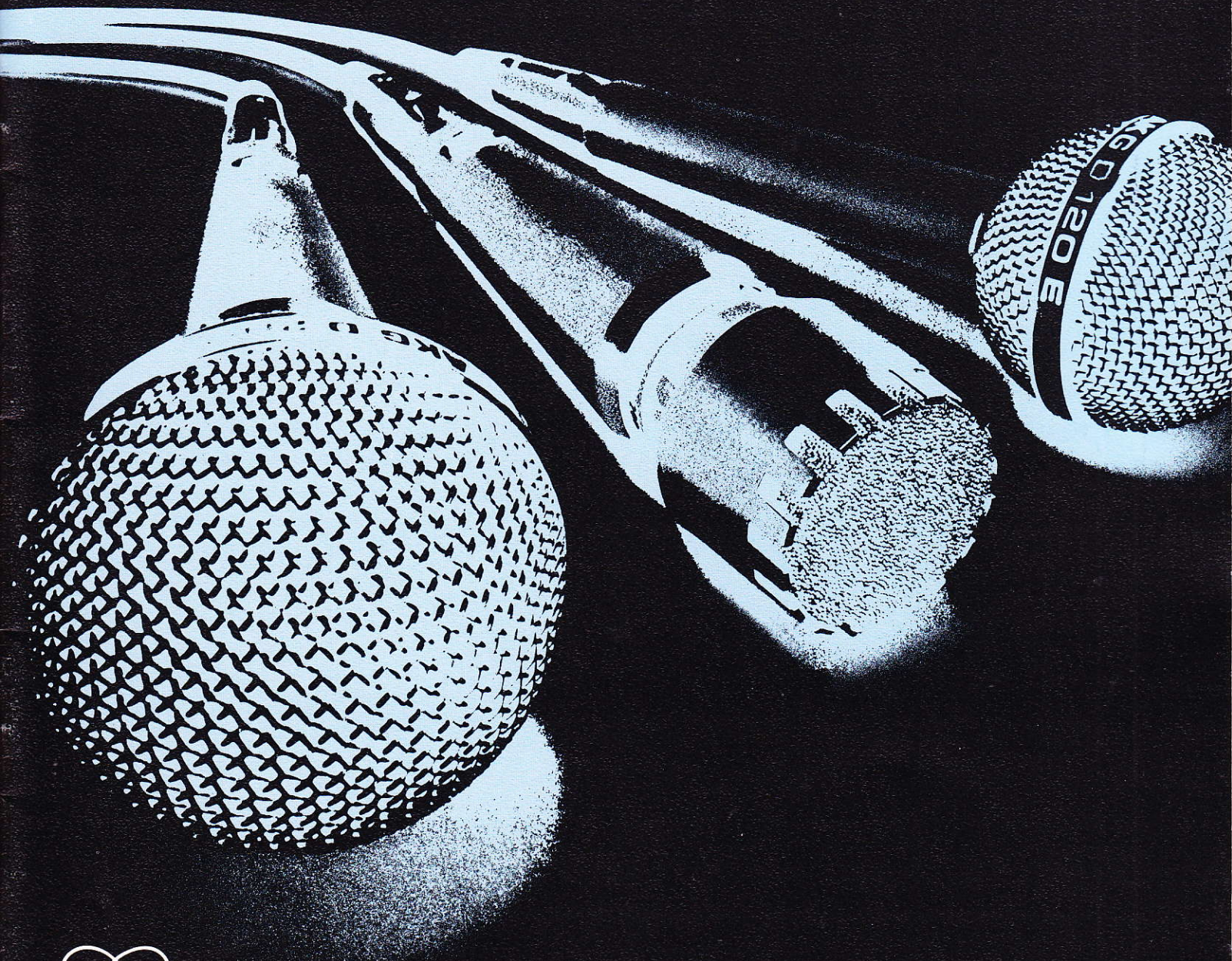


**AKG**<sup>®</sup>  
ACOUSTICS

AUDIO

mics + accessories

# MICROPHONES AND ACCESSORIES





*Individual specification sheets are available for all AKG microphones providing complete data, curves, electrical and dimensional diagrams as well as Architects & Engineers Specifications.*

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# AKG...

a name that has amassed an enviable world-wide reputation for performance, dependability and service. A microphone for every need... television studios, motion-picture production centers, theatres, stadiums, concert halls, opera houses, communication links, schools, home tape recorders... and the personal choice of hundreds of performers.

Among professionals—the name AKG is synonymous with the highest standards in quality, performance, and dependability.

Based on intensive scientific research, an extensive knowledge of acoustics and measurement techniques, design competences, precision tooling and meticulous manufacturing standards, AKG has achieved many firsts in microphone development.

In the past three decades, AKG research has resulted in numerous significant acoustical developments, reflected in over 600 worldwide patents held by AKG. Today, AKG operates one of the largest research facilities devoted exclusively to the development of new condenser and dynamic microphones, headphones, phonocartridges and other related acoustic products. It is staffed by over 40 scientists and engineers, who have at their disposal more than 20 walk-in anechoic chambers complete with the latest acoustical, mechanical and electronic measuring equipment.

Research and development is on-going, and new projects e.g., ultrasonic transducers, infrared and other wireless techniques, digital and analog delay lines, materials analysis, artificial reverberation, phonocartridges, electret transducers, and more are under investigation. Manufacturing methods are constantly updated.

Product ruggedness and serviceability are continually improved without compromising quality. AKG is proud to be in the forefront of newer and better sound reproduction.





## Selecting a microphone

When considering the purchase of a new microphone, a performer should weigh his needs carefully. Naturally, he will want a high-quality microphone with performance characteristics that have been designed for clean vocal projection, even under acoustically difficult conditions.

