal or sharp plastic, to prevent accidental shorting or shearing. Make sure the cables do not interfere with the normal operation of the vehicle
- The audio signal cables (RCA Cables) should be kept far away from any potential sources of electrical interference such as electronic vehicle management systems, relays, engine computers wiring harnesses, fuel pumps etc.



Power Input Connection

This amplifier is designed to work within a 9 to 16 volt DC range. Before any wires are connected, the vehicles electrical system should be checked for correct voltage supply with the help of a voltmeter.

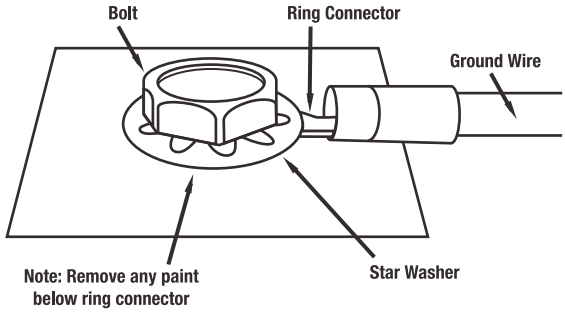
First, check the voltage at the battery with the ignition in the OFF position. The voltmeter should read no less than 12V. If your vehicles electrical system is not up to these specifications, we recommend having it checked by an auto electrician before any further installation. Once the vehicle is checked, make certain the correct cable gauge is used.We recommend using as large a gauge cable as possible, use the Power Cable Selection Chart to calculate the correct power wire size for your application. Remember Bigger is Better!

12V(Power)

This amplifier should be wired directly to the vehicle battery using the appropriate size cable. Start at the vehicle battery and run the power cable through to the amplifier. Avoid running the power cable over engine components and near heater cores. **The use of an in-line fuse or circuit breaker is a must;** this will prevent the risk of a potential fire caused by a short in your power cable Connect the fuse holder or circuit breaker as close to the battery positive (+) terminal as possible (no farther then 18" from that battery). This fuse or circuit breaker should be no greater than the sum of the fuses found on the chassis of your amplifier (also see specifications chart). You may now connect the cable to the battery, but remember to leave the fuse out or circuit breaker "off" until all other cable connections are made.

GND(Ground)

When grounding your amplifier, locate a metal area close to the amplifier that is good source of ground (preferably the floor pan). Once again, investigate the area you wish to use for electrical wires,vacuum lines, and brake or fuel lines. Use either a wire brush or sandpaper to eliminate unwanted paint for better contact of the ground.



Now it's time to connect the power and ground cables to the amplifier. Cut both cables to length. Use a Phillips screwdriver to loosen the BATT+ and the GND connections on the amplifier. Insert the ground first, and then the +12V and please make sure that you place them into the correctly marked terminals. Then tighten the screws down securely.

REM (Remote Trigger)

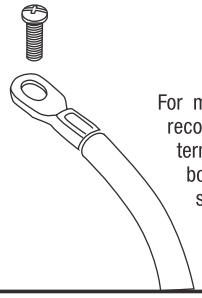
This terminal must be connected to a switched +12V source. Typically, remote turn-on leads are provided at the source unit that will turn on and off the amplifier in correspondence with the source. If the source unit does not have a remote turn-on lead, then a switched +12V supply must be used, like the ACC,+12V.

Run a minimum of 18-gauge wire from the amplifier location to the source of the switched +12V lead. If possible, route this wire on the same side of the vehicle as your power cable. Connect the source remote output to the wire. Go back to the amplifier and cut the wire to length. Loosen the screw terminal marked REM on the amplifier

FUSE REQUIREMENTS

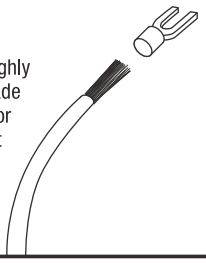
While the panel on your TORO TECH amplifier incorporates one or more fuses, these do nothing to protect the vehicle from a dangerous short circuit. It is absolutely vital that the main power lead to the amplifier(s)in the system be fused within 18-inches(45cm) of the connection to the vehicle battery. The value of this fuse (or circuit breaker) should be no greater than the sum of the fuses found on all of the equipment being connected to that power wire.

