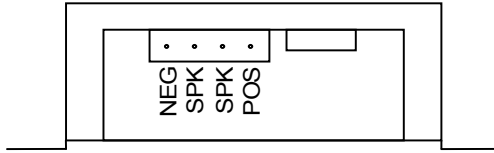


CARSON

Carson Manufacturing Co., Inc.
5451 North Rural Street
Indianapolis, IN 46220
Phone: (888) 577-6877 Fax: (317) 254-2667
www.carson-mfg.com

HA-100-10 HORN AMPLIFIER



INSTALLATION AND OPERATING INSTRUCTIONS

This product is legal in most states.
Please consult your state/local vehicle codes to ensure compliance with vehicle horn regulations.

Carson is a trademark of Carson Manufacturing Company, Inc.

WARNING **Sound Hazard** - Sound level from horn speaker (>120dBA @ 10 feet) may cause hearing damage.
Do not operate unit without adequate hearing protection for you and anyone in immediate vicinity.
(Ref. OSHA 1910.95 for occupational noise exposure guidelines)

GENERAL DESCRIPTION

The HA-100 Horn Amplifier is a premium unit designed for an 11 ohm 100 watt speaker. The unit produces a simulated air-horn sound. This compact unit utilizes short circuit, high voltage, and reverse polarity protection systems for maximum service life. An output indicator light is provided for diagnostics.

SPECIFICATIONS

Speaker Load	Single 100W 11ohm
Input Voltage	9 - 16 VDC (negative ground)
Input Current	8 AMPS (14 VDC)
Output Power	105 WATTS RMS MAX. (15 VDC)
High Voltage Protection	16 - 18 VDC will cause output to cease, resume at normal
Short Circuit Current	50 AMPS (supply circuit must be capable of supplying this for 1 second)
Operating Temp.	-15° F to +140°F
Size	3-5/8" Long, 4-1/4" Wide, 1-13/16" High
Weight	1 LB.

NOTICE

Due to continuous product improvements, we must reserve the right to change any specifications and information, contained in this manual at any time without notice.

Carson Manufacturing Co., Inc. makes no warranty of any kind with regard to this manual, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose.

Carson Manufacturing Co., Inc. shall not be liable for errors contained herein or for incidental or consequential damages in connection with the furnishing, performance, or use of this manual.

See www.carson-mfg.com for latest information.


INSTALLATION

Proper installation of the unit is essential for years of safe, reliable operation. Please read all instruction **before** installing the unit. Failure to follow these instructions can cause serious damage to the unit or vehicle and may void warranties.

SAFETY PRECAUTIONS

For the safety of the installer, vehicle operator, passengers and the community please observe the following safety precautions. **Failure to follow all safety precautions and instructions may result in property damage, injury or death.**

Qualifications - The installer must have a firm knowledge of basic electricity, vehicle electrical systems and emergency equipment.

WARNING  **Sound Hazard** - Sound level from horn speaker (>120dBA @ 10 feet) may cause hearing damage. Do not operate unit without adequate hearing protection for you and anyone in immediate vicinity. (Ref. OSHA 1910.95 for occupational noise exposure guidelines)

Mounting - Mount the unit for easy access by the vehicle operator. DO NOT mount in air bag deployment area. Assure clearances before drilling in vehicle.

Wiring - Use wiring capable of handling the current required. Make sure all connections are tight. Route wiring to prevent wear, overheating and interference with air bag deployment. Install and check all wiring before connection to vehicle battery.

Testing - Test for proper unit operation. Test vehicle operation to assure no damage to vehicle.

Keep These Instructions - Keep these instructions in the vehicle or other safe place for future reference. Advise the vehicle operator of the location.

UNPACKING

Inspect contents for shipping damage. If found **alert carrier immediately**.

Contact supplier immediately if any components are missing.

Contents of box should include the following items:

Qty	Item
1	Amplifier Unit (HA-100-10 14)
1	Connector, 4-P Terminal Block Plug (CP4688-04)
1	Instruction Manual (CP5031 This Manual)

MOUNTING

Select a location for the unit in an area such as the driver compartment firewall, under a seat, etc. Mounting the unit in the engine compartment or in an area directly exposed to weather is **not** recommended. Allow clearance for wiring. Inspect behind mounting area for clearance. Install the terminal block plug and make all electrical connections before final mounting.

