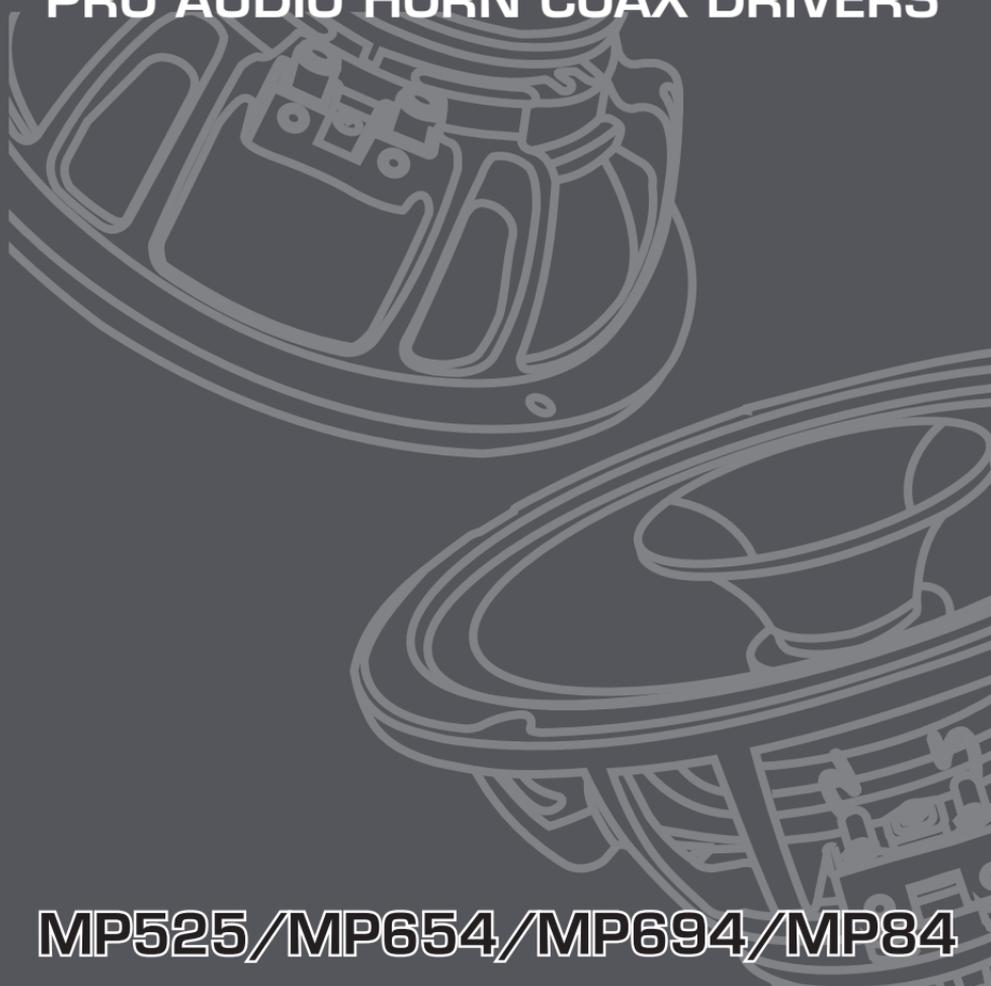




DIAMOND
AUDIO

MOTORSPORT SERIES

PRO AUDIO HORN COAX DRIVERS



MP525/MP654/MP694/MP84

Owners Manual



Congratulations, you have just purchased one of the finest mobile audio products on the market. Diamond Audio products represent the latest advances in acoustic technology in sound reproduction for your vehicle. Diamond Audio products are designed, developed, and engineered in the USA using the latest innovative materials and components to provide the finest sound reproduction possible. Every Diamond Audio product has been verified and tested to ensure the best sounding and most reliable product on the market, if installed properly. Diamond Audio products will provide many years of the ultimate listening experience.

