



B R O A D C A S T

# AUDIO

E Q U I P M E N T

FOR

AM · FM · TELEVISION

—  
(FIFTH EDITION)

CUSTOM EQUIPMENT

CONSOLES

AMPLIFIERS

TURNTABLES

RACK EQUIPMENT

SPEAKERS

RECORDERS

MICROPHONES

# RCA Microphones

## General Information

The excellence of RCA microphones is the result of continued effort on the part of Engineering and Production personnel to produce a superior product. Out of this work have come the several types of broadcast microphones listed in the catalog. There is considerable overlap in the applications of the various types, but each does possess certain attributes which make it particularly well suited to some specific applications. These have been noted for each microphone in the catalog in order to assist in the selection of the microphone best suited for the intended application.

## High Quality Broadcast and Television Microphones

Broadcast-type microphones such as the Types BK-1A, BK-5B, BK-6B, BK-11A and 77DX, all have certain common performance criteria which make them especially suited to this application. They have smooth frequency-response characteristics over the audio range, low distortion, high output levels, well-shielded output transformers to prevent hum pickup, and where necessary, are shock mounted to reduce the pickup of low frequency building rumble. Performance features which are unique to each particular type are listed and the applications discussed in the catalog.

## Public Address Microphones for Broadcast Use

Public Address Microphones have been designed as economy microphones. In general, frequency range and sensitivity have been sacrificed to some extent in order to gain ruggedness and lower cost. The response limitations should be borne in mind when these microphones are used in Broadcast applications.

## Unloaded Transformer Input

RCA Broadcast Microphones are designed to work into a microphone preamplifier whose input transformer is unloaded. Under this condition of operation the voltage appearing at the input of the first amplifier stage results in a gain in signal-to-noise ratio of between 3 and 6 db as compared with a matched resistance load. The exact value will depend on whether the major source of thermal noise is in the microphone amplifier or in the microphone.

## Microphone Resistance Loading

Microphones in which the moving system is highly damped will in general have their frequency response characteristics little changed by electrical loading. The BK-1A and 77-DX (in the pressure position) are examples of this.

Microphones which show output impedance variations with respect to frequency will have their response characteristics adversely affected by resistance loading. The Type BK-5B, and 77-DX (in the bi-directional and uni-directional positions) are examples of this. Resistance loading of these microphones will generally result in a loss in low frequency response.

## 150 Ohms vs. 250 Ohms

When microphones are connected to unloaded input transformers, impedance matching is not a consideration and the effects of connecting microphones with an output impedance of 150 ohms to a microphone amplifier designed to operate from a 250 ohm source and vice versa will usually be of small consequence. The effect on the level is shown in the tabulation below.

Mic. Output Impedance	Level Change db	
	250	0
150	-2.2	0
Amp. Input Designation	250	150

In addition there will be some change in the overall response-frequency characteristic of the system below 100 cycles and above 5000 cycles, the magnitude depending on the connection and the design of both the microphone and the amplifier input transformer. Variations in response with the usual broadcast quality microphone amplifiers will in most cases not exceed  $\pm 2$  db.

When microphones are connected to a resistance load the following changes in level will result when the output is referred to a matched condition.

Mic. Output Impedance	Level Change db	
	250	0
150	+2.0	0
Load Impedance	250	150

## Microphones Shipped Less Plug

RCA microphones are supplied less the plug for connection to the wall outlet or amplifier system. This is done to allow the user to select any desired plug. As a convenience, popular types of Cannon plugs are catalogued and they may be ordered as an accessory if desired.\*

## Microphone Mounting

RCA has standardized on the rugged 1/2-inch pipe thread for broadcast microphone mounting. This size thread makes it easy to add microphone stand extensions, booms, etc., for they may be easily made up locally from standard 1/2-inch pipe and fittings. Stands listed for use with microphones having 5/8"-27 thread will accommodate RCA Broadcast Microphones by the addition of an adapter.

\* Microphones are shipped connected for 250 ohms since in normal usage an improved signal to noise ratio results when connected to a 150 ohm preamplifier input.

## Effective Output Level

When a microphone is connected to an unloaded input transformer its power output cannot be expressed in dbm because no appreciable power is delivered by the microphone. The logical approach to the problem is to arrive at some level figure which, when combined with the conventionally measured amplifier gain, will give the correct output level for the combination. This figure is listed in the catalog for each microphone and is called the Effective Output Level. It differs from the EIA standard rating  $G_M$  in the value of sound pressure and source impedance. The EIA rating computation is based on a source impedance of 150 ohms for all microphones having output impedances between 75 and 300 ohms, and on a sound pressure of 0.0002 dynes per square centimeter.

The Effective Output Level calculation is based on the nominal microphone impedance and on a sound pressure of 10 dynes/cm<sup>2</sup>.

The EIA standard defines the system rating ( $G_M$ ) of a microphone as the ratio in decibels relative to 0.001 watt per 0.0002 dynes per square centimeter of the maximum electric power available from the microphone to the

square of the undisturbed sound field pressure in a plane progressive wave at the microphone position. Expressed mathematically:

$$G_M = (20 \log_{10} \frac{E}{P} - 10 \log_{10} R_{MR}) - 50 \text{ db.}$$

where E = the open circuit voltage of the microphone  
P = the undisturbed sound field pressure

$R_{MR}$  = the microphone rating impedance

Electrical reference level = .001 watt

Sound pressure = .0002 dynes/sq. cm.

While this may look complex the application is simple. For all practical purposes the output level of the microphone is obtained by adding to  $G_M$ , the sound pressure level relative to 0.0002 dynes per square centimeter. The sound pressure level of the program material can be measured with any of the several available sound level meters.

## Hum Pickup Level

An arbitrary standard 60 cycle a-c field of  $10^{-3}$  gauss has been established as a reference. It is fairly representative of fields measured at typical microphone locations in broadcast studios. The hum level is referred to .001 watt and is calculated in the same fashion as the Effective Output Level, using as the output voltage the voltage produced by the standard field.

Chart Showing Microphone Applications, Chief Characteristics and Recommended Mounts

Type No.	Use <sup>3</sup>	Directional Characteristic	Effective Output Level <sup>1</sup> and $G_M$ <sup>4</sup>	Output Impedance Ohms	Frequency Response cps	Hum Pick-up Level <sup>2</sup>	Finish	Stand
77-DX	Program Announce	Poly-directional	-53 dbm $G_M$ -147 db	30/150 250	50-15,000	-128 dbm	Satin Chrome & TV Gray	Boom, Desk, Floor
BK-1A	Program Announce	Non-directional	-53 dbm $G_M$ -145 db	30/150 250	60-10,000	-102 dbm	Satin Chrome & TV Gray	Desk, Floor
BK-5B	Program Announce	Uni-directional	-56 dbm $G_M$ -150 db	30/150 250	50-15,000	-128 dbm	TV Gray	Boom, Desk, Floor
BK-6B	"Off-Mike" Speech	Semi-directional	-67 dbm $G_M$ -158 db	30/150 250	80-12,000	-112 dbm	TV Gray	Clip & Microphone Lanyard
BK-11A	Program Announce	Bi-directional	-56 dbm $G_M$ -147 db	30/150 250	30-15,000	-130 dbm	Stainless Steel & Low Gloss Gray	Desk, Floor
BN-10A	Remote Program	Semi-directional	+6VU	600	80-12,000	-112 dbm	TV Gray	Hand
KU-6A	Program Announce	Vari-directional	-36 dbm (-51 dbm) $G_M$ -128 db	30/150/ 250	50-18,000	-128 dbm	Shadow Blue Pepper Tone	Boom, Desk, Floor
MI-10006A/ MI-10008	Specialized Program	Ultra-directional	-36 dbm (-51 dbm) $G_M$ -128 db	30/150/ 250	30-18,000	-128 dbm	Shadow Blue Pepper Tone	Boom
KU-3A	Program Announce	Uni-directional	-51 dbm $G_M$ -148 db	30/150/ 250	50-12,000	-128 dbm	Two-Tone Umber Gray	Boom, Desk, Floor
SK-39	Close Up Announce	Non-directional	-55 dbm $G_M$ -150 db	250	70-9000	-95 dbm	Umber Gray	Hand, Desk, Floor
SK-45B	Intercom & Talkback	Non-directional	-56 dbm $G_M$ -147 db	200/15,000	70-12,000	-106 dbm	TV Gray	Desk, Floor
SK-46	Radio & TV Announce	Bi-directional	-58 dbm $G_M$ -150 db	200/15,000	50-10,000	-113 dbm	Satin Chrome & TV Gray	Hand, Desk, Floor

<sup>1</sup> Reference level 0.001 watt, sound pressure 10 dynes per square centimeter. This corresponds to a rating by the proposed EIA system at a sound pressure level of 94 db.

<sup>2</sup> Level referred to a hum field of  $10^{-3}$  gauss.

<sup>3</sup> For details refer to description of each particular type.

<sup>4</sup>  $G_M$  = (EIA rating).

<sup>5</sup> Also available in TV Gray as MI-11006-C.

# Polydirectional Microphone

## TYPE 77-DX

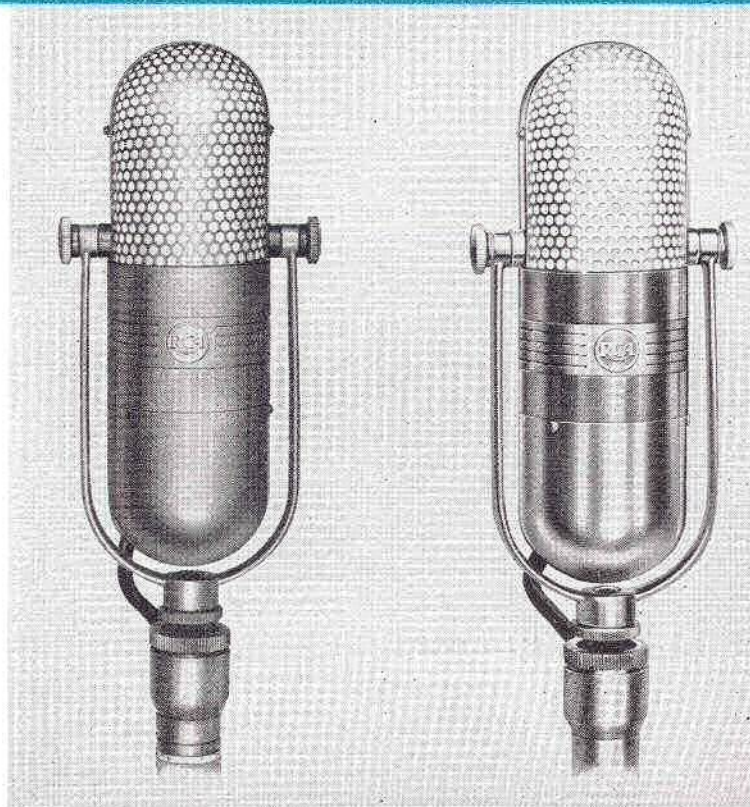
### FEATURES

- High quality reproduction with greater sensitivity over entire audio frequency range
- Styled for either radio or TV applications
- Choice of directional pattern to control ratio of direct-to-reverberant sound pickup
- Three-position voice-music switch allows selection of best operating characteristic
- Efficient shock mounting

### DESCRIPTION

The RCA Type 77-DX Polydirectional Microphone is primarily intended for broadcast use either in the radio or television studio. Two models are available. The MI-4045-F finished in satin chrome and a low-gloss umber gray enamel is intended for AM or FM stations, while the MI-11006-C microphone is intended for television use and is therefore completely finished in a low-gloss umber-gray enamel which eliminates glaring reflections. Both instruments are high-fidelity microphones of the ribbon type which may easily be adjusted to obtain a variety of directional patterns.

As a uni-directional microphone the 77-DX has a wide pick-up angle on front which may be used to advantage as a general programs and announce studio microphone and for television boom operation. It is recommended for use on programs where it is desirable to cover a large area with a single microphone, on programs where studio acoustics are more live than optimum, and programs where it is desirable to eliminate audience noise originating behind the microphone. The 77-DX can also serve as a bi-directional instrument on programs where the players are grouped around the microphone or are seated on opposite sides of a table. In the non-directional position, the microphone is excellent for announce work or for out-door locations.



MI-11006-C

MI-4045-F

The RCA Type 77-DX Polydirectional Microphone operates as a uni-directional, bi-directional or non-directional instrument by positioning of a shutter to secure various areas of opening. The moving element is a thin corrugated metallic ribbon clamped at the ends and suspended in the air gap of a magnetic circuit consisting of an Alnico V permanent magnet and pole pieces. One side of the ribbon is open and the other is connected by means of a tube to a folded acoustically damped pipe contained in the center section of the microphone.

The tube connecting the back of the ribbon to the labyrinth is slotted directly behind the ribbon and fitted with the shutter which controls the directional properties of the microphone. When the opening is completely closed, the microphone operates as a non-directional pressure microphone; at the wide-open position the instrument becomes bi-directional. With the proper size opening the pattern becomes a cardioid by virtue of the phase shift which occurs. Openings smaller or larger than this critical size produce directional patterns with various sized rear lobes. Different amounts of low-frequency attenuation are obtained by a reactor shunting the output.

The shutter opening is operated by turning a slotted shaft which is brought out flush with the rear of the windscreen.

The shutter position is indicated on a plate mounted on the screen and marked "U", "N" and "B". Three additional markings "L-1", "L-2", and "L-3" are used as reference points for other directional patterns which may be obtained. The bottom portion of the microphone contains an impedance matching transformer and switch for selecting response characteristics for voice or music. The switch shaft is slotted and accessible through a hole in the bottom of the lower shell. The transformer is exceptionally well shielded against stray magnetic fields.

The 77-DX will mount on any stand having a 1/2-inch pipe thread. Other stands will require a suitable adaptor. The microphone is cushion-mounted, and a fork mounting is provided so that the instrument may be fitted to the desired position. The microphone is connected for an output impedance of 250 ohms at the factory, but it may be adjusted for an output impedance of 30 or 150 ohms.

### SPECIFICATIONS

Directional Characteristics.....	Adjustable, 6 positions (see curves)
Frequency Response.....	50-15,000 cps
Output Impedance.....	250 ohms, may be changed to 30 or 150 ohms
Load Impedance.....	Unloaded input transformer
EIA System .....	G <sub>M</sub>
Effective Output Level (all output connections):	
Bi-directional.....	-50 dbm* G <sub>M</sub> = -144 db
Uni-directional.....	-53 dbm* G <sub>M</sub> = -147 db
Non-directional.....	-56 dbm* G <sub>M</sub> = -150 db
Hum Pick-up Level.....	-128 dbm**
Dimensions (overall).....	11 1/2" long, 3 3/4" wide, 2 1/2" deep
Weight (including 1 1/2 lb. cable).....	4 1/2 lbs.
Cable (MI-43-D, 3 conductor, shielded).....	30 ft., no plug
Mounting.....	1/2" pipe thread

### Ordering Information

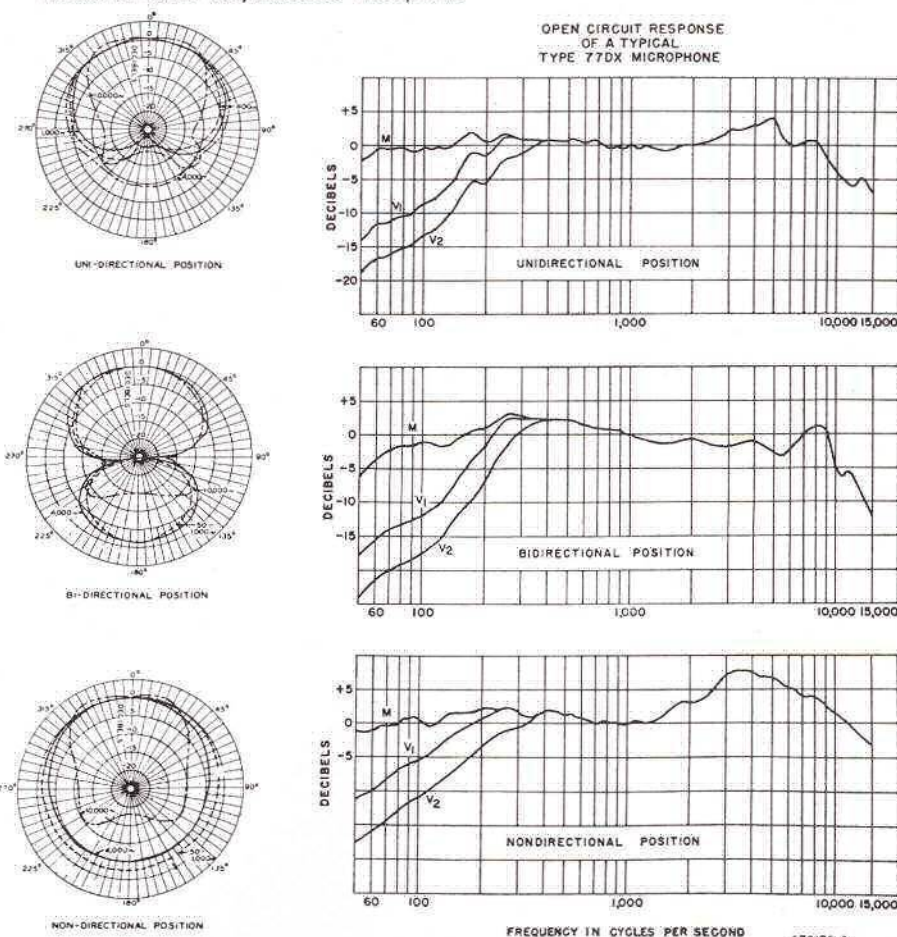
Type 77-DX Polydirectional Microphone in protective cloth bag:	
Satin Chrome Finish.....	MI-4045-F
Low Luster Gray Finish.....	MI-11006-C

\* Sound Pressure = 10 dynes/cm<sup>2</sup>.  
 \*\* Referred to a hum field of 1 x 10<sup>-3</sup> gauss.

Typical Directional Patterns and Frequency Response Curves of 77-DX Polydirectional Microphone



Rear view of 77-DX Microphone



472178-0

# Pressure Microphone

## TYPE BK-1A



### FEATURES

- Lightweight rugged construction
- Convenient swivel mounting
- Ideal for interview type programs
- Attractive modern styling with non-reflective TV gray finish
- Not sensitive to wind or mechanical vibrations
- Frequency characteristic independent of source distance

### DESCRIPTION

The BK-1A pressure microphone is designed for broadcast use in AM, FM and TV stations. Its construction makes it particularly well suited for remote pickups. The BK-1A features a smooth response and frequency range which make it suitable for reproducing both music and speech. Rugged, insensitive to mechanical vibration, the BK-1A is the ideal microphone for outdoor use where constant handling by the announcer is necessary. Pleasingly styled, it effectively serves TV announce desk or conference programs where each participant has a microphone in the scene, programs where the performer must work close to the microphone; and public address system use.

The BK-1A is a pressure actuated type microphone. Non-directional when mounted vertically, a semi-directional characteristic is obtained when horizontally mounted, in which case the BK-1A is essentially non-directional for frequencies below 2000 cycles—the higher frequencies are attenuated more as the angle with the perpendicular to the diaphragm increases.

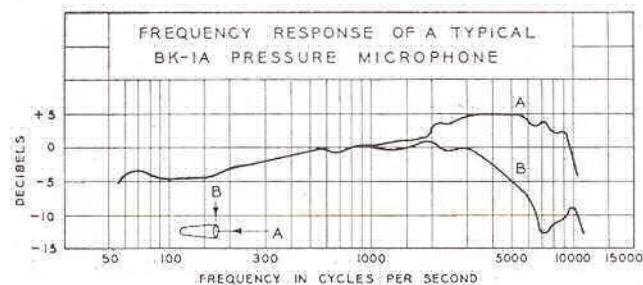
Versatility is assured by design which allows the BK-1A to be stand mounted on desk or floor or to be easily removed from the stand mountings for use as a hand microphone. A durable ball and socket joint located at the base of the stem makes selection of the best speaking angle easy, when used on desk stand, MI-11008, shown above.

### SPECIFICATIONS

Effective Output Level (referred to one milliwatt and a sound pressure 10 dynes/cm <sup>2</sup> ).....	-52 dbm
Frequency Response.....	60-10,000 cps
Output Impedance.....	30/150/250 ohms (connected for 250 ohms when shipped)
EIA Rating (G <sub>M1</sub> ):	
250 Ohms .....	-144 db
150 Ohms .....	-147 db
30 Ohms .....	-148 db
Directional Characteristic:	
Semi-directional.....	When mounted horizontally
Non-directional.....	When mounted vertically
Recommended Load Impedance.....	Unloaded input transformer
Hum Pickup Level.....	-102 dbm (.001 gauss)
Length.....	7¾" (including mounting)
Diameter .....	1 7/8"
Weight.....	18 oz. (less cable)
Cable.....	3-conductor shielded, 30 feet (no plug)
Stand Fitting.....	1/2" pipe thread
Finish.....	Low luster gray and chrome

### Ordering Information

Type BK-1A Pressure Microphone..... MI-11007



# Uniaxial Microphone

TYPE BK-5B

## FEATURES

- Superior control room microphone
- Improved unidirectional characteristic with wide pickup angle on front
- Three position voice-music switch allows selection of most desirable operating characteristic
- Simplifies microphone and camera placement problems—maximum sensitivity lies on major mechanical axis
- Small size—ideal for TV boom operation
- Exceptionally good shielding permits operation in high hum fields
- Improved long-life flexible cable and boom mount



BK-5B Microphone mounted on 91-C Desk Stand

## DESCRIPTION

The RCA Type BK-5B 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 excellent response and frequency range, combined with its unexcelled cardioid directional characteristic makes 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 gray finish and appearance render it espe-

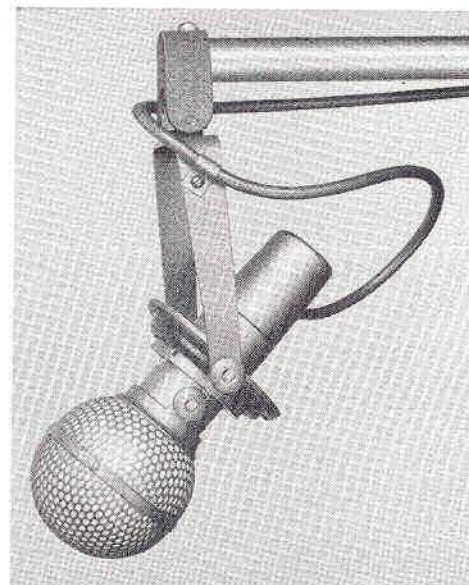
cially suitable for television, but it is also admirably suited to general broadcasting and high-fidelity sound systems.

The Type BK-5B 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-5B 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 loud noises encountered in broadcast programming. In addition, the transformer is exceptionally well shielded against stray magnetic

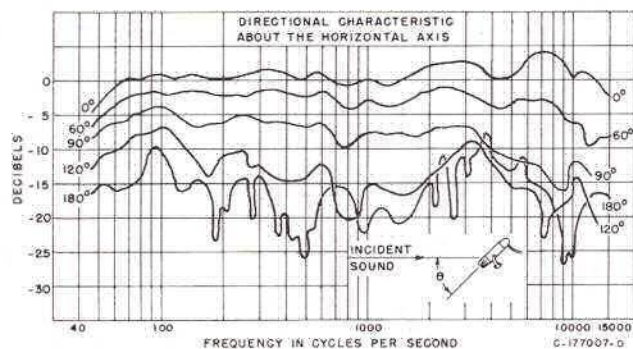
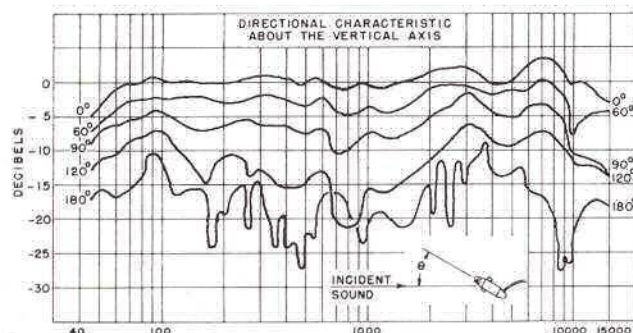
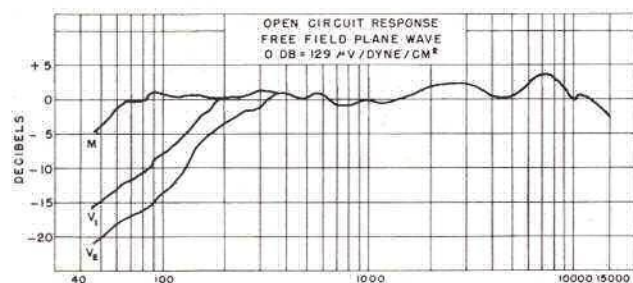
fields and can perform satisfactorily in high hum fields. As further protection for the sensitive vibrating ribbon a wind screen is available for use with the instrument. Its use is recommended if the instrument is to be used outdoors.

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 uniaxial characteristic of the BK-5B, and uniform frequency response over the entire aural spectrum. The microphone is supported on a cushion mounting which has a  $\frac{1}{2}$ -inch internal pipe thread to fit RCA desk or floor stands. An improved shock mount based on panel meter mounts designed for military use is incorporated in the optional Boom Unit. This new mount isolates the microphone effectively from vibration and shock transmitted by the boom. There are no rubber band mountings to wear out. A 30-foot flexible cable, supplied with the microphone, makes use of tinned cadmium bronze wire to provide longer life.



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

FREQUENCY RESPONSE OF THE BK-5B MICROPHONE



The small size and axial directivity aid in placing the BK-5B 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 cps
Output Impedance.....	250 ohms, may be changed to 30 or 150 ohms
Load Impedance.....	Unloaded input transformer
Effective Output Level at 1000 cps	
Sound Pressure 10 dynes/CM <sup>2</sup> .....	-56 dbm
EIA Rating (GM) (150-ohm connection) .....	-150 dbm
Hum Pickup Level	
Relative to a field of $1 \times 10^{-3}$ gauss.....	-128 dbm
Cable.....	3-conductor, shielded, 30 feet, no plug
Dimensions (overall).....	7" x 2 $\frac{3}{4}$ " x 2 $\frac{7}{8}$ "
Weight.....	1 pound, 11 ozs. (less cable)
Finish.....	Low luster gray enamel
Mounting.....	$\frac{1}{2}$ " pipe thread (female)

### Ordering Information

Type BK-5B Uniaxial Microphone.....MI-11010-A

### Accessories

Boom Unit .....

Wind Screen .....

Desk Stand, Type 91-C.....





# MINIATURE DYNAMIC MICROPHONE

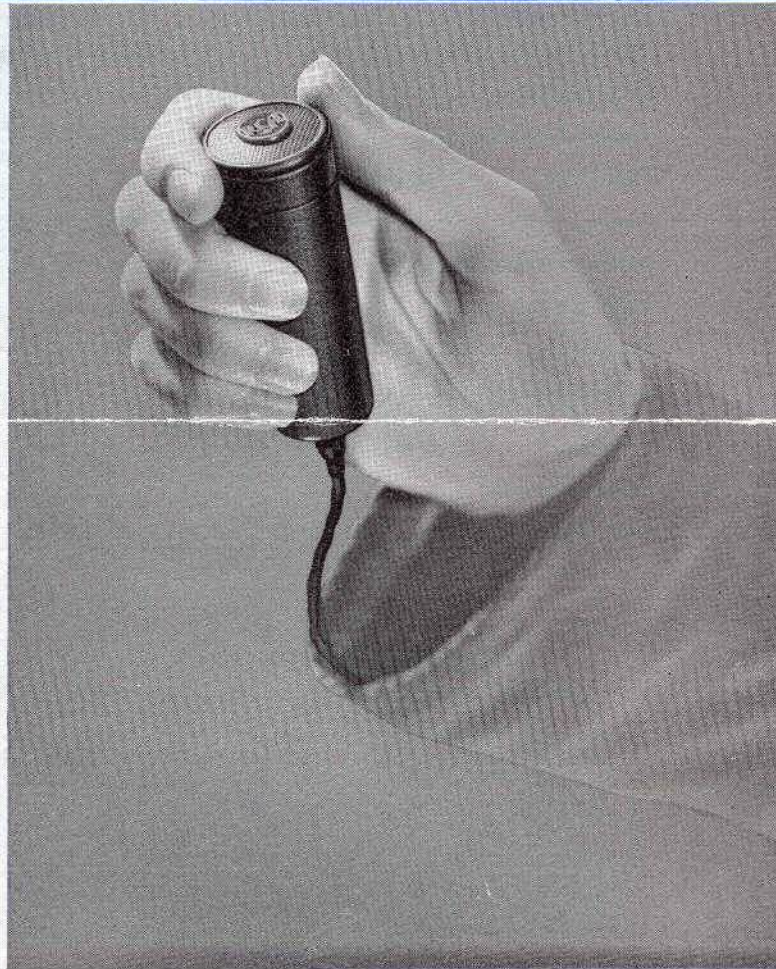
CATALOG

**B**.1017

10/27/54

## FEATURES

- Easily concealed in man's hand . . . in clothing . . . on TV settings
- Methods of mounting . . . by clip and lanyard for placing around neck . . . by clipping to lapel or among corsage . . . mounting beneath necktie
- Excellent speech balance when talking "off-mike"
- Wide-range frequency response
- Rugged construction . . . color and styling makes it blend with surroundings



## DESCRIPTION

The BK-6A pressure microphone is a high quality instrument of the pressure actuated type. It is especially designed for correct speech balance when used informally in television broadcasting interviews and public address applications.

The frequency response and directional characteristics of the BK-6A are designed to complement the characteristics of human speech. The result is a microphone which has excellent balance when the performer is talking "off-mike".

The BK-6A is especially designed to be suspended from the neck, resting on the chest. The low pitched chest sounds are attenuated. The microphone points straight up toward the lips, the position in which it is most sensitive to the sibilant sounds that would normally be lost. If it is desired to talk directly at the microphone, it should be held vertically so that the speaker talks across it, rather than

into it. In this way, the high pitched sounds are reproduced in proper balance.

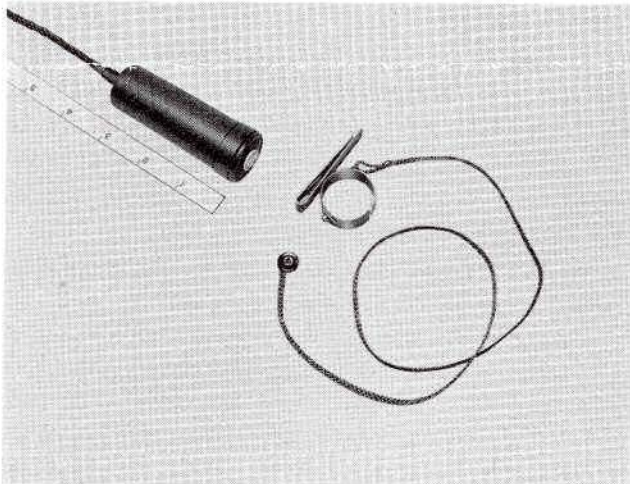
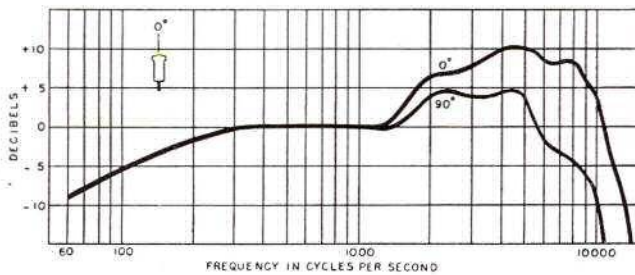
The general rule is to talk across the BK-6A, either in an interview, a panel discussion, or with the microphone suspended around the neck. In this manner a balance, similar to the RCA 77D in the Cardioid VI position, is obtained. The BK-6A is designed as a speech microphone, it is not recommended for music pickup.

The BK-6A is especially recommended for television broadcasting. It may be worn by the performer; its small bulk and neutral color make it inconspicuous. The light weight and flexible cable permit free, unhampered movement of the performers. It may be wholly concealed in a man's hand during an interview. It is easily concealed on a set. The styling blends readily with any props, and is pleasing where it is exposed to direct view.

## SPECIFICATIONS

Output Impedance:	
a. 30 Ohms .....	Solder tap
b. 150 Ohms .....	Solder tap
c. 250 Ohms .....	As shipped from factory
Load Impedance .....	Unloaded input transformer
Frequency Response .....	70-10,000 cycles
Hum Pickup .....	-116 dbm (referred to a hum field of $10^{-3}$ gauss)
Cable .....	30 ft. flexible cable, two conductor, shielded
RETMA Sensitivity Rating .....	(Gm) -152 db
Finish .....	TV gray
Mounting .....	Clip and microphone lanyard
Dimensions and Weight:	
Length .....	3 5/32"
Diameter .....	1 3/16"
Weight (less cable) .....	5 1/2 ozs.
Stock Identification .....	MI-11013

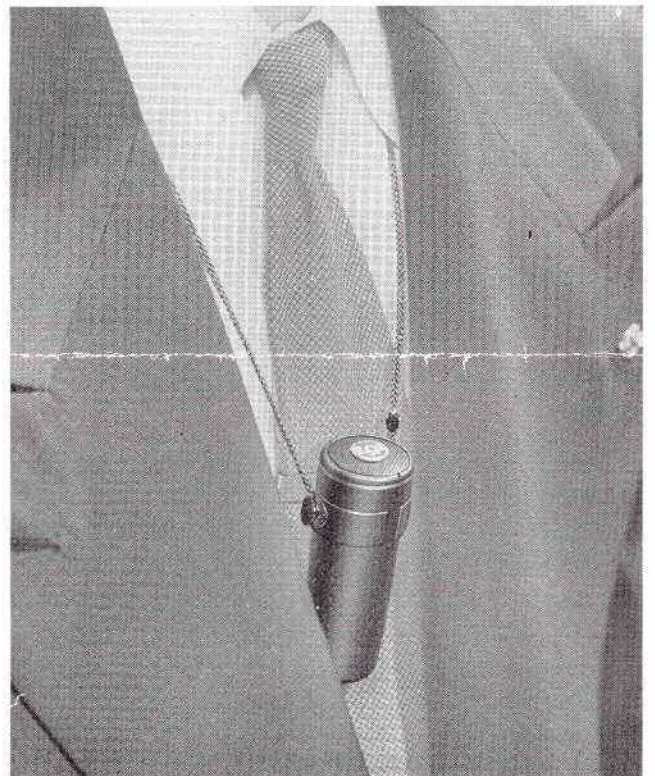
### FREQUENCY RESPONSE CURVE



Size is compared to an inch scale . . . also shown are clip and lanyard for versatile mounting.



View showing BK-6A Microphone "secluded" in a corsage of flowers.



BK-6A Microphone used as a "necktie" mike. May be mounted beneath the necktie or exposed.



**RADIO CORPORATION OF AMERICA**  
Broadcast Equipment

Camden, N. J.

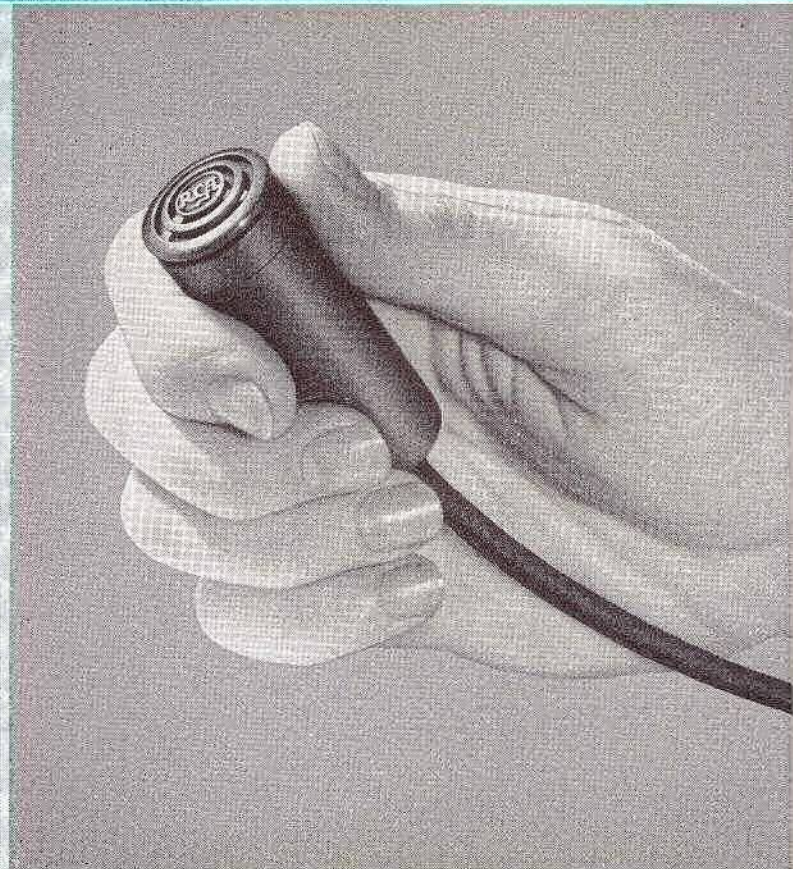
PRINTED  
IN  
U.S.A.

# Miniature Dynamic Microphone

TYPE BK-6B

## FEATURES

- Lightweight microphone with excellent speech balance when talking "off mike"
- Easily concealed in man's hand . . . in clothing . . . on TV settings
- Clip type lanyard for ease of looping about neck
- Wide-range frequency response
- Rugged construction . . . color and styling makes it blend with surroundings



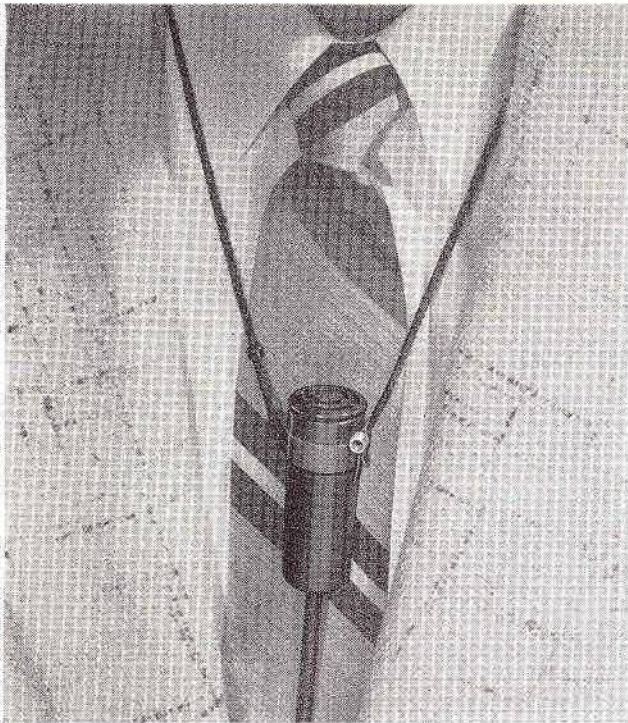
## DESCRIPTION

The RCA Personal (Type BK-6B) Microphone is especially designed for correct speech balance when used informally in television broadcasting interviews and public address applications. The frequency response and directional characteristics are engineered to complement human speech so that the microphone has excellent balance when the performer is talking "off mike".

The BK-6B may be worn by the performer; its small bulk and neutral color make it inconspicuous. The light weight and flexible cable permit free, unhampered movement of the performers. It may be wholly concealed in a man's hand during an interview, or it may easily be concealed on a set. The styling blends readily with any props, and is pleasing where it is exposed to direct view. It is best used, suspended from the neck, resting on the chest, where it attenuates the low pitched chest sounds while at the same time it points straight up toward the lips, the position in which it is most sensitive to the sibilant sounds that would normally be lost.

A high quality instrument of the pressure actuated type, the Personal Miniature Dynamic Microphone has a frequency response from 80 to 12,000 cycles and a directional characteristic similar to the popular RCA 77-DX in the nondirectional voice "ONE" position. A special internal acoustic resonator is employed to support the response to lower frequencies and a damped resonator placed in front of the diaphragm reduces high frequency emphasis while extending the upper frequency limit. The result is a pleasing balance for speech when the microphone is used "off mike" or worn on the person.

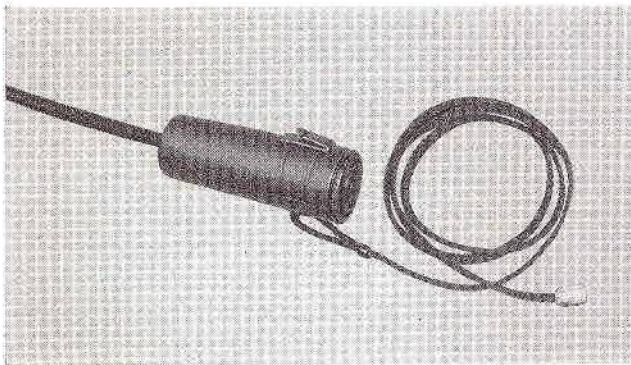
The microphone as shipped from the factory is connected for an output impedance of 250 ohms. However the impedance may be changed to 30 or 150 ohms by a simple cable connection change. The special plastic motor diaphragm and coil assembly, output transformer and terminal board and bracket assembly are housed in a rugged and practically weather-proof case. The entire microphone



BK-6B Microphone used as a "necktie" mike. May be positioned beneath the necktie or exposed.

is only  $2\frac{5}{16}$  inches long and  $\frac{15}{16}$ -inch in diameter and weighs but 2.3 ozs., less the cable.

The cable, especially designed for the BK-6B unit, has unusual flexibility combined with long life under conditions of severe abuse. The conductors are of cadmium bronze for high flexibility and long flex life. The shield is carbon-impregnated, conducting cotton overlaid with a light metallic braid. The conducting cotton ensures complete electrostatic shielding and the light, metallic braid keeps the series resistance of the shield low without making the cable excessively stiff. The external jacket gives a tough, neutral colored, protective covering to the cable. A lanyard is furnished for mounting the microphone conveniently about the neck.



New type BK-6B Microphone shown with lanyard having clip fastener for convenient mounting.

## SPECIFICATIONS

Output Impedance.....	250 ohms, can be changed to 30 or 150 ohms
Frequency Response.....	80-12,000 cps
Directional Characteristics.....	Semi-directional, see chart
Effective Output Level @ 1000 cps.....	-67 dbm (referred to a sound pressure of 10 d/cm <sup>2</sup> )
EIA Sensitivity Rating.....	-158 db
Output Voltage (open circuit).....	48 mv/d/cm <sup>2</sup>
Hum Pickup.....	-112 dbm (referred to a hum field of 1 mg.)
Cable.....	30 ft. flexible, two conductor, shielded, no plug
Mounting.....	Removable lanyard for suspending about neck
Overall Dimensions.....	$2\frac{5}{16}$ " long x $\frac{15}{16}$ " diameter
Weight.....	2.3 ozs., less cable
Finish.....	low luster gray

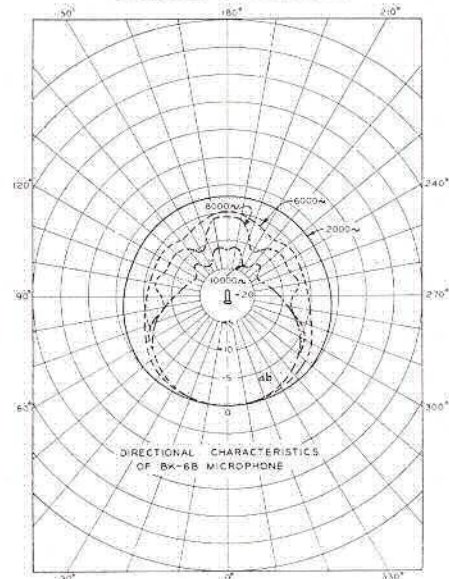
## Ordering Information

Type BK-6B Miniature Dynamic Microphone.....MI-11017-A

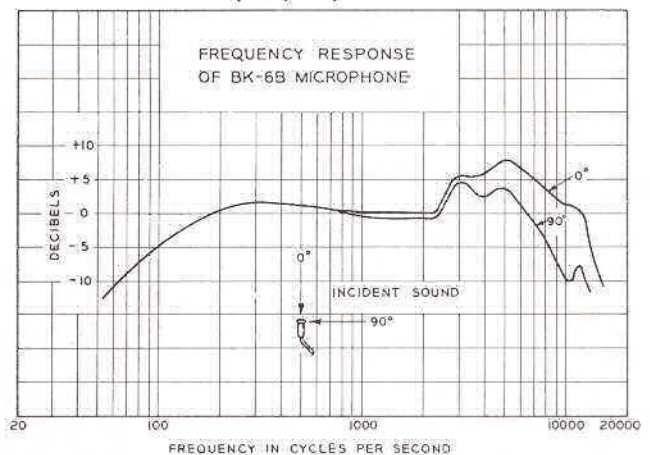
## Accessories

Microphone Holder, Clamp Type.....MI-12086  
 Microphone Stand, Adaptor Kit (for gooseneck).....MI-11073  
 13" Flexible Microphone Stand.....MI-11745  
 19" Flexible Microphone Stand.....MI-11746

## Directional Characteristics



## Frequency Response Curve



# Velocity Microphone

TYPE BK-11A

## FEATURES

- Exceptionally smooth frequency response 30 to 15,000 cps
- No loss in quality with off axis pickup
- Response may be adjusted to provide best possible frequency characteristics for either vocal or musical pickup
- Reduced pickup of reflected sound
- Bi-directional pickup
- Three position, voice music switch
- Unaffected by temperature, humidity or barometric pressure
- Rugged construction—stainless steel screen



BK-11A Microphone Mounted on MI-11008 Desk Stand

## DESCRIPTION

The BK-11A is intended primarily for AM, FM and TV studio use where a microphone of highest quality reproduction is desired. It has the following general uses:

High fidelity music pickup for broadcast and sound recording purposes.

General program and announce.

Plays where the players may be grouped around the microphone.

Conference pickup where the participants are seated on opposite sides of a table.

Programs where studio acoustics are more live than optimum.

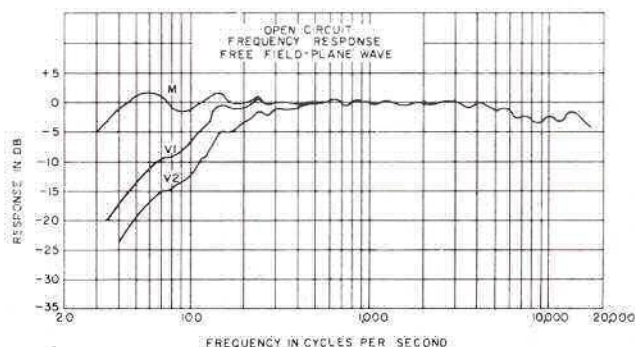
Programs where the microphones may be positioned to reduce audience noise.

Programs where the direction pattern permits orientation to eliminate undesirable reflections from walls.

The BK-11A Velocity Microphone is a dependable bi-directional microphone in which the moving element is a thin, corrugated metallic ribbon supported at the ends and placed between the pole pieces of a magnetic circuit. Because of its light weight, the motion of the ribbon corresponds very closely to the velocity of the air particles and the voltage generated in it is, therefore, a reproduction of the sound waves which traverse it. The microphone is free of the effects of cavity resonance, diaphragm resonance and pressure doubling. The BK-11A is well shielded against stray magnetic fields and can perform satisfactorily in high hum fields. Acoustically designed sturdy

stainless steel screens protect the microphone from mechanical injury. Internal shock and vibration isolation is provided between the case and the element. The bottom portion of the microphone contains the impedance matching transformer, frequency compensating reactor and three-point switch for selecting optimum frequency response characteristics for voice or music. The switch shaft is slotted and accessible through a hole in the mounting base. The microphone is supported by a swivel mounting which permits a 45 degree forward or backward tilt. It is designed to mate with the RCA MI-11008 and MI-4092-E desk stands or floor stands with a 1/2-inch standard pipe thread. A 30-foot flexible cable supplied with the micro-

phone makes use of tinned cadmium bronze wire to provide longer life.



## SPECIFICATIONS

Frequency Response.....	30 cps to 15,000 cps
Directional Characteristics .....	Bi-directional
Output Impedance.....	30, 150 and 250 ohms
Load Impedance.....	Unloaded input transformer
Effective Output Level at 1000 cps.....	-56 dbm (referred to a sound pressure of 10 dynes/cm <sup>2</sup> )
EIA Rating (Gm - 250 ohms connection).....	-147 db
Hum Pickup Level (relative to field of 1 x 10 <sup>-3</sup> gauss).....	-130 dbm (M position)
Response Compensation:	
Switch V <sub>1</sub> .....	Approx. 6 db @ 100 cps
Switch V <sub>2</sub> .....	Approx. 11 db @ 100 cps
Cable.....	3 conductor, shielded, 30 ft. (no plug)
Stand Fitting.....	1/2" pipe thread

Provisions for tilting.....	Swivel providing up to ±45° tilt from vertical
Dimensions (overall).....	8" high, 2 7/8" wide, 2 3/8" deep
Weight .....	2 lbs. less cable
Finish .....	Low gloss deep umber gray and non-reflecting stainless steel

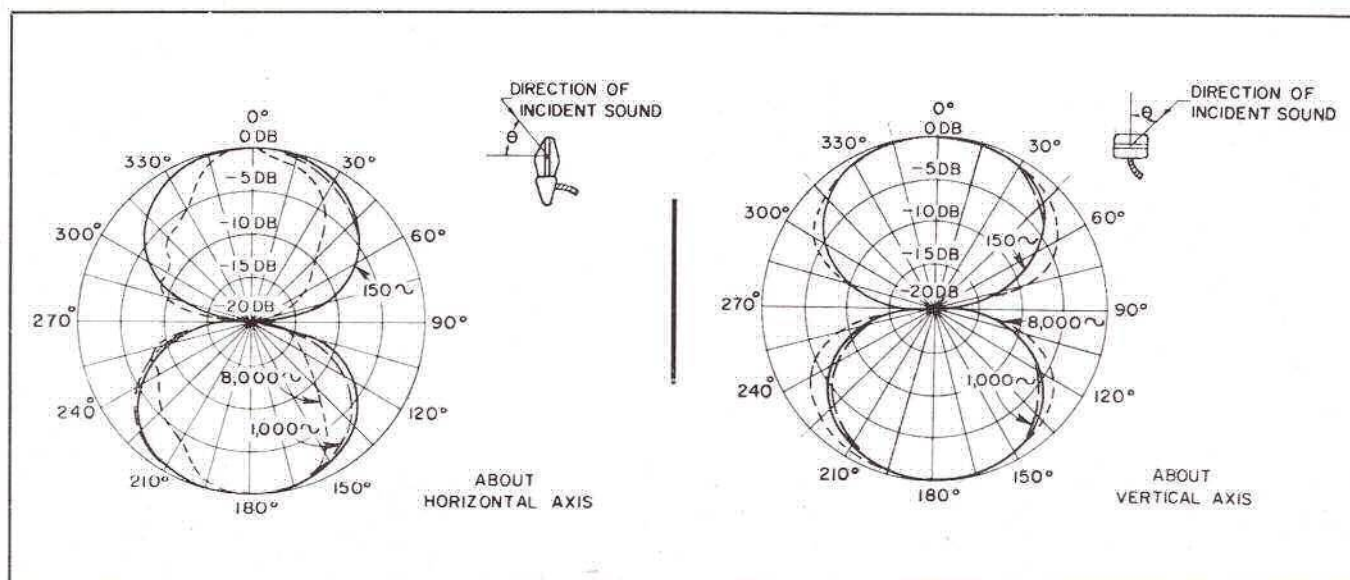
## Ordering Information

Type BK-11A Velocity Microphone.....MI-11019

## Accessories

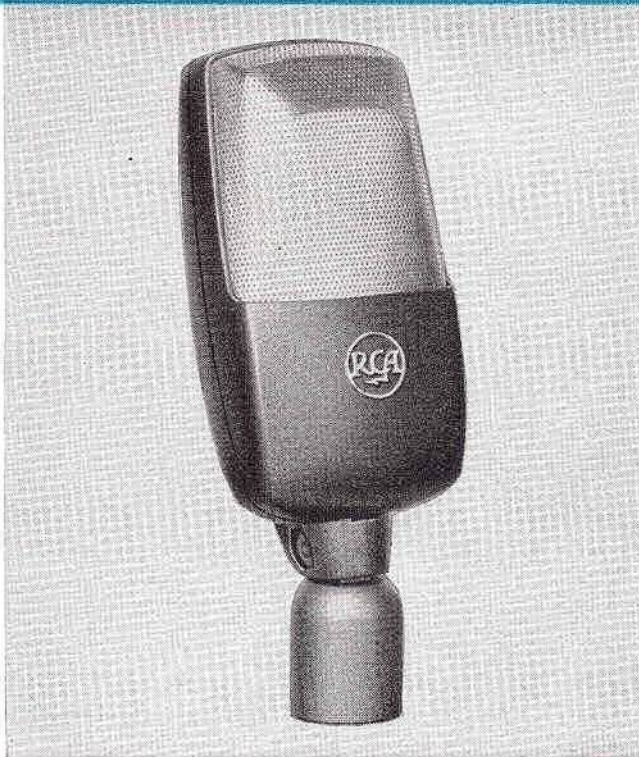
Desk Stand, Type KS-11A .....	MI-11008
Desk Stand, Type 91-C .....	MI-4092-E
Portable Stand .....	MI-11021-1

Directional characteristics of Type BK-11A Velocity Microphone.



# Program Velocity Microphone

## TYPE SK-46



### FEATURES

- Light weight, small in size
- Bi-directional characteristics over wide frequency range
- Adjustable impedance taps
- TV gray and satin chrome finish
- Swivel mounting
- Extremely rugged construction

### DESCRIPTION

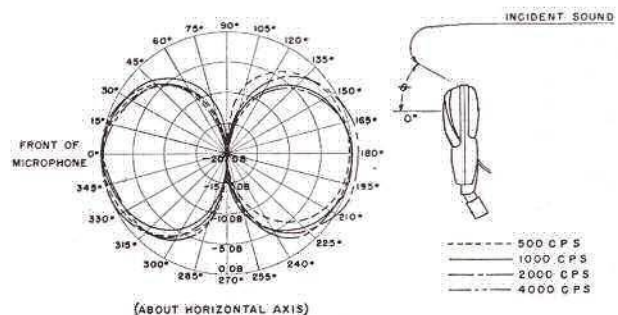
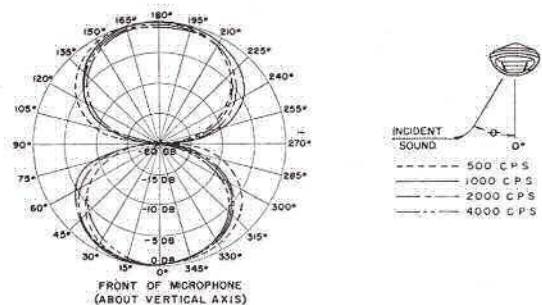
The RCA Type SK-46 Program Velocity Microphone is useful for AM, FM and TV studio or control room announcing. Its excellent response, directional characteristics and small size makes it a valuable and versatile instrument where quality production of sound is desired. The directional characteristics reduce unwanted acoustical background noise, reflections and feedback. This makes the microphone appropriate for "on stage", announce booth and general indoor programs. The microphone is not recommended for outdoor use because of the relative sensitivity of this type to wind.

