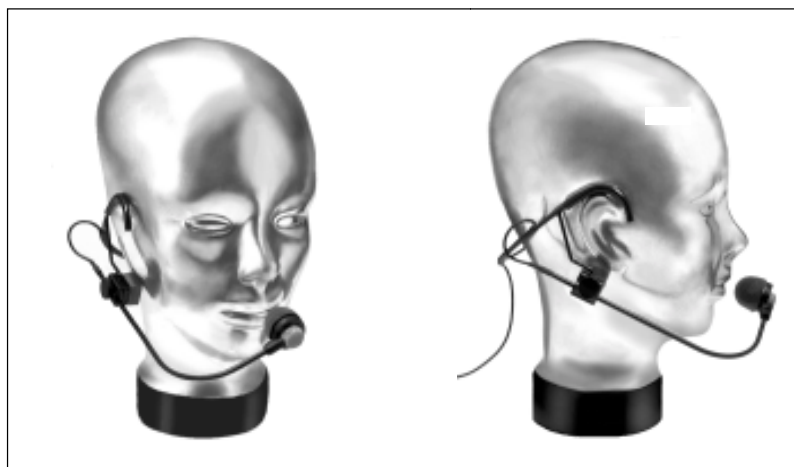


CM311 A CM311 AESH CM311 L



DIFFEROID® HEAD-WORN CONDENSER MICROPHONE



Designed for touring and live-sound applications, the AKG/Crown CM311 is a rugged head-worn microphone with unequalled performance. It sounds like the best handheld microphones - full, clear, and distortion-free, even with the loudest singers.

The CM311 is the latest version of the AKG/Crown's proprietary Differoid® technology. Its cardioid pickup pattern rejects sounds from the rear, such as floor monitors. Its noise-cancelling ability rejects sounds at a distance, such as instruments on stage and crowd noise. This results in the CM311 having outstanding gain-before-feedback and isolation.

Lightweight and comfortable, the mic's headband and boom adjust to fit any singer. An included pop filter greatly reduces breath noise and pops. Because of the boom's unique behind-the-ear design, it does not cover up the singer's face.

Three models are available: CM311 A, CM311 AESH and CM311 L. The CM311 A is powered by a 9 V battery or phantom power. It has a battery belt pack with an on/off switch, a programmable mic on/off switch, and a "Mic On" LED. The CM311 AESH has a T4AF connector, allowing you to connect with Shure® wireless systems. The L version offers a 3-pin mini XLR output, which fits all AKG wireless body-pack transmitters.

How to adjust for best fit and to prevent boom bounce

Note: To get the maximum performance out of this microphone, take the time to adjust it to fit correctly.

For best results, the CM311 A MUST be custom fitted to a single user's head. This simple procedure takes only a few minutes. Please refer to Fig. 5 and locate the parts described.

1. If the microphone is for yourself, we suggest that you use a mirror to double check the fit as you make adjustments.
2. Loosen (just a little) the thumbscrew located on the outside of the foam block, part way back on the boom. This allows the boom to slide in and out, and to rotate left and right.

Specifications

Transducer type: Electret condenser.

Frequency response (typical): 50 Hz to 17,000 Hz (see Fig. 1).

Polar pattern: Cardioid (see Fig. 2).

Impedance: CM311 A, 75 ohms balanced. CM311 AESH and CM311 L, 6 kilohms unbalanced.

Recommended load impedance: CM311 A, 1000 ohms or greater. CM311 AESH and CM311 L, 10 kilohms.

Open-circuit sensitivity, typical, close-talking: CM311 A, 4 mV/Pa* (-48 dB re 1V/Pa), CM311 AESH and CM311 L, 1.25 mV/Pa (-58 dB re 1V/Pa).

Power sensitivity, typical, close-talking: CM311 A: -42.5 dB re 1 mW/Pa*, CM311 AESH and CM311 L: -71.5 dB re 1 mW/Pa.

Equivalent noise level (self noise): 26 dB SPL typical (0 dB = 0.0002 dyne/cm²), A-weighted.

S/N ratio: 68 dB at 94 dB SPL.

