FreeSpace® Model 8 Loudspeaker

General Description

The Bose® FreeSpace® Model 8 loudspeaker is an 8 Watt loudspeaker designed for flush-mount ceiling installations in commercial spaces with ceiling heights up to 16'. It offers the following features:

- New 2.5" full-range driver with active equalization, providing reliable high quality sound in a compact enclosure
- New multi-tap line transformer that provides easy-to-change tap settings for 1W, 2W, 4W, and 8W
- New mounting hardware that permits fast and easy installation in any kind of ceiling
- Complies with U.L. 2043 for use in air handling spaces
- Simple contemporary design will blend with any decor and can be painted to match any interior

Installation

All hardware required to mount the FreeSpace Model 8 loudspeaker is included with the loudspeaker.

The “Quick Install” mounting hardware consists of two 5.5" x 11" (13.9 cm x 27.9 cm) formed sheet metal plates which are assembled on two formed metal channels 23.75" (60.3 cm) long. The channels transfer the weight of the pan and loudspeaker out to the tile support grid. The pan halves, when placed for loudspeaker installation on the channels, will form a central clearance hole equal to the recommended mounting hole for the loudspeaker.

The mounting technique requires the use of a metal ceiling pan which can be used in all forms of drop tile ceiling construction up to 2" (5 cm) thick, and

Technical Specifications

Frequency Range
80Hz to 16kHz (with active equalization)

Model 8 Versions
Active Equalization
- 70V, 8 Watt
- 100V, 8 Watt
- A 70V F/S is listed for use as a fire protective signaling loudspeaker

Sensitivity[1]
82dB-SPL, 1W, 1m (speech)

81dB-SPL, 1W, 1m (music)

Maximum Acoustic Output[2]
91dB-SPL average (speech)

90dB-SPL average (music)

Beamwidth (-6dB point)
150° conical (average, 1-4kHz)

Long-Term Power Handling[3]
8W continuous

Dimensions
Flange Diameter: 6.27" (15.9 cm)

Hole Diameter: 5.75" (14.6 cm)

Depth: 6.5" (16.5 cm)

Weight
2.1 lb (0.97 kg) loudspeaker only

4.2 lb (1.9 kg) including mounting hardware

Mounting Hardware
Ceiling pan: 11" (W) x 10.5" (D)
(28 cm x 27 cm)

Pan rail: 1.15" (W) x 23.75" (D)
(2.93 cm x 60.3 cm)

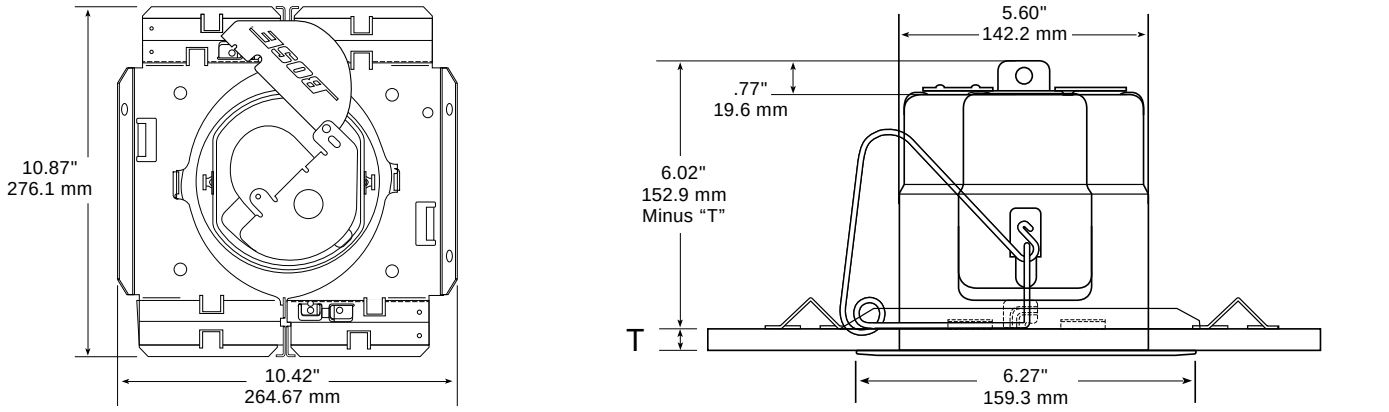
(hardware included with each loudspeaker)

[1]Full bandwidth pink noise is applied to the FreeSpace system controller and amplified to a level at the speaker terminals corresponding to 1 Watt as referenced to the nominal impedance. The average sound pressure level (dB-SPL) is measured at 1 meter from the speaker in an anechoic environment.

