TAKSTAR® ECA-F Series Dustproof and Waterproof Line Array Speaker

Preface

Dear Customer,
Thank you for purchasing Takstar ECA-F Series Dustproof and Waterproof Full-Range Line Array Speaker, matched with ECA-F Series Dustproof and Waterproof Subwoofer. In order to better understand and use the product, please read this manual carefully.
If you have any questions or suggestions, please contact our local dealer.

Features

ECA-F Series Dustproof and Waterproof Full-Range Speaker

- IP56-certified ECA-F series waterproof and dustproof line array full-range speaker for all-weather use. Its polyurea-coated cabinet is waterproof, dustproof, moisture-proof, and anti-corrosion, extending service life and adapting to more environments.
- Featuring dual woofers, the dual 8-inch and dual 10-inch models are equipped with a 75mm compression driver, while the dual 12-inch model features a 100mm midrange driver and a 65mm tweeter, delivering wide frequency response and strong penetration.
- The dual 8-inch and dual 10-inch speakers feature a built-in passive high-frequency filter with a toggle switch for 0dB, +3dB, and +6dB boost.
- Switchable internal/external crossover for flexible system configuration.
- Woofers feature specially coated cloth surrounds with excellent elasticity and durability for fast, dynamic mid-low response.
- Tweeter diaphragm made of aviation-grade material for smooth, detailed, and transparent highs.
- Equipped with a directional plane waveguide horn to control vertical directivity; multiple units combine to form a near-linear sound source with reduced long-distance attenuation.
- Symmetrical magnetic circuit design for low harmonic distortion.
- Crossover uses low-loss oxygen-free copper air-core inductors and high-quality PP/PET capacitors for stable performance and superb sound.
- Trapezoidal cabinet with internal acoustic foam reduces standing waves for clean mid-bass and flat frequency response; compact cabinet with flying hardware and pins, vertical angle adjustable in 7 steps from -2° to 10° for flexible radiation control.

ECA-F Series Dustproof and Waterproof Subwoofer

- IP56-certified ECA-F series waterproof and dustproof subwoofer for all-weather use. Its polyurea-coated cabinet is waterproof, dustproof, moisture-proof, and anti-corrosion, extending service life and adapting to more environments.
- Features one 18" woofer, designed for use with ECA-F series full-range speaker.
- Woofer uses specially coated cloth surrounds with excellent elasticity and durability for full, fast, and dynamic low frequencies.
- Symmetrical magnetic circuit design ensures low harmonic distortion.
- Employs a bass-reflex design with an additional front chamber opening that functions as a horn; the combined output of the port and driver is compressed and radiated through the front chamber, enhancing forward energy transmission and improving low-frequency SPL and impact.

Specifications

Parameters/Model	ECA-082F	ECA-102F	ECA-212F	ECA-1808F/ECA-1810F	ECA-182F
IP Rating	IP56				
Total Power (Internal)	900	1500	2200	1500	3000
Woofer Power (External)	700	1300	1800		
Mid-High Power (External)	200	200	400		
Impedance (Internal)	8Ω				4Ω
Frequency Range (Internal)	70Hz-20kHz	65Hz-20kHz	52Hz-20kHz	38Hz-500Hz	35Hz-500Hz
LF Response (External)	70Hz-4kHz	60Hz-4kHz	52Hz-3kHz	/	/
MF/HF Response (External)	700Hz-20kHz		500Hz-20kHz	/	/
Sensitivity (dB)	104	107	109	104	107
Maximum SPL	138	144	146	142	148
Directivity (H×V)	100*10	100*10	100*10	/	/
Mounting	Flying/Stacking		Flying	Flying/Stacking	Floor
Vertical Angle	-2° to +10°			/	/
Woofer	8"×2	10"×2	12"×2	18"×1	18"×2
Midrange	/		4" 100mm VC	/	/
Tweeter	75mm VC×1		65mm VC	/	/
Built-in Crossover Wiring	2×NL4 speakon (IN: 1+, 1-; LINK: 1+, 1-)				
Cabinet Material (mm)	15			18	
Surface Finish	Black polyester paint				
Dimensions (W×D×H)	636*400*260mm	636*505*331mm	990*520*384mm	636*570*543mm	1250*625*550mm
Net Weight (kg)	22.6kg	31.5kg	48kg	41.2kg	71kg

Note: The above data are measured by Takstar laboratory which has the final interpretation right!

