CUT SHEET

KRAKATOA-MK3

Quintuple 18" 4-Way Co-Axial
Point Source Powered Loudspeaker

Overview

Is it possible to deliver high-quality sound across the entire audible frequency spectrum from a single point source? The term “point source” refers to a concept in which all the reproduced sound emanates from a single point in space. This is impossible with current technology because speakers take up physical space, so the best-case scenario is to place all the drivers as close together as physically possible. The challenge to the designer, then, is how to achieve the impossible.

But first, what are the advantages of point-source? The source of a sound, such as a spoken word or a note from an instrument, emanates from a single point, and human hearing evolved to recognize, interpret and understand sounds as having come from a single source point. In other words, sounds coming from a single, coherent source are more easily and more naturally intelligible.

The reason coherence matters is because we recognize direction and location because of subtle differences in arrival time and amplitude as sound enters both of our ears. The difference between the information provided by each ear allows our brains to calculate where the sound came from and also what the sound means. These are what provide the cues for imaging and sound stage.

When a loudspeaker has multiple drivers, each producing a different segment of the total sound spectrum, each located a different distance from the ear, and therefor each segment arriving at a different time to each ear, our brains don’t get the same clarity of information as when all the sound arrives at the same time. Our brains must process the incoming information further to reconstruct an understanding of what’s been heard. Although this processing is unconscious, it still requires mental effort and the expenditure of that effort comes between the source and the listener’s experience. This extra mental effort dulls the perception of detail, reduces comprehension and creates fatigue.

So what do you do to create the best possible impact, imaging and intelligibility? Ideally, make all the sound come from the smallest possible point in space, which is to say, minimize the distance between all the contributing elements to the greatest extent possible.

What if the range between 100Hz and 20,000Hz were to come from a point just 16” in diameter? That’s a good start, but there are two more octaves below 100Hz that are necessary for full-range sound to come from a single point. To add those 2 octaves requires expanding the diameter of the circle to 48”. 48” is the wavelength of approximately 280Hz, but more to the point, that’s 1/10th the wavelength of 25Hz, meaning this loudspeaker is 1/10th the size of the longest wavelength it produces. This allows it to be as phase coherent off axis at low frequencies as it is at high frequencies. To translate that out of geek-speak, to a listening human, it’s effectively indistinguishable from that ideal, impossible, single point.

In short, this design allows the loudspeaker to deliver consistent audio performance, with all frequencies arriving at the listener's ears simultaneously, which improves intelligibility and impact as well as providing excellent imaging and sound staging. The Krakatoa-MK3 represents a significant advancement in loudspeaker technology, offering unparalleled sound quality and versatility for professional audio applications.

Key Features:

- **Full Range Reproduction:** Covers all audible frequencies from 25 Hz to 19,000 Hz
- **Versatility:** Ideal for live sound reinforcement and high end audio systems
- **4-Way Active:** Dedicated drivers and amp channels for each frequency range for unbeatable dynamic resolution
- **Big Impact:** Minimal physical offset of drivers creates minimal phase offset for a tight, punchy sound
- **Superior Sound Localization:** One source point provides superior imaging for an immersive listening experience
- **High Efficiency and Power Handling:** Suitable for larger spaces without quality compromise
- **Phase Aligned:** Seamlessly integrates with other BASSBOSS speakers

Where and Why:

- **Live Sound Concert Venue Installations**: Extremely compact for minimal sight-line obstructions
- **Nightclubs and Dance Floors**: Massive impact and intensity from a tiny footprint
- **Theaters and Auditoriums:** Never miss a detail, never hit a limit
- **Houses of Worship**: Clarity, intelligibility, power, invisibility
- **Production Companies/Touring**: Rapid deployment, high-output density minimizes labor, truck, power needs
- **Conference Centers and Exhibition Halls**: Fewer speakers to cover massive areas
- **Carnival Trucks and Art Cars**: More SPL from less frontal area and less generator power
- **Outdoor Events**: Virtually immune to the influence of wind on frequency response

Benefits:

- **Full Range:** One box in one spot covers all audible frequencies.
- **High Resolution:** 4-Way active provides dedicated amps, processing and drivers in each frequency band
- **Versatility:** The combination of high power and extended range make almost any application possible
- **Imaging:** A single, coherent source for all sounds is best for stereo image localization
- **Impact:** More energy from less space makes for a tighter, punchier sound
- **High Efficiency:** Delivers high SPL and uses less power relative to multi-box systems
- **Simplicity:** One power cord and one signal cable for full-range, coherent sound

Combining Speakers

BASSBOSS systems are easy to set up quickly. The best possible results are achieved consistently because of the integrated nature of the designs. All BASSBOSS loudspeakers are complete, integrated systems, featuring the cabinet, transducer, amplifier and a comprehensive suite of processing. Setup is particularly easy because the products integrate with each other.

Provided the cabinets are physically aligned, any BASSBOSS sub can be combined with any BASSBOSS top and their outputs will be phase-coherent. This means no cancellations and no gaps in the response at the crossover frequency, regardless of which preset is selected.

The on-board BASSBOSS processing allows for the following: Any BASSBOSS powered subwoofer can be combined with any other BASSBOSS Powered subwoofer and their outputs will sum coherently. (i.e. in phase with each other.)

Any BASSBOSS powered subwoofer or combination of BASSBOSS powered subwoofers can be combined with any BASSBOSS powered top and their outputs will sum coherently through the crossover region.

