



pro mobile

SPEAKERS



PH654/PH694/PH84

Owners Manual

MANUAL

Cerwin Vega Mobile Speakers

Congratulations for purchasing Cerwin Vega Mobile speakers for your car audio system. You have chosen Cerwin Vega Mobile because you deserve the best!

Cerwin Vega Mobile speakers are designed and engineered to reproduce great sound quality for many years of listening enjoyment in your vehicle! We highly recommend that your new speakers be installed by an authorized Cerwin Vega Mobile dealer. Your authorized dealer can professionally assemble / disassemble the interior of your vehicle and set the proper subwoofer placement for ideal sound quality.

If you decide to install the speakers by yourself, please thoroughly read through this manual before getting started. This manual will help familiarize yourself with these speakers and guide you through the installation process and procedures.

Please contact your local authorized Cerwin Vega Mobile dealer if you have any questions regarding the instructions in this manual. If you require additional assistance, please contact the Cerwin Vega Mobile Technical Support Department during business hours at 213-261-4161.

PH654/694/84 Pro Audio CoAx Horn Drivers - Pair

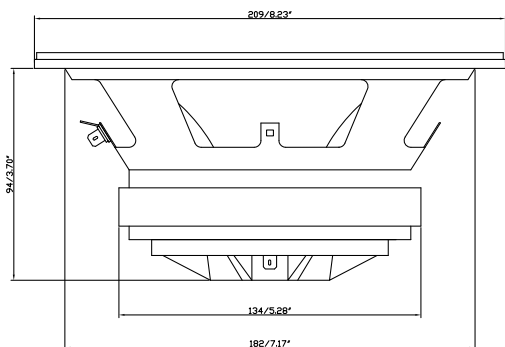
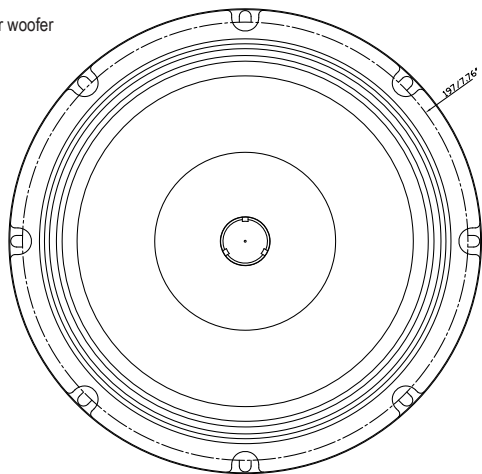
- 6.5"/6 x 9"/8" PRO Full-Range Co-Ax Horn Speaker
- 150W RMS -180W RMS / 320-360W MAX Power Handling
- Ferrite Strontium High Temp Magnet structure
- Heavy duty Stamped Steel basket
- Advanced Voice coil heat sink design for better heat dissipation
- 1.5" - 2.0" Single Layer high temp voice coil with black coated
- 1.0" Single Layer high temp voice coil for tweeter
- Frequency Response: 80Hz -18Khz
- High Sensitivity 101 -103dB 1W/1M
- 12dB 2nd Order Filter Crossover

Features/Specifications

The next generation of Cerwin Vega Mobile Pro Audio Mobile drivers features and specifications are on the next few pages. Makes sure to read this manual and get to know your drivers and the many applications and set up scenarios available to you.

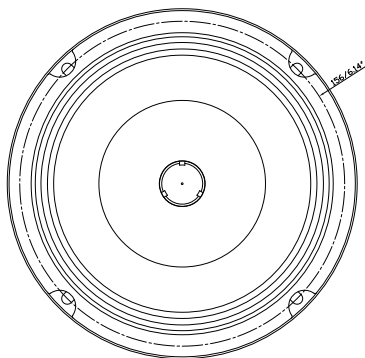
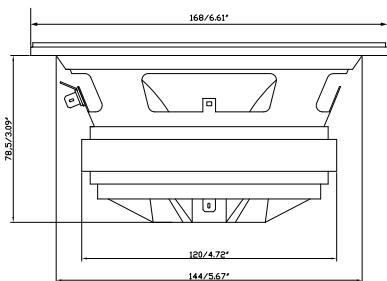
PH84

