

# K.2 Series Powered Loudspeakers

# FAQ

## Q. What does K.2 stand for?

A. The .2 indicates that this is the new, 2nd generation K Series.

## Q. What is the main difference between legacy K and K.2 Series?

A. There are many differences:

- \* K.2 amp has over twice the Peak power of legacy K with more efficient distribution of power (1800 W for the LF + 225W for the HF).
- \* K.2 has more powerful DSP, and now includes user-adjustable crossover, delay & EQ
- \* K.2 has an LCD display with advanced functionality and control
- \* K.2 has HI-Z (high impedance) inputs for passive instruments
- \* K.2 has a dual pole-cup for improved Center-of-Gravity
- \* K.2 8-inch model (K8.2) can be used as a floor monitor
- \* K.2 has a cloth-lined grill for a more elegant look
- \* K.2 has a 3.5mm (1/8") mini-jack input
- \* K.2 has independent gain controls for each of the three (3) inputs
- \* K.2 has a shallower monitor angle (55 degrees) on all models.

## Q. What is the difference between a Preset and a Scene?

A. A Preset is a factory "voice" developed for specific applications (for example, floor monitor, headset microphone or bass guitar). A Scene is a total snapshot of all changes you have made, and includes input type selected, preset selected, crossover selected, plus any edits to delay or equalization.

## Q. How many Presets are there?

A. There are eleven (11) Factory Presets including the Default voicing.

## Q. How many Scenes can I store?

A. You can store five (5) User Scenes.

## Q. Can I name my Scenes?

A. No. The Scenes are simply numbered User 1-5.

## Q. Why did you replace the single rotating Tilt-Direct pole-cup with a dual pole-cup?

A. While the rotating Tilt-Direct™ pole-cup was certainly innovative at the time, it did have one minor flaw: using the -7.5 degree down angle actually shifted the weight of the loudspeaker away from the C/G (Center-of-Gravity). The new dual pole-cup ensures that the K.2 loudspeaker always rests on the C/G.

## Q. Why did you replace the Phono RCA with a 3.5mm (1/8") TRS mini-jack input?

A. Believe it or not, when QSC began developing the original K series in 2006, there was no such thing as an iPhone. The original phono RCA inputs were actually intended for common DJ Mixers and CD Players at that time. Since the introduction of the iPhone in 2007 there has been a rapid stream of smart devices that have completely changed the way music is played. As such, the Stereo 3.5mm (1/8") TRS mini-jack has now become the most ubiquitous connector type.

## Q. Is the 3.5mm TRS mini-jack input actually Stereo?

A. It will accept a stereo source, but will always sum this down to Mono.

## Q. Does the K.2 have Bluetooth audio streaming?

A. No.

## Q. Why did you remove the Remote Volume control?

A. The rear panel of the K.2 is considerably more compact than its predecessor yet offers far greater functionality. Only a handful of legacy K Series users ever took advantage of the Remote Volume feature, therefore a decision was made to trade its valuable real estate for some more widely-utilized functionality on the K.2.

## Q. Why does the rear LCD display dim?

A. The rear LCD display will dim after 30 seconds of inactivity. This is to reduce ambient light glowing from the rear of the K.2 speaker on dark stages. This is especially valuable when used as a stage monitor.

## Q. Can I adjust the contrast on the rear LCD display in different light settings (ie indoors vs outdoors)?

A. Yes. The contrast can be adjusted from the Utility Settings Menu.

## Q. Why does the K.2 take a few seconds longer to power-up compared to the legacy K Series?

A. Unlike the legacy K models, the new K.2 features a menu-driven LCD display which requires the addition of a microprocessor. As would be expected, this microprocessor has a small boot-time.

## Q. Why is there no boost on the 4-band user EQ?

A. It is a best practice among sound professionals to handle loudspeaker equalization by cutting frequencies that are excessive rather than by boosting frequencies that are considered as lacking. Offering cut-only equalization has the added benefit of minimizing the risk of feedback.

**Q. What is the maximum Delay time?**

**A.** The maximum Delay time is 100mS, which equates to approximately 112.6ft (34.6m).

**Q. Why is there no DEEP setting?**

**A.** DEEP™ (Digital Extension and Excursion Processing) is now built into a number of Presets, including Dance, Live, Bass Amp and Studio Monitor. If the user feels there is too much bass present, it can always be dialed-back through the unit's equalization settings.

**Q. What is the HI-Z selection on Input 2 for?**

**A.** The HI-Z (High Impedance) input is a 250 kΩ selection for passive instruments such as electric bass, acoustic guitar, mandolin, banjo, ukulele, etc.

**Q. How do I make my DSP settings (presets/scenes etc) and input gains tamper-proof?**

**A.** An accessory Lock-out Cover (K.2-LOC) is available.

**Q. Can I still defeat the Front Power LED?**

**A.** Yes. Like the legacy K Series, the front LED can be defeated.

**Q. Can I link the Front LED to the Limiter like legacy K?**

**A.** No. This feature has been removed.

**Q. Is the K TOTE compatible with both legacy K and K.2 series?**

**A.** Yes. They can be used interchangeably.

**Q. Is the K OUTDOOR COVER compatible with both legacy K and K.2 series?**

**A.** Yes. They can be used interchangeably.

**Q. Is the K YOKE compatible with both legacy K and K.2 series?**

**A.** No. The K.2 uses a new design of Yoke brackets, specific to this Series.

**Q. Does the new K YOKE operate both vertically and horizontally?**

**A.** Yes. The Yoke is telescopic and can be shortened or lengthened to accommodate either orientation.

**Q. Is the M10 KIT-C compatible with both legacy K and K.2 Series?**

**A.** Yes. Please note however that the K.2 includes an integrated Pull-back point, therefore only two (2) eyebolts are required for flying the K.2 models, as compared with legacy K which requires three (3).