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TAKSTAR® ECA-F Series Dustproof and Waterproof Line Array Speaker

■ Applications

Suitable for outdoor venues such as stadiums, playgrounds, cultural tourism scenic spots, and theme parks.

■ Package Contents

1 × Speaker

1 × User Manual

2 × Waterproof Connectors

■ Operating Instructions

I. Internal/External Crossover Selection

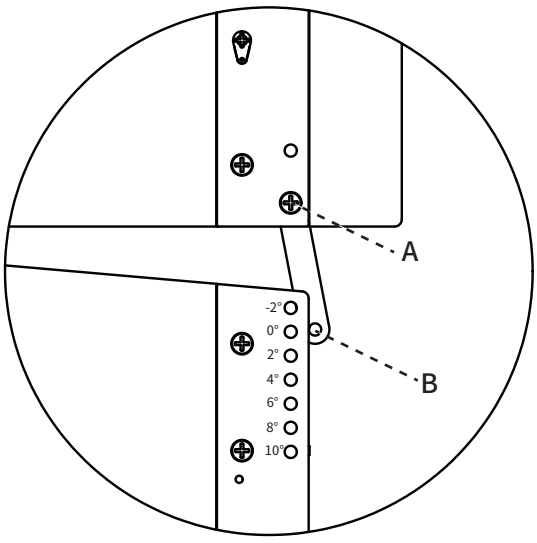
1. For external crossover: slide the crossover switch on the rear panel to the left "External" position. Use a 4-core cable to connect the speaker.
Speaker input: terminals 1 and 2 connect to woofer +/–; terminals 3 and 4 connect to tweeter or mid-high driver +/- .
Amplifier output: connect to amplifier 1+/1- (except specially designed amplifiers).
2. For internal crossover: slide the crossover switch to the right "Internal" position. Use a 2-core cable to connect the speaker.
Speaker input: 1+/2-
Amplifier output: 1+/1-

II. High Frequency Boost Selection

ECA-F series dual 8-inch and dual 10-inch speakers are equipped with a dedicated passive high frequency exciter. You may select the appropriate high frequency gain according to venue size, radiation distance, and tonal preference. In Internal Crossover mode, three gain settings are available: +3dB/0dB/+6dB. Slide the switch to the corresponding mark to select.

III. Installation Angle Adjustment

1. Full-range speakers are connected at four points using hanging brackets. The rear hanging bracket allows vertical angle adjustment from -2° to 0° to 10° in seven steps via a pin (see diagram below).
2. Adjustment method: End A is fixed and requires no movement. To adjust the vertical angle, simply insert End B into the corresponding angle hole.



■ Cautions

1. Match amplifier power and impedance to speakers to prevent equipment damage or degraded sound quality.
2. For flown or inverted stage installation, adjust full-range speakers to required curvature.
3. Speakers must be secured firmly in place by qualified installers.
4. Handle speakers carefully to prevent damage during transport.
5. Wiring and setup should be performed by qualified technicians.
6. System sound quality depends on the technician's technical expertise and musical appreciation.
7. Secure pins and fasteners after use to prevent loose or lost parts.
8. The recommended maximum flown configuration is 4 subwoofers + 8 full-range speakers.

■ Safety Instructions

To avoid electric shock, overheat, fire, radiation, explosion, mechanical risk and injury or property loss due to improper use, please read and observe the following items before use:

1. Please check if the power of the connected equipment matches with that of this product before operation. Adjust the volume to proper level during operation. Do not operate at over-power or high-volume level for extended time to avoid product malfunction.
2. If there is any abnormality during use (e.g., smoke, strange odor), please kill the power switch and unplug from power source, then send the product to the local after-sales service for repair.
3. Keep this product and its accessories in a dry and ventilated area. Do not store in a humid or dusty area for extended time. Keep away from fire, rain, liquid intrusion, bumping, throwing, vibrating, or from blocking any ventilation openings, to prevent malfunction.
4. The product must, when installed on walls or ceilings, be fixed firmly in place at adequate strength to prevent from falling.
5. Please abide by safety rules during operation. Do not use the product in places prohibited by laws or regulations to avoid accident.
6. Do not disassemble or repair the product by yourself to avoid injury. If you have any questions or require any services, please contact our local after-sales service.

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