



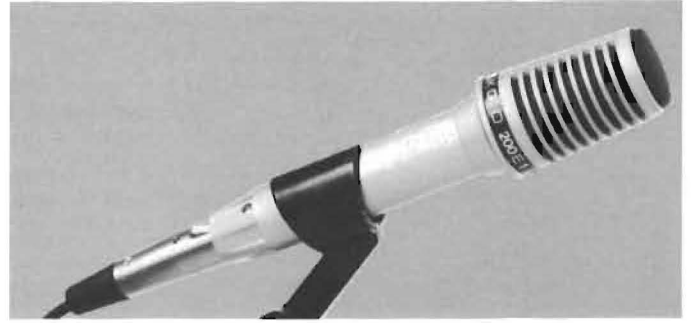
DESCRIPTION

The D-200E1 is an improved, hum-compensated version of the highly acclaimed D-200E, and replaces it as the least expensive member of AKG's distinguished (and unique) family of two-way cardioid dynamic microphones. It brings the advantages of AKG's exclusive two-way design principle* within reach of the semiprofessional recordist, broadcast technician, sound-reinforcement specialist and musician. An unusually high-performance microphone for its price, the D-200E1 is expressly designed for superior reproduction of instrumental, choral and orchestral music as well as of speech.

The microphone is the product of an intensive AKG research program that has succeeded in finding a way to transcend the performance limitations of conventional cardioid designs. It employs *two*, coaxially mounted, dynamic transducers: one designed for optimum performance at high frequencies and placed closest to the front grille, the other designed for optimum performance at low frequencies and placed behind the first. Both transducers are coupled to a 500-Hz inductive-capacitive crossover network that is electroacoustically phase corrected. (This is essentially the same design technique used in a modern two-way speaker system, but applied in reverse.)

As a result, the D-200E1 exhibits several outstanding characteristics that make it vastly superior to conventional cardioid dynamic microphones for its intended applications: (1) an unusually smooth and wide-range on-axis frequency response — approaching that of a condenser microphone at frequencies up to 12 kHz; (2) a predominantly frequency-independent directional pattern — producing more linear frequency response at

*U.S. Patent No. 3,204,031



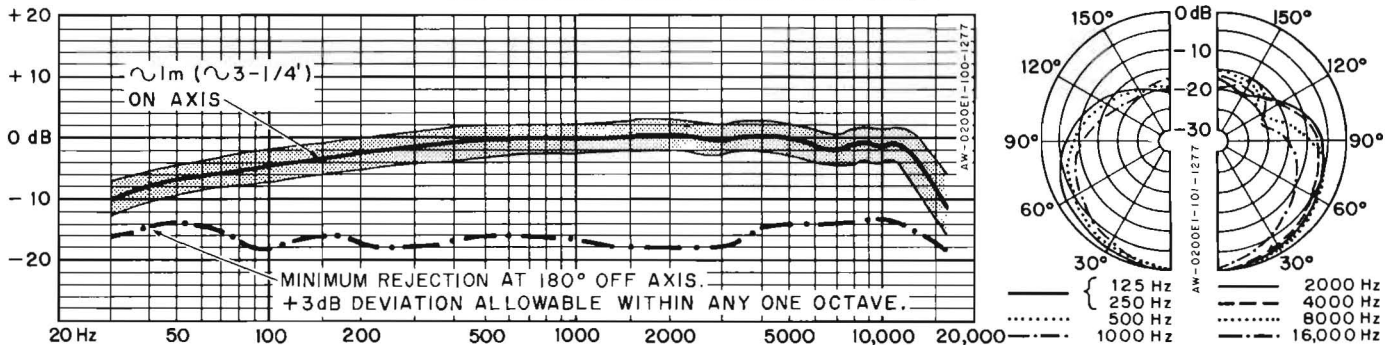
the sides of the microphone and far more constant discrimination at the rear of the microphone; (3) a total absence of proximity effect at working distances down to 15 cm (≈ 6 in.); (4) extremely low harmonic distortion at moderately high sound-pressure levels.

