

## DESCRIPTION - C422 (Large Diaphragm)

The C422 is a studio condenser microphone that has been specially designed for sound studio and radio broadcasting. The microphone head holds two twin diaphragm condenser capsules elastically suspended to protect against handling noise.

The rugged wire mesh cap protects the capsules from mechanical damage. It is differently colored at the two opposing grille sides (bright = front grille side; dark = rear grille side) thereby allowing relative position of the two systems to be easily checked. The microphone head as a whole may be rotated by 45° about the shaft in counter-clockwise direction, position "0°" and "45°" being lockable. This will allow quick and exact change-over from 0° (for MS-stereophony) to 45° (for XY-stereophony), even when the microphone is rigidly mounted. The upper system may be rotated by 180° against the lower one. A scale on the housing adjustment ring and arrow-shaped mark on the upper system will allow the base angle to be exactly adjusted. Any desired readjustment may be easily effected by means of the exact angle marking. The C422 is characterized by another special feature: since in sound studio work and radio broadcasts it is often necessary to recognize the respective positions of the two systems even from a greater distance, two light emitting diodes with particularly narrow light emitting angle have been incorporated both in the upper rotatable and in the lower system.

The LED's are energized by a conventional 9V battery (IEC 6F22) or 9V accumulator cell which is continuously charged during operation via phantom power supply.

The LED's are switched on/off by means of a separate switch in the S42E. Enclosed within the microphone shaft there are separate FET-preamplifiers for each channel which are characterized by particularly high input impedance, extremely low internal noise, and high crosstalk attenuation. The output level of both channels may be simultaneously lowered by 10 or 20 dB.

The C422 is connected to a S42E remote control unit which allows anyone of 9 polar patterns to be selected for each channel. Due to noiseless selection, polar pattern changeover will be possible even during recording.



## DESCRIPTION - C34 (Small Diaphragm)

The C34 is a stereo condenser microphone that has been specially designed for sound studio, radio broadcast and mobile use. The microphone head holds 4 condenser capsules elastically suspended to protect them from handling noise.

The rugged wire mesh cap protects the capsules from mechanical damage. The upper system may be rotated by 180°, whereas the lower one is rigidly connected with the microphone shaft. This will allow different base angles to be easily adjusted for stereo transmissions. The wire mesh cap is differently colored at the two opposing grille sides (bright = front grille side, dark = rear grille side) thereby allowing the relative position of the two systems to be easily checked. An additional scale on the rigid housing ring and an arrow-shaped mark on the rotatable housing ring will allow the base angle to be exactly adjusted and readily readjusted, if desired. Enclosed within the microphone shaft there are separate FET-preamplifiers for each channel which are characterized by particularly high input impedance, extremely low internal noise, and high crosstalk attenuation. The satin-black finish of the microphone will assist in preventing disturbing light reflections in film and TV-studio work.

The C34 is connected to a S42E remote control unit which allows anyone of 9 polar patterns to be selected for each channel. Due to noiseless selection, polar pattern changeover will be possible even during recording.



## DESCRIPTION - C33 (Small Diaphragm)

The C33 is a stereo condenser microphone designed for use in concert halls, recording and broadcasting studios, for film, video and sound stages. The C33 uses two fixed pattern (cardioid) capsules. This straight forward design offers unsurpassed "sound" while providing an economical, convenient and foolproof approach to "X-Y" stereo recording techniques.

The microphone contains two identical small-diaphragm capsules, one fixed to the main housing and the other continuously rotatable through an angle of 0° to 180°. This arrangement allows for easy selection of the different base angles required between the capsules for various "X-Y" stereo recording techniques. Each capsule is followed by a FET preamplifier with high input impedance and excellent signal-to-noise ratio.

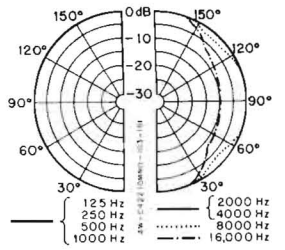
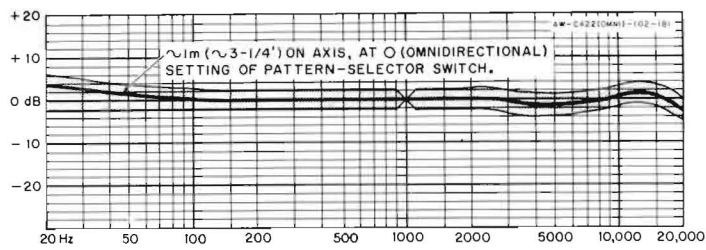
The output of the C33 is a 5-pin XLR-type connector. The necessary operating voltages for the C33 are supplied by any standard phantom-power from 9 to 52 volts and 5 mA per channel (DIN 45 596.) To mount the C33, place it in the H 15/6 shock mount (included) and lock it in place as shown. The H 15/6 may be mounted on any stand or boom with 3/8", 5/8" or 1/2" threads by appropriate use of the thread adapter supplied in the H 15/6.