Please note that prolonged exposure to sound pressure levels in excess of 100dB can cause permanent hearing loss. Using Diamond Audio products can exceed that level, so please exercise restraint in its operation in order to preserve your ability to enjoy its high fidelity sound for many years to come.

Diamond Audio recommends our products be professionally installed by an authorized Diamond Audio dealer to achieve the best possible system recommendation and installation. This will ensure a true Diamond Audio listening experience and sound you would expect from Diamond Audio products. With proper validation use a Diamond Audio Retailer for installation of your newly purchased amplifier. Diamond Audio will extend the product warranty from one year to Two Years!!

Go ahead, Hear the Music

MP525/654/694/84 Pro Audio CoAx Horn Drivers - Pair

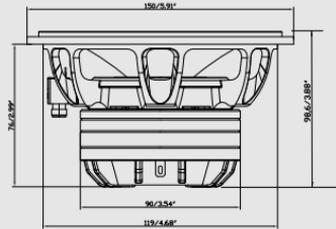
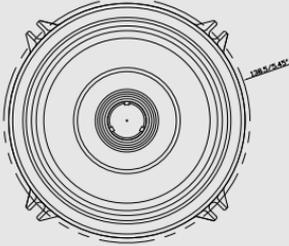
- High Power Handling
- High Temp NEO Magnet Structure
- Heavy Duty CAsT Aluminum Basket
- Advanced Voice Coil Heat Sink Design for Better Heat Dissipation
- 1.5"- 2.0" Single Layer High Temp Black Coated Voice Coil former for Woofer
- 1.0" Single Layer High Temp Voice Coil for Tweeter
- High Sensitivity >101dB 1W/1M
- 12dB Crossover 2nd Order Filter
- 4 Ohm Resistor also included (for tweeter attenuation)
- Light Weight
- Slim Depth

DIAMOND AUDIO PRO AUDIO COAX HORN DRIVERS

The next generation of Diamond Audio 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.

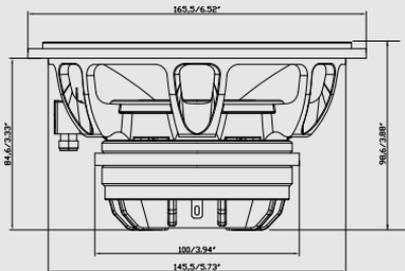
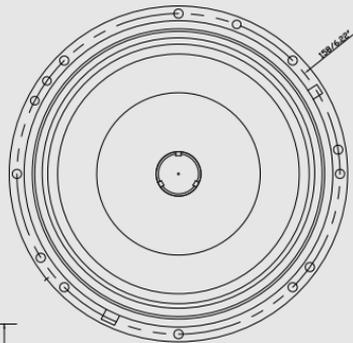
MP525

- 5.25" PRO Full-Range Co-Ax Horn Speaker
- 150WRMS/300W MAX Power Handling
- High Temp NEO Magnet structure
- Heavy duty Cast Aluminum basket
- 1.5" Single Layer High Temp 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



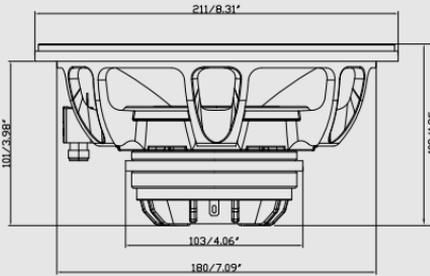
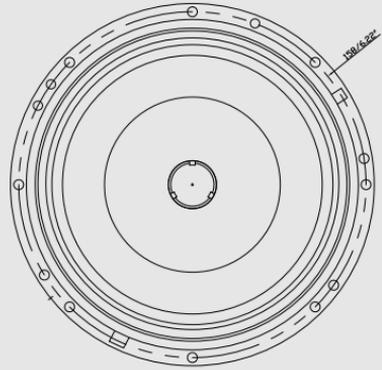
MP654