### SPECIFICATIONS

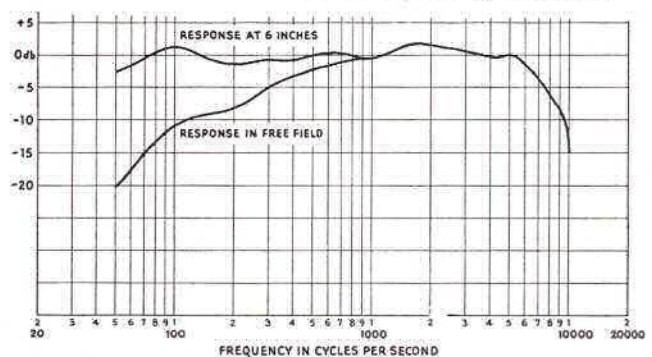
Directional Characteristics .....	Bi-directional
Output Impedance.....	200 ohms and 15,000 ohms
Stocked with soldered connection to the 200 ohm tap.	
Effective Output Level at 1000 cycles/second:	
Low Impedance .....	-58 dbm
GM .....	-150 db
High Impedance.....	-60 db below 1 volt
Hum Pickup Level: (relative to field of $1 \times 10^{-3}$ gauss)	
Low Impedance .....	-113 dbm
High Impedance.....	-94 dbm below 1 volt
Frequency Range.....	50 to 10,000 cycles/sec.
Output Voltage:	
Low Impedance .....	117 $\mu\text{v}/\text{dyne}/\text{cm}^2$
High Impedance.....	1020 $\mu\text{v}/\text{dyne}/\text{cm}^2$
Mounting.....	$5/8''$ -27 fixture thread
Dimensions.....	$5 1/8''$ high, $1-29/32''$ wide, $1 3/8''$ deep
Finish.....	TV gray and satin chromium plated screen
Weight (less cable).....	13 ounces

### Ordering Information

Type SK-46 Program Velocity Microphone with 25-foot cable...MI-12046



Directional Characteristics of the SK-46 Velocity Microphone.



## SK-45 PRESSURE MICROPHONE



### FEATURES

- Rugged construction
- Economical, light weight, small in size
- Attractive appearance
- High or low impedance
- Dynamic type
- Excellent for announce work
- Swivel mounting

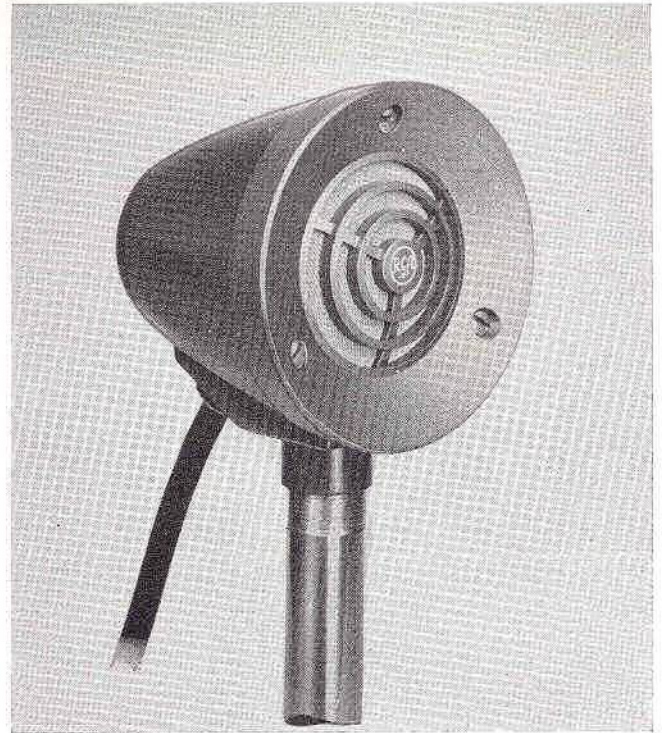
### SPECIFICATIONS

Directional Characteristics:	
(Below 3000 cycles/sec.)	Non-directional
(Above 3000 cycles/sec.)	Semi-directional
Output Impedance	150 to 200 ohms balanced or 15,000 ohms
	Stocked with soldered connection to the 200 ohm tap.
Output Level at 1000 Cycles/sec.: (referred to 10 dynes per cm <sup>2</sup> )	
Low Impedance	-56 db
High Impedance	-58 db
EIA Rating (G <sub>M</sub> )	-147 db
Hum Pickup Level—Hum field 1 x 10 <sup>-3</sup> gauss	
0 db = 1 volt	-106 dbm
Frequency Range	70 to 12,000 cycles/sec.
Mounting	5/8"—27 fixture thread
Cable Length	25 ft.
Dimensions Overall	.5 1/2" high, 1 3/8" wide, 2" deep
Finish	Low luster gray enamel
Weight, with Cable	1 lb.

### Ordering Information

Type SK-45B Pressure Microphone and Cable.....MI-12045-B

## SK-39 AERODYNAMIC MICROPHONE



### FEATURES

- Light weight—small size—fits palm of hand
- Excellent for close talking application
- May be used outdoors  
Minimum response from wind  
Unaffected by temperature or humidity
- Alnico V magnet
- Low impedance balanced output

### SPECIFICATIONS

Frequency Response	70 cps to 9,000 cps
Directional Characteristics	Non-directional for frequencies below 2,000 cps; becoming less sensitive at the rear and sides as the frequency increases above 2,000 cps.
Output Level:	
Effective Output Level	-55 dbm, 180 x 10 <sup>9</sup> V/dyne/cm <sup>2</sup> 250 ohm output—open circuit
EIA Microphone Rating G <sub>M</sub>	-150 db
Hum Pickup Level	-95 db (Hum field 0.001 gauss)
Output Impedance	250 ohms
Mounting	5/8"—27 fixture thread
Finish	Umber Gray
Dimensions	3 1/4" high, 2 7/8" wide, 2 3/4" deep
Weight	15 ounces, less cable
Cable Length	25 ft.—two conductor

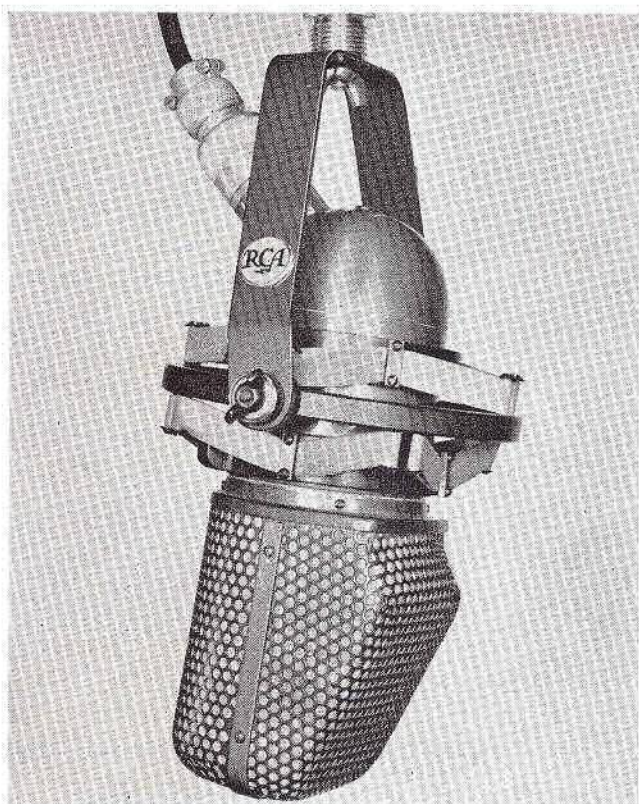
### Ordering Information

Type SK-39 Aerodynamic Microphone.....MI-12039-A



# High-Output Unidirectional Microphone

## TYPE KU-3A



### FEATURES

- Higher output—6 db or more
- More uniform response over normal pickup angle
- Rugged and time tested
- Single ribbon element
- No power supply required

### DESCRIPTION

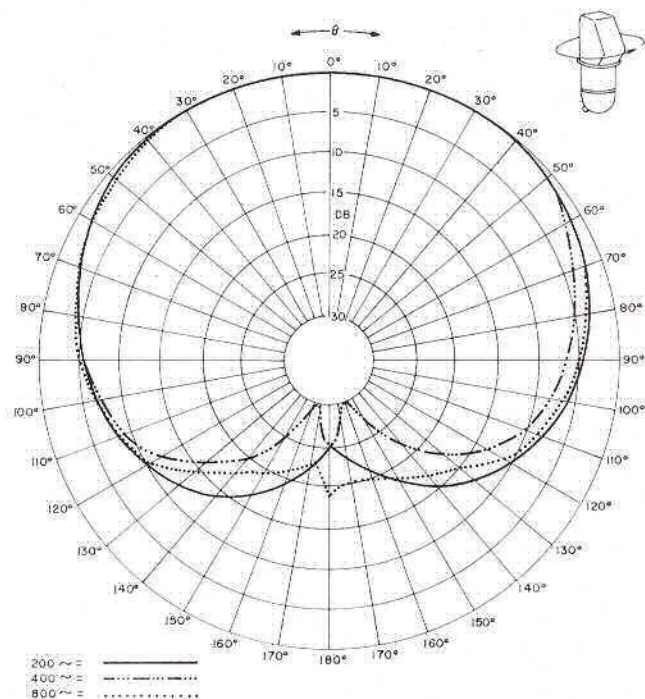
The RCA KU-3A Unidirectional Microphone, for years the standard of quality comparison in the major motion picture industry, is proving popular with TV broadcasters in live studio programs especially where boom operation or a suspension microphone is indicated. The frequency response and output is very uniform over the normal front pickup angle of 90 degrees permitting broader tolerances in microphone handling on booms.

### SPECIFICATIONS

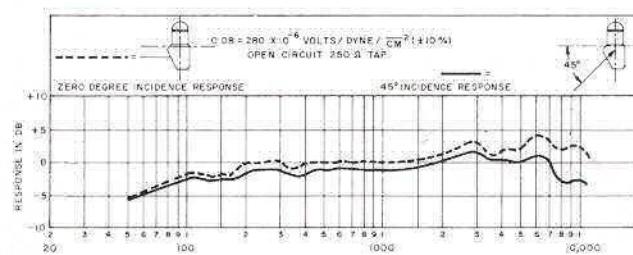
Output Impedance.....	30, 150 or 250 ohms (connected for 250 ohms when shipped)
Load Impedance.....	Open circuit (unterminated transformer)
Effective Output Level at 1000 cycles/sec (10 dynes/cm <sup>2</sup> input).....	-49 dbm at 30 ohms, -51 dbm at 150 and 250 ohms
Frequency Response.....	See diagram
Directional Characteristics.....	See curve
External Connection.....	12" long cable "pigtail" without plug
Finish.....	Flat two-tone umber gray
Dimensions.....	Length 8", width 3", depth 3 1/2"
Weight (less suspension mounting).....	2 lbs. 13 ozs.

### Ordering Information

KU-3A Unidirectional Microphone, complete with Voice/Music switch, cable pigtail, and resilient mounting.....MI-10001-C



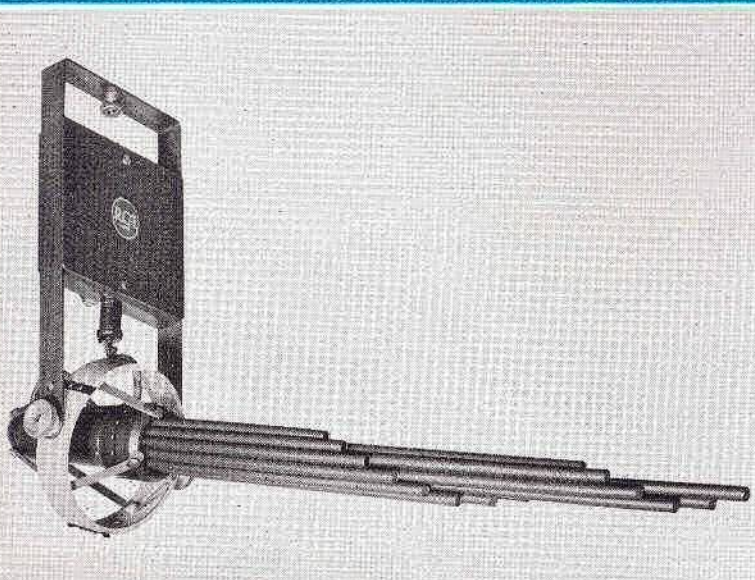
Horizontal Pattern of MI-10001-C Microphone.



Frequency Response for MI-10001-C Microphone.

# High-Sensitivity Varidirectional Microphone

## MI-10006-A



Varidirectional Microphone with Ultradirectional Attachment

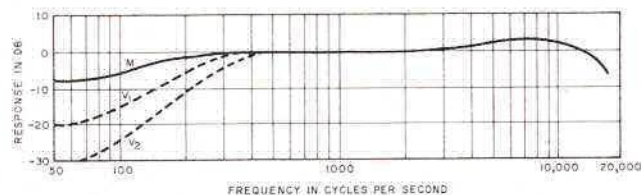
### FEATURES

- Lightweight
- High sensitivity
- Broad or very narrow directional pattern
- Practical rugged design
- Self-contained battery power

### DESCRIPTION

The RCA Varidirectional Condenser Microphone is rugged and designed for today's practical production shooting schedules. A small lightweight dry battery supply, employing universally available batteries, will provide for over a year's operation of normal TV or motion picture recording work.

A quick removable accessory attachment, MI-10008, Ultradirectional Attachment, permits changing from a very narrow elliptical pickup pattern to that of a broad cardioid pattern. In using the narrow pickup attachment the microphone may be worked up to four times the distance away from the source of sound as with conventional microphones and obtain the same relative "presence" effect.



FREQUENCY RESPONSE OF MI-10006 VARIDIRECTIONAL MICROPHONE  
M—MUSIC V<sub>1</sub> AND V<sub>2</sub> ARE STEPS OF VOICE FILTER

### SPECIFICATIONS

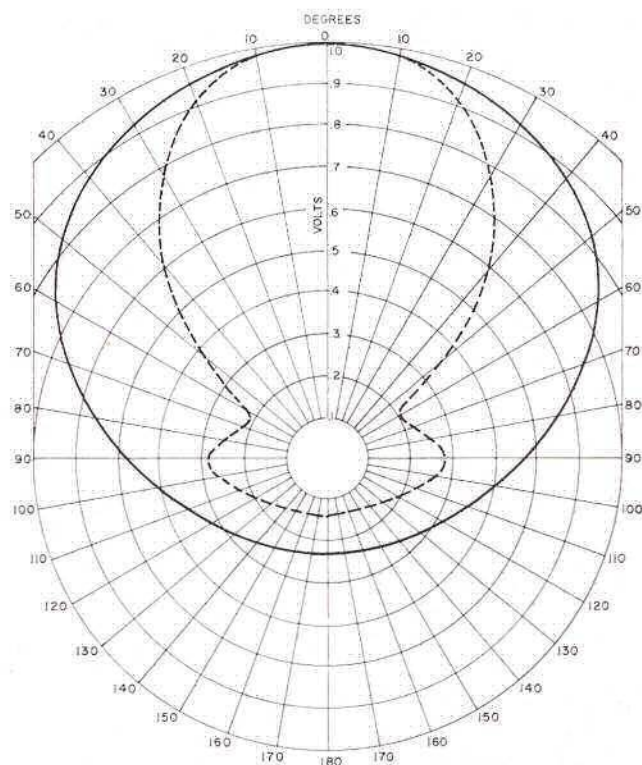
Output Impedance.....	30, 150 or 250 ohms
Load Impedance.....	Open circuit (unterminated transformer)
Effective Output Level at 1000 cycles/sec (10 dynes/cm <sup>2</sup> ) .....	-33 dbm at 30 ohms -36 dbm at 150 ohms -36 dbm at 250 ohms
Open Circuit Output Voltage at 1000 cycles/sec (10 dynes/cm <sup>2</sup> ) .....	.008V at 30 ohms .012V at 150 ohms .016V at 250 ohms
EIA Rating (at 1000 cycles/sec).....	-128 db
External Connection.....	Plug receptacle on mounting, with mating plug and 25 ft. of boom type cord furnished
Frequency Response.....	See diagram
Directional Characteristic.....	See curve
Finish.....	Microphone in RCA Shadow Blue; Hanger in RCA Pebble Tone
Length.....	6" without MI-10003 Windscreen! 8¾" with Windscreen 22" with MI-10008 Ultradirectional Attachment
Diameter.....	1½" without MI-10003 Windscreen; 4½" with Windscreen
Weight.....	1 lbs. 12 ozs. without MI-10003 Windscreen 2 lbs. 2 ozs. with MI-10003 Windscreen

### Ordering Information

Varidirectional Microphone with small screen.....MI-10006-A

### Accessories

Ultradirectional Attachment .....MI-10008  
Large Windscreen for MI-10006-A  
(used without MI-10008 Attachment).....MI-10003



— MI-10006 VARIDIRECTIONAL MICROPHONE  
--- MI-10006 VARIDIRECTIONAL MICROPHONE WITH MI-10008 ULTRADIRECTIONAL ATTACHMENT.



# CONDENSER MICROPHONE

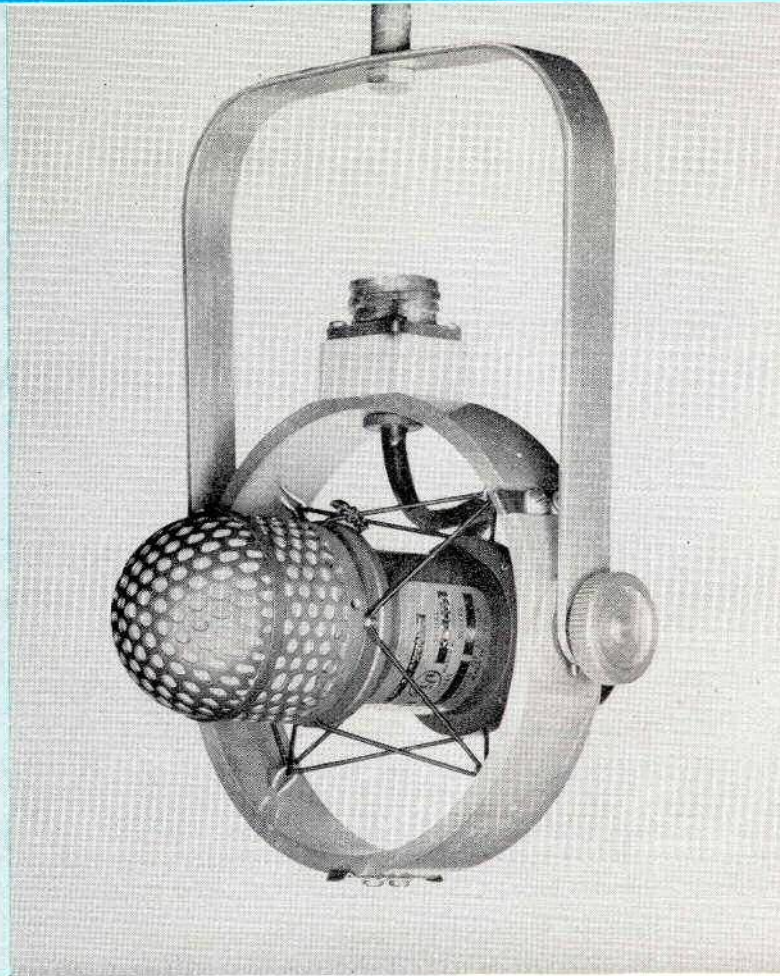
MI-10002

CATALOG

R.105

## FEATURES

- Electrostatic type microphone with built-in amplifier
- Excellent response over entire audio range
- Unusually good directional pattern
- Extremely sensitive — used where finest quality reproduction is required
- Light, compact unit designed for suspension mounting



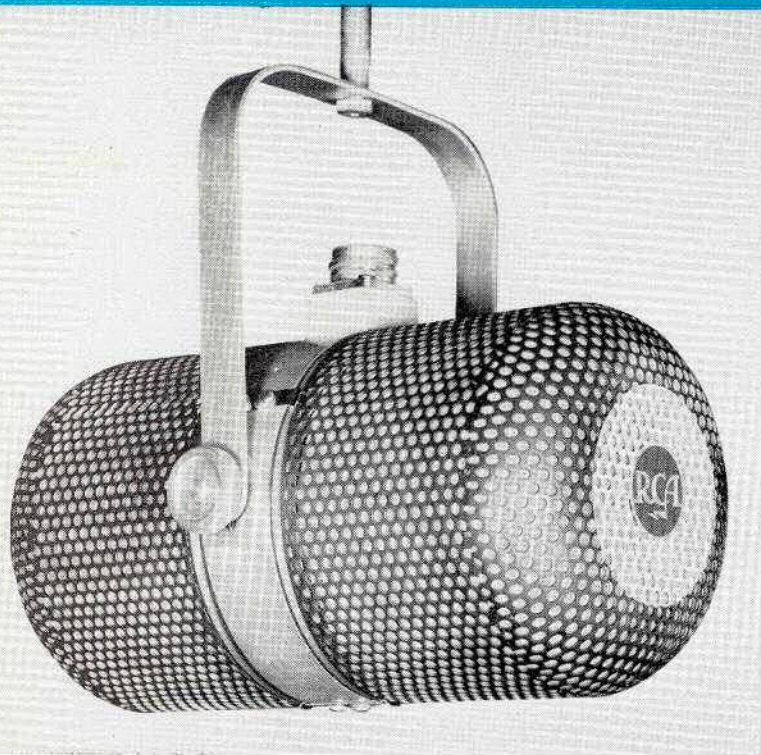
## USES

The Condenser Microphone, MI-10002, is designed especially to meet the stringent requirements of the recording and motion picture industry. It has been used to record some of the nation's leading symphony orchestras as well as vocalists. The directional pattern is particularly useful in emphasizing solo parts and minimizing the musical background when desired. Its high sensitivity, small size, and light weight facilitate use on microphone booms in following live action. The microphone can be fitted with an accessory wind screen, MI-10003, for use out of doors. A matching transformer is also available as MI-10005.

## DESCRIPTION

The MI-10002 Condenser Microphone provides extreme sensitivity with excellent directional characteristics. Frequency is essentially flat over the entire audio range. The microphone is an uniaxial electrostatic type with built-in cathode follower amplifier. The unit is enclosed in a light-weight housing designed for suspension from a microphone boom. The microphone is only  $5\frac{5}{8}$  inches long and  $1\frac{1}{2}$  inches in diameter. It weighs approximately three-quarters of a pound.

For outdoor use, the MI-10003 windscreen is recommended. It is constructed of two symmetrical halves, one of which



Condenser Microphone with windscreen, MI-1004.

## DESCRIPTION (Continued)

has an identifying spot on the flat side of the perforated material to identify the "live" or "dead" side of the microphone. The two halves are interchangeable so that it may mark either half of the unit, however, when shipped as a MI-10004 equipment, the marker denotes the "dead" side of the microphone.

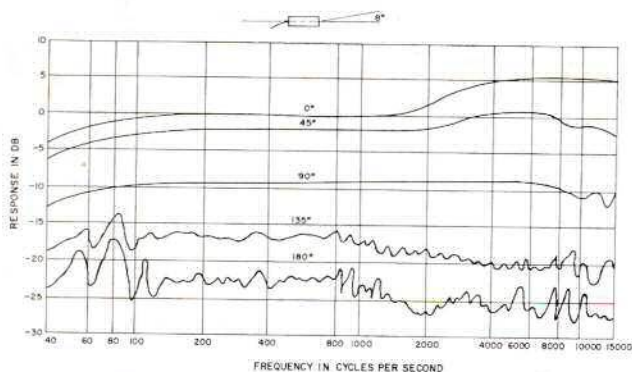
MI-10005 is a matching network transformer required between the microphone's cathode follower output and the associated preamplifier input. A receptacle at one end matches the usual boom cable complement while the receptacle at the opposite end is compatible with the usual stage microphone cables. The transformer also contains A and B voltage regulating resistors with filtering elements in order to supply proper voltages to the microphone when the power is derived from sources having greater voltages. A mating plug for the boom cable is supplied.

## SPECIFICATIONS

Output Impedance.....30, 150, 250 ohms  
 Effective Output Level (at 1000 cycles for  
 10 dynes/cm<sup>2</sup>, measured at 250 ohm output terminal).....-40 dbm  
 Open Circuit Output Level (for normal speech at 2 ft.  
 distance, measured at 250 ohm output terminal).....-47 VU  
 Frequency Response.....See frequency curve  
 Directional Characteristics .....Uniangular  
 External Connection.....WK-6-32S male Cannon receptacle mounted  
 on microphone hanger

### Physical Characteristics:

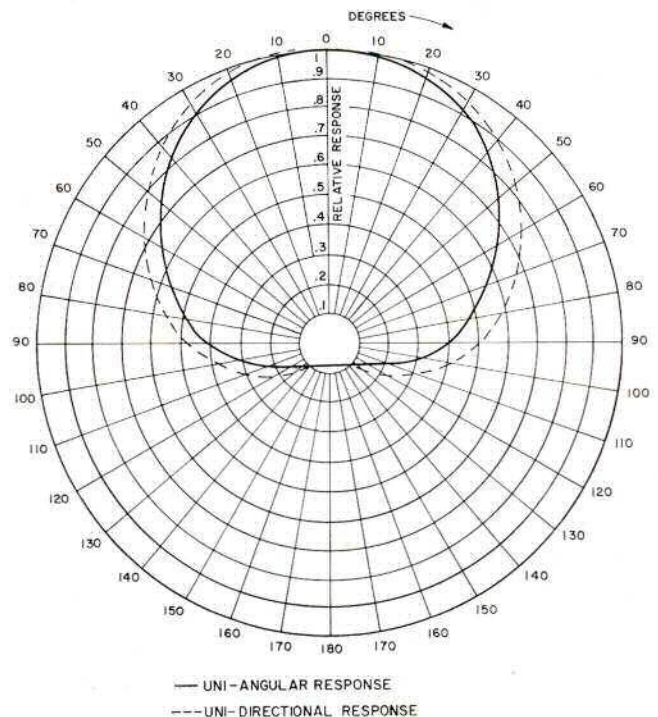
Finish.....	Flat two-tone umber gray	
	Without	With
	Windscreen	Windscreen
Length.....	5 5/8"	8 3/4"
Diameter.....	1 1/2"	4 1/2"
Weight.....	12 oz.	20 oz.



RESPONSE-FREQUENCY CHARACTERISTIC OF THE ELECTROSTATIC UNIANGULAR MICROPHONE FOR SOUND INCIDENT AT ANGLES OF 0°, 45°, 90°, 135° AND 180°. 0° CORRESPONDS TO THE CYLINDRICAL AXIS OF THE MICROPHONE.

### Stock Identification:

Condenser Microphone .....	MI-10002
Windscreen .....	MI-10003
Condenser Microphone With Windscreen.....	MI-10004
Matching Transformer .....	MI-10005



— UNI-ANGULAR RESPONSE  
 --- UNI-DIRECTIONAL RESPONSE



**RADIO CORPORATION OF AMERICA**  
**FILM RECORDING**

1560 N. Vine St.

Hollywood 28, Calif.

Tmk(s) ®

PRINTED  
 IN  
 U.S.A.



# ULTRADIRECTIONAL MICROPHONE

TYPE BK-10B

CATALOG

B.1002

## FEATURES

- Simplifies microphone and camera placement problems—ultra-directional characteristics provide quality pickup under adverse conditions
- Lightweight for TV boom operation
- High quality reproduction over entire audio frequency range
- Maximum sensitivity lies on major mechanical axis
- Rugged construction—improved resistance to gun blasts
- Improved long-life flexible cable

## USE

The RCA Type BK-10B Ultradirectional Microphone is designed to provide quality audio pickup under adverse conditions during television broadcast, radio broadcast, recording and public address. This is accomplished by a highly sensitive second order gradient unidirectional characteristic which may be used to increase the signal to noise ratio of the microphone.

The response pattern and the improved signal to noise ratio of the BK-10B greatly simplifies microphone and camera placements; and allows for greater distance between the microphone and the talent than heretofore possible. It is especially effective for TV studio boom use in high noise areas. Other uses indicated for the new microphone are: situations where feedback from monitor speakers is a problem; and controlling the level of the leading voice in a choral group or solo instruments in an orchestra. The microphone incorporates a filter which effectively reduces the possibility of damage to the instrument from sharp blasts and other violent noises. When mounted on a boom stand the axial directivity makes the microphone very easy to handle so as to keep the sound source "in focus."



## DESCRIPTION

The Type BK-10B Ultradirectional Microphone is a dependable high quality ribbon instrument having a second order gradient unidirectional characteristic with uniform frequency response of 80 to 15,000 cycles. Excellent directivity is accomplished by matching and combining the electrical outputs of two unidirectional ribbon microphone elements.

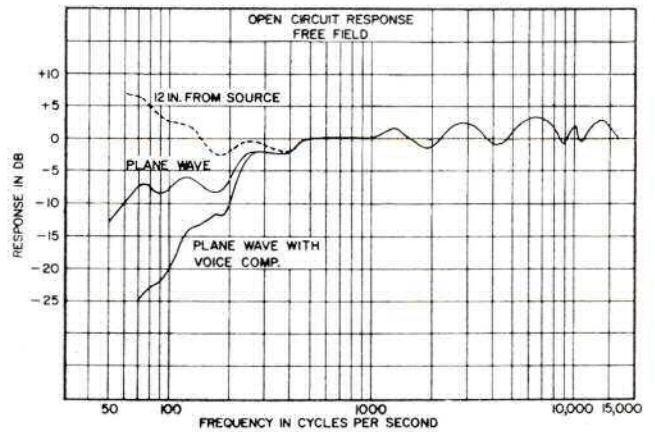
The unidirectional microphone elements are similar in construction and performance to those used in the BK-5A Microphone. Each element has a thin corrugated metallic ribbon clamped under light tension. The ribbon is placed between the poles of a magnetic circuit. One side of the ribbon is open to the atmosphere, and the other side opens into an acoustical labyrinth which has phase shift openings. The labyrinth of each microphone element houses an impedance matching transformer. Each element has its own blast filter. In addition, the transformers are exceptionally well shielded against stray magnetic fields.

## DESCRIPTION (Continued)

The BK-10B will perform satisfactorily in high hum fields because of its improved wiring and shielding. The elements are carefully matched so that the performance of each complements the other. In addition, the shock isolation mounting provided incorporates improved compact design features. This mount does not generate any noise and isolates the microphone effectively from its support. There are no rubber band mountings to wear out. The cable supplied with the microphone is braided tinsel cord 18 inches long which has been especially designed to attenuate "stand" noise.

The BK-10B has a low-gloss finish, which with compact mounting arrangement, provide minimum light reflection and minimum shadow. The output impedance of the microphone is 200 ohms for 150- and 250-ohm unloaded input transformers but may be changed at the terminal board to 40 ohms for 30- and 50-ohm input transformers. The output level is maintained at -55 dbm, and hum pick-up is reduced to a level of -128 dbm.

Frequency Response Curves for BK-10B Microphone.



## SPECIFICATIONS

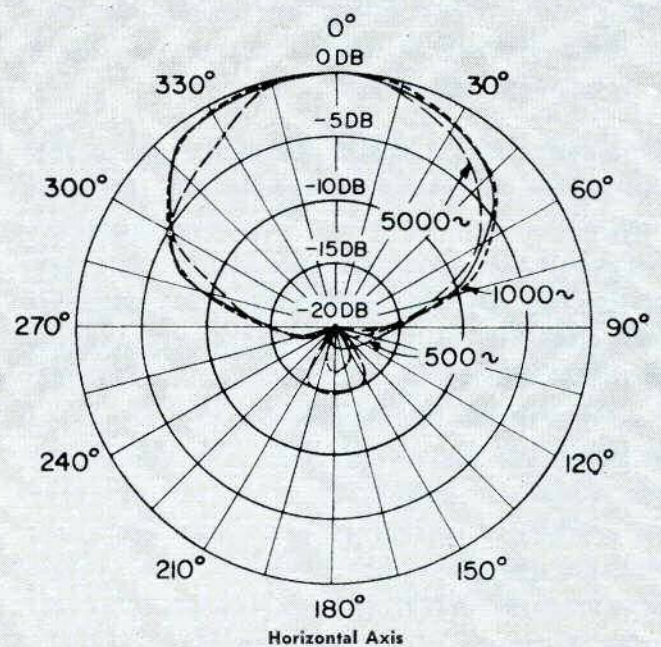
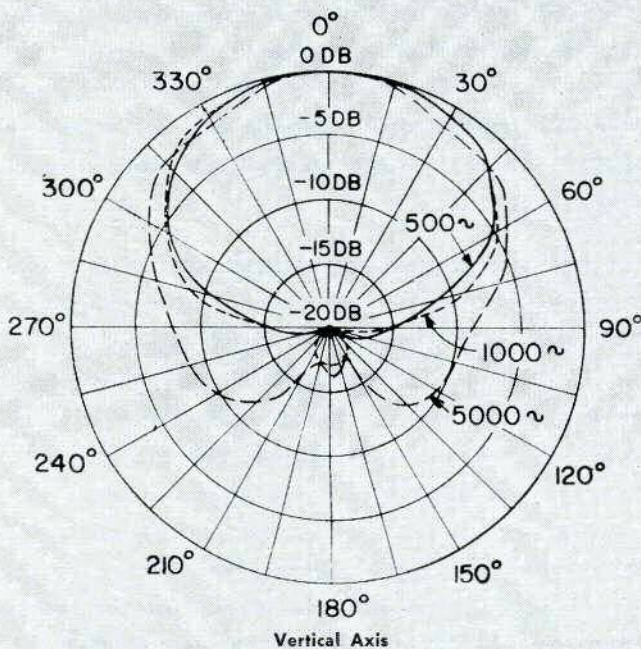
Directional Characteristic.....	Unidirectional 2nd Order Gradient Characteristic
Frequency Response.....	80 to 15,000 cps
Output Impedance.....	200 or 40 ohms
Load Impedance.....	Unloaded input transformer
Effective Output Level at 1000 cps.....	-55 dbm
EIA Rating (Gm).....	-147 db
*Hum Pickup Level.....	-128 dbm
Cable.....	3 conductor, braided tinsel, 18 inches long
Dimensions (overall).....	10 <sup>7</sup> / <sub>8</sub> " x 1 <sup>3</sup> / <sub>4</sub> " dia.
Weight.....	2 lb., 12 oz. (less cable)
Finish.....	Two Tone, Black and Low gloss gray enamel
Stock Identification.....	MI-11018-B
Boom Mounting.....	Accepts studs up to 3/16" dia.

## Accessories

Microphone Boom and Stand.....	MI-11056
Microphone Boom and Perambulator.....	MI-26574
Microphone Boom and Stand.....	MI-11070

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

BK-10B DIRECTIONAL CHARACTERISTICS



**RADIO CORPORATION OF AMERICA**  
Broadcast & Television Equipment  
Camden, N. J.

Tmk(s) ®

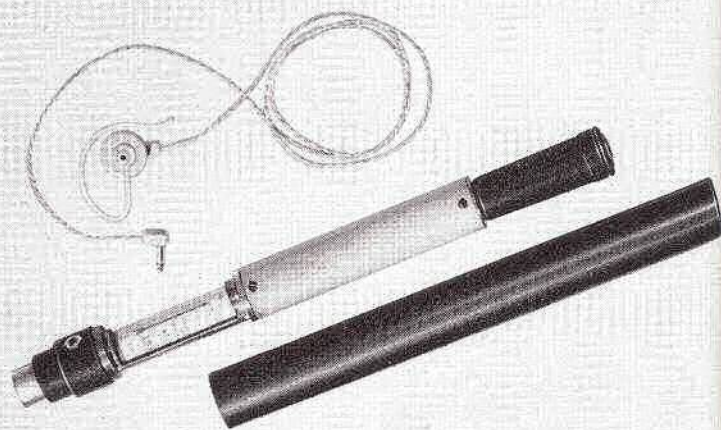
PRINTED  
IN  
U.S.A.

# Microphone - Amplifier

## TYPE BN-10A

### FEATURES

- Combines miniature microphone and transistor remote amplifier in convenient hand-held package
- Speech output level of +6 V.U. sufficient to feed phone lines direct
- Self-powered by small mercury battery
- Plug-in earphone for checking performance and receiving "cue" over phone line
- Wide-range frequency response



BN-10A Microphone Amplifier with case removed showing BK-6 Personal Type Microphone, remote amplifier, chamber, battery power supply and base with plug-in provision for cue earphone.

### DESCRIPTION

The RCA Type BN-10A comprises a single channel remote amplifier to which has been added the miniature dynamic microphone to produce a compact microphone/remote amplifier easily held in one hand. The unit weighs less than a pound and is completely self-contained including its transistor amplifier and battery power supply. The +6 V.U. output of the microphone/amplifier is more than adequate for feeding telephone lines.

The BN-10A affords broadcasters a lightweight unit capable of handling single microphone remotes without the use of large remote amplifiers. The BN-10A is ideal for interviews, sports announcements, on-floor convention reports, and other remote broadcast uses. A built-in earphone jack makes it easy to hear telephone line cues as well as monitor the BN10A output.

The microphone used in BN-10A equipments is RCA's Type BK-6B personal microphone designed for correct speech balance. The BK-6B has a frequency response of 80 to 12,000 cycles and it has semi-directional characteristics. The microphone chamber is completely sealed and isolated from the amplifier section to assure optimum performance of the microphone.

The built-in amplifier employs transistors. The circuit is designed for very low battery drain thus securing about 50 hours of service from the single E-134 mercury battery which is easily inserted in the BN-10A. The distortion of

the amplifier is less than 2 per cent for normal output. The amplifier itself has a frequency response of  $\pm 1.5$  db from 50 to 15,000 cycles.

A 30-foot line cord for connection to the phone line is supplied as well as a lightweight earphone. The earphone plugs into the base of the BN-10A. The battery is automatically turned on whenever the line cord is plugged into the BN-10A. The body of the BN-10A is finished in a low luster gray enamel. A convenient carrying case which accommodates microphone/amplifier, cord and earphone is also supplied with the BN-10A.

### SPECIFICATIONS

Frequency Response.....	80-12,000 cps
Distortion .....	2% maximum
Output Level (for normal speech).....	+6 V.U.
Load Impedance.....	600 ohms
Line Cord.....	30 ft. flexible, with cannon plug
Overall Dimensions.....	11 $\frac{3}{4}$ " long by 1 $\frac{1}{8}$ " dia.
Weight .....	14 oz.
Finish.....	Low luster gray
Battery .....	Eveready E-134

### Ordering Information

Type BN-10A Microphone/Amplifier complete with 1 cord and plug, 1 E-134 battery, 1 carrying case, and 1 Earphone .....MI-11023-A

5MB

# Microphone Stands and Accessories

## FEATURES

- Rugged construction
- Attractive appearance
- Easy to assemble or take apart
- Compact and convenient for portability



MICROPHONE DESK STANDS

MICROPHONE FLOOR STANDS

## MICROPHONE DESK STANDS

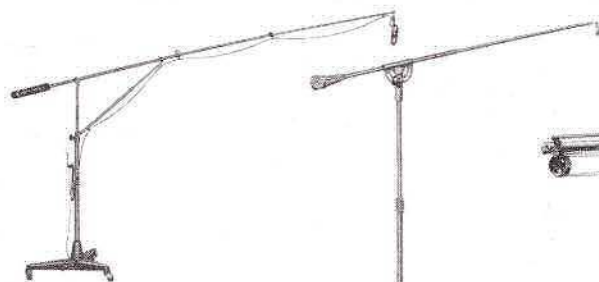
Type No.	Mounting	Base Dimension	Height	Weight	Finish	Ordering Information
91-C	1/2" Pipe Thread	4 1/2" by 6 5/8"	3/4" to 1 3/4"	4 lbs.	Umber Gray Chrome Trim	MI-4092-E
KS-11A	1/2" Pipe Thread	4 3/8" diameter	—	1 1/2 lbs.	Dull Umber Gray	MI-11008
DS-10	5/8"—27 Fixture Thread	—	8" to 13"	1 1/2 lbs.	Dull Gray Chrome Trim	MI-11021-3
DS-5	5/8"—27 Fixture Thread	6" diameter	4"	2 lbs.	Gun Metal Shivel Finish	MI-11021-5
TS-6	5/8"—27 Fixture Thread	8" diameter	14 1/2 to 16"	6 lbs.	Chrome	MI-11021-6

## MICROPHONE FLOOR STANDS

Type No.	Mounting	Base Diameter	Height	Weight	Finish	Ordering Information
90-A	1/2" Pipe Thread 5/8"—27 Fixture Thread	12 1/4" diameter	44" to 74"	33 lbs.	Chrome	MI-4090-A
CS-1	5/8"—27 Fixture Thread	Collapsible	23" to 62"	5 lbs.	Chrome	MI-11021-1
MS-25	5/8"—27 Fixture Thread	12"	37" to 66"	15 lbs.	Chrome and Gray	MI-11021-7
MS-20	5/8"—27 Fixture Thread	17"	37" to 66"	22 lbs.	Chrome and Gray	MI-11021-8

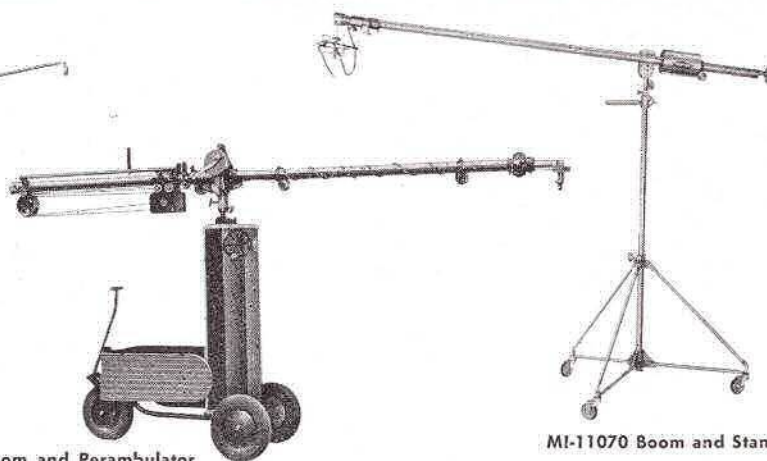


# MICROPHONE BOOMS WITH STANDS OR PERAMBULATOR



KS-3B Boom and Stand

BS-36 Floating Action Boom and Stand



Boom and Perambulator

MI-11070 Boom and Stand

## DESCRIPTION

RCA Microphone Boom Stands and Perambulator afford proper microphone placement for programs where the best microphone position cannot be reached with conventional stands. The perambulator is designed to noiselessly follow the sound, or move from one source of sound to another in broadcast or television studios. Boom length and counter balance overhang are easily adjustable.

### KS-3B Microphone Boom & Stand

Height of Stand.....Adjustable from 5' 2" to 8' 8"  
 Horizontal Arm Adjustment (with overhang to rear).....3' to 6'  
 Microphone Mounting.....Standard 1/2" pipe thread  
 5/8"—27 fixture thread with adaptor removed  
 Weight (unpacked).....64 lbs.  
 Finish.....Satin stainless steel and low luster gray  
 Ordering Information.....MI-11056

### BS-36 Floating Action Boom & Stand

Height of Stand.....Adjustable from 4 ft. to 6 ft.  
 Boom Length.....62" (an additional 31" extension may be added if a lightweight mike is used)  
 Microphone Mounting.....5/8"—27 Fixture Thread  
 Base Diameter.....17"  
 Weight Shipping.....36 lbs.  
 Finish.....Chrome plated with base of polished chrome and gun metal  
 Ordering Information.....MI-11021-2

### MI-11070 Microphone Boom & Stand

Height of Stand.....Adjustable from 4' to 8'  
 Horizontal Arm Adjustment.....Telescope 6' 10" to 18'  
 Microphone Mounting.....Shockproof rubber mount with 1/2" pipe thread  
 Microphone Adjustment.....Rear handwheel  
 Weight (approx.).....70 lbs.  
 Finish.....Satin, stainless steel and gray  
 Ordering Information.....MI-11070

### MI-26574 Microphone Boom and Perambulator

Dimensions:  
 Maximum Height (with boom pedestal elevated).....9' 5"  
 Height (with pedestal lowered).....6' 5"  
 Length of Boom:  
 Extended.....17'  
 Retracted.....7' 4 1/2"  
 Weight:  
 Boom (with gunning device and counterweights).....102 lbs.  
 Perambulator.....421 lbs.

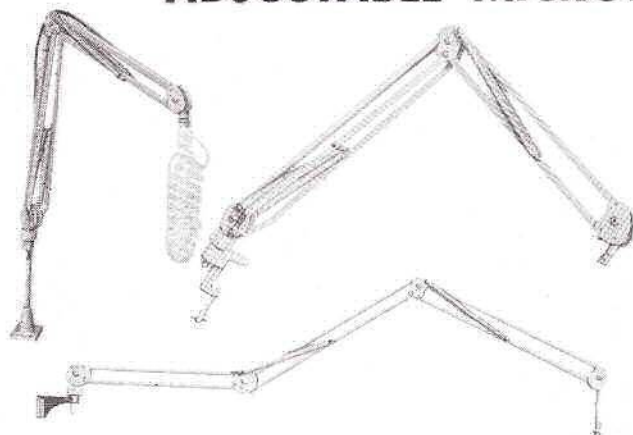
### Ordering Information

Boom and Perambulator (complete).....MI-26574  
 Boom Only.....MI-26574-1  
 Perambulator Only.....MI-26574-2

### Accessory Equipment

Boom Mounting for 77-DX Microphone (Mole Richardson).....Type H-2

## ADJUSTABLE MICROPHONE SUPPORT ARMS



Type M-2-MD-U—Has 12-inch upright to raise bottom joint of arm to level of top of console. Screw attachment base for horizontal surface. Extreme extension 33 inches. Male stud 5/8"—27 thread. Shipping weight 9 lbs.

Ordering Information.....MI-11020-1

Type M-2-MC Two-arm type similar to MI-11020-1 with clamp base attachment for thickness up to 2 1/8 inches. Extreme extension 33 inches. Shipping weight 7 lbs.

Ordering Information.....MI-11020-2

Type M-3MW Three arm type for wall mounting three feet above working level male stud 5/8"—27 thread. Extreme extension 54 inches. Shipping Weight 9 lbs.

Ordering Information.....MI-11020-3

### BK-6B MICROPHONE HOLDER

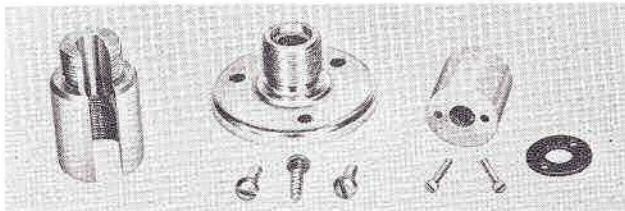


Use.....To mount BK-6B  
Microphone to floor or flexi-  
ble stands.  
Size.....2 5/8" long x 1 1/8" dia.  
Weight—Holder .....2 oz.  
Weight Kit.....8 oz.

#### Ordering Information

BK-6B Microphone Holder,  
5/8"—27 thread .....MI-12086

### MICROPHONE STAND ADAPTOR KIT



BK-6B Microphone Stand Adaptor Kit (Consisting of stand  
adaptor flange, 3 tapping screws, microphone adaptor,  
2 machine screws and rubber gasket).....MI-11073



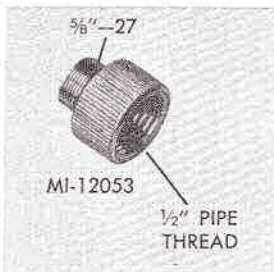
### CABLE HOOK

Use.....Fits all microphones  
Weight .....15 oz.  
Finish .....Polished chrome  
Fits Stands 7/8" to 1 1/4" in diameter  
Attachment .....One screw

#### Ordering Information

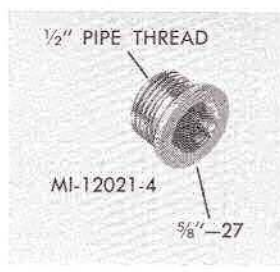
Cable Hanger .....MI-11099-B

### MICROPHONE ADAPTORS



Stand  
Thread

1/2" pipe thread  
5/8"—27



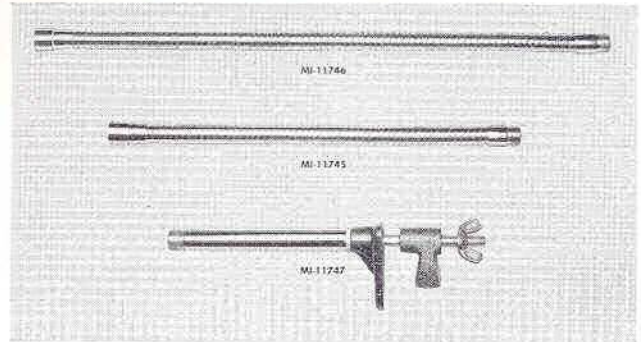
Microphone  
Thread

5/8"—27  
1/2" pipe thread

Ordering  
Information

MI-12053  
MI-11021-4

### GOOSENECK STANDS



#### Ordering Information

13" Flexible Stand, chrome finish,  
5/8"—27 thread, wt. 1 lb.....MI-11745  
19" Flexible Stand, chrome finish,  
5/8"—27 thread, wt. 1 1/2 lbs.....MI-11746  
6" Stand Bracket Clamp, 5/8"—27 thread.....MI-11747

### MICROPHONE CABLES

RCA microphone cables are of rugged construction and  
are jacketed with a neoprene compound to insure long  
life. They are especially designed for broadcast service  
either studio or remote.

#### Low Impedance Cable, MI-43-D

Use.....Cable for low impedance microphone circuits  
Type.....Three conductor, twisted  
Conductors.....Tinned cadmium bronze, stranded,  
equivalent to #20 AWG  
Insulation.....Special rubber compound  
Shield.....Tinned copper. Complete coverage without loss in flexibility  
Outer covering.....Brown neoprene compound  
Overall Diameter.....0.300 maximum

#### Ordering Information

Specify length in 100-foot multiples.....MI-43-D

#### Heavy Duty Cable, MI-13307-A

Type.....Two conductor, twisted  
Conductors.....Stranded, equivalent to #16 AWG  
Insulation.....Special rubber compound  
Shield.....Tinned copper. Complete coverage without loss in flexibility  
Outer Covering.....Black neoprene compound  
Overall Diameter.....0.300 maximum

#### Ordering Information

Specify length in 100-foot multiples.....MI-13307-A

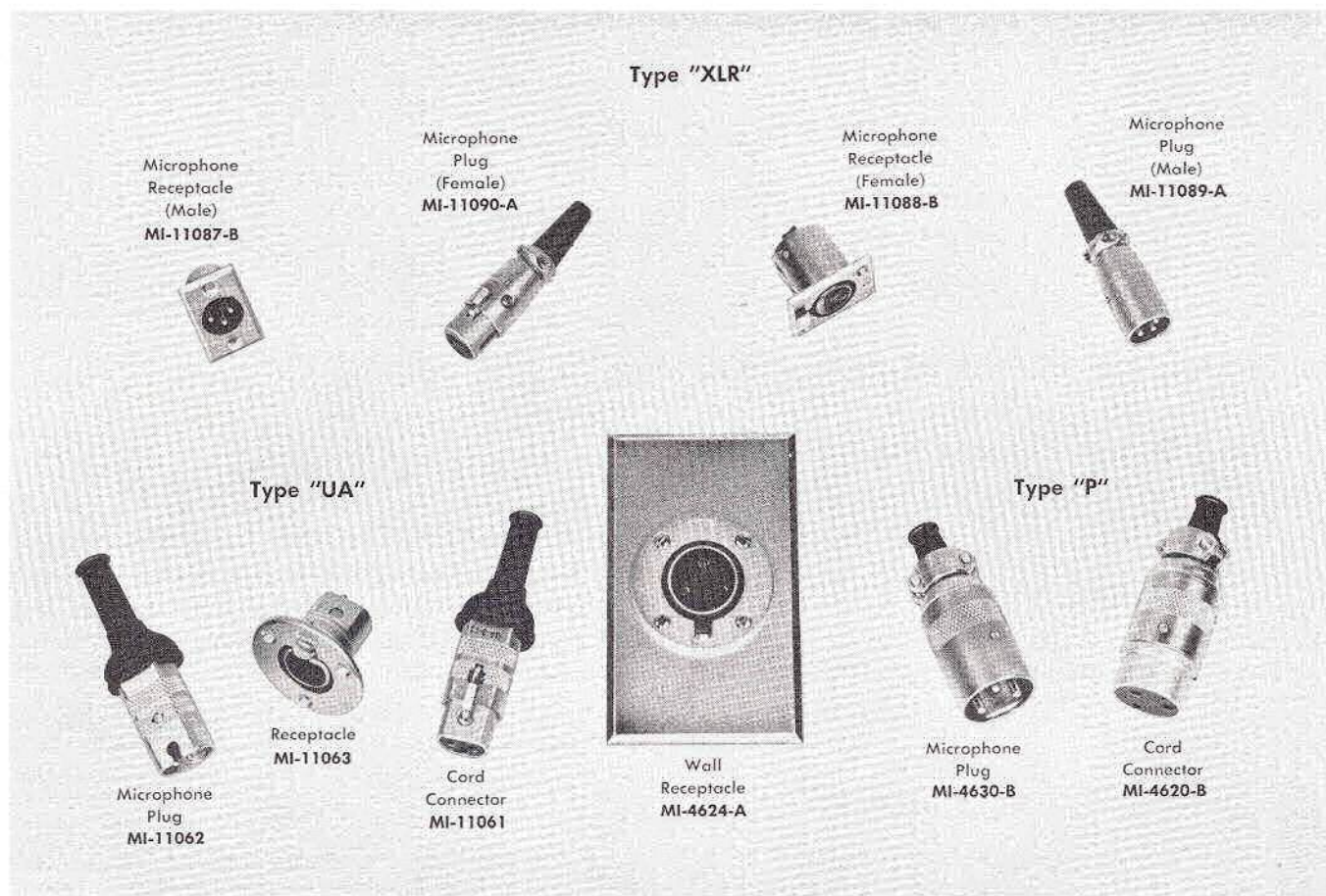
#### Lightweight Cable, MI-13322

Type.....Two conductor, twisted  
Conductors.....Stranded cadmium bronze, equivalent to #24 AWG  
Insulation.....Special rubber compound  
Shield.....Conducting cotton with 60% coverage of tinned copper.  
(Complete coverage with greater flexibility)  
Outer Covering.....Brown neoprene compound  
Overall Diameter.....0.215 maximum

#### Ordering Information

Specify length in 100-foot multiples.....MI-13322

# MICROPHONE PLUGS AND RECEPTACLES



RCA microphones are sold without plugs in order that the purchaser may use any type desired. Three series of Cannon plugs which meet requirements for reliability and ruggedness are stocked. These include the "UA" series of plugs which have been designed as a result of EIA recommendations, the "P" Type Connectors and the "XLR" matched family of small 3-contact connectors.