# FREQUENCY AND POLAR RESPONSE CURVES

C422

OMNI



CARDIOID

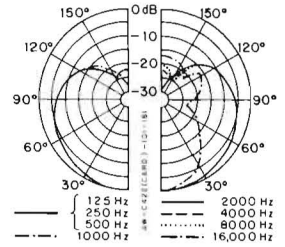
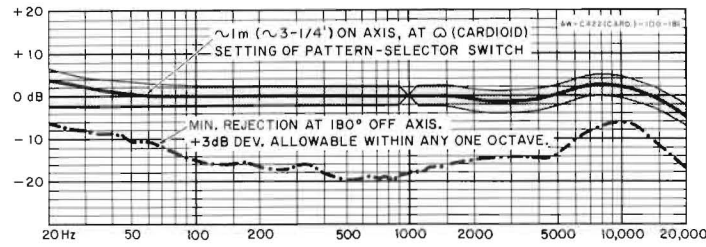
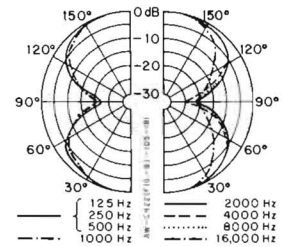
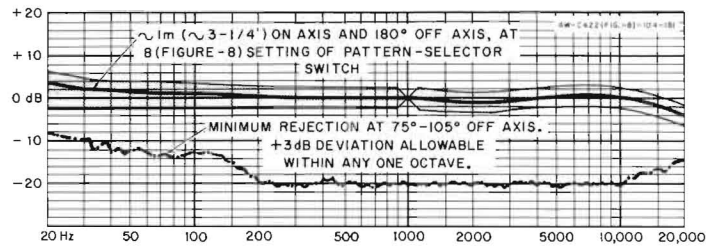
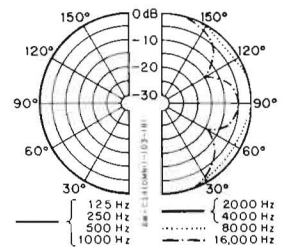
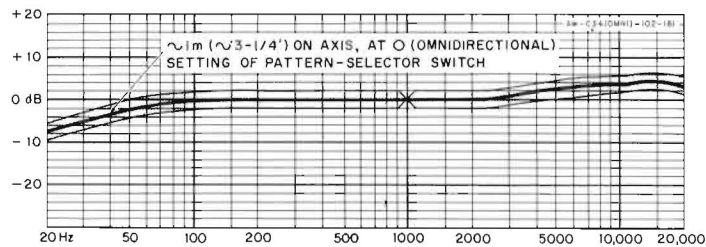


