



DESCRIPTION

The AKG D-558B has been designed for close-talk use wherever high ambient noise levels and feedback-prone environmental acoustics are problems. A compact and unobtrusive microphone mounted on a flexible gooseneck shaft, the D-558B is recommended for general radio communications, paging/public address, talkback/intercom, and specialized broadcast applications. (Because of its noise-cancelling characteristics, the D-558B is excellent as a newsdesk microphone in the clutter of the newsroom or — used with the W-3 windscreens — as a sports announcer's microphone in crowded, noisy stadiums and arenas.)

The D-558B achieves its high noise rejection and relative immunity to acoustic feedback by combining a dynamic pressure-gradient transducer with a front- and side-ported housing in a differential design technique. As a result, the microphone clearly reproduces speech originating within its recommended working distance (approximately 5 cm or 2 in.), but greatly attenuates low-frequency on-axis noise and feedback components originating at a distance of 1 m ($\approx 3\text{-}1/4$ ft) or more. Higher-frequency noise and feedback components are attenuated by the microphone's tight hypercardioid directional pattern at these frequencies. For improved speech intelligibility in narrowband communications channels, on-axis response is intentionally emphasized between 1 kHz and 6 kHz. This rising-response characteristic also contributes to better noise penetration in paging applications where the loudspeakers are likely to be in extremely noisy areas.

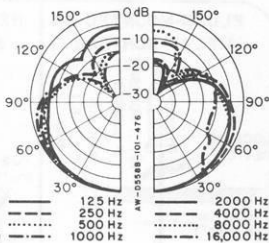
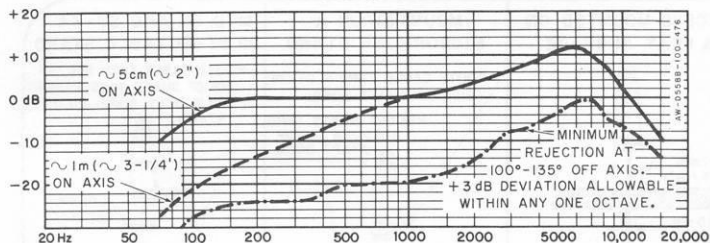
The integral gooseneck shaft provides easily adjustable — and



completely noise-free — means for positioning the microphone to suit both the personal convenience of the user and the acoustical requirements of the working environment. A rugged brass case and wire-mesh grille effectively encapsulate the microphone's transducer element against metal particles and dust. The D-558B operates satisfactorily over a wide range of temperatures and withstands moderately high humidity levels.

A low-impedance balanced-output unit, the D-558B is supplied complete with a 1.15 m ($\approx 3\text{-}3/4$ ft) non-detachable 2-conductor shielded cable having stripped and tinned leads at its free end. Also included is a kit of basic mounting hardware. As illustrated overleaf, this hardware may be used in various combinations to install the unit several ways — custom-mounted on virtually any flat surface (either flush with the surface or recessed), mounted on any microphone stand hav-

FREQUENCY AND POLAR RESPONSE



TECHNICAL DATA

Transducer Type: Dynamic
 Directional Characteristic: Hypercardioid
 Frequency Range: 70-15,000 Hz
 Nominal Impedance: 200 ohms
 Recommended Load Impedance: ≥ 500 ohms
 Sensitivity at 1 kHz:
 Open circuit: 0.072 mV/ μ b; -82.9 dBV
 Maximum power level: -62 dBm (re: 1 mW/10 dynes/cm²)
 EIA G_m: -154.5 dBm
 Tolerance: ± 2.5 dB
 Sound Pressure Level for 0.5% THD:
 1000 Hz: 128 dB
 Hum Sensitivity: -102 dBm (1 mG field)
 Temperature Range: -10°C ($\approx +14^\circ$ F) to +60°C ($\approx +140^\circ$ F)
 Maximum Relative Humidity: 80%
 Microphone-Case, Shaft-Boss Material: Nickel-plated brass

Flexible-Gooseneck Shaft Material: Nickel-plated steel
 Dimensions: See Dimensions figure overleaf
 Schematic: See Schematic figure overleaf
 Net Weight: 325 g ($\approx 11\text{-}1/2$ oz) w/cable and mounting hardware
 Included Accessories:
 1.15 m ($\approx 3\text{-}3/4$ ft) non-detachable 2-cond shielded cable
 Mounting hardware
 Optional Accessories:
 KM-221C flange adapter
 KM-237 clamp adapter
 KM-238 clamp adapter
 ST-4A table stand
 ST-41 table stand w/DPDT pushbutton and pilot lamp
 ST-305 anti-shock table stand
 W-3 foam windscreens

ing a standard 5/8-in. -27 male thread, or used in conjunction with the optional AKG ST-series table stands. (Several other optional mounting accessories — listed in the Technical Data section — are available.) Depending on how the microphone is

installed, the shielded cable may be routed either through the slot on the *side* of the shaft boss, or through the *bottom* of the boss and then through the hollow-center mounting bolt supplied.

