

Mini D Amplifiers INSTALLATION MANUAL

Mini D1000



Mini D2000



Mini D2500



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THANK YOU

Thank you for choosing Earthquake Sound's line of **mini D** amplifiers, the best way to enhance your factory mobile audio system. With proper installation and responsible listening, your amplifier(s) will give you years of near perfect sound reproduction.

We strongly recommend you to have your new amplifier(s) installed by an authorized Earthquake Sound dealer. Installation professionals employed by your dealer have the correct tools and knowledge to install your amplifier(s) neatly and successfully. Also, when your new products are installed by an authorized dealer, your products will include a **ONE (1) YEAR LIMITED WARRANTY**. If you choose to perform your own installation, your warranty will be subject to further limitations. Dealer policies on handling warranty requests may vary from one dealer to the next.

Please read the warranty information (located at the end of this booklet) in its entirety and use good judgement when making these vital decisions.

CAUTION: Earthquake amplifiers are capable of generating high sound pressure levels. You should exercise caution when operating these amplifier systems. Long term exposures to high levels of sound pressure will cause permanent damage to your hearing. Sound pressure levels exceeding 85dB can be dangerous with constant exposure. Set your audio system to a comfortable loudness level. Earthquake Sound Corporation does not assume liability for damages resulting from the direct use of Earthquake amplifiers or other Earthquake products and urges users to play their music at moderate listening levels.

SOUND LEVEL dBA	DURATION PER DAY (HOURS)	
90	8	THIS CHART SHOWS THE U.S. GOVERNMENT'S OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (OSHA) REGULATIONS WHICH WERE IN EFFECT AT THE TIME OF THIS PUBLICATION FOR PERMISSIBLE NOISE EXPOSURE, PER 29CFR1910.95, TABLE G-16
92	6	
95	4	
97	3	
100	2	
102	1 - 1 1/2	
105	1	
110	1/2	
115	1/4 OR LESS	

INTRODUCING Mini D AMPLIFIERS

Smaller - Stronger - Smarter

The MiniD is a true next-gen amplifier, coming in with features and a level of design sophistication years beyond the competition. With MiniD, Earthquake once again reasserts absolute dominance in the field of car amplifier technology.



JOSEPH SAHYOUN
PRESIDENT AND CHIEF ENGINEER

To decisively leapfrog the car amplifier industry, would be no easy task. Earthquake's chief engineer, Joseph Sahyoun, descended into the Earthquake research laboratories determined to crack the code to the universe and design the car amplifier of the future!

It was clear that the amplifiers of the future would have to be smaller, stronger and smarter. However breaking through such technical barriers on the way would require considerable innovation. To decrease the size of an amplifier its necessary to increase efficiency. This requires intelligence and control. In the pursuit of these goals several new technologies were developed.



Omega (Optical Multilevel Empirically Guided Aggregation) is the highly evolved brain and central nervous system of the MiniD amplifier. Traditional amplifiers are comprised of many circuits, operating in blind autonomy. OMEGA adds intelligence and operational awareness to these functions thus transforming autonomy into unity.

Omega is tapped into every circuit and transmits instructions in the optical plane with a speed more than 1500 times that of the fastest signal passed through the amplifier. This enables constant optimization of power generation and amplification.

The best example of efficiency gain due to OMEGA is the power supply and amplification section, previously operating without coordination. With OMEGA they operate in continued adaptive synchronization, almost doubling their output. In addition to adaptive synchronization OMEGA utilizes an optical multilevel feedback path operating in the digital domain - providing real time targeting data, - enabling OMEGA to digitally steer voltage and current with absolute precision.



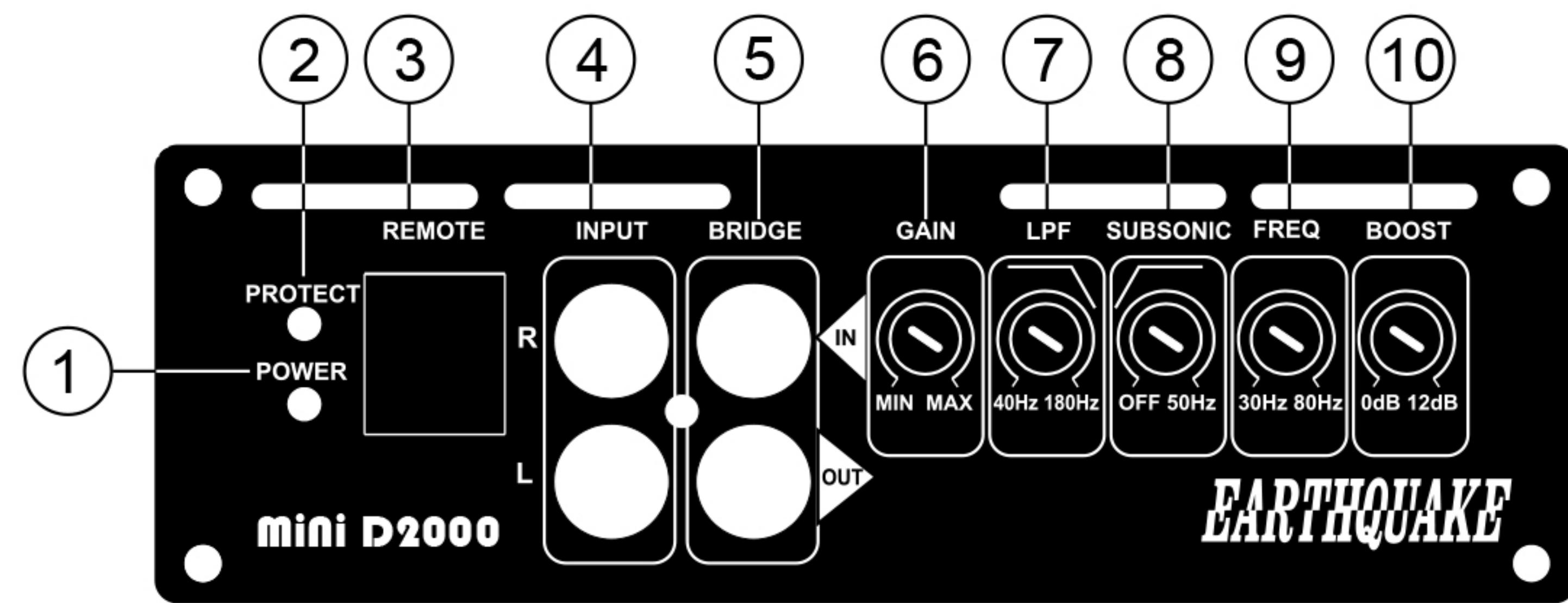
VE-TAT (Velocity Enhancing Transistor Augmentative Technology) is an enhanced transistor dead-time controller. Where OMEGA is a macro overlay system - VE-TAT works at the component level. A critical area for efficiency in a Class D amplifier is the speed and precision by which the transistors can be opened and closed. VE-TAT dramatically increases transistor velocity, thus eliminating dead-time losses and increasing efficiency. The addition of VE-TAT makes the Earthquake Gen 3 Enhanced Class D output topology the most efficient Class D technology on the planet today.