Maximum SPL: CM311 A, 148 dB SPL produces 3% THD. CM311 AESH and CM311 L, 140 dB SPL with 3V DC, 148 dB SPL with 9V DC.

Operating voltage: CM311 A, 9 V DC internal alkaline battery or 18-48 V phantom power. CM311 AESH and CM311 L, 3-9 V DC from the transmitter's battery.

Polarity: Positive pressure on diaphragm produces positive voltage on CM311 A XLR pin 2 with respect to pin 3, and on CM 311 AESH and CM311 L shield with respect to white lead.

Current drain: CM311 A, 6.5 mA nominal. CM311 AESH and CM311 L, 0.27 mA nominal.

Battery life: CM311 A, 85 hours. CM311 AESH and CM311 L, approximately equal to transmitter battery life.

Off-attenuation: 70 dB.

Output connectors: CM311 A, 3-pin pro audio (XLR type). CM311 AESH, TA4F for Shure® wireless systems. CM311 L, 3-pin mini XLR.

Materials: High-impact plastic mic housing, brass boom, steel wire headband, high-impact plastic and steel battery pack.

Finish: Satin black.

Net weight: Head-worn mic, 2.1 oz (61 g).

CM311 A belt pack and battery, 6.1 oz (173g).

Dimensions: Headband 5.5-inch (13.97 cm) diameter, adjustable. Boom approximately 7-inch (17.78 cm) x 3-inch (7.62 cm). See Figs. 3 and 4.

Included accessories: Microphone carrying case, WS-6 foam pop filter, clothing clip.

Optional accessories: PH-4B phantom power supply (4 channels, AC powered). PH-1A phantom power supply (1 channel, battery or AC-adaptor powered). WS-14 accessory windscreen.

*1 pascal = 10 dynes/cm² = 10 microbars = 94 dB SPL.