- 8" PRO Full-Range Co-Ax Horn Speaker
- 180W RMS/360W** MAX Power Handling
- Ferrite Strontium High Temp Magnet structure
- Heavy duty Stamped Steel basket
- 2.0" Single Layer high temp black coated voice coil for woofer
- 1.0" Single Layer high temp voice coil for tweeter
- Frequency Response: 80Hz -18Khz
- High Sensitivity 103dB 1W/1M
- 12dB 2nd Order Filter Crossover the tweeter
- Mounting Depth: 3.70" / 94mm
- Mounting diameter: 7.17" / 182mm



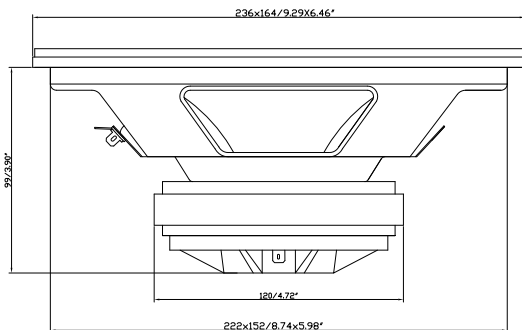
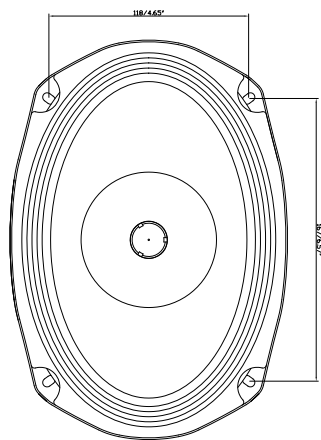
PH654

- 6.5" PRO Full-Range Co-Ax Horn Speaker
- 150W RMS/300W** MAX Power Handling
- Ferrite Strontium High Temp Magnet structure
- Heavy duty Stamped Steel basket
- 1.5" Single Layer high temp black coated voice coil for woofer
- 1.0" Single Layer high temp voice coil for tweeter
- Frequency Response: 110Hz -18Khz
- High Sensitivity 101dB 1W/1M
- 12dB 2nd Order Filter Crossover
- Mounting Diameter: 5.67" / 144mm
- Mounting Depth: 3.09" / 78.5mm



PH694

- 6 X 9" PRO Full-Range Co-Ax Horn Speaker
- 160W RMS/320W** MAX Power Handling
- Ferrite Strontium High Temp Magnet structure
- Heavy duty Stamped Steel basket
- 1.5" Single Layer high temp black coated voice coil for woofer
- 1.0" Single Layer high temp voice coil for tweeter
- Frequency Response: 80Hz -18Khz
- High Sensitivity 103dB 1W/1M
- 12dB 2nd Order Filter Crossover the tweeter
- Mounting Depth: 3.90" / 99mm
- Mounting Diameter: 8.74" x 5.98" / 222 x 152mm



Installation

Installing the Speakers

Your new Cerwin-Vega Mobile Pro Full range Coax Horn speakers were designed with the flexibility to be installed in multiple Locations. However, to ensure the best performance possible, it is important to isolate the front sound waves of the speaker from its rear sound waves. This is done by securely mounting the speaker to a flat surface known as a baffle. Make sure to seal the speaker to ensure there are no air leaks around its frame. Screws are NOT included, as these are installed totally into custom installs, and we know how you guys (gals) are!

Selecting a Location

Since these are "Pro Drivers" we know the likelihood of mounting in stock locations is pretty non-existent. This means basic audio concepts should be thought of when installing. Solid mounting, no airleaks, etc. Venting (or porting) is not necessary. Line the walls of the enclosures with deadliner if possible.

