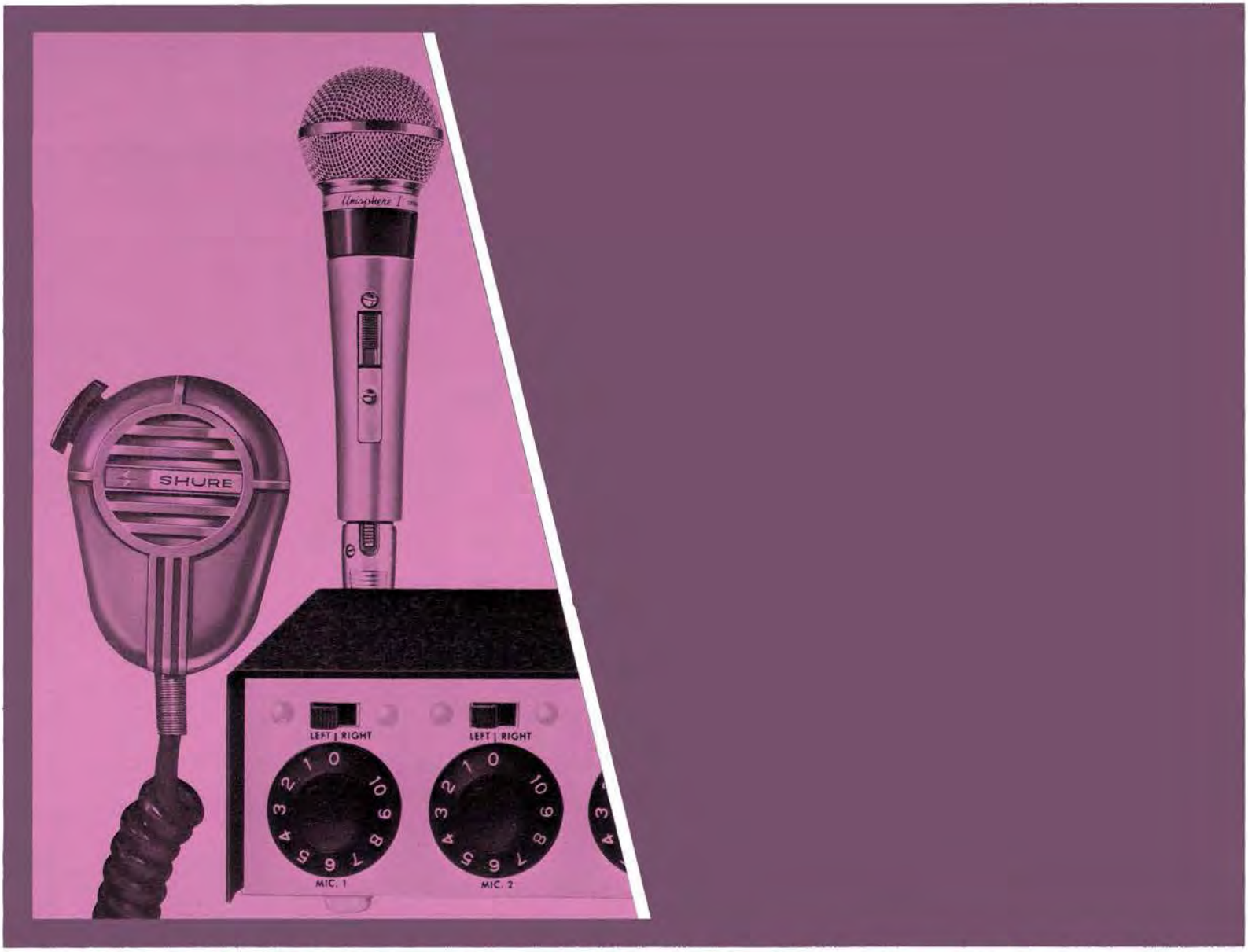
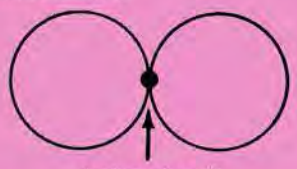



