



## FEATURES

- Ultra-compact two-way system
- 5.25-in LF/1-in tweeter
- Magnetically shielded for use with video monitors
- High-output, high-definition sound from an ultra-compact enclosure

## DESCRIPTION

Despite its compact size, the UB12Si will faithfully deliver high-output, high-definition sound for a wide variety of professional applications. All system elements, including drivers, crossover/filter components, and the enclosures themselves are designed to meet EAW's rigorous standards for reliability and durability.

The system operates in fully passive mode with an internal passive crossover/filter network both dividing the signal and providing critical equalization functions.

Each UB12Si includes a robust 5.25-in woofer mounted in an optimally vented enclosure and a 1-in soft dome tweeter specifically designed to provide smooth, studio-quality high-frequency reproduction.

## APPLICATION

As a stand alone system, the UB12Si delivers full range output at surprisingly high levels with flat response for a wide range of professional audio applications including multimedia production and presentation, corporate audio/visual systems, retail spaces, project recording studio, and home theaters. It is also a popular choice as a secondary distributed reinforcement system providing additional coverage in virtually any large scale installation such as theaters, performing arts centers, houses of worship and even arenas and stadiums. The ultra-compact enclosures can be unobtrusively mounted almost anywhere. The system includes 1/4-in threaded mounting points, two sets of which are configured to accept an Omnimount Series 20.5. They are also magnetically shielded for use in immediate proximity to video monitors making them an excellent choice for any multimedia application.

## 2-WAY FULL-RANGE ULTRA-COMPACT LOUDSPEAKER

See *NOTES TABULAR DATA* for details

### PERFORMANCE

**Frequency Response (1 W @ 1m):**

±3 dB	98 Hz to 20 kHz
-10 dB	60 Hz

**Axial Sensitivity (dB SPL, 1 W @ 1m):**

89

**Impedance (Ohms):**

8

**Power Handling, AES Standard (Watts):**

140\*

**Calculated Maximum Output (dB SPL @ 1m):**

Peak 116.5\*

Long Term 110.5\*

**Nominal Coverage Angles, -6 dp Points (degrees):**

Conical 120

**Recommended High-Pass Frequency:**

24 dB/Octave 60 Hz

### PHYSICAL

Configuration	2-way, full-range
Powering	Passive LF/HF crossover
LF Subsystem	5.25-in cone, vented
HF Subsystem	1-in soft dome tweeter
Coverage Angles	120° (conical)
Cabinet Type (shape)	Rectangular
Enclosure Materials	MDF
Finish	Black polyurethane
Connectors	2-contact terminal strip, Neutrik NL4 Speakon
Suspension Hardware	(6) 1/4" -20 threaded mounting points (1 each top and bottom, 2 on each side to accept Omnimount 20.5)
Grille	Powder-coated perforated steel, foam backed

### Companion Systems:

Sub	SB48zP
Accessories	U-Bracket (606001)

### Dimensions:

	Inches	Millimeter
Height	10.75	273
Width	6.38	162
Depth	6.00	152

### Weights:

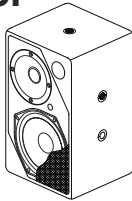
	Pounds	Kilograms
Net Weight (each)	9.2	4.2
Shipping Weight (each)	12	5.4

## Applications

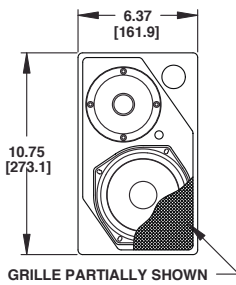
- *MultiMedia*
- *Boardrooms*
- *Theaters*
- *Ballroom Events*
- *Restaurants*
- *Small Retail*

## DIMENSIONAL DRAWING

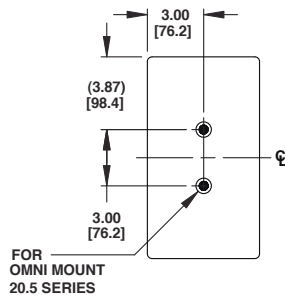
### UB12Si



- NOTES:**
1. SYMBOL INDICATES MOUNTING POINT, 1/4-20 THREADED HOLE.
  2. SYMBOL INDICATES CENTER OF BALANCE.
  3. WEIGHT APPROX. 9.20 lb [4.2 kg].
  4. SHIPPING WEIGHT APPROX. 12.00 lb [5.4 kg].