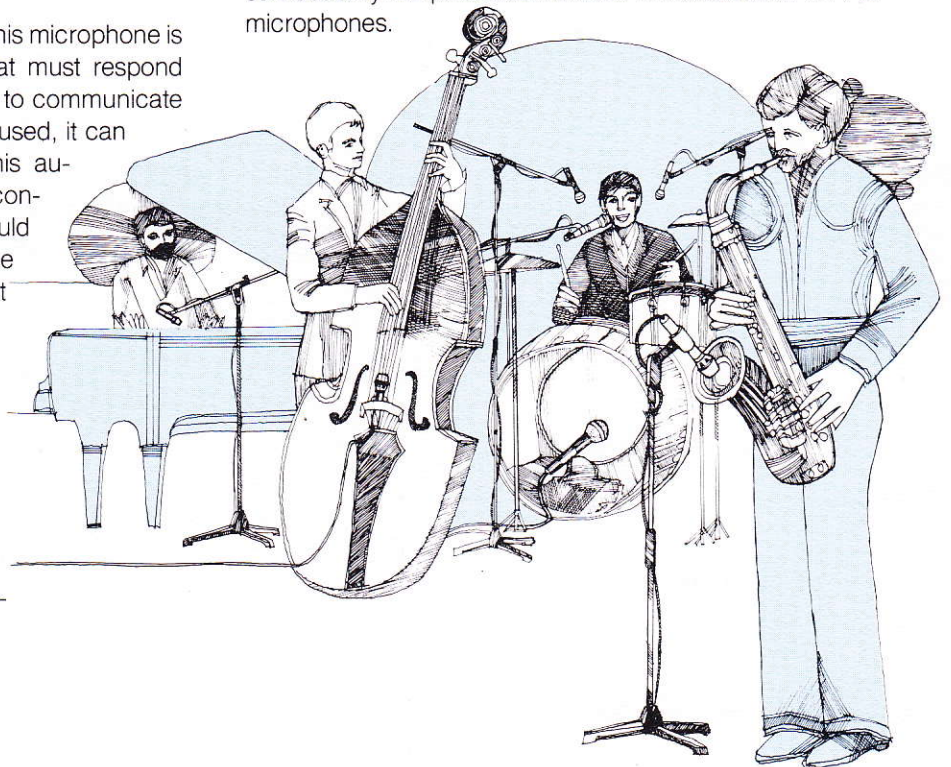
Response should be smooth across the vocal frequency range, yet less sensitive to extraneous noises (air conditioner "rumble" and such) usually found in less-than-ideal performance situations. And the microphone should be a rugged unit, specially designed to withstand rough, tough handling.

As the professional performer well knows, his microphone is a musical instrument, a valuable tool that must respond freely to whatever vocal mood he desires to communicate to his audience at any moment. Properly used, it can effectively project his "individuality" to his audience. It should respond smoothly to his control...predictably to his demands. It should provide a warm, intimate sound when the mood is right ...or sound off solidly to beat out hard-rock material without distortion.

Moreover, the microphone should have a creative flexibility that allows the serious performer various options to control the sound...options that give him a more innovative contact with his audience during live performances.

Thousands of records produced every year, are recorded exclusively with AKG mi-

crophones. From Bach to Rock, AKG has helped to bring some of the finest sounds into your living room. Sheffield Lab has recently released "The King James Version" featuring Harry James and His Big Band, recorded using the renowned C-24 stereo studio condenser microphone. Its realism is astounding. Numerous broadcasts, symphony orchestras, opera performances, musicals and dramatic theatre, outdoor concerts and many other live performances are staged with AKG microphones. To the discerning user, acoustic quality, dependability and serviceability are paramount criteria in the selection of AKG microphones.





# How to interpret microphone technical specifications.

To help select the right microphone for a particular application, most reputable microphone manufacturers publish technical-performance data for each microphone in their product line. These data really aren't as mystifying as they might seem at first glance. In fact, for purposes of matching the microphone to the application, there are basically only four distinctive things that you need to know about any microphone—its *directional characteristic*, its *frequency range*, its *sensitivity* and its *impedance*. The following is a simple primer on each of these.

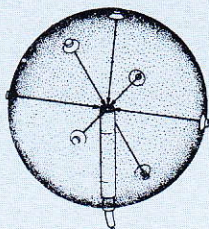
## Directional Characteristics

Simply stated, a microphone's directional characteristic is an indication of how sensitive or insensitive a microphone is to sounds directed at it from various directions (angles)—front ( $0^\circ$ ), sides ( $90^\circ$ ) and rear ( $180^\circ$ ). It will be demonstrated in the following paragraphs that different microphones are intentionally designed to have different directional characteristics. Furthermore, each directional characteristic can be expressed both by a generic name ("omnidirectional," "cardioid," etc.) and by a pictorial representation of its distinctive pattern or shape (a two-dimensional polar-response curve in most data sheets, or a three-dimensional representation as used in this guide).

### Omnidirectional

An omnidirectional ("omni") microphone is equally sensitive to sound directed at it from *all* directions and angles (a range of  $360^\circ$ ). Consequently, omnidirectional microphones are usually reserved for recording and broadcasting in acoustically "good" locations—where background noise and acoustic-feedback tendencies are not present. Under

A microphone with an omnidirectional or non-directional pick-up characteristic has a uniform response over  $360^\circ$ .



these conditions, an omnidirectional microphone is an excellent choice for accentuating the acoustic "ambience" of a recording site, for coverage of a "round-table" discussion or for serving as a non-discriminating interview microphone.

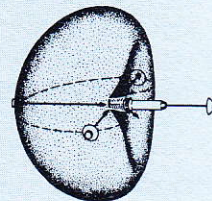
### Cardioid

A cardioid microphone (so called because of its characteristically heart-shaped directional pattern on a polar-

response curve) is more discriminating than an omnidirectional microphone. A cardioid microphone is most sensitive to sound directed toward its front ( $0^\circ$ ), with sensitivity progressively decreasing as the sound-pickup angle moves to the rear ( $180^\circ$ ). For this reason, cardioids are the preferred choice in both recording and live performances where audience, "house" and other ambient noises must be suppressed, where instruments or voices must be isolated from others in the group or orchestra, or where auditorium or room reverberation and feedback must be rejected.