FIGURE 8



C34

OMNI



CARDIOID

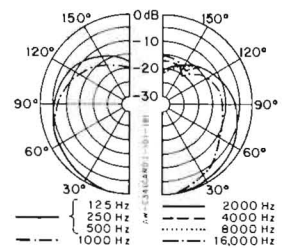
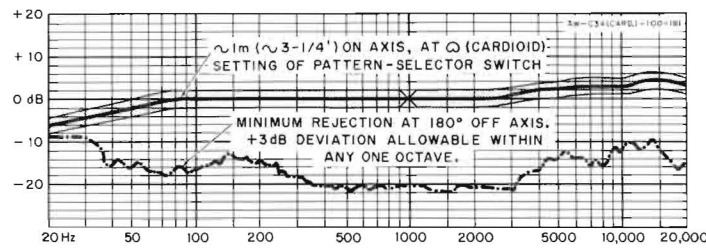
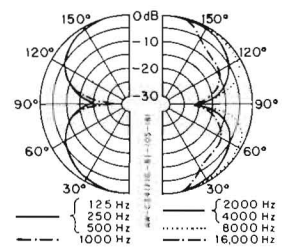
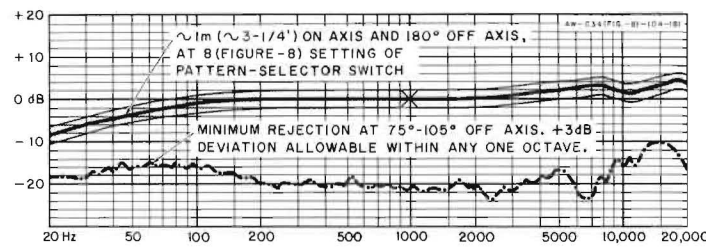
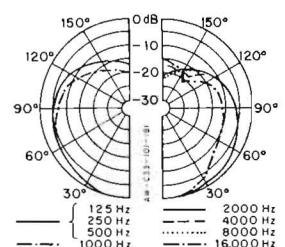
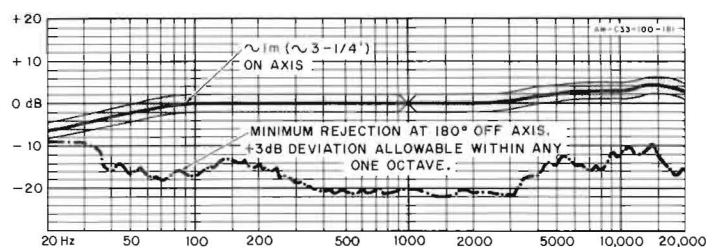