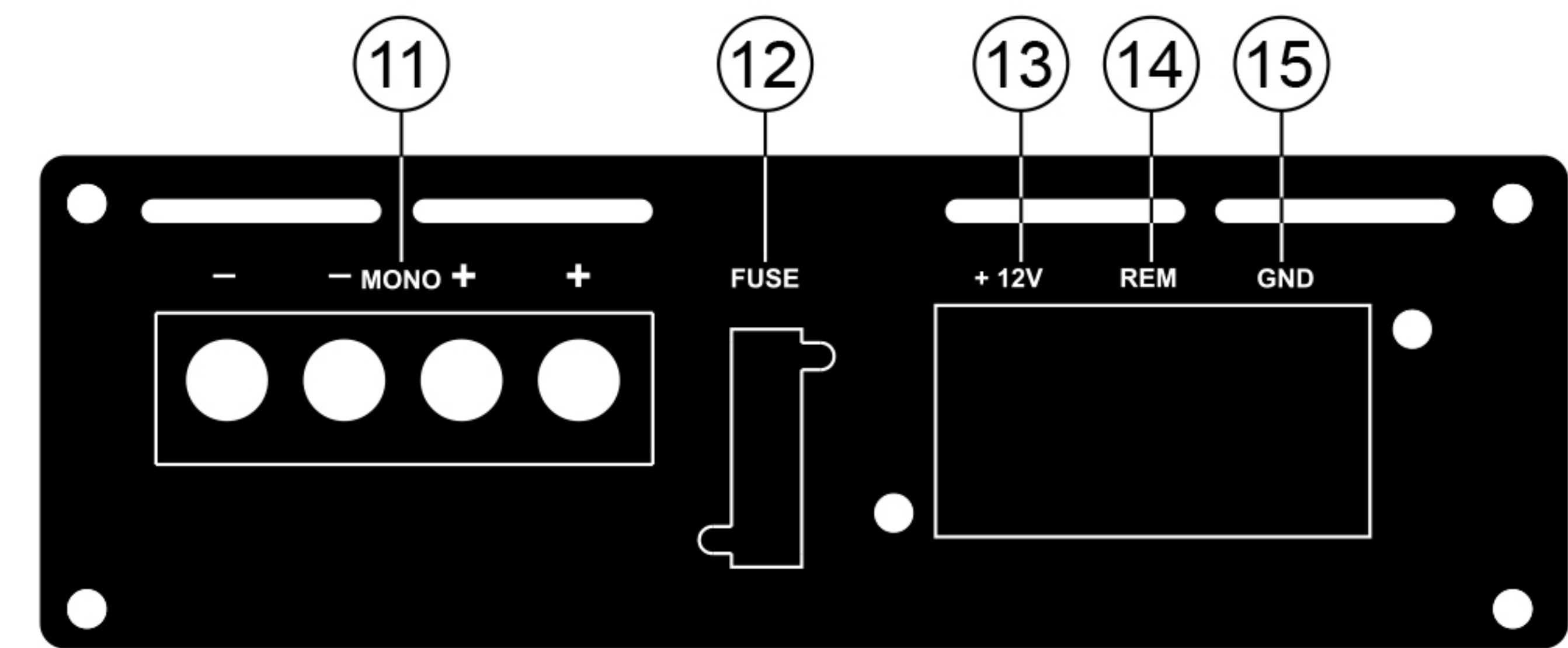
MARS (Magnetically Actuated Reanimation System) is a new type of protection system that enables the use of all amplifier power resources without compromising the survivability of the amplifier under catastrophic conditions. Typical protection systems rely on fuses or relays that complicate the signal path thus degrading audio quality. MARS is different as it is not in the signal path, but works by sensing the electromagnetic field of the conducting wires.

Like OMEGA the internal communication of MARS is optical rather than electrical. MARS does not use any relays or other damping-factor reducing mechanical switches that can wear out or fail over time. Instead, a specially designed circuit instantly shuts off the output drive.

Mini D AMPLIFIER FUNCTIONS AND FEATURES



- ① **POWER LED:** When lit up, the amplifier is functioning properly.
- ② **PROTECTION LED:** When lit up upon powering on, the amplifier may be in self-test mode. If this LED stays on, shut down the amplifier and locate what may have triggered the amplifier to protection mode. If problem persists, call us for further assistance.
- ③ **REMOTE SUB LEVEL:** Used to adjust the amplifier's bass output from a location of your choice.
- ④ **RCA INPUT:** Low level inputs with range of **0.1V to 5V RMS**. Be sure to use a HIGH LOW LEVEL adaptor if the head unit has only speaker output.
- ⑤ **BRIDGE IN/OUT:** Used when linking 2 amplifiers together. The BRIDGE IN receives signal from the master amplifier and should only be used when the amplifier is the slave amplifier (all functions of the slave amplifier will be adjusted by the master amplifier). The BRIDGE OUT sends signal to the slave amplifier and should only be used when the amplifier is the master amplifier.
- ⑥ **GAIN CONTROL:** Set based on the head unit's output voltage. Always start at the MIN and slowly increase the gain. Stop as soon as distortion is heard then lower the gain until the distortion disappear and only clear sound is produced.
- ⑦ **LPF (LOW PASS FILTER):** Used to filter out unwanted mid and high frequencies.
- ⑧ **SUBSONIC FILTER:** Used to protect the speakers from harmful low frequencies and DC Voltage. Best setting for most system is at 30Hz (2 o'clock position).
- ⑨ **FREQUENCY ADJUST:** Used to adjust the boosted center frequency. Best setting for most system is at ½ turn (2 o'clock position).
- ⑩ **BASS BOOST:** Used to add 0 - 12dB to the chosen center frequency. Again, the best setting for most system is at ½ turn (2 o'clock position).