**Q. How does the weight of the K.2 Series compare with legacy K?**

**A.** The K8.2 is the exact same weight as the legacy K8 (27 lbs or 12.2 kg) and the K10.2 is the exact same weight as the K10 (32 lbs or 14.5 kg). The K12.2 however is slightly lighter than the K12 (40 lbs vs 41 lbs or 17.7 kg vs 18.6 kg).

**Q. Is the fan in the K.2 Series variable speed?**

**A.** Yes. Once the amplifier reaches a certain temperature, the fan engages at very a low speed, and as the amplifier heats up, a clever algorithm in the DSP will instruct the fan to speed up accordingly.

**Q. Can I mix-and-match up my legacy K and KW Series loudspeakers with newer K.2 loudspeakers?**

**A.** As long as they are separated by a short distance then yes, it will be fine. For example if you are using the new K.2 loudspeakers for your mains and KW or legacy K's for your monitors, then this will work perfectly fine. What is not recommended however is attempting to "array" K.2 loudspeakers alongside K or KW Series within close proximity. For broader coverage, two or more speakers may be splayed (aimed so that the horizontal coverage of the speakers has minimum overlap). For best results, this should always be done with identical speakers.

**Q. Can I use my existing KW181 with any K.2 model?**

**A.** Yes. In the crossover section, simply select 100Hz which is phase-optimized for the KW181.

**Q. Can I use the new KS212c Cardioid Sub with any K.2 model?**

**A.** Yes. In the crossover section, simply select 80Hz which is phase-optimized for the KS Series.

**Q. Can I use my existing KSUB with any K.2 model?**

**A.** Yes and no. The smaller K8.2 and K10.2 are a suitable one-to-one match for the existing KSUB. Simply go to the crossover section and select the 100Hz setting. The larger K12.2 however will over-power the KSUB and is not deemed a suitable match.

**Q. What is the HF crossover point on the K.2 Series?**

**A.** 2 kHz, which is the optimal lower bandpass for the K.2 compression driver

**Q. The legacy K Series has a published spec of 1000W Continuous (500W+500W), or 1000W+1000W Peak power. If the K.2 Series is also spec'd at 2000W peak, is the K.2 Series really more powerful than the legacy K models?**

**A.** Yes. The K.2 Series utilizes a new amplifier system that offers nearly double the power to the LF driver than did legacy K Series, while utilizing a smaller, more appropriately sized amplifier for the HF driver. Legacy K Series amplifiers were measured on a test-bench to deliver up to 500W+500W into an optimal load, with Peaks of 1000W. In contrast, the new K.2 amplifier has been measured in-system to deliver 900W into the LF driver, with Peaks of 1800W. This smarter power distribution of 1800W+225W results in almost twice the power delivered to the LF driver compared to legacy K (1800W vs 1000W Peak). Additionally the greater LF power gives the K.2 Series considerably more headroom, and therefore lower distortion, resulting in improved clarity at high levels.

**Q. On the Specification sheet, the Maximum SPL (Sound Pressure Level) of the K.2 Series appears to be only 1dB higher than the legacy K Series. Does the K.2 Series only go 1dB louder than its predecessor?**

**A.** No. Back in 2009 when the legacy K Series was first introduced, there was no common industry practice for determining Maximum SPL of a self-powered loudspeaker therefore the Maximum SPL was originally calculated, in the same way that all non-powered loudspeakers are calculated. By comparison, the Maximum SPL for the new K.2 Series was actually measured in accordance with newer industry practices (on-axis at 1 meter, using dynamic pink noise). When we measured the legacy K Series using this newer industry practice, the comparative SPL (apples-for-apples) measured as follows:

K8 = 126 dB compared to K8.2 = 128 dB

K10 = 127 dB compared to K10.2 = 130 dB

K12 = 129 dB compared to K12.2 = 132 dB

**Q. Do the K.2 loudspeakers go into Auto-Standby like the legacy K loudspeakers?**

**A.** Yes. The K.2's Class D amplifier will go into auto-standby if there is no signal present for a period of three (3) minutes. As soon as signal is detected the amplifier will exit standby mode within milliseconds (which is inaudible to the ear).

**Q. What is the benefit of Auto-Standby mode?**

**A.** Auto-Standby will dramatically reduce the power consumption during inactivity (down to approx. 0.2 Amps – just enough to keep the micro-controller running). This is a very useful feature when installing K.2 into venues that are trying to reduce their total power consumption to meet “Sustainable” or “Green” Building codes such as LEED or EDGE.

**Q. Does the front power LED turn off when the loudspeaker's amplifier goes into Auto-Standby like on legacy K models?**

**A.** No. With the legacy K series, when the loudspeaker went into Auto-Standby the front LED would turn off, and when signal was detected the amplifier would immediately exit standby mode and the front LED would re-illuminate. This created some confusion with users. On K.2 we decided that the power LED should always remain on, even when the loudspeaker goes in Auto-Standby mode.

**Q. Are there any times when my K.2 loudspeaker will not go into Auto-Standby?**

**A.** If you have a mobile device connected to the 3.5mm Input and turned down, there may still be enough crosstalk that the loudspeaker is detecting light signal. Likewise, if you have Input B set to HI-Z for a passive instrument, and have unplugged that instrument, there will be enough noise present on that High Impedance input that the loudspeaker is still detecting signal (even though that signal is noise). In any case where audio signal (including noise) is detected, the amplifier will not go into Standby.



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