

# SETUP & TUNING

## ACCESS AMP

### 1. SETUP & TUNING

YOU MUST DO EACH STEP EXACTLY AS DESCRIBED. IF POSSIBLE, HAVE SOMEONE ELSE READ THE INSTRUCTIONS TO YOU WHILE YOU PERFORM THE STEPS.

### 2. ACCESS AMPLIFIER

For vehicles with the amplifier under the seat: Remove the Torx T-40 screws holding the passenger seat. Do not disconnect the airbag wiring - you can access the amp by simply leaning the seat back.

For rear amplifier mount vehicles: You'll need to remove the right rear interior panel in the boot. If you do not remember how, refer to the installation instructions, steps 1-4.

### 3. INITIAL AMP SETTINGS

Input Level: LOW. (on 2ch amp, look for a button on amp end)  
 Auto Sense: OFF. (4ch amp only), BX2: OFF (2ch amp only)  
 Gain (aka input sensitivity): minimum on all 4 channels.  
 Output -> Front: HIGH (with Sub), FULL (w/o Subwoofer)  
 Output -> Rear (i.e. subwoofer): LOW **[SUB ONLY]**  
 Crossover -> Front: turn dial to minimum (full counter-clockwise). Note which part of the dial is pointing to 40Hz. Turn until that part points to 65Hz. Repeat for the Rear (subwoofer) Crossover.



### 4. SET GONG VOLUME TO MIN [BOOST AUDIO]

If your speedo looks like the picture at right, you have BOOST Audio.

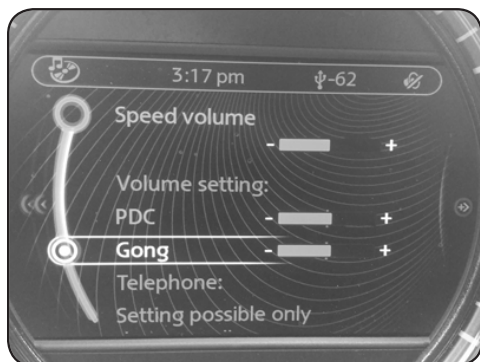
Select the music note button to bring up the tone controls. Scroll to the right. Set the gong volume to the lowest level. Return to the tone controls menu and set BASS and TREBLE to flat. (THESE ARE CRITICAL).



### 5. SET GONG VOLUME TO MIN [NAV & MINI CONNECTED]

If your speedo has a large screen at the center, you have Nav or MINI Connected.

From the music control section, select TONE -> VOLUME SETTINGS -> GONG. Set the gong volume to the lowest level. Return to the tone controls menu and set BASS and TREBLE to flat. (THESE ARE CRITICAL)





## 6. SET REFERENCE VOLUME LEVEL

With the door gong playing, adjust the Front Left & Right Gain on the amp until the gong is at a maximum acceptable level. Try to get left & right to approximately the same level.

This controls how loud the door gong is. If the door gong volume is excessively low (or off), you will limit the total output of the system. If you find the system doesn't play loud enough for you at top volume, come back here and re-adjust higher.



## 7. SET FRONT CHANNEL GAIN

Play a 1kHz test tone [from CD](#). Set your voltmeter to read AC voltage. Check the voltage across the Front Right positive & negative speaker terminals on the amp. Turn the [headunit](#) volume up until you see 1V output (again, adjust the headunit volume – do not change the gain on the amp).

With the test tone still playing, check the output voltage on the Front Left channel. Adjust the Front Left Input Sensitivity on the amp until you see 1V output.



## 8. SET SUBWOOFER GAIN (REAR AMP CHANNELS) [SUB ONLY]

Disconnect the subwoofer Neutrik terminal (or wear hearing protection). Leaving the headunit volume where it is, play a 40Hz tone. Turn the subwoofer remote volume control to maximum. Check the output voltage at each Rear channel output. Adjust until each channel reads the correct voltage for your vehicle as Then check the bridged output voltage (i.e. check across the outer terminals where the subwoofer output wires are connected) and confirm that it is double each individual channel. When you are done, turn the subwoofer remote volume control back to the middle. Reconnect the subwoofer Neutrik terminal.

NOTE: if the headunit turns off during this process, you can turn it on again by pressing in on the volume knob on the headunit. Just re-confirm that you have 1V output on the front channels, adjust the headunit volume again if necessary to get back to 1V.

