

CM-310ASW

The Crown CM-310ASW Differoid® is a hand-held noise-canceling microphone for sporting events or other applications with high ambient sound level. It features a magnetic reed switch that turns the mic on and off. The smooth-operating switch operates silently.

The CM-310ASW uses Crown's patented Differoid technology. It is differential or noise cancelling, so it rejects sounds that are not close to the microphone. It has a cardioid polar pattern, so it rejects sounds from the rear.

These features give the CM-310ASW exceptional gain before feedback. It permits extremely loud P.A. levels before feedback occurs. The mic also rejects unwanted background noise. The announcer can sit in the stands with the audience, with the P.A. loudspeakers playing loudly, and not experience feedback.

Inside the mic handle, on the PC board is a DIP switch that sets the frequency response. It has two settings: music and announcing. The music setting sounds warm and smooth, while the announcing setting has less bass and more highs for extra intelligibility.

The frequency response is tailored for clear, natural reproduction of the voice. A built-in pop filter suppresses explosive breath sounds. Handling noise is very low. The unit can withstand repeated drops and abuse, as well as extremely loud sounds without distortion.

The output of the CM-310ASW is balanced, low impedance, which allows long cable runs without hum pickup or high-frequency loss. The unit can be phantom powered from a mixer or other remote power supply. Included with the CM-310ASW is a convenient carrying pouch, the ASA-2 mic stand adapter, and a foam windscreen for outdoor use.

Operating Instructions

Using a 2-conductor shielded microphone cable, plug the microphone into a mixer mic input with 12 to 48 volts phantom powering or use a remote phantom power supply. Crown makes an AC-powered model PH-4B supply for powering up to four microphones. Also available is a single-channel

DIFFEROID® MICROPHONE WITH ON/OFF SWITCH



Specifications

Transducer type: Electret condenser.

Frequency response (typical): 80 Hz to 15 kHz. See Figs. 1 and 2.

Polar pattern: Cardioid. See Fig. 3.

Impedance: 200 ohms balanced. Recommended minimum load impedance 1000 ohms.

Open circuit sensitivity, typical, close talking: 1.7 mV/Pa* (-55.5 dBV/Pa).

Power sensitivity, typical, close talking: -54.5 re 1 mW/Pa*.

Equivalent noise level (self-noise): 21.5 dB SPL typical (0 dB = .0002 dyne/cm²), A-weighted.

S/N ratio: 72.5 dB at 94 dB SPL.

Maximum SPL for 3% THD: 151 dB SPL with 48 V phantom, 143 dB SPL with 12 V phantom.

Operating voltage: Phantom power, 12 to 48 volts DC, positive voltage on pins 2 and 3 with respect to pin 3 of output connector.

Polarity: Positive pressure on the diaphragm produces a positive voltage on pin 2 with respect to pin 3 of output connector.

Current drain: 1.5 milliamperes.

Cable: None supplied. Use 2-conductor shielded mic cable.

Connector: 3-pin professional audio connector (XLR type).

Switch: Magnetic reed on/off.

Materials: Rugged aluminum alloy housing, steel grille.

Finish: Satin black.

Net weight: 7.1 oz. (200 g).

Dimensions: See Fig. 4.

Included accessories: Carrying pouch, ASA-2 mic stand adapter and WS-4 windscreen.

Optional accessories: Crown PH-1A phantom power supply (1 channel, battery or AC adapter powered), Crown PH-4B phantom power supply (4 channels, AC powered).

Replacement parts: Field-replaceable CM-310ASW grille screen is available from Crown's Parts Department.

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

Fig. 1 Frequency Response (switch set to "announcing")

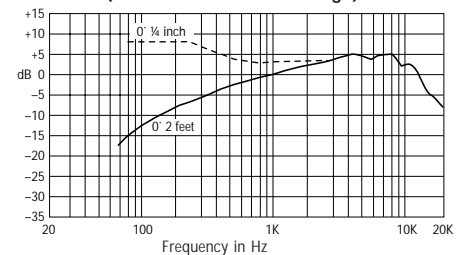


Fig. 2 Frequency Response (switch set to "music")

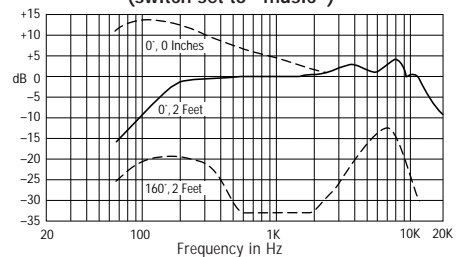
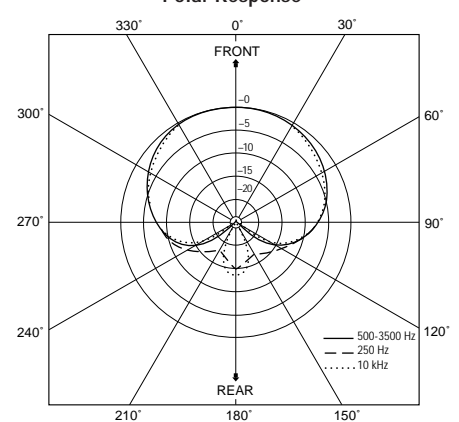


