



**WIDE-DISPERSION**  
**FLUSH-MOUNT**  
**CEILING SPEAKER**

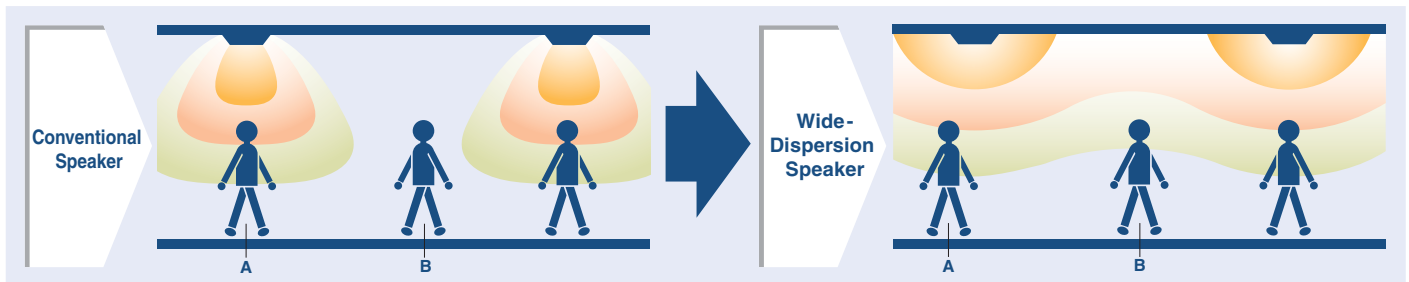
safe&sound



# Delivering a new level of audio perfor

TOA introduces a new range of ceiling-mounted speakers that have been designed and engineered to overcome limiting factors that have been associated with conventional ceiling-mount speakers. Most noticeable has always been the high-frequency rolloff that resulted from limited speaker dispersion characteristics. TOA's new ceiling speaker range provides well-balanced audio reproduction without treble attenuation over an expanded listening area thanks to the extra-wide dispersion characteristics that are part of the overall speaker design. Perceived

speaker directionality and beaming tendencies are minimized, resulting in a natural, well-balanced sound over a wide area at all levels. Conventional speakers exhibit high frequency rolloff characteristics as the distance between speaker and listener increases. However TOA believes that an ideal ceiling-mounted speaker's response characteristics should include wide dispersion and non-frequency dependent directionality and this new ceiling speaker series proves that.

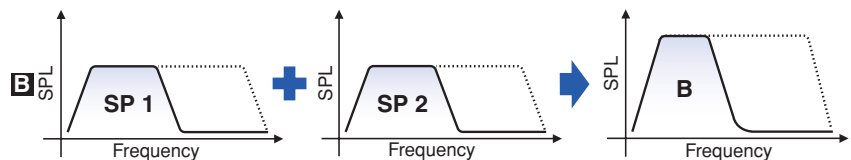
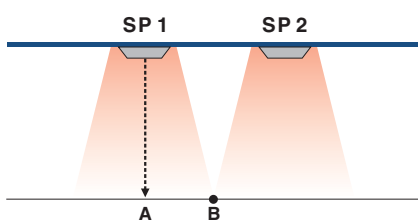


## Detailed System Features

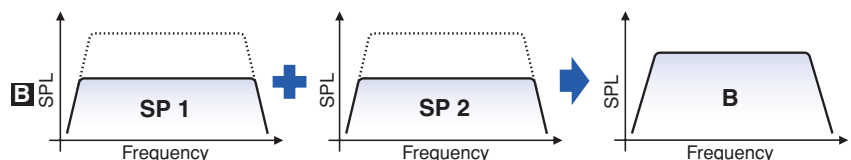
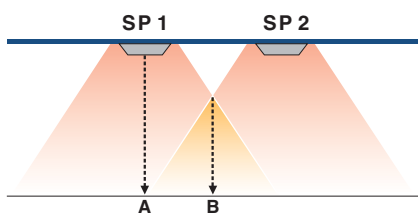
- Designed to blend into ceilings with a smooth, low-profile design.
- Extra ease of use and higher cost-effectiveness with the metal "back can" enclosure for the speaker rear. (F-122C, F-2352C, F-2852C, F-2322C models)
- Minimal high frequency rolloff allows clear and well-balanced sound reproduction over a wide listening area.
- Quick and easy installation to precisely mount speaker onto ceilings and walls. Rotating front grille also installs quickly and conveniently.
- The Electronic Controller (AC-120) option is required to provide increased control of the F-122C's speaker response.

Expanded listening area coverage thanks to the extra-wide dispersion characteristics of TOA's ceiling speakers makes it possible to utilize fewer speakers to cover a desired area, allowing more cost-effective installations.

### Conventional Speaker



### Wide-Dispersion Speaker



# Performance in ceiling-mounted speakers.

## Wide-Dispersion Ceiling Speaker Series

### High Power(60W) 2-Way Wide Range



#### F-2852C (16cm cone)

Designed for higher power (60W) applications in locations having higher ceilings that are in the range of 3 to 6 meters.

