

SHURE

MICROPHONES



AND

ACOUSTIC DEVICES

CATALOG No. 159

FOR INFORMATION ON SHURE PICK-UPS
AND CARTRIDGES SEE CATALOG No. 160

SHURE SUPER-CARDIOID

"BROADCAST"



MODEL 556

Model "556" is a Dynamic Super-Cardioid Microphone especially designed for Broadcasting. It is held within extremely close tolerances in frequency response and directivity, and is equipped with a special vibration isolation unit, which eliminates reproduction of vibration transmitted from the stand.

MODEL	CABLE	SHPG. WEIGHT	CODE	LIST PRICE
556	7 ft.	4 1/2 lbs.	RUMUB	\$92.50

General: Models 556 and 55 are Super-Cardioid type unidirectional moving-coil dynamic microphones providing wide-range high quality reproduction of sound. The true unidirectional characteristic of the "Unidynes," obtained by the "uniphase" principle provides highly satisfactory operation under adverse acoustic conditions where conventional microphones would be practically useless.

The microphones have a New Acousto-Mechanical circuit containing a moving-coil element, which operating in conjunction with a high flux magnet provides high efficiency and smooth peak free response from 40 to 15,000 cycles. The rear response is down approximately 15 db. due to the "uniphase" unidirectional acoustic network.

The new moving-coil unit is provided with a double wind-screen to permit quiet out-door operation. As a precaution against mechanical vibration pickup, the unit is spring-suspended inside the microphone case.

The cases are modern in design with attractive streamlining and grille treatment, and are provided with swivels that allow the microphones to be aimed at the source of sound for best pickup.

Applications: Model 556 is especially constructed and tested to meet the requirements of the broadcast studio, and is held within close tolerances in frequency response and directivity.

Model 55 is suitable for high-quality recording, public address, and similar applications.

The true unidirectional characteristic of the "Unidynes" provides an easy solution to the feedback problem in reverberant locations, facilitates orchestral placement, permits best utilization of space in small broadcast studios, and allows practically complete exclusion of unwanted noises. The swivel allows the head to be tilted through an angle of 90°, permitting the microphone to be aimed at the source of sound.

The microphones are unusually rugged and are practically immune to the effects of moisture, temperature and mechanical vibration.

CALIBRATION SERVICE

As a service to the Electro-Acoustic Industry, Shure Brothers laboratories offer a calibration service on the "556" and "55" microphones for use as secondary standards. The price for a calibration from 60-15,000 cycles per second is \$25.00, net.

DYNAMIC MICROPHONES

All microphones have the standard $\frac{5}{8}$ "-27 thread and may be mounted on any Shure desk, banquet, or floor stand.

Model 556 "Broadcast" has a 7-foot two conductor shielded cable, trimmed for the attachment of any type plug. The cable is held by screw terminals in the base of the isolation unit and may be easily replaced by longer lengths.

Model 55 "Unidyne" has 25 feet of two conductor shielded cable with a detachable plug.

Impedance Data: Models 556 and 55 Microphones are of the multi-impedance type. They may be worked directly into a 35-50 ohm line, a 150-250 ohm line, or a high impedance input. Selection of these impedances is accomplished by changing the position of the switch at the rear of the microphone. The switch positions are marked "L" for low impedance (35-50 ohms), "M" for medium impedance (150-250 ohms), and "H" for high impedance (35,000 ohms).

The low and medium impedance positions of the Model 556 may be fed into a standard low or medium impedance input amplifier or into an amplifier with high impedance input. In the latter case, Shure Model A86A Cable-Type Transformer is available for coupling the low impedance line to the amplifier input. The double winding primary of the Shure Model A86A Cable type transformer permits coupling either a 35-50 ohm line or 150-250 ohm line to high impedance input.

The low and medium impedance positions are recommended where long cable lengths are required or under conditions of severe hum disturbances. The permissible line length is practically unlimited, since neither response nor level is appreciably affected by reasonable lengths of line.

The high impedance position on the Models 556 and 55 Microphones may be used with any amplifier with an input impedance of 100,000 ohms or more.