[2]Full bandwidth pink noise is applied to the FreeSpace system controller and amplified to a level at the speaker terminals corresponding to the long-term rated power handling of the speaker. The average sound pressure level (dB-SPL) is measured at 1 meter from the speaker in an anechoic environment.

[3]Full bandwidth noise, meeting the International Electrotechnical Commission Standard #268-5 is applied to the FreeSpace system controller and amplified to a level at the speaker terminals corresponding to the power handling of the speaker. The speaker must show no visible damage or measurable loss of performance after 100 hours of continuous testing.

FreeSpace®
BUSINESS MUSIC SYSTEMS



Model 8 speaker dimensions

can be installed behind existing ceilings through the installation hole. Each pan half provides for the attachment of a spring retention mechanism which actually lifts the loudspeaker into place and holds it firmly against the ceiling surface. A deliberate and separate action is required to remove the unit from the bracket after withdrawing it from the ceiling.

Assuming the mounting hole has been cut in a suspended ceiling panel, and a stripped signal wire is present, installation can be completed in less than three minutes with the use of one screwdriver. Pliers and additional time may be required for installation of North American-style strain relief bushings, connection to flexible conduit, and for installation of the pan in ceilings of plaster or of hidden spline tile construction.

Loudspeaker Configuration

All are U.L. listed and the second 70 Volt variant is also U.L. listed for use as a fire protective signaling loudspeaker.

Both the 70 Volt versions, as well as the 100 Volt version, can be part of a distributed sound system when used in conjunction with the FreeSpace® BMA-125 business music amplifier or when used with the FreeSpace system controller and a comparable amplifier.

The Model 8 will be individually packaged as well as packaged in sets of 6 to allow for greater system configuration flexibility.

Engineers' and Architects' Specifications

The loudspeaker shall be an 8 Watt ported loudspeaker system utilizing one 2.5" full-range driver for installation in a manner where the grille surface is nominally flush with the ceiling surface and the enclosed volume protrudes within the ceiling space.

The 70V and 100V versions shall be designed for use with a proprietary active equalization device. Versions intended for use with line amplifiers shall also contain multiple tap impedance matching transformers.

The design shall minimize the use of organic materials in the product and the mounting mechanism such that the product shall meet the requirements of U.L. 2043. All exposed cosmetic surfaces shall be paintable and the acoustically transparent grille component shall be formed of expanded metal mesh. A dust and paint shield shall be supplied with every unit to protect the transducer prior to grille installation.

The loudspeaker's maximum acoustic output shall be 91dB-SPL from 80Hz to 16kHz, with measurements referenced to a full-bandwidth pink noise input at 1 meter at the loudspeaker's rated power. The input connection shall consist of a barrier strip screw-type terminal. Its power handling capability shall be 1, 2, 4, or 8 Watts continuous power when referenced to IEC noise for 100 hours. The nominal coverage angle shall be 150° conical.

The loudspeaker shall be the Bose® FreeSpace Model 8 flush-mount.

U.L. Certification

All versions of the Model 8 loudspeaker comply with U.L. requirements for the following uses:

- Vandal resistant (with grille in place)
- Suitable for general purpose use (U.L. category UEAY); the U.L. Control Number is 3N89, the U.L. File Number is S5591
- All models comply with the requirements of NFPA 70, *National Electric Code,* 1993, Article 300-22 (C), and U.L. 2043 for use in air handling spaces, and NFPA 90A-1993, *Installation of Air Conditioning and Ventilation Systems,* Section 2-3.10.1(a), Exception 2. A variant of the 70 Volt version that complies with U.L. 1480 for use as a Fire Protective Signaling Speaker under U.L. category UUMW is only available by special order. The U.L. Control Number is 42S9, the U.L. File Number is S3421

Warranty Information

All versions of the Bose FreeSpace Model 8 loudspeaker are covered by a 5-year, transferable limited warranty.

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Bose products are distributed worldwide.

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