

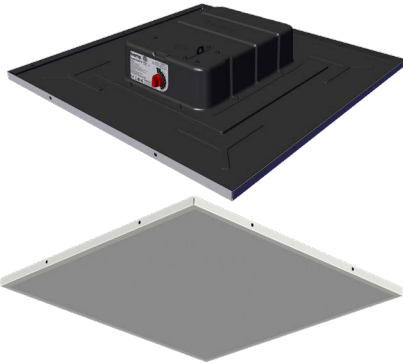
# DATA SHEET

## Commercial Ceiling Loudspeakers



# DC220T-M

## FULL-RANGE 6.5-INCH 600 mm X 600 mm CEILING TILE LOUDSPEAKER



### FEATURES

- High sensitivity, wide coverage
- Designed for use with any Vocia paging system
- Low impedance or 70 V / 100 V operation
- Easy installation - drop in the grid and connect cabling - done!
- Low-profile, less than 107 mm (4.2") total depth
- Conduit knock-outs on the input cover meet plenum air space handling requirements

### TECHNICAL SPECIFICATIONS<sup>1</sup>

Operating Mode	Passive with selectable low-impedance or 70 V/100 V operation		
Operating Environment	Indoor		
Operating Range (-10 dB) <sup>2</sup>	100 Hz to 18.5 kHz		
Nominal Beamwidth (H x V)	130°, (conical)		
Transducer	Full Range 1 x 6.5" (165 mm) paper diaphragm driver		
Sensitivity <sup>3</sup>	@ 1 m	93 dB (2.83 V)	93 dB (1 W, 8 Ω)
Nominal Continuous Power Handling <sup>4</sup>	Passive	9 V (10 W @ 8 Ω)	
Nominal Maximum SPL <sup>5</sup> (Processed)	@ 1 m	Continuous 102 dB	Peak 108 dB
Rated Continuous Voltage <sup>6</sup>	9 V (19 dBV)		
Rated Maximum SPL <sup>7</sup> (Processed)	@ 1 m	Continuous 102 dB	Peak 114 dB
Transformer	70 V: 10 W, 5 W, 2.5 W, 1.25 W, 0.625 W; 100 V: 10 W, 5 W, 2.5 W, 1.25 W		
Required Accessories	100 Hz, 12 dB / oct. Butterworth high pass filter; DSP presets for Tesira or ALCs		
Recommended Amplifiers	10 W - 20 W, 8 Ω (9 V - 13 V)		

### APPLICATIONS

#### DISTRIBUTED

Schools and Educational Campuses  
Hospitals · Shopping Malls · Sports Facilities  
Corporate Campuses · Exhibit Halls  
Entertainment Venues · Airports  
Transportation Spaces and Stations

### DESCRIPTION

The standard white, DC220T-M provides high quality paging and consistent coverage, when easy installation, price, and performance are paramount. The 6.5-inch DC220T-M full-range driver delivers high sensitivity and wider coverage than competitive products. It installs extremely quickly and provides uniform coverage with excellent sonic properties.

The preassembled construction allows quick placement in the ceiling grid significantly reducing labor time to install. Included cross-T rails allow the DC220T-M to be utilized in larger 600 mm x 1200 mm rectangular ceiling grids.

The all-in-one unit features a wattage selector switch on the rear enclosure for quick adjustment of 70V/100V tap levels. The included wire nuts facilitate 2-conductor "pigtail" connections under a cover that conforms with the City of Chicago plenum space wiring requirements. An optional safety cable accessory multipack makes securing the loudspeaker to the building structure safe and uncomplicated.

Typical applications include paging, and background music in many venues.

### PHYSICAL

Input Connection	2-conductor pigtail
Controls	Wattage / low impedance selector switch
Mounting Provisions	Cross-T for use with larger 600 mm x 1200 mm rectangular ceiling grids
Compliance	ETL listed to comply with UL1480, UL2043 and CSA62368-1 Suitable for use in air handling spaces per NFPA 70 and NFPA 90
Dimensions W x H x D	596 mm x 596 mm x 107 mm (23.48" x 23.48" x 4.22")
Weight (loudspeaker only)	7.1 kg (15.6 lbs)
Finish	Refer to the Technical Drawings (page 3)
Model	DC220T-M - ceiling tile loudspeaker with white grille

### OPTIONS

Accessories	SPA-SCC100 Safety cable 10-pack
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*Biamp strives to improve its products on a continual basis. Specifications are therefore subject to change without notice.*