MULTI-IMPEDANCE SWITCH ON MODELS "55" AND "556"

IMPED. TABLE	OUTPUT LEVEL
L—35-50 ohms	56.1 db below 1 Milliwatt per 10 bar* signal
M—150-250 ohms	56.8 db below 1 Milliwatt for 10 bar* signal
H—High impedance	57.5 db below 1 volt per bar*



*Microbar

"UNIDYNE"



MODEL 55

Model 55 has the same mechanical properties as the 556, with the exceptions noted on the opposite page, referring to the vibration isolation unit. It has been most widely used in high-quality public address, recording, communications, small studio and remote broadcasting.

The Unidyne is perhaps the most widely used and publicized microphone in the world for public address. It has been specified by outstanding acoustic engineers for nationally-known artists and important events.

MODEL	CABLE	SHPG. WEIGHT	CODE	LIST PRICE
55	25 ft.	4½ lbs.	RUMUL	\$67.50



Switches are available: On-Off or Grip-To-Talk. For complete data, see page 10.

HIGH-OUTPUT "SONODYNE"



MODEL "51"

IMPEDANCE TABLE		OUTPUT LEVEL		
L—35-50 ohms		53.0 db below 1 Milliwatt for 10 Microbar signal		
M—150-250 ohms		52.5 db below 1 Milliwatt for 10 Microbar signal		
H—High Impedance		52.0 db below 1 volt per Microbar		
MODEL	CABLE	SHPG. WEIGHT	CODE	LIST PRICE
51	20 ft.	4 5/8 lbs.	RUSON	\$39.75

Microbar = one dyne per sq. cm.



Switches are available: On-Off or Grip-To-Talk. For complete data, see page 10.

THE "SONODYNE"

General: The Model 51 "Sonodyne" is a high-output pressure-type dynamic microphone with wide-range frequency response and semi-directional pickup characteristics. It features the multi-impedance switch which permits the selection of either low, medium or high impedance by simply turning the switch in the front of the case. The 51 operates on the principle of a moving coil element in a magnetic field. A high flux magnet is used in the magnetic circuit, which together with a specially designed moving system and associated acoustic network, provides high efficiency and smooth peak-rise response. It has semi-directional pickup characteristics. The case is rich satin chrome-plated, attractively styled for improved acoustical performance. The microphone is provided with a built-in receptacle and a two-conductor shielded cable with microphone plug attached.

Applications: Model 51 microphone is ideal for public address; wire, tape and disc recording; call systems; communications equipment; and similar applications. Because of its high output it has been selected and highly recommended by many leading manufacturers of wire and tape recorders as the "ideal" microphone. It replaces conventional inexpensive microphones supplied with wire and tape recorders as original equipment. The "Sonodyne" will give improved recording—will stand up under rugged use.

The wide-range response frequency characteristic provides high quality reproduction of sound from 60 to 10,000 c.p.s. The microphone can also be used close to the lips without undue low frequency emphasis. Extreme ruggedness and immunity to severe temperature and humidity conditions are inherent in the design.

Connections: The Model 51, being a multi-impedance type, may be worked directly into a 35-50 ohm input, a 150-250 ohm input, or a high impedance input. Selection of these impedances is accomplished by rotating the shaft of the switch through the hole in the front of the microphone. The switch positions are marked "L" for low impedance (35-50 ohms), "M" for medium impedance (150-250 ohms), and "H" for high impedance (35,000 ohms).

The low and medium impedance positions are recommended where long cable lengths are required or under conditions of severe hum disturbances. The permissible line length is practically unlimited, since neither response nor level is appreciably affected by reasonable lengths of cable. The high impedance position may be used with any public address amplifier or other amplifier with an input impedance of 100,000 ohms or more. For best high frequency response with high impedance, the total cable lengths should not exceed 25 feet.

"Sonodyne" has the standard 5/8"-27 thread and may be mounted on any Shure desk, or floor stand.

