
CEILING MOUNT SPEAKER SYSTEM COMPONENTS



F-101 C/F-101 CM High Ceiling Speaker

F-121 C/F-121 CM Uniform Directivity Ceiling Speaker

AC-120 Dedicated Equalizer

DESCRIPTION

Two new speaker systems from TOA provide extensive sound coverage for a variety of sound applications.

The F-101C/F-101 CM High Ceiling Speaker is designed to provide full-range sound in areas with high ceilings at a low cost.

The F-121 C/F-121 CM Uniform Directivity Ceiling Speaker System is designed to provide a much wider dispersion angle than standard ceiling speakers. Conventional 4" or 8" ceiling mounted speakers have a severe sound quality and intelligibility drop off outside the area directly underneath the speaker. The F-121 C/F-121 CM Uniform Directivity Ceiling Speaker is equipped with a specially designed sound diffuser, housed in a mesh cone, and uses the AC-120 Dedicated Equalizer that ensures optimal frequency response. The F-121CM is transformer equipped with multiple line taps for loudness selection. This speaker provides higher sound quality for low ceiling mounted speaker installations in public spaces, restaurants, offices, or shopping malls while requiring fewer units.

FEATURES

F-101 C/CM High Ceiling Speaker

- ◆ 80Hz to 18,000 Hz (-10dB) frequency response for smooth sound.
- ◆ Powerful 40 watts power handling capacity.
- ◆ Built-in circuitry automatically activates to alleviate low/mid frequency excessive input damage.
- ◆ Self aligning support flange for easy, screw-in installation.
- ◆ 100/70V line matching transformer for high impedance applications.
- ◆ Tuned, ported, bass-reflex type enclosure.
- ◆ Convenient 24" safety cable with spring clip.

F-121 C/F-121 CM Uniform Directivity Ceiling Speaker

- ◆ Can be used with AC-120 Dedicated Equalizer.
- ◆ Housed speaker diffuser designed to expand high frequency dispersion.
- ◆ Self aligning support flange for easy, screw-in installation.
- ◆ Non-conducting grille to prevent dust or discolorization from static electricity buildup.
- ◆ Built-in circuitry automatically activates to alleviate low/mid frequency excessive input damage.
- ◆ 100/70V line matching transformer for high impedance applications.
- ◆ Tuned, ported, bass-reflex type enclosure.
- ◆ Convenient 24" safety cable with spring clip.

AC-120 Dedicated Equalizer

- ◆ Built-in equalization filtering provides even sound quality balance and wide-area intelligibility for F-121 C/F-121 CM.
- ◆ Low cut switch removes low frequencies during announcements.
- ◆ Built-in 100Hz, 12dB/octave crossover for use when F-121/F-121 CM is used with a FB-10 subwoofer.

F-101C/F-101CM High Ceiling Speaker

SPECIFICATIONS

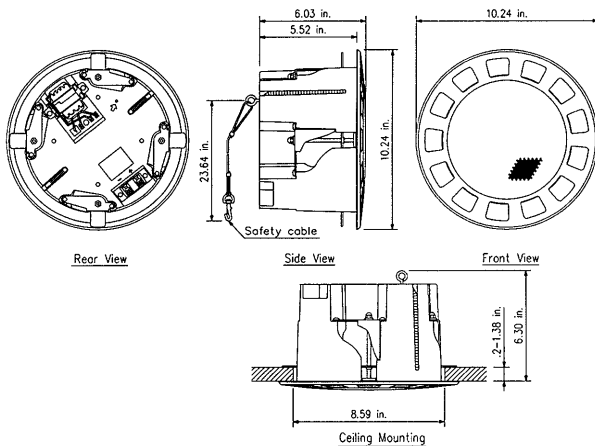
Model Number F-101C

Enclosure	Bass-reflex type
Speaker	Full-range, 4.7" cone speaker
Nominal Impedance	8 ohms
Sensitivity	90dB (1W/1m)
Frequency Response	80-18,000Hz (-10dB)
Power Handling	Continuous Pink Noise: 40W
Capacity	Continuous Program: 120W
Finish	Enclosure: Black Front Grille: Off-white
Weight	5.5 lbs.
Dimensions	Front Grille: 10.24" in diameter Ceiling Hole: 8.58" in diameter Ceiling Space: Over 6.3" max in height Mountable ceiling tile thickness: .2"-1.4"