It is, in fact, the cardioid's inherent resistance to feedback...the squealing, howling sound that occurs when an amplified signal is picked up again by the microphone and re-amplified...that makes this type of microphone a favorite among performers, especially when used in less-than-ideal acoustic situations.

Cardioid characteristics describe an essentially uniform pickup from the front of the microphone and suppression of the sound from the rear.



Cardioid microphones are often incorrectly referred to as "unidirectional" microphones. The term "unidirectional" may be misleading. The fact is that cardioids do or, in fact, should...reproduce sounds directed toward them from the side. For effective reproduction of small groups, for instance, the microphone should pick up not only sounds that reach it from the front, but from somewhat off-axis as well.

In addition to cardioids, AKG designs and manufactures other—more specialized—types of directional microphones such as, "shotguns," "supercardioids," etc. More information about these kinds of microphones follow in the individual product descriptions in this catalog.

## Frequency range

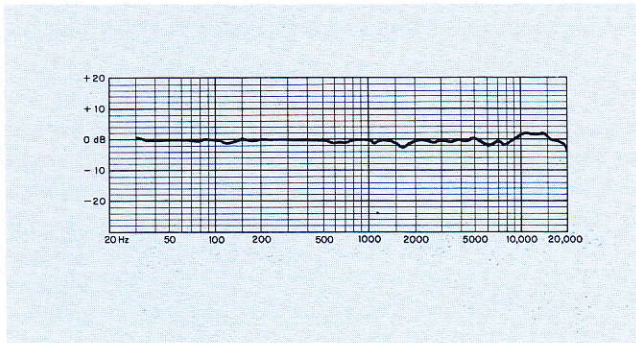
For good music and/or voice reproduction, a microphone should respond smoothly over the full spectrum of musical pitch and timbre—referred to as the audible *frequency range*. The frequency range of a microphone, and how the microphone performs in particular intervals within that range, will determine which microphone you will select. *Frequency* is the engineering term used to describe musical pitch. (The higher the frequency, the higher the pitch; the lower the frequency, the lower the pitch.) A tuning fork oscillating (vibrating) at 440 times per second will audibly re-



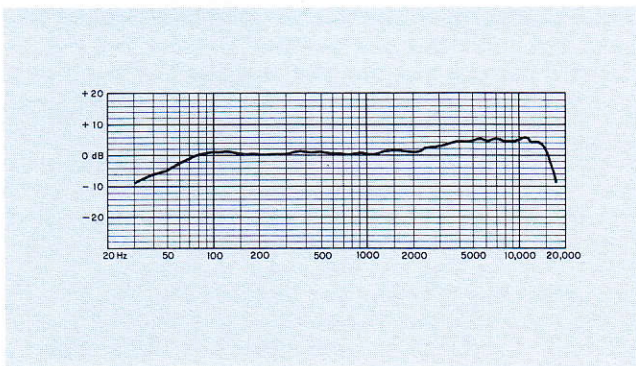
produce the musical note "A above middle C"—the international tone for tuning any musical instrument. The number of vibrations in a time period of one second necessary to reproduce a given pitch is referred to as cycles per second (cps), or, more commonly, *Hertz* (Hz). Thus the frequency of the musical note "A above middle C" is said to be 440 Hz.

The *frequency response* of a microphone is usually indicated (via a line graph) over the full audio spectrum to illustrate the response characteristics of that microphone to various pitches.

In the illustration below, microphone performance is said to be *flat*...that is, the microphone responds equally to all frequencies across the full spectrum. At first look, it would seem desirable for all microphones to have flat response, but in practical applications, variations in frequency re-



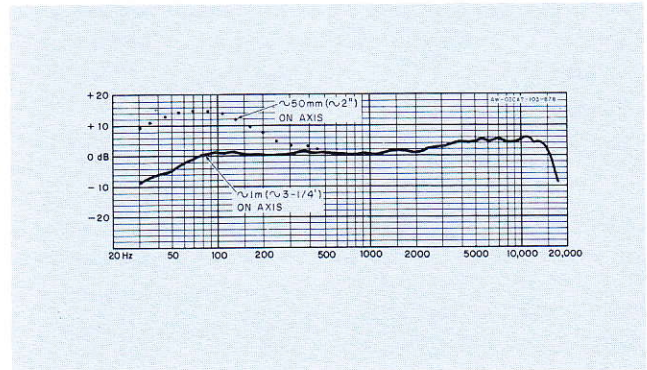
sponse are designed into a microphone to compensate for varying acoustical conditions, environmental problems, or creative needs. Such variations are referred to as *boosts* and *roll-offs*, and the degree of variation is expressed in decibels (dB). Thus a microphone with some low-frequency attenuation may be said to *roll off* (drop) 5 dB at 50 Hz. (Illustration below). This is often done because a micro-



phone with extended bass response would tend to emphasize low-frequency rumble from air conditioners and other mechanical equipment.

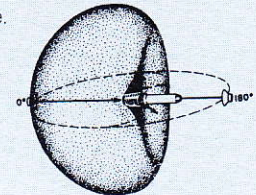
Although not usually shown in frequency response graphs, *cardioid* microphones have a common characteristic referred to as "*proximity effect*," resulting in an emphasis of bass response when the microphone is used in close proximity to the mouth or other sound source. This emphasis of bass response may sometimes be desirable and is, in fact, appealing to many vocal performers because it allows them to "shade" their voices. But this same bass emphasis, under

other conditions, could lead to "muddy" recording and/or sound transmission. Many AKG cardioid microphones therefore include switchable bass rolloff, thus providing the option of either using or neutralizing proximity effect as required.