[R55 & R56](#): 3.5V per channel, 7V bridged

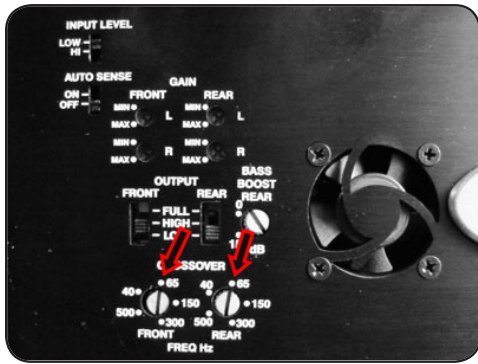
[R58](#): 4.5V per channel, 9V bridged

[R57 & R59](#): 5V per channel, 10V bridged

**Verify that each speaker is playing correctly.**

## 9. CONFIRM SPEAKER CONNECTIONS & SETTINGS

In the headunit, turn the Balance control to fade fully Left. Start at 20Hz on the test tone CD, play/skip through each higher frequency to 4kHz. You should hear the subwoofer first, then at ~60Hz you'll transition to the door mid-woofer, then at ~150Hz you'll transition to the midrange, and then the tweeter beginning at ~2.5kHz. You should hear each speaker on the left, in the correct order. You may get some sound from the right, but it should be low level. Then fade the Balance all the way to the Right and repeat the process for the right side.



## 10. AMPLIFIER CROSSOVER SETTINGS

Reset the Balance in the headunit to center. With the doors closed and windows up, play through each test tone frequency starting at 20Hz and going up to about 150Hz. As you skip through, each frequency should seem to be about the same volume level. If you find you have too much bass in the 60-70Hz region, adjust the Front Crossover on the amp up a bit and repeat. If you find you don't have enough bass there turn the Front Crossover down and repeat. On R55 & R56 vehicles, you will likely find that you end up with the subwoofer crossover set around 65Hz and the front crossover at around 55Hz. On R57, R58, and R59 vehicles you will probably have the subwoofer crossover at around 70Hz and the front crossover at around 50Hz. You may end up with different settings due to preference and the fact that the potentiometers in the amp don't have a precise dial setting.



## 11. SET FRONT/REAR FADER LEVEL

Turn the Fader setting in the headunit to fade all the way to the front (i.e. no sound from rear speakers). With the doors closed and the windows up, play music. Turn your head all the way right, as though you were looking at the passenger. Fade back to the rear until it no longer sounds "empty" behind you. This is the correct front/rear balance.

**REFER TO THE MINI COOPER  
OWNER'S MANUAL!**

## 12. SET AUX INPUT LEVELS

If you use any device (mp3 player, sat radio receiver, etc) that uses a headphone out jack as input to the AUX IN, set the volume on that device to approx. 80-90% of full volume. Adjust the AUX IN level setting in the headunit to around 60-80% of full volume. The volume setting for the AUX input on the headunit can be accessed by pressing and holding the right side of the 4th button from the right. The factory default is 2. We recommend a starting setting of 4. Please refer to the MINI Manual for setting the Aux level on NAV and MINI Connect equipped vehicles.



## 13. ROCK. AND ROLL.

That's it! You should be ready to rock and roll. If you aren't seriously impressed by the sound, something is wrong. Trust us on this. It should be clean, clear, and balanced. If it isn't, revisit the steps above or reach out to us for support at 646-926-0011 or email us at support@integralaudio.com.

- **AMPLIFIER TURN-ON:** You will notice that the amplifier turns on before the head unit, and remains on after the head unit is off. This is normal. The sound output system needs to be energized to play your door chimes, parking distance control sounds, bluetooth, etc. The amp will turn on from the moment the doors are unlocked or opened, and remain on from between 30 seconds and as much as 20 minutes after the car is locked. Again, this is perfectly normal. The idle current on the ARC amp is virtually zero and will not cause any issues with battery drain.
- **SIGNAL SOURCE QUALITY:** A poor quality signal will always sound poor no matter how good an audio system is. If you are using MP3s or home-burned CDs it is critical that you understand the limitations and impacts of digital compression methods. MP3s at less than 256kbps will have noticeable loss of quality. Satellite radio is also compressed and will have similar quality issues. Non-commercially obtained music (especially downloaded via P2P file-sharing) recordings are often re-mixed by third parties and will have been compressed in an unknown and uncontrolled manner. If you want good quality sound, use only commercial CDs or MP3s compressed at 256kbps or 320kbps.
- **FACTORY RADIO SETTINGS:** Please note that the settings (Bass, Treble, Fade, Balance, AUX input level, etc.) are stored on the Key FOB & are specific to the Source (Radio, CD, AUX). You will need to edit and save the settings for each source and each FOB to have consistent sound.
- **PLEASE LISTEN RESPONSIBLY:** Your new Integral Audio system is capable of delivering Sound Pressure Levels that can damage your hearing. It also delivers very clean, low-distortion sound reproduction. Because distortion sounds bad to your ears, and low-distortion sounds good, you are much more likely to listen at high levels with your new system. Please exercise caution - we want you to enjoy a lifetime of great sound!

Having Trouble? The best thing to do is contact us at [support@integralaudio.com](mailto:support@integralaudio.com) or via the phone number listed on the receipt that was emailed to you. We'll get you fixed up ASAP!