CONTROLLED RELUCTANCE MICROPHONES



MODEL "520"

THE "GREEN BULLET"

The "Green Bullet" is a new Shure Controlled Reluctance Microphone. It is a magnetic unit, especially designed to provide quality music and speech reproduction at moderate cost. The "Green Bullet" is practically immune to the effects of high temperatures and humidity. It is a rugged streamlined unit that lends itself to fine-quality low-cost installations where durability is an important factor.

The "Green Bullet" has a stability assured by unique control of the reluctance of the magnetic system. It features: high output, good response, high impedance without the need of a transformer. The "Green Bullet" has a beautiful modern metallic green finish with a plated grille. Frequency response is 100 to 7000 c.p.s. Furnished with 15' single-conductor, shielded cable.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHP. WT.	CODE	LIST PRICE
520	15 ft.	52.5 db below 1 volt per microbar	HIGH	1 ¼ lb.	RUDAL	\$16.50

Microbar = 1 dyne per sq. cm.

THE "RANGER"

The new Shure "Ranger" is a rough-tough Controlled Reluctance microphone. It is a new development of a similar magnetic unit originally housed in microphones used by the Armed Forces. The "Ranger" is especially recommended for those applications where long lines are used, and a rugged hand-held microphone is needed. It is ideal for outdoor public address, mobile communications, hams, audience participation shows, etc.

The "Ranger" is designed for clear, crisp, natural-voice response of high intelligibility. It is easy to use, fits snugly in the palm of the hand; and has a heavy-duty single-throw, double-pole leaf-type switch for push-to-talk operation. Phosphor-bronze blades and silver contacts for maximum operating life. It is furnished with 7' three-conductor shielded cable. Frequency response is 100 to 9000 c.p.s.



**"505" SERIES
(Controlled Reluctance)**

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHP. WT.	CODE	LIST PRICE
505B	7 ft.	50.5 db below 1 volt per microbar	150-250 ohms	1 ¼ lb.	RUDAY	\$25.00
505C	7 ft.	50.5 db below 1 volt per microbar	High	1 ¼ lb.	RUDAX	\$25.00

Microbar = 1 dyne per sq. cm.

SHURE

"HERCULES" CONTROLLED RELUCTANCE MICROPHONE



"510" SERIES

Here is the revolutionary new Shure Controlled Reluctance Microphone—the "Hercules." It is a Hand-Held magnetic unit that provides the ruggedness, the clear reproduction, the high output long needed for Public Address, Communications, and Recording—at an amazingly low price! It opens vast new fields of applications: Announcing and Mobile Public Address Systems (including Carnivals, Circuses, Parking Lots, Paging Systems, etc.); Communications; Dictating Machines; Portable Recording Machines; Home Recording; high quality Inter-Communication. The "Hercules" is a tough microphone, designed to stand up under rough treatment. It is especially ideal for general-purpose use in tropical countries and all coastal areas.

The "Hercules" has a stability assured by unique control of the reluctance of the magnetic system. High sensitivity and good fidelity are achieved because of its balanced-armature transducer. The microphone can actually be used as a transmitter and receiver! Provides high-quality reproduction at very low cost. High impedance is obtained without the use of a transformer. The "Hercules" can be used either Indoors or Outdoors—in the hand, on a desk, or on a stand. Frequency response is 100 to 7000 c.p.s. Furnished with 7' fabric covered cable. Metallic green finish. Complete with stand adapter. Die-cast case. 2 3/8" wide, 3 1/4" high, 1 1/2" thick.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WEIGHT	CODE	LIST PRICE
510C	7 ft.	52.5 db below 1 volt per microbar	High	1 1/2 lb.	RUTUF	\$12.95
510S (with switch)	7 ft.	52.5 db below 1 volt per microbar	High	1 3/4 lb.	RUTUS	\$14.95

Microbar = one dyne per sq. cm.



CONTROLLED RELUCTANCE CARTRIDGE

The Model R5 Controlled Reluctance Microphone

Cartridge is available for service installation and is ideal also for the replacement of crystal microphone cartridges in Shure cases of the Model 707A design shown on page 8. Complete installation instructions in English and Spanish are included. It is an acoustically controlled balanced-armature transducer ideal for both microphone and soft-speaker applications. It is practically unaffected by heat and humidity. Supplied with rubber mounting ring. Overall diameter of mounting ring 2 1/4"; thickness of rubber ring 3/16". Overall depth of cartridge 7/8". Shipping Weight: 4 oz.