The "UA" connectors have gold-plated contacts for low-loss and noise-free operation. Flat top construction provides positive polarization. All have thumb action latch-lock for quick insertion and firm engagement and a 1 3/4-inch rubber sleeve for cord protection.

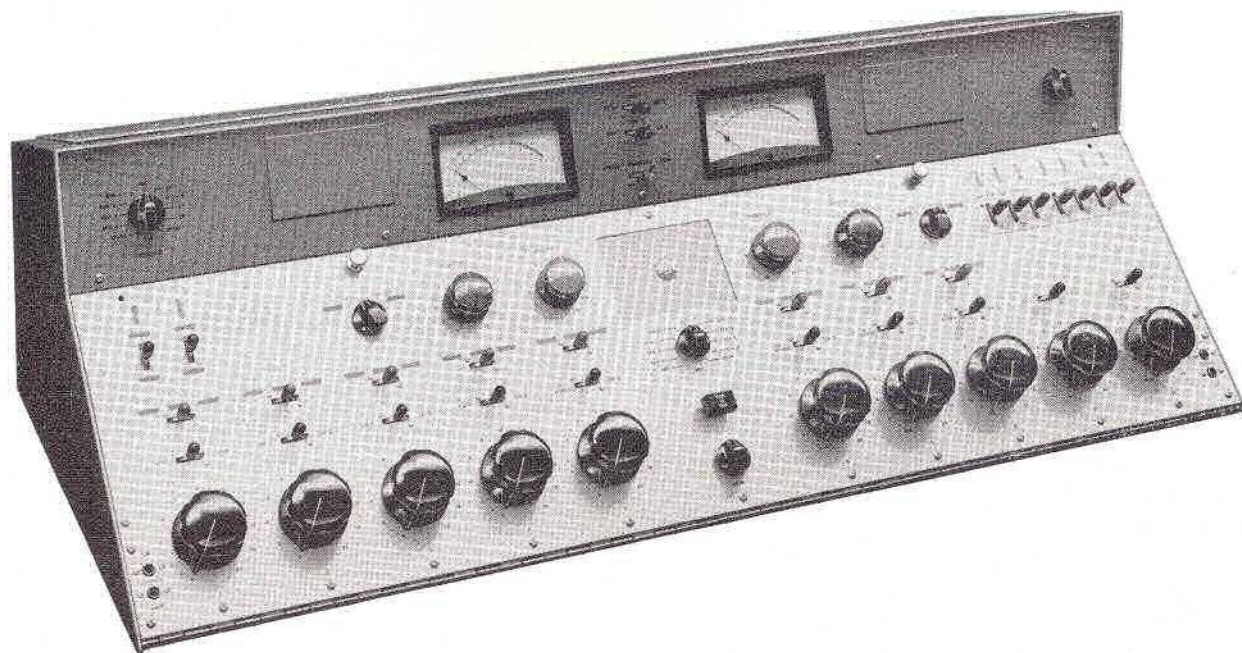
The "P" connectors are the original connectors for audio circuits. They accommodate wires up to No. 10, 15 ampere contact capacity. The Cannon connectors "XLR" type plugs and receptacles are miniature connectors especially favored by many users.

## SPECIFICATIONS

Description	Cannon Stock No.	Ordering Information
Female Plug for Microphone Extension Cable (mates with UA-3-12).....	UA-3-11	MI-11061
Male Plug for Microphone Cable (mates with UA-3-11 and UA-3-13)....	UA-3-12	MI-11062
Flush Mounting Receptacle (mates with UA-3-12) .....	UA-3-13	MI-11063
Male Plug for Microphone Cords.....	P3-CG-12S	MI-4630-B
Wall Receptacle for Above Plug.....	P3-35	MI-4624-A
Note: The MI-4624-A Receptacle will fit a standard a-c outlet box.		
Extension Cord—Female Connector.....	P3-CG-11S	MI-4620-B
Microphone Receptacle, Female.....	XLR-3-31	MI-11088-B
Microphone Receptacle, Male.....	XLR-3-32	MI-11087-B
Microphone Plug, Female.....	XLR-3-11C	MI-11090-A
Microphone Plug, Male.....	XLR-3-12C	MI-11089-A

# Dual-Channel Audio Consolette

TYPE BC-7A



## FEATURES

- Designed for stereo or dual channel operation
- Simultaneous mixing facilities for ten pre-selected program inputs—31 permanently wired sources available
- All transistor design
- Compact—self-contained
- 10 low impedance mixer positions
- Announce position may be split to feed both channels by use of optional preamplifier
- Cue mixers in 5 high level positions
- Provision for optional AGC meters
- All amplifiers and power supply are plug-in
- Master gain and monitor gain controls are ganged in stereo mode
- Control room and all studios may monitor in stereo
- Built-in cue monitor and intercom amplifier completely independent of program circuits
- Roving headphone monitor jack as well as phone jacks across output lines
- Provision for optional second monitoring amplifier
- Provisions for adding external auxiliary mixer

## DESCRIPTION

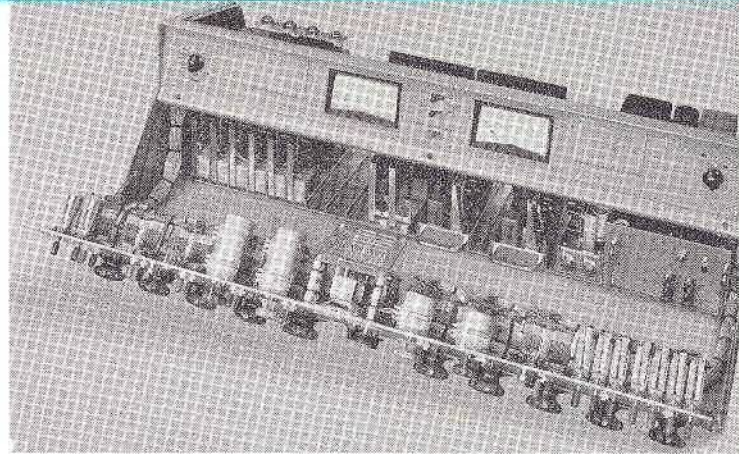
The BC-7A Dual Channel Audio Consolette is a completely self-contained unit providing the broadcaster with both stereo or monaural mixing, switching, and monitoring facilities, plus dependable plug-in transistor amplifiers, low impedance mixing circuits, self-contained power supply and built-in cue/intercom amplifier. Provisions are included for installation of optional AGC meters so the gain reduction of an external AGC amplifier may be observed while controlling program gain.

The BC-7A is normally supplied with five preamplifiers, two program amplifiers, one cue/intercom amplifier and one monitor amplifier. With an additional preamplifier and a second monitor amplifier, complete stereo monitoring is available. For stereo broadcasting the program master gain controls of the BC-7A are ganged together as are the monitor gain controls by placing the mode switch in the stereo position. A unique, smooth action, dual mixer control is used in all stereo mixing positions. The BC-7A consolette contains a total of ten mixer positions; five low level, each switchable to one of three inputs; three high level, each switchable to one of three inputs; and two line level, of which one is switchable to three, the other to four inputs. All amplifier inputs and outputs are brought out to terminal connections within the consolette, so that wiring to jack fields may easily be accomplished.

### Functional Design

The BC-7A Dual Channel Consolette is designed not only for greater operating convenience and ease of servicing, but for aesthetic value as well. The double slope front panel, pleasing functional design, large illuminated VU meters and completely uncluttered control panel highlight the simplicity and beauty of the unit. The finish of the main control panel is anodized, brushed aluminum while the housing and upper panel is finished in a harmonizing blue color. The console is intended for flat top desk mounting.

All switching, mixing, and operational controls are contained on the main control panel and are grouped and color coded for fast identification thus minimizing operator error. Permanent panel designations are etched in black whereas designations which are most subject to change, depending on individual needs, are left blank. Uniform panel depressions, provided at these locations, accept a



BC-7A with front panel lowered to show internal plug-in units, including left to right, preamplifiers, high-level isolation units, program amplifiers, cue amplifier and power supply.

wide assortment of pressure sensitive labels supplied with each unit. The labels provide a neat, permanent appearance to the consolette, yet can easily be changed when necessary.

### Unitized Construction

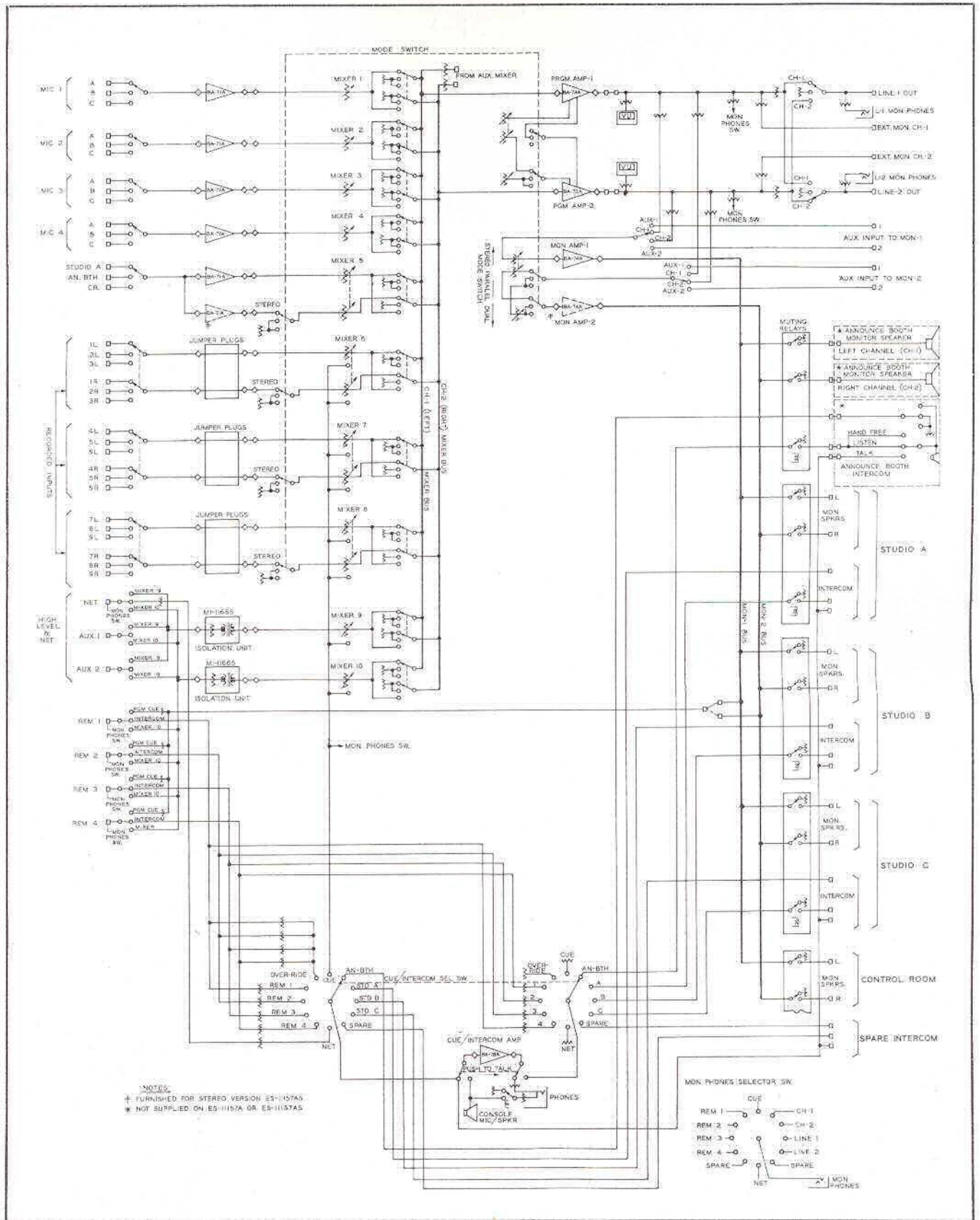
Plug-in, unitized construction is the key to the flexibility of the BC-7A to meet the varying needs of TV and AM broadcasters as well as recording studio applications. Six plug-in unit types are used in the BC-7A: the preamplifier, program amplifier, monitor amplifier, cue/intercom amplifier, power supply and high level isolation unit.

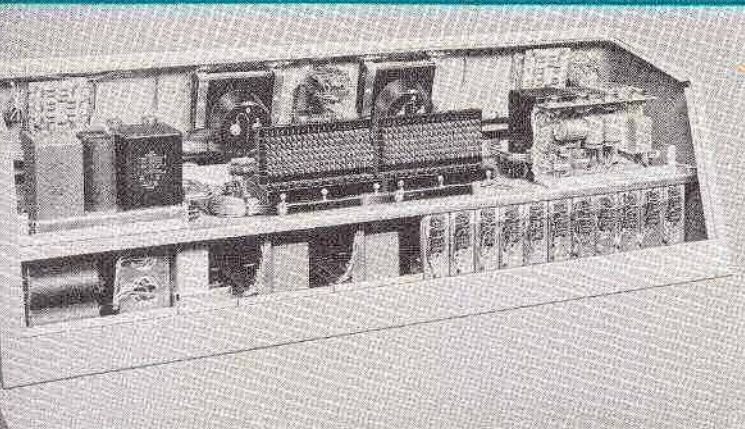
The basic console consists of a wired housing including all operating controls, five dust-protected speaker muting relays, two VU meters, with provisions for adding two optional gain reduction meters, and guide assemblies for accepting plug-in units.

One feature of the design is the availability of the input and output circuits of all amplifiers and input plug-in units on terminals. This facilitates ease in wiring to external sound effects equipment, compensating networks or jack panels. Another feature is the muting relay strapping panel, conveniently located behind the main control panel at the top, center. Any of the five muting relays may be strapped so as to be controlled by any combination of source selection lever keys associated with mixers 1 thru 8.

The power supply provides operating power for up to ten preamplifiers, two program amplifiers, five speaker muting relays as well as reserve power for operation of five additional optional warning light relays. The ten watt monitor amplifier and the cue/intercom amplifier are self-powered.

Simplified functional drawing of the BC-7A Dual Channel Audio Console.





Rear of BC-7A with cover removed showing plug-in monitoring amplifiers and accessibility to external plug-in connection terminals.

## SPECIFICATIONS

**Mixers:**

- 10 Selectable by lever key to either program channel.

**Inputs:**

- 15 Microphones switchable to five preamplifiers (microphone on mixer 5 may be split to feed both channels for stereo operation by addition of accessory preamplifier).
- 9 Turntable, tape or film, switchable to three high level mixers. (All three may be stereo operated.)
- 3 Network or high level, each switchable to either mixer No. 9 or mixer No. 10.
- 4 Remote lines, switchable to mixer No. 10, intercom, and program cue.
- 2 Spare monitor positions each channel.

**Amplifiers:**

- 5 Plug-in transistor preamplifiers (with provisions for five additional accessory preamplifiers).
- 2 Plug-in transistor program amplifiers with individual master gain controls. (Gain controls, ganged for stereo.)
- 1 Plug-in transistor cue/intercom amplifier.
- 1 Plug-in transistor monitor amplifier. Provisions are included for a second accessory monitor amplifier. Gain controls ganged for stereo.

**Outputs:**

- 2 Program lines (either channel may feed either or both lines).
- 2 External monitors (one for each channel).
- 5 Speakers per channel (provisions for 10 speakers, two per location for stereo operation when using optional second monitoring amplifier).

**Source Impedance:**

Microphones .....	37.5/150/600 ohms
Net and Remote Lines .....	600 ohms
Turntables .....	600 ohms
Tape .....	600 ohms
Film .....	600 ohms

**Load Impedance:**

Line .....	600 ohms
Speaker .....	16 ohms
Headphone .....	High Impedance

**Output Level:**

Program Channel .....	+18 dbm after 6 dbm isolation pad (each channel)
Monitor Amplifier .....	+40 dbm

**Input Level:**

Microphone Inputs (maximum) .....	-22 dbm
Turntable Input (maximum) .....	+18 dbm
Net or Remote Line (maximum) .....	+18 dbm

## Mixing Facilities

Each of the ten, low impedance mixing positions will accept one of three plug-in units: the preamplifier for low level sources; the high level isolation unit for balanced high level sources or a simple jumper plug for direct unbalanced input to the mixer. The standard console housing is supplied with dual attenuators in mixer positions 5, 6, 7 and 8.

The BCM-2A Auxiliary Mixer is designed as a companion piece to increase the number of available mixers by 5. One or more of the BCM-2A Auxiliary Mixer Units may be added. Convenient terminals are provided in the BC-7A consolette to extend the mixer bus to the BCM-2A.

**Gain:**

Microphone Input to Program Line .....	T05 db, can be increased to 111 db
Turntable or Remote Line to Program Line .....	64 db

**Frequency Response .....**

$\pm 1.5$  db, 30 to 15,000 cps

**Distortion:**

Program Channel .....

Less than .5%, 50-15,000 cps

Less than .75%, 30 cps

Monitor Amplifier .....

Less than 1%, 50-15,000 cps

**Signal to Noise Ratio:**

Microphone to Program Line

(68 db gain, +18 dbm output) .....

68 db

Dimensions .....

39 1/4" wide, 12 1/2" high, 20" deep

## Ordering Information

BC-7A Consolette Housing (less all plug-in modules)..... MI-11657

BC-7A Consolette (for monaural programming)..... ES-11157-A

Including the following:

1 BC-7A Consolette Housing .....	MI-11657
5 Preamplifiers, Type BA-71 .....	MI-11658
2 Program Amplifiers, Type BA-73 .....	MI-11659
1 Monitor Amplifier, Type BA-74 .....	MI-11661-A
1 Cue/Intercom Amplifier, Type BA-78 .....	MI-11662
2 High Level Isolation Units .....	MI-11665
1 Power Supply, Type BX-71 .....	MI-11663-A

BC-7A Consolette (for stereo programming)..... ES-11157-AS

Including the following:

1 BC-7A Consolette Housing .....	MI-11657
6 Preamplifiers, Type BA-71 .....	MI-11658
2 Program Amplifiers, Type BA-73 .....	MI-11659
2 Monitor Amplifiers, Type BA-74 .....	MI-11661-A
1 Cue/Intercom Amplifier, Type BA-78 .....	MI-11662
2 High Level Isolation Units .....	MI-11665
1 Power Supply, Type BX-71 .....	MI-11663-A

## Accessories

Auxiliary Mixer Housing, Type BCM-2A (less all plug-in modules) .....	MI-11656
On-Air Light Relay .....	MI-11702-A
Warning Lights .....	MI-11706-Series
Type BA-71A Preamplifier (less guide assembly) .....	MI-11658
Type BA-73A Program Amplifiers (less guide assembly) .....	MI-11659
Type BA-74A Monitor Amplifiers (less guide assembly) .....	MI-11661-A
Type BA-78A Cue/Intercom Amplifiers (less guide assembly) .....	MI-11662
Type BX-71 Power Supply (less guide assembly) .....	MI-11663-A

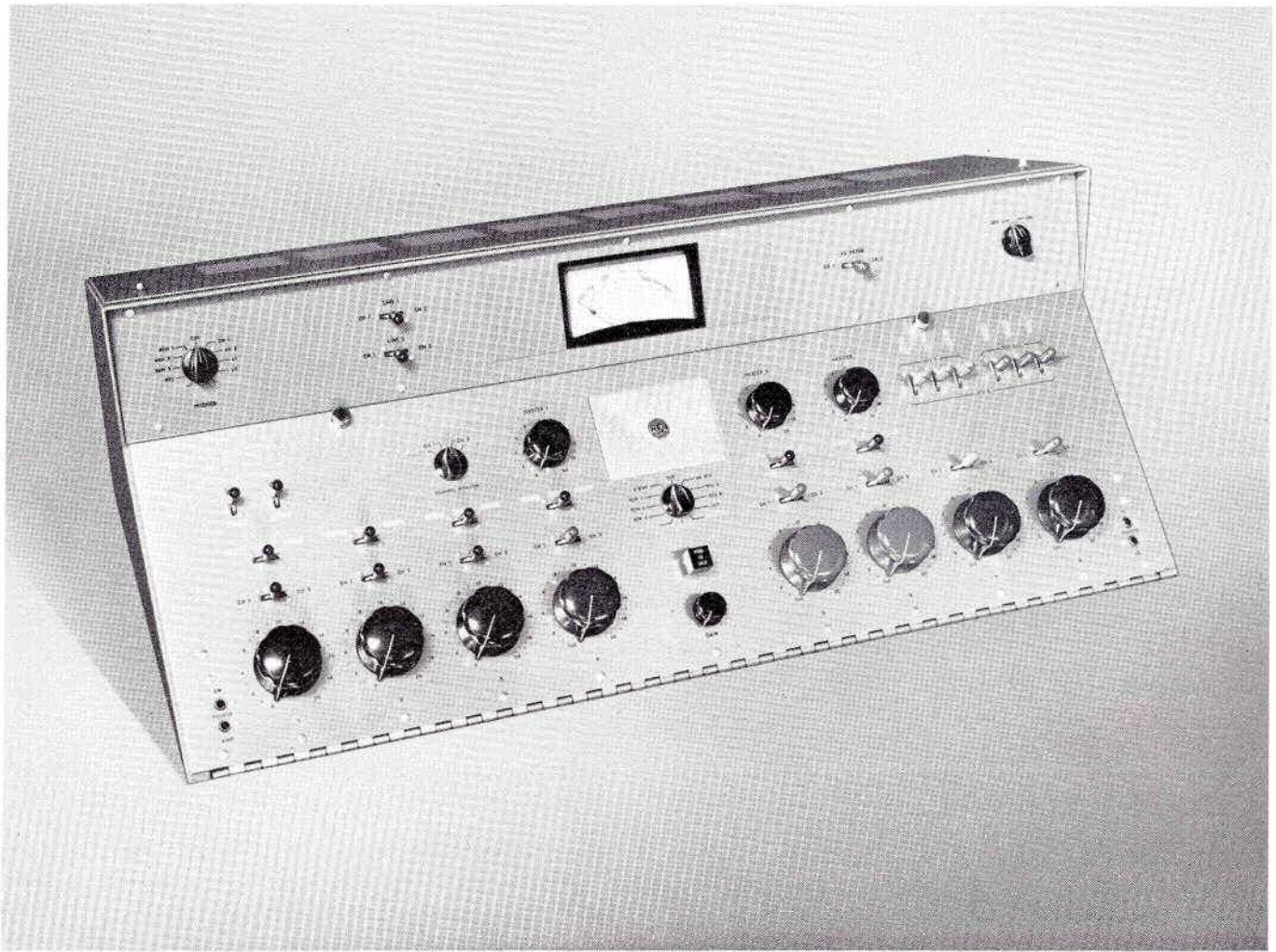


# Studio Consolette

TYPE BC-8A

CATALOG

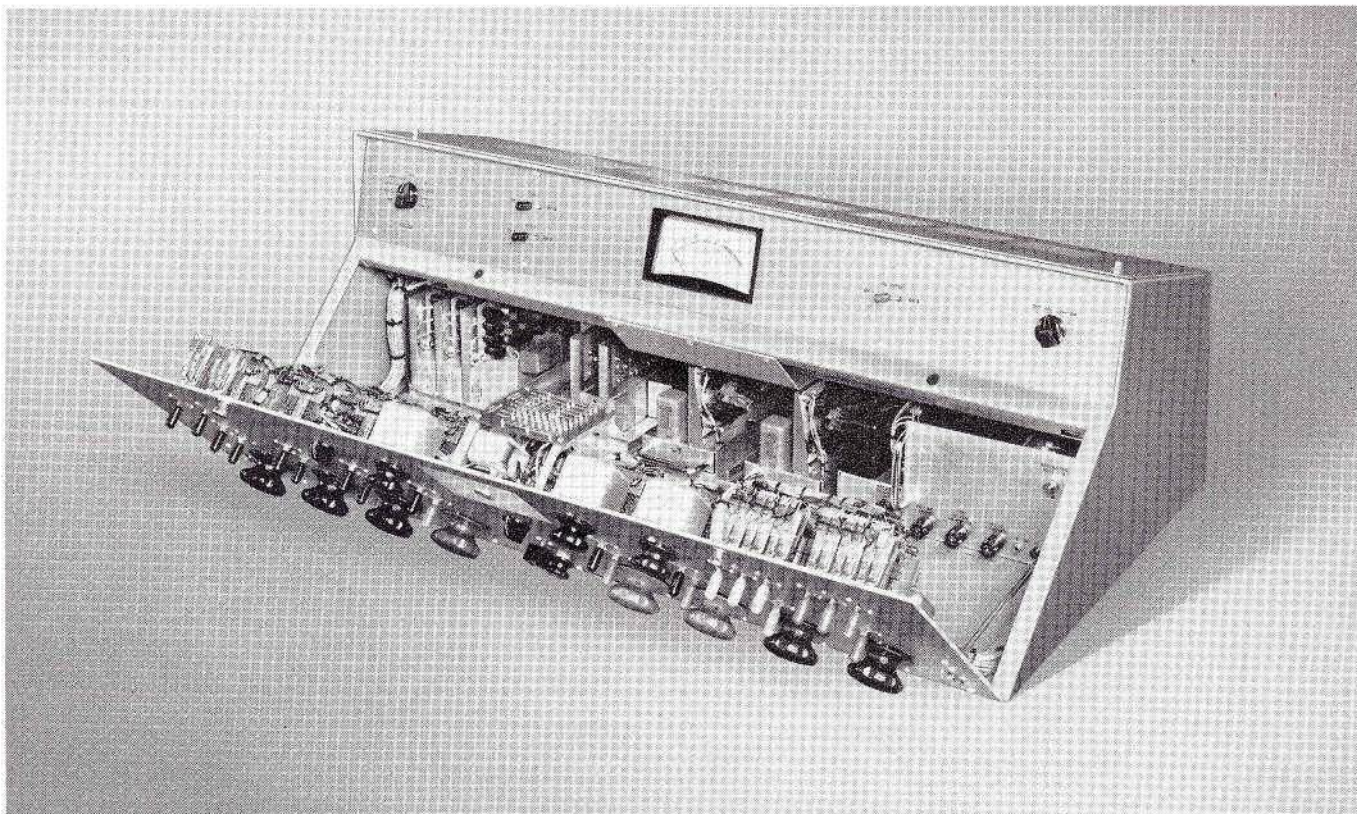
**B**.1118



## FEATURES

- Complete high-fidelity audio system designed for dual channel operation
- Simultaneous mixing facilities for eight pre-selected program inputs—twenty-four permanently wired sources available
- Compact—self-contained
- Solid state design
- Provision for optional second VU meter
- Eight low impedance mixers with cue positions
- Built-in cue monitor and intercom amplifier completely independent of program circuits
- Plug-in amplifiers and power supply
- Expandable—BCM-2A Auxiliary Mixer may be added





BC-8A with front panel lowered to show internal plug-in modules, preamplifiers, high-level isolation units, program amplifiers, cue amplifier and power supply.

## DESCRIPTION

Possessing great flexibility and featuring simplified operation, the BC-8A Studio Console provides a high-fidelity audio input system for AM, FM and TV broadcast stations. Designed for operating convenience and ease of servicing, the Console offers two channel mixing and switching with monitoring facilities, plus dependable plug-in transistor amplifiers, low impedance mixing circuits, self-contained power supply and built-in cue/intercom amplifier. Provisions are included for installation of a second VU meter so that simultaneous, visual monitoring of both program channels may be accomplished if desired.

Field installation of a third program channel is possible. This is useful for pre-testing microphone circuits for quality and level before switching to TV program or preview channels.

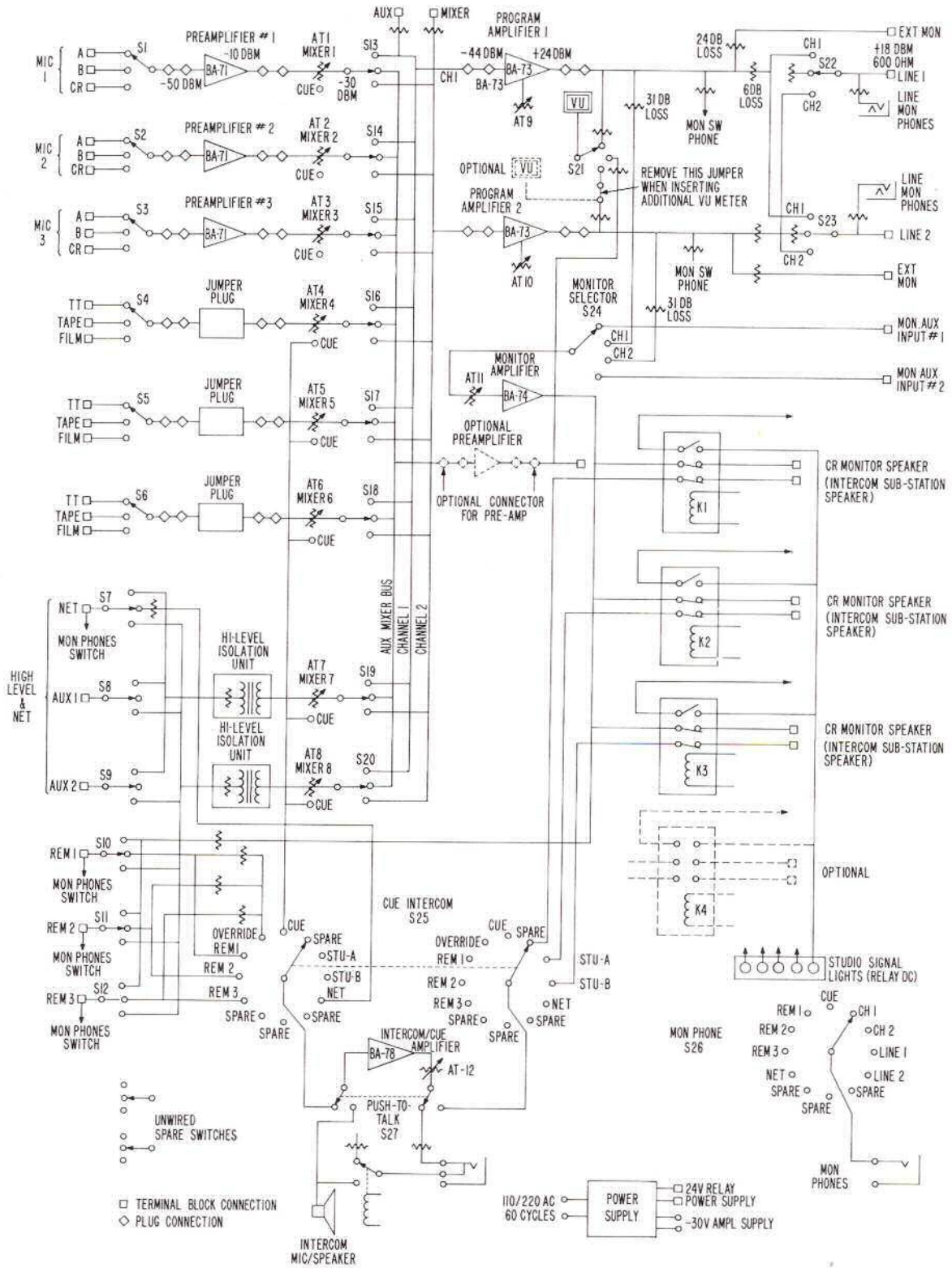
Plug-in, unitized construction is the key to the flexibility of the BC-8A. The basic console consists of a wired housing including all operating controls, three dust-protected speaker muting relays, one VU meter, with provisions for adding an optional second VU meter, and guide assemblies for accepting plug-in transistor modules. These comprise three preamplifiers, two program amplifiers, one cue/intercom amplifier, one monitor amplifier, one power supply, and two high level isolation units. Plug-in units

used are identical with those of the BC-7 Console and BCM-2A Auxiliary Mixer.

The BC-8A Studio Console contains a total of eight mixer positions; three low level, each switchable to one of three inputs; three high level, each switchable to one of three inputs; and two line level, each switchable to one of three inputs. All amplifier inputs and outputs are brought out to terminal connections within the console, so that wiring to external jack fields may be easily accomplished.

All switching, mixing, and operational controls are contained on the main control panel and are grouped and color coded for fast identification. The double slope front panel, pleasing functional design, large illuminated VU meter and completely uncluttered control panel highlight the simplicity and beauty of the unit. The finish of the main control panel is anodized, brushed aluminum, while the housing and upper panel are finished in a harmonizing blue color. The console is intended for flat desk top mounting. The BCM-2A Auxiliary Mixer may be used with the BC-8A to increase the number of available mixers by five. Convenient terminals are provided in the BC-8A to extend the mixer bus to the BCM-2A.

# SIMPLIFIED FUNCTIONAL DRAWING OF THE BC-8A STUDIO CONSOLE



## SPECIFICATIONS

Mixers.....8 (selectable by level key to either program channel)

**Inputs:**

- 9 Microphones switchable to 3 preamplifiers
- 9 Turntable, tape or film, switchable to 3 high level mixers
- 3 Network or high level, each switchable to Mixer No. 7 or No. 8
- 3 Remote lines, switchable to mixer No. 8, intercom, and program cue

**Plug-in Components:**

- 3 Plug-in transistor preamplifiers (with provisions for 3 additional accessory preamplifiers)
- 2 Plug-in transistor program amplifiers with individual master gain controls
- 1 Plug-in transistor cue/intercom amplifier
- 1 Plug-in transistor monitor amplifier with provisions for a second accessory monitor bus
- 1 Plug-in transistor power supply
- 2 High level isolation units

**Outputs:**

- 2 Program lines (either channel may feed either or both lines)
- 2 External monitors (one for each channel)
- 3 Speakers

**Source Impedance:**

- Microphones .....37.5/150/600 ohms
- Net and Remote Lines.....600 ohms balanced
- Turntables, tape and film.....600 ohms unbalanced (may be balanced by use of MI-11665 high level isolation units)

**Load Impedance:**

- Line.....600 ohms balanced from 6 db pad
- Speaker .....16 ohms
- Headphone .....High Impedance

**Input Level:**

- Microphone Inputs (maximum).....-22 dbm
- Turntable Input (maximum).....+18 dbm
- Net or Remote Line (maximum).....+18 dbm

**Gain:**

- Microphone Input to Program Line.....105 db (can be increased to 111 db)

Turntable or Remote Line to Program Line.....64 db

Frequency Response.....±1.5 db, 30 to 15,000 cps

**Distortion:**

- Program Channel.....Less than .5%, 50-15,000 cps; less than .75% at 30 cps
- Monitor Amplifier.....Less than 1%, 50-15,000 cps

**Signal-to-Noise Ratio:**

- Microphone to Program Line (68 db gain, +18 dbm output).....68 db

Dimensions (overall).....3¾" wide, 12½" high, 20" deep

Weight.....Approximately 125 lbs. (with plug-in units)

Finish.....Blue, brushed aluminum panel, color coded controls

Power Requirements.....115/230 V, 50-60 cps., 120 watt maximum

**BA-71A PREAMPLIFIER, MI-11658**

Power Requirements.....30 volts, 45 ma (each) from BX-71A

Maximum Ambient Temperature.....55°C (131°F)

Mounting.....Plug-in for BC-8A Console

Dimensions Overall.....1¾" wide, 4½" high, 7½" long (deep)

Weight .....2¼ lbs.

**BA-73 PROGRAM AMPLIFIER, MI-11659-A**

Power Requirements.....30 volts, 300 ma (each) from BX-71A

Ambient Temperature.....55°C (131°F)

Mounting.....Plug-in for BC-8A Console

Dimensions Overall.....3¾" wide, 4½" high, 9" long (deep)

Weight .....4 lbs.

**BA-74A MONITOR AMPLIFIER, MI-11661-A**

Power Requirements.....100-130 volts, a-c, 50/60 cycles, 30 watts (with taps for 105, 115 and 125 volts)

Ambient Temperature.....50°C (131°F)

Mounting.....Plug-in for BC-8A Console

Dimensions Overall.....5" wide, 4½" high, 9¾" long (deep)

Weight .....11 lbs.

**BA-78A CUE/INTERCOM AMPLIFIER, MI-11662**

Power Requirements.....115/230 volts, a-c, 50/60 cycles, 3-5 watts full program, 2 watts standby 8 watts max. sine wave output

Maximum Ambient Temperature.....50°C (131°F)

Dimensions Overall.....3" wide, 4½" high, 8¾" long (deep)

Weight .....3 lbs.

**BX-71A POWER SUPPLY, MI-11663-A**

Power Requirements.....100-130, or 200-260 volts, a-c, 50/60 cycles, with taps at 105, 115, 125, 210, 230 and 250 volts

Power Output.....-30 volts at 1 amp., regulated; 24 volts at .56 amp., unregulated; 6 volt a-c at 1.5 amp.

Regulation.....0.35% no load to full load

Ripple.....0.15 mv max. on 30 volt supply

Fuse.....1.5 and 1 ampere, slo-blow

Mounting.....Plug-in for BC-8A Console

Dimensions Overall.....7½" wide, 4½" high, 8¾" long (deep)

Weight .....14 lbs.

### Equipment Supplied

BC-8A Studio Console (ES-11167-A)

Including the following:

- 1 BC-8A Console Housing.....MI-11667-A
- 3 Preamplifiers .....MI-11658
- 2 Program Amplifiers .....MI-11659-A
- 1 Monitor Amplifier .....MI-11661-A
- 1 Cue/Intercom Amplifier .....MI-11662
- 1 Power Supply .....MI-11663-A
- 2 High Level Modules.....MI-11665

### Accessories

Auxiliary Mixer Housing, Type BCM-2A

(less all plug-in modules).....MI-11656

On-Air Light Relay.....MI-11702-A

Warning Lights .....MI-11706-Series

Type BA-71A Preamplifier (less guide assembly).....MI-11658

Type BA-73A Program Amplifiers (less guide assembly) MI-11659-A

Type BA-74A Monitor Amplifiers (less guide assembly) MI-11661-A

Type BA-78A Cue/Intercom Amplifier (less guide assembly).....MI-11662

Type BX-71 Power Supply (less guide assembly).....MI-11663-A

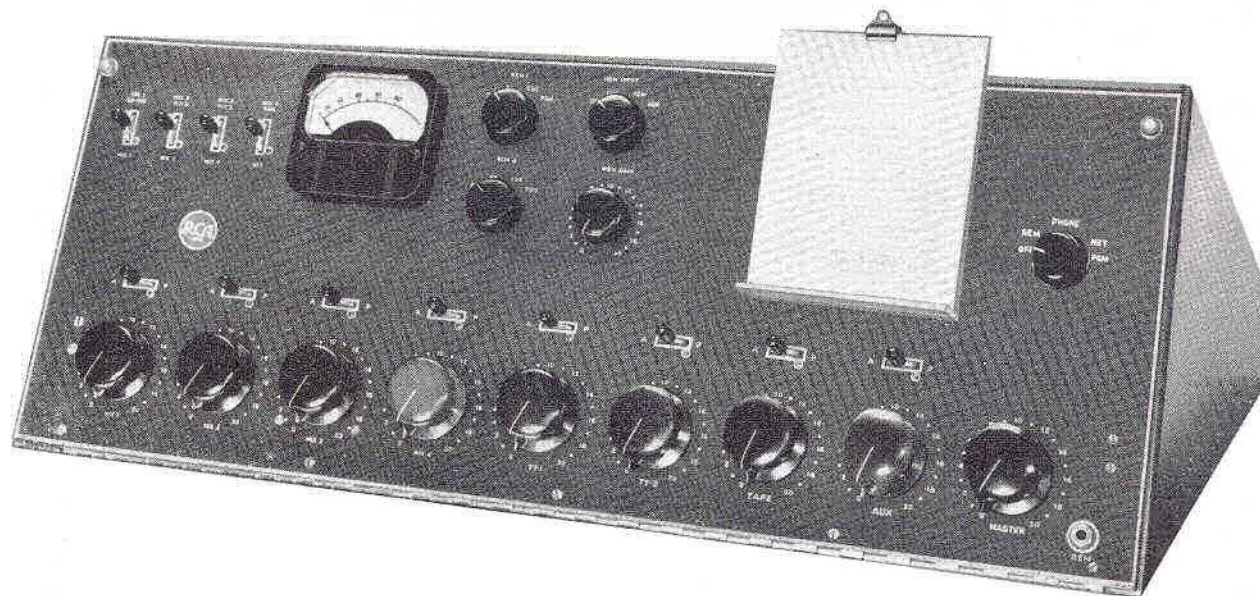


**RADIO CORPORATION OF AMERICA**

PRINTED  
IN  
U.S.A.

# Standard Audio Console

TYPE BC-3C



## FEATURES

- Complete high-fidelity speech input system
- Modular construction, durable glass-epoxy circuit boards
- Compact size—entirely self contained (includes all amplifiers and power supply)
- Provides facilities for thirteen inputs
- Styling matches other RCA audio consolettes and TV terminal equipment
- Headphone selection of network, remote, and program line

## DESCRIPTION

The RCA Type BC-3C Standard Audio Console is a compact, self-contained, high-fidelity speech-input system providing audio amplification, switching, control and monitoring facilities essential to the operation of medium size radio or television broadcast stations. This model incorporates eight mixer positions, which control thirteen inputs. The console is sufficiently flexible to accommodate two studios, announce booth, control room, transcription turntables and auxiliary input circuitry.

The Type BC-3C Standard Audio Console is a convenient audio control equipment mounted in a smartly styled housing of all-metal construction and finished in two-tone umber gray. A hinged front panel and removable cover provide access to tubes, switches, gain controls and other interior components. An etched panel contains all operating controls, an illuminated volume indicator calibrated in VU's, and a rack designed to hold script. The mixer controls are assigned so as to offer the greatest flexibility and operating ease.

The BC-3C will handle thirteen separate inputs with pro-

visions for simultaneous mixing of any eight inputs. There is provision for feeding program cue or talkback to remote lines. Headset switching is provided for network, program and remote line monitoring. Cue positions are incorporated on high level and turntable mixers. A separate audition channel is provided for maximum flexibility. The monitoring amplifier may be switched from the cue position, program line, audition bus, or external input. The output of an off-air receiver or modulation monitor can be connected to this external position. All inputs are terminated when the switches are in the off position.

The BC-3C is of modular construction with etched wiring on durable glass-epoxy sub-assemblies. It has self-contained amplifiers and power supply. Three preamplifiers are utilized in the design plus monitoring and booster equipment. Recommended operating practice is for the inclusion of separate BA-26 preamplifiers mounted in each turntable cabinet. The control circuits include two 24 volt relays for control room and studio speaker muting. The muting relays may be used to actuate "on air" light relays when such accessories are used.

## SPECIFICATIONS

**Inputs:**

- 6 Microphones (4 Studio, 1 Control Room and 1 Announce Booth).....37.5/150/600 ohms
- 2 Turntable, 1 Tape, and 1 Auxiliary Inputs.....150 ohms
- 2 Remote Lines, 1 Network and 1 External Monitor.....600 ohms

**Outputs:**

- 1 Program Line & 2 Remote Lines Cue 600 ohms +18 dbm
- 2 Monitor Speakers 16 ohms 3 W each
- 1 External Monitor 600 ohms -6 dbm
- 1 Turntable Cue 150 ohms 1 V rms

**Gain:**

- Microphone to Program Line.....108 db
- Network or Remote to Program Line.....32 db
- Turntable, Tape or Auxiliary to Program Line.....64 db
- Microphone to Audition Speaker.....124 db
- Microphone to Program Speaker.....144 db
- Microphone to External Monitor.....84 db
- Microphone to Remote Line (Cue).....106 db
- Network to Audition Speaker.....48 db
- Network to Program Speaker.....68 db

**Frequency Response:**

- Program ±1.5 db.....30-15,000 cps
- Monitor ±2.5 db.....30-15,000 cps

**Harmonic Distortion:**

- Program 18 dbm Output.....1% @ 30 cps; .75% @ 50 cps;  
0.5% @ 100-15,000 cps
- Monitor 6 W Total.....1.5% @ 50-10,000 cps

**Signal to Noise Ratio:**

- Program Channel, Mixer and Master Gain controls set for 68 db Gain.....68 db below 18 dbm output

**Tube Complement:**

- 2 6V6-GT, 2 12AU7, 2 12AX7, 1 5R4GY, 5 12AY7, 5-MI-11299 (selected 12AY7)

**Power Requirements:**

- 100-130 volts a-c, 50/60 cycles, 155 watts

**Dimensions:**

- 33" wide, 11 1/4" high, 21 1/4" deep

**Weight:**

- 88 lbs.

**Finish:**

- Two tone umber gray

**Panel:**

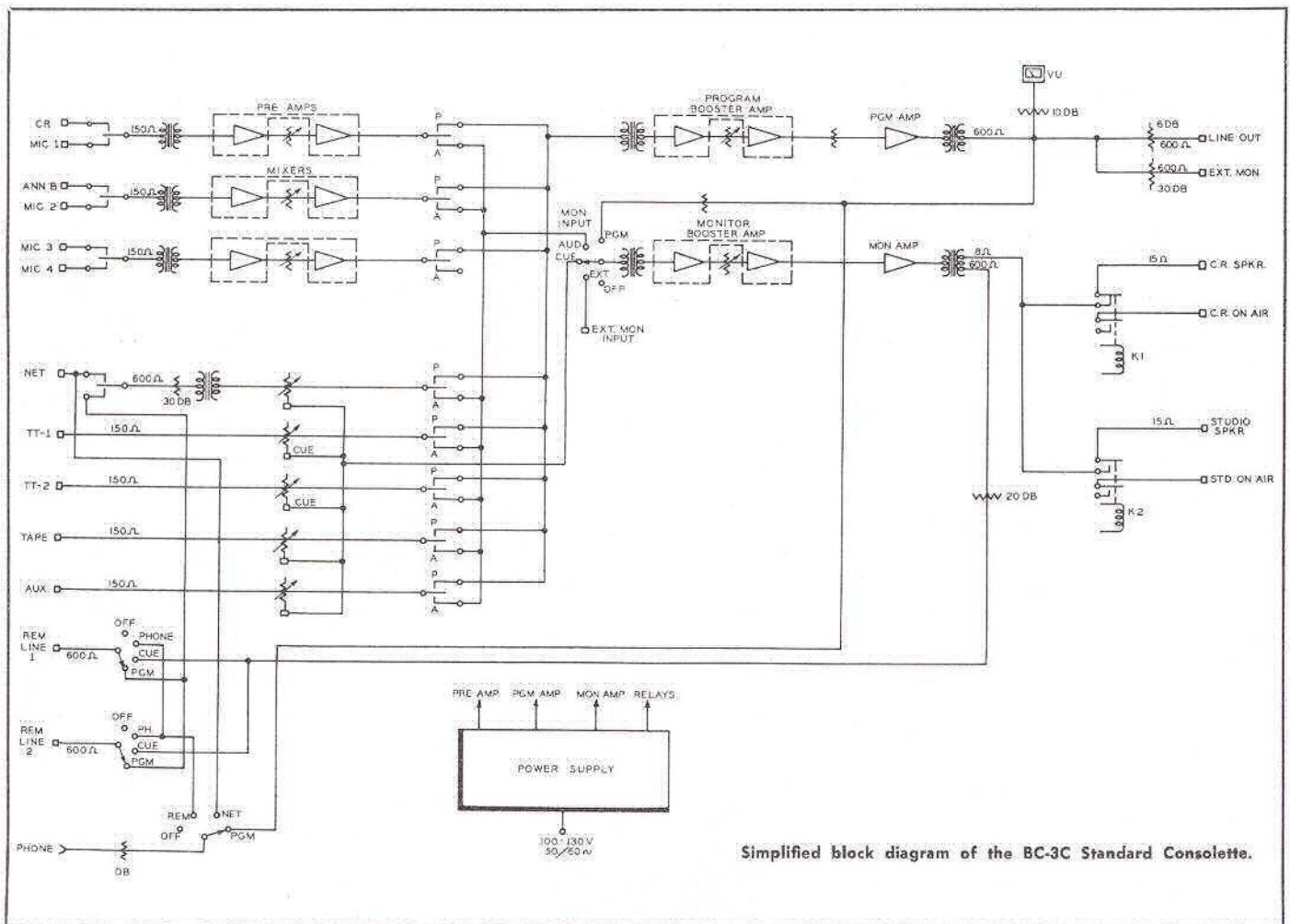
- Reverse etched aluminum and dark umber gray

### Ordering Information

- BC-3C Standard Consolette (less tubes).....MI-11641-A
- BC-3C Standard Consolette (complete with tubes).....ES-11103-A

### Accessories

- Tube Kit .....MI-11486-A
- On-Air Light Relay.....MI-11702-A
- Warning Lights .....MI-11706 Series
- BA-26A Equalized Preamplifier.....MI-11436
- Announce Booth Speaker Relay.....MI-11748
- Selected 12AY7 Tube.....MI-11299
- Cue Type Fader for BC-3C High Level Inputs.....MI-94136



Simplified block diagram of the BC-3C Standard Consolette.

# Audio Consolette

TYPE BC-5B



## FEATURES

- Complete audio facilities for the small AM/FM/TV station
- Mixes four simultaneous inputs
- Entirely self-contained
- Talkback or program cue
- Modular construction—glass-epoxy circuit boards
- Flexible monitoring
- Head phone monitoring of network, remote and program line
- Easily expanded for dual-channel broadcast use

## DESCRIPTION

The Type BC-5B Audio Consolette, MI-11637-A, provides audio amplification, switching control and monitoring facilities for the operation of a small radio or television broadcast station. This low-cost consolette is self-contained with the power supply for amplifiers and relays mounted in the unit. The exclusive feature of "add-a-unit" audio control incorporated in the BC-5B permits future expansion as desired. The consolette is suitable for use either in combined studio/transmitter or remote studio installations.

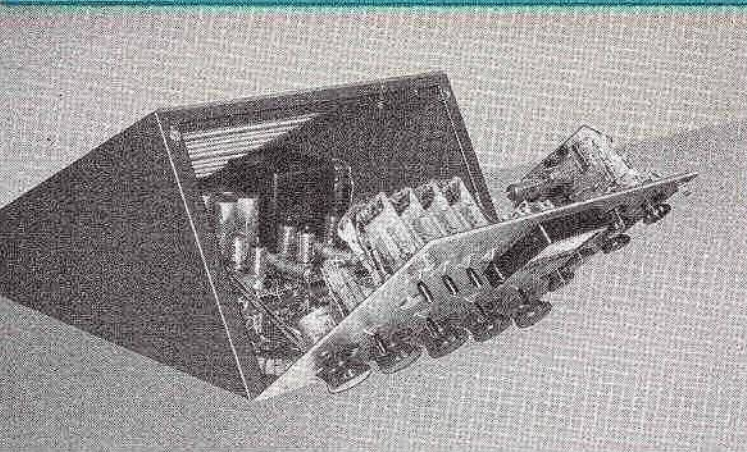
A single BC-5B provides high quality switching and control facilities for accommodating one studio, control booth, two turntables, network, remotes and tape recorder. Addition of a second BC-5B doubles facilities and permits complete dual-channel operation. The audio consolette may also be used by television stations to provide audio sub-control, or to permit expansion of existing facilities.

The BC-5B Audio Consolette provides extremely flexible audio facilities for the small broadcast station. It includes three mixing channels for low level microphones and

turntable inputs and one high level mixing channel, for network and remote line inputs. Nine input channels may be selected; the output of each mixer may be switched to either program or audition. A VU meter and all switches and mixer controls are front-panel mounted.

Cue positions are incorporated on turntable mixer controls. Terminals are available for connecting a separate cueing amplifier. Separatet audition and program channels are provided for maximum flexibility. The monitoring amplifier may be switched from the cue position, program line, audition bus or an external position providing off-air monitoring from an off-air receiver or modulation monitor. All inputs are terminated when the switches are in the "off" position.

The BC-5B is a completely wired unit and has self-contained amplifiers and relay power supply. Four pre-amplifiers are utilized in the basic design. The fourth pre-amplifier is supplied wired for low gain to permit its use with remote lines. It can be easily modified, however, for high gain if desired.



The BC-5B hinged front panel and removable top cover provide complete access to all components including amplifiers and power supply.

The Audio Console is of all-metal construction finished in two-tone umber gray. A hinged front panel and removable cover provide complete access to all components, such as the key-selector switches, controls, mixers, terminal blocks and wiring. The VU meter is illuminated. Muting relays provided in the unit may be used to actuate ON AIR warning light relays when such accessory signals are desired.

