STEP 6. (6) TIME CORR. *(Time Correction)*

Due to the wide variety of installation and system design possibilities available, bass performance may not always be optimized as a result of speaker placement relative to the listening position. Sound waves may not reach the listener's ear at the same time as other speakers, especially in a multiple subwoofer configuration. Such differences in phase can result in muddy (unclear) bass or even a complete cancellation in the frequency response. Therefore, both the MRD-M300 and MRD-M500 are equipped with Digital Time Correction, making it possible to realign subwoofer(s) in time. Proper use of this function will result in clear, powerful bass with a smooth transition to the other speakers in the system. It is recommended to use the calculation formula provided in the owner's manual as a starting point for this adjustment.

STEP 7. (7) PHASE

Phase control allows you to flip the polarity of the subwoofer without actually reversing the physical connections. This convenient feature is useful when the subwoofer is in a position that could result in some cancellation, causing diffused, unclear bass. It is recommended to try both settings (0° / 180°) to determine which is best for your particular system.

STEP 8. (8) AMP SET *(Amplifier ID No. / Turn-On Delay)*

The Amp Set menu performs two functions. Firstly, by setting the amplifier ID number (1-8), it allows the optional RACC (RUX-4280 Remote Amplifier Control Center) to identify each amplifier individually and in a specific order. Secondly, it provides a variable turn-on delay that can be used to minimize inrush current in large multi-amp systems, or to eliminate any turn-on "pop".

NOTE: If using a RUX-4280 (RACC) with more than 1 AccuClass-D amplifier, be sure to set each amplifier with a different ID Number (1-8). Amplifiers with the same ID will cause the RACC to display "NO AMP."

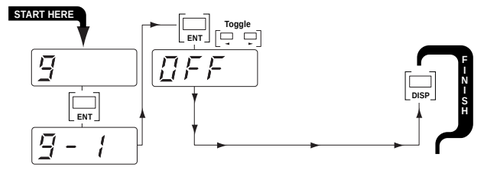
STEP 9. (9) OUTPUT DISABLE

Previously known as "Safe Mode", this feature provides a simple way to safely adjust the all DSP functions with the amplification circuit turned off, eliminating the possibility of speaker damage during setup. When set to "ON", it literally disables the high current draw output stage of the amplifier, while leaving the input and processing sections active. Please note that this is the only amplifier function that does not engage/disengage in real time, but requires the remote lead to be cycled off/on for the selection to take effect. Therefore, if it is accidentally set to "ON" during programming, there will be no output the next time the amplifier is activated. Additional uses include: bench setup with a low current DC power supply, amp valet, tuning or troubleshooting larger multiple amp/subwoofer systems, etc.

SETTING SAFE MODE TO "OFF"

- *Press and depress the "MODE" button until you are in mode "9" (Output Disable).*
- *Push "ENT" and push "ENT" again to select "9-1" (ON/OFF).*
- *Toggle [ ] until "OFF" is displayed.*
- *Push "DISP" to exit.*

Note: This setting will not take effect until the amp is turned off and then on again.



STEP 0. (0) MEMORY

Memory Mode allows you to store all amplifier settings in an auxiliary backup memory. Once stored, additional tweaks or adjustments can be made while retaining the ability to recall the original settings at a later time. Note: This is simply a convenience feature, since all settings are saved in real time as adjustments are made, and will remain even if power is lost during setup.