We HIGHLY recommend that for the BEST sound you put a sound deadening mat on the door "skin", fairing or bag, The more "damped" your vehicle/bike is.... the better it will ultimately sound!!!

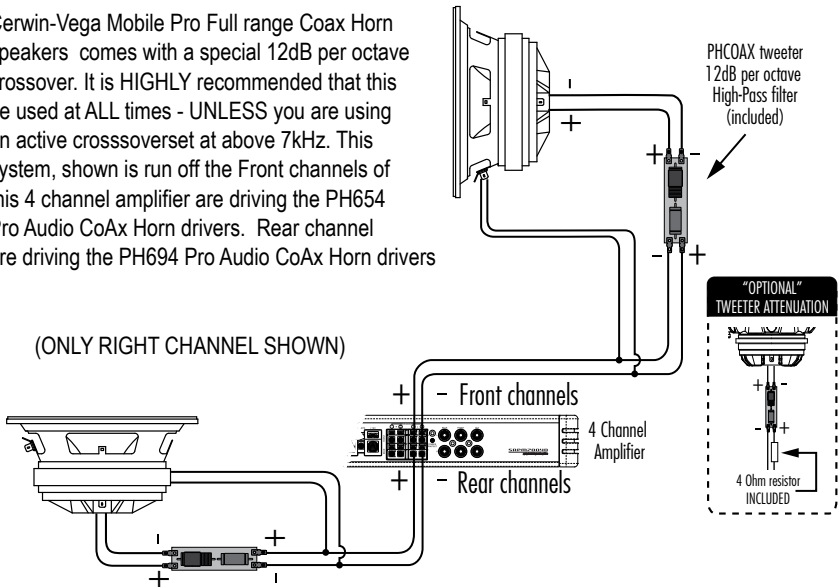
Remember that the Midrange driver is 4W and the Tweeter is 8W. These drivers were especially designed for Motorcycles but can be used in cars, trucks, boats and UTVs as the cones are UV and water resistant. They are light weight and extremely efficient

SYSTEM DESIGN - PASSIVE

TYPICAL SYSTEM USING INCLUDED PASSIVE CROSSOVERS

Cerwin-Vega Mobile Pro Full range Coax Horn speakers comes with a special 12dB per octave crossover. It is HIGHLY recommended that this be used at ALL times - UNLESS you are using an active crossover set at above 7kHz. This system, shown is run off the Front channels of this 4 channel amplifier are driving the PH654 Pro Audio CoAx Horn drivers. Rear channel are driving the PH694 Pro Audio CoAx Horn drivers

**** SPECIAL NOTE****
Tweeter connected "Out-of-Phase" to be acoustically "In-Phase"

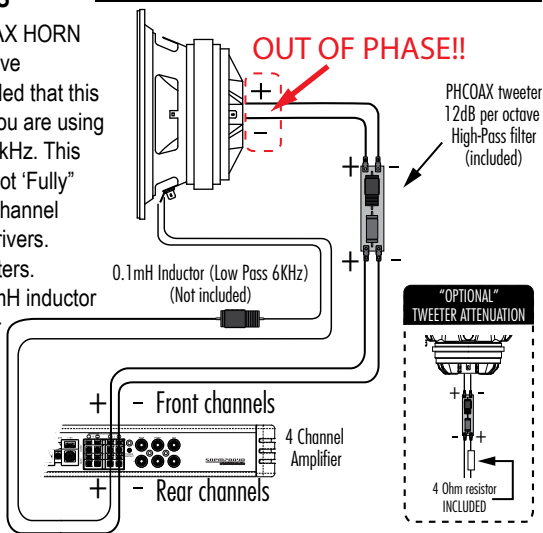


System Design - Passive/Active

TYPICAL "BI-AMPED" SYSTEM USING PASSIVE CROSSOVERS

The Cerwin Vega PRO AUDIO COAX HORN comes with a special 12dB per octave crossover. It is HIGHLY recommended that this be used at ALL times - UNLESS you are using an active crossover set at above 7kHz. This system, shown is "Bi-Amped", but not 'Fully' active. FRONT channels of this 4 channel amplifier are driving the mid bass drivers. REAR channel are driving the tweeters. The MIDBASS is shown with a 0.1mH inductor (not included) in series to cross over the midbass at 6KHz with a 6dB roll-off. This setup makes it easier to adjust level of the midbass versus the tweeter. (ONLY RIGHT CHANNEL SHOWN)