Model Number F-101 CM

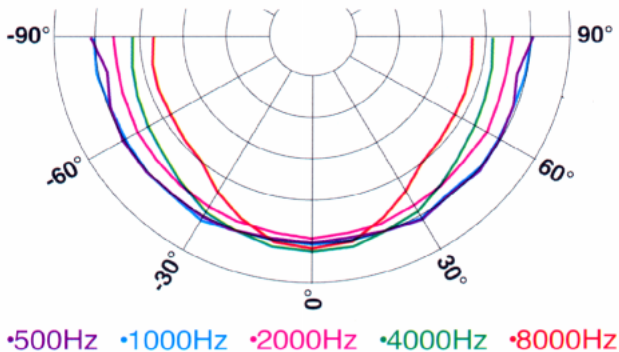
Enclosure	Bass-reflex type
Speaker	Full-range, 4.7" cone speaker
Rated Input (Impedance)	100V taps at line: 20W (500Ω), 10W (1kΩ) 5W (2kΩ), 3W (3.3kΩ), 1W (10Ω) 70V: 20W (250Ω), 10W (500Ω), 5W (1kΩ), 3W (1.7kΩ), 1W (5kΩ)
Sensitivity	90dB (1W/1m)
Frequency Response	80-18000Hz (-10dB)
Finish	Enclosure: Black Front Grille: Off-white
Weight	6.2 lbs.
Dimensions	Front Grille: 10.24" in diameter Ceiling Hole: 8.58" in diameter Ceiling Space: Over 6.3" max in height Mountable ceiling tile thickness: .2"-1.4"

APPEARANCE AND DIMENSIONAL DIAGRAM



*F-101C and F-121C transformer not included

F-101C/F-101 CM POLAR RESPONSE



OVERLOAD PROTECTION

To prevent damage from excessive low frequencies, the F101C has a built-in overload protection circuit. During operation, if the overload circuit senses excessive low frequency, it will attenuate the low frequency output of the speaker. Once activated, the protection circuit will reset in approximately 10 seconds after turning the system volume down to prevent reoccurrence.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The speaker shall be the compactly designed TOA bass-reflex full-range ceiling mount speaker, the F101C at 8 ohms low impedance/F-101 CM with 70V/100V high impedance line transformer. The speaker shall provide smooth frequency response and high power handling capacity.

The F-101C/F-101 CM shall have a ceiling mount assembly incorporating a 4.7" full-range speaker. Sensitivity shall be 90dB (1W, 1m) with a frequency response of 80Hz to 18,000Hz (-10dB).

Power handling capacity for the F-101C 8Ω impedance unit shall be 40W continuous pink noise or 120W continuous program.

The F-101 C/F-101 CM shall have 5 transformer taps. The taps shall be 20W, 10W, 5W, 3W and 1W. The F-101C also shall have a built-in protective circuit that prevents low-mid frequency overload by reducing only the low-mid frequency signals.

The enclosure shall be a tuned, ported, bass-reflex type molded from a flame-resistant polymer. It shall incorporate four spring swing arms and two spring-loaded clips to facilitate easy installation of both the enclosure and front grille, respectively. It shall include a 24" safety cable with spring clip for easy anchoring to support structure. It shall also accommodate separately supplied T-bars and is sized to fit inside an appropriate metal back can, if desired.

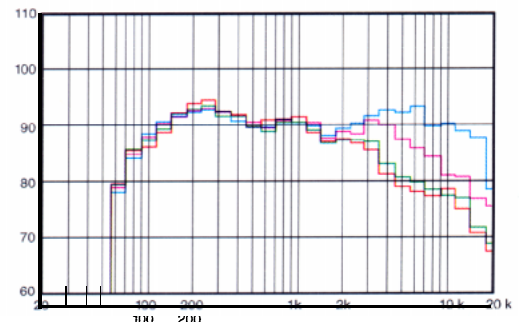
The finish shall consist of an off-white front grille. Front grille dimensions shall be 10.24" outer diameter. The ceiling hole shall be 8.58" in diameter.

Required ceiling space shall be at least 6.30" in height, and ceiling tile thickness shall range from .02"-1.4".

The assembly's weight shall not be more than 5.5 lbs. for the F-101C and 6.2 lbs. for the F-101CM with a transformer.

