



## Gain Setting Kicker KXA/KXMA amplifiers

### Why is setting the gain adjustment different on the KXA and KXMA amplifiers?

The KXA series amplifiers have a unique circuit that will make precision-setting of the gain control very easy even if you do not have an oscilloscope to see input clipping. This circuit is designed to illuminate the gain control knob when the input signal reaches 1% distortion. To set the gain up correctly you can use test tones available from Kicker's website, [here](#). You can also use the test tones on the [KICKER U](#) app if you are going to use your portable device as your music source most of the time. Ensure you have the tone settings on the device set flat, and volume is turned up all the way if you are using the 3.5 mm headphone jack or Bluetooth. If you choose to use different test tones, make sure they are unclipped, not attenuated, and uncompressed

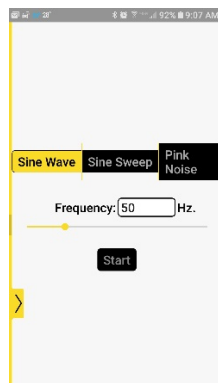
Here are the guidelines for using the test tones available on the Kicker Support tab:

**0dBFS: Designed for audiophile applications to give you distortion-free audio output with the most dynamic range.**

**-5dBFS: Designed for normal/daily applications, there will be less dynamic range but higher potential audio output levels. With this set up you can get some occasional clipping from the amplifier (at higher volume), but higher overall volume levels.**

**-10dBFS: Designed only for Subwoofer applications, there will be less dynamic range but higher potential audio output levels. With this set up you can get some occasional clipping from the amplifier (at higher volume), but even higher overall volume levels than when using the -5dBFS test tone.**

The -5dB and -10 dB test tones are recorded at a lower level. This will give you more overall output from the system but you will not have as much protection from overdriving your speakers and you will have more potential for speaker damage. To set your gains, use the 0dB tracks for the best dynamic range, the -5dB tracks for greater overall volume and the -10dB tracks for subwoofers. Subwoofers can generally handle more distortion, which is harder to hear at lower frequencies.



Once you have downloaded the test tones, follow the simple procedure below to properly match your head unit's output to the input of the amplifier:

1. You will need to use the same source to set gain levels that you plan on using most of the time when listening to the system. If you plan on playing CDs, burn a CD with the test tones. If you are going to play from a flash drive, copy the .wav files to a flash drive, etc.
2. Make sure you have all of the tone controls and high/lowpass filters (loudness, crossover, listening position, etc.) set flat or off. This includes anything that will affect the sound of the source unit.
3. If you are using a handheld device such as a phone, tablet, iPod, iPad, etc....make sure the tone settings are set flat. If you are playing the hand-held device through the 3.5 mm headphone jack or Bluetooth, make sure the volume on the handheld device is turned all the way up.
4. Make sure the amplifier is powered up but you do not have any speakers connected to the amplifier's output. Make sure the gain controls are set to the counterclockwise or minimum position. In addition, gain setting should be done BEFORE the KXARC wireless bass control has been paired to the subwoofer amplifier. If the bass control is already paired, make sure the subwoofer level is set to maximum output and the Shockwave is set to its minimum output.
5. Play the test tone with the source unit. Use 50 Hz for subwoofer outputs and 1kHz for full range and high pass outputs. Turn the volume up to about  $\frac{3}{4}$  or 75% maximum output.
6. Begin to turn the gain adjustment knob on the amplifier clockwise until you see the gain control knob illuminate red. When you see this, turn the control counterclockwise a small amount until the light on the control knob turns off. At this setting, the amplifier's output is at <1% distortion.
7. Repeat this process for all of the additional gain controls and amplifiers in the system.
8. Make sure the crossover settings on the amplifier/s are set correctly so as not to damage any of your speakers. As a good starting point we recommend an 80Hz low pass on subwoofers and an 80Hz high pass on your full range channels.
9. Connect speakers to the amplifiers and listen to the system with music. If you need to adjust any gain control to balance the system, only turn gains counterclockwise or down. **NEVER** turn any of the gain controls up or clockwise after you have set the proper gain level with the test tones. This will cause those channels to distort or "clip" prematurely and can damage the speakers.
10. Now you are ready to enjoy the music. Remember that any boosting/changes you make on the source unit will affect amplifier output. ie. Bass Boost, Loudness, EQ, etc.

To watch the instructional video, click [here](#). To use the wireless remote, click [here](#).