Model: R5 Code: RUTUC.....List Price: \$9.00

THE "REX" LOW-COST CRYSTAL MICROPHONE

Here is the most striking-looking low-cost crystal microphone ever designed, the new Shure "Rex". Its extremely low price makes this Hand-Held crystal microphone a natural for Hams, low-cost Public Address Systems, and as a replacement for home-recording microphones. The "Rex" is a rugged unit designed for crispness of speech and dependability. It is recommended for use where good-quality speech reproduction is required and low cost is an important factor. Frequency response is 60 to 6000 c.p.s. Furnished with 7' fabric covered, single conductor, shielded cable. Burgundy Red metallic finish. Complete with stand adapter. 2 3/8" wide, 3 1/4" high, 1 1/4" thick.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHPG. WEIGHT	CODE	LIST PRICE
710A	7 ft.	50 db below 1 volt per microbar	High	1 1/4 lb.	RUDEL	\$10.00
710S (with switch)	7 ft.	50 db below 1 volt per microbar	High	1 1/2 lb.	RUDET	\$12.00

Microbar = 1 dyne per sq. cm.



"710" SERIES

SHURE

'MONOPLEX' SUPER-CARDIOID CRYSTAL

The Shure "Monoplex" is a **high output** Super-Cardioid Crystal Microphone with the patented Shure "Uniphase" principle. It employs the same type of acoustic phase shifting network used in the highest cost Shure broadcast microphones. It provides a cancellation of approximately 15 db. for sound approaching from the rear—over a broad range of frequencies, and reduces pickup of random sound energy by 73%. It offers the advantages of higher-priced super-cardioid performance at low cost. Model 737A is a unidirectional wide-range diaphragm type microphone. The true unidirectional "super-cardioid" characteristic of the "Monoplex" allows highly satisfactory operation under adverse conditions of background noise and reverberation where a conventional microphone would be practically useless. The "Monoplex" contains a diaphragm-type element combined with acoustical networks which cause cancellation of sound pressures for sounds incident from the rear. The crystal is "Metal-Seal" covered to withstand adverse climatic conditions. Case is pivoted at the rear and may be conveniently pointed in the direction of the desired sound, or pointed upwards for non-directional horizontal plane pickup. Satin-Chrome finish.

Applications: The Shure "Monoplex" is excellent for high-quality public-address, communications, all types of recording and similar applications.

The true wide-range unidirectional characteristic of the "Monoplex" creates an easy solution to the feedback problem in reverberant locations, facilitates orchestral placement, permits good utilization of space in small recording or broadcasting studios, and allows a practically complete exclusion of unwanted noises.

Frequency response is from 60 to 10,000 cycles over a wide range angle at the front, yet practically unaffected by sound approaching from the rear. (Rear response down approximately 15 db.) Permits more volume without feedback—simplifies microphone and speaker placement—greatly improves systems using conventional microphones.



MODEL 737A

The Shure "Monoplex" is a high-output, unidirectional crystal microphone. It is the only super-cardioid crystal microphone, and as such ranks far above ordinary crystal microphones. Its high output provides that extra "push" that is needed for different applications, where a "strong" voice is a "must." Has special "Metal-Seal" Graphoil Bimorph Crystal for long life. Swivel head permits aiming at source of sound. Built-in cable connector. Standard $\frac{5}{8}$ "-27 thread. Height 4". Width $3\frac{3}{32}$ ". Thickness $1\frac{7}{8}$ ". Ship. wt. 4 lbs.

MODEL	CABLE	OUTPUT	IMPED.	CODE	LIST PRICE
737A	20 ft.	54.0 db below 1 volt per microbar	High Impedance	RUMON	\$39.75

Microbar = one dyne per sq. cm.



Switches are available: On-Off or Grip-To-Talk. For complete data, see page 10.