## SPECIFICATIONS

### Electrical Specifications

<b>Inputs:</b>			
4 Microphone (3 Studio, 1 Control Room).....	37.5/150/600 ohms		
2 Turntable .....	37.5/150/600 ohms		
2 Remote Lines .....	600 ohms		
1 Network .....	600 ohms		
1 External Monitor.....	150 ohms		
<b>Outputs:</b>			
1 Program Line .....	600 ohms	+18 dbm	
2 Monitor Speakers .....	16 ohms	3 W each	
1 External Monitor .....	600 ohms	-12 dbm	
2 Remote Lines Cue .....	600 ohms	+18 dbm	
1 Turntable Cue .....	50,000 ohms	1 V	
<b>Gain:</b>			
Microphone or Turntable Input to Program Line.....	108 db		
Microphone or Turntable Input to Speaker.....	125 db		
<b>Frequency Response:</b>			
Program ±1.5 db.....	30-15,000 cps		
Monitor ±2.0 db.....	30-15,000 cps		
<b>Harmonic Distortion:</b>			
Program (+18 dbm output).....	1% at 30 cps; 0.75% at 50 cps;		
	0.5% 100 to 15,000 cps		
Monitor (6 watt total).....	1.5% at 50 to 15,000 cps		

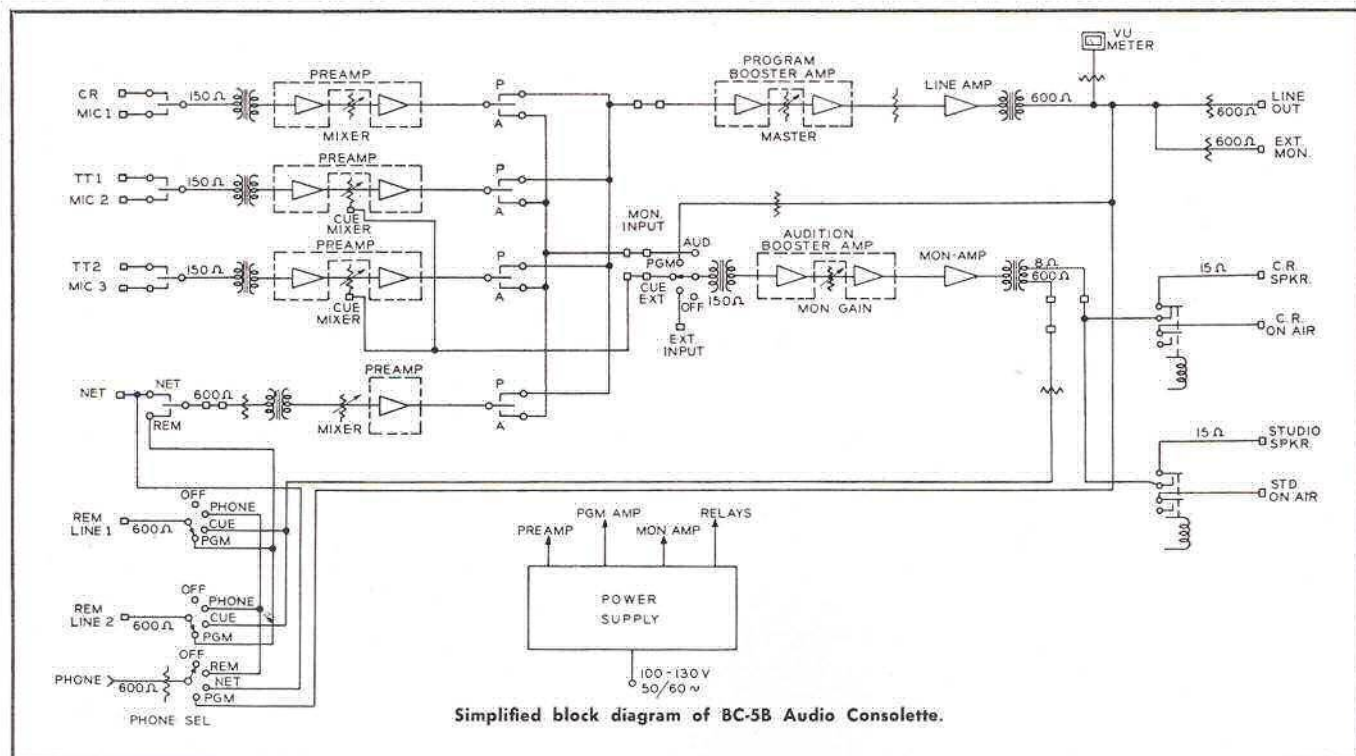
Signal to Noise Ratio.....	68 db below reference at program line output
	66 db below reference at monitor output
Power requirements.....	100-130 volts, 50/60 cps, 150 watts
Tube Complement:	
	1-5R4GY, 5-MI-11299 (selected 12AY7), 2-6V6-GT, 2-12AX7, 2-12AU7, 6-12AY7
Dimensions.....	19½" wide, 11½" high, 21½" deep
Weight .....	.66 lbs.
Finish.....	Two tone umber gray

### Ordering Information

BC-5B Audio Console (less tubes).....	MI-11637-A
BC-5B Audio Console (complete with tubes).....	ES-11105-A

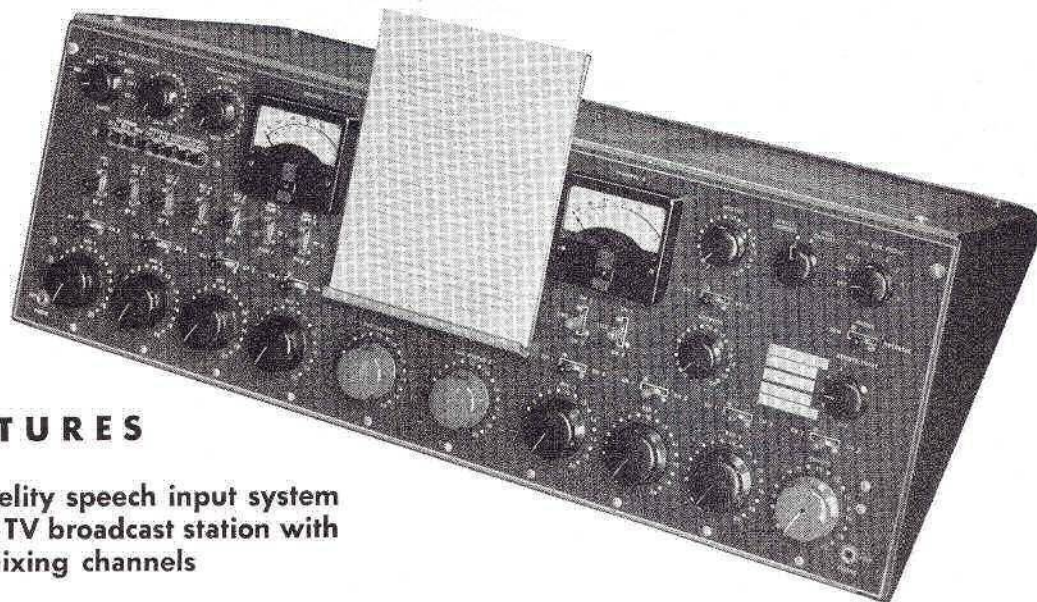
### Accessories

Tube Kit for BC-5B.....	MI-11483-A
Warning Lights .....	MI-11706 Series
Signal Light Relay.....	MI-11702-A
Announce Booth Speaker Relay.....	MI-11748
Selected 12AY7 Tube.....	MI-11299



# Dual-Channel Audio Consolette

TYPE BC-6B



## FEATURES

- Complete high-fidelity speech input system for larger radio or TV broadcast station with nine high level mixing channels
- Two program channels either to feed one or both program lines
- Incorporates new split-mixer technique
- Twenty-two inputs available
- Dual power supplies—one for each channel for greater reliability

## DESCRIPTION

The RCA Type BC-6B Split-Mixer, Dual Channel Audio Consolette provides the audio amplification, switching, control and monitoring facilities essential to operation of the larger radio or television broadcast station. This consolette incorporates nine mixer positions and provides all the facilities needed to accommodate one or more studios, announce booth microphone, control room microphone, two transcription turntables, tape, film, five remote lines, network and three cue circuits.

The nine mixer positions provided are assigned so as to offer the greatest flexibility and operating ease. The first five are low level microphone channels each with dual microphone input. Positions six and seven are also low level inputs and may be used for either turntable, tape or film sources; while the eighth mixer is used for network. The final mixer has provisions for five remote line inputs selected by rotary switch. The latter four mixer positions also have cue type mixers.

The BC-6B Split Mixer, Dual-Channel Audio Consolette is designed for operating convenience and ease of servicing—all amplifiers, control facilities and power supplies being contained in a single housing which offers utmost accessibility to all components. The unit is suitable for mounting on a flat top desk, and is similar in styling and appearance to the RCA BC-3C and BC-5B consolettes.

An etched panel contains all operating controls. It tilts forward for easy access to all switches, gain controls and other interior components. The two VU meters are illuminated. Monitoring and network headset jacks are supplied and headphones may be connected to the output of the program channels, remote lines, or the incoming network. Talkback facilities are included and permit talking back to studios, announce both or remote lines. An Over-ride-Remote cue switch is provided which permits the remote operator to call in on any of the remote lines and over-ride the program on the control room speaker.

Highest quality components are used throughout the BC-6B. Interlocked push-button switches are cam operated leaf type, assuring years of trouble-free operation. Improved fast relay circuits for speakers reduce the possibility of audio feedback. The amplifiers are of a new, compact design of modular construction having dip-soldered glass-epoxy etched wiring amplifier subassemblies.

The BC-6B has two power supplies, each powers a single channel and alternate pre-amplifiers thus providing greater continuity of service. Both are completely self-contained units.



# SPECIFICATIONS

**Inputs:**

10 Microphones	.....	30/150 ohms
2 Tape, Turntable or Film	.....	150 ohms
5 Remote Lines	.....	600 ohms
1 Network	.....	600 ohms
3 Cue Lines	.....	20,000 ohms

**Outputs:**

2 Program Lines	.....	600 ohms	+18 dbm
2 External Monitors	.....	600 ohms	-6 dbm
5 Speakers	.....	15 ohms	6 watts total
5 Remote Lines (cue)	.....	600 ohms	+18 dbm

**Gain:**

Microphone or Turntable Input to Program Line	.....	108 db
Microphone or Turntable Input to Speaker	.....	141 db
Network or Remote Line to Program Line	.....	42 db
Cue Lines to Speakers	.....	48 db

**Frequency Response:**

Program	.....	±1.5 db	30 to 15,000 cps
Monitor	.....	±2.5 db	30 to 15,000 cps

**Harmonic Distortion:**

Program (+18 dbm output)	.....	1% at 30 cps, 0.75% at 50 cps,
		0.5% at 100 to 15,000 cps
Monitor (6 watt total)	.....	1.5% at 50 to 15,000 cps

**Signal to Noise Ratio, Microphone to Program Line**  
(68 db gain, +18 dbm output)..... 68 db

**Power Requirement:**..... 300 watts, 100/130 volts, 50/60 cycles a-c

## Tube Complement

2-5R4-GY	4-6V6-GT
4-12AU7	10-MI-11299 (RCA selected 12AY7)
4-12AX7	13-12AY7

**Dimensions:**..... 38" wide, 11½" high, 21½" deep

**Weight** ..... 127 lbs.

**Finish**..... Two tone umber gray

**Panel**..... Reversed etched aluminum with dark umber gray enamel fill

## Ordering Information

BC-6B Dual-Channel Audio Console including amplifiers, power supplies and instruction book, but less tubes..... MI-11638-A

BC-6B Dual Power Audio Console complete with tubes..... ES-11106-A

## Accessories

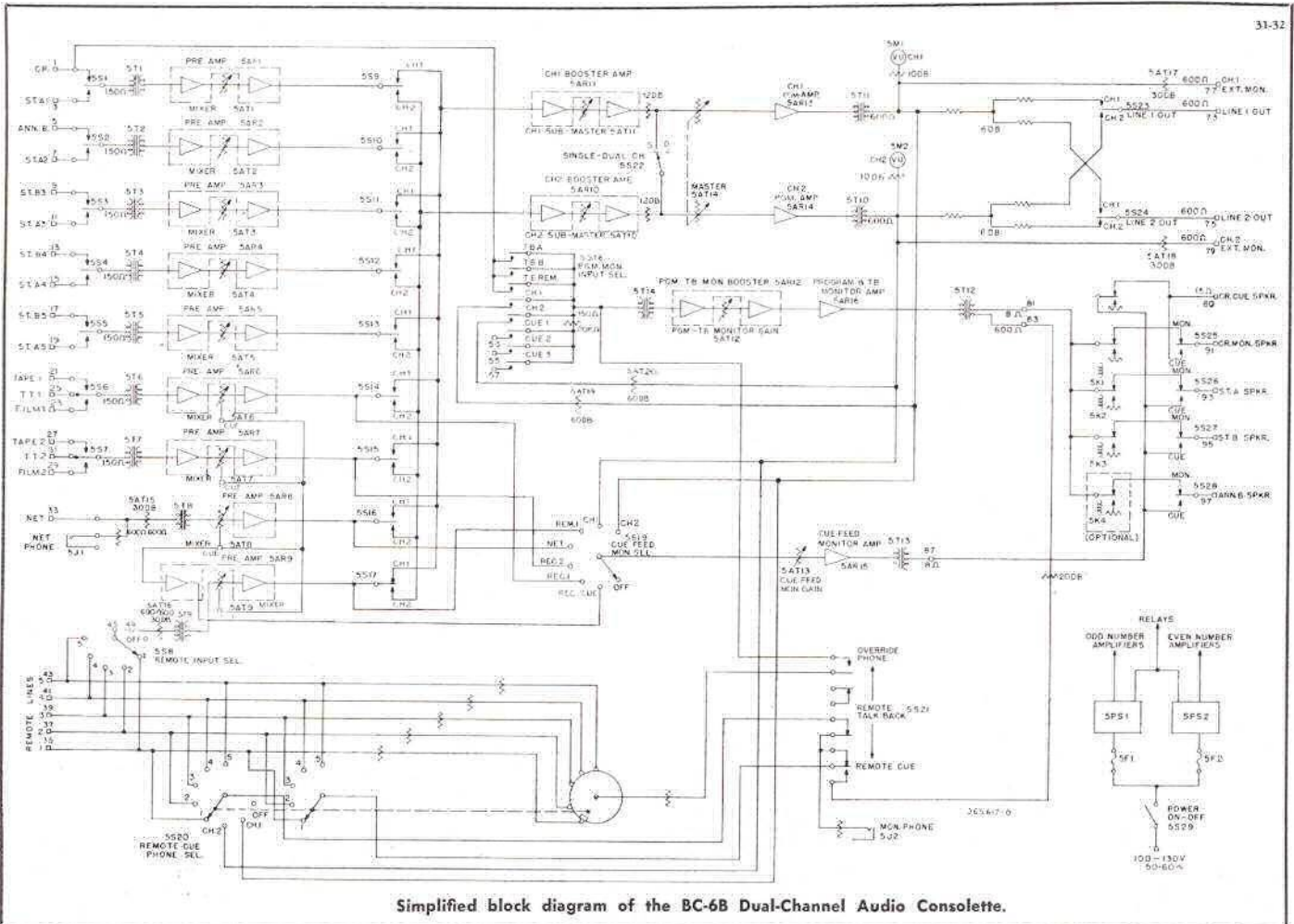
Tube Kit for BC-6B Console..... MI-11484-A

Announce Booth Speaker Relay..... MI-11748

On-Air Light Relay..... MI-11702-A

Warning Lights ..... MI-11706 Series

Selected 12AY7 Tube..... MI-11299



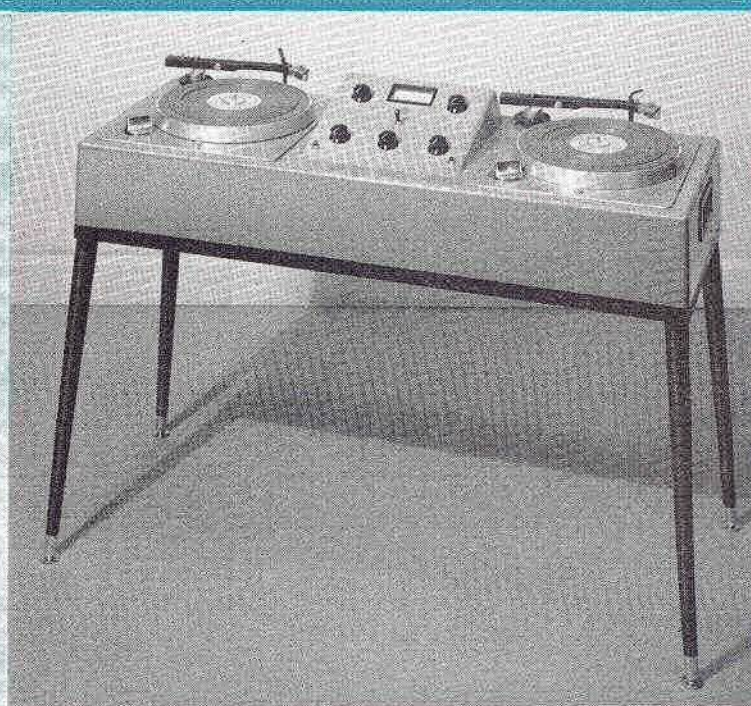
Simplified block diagram of the BC-6B Dual-Channel Audio Console.

# Portable Audio Console

TYPE BC-10A

## FEATURES

- Portable dual turntable console simplifies remote operations
- Individual mixing controls for two turntables, plus switchable input for either of two microphones or remote input
- Solid state circuitry throughout
- Excellent frequency response—within  $\pm 2$  db 70 to 15,000 cps
- Break-down construction, console legs store in bottom recess for easy storage



## DESCRIPTION

The Type BC-10A Portable Audio Console is a completely self-contained unit that greatly simplifies the problem of on-the-spot broadcasts and setting up of remote studios. The console has dual three-speed turntables with complete provisions for mixing as well as cueing recordings. A third mixer is available for use with either of two microphones or a remote line. A 50-db pad in the remote input permits a high level program source such as a tape recorder or remote amplifier to be fed into this position and controlled on the microphone fader.

The BC-10A Console features break-down construction which permits it to be conveniently transported. The four

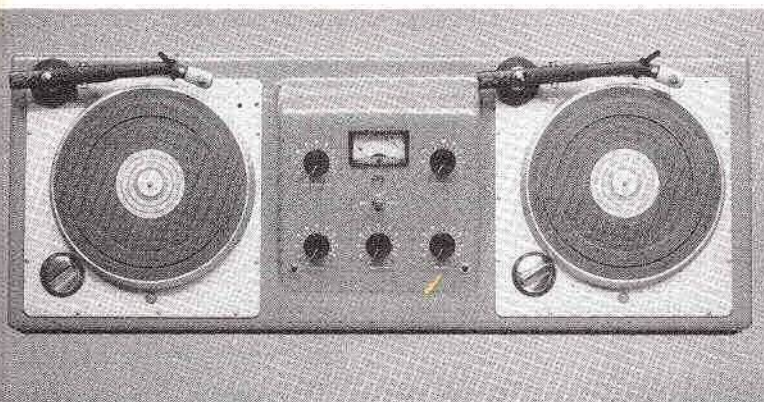
console legs, when not in use, are stored in clips affixed to the bottom recess of the console. The durable fibreglas unit weighs less than 68 pounds.

The BC-10A is designed to give maximum performance. Frequency response is within plus or minus 2 db from 70 to 15,000 cps on the microphone channel. The turntable channels have built-in RIAA equalization and properly equalize the GE 4G-050 cartridge. Normal output level is plus 6 VU at 3 per cent or less distortion 70 to 10,000 cps. All preamplifiers as well as the remote amplifier and power supply utilize solid state devices.

Operating controls are conveniently located on a sloping panel between the two three-speed turntables. Three faders controlling the two turntable inputs and the microphone-remote input are at the bottom of the panel. In the center is the three-way microphone-remote switch. The PA level control for feeding to external PA equipment is located above to the left and the Master Gain Control to the upper right of the panel. An illuminated VU meter is provided in the upper center of the panel.

The receptacles for two microphones, terminals for the broadcast line, PA feed and monitor jack are located in

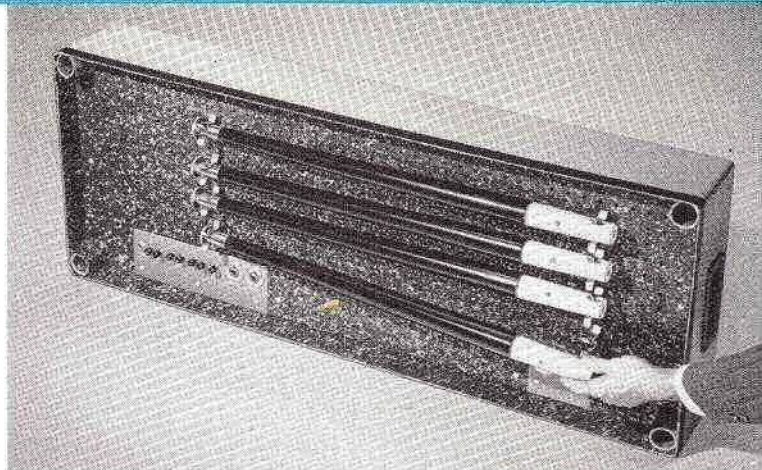
Close-up top view of audio console.



the audio panel on the bottom of the console under the left turntable. The AC receptacle and fuse are located on the AC panel under the unit on the right side. Earphones, when plugged into the phone jack on the audio panel, can be used to monitor the program being fed to the broadcast line or to cue the records on either turntable. High impedance earphones should be used for monitoring.

**Electrical Description**

The BC-10A employs etched wiring circuitry for the transistor amplifiers. The regulated power supply is located on a separate panel and uses diodes as full wave rectifiers. The turntable preamplifiers are equalized to the standard RIAA curve. The microphone preamplifier is similar to the turntable preamplifier but has flat response. The use of thermistors keeps the distortion low and the output constant if the ambient temperature exceeds 100 degrees. The unit is capable of operating in temperatures up to 150 degrees F.



Bottom of BC-10A Console showing leg storage rack, audio panel at left, and AC receptacle at right.

The BC-10A's output is fed through a 3 db isolation pad to the broadcast line terminal and through isolation resistors to the monitor phone jack. A bridging transformer is used to isolate the feed to the PA system. A separate fader is used to control PA level.

**SPECIFICATIONS**

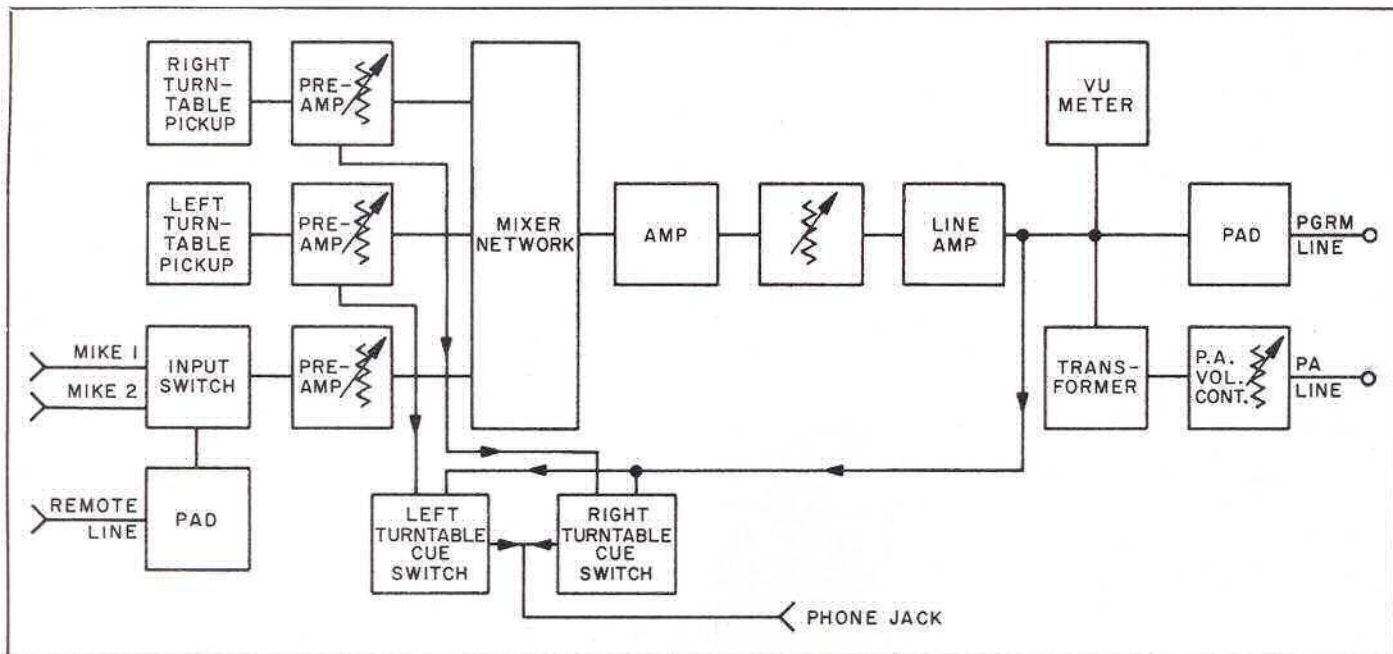
Frequency Response:  
 Microphone Channel.....Within  $\pm 2$  db 70 to 15,000 cps  
 Phono Channels.....Built in RIAA equalization and will properly equalize when used with a GE 4G-050 cartridge  
 Output Level and Distortion  
 (after built-in 3 db pad).....+6 VU at 3% or less distortion  
 70-10,000 cps normal; +12 VU maximum is emergency level  
 Signal to Noise on Microphone Channel.....56 db, relative noise at the input is -106 dbm  
 Power Line.....117 volts, single phase, 60 cycles

Transistor and Diode Complement:  
 13-2N241A, 4-1N1488, 1-2N456, 1-1M12210  
 Dimension Overall.....44" long, 16 1/2" wide, 10" high  
 Standing Height .....31"  
 Weight.....68 lbs. approx.

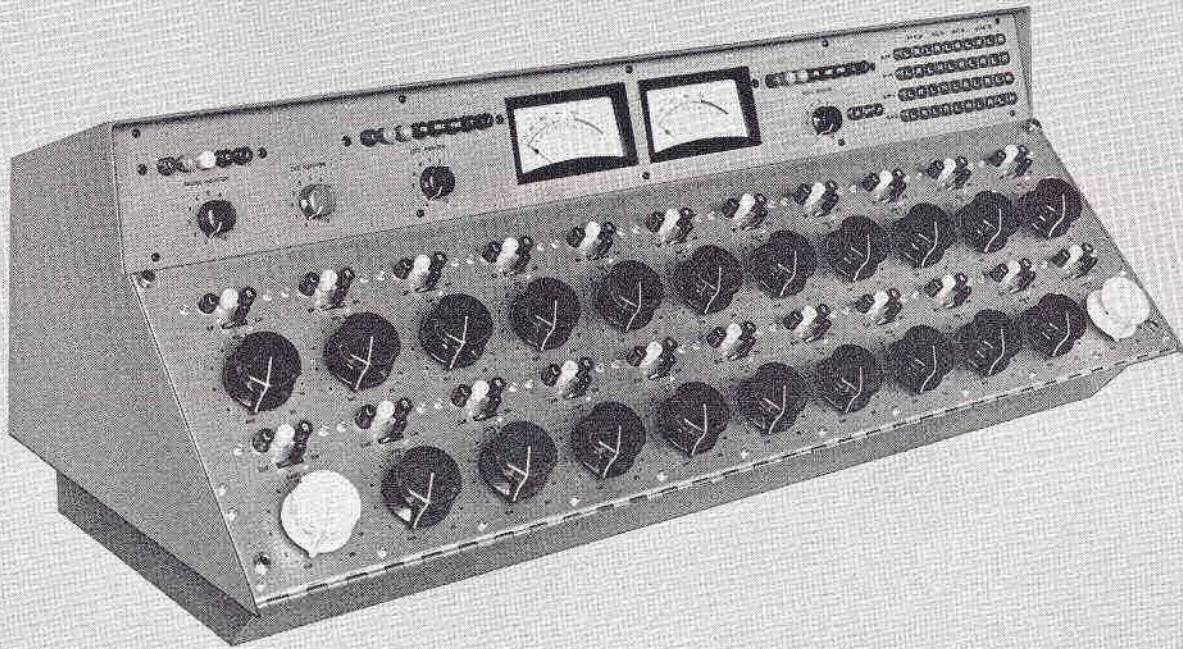
**Ordering Information**

Type BC-10A Portable Audio Console complete, with two turntables, tone arms and pickups including power cord and plug.....MI-11655-A

Block Diagram of BC-10A Portable Audio Console.



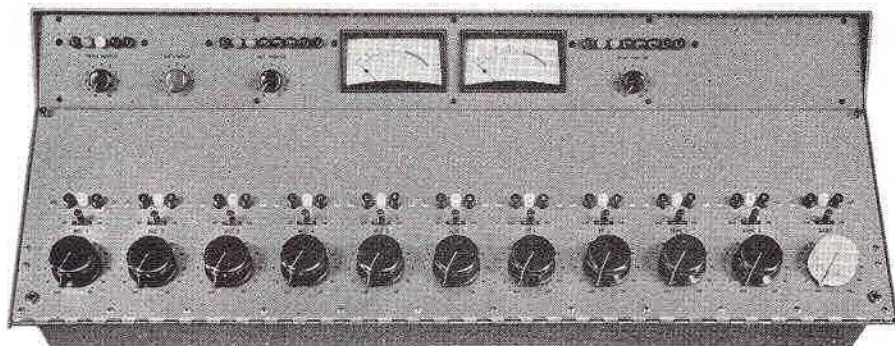
# Custom Audio Equipment



Master Console with 22 individual mixers.

## FEATURES

- Designs for Exact Customer Requirements
- Extensive Custom Engineering Service available for consultation
- Custom designs provide means for complete automation later, if desired
- Increased operating efficiency
- Reduced operating expense
- Instant "fool-proof" switching
- Increased station prestige with clients
- Possibilities for new business . . . More programs handled

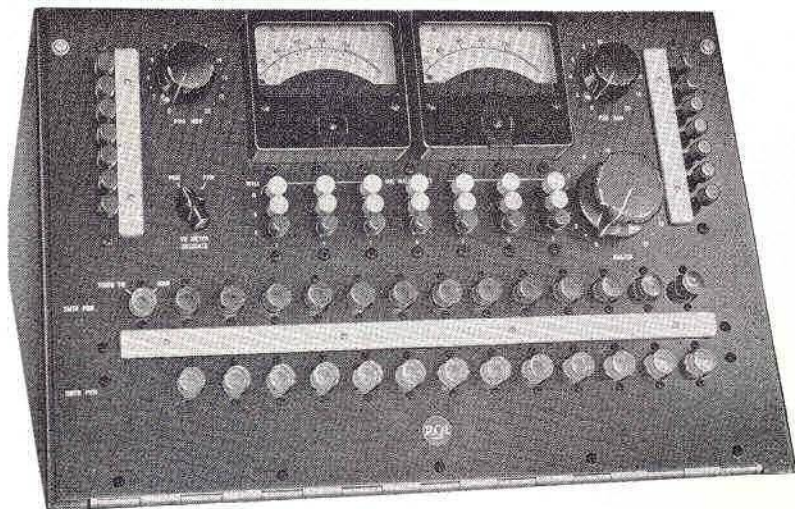


Custom three-channel audio control console shown is designed to match the three-channel master control shown on previous page. The eleven simultaneous mixers on this console and twenty-two on the master console offer exceptional flexibility for an AM-FM station.

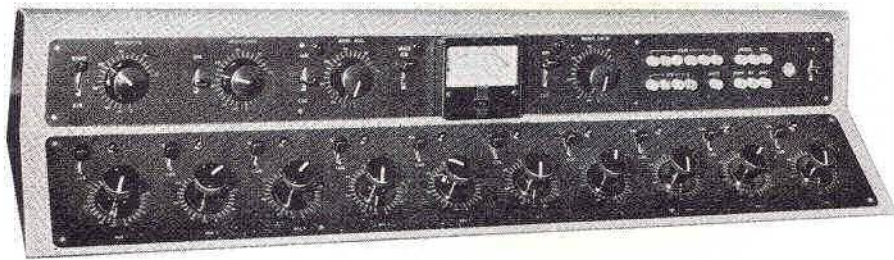
In addition to a comprehensive line of standard studio control equipment, RCA specializes in custom designing and building complete speech-input systems to meet individual needs of stations and networks. Our engineers have worked closely with the nation's leading broadcast engineers in the design, production and installation of many custom equipments, a few of which are pictured on these pages. Studio-control systems such as these are tailor-made, combining just the right facilities for the control of program operations and the reproduction of high-fidelity sound.

Since no two broadcast stations have exactly the same operating requirements, equipment needs will differ for

each installation, ranging from special equipment for small and medium-size stations to more complex systems for the largest installation. In planning new installations, this "Custom-built" equipment service is available to every AM, FM, or Television station, and it includes the services of an entire RCA engineering staff. Broadcast station engineers, in some cases, may wish to lay out and design the system themselves, complete with specifications. In these instances, RCA will provide specifically built units or modify standard equipment to meet these specifications. On the other hand, where stations desire, RCA engineers will study station requirements, make overall and detailed layouts, and draw up specifications for equipment needed.

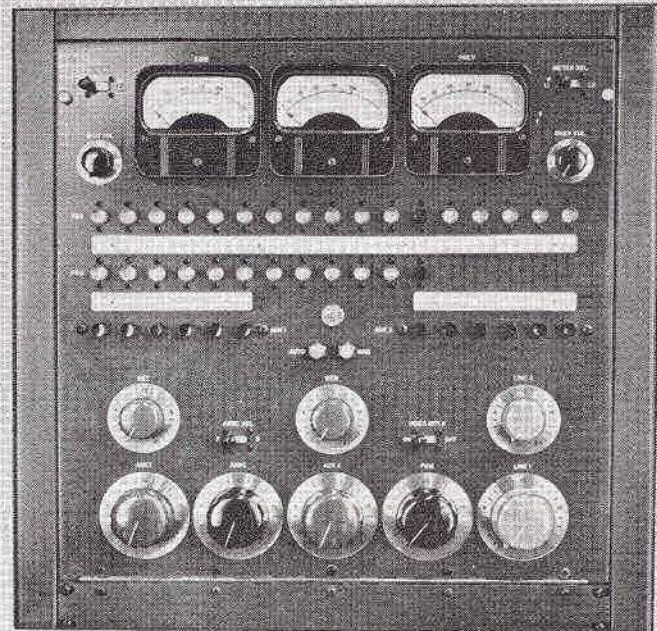
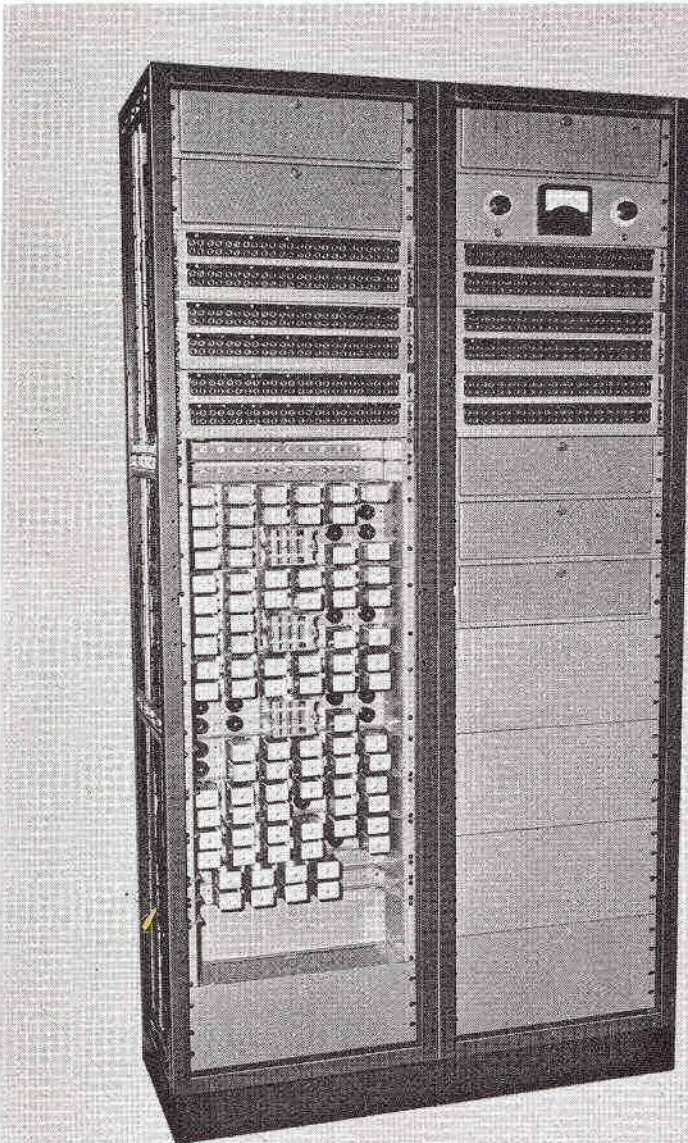


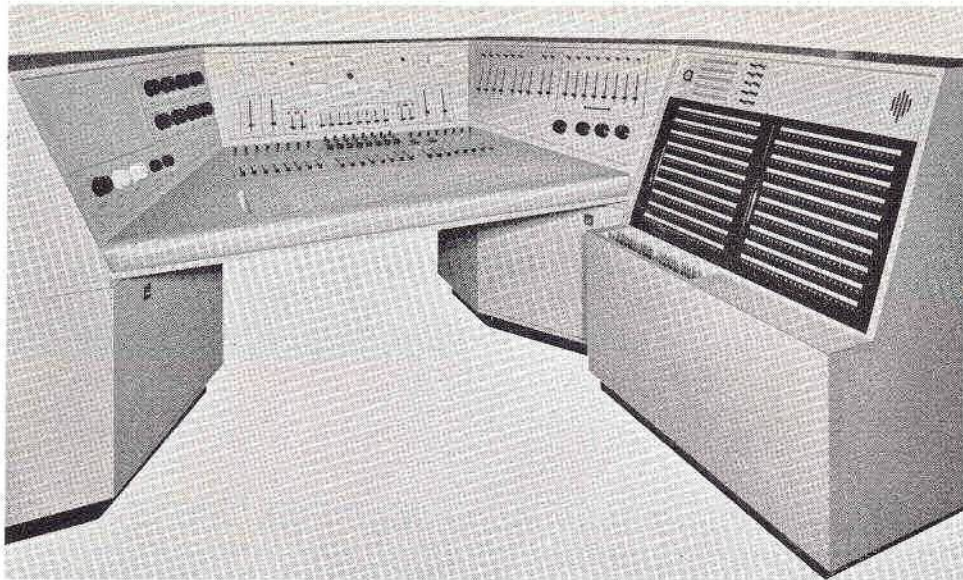
This master control panel with auxiliary microphone inputs and master and monitor gain controls, etc. was designed by RCA for Station WBNS. The console cabinet is designed for desk top mounting next to a standard BC-6B Consolette. The front panel swings out affording complete accessibility.



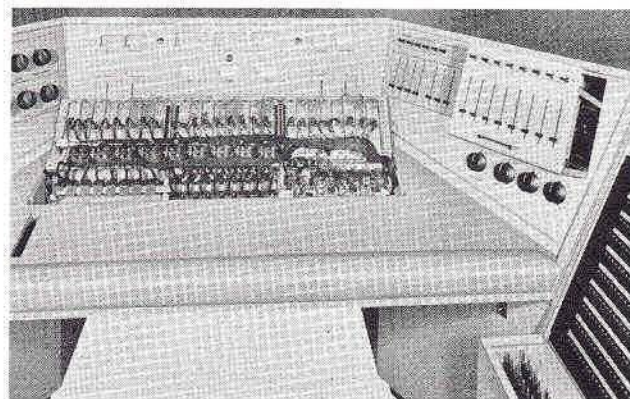
Custom audio control console designed and built for Station KHJ's television studio. It includes complete mixing and cueing facilities for five microphones and an announce microphone, two turntables, one remote and three utility inputs.

Master control audio relay switching system recently installed at Station KSTP. Shown at right is compact control panel designed to fit a standard 22-inch console housing. Three VU meters for line, program and preview, monitor controls, pushbutton controls for preview and program busses and selectable auxiliary fader inputs are shown among other facilities. To the left are rack-mounted facilities including amplifier shelves, jack fields, and relay switcher.

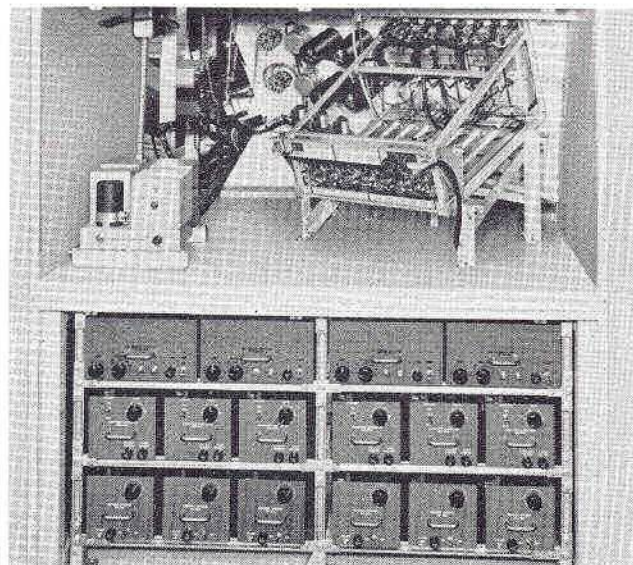




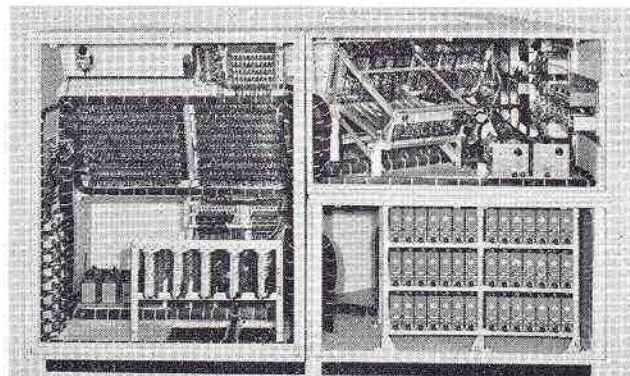
One of five custom master control consoles designed and built by RCA for the American Broadcasting Corporation. The console features solid state circuitry, sound effects controls, sub-mixers, equalizers, echo effects, monitor controls, unitized construction for complete accessibility. The left side of the console contains effects filters, space for another mixer module. In the center is the echo control, sub-master equalizers, VU meters. The desk portion contains mixing faders and submaster controls. To the right the console has monitor, and sound reinforcement controls and mixer module, below are four monitor selector knobs. Additional right housing is the patching wing unit.



Desk top flipped over showing vertical faders, switches, and controls.



Rear view of left wing showing 24 volt power supply, effects filters and spare mixer module above, and four AGC amplifiers, 6 monitor amplifiers and 6 line amplifiers below.



Rear view of patching wing unit showing jack fields, line coils, fixed pads, and terminal blocks. To the right is the rear view of the right wing of the console showing preamplifiers on bottom and above are mixer module and line and bridging coils with two monitor amplifiers.

# Summary of RCA Broadcast Amplifiers

Type	Usage	Max. Gain db	Max. Input dbm	Max. Output dbm	Source Impedance Ohms	Load Impedance in Ohms	Power Requirements	Type Mounting
BA-31A *	Preamplifier	40 Low 46 High	-22/-28	+18	37.5/150/600	150/600	100-130 volts AC 50/60 cycles, 3.5 watts	Shelf
	Isolation Amp. with MI-11278-E/F Bridging Gain Control	3 Low 9 High	30	+18	10,000	150/600	100-130 volts AC 50/60 cycles, 3.5 watts	Shelf
BA-33A *	Program Amp. Line Amp. Isolation Amp. Monitor Amp.	Matching 70 High, 55 Low Bridging 33 High, 18 Low	Matching -20 Bridging +18	+30	150/600	150/600	100-130 volts AC 50/60 cycles, 20 watts	Shelf
BA-34B *	Monitoring Amp. Recording Amp.	104	-30	+40 (10 watts)	37.5/150/600	4/8/16/150/600	100-130 volts AC 50/60 cycles, 25 watts at Rated Output	Shelf
BA-71A *	Preamplifier	40 Low 46 High	-22 Low, -28 High	+18	37.5/150/600	150/600	30 volts DC at 45 ma	Console or Shelf
	Isolation Amp. with MI-11278-E/F Bridging Gain Control	3 Low 9 High	30	+18	1,000	150/600	Use BX-71A Power Supply	
BA-73A *	Program Amp. Line Amp. Isolation Amp. Monitor Amp.	Matching 70 High, 55 Low Bridging 33 High, 18 Low	Matching -20 Bridging +18	+30	150/600	150/600	30 volts DC at 300 ma Use BX-71A Power Supply	Console or Shelf
BA-74A *	Monitoring Amp. Recording Amp.	63	-23	+40 (10 watts)	37.5/150/600	4/8/16/150/600	100-130 volts AC 50/60 cycles, 30 watts	Console or Shelf
BA-78A *	Cue/Intercom Amplifier with AGC	90	-30	+30	150	50/8	117/235 volts AC 50/60 cycles, 8 watts at max. output	Console or Shelf
BA-26A *	Equalized Turntable Preamplifier	—	—	-20 dbm	—	150/600	100-130 volts AC 50/60 cycles, 2 watts	Turntable Cabinet
BA-6A	Limiting Amplifier	54	Minimum at Verge of Limiting -24	+30	150/600	600	100-130 volts AC 50/60 cycles, 150 watts	Chassis or Rack
BA-8A *	Cue Amplifier	53	Matching -24 Bridging +9	+30 (1 watt)	Matching 150/600 Bridging 10,000	3.2	117/235 volts AC 50/60 cycles, 13 watts	Table or Rack
BA-21A	Preamplifier	Matching 40	Matching -10	+18	37.5/150/600	150/600	285 volts DC at 10 ma and 6.3 volts AC or DC at 0.6 amps.	Chassis or Rack
	Isolation Amp. with MI-11278-E or F Bridging Gain Control	Bridging 4	Bridging +40	+18	10,000	150/600	Use BX-21A power supply	
BA-23A	Program Amp. Line Amp. Isolation Amp. Monitor Amp.	Matching 68 Bridging 25	Matching -10 Bridging 27	+30	150/600	150/600	100-130 volts AC 50/60 cycles, 30 watts	Chassis or Rack
BA-24A	Monitoring or Recording Amplifier	104	-30	+40 dbm 10 watts	37.5/150/600	4/8/16/150/600	100-130 volts AC 50/60 cycles, 70 watts	Chassis or Rack
BA-25A	AGC Program Amplifier	70	-25	+30	150/600	150/600	100-130 Volts AC 50/60 cycles, 55 watts	Chassis or Rack
BN-7A *	Remote Portable Amplifier	93.5	-20	+18	150/250 37.5/150 using MI-11776 Input Transformer	600	117/235 volts, 50/60 cycles, 5 watts or battery	Portable Case
BN-6B *	Remote Portable Amplifier	90	-40	+18	150/250 37.5/150 using MI-11776 Input Transformer	150/600	117 volts AC 50/60 cycles, 5 watts or battery	Portable Case
BN-10 *	Remote Amplifier	—	—	+6 VU	Self-contained BK-6 Microphone	600	Battery, self-contained	Handheld

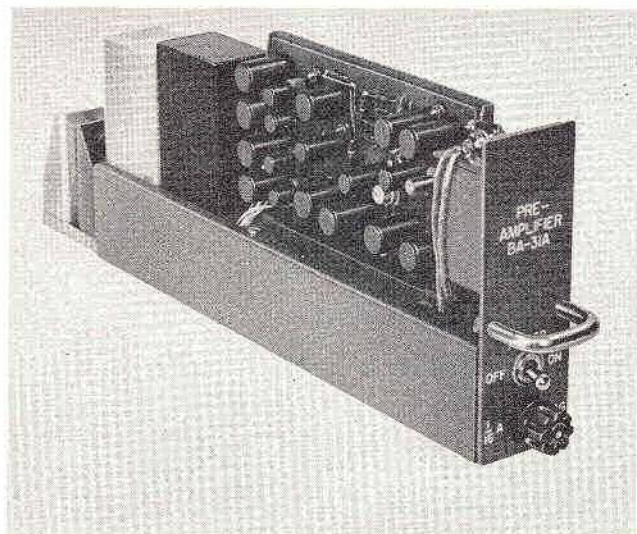
Gain and level references in RCA Amplifier Catalogs are defined as follows: db—refers to gain; dbm—sine wave power measurement referred to 1 mw; VU—refers to average program level as read on a standard VU meter. This value is subject to considerable variation from dbm but is generally considered 10 db below peaks.

\* Transistor types.



# Preamplifier and Isolation Amplifier

## TYPE BA-31A



### DESCRIPTION

The BA-31A Preamplifier is a small, compact unit featuring solid state circuitry and is intended for use as a microphone preamplifier, turntable preamplifier or booster amplifier. With the addition of the MI-11278-E or F volume control kit, which mounts external to the amplifier, the BA-31A is provided with a 20,000 ohm input and may be used as a bridging or isolation amplifier.

Cool operation, achieved by low power dissipation, makes possible a trouble-free, long-life expectancy for this amplifier. Noise level and distortion have been reduced to a very low value through proper circuit design and the use of stabilized feedback. Transistor selection to produce low noise is not required in the BA-31A. The amplifier is constructed with a plug-in type chassis and guide assembly that is designed for mounting on a BR-22 Shelf.

The BA-31A circuit consists of an unloaded input transformer, a two-stage negative feedback amplifier, and a four-transistor output amplifier. The output amplifier drives a transformer which can be strapped for 150 or 600 ohm loads. The power transformer isolates the amplifier from the power line, and an additional transistor in the power supply reduces ripple.

There are two matching gains available—40 or 46 db—selected by a strap. The unit is shipped with the gain strapped for 40 db. The frequency response is better than  $\pm 1$  db from 30 to 15,000 cps (referred to 1000 cps); and the noise level is  $-82$  dbm or  $-76$  dbm max. at output, depending on gain strapping. As a bridging amplifier, the BA-31A has a 9 db max. gain with the volume control at minimum loss position and bridging a 600-ohm line.

### FEATURES

- Transistor design
- Long life expectancy—reduced maintenance
- Cool operation
- Self-contained power supply
- Excellent frequency response
- High gain, low noise circuitry
- Plug-in chassis for shelf mounting

### SPECIFICATIONS

Source Impedance.....	37.5 ohm unbalanced; 150/600 ohm balanced or unbalanced		
Input Impedance			
Matching.....	Unloaded transformer, high in comparison with source impedance		
Bridging.....	20,000 ohms (using external bridging control)		
Load Impedance.....	600 ohms when shipped; may be changed to 150 ohms		
Maximum Input Level—Matching.....	$-22$ dbm low gain strapping $-28$ dbm high gain strapping		
Maximum Input Level—Bridging.....	30 dbm		
Gain Matching.....	$40 \pm 1$ db low strapping (as shipped) $46 \pm 1$ db high strapping		
Gain Bridging.....	3 db low strapping, 9 db high strapping		
Frequency Response.....	Better than $\pm 1$ db from 30 to 15,000 cps (referred to 1000 cps)		
Rated Output Level and Distortion.....	Total rms harmonic distortion at $+18$ dbm output less than 0.5% from 30 to 15,000 cps		
Hum and Noise Level.....	$-82$ dbm or $-76$ dbm max. at output, depending on gain strapping, measured from 30 to 15,000 cps		
Maximum Ambient Temperature.....	$55^{\circ}\text{C}$ ( $131^{\circ}\text{F}$ )		
Transistor and Diode Complement			
1—2N1010	1—2N404	5—2N270	2—1N2069
Fuse.....	1/16 amp. 3AG Slow-Blow		
Power Requirements.....	117 volts, a-c, 50/60 cycles, 3.5 watts (with taps for 105, 115 and 125 volts)		
Overall Dimensions.....	4-21/32" high, 1 5/8" wide, 13 1/2" deep		
Weight.....	3 1/2 lbs.		
Finish.....	Light umber gray lacquer		
Mounting.....	Plug-in mounting on BR-22 Mounting Shelf requires 1/10 of the shelf		

### Ordering Information

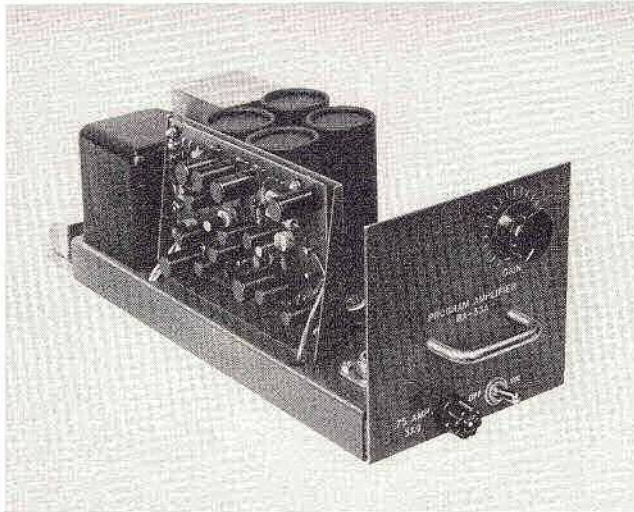
BA-31A Preamplifier (includes transistors and diodes).....MI-11444

### Accessories

Bridging Gain Control Kit	
With Screw-driver Adjustment.....	MI-11278-F
With Knob Adjustment.....	MI-11278-E
BR-22 Mounting Shelf for Rack Mounting.....	MI-11597-A
Spare Transistor and Diode Kit.....	MI-11780
Spare Guide Assembly (with receptacles).....	MI-11594-1

# Program Amplifier

## TYPE BA-33A



### DESCRIPTION

The BA-33A is a high-fidelity Program Amplifier designed for broadcast service. It incorporates solid state circuitry providing the advantages of small, compact design, uniform performance, reduced power consumption and long-life expectancy for the amplifier. The high gain and low distortion of the unit make it an ideal choice for use as a program or line amplifier, bridging amplifier or as an isolation amplifier.

The BA-33A is a plug-in type designed for use with the BR-22B Mounting Shelf. This shelf permits quick, easy removal for servicing or interchanging units. Three BA-33A Program Amplifiers as well as one BA-31A Transistor Pre-amplifier can be accommodated on the mounting shelf. All connections are made through plugs at the back of the amplifier. The mating sockets and guide assembly are supplied with the amplifier. Etched wiring boards are used and the circuitry and all components are readily accessible.

The amplifier circuit consists of a loaded input transformer and a two-stage negative feedback preamplifier, followed by a continuously variable gain control that is adjustable from the front panel. The control connects to a negative feedback output amplifier employing five transistors. The output amplifier, in turn, drives an output transformer. Levels as high as +30 dbm (1 watt) can be supplied at the output. The self-contained power supply consists of a full-wave bridge rectifier and a three-section filter to assure low ripple. A strap is provided for either 55 or 70 db of maximum gain. The unit is shipped strapped for 70 db gain. A bridging pad is built into the amplifier.