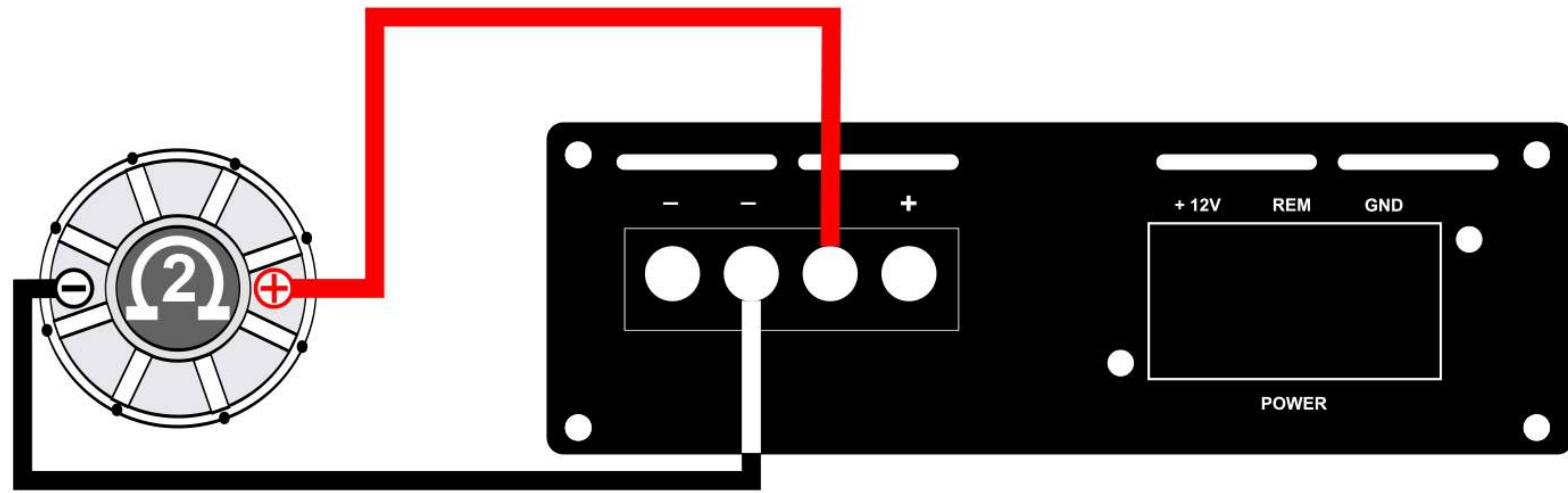
- ⑪ **SPEAKER CONNECTION:** These terminals have been internally bridged/jumped. When connecting to both sets of terminals, there is a 2-Ohm minimum impedance per terminal.
- ⑫ **FUSE:** Used as an added protection from damaging excessive current. Be sure to use the proper fuse in your installation (End plate of the D1000 shown. The D2000 & D2500 require external fuses. See page 10 for proper fuse rating)
- ⑬ **+12V BATTERY TERMINAL:** Connect to battery positive (+) using a 4 gauge cable.
- ⑭ **REMOTE TERMINAL:** Connect remote cable to the head unit's remote terminal. If multiple amplifiers are installed in the same system, additional relays may be necessary.
- ⑮ **GROUND TERMINAL:** Connect to vehicle's chassis/ground using a short 4 gauge cable (2 feet maximum in length).

Mini D AMPLIFIER WIRING PREPARATIONS

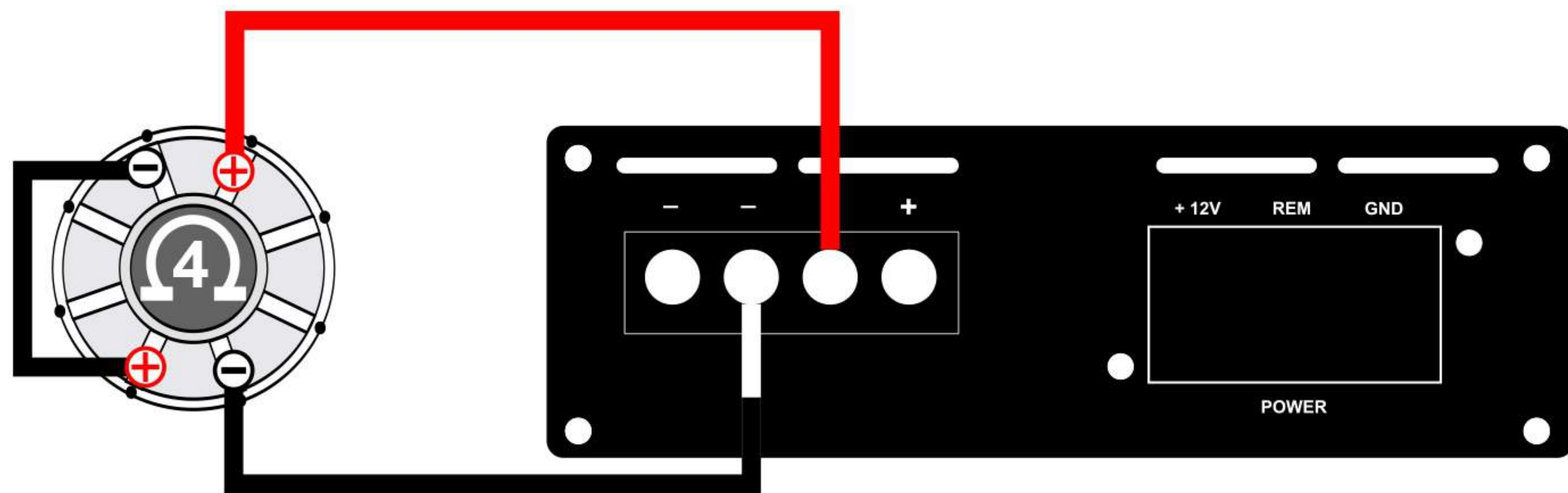
- ☑ Test the alternator output. Factory alternators will produce 60 - 80 amperes at best. Wear and heat will reduce the output by 40%.
- ☑ Alternator ground (-) must be reinforced. Use a 4-gauge cable instead of the factory 8-gauge.
- ☑ Alternator positive (+) to battery (+) must be reinforced. Use 4-gauge cables.
- ☑ Check your battery condition as batteries degrades after a whole.
- ☑ Battery (+) to amplifier (+) must be connected using a 4-gauge cable.
- ☑ Ground amplifier to vehicle's chassis (bare metal) using 4-gauge cable, keep the cable short (2 feet max).
- ☑ Use 1 Farad capacitor to compensate for surges in demand.
- ☑ We recommend the use of one (1) auxiliary battery.