SHURE

CRYSTAL MICROPHONES



707A shown on Stand S34B

707A CRYSTAL

The Model 707A has been designed to give good-quality performance at low cost. It has good response characteristics, is free from peaks, and has typical semidirectional pickup. It uses moisture-proofed Bimorph Crystal, mechanically isolated. Ideal for voice and music reproduction. Suitable for low-cost P. A. systems, call systems, amateur 'phone transmitters and similar applications.

It is finished in Pearl Gray with highly-polished plating on front grille. Natural life-like reproduction. High output level at end of cable. Has a seven-foot single-conductor shielded cable with spring protector. The case is a heavy die casting, is simple in design and in excellent taste. Standard $\frac{5}{8}$ "-27 thread. Diameter $2\frac{3}{8}$ ". Shipping weight $1\frac{1}{4}$ pounds. Model 707A Crystal Microphone (Stand not included).

MODEL	CABLE	OUTPUT	IMPEDANCE	CODE	SHPG. WEIGHT	LIST PRICE
707A	7 ft.	51.0 db below 1 volt per microbar	High Impedance	RUDOF	1 lb.	\$14.50
707A-20	20 ft.	54.5 db below 1 volt per microbar		RUDOK	$1\frac{1}{2}$ lbs.	\$16.00

Microbar = one dyne per sq. cm.

NOTE: The crystal microphone cartridge, Model R7, is available—for replacement purposes. 48 db below 1 volt per microbar. Rising high frequency characteristic. Response to 10,000 cycles. Rochelle Salt Crystal. Complete with rubber mounting ring.

Model: R7 Code: RUDEC..... List Price: \$7.00

STRATOLINER

The microphone is always in the public eye. It is the only part of the sound system your audience or buyers see. The Shure "Stratoliner" gives you the opportunity to use an expensive-looking microphone even when low cost is an important factor. High output level with wide-range response (free from undesirable peaks) for good reproduction of either voice or music. Uses genuine Bimorph Crystal. When placed horizontally, the 708A is semidirectional; used vertically (microphone pointed straight up) it becomes non-directional in the horizontal plane, and performers may be placed all around it without frequency discrimination. A swivel is provided to permit tilting of the microphone through an angle of 90°. Case dimensions, diameter $2\frac{1}{2}$ ", length $4\frac{7}{8}$ ". Stand thread $\frac{5}{8}$ "-27. Shipping weight $2\frac{1}{2}$ pounds. Frequency response is 60-8000 c.p.s. Pearl Gray finish.



Switches are available, see page 10

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	CODE	LIST PRICE
708A	7 ft.	51.0 db below one volt per microbar	High Impedance	RUDUM	\$27.50
708-20	20 ft.	54.5 db below one volt per microbar		RUVAT	\$29.00

Microbar = one dyne per sq. cm.

SHURE 76B LAPEL MICROPHONE

Designed for Public Address, lecturing, portable transmitters, and all general uses for intelligible reproduction of speech. Permits user to move freely. It is a pressure-actuated diaphragm-type crystal microphone. The crystal used is a Graphoil (high capacity) Bimorph crystal, moisture-sealed. The microphone is inconspicuous, and weighs only $1\frac{1}{2}$ ounces. Response from 40 to 6,000 c.p.s. High frequency response accentuated for maximum intelligibility. Free from undesirable peaks. $1\frac{1}{8}$ " diameter. Gray finish. Lapel clip. 25-foot shielded single-conductor cable. Shipping weight 1 pound. Output level: 57 db. below 1 volt per microbar.

Model 76B. Code: RULOP..... List Price \$27.00



SHURE

COMMUNICATION MICROPHONES

"100" SERIES CARBON



MODEL 100 SERIES

High-quality, carbon microphones specially designed for mobile equipment and all other uses where ruggedness and dependability are vital factors. Clear, crisp voice response. High output. Easy to use, fits snugly into palm of hand. Heavy duty switch for push-to-talk performance. Furnished with hook for suspension and bracket for wall mounting, plus coiled cord cable. Adopted as standard microphone by leading manufacturers of communications transmitters. Output level: 5 db. below 1 volt for 100 microbar speech signal. Net weight 14 oz. Shipping weight 1 pound. Case dimensions: 3 3/4" high, 1 3/4" deep, 2 3/4" wide.

