

# KS212C Cardioid Subwoofer

# FAQ

## Q. What is a Cardioid Sub?

**A.** The term Cardioid refers to the heart-shaped coverage pattern of an audio device. A cardioid microphone such as a Shure SM58, is designed to be most sensitive at the front (on-axis), and least sensitive at the rear (180 degrees off-axis). A Cardioid Subwoofer operates exactly the same way, and is loudest at the front and quietest at the rear.

## Q. How do Cardioid Subs work?

A. It is well understood that low frequency energy from subwoofers is effectively omnidirectional in nature (equally loud in all directions). This is because low frequency wavelengths are much longer than the dimensions of the subwoofer enclosure, and therefore “wrap” around it. A cardioid Subwoofer arrangement employs both front- and rear-firing woofers, and through some clever use of spacing, delay and polarity, a “null” or cancellation of rear-firing energy is created behind the subwoofer, while also enhancing the forward-firing energy.

## Q. How much difference in level is there between front and rear?

**A:** The KS212C Cardioid Sub produces a whopping 15 dB of attenuation at the rear of the enclosure. To put this into perspective, 15 dB is the difference between 30 watts and 1000 watts.

## Q. Are Cardioid subs new?

**A.** No. The science behind creating a cardioid subwoofer is very well documented and complex cardioid subwoofer arrays have been prevalent in the large scale concert-sound industry for many years from manufacturers such as Meyer and d+b Audiotechnik. These subwoofer arrays rely on careful placement and precisely adjusted processing to make them work. What is new however is that the KS212C Cardioid Sub is the first truly plug-and-play, single-box cardioid subwoofer in its class.

## Q. What are the benefits of a Cardioid Sub?

**A.** The benefits of a cardioid sub are tremendous. Many venues suffer from too much low-frequency “build-up” on stage, resulting in a muddy Front-of-House mix and on-stage rumble that makes it difficult for performers to properly hear their instruments or stage monitors. A large contributor to this stage volume can be the rear energy coming off the subwoofers. A Cardioid Subwoofer dramatically reduces low frequency energy on the stage, thereby dramatically reducing low frequency “Spill” into the open microphones, thereby dramatically cleaning up the Front-of-House mix. Cardioid subwoofers are also useful when noise control at the boundary line is an issue, such as in outdoor applications.

## Q. Can the Cardioid pattern be turned off?

**A.** No. Since the KS212C Cardioid Sub is uniquely designed as a single-box cardioid solution, the Cardioid Pattern is always active.

## Q. How does this model differ from the KSub?

**A.** The KSub is a single chamber 4th Order Bandpass system that is optimized for compactness and portability. In order to achieve cardioid coverage, the KS212C Cardioid Sub requires a somewhat larger foot-print. It also uses a dual-chamber, 6th Order Bandpass design with one compartment firing forward while the other is rear-firing. Additionally, the increased enclosure volume of the KS212C produces greater low-frequency extension compared to the KSub.

## Q. How does this model differ from the KW181?

**A.** The current KW181 is a vented design with a direct radiating 18” woofer and a conventional coverage pattern. This design offers greater low frequency extension (ie it goes deeper), and is more suited for EDM (Electronic Dance Music) such as House, Techno, Trance, Drum&Bass, Dubstep etc.

**Q. Which K/KW/KLA models is the KS212C Cardioid Sub compatible with?**

**A.** The new KS212C Cardioid Sub will work with all existing K, KW and KLA loudspeakers. Additionally the KS212C Cardioid Sub will also work with the passive E Series speakers (we strongly recommend GXD or PLD DSP-equipped amplifiers to power the E Series due to their on-board E Series preset tunings).

**Q. Does the KS212C Cardioid Sub include Casters?**

**A.** Yes. Four 3.0" (76 mm) ball-bearing casters are pre-fitted to the rear.

**Q. Does the KS212C Cardioid Sub include a Speaker pole?**

**A.** Yes — a 26" length Speaker Pole is included (same as KSub).

**Q. What type of Speaker Pole Cup is on the KS212C Cardioid Sub?**

**A.** The KS212C Cardioid Sub actually features two M20 threaded Pole Cups – one on the top (for vertical orientation of the sub) and one on the side (for horizontal orientation of the sub). There is no discernable audio difference in deploying the K Cardioid Sub in either a horizontal or vertical orientation.

**Q. Is there a cover available for the KS212C Cardioid Sub?**

**A.** Yes.

**Q. What is the power rating of the KS212C Cardioid Sub?**

**A.** As a member of the K Family, it features a 3600 Watt peak power module.

**Q. What are the dimensions of the KS212C Cardioid Sub?**

**A.** HxWxD = 26" x 15" x 28" (665 x 381 x 714 mm)

**Q. What is the net weight of the KS212C Cardioid Sub?**

**A.** 90 lbs (41 kg)

**Q. Are there complete specifications available for the KS212C Cardioid Sub?**

**A.** Yes, at [www.qsc.com](http://www.qsc.com).

**Q. When can I get pricing and availability?**

**A.** We will be announcing more information in April 2017.



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