Mini D AMPLIFIER WIRING CONFIGURATIONS

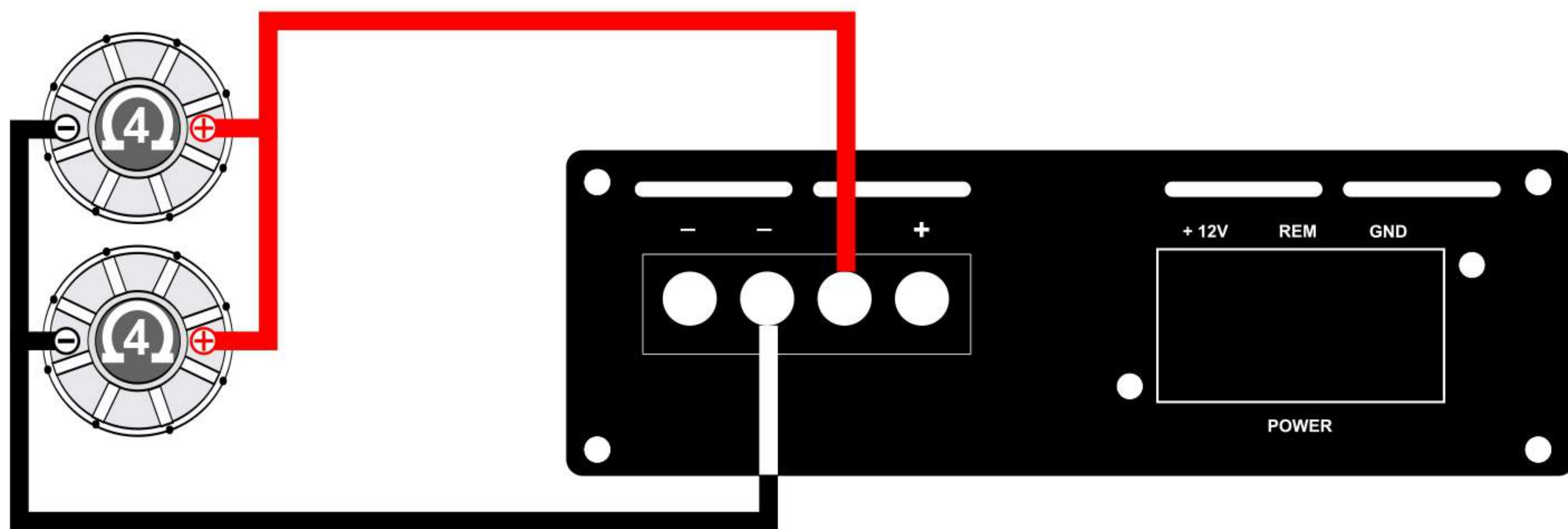
ONE SINGLE SUBWOOFER (1-OHM MINIMUM)



