5. SPECIFICATION

Reflex Horn

Model No.	TH-652 AS
Applicable Driver	TU-632 AS, TU-632M AS, TU-652 AS, TU-652M AS
Sound Pressure Level	110dB (1W, 1m) (When operated with a driver)
Frequency Response	200 – 6,000Hz (When operated with a driver)
IP Code	IP-65 (When operated with a driver)
Driver Coupling	1-3/8 18 threads (inch screw)
Operating Temperature	-20°C to +55°C (4°F to 131°F) (must be free from dew condensation)
Finish	Horn and Flange : Aluminum, White, Powder coating Reflector horn : HIPS, White Bracket : Steel, White, Powder coating Screws and Bolts : Stainless steel
Dimensions	Ø500 x 357 (D)mm (Ø19.69" x 14.06")
Weight	2.7kg (5.95lb)

Driver Unit

Model No.	TU-632 AS	TU-652 AS	TU-632M AS	TU-652M AS
Applicable Horn	TH-652 AS			
Rated Input	30W	50W	30W	50W
Rated Impedance	16 Ω		100V line: 330 Ω (30W),670 Ω (15W), 1k Ω (10W), 2k Ω (5W) 70V line: 170 Ω (30W),330 Ω (15W), 670 Ω (7.5W), 1k Ω (5W), 2k Ω (2.5W)	100V line: 200 Ω (50W),330 Ω (30W), 670 Ω (15W) 70V line: 100 Ω (50W),200 Ω (25W), 330 Ω (15W), 670 Ω (7.5W)
Output Sound Pressure Level	110dB (1W, 1m) (When operated with JIS C 5504 horn standard)			
Frequency Response	150 – 6,000Hz (When operated with JIS C 5504 horn standard)			
IP Code	IP-65 (When a driver is operated with a horn)			
Horn Coupling	1-3/8 18 threads (inch screw)			
Polarity	Hot : Black, Com : White			
Operating Temperature	-20°C to +55°C (4°F to 131°F) (must be free from dew condensation)			
Finish	Upper Cover : Aluminum, White, Powder coating Unit case / Trans. Case : HIPS, White Screws : Stainless steel Speaker cable : Polyvinyl chloride insulated cabtyre cable (6mm (0.24") in diameter, 450mm (17.72") in length, White)			
Dimensions	Ø139 x 106 (D)mm (Ø5.47" x 4.17")		Ø139 x 149 (D)mm (Ø5.47" x 5.87")	
Weight	1.5kg (3.31lb)	2.0kg (4.41lb)	1.8kg (3.97lb)	2.7kg (5.95lb)

Note : The design and specification 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 :
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TOA Corporation

URL: http://www.toa.jp/

533-06-229-2A

TOA

INSTRUCTION MANUAL

DRIVER UNIT

TU-632 AS TU-652 AS

TU-632M AS TU-652M AS

REFLEX HORN

TH-652 AS

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 instruction in this section, which contain important warnings and/or cautions regarding safety.
- After reading, keep this manual handy for future reference.

⚠ WARNING	Indication 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

- Use only the specified amplifier output voltage and impedance, as exceeding the specified limits could result in fire or other failures (high-impedance version).
- To avoid accidental air explosions, do not use the unit around gasoline, thinner or other combustibles.
- Install the unit only in location that can structurally support the weight of the unit and the mounting bracket. Doing otherwise may result in the unit falling down and causing personal injury and/or property damage.
- Protect the unit from exposure in snowy areas, as the weight of snow build-up could cause the speaker to fall, resulting in personal injuries.
- Do not use other method than specified to mount the bracket. Extreme force is applied to the unit could fall off, possibly resulting in personal injury.
- Attach the safety wire to the unit when mounting in locations high above the ground. Failure to do so could result personal injury if the speaker should later fall for any reason.
- Use nuts and bolts that are appropriate for the ceiling's or wall'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.
- Avoid mounting the unit 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.

⚠ CAUTION

- To avoid electric shocks, be sure to switch off the amplifier power when connecting the speaker.
- Avoid installing the unit in humid or dusty locations, or in locations exposed to heaters, solvents, acid, alkali, smoke, steam or direct sunlight (except outdoor-use versions), as excessive exposure to these factor could result in speaker failure, fire or electric shock.
- Do not operate the unit 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 unit as this may cause it to fall down or drop, resulting in personal injury and/or property damage.
- Have the unit periodically checked by the shop from where it was purchased. Also, when mounting the unit on a vehicle, be sure to check both the speaker and its mounts before moving. Failure to do so could result in the speaker falling off due to damage or corrosion to the speaker or its mounts, and possible personal injury.

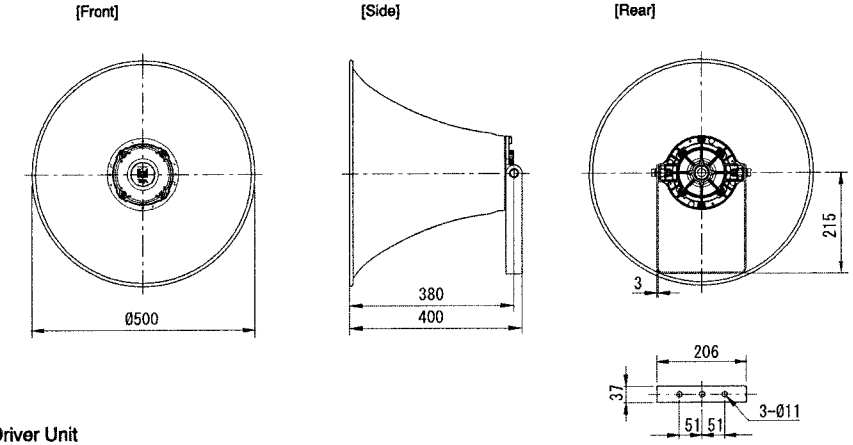
2. GENERAL DESCRIPTIONS

TOA's TU-632 AS, TU-652 AS series are driver units and TH-652 AS is a reflex horn.