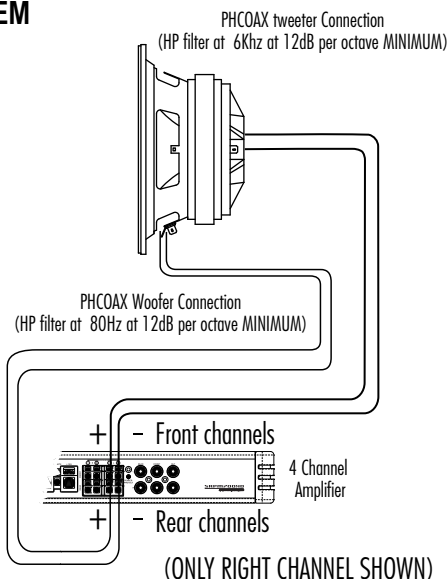
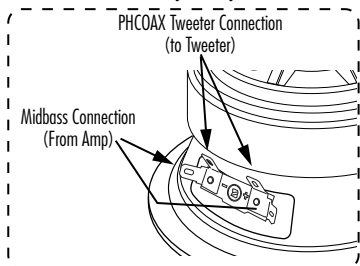
**** SPECIAL NOTE****
Tweeter connected "out-of-phase" to be acoustically "in-Phase"



SYSTEM DESIGN - FULLY ACTIVE

TYPICAL "FULLY ACTIVE" SYSTEM

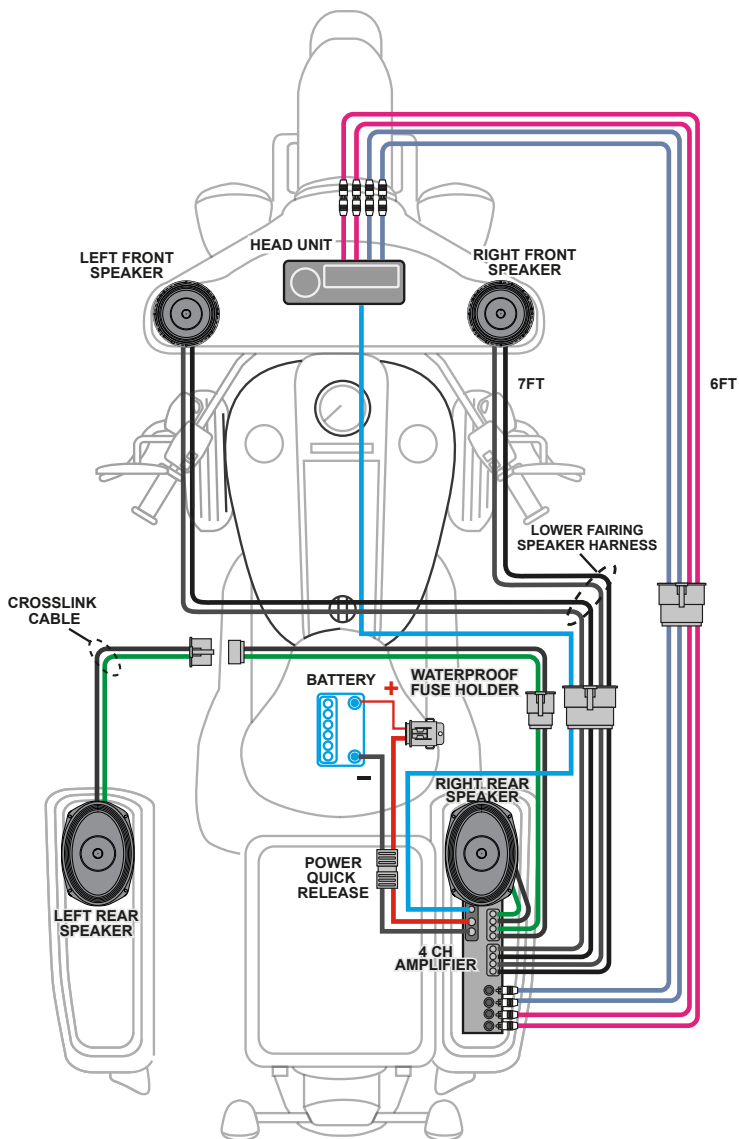
PH COAX HORN drivers can be "Bi-Amped" Or what is commonly called FULLY active system setup. In the system shown - the tweeter(s) are wired to the FRONT channels and the MIDBASS driver section is wired to the rear channels. At this point you should seriously think about purchasing a DSP processor - unless your amplifier has a HP filter that can go to 8KHz Using a DSP processor makes it much easier to control and tune your system.



