



CONTROL 31

Two-Way High-Output Indoor-Outdoor Monitor Speaker

Features:

- ▶ Components:
 - 250 mm (10 in) woven fiberglass cone LF driver with 52 mm (2 in) voicecoil.
 - 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.



Applications:

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.

Specifications:

Frequency Range ¹ (-10 dB):	33Hz – 19kHz
Frequency Response ¹ (±3 dB):	42Hz – 14kHz
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 (ca):	18.8 kg (41.5lb)
Shipping Weight (ca):	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, 2π).

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.

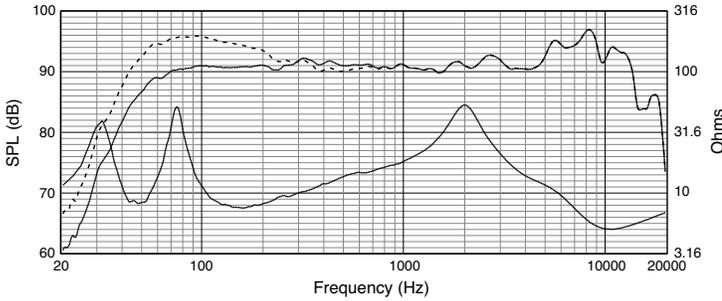
³ Calculated from sensitivity and power handling, exclusive of power compression.

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

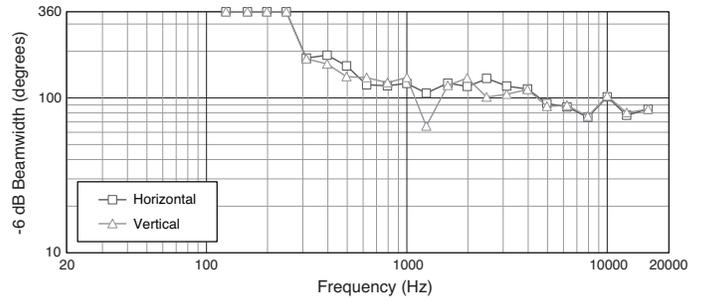
⁵ Coverage angles typical within 600 Hz – 4 kHz range and average between 300 Hz and 16 kHz.

Frequency Response

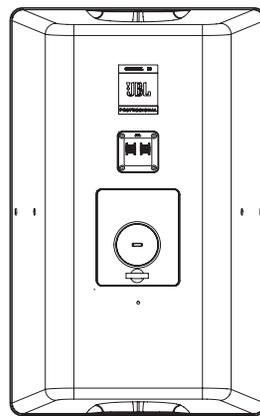
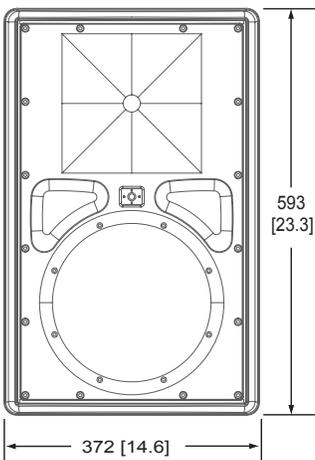
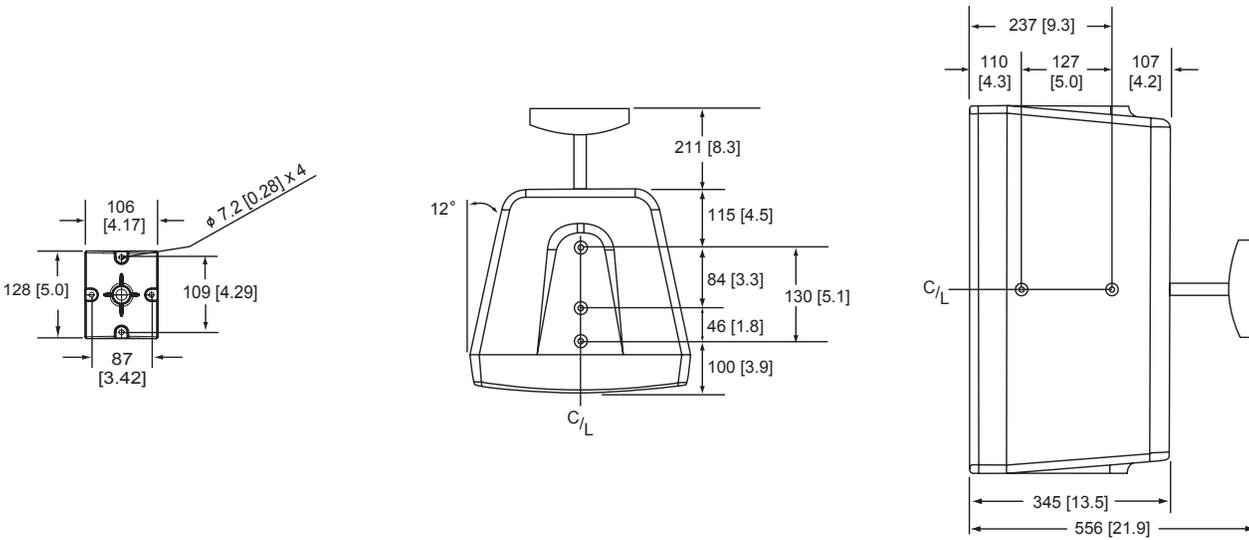
On-axis in half-space (2π , dotted line) and full-space (4π , solid line) at thru (8Ω) setting, Input Impedance



Beamwidth



Dimensions:



Dimensions in mm [inches]



JBL Professional
8500 Balboa Boulevard, P.O. Box 2200
Northridge, California 91329 U.S.A.

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