- Equipped with back can meeting heat-resistant specifications.
- Equipped with a diffuser for wide dispersion of high frequencies.

### Equalizing Controlled Type

### 30W Series Full Range



#### F-122C (12cm cone)

Optimized for use with the optional AC-120 Electronic Controller to deliver the highest quality audio in ceiling-mounted speakers as well as to tailor speaker response to suit specific installation requirements. (recommended 2 to 4m)

- Equipped with back can meeting heat-resistant specifications.
- Equipped with a diffuser for wide dispersion of high frequencies.

AC-120

### 30W Series 2-Way Wide Range

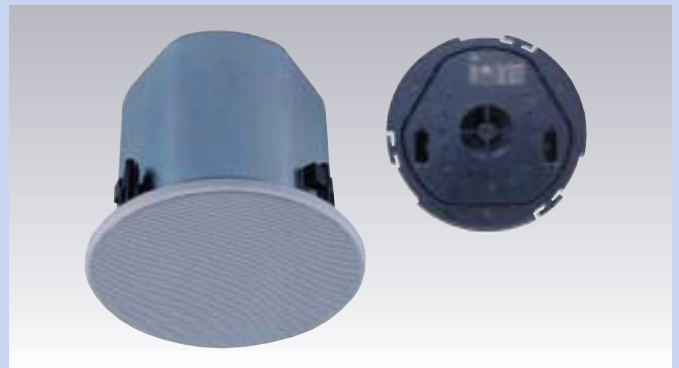


#### F-2352C (12cm cone)

Standard 2-way ceiling speaker for applications requiring a full range frequency response. (recommended 2 to 4m)

- Equipped with back can meeting heat-resistant specifications.
- Equipped with a diffuser for wide dispersion of high frequencies.

### 30W Series Full Range



#### F-2322C (12cm cone)

A cost-effective full-range speaker that is ideal for most ceiling sound requirements. (recommended 2 to 4m)

- Equipped with back can meeting heat-resistant specifications.
- Flat front panel mounts flush.

### 6W Series 2-Way Wide Range



#### F-2352SC (12cm cone)

Perfect for low power use, this speaker has increased cost-effectiveness. (recommended 2 to 4m)

- Because there is no back can, it can be mounted in ceilings even having minimal depth.
- Equipped with a diffuser for wide dispersion of high frequencies.

### 6W Series Full Range



#### F-1522SC (10cm cone)

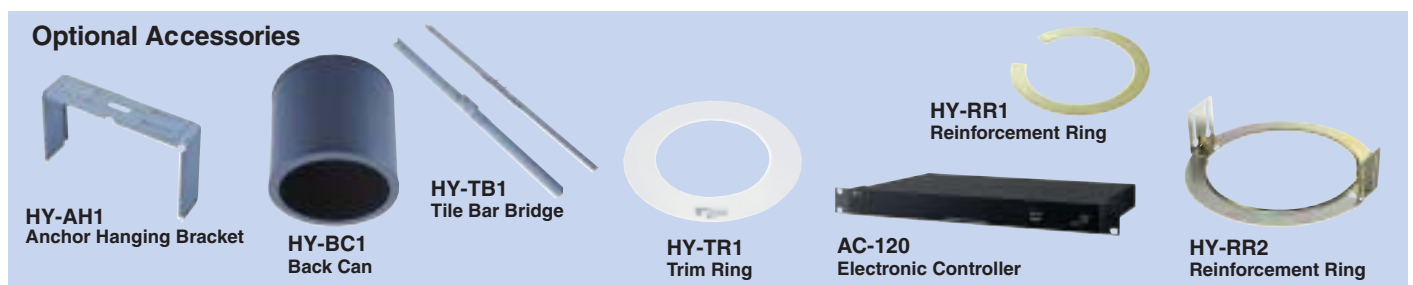
Special compact model designed for low output applications. (recommended 2 to 4m)

- Because there is no back can, it can be mounted in ceilings even having minimal depth.
- Flat front panel mounts flush.