Fig. 1

Frequency Response

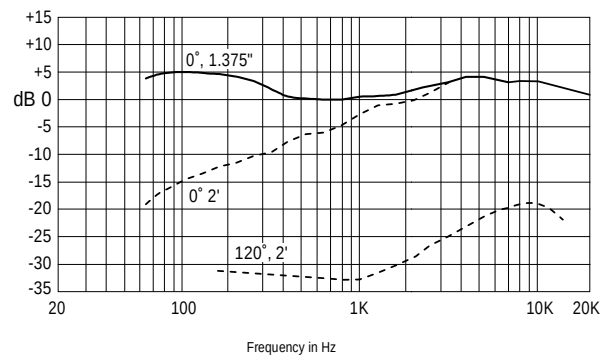


Fig. 2

Polar Response

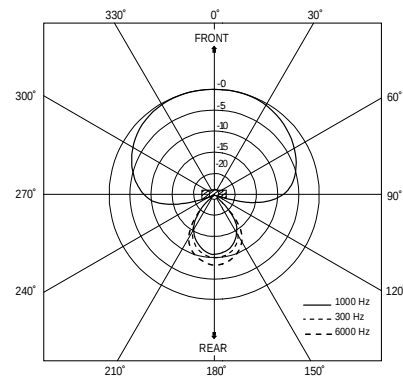


Fig. 3

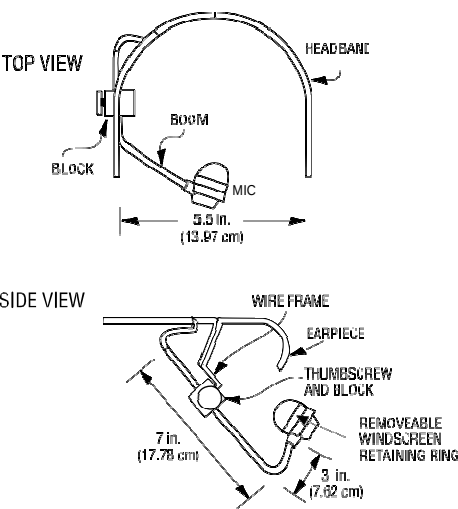


Fig. 4

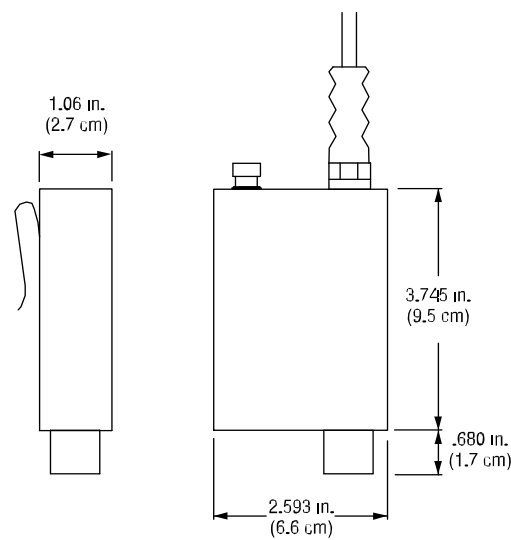
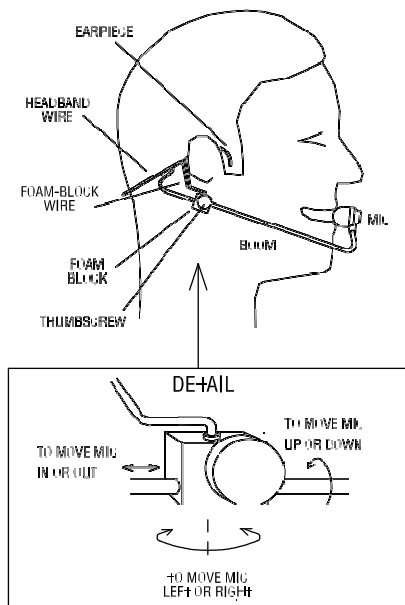


Fig. 5



3. Now bend the headband wire to fit your head. Put the foam-block wire behind your ear. Then you can bend the earpieces to fit snugly around your ears. The back of the headband should fit firmly against the back of your neck.

4. Next, adjust the foam pad snug against your head or neck. To do this, bend the wire that goes into the foam block. CAUTION! Do not bend the boom itself — just the foam-block wire. A snug fit of the foam pad prevents boom bounce when you move around.

5. Be sure that the thumbscrew is still loosened a little. Move the boom in or out, and left or right, to center the mic directly in front of your lips. **The foam pop filter should press firmly against the lips.** This is necessary because the mic cancels sounds that are not close to it. Also, it keeps the boom from bouncing. Tighten the thumbscrew and you're done.

Once you've adjusted the headset, it should remain in that position - no further adjustments are needed. You can still swing the mic up or down, away from your lips, if you don't want to be heard on the P.A. — or use the mic on/off switch programmed for "press off" operation.

After several hours of use, the foam pop filter can become clogged with moisture,

giving a muffled sound. Periodically wash it in mild detergent and water. The foam pop filter is held in place by a removable ring.

Additional WS-6 pop filters can be ordered from AKG's Parts Department.

How to insert a battery in the CM311 A belt pack

1. Access the battery by sliding open the battery cover.
2. Insert a fresh 9V alkaline battery (Mallory Duracell MN9100 or equivalent) into the battery tray. The battery cover shows the correct polarity.
3. Replace the battery cover. To prolong battery life, turn off the battery switch when not in use.

If you're using phantom power, and the battery switch is on, the battery will take over automatically if phantom power fails.

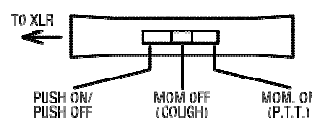
After 85 hours of use, or if the sound is distorted, it's time to replace the battery.

How to program the mic on/off switch

The mic on/off switch can be programmed to work in three ways:

- * Push-on/push-off.
- * Momentary on.
- * Momentary off (as supplied).

To change the switch operation, open the belt-pack case by removing the three screws. Set the switch as shown below:



The LED lights when the mic is on.

Architects' and Engineers' Specifications

The microphone shall be the AKG/Crown Model CM311 A or equivalent. The microphone shall be a head-worn, noise-cancelling,

cardioid type of electret-condenser design. The microphone shall exhibit excellent off-axis response and gain-before-feedback. The microphone shall have an adjustable headband, adjustable boom with locking thumbscrew, and foam pop filter.

