



# UNIAXIAL MICROPHONE

TYPE BK-5A

CATALOG

**B**.1018

## FEATURES

- High quality reproduction over entire audio frequency range
- Improved unidirectional characteristic with wide pickup angle on front
- Simplifies microphone and camera placement problems—maximum sensitivity lies on major mechanical axis
- Small size—lightweight for TV boom operation
- Rugged construction—improved resistance to gun blasts
- Satisfactory operation in high hum fields because of exceptionally good shielding
- Wind screen for out-doors or fast-panning shots
- No rubber band mountings to replace
- Improved long-life flexible cable



## USES

The RCA Type BK-5A Uniaxial Microphone is a dependable, high-quality ribbon instrument possessing an improved unidirectional characteristic, and designed for broadcast use in AM, FM and TV stations. The microphone has a frequency response that is essentially uniform from 50 to 15,000 cycles. Its smooth response and frequency range make it ideal for reproducing both speech and music.

The microphone has been especially engineered with the television studio in mind. Since maximum sensitivity lies on

the major mechanical axis, it is a one axis, or uniaxial type microphone. This directional characteristic simplifies microphone and camera placement problems. Incorporated in the unit is a blast filter which effectively reduces damage to the microphone from gun blasts and other violent noises. In addition, the small size, light weight, unobtrusive yet attractive TV gray finish and appearance render it especially suitable for television, but it is also admirably suited to general broadcasting and high-fidelity sound systems.

## DESCRIPTION

The Type BK-5A Microphone is a unidirectional microphone in which the moving element is a thin corrugated metallic ribbon clamped under light tension to cause it to vibrate at its own resonant frequency. The ribbon is placed between the pole pieces of a magnetic circuit. One side of the ribbon is open to the atmosphere and the other opens on an acoustical labyrinth which has phase-shift openings giving the instrument its improved unidirectional characteristics. The labyrinth of the microphone houses an impedance matching transformer and switch for selecting response characteristics for voice or music.

A unique feature of the BK-5A is a blast filter consisting of two separate cloth layers supported by perforated metal screens. The filters effectively reduce damage to the microphone from gun blasts and other violent noises required in broadcast programming. In addition, the transformer is exceptionally well shielded against stray magnetic fields and can perform satisfactorily in high hum fields. As further protection for the sensitive vibrating ribbon a wind screen is available for use with the instrument. Its use is recommended if the instrument is to be used outdoors.

The integration of the blast filter, acoustic phase-shift network and especially designed connector to couple the ribbon to the labyrinth is responsible for the unique unidirectional characteristic of the BK-5A, and uniform frequency response over the entire aural spectrum. The microphone is housed in a tri-sectional casting which blends functions and appearance into a coherent whole. It is supported by a fork mounting which has a  $\frac{1}{8}$ " straight pipe thread to

BK-5A Microphone mounted on Type 91-C Desk Stand. RCA Standard Cushion Mount Adapter (Stock # 93973) is required in this application.



BK-5A Microphone with Wind Screen, MI-11011, and Boom Unit, MI-11012.



fit RCA cushion mountings for either desk or floor stands. An improved shock mount based on panel meter mounts designed for military use is incorporated in the Boom Unit. This new mount isolates the microphone effectively from its support and does not generate any noise. There are no rubber band mountings to wear out and need replacement. A 30-foot flexible cable, supplied with the microphone, makes use of tinned cadmium bronze wire to provide longer life.

The small size and axial directivity aid in placing the BK-5A in inconspicuous fixed locations. There are no shiny external parts to reflect light and draw attention to the instrument. The axial directivity combined with the Boom Mount (MI-11012) make the microphone very easy to handle to keep the sound source "in focus." The addition of the wind screen to this combination does not cause a loss of the sense of the pickup axis.

## SPECIFICATIONS

### Performance Specifications

Directional Characteristic	Unidirectional
Frequency Response	50 to 15,000 cycles
Output Impedance	250 ohms, may be changed to 30 or 150 ohms
Load Impedance	Unloaded input transformer
Effective Output Level at 1000 cps	-56 dbm
RETM Rating (GM) (150 ohm connection)	-150 dbm
*Hum Pickup Level	-128 dbm
Cable	3-conductor, shielded, 30 feet, no plug
Dimensions (overall)	7" x 2 $\frac{1}{4}$ " x 2 $\frac{1}{4}$ "
Weight	1 pound, 11 oz. (less cable)
Finish	Low-gloss TV gray enamel
Mounting	$\frac{1}{8}$ " straight pipe thread (female)
Stock Identification	MI-11010

### Accessories

Boom Unit	MI-11012
Wind Screen	MI-11011
Cushion Mounting Assembly	Stock No. 93973

\* Relative to a field of  $1 \times 10^{-3}$  gauss.



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