- 6.5" PRO Full-Range Co-Ax Horn Speaker
- 150W RMS/300 MAX Power Handling
- High Temp NEO Magnet structure
- Heavy Duty Cast Steel Basket
- 1.5" Single Layer High Temp 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



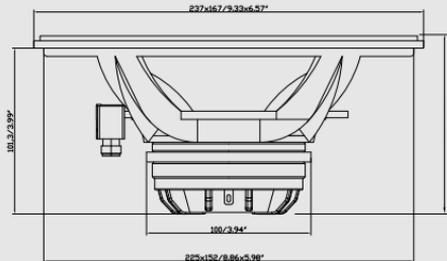
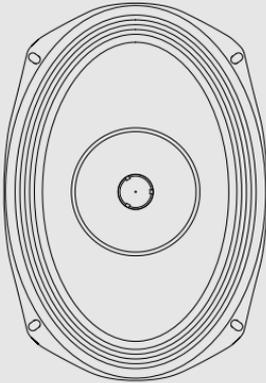
MP84

- 8" PRO Full-Range Co-Ax Horn Speaker
- 200W RMS/400W MAX Power Handling
- High Temp NEO Magnet structure
- Heavy duty Cast Aluminum basket
- 2.0" Single Layer High Temp 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



MP694

- 6 X 9" PRO Full-Range Co-Ax Horn Speaker
- 150W RMS/300W MAX Power Handling
- High Temp NEO Magnet structure
- Heavy duty Cast Aluminum basket
- 1.5" Single Layer High Temp Voice Coil for Woofer
- 1.0" Single Layer High Temp Voice Coil for Tweeter
- Frequency Response: 80Hz -18Khz
- High Sensitivity 101dB 1W/1M
- 12dB 2nd Order Filter Crossover



Installing the Speakers

Your new Diamond Audio MP series 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 included.

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!!!

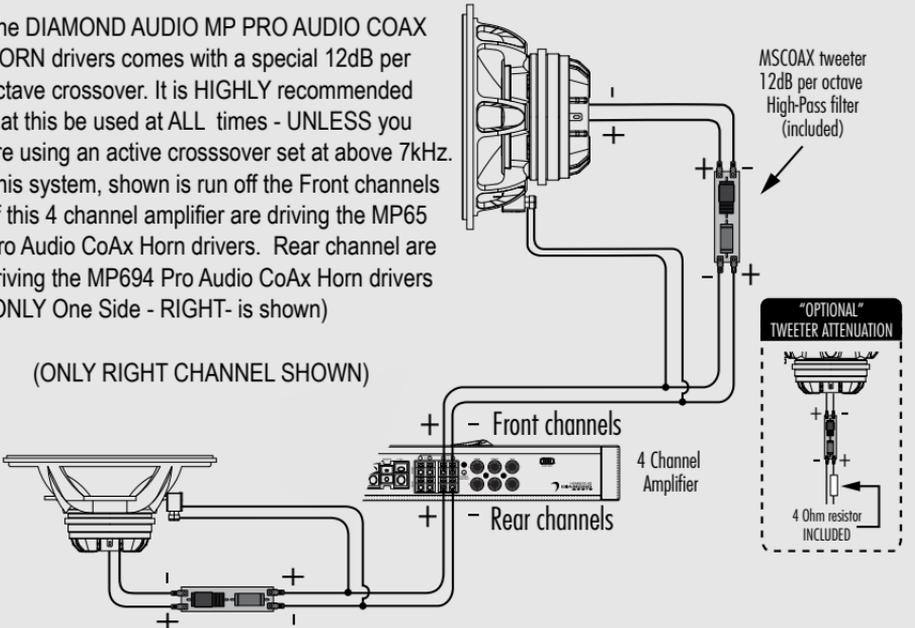
Remember that the Midrange driver is 4 W and the Tweeter is 8 W . These drivers were especially designed for Motorcycles but can be used in cars, trucks, boats and UTVs as the cones are UV and water resistant. They are light weight and extremely efficient

