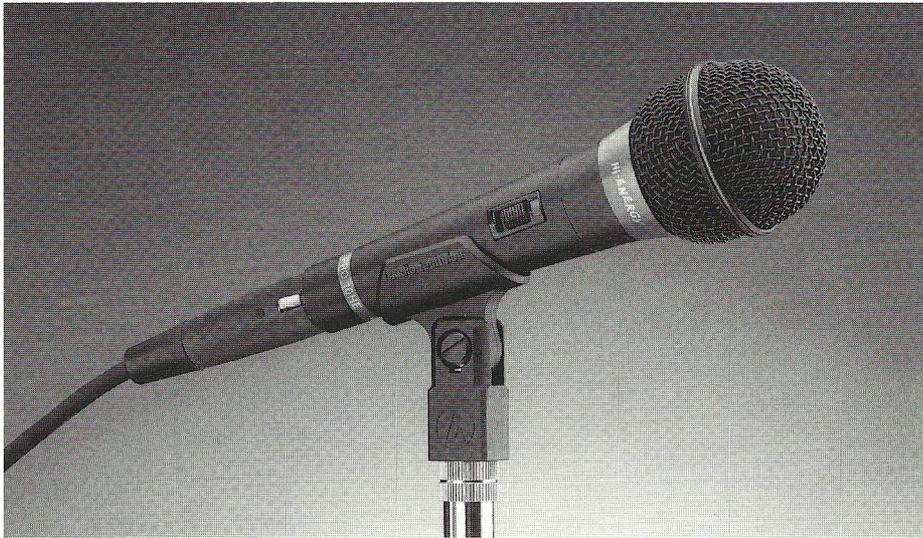


PRO 10HE

HI-ENERGY™ HYPERCARDIOID DYNAMIC MICROPHONE



Description

The PRO 10HE is a wide-range moving coil dynamic microphone with a hypercardioid pickup pattern. It features a Hi-Energy neodymium magnet with almi-chromate magnet coating. The voice coil is wound with copper-coated aluminum wire to ensure lowest mass for excellent transient response coupled with high-conductivity and maximum number of turns within the Hi-Energy Gap for maximum sensitivity.

The PRO 10HE was specifically designed for use in high-quality recording and sound reinforcement applications to meet the needs of professional musicians and sound engineers. A new floating diaphragm (patent pending) minimizes handling and case noise, especially at speaker-damaging low frequencies. The double-dome diaphragm ensures smooth, accurate high-frequency response. Unlike some other large-diaphragm, high-output dynamic microphones, this design provides both high sensitivity and extremely fast transient response for musical instrument and orchestral pickup.

The hypercardioid (unidirectional) polar pattern of the PRO 10HE is more sensitive to sounds originating directly in front of the element than to sounds coming from the sides or rear. Unidirectional microphones are useful in controlling feedback and reducing pickup of unwanted sounds such as audience noise or excess reverberation. Or they can be used to allow greater microphone-to-performer distance with equal noise, compared to an

omnidirectional microphone. Unidirectional microphones are widely used to provide isolation between artists during performances and while recording.

When used ultra-close the PRO 10HE provides proximity effect (extra bass boost) which can be used to achieve a fuller sound or to further reduce feedback and unwanted noise in conjunction with equalization of the microphone input.

The high-sensitivity neodymium design assures useful output and an excellent match to most mixer, tape recorder or amplifier inputs. It will provide undistorted output even in very intense sound fields. In some cases, however, an attenuator such as the Audio-Technica Model AT8202 may be required between the microphone and preamplifier to avoid overloading sensitive input stages.

The PRO 10HE is enclosed in a rugged housing with a low-reflectance matte finish. A superior internal shock mount provides effective isolation of the microphone capsule from handling and cable noise. Output is via a three-pin professional connector. A tapered slip-in microphone clamp permits mounting on any standard microphone stand with $\frac{5}{8}$ "-27 threads.

