

QSC

application guide

House of Worship **AET** Application Engineering Team



SINCE THEIR INTRODUCTION IN 2009, K FAMILY LOUDSPEAKERS HAVE BECOME THE GO-TO FAVORITE PRODUCT FOR PROFESSIONAL AUDIO USERS MORE THAN A MILLION TIMES OVER. CONTINUING THAT TRADITION, THE QSC K.2 SERIES IS QUITE SIMPLY THE “NEXT STANDARD” IN POWERED LOUDSPEAKERS.

THIS APPLICATION GUIDE IS DESIGNED TO OFFER YOU A FEW EXAMPLES OF HOW TO UTILIZE THE K.2 SERIES IN COMMON HOUSE OF WORSHIP SITUATIONS. WHILE EACH INDIVIDUAL OR GROUP’S NEEDS MAY VARY, THIS GUIDE SHOULD SERVE AS A GOOD STARTING POINT ON HOW TO CONFIGURE AND DEPLOY THESE PRODUCTS IN YOUR APPLICATION. THERE ARE ALSO MANY OTHER ASSETS AVAILABLE TO YOU ONLINE AT [QSC.COM](https://www.qsc.com) INCLUDING VIDEOS, TECHNICAL DOCUMENTS AND MORE TO HELP YOU GET THE MOST FROM YOUR QSC PURCHASE. WE HOPE YOU TAKE ADVANTAGE OF EVERYTHING AVAILABLE AND WISH YOU A MOST SUCCESSFUL AND ENJOYABLE EXPERIENCE WITH YOUR K.2 SERIES.

WHAT'S NEW

Let's look at the inputs on the K.2 loudspeakers. They're still somewhat familiar to the K user, but updated a bit. As with the original K series, Input A again can be mic or line level, but Input B now can be either a line level input or a high-Z one suitable for musical instruments that have passive magnetic or piezo pickups. That's right—the K.2 Series loudspeakers can be used as guitar or bass combo amp, and they won't load down the instrument like a regular mic or line input would. Input C is a stereo-summed-to mono channel with a 3.5 mm stereo jack, suitable for playback from portable digital audio devices such as phones, MP3 players, etc.

The three inputs each have their own gain knob and get mixed down to provide signal for the digital signal processing (DSP) and class D amplification stages. A line-level summed output provides a means to send the mixed signal on to other loudspeakers or other devices.

The biggest advance is in the DSP capabilities of the K.2 loudspeakers. In addition to voicing and protection duties, the K.2 Series DSP offers an array of user-configurable parameters that include EQ, delay, and presets. Yes, presets.

K.2 loudspeakers have 11 presets so you can quickly dial in a collection of settings tailored to a certain application.