MODEL	SWITCH ARRANGEMENT	CABLE	CODE	LIST PRICE
101C	Two Wire Relay Switch normally open (No microphone switch).	Coiled Cord 11" retracted 5' extended	RUCEG	\$30.00
102C	Relay normally open. Microphone switch normally open.	Coiled Cord 11" retracted 5' extended	RUCEM	\$30.00

REPLACEMENT CHART

Shure Distributor's Model Nos.	Shure Manufacturer's Model Nos.
101C	CB10, CB10B, CB15, CB15D, CB10C
102C	CB12, CB12A, CB12C

NOTE: Free end of cable trimmed and tinned for quick, easy installation of connector.

REPLACEMENT PARTS

Model R10 Carbon Cartridge used in "CB", "100", and "120" Series Carbon Microphones. Easy to install.

Model: R10 Code: RUTUB List Price: \$10.00

Model C15C Coiled Cord with trimmed and tinned leads. Used in "CB" and "100" Series Microphones.

Model: C15C Code: RUCOR List Price: \$6.00

MODEL "120" CARBON

The Model "120" Carbon Microphone is the ideal general replacement carbon microphone in the mobile equipment field. It can be used as a direct replacement for Shure microphones used by the leading communication equipment manufacturers. It can be used as a replacement in any circuit requiring a Carbon Microphone for fixed station use. The "120" is a durable unit designed for high intelligibility of speech. It will stand up under extremely rough treatment and can be depended upon "to get the message through." It is recommended for Police, Fire, Utility, Forestry, Transportation Services, etc. The Model "120" is a distinctive looking unit that will improve the appearance of any transmitting setup. It is furnished with a S36A desk stand, push button switch and 7' four-conductor unshielded cable. Shipping Weight 3 lbs.

NOTE: Direct replacement for manufacturer's model 91A27.

MODEL	CABLE	OUTPUT LEVEL	IMPEDANCE	SHP. WT.	CODE	LIST PRICE
120	7 ft.	5 db below 1 volt per 100 microbar	70 to 80 ohms	3 lbs.	RUCEP	\$40.00



SHURE

GRIP-TO-TALK SLIDE-TO-LOCK SWITCH



MODEL A 88 A

This new ruggedly constructed Grip-To-Talk, Slide-To-Lock Switch employs a long life, leaf-type switch element which is guaranteed to withstand the most severe field requirements of paging and dispatching systems. Has spring temper phosphor bronze switch blades with pure silver contacts. Ideal for Police, Taxi-Cab, Railroad, Airport, Bus, Truck, and all emergency communications work where dependability is vital. Large comfortable grip bar minimizes hand and finger fatigue—also assures positive contact. Firm downward pressure on grip bar locks switch. Can be used with Shure connector type crystal, dynamic and carbon microphones of any impedance. No soldering is necessary. Simply plug in. Switch element can be readily removed for rewiring to accommodate other switching combinations. Rich satin chrome finish. Shipping Weight 1 lb.

Model: A88A Code: RUNEL

List Price: \$10.75

ON-OFF SWITCHES

MICROPHONE "ON-OFF" SWITCHES

In many microphone applications a switch is not wanted at the microphone. Therefore switches are not built into Shure Microphones. But, whenever a switch is needed these "On-Off" switches plug into the microphone quickly and conveniently. You can depend on them. No soldering necessary.

Model A83B. Rotary type "On-Off" switch. Quickly attached to any cable-connector type Shure Microphone. Internal plug establishes connections. Bakelite arrow knob.

Code: RUNIM

List Price \$6.00

Model A84B. Momentary "On-Off" Switch. Press-to-talk Bakelite disc.