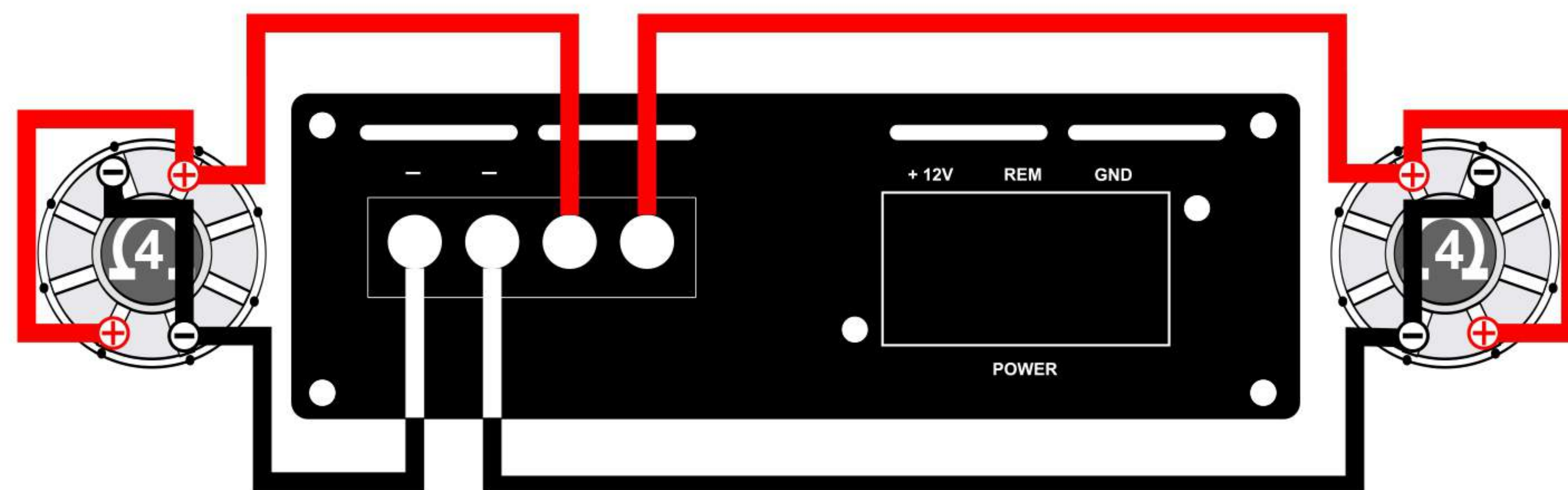
ONE DUAL 4-OHM SUBWOOFER @ 8-OHM



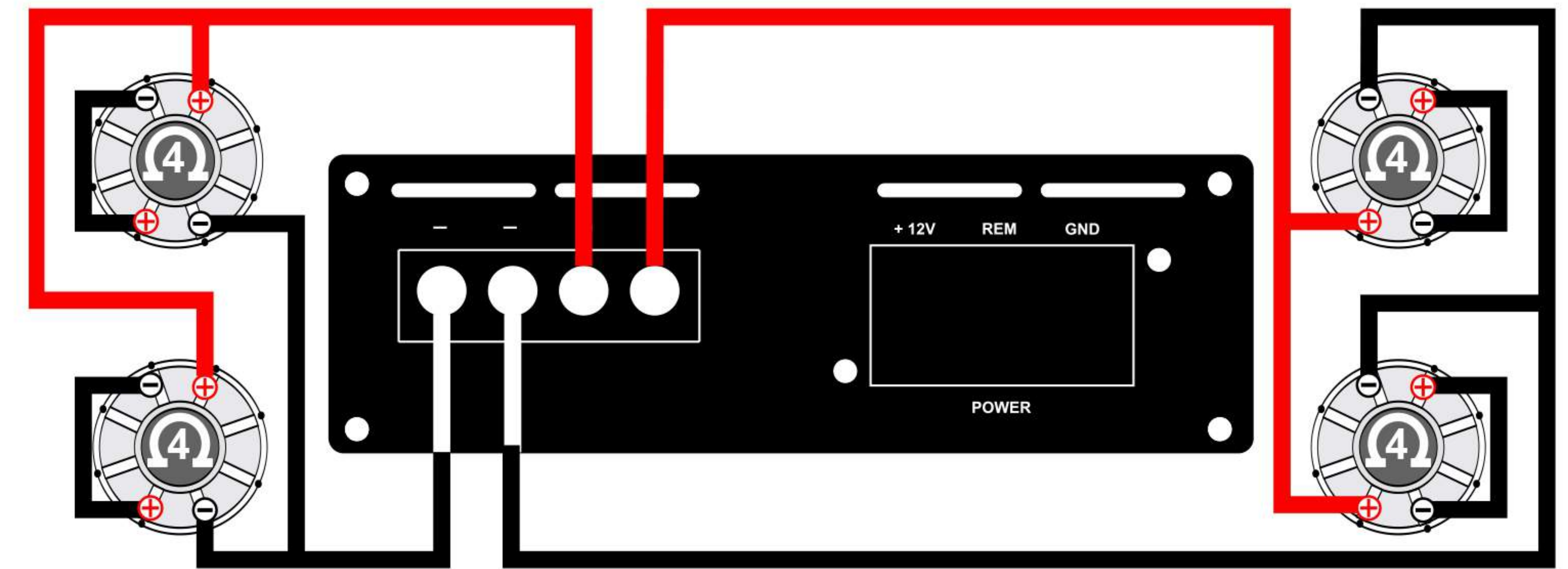
TWO SINGLE 4-OHM SUBWOOFERS @ 2-OHM



TWO DUAL 4-OHM SUBWOOFERS @ 1-OHM



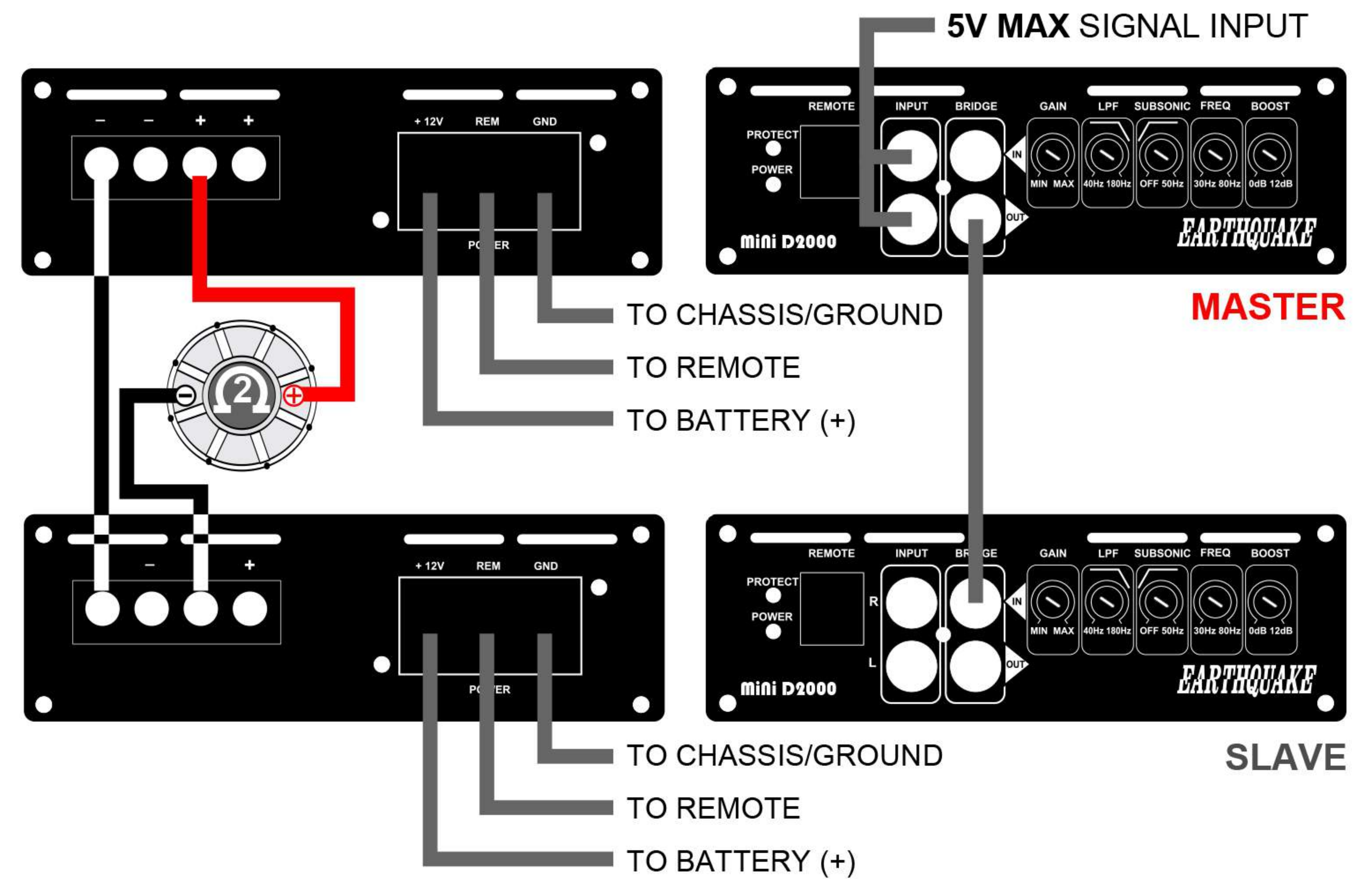
FOUR DUAL 4-OHM SUBWOOFERS @ 2-OHM (PARALLEL)



BRIDGING 2 AMPS TO ONE SINGLE SUBWOOFER (2-OHM MINIMUM)