In all applications — recording, broadcasting, and sound reinforcement — these qualities contribute to more natural, uniform and uncolored tonal quality, regardless of the relative position or distance of performers and instruments within a semicircle around the front and sides of the microphone. Furthermore, stereo separation is improved and greater isolation (lower leakage) is achieved in multiple-microphone installations. In sound-reinforcement applications, these same qualities also permit greater freedom in microphone and speaker placement, more effective and predictable suppression of acoustic feedback, and higher overall system gain.

The D-200E1 is a low-impedance balanced-output unit fitted

continued overleaf

FREQUENCY AND POLAR RESPONSE



TECHNICAL DATA

Transducer Type: Dynamic, two-way system
Directional Characteristic: Cardioid
Frequency Range: 30-15,000 Hz
Crossover Frequency: 500 Hz
Nominal Impedance: 200 ohms
Recommended Load Impedance: ≥ 500 ohms
Sensitivity at 1 kHz:

Open circuit: 0.14 mV/ μ b; -77.1 dBV
Maximum power level: -56 dBm (re: 1 mW/10 dynes/cm²)
EIA G_m: -149 dBm
Tolerance: +0, -1.5 dB

Sound Pressure Level for 0.5% THD:

40 Hz: 124 dB 1 kHz: 124 dB

Hum Sensitivity: -135 dBm (1 mG field)

Case Material: Lacquered aluminum and zinc

Dimensions: See Dimensions figure overleaf

Schematic: See Schematic figure overleaf

Net Weight: 200 g (≈ 7 oz)

Included Accessories:

SA-20 stand adapter with 5/8-in. -27 thread
Foam-lined vinyl case

Optional Accessories:

SA-20/1 metal-base stand adapter with 5/8-in. -27 thread
SA-26 clothespin stand adapter with 5/8-in. -27 thread
SA-30 universal stand adapter with 5/8-in. -27 thread
H-9 clamp for surface-mounting or hanging H-10 below
H-10 stereo bar for stand-mounting two microphones
W-4 foam windscreen
KM-series floor and boom stands, stand accessories
ST-series table stands
MCH-series heavy-duty cable assemblies (listed overleaf)

with a standard 3-pin male XLR-type connector. The microphone is supplied complete with an SA-20 stand adapter and

a foam-lined vinyl protective case. Several optional accessories — listed in the Technical Data section — are available.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall be a dynamic pressure-gradient type incorporating a two-way electroacoustical system. The two-way system shall consist of two coaxially mounted transducers and an inductive-capacitive-resistive crossover network.

One transducer shall be designed for optimum pickup and reproduction of high frequencies, shall be positioned closest to the front port of the microphone, and shall face forward. The second transducer shall be designed for optimum pickup and reproduction of low frequencies, shall be positioned behind the first (high-frequency) transducer, and shall face rearward. The second (low-frequency) transducer shall incorporate a hum-bucking compensating winding to cancel the effects of stray magnetic fields. The two transducers shall be connected to the crossover network electrically out of phase but, because of their opposed facing, shall operate electroacoustically in phase.

The crossover network shall have an electrical crossover frequency of 500 Hz, shall be electroacoustically phase corrected in the crossover-frequency region, and shall consist of a capacitive high-pass filter plus an inductive-capacitive low-pass "T" filter having an adjustable resistor in series with its shunt capacitor. The resistor shall be factory-preset to produce the linear off-axis frequency response specified in the next paragraph.

The microphone shall have a frequency range of 30-15,000 Hz, and shall not exhibit proximity effect at any working distance down to 15 cm (≈6 in.). The microphone shall have a predominantly frequency-

independent cardioid directional pattern throughout most of its frequency range as follows: (1) typical off-axis frequency response shall not vary more than 5 dB from 125-8000 Hz at a sound-incidence angle of 90 degrees; (2) front-to-rear discrimination shall exceed 17 dB at 1000 Hz at a sound-incidence angle of 180 degrees, and shall not vary more than 5 dB from 125-8000 Hz.