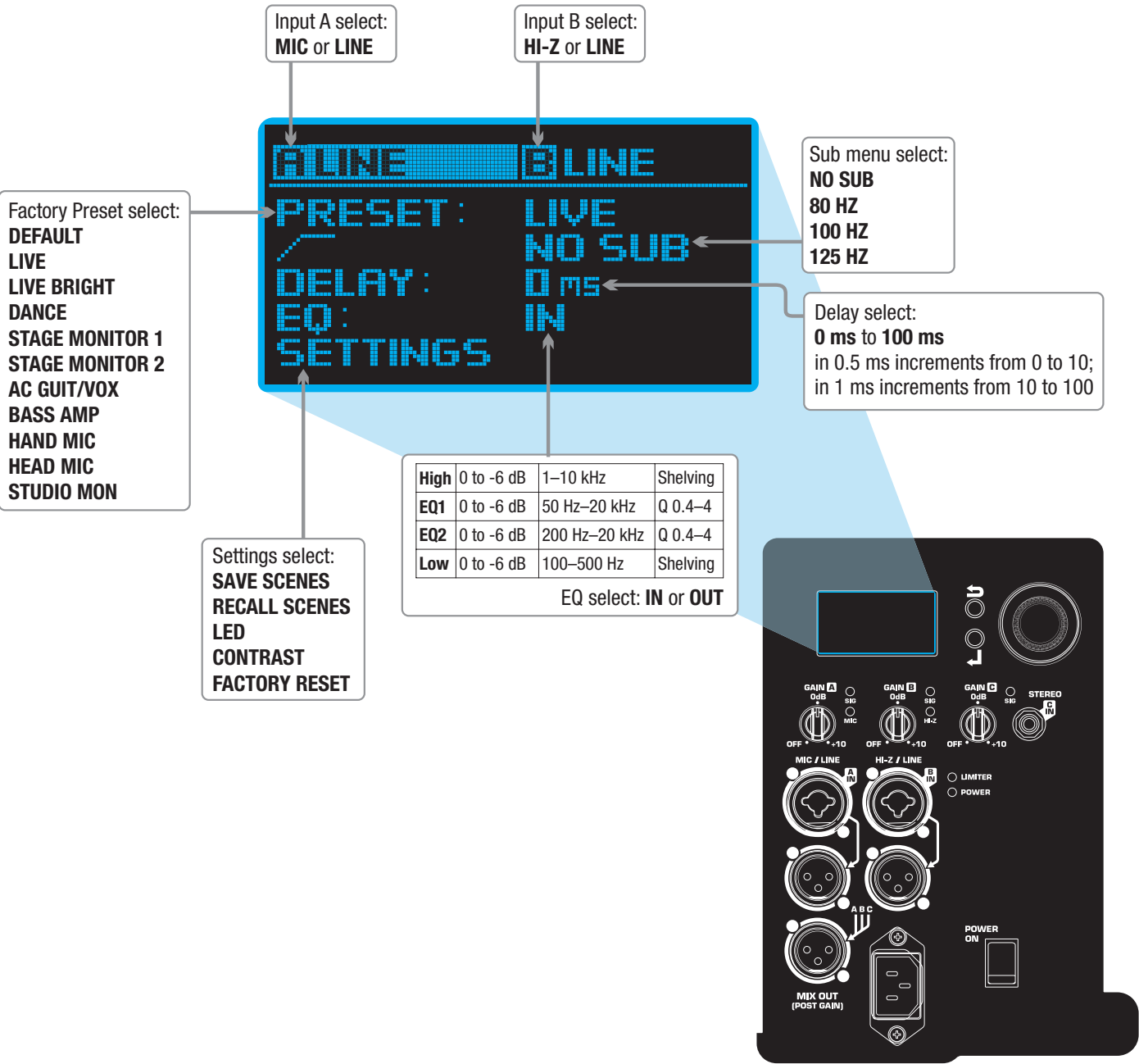
DEFAULT	The standard voicing of the K.2 speaker
* LIVE	A voicing for live music reinforcement that lowers and balances frequencies that can be prone to feedback in a live mix.
LIVE BRIGHT	A voicing for live music reinforcement that offers slightly more high end than the "Live" voicing.
DANCE	A voicing that focuses on high-end clarity and low end extension, primarily for Dance/Pop/Hip Hop/etc music.
* STAGE MONITOR 1	A voicing for using a stage monitor with a microphone that lowers and balances frequencies that can be prone to feedback in a monitor mix.
STAGE MONITOR 2	A voicing for using a stage monitor without a microphone (such as a drum or keyboard monitor) that offers more low frequency extension than Stage Monitor 1.
* ACOUSTIC GUITAR/VOX	A voicing for a vocal mic plugged into input A, and an acoustic guitar plugged into channel B that lowers and balances frequencies prone to feedback between those two input sources.
* BASS AMP	A voicing optimized to provide performance similar to that of a combo bass amplifier.
HAND MIC	A voicing that lowers and balances frequencies that can be prone to feedback with common handheld dynamic microphones when used without a mixer.
HEAD MIC	A voicing that lowers and balances frequencies that can be prone to feedback with common headset microphones when used without a mixer.
STUDIO MON	A voicing that provides a more balanced overall speaker response with deeper extension to be used as a nearfield or studio monitor for mixing.