## SPECIFICATIONS

Model No.	F-2852C	F-2322C	F-2352C	F-122C	F-2352SC	F-1522SC
Enclosure	Bass reflex type				—	
Rated Input	60W (high impedance)	30W (high impedance)			6W (high impedance)	
Power Handling Capacity	Continuous pink noise: 90W(8Ω), 60W (16Ω) Continuous program: 180W(8Ω), 120W(16Ω)	Continuous pink noise: 60W(8Ω), 30W (16Ω) Continuous program: 120W(8Ω), 60W(16Ω)			Continuous pink noise: 9W(8Ω), 6W (16Ω) Continuous program: 18W (8Ω), 12W(16Ω)	
Impedance						
100V line:	170Ω(60W), 330Ω(30W) 670Ω(15W), 3.3kΩ(3W)	330Ω(30W), 1kΩ(10W), 3.3kΩ(3W), 10kΩ(1W)			1.7kΩ(6W), 3.3kΩ(3W) 10kΩ(1W), 20kΩ(0.5W)	1.7kΩ(6W), 3.3kΩ(3W)
70V line:	83Ω(60W), 170Ω(30W) 330Ω(15W), 670Ω(7.5W) 3.3kΩ(1.5W)	170Ω(30W), 330Ω(15W), 1kΩ(5W), 3.3kΩ(1.5W), 10kΩ(0.5W)			830Ω(6W), 1.7kΩ(3W) 3.3kΩ(1.5W), 10kΩ(0.5W) 20kΩ(0.25W)	830Ω(6W), 1.7kΩ(3W) 3.3kΩ(1.5W)
25V line:	83Ω(7.5W), 170Ω(3.7W) 330Ω(1.9W), 670Ω(0.9W) 3.3kΩ(0.2W)	170Ω(3.7W), 330Ω(1.9W), 1kΩ(0.6W), 3.3kΩ(0.2W), 10kΩ(0.06W)			830Ω(0.75W), 1.7kΩ(0.4W) 3.3kΩ(0.2W), 10kΩ(0.06W) 20kΩ(0.03W)	830Ω(0.75W) 1.7kΩ(0.4W) 3.3kΩ(0.2W)
Low (adjustable)	16Ω, 8Ω					
Sound Pressure Level	91dB(1W, 1m)	90dB(1W, 1m)	90dB(1W, 1m)	90dB(1W, 1m)	89dB(1W, 1m)	88dB(1W, 1m)
Frequency Response	60 – 20,000Hz (–10dB), 45 – 20,000Hz (–20dB) at installation in 1/2 free sound field (measured by installing the unit in the center of a ceiling.)	70 – 20,000Hz (–10dB), 50 – 20,000Hz (–20dB) at installation in 1/2 free sound field (measured by installing the unit in the center of a ceiling.)			80 – 20,000Hz (–10dB), 50 – 20,000Hz (–20dB) at installation in 1/2 free sound field (measured by installing the unit in the center of a ceiling.)	65 – 18,000Hz (–10dB), 45 – 20,000Hz (–20dB) at installation in 1/2 free sound field (measured by installing the unit in the center of a ceiling.)
Speaker Component						
High frequency:	Dome-type	12cm cone-type	Balanced dome-type	12cm cone-type	Balanced dome-type	10cm cone-type
Low frequency :	16cm cone-type		12cm cone-type		12cm cone-type	
Mounting Hole	ø250mm (maximum ceiling thickness: 37mm)	ø200 (maximum ceiling thickness: 37mm)				ø135mm (maximum ceiling thickness: 37mm)
Input Terminal	Removable locking connector with screw-down terminals (2 input terminals and 2 bridge terminals)				Push-in connector (Bridging terminal-2 branch type)	
Usable Cable	Solid copper wire: ø0.5 – ø1.6mm (equivalent to AWG No. 24 – 14) Stranded copper wire: 0.2 – 2.5mm <sup>2</sup> (equivalent to AWG No. 24 – 14)				600V Vinyl-insulated cable (IV wire or HIV wire) Solid copper wire: ø0.8 – ø1.6mm (equivalent to AWG No.20 – 15) 7-core twisted copper wire: 0.75 – 1.25mm <sup>2</sup> (equivalent to AWG No.18 – 17)	
Finish						
Enclosure:	Steel plate, plating					
Baffle:	Fire-resistant ABS resin (resin material grade; UL-94 V-0 or its equivalent), black					
Rim:	Fire-resistant ABS resin (resin material grade; UL-94 V-0 or its equivalent), white, paint					
Punched net:	Steel plate, white, paint					
Dust-proof bag:	—				Artificial fiber, black	
Dimensions	ø280 x 227 (D)mm	ø230 x 200 (D)mm	ø230 x 229 (D)mm	ø230 x 229 (D)mm	ø230 x 154 (D)mm	ø155 x 117 (D)mm
Weight	5.1kg (including mounting accessories)	3.7kg (including mounting accessories)	3.7kg (including mounting accessories)	3.7kg (including mounting accessories)	1.5kg (including panel)	1kg (including panel)
Accessories						
Panel:	1					
Ceiling reinforcement ring:	1				—	
Safety wire:	1				—	
Paper pattern:	1					
Option						
Anchor hanging bracket:	HY-AH1				—	
Back can:	—	HY-BC1				—
Tile bar bridge:	HY-TB1				—	
Trim ring:	—	HY-TR1				—
Electronic controller:	—			AC-120C	—	
Reinforcement ring:	—			—	HY-RR2	HY-RR1

Note: The F-122C must be used with an Electronic Controller AC-120.



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Specifications are subject to change without notice.  
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