Typical causes for little or no output

1) Output Disable is on: *Go to Step 9 (Mode 9 on the amp) and set to "OFF", then cycle amp power.*
2) Subsonic and LPF frequency selections overlap or are too close together: *Adjust the crossover properly*
3) If using RUX-4280 (RACC) remote subwoofer level is turned down : *Make sure the RACC is in normal display mode (voltage or temperature) and adjust the level control.*
4) Defective or broken RCA cables): *Replace RCA connectors*
5) Blown fuse: *Replace Fuse with proper value*
6) Remote trigger is not active: *Check remote turn-on lead with a voltage meter*
7) Bad ground or power connection: *Check and replace ground connector*

To find out more, visit www.alpinetechcenter.com

V12 AccuClass-D Setup Guide

For MRD-M300, MRD-M500 and MRD-M1000 Amplifiers

Congratulations on your new V12AccuClass-D™ amplifier purchase. Before you get started, there are a few things you should know about this unique amplifier that will help you optimize performance for your personal tastes or particular application. Unlike traditional designs, the V12 AccuClass-D™ amplifier employs a completely digital internal architecture, utilizing both advanced DSP (digital signal processing) and amplification technologies. This innovative design not only offers unparalleled tuning capability and accuracy, but also allows direct digital coupling to the power output stage for cleanest and most powerful bass possible. As with any amplifier however, proper setup is essential if you are to maximize your listening experience. Please read the quick explanation and setup procedure for each feature listed on the following pages.

Important notes:

- ***To maximize the output power from this amplifier, you must use a 2 ohm load.***
- ***Before adjusting the amplifier settings, set the signal source (head-unit) level to minimize distortion.***
- ***It is best to utilize music that will represent your typical heavy bass listening scenario when adjusting levels.***

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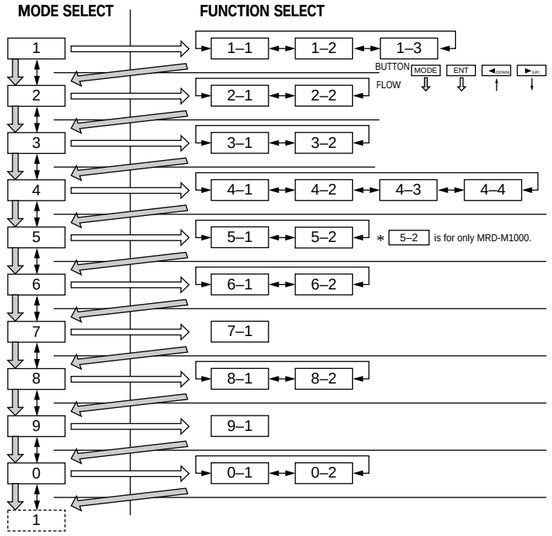
Tables related to MODE and FUNCTION

MODE		FUNCTION	
No.	Contents	No.	Contents
1	INPUT MODE	1-1	SELECT
		1-2	LEVEL
		1-3	GAIN FACTOR
2	LPF	2-1	ON/OFF
		2-2	FREQUENCY
3	SUBSONIC	3-1	ON/OFF
		3-2	FREQUENCY
4	PARAMETRIC EQ	4-1	ON/OFF
		4-2	FREQUENCY
		4-3	WIDTH
		4-4	LEVEL
5	BASS COMP.	5-1	ON/OFF
		5-2	MODE *Only MRD-M1000.
6	TIME CORR.	6-1	ON/OFF
		6-2	DELAY TIME
7	PHASE	7-1	0/180
8	AMP SET	8-1	ID No.
		8-2	TURN ON DELAY
9	OUTPUT DISABLE	9-1	ON/OFF
0	MEMORY	0-1	WRITE
		0-2	READ