ARCHITECTS' AND ENGINEERS' SPECIFICATIONS

The microphone shall incorporate a dynamic pressure-gradient transducer enclosed in a front- and side-ported housing to produce a differential noise-cancelling characteristic. The microphone shall have a frequency range of 70-15,000 Hz, with an on-axis rising response between 1000 Hz and 6000 Hz for improved speech intelligibility in narrowband communications channels. When used within a working distance of 5 cm (≈ 2 in.), the microphone's rejection of on-axis noise originating at a distance of 1 m ($\approx 3\text{--}1/4$ ft) or more shall exceed 16 dB at 100 Hz. The microphone shall have a hypercardioid directional pattern. The off-axis discrimination shall exceed 20 dB at 1000 Hz at a sound-incidence angle of 100-135 degrees, and an effective hypercardioid pattern shall be maintained over the entire frequency range.

The microphone shall have a nominal impedance of 200 ohms. The output level shall be -62 dBm (re: 1 mW/10 dynes/cm²), and the microphone shall be capable of handling a maximum sound-pressure level of 500 μ bar (128 dB SPL) at 1000 Hz with distortion not exceeding 0.5%. The EIA sensitivity rating (G_m) shall be -154.5 dBm.

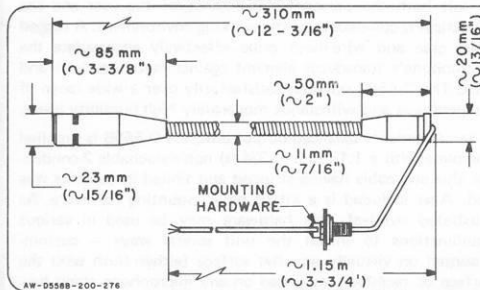
A wire-mesh screen, commensurate with the acoustical properties of the unit, shall protect the microphone system from metal particles and dust. The diaphragm material shall be nonmetallic MAKROFOL. The microphone shall be capable of operating over a temperature range of

-10°C ($\approx 14^\circ$ F) to +60°C ($\approx +140^\circ$ F), and at a maximum relative humidity of 80%.

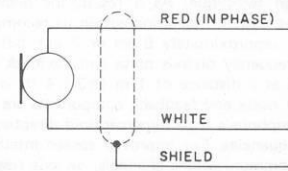
The microphone assembly shall incorporate a flexible-gooseneck shaft and a shaft boss having a standard 5/8-in. -27 inside thread. The gooseneck shall not introduce electrical noise into the system during adjustment. A 1.15 m ($\approx 3\text{--}3/4$ ft) non-detachable 2-conductor shielded cable, having stripped and tinned leads at its free end, shall be provided. Sufficient hardware and thread adapters shall also be provided for mounting the shaft boss on a flat surface (either flush with the surface or recessed), on any number of microphone stand having a standard 5/8-in. -27 male thread, or on a number of AKG accessory flange adapters, clamp adapters, and table stands. The finish of the microphone, gooseneck shaft, and shaft boss shall be matte nickel and shall not create specular light reflections.

The microphone assembly shall be 310 mm ($\approx 12\text{--}3/16$ in.) long overall, including microphone housing, gooseneck shaft, and shaft boss. The microphone housing shall be 85 mm ($\approx 3\text{--}3/8$ in.) long by 23 mm ($\approx 15/16$ in.) in largest diameter. The gooseneck shaft shall be 11 mm ($\approx 7/16$ in.) in diameter. The shaft boss shall be 50 mm (≈ 2 in.) long by 20 mm ($\approx 13/16$ in.) in largest diameter. The net weight shall not exceed 325 g ($\approx 11\text{--}1/2$ oz) including cable and mounting hardware. The microphone herein specified shall be the AKG D-558B.

DIMENSIONS



SCHEMATIC



AW-0510B, 558B, 590-300-276

Positive pressure on diaphragm produces positive voltage on "in phase" lead.

SUGGESTED INSTALLATIONS

<p>FLUSH-MOUNTED ON A FLAT SURFACE</p> <p>LOCKING DEVICE</p> <p>APPLY ADHESIVE IF DESIRED</p> <p>~10 mm ($\approx 3/8$) MAX.</p> <p>~10 mm ($\approx 3/8$)</p> <p>ROUTE CABLE THRU BOTTOM OF SHAFT BOSS & THRU HOLLOW-CENTER BOLT.</p>	<p>RECESS-MOUNTED ON A FLAT SURFACE</p> <p>~21 mm ($\approx 13/16$)</p> <p>~10 mm ($\approx 3/8$)</p> <p>ROUTE CABLE THRU BOTTOM OF SHAFT BOSS & THRU HOLLOW-CENTER BOLT.</p>	<p>MOUNTED ON A MICROPHONE STAND</p> <p>ROUTE CABLE THRU SLOT ON SIDE OF SHAFT BOSS.</p> <p>REMOVE BRASS THRU ADAPTER INSIDE SHAFT BOSS.</p> <p>STANDARD 5/8"-27 THREAD</p>	<p>MTD. ON AKG ST-4A OR ST-4I TABLE STAND</p> <p>ROUTE CABLE THRU SLOT ON SIDE OF SHAFT BOSS IF USING SOLID BOLT, SUPPLIED WITH STAND.</p> <p>LOCKING DEVICE</p> <p>NOTE: TO ROUTE CABLE THRU BOTTOM OF SHAFT BOSS & OUT THRU REAR OF STAND, USE HOLLOW-CENTER BOLT SUPPLIED WITH MICROPHONE & BREAK OUT TAB(S) AT REAR OF STAND.</p>
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