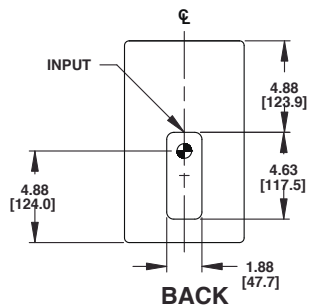


**FRONT**

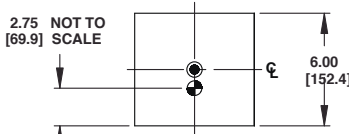


**RIGHT SIDE**

DIMENSIONS APPLY TO BOTH SIDES



**BACK**



**TOP/BOTTOM**

## A & E SPECIFICATIONS

The two-way full-range loudspeaker system shall incorporate a 5.25-in LF transducers and a 1-in soft dome tweeter HF transducer.

The LF driver shall be mounted in a vented enclosure tuned for optimum low frequency response. The drivers shall be magnetically shielded for use in immediate proximity to video monitors. An internal passive filter network shall provide fourth order acoustical crossover and system equalization.

System frequency response shall vary no more than  $\pm 3$  dB from 98 Hz to 20 kHz measured on axis. Operated with a high pass filter set a 90 Hz (24 dB/octave) the loudspeaker shall produce a Sound Pressure Level (SPL) of 89 dB SPL on axis at 1 meter with a power input of 1 Watt, and shall be capable of producing a peak output of 116.5 SPL on axis at 1 meter. The loudspeaker shall handle 140 Watts of amplifier power (AES Standard) and shall have a nominal impedance of 8 Ohms.

The loudspeaker enclosure shall be rectangular in shape. It shall be constructed of 3/4 thickness medium density fiberboard (MDF). It shall be finished in wear resistant textured black paint. Input connectors shall be 2-contact terminal strip and Neutrik NL4 Speakon. A total of six 1/4"-20 Threaded Mounting Points (1 each top and bottom, 2 on each side configured to accept an Omnimount Series 20.5) shall be provided. The front of the loudspeaker shall be covered with a powder coated perforated steel grille backed with open cell foam to protect against dust. The two-way full range loudspeaker shall be the EAW model UB12Si.

\* Data indicate system performance in use with a 24 dB/oct. high-pass filter set at 90 Hz as is typical in most professional usage. Operation with the specified 60 Hz highpass frequency will yield 100 Watts power handling and a calculated peak output of 115.0 dB SPL @ 1m.