# Microphones & Circuitry For Public Address, Tape Recording & Communications

SHURE®

# SELECTING THE CORRECT SHURE MIC

## STEP I / PICK-UP PATTERNS

| | WHAT IT IS | WHERE TO USE IT |
|---|---|---|
| UNIDIRECTIONAL  (microphone) | These microphones pick up sound mainly from the front, while suppressing sound and noise coming from the back. The most generally useful unidirectional pick-up pattern is the CARDIOID (meaning "heart-shaped"). This pattern will suppress rear sounds at least 70% while picking up front sound over a broad area. Sounds 120° to 180° off-axis are almost entirely suppressed.<br><br>In addition to the Cardioids (the Unidyne IV, Unidyne III, Unidyne II, Unidyne A, Unidyne B and the Unisphere Series of unidirectional microphones) other Shure unidirectional microphones are described as Super-Cardioid (Model 330). | The most commonly applied solution to feedback problems. Greatly simplifies planning of sound installations. With the rear of the microphone rejecting sound, the microphone can be placed so that sound projecting from the loudspeaker cannot re-enter the microphone to generate feedback. Performers can work much further away from unidirectional microphones than with omnidirectional microphones.<br><br>Effectively suppresses audience noises, coughing, shuffling feet, etc. Ideal for fixed installation before an individual performer or a small group. Pickup of large groups can be effected with multiple microphone installation. |
| OMNIDIRECTIONAL  (microphone) | These microphones pick up sound more-or-less evenly from all directions. In effect, they are nondirectional. They can be hand-held, stand-mounted, or worn around the neck. This type includes the greatest number of microphones, together with the widest price range and response characteristics. | Good for general applications where feedback or audience noise is no great problem. Extremely versatile. Practically all ultra-slim "probe" type microphones are omnidirectional units—they are ideal for "walk-around" and interview situations. |
| BIDIRECTIONAL  (microphone) | Pick up sound from front and back while suppressing sound from sides, top and bottom. | Ideally suited for use when two performers, or groups, are on opposite sides of microphone. Allows the same freedom of movement as unidirectional microphones, while solving difficult feedback problems such as rooms with "hard" ceilings or where loudspeakers are mounted over or to the side of the microphone. |

## STEP II / FREQUENCY RESPONSE

The fidelity of reproduction afforded by the microphone depends on three factors of the frequency response:

1. Response Range. In general, the more extended the frequency response of the microphone is, the more faithful the reproduction will be.
2. Smoothness. A high fidelity microphone is made so that no conspicuous abrupt peaks or valleys of output occur at any frequency. This results in an essentially smooth frequency response curve.
3. Flatness. A flat frequency response curve is one showing output remaining at approximately the same level throughout the frequency range. This means that the microphone responds equally well at any frequency, an essential of high fidelity reproduction.

While the microphone with the widest range, smoothest and flattest frequency response curve will give the highest fidelity, it is not necessarily the best microphone for every application. [For example, a shaped (peaked) response is often devised to achieve added "presence" for microphones used in paging and communications systems.] Frequency response required for various applications is summarized below:

RESPONSE REQUIREMENTS

| Use | Response Range | Response Character | Possible Microphones |
|---|---|---|---|
| Recording, broadcasting, highest quality public address for music and voice. | 50-15,000 Hz | Flat<br>Smooth | Ribbon<br>Dynamic |
| High quality public address for voice and music. | 70-10,000 Hz | Flat or slightly rising<br>No prominent peaks | Ribbon<br>Dynamic<br>Some Ceramics |
| Indoor paging systems and public-address systems for voice use. | 200- 5,000 Hz | Slightly rising<br>No prominent peaks | above plus<br>Some Controlled<br>Magnetics |
| Outdoor paging systems or systems in noisy locations. For voice use when maximum intelligibility required. | 300- 3,500 Hz | Rising<br>A peak in the 2000 to 3500 Hz region is often desirable | Controlled Magnetic<br>Dynamic<br>Some Ceramics |

# ROPHONE FOR THE APPLICATION

## STEP III / KINDS OF MICROPHONES

| WHAT IT IS | WHERE TO USE IT |
|---|---|
| **SHURE SERIES NO. 200 CERAMIC** | |
| Similar to crystal microphone in design but uses man-made ceramic element. Economical, superior to crystal for outdoor use. Unaffected by severe temperature and humidity changes. High impedance. | Wherever price is an important factor. Shure makes omnidirectional and unidirectional ceramic microphones — all are economical, rugged, attractively styled. |
| **SHURE SERIES NO. 300 RIBBON** | |
| Virtually uniform frequency response. Definitely among the very best available. Extremely rugged for normal use indoors. Adjustable impedance.<br><br>The characteristically wide-range response of the ribbon element has made it a widely used type of microphone for broadcasting and professional recording. Shure engineers have designed remarkable ruggedness into Shure ribbon microphones, making them an excellent, dependable choice for any indoor application where highest quality reponse is required. (Shure ribbon microphones actually have been used *to pound nails*, and subjected to severe drop tests – without affecting the performance characteristics.) | Wherever quality of response is the first consideration in broadcasting, professional recording, or public address (unidirectional and bidirectional). Excellent for music. Not recommended for outdoor use. |
| **SHURE SERIES NO. 400 CONTROLLED MAGNETIC** | |
| Balanced armature . . . rugged, stable, high output. Originally developed for the military to combine the advantages of the carbon and dynamic microphone . . . with none of the disadvantages — such as the need for external power supply in a carbon. Has the ability to directly supply any impedance, without transformer. Modestly priced, extremely dependable performance. | Indoors, outdoors — wherever rugged performance must be coupled with modest price and suitable response. Ideal for paging, language labs, portable P.A. systems. Omnidirectional only. |
| **SHURE SERIES NO. 500 DYNAMIC** | |
| Moving-coil microphone, available in a wide range of prices and types. The better dynamic units are among the very best microphones for frequency response. Smooth response (up to 20,000 Hz). | The dependable unit where exceptional performance, ruggedness and reliability are required, such as broadcasting and better quality public address. Superior in frequency response to ceramic, crystal, carbon, and Controlled Magnetic units. Unidirectional, omnidirectional. |