Operation and Maintenance

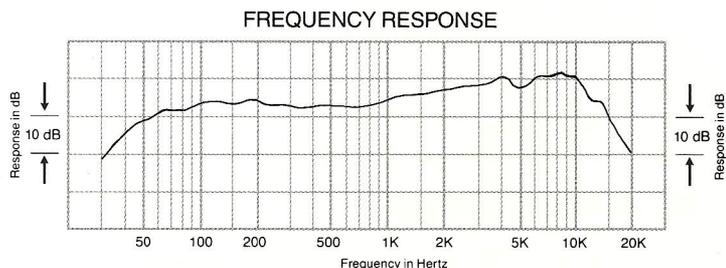
Output is balanced low impedance. The XLRM-type output connector mates with XLRF-type cable connectors. The balanced signal appears across Pins 2 and 3, while the ground (shield) connection is Pin 1. Output is phased so that positive acoustic pressure produces positive voltage at Pin 2 in accordance with industry convention.

For balanced low-impedance inputs, a 16 $\frac{1}{2}$ ft (5m) professional cable is provided. An accompanying drawing shows the wiring used at the equipment end of this cable. Note that other manufacturers may employ other color codes for cable conductors. Regardless of color code, it is important that both ends of each cable are wired consistently, with the shield always connected to Pin 1, Pin 2 connected to Pin 2, and Pin 3 to Pin 3. This will assure that all microphones are electrically in phase and reduce problems of uneven response and sound cancellation when two microphones are used in close proximity to each other.

For unbalanced low-impedance inputs, Model AT8312 Cable (or equal) is recommended. A $\frac{1}{4}$ inch phone plug is prewired to the equipment end of this cable as shown in the drawing.

For use into a high-impedance input, use the provided cable with a Model CP8201 Line Matching Transformer which has an integral $\frac{1}{4}$ inch phone plug output. Locating the transformer at the equipment input minimizes pickup of noise and hum, typical problems of long high-impedance lines. Use of the CP8305 Hi-Z transformer cable is also recommended.

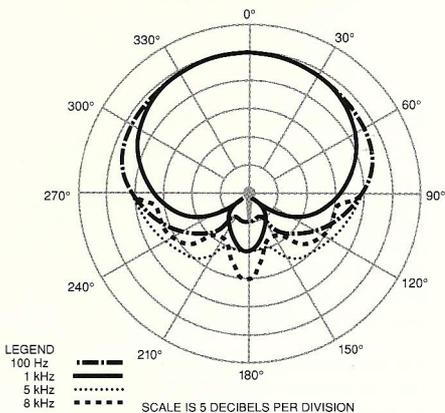
While every effort has been made to provide an extremely rugged microphone, reasonable care should be taken to avoid abuse. The microphone can withstand a wide range of temperatures and humidity without damage. Care should be observed to keep foreign particles from entering the windscreen. If the microphone is exposed to an environment with small iron or steel filings (on a workbench, for example) these fine metal particles can accumulate on the diaphragm, reducing low-frequency response. Excessive accumulation of dirt on the windscreen will reduce high-frequency response.