### FEATURES

- Transistor circuit design and etched wiring provide uniform performance
- Cool operation
- Long-life expectancy—reduced maintenance
- Self-contained power supply
- Excellent frequency response
- Front panel gain control
- Plug-in chassis for shelf mounting

### SPECIFICATIONS

Source Impedance.....	600/150 ohms, balanced or unbalanced
Input Impedance	
Matching.....	Connected when shipped for 600 ohms; may be re-connected for 150 ohms
Bridging .....	20,000 ohms
Load Impedance.....	600 ohms when shipped; may be changed to 150 ohms
Maximum Input Level	
Matching .....	-20 dbm
Bridging .....	+18 dbm
Frequency Response.....	Better than $\pm 1$ db, 30 to 15,000 cps (referred to 1000 cps)
Maximum Output Level.....	+30 dbm
Harmonic Distortion.....	0.5% rms max. +30 dbm output, 30 to 15,000 cps
Matching Gain	
High Gain Connection.....	70 $\pm 1$ db
Low Gain Connection.....	55 $\pm 1$ db
Bridging Gain	
High Gain Connection.....	33 $\pm 2$ db
Low Gain Connection.....	18 $\pm 2$ db
Maximum Ambient Temperature.....	55°C (131°F)
Noise Level at Output	
High Gain.....	-47 dbm max., 30 to 15,000 cps
Low Gain.....	-62 dbm max., 30 to 15,000 cps
Transistor and Diode Complement	
2-2N1010      2-2N526      3-2N553      4-1N3253	
Power Requirement.....	117 volts, a-c, 50/60 cycles, 20 watts (transformer taps at 105, 115 and 125 V)
Fuse.....	$\frac{3}{8}$ amp 3AG Slow-Blow
Overall Dimensions.....	4-21/32" high, 5" wide, 13 1/2" deep (11.8 cm high, 12.7 cm wide, 34.3 cm deep)
Weight.....	10 lbs. (4.5 kg.)
Finish.....	Light amber gray lacquer
Mounting.....	Plug-in mounting on BR-22B Mounting Shelf, requires 3/10 the shelf

### Ordering Information

BA-33A Program Amplifier (includes transistors and diodes) MI-11446

### Accessories

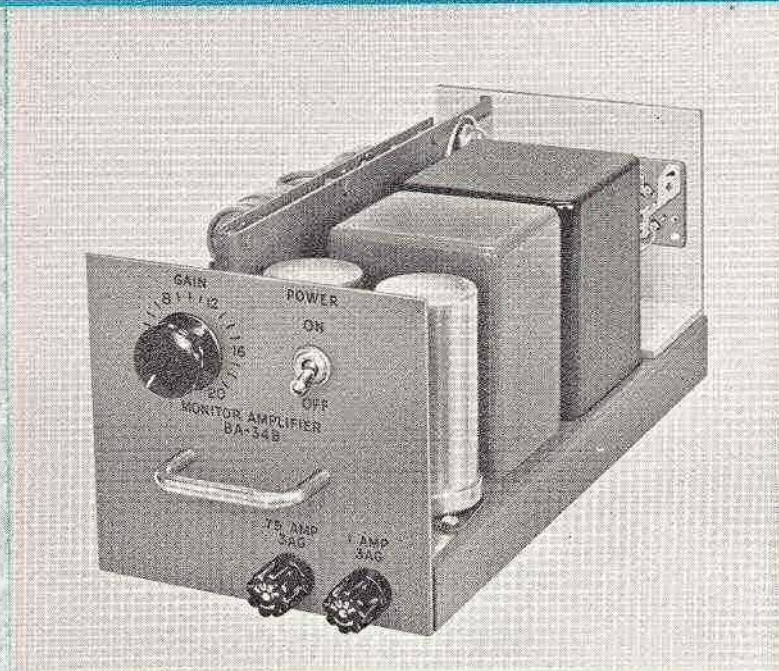
BR-22B Mounting Shelf.....	MI-11597-A
Step Attenuator (20 steps, 2 db per step, 5000 ohm).....	MI-11751-5
Spare Kit of Transistors and Diodes.....	MI-11781-A
Spare Guide Assembly (with receptacles).....	MI-11594-2

# Monitoring Amplifier

TYPE BA-34B

## FEATURES

- Completely transistorized
- Self-contained power supply
- High-gain—will accept microphone input level
- 10 watt output with very low distortion
- Plug-in chassis for shelf mounting
- Ideal for all broadcast monitoring
- Small, compact, with low heat dissipation



## DESCRIPTION

The BA-34B Monitor Amplifier is a high fidelity amplifier, having 104 db gain and delivering a full 10 watts of audio power output. It is particularly designed for monitoring, audition, recording and "talk-back" applications. It may also be used as a program or a line amplifier for emergency use. It is ideal for playback of transcriptions and will operate an LC-1A speaker directly from the output of an equalized cartridge. The BA-34B is small in size and is designed for convenient plug-in installation in the BR-22 mounting shelf using the guide assembly supplied with the amplifier.

The use of transistors throughout the BA-34B provides a number of advantages including: small, compact design, low heat dissipation, greatly reduced power consumption and trouble-free, long-life expectancy for the amplifier. Power requirements have been reduced to 25 watts with corresponding low heat dissipation, and economical performance.

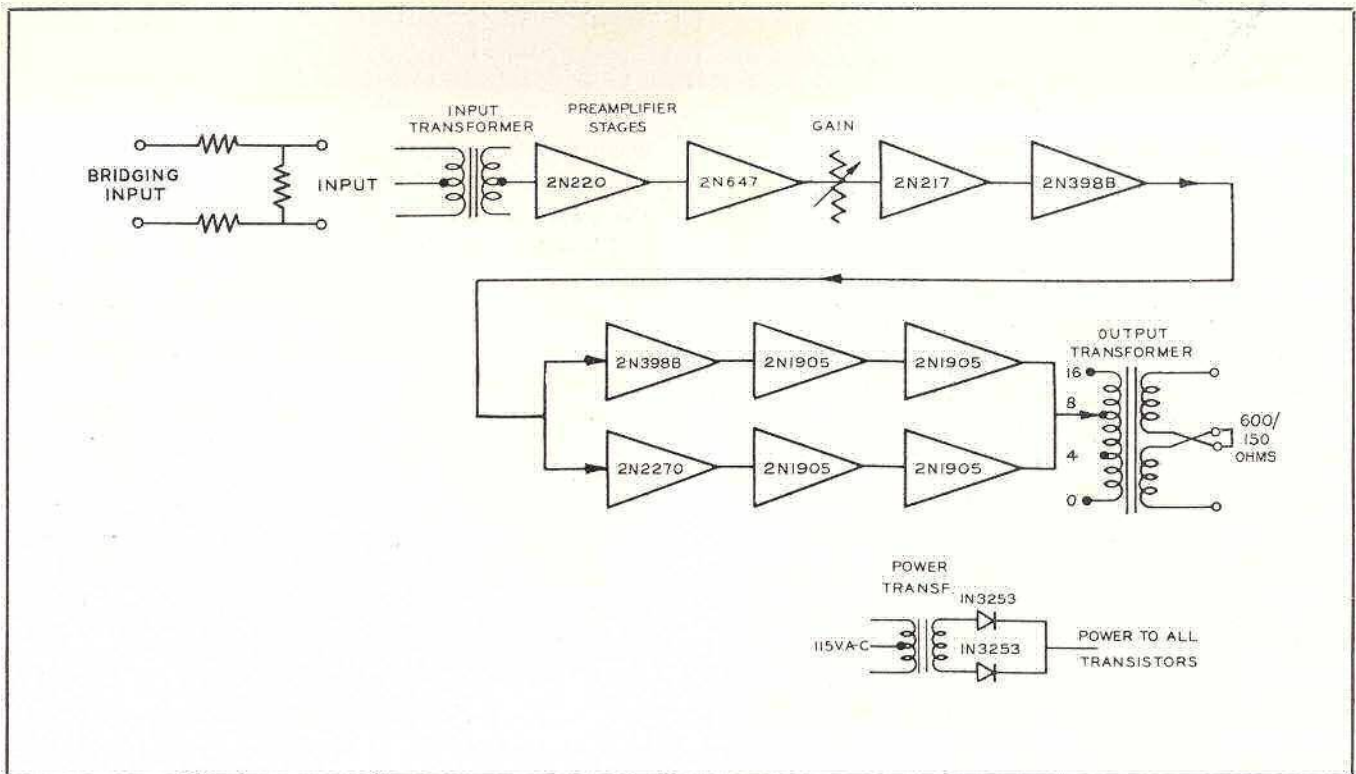
The circuit design of the Monitoring Amplifier is simple and straightforward. All circuit functions are accomplished by ten transistors, and two diodes which are used in the self-contained d-c power supply.

The BA-34B consists of two basic amplifiers, the first a two-stage preamplifier which connects through a gain-control to the input of a multistage power amplifier. The input preamplifier, having an unloaded input transformer

can be connected for 37.5, 150 or 600 ohm sources. A bridging volume control or the self-contained bridging pad may be used for high level inputs. Negative feedback stabilizes the gain of the two-transistor preamplifier.

Following the preamplifier are two low-level stages, followed by a dual transistor phase splitter, dual transistor driver, and dual class "B" output transistors which are in series with the driver. A thermistor adjusts the idling current of the output stage to compensate for temperature changes. Taps on the output transformer match 4, 8 and 16 ohm unbalanced loads as well as 150 and 600 ohm balanced loads. By using three separate feedback paths, the distortion drops to a low level. Long life silicon diodes are used in the self-contained power supply. Two fuses serve to protect the transistors and rectifiers from damage by an accidental short-circuit.

All controls are located on the front panel including the interstage gain control knob, a power ON-OFF toggle switch and two fuses—one a  $\frac{3}{4}$  amp AC line fuse, the other a 1 amp. DC fuse. The entire amplifier is mounted on a plug-in type chassis. Connections to the BA-34B are made through two 8-prong blue ribbon connectors at the back of the amplifier which plugs into a socket supplied with the mounting assembly. All input connections are made through one plug, the output and a-c power through the other.



Block Diagram of BA-34B Monitoring Amplifier.

## SPECIFICATIONS

Power Required.....100-130 volts, 50/60 cps,  
30 watts at rated output, 10 watts (approx.) at normal speaker  
volume. Taps at 105, 115 and 125 volts

Source Impedance.....150-ohm balanced source when shipped;  
may be reconnected to operate from a 600 ohm balanced or  
unbalanced, or a 37.5 ohm unbalanced source.

### Input Impedance:

Matching.....Unloaded input transformer,  
input impedance higher than source impedance for all frequencies  
from 30 to 15,000 cps

Bridging.....50,000 ohms

Load Impedance.....150/600 ohms balanced or unbalanced  
4/8/16 ohms unbalanced

### Maximum Input Level:

Matching.....-30 dbm

Bridging.....+20 dbm

### Maximum Gain:

Matching.....103 db,  $\pm 2$  db

Bridging.....53 db,  $\pm 2$  db

Average Power Output.....10 watts (+40 dbm) max.

Frequency Response..... $\pm 2$  db 30-15,000 cps

Noise Level (with 15 kc bandwidth).....-120 dbm referred to input  
-17 dbm at output at 103 db gain

Harmonic Distortion.....At 10 watt output (40 dbm)  
and -30 dbm input less than 1%, 50 to 15,000 cps

Ambient Temperature.....55°C max. (131° F)

Fuses......75 amp 3AG (AC)  
1.0 amp 3AG (DC)

### Transistor and Diode Complement:

1-2N217, 1-2N647, 2-1N3253, 1-2N220, 4-2N1905,  
2-2N398B, 1-2N2270

Dimensions, Overall.....Length 13 $\frac{1}{8}$ " width 5", height 4-31/32"

Weight.....11 $\frac{3}{4}$  lbs.

Mounting.....Plug-in mounting on BR-22B Mounting shelf, requires  
3/10 of space, three amplifiers may be mounted on each shelf

## Ordering Information

BA-34B (includes transistors and diodes).....MI-11437-B

## Accessories

BR-22B Mounting Shelf (mounts 3 BA-34B's).....MI-11597-A

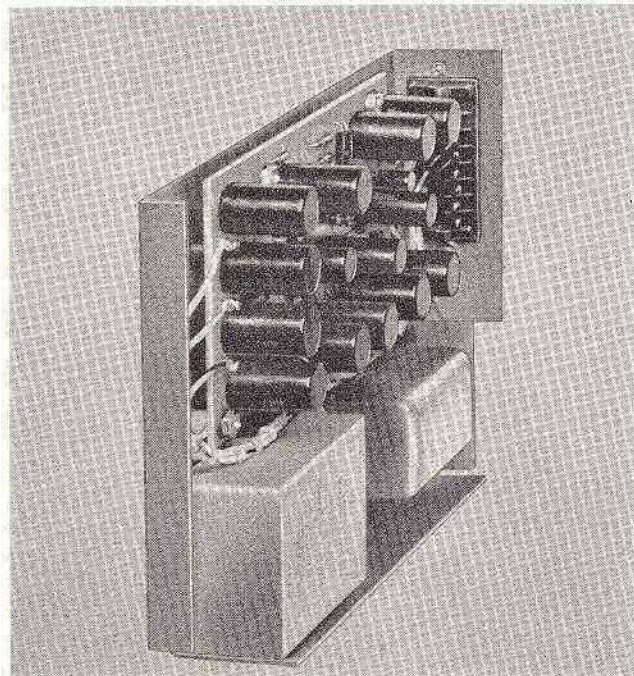
Bridging Volume Control.....MI-11278-E/F

Spare Kit of Transistors and Diodes.....MI-11782-A

Spare Guide Assembly.....MI-11594-3

# Consolette Preamplifier

## TYPE BA-71A



### FEATURES

- Compact design—solid state circuitry
- Extremely low noise
- Minimum distortion
- Full range frequency response
- Companion program amplifier and power supply
- Convenient plug-in design

### DESCRIPTION

The BA-71A is one of a series of transistorized amplifiers especially designed for use in consolettes or custom built audio systems. The BA-71A may be plugged directly in RCA consolettes such as the BC-7, BCM-2A and other types designed for its use or it may be used in custom audio applications when plugged into Accessory Guide Assembly MI-11759-1. The Guide Assembly with mating receptacle may be attached to a BR-22 shelf or mounted in any enclosure used in custom construction.

The BA-71A is designed primarily as a microphone pre-amplifier, but may also be used as an isolation or bridging amplifier with the addition of an externally mounted MI-11278-E or F volume control. The transistor circuitry is identical to the BA-31A preamplifier except that it does not contain a built in power supply. A single BX-71A power supply is used to power up to 22 BA-71A pre-

amplifiers. The BA-71A will deliver a +18 dbm output with not more than 0.5% distortion.

The use of transistors results in long life, low maintenance, and freedom from microphonics. The high output level of +18 dbm reduces the likelihood of overloading due to occasionally high microphone levels. Negative feedback is used to stabilize gain and reduce distortion to a very low level.

Two matching gains are available, 40 or 46 db selected by a strap. The unit is shipped with the gain strapped for 40 db. The frequency response is better than  $\pm 1$  db from 30 to 15,000 cps (referred to 1000 cps) and the noise level is -82 dbm or -76 dbm maximum at output, depending on gain strapping. As a bridging amplifier the BA-71A has a 9 db maximum gain with the volume control at minimum loss position and bridging a 600-ohm line.

### SPECIFICATIONS

Source Impedance.....37.5 ohm unbalanced; 150/600 ohm balanced or unbalanced

Input Impedance:

Matching (unloaded input transformer).....Connected when shipped for 150 ohms. May be reconnected for 37.5 or 600 ohms

Bridging (using external bridging control).....20,000 ohms

Maximum Input Level:

Matching.....-22 dbm low gain strapping  
-28 dbm high gain strapping

Gain:

Matching.....40 db  $\pm 1$  db low gain strapping (as shipped)  
46 db  $\pm 1$  db high gain strapping

Bridging.....3 db low gain strapping, 9 db high gain strapping

Frequency Response.....Better than  $\pm 1$  db from 30 to 15,000 cps (referred to 1000 cps)

Rated Output Level and Distortion.....Total rms harmonic distortion at +18 dbm output less than 0.5% from 30 to 15,000 cps

Hum and Noise Level.....-82 dbm or -76 dbm max. at output depending on gain strapping, measured from 30 to 15,000 cps; -122 dbm referred to input 50/15,000 cps

Power Requirements.....30 volts, 45 ma from BX-71A

Transistor Complement:

1-2N1010, 1-2N404, 4-2N270

Maximum Ambient Temperature.....55°C (131°F)

Finish.....Cadmium plate with clear chromate dip

Mounting.....Plug-in for BC-7 Consolette;

Up to 10 Preamplifiers can be mounted on BR-22 shelf equipped with MI-11759-1 Guide Assemblies

Dimensions Overall.....7 $\frac{5}{8}$ " long, 4 $\frac{3}{8}$ " high, 1 $\frac{3}{8}$ " wide  
Weight.....2 $\frac{1}{4}$  lb.

### Ordering Information

BA-71A Consolette Preamplifier with transistors in place, less Guide Assembly.....MI-11658

BA-71A Consolette Preamplifier complete with transistors and Guide Assembly.....ES-11158

### Accessories

Guide Assembly for BA-71A Transistor Preamplifier.....MI-11759-1

Bridging Gain Control Kit:

With Screw-driver Adjustment.....MI-11278-F

With Knob Adjustment.....MI-11278-E

BR-22 Mounting Shelf for Rack Mounting

1 to 10 Preamplifiers.....MI-11597-A

# Consolette Program Amplifier

## TYPE BA-73A

### FEATURES

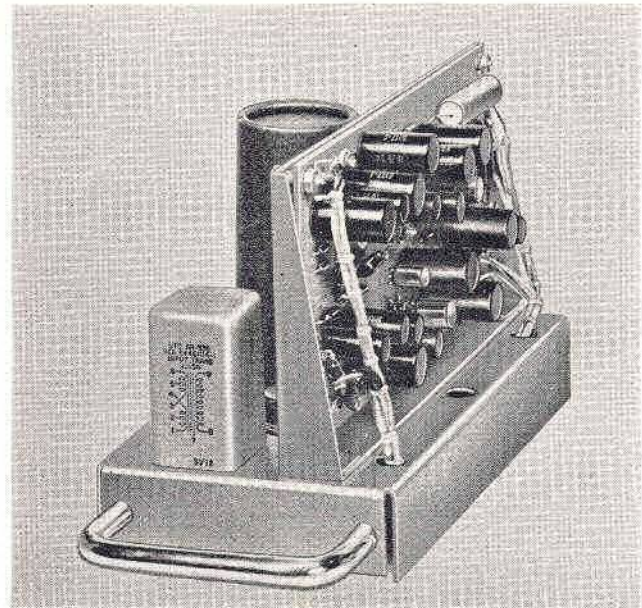
- High gain, low distortion
- Ideal for custom applications
- Very low noise level,  $-122$  dbm
- Frequency response better than  $\pm 1$  db, 30 to 15,000 cycles
- Provisions for external volume control
- Accessory plug-in guide assembly for shelf mounting
- Solid state circuitry

### DESCRIPTION

The BA-73A Program Amplifier is designed for use as a high-quality booster or program amplifier. There is provision for adding an external volume control which may be used as a Master Fader. Input and output transformers provide circuit isolation.

The BA-73A is one of a series of transistor amplifiers designed to plug-in directly into RCA consolettes such as the BC-7, BCM-2A and others. Accessory Guide Assembly, MI-11759-2 with mating receptacles permits the BA-73A to be mounted in a BR-22 Shelf or any enclosure used in custom construction. Up to three Program Amplifiers as well as one BA-71A Consolette Preamplifier can be accommodated on the BR-22 Shelf. Power for the amplifier is supplied by the Type BX-71A Power Supply. Up to three amplifiers may be operated by one BX-71 supply.

The BA-73A Amplifier incorporates full transistor circuitry providing the advantages of small, compact design, uniform performance, reduced power consumption and long life expectancy for the amplifier. The high gain and low distortion of the unit make it an ideal choice for any audio system. Etched wiring boards are used and all circuitry and components are readily accessible.



### SPECIFICATIONS

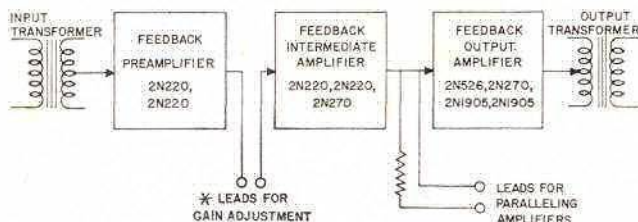
Source Impedance.....	150/600 ohms, balanced or unbalanced
Input Impedance:	
Matching.....	Input transformer unloaded, with impedance higher than source impedance. Connected when shipped for 600 ohms; may be reconnected for 150 ohms
Load Impedance.....	Connected for 600 ohms when shipped; may be changed to 150 ohms
Maximum Input Level:	
Unloaded Input.....	$-30$ dbm
Loaded Input.....	$-24$ dbm
Frequency Response.....	Better than $\pm 1$ db, 30 to 15,000 cps (referred to 1000 cps)
Rated Output Level.....	$+24$ dbm
Harmonic Distortion.....	Less than 0.5% rms $+24$ dbm output, 50 to 15,000 cps. Less than 0.25 at 1 kc, 24 dbm output
Gain:	
Unloaded Input.....	$.92 \pm 1$ db
Matching Input.....	$.86 \pm 1$ db
Noise Level.....	$-122$ dbm referred to the unloaded input
Power Requirements.....	.30 volts, 300 ma drain from BX-71A
Transistor Complement (supplied in place):	4-2N220, 2-2N270, 1-2N526, 2-2N1905
Ambient Temperature.....	$55^{\circ}\text{C}$ ( $131^{\circ}\text{F}$ )
Overall Dimensions.....	9" long, 3 $\frac{3}{4}$ " wide, 4 $\frac{5}{8}$ " high
Weight.....	4 lbs.
Finish.....	Cadmium plate with clear chromate dip

### Ordering Information

Type BA-73A Consolette Program Amplifier with transistors in place and less Guide Assembly.....	MI-11659-A
Type BA-73A Consolette Program Amplifier and Guide Assembly.....	ES-11159

### Accessories

Shelf Guide Assembly for BA-73A Amplifier.....	MI-11759-2
BR-22 Mounting Shelf.....	MI-11597-A
Step Attenuator (external).....	MI-11751-5
BX-71A Transistor Power Supply.....	MI-11663-A

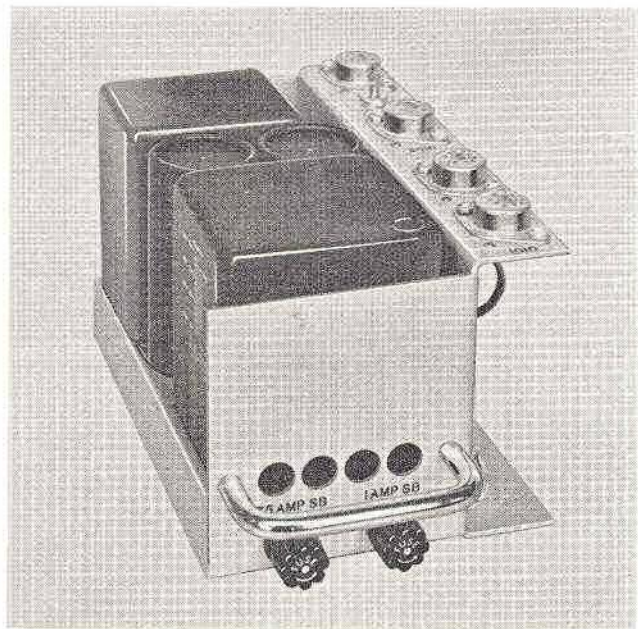


\* Use external accessory gain control for adjustable gain, or 2 fixed resistors for fixed gain.

(Connects to Mode Switch in BC-7 Consolette)

# Consolette Monitor Amplifier

TYPE BA-74A



## FEATURES

- Solid state circuitry
- Self-contained power supply
- 10 watt output—very low distortion
- Small, compact, with low heat dissipation
- Plug-in guide assembly with mating plugs for custom applications

## DESCRIPTION

The BA-74A Consolette Monitor Amplifier is designed for monitoring, audition and "talk back" applications. This high fidelity amplifier has 63 db gain and delivers a full 10 watts of audio power output. It may also be used as a program or a line amplifier.

The BA-74A is one of a series of matched transistorized plug-in amplifiers specifically designed for console and custom applications. It can be plugged into the BC-7A or other consoles or installed on the BR-22 mounting shelf with the aid of Accessory Mounting Guide, MI-11759-3. Three BA-74A Amplifiers may be mounted on one shelf. Its small size makes it very useful in many custom applications.

The circuit design of the Monitor Amplifier is simple and straightforward. All circuit functions are accomplished by 8 transistors and two diodes. The use of solid state components provides a number of advantages including: small, compact design, greatly reduced power consumption and

trouble-free, long-life expectancy for the amplifier. The power requirement is only 30 watts with corresponding low heat dissipation and economical performance.

## SPECIFICATIONS

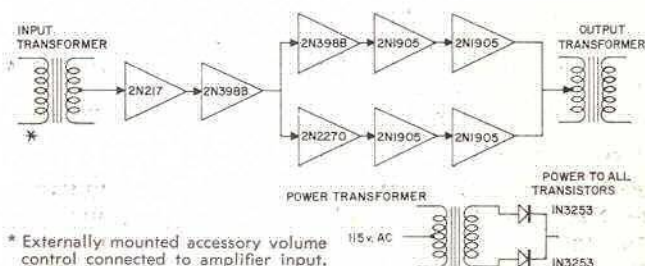
Source Impedance.....	600/150 ohms
Input Impedance.....	600/150 ohms nominal
Load Impedance.....	4/8/16/150/600 ohms
Maximum Input Level.....	-23 ±2 dbm
Maximum Gain.....	63 ±2 db
Frequency Response.....	+0, -2 db 30-10,000 cps 4, 8 and 16 ohms
	+0, -2 db 30-10,000 cps, +0, -3 db 10,000 to 15,000 cps
	150 and 600 ohms
Maximum Output Level.....	10 watts (40 dbm)
Harmonic Distortion.....	Less than 1% 50-15,000 cps at 10 watt output level
Noise Level.....	-47 dbm maximum, -50 dbm typical
Power Requirements.....	100-130 V, a-c, 50/60 cycles, 30 watts, (with taps for 105, 115 and 125 volts)
Transistor and Diode Complement (supplied in place):	
	2-1N3253, 4-2N1905, 2-2N398B, 1-2N2270, 1-2N217
Ambient Temperature.....	55°C (131°F) max.
Mounting.....	On guide strip provided with BC-7 console or using Guide Assembly MI-11759-3 for installation on BR-22 mounting shelf
Finish.....	Cadmium plate with clear chromate dip
Dimensions Overall.....	.97/8" long, 5" wide, 4 5/8" high
Weight.....	11 lbs.

## Ordering Information

Type BA-74A Consolette Monitor Amplifier,	
less Guide Assembly.....	MI-11661-A
Type BA-74A Consolette Monitor Amplifier	
with Guide Assembly.....	ES-11161

## Accessories

Shelf Guide Assembly for BA-74A Monitor Amplifier.....	MI-11759-3
BR-22 Mounting Shelf (mounts 3 BA-74A's).....	MI-11597-A
Bridging Volume Control:	
With Screwdriver Adjustment.....	MI-11278-F
With Knob Adjustment.....	MI-11278-E



\* Externally mounted accessory volume control connected to amplifier input.

# Transistor Cue/Intercom Amplifier

## TYPE BA-78A

### FEATURES

- Solid state circuitry
- Automatic gain control
- Self-contained power supply
- High gain—full output with mic level input
- One watt (+30 dbm) output with AGC
- Small compact design
- Console or shelf mounting

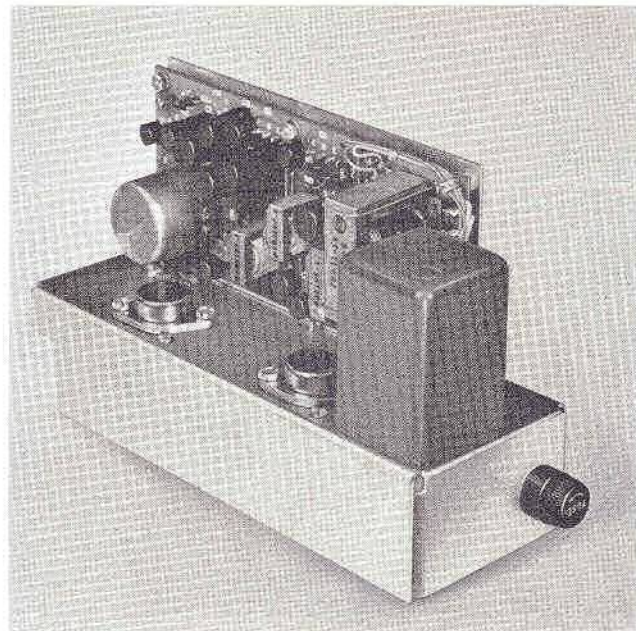
### DESCRIPTION

The Type BA-78A Cue/Intercom Amplifier is a compact chassis-mounted equipment featuring solid state circuitry, automatic gain control and self contained power supply. It is designed specifically for plug-in use with the BC-7A transistor, consolette for intercom and cueing purposes. However, it may also be shelf mounted by use of accessory guide assembly, MI-11759-5.

The principal feature of the BA-78A is its ability to maintain essentially constant output for a wide variation of input level. Automatic gain control action is maintained over greater than a 25 db range. Output level changes are limited to approximately 1/2 db for each 5 db input change over most of the operating range. The BA-78A amplifier is nominally a 1 watt amplifier but has an output capability of approximately 4 watts; therefore, with the average output automatically regulated to about a one watt level, there is ample reserve power to handle speech peaks without objectionable clipping and to produce a loud enough signal to be heard at a considerable distance.

The normal output impedance of the BA-78A is 50 ohms to operate directly into a MI-38303 50-ohm combination microphone/speaker. Thus a suitable line impedance is provided without the necessity of extra line transformers. An 8 ohm output tap is also provided for special applications. The input impedance of the BA-78A is nominally 150 ohms and is designed to be operated directly from the MI-38303 micro/speaker, however, the 150 ohm input impedance is suitable for operation from a normal microphone. The gain of the BA-78A is approximately 90 db making it suitable for use with a BK-6B, SK-39, SK-45, BK-1A or similar announce microphone.

The BA-78A has a self-contained power supply with taps for 115V or 230V 50-60 cps operation making it easily adaptable to general applications independent of the BC-7A Consolette. Its relatively high power, high quality output makes it useful with other loudspeakers for applications where a communication channel with AGC would be advantageous.



### SPECIFICATIONS

Power Required.....	115/230 volts, a-c, 50/60 cycles, 5 watts nominal
Source Impedance.....	50-150 ohms
Input Impedance.....	150 ohms nominal with center tap
Load Impedance.....	50 ohms floating, 8 ohms unbalanced
Effective Input Level.....	-60 dbm min. for verge of AGC action -30 dbm max. handled by AGC action
Output Level.....	Nominally set at 1 watt average (+30 dbm) by AGC action (Approx. 4 watts max. with program material)
AGC Action.....	Approx. 1/2 db change in output level for each 5 db change in input level throughout operating range of at least 25 db
Gain.....	90 db with no gain reduction 65 db with max. gain reduction
Frequency Response.....	Better than +1 1/2 db, 100 to 8,000 cps
Distortion.....	2 1/2% or less above 400 cps; approx. 4% at 100 cps
Noise Level.....	At least 60 db below max. output (with no gain reduction)
Hum Level.....	-35 db or better at output of amplifier
Transistor and Diode Complement:	
Dimensions Overall.....	4 3/8" high, 3" wide, 8 3/8" deep
Weight.....	3 lbs. approx.
Finish.....	Cadmium plate

### Ordering Information

Type BA-78A Cue Amplifier, less guide assembly.....	MI-11662
Type BA-78A Cue Amplifier and Guide Assembly.....	ES-11162

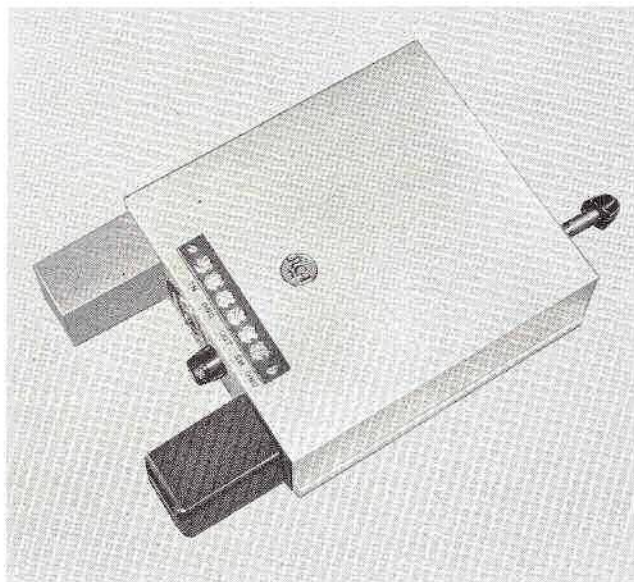
### Accessories

Guide Assembly for BA-78A Cue Amplifier.....	MI-11759-5
Type BR-22B Mounting Shelf.....	MI-11597-A



# Pickup Equalizer-Preamplifier

## TYPE BA-26A



### DESCRIPTION

The RCA Type BA-26A Pickup Equalizer-Preamplifier is designed to provide both amplification and equalization of the output of studio transcription turntables employing RCA MI-11865 Universal Cartridge and MI-11866 Series Styli. Low Impedance Broadcast types of variable reluctance Pickup Heads may be used by making a minor change in terminal connections of the BA-26A.

The equipment employs RCA low-noise type transistors in a three-stage amplifier utilizing selective feedback to achieve NAB/RIAA equalizing curve. A self-contained a-c power supply utilizing germanium rectifier provides essentially noise-free operation.

The Type BA-26A Pickup Equalizer-Preamplifier, MI-114436, is a compact transistor preamplifier with built-in equalization that conforms to industry standards. It has etched wiring assemblies contained in a shielded metal chassis which is designed to be mounted inside the turntable cabinet. A convenient slip-on cover is provided to allow access to component parts and transistors. An extended threaded shaft on a three-position filter switch allows ease of control from a knob on the top of the turntable. The switch provides for normal equalization, high frequency emphasis, and high frequency cut-off. This arrangement allows optimum performance for either AM, FM or TV broadcast operation.

The Equalizer-Preamplifier is conservatively designed for long life. The RCA Type 2N175 low-noise transistor is used in the input stage followed by two Type 2N109

transistors to provide the required gain and output capabilities. One Type 1N91 germanium rectifier is used in the a-c power supply. The unit exhibits complete freedom from microphonics that result from the use of vacuum tubes. An output transformer is employed to provide either balanced or unbalanced output impedances of 150 and 600 ohms. Etched wiring boards are utilized to provide stable trouble-free operation of the unit. By utilizing selective feedback within the amplifier itself it is unnecessary to use inductances to accomplish low-frequency equalization.

### SPECIFICATIONS

Output Level ( $E_{in} = 11$ mv at $f$ of 1000 cps).....	-20 dbm $\pm 2$ db
Distortion at -20 dbm from 50 to 15,000 cps.....	Less than 1.5%
Signal to Noise Ratio (Output level of -20 dbm and 150 ohm Resistor used at Input & Output).....	Better than 58 db
Output Impedance (balanced or unbalanced).....	150/600 ohms
Frequency Response.....	Standard RIAA equalization
Power Requirements.....	3 Taps: 105/115/125 volts a-c, 50/60 cycles, single phase, 2 watts

#### Dimensions (overall):

Height (including extended knob shaft).....	10 $\frac{3}{4}$ "
Width .....	2 $\frac{1}{2}$ "
Depth .....	6 $\frac{5}{8}$ "
Weight .....	4 lbs.

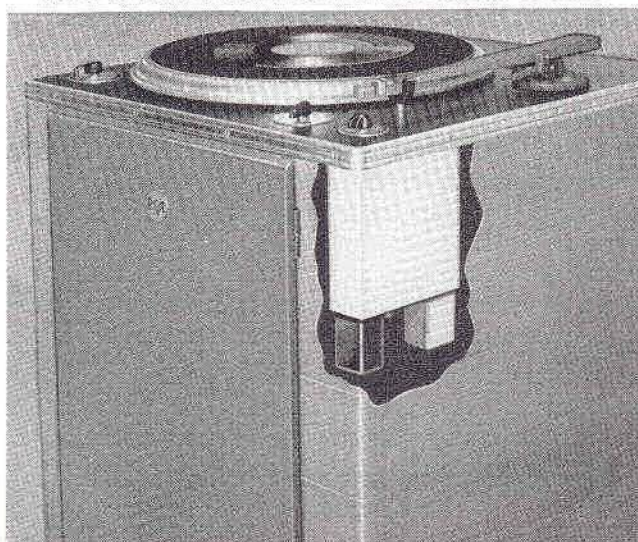
### Ordering Information

BA-26A Equalizer-Preamplifier (includes transistors and rectifier).....	MI-11436
--	----------

### Accessory

Transistor & Rectifier Kit including 2 Type 2N109 Transistors, 1 Type 2N175 Transistor, and 1 Type 1N91 Rectifier.....	MI-11779
---	----------

The BA-26A Equalizer-Preamplifier can be mounted in either the BQ-2C Turntable as shown below or in the BQ-51A Turntable.

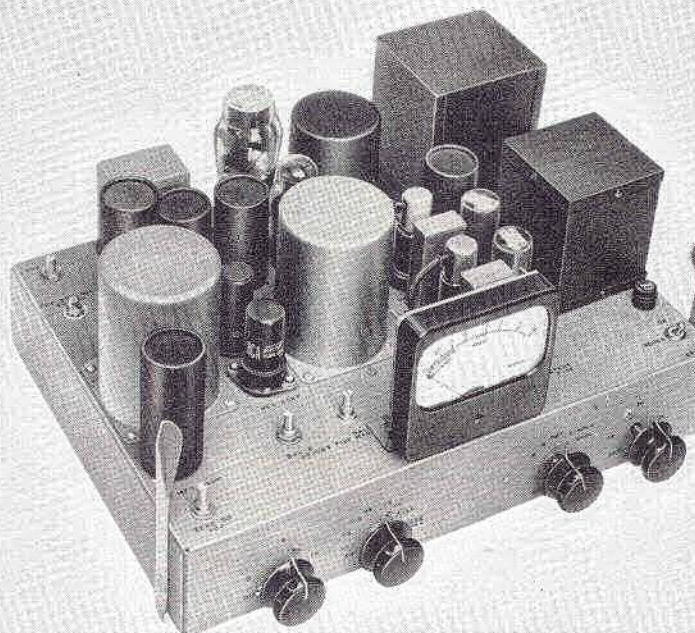


# Limiting Amplifier

TYPE BA-6A

## FEATURES

- Prevents distortion and adjacent channel interference
- Low cost—high-quality performance
- Provides for a more effective use of transmitter power
- Compact, plug-in unit—requires little rack space
- Complete rotary switch selection of metering of all key functions



## DESCRIPTION

The BA-6A Limiting Amplifier has been designed to provide economical, yet high-quality operation in the speech input channels of FM and AM broadcast and TV sound transmitters. It serves as an automatic means of limiting the audio signal peaks to a certain pre-determined level thereby preventing overmodulation or overloading with its consequent distortion and adjacent channel interference. This amplifier also provides for a more effective use of transmitter power by allowing the system to be operated as near maximum output as possible. It raises the average percentage modulation level several db without appreciably increasing the harmonic distortion.

The limiting characteristics of the BA-6A also readily adapt it for use in any recording application. For this use, it prevents over-modulation of the recording medium on heavy passages of music or speech and permits a marked improvement in the signal to noise ratio.

The BA-6A is a balanced, three-stage amplifier which uses commonly available tube types that do not require special selection or matching. The use of high-quality components

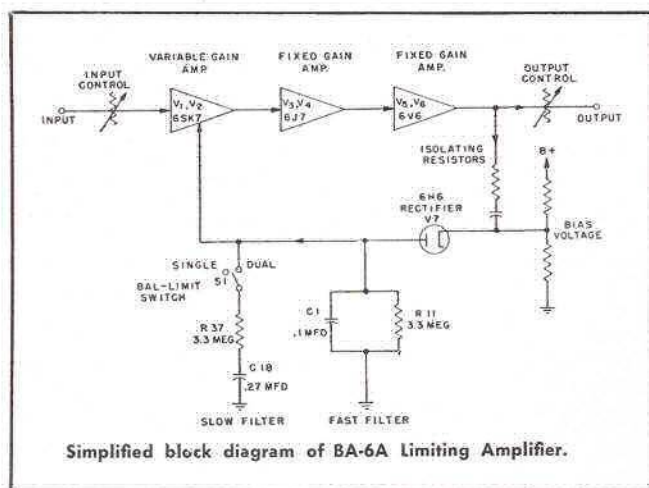
and the straightforwardness of design, employing only 9 tubes including rectifier and voltage regulator, insure a maximum degree of reliability. Fewer tubes, fewer types (only 6) and fewer stages of simplified design result in lower tube costs, low initial cost and reduced power input requirements. The amplifier with its self-contained power supply is constructed on a plug-in chassis for shelf mounting and is therefore readily removable for inspection and service. All controls, tubes, and plug-in capacitors are accessible from the front.

A rotary selector switch permits use of the four-inch illuminated meter for measuring gain reduction, the cathode current of all amplifier tubes, tube balance and d-c filament voltage. Plate and heater power are available for operating a pre-amplifier in applications where additional gain is required. The rotary switch (BAL-LIM) provided on the front panel also permits selection of a filter with either a single or dual time constant. In the "single" position the attack time is 0.0006 seconds. In the "dual" position the recovery time is lengthened to two seconds on sustained peaks.

The input transformer matches a 600 and 150-ohm line. A dual attenuator controls the input signal which is applied to the control grids of two 6SK7 remote cut-off pentodes of the variable gain stage. To minimize "thump" over a wide range of gain reduction, both the screen and cathode voltages of these tubes are adjustable and thus any pair of tubes may be balanced over the entire operating range. Switches on the front panel permit making the balancing adjustments quickly and without external equipment by applying an internal 60-cycle signal to the 6SK7 grids and using the front-panel meter to indicate balance.

As an additional means of maintaining balance, the first stage is transformer coupled to the second stage. The output stage is capable of delivering 10 watts to an adjustable 600-ohm output attenuator pad which is calibrated in 1 db steps. A continuous fine output adjustment is also provided to set the output level exactly. This is an important feature since a fraction of a db change in output level might result in a large increase of distortion in certain types of transmitting equipment. A full wave rectifier, connected to the output stage through coupling capacitors and isolating resistors, provides the gain control voltage.

Step-by-step input and output volume controls are provided. These controls are equipped with "dbm" scales to indicate input and output levels at the verge of compression. Auxiliary adjustable controls are: (1) hum balance, (2) zero adjustment of gain reduction meter scale, (3) vernier control for output level, (4) balance, and (5) heater voltage. It also provides two positions for balancing of tubes in the first stage. A power switch and fuse are provided. For rack mounting the MI-11599 Shelf should be used. A special umber gray door panel with meter cut-out is supplied with the BA-6A amplifier.



## SPECIFICATIONS

Source Impedance.....	600/150 ohms
Input Impedance.....	600/150 ohms, balanced or unbalanced
Load Impedance.....	600 ohms
Frequency Response:	
(30 to 15,000 cps, 1000 cps reference)	
Below verge of limiting.....	+1 db
Up to 20 db gain reduction.....	+1 to -2 db
Input Level:	
Minimum (at limiting verge).....	-24 dbm
Maximum.....	+14 dbm
Output Level:	
Maximum (limiting off) at 1000 cps.....	38.5 dbm
At verge of limiting with output controls in minimum attenuation position.....	29.5 dbm ±1 db
Gain.....	54 db ±1 db at 1000 cps, 600-ohm source to 600-ohm load
Gain Controls:	
Input.....	20 steps, 2 db per step
Output.....	20 steps, 1 db per step and fine adjustment
Signal-to-Noise Ratio.....	83 db at verge of limiting
Harmonic Distortion (Total RMS)	
at 15 db gain reduction.....	Less than 1% from 100-15,000 cps
Below limiting verge.....	Less than 0.6% 50-15,000 cps Less than 1.2% 30 cps
Limiting Characteristic:	
Output at verge of limiting.....	29.5 dbm ±0.5 dbm, output control in maximum gain position
Compression ratio above verge of limiting.....	20 db into 2 db
Time Constants:	
	<i>Attack</i> <i>Release</i>
Single.....	600 microsec.      0.33 sec.
Dual, Fast Action.....	600 microsec.      0.33 sec.
Dual, Slow Action.....	0.9 sec.      2 sec.
Tube Complement (not included with amplifier):	
	2-6SK7, 2-6J7, 2-6V6-GT, 1-6H6, 1-OD3/VR150, 1-5R4GY
Power Required.....	100 to 130 v., 50-60 cy., 105 watts, with taps for 105, 115 and 125 volts

### Dimensions:

Chassis.....	16 <sup>3</sup> / <sub>16</sub> " long, 11 <sup>3</sup> / <sub>4</sub> " wide, 3" high
Overall.....	16 <sup>3</sup> / <sub>16</sub> " long, 14" wide, 7 <sup>5</sup> / <sub>16</sub> " high
Weight.....	37 lbs.
Finish.....	Dark umber gray
Mounting.....	Plug-in mounting on MI-11599 Shelf

## Ordering Information

BA-6A Limiting Amplifier (less tubes).....	MI-11225
BA-6A Limiting Amplifier (complete with tubes and MI-11599 Shelf).....	ES-11126-A

## Accessories

Tube Kit (complete tube complement).....	MI-11289
Shelf.....	MI-11599

# Transistor Cue Amplifier

TYPE BA-8A



## FEATURES

- Low power consumption—transistors used throughout
- Frequency response peaked for high intelligibility
- Self contained diode power supply
- Input selector switch for ten inputs
- Speaker muting provisions
- Styled for desk or panel mounting

## DESCRIPTION

The RCA Type BA-8A Transistor Cue Amplifier is a compact, low-cost monitoring amplifier designed to provide high intelligibility whether used as a remote line, turntable cue or remote amplifier monitor. It provides an ideal monitor in the announce lounge, program director's office, news rooms, executive office, TV studio prop area, or other sites where it is essential to be informed on what is going on. Muting provisions are included in the amplifier so that when the unit is used in the control room or any location where a microphone will also be used, the muting terminals on the rear terminal board may be connected to a set of normally closed contacts on an external muting relay.

The completely encased amplifier and loudspeaker may be placed on the console or operations desk near the operator. The unit is attractively styled in umber gray metal housing, with rubber feet attached, and etched aluminum panel providing an attractive and pleasing appearance. The small size and light weight recommends the BA-8A for desk top installation. However, a mounting panel, MI-11449, is available for relay rack mounting, if desired. The front panel of the BA-8A contains the volume and input selector switch controls plus a neon on-off indicator. A perforated metal grill serves as a protector for the 3 by 5-inch speaker.

The BA-8A Transistor Cue Amplifier consists of an input transformer, four stages of transistor amplification, an output transformer coupled to a loud speaker, and a power supply. Feedback circuits are employed. The power supply consists of a conventional half-wave silicon diode rectifier circuit and a power transformer.

Up to ten inputs may be selected by the self-contained input selector switch. Connections to the amplifier are made at a rear terminal board where a plastic cable clamp is also provided for holding cables neatly in place. The number one input is wired for bridging a 600 ohm line, the other nine are matching inputs, but may be made bridging inputs by customer installation of the proper resistor network.

## SPECIFICATIONS

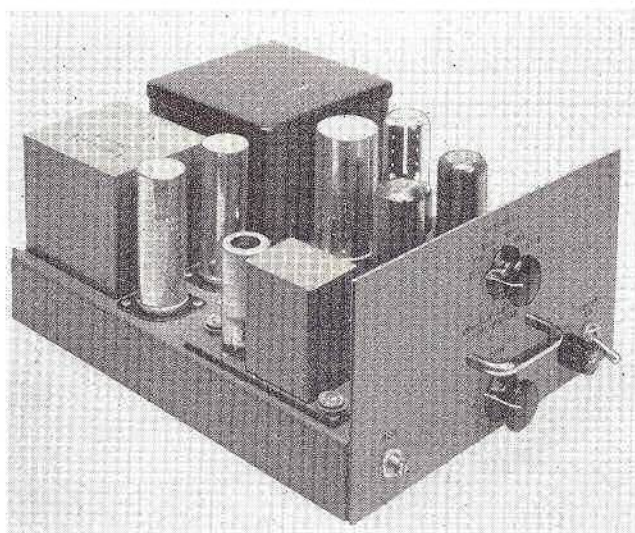
Power Requirements.....	117/235 volt a-c, 50/60 cycles, single phase, 13 watts
Frequency Response.....	Compensated for high intelligibility
Input Impedance:	
Matching.....	600 ohms when shipped; may be connected for 150 ohms
Bridging.....	10,000 ohms
Input Level:	
Matching.....	-23 dbm $\pm$ 2 dbm, minimum for +30 dbm (1 watt) output
Bridging.....	+8 dbm $\pm$ 2 dbm, minimum for +30 dbm (1 watt) output
Gain.....	53 dbm (approx.)
Maximum Output Level.....	+30 dbm (1 watt)
Distortion.....	Less than 2% (measured with 1 watt output at 1 kc)
Muting Provision.....	Strapping on rear terminals marked MUTE
Loudspeaker Impedance.....	3.2 ohms
Loudspeaker Dimensions.....	3 by 5 inches elliptical, permanent magnet
Transistor and Diode Complement:	
1-2N109, 1-2N404, 1-2N652, 1-2N456, 1-1N2069	
Dimensions (Overall).....	7 $\frac{1}{4}$ " wide, 3 $\frac{1}{2}$ " high, 8 $\frac{1}{16}$ " deep
Weight.....	6 $\frac{1}{2}$ lbs.
Finish.....	Umbre gray, etched aluminum panel

## Ordering Information

BA-8A Transistor Cue Amplifier (includes transistors).....	MI-11450
Accessory Rack Mounting Panel (for BA-8A).....	MI-11449

# Monitoring Amplifier

## TYPE BA-24A



### DESCRIPTION

A high quality, high gain amplifier suitable for driving a loudspeaker directly from a microphone or turntable output. It has four stages of amplification with an interstage gain control. A phase splitter drives the push-pull output stage. Negative feedback is utilized to reduce distortion, stabilize gain and frequency response. The power supply is self-contained. The hum level is reduced to a minimum through the use of well shielded transformers, low noise tubes and careful circuit layout. A metering switch on the front panel is provided to check the condition of the tubes, with the metering voltage of 1 volt brought out at the connector plug.

The BA-24A is a high fidelity, high gain flexible 8 watt amplifier suitable for monitoring, audition, recording, and talk-back applications or it may be used in emergencies as a program or line amplifier. It is ideal for transcription playback booths since its 105 db gain is sufficient to operate a speaker directly from the output of a turntable pickup equalizer. The high gain feature also allows its use directly in studio talk-back circuits without an intervening preamplifier. The BA-24A is an excellent recording amplifier being suitable for both high quality recording and playback applications. Two may be mounted in a type BR-22B Mounting Shelf. The BA-24A has a plug-in type chassis using multi-conductor plugs.

### FEATURES

- Self-contained power supply
- High gain—used directly in talk-back circuits, without preamplifier
- 8 watts output with low distortion—uses feedback
- Suitable for cabinet or shelf mounting
- Ideal for recording and playback
- Tube metering circuits

### SPECIFICATIONS

Source Impedance.....	37.5/150/600 ohms
Input Impedance.....	Unloaded transformer, high in comparison with source impedance
Load Impedance.....	4/8/16/150/600 ohms
Output Impedance (approx.).....	1.3/1.8/3/21/78 ohms
Maximum Input Level.....	-30 dbm
Maximum Gain.....	104 db $\pm$ 2 db
Frequency Response.....	$\pm$ 2 db 30-15,000 cps
Maximum Output Level.....	10 watts (40 dbm)
Harmonic Distortion at 39 dbm output.....	Less than 1% 100-7500 cps Less than 2% 50-15,000 cps
Noise Level.....	-122 dbm referred to input (-18 dbm at output at 104 db gain)
Metering Voltage.....	1 volt
Tube Complement:	
	1—Selected 12AY7, 1—12AX7, 2—6V6-GT/G, 1—5Y3-GT/G
Power Requirement.....	100-130 volts, 50-60 cps, 70 watts
Dimensions:	
Length.....	10 $\frac{3}{8}$ " , 12 $\frac{1}{2}$ " overall
Width.....	8 $\frac{3}{8}$ "
Height.....	4 $\frac{21}{32}$ "
Weight.....	16 $\frac{1}{4}$ lbs.
Finish.....	Light amber gray
Mounting.....	Plug-in mounting on BR-22B Mounting Shelf. Requires half the shelf space (two amplifiers may be mounted on each shelf.)

### Ordering Information

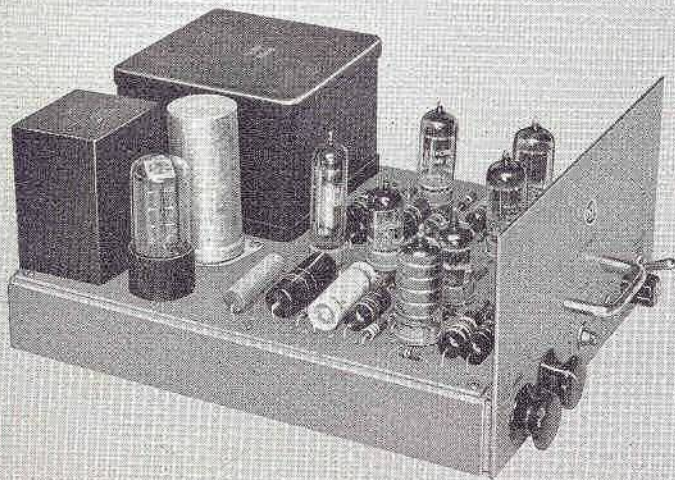
BA-24A Monitoring Amplifier (less tubes).....	MI-11247
BA-24A Monitoring Amplifier (complete with tubes).....	ES-11124

### Accessories

Tube Kit (complete tube complement).....	MI-11481
BR-22B Mounting Shelf (mounts two BA-24A).....	MI-11597-A
Type BI-1B Meter Panel (for 17 amplifiers).....	MI-11388
Bridging Gain Control Kit:	
With Screw-driver Adjustment.....	MI-11278-F
With Knob Adjustment.....	MI-11278-E

# AGC Program Amplifier

## TYPE BA-25A



### DESCRIPTION

The RCA Type BA-25A Automatic Gain Controlled Program Amplifier is an automatic level control unit designed to automatically control variations in audio program level. The unit is capable of maintaining a nearly constant average output level over wide variations of average input level.

The amplifier may also be used in conjunction with an external bias source for remote gain control or automatic fading. This permits unattended remote audio operation. It may also be used as a program line compressor or as a master gain control for program line. The BA-25A may be used as a microwave input audio control, as an automatic fader control, or as a straight program amplifier without level control by removal of one tube disabling the automatic level control circuit.

The new BA-25A Automatic Gain Controlled Program Amplifier is a small, compact amplifier mounted on a plug-in chassis for easy maintenance and replacement. Two amplifiers can be mounted on the MI-11597-A Mounting Shelf. The circuitry of the BA-25A is straight forward. The amplifier consists of a phase inverter, variable gain stage, driver and output stage, signal rectifier, and a self contained power supply with voltage rectifier.

A metering switch is provided on the BA-25A which measures the cathode current of the amplifier tubes to obtain a quick indication of the tube conditions. Other controls, all located on the front panel include: a hum control for adjusting the hum level to a minimum, the power switch, threshold level control, and input level adjustment control. An external attenuator may be used for adjusting the output level where necessary.

### FEATURES

- Feedback circuits provide excellent frequency response—low harmonic distortion
- Small, compact, plug-in construction
- Self-contained power supply
- Metering switch provides quick tube check
- Convenient front panel controls
- Stabilized bias voltage

### SPECIFICATIONS

Input Impedance.....	150/600 ohms
Source Impedance.....	150/600 ohms
Output Impedance.....	30/120 ohms
Load Impedance.....	150/600 ohms
Maximum Input Level.....	-25 dbm
Maximum Output Level.....	+30 dbm
Maximum Noise Level, Output.....	Less than -46 dbm at 70 dbm gain
Frequency Response.....	±1 db from 30-15,000 cps
Harmonic Distortion.....	Less than 1% total RMS at 20 db output 30 to 15,000 cps

Gain, Maximum Below Verge of Compression.....70 db ±1 db

Threshold of Compression:

Compression Ratio.....	3:1	Output Level.....	5 dbm
	4:1		14 dbm
	5:1		18 dbm
	6:1		21 dbm

Attack Time Constant.....12.5 milliseconds

Recovery Time Constant.....1 sec.