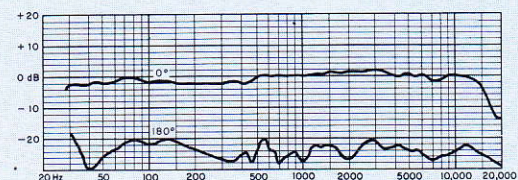
Cardioid microphones also have other frequency-related considerations. It is, of course, desirable to maintain the essential uniformity of the cardioid rejection pattern at *all* frequencies. Important, too, is that frequency response remain

Front-to-back discrimination indicates in dB, how much unwanted sound or noise is being rejected from the rear over the frequency range.



uniform, regardless of source-to-microphone angle of incidence. This is quite difficult in view of the many acoustical and mechanical problems involved, and slight variations at the two extremes of frequency response may be acceptable.

The top curve of the following illustration is the actual frequency response of a microphone measured at a sound-incidence angle of 0°, while the bottom curve represents a measurement at 180° off-axis.



AKG microphones are notable for their polar pattern uniformity at all frequencies, with the AKG patented two-way systems leading the field.

## Sensitivity

This is basically a straightforward characteristic, and can best be described by a simple example: Two different micro-



phones, A and B, are placed next to each other, both pointing directly at the same sound source, and both exactly the same distance from the sound source. At any loudness level produced by the sound source, microphone A generates a *larger* electrical output signal than microphone B. Therefore, microphone A is said to be *more sensitive* than microphone B.

Microphone A is not necessarily inherently better than microphone B simply because it's more sensitive. For one thing, the manufacturer of microphone B may have intentionally "traded off" a certain amount of sensitivity for other, equally important, design considerations. For another thing "best" sensitivity—like other characteristics previously covered—depends largely on the microphone's intended application. A microphone that must often be placed relatively far from a soft sound source—e.g. a film or videotape dialog-recording mic that must be kept out of camera range on a fishpole or boom—would benefit from relatively *high* sensitivity. (Under these conditions, it is imperative that the microphone generate enough signal to overcome the inherent hum or noise of a mixer's or tape recorder's input circuits.) On the other hand, a rock-vocalist's or instrumentalist's microphone may not require as much sensitivity because it's rarely more than a few inches from the performer and almost always in the presence of high sound-pressure levels.

A microphone's relative sensitivity can be expressed numerically, and all reputable manufacturers publish such figures for their microphones. But, be cautious. For sensitivity comparisons to be meaningful, keep two factors in mind:

- (1) There are several systems of sensitivity notation—open-circuit output, maximum-power output (sometimes just called "sensitivity"), EIA  $G_m$  output—to name a few. Always compare the sensitivity figures for one microphone against those for another microphone *using the same system of notation*.
- (2) Most of these systems of notation express a microphone's sensitivity in some value of dBm's or dBV's *preceded by a minus sign*. The microphone with the *smaller* number of dBm's or dBV's is therefore the *more sensitive* microphone. Using the original example again, microphone A (the more sensitive unit) might be rated at "-42 dBm," while microphone B (the less sensitive unit) might be rated at "-48 dBm." This simply means that microphone A is 6 dB more sensitive than microphone B and will generate *twice* as much output voltage for a given sound-source loudness.

## Impedance

Basically, impedance is a microphone's or audio circuit's opposition to the flow of audio-signal current. (Like its more familiar dc counterpart, resistance, it is expressed in units called "ohms.")

Some microphones (AKG's among them) have low-impedance outputs while other microphones have high-impedance outputs. Similarly, some mixers and tape recorders have low-impedance input circuits while others have high-impedance input circuits. What matters is *compatibility*. For

a microphone to produce its best frequency response and sensitivity, its output impedance must be inherently compatible (or easily made compatible) with the mixer's or recorder's input impedance.

Although inherently possessing low impedance (200 ohms), all AKG microphones in this catalog may be connected to either low- or high-impedance mixers and tape recorders without any compromises in performance. It's simply a matter of using the appropriate AKG MCH-series cable or transformer/cable assembly as described in more detail in the following section. Beforehand, simply determine the mixer's or recorder's rated microphone-input impedance and the type of connector used at the microphone input. (Consult the unit's Instruction Manual or, if necessary, the dealer from whom you purchased the unit.)

## Getting the best from your microphone...

The few hours spent deciding which microphone is best (and the few hours spent learning to use it most effectively) will be repaid many times over with a more polished, professional performance.

Select carefully. Then practice, practice... and practice again. Find the best position for the microphone relative to the instrument to which it is applied. Use a tape recorder to help judge the results. Remember, only you know the vocal or instrumental "timbre" you want to get. Practice until you get it.

## Impedance and Output Connections

### E,—ES Suffix Models

All AKG E- and ES- suffix microphones are low-impedance, balanced-output units fitted with a standard 3-pin XLR-type connector. Nominal output impedance is 200 ohms and is suitably matched by all low-impedance (25-1000 ohms) inputs.

Pin connections are as follows:

- Pin 1 = shield
- Pin 2 = audio, in-phase ("hot")
- Pin 3 = audio, low

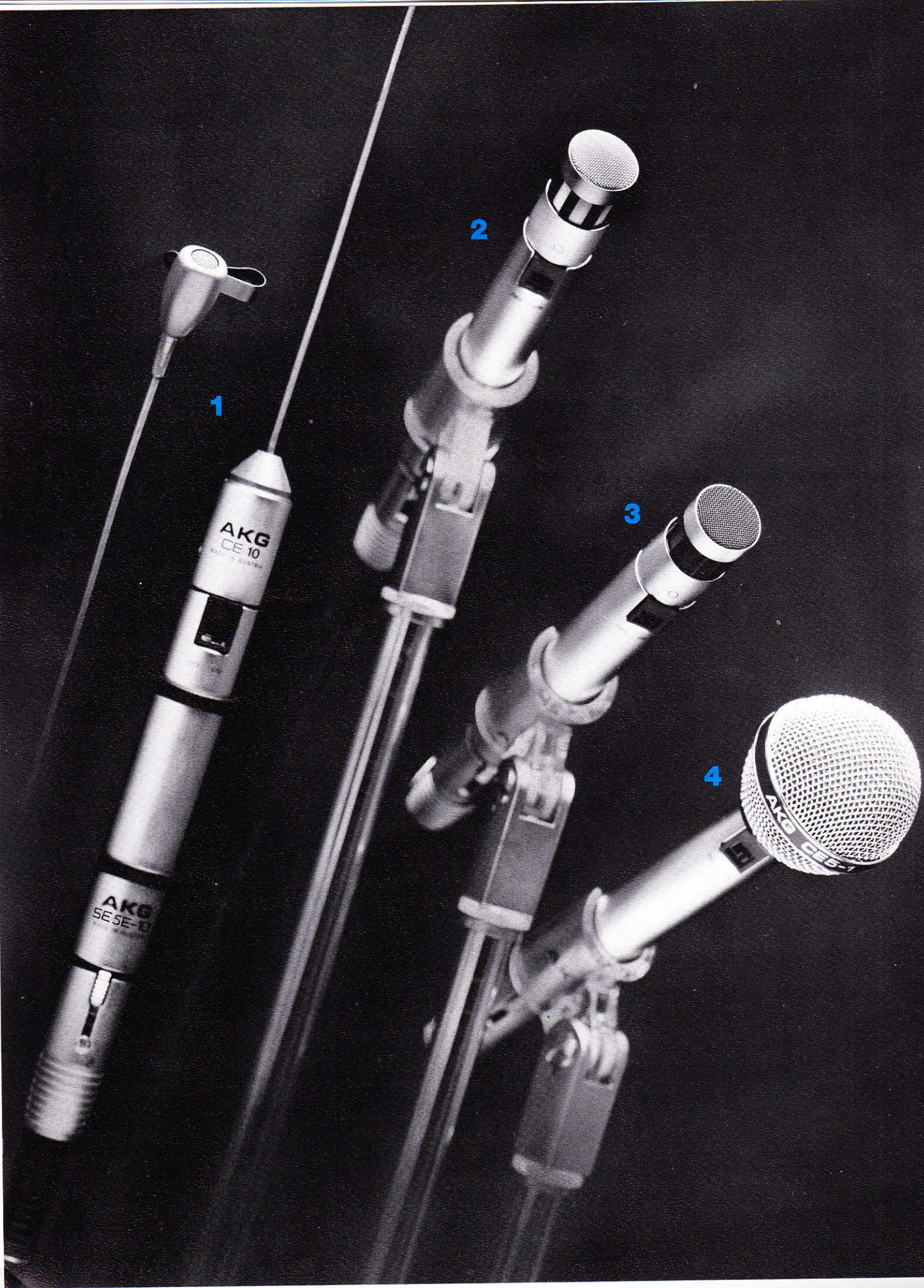
In phantom-powerable electret models, pins 2 and 3, jointly, also carry the positive powering voltage, while pin 1 carries the negative side.

Models without a suffix are supplied without a connector and with the cable stripped and tinned for custom installation. Color coding of the shielded conductors is as follows:

- red = in-phase
- white = low

For all high-impedance applications, use the AKG MCH-20T or MCH-20TS (with on/off switch) transformer cables. The design of these cables is such that all the advantages of a low-impedance balanced-output microphone are retained over the full cable run to the high-impedance input. Hence, no problems are encountered with hum, high-frequency loss, etc.





1

2

3

4

AKG  
CE 10

AKG  
SE 5E-10

AKG  
C 55-1



# C-500 System

## Modular Electret-Condenser Microphone Combinations

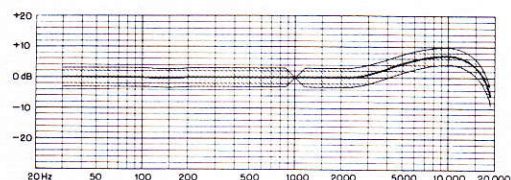
**...Matches any application—with add-on/interchangeable precision capsules.**

AKG pioneered this exciting modular concept with its earlier introduction of the world-famous C-450 studio condenser system. This new C-500 Electret-Condenser System also provides studio quality and astonishing versatility—at a cost within reach of most budgets. The C-500 system offers five

interchangeable transducer capsules and a common, mating powering module. Simply changing capsules can create different microphones for different applications—anything from rock vocals to motion-picture sound. Four complete basic microphone “combos” are available. Furthermore, all components are available separately and can be added as requirements grow.

### 1. C-510E Miniature Lavalier “Combo”

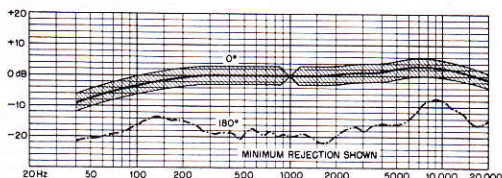
Unobtrusive appearance and “hands-free” operation make this unit ideal for film, television, lecture-hall and similar applications. Only the lightweight capsule shows, and it clips firmly almost anywhere on the performer's clothing! Provides natural speech reproduction—free of annoying sibilance peaks and clothing rustle. Complete microphone includes CE-10/1 lavalier capsule (with adjustable clip, built-in IC preamplifier and 4' non-detachable cable with adapter to fit concealed powering module), SE-5E powering module with battery, H-16 belt-clip for SE-5E, two W-6 wind-screens and foam-lined carrying case.



**Transducer Type:** Electret condenser  
**Directional Characteristic:** Omnidirectional  
**Sensitivity:** -51 dBm (EIA  $G_m$ : -144 dBm)  
**Capsule Case Color:** Dull broadcast gray  
**Overall Capsule Dimensions:**  $\frac{7}{8}$ " long x  $\frac{9}{16}$ " dia.  
**Net Weight (capsule only):**  $\frac{1}{2}$  oz

### 2. C-501E Basic Cardioid “Combo”

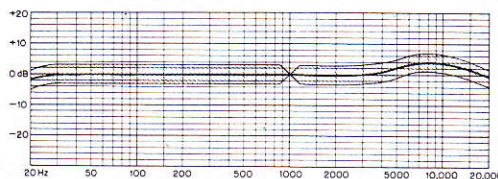
Invaluable in most home or studio recording, broadcast and sound-reinforcement applications. Cardioid pattern reduces background noise and feedback, and provides better isolation between microphones. Complete microphone including CE-1 cardioid capsule with built-in FET preamplifier, SE-5E powering module with battery, SA-11/1 stand adapter, W-20 windscreen and foam-lined carrying case.



