

# CM-700MP

The Crown® CM-700MP is a matched pair of CM-700 cardioid condenser microphones. The mics are matched in sensitivity and frequency response within 1.5 dB. Pairs of the CM-700 are an excellent choice for stereo recording of a classical music ensemble, folk group, drum set, piano, vocals, percussion and so on.

The CM-700 has a very smooth, wide-range frequency response which gives it a natural sound. It preserves the delicate timbre of acoustic instruments, yet it can reproduce all the power of a pipe organ. The off-axis response is also smooth, so any leakage picked up has little coloration.

Because of its cardioid pickup pattern, the CM-700 reduces background noise, room reverb and feedback. The cardioid pattern is uniform with frequency.

Self-noise is very low, permitting clean, noise-free recordings. The mic can handle extremely loud sounds without distortion. It is protected against static and RFI. The output is balanced, low impedance, which allows long cable runs without hum pickup or high-frequency loss. Powering is by 12-48V phantom power.

Several audiophile touches enhance the mic's pristine sound quality: an ultralight diaphragm, humbucking transformer, polycarbonate capacitors and a gold-plated 3-pin connector.

The CM-700 has a bass-tilt switch with three positions: flat, low-cut and rolloff. An included 2-stage foam pop filter softens breath pops, and a foam windscreen reduces wind noise outdoors.

## Operating Instructions

Plug the CM-700 into a phantom power supply or into a mic input that provides phantom power.

The bass-tilt switch in the handle has three positions:

**FLAT** (—): For recording instruments with deep bass — pipe organ, bass drum, acoustic bass, orchestra.

**LOW-CUT** (—): For removing rumble from air conditioning and trucks and to reduce breath pops in vocal recordings.

## MATCHED PAIR CM-700 CARDIOID CONDENSER MICROPHONES



### Specifications

**Type:** Cardioid condenser.

**Transducer:** Back electret condenser.

**Frequency response (typical):** 30 Hz to 20,000 Hz (see Fig. 1).

**Polar pattern:** Cardioid (see Fig. 2).

**Impedance:** 190 ohms, balanced. Recommended minimum load impedance 1000 ohms.

**Open-circuit sensitivity:** 2.5 mV/Pa\* (-52 dB re 1 V/Pa\*).

**Power sensitivity:** -52 dB re 1 mW/Pa\*.

**Equivalent noise level (self-noise):** 21 dB SPL typical A-weighted (0 dB=.0002 dyne/cm<sup>2</sup>).

**S/N ratio:** 73 dB at 94 dB SPL.

**Maximum SPL for 3% THD:** 151 dB with 48V phantom, 142 dB with 12V phantom.

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

**Output connector:** 3-pin male pro audio connector.

**Switch:** Flat, low-cut and bass rolloff.

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

**Current drain:** 3.2 mA.

**Materials:** Rugged steel housing and steel mesh grille.

**Finish:** Satin black.

**Dimensions:** See Fig. 3.

**Weight:** 4 oz. (113 grams) each.

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

**Included accessories:** Carrying pouch, WS-12 foam pop filter, WS-11 foam windscreen, ASA-4 swivel mount, wooden carrying case, stereo mic mount.

**Optional accessories:** Crown PH-4B phantom power supply (4 channels, AC powered). Crown PH-1A phantom power supply (1 channel, battery or AC powered). CM-SM isolation shock mount. CM-SB stereo bar, CM-700MPS stereo miking set.

Fig. 1

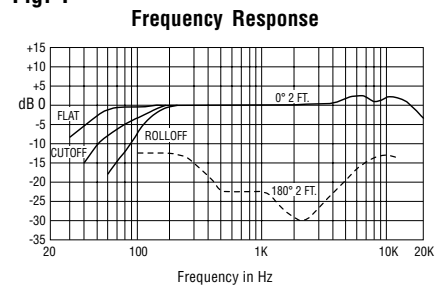
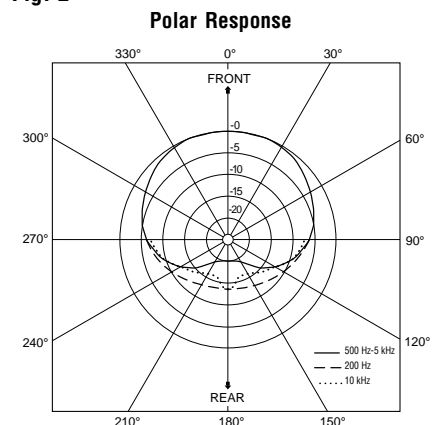


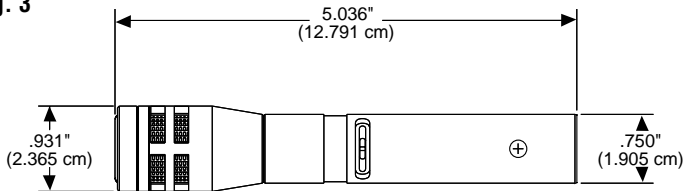
Fig. 2



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

# CM-700MP

Fig. 3



**ROLLOFF** (↘): For lectern use or close miking.

To use the CM-700 at a lectern, set the bass-tilt switch to ROLLOFF (↘). Put on the 2-stage pop filter and mount the mic on a boom about eight inches (20.32 cm) from the talker. Place the mic below the chin aiming toward the mouth.

