

# SUBWOOFER SYSTEMS

# FB-150B FB-150W

Thank you for purchasing TOA's Subwoofer System.

Please carefully follow the instructions in this manual to ensure long, trouble-free use of your equipment.

## 1. SAFETY PRECAUTIONS

- Before installation or use, be sure to carefully read all the instructions in this section for correct and safe operation.
- Be sure to follow all the precautionary instructions in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.



### WARNING

Indicates a potentially hazardous situation which, if mishandled, could result in death or serious personal injury.



### CAUTION

Indicates a potentially hazardous situation which, if mishandled, could result in moderate or minor personal injury, and/or property damage.



### WARNING

- Refer all installation work to the dealer from whom the speaker was purchased. Installation for flying requires extensive technical knowledge and experience. The speaker may fall off if incorrectly installed, resulting in possible personal injury.
- Flying Precautions  
Be sure to follow the instructions below. Otherwise, the suspension wires or belts may be off or snap and the speaker may fall off, causing personal injury.
  - Check to confirm that the suspension wires and belts are strong enough to withstand the speaker load.
  - The connectors of the suspension wires and belts must be securely linked with those of the speaker.
  - All parts and components (such as enclosures, metal pieces, and screws) must be free from any deformation, crack, and corrosion.
  - Be sure to use screws supplied with the optional flying hardware when installing the speaker using such hardware.
- Install the speaker only in a location that can structurally support the weight of the speaker and the mounting bracket. Doing otherwise may result in the speaker falling down and causing personal injury and/or property damage.
- Since the speaker is designed for in-door use, do not install it outdoors. If installed outdoors, the aging of parts causes the speaker to fall off, resulting in personal injury.
- Owing to the speaker's size and weight, be sure that at least two persons are available to install the speaker. Failure to do so could result in personal injury.
- Do not use other methods than specified to install the speaker. Extreme force is applied to the speaker and it could fall off, possibly resulting in personal injuries.
- Use nuts and bolts that are appropriate for the ceiling's structure and composition. Failure to do so may cause the speaker to fall, resulting in material damage and possible personal injury.
- Tighten each nut and bolt securely. Ensure that the bracket has no loose joints after installation to prevent accidents that could result in personal injury.
- Do not mount the speaker in locations exposed to constant vibration. The mounting bracket can be damaged by excessive vibration, potentially causing the speaker to fall, which could result in personal injury.
- Avoid installing the speaker in indoor swimming facilities that are not well ventilated. In such locations, the mounting hardware may be vulnerable to corrosion, eventually allowing the speaker to fall resulting in personal injury.