**Transducer Type:** Electret condenser  
**Directional Characteristic:** Cardioid  
**Sensitivity:** -48 dBm (EIA  $G_m$ : -141 dBm)  
**Finish:** Nickel-plated brass  
**Overall Dimensions (capsule and powering module):**  $5\frac{3}{4}$ " long x  $1\frac{13}{16}$ " dia.  
**Net Weight:**  $3\frac{1}{2}$  oz

### 3. C-502E Basic Omnidirectional “Combo”

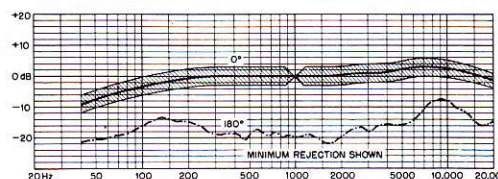
Recommended for home or studio recording and broadcasting where extra “hall” ambience may be desired, where extended low-frequency response is needed or where several instrumentalists, vocalists or other performers are to be grouped around a single microphone. Complete microphone including CE-2 omnidirectional capsule with built-in FET preamplifier, SE-5E powering module with battery, SA-11/1 stand adapter, W-20 windscreen and foam-lined carrying case.



**Transducer Type:** Electret condenser  
**Directional Characteristic:** Omnidirectional  
**Sensitivity:** -48 dBm (EIA  $G_m$ : -141 dBm)  
**Finish:** Nickel-plated brass  
**Overall Dimensions (capsule and powering module):**  $5\frac{3}{4}$ " long x  $1\frac{13}{16}$ " dia.  
**Net Weight:**  $3\frac{1}{2}$  oz

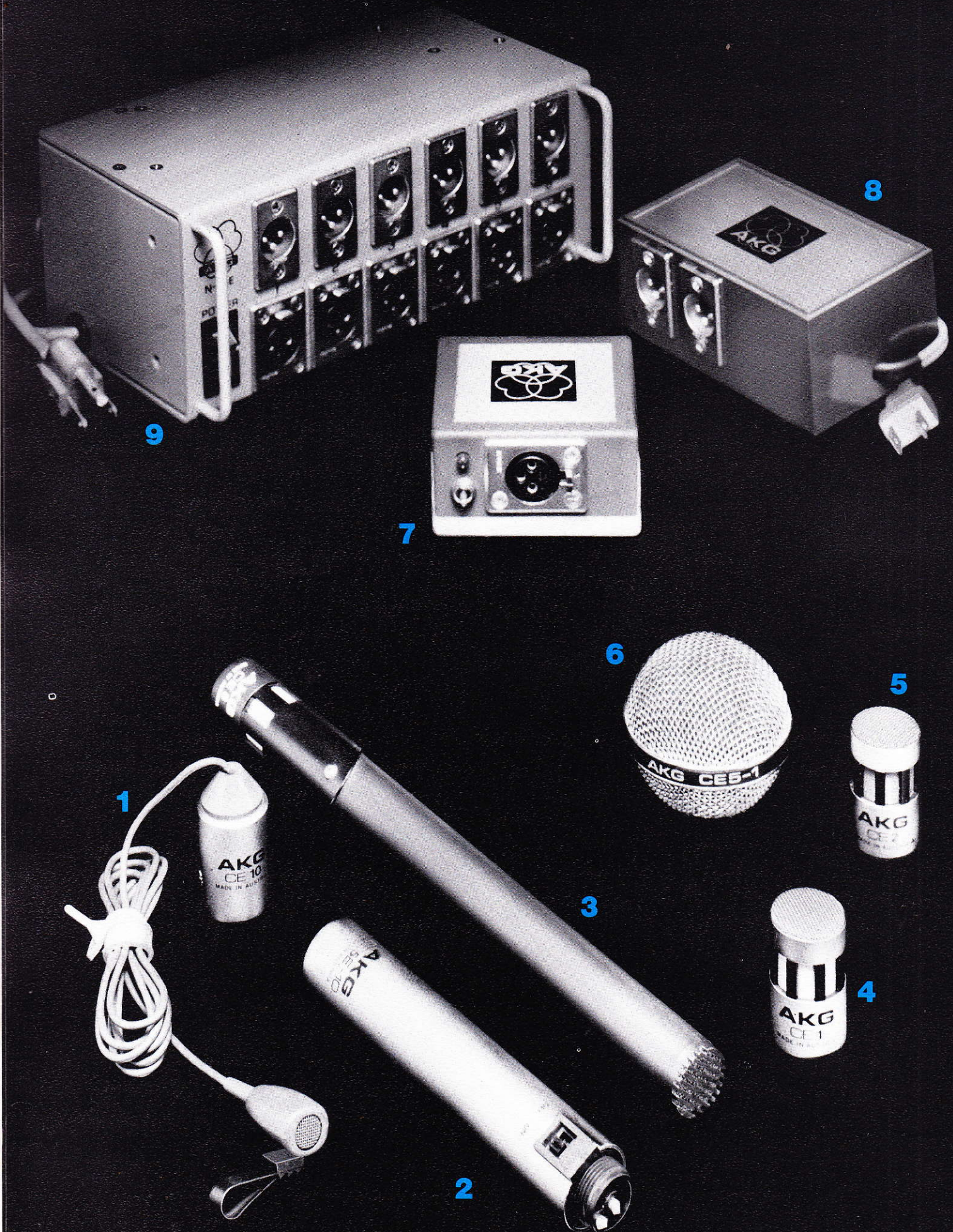
### 4. C-505E Vocalists Cardioid “Combo”

Ideal for pop and rock vocalists, stand-up comics and emcees. Internal shock mounting and a fixed wire-mesh windscreen/pop filter make this microphone perfect for hand-held and “close-talking” use. Attractive, contemporary styling lends professionalism to every performance. Identical in all other respects to the C-501E combo. Complete microphone including CE-5 cardioid capsule with built-in FET preamplifier, SE-5E powering module with battery, SA-11/1 stand adapter and foam-lined carrying case.



