



Massive Audio Inc.

P.O. Box 252004

Los Angeles, CA 90025

Phone: (323) 262-2262 Fax: (323) 262-6202

<http://www.massiveaudio.com>



OWNERS MANUAL

■ DRIVE 12

12" ACTIVE
SUBWOOFER SYSTEM

Engineered in the U.S.A.
www.massiveaudio.com

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Safety Instructions

Attention !

Please read all warnings found in this manual. This information is highlighted in frames and is included to inform you of the potential danger of personal injury or damage to property.

Hearing Damage

Continuous, excessive exposure to sound pressure levels in excess of 85 dB can cause a loss of hearing. **Massive** components are capable of producing sound pressure levels greater than 85 dB.

Volume and Driver Awareness

Use of sound components can impair your ability to hear necessary traffic sounds and may constitute a hazard while driving your automobile.

Massive accepts no liability for hearing loss, bodily injury or property damage as a result of use or misuse of this product.

Do not use your automobile until all components of the loudspeaker system have been secured to the interior framework. Failure to do so may turn a component into a dangerous, flying projectile during a sudden stop or accident.

Do not drill or drive screws through any vehicle interior or carpeted floor before inspecting the underside for potential punctures to control lines or cables. Be sure to avoid all fuel lines, brake lines,

Safety Instructions

electrical cables or oil lines when planning the installation.

Before beginning installation of the loudspeaker system remove the minus connector from the automobile battery in order to avoid possible short circuits.

Caution: Use care when removing interior trim panels. Car manufacturers use a variety of fastening devices that can be damaged in the disassembly process.

ATTENTION!

If sheet metal must be cut or removed contact your authorized car dealer for professional advice. By damage to supporting body structures the safety certificate may be withdrawn.

Introduction

Installation of **Massive** Speakers requires experience with a variety of mechanical and electrical procedures. This manual only provides general installation and operating instructions. If you have any reservations about your installation skills or lack the proper tools, please contact your local **Massive** dealer for assistance.

Features

IMPORTANT!

This amplified subwoofer system is designed for operation in vehicles with 12-volt negative ground electrical systems only.

Make sure that the amplifier does not get in contact with the compartment due to heat, which can be radiated from the amplifier.

Built-in 200 Watt Amplifier:

Contains a high power Class A/B monaural amplifier complete with chassis mounted adjustable Gain, Low Pass Filter and Bass Eq controls for sonic integration into most existing factory or aftermarket car stereo systems and engineered perfectly to power the subwoofer.

Remote Subwoofer Gain Control:

This wired remote functions as a Bass Boost control and can provide 0-18dB of gain at 45Hz. The remote will not increase the output beyond the GAIN setting on the back of the amplifier. Supplied with 18ft of cable it can reach your dash even when the **DRIVE 12** is mounted in the trunk.

Tunnel Port Design:

Large tunnel serves as a tuning port that "pushes" bass from the front loaded woofer for maximum output using a small footprint enclosure.

High Temperature Voice Coil:

These specially designed resin coated high temperature voice coils measure a full 2-inches in diameter to ensure high power handling and precise linear excursion while maximizing thermal heat dissipation.

Additional Features:

Carpeted enclosure, acoustically transparent speaker grill, professional mounting hardware and wiring harness.

Features

AMPLIFIER CONTROL PANEL LAYOUT

1. HIGH INPUT

Use this High Level 4-pin Molex style input when connecting to the speaker leads directly from a factory radio. Be sure to observe the correct speaker polarity (Do not use if you are using the LOW INPUT from the RCA jacks).

2. REMOTE Gain (RJ45 Jack)

This is the connector port for the Remote Gain Control. Now the amplifiers secondary gain circuit can be adjusted from the driver's seat.

3. LOW INPUT (RCA) Jacks

These RCA style input jacks are for use with source units that have RCA line level outputs. A source unit with a minimum output of 500mV is required for proper operation. However, this input can accept levels up to 4Vrms.

4. GAIN Control

This control is used to match the sensitivity of the amplifier to the particular source unit (radio) that you are using up to 4 volts. Please note the GAIN control is not a volume control, it is a level match.