FIGURE 8



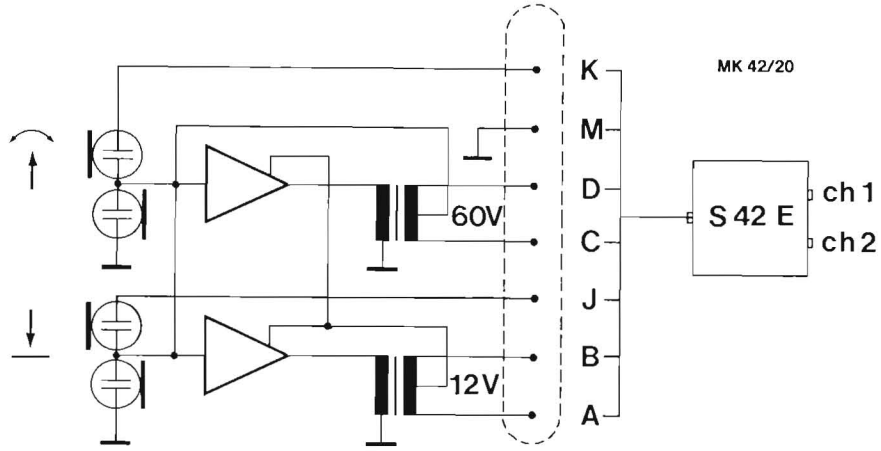
C33

CARDIOID

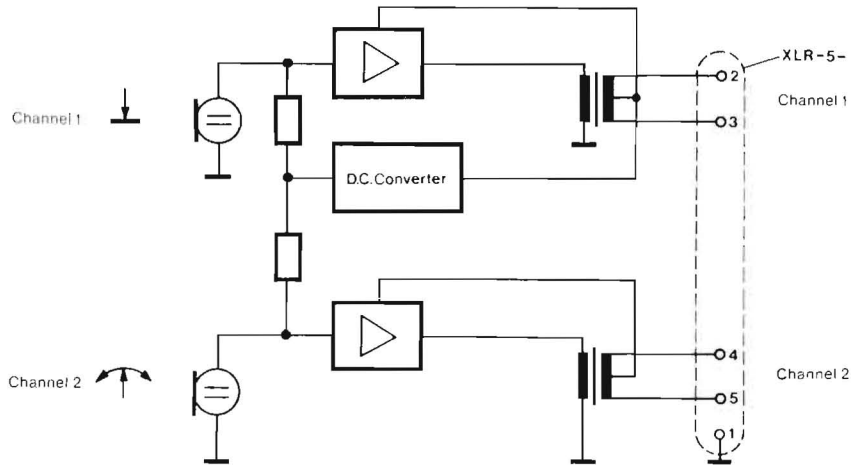


# BLOCK DIAGRAMS

C422/C34

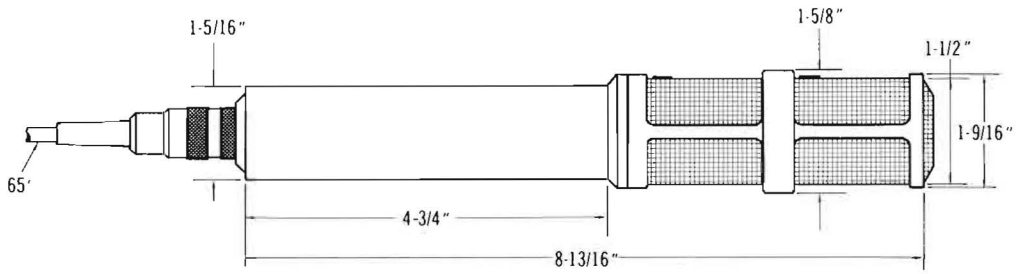


C33

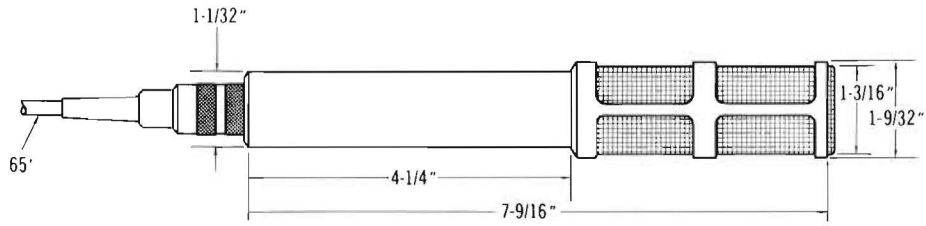


# DIMENSION DIAGRAMS

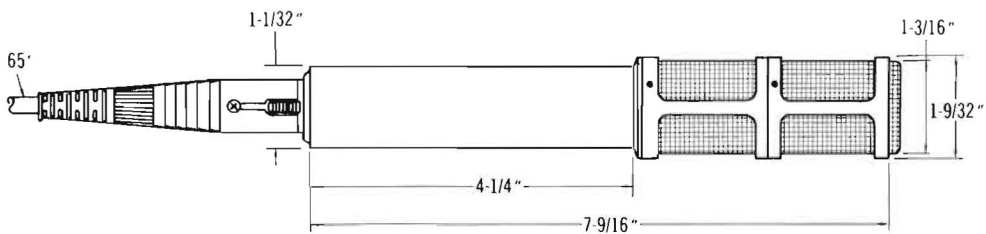
C422



C34



C33



**SPECIFICATIONS-C422**

**Mode of Operation:** 2 twin diaphragm systems, pressure gradient receivers

**Frequency Range:** 20-20kHz

**Sensitivity at 1000Hz:** 6mV/Pa, -64.5dBV on no-load operation.

**Electrical Impedance:** 200 ohms  $\pm$  20%, balanced, floating

**Normal Load Impedance:**  $\geq$ 500 ohms

**Equivalent Noise Level:**  $\leq$ 22dB (filter CCITT-C, DIN45405)

**Weighted Noise Level:** Approx. 1.6uV RMS (filter CCITT-C, DIN45405)

**Crosstalk Attenuation:**  
 $\geq$  70dB (20 to 10kHz)  
 $\geq$  40dB (20 to 15kHz)  
 (measured without capsules)

**Magnetic Field Interference Factor:** (at 50Hz) 5uV/5uT

**Max. Sound Pressure Level:** (for 1000Hz and 500 ohms load impedance, harmonic distortion  $k = 0.5\%$ )  
 92Pa  $\hat{=}$  133 dB SPL

**Admissible Climatic Conditions:**  
 Temperature Range (-20°C/ -4° to 60°C/148°F)  
 Relative Humidity (99% at 20°C/ -4°F)

**Supply Voltage:** 9-52V according to DIN45596 via S42E with phantom power supply

**Current Consumption:**  
 5mA max. for misc. (each ch.)  
 Approx. 50mA for LED's

**Dimensions:** 33/42 mm (1.29/1.65 in)  $\varnothing$   $\times$  235mm (9.25 in) in length

**Connector Type:** 12 pica miniature DIN plug

**Finish:** Satin-black, chromium-plated all-metal housing.

**Weight:** Approx. 430g (15.18 oz.)

**Included Accessories:** W42 foam windscreen, H15/9 elastic suspension, MK42/20 cable (20m), S42E remote control unit, individual frequency curves, case

