

## C 414EB-P48 features:

- Large, one-inch dual-diaphragm system
- Four different polar patterns selectable on the microphone
- Pre-attenuation (0, -10, -20 dB) and bass attenuation selectable on the microphone (0/75 Hz/150 Hz)
- Exceptionally wide dynamic range
- Low self noise
- For 48 volt phantom powering only
- Low current consumption
- All-metal housing in black chrome finish

## DESCRIPTION

Although based in the lineage of famous AKG large diaphragm microphones—C 12, C 12A, C 12B, C 412, C 414 & C 414EB, and also on the same one-inch gold-sputtered dual-diaphragm capsule—the CK-12—the electronics of the new C 414EB-P48 are a completely new departure, and the key to the digital-level performance of the microphone. The resulting technical specifications are unique among today's microphones and will remain in the forefront of even tomorrow's microphones. The equivalent noise level of the C 414EB-P48, is at the "hushed" level of 18 dB SPL (weighted per DIN 45 405) and 15 dB SPL (A-weighted noise level per DIN 45 634, IEC 179), figures heretofore unchallenged.

The C 414EB-P48 Microphone's maximum sound pressure capability equally outranges any other product available. For all polar patterns with zero attenuation and flat response (no rolloff), the maximum sound pressure level at 1,000 Hz for 0.5% total harmonic distortion from the electronics . . . is a resounding 142 dB. With maximum attenuation selected, the figure increases to 162 dB. This results in a working dynamic range of over 124 dB, and a signal-to-noise ratio re: 94 dB SPL per DIN 45 590 of 76 dB (re: 94 dB SPL per IEC 179/A-weighted of 79 dB).



Pre-attenuation is incorporated before the FET impedance-converter stage to permit the increase of undistorted maximum sound pressure level by 10 or 20 dB for close-up recordings. This technique inhibits distortion in the transformers and circuitry used in the microphone's output and mixer inputs. A recessed switch on the front enables the user to select any one of four different polar patterns to adjust for different recording situations.

Four different types of microphones are thus combined in only one C 414EB-P48. All polar patterns are virtually frequency independent to guarantee the same sound character for all angles of incidence.

The switchable bass-cut circuitry will reduce the risk of distortion at low frequencies. This feature is especially useful to combat wind noise and stage floor vibrations. The slope of the bass-cut filter is more than 12 dB/octave, the cut-off may be set to 75 Hz, 150 Hz, or may be bypassed (flat).

## TECHNICAL DATA

Transducer type: Pressure gradient transducer with twin-condenser diaphragm and FET- preamplifier.

Directional Characteristics:

Variable (cardioid/omni/figure-eight/hypercardioid)

Directional Reference:

Nickel grille = front of mic, black grille = rear of mic

Control Facilities:

4-position pattern-selector switch (⊙/○/8/⊙)

3-position pre-attenuator switch (0/-10 dB/-20 dB)

3-position bass-rolloff switch (0/75 Hz/150 Hz)

Frequency Range (all patterns, 0 rolloff): 20-20,000 Hz

Nominal Impedance: 200 ohms

Recommended Load Impedance: ≥ 600 ohms

Sensitivity at 1 kHz (all patterns, 0 attenuation):

Open circuit: 9 mV/Pa; -61 dBV\*

Maximum power level: -43.5 dBm (re: 1 mW/10 dynes/cm<sup>2</sup>)

EIA G<sub>m</sub>: -136 dBm

Tolerance: +2, -2.5 dB

SPL for 0.5% THD (all patterns, 0 attenuation, 0 rolloff):

at 1,000 Hz: 142 dB SPL

Typical Self-Noise (all patterns, 0 attenuation, 0 rolloff):

18 dB SPL (with filter CCITT-C/DIN 45405)

15 dB SPL (with filter A per IEC 179/DIN 45634)

Power Requirement: 48 volt phantom powering (DIN 45596)

Current Consumption: ≤ 1 mA

Temperature Range: -10°C (≈ +14°F) to +60°C (≈ +140°F)

Maximum Relative Humidity:

90% at +20°C (≈ +68°F), 85% at +60°C (≈ +140°F)

Case Material: Black-chrome plated, steel-wire mesh

Connector: 3 pin XLR-type

Dimensions: 141 x 45 x 35 mm (5.6 x 1.8 x 1.4 inch)

Net Weight: 300 g (≈ 10 oz.)

