Midnight Blues®

MB4000C
Vocal/Instrument Cardioid Condenser Microphone

Description

The MB4000C is a wide-range condenser microphone with a cardioid pickup pattern. It is designed to meet the needs of professional musicians and sound engineers in live performance, recording and sound reinforcement applications. Smooth response, fast attack and quiet operation ensure high-quality vocal and instrumental pickup.

The microphone features an open-cage design for minimum disturbance of the studio-grade polar pattern. A special internal shock mount system minimizes handling and case noise while a multi-stage internal breath shield effectively reduces wind noise and "popping" when performers work extremely close.

The MB4000C will accommodate any external phantom power source supplying from 9V to 48V DC. If, however, remote powering is not available, a common 1.5V AA battery will provide sufficient power to the microphone. Current demands are so low that a premium battery will provide more than a thousand hours of service.

The cardioid pickup pattern of the MB4000C is useful in reducing unwanted background noise and controlling feedback, especially when used extremely close. Miking instruments or vocalists at very close range also effectively reduces "leakage" from one performer to the next. Low-frequency noise is reduced by a low-frequency roll-off of sounds more than one foot distant from the microphone.

Enclosed in a rugged housing, the MB4000C features a special, baked-on "Midnight Blues" finish. In addition to being attractive and comfortable to hold, this special finish further reduces handling noise and increases durability.

The included microphone clamp permits mounting on any microphone stand with 5/8"-27 threads. A battery, foam windscreen and foam-lined carrying case are also provided.

Operation and Maintenance

If remote power is not available, install a battery before attempting operation. Unscrew the lower section of the microphone body, just below the on/off switch. Place the battery in the handle compartment, then reassemble the microphone. Be certain to observe the polarity as indicated (+ end up). While standard carbon-zinc batteries will power the microphone satisfactorily, alkaline cells are preferred for longer service life. Only "leakproof" batteries should be used, and they should be removed for long-term microphone storage.

Output of the MB4000C is low impedance balanced. The professional 3-pin microphone 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 (required for phantom power), MBC15L cable (or equal) is recommended. 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 the color code, it is important that both ends of each cable are wired consistently, with the shield always connected to Pin 1, Pin 2 to Pin 2, and Pin 3 to Pin 3. This will ensure that all microphones are electrically in phase and reduce problems of uneven response and sound cancellation when two microphones are used close to each other.

For unbalanced low-impedance inputs, MBC15H cable (or equal) is recommended. A 1/4" phone plug is wired to the equipment end of this cable.

For high-impedance inputs, use MBC15L cable (or equal). Plug this cable into a CP8201 line matching transformer, which has an integral 1/4" phone plug for connecting directly to the Hi-Z amplifier input. Locating the transformer at the equipment input minimizes pickup of noise and hum, typical problems experienced with long high-impedance lines. Use of the CP8305 Hi-Z transformer cable is also recommended.

The high sensitivity of the MB4000C assures useful output and an excellent match to most mixer, tape recorder and amplifier inputs. It will provide undistorted output even in very intense sound fields. In some cases, however, an attenuator such as the Audio-Technica AT8202 may be required between the microphone and preamplifier to avoid overloading sensitive input stages.

While a condenser microphone is not unduly sensitive to the environment, temperature extremes can be harmful. Exposure to high temperatures can result in gradual and permanent reduction of the output level. Avoid leaving the microphone in the open sun or in areas where temperatures exceed 110° F (43° C) for long periods of time. Extremely high humidity should also be avoided.

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SPECIFICATIONS†

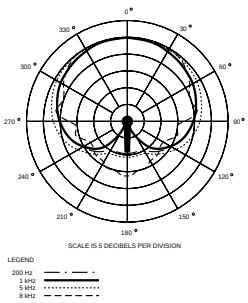
Element		Condenser
Polar Pattern		Cardioid (Unidirectional)
Frequency Response		100-18,000 Hz
Open Circuit Sensitivity		3.9 mV (–48 dBV) at 1 Pa*
Impedance		200 ohms
Maximum Input Sound Level	PHANTOM BATTERY	128 dB SPL, 1 kHz at 1% T.H.D. 124 dB SPL, 1 kHz at 1% T.H.D.
Dynamic Range (Typical)		100 dB, 1 kHz at Max SPL
Signal-To-Noise Ratio[1]		66 dB, 1 kHz at 1 Pa*
Switch		On/off
Phantom Power Requirements		9-48V DC, 2.0 mA typical
Battery Type		Use only "leakproof" AA/UM3 1.5V battery
Battery Current		1.0 mA typical
Battery Life		More than 1000 hours, premium battery, continuous use
Weight (Less Accessories)		4.7 oz (132 grams)
Dimensions		7.94" (201.8 mm) long, 1.53" (38.8 mm) head diameter
Output Connector		Integral 3-pin XLRM-type
Accessories Furnished		AT8427 stand clamp for 5/8"-27 threaded stands; foam windscreen; battery; protective foam carrying case

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

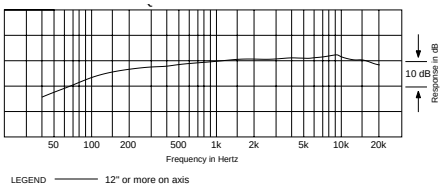
* 1 Pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL

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

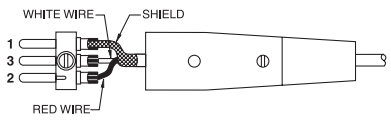
Polar Pattern



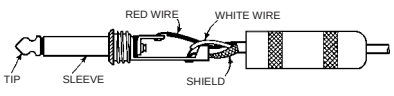
Frequency Response



XLRM-type Plug Wiring
Low Impedance Balanced



1/4" Phone Plug Wiring
Low Impedance Unbalanced



OPTIONAL ACCESSORIES

MBC15H 15' 2-conductor, shielded, vinyl-jacketed cable with XLRF-type connector at microphone end, 1/4" phone plug at equipment end.

MBC15L 15' 2-conductor, shielded, vinyl-jacketed cable with XLRF-type connector at microphone end, XLRM-type connector at equipment end.

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

AT8202 adjustable in-line attenuator for use with balanced Lo-Z microphones.

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' and 25' lengths.

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.

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

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

AT8415 low-profile shock mount for boom or stand operation.

CP8506 four-channel 48V phantom power supply (AC powered).

AT8801 single-channel 48V phantom power supply (AC powered).

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.

Outside the U.S.A., please contact your local dealer for warranty details.

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