5. LPF (Low Pass Filter) Control

This filter allows low pass of frequency and is adjustable from 40Hz to 250Hz. A setting of 40Hz will produce only low frequencies (deep bass). A setting of 250Hz will allow the amplifier to produce a more punchy (higher) bass response.

6. BASS EQ Control

This equalization circuit is used to enhance the low frequency response of the vehicles interior. With up to 18dB of boost centered at 45Hz the Bass EQ can be adjusted to meet your own personal taste. Please note by boosting the Bass EQ to its full +18dB you are asking the amplifier to work 10 times harder!

Features

7. Auto Sense On

When using the high level input the amplifier turns on automatically.

8.STATUS Indicator

This RED L.E.D. glows only when the built-in protection circuitry is activated. This indicates a problem with the system in relation to the amplifier and/or wiring (see Troubleshooting Tips).

9. POWER Indicator

This GREEN L.E.D. lights up when the power is on and the system is wired correctly.

10. POWER PLUG-IN Connector

This 6-pin Molex style connector is where the wiring harness plugs in for the power (+12V), ground (GND) and remote turn-on (REM) wires.

11. FUSE 30A

For convenience the amplifier uses a common automotive ATC type fuse. For continued protection in the event a fuse blows, replace only with 30 Amp (Yellow ATC) fuse. Substitution or deletion of the fuse will void the product warranty and may cause damage to your car or the amplifier.

Installation and wiring

+12V Power connection

Connect the two twisted Red wires to 12 Volt positive. To lengthen the wire harness splice at least 12 gauge wire (10 gauge for runs longer than 10 feet) directly to the battery. Route the wire through a rubber grommet in the vehicles firewall. If there is no factory grommet available, you will need to install one.



Installation and wiring

CAUTION!
The power fuse on the amplifier chassis is to protect the amp against overdrive. To protect the vehicles electrical system, an additional 20A fuse must be used within 18-inches of the battery on the +12V cable.

REM

Connect the single blue wire to the radio power antenna lead or remote output. This wire is responsible for turning the amplifier on and off. If the source unit (radio) is not equipped with a Remote lead you can connect this wire to an accessory or ignition point at the vehicle fuse block.

In this type of installation, the amplifier will be on whenever the ignition is on. To lengthen this wire use at least 18 gauge wire and run it with exactly the same care and attention as the +12V power cable.

GND

Connect the two-twisted Black wires directly to the chassis of the vehicle. The length of these wires should be kept to an absolute minimum and should be terminated to bare metal using a ring terminal. Should you need to lengthen the wire harness use the same gauge wire as was run for the positive 12 Volt connections as noted above.

Installation and wiring

INPUT SIGNAL

Choosing the High or Low Inputs

The DRIVE 12 input signal connects to the head unit's High Level (speaker wire) output OR Low Level (RCA) output provided the radio is so equipped with Line Out. A dedicated subwoofer or low level signal will deliver the best performance. If unavailable use the high level inputs, as will be the case with most factory head units.

NOTE: Never use BOTH High and Low Level inputs at the same time. You must select one or the other!

For radios with only speaker outputs (including most Factory source units). Using the 4-pin Molex style wiring harness provided, splice directly into the radio's speaker outputs. Be sure to maintain proper speaker polarity. Another option is to tap off the existing front or rear full range speakers.



Installation and wiring

Low Level Input and RCA Interconnect Wiring

For radios that have RCA line outputs, You will need to connect the low-level RCA style inputs from the DRIVE 12 to the line-outputs from the radio (source) via an RCA interconnect commonly called a “stereo patch cord”. Choose the correct length and style of RCA interconnects for your needs. Be extra careful when routing your RCA audio interconnect cables. Car environments are notorious for poorly insulated wires. This means that hiss, engine noise and fan noise can be easily picked up through RCA cables if run incorrectly. Take care to make sure the power and audio signal are not on the same side of the vehicle and they do not cross each other.