* PRESETS FEATURED IN THIS APP GUIDE

The K.2 Series loudspeakers also offer four bands of user-adjustable EQ:

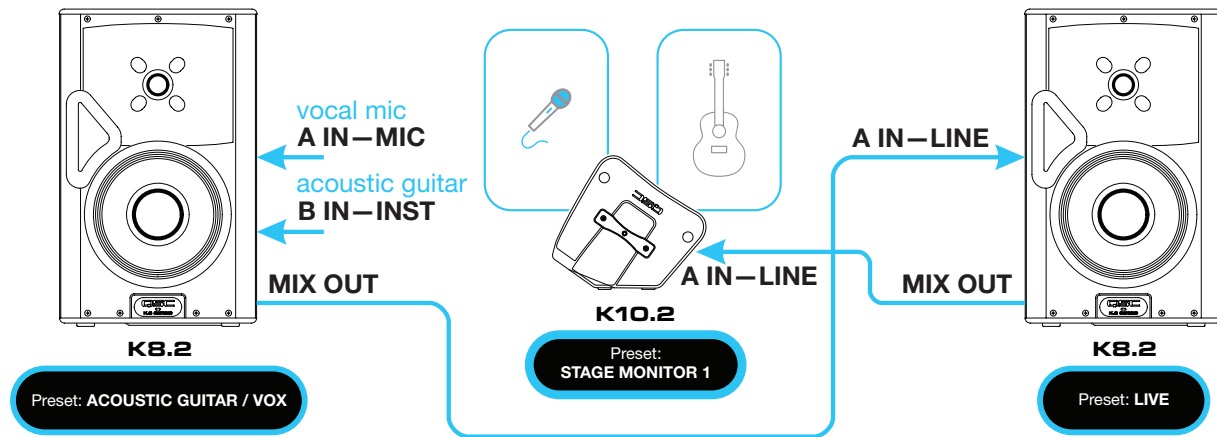
HIGH	0 to -6 dB	1–10 kHz	Shelving
EQ1	0 to -6 dB	50 Hz–20 kHz	Q 0.4–4
EQ2	0 to -6 dB	200 Hz–20 kHz	Q 0.4–4
LOW	0 to -6 dB	100–500 Hz	Shelving

Up to 100 ms of delay.
80, 100, or 125 Hz high-pass filtering for use with a subwoofer.



SOLO/DUO PRAISE LEADER

A singer and acoustic guitarist—either a solo musician or a duo—lead a praise team. A pair of K8.2 loudspeakers provide a wide coverage angle, and a K10.2 serves as a wedge monitor. The team uses the mixing capabilities of a K.2 Series loudspeaker to combine the vocal mic with the guitar; the Acoustic Guitar / Vox preset is specially tailored to using a vocal mic on Input A and an acoustic guitar pickup on Input B. The mixed signal from that loudspeaker also drives the second K8.2, and in turn its MIX OUT provides the feed to the monitor.



TECH REQUIREMENTS:

Vocal mic

Acoustic guitar direct in

Mains:

One K8.2 loudspeaker [preset Acoustic Guitar / Vox; no sub]