Tube Complement:

1—OB2, 1—5Y3-GT, 1—6AL5, 2—12AU7, 1—12AX7, 1—MI-11299 selected 12AY7, 1—6386.

Power Requirements.....100-130 volts, 50/60 cycles, 55 watts

Dimensions, Overall.....12½" long, 8¾" wide, 4 21/32" high

Finish.....Light umber gray

Weight.....15 lbs.

### Ordering Information

BA-25A AGC Program Amplifier (less tubes).....MI-11434

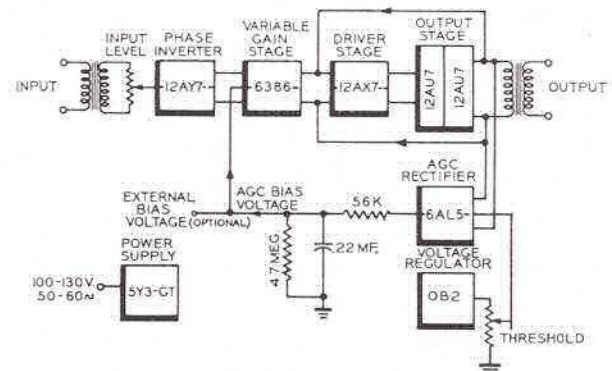
BA-25A AGC Program Amplifier (complete with tubes).....ES-11125

### Accessories

Tube Kit (complete tube complement).....MI-11487

Type BR-22B Mounting Shelf (mounts 2 BA-25A's).....MI-11597-A

Type BI-1B Meter Panel.....MI-11388



Simplified Block Diagram of BA-25A AGC Program Amplifier

# Two-Channel Remote Amplifier

## TYPE BN-7A

### FEATURES

- Transistor circuitry
- Low-cost—high quality performance
- Self-contained A-C and battery supply
- Compact, portable case with tilt-rest cover
- Optional plug-in input transformers
- Separate PA gain control



### DESCRIPTION

The Type BN-7A Portable Remote Amplifier, MI-11451, is designed for broadcast use, providing two separate input channels that can be operated either balanced or unbalanced. Transistors and germanium diodes are employed throughout. The BN-7A is completely self-contained for a-c or battery operation. For operating convenience, a pull-out chassis housing the batteries is removable from the front panel. A separate PA gain control is provided. Excellent frequency response and low harmonic distortion assure high quality performance.

The BN-7A Amplifier is styled for operating convenience. All amplifier components, controls, batteries and a-c power supply are mounted on a one piece chassis easily removable from the portable carrying case. This ruggedly-constructed steel case, is provided with a soft leather handle and finished in umber gray. The cover can be removed easily for quick set-up of the equipment. Special hinges permit the cover to be detached, reversed and used as a special tilt-rest for the amplifier case in applications where inclined positioning of the control panel is desired.

Located on the front panel are all operating functions including an illuminated VU meter, two mixer controls, the master control, phone jack, PA gain control, and power switch. For ease of servicing, the amplifier chassis may be withdrawn from the case thereby exposing all components.

Mercury cell batteries are self-contained in a convenient battery storage chamber located on a pull-out chassis accessible from the front panel. A rear cut-out in the case provides easy accessibility to the a-c power connector, fuse holder, microphone connectors and the output connec-

tions. Clips are provided in the cover of the carrying case for securing the 8-foot a-c power cord when not in use. The PA gain control bridges the output at the amplifier and allows the operator to conveniently control the level fed to external PA equipment.

### SPECIFICATIONS

Input Connector.....	Type XL
Inputs.....	2 microphones (both may be used simultaneously) 150/250 ohms unbalanced, 37.5/150 ohms balanced when using MI-11776 Input Transformer
Output (balanced output 600/150 ohms) (shipped connected) for 600 ohms.....	+18 dbm (6 db isolation provided)
Gain.....	92.5 db $\pm$ 2 db (150 ohm source on 150 ohm input to 600 ohm load)
Frequency Response.....	$\pm$ 2 db from 30-15,000 cps
Harmonic Distortion (+18 dbm output mixer and master controls set for 68 db gain).....	Less than 1.5% 50-100 cps; less than 1% 100-15,000 cps
Noise Level Referred to Input.....	-118 dbm
Meter.....	3" VU illuminated
Power Requirements:	
AC Power.....	117/235 volts, 50/60 cycles, 5 watts
DC Power.....	6 batteries required (not supplied) 5-PR Mallory Type TR135R 6.5 volts, 1-RCA VS036, D size, flashlight cell, 1.5 volts.
Transistor and Diode Complement:	
2-2N220, 2-2N404, 1-2N274, 1-2N1090, 3-2N270, 2-1N91	
Dimensions (overall).....	5 1/2" high, 14 1/2" wide, 10 1/2" deep
Weight.....	15 lbs. approx.
Finish.....	Two tone umber gray

### Ordering Information

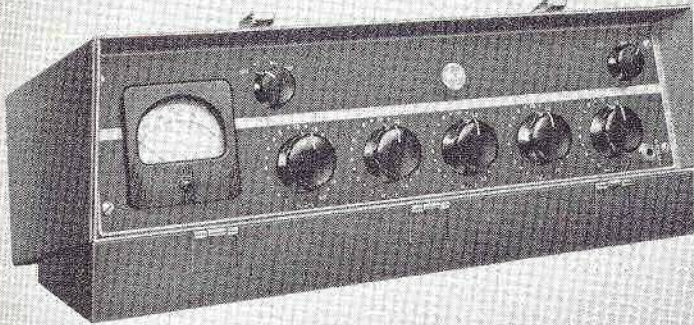
BN-7A Portable Two-Channel Remote Amplifier  
including transistors and diodes but less batteries.....MI-11451

### Accessories

Input Transformer (37.5/150 ohms).....MI-11776  
Spare Transistor and Diode Kit for BN-7A.....MI-11785  
Step Type Attenuator for BN-7A Master Controls.....MI-11751-3  
Step Type Attenuator for BN-7A Fader Controls.....MI-11751-4

# Four-Channel Remote Amplifier

TYPE BN-6B



## DESCRIPTION

The BN-6B Four-Channel Portable Remote Amplifier is an extremely lightweight, transistor amplifier designed especially for remote broadcast use. It affords amplification and control facilities for broadcast programs remote from the studio, amplifying low level signals to a level suitable for transmission over a telephone line to the studio. Four separate input channels are provided that can be operated either single ended or balanced. Complete cueing and monitoring facilities are included. The equipment uses transistors and germanium diodes throughout, and is completely self-contained for a-c or battery operation.

The amplifier is a functionally styled unit in which an etched wiring board including amplifier components and transistors, controls, batteries and alternate a-c power supply are all contained in a portable carrying case. The steel case, finished in umber gray, is ruggedly constructed and provided with a convenient leather handle. The top cover can be removed easily for quick set-up of the equipment. Special hinges permit the lid to be detached, reversed, and used as a special tilt-rest for the amplifier case in applications where inclined positioning of the control panel is desired.

All controls are located on the front panel including an illuminated VU meter, four mixer controls, the master control, phone jack, cue switch, and power switch. For ease of servicing, the top cover may be detached and the amplifier chassis withdrawn from the case thereby exposing all components. Mercury cell batteries are self-

## FEATURES

- Completely transistorized
- Full 8 VU output to line
- High level mixing on all four channels
- Self-contained AC and battery power supplies—front panel selection of power
- Lightweight—weighs only 15 pounds
- Amplified cue signal from studio
- Convenient and durable carrying case

contained in a convenient battery storage chamber located beneath the amplifier chassis. A rear cut-out in the case provides easy accessibility to the a-c power connector, fuse holder, microphone connectors and the output connections. Clips are provided in the cover of the carrying case for securing the 8-foot a-c power cord when not in use.

## SPECIFICATIONS

Input Connector.....	Type XL		
Input.....	4 microphones (all may be used simultaneously) 150/30 ohms		
Output (balanced output 600/150 ohms).....	+18 dbm (5 db isolation provided)		
Gain.....	88 db $\pm$ 2 db (150 ohm source on 150 ohm input to 600 ohm load)		
Frequency Response.....	$\pm$ 1.5 db from 30 to 15,000 cps		
Harmonic Distortion (+18 dbm output mixer and master controls set for 65 db gain).....	Less than 1.5% 30-50 cps; less than 1% 50-10,000 cps; less than 3% 10,000-15,000 cps		
Noise Level Referred to Input.....	-122 dbm		
Meters.....	3-inch VU illuminated		
Transistor and Diode Complement:			
5-2N175	3-2N109	1-2N35 or 2N214	1-1N91
Dimensions.....	5 $\frac{3}{8}$ " high, 16 $\frac{1}{2}$ " wide, 10 $\frac{1}{2}$ " deep		
Weight.....	15 lbs. (approx.)		
Finish.....	Two tone umber gray		

## Ordering Information

BN-6B Four-Channel Portable Remote Amplifier complete with transistors and diodes (less batteries).....MI-11221-B

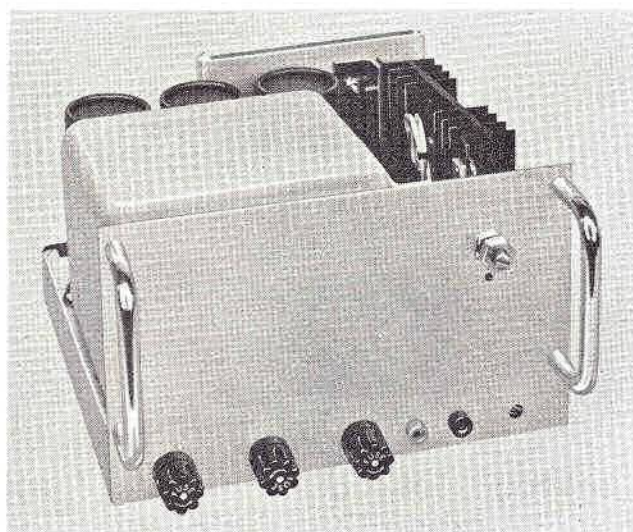
## Accessories

Input Transformer (30/150 ohms).....	MI-11776
Transistor and Diode Kit for BN-6B.....	MI-11777
Step Type Attenuator for BN-6B Master Controls.....	MI-11751-3
Step Type Attenuator for BN-6B Fader Controls.....	MI-11751-4
Canvas Carrying Case.....	MI-11377-A



# Consolette Power Supply

## TYPE BX-71A



### FEATURES

- Regulated d-c output voltage
- Solid state circuitry
- Exceptionally low hum level
- Supplies power for 22 BA-71A Preamplifiers or 3 BA-73A Program Amplifiers
- Guide assembly available for shelf mounting in custom applications
- 24 volt relay supply and 6 volt a-c meter lamp supply provided

### DESCRIPTION

The Type BX-71A Consolette Power Supply delivers a well regulated d-c voltage for operation of the BA-70 Series preamplifiers and program amplifiers. As many as 22 Type BA-71A Consolette Preamplifiers or 3 Type BA-73A Consolette Program Amplifiers or any combination of the amplifiers with total current requirement up to 1000 ma can be operated simultaneously by one BX-71A. In addition, an unregulated 24 volt supply can power various relays, such as "On-Air" light relays, etc. A 6 volt a-c meter light supply is also provided. Two outputs for the regulated -30 volts d-c are provided; one for preamplifiers, the other for program amplifiers, to achieve maximum decoupling.

The BX-71A, MI-11663-A is designed to plug into the BC-7,

BCM-2A and other consolettes or it may be used in custom audio applications when plugged into an accessory Guide Assembly, MI-11759-A. One or two Guide Assemblies with mating receptacles may be attached to a Type BR-22 Shelf.

The power supply can be operated on any 115/230 volt, 50/60 cycle a-c line. Fuses, a DC Voltage Control, and two pin jacks for checking the -30 volt supply are located on the front panel.

The 30 volt power supply consists of a full-wave bridge rectifier, capacitor-input filter, and a five-transistor regulator. Three zener diodes supply a reference voltage which is compared with the output voltage. The output voltage is adjustable to maintain -30 volts under varying loads up to 1,000 ma capacity.

### SPECIFICATIONS

Power Requirements.....	100 to 130, or 200 to 260 volts, a-c, 50/60 cycles, with taps at 105, 115, 125, 210, 230, and 250 volts
Power Output.....	-30 volts at 1 amp., regulated; 24 volts at .56 amp., unregulated, 6 volt a-c at 1.5 amp.
Regulation.....	0.35% no load to full load
Ripple.....	0.15 mv max. on 30 volt supply
Fuse.....	1.5 and 1 ampere, slo-blow
Transistor & Diode Complement:	
	1-2N270, 2-2N456, 2-2N526, 1-2N1090, 6-1N3253, 2-1N751, 1-1N752
Mounting.....	Plug-in for consoles; as ES-11163 can be mounted in BR-22 and requires 2/5 of shelf space
Dimensions Overall.....	8 7/8" by 7 1/2" by 4 5/8"

Weight.....	14 lbs.
Finish.....	Cadmium plate with clear chromate dip

### Ordering Information

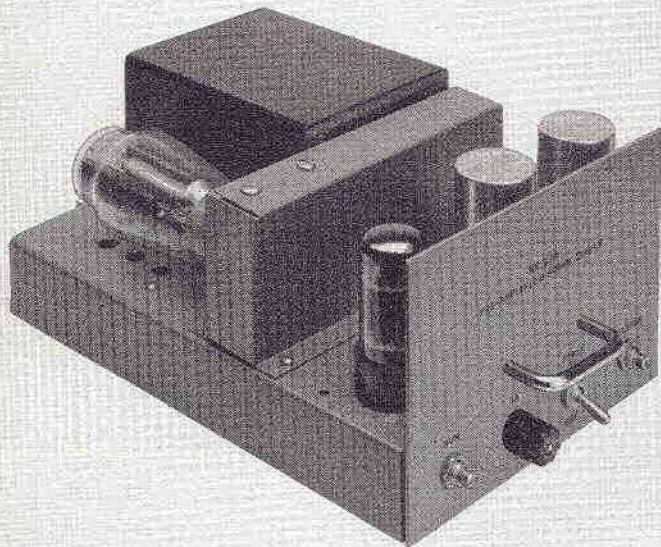
Type BX-71A Consolette Power Supply less Guide Assembly.....	MI-11663
Type BX-71A Consolette Power Supply with Guide Assembly.....	ES-11163

### Accessory Equipment

Shelf Guide Assembly for BX-71A Power Supply.....	MI-11759-4
Type BR-22 Shelf (for 2 power supplies).....	MI-11597-A

# Preamplifier Power Supply

## TYPE BX-21A



### FEATURES

- Regulated d-c output voltage
- Exceptionally low hum level
- Plugs into BR-22B Mounting Shelf
- Supplies up to 10 BA-21A Preamplifiers
- Heater supply hum balancing potentiometer

### DESCRIPTION

The Type BX-21A Preamplifier Power Supply is designed to provide d-c plate and a-c heater power for preamplifiers in which the hum level must be kept to a minimum. As many as ten Type BA-21A Preamplifiers can be operated by one power supply. The BX-21A is designed for quick plug-in mounting on the MI-11597-A Shelf.

The BX-21A is designed for operation on any a-c line voltage between 100 and 130 volts, 50 to 60 cycles. A two ampere, glass-enclosed, time-delay fuse is mounted on the front of the chassis. This fuse is unaffected by high transient currents. Controls are mounted on the front panel and consist of a "Power On-Off" toggle switch and two screwdriver adjustments for hum and voltage.

The power supply consists of a full wave, high vacuum tube rectifier using a capacitor input filter. The output voltage is adjustable over a range of 245 to 295 volts and is maintained constant with variations in line voltage and loading by a series regulator tube in conjunction with an amplifier and a voltage reference tube. This circuit also functions to reduce the ripple voltage. A metering voltage of 1 volt corresponding to nominal output voltage of 285 volts is available at connector plug for wiring to a meter panel.

### SPECIFICATIONS

Mounting.....	Plug-in on BR-22B Mounting Shelf. Requires 2/5 of the shelf space. Two BX-21A Power Supply units may be mounted on one shelf with additional space for two BA-21A Preamplifiers, or 1 BX-21A Power Supply and 6 BA-21A Preamplifiers may be mounted on one shelf.
Power Required.....	100 to 130 volts, 50-60 cycles, 130 watts
Fuse.....	2 ampere, type MDL
Power Output:	
Plate Supply:	
Output Voltage.....	285 volts adjustable from 245 volts to 295 volts
Output Current.....	10-100 ma d-c
Ripple Voltage.....	0.3 mv max.
Regulation:	
Full Load to No Load.....	0.2%
±5% Line Voltage Variation.....	0.1%
Heater Supply:	
Voltage.....	6.3 volts
Current.....	6.0 amp a-c max.
Bias.....	32 volts approx. position
Metering.....	1 volt (four output of 285 volts using 20,000 ohm-per-volt meter)
Tube Complement:	
1-5R4GY, 1-6BX7-GT, 1-12AX7, 1-OA2	
Dimensions Overall.....	12½" long, 4-21/32" high, 6⅜" wide
Weight.....	16 lbs.
Finish.....	Light umber gray

### Ordering Information

BX-21A Preamplifier Power Supply (less tubes).....	MI-11317
BX-21A Preamplifier Power Supply (complete with tubes).....	ES-11111

### Accessories

Tube Kit (complete tube complement).....	MI-11479
Type BR-22B Shelf (for 2 Power Supplies).....	MI-11597-A
Type BI-1B Meter Panel	
(for 17 amplifiers or power supplies).....	MI-11388

## INTERCONNECTING CABLES

The majority of cables required to interconnect the various components of a broadcast audio assembly are of a special type and cannot be readily purchased from the local electrical dealer. In order to avoid unnecessary installation delays, RCA carries in stock five of the generally used special type cables.

### Solid Conductor Cable, MI-33

Use.....General purpose Audio Transmission Line  
 Type.....Shielded twisted pair, each conductor solid #20 tinned copper wire, with Vinyl resin insulation covered with lacquered rayon braid.  
 Shield.....Tinned copper braid  
 Overall Diameter.....Approximately .170"  
 Color Code.....Red and black  
 Rating.....300 volts

#### Ordering Information

#20 AWG Cable (order in 100 ft. multiples only).....MI-33

### Stranded Conductor Cable, MI-34

Use.....Recommended for audio circuits where extra flexibility is required  
 Type.....Shielded, twisted pair, stranded, composed of 7—.010 tinned copper conductors equivalent to #22 AWG  
 Insulation.....Vinyl resin insulated with lacquered rayon braid  
 Shield.....Tinned copper braid  
 Overall Diameter.....Approximately .166"  
 Color Code.....Red and black  
 Rating.....300 volts

#### Ordering Information

#22 AWG Cable (order in 100 ft. multiples only).....MI-34

### Stranded Conductor Cable, MI-35

Use.....Especially recommended for 110 volt supply and filament circuits  
 Type.....Shielded, twisted pair, stranded, composed of 16—.010 tinned copper conductors equivalent to #18 AWG  
 Insulation.....Vinyl resin insulated with lacquered rayon braid  
 Shield.....Tinned copper braid  
 Overall Diameter.....Approximately .236"  
 Color Code.....Red and black  
 Rating.....300 volts

#### Ordering Information

#18 AWG Cable (order in 100 ft. multiples only).....MI-35

### Solid Conductor Cable, MI-13342-1

Use.....General purpose Audio Transmission Line  
 Type.....Shielded twisted pair, tinned copper drain wire each conductor #22 tinned cooper wire, cabled, with black vinyl jacket  
 Insulation.....Vinyl  
 Shield.....Tinned copper braid  
 Overall Diameter.....Approx. .200"  
 Color Code.....Red and black  
 Rating.....200 volts

#### Ordering Information

#22 AWG Cable (order in 100 ft. multiples only).....MI-13342-1

### Stranded Conductor Cable, MI-13342-2

Use.....General purpose Audio Transmission Line  
 Type.....Shielded pair, each conductor #22 AWG (16 x 34) tinned copper wire, cabled, tinned copper drain wire, with black vinyl jacket.  
 Insulation.....Vinyl insulated  
 Shield.....Tinned copper braid  
 Overall Diameter.....Approx. .210"  
 Color Code.....Red and black  
 Rating.....200 volts

#### Ordering Information

#22 AWG Cable (order in 100 ft. multiples only).....MI-13342-2

### Cable Lacing Cord, MI-11719-A

Lacing cord is available for general cable lacing and dressing uses. Cord is of strong material such as linen and hemp and thoroughly impregnated with a beeswax and paraffin mixture. Supplied in one pound spools as shown above.

#### Ordering Information

	Type	Plys	Yds/lb	Average Break Strength
MI-11719-A	No. 6 med.	4	580 ±35	30 lbs.

## STUDIO WARNING LIGHT



### SPECIFICATIONS

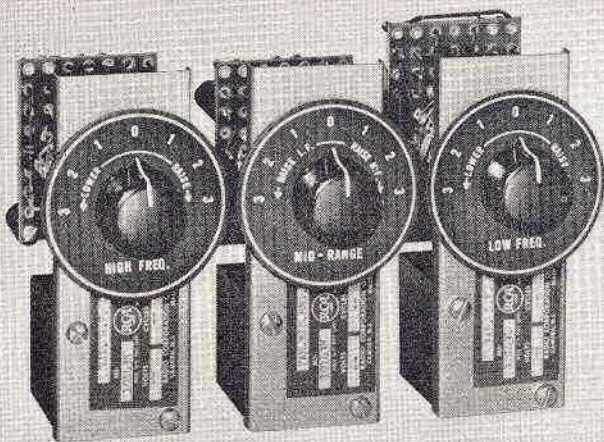
Dimensions: (overall)  
 Case.....14" long, 3 1/2" high, 2 1/16" deep  
 (Glass Sign Aperture)  
 Length.....9 3/4"  
 Width.....2 3/4"  
 Weight (unpacked).....3 1/2 lbs.

#### Ordering Information

"ON-AIR".....MI-11706-1  
 Glass Only.....MI-11718-1  
 Custom Glass Signs Available on Request.

# Audio Accessories

## VARIABLE AUDIO COMPENSATOR MI-10143-L-M-H



### FEATURES

- Bridge "T" type, constant resistance
- Separate sections for low-mid-high range
- Three steps of "increase" and "decrease" compensation
- Requires small space back of panel
- Excellent frequency characteristics
- May be operated during program periods

### DESCRIPTION

The RCA MI-10143-L-M-H is a three-section variable compensator designed to alter the frequency response of program audio signals to correct for system or microphone pickup deficiencies or to obtain special effects conditions. Designed as a sectional unit, up to three sections of variable audio compensators may be used in each circuit, as required, to obtain the desired compensation limits.

For convenience of circuit operation a transistor or tube type preamplifier is recommended to offset the insertion loss in the units. A key switch can be used to remove the compensator or group of compensators from the circuit and substitute a fixed loss. Therefore, it will facilitate program handling.

Small overall dimensions of each section of 4½-inch length, 1¾-inch width and 3¼-inch depth permit mounting in most conventional control panels and mixer consoles.

### SPECIFICATIONS

Circuit Configuration.....	Bridge "T" type, constant resistance
Source Impedance.....	600 ohms
Input Impedance.....	600 ohms unbalanced
Output Impedance.....	600 ohms unbalanced
Load Impedance.....	600 ohms
Insertion Loss.....	10 db at 1000 cycles for MI-10143-L, 7 db for MI-10143-M, 10 db for MI-10143-H
Maximum Input Level.....	+4 dbm
Frequency Response.....	Flat from 26 to 20,000 cycles with no compensation. See curves for response with compensation.

#### Controls:

Each of the MI-10143-L-H sections have one seven-position selector switch, (3-raise, 3-lower, 1 zero position). The MI-10143-M section has one seven-position selector switch (3-raise LF, 3-raise HF, and 1 zero position) for each respective frequency range.

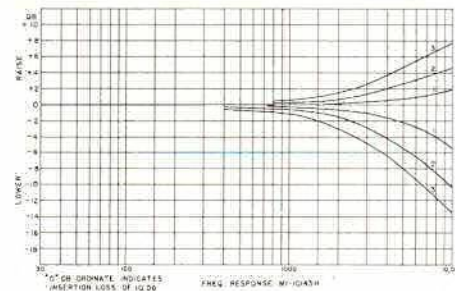
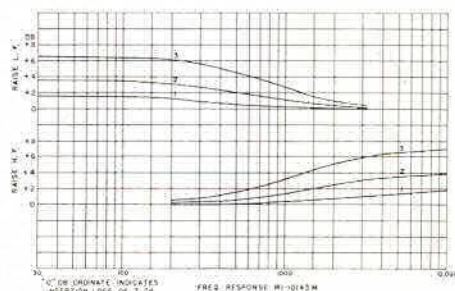
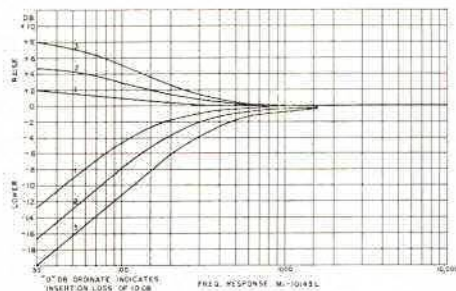
Dimensions of Each Section.....4½" long, 1¾" wide, 3¼" deep

### Ordering Information

Variable Audio Compensator (Low Frequency).....	MI-10143-L
Variable Audio Compensator (Mid-Frequency).....	MI-10143-M
Variable Audio Compensator (High Frequency).....	MI-10143-H

### Accessory

BA-31A Transistor Preamplifier and Isolation Amplifier.....	MI-11444
---	----------



# Three-Speed Turntable

TYPE BQ-2C

## FEATURES

- Simplified speed changing mechanism for ease of operation and reduced maintenance
- Reliable, hysteresis synchronous motor provides quick smooth starts
- Plays 33 $\frac{1}{3}$ , 45 or 78 rpm records
- Rugged and simple construction—fewer parts



## DESCRIPTION

The RCA type BQ-2C Transcription Turntable meets broadcasting needs for a high-quality driving mechanism which will accommodate all types of commercial disc recordings up to 16 inches in diameter at speeds of 33 $\frac{1}{3}$ , 45 or 78 rpm. The drive assembly is extremely reliable and quiet, and meets all EIA performance specifications, assuring fidelity in the reproduction of broadcast transcriptions.

The cabinet assembly not only provides a simplified mounting for the drive assembly, turntable and operating controls, but allows ample room for housing reproduction equipment. All standard types of broadcast tone arm equipment may easily be mounted on the cabinet and, if desired, two tone arms for various types of pickups can be accommodated. The cabinet has a spacious compartment where equalizer equipment and necessary amplifiers may be installed.

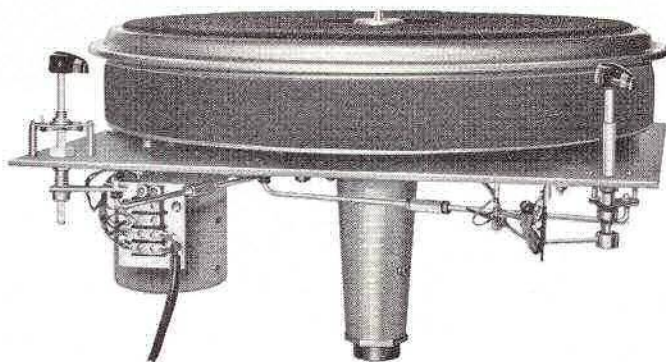
The BQ-2C Drive Mechanism is available as a separate unit for those stations which may wish to mount it in a custom built cabinet, bench, or table.

The BQ-2C Turntable Drive Assembly is a three-speed, rim-drive type mechanism consisting of a hysteresis synchronous motor with a three-step diameter motor shaft.

The speed of the turntable is determined by the ratio of diameters between the motor capstan and the turntable rim. Two models are provided, one for operation with 60 cycle power supply (MI-11830-C), and another for 50 cycle use (MI-11831-C). The only difference between the models is in the respective diameters of the three-step motor capstan since the motor with its capacitor is designed for both 60 and 50 cycle operation.

A cabinet of modern design is provided to house the turntable equipment. This wooden console has a durable two-tone, umber gray fabrikoid covering which is resistant to scuff and scratches, and will not chip like enamel or lacquer surfaced cabinets. A cigarette-proof linoleum top with aluminum trim is provided. A large hinged door permits ready access to the interior. Space is available for mounting reproduction filters and equalized preamplifiers such as the RCA type BA-26. The a-c power is connected to convenient terminals on the motor board.

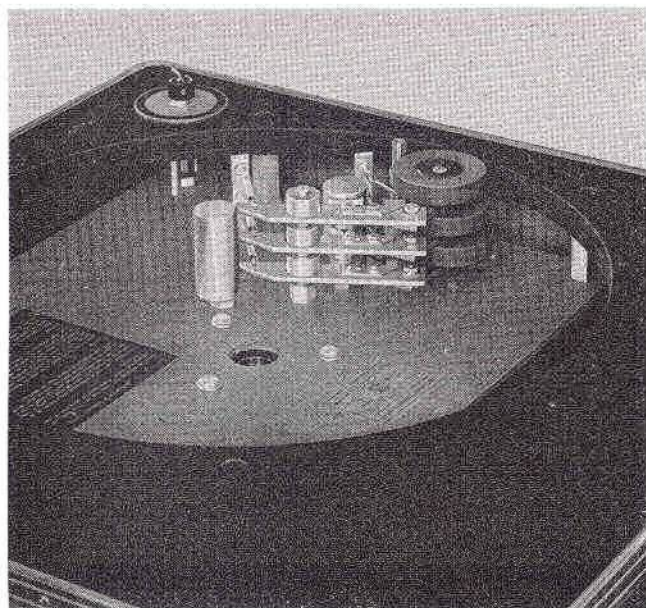
A three-position speed selector switch is linked to a cam which allows the three rubber idlers to engage, one at a time, between the capstan and the turntable rim. An "Off-On" selector knob operates a mercury switch which



Sturdy 16-inch turntable platter with large spindle accurately machined to give many years of service. Quiet operation is provided by the cushion-mounted motor operated by a silent mercury switch.

energizes the motor and simultaneously engages or disengages the rubber idlers in the "On" or "Off" position respectively.

The turntable platter is a sturdy 14-pound aluminum casting. It and the spindle assembly are held in the main support casting in oilite bushings and the thrust is supported by a single ball at the bottom end of the spindle. A belt of foam rubber is affixed to the outside rim of the platter in order to eliminate any resonance effects. The drive motor is mounted on a separate plate and supported by vibration mounts to eliminate rumble. All posts and shafts which provide bearings for cams and arms are assembled to a common plate to insure proper alignment.



Simplified speed changing mechanism has minimum moving parts. "Off-on" switch relieves idlers in "off" position providing extended idler life.

A feature of the motor drive assembly is the use of a separate speed control which can be adjusted without motor stopping between any combination of speeds. A separate starting switch is provided to handle cueing and routine operation in the most functional manner. This "On-Off" switch relieves the idlers when set to the "Off" position, thus providing extended idler life.

**SPECIFICATIONS**

**Performance Specifications**

Turntable Speed.....	33 1/3, 45 and 78.26 ±0.3%
Wow or Flutter:	
At 33 1/3 rpm.....	0.25% half of peak of peak
At 45 rpm.....	0.20% half of peak of peak
At 78 rpm.....	0.20% half of peak of peak
Motor.....	1/100 H.P., 1800 rpm at 60 cycles, or 1/125 H.P., 1500 rpm at 50 cycles, 45° C. temperature rise, 2 or 3 mf 220 working volts capacitor.
Power Supply.....	105-125 volts, 50/60 cycles, single phase
Power Consumption.....	40 watts
Turntable Diameter .....	16"
Hub and Spindle Diameter:	
Hub for 45 rpm Records.....	1.5"
Spindle for 33 1/3 and 78 rpm.....	0.2835"
Overall Dimensions:	
Turntable Drive Unit.....	18" long, 18" wide, 11" high
Cabinet.....	23 1/2" wide, 24 3/4" deep, 28" high (adjustable 3/4")
Weight:	
Turntable Drive Unit.....	31 lbs
Cabinet .....	60 lbs.
Total Weight .....	91 lbs.
Finish.....	Two tone umber gray fabrikoid with aluminum trim

**Ordering Information**

BQ-2C Turntable and Cabinet including turntable drive assembly, console cabinet, turntable platter assembly and Instruction Book (IB-24780), but less reproducing equipment such as tone arms and amplifiers:

For 60 cycle operation.....	MI-11833-C
For 50 cycle operation.....	MI-11834-C

BQ-2C Turntable Mechanism for Custom Installations, less console cabinet and reproducing equipment such as tone arms and amplifiers:

For 60 cycle operation.....	MI-11830-C
For 50 cycle operation.....	MI-11831-C

**Accessory Equipment**

16" Tone Arm (less Pickup Head).....	MI-11895
Universal Pickup Cartridge.....	MI-11865
Replaceable Stylis .....	MI-11866 Series
BA-34B Transistor (monitor amplifier).....	MI-11437-B
BA-24A Monitoring Amplifier.....	MI-11247
BA-26A Pickup Equalizer-Preamplifier.....	MI-11436

# 12-Inch Dual Speed Turntable

TYPE BQ-51A



## FEATURES

- Precision, 2-speed rim-drive mechanism for 33 $\frac{1}{3}$  and 45 rpm records
- Pre-assembled tone arm on turntable saves installation time
- Provision for mounting second tone arm for greater versatility
- Smooth and rapid starts within a half revolution
- Available as a mechanism for custom-built installations

## DESCRIPTION

The RCA BQ-51A Dual Speed Turntable fulfills the broadcaster's need for a high-quality turntable mechanism to accommodate commercial disc recordings up to 12 inches in diameter at speeds of 33 $\frac{1}{3}$  and 45 rpm. The BQ-51A is available as a mechanism for mounting in custom-built arrangements. It may also be obtained as a complete assembly with a styled cabinet, MI-11809.

The tone arm supplied with the BQ-51A accommodates the RCA Universal Pickup Cartridge, MI-11865, and associated styli, MI-11866 Series, for playing stereo or monaural recordings. It will also accept any standard low impedance, reluctance-type pickup that conforms to EIA standards. Provision for mounting a second tone arm, permits fast selection of either standard or microgroove playback.

The BQ-51A Dual Speed 12-inch Turntable is a 2-speed, rim-drive mechanism, utilizing a hysteresis synchronous motor. It is available for 60-cycle operation as MI-11810, or for 50-cycle by addition of MI-805365 Modification Kit. A 2-position speed selector switch is provided on the turntable assembly. An "Off-On" selector control operates a mercury motor switch and simultaneously engages or disengages the rubber idler wheels. This feature relieves the idlers from pressure when set to the "Off" position.

The turntable platter is a sturdy aluminum casting. The platter and spindle assembly is held in the main support casting by oilite bushings and the thrust is supported by a single ball at the bottom end of the spindle. A foam rubber belt on the outside rim of the platter eliminates resonance effects. The drive motor is mounted on a separate plate, supported by vibration mounts to eliminate rumble. All posts and shafts which provide bearings for cams and arms are assembled to a common plate to insure proper alignment.

The cabinet assembly, MI-11809, of functional design, affords a simplified mounting for the drive assembly mechanism, operating controls, preamplifiers and other accessories. It has a durable, umber-gray fabrikoid covering which is resistant to scuff and scratches. A 17 $\frac{5}{8}$  by 19 $\frac{3}{8}$ -inch hinged door is located on the front of the cabinet to permit ready access to the interior. A removable blank panel is located at the front of the cabinet just above the hinged door, which allows mounting of additional accessories.



The Dual Speed Turntable, Type BQ-51A, showing the turntable mechanism and tone arm.

## **SPECIFICATIONS**

### **Performance Specifications**

Turntable Speed.....	33 1/3 and 45 rpm ±0.3%
Wow or Flutter:	
At 33 1/3 rpm.....	0.25% half of peak to peak
At 45 rpm.....	0.20% half of peak to peak
Motor.....	1/100 h.p., 1800 rpm at 60 cycles or 1/125 h.p., 1500 rpm at 50 cycles
Power Supply.....	105-125 volts, 50/60 cycles single phase
Power Consumption.....	40 watts
Power Cord.....	.8 ft. long
Turntable Diameter .....	12"
Hub and Spindle Diameter:	
Hub for 45 rpm records.....	1.5"
Spindle for 33 1/3 records.....	0.2835"
Overall Dimensions:	
Turntable Drive Unit.....	18" wide, 16 1/2" deep— height below top surface motor board, 9"— height above surface motor board, 1 1/2"
Cabinet.....	22" wide, 22" deep and 29" high
Weight:	
Turntable Drive Unit.....	31 lbs.
Cabinet.....	47 lbs.
Finish.....	Light umber gray fabrikoid

### **Ordering Information**

BQ-51A Dual Speed Turntable Mechanism for 60 cycle operation including tone arm, MI-11894 (less Cabinet and Pickup Heads).....	MI-11810
BQ-51A Dual Speed Turntable Mechanism for 50 cycle operation including:	
1 Turntable mechanism and tone arm, MI-11894 (less Cabinet and Pickup Heads).....	MI-11810
1 50 Cycle Conversion Kit.....	MI-805365

### **Accessories**

Cabinet assembly to house turntable mechanism.....	MI-11809
12" Tone Arm (less pickup head).....	MI-11894
Universal Cartridge (less stylus).....	MI-11865
0.7 Mil Diamond Stylus (for use with Universal Cartridge)	MI-11866-7
1.0 Mil Diamond Stylus (for use with Universal Cartridge)	MI-11866-10
2.5 Mil Diamond Stylus (for use with Universal Cartridge)	MI-11866-25
BA-26A Pickup Equalizer-Preamplifier.....	MI-11436





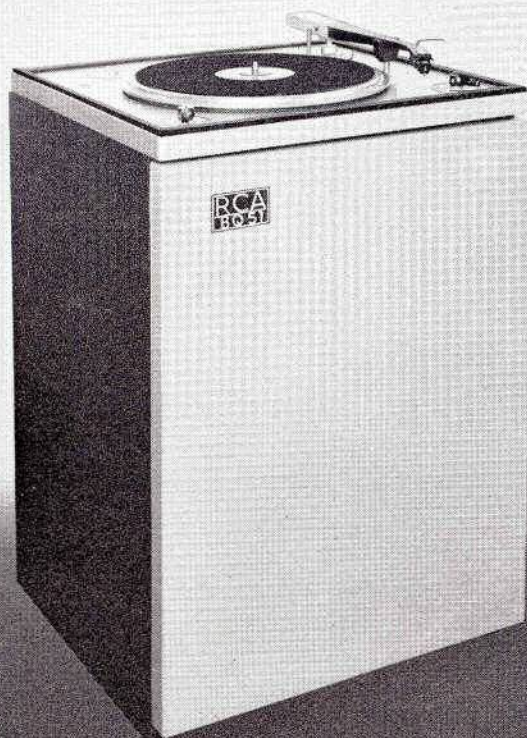
# 12-Inch Dual Speed Turntable

TYPE BQ-51B

CATALOG

**B**.1610

PRELIMINARY



## FEATURES

- Precision, 2-speed rim-drive mechanism for 33 $\frac{1}{3}$  and 45 rpm records
- Arc-drilled motor board accepts BA-26 or BA-36 Equalizer Preamplifiers
- Provision for mounting two tone arms for greater versatility
- Smooth and rapid starts within  $\frac{1}{3}$  revolution
- Available as a mechanism for custom-built installations

## DESCRIPTION

The RCA BQ-51B Dual Speed Turntable fulfills the broadcaster's need for a high-quality turntable mechanism to accommodate commercial disc recordings up to 12 inches in diameter at speeds of 33 $\frac{1}{3}$  and 45 rpm. The BQ-51B is available as a mechanism for mounting in custom-built arrangements. It may also be obtained as a complete assembly with a styled cabinet, MI-11809-A.

The accessory tone arm, MI-11894-A, designed for the BQ-51B accommodates the RCA Universal Pickup Cartridge, MI-11865, and associated stylii, MI-11866 Series, for playing stereo or monaural recordings. It will also accept any standard low impedance, reluctance-type pickup that conforms to EIA standards. Provision for mounting a second tone arm, permits fast selection of either standard or microgroove playback.

The BQ-51B Dual Speed 12-inch Turntable is a 2-speed, rim-drive mechanism, utilizing a hysteresis synchronous motor. It is available for 60-cycle operation as MI-11810-B, or for 50-cycle operation as MI-11810-C. A 2-position speed selector switch is provided on the turntable assembly. An "Off-On" selector control operates a mercury motor switch and simultaneously engages or disengages the rubber idler wheels. This feature relieves the idlers from pressure when set to the "Off" position.

The turntable platter is a sturdy aluminum casting. The platter and spindle assembly is held in the main support casting by oilite bushings and the thrust is supported by a single ball at the bottom end of the spindle. A foam rubber belt on the outside rim of the platter eliminates resonance effects. The drive motor is mounted on a separate plate, supported by vibration mounts to eliminate rumble. A rubber cushioning frame reduces extraneous vibrations by isolating the motor board assembly from the mounting frame. All posts and shafts which provide bearings for cams and arms are assembled to a common plate to insure proper alignment.

The metal cabinet assembly, MI-11809-A of functional design, affords a simplified mounting for the drive assembly mechanism. A hinged door is located on the front of the cabinet to permit ready access to the interior.



The Dual Speed Turntable, Type BQ-51B, showing the turntable mechanism and Accessory Tone Arm, MI-11894-A

## SPECIFICATIONS

### Performance Specifications

Turntable Speed.....	33 $\frac{1}{3}$ and 45 rpm $\pm$ 0.3%
Rumble.....	40 db down (ref. level 1.4 cm/s @ 100 cps)
Wow or Flutter:	
At 33 $\frac{1}{3}$ rpm.....	0.1% of mean speed
At 45 rpm.....	0.1% of mean speed
Motor.....	1/100 h.p., 1800 rpm at 60 cycles or 1/125 h.p., 1500 rpm at 50 cycles
Power Supply.....	105-125 volts, 50/60 cycles single phase
Power Consumption.....	40 watts
Power Cord.....	8 ft. long (2.44 m)
Turntable Diameter.....	12" (3048 cm)
Hub and Spindle Diameter:	
Hub for 45 rpm records.....	1.5" (4.31 cm)
Spindle for 33 $\frac{1}{3}$ records.....	0.2835" (72 mm)
Overall Dimensions:	
Turntable Drive Unit.....	18" wide, 16 $\frac{1}{2}$ " deep (45.72 cm x 41.91 cm)— height below top surface motor board, 9" (22.86 cm) height above surface motor board, 1 $\frac{1}{2}$ " (3.81 cm)
Cabinet.....	18 $\frac{3}{8}$ " wide, 17" deep and 29" high (47.31 cm x 43.18 cm x 73.66 cm)
Weight:	
Turntable Drive Unit.....	31 lbs. (14.06 kg)
Cabinet.....	47 lbs. (21.32 kg)
Finish.....	Space blue with aluminum trim

### Ordering Information

BQ-51B Dual Speed Turntable Mechanism for 60 cycle operation (less Cabinet, Tone Arm and Pickup Heads).....	MI-11810-B
BQ-51B Dual Speed Turntable Mechanism for 50 cycle operation (less Cabinet, Tone Arm and Pickup Heads).....	MI-11810-C

### Accessories

Cabinet assembly to house turntable mechanism.....	MI-11809-A
12" Tone Arm (less pickup head).....	MI-11894-A
Universal Cartridge (less stylus).....	MI-11865
0.7 Mil Diamond Stylus (for use with Universal Cartridge).....	MI-11866-7
1.0 Mil Diamond Stylus (for use with Universal Cartridge).....	MI-11866-10
2.5 Mil Diamond Stylus (for use with Universal Cartridge).....	MI-11866-25
BA-26B Pickup Equalizer-Preamplifier.....	MI-11436-B
BA-36A Stereo Pickup Equalizer-Preamplifier.....	MI-11441-A
220 Volt Transformer Kit.....	MI-41605

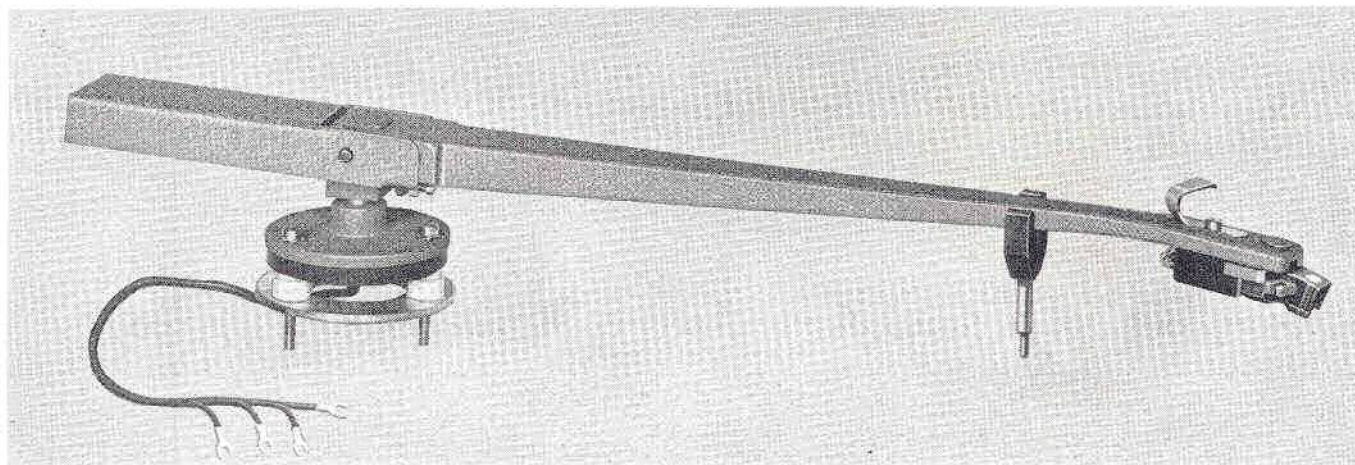


RADIO CORPORATION OF AMERICA

PRINTED  
IN  
U.S.A.

# Lightweight Tone Arms

MI-11895 and MI-11894



## DESCRIPTION

RCA's Lightweight 16- and 12-inch Tone Arms, MI-11895 and MI-11894 together with the Universal Cartridge type pickups are designed to fulfill the need for a high-quality broadcast pickup combination for playing stereo and monaural fine-groove records, standard transcriptions and commercial records. A popular application of this new design is in combination with the present Universal Pickups and transcription turntables. In such installations, the unit provides the broadcaster with pickup and tone arm facilities for groove sizes associated with all three speeds. The tone arm will also accept any pickup that mounts on standard 1/2-inch mounting centers.

Tone arm resonance is outside of the operating frequency range of the system, thus assuring smooth response characteristics. Distortion due to tracking error in the arm and pickup has been reduced to a minimum by careful design. The anti-friction vertical and lateral pivots and low mass allow the tone arm to track warped and eccentric records.

The tone arm is hinged at the pivot center to allow easy access to the underneath portion of the arm, thus providing immediate access to the pickup and wiring. The tone arm handle provides finger-tip control directly behind the pickup stylus, thus enabling the user to sense by touch as well as to see more accurately where the stylus is being set down. The MI-11895 is designed for mounting on 16-inch turntables and the MI-11894 tone arm for mounting on 12-inch turntables. All necessary mounting hardware is included.

## SPECIFICATIONS

### Lightweight 16-Inch Tone Arm, MI-11895

Tracking Error, 16-inch Record (C.D. 12")	4° max.
Pivot Bearings	Anti-resonant bearings in vertical and horizontal planes
Tone Arm Head Receptacle	Quick-lock, plug-in type
Construction of Arm	Aluminum casting
Finish	Light umber gray wrinkle
Length of Arm	16 3/4"
Height of Arm	Adjustable
Weight (arm, assembly, etc.)	2 lbs. approx.
Mounting	Approx. 12" from spindle center
Leads	3-conductor and shield

### Lightweight 12-Inch Tone Arm, MI-11894

Tracking Error, 12-inch Record	4° max.
Pivot Bearings	Anti-resonant in vertical and horizontal planes
Tone Arm Head Receptacle	Plug-in type
Arm Finish	Light umber gray
Length of Arm	12"
Width of Arm	Tapered 1 1/2" to 1/2"
Height of Arm	Tapered 3/4" to 1/4"
Approx. Shipping Weight (arm, assembly, etc.)	1 1/2 lbs.
Mounting	Approx. 8" from spindle center

## Ordering Information

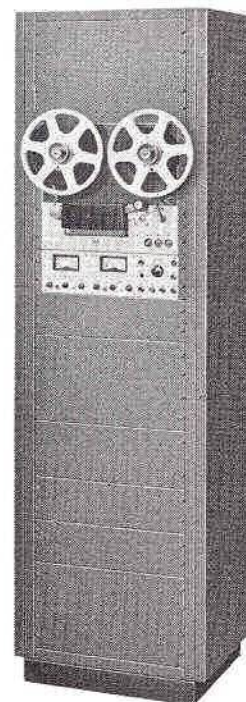
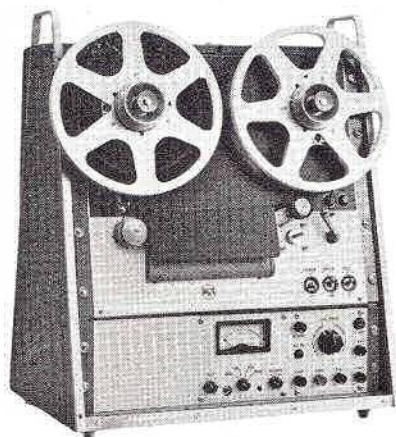
16-Inch Tone Arm (less pickup head) includes assembly complete with tone arm rest and mounting hardware	MI-11895
12-Inch Tone arm assembly (less pickup head) complete with tone arm rest and mounting hardware	MI-11894

## Accessories

BA-26A Pickup Equalizer-Preamplifier	MI-11436
Universal Cartridge (less stylus)	MI-11865
0.7 mil Diamond Stylus	MI-11866-7
1.0 mil Diamond Stylus	MI-11866-10
2.5 mil Diamond Stylus	MI-11866-25

# Professional Audio Tape Recorder

TYPE RT-21A



## Completely Transistorized

The RCA Type RT-21A Professional Tape Recorder is designed to meet rigid specifications and requirements set forth by broadcast and studio engineers for magnetic monaural or stereo tape operations. Utmost flexibility is provided in this all new complete transistor design, permitting programs to be recorded with greater ease.

The RT-21A basic recorder is supplied in two sections: a tape transport and a control panel which includes one amplifier. These components readily enable either a custom or standard installation to be made. The equipment is normally supplied for rack mounting. Console Cabinet and portable carrying case are optional equipment.

## Monaural or Stereo

The control panel of the RT-21A is divided into three sections. The left contains the monaural record/playback module, the center area contains provisions for a duplicate module (used for stereo recording) and the right side of the control panel contains operating controls in a convenient grouping.

The record/playback modules are similar in construction and are directly interchangeable. Front panel controls consist of the following: a record level control, playback level control, headset jack, bias adjustment and meter function selector to monitor, playback, record, bias and erase signals.

## Continuously Variable Speed Control and Interlocked Record Operation

The operating controls consist of the following: variable cue speed and related cue delegate button, record, start, stop, fast forward and fast reverse. The control panel features an interlocked record operation. This means that to place the machine in the record mode, the record button must first be depressed and then the start button to

begin operation. This interlock feature may be defeated by simple internal strapping so that the record button may be depressed at any time for editing purposes, etc. A record tally indicator is also provided and illuminates only after the record button is depressed. Rewind may be selected from stop position only. All controls are DC relay operated. The necessary 24 volt dc control voltages are generated within the recorder and are also available for remote control purposes.

## 3 $\frac{3}{4}$ and 7 $\frac{1}{2}$ in/sec. Tape Speed Provided (15 in/sec. available)

The RT-21A Tape Transport Panel accommodates either standard 10 $\frac{1}{2}$ -inch NAB reels or 7-inch EIA reels. Proper tape tension for 10 $\frac{1}{2}$  or 7-inch reels is provided by means of a toggle switch at the lower right of the panel. Also located in this same area are the main power on-off switch and a switch for selecting either high or low tape speeds. Proper tape equalization is automatically selected by the speed change switch. If desired 7 $\frac{1}{2}$  and 15-inch tape speeds can be provided.

## Easy Threading . . . Sapphires Used to Lift and Guide Tape

Threading of tape is simple and can be done without removal or movement of the head cover. A microswitch located on the take-up tension arm turns off the machine in case of tape breakage or end of tape. Sapphire tape guides are used throughout.



# Professional Audio Tape Recorder

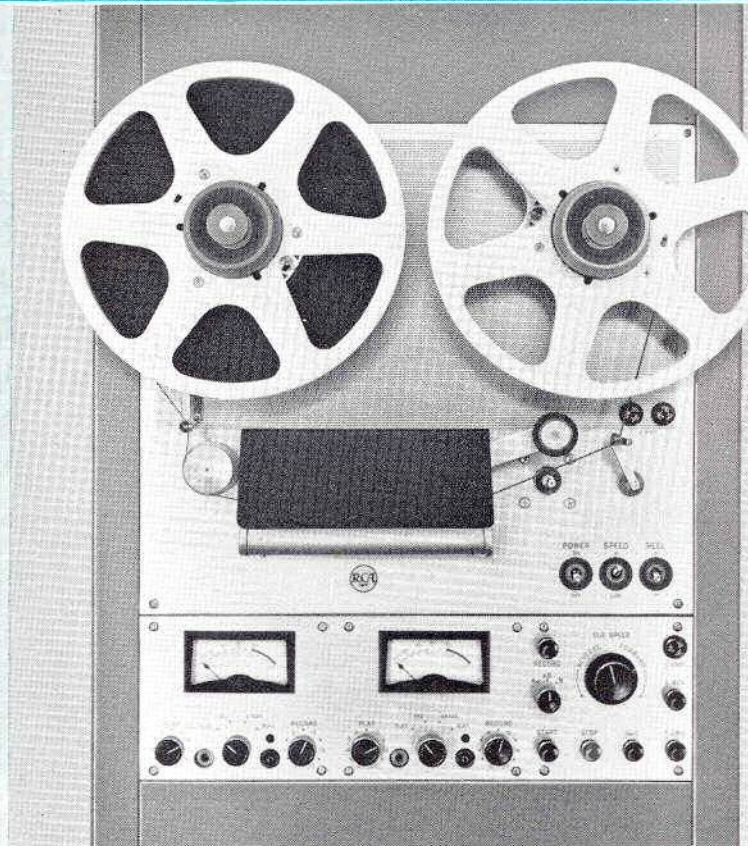
TYPE RT-21B

CATALOG

B.1704

## FEATURES

- Solid state design
- Monaural or stereo recording
- Continuously variable cue speed control
- D-c solenoid operated tape lifters
- Sapphire tape lifters and guides
- Interlocked record operation
- Designed for easy remote control
- 7½ and 15 or 3¾ and 7½ IPS tape speed models
- Rack, console or portable mounting
- Full track or dual half track
- Velocity sensing braking system



Stereo RT-21B Tape Recorder with accessory NAB Hubs and Reels.

