

# PZM<sup>®</sup>-30D

# PZM-6D

The Crown<sup>®</sup> PZM<sup>®</sup>-30D is a Pressure Zone Microphone<sup>®</sup> and the PZM-6D is a Pressure Zone Microphone. Both are designed for professional recording, sound reinforcement and broadcasting. It has many applications, from miking full orchestras or individual musical instruments to security or teleconferencing.

Each mic has a switchable dual frequency response: rising (R) or flat (F). The "rising" position adds brilliance. This makes it useful wherever a crisp attack is desired, such as on percussion, drums, or piano. The user can get a bright sound without boosting high frequencies on the recording console; the result is lower noise. The "flat" position provides a smooth, flat, high-frequency response for natural sound reproduction.

The PZM-30D is sturdy and reliable because it can be used with a rugged detachable cable. The PZM-6D has a smaller plate. Its low profile, unobtrusive appearance is appreciated in conference rooms, as well as on television, film and video productions. When suspended over an orchestra on a clear panel, the PZM-6D practically disappears. Its miniature, permanently attached 15-foot cable also reduces visual clutter. Model PZM-6DS2 has a 6-foot cable, and can be special-ordered from your Crown dealer.

The output of either mic is a male 3-pin XLR-type, balanced and low impedance, which permits long cable runs without hum pickup or high-frequency loss.

Like other Pressure Zone Microphones, the PZM-30D and PZM-6D utilize the Pressure Recording Process in which a miniature condenser microphone capsule is positioned very close to a sound-reflecting plate or boundary. The capsule is mounted in the "Pressure Zone" just above the boundary, a region where sound coming directly from the sound source combines in phase with sound reflected off the boundary. The benefits are excellent clarity and "reach," a hemispherical polar pattern, uncolored off-axis response, and a wide smooth frequency response free of phase interference.

## Operating Instructions

The PZM-30D and PZM-6D feature self-contained electronics which allows them to plug directly into a standard 12-48 VDC phantom power supply.

Crown makes an AC-powered model PH-4B supply for powering up to four PZMs. Also available is a single-channel AC/battery supply, Crown model PH-1A. For special applications, you can make your own battery supply as suggested in Fig. 4.

## PRESSURE ZONE MICROPHONES



### Features

- Pressure Zone Microphone design prevents coloration from surface sound reflections
- Choice of flat response or rising high-frequency response
- PZM-30D uses a rugged detachable cable. PZM-6D is smaller, lighter, and has a permanently attached cable
- Hemispherical pickup pattern

### Specifications

**Type:** Pressure Zone Microphone.

**Transducer:** Electret condenser.

**Frequency response:** 20 Hz to 20 kHz. See Fig. 1.

**Polar pattern:** Hemispherical when used on a floor, wall or ceiling.

**Open circuit sensitivity:** 7 mV/Pa\* (-43 dB re 1 volt/Pa).

**Power sensitivity:** -43 dB re 1 mW/Pa. EIA sensitivity -135 dBm.

**Impedance:** 240 ohms, balanced. Recommended minimum load impedance 1000 ohms.

**Self-noise:** 20 dB equivalent sound pressure level, A-weighted.

**S/N ratio:** 74 dB at 94 dB SPL.

**Maximum Sound Pressure Level:** 150 dB SPL at the microphone produces 3% THD.

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

**Operating voltage:** Phantom power, 12 to 48 volts DC, positive voltage on pins 2 and 3 with respect to pin 1 of the output connector.

**Current drain:** 1.1 mA.

**Connector:** Male 3-pin XLR-type.

#### Cable:

PZM-30D: None supplied; use 2-conductor shielded microphone cable.

PZM-6D: Permanently attached 15-foot (4.58-m) black cable with XLRM connector. Model PZM-6DS2 has a 6-foot (1.83-m) cable, and can be special-ordered from your Crown dealer.

**Switch:** Frequency-response select switch for rising or flat response.

**Color:** Black.

**Weight:** 6.5 ounces (184 grams).

#### Dimensions:

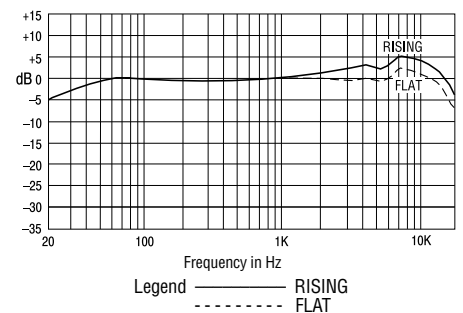
PZM-30D: 6 in. x 5 in. x .75 in. (15.2 cm x 12.7 cm x 1.9 cm). See Fig. 2.

PZM-6D: 3 in x 2.5 in. x .375 in. (7.62 cm x 6.35 cm x .95 cm). See Fig. 3.

**Included accessories:** PZM windscreen, carrying pouch.

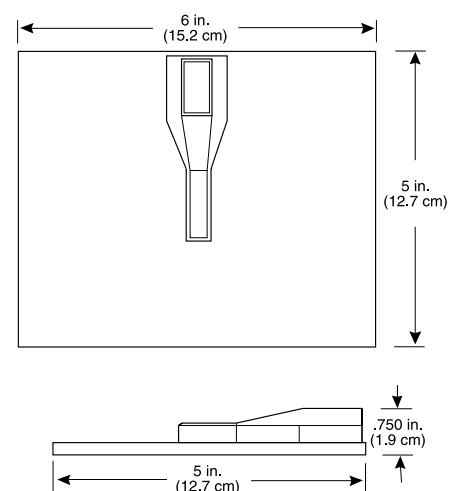
**Optional accessories:** PH-1A phantom power supply (1 channel, battery or AC-adaptor powered).