NOTE: It is highly recommended that a hand screw driver and NOT a power drill is used to tighten the screws on the terminal blocks. This will prevent stripping or other possible damage to the amplifier.



CONNECTIONS TO AMPLIFIER FOR BATT+, GND, REM AND SPEAKERS

For maximum transfer of Voltage and Signal it is highly recommended to attach insulated Ring and/or Spade terminals to wire ends connecting to the amplifier for both Power and Speakers. These terminals (not supplied) should be soldered or at the very least crimped to the wire—make sure no wire strands stray outside the terminal barrel.



TROUBLE SHOOTING

Problem	Solution
Power LED not ON	With a Volt Ohm Meter (VOM) check: • +12 Volt power terminal (should read +12 to +16VDC • Remote turn-on terminal (should read +12 to +16VDC) • Ground Terminal
Power LED lights BLUE, no output	• Check RCA connections • Test speaker outputs with known good speaker • Substitute known good Source Unit • Check for signal on the RCA cable with VOM in AC position
Red Status Protection LED is ON, no output and **1. Amp is VERY HOT** **2. Amp shuts down ONLY when the vehicle is running** **3. Amp plays at very low volume**	• Thermal protection is engaged. Check for proper impedance at speaker terminals. Also check for adequate air flow around the amplifier. • Voltage protection engaged. Voltage to the amp is not within the 10-16.5 VDC operating range. Have the battery/charging system inspected. • Short circuit protection is engaged.Check for speaker wires shorted to each other or the vehicle chassis. Speakers operating below the minimum impedance can cause this to occur.
Alternator noise (varies with RPM)	• Check for damaged RCA cable. • Check routing of RCA cable • Check Source Unit for good ground • Check amp gain setting, turn down if set too high • Check for chassis Ground short on speakers
Poor Bass Response	Check woofer polarity, reverse the connection of one speaker only.

NOTE: If the Status LED is activated and glows RED with no speakers connected to the amplifier, and all the power connections are correct, this would indicate an internal problem with the amplifier. Contact TORO TECH USA or your local dealer.

TORO TECH WARRANTY POLICY

TORO TECH LLC offers limited warranty on TORO TECH products under normal use on the following terms:

TORO TECH Amplifiers are to be free of defects in material and workmanship for a period of one(1)year.

TORO TECH Amplifiers are to be free of defects in material and workmanship for a period of 30 DAYS, from the date of purchase, if purchased over the counter from an authorized TORO TECH retailer. The Warranty will increase to 1 (one) year if installed by a TORO TECH Authorized Installer.

This warranty covers only the original purchaser of TORO TECH products. In order to receive service, the purchaser must provide TORO TECH with the receipt stating the consumer name, dealer, product and date of purchase.

Products found to be defective during the warranty period will be repaired or replaced (with a product deemed to be equivalent) at TORO TECH discretion and will not be liable for incidental or consequential damages. TORO TECH will not warranty this product under the following situations:

- **Amplifiers received with apparent rust or corrosion**
- **Any evidence of liquid damage or exposure to excessive heat**
- **Attempted repairs or alterations of any nature**
- **Product that has not been installed according to this owner's manual**
- **Products that are used beyond normal operating conditions**
- **Products that have blown circuitry due to misuse**

Any implied warranties including warranties of fitness for use and merchantability are limited in duration to the period of the express warranty set forth above. Some states do not allow limitations on the length of an implied warranty, so this limitation may not apply. No person is authorized to TORO TECH any other liability in connection with the sale of this product.

TORO TECH LLC.

Residents of HI, AK and US territories will be charged for return shipping. All inquiries regarding service and warranty should be sent to the above address or via email at support@toroaudio.com.

Removed or altered serial numbers will void this warranty

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DESIGNED IN U.S.A.

V.050809