## STEP IV / PRICE

While Shure microphones are available in a wide price range, it is well to keep in mind that they are the lowest cost single item in the average system — and that their function is critical! In truth, your system can be no better than the microphone that originally converts the sound waves into electrical impulses. In general, unidirectional cardioid microphones are the most expensive (as a category); however, some fine quality omnidirectional and bidirectional microphones can cost as much as unidirectionals. Where economy is the major factor, we suggest that you look to ceramic or "Controlled Magnetic" units. Where quality is first and foremost, we recommend ribbons or dynamics.

# INDEX



**NOTE**

Impedances shown under *Specifications* —Impedance and Output Levels are recommended input impedance ratings.

# UNIDYNE® IV MICROPHONE SERIES


## MODELS 548 · 548S · 548SD · 548SD-CN · 549

The premier member of the world-famed Unidyne family of microphones. An ultra-high-quality, super-rugged, dual impedance microphone with an effective cardioid pickup pattern. Smooth, wide-range response for voice and music. Has all the superb feedback and "boom" suppressing characteristics of the Unidyne III (opposite page), combined with exceptionally rugged construction. Easily serviced in the field. Specially cushioned reinforced cartridge.

**Model 548 Unidyne IV:** For stand or hand use. Solderless impedance change feature. Supplied with 15-foot detachable heavy duty two-conductor shielded cable, with FEMALE professional three-pin audio connector* on microphone end. Model A25B Swivel Adapter included.

**Model 548S Unidyne IV:** For stand use. Mounted on a lifetime swivel that also contains an On-Off switch. Solderless impedance change feature. Supplied with 15-foot detachable heavy duty two-conductor shielded cable, with FEMALE professional three-pin audio connector* on microphone end.

**Model 548SD Unidyne IV:** For stand or hand use. Features magnetic reed-type On-Off switch built into the case, with built-in locking plate to permanently lock microphone in On position. Solderless impedance change feature. Supplied with 15-foot detachable heavy duty two-conductor shielded cable, with FEMALE professional three-pin audio connector* on microphone end. Model A25B Swivel Adapter included.

**Model 548SD-CN Unidyne IV:** Same as Model 548SD (above), but supplied with 20-foot professional heavy duty two-conductor shielded cable, with professional three-pin audio connectors* on both ends of cable. Model A25B Swivel Adapter included.

**Model 549 Unidyne IV:** Professional stage version of the Unidyne IV Series. Special vibration isolation shock mount to insulate against vibration and mechanical shocks. Ideal for performers who carry their own microphone to clubs and auditoriums. Combination impedance selection On-Off switch. Cable not included.

*Designed to mate with Cannon XL series, Switchcraft A3 series or equivalent connector.