F-101 C/F-101 CM FREQUENCY RESPONSE

0/Degrees
30/Degrees
60/Degrees
90/Degrees



F-121C/F-121CM

Uniform Directivity Ceiling Speaker

SPECIFICATIONS

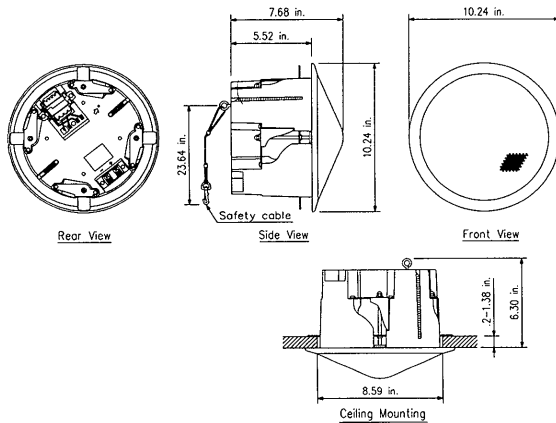
Model Number F-121C

Enclosure	Bass-reflex type
Speaker	Full-range, 4.7" cone speaker
Nominal Impedance	8Ω
Sensitivity	90dB (1W/1m)
Frequency Response	80-18,000Hz (-10dB) (70-18,000 Hz w/AC-120)
Power Handling	Continuous Pink Noise Input: 40W
Capacity	Continuous Program: 120W
Finish	Enclosure: Black Front Grille: Off-white
Weight	5.6 lbs.
Dimensions	Front Grille: 10.24" in diameter Ceiling Hole: 8.58" in diameter Ceiling Space: Over 6.3" max in height Mountable ceiling tile thickness: .2"-1.4"

Model Number F-121 CM

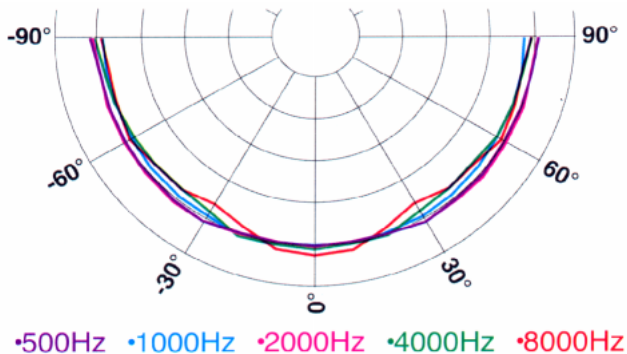
Enclosure	Bass-reflex type
Speaker	Full-range, 4.7" cone speaker
Rated Input (Impedance)	100V taps at line: 20W (500Ω), 10W (1kΩ) 5W (2kΩ), 3W (3.3kΩ), 1W (10Ω) 70V: 20W (250Ω), 10W (500Ω), 5W (1kΩ), 3W (1.7kΩ), 1W (5kΩ)
Sensitivity	90dB (1W/1m)
Frequency Response	80-18000Hz (-10dB) (70-18,000 Hz w/AC-120)
Finish	Enclosure: Black Front Grille: Off-white
Weight	6.2 lbs.
Dimensions	Front Grille: 10.24" in diameter Ceiling Hole: 8.58" in diameter Ceiling Space: Over 6.3" max in height Mountable ceiling tile thickness: .2"-1.4"

APPEARANCE AND DIMENSIONAL DIAGRAM



*F-101C and F-121C transformer not included

F-121C/F121 CM POLAR RESPONSE



OVERLOAD PROTECTION

To prevent damage from excessive low frequencies, the F121C has a built-in overload protection circuit. During operation, if the overload circuit senses excessive low frequency, it will attenuate the low frequency output of the speaker. Once activated, the protection circuit will reset in approximately 10 seconds after turning the system volume down to prevent reoccurrence.

ARCHITECT'S AND ENGINEER'S SPECIFICATIONS

The speaker shall be the compactly designed TOA bass-reflex, wide-dispersion, ceiling mount speaker, the F121C at 8 ohms low impedance/F-121 CM with 70V/100V high impedance line transformer. The speaker shall provide smooth frequency response, high power handling capacity, and, due to the unique diffuser incorporated into the grille, extremely wide high frequency dispersion.

The F-121 C/F-121 CM shall have a ceiling mount assembly incorporating a 4.7" full-range speaker. Sensitivity shall be 90dB (1W, 1m) with a frequency response of 80Hz to 18,000Hz (-10dB).

Power handling capacity for the F-121C/F-121CM 8Ω unit shall be 40W continuous pink noise or 120W continuous program.

The transformer taps on the F-121 C/F-121 CM shall be 20W, 10W, 5W, 3W and 1W. The F-121C also shall have a built-in protective circuit that prevents low-mid frequency overload by reducing only the low-mid frequency signals.