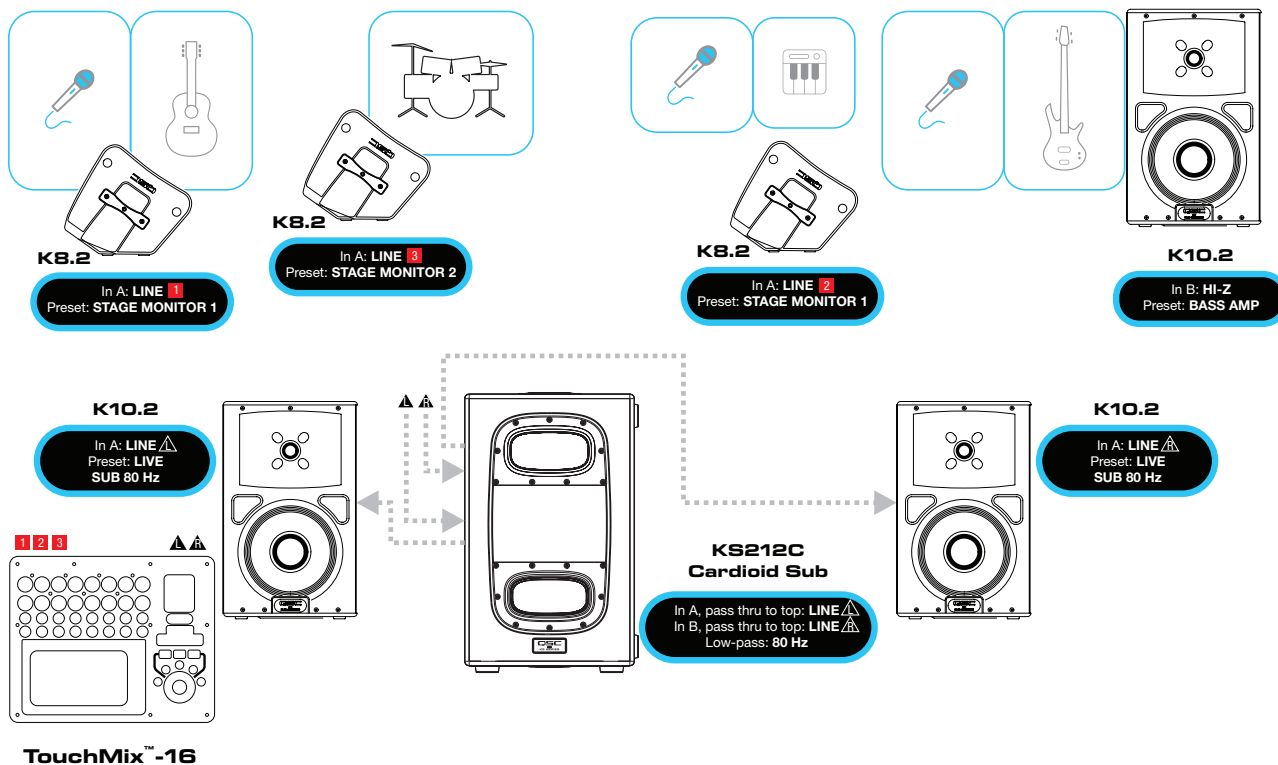
One K8.2 loudspeaker [preset Live; no sub]

Monitors:

One K10.2 loudspeaker [preset Stage Monitor 1]

SMALL PRAISE BAND

Here's a four-piece praise band: acoustic guitar with vocal, bass with vocal, keyboards with vocal, and a miked drum kit. The main loudspeakers are a pair of K8.2 loudspeakers teamed up with a KS212C Cardioid Subwoofer. Four more K8.2 loudspeakers serve as floor wedge monitors, driven from the mixer's aux outputs. The bass player uses a K10.2 as a stage amp.



TECH REQUIREMENTS:

Acoustic guitar (direct in) with vocal
Bass (direct from bass amp) with vocal
Keyboard (direct in) with vocal

Mains:

Two K10.2 loudspeakers [preset Live; Sub at 80 Hz]
One KS212C Cardioid Subwoofer [low-pass filter at 80 Hz]

Monitors:

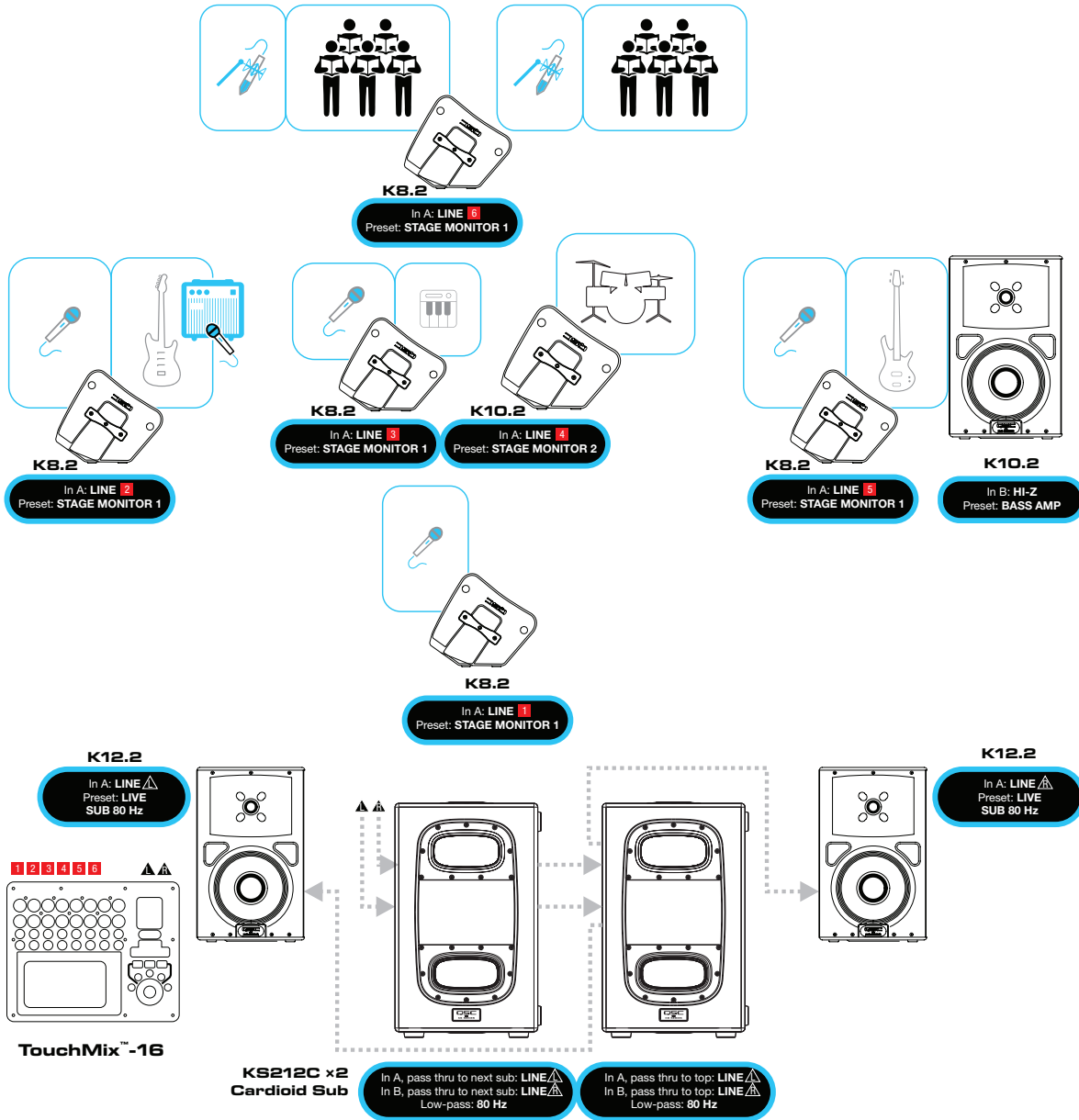
Two K8.2 loudspeakers [preset Stage Monitor 1]
One K8.2 loudspeaker [preset Stage Monitor 2]

Backline:

One K10.2 loudspeaker [In B HI-Z; preset Bass Amp; Mix Out sent to mixer]

LARGE PRAISE BAND

This ensemble combines an instrumental quartet with a solo vocalist and a large vocal group. A common example of this would be a gospel choir. A pair of K12.2 mains are set up with two KS212C Cardioid Subwoofers. Five wedge monitors are K8.2 loudspeakers set to the Stage Monitor 1 preset, while the drummer has a K10.2 set to Stage Monitor 2. The bass player uses a K10.2 set to Bass Amp; its Mix Out sends a line-level bass signal to the main mixer.



TECH REQUIREMENTS:

Solo vocal mic; electric guitar (amp miked) with vocal;
 keyboard (direct in) with vocal; bass (direct from bass amp)
 with vocal; miked drums
 Choir with two large-format condenser mics

Mains:

Two K12.2 loudspeakers [preset Live; sub 80 Hz]
 Two KS212C Cardioid Subwoofers [low-pass 80 Hz]

Monitors:

Five K8.2 loudspeakers [preset Stage Monitor 1]
 One K10.2 loudspeaker [preset Stage Monitor 2]

Backline:

One K10.2 loudspeaker [In B HI-Z; preset Bass Amp; Mix Out sent to mixer]



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