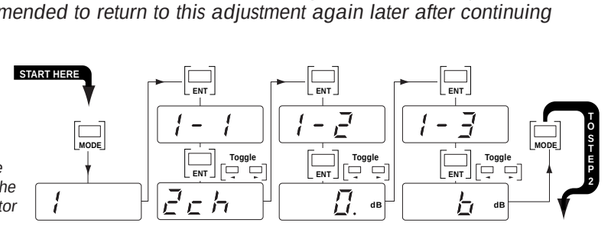


STEP 1. (1) INPUT

Proper configuration of the input setup menu is critical for source signal matching with minimal distortion, while also optimizing the output level relative to other amplifiers in the system. INPUT SELECT (mode 1-1) should be set according to the physical input signal connection being made, either "2ch" for stereo or "1ch" for single/mono channel. INPUT LEVEL (mode 1-2) allows the A/D converter's input to be optimized for the best possible signal clarity and volume range. Setting this overly sensitive or severely clipping the input can result in very high distortion, so it is best to use the clipping indicator as general guide. GAIN FACTOR (mode 1-3) is provided for special cases where additional gain is still required after all other adjustments have been made. While this signal shaping algorithm allows a higher average output level to be reached at lower source volumes, signal alteration may not be desirable in some applications. Therefore, it is recommended to return to this adjustment again later after continuing through the remaining setup steps.

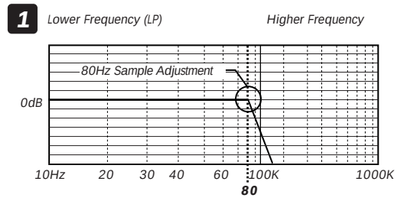
SETTING THE INPUT

- *Push "MODE" to access "1" (INPUT).*
- *Push "ENT" enter "1". Push "ENT" to enter "1-1" (SELECT).*
- *Toggle [▽ △] to select "1ch" or "2ch". Push "ENT".*
- *Push "ENT" to enter "1-2" (INPUT LEVEL).*
- *Toggle [▽ △] to the input level that will properly match the source unit output to the amplifier input. Severely clipping the input will result in high distortion, so use the clipping indicator as a guide to set this level.*
- *Push "ENT" to enter "1-3" (GAIN FACTOR). Push "ENT".*
- *Toggle [▽ △] to select "0", "6" or "9".*
- *Press "MODE" to advance to step 2 below.*



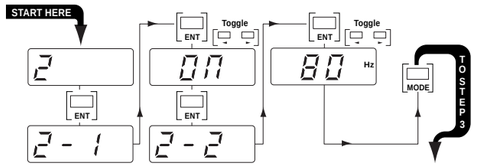
STEP 2. (2) LPF (Low Pass filter)

Eliminating unwanted higher frequencies is essential for optimizing subwoofer performance and integration with the rest of the system. Selecting the appropriate cut off frequency of the low pass filter will depend upon the application, so a wide frequency range (30Hz-200Hz) is provided to choose from. Please note however, that if the selected frequency is very close to or overlaps with the subsonic filter, it will result in little or no output. Also, if an external crossover is used, the internal filter can be turned off.



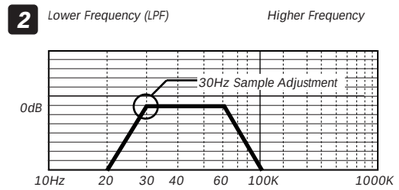
ADJUSTING THE CROSSOVER

- *You should be in mode "2" (LPF) now from the previous step.*
- *Push "ENT" to enter "2".*
- *Push "ENT" to enter "2-1" (ON/OFF).*
- *Toggle [▽ △] to "ON". Push "ENT".*
- *Push "ENT" to enter "2-2" (FREQUENCY).*
- *Toggle [▽ △] to desired frequency.*
- *Push "MODE" to advance to step 3 below.*



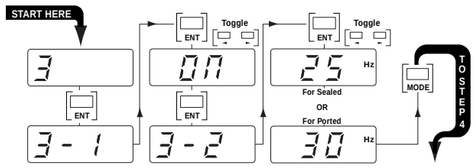
STEP 3. (3) SUBSONIC (Subsonic Filter)

Subsonic filters are commonly used to minimize over excursion at very low frequencies, or to optimize output power by only amplifying frequencies that can be effectively reproduced. This feature is essentially a high pass filter with a very low frequency range, and is selectable from 15Hz to 50Hz in 5Hz increments. Please make sure that the frequency selected is significantly lower than that of the low pass filter, unless you have a very specific performance goal in mind. To the right is example [2], which illustrates the effect of a subsonic