Typical 4 Channel System

(Using a CMHR4 - BAGGER 4 CHANNEL AUDIO WIRING KIT)

UTILIZING A PAIR OF PH654 AND A PAIR OF PH694

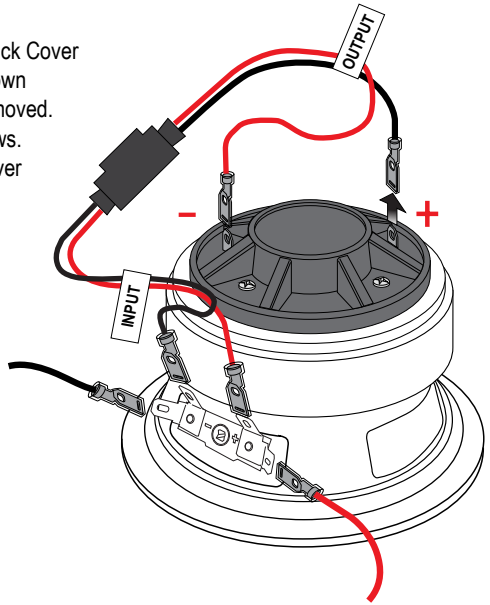
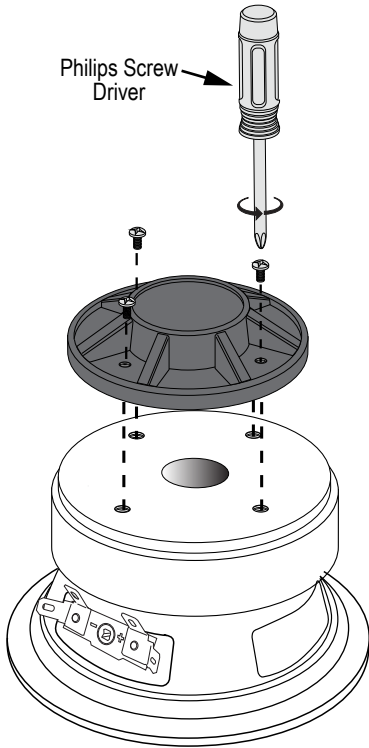


Diaphragm Replacement

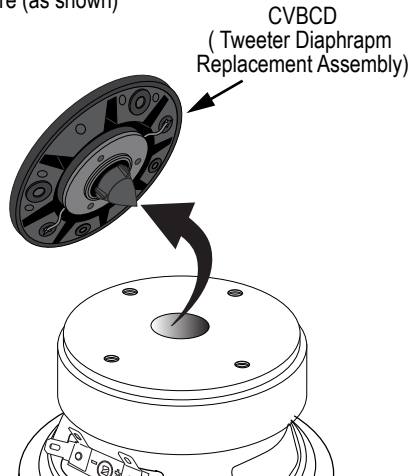
THIS IS JUST IN CASE YOU BLOW YOUR TWEETER UP!