SYSTEM DESIGN - PASSIVE

TYPICAL SYSTEM USING INCLUDED PASSIVE CROSSOVERS

The DIAMOND AUDIO MP PRO AUDIO COAX HORN drivers 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 MP65 Pro Audio CoAx Horn drivers. Rear channel are driving the MP694 Pro Audio CoAx Horn drivers (ONLY One Side - RIGHT- is shown)

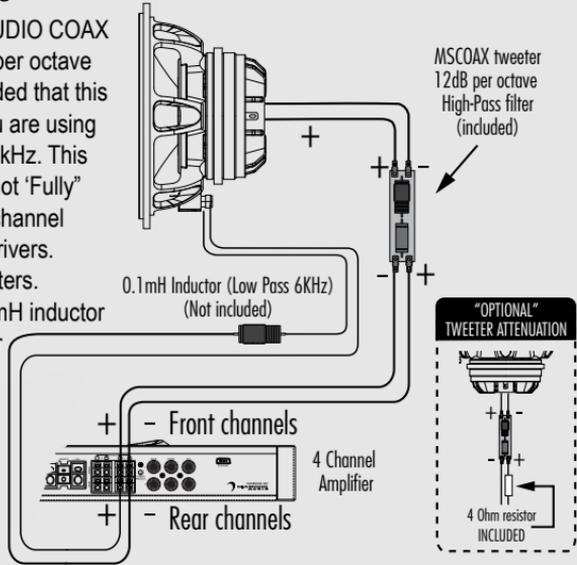
(ONLY RIGHT CHANNEL SHOWN)



TYPICAL "BI-AMPED" SYSTEM USING PASSIVE CROSSOVERS

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

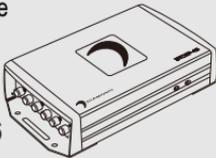
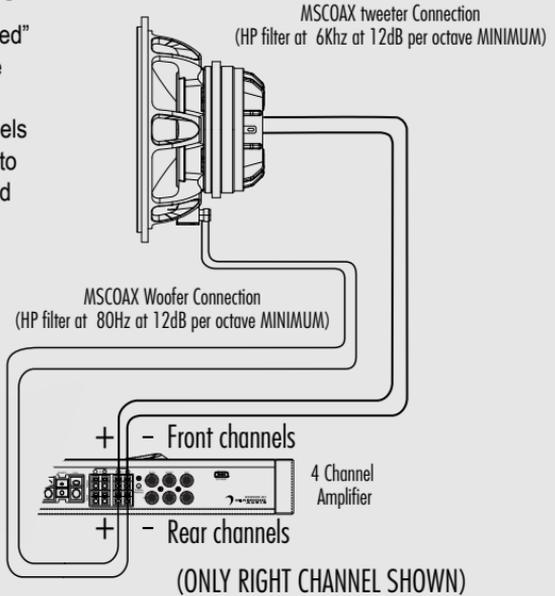
The DIAMOND AUDIO MP PRO AUDIO COAX HORN comes with a special 12dB per octave crossover. It is HIGHLY recommended that this be used at ALL times - UNLESS you are using an active crossover set at above 7kHz. This system, shown is "Bi-Amped", but not 'Fully' active. FRONT channels of this 4 channel amplifier 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)



