SPECSHEET

Control® 31

Professional Series – Two-Way High-Output Indoor/Outdoor Monitor Speaker

Key Features:

- Components:
  - 250 mm (10 in) woven fiberglass cone LF driver with 52 mm (2 in) voice coil
  - High-output 2414H-C compression driver with 25 mm (1 in) exit, unique (patented) design and high-temperature polymer diaphragm
- 250 Watt capability (in 8Ω thru setting), plus 150 Watt transformer for 70V or 100V distributed lines, with 8Ω thru bypass
- Extended bandwidth, extremely smooth frequency response
- Highly outdoor-capable design with included WeatherMax™ multi-layer grille and optional marine-kit grille for salt-air environments
- 110° x 110° symmetrical coverage
- Includes InvisiBall® mounting hardware plus ten 6 mm attachment points for suspension and optional U-bracket
- Included sealed input panel cover and screw-down input terminals for secure connection



Description:

The Control 31 utilizes high-power components, computer optimized horn, and a complex network to achieve smooth, powerful high-fidelity performance, extended bandwidth, and well-controlled defined coverage from a compact loudspeaker.

The 250 mm (10 inch) low-frequency driver features a woven fiberglass cone for a high degree of weather capability and pure butyl rubber surround for clean sound quality, a high-temperature fiberglass voice coil former for high sensitivity, high output capability and stable performance under long-term high power working conditions. The optimized cone geometry provides for smooth frequency response and good off-axis performance. A linear suspension spider provides low distortion, while FEA-optimized motor construction produces minimum harmonic distortion. An aluminum coupler ring outside the pole post further reduces distortion and further increases the sensitivity.

The high-output high frequency compression driver features a unique patented design, high temperature polymer diaphragm, and fluid-cooling for high output levels with low distortion.

The high-frequency waveguide was designed using JBL's advanced ImageControl™ process for accurate, low-distortion control, with smooth frequency response and excellent sound character throughout the frequency band, over the entire listening area. It's 110° x 110° symmetrical coverage, provides the same coverage regardless whether the cabinet is installed in vertical or horizontal orientation.

The field-proven top-quality line distribution transformer, designed for minimal insertion loss and reduced saturation, allows for use on either 70V or 100V distributed speaker lines. In the Thru setting, the 8 ohm impedance allows for the use of up to two speakers on a 4-ohm capable amplifier channel.

The included InvisiBall mounting method is simple to install, aims easily and provides a high degree of theft deterrence. InvisiBall allows horizontal rotation of up to 41° off-axis and vertical rotation of up to 36° (horn end inward) or 23° (woofer end inward). Attachment points for the optional MTC-30UB (& "-WH" for white) U-bracket allows for compact installation and is particularly useful for low-profile applications.

Weather resistance has been maximized. The low-frequency driver features a woven fiberglass cone, a pure butyl rubber surround, and the basket is rear loaded into the baffle to minimize exposure. The high-frequency compression driver has a highly weather capable polymer diaphragm. The grille is thermoset composite coated and stands up well to UV as well as humidity. The grille is backed with our WeatherMax™ multi-layer foam and tight-weave screening to help prevent incursion of water. Nickel/zinc rust-resistant terminals ensure a secure input connection. An MTC-PC2 sealed-entrance cover is included to further protect the speaker's terminals. The white-version cabinets are painted with a UV-resistant finish to resist yellowing due to UV exposure.

Available in black or white (-WH), the cabinet will accept a variety of paints to match any décor.

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Specifications:

System	
Frequency Range (-10 dB)[1]	33 Hz – 19 kHz
Frequency Response (±3 dB)[1]	42 Hz – 14 kHz
Power Ratings[2]	250 W (1000 W peak), 2 hrs. 200 W (800 W peak), 100 hrs.
Maximum SPL @ 1m[3]	116 dB continuous (123 dB peak)
Nominal Sensitivity[4]	92 dB
Coverage Angle[5]	110° x 110°
Directivity Factor (Q)	5.7, averaged 500 Hz to 10 kHz
Directivity Index (DI)	7.3 dB, averaged 500 Hz to 10 kHz
Nominal Impedance	8 ohms
Crossover Type	2nd order low-pass, 2nd order high-pass, plus conjugate shaping circuitry
Transformer Taps	70V: 150W, 75W, 38W, 19W 100V: 150W, 75W, 38W Insertion Loss: <0.65 dB at any tap setting Thru Setting: 8Ω nominal
Recommended High-Pass	Protective 40 Hz high-pass (24 dB/oct) for any transformer tap and for 8Ω operation
Transducers	
Low Frequency	250 mm (10 in) woven-fiberglass cone with pure butyl rubber surround, 52 mm (2 in) voice coil on high-temperature fiberglass voice coil former, optimized cone geometry, linear suspension spider, FEA-optimized motor construction, aluminum ring on pole piece
High Frequency	JBL 2414H-C compression driver with 25 mm (1 in) diaphragm and voice coil diameter, high temperature polymer diaphragm, JBL-patented design, fluid-cooled
Physical	
Enclosure Material	High impact Polystyrene (HIPS) with 10% glass fill plus patent-pending internal 5 mm foamed polyurethane secondary mold for additional cabinet density
Grille	Zinc-plated and thermoset-composite coated steel, WeatherMax™ multi-layer foam with tight-weave mesh vapor barrier
Installation	InvisiBall wall-mounting system included. Ten 6 mm attachment points on cabinet for suspending or for optional U-bracket. One 6 mm secondary safety attachment point (for forged shoulder steel eyebolt, not included) on back panel.
Environmental	IP-55 per IEC529. Exceeds MilSpec 810 for humidity, salt-spray, temperature & UV. Passes MilStd-202F for salt spray. Optional MTC-30MK marine-kit grille increases longevity in highly corrosive environments.
Termination	Screw-down terminal strip, zinc-plated copper based, nickel-plated metal screws and washers. Accepts up to 9 mm outside 4 mm inside open lugs (#6, #8, or #10 lug), plus bare wire (up to 12 AWG / 2.5 mm2).
Agency Rating	Transformer is listed per UL1876
Colors	Black (RAL9004) or white (-WH, RAL9003)
Dimensions	593 x 372 x 345 mm (23.3 x 14.6 x 13.5 in)
Weight (each)	18.8 kg (41.5 lb)
Shipping Weight (each)	22.0 kg (48.5 lb)
Included Accessories	» 1 pc MTC-PC2 input panel cover, InvisiBall wall-mounting system, 6 mm x 305 mm InvisiBall hex wrench
Optional Accessories	» MTC-30MK Marine-Kit Grille in black or white (-WH), consisting of grille and protective covers for baffle screws » MTC-30CM (&-WH) Ceiling-Mount Adapter for installing speaker down from the ceiling » MTC-30UB (&-WH) U-Bracket

[1] In half-space (on-wall, 2pi)

[2] At 8Ω setting. Continuous Pink Noise rating is IEC-shaped pink noise with a 6 dB crest factor. Continuous Program Power is defined as 3 dB above the Continuous Pink Noise Rating and is a conservative expression of the system's ability to handle normal speech and music program material.

[3] Calculated from sensitivity and power handling, exclusive of power compression

[4] Half-space (on-wall), averaged 100 Hz – 10 kHz, 2.83V

[5] Coverage angles typical within 600 Hz – 4 kHz range and average between 300 Hz and 16 kHz

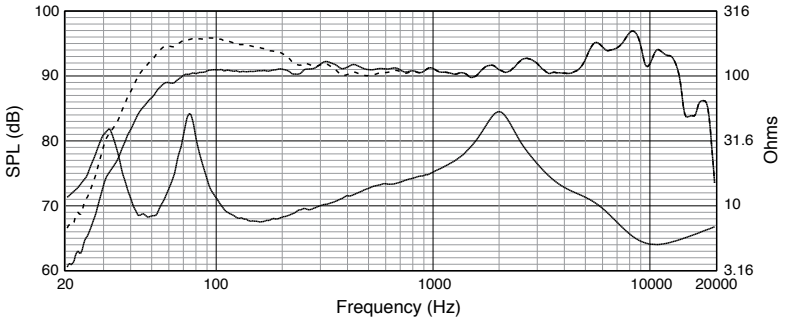
JBL continually engages in research related to product improvement. Changes introduced into existing products without notice are an expression of that philosophy.