HOWEVER only one model of top should be used at a time. An assortment of different tops cannot be stacked together and still achieve coherence and clarity. Putting tops of similar or different models not designed for side-array usage next to one another creates comb-filtering and significantly degrades sound quality.

The following tops should be used individually, i.e. should NOT be arrayed	The following tops can be used in arrays
AT312 (Co-axial point-source top)	**MFLA** (Medium Format Line Array, up to 20 cabinets can be arrayed)
DiaMon (Co-axial point-source satellite)	**AT212** (Horizontally arrayable when necessary)
SV9 (2-way monitor with Satellite mode)	**DV12** (Arrayable in PAIRS ONLY with the upper box of the pair inverted.)

Pre-Installed Onboard Presets

High-pass filters with included phase compensation.

Preset 1	**30Hz high-pass filter**
Preset 2	**35Hz high-pass filter**
Preset 3	**40Hz high-pass filter**
Preset 4	**45Hz high-pass filter**
Preset 5	**50Hz high-pass filter**
Preset 6	**55Hz high-pass filter**
Preset 7	**60Hz high-pass filter**
Preset 8	**65Hz high-pass filter**
Preset 9	**70Hz high-pass filter**

All Max SPL presets are compatible with all BASSBOSS subwoofer models

Additional presets are accessible through software.
See "How to Use the Presets" section for more information

IMPORTANT - Update NOW!

ControlBASS + Settings

For improved performance and stability, update your settings immediately after opening your new gear!

Major new updates are available.

Download new settings updates and the ControlBASS app at
bassboss.com/software

Instructions on using the software, linking to your computer for remote monitoring and control and updating the settings files will be provided when you sign up!

Register your gear
bassboss.com/support

For more information and setup tips on how to get the best and most out of your system check out the Knowledge BASS
help.bassboss.com

Specifications

Acoustical

Loudspeaker Description	4-Way Quintuple 18" Self-Powered Co-axial Point Source Full Range
Frequency Response (±3 dB)	25 - 19,000Hz
Maximum Measured SPL	142 dB 1m (half-space)
Max calculated SPL (Peak)	145 dB 1m (full-space)
Nominal Dispersion (H° x V°)	60 x 40 (25 down, 15 up)

Electrical

Amplification	7500W Class D, 5000W LF, 1600W MLF, 600W MHF, 300W HF
Processing	Integrated comprehensive DSP. 96kHz sampling rate with 8 pushbutton presets. All presets include high pass filters, low pass filters, phase alignment, equalization and multi-stage limiting. Storage capacity for up to 100 presets
Electrical Input Connector, Amp	Neutrik powerCON True 1 TOP IP65 rated waterproof connectors
Electrical Connector, Mains	USA 3-pin grounding 120V electrical plug: NEMA 5-15; Outside USA alternate connectors provided
Voltage Operating Range	100-240V AC, 50-60Hz (Auto-sensing, auto switching universal supply)
Current Draw, Nominal	120V: 13.75A (nominal); 240V 7A (nominal)
Display	LEDs for Power on/ready, Signal, -12dB, -6dB, Limiter Active, Thermal, Protect and LAN Link Active. Eight LEDs indicating selected preset
Signal Input Connector	XLR-F
Signal Output Connector	XLR-M (Direct pass-through, unprocessed)
LAN Connectors	EtherCON RJ45 (x2) with 2-port Ethernet switch

Physical

Enclosure Type	4-Way Full-Range Single Axis Point Source. Vented Short-Horn (6th order) Low Frequency section, Co-axially positioned acoustic suspension Mid-Bass section with a Co-axially horn-loaded Midrange and High Frequency section through its center.
Transducer (LF)	4 x 18 in. diameter (450mm) neodymium motor woofers with 4 in. (100mm) voice coils, waterproof cones
Transducer (HF)	1 x 18 in. diameter (450mm) neodymium motor bass driver with 4" (100mm) voice coil
Transducers, MHF + HF	1 x Co-axial compression driver with a 4 in. (100mm) diameter voice coil, ring diaphragm midrange and a co-axially positioned 2.5" (64mm) voice coil, ring diaphragm tweeter exiting via a 2" (51mm) throat horn mounted through the center of the 18" woofer's pole piece.
Cabinet Construction	CNC machined 18mm Birch plywood with extensive bracing and dado joinery. 16 M10 fly-points. 8 Steel bar handles. 8 Interlocking UHMWPE Sliders.
Suspension Points	16 x internally braced M10 threaded mounting points
Dimensions (HxWxD)	48 in. x 48 in. x 36 in.
Net Weight	470 lbs. (213 kg)
Shipping Weight	560 lbs. (254 kg)
Exterior Finish	High-pressure, bonded polyurea coating. Rugged, waterproof. Textured black
Grilles	Perforated, powder-coated steel
What's Included	Loudspeaker, 15' (5m) Power Cable, Manual, Warranty Card

Optional

Optional Dollies	Birch plywood flat cart with 4 locking wheels and recesses to accept the cabinet sliders. Transports 1 or 2 cabinets
Hardware	M10 Shoulder Eye Bolts, M10 Side-Pull anchors
Cover	Heavy-duty padded nylon transport cover

Our proactive philosophy causes specifications to be subject to change whenever improvements are made.

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Need more assistance?
We're here to help.

help.bassboss.com