SYSTEM DESIGN - FULLY ACTIVE

TYPICAL "FULLY ACTIVE" SYSTEM

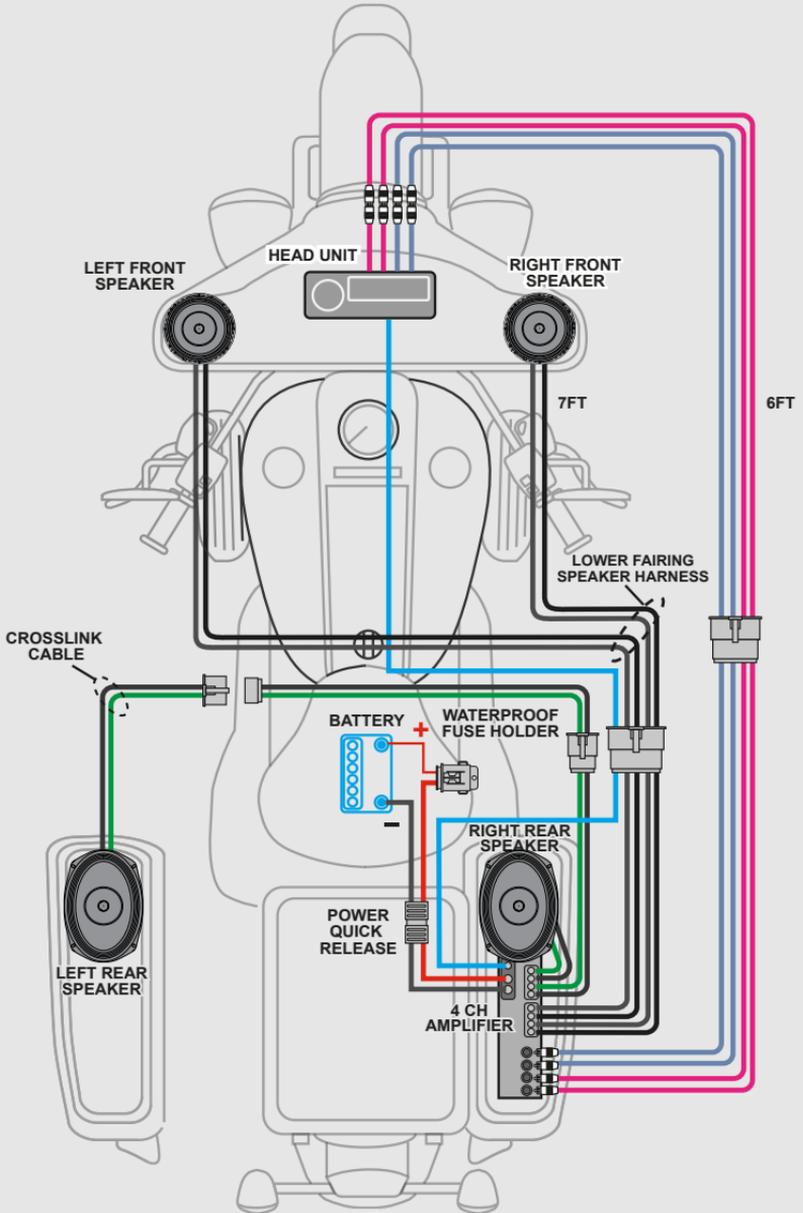
MP COAX HORN drivers can be "Bi-Amped" Or what is commonly called FULLY active system setup. In the system shown - the tweeter(s) are wired to the FRONT channels and the MIDBASS driver section is wired to the rear channels. At this point you should seriously think about purchasing a DSP processor - unless 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. We recommend using the Diamond Audio BTDSP-46. Small 4 in 6 out, simple to use....and controlled by your SmartPhone