## DESCRIPTION

The RCA Type RT-21B Professional Tape Recorder is designed to meet rigid specifications and requirements set forth by broadcast and studio engineers for magnetic monaural or stereo tape operations. Utmost flexibility is provided in this complete transistor design, permitting programs to be recorded with greater ease.

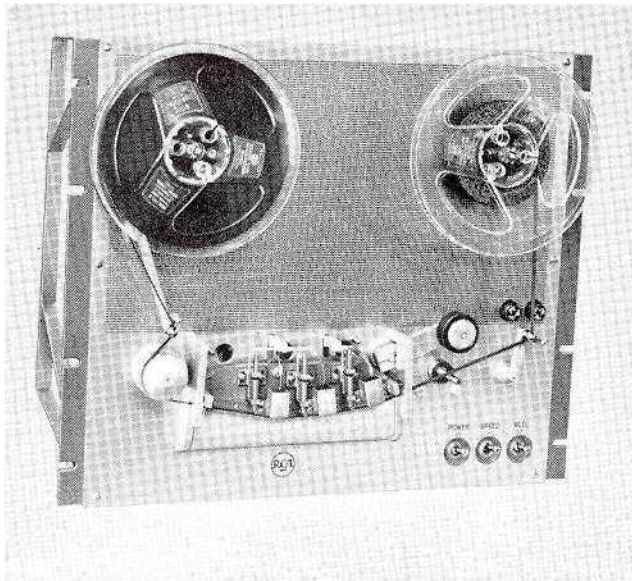
The RT-21B basic recorder is supplied in two sections: a tape transport and a control panel which includes one amplifier. These components readily enable either a custom or standard installation to be made. The equipment is normally supplied for rack mounting. Console Cabinet and portable carrying case are optional equipment.

The control panel of the RT-21B is divided into three sections. The center contains the monaural record/playback module, the left area contains provisions for a duplicate module (used for stereo recording) and the right side of the control panel contains operating controls in a convenient grouping. When recording in stereo it is possible to record both tracks simultaneously in a normal manner or either of the two half-tracks by means of the A/B selector switch.

The record/playback modules are identical and are directly interchangeable. Front panel controls consist of the following: a record level control, playback level control, headset jack, bias adjustment and meter function selector to monitor, playback, record, bias and erase signals. A record indicator light is associated with each amplifier so that when recording in stereo it is possible to quickly ascertain whether normal stereo or half track recording mode is selected.

### Continuously Variable Speed Control and Interlocked Record Operation

The operating controls consist of the following: variable cue speed and related cue delegate button, record, record delegate, start, stop, fast forward and fast reverse. The control panel features an interlocked record operation. This means that to place the machine in the record mode, the record button must first be depressed and then the start button to begin operation. This interlock feature may be defeated by simple internal strapping so that the record button may be depressed at any time for editing purposes, etc.



RT-21B Tape Transport with cover removed to reveal magnetic heads. Note cut-out provision on left for optional fourth head kit for playing pre-recorded stereo tapes.

All controls are DC relay operated. The necessary 24 volt dc control voltages are generated within the recorder and are also available for remote control purposes.

### Tape Transport

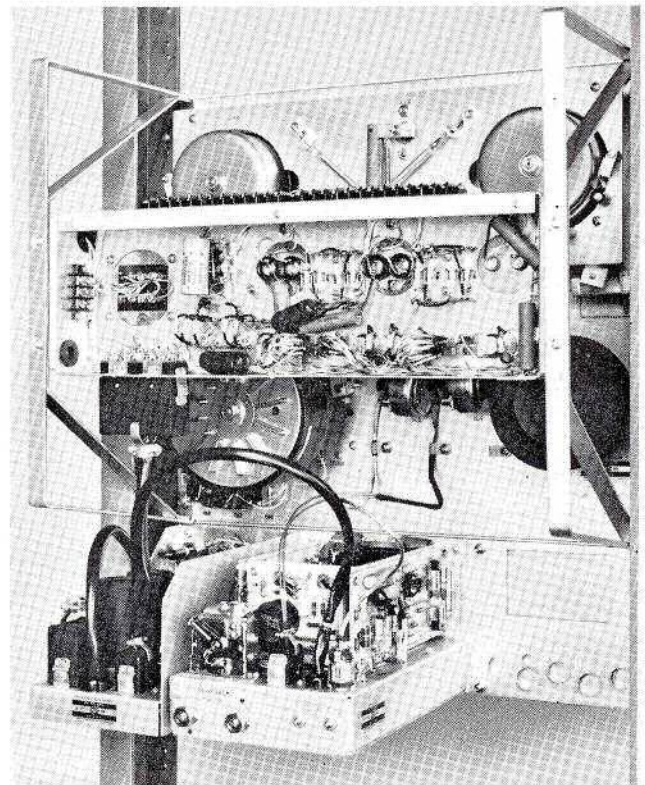
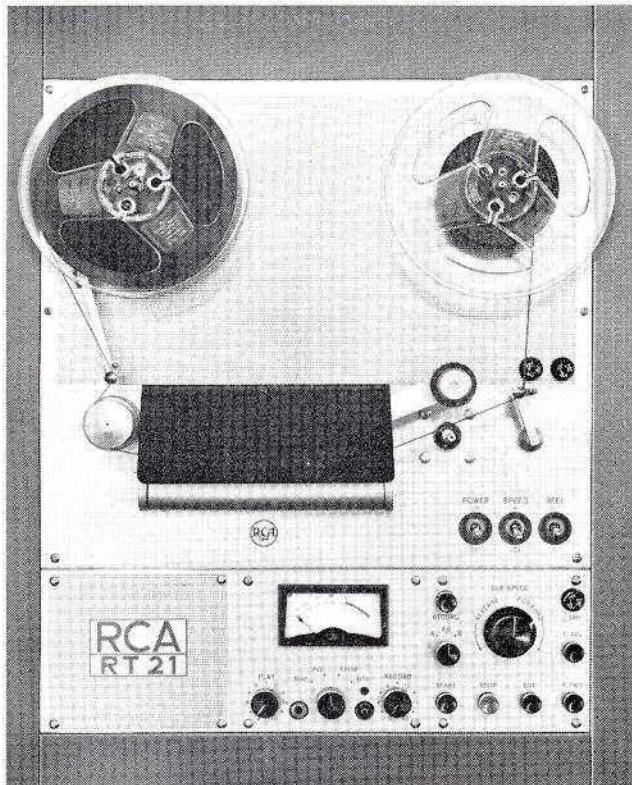
The RT-21B Tape Transport Panel accommodates either 10½-inch or 7-inch EIA reels. NAB 10½-inch reels and NAB hubs are available as accessory items. Proper tape tension for 10½ or 7-inch reels is provided by means of a toggle switch at the lower right of the panel. Also located in this same area are the main power on-off switch and a switch for selecting either high or low tape speeds. Proper tape equalization is automatically selected by the speed change switch. 7½/15 IPS and 3¾/7½ IPS models are available.

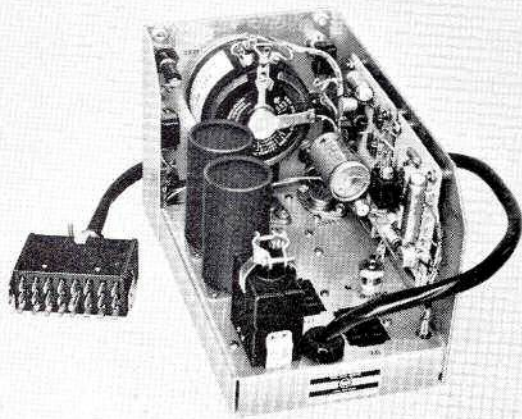
### Velocity Brake System

The smooth acting "Velocity sensing brake system" providing velvet smooth action is achieved in the RT-21B by use of large surface area brake hubs which are integral parts of the reel motors. A microswitch, controlled by the tape brake arm, cuts power to the capstan motor and drops out the control relays when the arm is in the down position. This safety feature stops the transport mechanism in the event of tape breakage. Power to the electronics is not controlled by this switch.

Threading of tape is simple and can be done without removal or movement of the head cover. A microswitch located on the take-up tension arm turns off the machine in case of tape breakage or end of tape. Sapphire tape guides are used throughout.

Front and rear views of RT-21B Tape Recorder showing tape transport at top, and control panel below. In rear view, the modular control unit is shown at left and amplifier module in center. Space at right supports a second amplifier module for stereo tape operation.

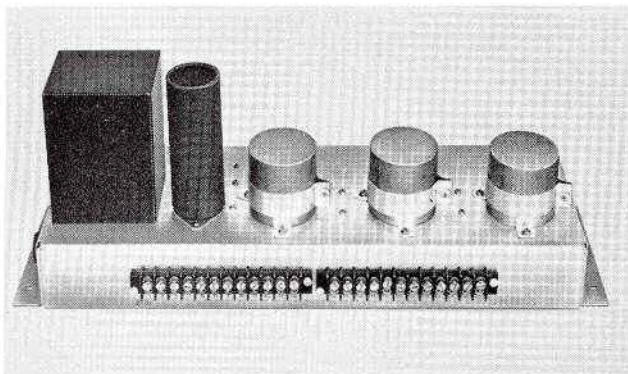




RT-21B features a master bias oscillator system. Master oscillator located in the control module (shown above) drives power amplifiers in each amplifier module. This provides synchronous bias voltage when employed in a stereo system.

### DC Solenoid Operated Tape Lifters

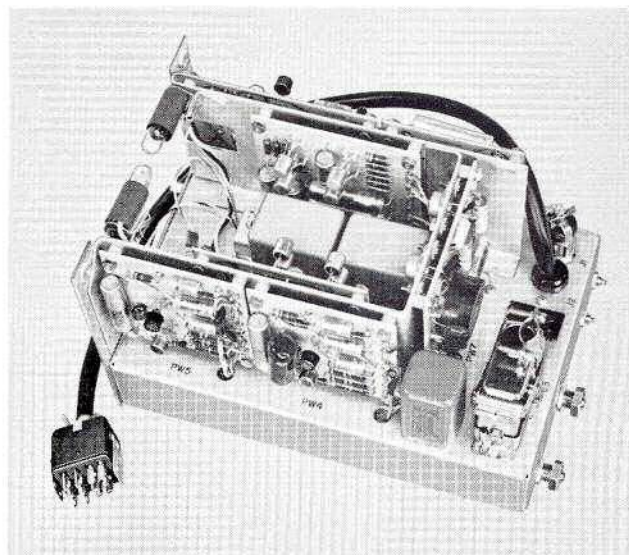
These are employed to lift the tape away from all magnetic heads whenever the machine is in the fast forward or fast reverse mode of operation. When the cue mode is selected, tape is then lifted from all heads except the playback head. This permits the operator to listen to the audio as he jockeys the tape for final cueing via the continuously variable speed control.



Relay Chassis Assembly of the RT-21B transport system including self-contained power supply for amplifiers and relays. Unit features long-life silicon rectifiers as shown in rear of unit on rear view of tape recorder on opposite page.

### Full Track or Dual Half-Track

A total of four magnetic head positions are available. The three heads normally supplied with the equipment provide full or dual half-track recording, erase and playback (depending on model ordered). An optional fourth head may be used for time delay broadcast and other special applications. A switchable dual quarter-track fourth head kit is available for playing pre-recorded stereo tapes. All azimuth head adjustments are available from the front panel by simply removing the snap-on protective cover.

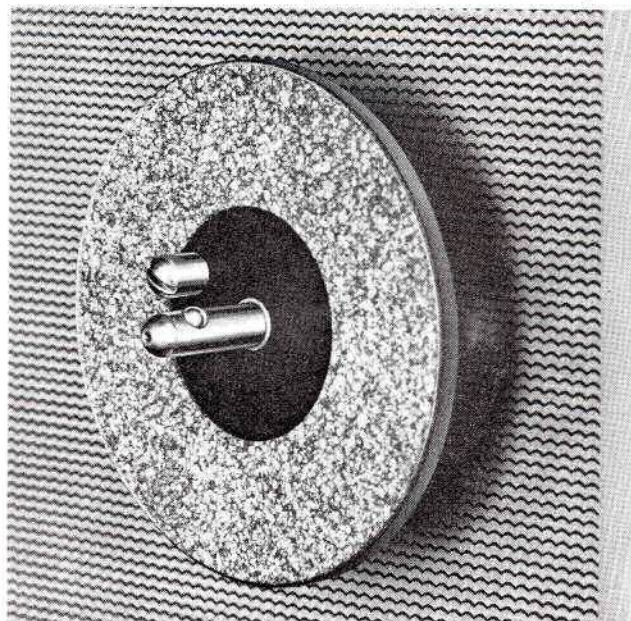


View of RT-21B Amplifier Module which features plug-in record equalizer. Vernier controls on rear of unit permit touch up equalization for both recording and playback. Note that transistors in new model are soldered to forked lugs for ease of replacement.

### Remote Control Panel

A Remote Control Panel for the RT-21B Tape Recorder is available as an optional equipment. The panel affords remote operation of all front panel operations except variable speed cue, including the A/B record facilities. The remote panel, however, has facilities for defeating the tape lifter on all heads, so that tape cueing can be accomplished by using the fast forward and fast reverse pushbuttons.

Close-up of one of the turntable platters showing spring-loaded ball on the take-up and supply reel shafts, and  $\frac{3}{8}$ -inch reel drive pin that greatly facilitates placement and removal of EIA reels on the transport. NAB hubs, an optional accessory, are easily secured to the platter.



## SPECIFICATIONS

Tape Speed	7½ and 15 IPS, 3¾ and 7½ IPS
Track Width	Full track or dual half (80 mil tracks)
Frequency Response (Overall):	
15 IPS	50-15,000 cps ±2 db full or half track (within 4 db at 30 cps)
7½ IPS	40-10,000 cps ±2 db full or half track (within 4 db at 30 cps and 15,000 cps)
3¾ IPS	40-7,500 cps ±2 db half track (within 4 db at 30 cps)
Signal-to-Noise Ratio:	Full Track    Half Track
15 IPS	60 db        55 db
7½ IPS	60 db        55 db
3¾ IPS	50 db
Flutter and Wow (Measured over a band of 0.5 to 250 cycles):	
15 IPS	0.1% rms
7½ IPS	0.15% rms
3¾ IPS	0.2% rms
Starting Time	0.1 second full speed
Stopping Time	2" of tape at 15 IPS
Playback Timing Uniformity	±3 seconds in 30 minutes
Rewind Time	Approximately 90 seconds for 2400 ft. on 10½" reel
Tape	¼" wide
Reels	7" and 10½" EIA (optional NAB hubs available)
Amplifiers	Independent Record and Playback Record Input:
Matching	150 ohms, balanced, unloaded input transformer (may be strapped for 600 ohms)
Bridging	20,000 ohms
Record Input Level:	
Matching	-70 to -20 dbm
Bridging	-30 to +20 dbm
Playback Output	+18 dbm, maximum into 600 ohms, balanced (normal program level of +8 vu)
Distortion	Less than 1% at 0 vu recording level, 400 cycles (Distortion limited by tape only)
Metering	3" illuminated vu meter reads record level, playback level, bias and erase current
Monitoring	Phone jack provided to enable headphone monitoring of either the record input signal before or during recording, or the playback signal while recording or during playback. A function switch simultaneously transfers the VU meter and phone jack to either the record amplifier or playback amplifier output so that aural, as well as visual level comparisons may be made between the original program and the recorded program. The same switch also delegates the VU meter to read bias or erase current.
Record Selector	Switch permits erasure and recording on either or both tracks of stereo machines
Record Equalization	Plug-in equalizers (50 microsec 7½/15 IPS) (80 microsec 3¾ IPS)
Bias	Screwdriver level adjustment on front panel. 80 kc frequency. Independent of line voltage variations.
Tape Lifters	Tape is removed from all heads, automatically during fast forward and fast reverse (tape lifters may be defeated from remote locations—see REMOTE CONTROL). Tape is removed from the erase and record heads when transport is in the cue mode of operation.
Remote Control	Provisions included for use of an optional remote control panel. All control functions (except variable cue speed) including record selector may be remotely controlled. Remote panel includes control for tape lifter release (all heads) so that tape may be cued from a remote location.
Power Supply	Self-contained. Supplies regulated 30 volts for amplifiers and unregulated 24 volts for relays
Power Requirements	105-125 volts, 50/60 cycles, single phase 115 watts monaural, 135 watts stereo
Transistor and Diode Complement:	
Record Playback Amplifier	
3-2N2270, 1-2N404, 3-1N3253, 5-2N526, 2-2N1183B,	
8-2N270, 1-1N34A	
Control Panel Module	
2-2N456, 2-2N1183B, 1-2N270, 4-1N1763, 1-2N526,	
4-1N3253, 1-1N1316	

Tape Transport	12-1N3253, 12-1N1763
Dimensions (Overall):	
Tape Transport	19" wide, 15¾" high, 9" deep
Amplifier Control Panel	19" wide, 5¼" high, 9" deep
Rack Space	21" total—Monaural or Stereo
Finish	Anodized aluminum overlay
Approximate Weight	75 lbs. monaural, 83 lbs. stereo

## Equipment Supplied

	115 V. 60 cycles	115 V. 50 cycles
Type RT-21B Professional Tape Recorder, Full Track, 3¾" and 7½" IPS, less NAB hubs	ES-41920-B	ES-41909-B
Consisting of the following:		
1 Tape Transport	MI-141120-B	MI-141109-B
1 Amplifier and Control Panel	MI-141321-A	MI-141321-A
1 Plug-in Equalizer	MI-141350-4	MI-141350-4
Type RT-21B Professional Tape Recorder, Dual Half Track, 3¾" and 7½" IPS, less NAB hubs	ES-41921-B	ES-41911-B
Consisting of the following:		
1 Tape Transport	MI-141121-B	MI-141111-B
1 Amplifier and Control Panel	MI-141321-A	MI-141321-A
1 Plug-in Equalizer	MI-141350-1	MI-141350-1
Type RT-21B Stereo Professional Tape Recorder, Dual Half Track, 3¾" and 7½" IPS, less NAB hubs	ES-41921-BS	ES-41911-BS
Consisting of the following:		
1 Tape Transport	MI-141121-B	MI-141111-B
1 Amplifier and Control Panel	MI-141321-A	MI-141321-A
1 Amplifier Module	MI-141351-A	MI-141351-A
2 Plug-in Equalizers	MI-141350-1	MI-141350-1
Type RT-21B Professional Tape Recorder, Full Track, 7½" and 15" IPS, less NAB hubs	ES-41930-B	ES-41910-B
Consisting of the following:		
1 Tape Transport	MI-141130-B	MI-141110-B
1 Amplifier and Control Panel	MI-141321-A	MI-141321-A
1 Plug-in Equalizer	MI-141350-3	MI-141350-3
Type RT-21B Professional Tape Recorder, Dual Half Track, 7½" and 15" IPS, less NAB hubs	ES-41931-B	ES-41912-B
Consisting of the following:		
1 Tape Transport	MI-141131-B	MI-141112-B
1 Amplifier and Control Panel	MI-141321-A	MI-141321-A
1 Plug-in Equalizer	MI-141350-2	MI-141350-2
Type RT-21B Stereo Professional Tape Recorder, Dual Half Track, 7½" and 15" IPS, less NAB hubs	ES-41931-BS	ES-41912-BS
Consisting of the following:		
1 Tape Transport	MI-141131-B	MI-141112-B
1 Amplifier and Control Panel	MI-141321-A	MI-141321-A
1 Amplifier Module	MI-141351-A	MI-141351-A
2 Plug-in Equalizers	MI-141350-2	MI-141350-2

## Optional and Accessory Equipment

NAB Reel Hubs for RT-21B Recorders	ES-41919
Consisting of:	
2 Reel Hubs	MI-41604
1 Empty 10½" Reel	MI-11932-2
Remote Control Panel for RT-21B Equipment	MI-141301-B
RT-21B Record/Playback Amplifier Module	MI-41351-A
Portable Carrying Case for RT-21A/B	MI-141302
Console Cabinet for RT-21B	MI-141303-A
Switchable 4th Head Kit (Dual ¼ track) for RT-21A/B	MI-41602
Spare Transistor Kit, RT-21B	#12H103
Stereo Connector Kit for RT-21A/B Portable Case	MI-41601
Bulk Magnetic Tape Eraser	MI-11992
RCA 1.5 Mil Professional Grade Magnetic Tape:	
¼" x 600 ft. on plastic reel	MI-11924-10
¼" x 1200 ft. on plastic reel	MI-11924-11
¼" x 2400 ft. on Hub	MI-11924-12
¼" x 2400 ft. on 10½" NAB metal reel	MI-11924-13
¼" x 2400 ft. on 10½" NAB plastic reel	MI-11924-14
¼" x 2400 ft. on EIA plastic reel	MI-11924-15
Auto. Transformer Kit (110/220 volts, 50/60 cps)	MI-41605



RADIO CORPORATION OF AMERICA

PRINTED  
IN  
U.S.A.





Type RT-21A Stereo Audio Tape Recorder, ES-41921-AS showing single module for monaural at left, a second module for stereo, center, and control unit on right below tape transport chassis.

### DC Solenoid Operated Tape Lifters

These are employed to lift the tape away from all magnetic heads whenever the machine is in the fast forward or fast reverse mode of operation. When the cue mode is selected, tape is then lifted from all heads except the playback head. This permits the operator to listen to the audio as he jockeys the tape for final cueing via the continuously variable speed control.

### Half-Track Recording with Full Track Option

A total of four magnetic head positions are available. The three heads normally supplied with the equipment provide dual half-track recording, erase and playback. Full-track heads are available. An optional fourth head may be used for time delay broadcast and other applications. A switchable dual quarter-track fourth head kit is available for playing pre-recorded stereo tapes. All azimuth head adjustments are available from the front panel by simply removing the snap-on protective cover.

## SPECIFICATIONS

Tape Type.....	1/4" wide magnetic
Reels.....	10 1/2" dia. (NAB); 7" or smaller (EIA)
Tape Speed.....	7.5" and 3.75" per second 7.5" and 15" per second available
Starting Time.....	0.1 sec full speed
Stopping Time.....	2" of tape at 15 ips
Playback Timing Accuracy.....	±3.0 secs in 30 min.
Flutter and Wow.....	0.25% rms at 3.75 ips 0.15% rms at 7.5 ips 0.1% rms at 15 ips
Rewind Time.....	Approx. 90 sec for 2400 ft. on NAB reel
Track Width.....	Full track or half track
Frequency Response:	
15 ips.....	50—15,000 cps, ±2 db
7.5 ips.....	40—10,000 cps, ±2 db
3.75 ips.....	50—7,500 cps, ±2 db
Signal-to-Noise Ratio:	
15 ips.....	60 db full track
7.5 ips.....	55 db half track
3.75 ips.....	50 db half track
Record Input Impedance:	
Matching.....	150 ohms (600 ohms by strapping input transformer)
Bridging.....	20,000 ohms
Record Input Levels:	
Matching.....	-70 to -20 dbm
Bridging.....	-30 to +20 dbm
Record Output Load.....	600 ohms
Record Output Level.....	+18 dbm max.
Playback Output Load.....	600 ohms
Playback Output Level.....	+18 dbm max.
Distortion at Maximum Recording Level.....	3% at 400 cps
Meter.....	3 1/2" illuminated, VU
Power Requirements.....	105—125 volts, 60 cps, single phase (50 cps optional); 110 watts monaural; 130 watts stereo
Power Supplies (Amplifier and Control Circuit).....	Self-contained
Erase and Bias Oscillator Frequency.....	80 kc/s
Cue Speed.....	Continuously variable in either direction
Remote Control.....	Optional; all functions except variable cue speed
Dimensions (overall):	
Tape Transport.....	19" wide, 15 3/4" high, 9" deep
Amplifier Control Panel.....	19" wide, 5 1/4" high, 9" deep

Weight.....	76 lbs.
Transistor and Diode Complement:	
Record/Playback Amplifier:	3—2N1010, 1—2N404, 2—1N2069, 7—2N526, 8—2N270, 1—1N34A
Control Panel Module:	2—2N456, 2—2N247, 1—1N1316, 1—2N270, 4—1N1763
Tape Transport Assembly:	10—1N2069, 12—1N1763

### Equipment Supplied

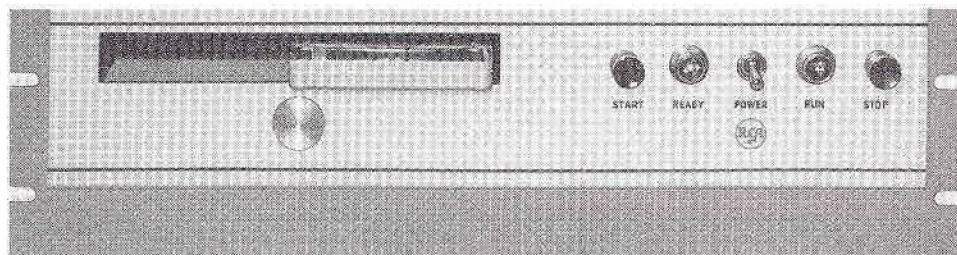
Type RT-21A Professional Audio Tape Recorder (Monaural Dual Half Track).....	ES-41921-A
Comprising the following:	
1 Tape Transport (3 3/4 and 7 1/2 ips).....	MI-141121-A
1 Amplifier Module (MI-41351) and Control Panel.....	MI-141321
Type RT-21A Professional Audio Tape Recorder (Stereo).....	ES-41921-AS
Comprising the following:	
1 Tape Transport (3 3/4 and 7 1/2 ips).....	MI-141121-A
1 Amplifier Module (MI-41351) and Control Panel.....	MI-141321
1 Record/Playback Amplifier Module.....	MI-141351
Type RT-21A Professional Audio Tape Recorder (Full Track).....	ES-41930-A
Comprising the following:	
1 Tape Transport (7 1/2 and 15 ips).....	MI-141130-A
1 Amplifier Module (MI-41351) and Control Panel.....	MI-141321
Type RT-21A Professional Audio Tape Recorder (Full Track).....	ES-41920-A
Comprising the following:	
1 Tape Transport (3 3/4 and 7 1/2 ips).....	MI-141120-A
1 Amplifier Module (MI-41351) and Control Panel.....	MI-141321

### Optional and Accessory Equipment

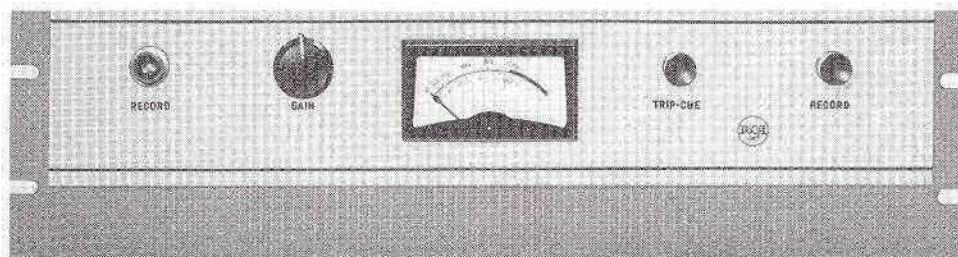
Record/Playback Amplifier Module.....	MI-141351
Portable Carrying Case.....	MI-141302
Console Cabinet.....	MI-141303
Remote Control Panel.....	MI-141301
Remote Control Housing.....	MI-141308
Amplifier Mounting Panel.....	MI-141307
Fourth Head Kit (quarter track).....	MI-141306
Switchable Fourth Head Kit (dual quarter track).....	MI-41602
Amplifier-Record/Playback Module.....	MI-141315-S
Stereo Connector Kit for RT-21 Cabinets.....	MI-41601
Spare Transistor Kit.....	#11A218

# Cartridge Tape System

## TYPE RT-7B



Playback Unit, Type RT-7B



Record Amplifier, Type BA-7B

### FEATURES

- Immediate playback of taped commercials without threading or cueing
- Complete transistor circuitry
- Full range frequency response at 7.5 IPS
- Cue tone for precision starts
- Trip-cue circuit for automation
- Microphone or line level recording
- Synchronous motor runs only when cartridge is inserted
- Remote control provisions
- Each unit only 5¼ inches high for standard rack or console mounting
- Dependable, quiet operation

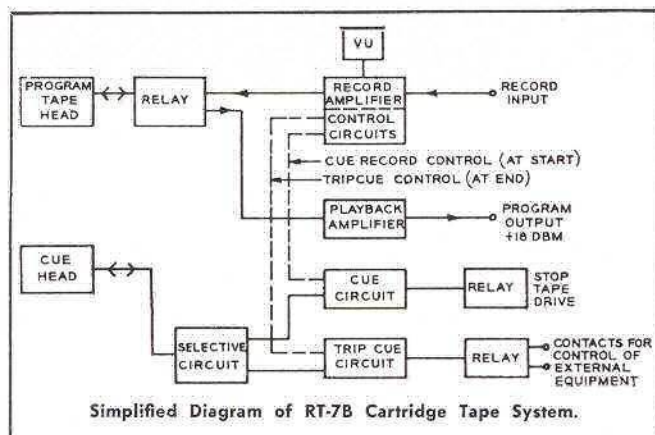
### DESCRIPTION

The RCA Tape Cartridge System, Type RT-7B, places split second control of recorded programming at the broadcaster's fingertips. Broadcast material from "Quickie" spot announcements to complete programs may be recorded and stored ready for instant selection and playback. Delayed broadcast, spot announcement campaigns, production aids, themes, station breaks—anything that can be recorded may be handled by the RT-7B with a minimum of time and effort, even by non-technical personnel. With tape cartridges, cueing and threading of tape is unnecessary. The desired cartridge is selected, placed in the playback unit and forgotten until "Air" time when it is instantly played back at the touch of the start button. Transistor circuitry, low power consumption, light weight and simplicity of operation makes the RT-7B an ideal choice for remote program recording or playback from remote broadcast locations.

In the TV studio, automatic operation of a slide projector may be accomplished by the trip-cue feature of the RT-7B. An announcement requiring one or more slides may be recorded with trip cues which, in turn, can be used to operate the slide projector as the announcement progresses.

The RCA Tape Cartridge System consists of two separate units, the Type RT-7B Playback Unit and the BA-7B Record Amplifier. Both units have a uniform panel height of only 5¼ inches and a panel width of 19 inches for standard rack or console mounting.

The RT-7B Playback Unit has been designed to reproduce tape cartridges loaded with lubricated tape varying in length from 40 seconds to 31 minutes. The RT-7B consists of a tape deck, power supply, playback amplifier and cue circuitry all designed for continuous use and housed in covered chassis. At the left of the front panel a horizontal



slot opening is provided for insertion of the tape cartridge. Manual controls, mounted to the right, include an "On-Off" toggle switch and "Start" and "Stop" pushbuttons. "Ready and Run" pilot lights indicate the operation condition of the equipment. Upon one insertion of a cartridge in the RT-7B, the "Ready" light comes on. When the "Start" button is depressed the "Run" light comes on and the tape moves across the playback and cue tone heads until a cue tone stops the equipment. At this point the "Ready" light is relit and the cartridge may be removed. Solenoid relays control the start and stop functions of the unit through impulses generated by a cue tone control circuit. These cue tone bursts are inserted automatically each time the tape is started during recording so that taped announcements may always be properly recued and ready for reuse.

A special feature of the RT-7B is the use of a second trip-cue circuit which is independent of the cue-tone circuit. This feature allows the broadcaster to record a second trip-cue tone immediately at the conclusion of the program material. The trip-cue, when activated, during playback can be used to start the next device in an automatic or semi-automatic system with split second timing.

The Record Amplifier, Type BA-7B, contains a 3-inch VU meter for correct level adjustments, an input gain control, trip-cue control, and a record set-up control and indicator lamp. The amplifier has sufficient gain to permit microphone recording and a bridging pad may be connected for recording at line level. Operating voltages for the BA-7B are supplied by the RT-7B Playback Unit. Careful consideration has been given to prevention of accidental recording. The recorder must be intentionally placed in the record mode before a recording can be made, and drops out of this mode whenever the tape is stopped. A cue tone is automatically recorded each time the START button is operated when in the record mode. Used cartridges can be erased with accessory Bulk Eraser, MI-11992.

Both Playback Unit and Record Amplifier are well shielded against r-f pickup interference, so that the units may be used at broadcast transmitter locations. Etched wiring circuit boards with all components including transistors mounted in place are available as spares to enable a station to quickly substitute circuits in case of difficulty.

### SPECIFICATIONS

Frequency Response.....	+2 db 50-12,000 cps at 7.5 ips ±4 db, 50 to 15,000 cps at 7.5 ips
Distortion.....	2% or less at normal recording level
Signal-to-Noise Ratio.....	55 db
Wow and Flutter.....	Less than 0.2% RMS
Tape Speed.....	7.5 ips
Power.....	115/230 volt, a-c, 50/60 cycles, single phase
Playing Time.....	1 sec. to 31 minutes in 3 basic cartridge sizes
Cueing Accuracy.....	Within 0.1 sec.
Starting Time.....	0.05 sec. or less
Output.....	+18 dbm, 150 or 600 ohms, balanced
Input Impedance.....	150 ohm matching, 20,000 ohm bridging
Input Level.....	-20 db maximum matching +18 dbm maximum bridging -70 dbm microphone
Bias Frequency.....	75 kc
Power.....	115/230 volt, a-c, 50/60 cycles, single phase
Power Consumption.....	Standby position-8 watts Ready position-29 watts Playback position-35 watts Record position-40 watts

#### Transistor and Diode Complement:

RT-7B Playback Unit		
6-2N220	1-2N301	2-2N404
1-2N406	7-2N586	1-2N1184B
1-1N60	1-1N721A	3-1N1763
1-1N3253	1-1R-66-4241	1-1R-CP-20
BA-7B Record Amplifier		
2-2N1010	3-2N526	1-2N406
1-2N586	1-1N3253	1-1N60

Finish.....Umber gray and satin etched aluminum

#### Dimensions Overall:

RT-7B.....	19" wide, 5 1/4" high, 12" deep
BA-7B.....	19" wide, 5 1/4" high, 10" deep

#### Weight:

RT-7B.....	35 lbs.
BA-7B.....	11 lbs.

### Ordering Information

RT-7B Playback Unit.....	MI-11957-B
BA-7B Recording Amplifier.....	MI-11958-B

### Accessories

Spare Transistor & Diode Kit for RT-7B.....	MI-11490-A
Spare Transistor & Diode Kit for BA-7B.....	MI-11491-A
RT-7 Playback Amplifier Board.....	MI-11994-1
RT-7 Power Supply Board.....	MI-11994-2
RT-7 Cue Amplifier Board.....	MI-11994-3
RT-7 Trip-Cue Amplifier Board.....	MI-11994-4
BA-7B Record Amplifier Board.....	MI-11994-6
Module Extender for BA-7A and RT-7A/B.....	MI-11976
Module Extender for BA-7B.....	MI-11976-B
Other RT-7 System components and spares including remote control panels, automatic switcher, console cabinets, cartridges and cartridge storage racks, etc. are described in RCA Catalog B.1725.	

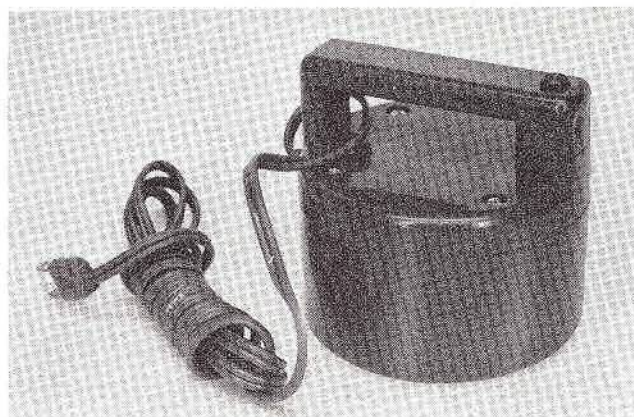
## CARTRIDGE TAPE BULK ERASER, MI-11992

Bulk Eraser, MI-11992, affords complete erasure of any 1/4-inch recorded reel of tape or tape cartridge. The eraser will demagnetize record-playback and erase heads, thus eliminating distortion and tape background noise problems.

The bulk eraser is housed in a plastic, hand-grip case measuring only 4 7/8 inches in diameter and 4 3/4 inches high overall. A momentary-contact, ON-OFF pushbutton safety switch prevents current being applied when not in use. To operate, simply plug into any a-c outlet and hold over the reel of tape, energize, then rotate the eraser around the tape for several seconds. Slowly withdraw the eraser from the tape to arms length before releasing on-off pushbutton.

### SPECIFICATIONS

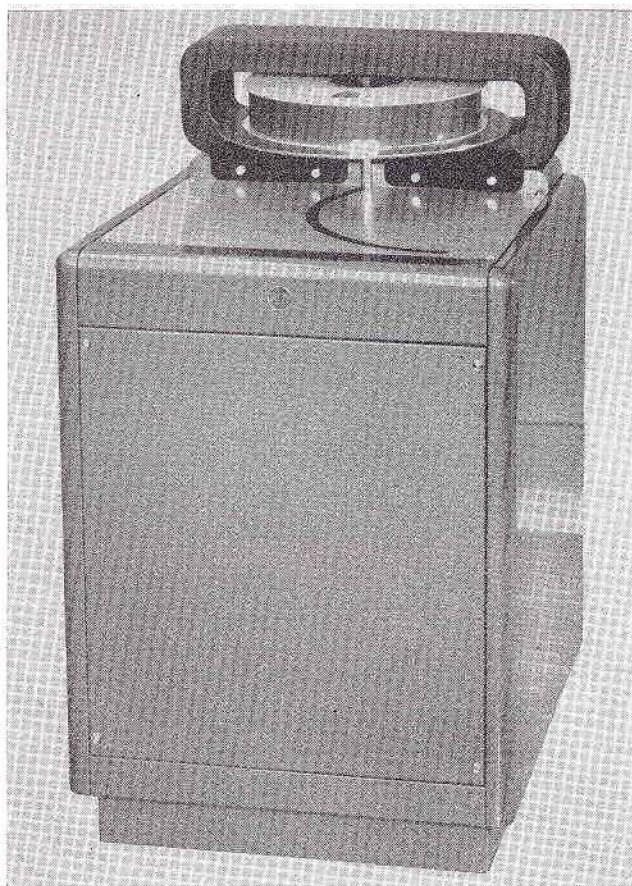
Power Consumption.....	100-130 volts, 50/60 cycles, a-c, single phase, 8.5 amps
Switch.....	Momentary contact rating 15 amp a-c inductive
Line Cord.....	8 ft. long
Dimensions (overall).....	4 7/8" dia. by 4 3/4" high (including handle)
Weight.....	4 lbs. approx.



### Ordering Information

Bulk Eraser complete in plastic, hand-grip type case, furnished with 8-foot line cord, moulded rubber plug.....MI-11992

## AUTOMATIC MAGNETIC TAPE ERASER, MI-10880



The new RCA Automatic Magnetic Tape Eraser is a self-contained unit mounted in a metal cabinet of table height requiring a floor space 22 inches square. The unit is designed to erase full reels of magnetic film or tape and will accommodate up to 15-inch reels.

Audio and video signals are erased down to the noise level of the magnetic medium in an automatic 18 second cycle. The erase cycle is fully automatic and controlled by a motor operated mechanism. Once the reel of tape is placed on the carriage and pushed into the operating position the erase cycle is set in motion without manual operation of any controls.

The use of an air core coil eliminates the possibility of "erasure spokes" so common in erasing with an iron core coil. Power factor correction with the air core coil provides a very high field strength from a nominal 12 ampere 220 volt input.

### SPECIFICATIONS

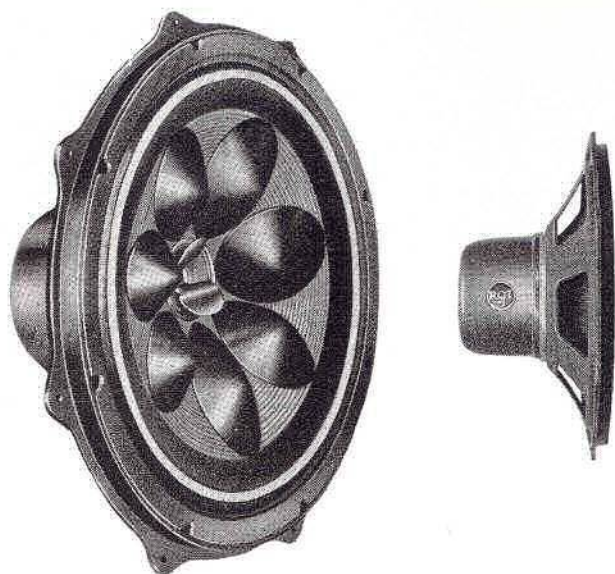
Capacity.....	6 rolls of 1/4" tape, 3 rolls of 1/2" tape; 2 rolls of 16mm film, 1 roll of 35mm film, or 1 roll of (2") TV tape
Roll or Reel Size.....	Up to 2" height and 15" diameter
Erase Cycle.....	18 seconds automatically controlled
Erase Coil.....	Air Core Type (approx. 650 gauss)
Degree of Erasure.....	Reduces a fully modulated signal to the noise level of the magnetic medium
Power Requirements.....	Approximately 12 amperes—220/115 volts 3 wire, 1 phase, 60 cycle (50 cycle units available on request)
Dimensions.....	22" long, 21 5/8" wide, 37 1/2" high
Weight.....	235 lbs.

### Ordering Information

Automatic Magnetic Tape Eraser.....MI-10880

# Duo-Cone Speaker Mechanism

TYPE LC-1A



## FEATURES

- Excellent frequency response, uniform 40-16,000 cycles
- Low non-linear distortion
- Ideal for monitoring AM, FM and television programs
- Alnico V magnets
- Wide angle sound radiation of all frequencies

## DESCRIPTION

The LC-1A is a "Broadcast Quality" loudspeaker with a low distortion, wide angle distribution, of extended frequency range, and specifically designed for use in recording studios, executive offices, reception rooms, sponsors' booths, control rooms or other locations that warrant the finest sound possible.

For applications where it is desired to mount the mechanism on a wall baffle, ceiling, etc., the speaker mechanism may be used with assurance that the entire frequency range will be realized. The speaker's outstanding performance makes it ideal for wide frequency range wide angle radiation.

The LC-1A Loudspeaker is a duo-cone coaxial speaker providing low distortion and broad frequency response over a wide angle. The two cones are direct radiators and are driven by separate voice coils. An electrical filter consisting of a 4 mf capacitor and the inductance of the low-frequency voice coil delivers the low frequencies to the large outer cone and the high frequencies to the small inner cone. The filter (or crossover network) reduces the response of the low-frequency unit above 1600 cycles, and that of the high-frequency unit below 1600 cycles.

Because of careful mechanical design, this speaker gives wide range smooth response from 60 to 15,000 cycles with low harmonic distortion and with very uniform distribution over a 140 degree angle. This outstanding performance is largely due to an important innovation in the LC-1A—the use of acoustical domes on the low-frequency cone and a diffractor on the high-frequency cone. The domes

and diffractor break up the units' symmetry. This prevents reflections from the outer cone housing (caused by the units' extremely wide dispersion angle) from combining with directly radiated sound to produce dips and peaks in the response.

Other features of the construction are: a sturdy die-cast aluminum frame; separate Alnico V magnets for high and low frequencies; a high-frequency voice coil wound with aluminum wire to get full high-frequency range; ample gap clearances and a low frequency diaphragm with natural cut-off effected by high mass and inductance voice coil and natural resonance not over 45 cycles. In addition, the high frequency diaphragm is mounted co-axially with the low frequency diaphragm and the two conical surfaces are in line. This minimizes out of phase components in the cross-over range. Smoother response is also obtained by the shallow angle of the diaphragm, and offset mounting which places the face of the diaphragm practically flush with the face of the baffle, and special dampening of H.F. and L.F. rim to minimize edge reflections.

A feature of construction is the use of acoustical domes—largely responsible for smooth response. The series of domes placed on the speaker's large cone breaks up the unit's symmetry and eliminates the interference normally characteristic of the symmetrical shape without sacrifice of either highs or lows.

The cross-over network utilizes the physical characteristics of the cones to mutually vibrate in unison over the cross-over frequency region and merely employs one capacitor

in the high frequency unit to limit its current at low frequencies.

The LC-1A is designed for housing either in the Olson Floor Cabinet, MI-11415, or Wall Mount Speaker Housing, MI-11406. The floor cabinet, functionally styled in walnut with satin finish, is especially designed to reduce variations in frequency response due to diffraction effects.

**SPECIFICATIONS**

**LC-1A Speaker Mechanism**

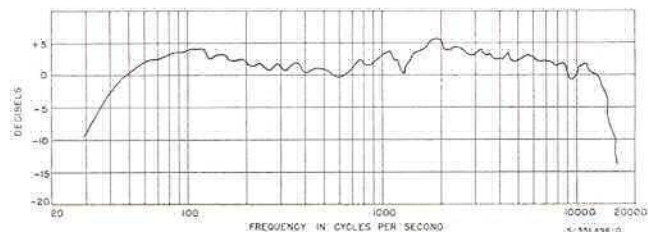
Impedance (nominal).....	15 ohms
Frequency Response (see curve).....	40-16,000 cps
Directional Characteristic.....	See curve
Distortion .....	See graph
Sensitivity.....	92.5 db (measured with 1 watt signal at 4 ft.)
Power Handling Capacity.....	20 watts
Non-linear Distortion (for 10 watt output, 50-15,000 cycles)	Less than 4% at 60 cycles

**Dimensions:**

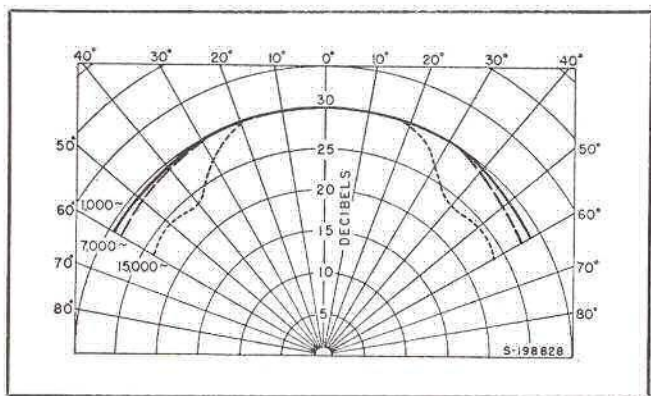
Diameter (cone) .....	15 5/16"
Diameter (bolt fixing circle).....	16 1/4"
Diameter (overall frame).....	17"
Depth .....	7 7/16"
Weight (unpacked).....	21 lbs.

**Ordering Information**

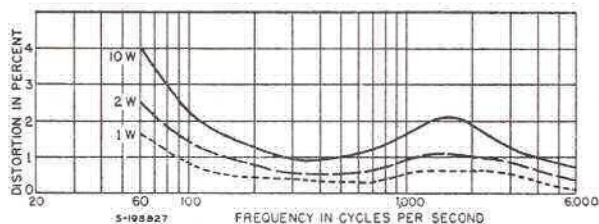
LC-1A 16" Duo-Cone Speaker Mechanism..... MI-11411-A



Frequency Response Curve of LC-1A Speaker.

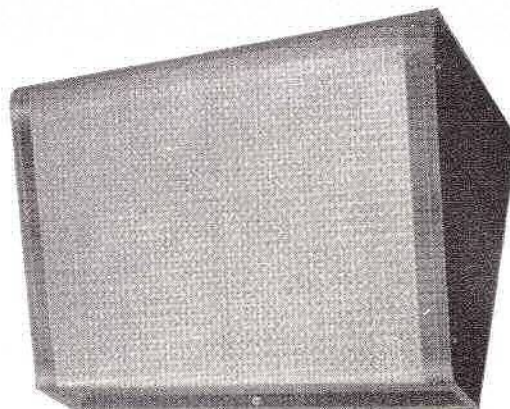


Directional Characteristics of LC-1A Speaker.



Harmonic Distortion of LC-1A Speaker.

**LS-1A WALL HOUSING**



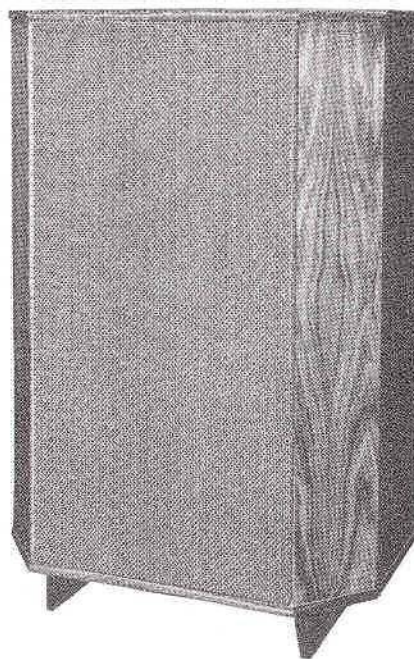
**SPECIFICATIONS**

Mounting.....	30° or 60° angle
Dimensions:	
Height (max.) .....	21 3/4"
Width (overall) .....	37 1/2"
Depth (max.) .....	17 1/8"
Finish .....	Umber gray with woven plastic grill cloth
Weight .....	45 lbs.

**Ordering Information**

LS-1A Wall Speaker Housing..... MI-11406

**LS-11A FLOOR HOUSING**



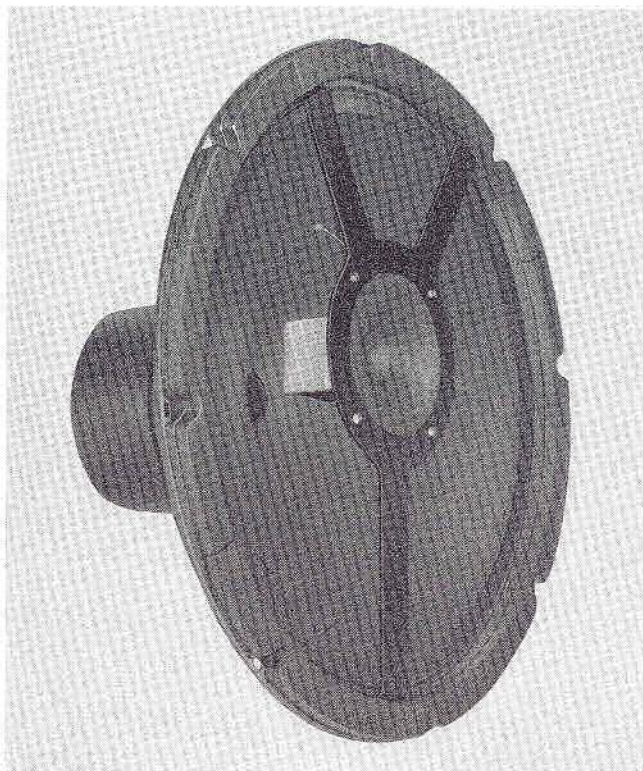
**SPECIFICATIONS**

Dimensions (Exterior):	
Height (including 4-inch legs).....	44"
Width .....	28 1/2"
Depth .....	16"
Finish .....	Satin Walnut
Weight .....	64 lbs.

**Ordering Information**

LS-11A Olson Floor Cabinet for LC-1A..... MI-11415

# Loudspeakers and Accessories

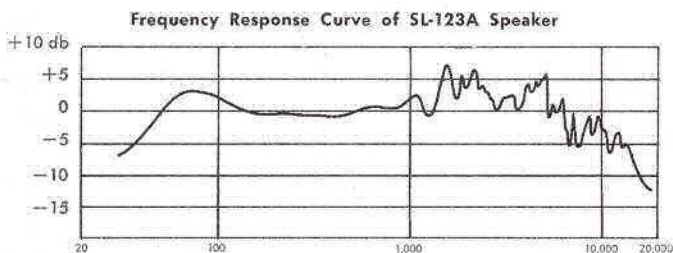


## SL-123A 12-INCH SPEAKER

Frequency Response.....	Uniform from 40 to 15,000 cycles (see curve)
Axial Sensitivity.....	97 db at 4 ft. with 1 watt input
Crossover Network.....	5000 cycles
Input Impedance.....	8 ohms
Power Handling Capacity.....	15 watts
Magnet Material.....	Alnico V
Magnet Weights:	
Low Frequency.....	14.5 ozs.
High Frequency.....	1.47 ozs.
Over-all Diameter.....	12-7/32"
Mounting Data.....	8 equally spaced holes on 11 <sup>3</sup> / <sub>16</sub> " circle
Depth.....	6-5/32"
Weight.....	4 lbs.

### Ordering Information

SL-123A 12-Inch Speaker Mechanism.....	MI-38314
LS-3A Wall Cabinet.....	MI-11407-A
Matching Transformer for 4 or 15 ohms.....	MI-11731

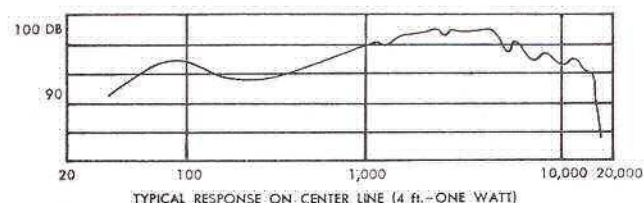


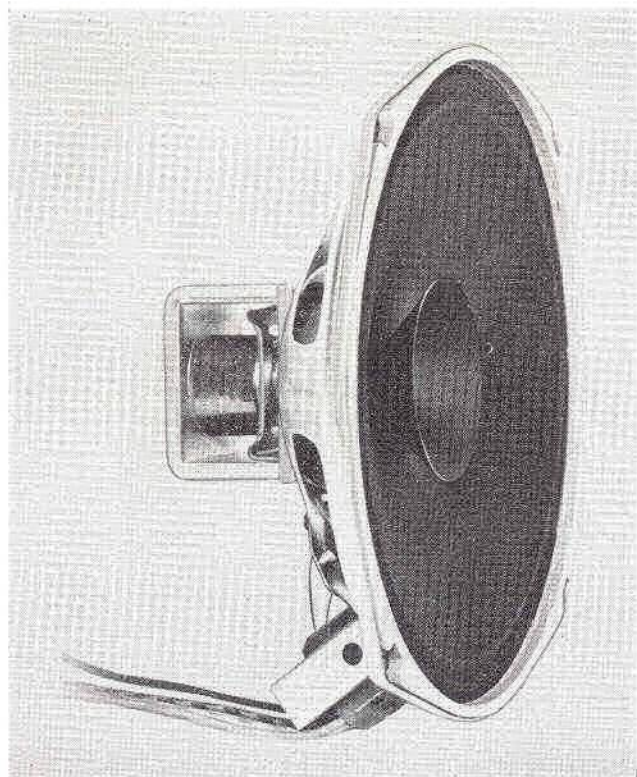
## SL-12A 12-INCH SPEAKER

Frequency Response.....	50 to 15,000 cycles
Power Handling Capacity.....	10 watts
Magnet Weight.....	Alnico V 14.5 ozs.
Input Impedance.....	8 ohms (see curve)
Axial Sensitivity (at 4 ft., 1 watt).....	95 db
Cone Resonance (6 <sup>1</sup> / <sub>2</sub> cubic ft. cabinet).....	75 cps
Mounting Data (EIA).....	4 equally spaced holes on an 11 <sup>3</sup> / <sub>16</sub> " bolt circle
Voice Coil Diameter.....	1"
Flux Density.....	11,500 Gauss
Overall Diameter.....	12 7/32"
Overall Depth.....	6 5/32"
Weight.....	4 lbs.