Model CM311 A shall include a battery belt pack. In the CM311 A, a 42-inch, permanently attached, two-conductor shielded cable shall connect the microphone to the belt pack. The belt pack shall include a 3-pin pro audio (XLR type) connector.

Model CM311 A shall be powered by a 9 V battery in the belt pack, or by 18 to 48 V phantom power. The belt pack shall have a battery on/off switch, a programmable mic on/off switch, and a "Mic On" LED.

Nominal open-circuit sensitivity shall be 4 or 1.25 mV/Pa. Maximum SPL shall be 148 dB SPL for 3% THD. Equivalent noise shall be 27 dBA nominal. Frequency response shall be 50 Hz to 17,000 Hz with a uniform off-axis response, over 20 dB down at the rear null. The AKG/Crown model CM311 A is specified.

Microphone Warranty

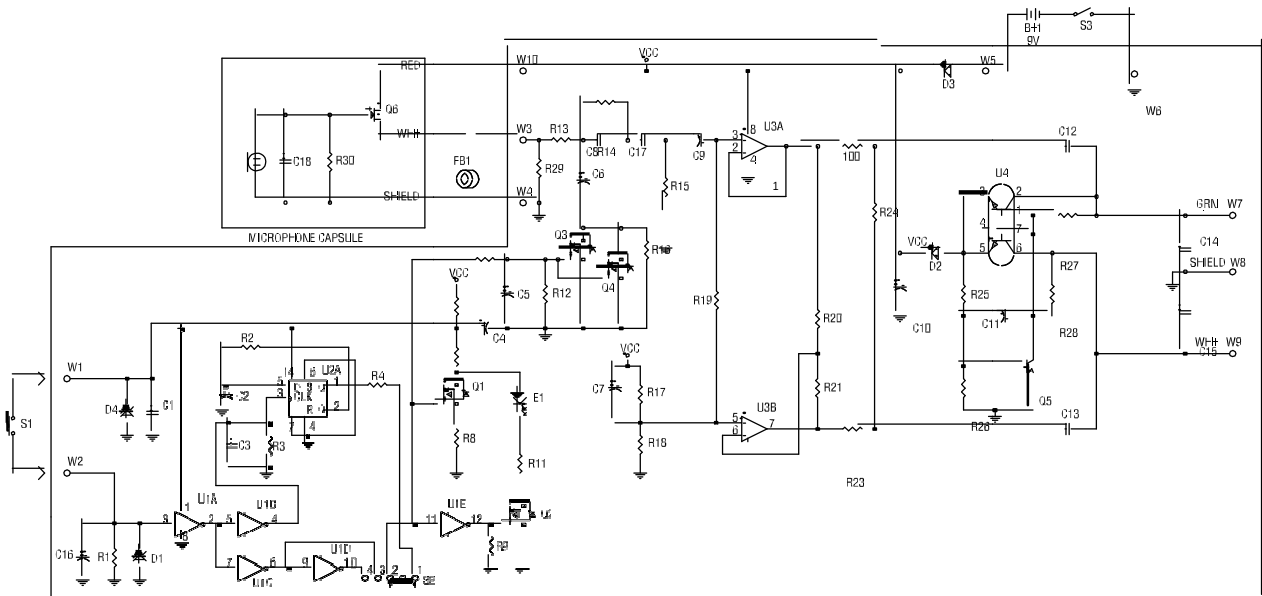
AKG/Crown professional microphones are guaranteed unconditionally against malfunction from any cause for a period of three years from date of original purchase. See enclosed warranty sheet for additional information.

Service

If the microphone does not function properly, check that it is aimed correctly and is connected as described in this data sheet. If you determine that the microphone product is defective, return the complete product in its original packaging to one of the addresses below. For further assistance or technical support call the international helpdesk at

+43 676 83200 888.

CM311 A CM311 AESH CM311 L



MICROPHONE PRE-AMPLIFIER

CM311 A Schematic



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