BTDSP-46

Typical 4 Channel System

(Using a MSHR4 - BAGGER 4 CHANNEL AUDIO WIRING KIT)
UTILIZING A PAIR OF MP65 AND A PAIR OF MP694



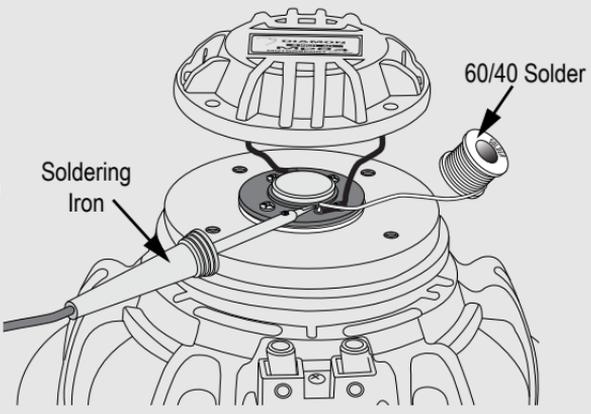
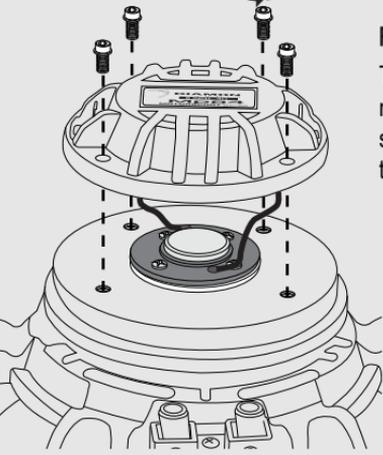
TWEETER DIAPHRAGM REPLACEMENT - DISASSEMBLY



THIS IS JUST IN CASE YOU BLOW YOUR TWEETER UP!

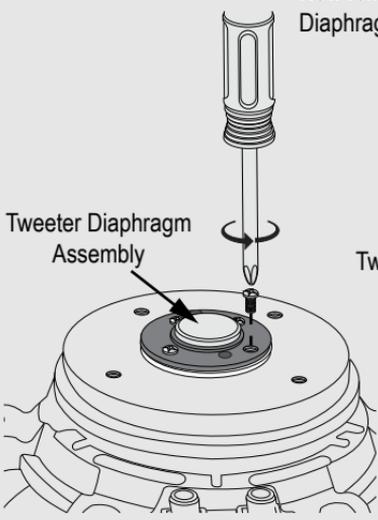
FIRST THINGS FIRST:

The Back cover needs to be removed. These are 5 mm HEX machine screws. Remove them and put them in a ZipLock bag so you don't lose them. BE CAREFUL as there are small gauge tweeter wires connected to the Diaphragm assembly (as shown)

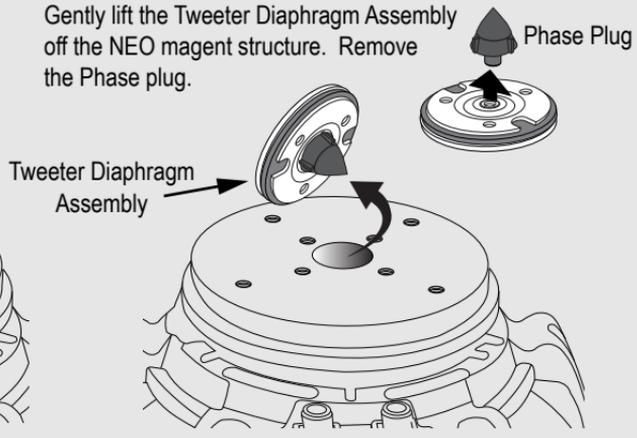


Once the Back cover is unscrewed. Un-Solder the tweeter wires. It is best that you shoot a photo to make sure you wire it back correctly. Make a note about which wire is positive (+) and which wire is negative (-)

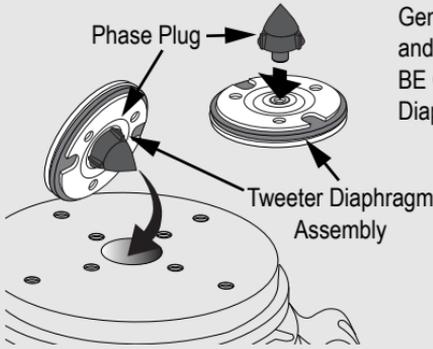
Put the Back cover with tweeter wires in a safe place. Now remove the Philip Head screws holding the Tweeter Diaphragm assembly



Gently lift the Tweeter Diaphragm Assembly off the NEO magnet structure. Remove the Phase plug.

