

The Optimus 2 x 50 Watt Trunk Mount Amplifier is designed to give added punch and power to your automobile's existing stereo system. The amplifier produces up to 50 watts per channel of clean, powerful sound at all audio frequencies with minimum distortion.

Other features include:

- Full MOSFET Power Supply - Produces enough power to supply the main amplifier and has a considerable amount of reserve power for peak "high demand" situations.
- Automatic Power Switching - Powers the amplifier when you turn on/off your automobile's stereo system.
- High or Low-Level Input Signal Compatible - Accepts either high-level (speaker) or low-level (pre-amplifier) input signals to match your stereo system's output for best performance.
- Input Level Control - Lets you adjust the level (high or low) of audio signals that enter the amplifier.
- Thermal Overload Protection - Automatically shuts down the amplifier when it overheats or when its load or DC power output is shorted.
- 14k Gold-Plated Color Speaker Terminals - High conductivity and minimum impedance.

WARNING: If you live in a high temperature area, we recommend you install cooling fans on the amplifier to provide a better operating temperature environment. Contact your local Radio Shack store for a suitable cooling fan.

If the connectors on your vehicle or automobile's stereo system are not compatible with the amplifier's connectors, contact your local Radio Shack store. Radio Shack stores sell adapter harnesses for many vehicles.

Do not modify the amplifier's wiring as this voids its warranty.

For your permanent records, we suggest you record the amplifier's serial number. The number is on the bottom of the amplifier.

Before you install the amplifier, carefully read all instructions. If you are unsure about any part of the installation process, we recommend that you have a professional install your amplifier.

Note the following before you begin installing the amplifier:

Be sure your vehicle has a 12-volt DC, negative-ground electrical system. If it does not, you cannot use this amplifier.

Before you mount the amplifier, temporarily connect the amplifier and test it to be sure it works. Do not permanently mount the amplifier until you are sure the connections are correct.

CHOOSING A MOUNTING LOCATION

Choose a mounting location that meets the following requirements:

Does not interfere with the vehicle's operation

Lets you drill mounting holes without damaging other vehicle components

Allows enough space around the cooling fins to permit reasonable airflow and cooling

INCLUDED WITH THE AMPLIFIER

The amplifier comes with the following items that are necessary for mounting. Be sure to unpack these items before you dispose of the packing materials.

4 Sheet-Metal Screws

4 Spring Washers

4 Flat Washers

OVERLOAD LIGHT

The overload light comes on when:

1. The Amp is overheated.
2. The speaker wires are shorted.
3. The speaker's impedance is below the rated output impedance.
4. The output power terminals are shorted/loaded down.
5. The unit is broken.

Follow these steps to connect power to the amplifier.

1. Disconnect the positive (+) wire from your vehicle's battery. This reduces the possibility of damage to your system during installation.

NOTE: You must reset the clock, the radio's digital tuner memories, and other time/memory devices when you reconnect the battery wire after wiring is complete.

2. Connect the amplifier's black (ground) wire to a nearby part of the vehicle's metal frame.

NOTE: Many modern vehicle parts are made of plastic or other materials that do not conduct electricity. You must connect the black (ground) wire to a metal part that is not insulated from the vehicle's frame by one of these non-conducting parts.

3. Connect the red (power) wire directly to the car battery's + 12-volt power source.

CONNECTING THE SWITCHED POWER LEAD

Follow these steps to connect the switched power lead.

1. Connect the supplied orange wire's male quick disconnect plug to your car stereo system's switched power output lead.
2. Connect the orange wire's other end to the amplifier's REM (Remote) terminal. With this connection, the amplifier turns on/off when you turn on/off your car stereo system.

You can connect your stereo system to low-or high-level input. If your stereo system has RCA outputs, connect it to the amp's low-level input for a cleaner, less noisy signal. If your stereo system only has speaker outputs, connect it to the amp's high-level input.

To connect the amplifier to your stereo system, place the amplifier as close as possible to the selected mounting location and follow the appropriate instructions.

LOW-LEVEL INPUT

Your amplifier has gold plated color RCA terminals for low-level input to match radios and equalizers with RCA type, line-level outputs.

NOTE: You need a set of 12-foot RCA cables for dash to trunk mounting. We recommend Radio Shack Cat. No. 43-2356.