### Ordering Information

SL-12A 12-Inch Speaker Mechanism.....	MI-38315-A
LS-3A Wall Cabinet.....	MI-11407-A
Matching Transformer for 4 or 15 ohms.....	MI-11731



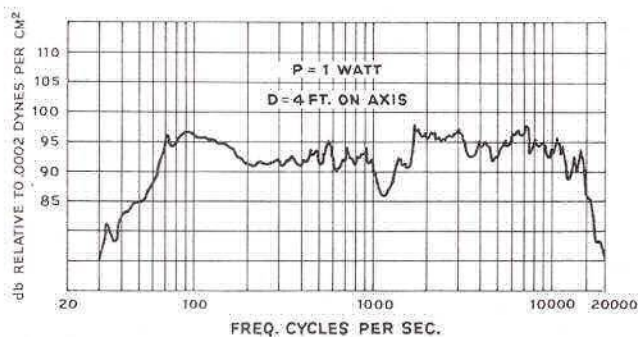


### 8-INCH UTILITY SPEAKER

Power Handling Capability.....	10 watts
Axial Sensitivity.....	96 db @ 4 ft. with 1 watt input
Frequency Response.....	50-15,000 cycles
Magnet Material and Weight.....	3.16 oz. Alnico V
Gap Flux Density.....	9000 lines/cm <sup>2</sup>
Voice Coil Impedance.....	3.2 ohms @ 400 cycles
Voice Coil Size.....	3/4"
Outside Diameter.....	8 1/4"
Depth.....	3 1/2"
Mounting Data.....	4 equally spaced holes on 7 5/8" bolt circle
Net Weight.....	31 oz.
Transformer Data:	
16,000 Ohms.....	Red-Black
8,000 Ohms.....	Red-Red/Black
4,000 Ohms.....	Red-Red/Yellow
1,400 Ohms.....	Black-Red/Black
700 Ohms.....	Red/Yellow-Red/Black

#### Ordering Information

8-Inch Utility Speaker with Transformer.....	MI-12454-B
8-Inch Speaker Cabinet.....	MI-6104

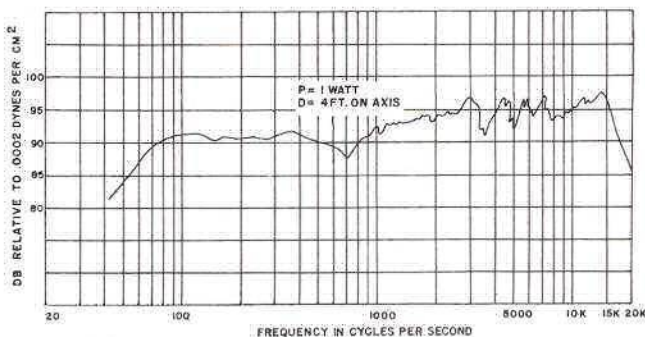


### SL-8B 8-INCH SPEAKER

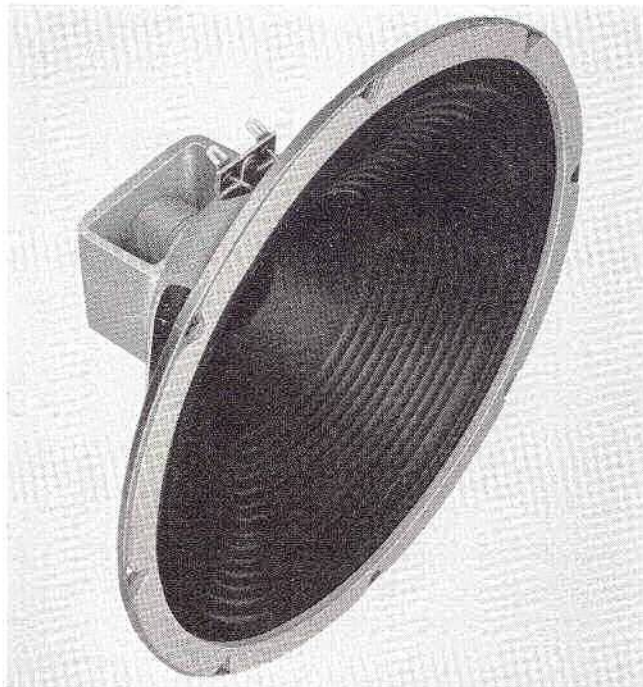
Frequency Response.....	50 to 18,000 cycles
Power Handling Capacity.....	10 watts
Magnet Weight.....	6.8 ounces
Input Impedance.....	8 ohms
Overall Diameter.....	8 1/8 inches
Depth.....	4 3/16 inches
Weight.....	2 3/4 pounds
Axial Sensitivity at 4 ft. 1 watt, see curve.....	92 db
Cone Resonance (6 1/2 cubic ft. cabinet).....	74 cps
Mounting Data (EIA).....	4 equally spaced holes on a 7 5/8" bolt circle
Flux Density.....	9,000 Gauss

#### Ordering Information

SL-8B 8-Inch High Fidelity Speaker.....	MI-38311-A
8-Inch Speaker Cabinet.....	MI-6104
Matching Transformer for 4 or 15 ohms.....	MI-11731







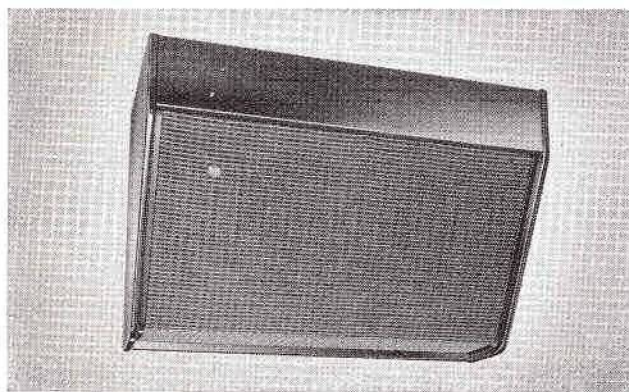
### 10-INCH CUE SPEAKER

Frequency Range .....60-7000 cycles  
 Power Handling Capacity.....10 watts  
 Voice Coil Impedance.....4 ohms  
 Overall Diameter .....10 1/8"  
 Overall Depth .....4 1/4"  
 Weight (unpacked).....2 1/8 lbs.

#### Ordering Information

10-Inch Cue Speaker .....MI-11408  
 Line Matching Speaker Transformer for 8 or 15 ohms.....MI-11731

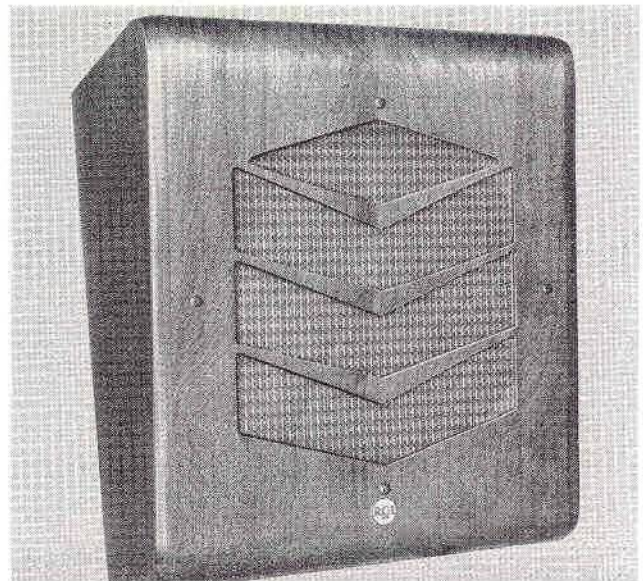
### LS-3A WALL HOUSING



Volume.....2700 cu. in.  
 Finish .....Dark umber gray  
 Dimensions (overall).....16 3/16" high, 25" wide, 11 1/2" deep  
 (front to back)  
 Weight .....Approx. 12 lbs.

#### Ordering Information

LS-3A Wall Housing for 10- and 12-Inch Speakers.....MI-11407-A



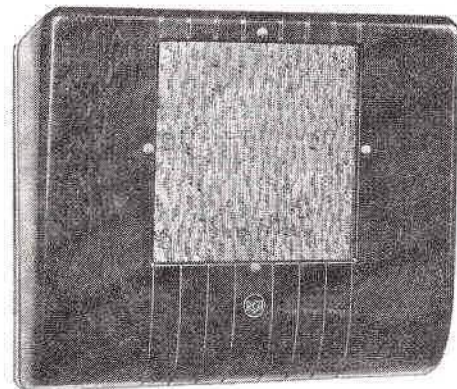
### 10/12-INCH WOOD BAFFLE

Housing.....For standard 10" or 12" loudspeaker  
 Material.....Top, front and bottom, one piece walnut  
 finish veneer, reinforced wood sides, open back. Two-tone grill  
 cloth of woven plastic matching walnut finish  
 Finish .....Walnut grained  
 Mounting .....Brackets furnished  
 Dimensions.....14" wide, 16 1/2" high, 8 1/2" deep (max.),  
 clearance (center of speaker) 6 3/4"  
 Weight .....3 lbs. 10 oz.

#### Ordering Information

10/12-Inch Wood Baffle.....MI-13253-A/MI-13245-A

### MOLDED PLASTIC BAFFLE



Housing.....For standard 8" loudspeaker  
 Material.....Molded, walnut-grained, fire-resistant  
 thermosetting plastic. Two-tone plastic grill cloth  
 Mounting.....Two brackets and hardware supplied  
 Dimensions.....15 1/4" wide, 12 1/4" high, 5 3/8" deep (max.)  
 4" clearance (center of speaker)  
 Weight .....3 1/4 lbs.

#### Ordering Information

Molded Plastic Baffle for 8-Inch Speaker.....MI-6104

**RCA SERVICE COMPANY**  
A DIVISION OF RADIO CORPORATION OF AMERICA  
CAMDEN, NEW JERSEY 08101



RECONDITION YOUR BROADCAST MICROPHONES AND PICK-UPS...NOW...  
TO HELP AVOID FAILURE LATER!

If your microphones or pick-ups are not operating at peak efficiency, it will pay you to take advantage of RCA's complete test, repair and reconditioning service. A new price sheet covering these special services is enclosed.

Microphones and pick-ups, like all precision electronic equipment, should be inspected and reconditioned periodically to insure the most satisfactory performance. Otherwise, you are risking poor signal quality.

Our service is designed to assure efficient performance from each microphone. The repair or reconditioning service consists of replacing all defective parts including cable, repair or replacement of bent grills and refinishing the housing. A final frequency and output curve is run to insure your microphone will meet RCA's rigid factory specification of a new microphone.

RCA Microphone Test Service

Something new has been added in conjunction with our microphone repair service. For a fixed fee of \$5.00 your microphone will be tested and returned to you if it performs satisfactorily. If your microphone does not perform within its specifications, you will be advised so that you can either authorize the repair (in which case the \$5.00 will be applied to the repair fee) or request that the microphone be returned unrepai red.

Take advantage of this facility by sending your microphone or pick-up directly to RCA Service Company, Microphone Repair Department, 11th and Wright Avenue, Camden 3, N.J. No return authorization is needed--just your purchase order.

Be sure your microphone is well packaged so that it is not damaged in transit. Please indicate nature of the defects, if known, and specify overhaul or test service, whichever you desire.

Cordially,

A handwritten signature in blue ink that reads "J. C. Geiger".

J. C. Geiger, Manager  
Repair Department

JCG/mr



THE MOST TRUSTED NAME IN ELECTRONICS

NUMBER


**RCA SERVICE COMPANY**  
 A DIVISION OF RADIO CORPORATION OF AMERICA

DATE

11-1-64

# PRICE SCHEDULE

## Repair and Reconditioning Charges for Microphones

### GROUP "A" - \$18.00\*

TYPE

MI

 4010  
 4035 (74A)
TYPE

MI

 4036 (74B)  
 12000  
 12001
TYPE

MI

 12039 (SK-39)  
 12045 (SK-45, 45-B)  
 12081 (KNIA)

### GROUP "B" - \$24.00\*

MI

 4048 (88A)  
 6206  
 6207  
 11001 (KB-2C)

MI

 11007 (BK-1A)  
 11013 (BK-6A)  
 11017 (BK-6B)  
 12002 (KB-2A)

MI

 12003 (KB-2B)  
 12018 (KB-2A-2B)  
 12035 (SK-35)  
 12046 (SK-46)

### GROUP "C" - \$29.00\*

MI

 2199 (77-B1)  
 3043  
 3044  
 4001 (PB-115B1)  
 4025 (44A)  
 4026 (44B)  
 4027 (44BX)

MI

 4030 (50A)  
 4040 (77A)  
 4042 (77B, C)  
 4043 (77B1)  
 4044  
 4045 (77D)

MI

 6203  
 6204  
 11005 (BK-4A)  
 11006 (77, BX)  
 11010 (BK-5A)  
 11019 (BK-11A)  
 12034 (SK-50)

### \*TEST ONLY \$5.00

Customer to specify that test only is desired. Otherwise normal overhaul procedure will be followed.

### Repair and Reconditioning Charges for Pickups

TYPE

Lateral

MI NUMBERS
 4856 - Stk. 17824 - 18895  
 (Broken armatures not repairable)
PRICE

\$25.50

Universal

 4875 - Stk. 43466  
 11874 - 4  
 11874 - 5

25.50

25.50

25.50

RCA reserves the right to reject any item for repair if, in our opinion, it is crushed, burned, or otherwise beyond repair.

**ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE**

# **PRICE LIST**

**FOR**

# **Broadcast Audio Equipment**



**PRICES EFFECTIVE OCTOBER 1, 1964**

Broadcast and Communications Products Division  
Radio Corporation of America  
Camden 2, N. J.

# ORDERING INFORMATION

RCA broadcast equipment is sold directly to broadcast stations through the Broadcast Sales Representatives operating out of the convenient sales offices listed below. These Broadcast specialists are available to assist you in discussing the application of broadcast equipment.

In ordering equipment, please indicate the Master Item (MI) number for each equipment. This will help us to speed the shipment to you. You will find the Master Item (MI) numbers are used to identify the equipment on the invoices and packing slips.

The Purchaser shall be responsible for all transportation charges, and shipments will normally be forwarded with shipping charges "collect." However, shipping charges can be prepaid and added to the billing invoice if your purchase order authorizes this method. We suggest that you consider the latter procedure since it eliminates the necessity of having petty cash on hand at the time of delivery. Your purchase order should specify the method of transportation desired, otherwise RCA will use its best judgment. The cheapest method of transportation is not always used as this may not always result in the most rapid delivery. Certain items, such as vacuum tubes, are usually shipped by Express because of the design of carrying container, insurance, etc.

---

## Sales Offices

Front & Cooper Streets  
CAMDEN 2, NEW JERSEY  
Woodlawn 3-8000

1121 Rhodes-Haverty Building  
ATLANTA 3, GEORGIA  
524-7703

4605 Laurel Canyon Drive  
AUSTIN, TEXAS  
Glendale 3-8233

2700 W. Olive Street  
BURBANK, CALIFORNIA  
849-6741

504 Charlottetown Mall  
CHARLOTTE 4, NORTH CAROLINA  
333-3996

2000 Merchandise Mart Plaza  
CHICAGO 54, ILLINOIS  
467-5900

1600 Keith Building  
CLEVELAND 15, OHIO  
Cherry 1-3450

7901 Carpenter Freeway  
DALLAS 35, TEXAS  
Melrose 1-3050

Dedham Office Park  
886 Washington Street  
DEDHAM, MASSACHUSETTS  
Davis 6-8850

501 N. LaSalle Street  
INDIANAPOLIS, INDIANA  
Melrose 6-5321

7711 State Line Road  
KANSAS CITY 15, MISSOURI  
Emerson 3-6770

2110 Airways Blvd.  
MEMPHIS, TENNESSEE  
324-4434

5805 Excelsior Blvd., Suite A  
MINNEAPOLIS, MINNESOTA  
929-3033

36 West 49th Street  
NEW YORK 20, NEW YORK  
MU 9-7200

420 Taylor Street  
SAN FRANCISCO 2, CALIFORNIA  
Ordway 3-8027

2246 First Avenue, South  
SEATTLE 4, WASHINGTON  
Main 2-8350

Rm. A3-300, Southfield Office Plaza  
SOUTHFIELD, MICHIGAN  
357-0080

1725 K Street, N.W.  
WASHINGTON 6, D. C.  
Federal 7-8500

1645 S. Military Trail  
WEST PALM BEACH, FLORIDA  
683-2219

# Price List For Broadcast Audio Equipment Catalog

(Fifth Edition)

## TABLE OF CONTENTS

	<i>Page</i>
Microphones . . . . .	4
Microphone Stands and Booms . . . . .	4
Microphone Adaptors . . . . .	4
Microphone Cables . . . . .	4
Microphone Plugs and Receptacles . . . . .	5
Consolettes . . . . .	5
Consolettes and Studio Accessories . . . . .	5
Custom Equipment . . . . .	5
Amplifiers . . . . .	5-6
Power Supplies . . . . .	6-7
Rack and Miscellaneous Equipment . . . . .	7
Jack Panels, Mats and Cords . . . . .	7
Cable . . . . .	8
Audio Accessories . . . . .	8
Turntables . . . . .	8-9
Recording Equipment . . . . .	9-10
Loudspeakers . . . . .	10
Test Equipment . . . . .	10

NOTE: This is a U.S. Domestic Price List including prices of items designed for 115 volt, 60 cycle operation and for U.S. television scanning standards. Prices on equipment for foreign power and scanning standards are available upon request.

# AUDIO EQUIPMENT AM - FM - TV

## MICROPHONES

Page No.	MI Number	Type Number	Description	Price
5-6	4045-F	77-DX	Polydirectional Microphone .....	\$ 206.00
5-6	11006-C	77-DX	Polydirectional Microphone (TV Low Luster Gray) .....	197.00
7	11007	BK-1A	Pressure Microphone .....	73.50
8-9	11010-A	BK-5B	Uniaxial Microphone .....	146.50
8-9	11012	.....	Boom Unit (for BK-5B) .....	40.00
8-9	11011	.....	Wind Screen (for BK-5B) .....	16.50
10-11	11017-A	BK-6B	Miniature Dynamic Microphone .....	86.00
12-13	11019	BK-11A	Velocity Microphone .....	131.25
14	12046	SK-46	Program Velocity Microphone .....	49.00
15	12045-B	SK-45B	Pressure Microphone .....	45.00
15	12039-A	SK-39	Aerodynamic Microphone .....	23.40
16	10001-C	KU-3A	Unidirectional Microphone .....	575.00
17	10006-A	.....	Varidirectional Microphone with Small Windscreen .....	400.00
17	10008	.....	Ultradirectional Attachment .....	95.00
17	10003	.....	Large Windscreen (for MI-10006 without MI-10008 Attachment) .....	90.00
18	11023-A	BN-10A	Microphone-Amplifier .....	258.00

## MICROPHONE STANDS AND BOOMS

19	4092-E	91-C	Desk Stand .....	16.25
19	11008	KS-11A	Desk Stand (for BK-1A and BK-11A Microphones) .....	7.75
19	11021-3	DS-10	Desk Stand (for SK Type Microphones) .....	5.00
19	11021-5	DS-5	Desk Type (for SK Type Microphones) .....	2.00
19	11021-6	TS-6	Adjustable Banquet Stand .....	6.00
19	4090-A	90-A	DeLuxe Program Stand .....	46.75
19	11021-1	CS-1	Collapsible Floor Stand .....	18.00
19	11021-7	MS-25	Floor Stand .....	17.50
19	11021-8	MS-20	Adjustable Floor Stand .....	11.00
20	11056	KS-3B	Microphone Boom and Stand .....	159.00
20	11021-2	BS-36	Floating Action Boom .....	42.00
20	11070	.....	Microphone Boom and Stand .....	452.00
20	26574	.....	Microphone Boom and Perambulator .....	2,381.45
20	26574-1	.....	Boom Only .....	1,052.90
20	26574-2	.....	Perambulator Only .....	1,328.55
20	.....	H-2	Boom Mounting for 77-DX Microphone .....	24.00
20	11020-1	M-2-MD-U	Adjustable Microphone Arm, Screw Mount .....	33.00
20	11020-2	M-2-MC	Adjustable Microphone Arm, Clamp Mount .....	33.00
20	11020-3	M-3-MW	Adjustable Microphone Arm, Wall Mount .....	38.00

## MICROPHONE ADAPTORS

21	12086	.....	Microphone Holder for BK-6B .....	3.95
21	11073	.....	BK-6B Microphone Stand Adaptor Kit .....	15.00
21	11099-B	CH-1	Cable Hanger .....	3.00
21	12053	.....	Adaptor 1/2" Pipe Thread Stand to 5/8"—27 Microphone Thread .....	1.00
21	11021-4	AD-1	Adaptor 5/8"—27 Stand to 1/2" Mike Pipe Thread .....	.95
21	11745	.....	Flexible Microphone Stand, 13-inch .....	2.75
21	11746	.....	Flexible Microphone Stand, 19-inch .....	4.00
21	11747	.....	Flexible Stand Bracket Clamp .....	3.50

## MICROPHONE CABLES

21	43-D	.....	Microphone Cable, Low Impedance, Three Conductor #20 A.W.G. ....per 100 ft.	29.00
21	13307-A	.....	Microphone Cable, Heavy Duty, Two Conductor, #16 A.W.G. ....per 100 ft.	29.00
21	13322-B	.....	Microphone Cable, Lightweight, Two Conductor, #24 A.W.G. ....per 100 ft.	19.00

## MICROPHONE PLUGS AND RECEPTACLES

Page No.	MI Number	Type Number	Description	Price
22	11061	UA-3-11	Female Plug for Microphone Extension Cable (Mates with UA-3-12) .....	\$ 3.89
22	11062	UA-3-12	Male Plug for Microphone Cable (Mates with UA-3-11 and UA-3-13) .....	3.20
22	11063	UA-3-13	Flush Mounting Receptacle (Mates with UA-3-12) .....	2.97
22	4630-B	P3-CG-12S	Male Plug for Microphone Cords .....	3.40
22	4624-A	P3-35	Wall Receptacle for Male Plug P3-CG-12S .....	5.74
22	4620-B	P3-CG-11S	Female Plug for Microphone Extension Cord .....	4.16
22	11088-B	XLR-3-31	Female Microphone Receptacle .....	1.93
22	11087-B	XLR-3-32	Male Microphone Receptacle .....	1.10
22	11090-A	XLR-3-11C	Microphone Plug, Female .....	1.29
22	11089-A	XLR-3-12C	Microphone Plug, Male .....	1.13

### CONSOLETTES

23-26	11657-A	BC-7A	Dual-Channel Audio Console (less Plug-in Modules) .....	2,525.00
23-26	ES-11157-A	BC-7A	Dual-Channel Audio Console for Monaural Programming (including 5 BA-71B Preamplifiers, 2 BA-73A Program Amplifiers, 1 BA-74A Monitor Amplifier, 1 BX-71A Power Supply, 1 BA-78A Cue Amplifier, 2 High Level Isolation Units and 1 Console Housing) .....	3,997.00
23-26	ES-11157-AS	BC-7A	Dual-Channel Audio Console for Stereo Programming (in- cluding 6 BA-71B Preamplifiers and 2 BA-74A Monitor Amplifiers) .....	4,277.25
—	11667-A	BC-8A	Console Housing (less Plug-in Module) .....	1,860.00
—	ES-11167-A	BC-8A	Monaural Dual Channel Console (including 1 Console Housing, 3 BA-71B Preamplifiers, 2 BA-73A Program Amplifiers, 1 BA-74A Monitor Amplifier, 2 High Level Isolation Units, 1 BX-71A Monitor Supply and 1 BA-78A Cue Amplifier) .....	3,132.50
—	11452-A	.....	Intercom Sub Station (for BC-7 and BC-8) .....	42.00
27-28	11641-A	BC-3C	Standard Audio Console (less tubes) .....	1,480.00
27-28	ES-11103-A	BC-3C	Standard Audio Console (complete with tubes) .....	1,539.33
28	11486-A	.....	Tube Kit for BC-3C .....	59.33
28	11299	.....	Selected 12AY7 Tube .....	7.50
28	94136	.....	Cue Type Fader for BC-3C High Level Inputs .....	23.60
28	11748	.....	Announce Booth Speaker Relay .....	11.50
29-30	11637-A	BC-5B	Audio Console (less tubes) .....	1,270.00
29-30	ES-11105-A	BC-5B	Audio Console (complete with tubes) .....	1,331.53
30	11483-A	.....	Tube Kit for BC-5B .....	61.53
31-32	11638-A	BC-6B	Dual-Channel Audio Console (less tubes) .....	2,500.00
31-32	ES-11106-A	BC-6B	Dual-Channel Audio Console (complete with tubes) .....	2,624.00
32	11484-A	.....	Tube Kit for BC-6B .....	124.00
33-34	11655-A	BC-10A	Portable Audio Console .....	813.75
35-36	11656	BCM-2A	Auxiliary Mixer Console (less all plug-in units) .....	1,025.00
35-36	ES-11155-A	BCM-2A	Auxiliary Mixer Console (for BC-7 Mixer Bus Bridging) .....	1,917.50
35-36	ES-11156	BCM-2A	Auxiliary Mixer Console (for BC-7 Mixer Input) .....	1,814.00
36	11665	.....	High Level Isolation Unit for BCM-2A and BC-7 .....	48.00

### CONSOLETTES AND STUDIO ACCESSORIES

37-40	11784-A	.....	Transistor Interphone Connection Unit .....	97.50
37-40	11734	.....	Interphone Connection Unit .....	33.50
37-40	11737	.....	Retardation Coil .....	8.00
37-40	11735	.....	Shelf for Mounting MI-11734 .....	7.90
37-40	11736-A	.....	Panel (Accommodating 14 Retardation Coils) .....	7.00
37-40	11743	.....	Single Headband Assembly .....	42.00
37-40	11744	.....	Double Headband Assembly .....	87.00
37-40	11757	.....	Transistor Amplifier (Replacement for Induction Coil) .....	37.80

### CUSTOM EQUIPMENT

41-44	.....	.....	Custom Audio Equipment .....	On Request
-------	-------	-------	------------------------------	------------

### AMPLIFIERS

46	11444-A	BA-31B	Preamplifier and Isolation Amplifier .....	158.00
46	11780-A	.....	Spare Transistor and Diode Kit for BA-31B .....	9.71
46	11594-1	.....	Spare Guide Assembly (with receptacles) .....	16.00



## AMPLIFIERS (Continued)

Page No.	MI Number	Type Number	Description	Price
47	11446-A	BA-33B	Program Amplifier .....	\$ 273.00
47	11751-5	.....	Step Attenuator (20 steps, 2 db per step, 500 ohm).....	19.70
47	11781-A	.....	Spare Kit of Transistors and Diodes for BA-33B.....	28.10
47	11594-2	.....	Spare Guide Assembly (with receptacles).....	20.00
48-49	11437-C	BA-34C	Monitoring Amplifier .....	279.00
48-49	11782-B	.....	Spare Kit of Transistors and Diodes for BA-34C.....	25.02
48-49	11594-3	.....	Spare Guide Assembly.....	20.00
50	11658-A	BA-71B	Consolette Preamplifier with Transistors in Place but less Guide Assembly.....	99.75
50	ES-11158-A	BA-71B	Consolette Preamplifier Complete with Transistors and Guide Assembly.....	109.75
50	11759-1	.....	Guide Assembly for BA-71B.....	10.00
51	11659-A	BA-73A	Consolette Program Amplifier with Transistors in Place but less Guide Assembly.....	152.25
51	ES-11159	BA-73A	Consolette Program Amplifier Complete with Transistors and Guide Assembly.....	162.25
51	11759-2	.....	Guide Assembly for BA-73A.....	10.00
52	11661-A	BA-74A	Consolette Monitor Amplifier with Transistors in Place but less Guide Assembly.....	180.50
52	ES-11161	BA-74A	Consolette Monitor Amplifier Complete with Transistors and Guide Assembly.....	190.50
52	11759-3	.....	Guide Assembly for BA-74A.....	10.00
53	11662	BA-78A	Transistor Cue/Intercom Amplifier with Transistors in Place but less Guide Assembly.....	198.00
53	ES-11162	BA-78A	Transistor Cue/Intercom Amplifier Complete with Transistors and Guide Assembly.....	208.00
53	11759-5	.....	Guide Assembly for BA-78A.....	10.00
54	11436-A	BA-26B	Pickup Equalizer-Preamplifier (includes transistors and rectifier).....	142.00
—	11441-A	BA-36A	Stereo Pickup Equalizer Preamplifier.....	205.00
—	11783	.....	Transistor Kit for BA-36A .....	7.28
54	11779-B	.....	Transistor Kit for BA-26B.....	3.64
55-56	11225-B	BA-6B	Limiting Amplifier (less tubes).....	611.90
55-56	ES-11126-B	BA-6B	Limiting Amplifier (complete with tube complement).....	652.00
56	11289	.....	Tube Kit for BA-6A.....	14.20
57	11450	BA-8A	Transistor Cue Amplifier (including transistors).....	126.00
57	11449	.....	Rack Mounting Panel (for BA-8A).....	10.50
58	11244-A	BA-21A	Preamplifier and Isolation Amplifier (less tubes).....	120.00
58	ES-11121	BA-21A	Preamplifier and Isolation Amplifier (complete with tubes).....	129.70
58	11482	.....	Tube Kit for BA-21A.....	9.70
59	11246-A	BA-23A	Program Amplifier (less tubes).....	204.75
59	ES-11123	BA-23A	Program Amplifier (complete with tubes).....	213.96
59	11480	.....	Tube Kit for BA-23A.....	9.21
59	11751-2	.....	Step Attenuator .....	16.75
60	11247	BA-24A	Monitoring Amplifier (less tubes).....	204.75
60	ES-11124	BA-24A	Monitoring Amplifier (complete with tubes).....	216.02
60	11481	.....	Tube Kit for BA-24A.....	11.27
61	11434	BA-25A	AGC Program Amplifier (less tubes).....	225.75
61	ES-11125	BA-25A	AGC Program Amplifier (complete with tubes).....	241.23
61	11487	.....	Tube Kit for BA-25A.....	15.48
62	11451	BN-7A	Two-Channel Remote Amplifier (including transistors and diodes but less batteries).....	340.00
62	11785	.....	Spare Transistor and Diode Kit for BN-7A.....	14.59
62	11751-3	.....	Step Type Attenuator for BN-7A and BN-16A Master Controls.....	26.50
62	11751-4	.....	Step Type Attenuator for BN-7A and BN-16A Fader Control.....	26.50
63	11221-C	BN-16A	Four Channel Remote Amplifier (complete with transistors, diodes and input transformers)....	588.00
63	11776	.....	Input Transformer (30/150 ohms, for BN-6B).....	17.30
63	11777	.....	Transistor and Diode Kit for BN-6B.....	14.00
63	11377-A	.....	Canvas Carrying Case (for BN-6B or BN-16A).....	17.00

## POWER SUPPLIES

64	11663-A	BX-71A	Consolette Power Supply (less Guide Assembly).....	194.25
64	ES-11163	BX-71A	Consolette Power Supply (including Guide Assembly).....	204.25

## POWER SUPPLIES (Continued)

Page No.	MI Number	Type Number	Description	Price
64	11759-4	.....	Guide Assembly for BX-71A Power Supply.....	\$ 10.00
65	11317	BX-21A	Preamplifier Power Supply (less tubes).....	154.00
65	ES-11111	BX-21A	Preamplifier Power Supply (complete with tubes).....	160.35
65	11479	.....	Tube Kit for BX-21A.....	6.35
66	11318-A	.....	Regulated Power Supply—110 volt, 60 cycles.....	288.75
66	591318	.....	Regulated Power Supply—220 volt, 50 cycles.....	On Request
66	11316	.....	Regulated Power Supply—24 volt, 3 amps, U/G.....	157.50

## RACK AND MISCELLANEOUS EQUIPMENT

67-68	ES-30951-A84	BR-84A	Standard Cabinet Rack.....	351.00
67-68	ES-30951-B84	BR-84B	Standard Cabinet Rack, less front door.....	286.00
67-68	ES-30951-C84	BR-84C	Standard Cabinet Rack, less side panels.....	265.00
67-68	ES-30951-D84	BR-84D	Standard Cabinet Rack, less side panels and front door.....	200.00
67-68	ES-30951-E84	BR-84E	Standard Cabinet Rack, less side panels, and front and rear doors.....	135.00
67-68	11550	BR-19A	Economy Cabinet Rack.....	105.00
68	30530-G84	.....	Door (non-ventilated) .....	65.00
68	30541-G84	.....	Side Panel (Superseded by MI-36542-G84)	
—	36542-G84	.....	Side Panel .....	43.00
68	30535-G84	.....	Door (ventilated) .....	65.00
68	30546-G21	.....	Electrical Shield (for mid-rack section).....	6.00
68	30546-G28	.....	Electrical Shield (for top and bottom rack sections).....	8.00
68	30566-G84	.....	Single Trim Strip.....	22.00
68	30568-G84	.....	Double Trim Strip.....	30.00
68	4570-A	.....	Terminal Board Mounting Bracket.....	8.00
68	30527-G29	.....	Set Terminal Board Mounting Angles.....	12.00
68	30526-G84	.....	Set Panel Mounting Angles.....	21.00
68	40408	.....	Rack Extension Kit (for TM-6C, etc.).....	85.00
68	4569-A4	.....	Audio Terminal Block.....	7.75
68	4568	.....	Power Terminal Block.....	8.50
68	11728	.....	Ground Bus Kit.....	4.20
69	4590-A	.....	1¾" Blank Panel, Umber Gray.....	5.40
69	4591-B	.....	3½" Blank Panel, Umber Gray.....	6.00
69	4592-B	.....	5¼" Blank Panel, Umber Gray.....	8.00
69	4593-B	.....	7" Blank Panel, Umber Gray.....	9.00
69	4594-B	.....	8¾" Blank Panel, Umber Gray.....	10.00
69	4595-B	.....	10½" Blank Panel, Umber Gray.....	12.50
69	11388	BI-1B Meter	Meter Panel .....	58.40
70	11597-A	BR-22B	Mounting Shelf .....	35.00
70	11599	BR-2A	Shelf .....	25.95
70	11598-B	BR-2A	Panel .....	21.00

## JACK PANELS, MATS AND CORDS

71	11645	BJ-24	Jack Panel .....	52.50
71	11646	BJ-12	Jack Panel .....	31.50
71	11647-1	.....	Single BJ-24 Jack Strip Mat.....	5.50
71	11647-2	.....	Double BJ-24 Jack Strip Mat.....	6.75
71	11666	BJ-20TRS	Jack Panel (Tip-Ring-Sleeve) .....	50.00
71	4652-B-2	.....	Patch Cord, 2-foot Length (black shielding).....	7.50
71	4652-C-2	.....	Patch Cord, 2-foot Length (gray shielding).....	7.50
71	4652-B-4	.....	Patch Cord, 4-foot Length (black shielding).....	8.00
71	4652-C-4	.....	Patch Cord, 4-foot Length (gray shielding).....	8.00
71	4652-B-6	.....	Patch Cord, 6-foot Length (black shielding).....	8.50
71	4652-C-6	.....	Patch Cord, 6-foot Length (gray shielding).....	8.50
71	4652-D-2	.....	Patch Cord, 2-foot Length, Tip-Ring-Sleeve (black).....	10.50
71	.....	.....	Patch Cord, Varied Length, Tip-Ring-Sleeve (black).....	On Request

## CABLE

Page No.	MI Number	Type Number	Description	Price
72	33	.....	Interconnecting Cable, Shielded Pair, #20 A.W.G. Solid.....per 100 ft.	\$ 5.00
72	34	.....	Interconnecting Cable, Shielded Pair, #22 A.W.G. Stranded.....per 100 ft.	4.50
72	35	.....	Interconnecting Cable, Shielded Pair, #18 A.W.G. Stranded.....per 100 ft.	7.00
72	13342-1	.....	Interconnecting Cable, Shielded Pair, #22 A.W.G. Solid.....per 100 ft.	4.00
72	13342-2	.....	Interconnecting Cable, Shielded Pair, #22 A.W.G. Stranded.....per 100 ft.	4.50
72	11719-A	.....	Cable Lacing Cord #6.....	4.50
72	11706-1	.....	"On Air" Warning Studio Light.....	28.00
72	11718-1	.....	Glass Only .....	5.00
72	.....	.....	Custom Glass Signs.....	On Request

## AUDIO ACCESSORIES

73	10143-L	.....	Variable Audio Compensator (low-frequency).....	156.25
73	10143-M	.....	Variable Audio Compensator (mid-frequency).....	121.25
73	10143-H	.....	Variable Audio Compensator (high-frequency).....	142.50
74	11265-F	BI-5A	VU Meter Panel.....	136.50
74	11723-A	BE-21C	Variable Sound Effects Filter.....	365.00
74	4395-G	57-D	Switch and Fuse Panel.....	34.65
75	Stock #53064	.....	Simpson VU Meter.....	78.75
75	Stock #19328	.....	Multiple Pad for Calibrating the VU Meter to Desired Reference Level.....	15.35
75	Stock #19327	.....	Zero Adjustment Pad.....	17.30
75	11752	BE-2A	Line Equalizer .....	37.50
76	11712	.....	Bridging Transformer .....	24.00
76	11713	.....	Line Transformer .....	27.00
76	11278-E	.....	Bridging Volume Control (with knob for panel mounting).....	8.25
76	11278-F	.....	Bridging Volume Control (with screwdriver adjustments).....	8.25
76	4171-29	.....	Fixed Pad (6 db) "H" Type.....	8.50
76	4171-30	.....	Fixed Pad (10 db) "H" Type.....	8.50
76	4171-32	.....	Fixed Pad (20 db) "H" Type.....	8.50
76	4171-39	.....	Fixed Pad (40 db) "H" Type.....	8.50
76	11704	.....	Balanced Two Way 600 ohm Dividing Network.....	10.00
76	11704-A	.....	Balanced Three Way 600 ohm Dividing Network.....	11.00
76	11704-B	.....	Balanced Four Way 600 ohm Dividing Network.....	13.50
76	11704-D	.....	Balanced Six-Way 600 ohm Dividing Network.....	15.75
76	11705	.....	Balanced Bridge Pad.....	10.25

## TURNTABLES

77-78	11833-C	BQ-2C	Three-Speed Turntable and Cabinet (less reproducing equipment such as tone arm and amplifiers) for 60 cycle operation .....	Discontinued
77-78	11834-C	BQ-2C	Three-Speed Turntable and Cabinet (less reproducing equipment such as tone arm and amplifiers) for 50 cycle operation .....	Discontinued
77-78	11830-C	BQ-2C	Turntable Mechanism for Custom Installations, (less console cabinet and reproducing equipment such as tone arms and amplifiers) for 60 cycle operation.....	Discontinued
77-78	11831-C	BQ-2C	Turntable Mechanism for Custom Installations, (less console cabinet and reproducing equipment such as tone arms and amplifiers) for 50 cycle operation.....	Discontinued
78-80	11810-B	BQ-51B	12-Inch Dual Speed Turntable Mechanism for 60 cycle operation (less cabinet, pickup heads and tone arm).....	360.00
79-80	11810-C	BQ-51B	12-Inch Dual Speed Turntable Mechanism for 50 cycle operation (less cabinet, pickup heads and tone arm).....	On Request
80	11809-A	.....	Cabinet Assembly for BQ-51B.....	70.00

## TURNTABLES (Continued)

Page No.	MI Number	Type Number	Description	Price
81	11895	.....	Lightweight 16-inch Tone Arm (less pickup head).....	\$ 65.00
81	11894-A	.....	Lightweight 12-inch Tone Arm (less pickup head).....	65.00
82	11865	.....	Universal Pickup Cartridge (less stylus assembly).....	26.25
82	11866-7	.....	Stylus Assembly 0.7 mil (black).....	25.00
82	11866-10	.....	Stylus Assembly 1.0 mil (red).....	25.00
82	11866-25	.....	Stylus Assembly 2.5 mil (green).....	25.00

## RECORDING EQUIPMENT

83-84	ES-41921-B	RT-21B	Professional Audio Tape Recorder (Monaural Dual Half Track).....	1,760.00
83-84	ES-41921-BS	RT-21B	Professional Audio Tape Recorder (Stereo).....	2,285.00
83-84	ES-41930-B	RT-21B	Professional Audio Tape Recorder (Full Track, 7½ and 15 ips).....	1,760.00
83-84	ES-41920-B	RT-21B	Professional Audio Tape Recorder (Full Track, 3¾ and 7½ ips).....	1,760.00
—	ES-41919	.....	NAB Reel Hubs for RT-21B.....	52.50
84	141351-A	.....	Record/Playback Amplifier Module.....	525.00
84	141302-A	.....	Portable Carrying Case.....	150.00
84	141303-A	.....	Console Cabinet.....	275.00
84	141301-A	.....	Remote Control Panel (RT-21B).....	Custom On Request
84	141308	.....	Remote Control Housing.....	32.00
84	41602	.....	Switchable Fourth Head Kit (Dual Quarter Track).....	250.00
84	Stock #11A218	.....	Spare Transistor Kit (RT-21A).....	65.00
—	Stock #12H103	.....	Spare Transistor Kit (RT-21B).....	44.40
—	11962-A	RT-37A	Stereo Cartridge Tape Playback.....	980.00
—	11963-A	BA-37A	Stereo Cartridge Tape Recorder.....	710.00
—	11965-A	RT-17A	Mono Cartridge Tape Playback.....	740.00
—	11966-A	BA-17A	Mono Cartridge Tape Recorder.....	485.00
—	11968-1	.....	Remote Control Panel, 4 Playbacks.....	29.00
—	11968-2	.....	Remote Control Panel, Record.....	27.00
—	11974-1	.....	Power Supply Board (RT-17/37).....	40.00
—	11974-2	.....	End Cue, Trip Cue Board.....	42.00
—	11974-3	.....	Cue Amplifier Board.....	55.00
—	11974-4	.....	Playback Amplifier Board.....	60.00
—	11974-5	.....	Bias and Cue Tone Boards.....	80.00
—	11974-6	.....	Record Amplifier Board.....	70.00
—	ES-11168	RT-8	Multicartridge System for use with RT-7.....	2,100.00
—	ES-11169	RT-8	Multicartridge System for use with RT-17.....	2,100.00
—	11961-AS	RT-8	Stereo Multicartridge Unit.....	2,650.00
—	11973-1	.....	150 Cycle End of Message Cue Board.....	68.00
—	11973-2	.....	8000 Cycle Trip Cue Board.....	70.00
—	11973-3	.....	18,000 Cycle Trip Cue Board.....	63.00
—	11968-1	.....	Remote 4 Position Start Panel.....	29.00
85-86	11957-C	RT-7C	Cartridge Tape Playback Unit.....	608.00
85-86	11958-B	BA-7B	Cartridge Tape Recording Amplifier.....	386.00
86	11490-A	.....	Spare Transistor and Diode Kit for RT-7B.....	44.57
86	11491-A	.....	Spare Transistor and Diode Kit for BA-7B.....	17.13
86	11994-1	.....	RT-7 Playback Amplifier Board.....	59.60
86	11994-2	.....	RT-7 Power Supply Board.....	39.68
86	11994-3	.....	RT-7 Cue Amplifier Board.....	37.66
86	11994-4	.....	RT-7 Trip-Cue Amplifier Board.....	48.32
86	11994-6	.....	BA-7B Record Amplifier Board.....	58.70
86	11976	.....	Module Extender for BA-7A and RT-7A/B.....	23.15
86	11976-B	.....	Module Extender for BA-7B.....	31.00
87-88	11984-A	.....	RT-7 Console (2 unit).....	97.50
87-88	11983-A	.....	RT-7 Console (4 unit).....	126.00
87-88	11985-A	.....	RT-7 Storage Cabinet.....	126.00
88	11982	.....	Audio Automatic Switcher.....	141.75
88	11977	.....	Remote Control Panel for RT-7 Playback Unit.....	26.50
88	11979	.....	Remote Control Panel for BA-7 Record Amplifier.....	26.50

## RECORDING EQUIPMENT (Continued)

Page No.	MI Number	Type Number	Description	Price
89	11995	.....	Cartridge Tape Head Degausser.....	\$ 22.50
89	11993-2	.....	Azimuth Alignment Tape (10,000 and 14,000 cycles tone) supplied in 300 series cartridge.....	7.50
89	11986	MM-151	Bulk Lubricated Tape (1700 feet on 7-inch reel).....	8.00
89	11993-1	.....	Frequency Response Cartridge, calibrated, voice identified test frequencies.....	21.75
89	.....	.....	<b>Tape Cartridges for RT-7:</b>	
—	11988-1	.....	300 Series, 40 sec. playing time.....	14.00
—	11988-2	.....	300 Series, 70 sec. playing time.....	14.50
89	11988-11	.....	300 Series, 2½ min. playing time.....	16.20
—	11988-3	.....	300 Series, 3½ min. playing time.....	17.40
—	11988-4	.....	300 Series, 5½ min. playing time.....	20.00
—	11988-5	.....	300 Series, 10½ min. playing time.....	25.00
—	11988-6	.....	600 Series, 16 min. playing time.....	13.50
—	11988-7	.....	1200 Series, 31 min. playing time.....	22.00
89	.....	.....	<b>Blank Tape Cartridges for RT-7:</b>	
—	11988-8	.....	300 Series, Blank .....	12.00
—	11988-9	.....	600 Series, Blank .....	18.00
—	11988-10	.....	1200 Series, Blank .....	8.90
90	11992	.....	Cartridge Tape Bulk Eraser.....	36.50
90	10880-TV	.....	Automatic Magnetic Tape Eraser.....	1,295.00

### LOUDSPEAKERS

91-92	11411-B	LC-1B	Duo-Cone Speaker Mechanism.....	168.00
92	11406-A	LS-1A	Wall Housing for LC-1B.....	56.30
92	11415-A	LS-11A	Floor Housing for LC-1B.....	156.00
93	38314	SL-123A	12-Inch Speaker Mechanism.....	Discontinued
93	38315-A	SL-12A	12-Inch Speaker Mechanism.....	20.97
94	12454-B	.....	8-Inch Speaker Mechanism.....	Discontinued
94	38311-B	SL-8C	8-Inch Speaker Mechanism.....	18.00
95	11408	.....	10-Inch Cue Speaker Mechanism.....	Discontinued
95	11407-B	LS-3A	Wall Housing for 10- and 12-inch Speakers.....	41.50
95	13253-A/13245-A	.....	10/12-Inch Wood Baffle.....	Discontinued
95	6104	.....	Molded Plastic Baffle for 8-Inch Speakers.....	7.50
96	12368	.....	Line Matching Speaker Transformer (16 watts).....	5.25
96	11731	.....	Line Matching Speaker Transformer (8 watts, single winding)....	3.50
—	11414-2	.....	Wall Speaker Baffle for 8, 10, and 12-Inch Speakers.....	13.00

### TEST EQUIPMENT

97	30071-A	WM-71A	Distortion and Noise Meter.....	795.00
98	30028-A	WA-28A	Audio Push-Button Oscillator.....	595.00
99	11350	BI-11A	Transmission Measuring Set.....	625.00
100	11351	452A	Transmission Measuring Set.....	1,000.00
101	.....	455A	Transmission Measuring Set (with relay rack panel).....	600.00
101	.....	455A-R	Transmission Measuring Set (in portable carrying case).....	450.00
101	.....	454A	Attenuator Box in Portable Carrying Case.....	150.00
101	.....	454A-R	Attenuator Box in Rack Mounting Panel.....	170.00
102	.....	510-B	Extended Range Oscillator.....	180.00
102	.....	T-10	Matching Transformer (150/600 ohms balanced).....	55.00
102	.....	T-11	Matching Transformer (135/600 ohms balanced).....	90.00
103	.....	401B	General Purpose Oscillator.....	180.00
103	.....	520A	Amplifier-Voltmeter .....	250.00
104	.....	410	Distortion Meter .....	215.00
104	.....	210	Audio Oscillator .....	186.50

# BROADCAST EQUIPMENT SALES POLICY

## FOREWORD

The present statement sets forth basic conditions under which RCA sells broadcast equipment as described in our catalog, and notes certain supplemental information. This statement does not apply to the sale of tubes or sound film recording equipment, for which separate standard sales and lease policies are in effect.

RCA broadcast equipment is sold directly through RCA Sales representatives, who are familiar with broadcast equipment.

## CONTRACT PROCEDURE

All sales based on orders for transmitters, antennas and custom built or special apparatus and on orders over \$5,000 are made in accordance with the conditions of the RCA Standard Proposal Form for the sale of broadcast equipment and with any agreement stipulated thereon for individual customers.

## PRICES

RCA broadcast equipment domestic prices are net f.o.b. factory or warehouse, which is Camden, New Jersey, for most items. These prices do not include any federal, state or local taxes based upon use or measured by sale or use and unless otherwise noted do not include federal excise tax. Any such taxes in effect at the time of shipment will be billed separately or will be included in the prices when required and will be due and payable upon delivery.

RCA's prices do not include installation or installation supervision unless specifically mentioned in a written condition or proposal. Purchaser assumes responsibility for installation and operation of the equipment as well as for obtaining all necessary licenses, permits, etc.

NOTE: The service of factory trained personnel who are specialists in the supervision of the installation of broadcast equipment and its maintenance and repair may be obtained through an order placed with the RCA Service Company, Inc. It is recommended that the advantages of this service be considered at the time of purchase of any major broadcast equipment.

In the case of orders under the Standard Proposal Form the billing prices are based on those prices effective at the date of the order to the extent indicated in the final contract. In the case of orders not under the Standard Proposal Form the billing prices are those prices in effect on the date of shipment.

RCA endeavors to keep its published prices current; however, all published prices are subject to change without notice.

Prices for items marked with a symbol (e) are estimates only and are subject to adjustment to those in effect on the date of shipment.

In the event the estimated prices quoted herein are exceeded by more than 10% and the billing price cannot be established by mutual agreement prior to shipment, such items may be cancelled without liability to RCA or Purchaser by either party giving written notice to the other.

## PAYMENT

Terms of payment are subject to approval of RCA's Credit Department at Camden, New Jersey.

## DELIVERY

RCA's delivery of broadcast equipment will be f.o.b. factory or warehouse, which is Camden, New Jersey for most items. The Purchaser shall be responsible for all transportation charges, and shipments will normally be forwarded with shipping charges "collect." As an accommodation, when specifically requested to do so by the Purchaser's order, RCA will prepay transportation charges and invoice them to the Purchaser as a separate item.

Delivery will be made to a carrier specified by the Purchaser, unless none is specified, in which event it will be to a common carrier selected by RCA. In the absence of specific

routing instructions from the purchaser, RCA's judgment with respect to the selection of a route will be final.

As a special service with respect to shipments overland, by inland waterways or by air we carry All Risk Transportation Insurance for the benefit of our Broadcast Equipment customers, and your interests will be amply protected in all shipments of equipment while in transit by the methods indicated above, at no additional expense to you, provided that you inspect all shipments within 15 days after receipt and report within that time in writing any shortages or damages to the carrier and to RCA.

RCA will endeavor to meet delivery schedules but it assumes no liability for damages of whatever kind for delays in delivery. No delays in delivery shall relieve the purchaser of his obligation of performance.

## PATENT LICENSES

RCA broadcast equipment is licensed for radio telephone or television broadcast transmission under United States patents owned by RCA or under United States patents under which RCA is licensed.

## PATENT PROTECTION

RCA, at its own expense, will defend any suit which may be brought against purchaser for infringement of United States patents by the equipment furnished when sold or used for radio telephone or television broadcast transmission, and in any such suit will satisfy any final award for such infringement. This is upon the condition that purchaser gives RCA prompt notice of such suit and full right and opportunity to conduct the defense thereof, together with full information and all reasonable cooperation, and upon the further condition that the claimed infringement does not result from the combination of the equipment furnished with other equipment, apparatus, or devices not furnished by RCA. No costs or expenses shall be incurred for the account of RCA without its written consent. If purchaser's sale or use of such equipment for radio telephone or television broadcast transmission shall be prevented by permanent injunction, RCA shall substitute for the infringing equipment or parts other equally suitable equipment or parts, or at RCA's option obtain for purchaser the right to sell or continue the use of such equipment, or at RCA's option take back such equipment and refund any sums purchaser has paid RCA therefor, less a reasonable amount for use, damage and obsolescence.

## WARRANTY

Except for electronic tubes, which bear their own warranty which accompanies them at the time of their sale, RCA warrants its broadcast equipment to be free from defects in material and workmanship under normal use and service for a period of one year from the date of delivery. RCA's obligations under this warranty are limited to the repair or replacement of defective parts and the shipment of such repaired or replacement parts to the purchaser f.o.b. factory. Equipment furnished by RCA but listed as manufactured by another bears only the warranty given by such other manufacturer. No warranties other than those set forth herein are given or are to be implied with respect to broadcast equipment. In no event is RCA liable for consequential damages.

## REPAIRED AND RETURNED APPARATUS

Before an apparatus is returned to RCA for repairs or adjustments, shipping instructions and an identifying number should be obtained from the nearest RCA Sales Office. RCA assumes no responsibility for unauthorized returns.

## EQUIPMENT MODIFICATIONS AND WITHDRAWALS

RCA reserves the right to make, without notice, modifications of the equipment described in this catalog without affecting its right to sell such equipment under orders based on the catalog description, provided, however, that the modifications shall not materially affect performance. These modifications of equipment may be made by RCA or its suppliers from time to time for reasons such as improvement in performance, simplification in design, or availability of material. RCA also reserves the right to withdraw from sale, without notice, any equipment described in our catalog.

## ACCEPTANCE OF ORDER

No order shall be binding upon RCA until accepted by it in writing at Camden, New Jersey, and the banking, negotiation or other use of the down payment shall not constitute an acceptance by RCA. Orders received by Sales Offices will be forwarded promptly to RCA's Camden Office.