**Transducer Type:** Electret condenser  
**Directional Characteristic:** Cardioid  
**Sensitivity:** -48 dBm (EIA  $G_m$ : -141 dBm)  
**Finish:** Nickel-plated steel-wire mesh  
**Overall Dimensions (capsule and powering module):**  $6\frac{1}{4}$ " long x  $2\frac{1}{16}$ " dia.  
**Net Weight:**  $5\frac{1}{2}$  oz







# C-500 System

## Separate Capsules for Basic SE-5E Powering Module: Phantom-Power Supplies & Adaptor

### 1. CE-10/1: Miniature lavalier electret-condenser capsule used in C-510E microphone combo.

Supplied with two W-6 windscreens

**Overall Capsule Dimensions:**  $\frac{7}{8}$ " long x  $\frac{9}{16}$ " dia.

**Cable Length:** 4'

**Net Weight** (with cable and adapter):  $2\frac{3}{4}$  oz

Use with SE-5E

Also available as CE-10/7 with 23' cable.

### 2. SE-5E: Powering module required for all CE-series Capsules.

Mates with any capsule of your choice to make a complete microphone terminated with 3-pin XLR-type connector. (In addition to its electrical functions, the module forms the body or shaft of the microphone.) Houses one PX-23 battery or equivalent (included), on/off switch and audio-output circuitry. Provides low-impedance balanced output, and may be used in phantom-powered systems (on/off switch is bypassed when phantom powering is used).

**Frequency Range:** 10-25,000 Hz

**Approx. Battery Life:** 550 hours continuous, 1000 hours intermittent

**Acceptable Phantom-Power Source:** 9-52 volts dc (via suitable voltage-dropping network)

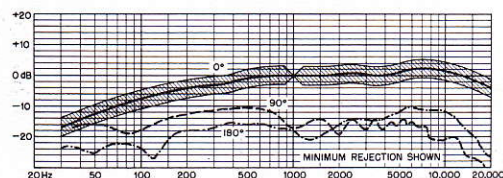
**Finish:** Nickel-plated brass

**Overall Dimensions:**  $4\frac{5}{8}$ " long x  $1\frac{3}{16}$ " dia.

**Net Weight** (including battery): 3 oz

### 3. CE-8: Short-shotgun electret-condenser capsule with built-in FET preamplifier.

Used with the SE-5E powering module, this capsule is designed primarily for superior dialog pickup in film and television work where the microphone must be kept out of camera range on a "boom" or "fishpole". However, it can also double as a hand-held interview microphone or be used effectively on lecterns in noisy or feedback-prone locations. Special interference-tube design produces a narrow "hypercardioid" pattern—reducing ambient noise and reverberation while permitting longer working distances than with a standard cardioid. Rolled-off bass response (often called "rising response") greatly aids speech intelligibility. Complete with W-18 windscreen and foam-lined carrying case.



**Transducer Type:** Electret condenser

**Directional Characteristic:** Short-shotgun hypercardioid

**Sensitivity:** -42 dBm (EIA  $G_m$ : -135 dBm)

**Finish:** Black-varnished brass

**Overall Dimensions:**  $8\frac{9}{16}$ " long x  $1\frac{3}{16}$ " dia.

**Net Weight** (capsule only): 2 oz

### 4. CE-1:

Cardioid electret-condenser capsule used in C-501E microphone combo.

**Overall Dimensions:**  $1\frac{7}{16}$ " long x  $1\frac{3}{16}$ " dia.

**Net Weight:**  $\frac{1}{2}$  oz

Use with Se-5E

### 5. CE-2:

Omnidirectional electret-condenser capsule used in C-502 microphone combo.

**Overall Dimensions:**  $1\frac{7}{16}$ " long x  $1\frac{3}{16}$ " dia.

**Net Weight:**  $\frac{1}{2}$  oz

Use with SE-5E

### 6. CE-5:

Shock-mounted electret condenser capsule with fixed wire-mesh windscreen/pop filter used in C-505E microphone combo.

**Overall Dimensions:**  $1\frac{5}{16}$ " long x  $2\frac{1}{16}$ " dia.

**Net Weight:**  $2\frac{1}{4}$  oz

Use with SE-5E

**7. B-1E In-line battery power supply:** with built-in on/off battery test switch. Phantom powers any *one* 12-volt microphone or preamp-capsule combination. Uses standard 9-volt transistor-radio battery for C-500 System operating time between 1,000 and 1,800 hours depending on battery type. Includes XLR-type input and output connectors, belt clip. Must be used with inputs which are balanced and floating to prevent shorting-out of dc phantom power.

**8. N-62E Phantom-power supply:** provides inline power to any *one* or *two* 12-volt or 48-volt microphones or preamp-capsule combinations. Includes XLR-type input and output connectors for each microphone circuit. Complete with 6 ft. line cord. Must be used with inputs which are balanced and floating to prevent shorting-out of dc phantom power.

**9. N-66E: In-line ac power supply:** for phantom powering any *six* 12-volt or 48-volt microphones or preamp-capsule combinations. Includes rack-mounting brackets, and XLR-type input and output connectors for each microphone circuit. Must be used with inputs which are balanced and floating to prevent shorting-out of dc phantom power.

**A-52: Adapter module** (not shown) for deriving phantom power directly from the microphone inputs of associated units such as consoles, mixers or recorders. Each A-52 module modifies one balanced, low-impedance input circuit for phantom powering. With input voltages from 13 to 50 volts dc, an A-52 will operate a 12-volt phantom-powered microphone *only*; with input voltages from 50 to 60 volts, dc, an A-52 will operate a 12-volt phantom-powered microphone *interchangeably*. Must be used with inputs which are balanced and floating to prevent shorting-out of dc phantom power.