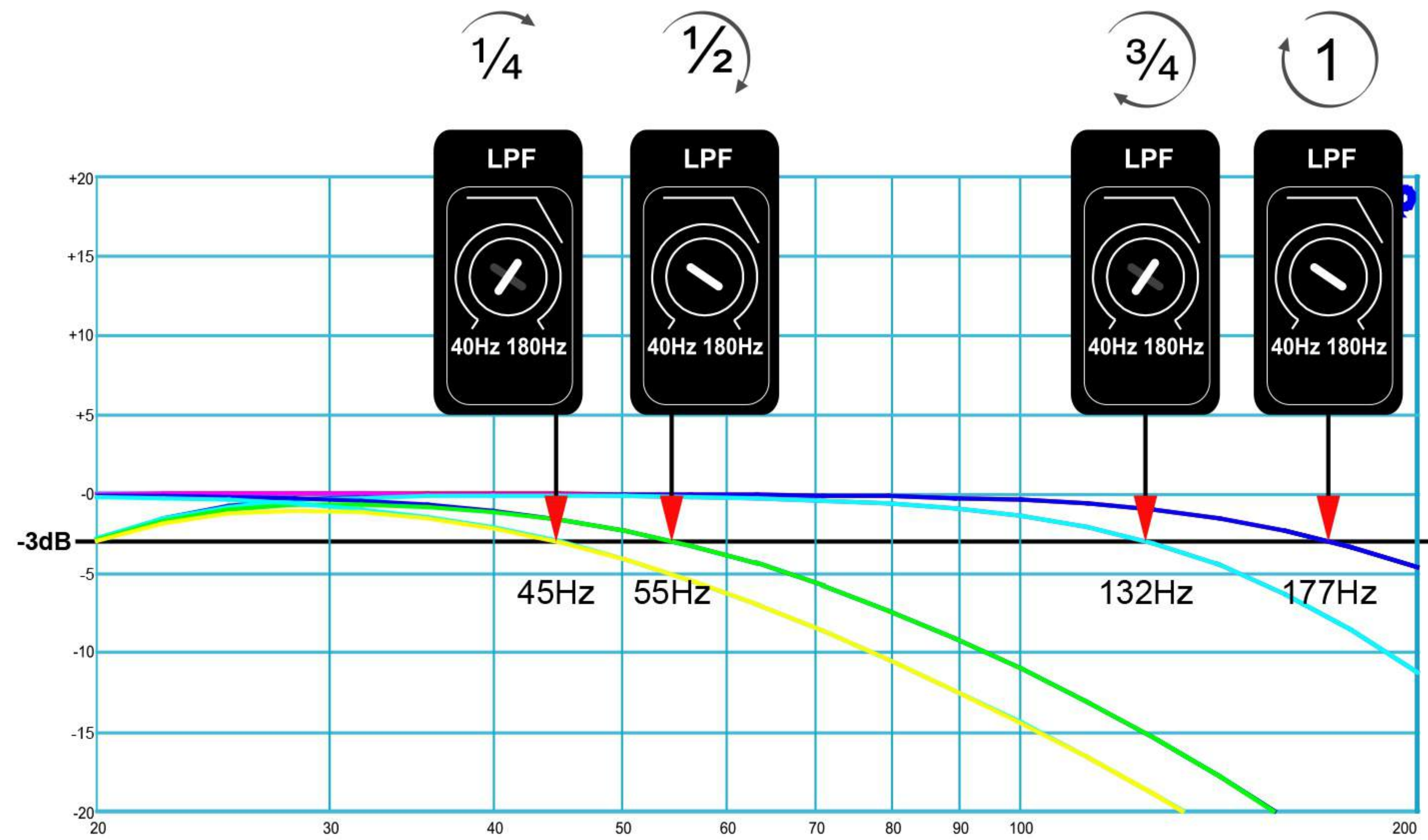
NOTES:

- BOTH BRIDGED AMPLIFIERS MUST BE OF THE SAME MODEL.
- DO NOT USE THE INPUT JACKS OF THE SLAVE AMPLIFIER

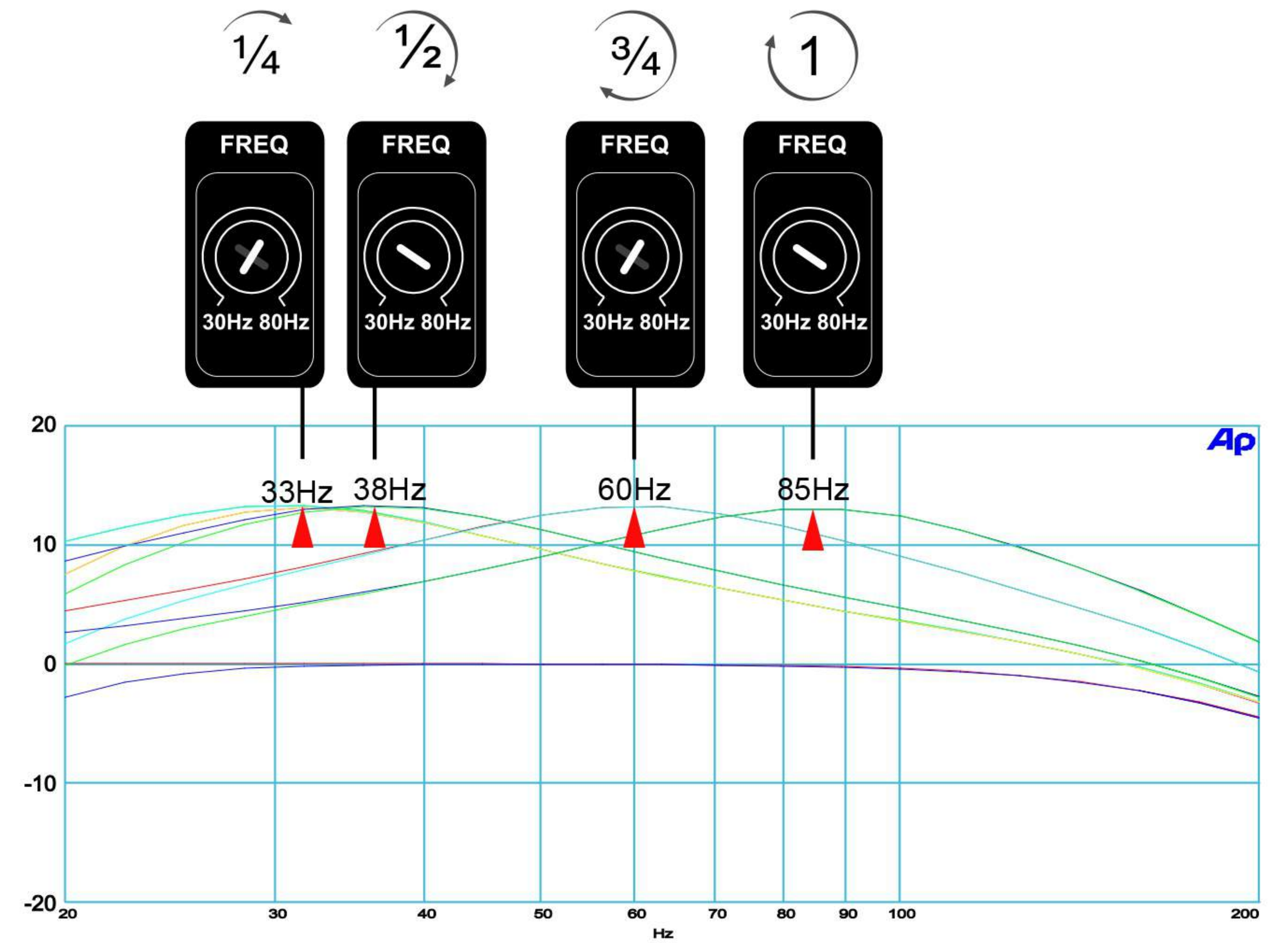


Mini D AMPLIFIER SETTINGS

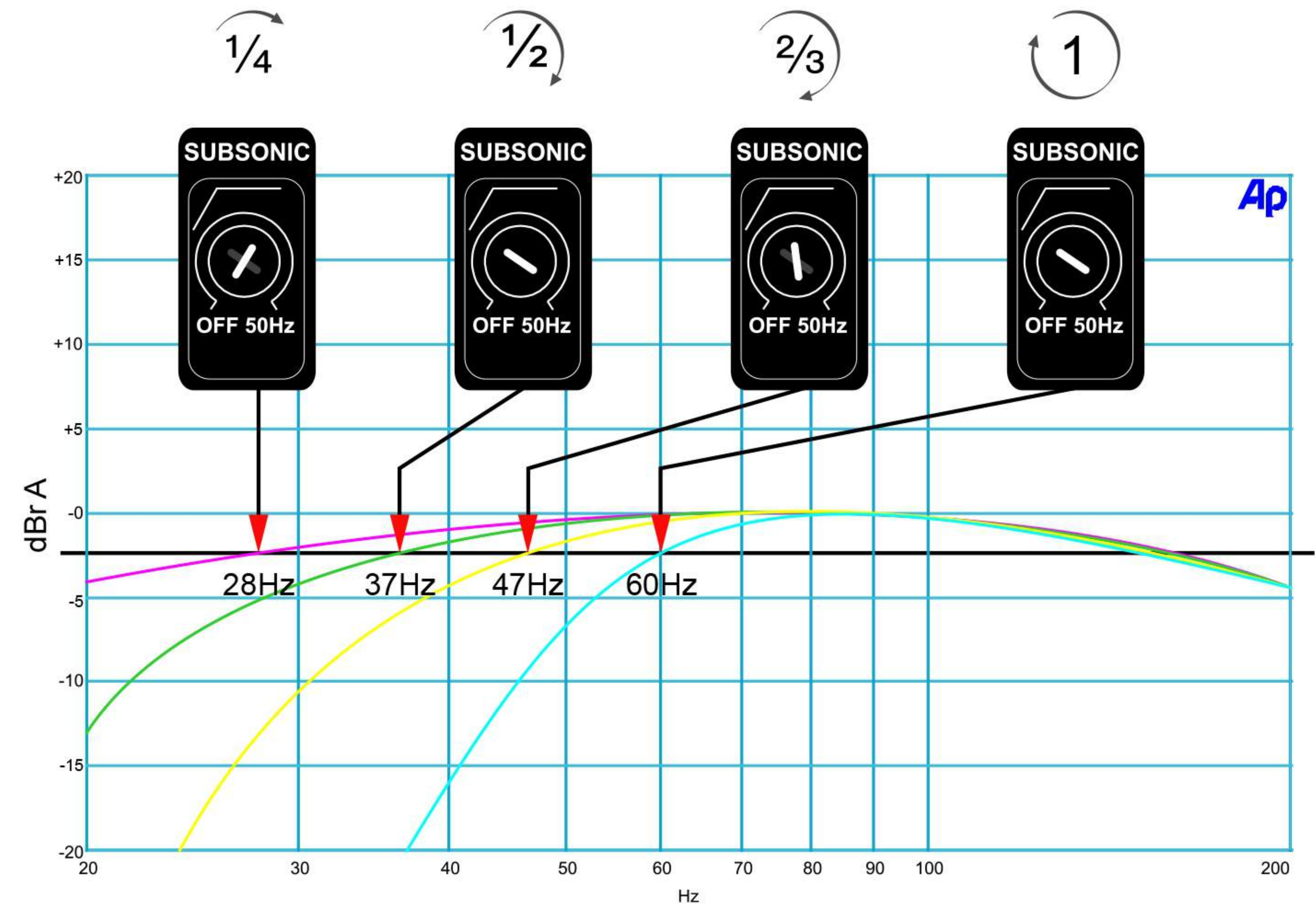
SELECTING LOW PASS FILTER FREQUENCY



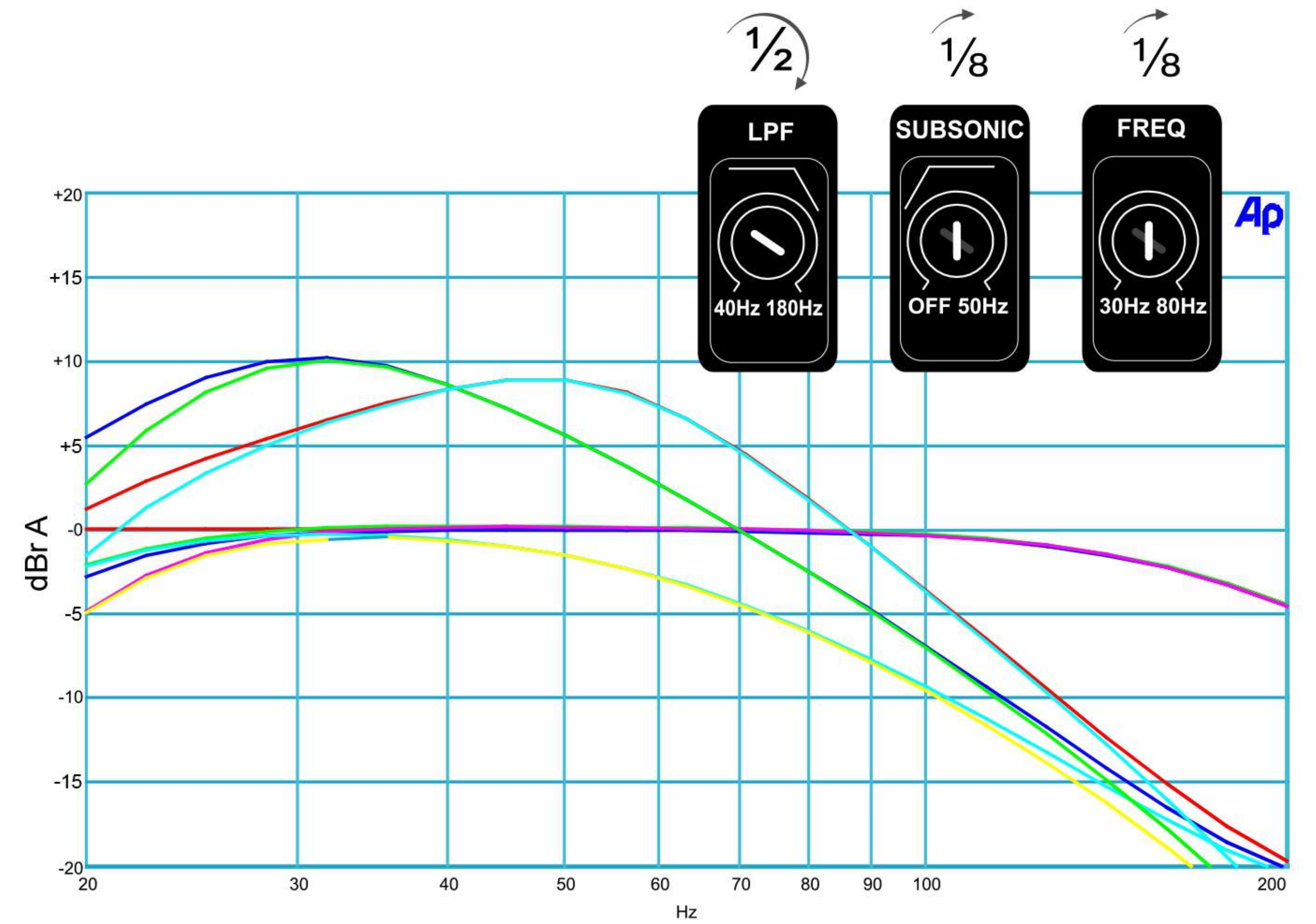
SELECTING BASS BOOST FREQUENCY



SELECTING SUBSONIC FILTER FREQUENCY



SUGGESTED COMBINED SETTING



Mini D Amplifiers SPECIFICATIONS

	Mini D1000	Mini D2000	Mini D2500
Amplifier Class	D	D	D
Amplifier Output	Mono	Mono	Mono
Max Power	1000 Watts	2000 Watts	2500 Watts
Subsonic Filter	18Hz Variable Level	18Hz Variable Level	18Hz Variable Level
Crossover Variable Low Pass	40 - 180Hz	40 - 180Hz	40 - 180Hz
Bass Boost Frequency Range	N/A	30 - 80Hz	30 - 80Hz
Bass Boost Gain Level	N/A	0 - 12dB	0 - 12dB
Stereo Input (RCA)	Yes	Yes	Yes
Mono Input (RCA)	Yes	Yes	Yes
Mono Output (RCA)	Yes	Yes	Yes
Short Circuit Protection	Yes, with Auto Reset	Yes, with Auto Reset	Yes, with Auto Reset
Fuse Rating	40A (included)	80A (required)	100A (required)
ALL OUTPUT POWER MEASUREMENTS ARE MADE WITH DUMMY LOAD FOR THE RMS MEASUREMENTS. DUMMY LOADS ARE HARDER TO DRIVE THAN SPEAKERS AND DEMAND MORE POWER SUPPLY CURRENT.			
1Ω Watt Peak - 50% LOADING	600	1200	2000
1Ω Watt Peak - 100% LOADING	400	1000	1800
2Ω Watt Peak - 50% LOADING	360	1000	1800
2Ω Watt Peak - 100% LOADING	320	900	1200
4Ω Watt Peak - 50% LOADING	180	650	850
4Ω Watt Peak - 100% LOADING	180	650	750

Mini D Amplifiers

One (1) Year Limited Warranty Guidelines (Valid in US Mainland Only)

Earthquake warrants the original purchaser that all Factory Sealed New Audio Products be free from defects in material and workmanship, under normal and proper use, for a period of **one (1) year from the date of purchase** (as shown on the original sales receipt with serial number affixed/written on it). The one (1) year warranty period is valid **only if the product is properly installed by an Earthquake authorized party**, and the warranty registration card is properly filled out and sent to Earthquake Sound Corporation. **If the product is installed by a non-authorized party, a thirty (30) day limited warranty period applies.**

(A) One (1) year limited warranty plan coverage guidelines:

Earthquake pays for labor, parts, and ground freight (only in US mainland, not including Alaska and Hawaii) back to customer.

(B) Warning:

- Products (sent for repair) that are tested by Earthquake technicians and deemed to have no problem, will not be covered by the limited warranty. Customer will be charged a minimum of one (1) hour of labor (ongoing rates) plus shipping charges back to customer.
- If products were received with improper protective packaging, customer will be charged product repackaging in addition to labor, parts and shipping charges.