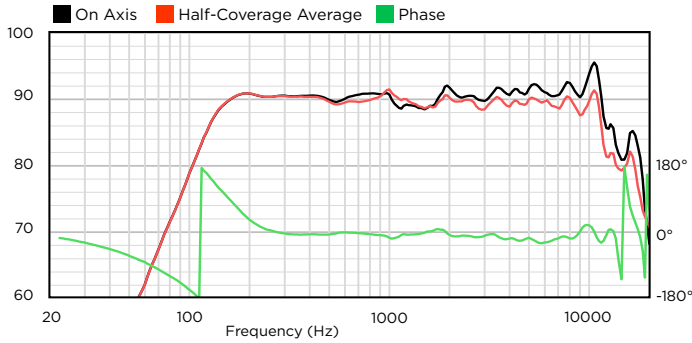


# Commercial Ceiling Loudspeakers

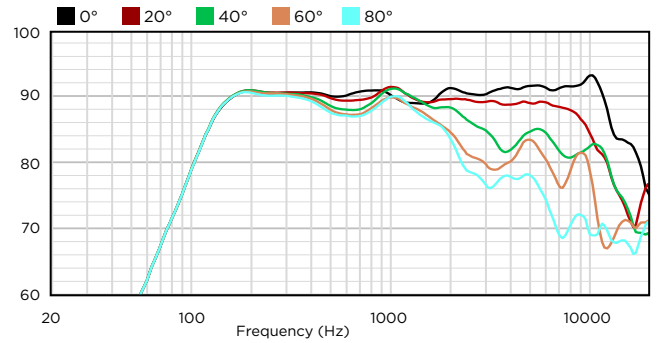
## DC220T-M

FULL-RANGE 6.5-INCH  
600 mm X 600 mm CEILING TILE LOUDSPEAKER

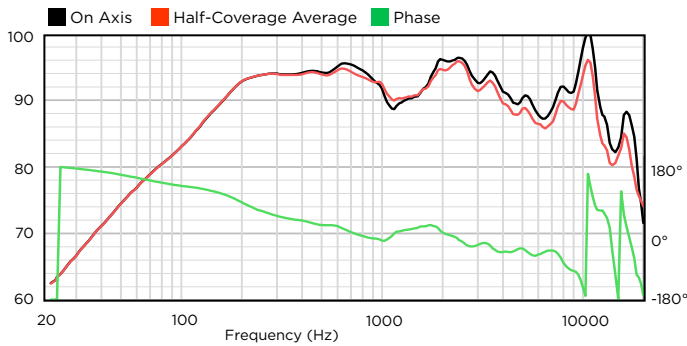
### AXIAL PROCESSED SENSITIVITY (dB SPL)<sup>8</sup>



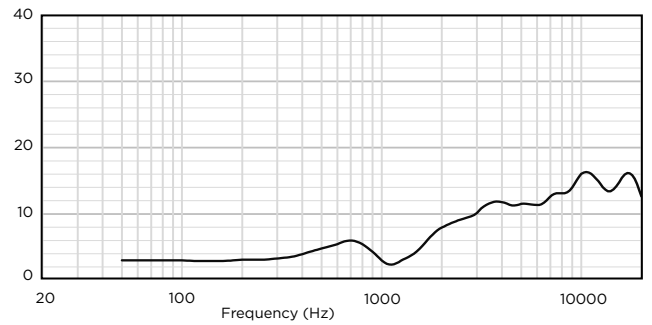
### OFF-AXIS RESPONSE (dB SPL)<sup>9</sup>



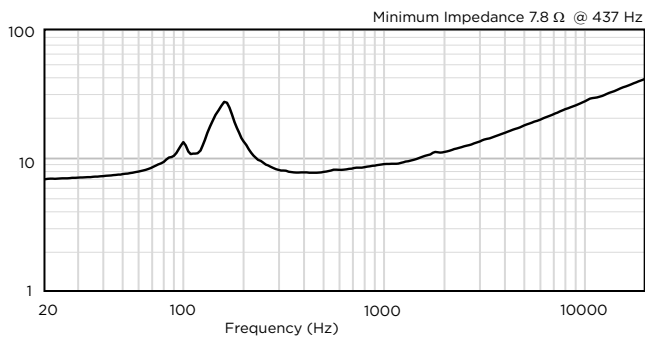
### AXIAL SENSITIVITY (dB SPL)<sup>8</sup>



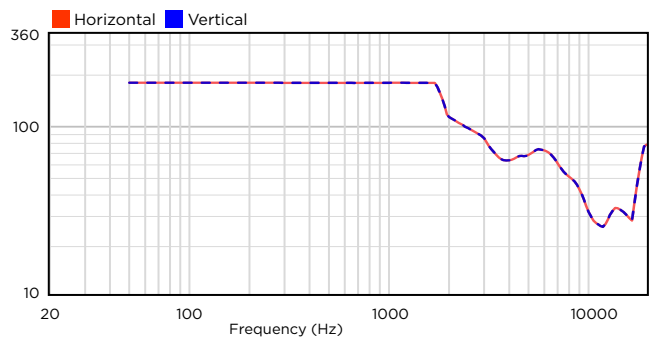
### DIRECTIVITY INDEX (dB)<sup>10</sup>



### IMPEDANCE (Ω)



### BEAMWIDTH (degrees)<sup>11</sup>



# Commercial Ceiling Loudspeakers

## DC220T-M

FULL-RANGE 6.5-INCH  
600 mm X 600 mm CEILING TILE LOUDSPEAKER

### TECHNICAL DRAWING / DIMENSIONS / FINISH

#### W x H x D

596 mm x 596 mm x 107 mm  
(23.48" x 23.48" x 4.22")