Code: RUNID

List Price \$7.00

Model A85C. Momentary Relay-Type Switch. Normally-open switch closes circuit comprising one conductor and shield of outgoing cable for operation of relay or other device; remaining conductor and shield of cable carry microphone output. Must be used with two-conductor shielded cable. Standard Shure cable-connector receptacle. Satin Chrome finish. Bakelite disc. 1 3/4" high x 1 1/8" wide x 2" deep. Furnished without cable. Shipping weight 3/4 pound.

Code RUNAT

List Price \$10.00



A83B



A84B



A85C

STANDS

CABLE TYPE TRANSFORMER



MODERN DESK STAND

Model S36A. Streamlined Desk Mount with stable support. Fits Shure connector-type Microphones, concealing plug in base. Ideal for use with A88A Grip to Talk Switch. Adapter provided for other type microphones. Removable button for installation of $\frac{3}{8}$ " standard bushing switch or volume control. Pearl Gray finish. Base: $2\frac{1}{2}$ " high, 5" wide, 7" long. Shipping weight $1\frac{1}{2}$ pounds. Model S36A. Code: RUSEF. List Price \$5.00

TAKE-APART STAND

Model S34B. Handy low-cost stand for desk or hand use. One twist of handle locks it securely in base for use as a table stand, or releases handle for use in hand. Metal base, wood handle. Metal top threaded $\frac{5}{8}$ "—27. Height over all $6\frac{11}{16}$ ". Base diam. $4\frac{1}{2}$ ". Length of handle $5\frac{7}{8}$ ". Shpg. wt. 1 lb. Code RUKAB. List Price \$2.50. Model A41B. Microphone Handle. Threaded $\frac{5}{8}$ "—27. Code: RUJAD. List Price \$1.00



CABLE TYPE TRANSFORMER

Model A86A is a high-quality cable-type transformer which offers additional versatility when used in conjunction with Shure Models 55, 556, and 51 Dynamic Microphones, which employ the impedance matching switch. It solves the frequent problem of installations requiring long lengths of microphone cables without the loss of high-frequency response. Model A86A matches 35 to 50 and 150 to 250 ohm microphones to high impedance amplifier input. Compact, sturdy. Case diameter $1\frac{5}{8}$ ", length $2\frac{7}{8}$ ", 7 foot cable. Shipping weight $1\frac{1}{2}$ pounds. Model A86A. Code: RUDEB. List Price \$15.25



MODEL A86A

FLOOR STANDS

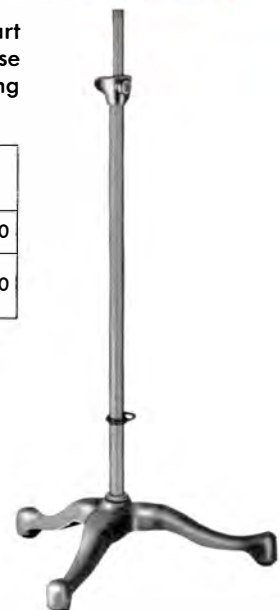
The new Shure Floor Stands have been designed to look smart and work perfectly. They will fit into any type of installation because of their design and rich hammered finish. Stabilized base cushioning reduces floor noise pickup by 10 to 18 db. Color: Pearl Gray.

MODEL	BASE STYLE	WEIGHT OF BASE	BASE DIAM.	HEIGHT ADJUSTMENT	SHPG. WT.	CODE	LIST PRICE
S61	Round	9 $\frac{1}{4}$ lbs.	12"	44"—68"	14 lbs.	RUSIT	\$19.50
S65	Tri-pod	9 $\frac{1}{4}$ lbs.	17 $\frac{7}{8}$ "	46"—70"	14 lbs.	RUSIV	\$22.50



MODEL S61

Pictured at right is the new Shure Locking Device that is compact and sturdy. Just push the button to raise or lower the microphone. Life-tested 5000 times. This lock is precision made, will stand up under rough and tumble treatment.



MODEL S65

SHURE

BASIC CONSIDERATIONS IN MICROPHONE APPLICATIONS

Four Basic Types: A microphone is an instrument for converting sound energy into electrical energy. This is accomplished by Shure Brothers through four fundamental types of microphones: dynamic, controlled reluctance, crystal, and carbon. Each employs a specific fundamental principle of operation. Obviously the application determines the type of microphone to be used.