(C) Earthquake agrees to repair or replace - at our option - all such defective products/parts subject to the following provisions:

- Defective products/parts have not been altered or repaired by other than an Earthquake factory approved technician.
- Products/parts are not subjected to negligence, misuse, improper use, or accident, damaged by improper line voltage, used with incompatible products, or have its serial number or any part of it altered, defaced, removed, or have been used in any way that is contrary to Earthquake's written instructions.

(D) Warranty Limitations:

Earthquake warranty does not cover products that have been modified and/or abused, including but not limited to the following:

- Fading, deterioration of speaker components & finish due to improper exposure to elements.
- Bent amplifier casing, damaged finish on the casing due to abuse, misuse, or improper use of cleaning material.
- Burnt tracers on PCB.
- Product/part damaged due to poor packaging or abusive shipping conditions.
- Subsequent damage to other products.

A warranty claim will not be valid if the warranty registration card is not properly filled & returned to Earthquake with a copy of the sales invoice.

(E) Service Request:

To receive product(s) service, contact Earthquake Sound's service department at (510) 732-1000 and request an RMA number (Return Material Authorization), item(s) shipped without a valid RMA number will be refused. Make sure you provide us with your complete and correct shipping address, a valid phone number, and a brief description of the problem you are experiencing with the product. In most cases, our technicians might be able to resolve the problem over the phone, thus eliminating the need to ship the product.

(F) Shipping Instructions:

Product(s) must be properly packaged to minimize transport damage and avoid repackaging charges. Shipper claims regarding item(s) damaged in transit must be presented to the carrier. Earthquake Sound Corporation reserves the right to refuse improperly packed product(s). A copy of original sales receipt must accompany product(s) returned for service. We encourage you to include a written description of the problem inside the package. Ship product to:

Earthquake Sound Corp.
2727 Mc Cone Avenue
Hayward, CA 94545
Tel: (510) 732-1000

You are responsible for the cost of shipping the product to Earthquake Sound Corporation.

(G) Disputes Resolution:

All disputes - between clients and Earthquake Sound Corporation - resulting from the one (1) year limited warranty policy must be resolved according to the laws & regulations of the county of Alameda, California.