

LAVALIER MICROPHONE

EM-410

Thank you for purchasing TOA's Lavalier Microphone.
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.



CAUTION

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

- Do not expose the unit to rain or an environment where it may be splashed by water or other liquids, as doing so may result in electric shock.
- Do not lay the connection cable where it can be walked on or tripped over, causing personal injury.

2. GENERAL DESCRIPTION

The EM-410 is a miniature, lightweight hypercardioid condenser microphone that can be clipped to a shirt or tie.

3. FEATURES

- Built-in filter to correct sound quality degradation that often occurs in such cases a conventional clip-on lavalier microphone is used, realizing high quality sound.
- Greatly improved sound quality and acoustic feedback margin than those for conventional lavalier microphones, and reduced cable noise (e.g. rustle of clothing).
- Holder mechanism that allows the microphone to be rotated to your desired direction wherever the microphone is clipped.

4. HANDLING PRECAUTIONS

- Be sure to turn off the phantom power switch on the equipment that the unit is connected to before connecting or disconnecting the unit. As doing otherwise may cause loud noise or damage to the unit or connected equipment.
- Avoid installing the unit in humid or dusty locations, in locations exposed to the direct sunlight, near the heaters, or in locations generating sooty smoke or steam as doing otherwise may result in unit failure.
- Take care not to drop the unit onto the floor nor bump it against a hard object as the unit could fail.
- Avoid using a mobile telephone near the microphone in use. Noise could be picked up.
- To clean, be sure to first disconnect the connection cable, then wipe with a dry cloth. When the unit gets very dirty, use a cloth dampened in a neutral cleanser. Never use benzene, thinner, alcohol, or chemically-treated cleaning cloth because such volatile liquids could deform or discolor the unit.

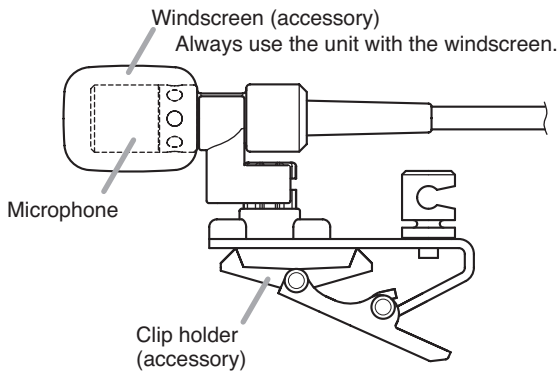
5. SPECIFICATIONS

Element	Electret condenser
Polar Pattern	Hypercardioid
Rated Impedance	120 Ω, balanced
Rated Sensitivity	-47 dB (0 dB = 1 V/Pa, 1 kHz)
Frequency Response	100 Hz – 15 kHz
Phantom Power	9 – 52 V DC
Output Connector	Phone plug, balanced
Cable Length	5 m (16.4 ft)
Finish	Main body and phone plug: Copper alloy, black, semi-gloss, paint
Dimensions	ø8.9 x 28.6 mm (ø0.35" x 1.13") (Excluding output cable section)
Weight	100 g (0.22 lb)
Accessories	Windscreen 1 Clip holder 1

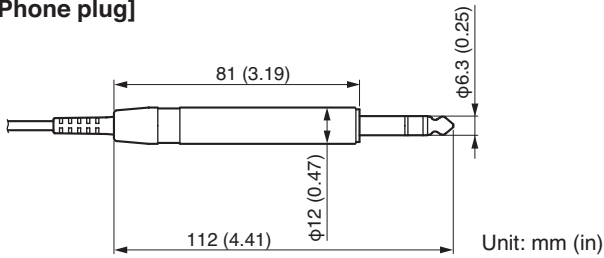
Note: The design and specifications are subject to change without notice for improvement.



6. DIMENSIONAL DIAGRAM

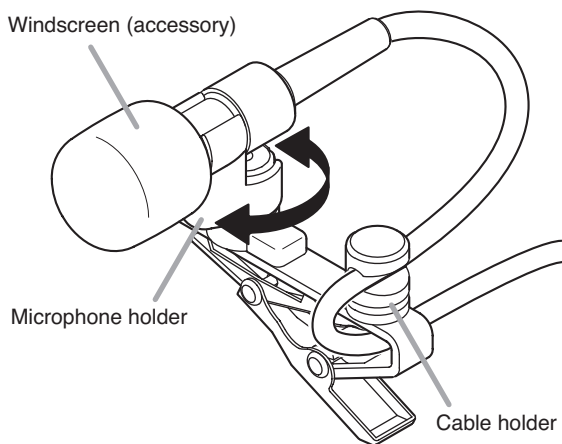


[Phone plug]

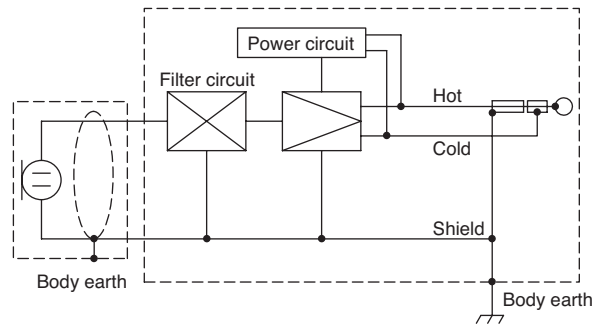


7. HOW TO USE

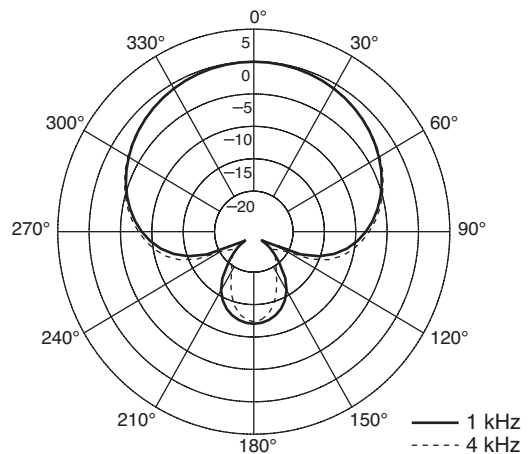
- Always use the unit with the supplied windscreen.
- Be sure to pass the microphone cable through the cable holder as shown below. This will keep minimizing cable touch noise or rustle of clothing.
- Rotate the microphone holder to adjust the microphone direction depending on where it is clipped. Clip the microphone to your shirt, about 20 cm (8") below your mouth.



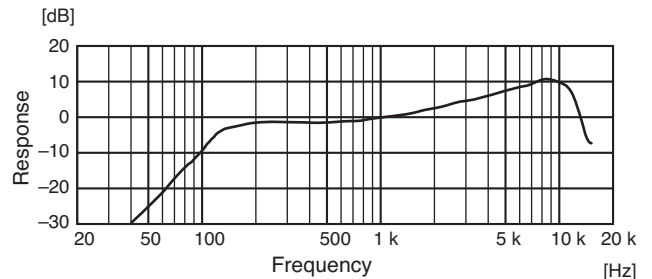
8. CIRCUIT DIAGRAM



9. DIRECTIVITY CHARACTERISTICS



10. FREQUENCY RESPONSE



Traceability Information for Europe (EMC directive 2004/108/EC)

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

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