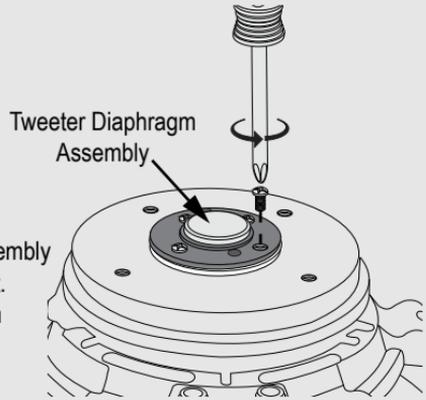


TWEETER DIAPHRAGM REPLACEMENT - REASSEMBLY

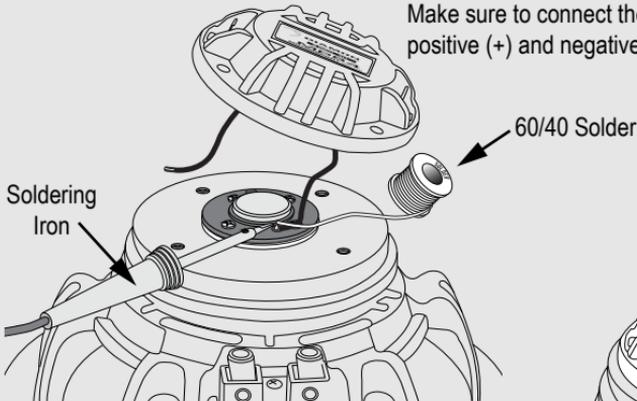


Gently take the "NEW" Tweeter Diaphragm Assembly and put the Phase plug you just removed onto it. BE CAREFUL not to damage the NEW Titanium Diaphragm assembly.

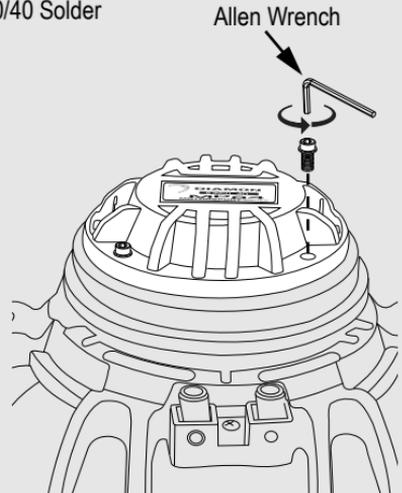
Gently take the "NEW" Tweeter Diaphragm Assembly and put the Phase plug you just removed onto it. BE CAREFUL not to damage the NEW Titanium Diaphragm assembly.



Get the Back cover and Re-Solder the tweeter wires. Make sure to connect the wire correctly both the positive (+) and negative wire from the back cover (-)

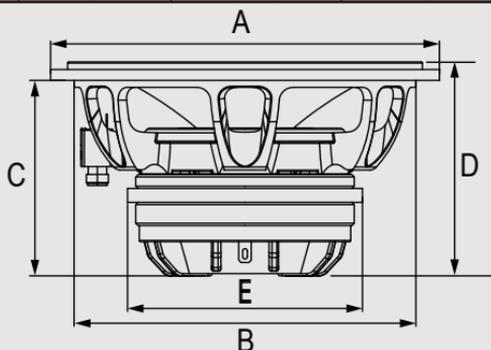


Using a DVM (or AA battery) make sure that the tweeter is actually connected. "Pop" it a couple times or read the impedance (8 W) Once tested then finish putting the back cover on with the stainless 4mm hex head hardware you removed in the beginning.