FIRST THINGS FIRST:

Pull the Insulated 0.25" Push-Ons off the Back Cover connections to the tweeter crossover as shown to the right. The Back cover needs to be removed. These are 4 - PHILIPS head machine screws. Remove them with a #2 PHILIPS screw driver and put them in a ZipLock bag so you dont loose them.

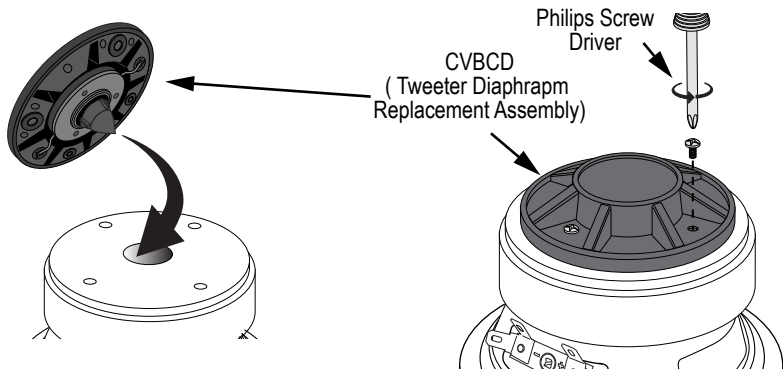


BE CAREFUL lift the Back Cover/Diaphragm assembly out from the midbass magnet structure (as shown)



Features/Specifications

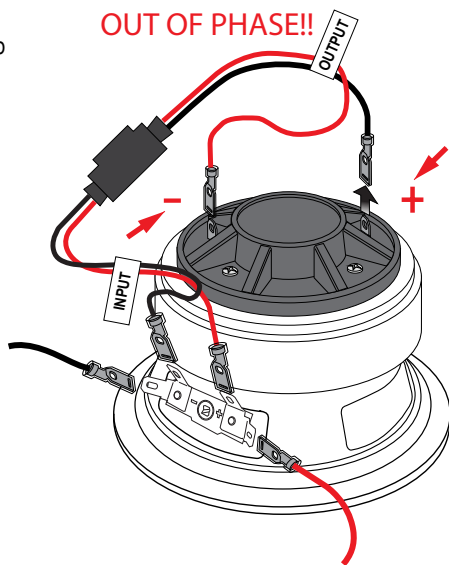
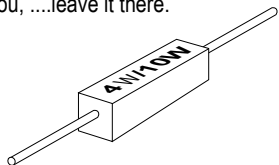
Once the Back Cover/Diaphragm assembly is unscrewed and removed..NOW get the NEW Back Cover/Diaphragm assembly and reverse the process. Place the 4- PHILIP head Machine screws back into place. Using a DVM (or AA battery) make sure that the tweeter is actually connected. "Pop" it a couple times or read the impedance (its 8 W) Once tested then finish putting the Back Cover/Diaphragm assembly tightly. BUT not too tightly!



With the Back Cover/Diaphragm assembly back on re attach the passive tweeter crossover as shown to the right. NOTE: the tweeter is actually connected "Out-Of-Phase". This is VERY IMPORTANT for proper sound quality. Use your Smartphone and the Polarity Tester App you put on it to double check this.

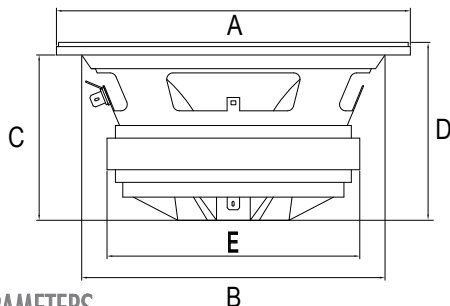
SPECIAL NOTE:

Included with the speaker set are 2- 4 W resistors. These are there just in case you think that the horns are TOO bright. Put 1 in line with each of the the crossovers INPUT. That will attenuate the tweeter about 3dB. If that sounds good to you,leave it there.