3. DIMENSIONS

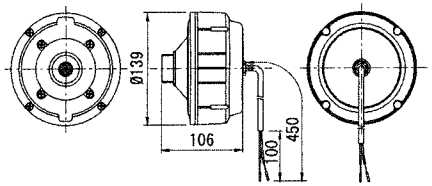
- Reflex Horn

Unit : mm

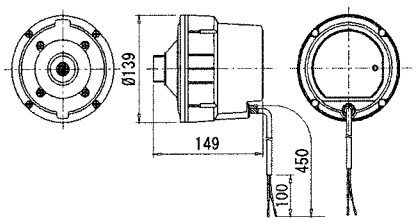


- Driver Unit

Low Impedance



High Impedance

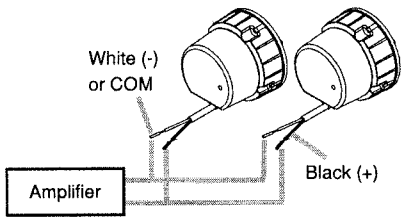


4. HOW TO USE

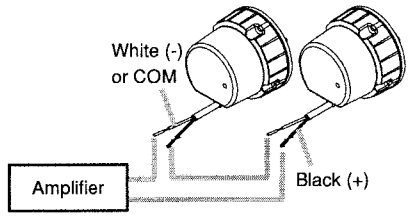
4.1. Handling Precautions

- Be sure to note the following polarities when multiple speakers are use in the same location. Incorrect connections could result in no bass output or decreased volume.
  Black speaker cable: Positive (+), White speaker cable: Negative (-) or COM
  Connect the cables to other cables of the same colors in parallel connections, and to cables of different colors in series connections.

Parallel connections



Series connections



- To avoid amplifier failure, do not simultaneously connect both low- and high- impedance speakers to the amplifier. Ensure that only one type is connected.

Notes: (1) "Low-impedance" refers to speakers having no built-in matching transformer.
(2) "High-impedance" refers to speakers having a built-in matching transformer.

- Ensure only the specified line voltage (amplifier output voltage) is used for the high-impedance speakers. The line voltage is indicated on the name plate as either [70/100 V LINE]. If an unspecified line voltage is connected, fire or equipment failure could result.

4.2. Connections

4.2.1. Low impedance speakers

When using two or more speakers, all connected speakers must have identical impedance and input ratings.
(1) The total speaker impedance must be equal to the amplifier output impedance. If the total speaker impedance is less than the amplifier's output impedance, the speakers or amplifier could fail.
(2) When parallel-connecting all speakers, the total rated input of all speakers must be greater than the amplifier output.

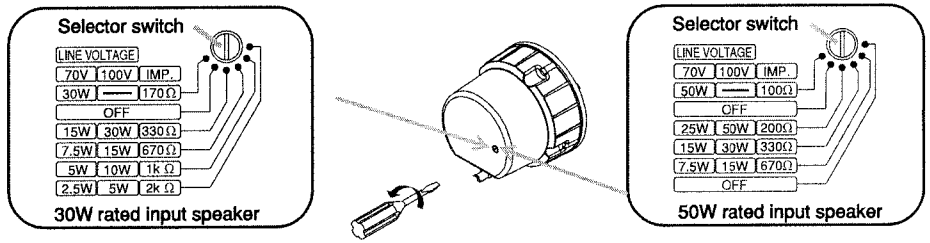
Note: It is highly recommended that solid wire speaker cable with diameter of over 2 mm or strand wire of over 3.5 mm² be used to minimize transmission loss. When there are long distances between amplifier and speaker (30 – 50), connect an optional matching transformer to convert the speakers to high-impedance operation.

4.2.2. High impedance speakers

The total rated input of all connected speakers must be equal to or smaller than the amplifier output. If the total speaker input rating is greater than the amplifier output, the amplifier could fail. Connect all speakers in parallel.

4.3. Impedance Selection

Select the desired impedance by inserting a screwdriver into the impedance selector switch slot and turning the switch. The OFF position disconnects the speaker from the amplifier and no sound is output.



Notes: (1) Speakers are factory-preset for the highest rated input of two line voltages (i.e. 100 V line in the case of the 70/100 V line version).
(2) The speaker's rated input and impedance are indicated on the name plate.

Speakers are designed to select either of the two line voltages (rated amplifier output voltage). Check to confirm the line voltage to use, and select the line voltage impedance specified on the name plate.

⚠ WARNING Do not use the impedance selector switch position marked as [—], because this position could result in amplifier or speaker failure, or fire.

4.4. Assembling the Speaker

Step 1. Join the center unit to bell unit with assembly screws (center accessories).
Step 2. Turn right the driver unit when install to reflex horn.