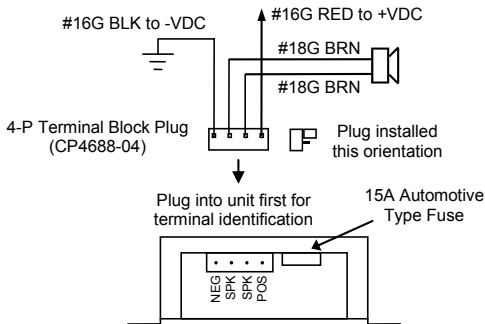
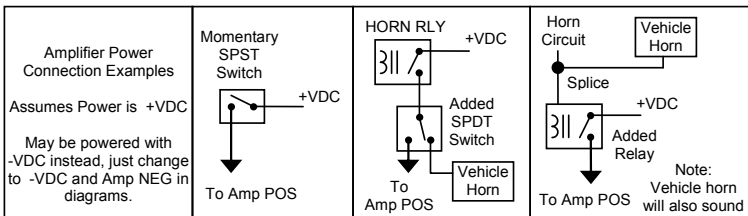
ELECTRICAL CONNECTIONS

Electrical connections to the unit are made using a removable terminal block plug located on the side. A label on the unit identifies each terminal function. You should install the plug on the unit before wiring. If the unit needs service the plug can be easily removed without unwiring. The power supply of the unit must be capable of delivering peak currents up to 50 amps for adequate short circuit protection and reliable operation. The unit is fused near the connector. Attach leads by stripping 3/8", inserting into plug and clamp by tightening screw. Make sure the screw is tight and the wire can't be pulled out.

Failure to adequately tighten the screw can result in improper operation or burning the connector and wire.

Wire Size and Termination - The diagram shows the minimum wire size used for each connection, along with recommended lead color. If the wire is longer than 15 ft. use the next larger wire size. Use only high quality crimp connectors for installation on the vehicle.

NOTE: Permanent disconnection of the vehicle horn is NOT recommended.



OPERATION

As soon as power is applied, the unit produces a simulated air horn sound and the output indicator lights up. The output indicator is located opposite the end with connector.

WARNING Sound Hazard - Sound level from horn speaker (>120dBA @ 10 feet) may cause hearing damage. Do not operate unit without adequate hearing protection for you and anyone in immediate vicinity. (Ref. OSHA 1910.95 for occupational noise exposure guidelines)

SERVICE

This unit is designed to provide years of reliable service under even the worst conditions. Many times there may appear to be a problem with the unit when the true problem is in the speaker or improper installation. The following chart shows typical symptoms and possible causes.

A blown fuse doesn't necessarily mean that the unit is bad. If a speaker or speaker lead is shorted the fuse will blow before the unit is damaged. Disconnect the SPK leads and replace the fuse. If the output indicator light on the end of the unit comes on with power applied it is OK. Check the speaker or leads for possible shorting.

PROBLEMS

Symptom	Possible Cause	Check
No power or output	Power not applied Connector loose Fuse blown Loose connection at power source High Voltage Protection Bad speaker	Is the output indicator light coming on? Is an external fuse or circuit breaker used? Are the negative leads connected to a good ground? Input voltage must be less than highest rated voltage. Try another speaker.
Distorted sound	Speaker assembly loose Low vehicle voltage	Is the speaker bell or tip loose? Input voltage must be greater than lowest rated voltage.
Intermittent tone	High Voltage Protection Connector loose Bad power connection Circuit breaker in supply connection	Is the vehicle voltage regulator working properly? Is the connector tight on the unit? Is there a loose connection on a power lead? Is a circuit breaker used with at least a 50A rating?

PARTS and ACCESSORIES

The following parts and accessories are available from Carson Manufacturing Company, Inc.:

Part	Description
CP5030	Cover (not including chassis)
CP4990-150	Fuse, 15 Amp Mini Automotive
CP4998	Transistor, output (2 required)
Accessory	Description * - standard accessory supplied with unit
ED1914	Cable, 4-P Lead Assembly 15FT (made w/ CP4688-04 Conn)
CP4688-04 *	Connector, 4-P Terminal Block Plug
CP5031 *	Manual, HA-100-10 Instruction

RETURN

If you have any questions concerning this or any other Carson product, please contact our **Technical Service Department** at (888) 577-6877. Many issues can be handled over the phone. We can also be reached via e-mail at service@carson-mfg.com

If a product must be returned for any reason, please contact our Technical Service Department to obtain a Returned Merchandise Authorization number (RMA#) before you ship the product to Carson. Please write the RMA# clearly on the package near the mailing label. Be sure to provide a return address, contact and phone number, along with a brief description of the problem.

LIMITED WARRANTY

Carson Manufacturing Company, Inc. warrants this new product to be free from defects in material and workmanship, under normal use and service, for a period of five (5) years from the date of delivery to the first user-purchaser.

During this warranty period the obligation of Carson Manufacturing is limited to repairing or replacing, as Carson Manufacturing may elect, any part or parts of such product which after examination by Carson Manufacturing is determined to be defective in material and/or workmanship.

This warranty does not cover labor charges for removal or re-installation of the product. Fuses and lamps are not covered under this warranty.

This warranty does not extend to any unit that has been subjected to abuse, misuse, improper installation or which has not been adequately maintained, nor to units which have problems related to service or modification at any facility other than the manufacturer.

THERE ARE NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO, ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. IN NO EVENT SHALL CARSON MANUFACTURING COMPANY, INC. BE LIABLE FOR ANY LOSS OF PROFITS OR ANY INDIRECT OR CONSEQUENTIAL DAMAGES ARISING OUT OF ANY SUCH DEFECT IN MATERIALS OR WORKMANSHIP.