**Recommended Accessories:**  
 SA42 stand adapter, H42 suspension ring, N62E power supply unit (2ch), N66E power supply unit (6ch)

**SPECIFICATIONS-C34**

**Mode of Operation:** 4 condenser capsules, pressure gradient receives.

**Frequency Range:** 20-20kHz

**Sensitivity at 1000Hz:** 0.45mV/ubar  $\hat{=}$  4.5mV/Pa, -61.5dBV on no-load operation

**Electrical Impedance:** 200 ohms  $\pm$  20%, balanced, floating

**Normal Load Impedance:**  $\geq$  500 ohms

**Equivalent Noise Level:** Approx. 26dB (filter CCITT-C, DIN45405)

**Weighted Noise Level:** Approx. 1.8uV RMS (filter CCITT-C, DIN45405)

**Crosstalk Attenuation:**  
 $\geq$  70dB(20 to 10kHz)  
 $\geq$  40dB(20 to 15kHz)  
 (measured without capsules)

**Magnetic Field Interference Factor:** (at 50Hz) 3.5uV/5uT

**Max. Sound Pressure Level:** (for 1000Hz and 500 ohms load impedance, harmonic distortion  $k = 0.5\%$ )  
 80Pa  $\hat{=}$  132 dB's PL

**Admissible Climatic Conditions:**  
 Temperature range (-20°C/ -4°F to 60°C/148°F)  
 Relative Humidity (99% at 20°C/ -4°F)

**Supply Voltage:** 9-52V according to DIN45596 via remote control unit S42E

**Current Consumption:** 5mA maximum for each channel

**Dimensions:** 33/26.5mm(1.29/1.04 in)  $\varnothing$   $\times$  196mm(7.92 in) in length

**Connector Type:** 12-pin miniature DIN-plug

**Finish:** Satin-black, chromium-plated all-metal housing.

**Weight:** 280g(9.88 oz.)

**Included Accessories:** W34 foam windscreen, H15/6 elastic suspension, individual frequency curves, MK42/20 cable (20m), S42E remote control unit, case

**Recommended Accessories:** SA30 stand adaptor, N62E power supply unit (2ch), N66E power supply unit (6ch)

**SPECIFICATIONS-C33**

**Mode of Operation:** 2 condenser capsules, pressure gradient receives.

**Frequency Range:** 20 to 20kHz.

**Sensitivity at 1000Hz:** 0.45mV/ubar (4.5mV/Pa), -67dBV on open circuit, -46dB (1mW/10 dynes/cm<sup>2</sup>)

**Electrical Impedance:**  $\leq$  200 ohms  $\pm$  20% (outputs ground free, balanced)

**Normal Load Impedance:**  $\geq$  500 ohms

**Equivalent Noise Level:** 26dB SPL (filter CCITT-C, DIN45405)

**Weighted Noise Level:** 1.8uV RMS (filter CCITT-C, DIN45405)

**Crosstalk Attenuation:**  
 $\geq$  70dB (20 to 10kHz)  
 $\geq$  40dB (20 to 15kHz)  
 (measured without capsules)

**Magnetic Field Interference Factor:** (at 50Hz) 3.5uV/5uT

**Max. Sound Pressure Level:** (for 1000Hz and 500 ohms load impedance, harmonic distortion  $k = 0.5\%$ )  
 80Pa  $\hat{=}$  132 dB's PL

**Admissible Climatic Conditions:**  
 Temperature range (-20°/ -4°F to 60° C/148°F)  
 Relative Humidity (99% at 20°C/ -4°F)

**Supply Voltage:** 9-52V according to DIN45596

**Current Consumption:**  
 Channel 1-approx. 5mA  
 Channel 2-approx. 2mA

**Dimensions:** 32.25mm(1.25/.98 in)  $\varnothing$   $\times$  200mm (7.87 in) length

**Built-in Connector:** 5 pin XLR type

**Finish:** Satin-black, chromium-plated all-metal housing.

**Weight:** 300g (10.59 oz)

**Included Accessories:** W34 foam windscreen, H15/6 elastic suspension, individual frequency curves, case.

**Recommended Accessories:** MK33/20,20m (65ft) mic cable, N62E power supply unit for one stereo mic, N66E power supply unit for 3 stereo mics.

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A NORTH AMERICAN PHILIPS COMPANY

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Printed in U.S.A.

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