AT2022

audio-technica

X/Y Stereo Microphone

20 series microphones

Features

- **X/Y stereo microphone with unique pivoting electret condenser capsules for ultimate flexibility**
- **Provides the spatial impact and realism of a live sound field**
- **Battery operation allows use with most recording devices**
- **Switchable low-frequency roll-off minimizes pickup of unwanted low-frequency noise**
- **User-selectable 90° or 120° stereo operation for narrow or wide pickup patterns**
- **Ideal for general stereo recording and field sound capture**
- **Excellent channel separation**
- **Included fuzzy windscreen offers excellent wind protection**

Description

The AT2022 is a condenser microphone designed for stereo recording. Two unidirectional condenser capsules in an X/Y configuration pivot to allow for 90° (narrow) or 120° (wide) stereo operation for extremely versatile pickup. The capsules also fold flat for storage and transportation. It is designed for general stereo recording and field sound capture.

The microphone requires a 1.5V AA battery for operation.

The microphone includes a 0.5 m (1.6') cable terminating in a 3-pin XLRF-type connector and a 3.5 mm (1/8") TRS connector. The output of the microphone is a 3-pin XLRM-type connector.

A switch permits choice of off, on/flat response or on/low-roll-off (via integral high-pass filter) to help control undesired ambient noise.

The microphone is enclosed in a rugged housing. The included AT8405a stand clamp permits mounting on any microphone stand with 5/8"-27 threads. A fuzzy windscreen, a battery and a soft protective pouch are also included.

Operation and Maintenance

The AT2022 is designed for battery operation only; install the battery before attempting use. **WARNING:** Do not attempt to use when phantom power is present. Possible damage to the microphone may result. (Please note, however, that the presence of a bias voltage – from a portable recording device, for example – is acceptable and will not harm the microphone.)

Battery installation: Unscrew the lower section of the microphone body to reveal the battery compartment. Insert a fresh 1.5V AA battery in the handle compartment ("+" end up), then reassemble the microphone.

Alkaline batteries are recommended for longest life. Remove the battery during long-term storage.

Output for each stereo channel is low impedance (Lo-Z) unbalanced. The unbalanced signals appear across Pin 2 for the left channel and Pin 3 for the right channel. Pin 1 is ground (shield) for both channels. Output is "Pins 2 and 3 hot" – positive acoustic pressure produces positive voltage at Pins 2 and 3.

For correct left-right stereo orientation, position the microphone so the word "UP" is facing the ceiling. Locating the microphone nearer the sound source enhances the apparent width of the stereo image, while decreasing room ambience. Moving away from the sound source will result in a narrower stereo image and more room sound.

There are 90° and 120° indicators on the bottom side of the microphone pivot. To select 90° (narrow) X/Y operation, rotate each element to align the mark on the pivoting element's base with the 90° notched indicator. To select 120° (wide) X/Y operation, rotate each element to align the mark on the pivoting element's base with the 120° notched indicator. For travel and storage, fold each element flat, perpendicular to the handle.

An integral 150 Hz low-cut filter provides easy switching from a flat frequency response to a low-end roll-off. The roll-off position reduces the pickup of low-frequency ambient noise (such as traffic, air-handling systems, etc.), room reverberation and mechanically coupled vibrations. To engage the low-cut filter, slide the switch toward L- CUT. For a flat frequency response, slide the switch toward FLAT.

Turn the microphone on by selecting either the L- CUT or FLAT setting. Turn the microphone off when not in use.

Avoid leaving the microphone in the open sun or in areas where temperatures exceed 110° F (43° C) for extended periods. Extremely high humidity should also be avoided.

Architect's and Engineer's Specifications

The microphone shall be a fixed-charge stereo condenser. It shall have a frequency response of 20 Hz to 20,000 Hz and two unidirectional condenser capsules in an X/Y configuration that pivot to allow for 90° or 120° stereo operation. The capsules shall also fold flat for storage and transportation. The microphone shall operate from a 1.5V AA/UM3 battery. It shall be capable of handling sound input levels up to 122 dB with a dynamic range of 103 dB. Nominal open-circuit output voltage shall be 8.9 mV at 1V, 1 Pascal. Output shall be low impedance balanced (200 ohms).

The output of the microphone shall be a 3-pin XLRM-type connector. A 0.5 m (1.6') cable with a 3-pin XLRF-type connector and 3.5 mm (1/8") TRS connector shall be included. The microphone shall include a switch that permits choice of off, on/flat response or on/low-roll-off (150 Hz).

The microphone shall be 192.0 mm (7.56") long and have a maximum head diameter of 65.0 mm (2.56"). Weight shall be 270 grams (9.5 oz). The microphone shall include a stand clamp, a fuzzy windscreen, a battery and a soft protective pouch.

The Audio-Technica AT2022 is specified.

Specifications

Elements	Fixed-charge back plate, permanently polarized condenser
Polar pattern	X/Y Stereo
Frequency response	20–20,000 Hz
Low frequency roll-off	150 Hz, 6 dB/octave
Open circuit sensitivity	-41 dB (8.9 mV) re 1V at 1 Pa
Channel balance	<2.5 dB
Impedance	200 ohms
Maximum input sound level	122 dB SPL, 1 kHz at 1% T.H.D.
Dynamic range (typical)	103 dB, 1 kHz at Max SPL
Signal-to-noise ratio[1]	75 dB, 1 kHz at 1 Pa
Battery type	1.5V AA/UM3 **WARNING:** The AT2022 is designed for battery operation only. Do not attempt to use when phantom power is present. Possible damage to the microphone may result.
Battery current / life	1.2 mA / 500 hours typical (alkaline)
Switch	Off, on/flat, on/roll-off
Weight (less cable and accessories)	270 g (9.5 oz)
Dimensions	192.0 mm (7.56") long, 65.0 mm (2.56") maximum head diameter, 21.0 mm (0.83") body diameter
Output connector	Integral 3-pin XLRM-type
Cable	0.5 m (1.6') long, 3 conductor, shielded, vinyl-jacketed stereo cable with 3-pin XLRF-type connector at microphone end and 3.5 mm ($^1/_8$") TRS connector at output end
Audio-Technica case style	S14
Accessories furnished	AT8405a stand clamp for $^5/_8$"-27 threaded stands; fuzzy windscreen; battery; soft protective pouch

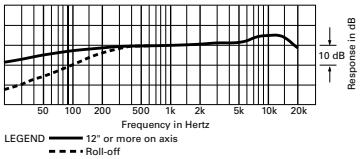
In the interest of standards development, A.T.U.S. offers full details on its test methods to other industry professionals on request.

1 Pascal = 10 dynes/cm^2 = 10 microbars = 94 dB SPL

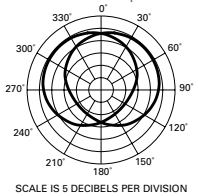
[1] Typical, A-weighted, using Audio Precision System One.

Specifications are subject to change without notice.

frequency response: 20–20,000 Hz

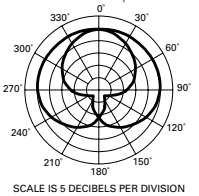


polar pattern
(200 Hz in 90º position)



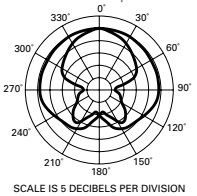
SCALE IS 5 DECIBELS PER DIVISION

polar pattern
(1 kHz in 90º position)



SCALE IS 5 DECIBELS PER DIVISION

polar pattern
(8 kHz in 90º position)



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