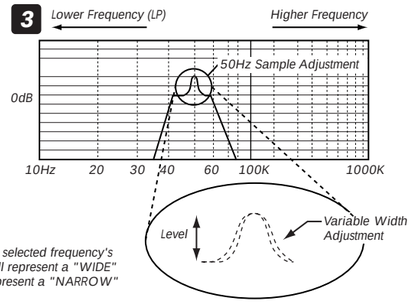
ADJUSTING THE SUBSONIC FILTER

- *You should be in mode "3" (SUBSONIC) now from the previous step.*
- *Push "ENT" to enter "3". Push "ENT" to enter "3-1" (ON/OFF).*
- *Toggle to [▽ △]"ON" setting and push "ENT".*
- *Push "ENT" to enter "3-2" (FREQUENCY).*
- *Toggle [▽ △] to desired frequency.*
- *Typical settings include 25Hz for sealed box, and 30Hz or higher for ported box. (depending on tuning freq.)*
- *Press "MODE" to advance to step 4 below.*



STEP 4. (4) PARAMETRIC EQ (Frequency, Width (Q), and Level)

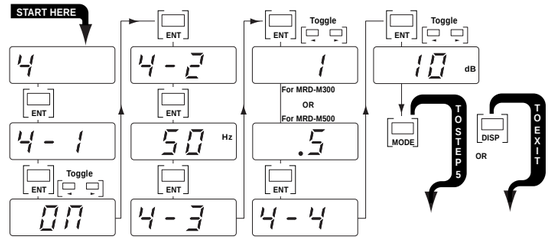
Using the Parametric EQ is a good way to fine tune your subwoofer or adjust for personal taste. Unlike traditional bass boost or graphic EQ's, both the center frequency and width of the EQ band is user selectable, allowing it to be custom tailored for the desired effect. As you can see in example [3], with the subsonic and low pass filters engaged, you can enhance your sound by focusing on a high energy bass response in the vehicle. When set to its widest setting, this can also function as an overall gain adjustment.



NOTE: *When adjusting the selected frequency's width setting, "0.5 or 1" will represent a "WIDE" band width and "5" will represent a "NARROW" bandwidth.*

SETTING THE PARAMETRIC EQ

- *You should be in mode "4" (PARAMETRIC EQ) now from the previous step.*
- *Push "ENT" to enter the adjustment menu.*
- *Push "ENT" to enter "4-1" (ON/OFF).*
- *Toggle [▽ △] to "ON" and push "ENT"*
- *Push "ENT" to enter "4-2". (FREQUENCY)*
- *Toggle [▽ △] to desired freq. and push "ENT".*
- *Push "ENT" to enter "4-3". (WIDTH)*
- *Toggle [▽ △] to attain the desired width (note: a lower Q Value= Wider, a higher Q value = more narrow)*
- *Push "ENT" to enter "4-4". (LEVEL*
- *Toggle [▽ △] to desired level (boost or cut)*
- *Press "MODE" to advance to step 5 or "DISP" to exit.*



STEP 5. (5) BASS COMP. (Bass Compensation)

Digital Bass Compensation utilizes Alpine's exclusive MediaXpander™ processing technology to enhance bass definition and output. This is an especially useful feature in restoring bass quality lost with compressed media such as MP3's. Selection is simply on/off except for the MRD-M1000, which has three effect levels available for more precise tuning or personal taste.

SETTING BASS COMPENSATION

- *You should be in mode "5" (BASS COMP.) now from the previous step.*
- *Push "ENT" and push "ENT" again to select "5-1" (ON/OFF).*
- *Toggle [▽ △] to "ON". Push "ENT".*
- *Push "ENT" to enter "5-2" (BASS COMPENSATION LEVEL).*
- *Toggle [▽ △] to select "COMP.1", "COMP.2" or "COMP.3".*
- *Press "MODE" to advance to step 6 or "DISP" to exit.*