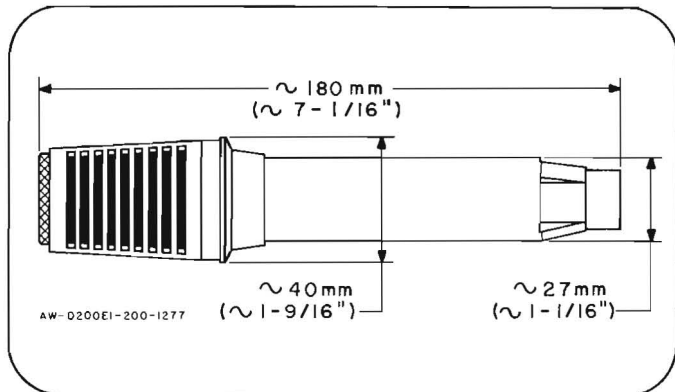
The microphone shall have a nominal impedance of 200 ohms. The output level shall be -56 dBm (re: 1 mW/10 dynes/cm²), and the microphone shall be capable of handling a maximum sound-pressure level of 300 μbar (124 dB SPL) at 1000 Hz with distortion not exceeding 0.5%. The EIA sensitivity rating (G_m) shall be -149 dBm.

A wire-mesh grille and a cotton-fiber screen, commensurate with the acoustical properties of the unit, shall protect the microphone system from metal particles and dust. The diaphragm material of each transducer shall be nonmetallic MAKROFOL.

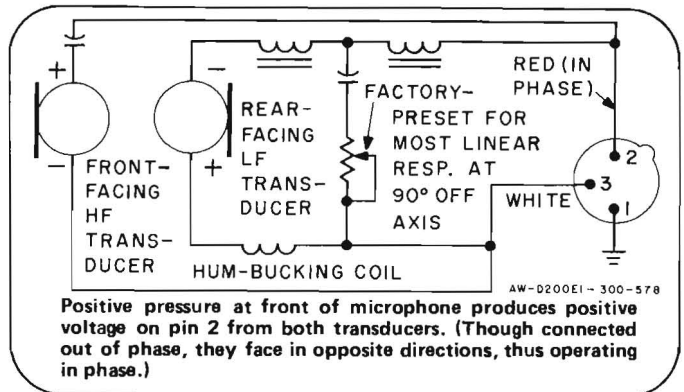
The microphone shall incorporate a 3-pin male audio connector designed to mate with Cannon XLR, Switchcraft A3, or equivalent connectors. An AKG model SA-20 swivel stand adapter with standard 5/8-in. -27 thread, and a foam-lined vinyl carrying case shall also be provided. The finish of the microphone shall be gray lacquer.

The microphone shall be 180 mm (≈7-1/16 in.) long by 40 mm (≈1-9/16 in.) in largest diameter by 27 mm (≈1-1/16 in.) in shaft diameter, and the net weight shall not exceed 200 g (≈7 oz). The microphone herein specified shall be the AKG D-200E1.

DIMENSIONS



SCHEMATIC



OPTIONAL AKG HEAVY-DUTY SHIELDED CABLE ASSEMBLIES FOR THIS MICROPHONE

NOTE: All cable assemblies except the MCH-50 are 6.1 m (≈20 ft) long. All are available in black. Model numbers with an asterisk (*) are also available in red, green, and blue — please specify cable-color choice in such cases.

- MCH-20*** Low-impedance cable assembly w/o switch (female XLR-type connector to male XLR-type connector)
- MCH-20F** Low-impedance cable assembly w/o switch (female XLR-type connector to stripped-and-tinned ends)
- MCH-20P** Low-impedance cable assembly w/o switch (female XLR-type connector to phone plug)
- MCH-20S** Low-impedance cable assembly w/switch (female XLR-type connector to male XLR-type connector)
- MCH-20T** High-impedance cable assembly w/o switch (female XLR-type connector to transformer w/phone plug)
- MCH-20TS*** High-impedance cable assembly w/switch (female XLR-type connector to transformer w/phone plug)
- MCH-50*** Low-impedance 15.2 m (≈50 ft) cable assembly (female XLR-type connector to male XLR-type connector)



PHILIPS AUDIO VIDEO SYSTEMS CORP.

A NORTH AMERICAN PHILIPS COMPANY

91 McKee Drive, Mahwah, N.J. 07430 • (201) 529-3800

Service/Warehouse: Rockland Rd S Norwalk, CT 06854 • (203) 838-4836

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