## CAUTION

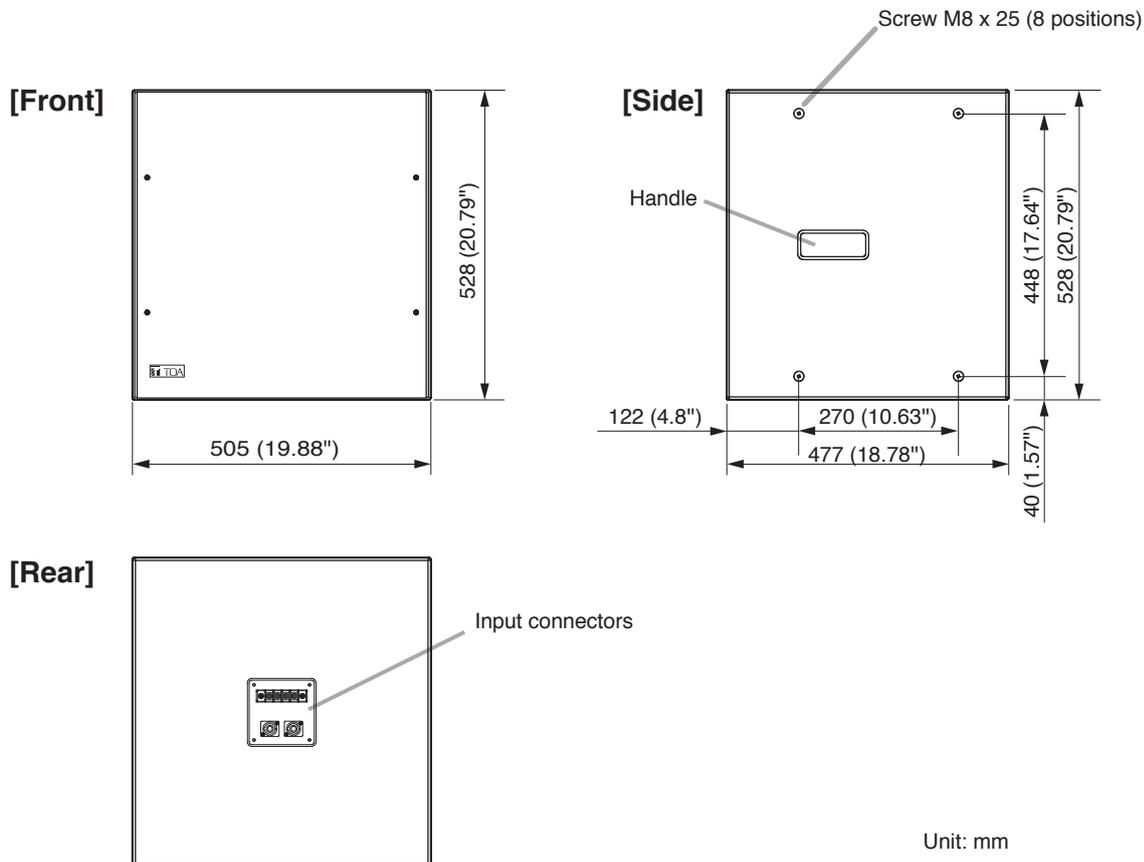
- Avoid touching the front punched net's sharp metal edge to prevent injury.
- To avoid electric shocks, be sure to switch off the amplifier's power when connecting the speaker.
- Do not place heavy objects on the speaker as this may cause it to fall or break which may result in personal injury and/or property damage. In addition, the object itself may fall off and cause injury and/or damage.
- Do not operate the speaker for an extended period of time with the sound distorting. This is an indication of a malfunction, which in turn can cause heat to generate and result in a fire.
- Do not stand or sit on, nor hang down from the speaker as this may cause it to fall down or drop, resulting in personal injury and/or property damage.
- Have the speaker checked periodically by the shop from where it was purchased. Failure to do so may result in corrosion or damage to the speaker or its mounting bracket that could cause the speaker to fall, possibly causing personal injury.

## 2. GENERAL DESCRIPTION

The FB-150B and FB-150W are compact, indoor-use subwoofer systems, each employing a high-power 38 cm (15") woofer. They are designed for use in conjunction with TOA's HX-7 Series Speaker System or other full range speakers, and are particularly ideal for reproducing dynamic low-frequency sound.

The FB-150B and FB-150W can be suspended by wires or chains with use of an optional HY-PF7B or HY-PF7W Speaker Rigging Frame.

## 3. DIMENSIONAL DIAGRAM

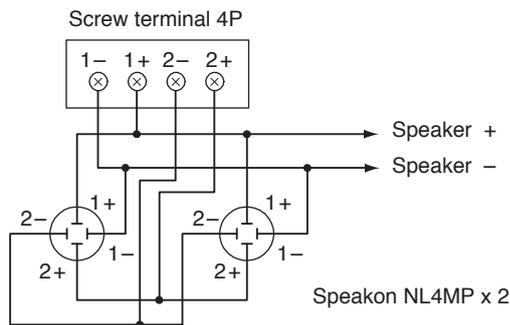


## 4. INPUT CONNECTORS

- The NEUTRIK Speakon connectors are internally connected in parallel to the screw terminals; you can use either one.
- The table below shows the pin arrangement of the Speakon NL4MP connector.

Pin No.	FB-150B, FB-150W
1 +	Speaker +
1 -	Speaker -
2 +	—
2 -	—

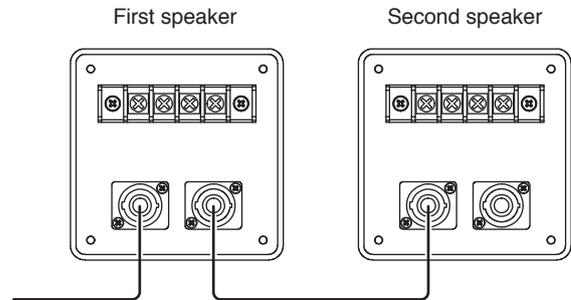
- The usable connector (on the cable end) for the Speakon NL4MP is Speakon NL4FC or NL4FX.
- Wiring diagram of the input connectors is shown below.