PHYSICAL DIMENSIONS

Dimension	Unit	MP525	MP654	MP694	MP84
Total Diameter (A)	in. (mm)	5.91 (150)	6.52 (165.5)	9.33X6.57 (237X167)	8.31 (211)
Mounting Diameter (B)	in. (mm)	4.68 (119)	5.73 (145.5)	8.86X5.98 (225X152)	7.09 (180)
Mounting Depth (C)	in. (mm)	2.99 (76)	3.33 (91.6)	3.99 (101.3)	3.98 (101)
Total Depth (D)	in. (mm)	3.26 (83)	3.88 (98.6)	4.26 (108.3)	4.25 (108)
Magent Diameter (E)	in. (mm)	3.54(90)	3.94 (100)	3.94 (100)	4.06 (103)



THIELE/SMALL PARAMETERS

Parameter (unit)	MP525	MP654	MP84	MP694
SPL (dB - MidBass)	92.3	92.7	95.2	95.6
SPL (dB - Tweeter)	107	107	107	107
Re (Ω)	3.2	3.2	3.2	3.2
Qms	7.55	10.73	12.46	9.42
Qes	0.64	0.47	0.42	0.43
Qts	0.59	0.45	0.41	0.42
Fs (Hz)	168.2	103.3	69.43	82.6
Vas (L)	1.5	6.6	27.5	18.2
Cms (mm/N)	0.13	0.24	0.43	0.25
Mms (g)	6.8	9.7	12.3	15.1
Sd (cm ²)	89.9	138.9	213.8	229.7
BL (T*M)	6.0	6.5	6.4	7.6
Xmax (mm)	1.0	1.0	1.0	1.0
Pwr (W) NOM/MAX	150/**300	150/**300	200/**400	150/**300

WARRANTY

Diamond Audio Technologies (DAT), a division of CV & DA Holdings Incorporated, warrants this product to be free from defects in material and workmanship for a period of one (1) year from the original date of purchase, provided it was purchased from an authorized DAT retailer within the United States. Product warranty period starts at the date of purchase or one year past the manufacture date whichever is first. However, upon purchase and completion of the on-line registration and installation by an authorized DAT dealer, warranty period will be extended to two (2) years. This warranty extension offer will only be recognized upon completion of the on-line registration of your product within thirty (30) days of the date of purchase.

THIS WARRANTY IS NOT TRANSFERABLE AND APPLIES ONLY TO THE ORIGINAL PURCHASER OF THIS PRODUCT IN ITS ORIGINAL INSTALLATION. Original purchaser must reside in the United States and be able to provide proof of purchase and installation with the sales receipt and completion of online registration from the authorized DAT retailer that sold and installed the product.

Should a manufacturing defect occur during above said warranty period, DAT will replace or repair the defective product with a product of the same or equivalent value and performance, at DAT's discretion.

Damage or failure caused by any of the following is not covered under this warranty policy: negligence, improper use, abuse, product modification, unauthorized repair attempts, accident, acts of God, misrepresentations by DAT retailers, and improper/inadequate packaging during return shipping.

Warranty is void if serial numbers have been removed, altered or defaced.

SERVICE

In the event a DAT product should require service, you should visit the authorized DAT retailer you purchased the product from and they can expedite your claim. All claims must fall into the guidelines listed above and be accompanied by a copy of the original sales and installation receipt from that authorized DAT retailer.

Product returned for warranty service must be freight-prepaid, properly packaged and clearly marked with the Return Authorization (RA) number issued by DAT. Any product returned to DAT that is improperly packaged, does not have a RA number clearly marked on the package, or never received a RA number, may be refused upon delivery. DAT does not assume responsibility for lost or misdirected product.

Repair or replacement under this warranty is the exclusive remedy of the consumer. DAT shall not be liable for any incidental or consequential damages for breach of any expressed or implied warranty on this product. Some states do not allow the exclusion or limitation of incidental or consequential damages, or allow limitations on how long an implied warranty lasts, so the above limitations or exclusions may not apply to you. This warranty gives you specific legal rights and you may also have other rights that may vary from state to state.

Customers outside the United States should contact their local sales office to obtain information on pricing, exchange unit availability, instructions, service and warranty/non-warranty replacement or repair.

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