

Operator's Manual

Heart Sound Sensor TA-701T

0604-004601B

General



The TA-701T is a direct-contact acceleration type PCG microphone. Also read the operator's manual for the MCG amplifier that is connected to this sensor.

Standard Accessories

Name	Q'ty	Code No.	Supply Code
Adhesive collar	4×10	356125A	H260

Handling Cautions

- When an RM-6000, RMC-1100 or RMC-2000 amplifier with mechanocardiogram measurement function is used, the SB-701S battery box is required.
- Do not give impact to or drop the sensor. It may damage the sensor. Be careful when handling.
- For long periods of storage, keep the sensor in a package.
- Operate the sensor in a soundproof room or in the quietest possible place.
- Keep the recorder away from the patient to avoid interference caused by the recorder sound.

Sensor Positioning

Use a stethoscope to find the sensor position where the heart sound is most clearly audible. Generally, heart sound is heard at the positions shown in the figure. For a patient with patent ductus arteriosus (PDA), aortic stenosis (AS), ventricular septal defect (VSD), etc., move the sensor to the appropriate position for the condition.



Location	Valve to be diagnosed
1) Apex	Mitral valve
2) 4th intercostal space and left end of the sternum	Mitral valve
3) 3rd intercostal space and left end of the sternum	Pulmonary valve and aortic valve
4) 2nd intercostal space and left end of the sternum	Pulmonary valve and aortic valve
5) 2nd intercostal space and right end of the sternum	Pulmonary valve and aortic valve
6) 5th intercostal space and right end of the sternum	Tricuspid valve and aortic valve

Attaching the Sensor



1. With alcohol, wipe the sweat and oil from the surface of the skin where the sensor is to be placed.
2. Strip the supplied adhesive collar off its pasteboard backing.
3. Attach the adhesive collar to the attachment surface of the sensor and remove the paper.
4. Place the sensor in the desired position.
5. Attach the connection cord to the skin with adhesive tape as shown to the left.



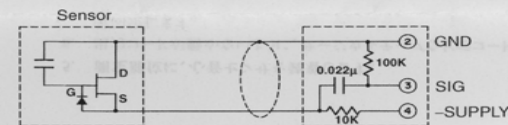
NOTE

If the sensor position is unstable or long-term recording is necessary, secure the sensor itself with adhesive tape for better results.

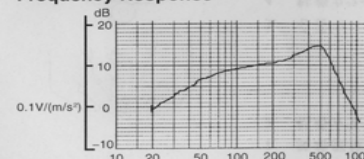
Specifications

Sensitivity	0.1V/(m/s ²) (150Hz)
Frequency response	20 to 600 Hz
Resonance frequency	≥350 Hz
Patient leakage current	≤10 μA (at 240V AC)
Withstanding voltage	4000 V AC for 1 min.
Operating temperature	10 to 40 °C
Operating humidity	30 to 85 %
Dimensions and net weight	φ20 mm × 16 mm, 41 g (with connection cord)
Output cord	Single-core shielded cable, 2 m
Output connector	MAS-5100S 5P
Power	-5 to -15 V

Circuit Diagram



Frequency Response



Manufactured by Nihon Kohden

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HEART SOUND TRANSDUCERS

models TA-601T
TC-601T

Designed for Detecting Phonocardiogram for Phonocardiography or Mechanocardiography.

model TA-601T (acceleration type)

The TA-601T is a direct-contact, acceleration type heart sound transducer utilizing a piezoelectric element as a sensor. It features a superior signal-to-noise ratio assuring high-grade phonocardiogram, and it has a weight construction (only 29 grams) which gives less discomfort to the patient's chest wall. The microphone placement system, which uses a double-faced adhesive collar, permits fast, easy and reliable positioning. The exterior of the transducer is made of plastic molding to isolate the patient from the circuit for safety.

SPECIFICATIONS

- Sensitivity:** 1V/G, or greater
- Frequency Response:** 20 to 600 Hz, within ± 6 dB
- Resonance Frequency:** 350 Hz, or greater
- Capacitance:** 1,200 pF or greater, including a 2-meter-long connection cord
- Patient Leak Current:** 100 μ A or less (240V AC 50 Hz)
- Operating Temperature and Humidity:** 0 to 45°C and 45 to 85% RH
- Dimensions and Net Weight:** 29 Diameter x 18.5 Thickness (mm), approx. 29 grams (transducer only)

Connection Cord and Connector: Single-conductor, shielded cord, 2 m long, MAS-5100S
Adhesive Collar for Transducer Placement: 30 mm Diameter, NK Parts No. 509 0063

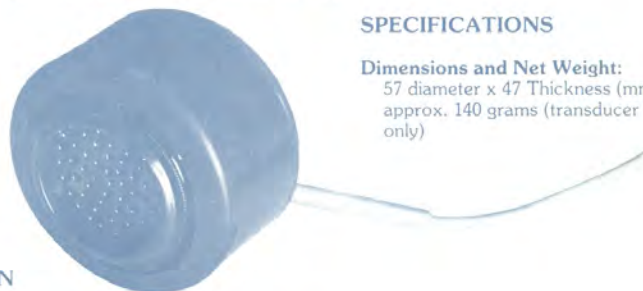


model TC-601T (air-conductive, dynamic type)

The TC-601T is a conventional air-conductive, dynamic type heart sound transducer which should be used in a soundproof PCG room. The transducer is supplied with two contact rings (30 mm and 25 mm in diameter) to provide better contact with the subject and minimal ambient noise artifacts.

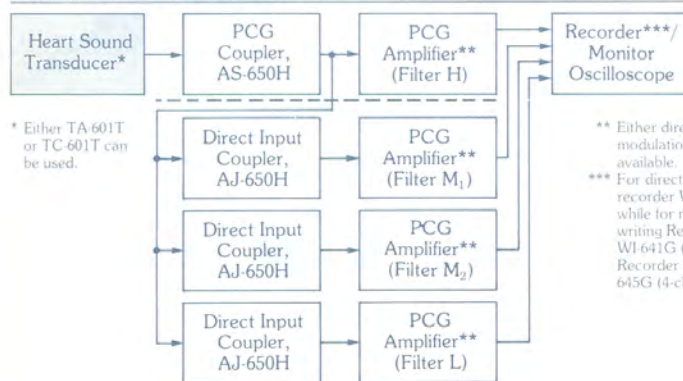
SPECIFICATIONS

Dimensions and Net Weight: 57 diameter x 47 Thickness (mm), approx. 140 grams (transducer only)



SAMPLE SYSTEM COMPOSITION

Polygraph System RM-6000/6300 (Multi-channel System)



* Either TA 601T or TC 601T can be used.

** Either direct system AS-601H or modulation system AS-611H is available.
 *** For direct system, the thermal array recorder WS-682G is recommended, while for modulation system, the Ink-writing Recorder WI-681G (8 chs.) or WI-641G (4 chs.), or Heat-writing Recorder WT-685G (8 chs.) or WT-645G (4 chs.) is recommended.