Follow these steps to connect the stereo system's RCA jacks to the amplifier's LOW INPUT terminals:

1. Plug the RCA cable into the car stereo system's left and right RCA output jacks and connect the other end to the amplifier's left and right LOW INPUT terminals.
2. Connect the left speaker's positive (+) wire to the amplifier's positive (+) left terminal.
3. Connect the left speaker's negative (-) wire to the amplifier's negative (-) left terminal.
4. Repeat Steps 3 and 4 to connect the right speaker to the amplifier's right speaker terminal.

NOTE: We recommend 16 or 18 gauge speaker wire.

HIGH-LEVEL INPUT

If your car radio does not have RCA output jacks, connect the speaker output from the stereo system to the amplifier following these steps:

1. Connect the stereo system's speaker wires to the amplifier's

HIGH INPUT L and R terminals.

NOTE: Be sure you connect the + and - terminal correctly.

2. If the stereo system has only three wires, connect the common speaker wires to both of the amplifier's L and R negative terminals.
3. Connect the left speaker's positive (+) wire to the amplifier's (+) left terminal.
4. Connect the left speaker's negative (-) wire to the amplifier's (-) left terminal.
5. Repeat Steps 3 and 4 to connect the right speaker to the amplifier's right speaker terminal.

Mount the amplifier as follows in the location you chose earlier. Unplug the wiring harnesses to make mounting more convenient.

1. Using the mounting holes on the amplifier as a guide, mark the locations for the mounting holes.
2. Drill 9/64-inch holes in the marked locations, taking care not damage anything behind the mounting surface.
3. Attach the amplifier to the mounting surface using the supplied sheetmetal screws and washers.

Plug in the wiring harnesses.

TURNING ON THE AMPLIFIER

The amplifier automatically turns on whenever you turn on your radio/cassette player. The POWER indicator lights when the amplifier is on.

SETTING THE INPUT LEVEL CONTROL

LEVEL lets you adjust the level of audio signals that enter the amplifier. For the best performance, follow these steps to adjust the input level.

1. Turn LEVEL fully counterclockwise.
2. Turn on your stereo system and turn up the volume to about one-third of its full range. Turn on the ignition, if necessary, to turn on the amplifier.
3. Adjust LEVEL until the volume is at the maximum level you desire the radio/tape player to produce.
4. Adjust the stereo system's volume control to a comfortable listening level.

CAUTIONS: Never turn LEVEL up any farther than you need to get clear sound at 2/3 volume.

The overload red indicator illuminates under the following conditions:

The amplifier is overheated.
The speaker wires are shorted.
The ground wire is open.
The speaker's impedance is above or below the rated output impedance.

The Amplifier's overload protection circuit automatically shuts down when any one of the above conditions occurs. If this happens, turn off your sound system and let the amplifier cool down before you restart.

LISTENING SAFELY

To protect your hearing, follow these guidelines:

Do not listen at extremely high volume levels. Extended, high volume listening can lead to permanent hearing loss.

Always start by setting the volume to the lowest level possible before you begin listening then gradually increase the volume as necessary.

Once you set the volume, do not increase it. Over a period of time, your ears adapt to the volume level, so a volume level that does not cause discomfort might still damage your hearing.

2 X 50 Watt Trunk Amp
(120-1971)

Troubleshooting

Faxback Doc. # 17062

Q: Green lights fade at power-up and the unit loses power.

A: Check the 12 V power lead to make sure when you turn on the remote switch on, the voltage level doesn't drop. Make sure the power lead is heavy gauge wire and that the ground is good. Always use fuse at the battery term.

The Optimus Trunk Mount Amplifier is an example of superior design and craftsmanship. The following suggestions will help you care for your amplifier so you can enjoy it for years.

Keep the amplifier dry. If it gets wet, wipe it dry immediately. Liquids can contain minerals that corrode electronic circuits.

Use and store the amplifier only in normal temperature environment. Temperature extremes can shorten the life of electronic devices and distort or melt plastic parts.

Handle the amplifier gently and carefully. Dropping it can damage circuit boards and cases and can cause the amplifier to work improperly.

Keep the amplifier away from dust and dirt, which can cause premature wear of parts.

Wipe the amplifier with a damp cloth occasionally to keep it looking new. Do not use harsh chemicals, cleaning solvents, or strong detergents to clean your amplifier.