Physical Dimensions

Dimension	Unit	PH654	PH694	PH84
Total Diameter (A)	in. (mm)	6.61 (168)	9.29X6.46 (236X164)	8.23 (209)
Mounting Diameter (B)	in. (mm)	5.67 (144)	8.74X5.98 (222X152)	7.17 (182)
Mounting Depth (C)	in. (mm)	3.09 (78.5)	3.90 (99)	3.70 (94)
Total Depth (D)	in. (mm)	3.88 (98.6)	4.26 (108.3)	4.25 (108)
Magnet Diameter (E)	in. (mm)	3.94 (100)	4.72 (120)	5.28 (134)



THIELE/SMALL PARAMETERS

Parameter (unit)	PH654	PH84	PH694
SPL (dB - MidBass)	92.4	95.2	92.5
SPL (dB - Tweeter)	107	107	107
Re (Ω)	3.2	3.2	3.2
Qms	9.73	12.26	9.2
Qes	0.65	0.42	0.85
Qts	0.61	0.40	0.78
Fs (Hz)	105.2	78.2	76.5
Vas (L)	6.4	19.0	22.0
Cms (mm/N)	0.24	0.30	0.30
Mms (g)	9.7	14.0	14.5
Sd (cm ²)	138.9	213.8	229.7
BL (T*M)	5.6	7.3	5.1
Xmax (mm)	1.0	1.0	1.0
Pwr (W) NOM/MAX	150/**300	180/**360	160/**320

Hi-pass filtered @ 150 Hz - 12 dB Oct

Warranty

Thank you for purchasing a Cerwin Vega Mobile product and we hope to provide you with countless hours of listening enjoyment.

Please take a brief moment to register your new product. By registering your new product, you will receive benefits such as:

- Important product notifications that may pertain to your purchase.
- Confirmation and record of ownership in case of loss or theft.
- Knowledgeable customer service and technical assistance pertaining to your product.

Register your new product by completely filling out this Product and Warranty Registration card or register online at www.cerwinvegamobile.com.

Registration is voluntary and failure to register will not diminish your limited warranty rights.

Limited Warranty (U.S.A.)

Cerwin Vega Mobile warrants all of our amplifiers and speakers to be free of defects in materials and workmanship for a period of one (1) year.

This warranty is non-transferable and applies only to the original purchaser from an authorized Cerwin Vega Mobile dealer. If service is required and necessary under this warranty due to manufacturing defect or malfunction, then Cerwin Vega Mobile will repair and/or replace defective product with either new or remanufactured like product at no charge at our discretion.

Damage to product caused by the following will not be covered under this warranty: abuse, accident, misuse, neglect, modifications, repairing attempts, seller/installer misrepresentation.

This warranty does not cover any incidental, consequential, or cosmetic damage due to accidents or normal wear and tear, nor does it cover the cost of removing or reinstallation of the product.

Warranty is void if the product's serial number has been removed, defaced, and/or tampered with.

Warranty Procedure:

We recommend that you contact your Cerwin Vega Mobile authorized dealer where your original purchase was made to initiate all warranty claims. Our authorized dealers can guide you through the warranty procedure to ensure that your claim will be processed in a timely manner. All warranty returns must be accompanied with a proof of purchase (a copy of the original sales receipt) and be shipped freight prepaid to our facility with an RA (Return Authorization) number clearly marked on the outside of the package. Direct returns from consumers or non-authorized dealers will be refused if shipped without a valid RA number authorized by Cerwin Vega Mobile beforehand.

INTERNATIONAL

Products purchased outside of the U.S.A. are covered only by that country's distributor and not by Cerwin Vega Mobile U.S.A.

Please Ship All Warranty Claims With Pre-Authorized RA Number To:
CV&DA Holdings, Inc.
ATTN: Customer Service Department
3761 S. Hill St.
Los Angeles, CA 90007 USA

Please Contact Customer Service for Further Warranty Information:
U.S.A.
Tel: 213-261-4161 / Fax: 213-947-4767



**3761 South Hill Street
Los Angeles 90007, USA
P 213-261-4161 / F 213-947-4767**

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