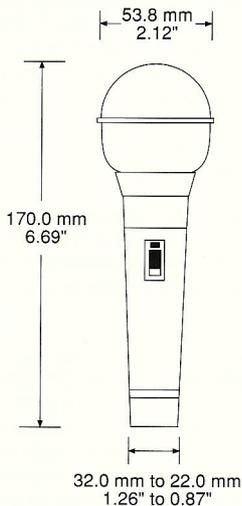
LEGEND ——— 12" or more on axis

PRO 10HE

POLAR PATTERN



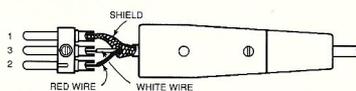
PRO 10HE DIMENSIONS



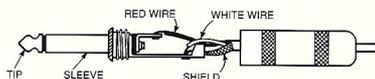
PRO 10HE SPECIFICATIONS†

Element	Moving Coil Dynamic
Polar Pattern	Hypercardioid
Frequency Response	50-15,000 Hz
Sensitivity	-56.4 dBm (0 dB = 1 mW/1 Pa*)
Open Circuit Sensitivity	2.4mV (-52.5 dB re 1V/1 Pa*)
Impedance	600 ohms
Weight (less cable and clamp)	8.6 oz (244 grams)
Dimensions	6.69" (170.0 mm) long, 2.12" (53.8 mm) head diameter 1.26" to 0.87" (32.0 mm to 22.0 mm) tapered body diameter.
Cable	16.5 ft (5m) 2-conductor, shielded, vinyl-jacketed, broadcast-type cable with XLRF-type connector at microphone end, XLRM-type connector at equipment end.
Accessories Furnished	Stand clamp for standard 5/8"-27 threaded stands; soft vinyl protective pouch.

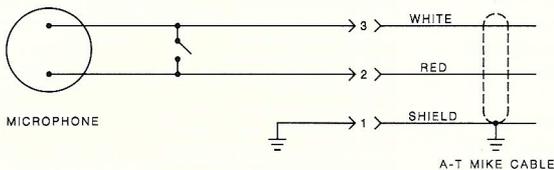
XLRM-TYPE PLUG WIRING LOW IMPEDANCE BALANCED



1/4" PHONE PLUG WIRING LOW IMPEDANCE UNBALANCED



PRO 10HE WIRING DIAGRAM



Positive (inward) acoustic pressure at diaphragm produces positive voltage at Pin 2.

†In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

* 1 Pascal = 10 dynes/cm² = 10 microbars

Optional Accessories:

Model CP8201 line matching transformer (Lo-Z to 50,000 ohms).

Model AT8202 adjustable in-line attenuator for use with low-impedance microphones.

Model CP8305 16 1/2 ft (5m) 2-conductor shielded, vinyl-jacketed broadcast-type cable with XLRF-type connector at microphone end and Lo- to Hi-Z transformer with 1/4" phone plug at output end.

Model AT8312 2-conductor, shielded, vinyl-jacketed, broadcast-type cable with XLRF-type connector at microphone end, 1/4" phone plug at equipment end. Available in 10', 20', & 25' lengths.

Model AT8314 2-conductor, shielded, vinyl-jacketed, broadcast-type cable with XLRF-type connector at microphone end, XLRM-type connector at equipment end. Available in 10', 20', 25', 30', 50', & 100' lengths.

Model AT8407 universal "clothes-pin" stand clamp fits both tapered and cylindrical microphones.

Model AT8410a shock mount for boom or stand operation. Universal "clothes-pin" clamp fits tapered and cylindrical microphones.

Model AT8415 shock mount for boom or stand operation.

ONE YEAR LIMITED WARRANTY

Audio-Technica microphones and accessories purchased in the U.S.A. are warranted for one year from date of purchase by Audio-Technica U.S., Inc. (A.T.U.S.) to be free of defects in materials and workmanship. In event of such defect, product will be repaired promptly without charge or, at our option, replaced with a new product of equal or superior value if delivered to A.T.U.S. or an Authorized Service Center, prepaid, together with the sales slip or other proof of purchase date. **PRIOR APPROVAL FROM A.T.U.S. IS REQUIRED FOR RETURN.** This warranty excludes defects due to normal wear, abuse, shipping damage, or failure to use product in accordance with instructions. This warranty is void in the event of unauthorized repair or modification.

FOR RETURN APPROVAL AND SHIPPING INFORMATION, contact the Service Department, Audio-Technica U.S., Inc., 1221 Commerce Drive, Stow, Ohio 44224.

Except to the extent precluded by applicable state law, A.T.U.S. WILL HAVE NO LIABILITY FOR ANY CONSEQUENTIAL, INCIDENTAL, OR SPECIAL DAMAGES; ANY WARRANTY OF MERCHANTABILITY OR FITNESS FOR PARTICULAR PURPOSE EXPIRES WHEN THIS WARRANTY EXPIRES.

This warranty gives you specific legal rights, and you may have other rights which vary from state to state.



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