#### Unit Weight

7.1 kg (15.6 lbs)

#### Shipping Weight (shipped in pairs)

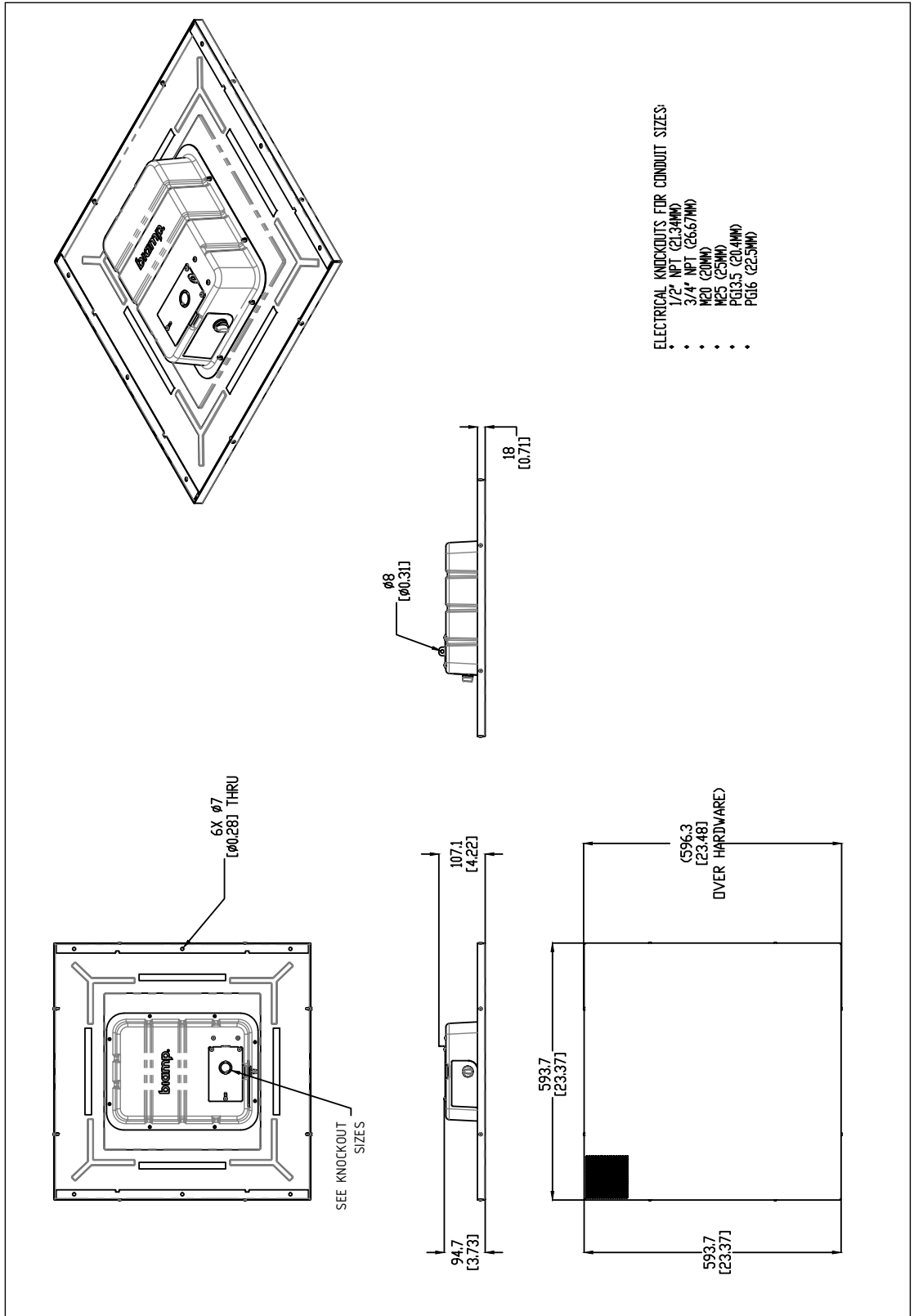
16.4 kg (36.1 lbs)

#### Grille:

Powder-coated perforated steel. White finish (RAL 9016).