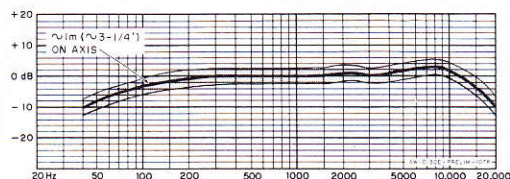




### 1. D-130E Omnidirectional Dynamic

...Rugged general purpose shockproofed omni.

The D-130E is one of the newer AKG microphones. After carefully weighing the needs of broadcast field teams for a heavy-duty microphone which could withstand the rigors of accidental abuse, unguarded setups, knock-down and transit, the AKG design team developed this unusually robust shock-resistant microphone. In addition to its sturdy, comfortable and attractive on-camera styling, it may be effectively employed interchangeably as a vocal microphone in musical variety shows where its omni characteristics are particularly advantageous. Its smooth response is typical of the quality inherent in AKG microphones in which the fullest spectrum of tonal qualities is apparent. Its transducer system is easily field replaceable.



**Transducer Type:** Dynamic

**Directional Characteristic:** Omnidirectional

**Sensitivity:** -58 dBm (EIA  $G_m$ : -150.5 dBm)

**Finish:** Nickel-plated zinc alloy, Sintered bronze screen

**Overall Dimensions:** 6 $\frac{7}{8}$ " long x max. dia. 1 $\frac{3}{4}$ "

**Net Weight:** 9 oz

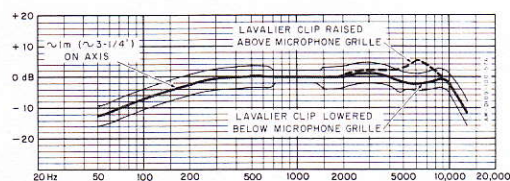
### 2. D-109 Lavalier Dynamic

...The majority choice for natural-voice "hands-free" use.

This small, attractively styled broadcast-quality microphone is intended for inconspicuous use in public address, television and motion-picture applications. It is lightweight and reproduces sound clearly and naturally because its response characteristics have been specially contoured to overcome the "booming" resonance of the human chest cavity.

The D-109 offers more than average output (two to four times more sensitivity) to insure sufficient gain with all types of amplification equipment. High-frequency response and "presence" are adjustable simply by moving the lavalier clip.

Supplied complete with 29 $\frac{1}{2}$ " non-detachable lightweight cable, lavalier clip with tie clasp, lavalier cord, and foam-lined vinyl case.



**Transducer Type:** Dynamic

**Directional Characteristic:** Omnidirectional

**Sensitivity:** -58 dBm (EIA  $G_m$ : -151 dBm)

**Finish:** Nickel-plated brass

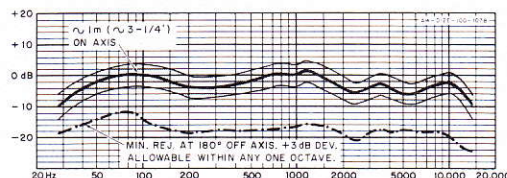
**Overall Dimensions:** 2 $\frac{7}{8}$ " long x 1 $\frac{1}{16}$ " dia.

**Net Weight:** 5 $\frac{1}{2}$  oz (including cable)

### 3. D-12E Cardioid Dynamic

...One time favorite microphone, again made available by popular request.

Originally designed and widely used for vocal applications, the D-12E is currently acclaimed as a most superb bass-drum microphone. The D-12E's warm sound, high proximity effect and excellent internal spring-suspension shock mounting combine to provide a first-class microphone for this application. Its scope of applications include low-register brass (trombones, for example) or any instrument or voice requiring sonorous emphasis. Its directional characteristics provide excellent isolation from acoustical feedback. An internal foam filter circumvents breath popping as well as the noise of air movement.



**Transducer Type:** Dynamic

**Directional Characteristic:** Cardioid

**Sensitivity:** -52 dBm (EIA  $G_m$ : -145 dBm; high -Z output w/MCH-20T or MCH-20TS: -63 dBV at 1  $\mu$ b)

**Finish:** Nickel-plated brass, nickel-plated steel wire mesh

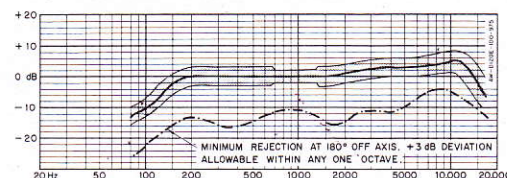
**Overall Dimensions:** 5 $\frac{9}{16}$ " high x 2 $\frac{1}{2}$ " wide x 2 $\frac{7}{8}$ " deep

**Net Weight:** 21 oz.

### 4. D-120E/ES Cardioid Dynamics

...Typical AKG-quality performance —economically priced.

General purpose cardioid dynamic microphones with more than general-purpose qualities. Designed to fit a wide variety of needs, the D-120E and D-120ES (with on/off switch) find themselves equally at home when used in P.A. systems, for tape recording, or by performing artists. The cardioid pattern helps to control feedback in public-address and live-performance applications. Lightweight, rugged construction, integral windscreen/shock mounting, and the ability to withstand the high sound-pressure levels encountered in "close-talking" applications combine to form microphones a step above the average in similar or higher price ranges. The D-120E/ES have a clarity and smoothness of sound by which all AKG microphones distinguish themselves. Complete with SA-23/2 snap-out stand adapter and foam-lined vinyl case.



**Transducer Type:** Dynamic

**Directional Characteristic:** Cardioid

**Sensitivity:** -54 dBm (EIA  $G_m$ : -146.5 dBm; high-Z output w/MCH-20T or MCH-20TS: -65 dBV at 1  $\mu$ b)

**Finish:** Anodized aluminum, nickel-plated steel-wire mesh

**Overall Dimensions:** 6 $\frac{7}{16}$ " long x 2 $\frac{1}{16}$ " dia.

**Net Weight:** 5 $\frac{1}{4}$  oz