Included Accessories:

SA-18/3 clamp-type stand adapter with 5/8-in. -27 thread

W-26 foam windscreen

Foam-lined vinyl case

Optional Accessories:

N-62E ac pwr supply for 2 mics to bal/unbal inputs

N-66E ac pwr supply for 6 mics to bal inputs only

A-52 adptr for pwring 1 mic from bal input

H-17A combination shock mount/windscreen

KM-series floor and boom stands, stand accessories

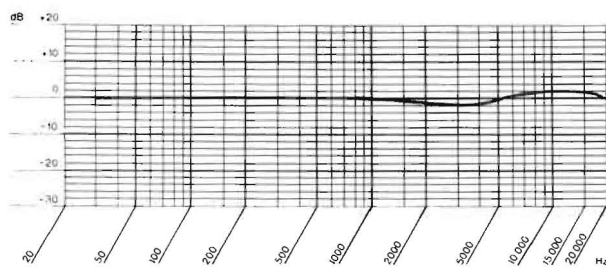
ST-series table stands

MCH-series heavy-duty microphone-cable assemblies

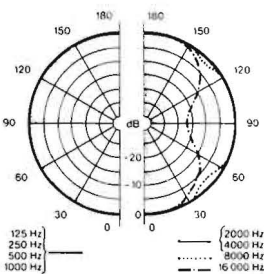
\*1 Pa (Pascal) = 10 μb = 10 dynes/cm<sup>2</sup> ≈ 94 dB SPL



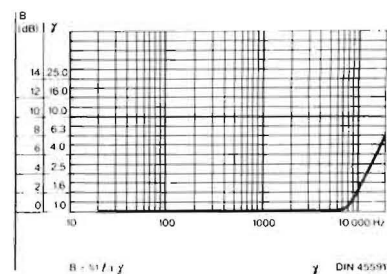
## Frequency Response: Omni-directional



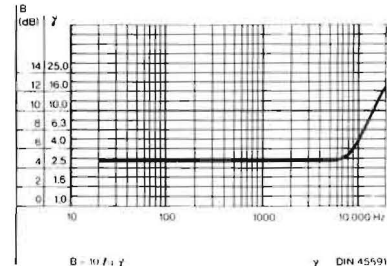
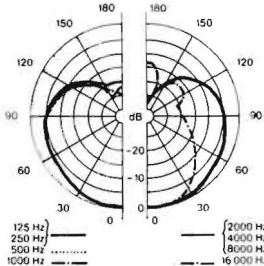
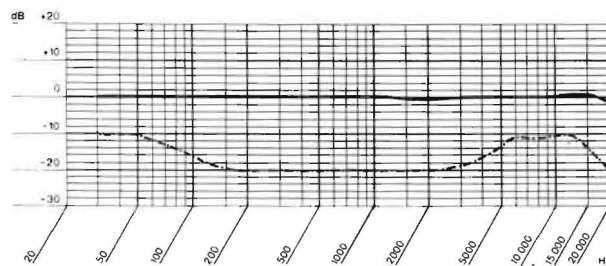
## Polar Response:



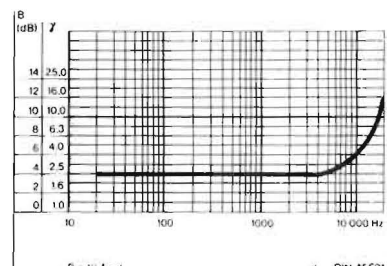
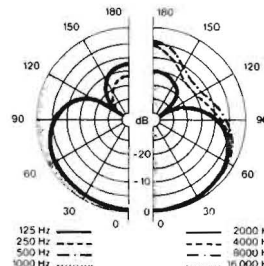
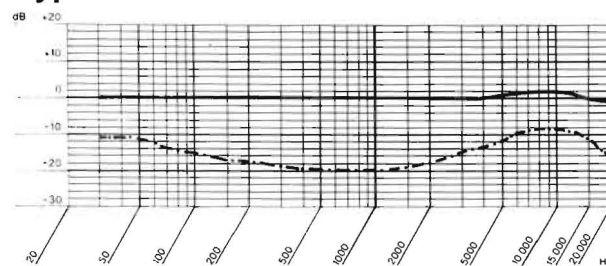
## Sound Power Concentration Factor:



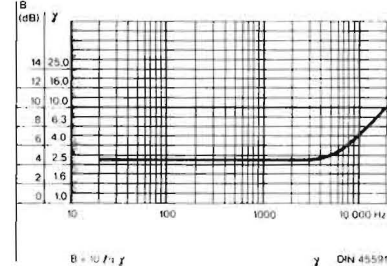
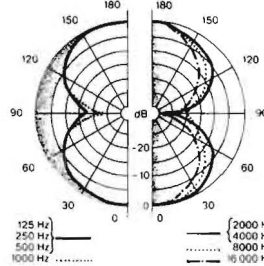
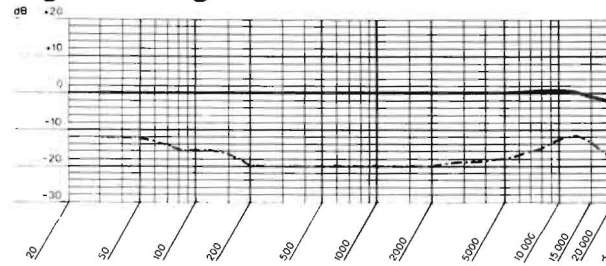
## Cardioid



## Hypercardioid



## Figure-of-eight



21-782-10MI



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