#### Enclosure / Finish

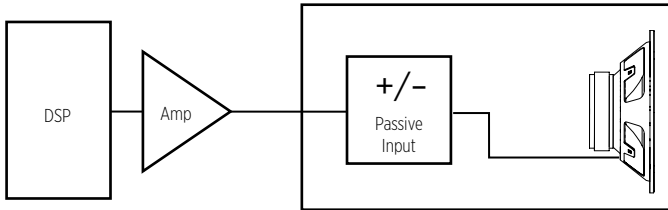
Back Can and Face: Black, Matte finish Steel (RAL9017)



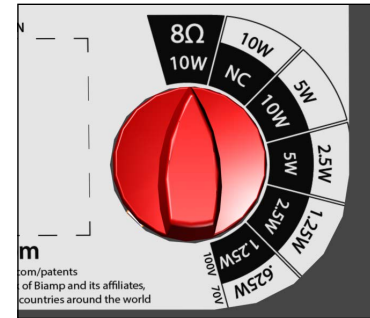
# Commercial Ceiling Loudspeakers

## DC220T-M FULL-RANGE 6.5-INCH 600 mm X 600 mm CEILING TILE LOUDSPEAKER

### CONNECTION DIAGRAMS



Single amp



Tap Switch

### NOTES

- PERFORMANCE SPECIFICATIONS** All measurements are performed using a time-windowed impulse response to eliminate reflections, approximating an anechoic environment, at a distance of at least 6.0 m. All acoustic specifications are rounded to the nearest whole number. An external DSP using settings provided by Biamp is required to achieve the specified performance; further performance gains can be realized using the FIR loudspeaker optimization presets available in Biamp's Community Amplified Loudspeaker Controllers (ALC SERIES).
  - OPERATING RANGE** The frequency range over which the on-axis equalized/processed response remains within 10 dB of the rated sensitivity, in accordance with IEC 60268-5.
  - SENSITIVITY** The broadband SPL of the loudspeaker when pink noise is applied (band limited to the loudspeaker's Operating Range) at an input voltage of 2.83 V, in accordance with IEC 60268-5. Also listed for a voltage that would produce 1 watt into the nominal impedance. Measured in whole space with no external processing applied, except where indicated.
  - NOMINAL CONTINUOUS POWER HANDLING** The maximum continuous nominal input voltage at the rated impedance that the system can withstand, without damage, for a period of 2 hours using an IEC 60268-1 defined spectrum with recommended signal processing and protection filters.
  - NOMINAL MAXIMUM SPL** The SPL produced when an IEC 60268-1 signal is applied, at the nominal input voltage, to the equalized/processed loudspeaker system. Referenced to a distance of 1 meter. The peak SPL represents the 2:1 (6 dB) crest factor of the IEC 60268-1 test signal.
  - RATED CONTINUOUS VOLTAGE** The maximum continuous rated input voltage for the system that results in no more than a 3 dB change in the system's response during operation using an IEC 60268-1 defined spectrum with recommended signal processing and protection filters.
  - RATED MAXIMUM SPL** The SPL produced when a typical program material signal is applied to the equalized/processed loudspeaker system, at a level which drives at least one subsection to its rated continuous voltage limit. Referenced to a distance of 1 meter. The peak SPL represents the 4:1 (12 dB) crest factor of the program signal.
  - AXIAL (PROCESSED) SENSITIVITY** The variation in acoustic output level with frequency for a swept-sine measurement signal. The Processed measurement uses the recommended signal processing for the loudspeaker system. The other sensitivity measurements use no additional external processing. All data are referenced to 1 meter. The on-axis magnitude and phase responses, as well as the average magnitude response, calculated over one-half of the nominal coverage angles, are shown. The responses have 1/6 octave smoothing applied.
  - HORIZONTAL / VERTICAL OFF-AXIS RESPONSES** The loudspeaker's magnitude response at various off-axis angles using the recommended signal processing in the operating mode which utilizes the largest number of individually amplified pass bands. The responses have 1/3 octave smoothing applied.
  - DIRECTIVITY INDEX** The ratio of the on-axis SPL to the mean SPL at the same distance for all points within the measurement sphere for each given frequency; expressed in dB. The response has 1/3 octave smoothing applied.
  - BEAMWIDTH** The included angle between the -6 dB points in the polar response of the loudspeaker when driven in the operating mode which utilizes the largest number of individually amplified pass bands. The responses have 1/3 octave smoothing applied.
- Data presented on this data sheet represents a selection of the basic performance specifications for the model. These specifications are intended to allow the user to perform a fair, straightforward evaluation and comparison with other loudspeaker spec sheets. For a detailed analysis of this loudspeaker's performance, please download the GLL file and/or the CLF file from our website: [www.biamp.com](http://www.biamp.com).

**CAUTION:** Installation of loudspeakers should only be performed by trained and qualified personnel. It is strongly recommended that a licensed and certified professional structural engineer approve the mounting design.