Fig. 3 Polar Response



CM-310ASW

Fig. 4

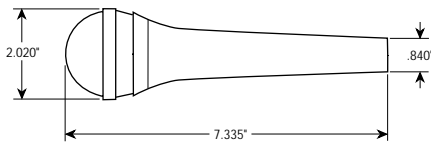
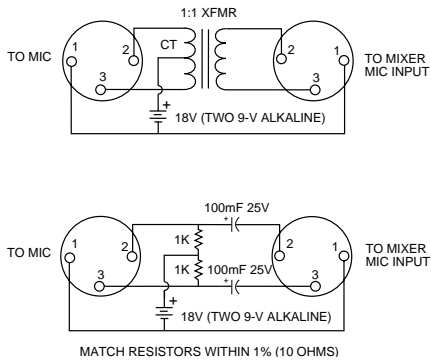


Fig. 5



battery supply or AC-adaptor supply, Crown model PH-1A. For special applications, you can make your own battery supply as suggested in Fig. 5.

Since the microphone cancels sounds that are not close to the mic, you must **talk close to the microphone with lips touching the grille-screen; talk directly into the front of the microphone** (as in Fig. 6).

To reduce wind noise or breath popping, place the included foam windscreen on the microphone. Note: This will reduce the mic's noise-canceling ability.

The switch inside the mic is factory-set to "announcing." To change the switch to "music," you need to pull out the circuit board in the mic.

Fig. 6

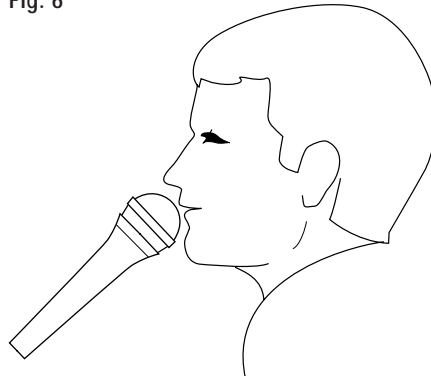
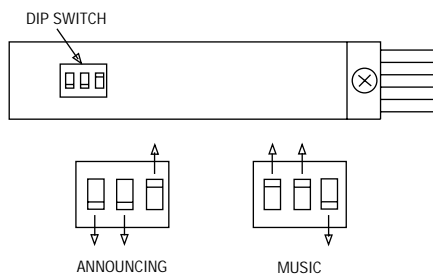


Fig. 7



1. Remove the screw in the mic handle near the connector.
2. Using needlenose pliers, pull on the connector pins to pull out the circuit board. Be careful not to break the wires soldered to the board.
3. Set the DIP switch as shown in Fig. 7 and reassemble the mic.

Architects' and Engineers' Specifications

The microphone shall be the Crown model CM-310ASW Differoid or equivalent. The microphone shall be a hand-held differen-

tial-type condenser requiring 12 to 48 volts phantom powering. Included shall be a magnetic reed switch to turn the microphone on and off. The microphone shall have 2-position dip switch for setting the frequency response for announcing or music.

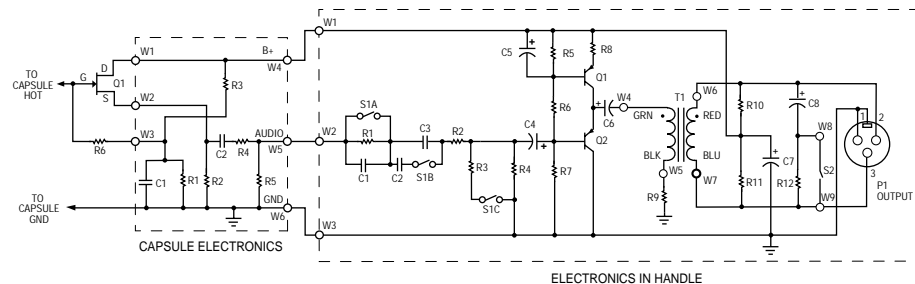
A smooth frequency response from 80 Hz to 15 kHz shall be obtained, with a uniform off-axis response. The polar pattern shall be cardioid. The microphone shall have an open-circuit sensitivity of 1.7 mV/Pa*. The microphone shall accept a 151 dB SPL input while providing no greater than 3% THD (open-circuit termination). Equivalent noise shall be 21.5 dBA typical (0 dB = .0002 dyne/cm²). The Crown model CM-310ASW microphone is specified.

Warranty

Crown professional microphones are guaranteed unconditionally against malfunction from any cause for a period of three years from date of original purchase. Please refer to the enclosed full warranty statement for more detail.

Service

If the unit fails to work, first replace or repair the mic cables and check the power supply. If service is required, return the microphone in its original packaging to Crown's Service Department at Plant 2SW, 1718 W. Mishawaka Road, Elkhart, IN 46517. For further assistance or technical support call 800-342-6939.



CM-310ASW Schematic



Crown International, Inc.
P.O. Box 1000
Elkhart, IN 46515-1000
TEL: 219-294-8000
FAX: 219-294-8FAX

Internet: <http://www.crownaudio.com>
©1998 Crown International, Inc.
Specifications subject to change without prior notice.
Crown® is a registered trademark of Crown International, Inc.