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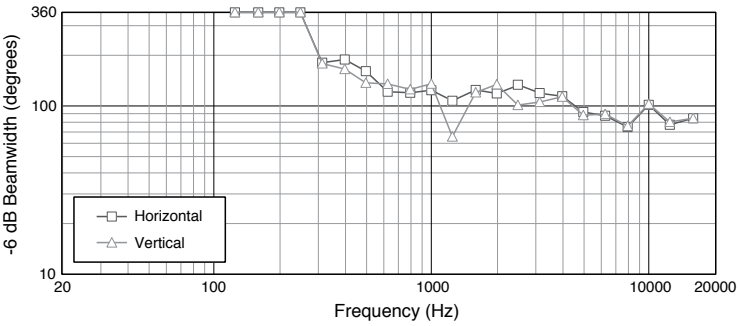
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Frequency Response:



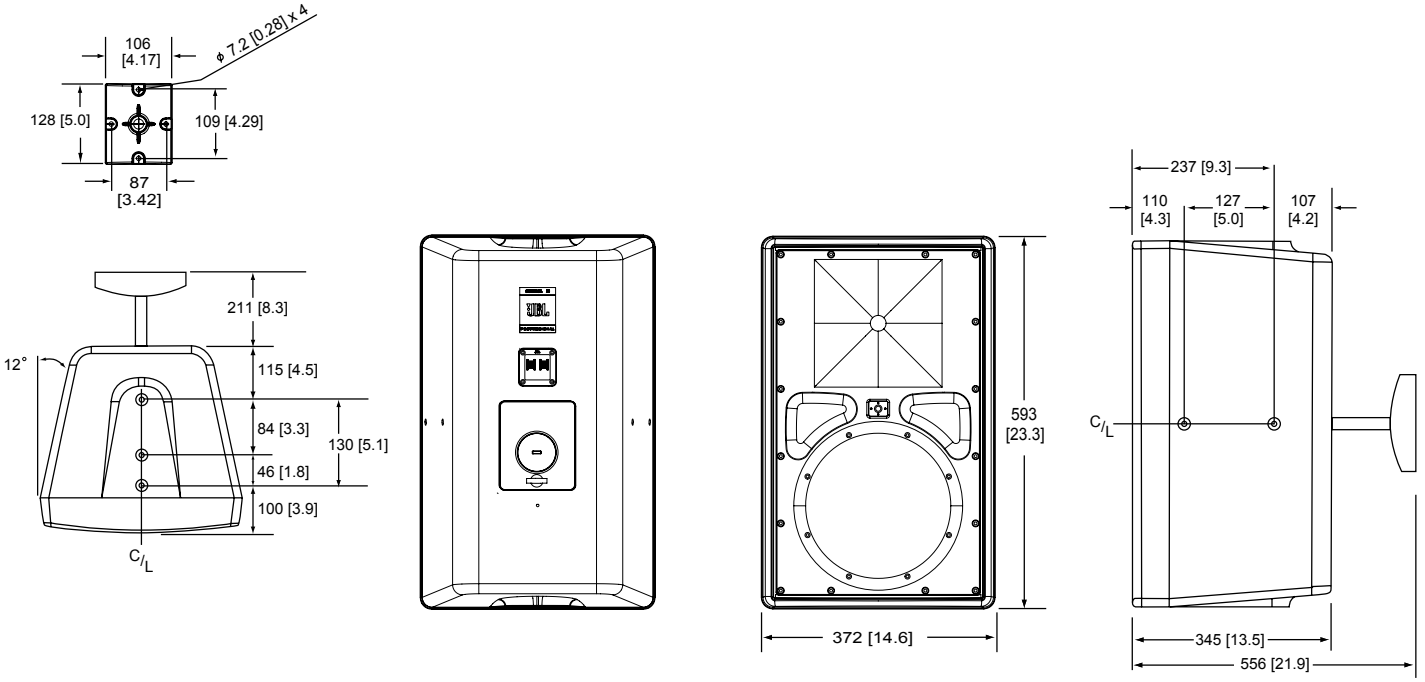
On axis in half-space (2pi, dotted line) and full-space (4pi, solid line)
at thru (8 ohm) setting Input Impedance

Beamwidth vs. Frequency:



Mounting Dimensions:

Dimensions in mm (inches)



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Issued: 7/2019