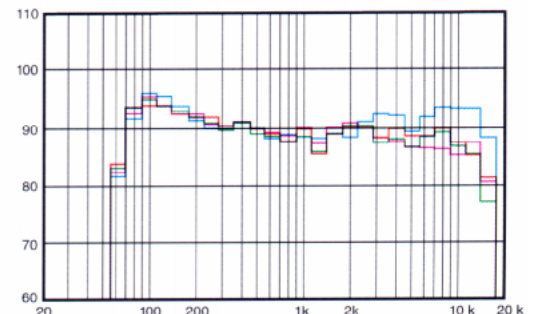
The enclosure shall be a tuned, ported, bass-reflex type molded from a flame-resistant polymer. It shall incorporate four spring-loaded clips to facilitate easy installation of both the enclosure and front grille, respectively. It shall include a 24" safety cable with spring clip for easy anchoring to support structure. It shall also be sized to accommodate mounting within a separately supplied standard metal back can if desired.

The 10.24" diameter ceiling grille/diffuser shall have a non-conducting off-white finish to prevent discoloration or dust build-up due to static.

The bass-reflex enclosure shall mount in ceiling tiles up to 1.4" and shall not extend above the tile more than 6.3". The assembly's weight shall not be more than 5.6 lbs for the F-121C or 6.2 lbs. for the F-121 CM with a transformer.

F-121C/F121CM FREQUENCY RESPONSE

- 0/Degrees
- 30/Degrees
- 60/Degrees
- 90/Degrees



F-121C/F121CM FREQUENCY RESPONSE

AC-120 Equalizer

SPECIFICATIONS

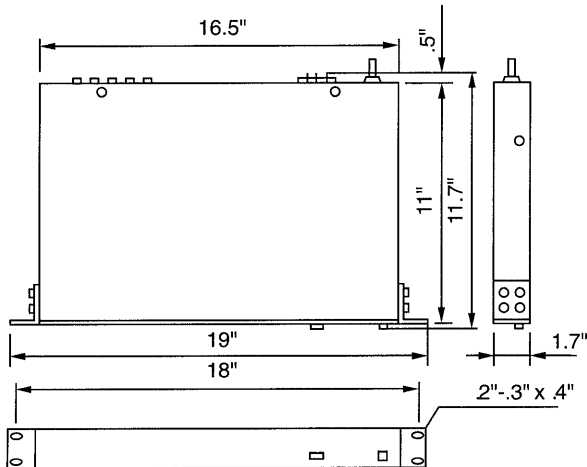
Model Number AC-120

Power Requirements	AC Mains, 50/60Hz
Power Consumption	9W
Distortion	Less than 0.05% (+4B*, 1kHz)
Hum & Noise	Less than -94dB* (20Hz-20kHz)
Channel Input	Nominal Input Level: +4dB*, 10KΩ, electronically balanced, 1/4" jack Max Output Level: +20dB*
Channel Output	Nominal Output Level: +4dB*, 600KΩ, electronically balanced, 1/4" jack Max Output Level: +20dB* Filter Cutoff Frequency: 100Hz, 12db/oct
Low Frequency Output	Nominal Output Level: +4dB*, 600KΩ, electronically balanced, 1/4" jack Max Output Level: +20dB* Filter Cutoff Frequency: 100Hz, 12dB/oct
Low cut	100Hz, 6dB cut (only with F-121C)
Finish	Panel: Aluminum in Black
Weight	8.2 lbs.
Dimensions	19"(W) x 1.37"(H) x 11.71"(D)

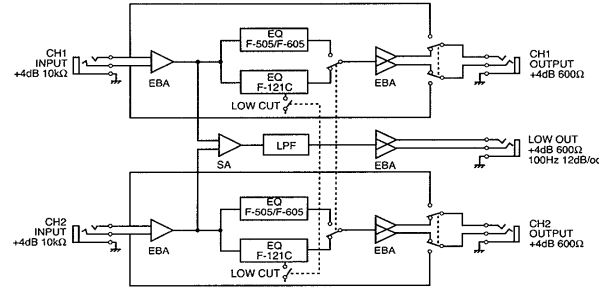
*odB=0.775V RMS

**Specifications are subject to change without notice

APPEARANCE AND DIMENSIONAL DIAGRAM



BLOCK DIAGRAM



Set the mode switch on the back panel of the AC-120 to the F-120C position.