- Two Subwoofer Systems can be operated in parallel by connecting them in a cascade configuration as shown below.

### Note

Be sure to connect the Subwoofer System to the power amplifier's output terminal of 4  $\Omega$  or less. Connecting it to an output terminal of over 4  $\Omega$  may cause amplifier failure.



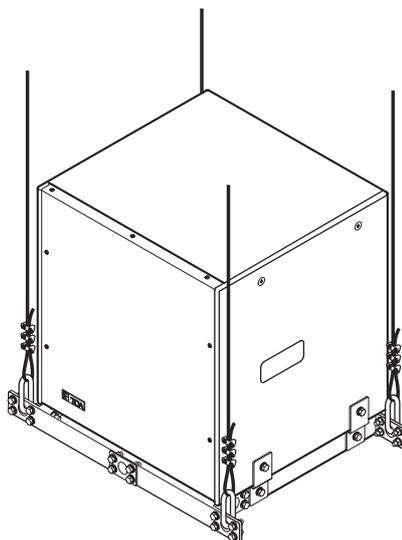
## 5. INSTALLATION

The Subwoofer System can be installed on the floor or can be suspended from a ceiling, etc. When suspending, use the optional HY-PF7B or HY-PF7W Speaker Rigging Frame.

### WARNING

- Use the suspension wires, chains, and anchor shackles that are strong enough to withstand the total weight of the speaker and mounting hardware. Failure to do so may cause the speaker to fall, resulting in personal injury.
- Owing to the unit's size and weight, be sure that at least two persons are available to install the unit. Failure to do so could result in personal injury.

For installation method, refer to the instruction manual supplied the HY-PF7B or HY-PF7W.



## 6. EQUALIZING BY DIGITAL SIGNAL PROCESSOR

When using the FB-150 Series Subwoofer System in combination with the TOA HX-7 Series Speaker System, it is recommended that the TOA Digital Signal Processor (DSP) be used to set the recommended parameters. For setting, refer to the HX-7 Series instruction manual.

## 7. LEVEL BALANCE AND POLARITY

When using the FB-150 series in conjunction with full range speakers (such as TOA's HX-7 Series Speaker System), adjust the level balance and polarity for each speaker independently depending on the installation site.

### [Level balance adjustment]

Increase or decrease the level of the subwoofer (or full range speaker) as appropriate to the number of units and installation conditions.

### [Polarity adjustment]

- If the subwoofer and full range speakers are in phase in their crossover band, then acoustic energy is added; however, acoustic energy is subtracted if the two are in reversed phase. Since the phase characteristics of both the subwoofer and full range speaker change continuously depending on the frequency, it may not be ideal to follow the subwoofer's polarity instructions when connecting it.
- Compare the degree to which acoustic energy increases by switching the polarity of the connection at the subwoofer (from positive to negative and from negative to positive). Choose the way of connection that results in the greatest increase in acoustic energy. To match the polarity correctly, make actual measurements of acoustic energy using a real time spectrum analyzer.

## 8. SPECIFICATIONS

Model No.	FB-150B	FB-150W
Power Handling Capacity	Continuous pink noise: 200 W, Continuous program: 600 W	
Impedance	8 Ω	
Sensitivity	93 dB (1 W, 1 m)	
Frequency Response	40 – 400 Hz (–10 dB)	
Speaker Component	38 cm cone-type	
Input Terminal	Speakon NL4MP x 2 and M5 screw terminals, distance between barriers: 12.2 mm	
Finish	Enclosure : MDF, black, Urethane paint Punched net : Surface-treated steel plate, black, paint	Enclosure : MDF, white, Urethane paint Punched net : Surface-treated steel plate, white, paint
Dimensions	505 (w) x 528 (h) x 477 (d) mm (19.88" x 20.79" x 18.78")	
Weight	30 kg (66.14 lb)	
Optional products	Speaker rigging frame HY-PF7B	Speaker rigging frame HY-PF7W

**Note:** The design and specifications are subject to change without notice for improvement.

### Traceability Information for Europe

Manufacturer:  
TOA Corporation  
7-2-1, Minatojima-Nakamachi, Chuo-ku, Kobe, Hyogo, Japan

Authorized representative:  
TOA Electronics Europe GmbH  
Suederstrasse 282, 20537 Hamburg, Germany