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## TOA Electronics TH-650

# TOA Electronics TH-650 Horn Speaker Instruction Manual

Model: TH-650

## INTRODUCTION

The TOA Electronics TH-650 is a robust horn speaker designed for clear speech and sound reproduction in various environments. Its weatherproof construction ensures reliable operation outdoors. This manual provides essential information for the proper setup, operation, and maintenance of your TH-650 horn speaker.

This horn speaker is intended for use in combination with an optional driver unit, such as the TOA TU-631, TU-651, TU-631M, or TU-651M.

## PRODUCT FEATURES

- **High Speech Clarity and Sound Quality:** The round shape ensures clear speech and symmetrical sound dispersion, suitable for both voice and music.
- **Weatherproof Construction:** Features a powder-coated finish and stainless steel screws for outdoor durability.
- **Durable Design:** Built for reliable, long-term operation.
- **Shock-Resistant:** Enhanced resilience against physical impacts.
- **Aluminium Horn:** Lightweight yet sturdy construction with a durable powder coating.
- **Driver Unit Compatibility:** Designed for use with TOA driver units TU-631, TU-651, TU-631M, or TU-651M (sold separately).

## INCLUDED COMPONENTS

The TH-650 Horn Speaker package includes the following items:

- Speaker Unit
- Mounting Bracket

*Note: A compatible driver unit (e.g., TU-631, TU-651) is required for operation and is sold separately.*

## SETUP INSTRUCTIONS

1. **Unpack Components:** Carefully remove the speaker unit and mounting bracket from the packaging. Inspect

for any signs of damage.

2. **Select Mounting Location:** Choose a suitable location for installation, considering sound dispersion requirements and structural integrity to support the speaker's weight (approximately 2.9 kg / 6.4 lb). The speaker is designed for outdoor use.
3. **Attach Mounting Bracket:** Secure the provided mounting bracket to the desired surface. Ensure the mounting hardware (not included) is appropriate for the surface material and can safely bear the speaker's weight.
4. **Mount Speaker Unit:** Attach the TH-650 horn speaker unit to the secured mounting bracket. Adjust the angle for optimal sound coverage.
5. **Install Driver Unit:** If not already installed, carefully screw the compatible TOA driver unit (e.g., TU-631, TU-651) onto the rear throat of the TH-650 horn speaker. Ensure a tight, secure connection to maintain weatherproof integrity and optimal sound transfer.
6. **Connect Wiring:** Connect the audio cables from your amplifier or audio system to the terminals on the driver unit. Observe correct polarity (+/-) to ensure proper phase and sound quality. Refer to the driver unit's manual for specific wiring instructions.
7. **Final Check:** Before powering on, double-check all connections and mounting points for security and correctness.



*Image: The TOA Electronics TH-650 Horn Speaker, showcasing its robust design and mounting bracket. This image illustrates the overall appearance of the speaker unit.*

## OPERATING INSTRUCTIONS

1. **Power On:** Once the TH-650 horn speaker is correctly installed and connected to a compatible driver unit and amplifier, power on your audio system.
2. **Adjust Volume:** Start with the amplifier volume at a low setting and gradually increase it to the desired listening level. Avoid excessively high volumes that could cause distortion or damage to the driver unit.
3. **Monitor Sound Quality:** Listen for clear, undistorted sound. If distortion occurs, reduce the volume or check connections.
4. **Environmental Considerations:** While weatherproof, extreme weather conditions (e.g., direct lightning strikes, prolonged submersion) should be avoided.

## MAINTENANCE

The TH-650 horn speaker is designed for durability and requires minimal maintenance.

- **Regular Cleaning:** Periodically wipe the exterior of the speaker with a soft, damp cloth to remove dust and dirt. Avoid using harsh chemicals or abrasive cleaners.
- **Inspect Connections:** Annually, inspect all wiring connections for corrosion or looseness. Ensure the driver unit remains securely attached to the horn.
- **Check Mounting:** Verify that the mounting bracket and speaker are still securely fastened to their support structure, especially after severe weather conditions.
- **Weather Protection:** Although weatherproof, consider additional protection in environments with extreme salt spray or industrial pollutants to prolong the lifespan of the finish.

## TROUBLESHOOTING

Problem	Possible Cause	Solution
No sound from speaker	Driver unit not installed or faulty. Loose or incorrect wiring connections. Amplifier not powered on or faulty. Volume too low.	Ensure a compatible driver unit is securely attached and functional. Check all audio cable connections for tightness and correct polarity. Verify amplifier power and functionality. Increase amplifier volume gradually.
Distorted or unclear sound	Volume too high, causing clipping. Loose driver unit connection. Damaged driver unit or speaker. Incorrect impedance matching with amplifier.	Reduce amplifier volume. Tighten the driver unit onto the horn. Inspect driver unit and speaker for physical damage. Ensure the amplifier's output impedance matches the driver unit's impedance.
Speaker not securely mounted	Mounting hardware loose or inadequate. Bracket not properly secured.	Tighten all mounting hardware. Reinforce or replace mounting hardware if necessary. Ensure the bracket is firmly attached to the mounting surface.

## SPECIFICATIONS

Feature	Detail
Model Name	TH-650 Horn Speaker
Speaker Type	Outdoor Horn Speaker
Mounting Type	Bracket Mount
Special Feature	Shockproof, Weatherproof

Feature	Detail
Recommended Use	For Surround Sound Systems
Frequency Response	200 Hz - 6 kHz
Sensitivity (1 W, 1 m)	110 dB
Operating Temperature	-20 °C to +55 °C (must be free from dew condensation)
Finish	Aluminium, signal white (RAL 9003 or equivalent)
Dimensions (Ø x D)	500 x 394 mm (19.68" W x 15.5" D x 20" H)
Item Weight	2.9 kg / 6.4 lb
Manufacturer	TOA Electronics
Connectivity Technology	Auxiliary (requires driver unit)
Audio Output Mode	Mono

## WARRANTY AND SUPPORT

Specific warranty details for the TOA Electronics TH-650 Horn Speaker are not provided in this manual. For warranty information, please refer to the documentation included with your purchase or contact the authorized TOA Electronics dealer or the seller directly.

For technical support or service inquiries, please contact your point of purchase or visit the official TOA Electronics website for regional support contacts.