Operation and Adjustments

SETUP ADJUSTMENTS

Your DRIVE 12 uses several controls to provide sonic integration with virtually any vehicles unique acoustic properties. Please read the following section carefully to familiarize yourself with the function of each control.

The following adjustment sequence is recommended to properly tune your DRIVE 12. By first adjusting the GAIN, then the LPF, followed by the BASS EQ (in this order) will give you the best results.

Input GAIN Control

This control allows you to match the input level of the amplifier to the output level of your head unit. Matching the input can be accomplished in four simple steps:

1. Make sure the remote gain control is not plugged in until after the master gain control is set.
2. Set the GAIN control on the amplifier to MIN (completely counter clockwise).
3. Turn on the head unit and adjust the volume to 2/3 maximum and set the BASS and TREBLE on the radio (source) to zero or flat.
4. Turn the GAIN control clockwise until the sound just begins to distort, then back off slightly to cut distortion and operate at optimum gain.

Remember, the GAIN control is not a volume control. Ignoring these four steps above may leave you with a damaged woofer and/or damaged amplifier.

LPF (Low Pass Filter) Crossover Adjustment

Since musical tastes vary, adjust the crossover by ear while listening to the music of your choice.



Turn the crossover LPF adjustment all the way down to 40Hz. Then slowly turn the knob up until desired sound is achieved. Normal listening level should be right around 100Hz to 150Hz. Use common sense when adjusting the crossover. When properly adjusted, the bass from the

DRIVE 12 should blend in with the rest of your speakers and not overpower the music. Be sure to set the tone controls of your radio (source unit) to flat while dialing in the crossover.

Bass EQ Adjustment

This special feature is designed to provide you with more powerful sound quality and it allows you to increase the Bass up to +18dB. Keep in mind that more is not always better. Adjusting the control to the MAX (18dB) position will stress the amplifier and the woofer which could result in damage.

NOTE: Although this adjustment sequence will in most cases provide the best tuning results, the actual process may include several readjustments of each of the controls since their settings interact with each other. If necessary, consult your Authorized Massive dealer for help tuning your system.

Remote Gain Controller

Your Massive DRIVE 12 includes a wired Remote Subwoofer Gain control module. It uses standard telephone wire and telephone RJ45 connectors. To connect the Remote Subwoofer Gain control to the amplified enclosure, simply insert one end of the telephone plug into the REMOTE gain port.

Plug the other end into the back of the remote module. Mount the module within easy reach or under your dash.



Operation and Adjustments

Operation and Adjustments

Break In Period

To get the most from your woofer we recommend a "break-in" period of at least 40 hours (typically 2 weeks) at no more than 1/3 of maximum volume. During this time the cone and spider assembly will gradually break in resulting in greater performance and more listening enjoyment.

Trouble shooting

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 GREEN, no output

- Check RCA connections
- Test speaker outputs with known good speakers
- Substitute known good Source Unit
- Check for signal on the RCA cable with VOM in AC position

Trouble shooting

Power LED lights GREEN, but volume reduces automatically

- Advanced Protection Circuitry is engaging due to high internal temperature of the amplifier. Amplifier requires more air flow around the chassis. If this continues choose a better ventilated mounting location.
- High operating temperature can be caused by incorrect input sensitivity level. Reset the GAIN control.

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 airflow around the amplifier.
- Voltage protection engaged. Voltage to the amp is not within the 10-16 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.

Trouble shooting

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

Poor Bass Response

- Check speaker polarity, reverse the connection of one speaker only.

Specifications

	DRIVE 12
Membrane diameter (mm)	400
Mounting depth (mm)	n/a
RMS power handling p. voice coil	1 x 200 W
Efficiency 1W / 1mtr.	95 dB
Number of voice coils	1
Impedance per voice coil	1 x 4 Ohm
Membrane material	Paper cone
Voice coil diameter (mm)	50
Maximal / Nominal power output (amp)	400W/200W
Input sensitivity high level input (amp)	500mV - 5V
Input sensitivity low level input (amp)	500mV - 2,5V
Size of Box W x D x H mm	500X350X365