Modifying or tampering with the product's internal components can cause a malfunction and invalidate your product's warranty. If your amplifier is not performing as it should, take it to your local Radio Shack store for assistance.

Audio Connection Information
(120-Series)

Plug/Male 2 Ch. System

Faxback Doc.# 19994

Pin No.	WIRE COLOR	WIRE SPECS.	LABEL	REMARK
1	WHT/BLK	AWG #20 2P CORD	FRONT L-	STRIP SOLDER
2	GRY/BLK	"	FRONT R-	"
3				
4				
5	BLACK	AWG 206	GROUND	6.3mm r FORK TERMINAL
6	ORG/WHT *	"	DIMMER	STRIP SOLDER
7	PINK/WHT *	"	PHONE MUTE	"
8	WHITE	AWG #20 2p CORD	FRONT L+	"
9	GRAY	"	FRONT R+	"
10				
11				
12	RED	AWG #20	+12 V TO IGNITION	250/ 1A FUSE & 24M/M TRANS STRIP SOLDER
13	YELLOW	"	+12 V TO BATTERY	250/ 1A FUSE STRIP SOLDER
14	DARK BLUE/ WHITE	"	AMP REMOTE TURN ON 500mA MAX +12 V OUTPUT	WIRE BANDING & TUBE HEATING

* May or may not be present depending on features of individual radios.

(2CH/4CH SWITCHABLE UNIT)

Pin No.	WIRE COLOR	WIRE SPECS.	LABEL	REMARK
1	WHT/BLK	AWG #20 2P CORD	FRONT L-	STRIP SOLDER
2	GRY/BLK	"	FRONT R-	"
3	GRN/BLK	"	REAR L-	"
4	VIO/BLK	"	REAR R-	"
5	BLACK	AWG 206	GROUND	6.3mm r FORK TERMINAL
6	ORG/WHT *	"	DIMMER	STRIP SOLDER
7	PINK/WHT *	"	PHONE MUTE	"
8	WHITE	AWG #20 2p CORD	FRONT L+	"
9	GRAY	"	FRONT R+	"
10	GREEN	"	REAR L+	
11	VIOLET	"	REAR R+	"
12	RED	AWG #20	+12 V TO IGNITION	250/ 1A FUSE & 24M/M TRANS STRIP SOLDER
13	YELLOW	"	+12 V TO BATTERY	250/ 1A FUSE STRIP SOLDER
14	DARK BLUE/ WHITE	"	AMP REMOTE TURN ON 500mA MAX +12 V OUTPUT	WIRE BANDING & TUBE HEATING

* May or may not be present depending on features of individual radios.

4 Chnl Unit

Pin No.	WIRE COLOR	WIRE SPECS.	LABEL	REMARK
1	WHT/BLK	AWG #20 2P CORD	FRONT L-	STRIP SOLDER
2	GRY/BLK	"	FRONT R-	"
3	GRN/BLK	"	REAR L-	"
4	VIO/BLK	"	REAR R-	"
5	BLACK	AWG 206	GROUND	6.3mm r FORK TERMINAL
6	ORG/WHT *	"	DIMMER	STRIP SOLDER
7	PINK/WHT *	"	PHONE MUTE	"
8	WHITE	AWG #20 2p CORD	FRONT L+	"
9	GRAY	"	FRONT R+	"
10	GREEN	"	REAR L+	
11	VIOLET	"	REAR R+	"
12	RED	AWG #20	+12 V TO IGNITION	250/ 1A FUSE & 24M/M TRANS STRIP SOLDER
13	YELLOW	"	+12 V TO BATTERY	250/ 1A FUSE STRIP SOLDER
14	DARK BLUE/ WHITE	"	AMP REMOTE TURN ON 500mA MAX +12 V OUTPUT	WIRE BANDING & TUBE HEATING

* May or may not be present depending on features of individual radios.

5-Pin DIN

FRONT

Green	Right (+)
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White	Right (-)
Brown	Left (+)
Gray	Left (-)
Red	+12 V Power

REAR

GRN/BLK	Right (+)
WH/BLK	Right (-)
BR/BLK	Left (+)
GRAY/BLK	Left (-)

Orange	S.P.L.
Black	Ground
Red w/ White	Memory Backup

(CJD/ir-02/28/96)
LN-03/04

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