## NOTES

### TABULAR DATA

1. **Measurement/Data Processing Systems:** Primary - FChart: proprietary EAW software; Secondary - Brüel & Kjær 2012.
2. **Microphone Systems:** Earthworks M30; Brüel & Kjær 4133
3. **Measurements:** Dual channel FFT; length: 32 768 samples; sample rate: 48 kHz; logarithmic sine wave sweep.
4. **Measurement System Qualification** (includes all uncertainties): SPL: accuracy  $\pm 0.2$  dB @ 1 kHz, precision  $\pm 0.5$  dB 20 Hz to 20 kHz, resolution 0.05 dB; Frequency: accuracy  $\pm 1\%$ , precision  $\pm 0.1$  Hz, resolution the larger of 1.5 Hz or 1/48 octave; Time: accuracy  $\pm 10.4$   $\mu$ s, precision  $\pm 0.5$   $\mu$ s, resolution 10.4  $\mu$ s; Angular: accuracy  $\pm 1^\circ$ , precision  $\pm 0.5^\circ$ , resolution 0.5 $^\circ$ .
5. **Environment:** Measurements time-windowed and processed to eliminate room effects, approximating an anechoic environment. Data processed as anechoic or fractional space, as noted.
6. **Measurement Distance:** 7.46 m. Acoustic responses represent complex summation of the subsystems at 20 m. SPL is referenced to other distances using the Inverse Square Law.
7. **Enclosure Orientation:** For beamwidth and polar specifications, as shown in Mechanical Specification drawing.
8. **Volts:** Measured rms value of the test signal.
9. **Watts:** Per audio industry practice, "loudspeaker watts" are calculated as voltage squared divided by rated nominal impedance. Thus, these are not True Watt units of energy as defined by International Standard.
10. **SPL:** (Sound Pressure Level) Equivalent to the average level of a signal referenced to 0 dB SPL = 20 microPascals.
11. **Subsystem:** This lists the transducer(s) and their acoustic loading for each passband. Sub = Subwoofer, LF = Low Frequency, MF = Mid Frequency, HF = High Frequency.
12. **Operating Mode:** User selectable configurations. Between system elements, a comma (,) = separate amplifier channels; a slash (/) = single amplifier channel. DSP = Digital Signal Processor. **IMPORTANT:** To achieve the specified performance, the listed external signal processing must be used with EAW-provided settings.
13. **Operating Range:** Range where the processed Frequency Response stays within -10 dB SPL of the power averaged SPL within this range; measured on the geometric axis. Narrow band dips are excepted.
14. **Nominal Beamwidth:** Design angle for the -6 dB SPL points, referenced to 0 dB SPL as the highest level.
15. **Axial Sensitivity:** Power averaged SPL over the Operating Range with an input voltage that would produce 1 W at the nominal impedance; measured with no external processing on the geometric axis, referenced to 1 m.
16. **Nominal Impedance:** Selected 4, 8, or 16 ohm resistance such that the minimum impedance point is no more than 20% below this resistance over the Operating Range.
17. **Accelerated Life Test:** Maximum test input voltage applied with an EIA-426B defined spectrum; measured with recommended signal processing and Recommended Protection Filter.
18. **Calculated Axial Output Limit:** Highest average and peak SPLs possible during the Accelerated Life Test. The Peak SPL represents the 2:1 (6 dB) crest factor of the Life Test signal.
19. **High Pass Filter:** This helps protect the loudspeaker from excessive input signal levels at frequencies below the Operating Range.

### GRAPHIC DATA

1. **Resolution:** To remove insignificant fine details, 1/12 octave cepstral smoothing was applied to acoustic frequency responses and 1/3 octave cepstral smoothing was applied to the beamwidth and impedance data. Other graphs are plotted using raw data.
2. **Frequency Responses:** Variation in acoustic output level with frequency for a constant input signal. Processed: normalized to 0 dB SPL. Unprocessed inputs: 2 V (4 ohm nominal impedance), 2.83 V (8 ohm nominal impedance), or 4 V (16 ohm nominal impedance) referenced to a distance of 1 m.
3. **Processor Response:** The variation in output level with frequency for a constant input signal of 0.775 V = 0 dB reference.
4. **Beamwidth:** Average angle for each 1/3 octave frequency band where, starting from the rear of the loudspeaker, the output first reaches -6 dB SPL referenced to 0 dB SPL as the highest level. This method means the output may drop below -6 dB SPL within the beamwidth angle.
5. **Impedance:** Variation in impedance magnitude, in ohms, with frequency without regard to voltage/current phase. This means the impedance values may not be used to calculate True Watts (see 9 above).
6. **Polar Data:** Horizontal and vertical polar responses for each 1/3 octave frequency band 100 Hz to 16 kHz or Operating Range.