### CM-SB Stereo Mic Placement

Place each mic in a swivel mount or CM-SM shock mount in a stereo bar, such as the Crown CM-SB. Adjust the angle and spacing between mics for the desired stereo effect. Here are some stereo mic techniques:

**Coincident pair (XY):** This technique is mono-compatible. Angle the mics inward so their grilles are aligned vertically, and angle them 90 degrees to 135 degrees apart. An angle of 90 degrees gives a narrow stereo spread unless the musical ensemble surround the mics in a semicircle. An angle of 135 degrees gives a wider stereo spread, but may have some off-axis coloration.

**Near-coincident pair:** Angle the mics outward and space their grilles a few inches apart horizontally. In the O.R.T.F. stereo mic

technique, the mics are angled 110 degrees apart (55 degrees either side of center) and are spaced seven inches (17 cm) apart. This technique tends to provide accurate localization and sharp imaging. Another technique is the N.O.S. method: angle the mics 90 degrees apart and space the grilles 1-foot (17.78 cm) apart. This method has less off-axis coloration than the O.R.T.F. method but less-sharp imaging. A 90°/8-in. (20.32-cm) setup works well.

Angle the mics down slightly so they will aim at the musical ensemble when raised. Raise the mic pair on a boom stand (typically about 14 feet (4.9 m) high for an orchestra). Place the mic stand about five feet (1.75 m) to 20 feet (6.1 m) from the front row of musicians. Find a miking distance where you monitor the desired amount of hall ambience. Close miking sounds close, distant miking sounds distant.

A suggested equalization is +3 dB at 80 Hz, -2 dB at 5 kHz and +2 dB at 12 kHz. This EQ compensates for distant miking and off-axis placement.

Close-miking suggestions are in the *Crown*

*Microphone Application Guide*, available free from Crown or your Crown dealer.

### Architects' and Engineers' Specifications

The product shall be the Crown CM-700MP or equivalent. It shall be a stereo matched pair of cardioid back-electret condenser mics powered by 12 to 48V phantom power. Frequency response shall be uniform from 30 Hz to 20,000 Hz. Open-circuit sensitivity shall be 2.5 mV/Pa. Maximum SPL for 3% THD shall be 151 dB with 48V phantom power. Self noise shall be 21 dB SPL A-weighted. Impedance shall be 190 ohms balanced. The microphone shall include a three-position bass-tilt switch: flat, low cut, or low-frequency rolloff. The Crown CM-700MP is specified.

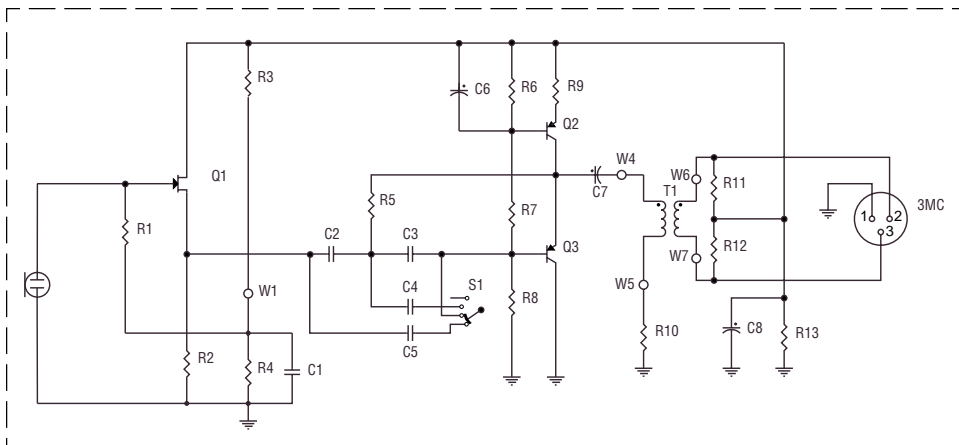
### Warranty

Crown professional microphones products 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 fails to work, replace or repair the mic cables, replace the battery or check the power supply.

If you determine the microphone product(s) is defective, return the complete product in its original packaging to: **Crown Service Department, Plant 2 SW, 1718 West Mishawaka Road, Elkhart, Indiana 46517.** For further assistance or technical support call **800-342-6939**.



CM-700 Schematic



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