Carbon: In the carbon microphone the sound waves act upon a diaphragm and vary the resistance in an electrical circuit, reproducing the sound as modulation of a current flowing in the circuit. High output level and ruggedness are characteristic of a carbon microphone. It is also practically unaffected by heat and humidity. Its high output is advantageous wherever space and weight are a factor, due to the fact that one or two preamplifier stages may be eliminated. The carbon microphone is widely used by military services, police, amateurs, airline and railroad companies for mobile communications.

Crystal: In a crystal microphone, the sound wave is made to stress a piezoelectric crystal and is thus converted into a voltage facsimile of the sound. Crystal microphones are excellent general purpose microphones. They are available in specially designed models for communications use as well as standard models for public address and recording.

Controlled Reluctance: In the controlled reluctance microphone, the output voltage is induced in a coil of wire by causing a sound wave to modulate the reluctance of the magnetic circuit.

Shure Controlled Reluctance Microphones are available in various models. They are ideal for recording; P. A. Systems; mobile communications work; dictating machines; mobile P. A. Systems, depending upon the model. The Controlled Reluctance Microphones are rugged and are immune to high temperature and humidity.

Dynamic: In the dynamic microphone, the sound wave causes a coil of wire to move in a magnetic field, generating a voltage proportional to the applied sound.

Shure Dynamic Microphones are available in a variety of models. Some are ideal for low cost communications work; others are perfect for high quality public address; and some models have been especially designed for high quality broadcasting.

The dynamic microphones are available in low or high impedance, thus permitting the use of long cable lengths. Shure Dynamic Microphones are very rugged and are not affected appreciably by severe conditions of weather, humidity, and handling.

Polar Response Characteristic: The microphone is the heart of a sound system. Having a good or bad installation begins with the proper choice of the microphone. The greatest consideration should be given to the polar response of the unit, more commonly known as the "pickup pattern." Polar response characteristic describes the variation of sensitivity as a function of the direction of arrival of sound. It is commonly published as a function of angle in the

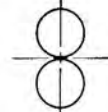
horizontal plane. Microphones are available with the following polar characteristics:



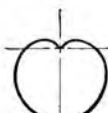
1. Nondirectional—picks up sound with equal sensitivity from all directions.



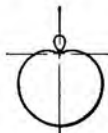
2. Semidirectional (conventional type)—Practically nondirectional at low frequencies, becoming increasingly directional at higher frequencies.



3. Bidirectional—picks up sound from front and rear. Dead at sides.



4. Cardioid—microphone has heart-shaped pickup pattern—sensitive at front, dead at rear. Ratio of front-to-rear sensitivity for sounds arriving at random, 7 to 1.



5. Super-Cardioid—Improved cardioid pattern. Sensitive at front, dead at rear. Ratio of front-to-rear sensitivity for sounds arriving at random, 14 to 1.

The latter microphone solves many problems in sound and broadcast work. The super-cardioid unidirectional microphones have a wide-angle response which diminishes sharply to a pronounced dead zone at the rear. This characteristic is especially helpful in stopping feedback, permitting the building up of greater volume, simplifying microphone placement, allowing the performers to stand farther away from the microphone, eliminating undesirable reverberation and background noises.

Uniphase: The Shure Super-Cardioid uses the exclusive Shure Uniphase principle. This principle results in a cardioid or super-cardioid microphone with one transducer unit, wide-angle front pickup, and a reduction in pickup of random sound energy of 66% to 73%.

Frequency Response: Fidelity of reproduction begins with the frequency response of the microphone. For high quality Public Address, Broadcasting and Recording, it is essential to have a microphone with a peak-free, extended frequency response. For speech work, it is desirable to provide a full and smooth high frequency end in order to promote crispness and intelligibility of speech. The higher priced Shure microphones are carefully engineered to provide a flat, wide-range response. Even the lowest cost microphones are designed to give peak-free performance with frequency range consistent with the price and best suited to the application for which the microphone is recommended.

SHURE BROTHERS, Inc.

Microphones and Acoustic Devices

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