**Fig. 1** Frequency Response



Low-frequency response depends on size of surface.

**Fig. 2** PZM-30D Dimensions



\*1 pascal = 10 dynes/cm<sup>2</sup> = 10 microbars = 94 dB SPL.



RECORDING  
BROADCAST



INSTALLED

# PZM-30D PZM-6D

Using two-conductor shielded microphone cable, plug the microphone into a phantom power supply. Connect the power supply output to a mixer mic input, or if your mixer has phantom power built in, simply plug the PZM directly into a mixer mic input.

If your mixer or recorder requires an unbalanced phone plug connector, modify the cable leaving the power supply as follows: Solder the cable shield and the pin-3 lead to the phone-plug ground terminal. Solder the pin-2 lead to the phone plug "hot" or "tip" terminal.

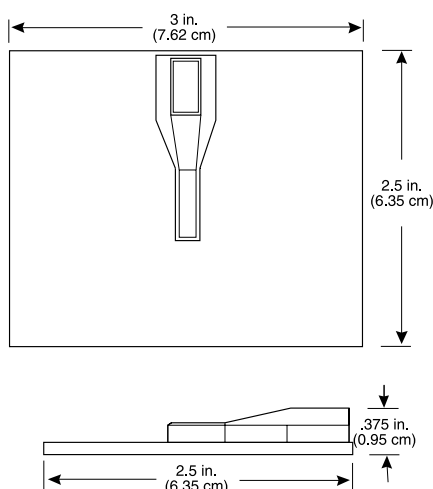
### Placement

PZMs are designed to operate on any stiff non-absorbent boundary (or surface). Typical boundaries are a floor, wall, ceiling, or table. This type of mounting improves the low-frequency response.

The published response curve is measured on an "infinite" boundary such as a floor, ceiling or wall. The microphone's low-frequency response depends on the size of the boundary on which it is placed. Specifically, the response begins to shelve down at and below the frequency  $F$ , where  $F = 750/D$  and  $D$  = the boundary dimension in feet. At approximately  $F = 188/D$ , the output of the microphone is down 6 dB, becomes omnidirectional, and maintains a flat response down to approximately 30 Hz.

Several placement examples are described in the Crown *Boundary Mic Application Guide*. For specific microphone application guides please refer to our website at [http://www.crownaudio.com/mic\\_web/mic-library.htm](http://www.crownaudio.com/mic_web/mic-library.htm).

Fig. 3 PZM-6D Dimensions



### Architects' and Engineers' Specifications

#### PZM-30D

The microphone shall be the Crown PZM-30D or equivalent. The microphone shall have a hemispherical pattern (when used on an infinite boundary). The element shall be a subminiature electret type of rugged construction. A smooth frequency response from 20 Hz to 20 kHz shall be obtained. The response shall be switch-selectable between flat (F) or rising (R).

The microphone shall employ the patented PRP principle for maintaining phase coherency, thus eliminating comb filtering in the audible spectrum.

The PZM-30D shall have a sensitivity of -43 dBV/Pa. The microphone shall accept 150 dB SPL input while contributing no greater than 3% THD (open circuit termination). Equivalent noise shall be typically 20 dBA re .0002 dyne/cm<sup>2</sup>. The microphone color shall be black. The microphone connector shall be a male 3-pin XLR-type. The Crown PZM-30D is specified.

#### PZM-6D

The microphone shall be the Crown PZM-6D or equivalent. The microphone shall have a hemispherical pattern (when used on an infinite boundary). The element shall be a subminiature electret type of rugged construction. A smooth frequency response from 20 Hz to 20 kHz shall be obtained. The response shall be switch-selectable between flat (F) or rising (R).

The microphone shall employ the patented PRP principle for maintaining phase coherency, thus eliminating comb filtering in the audible spectrum.

Permanently attached to the microphone is a fifteen-foot black cable with an XLRM connector.

The PZM-6D shall have a sensitivity of -43 dBV/Pa. The microphone shall accept 150 dB SPL input while contributing no greater than 3% THD (open circuit termination). Equivalent noise shall be typically 20 dBA re .0002 dyne/cm<sup>2</sup>. The microphone color shall be black. The microphone connector shall be a male 3-pin XLR-type. The Crown PZM-6D is specified.

### Warranty

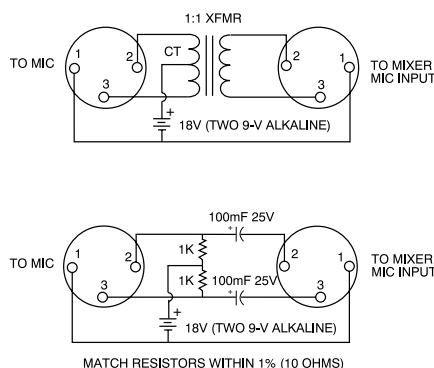
Crown professional microphones are guaranteed against malfunction for a period of three years from date of original purchase. Please refer to the enclosed full warranty statement for more detail.

### Service

If the microphone does not function properly, replace or repair mic cables and check the power supply.

If you determine the microphone product(s) is defective, return the complete product in its original packaging to: **Crown Factory Service, 1718 W. Mishawaka Road, Elkhart, IN 46517-9439.** For further assistance or technical support call **800-342-6939.**

Fig. 4 Phantom Power Supplies



H A Harman International Company

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