## SPECIFICATIONS

**Frequency Response:** 40 to 15,000 Hz.

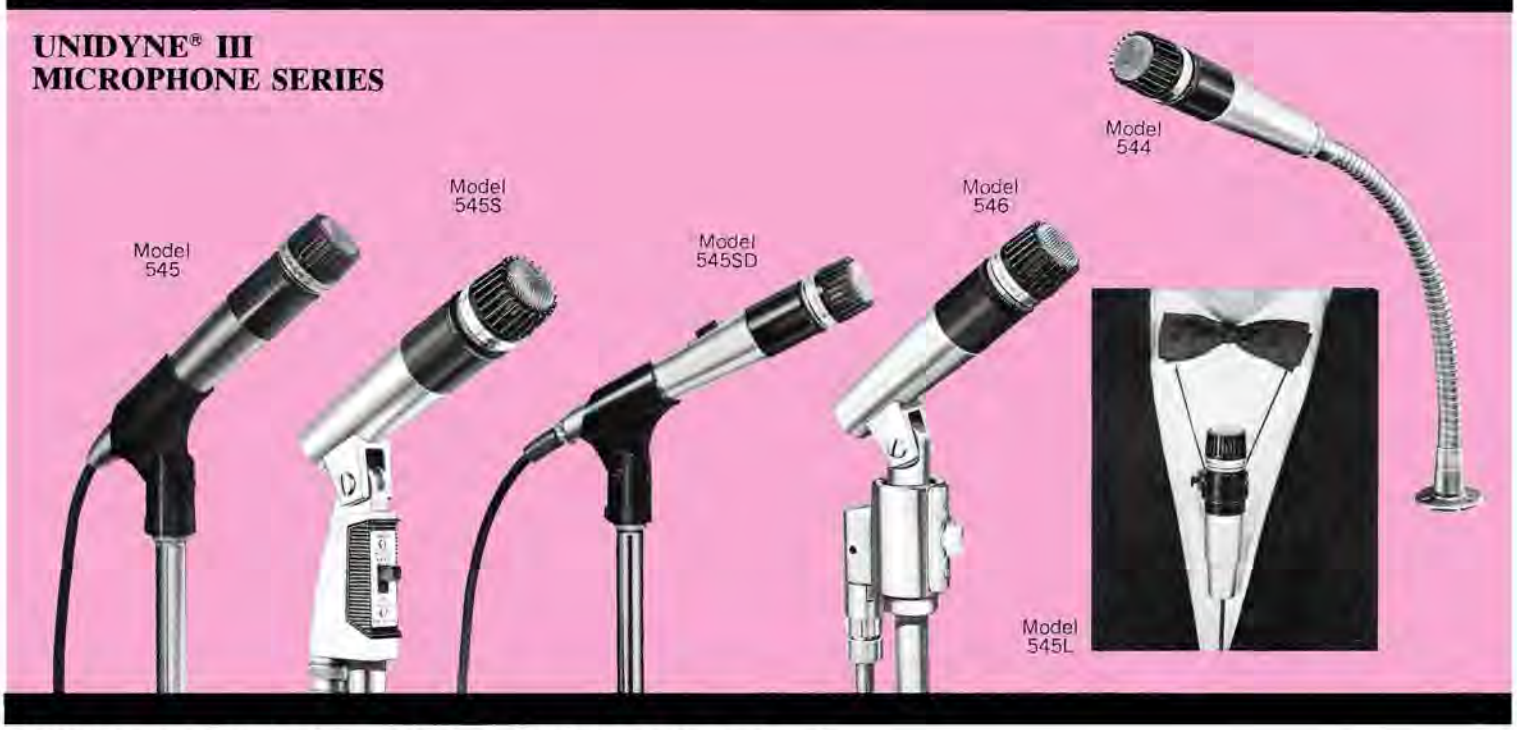
**Impedance and Output Levels:** Models 548, 548S, 548SD, 548SD-CN, Dual. Low — −57 db (0 db = 1 milliwatt per 10 microbars); .131 millivolts/microbar. High — −55 db (0 db = 1 volt per microbar); 1.76 millivolts/microbar.

Model 549 — Dual (25 - 50 ohms) — − 56 db (0 db = 1 milliwatt per 10 microbars); .067 millivolts/microbar. (250 ohms) — −56 db (0 db = 1 milliwatt per 10 microbars); .149 millivolts/microbar.

## RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Isolation Mount | Distant Pickup Stand | Quick Disconnect |
|---|---|---|---|---|---|
| **548** | S33B, S37A | S39B | A55M | S55P | A45 |
| **548S** | S33B, S37A | S39B | – | – | A47 |
| **548SD (CN)** | S33B, S37A | S39B | – | – | A45 |
| **549** | S33B | S39B | – | – | A45 |

# UNIDYNE® III MICROPHONE SERIES




## MODELS 545 · 545S · 545SD · 545D · 545SD-CN · 545L · 544 · 546

Small and strikingly handsome, the acoustical design of the Unidyne III Microphone approaches the theoretical ideal of the uniform cardioid pickup pattern. Reproduces the human voice with remarkable fidelity. A favorite choice of singers and entertainers, and an excellent microphone for drum and bass instrument pickup. Recommended for use in any location where feedback is a problem.

**Model 545 Unidyne III:** For stand or hand use. Supplied with 15-foot detachable, heavy duty, three-conductor shielded cable (microphone impedance is selected at amplifier end of cable), with MALE four-pin MC4M type connector. Model A25B Swivel Adapter included.

**Model 545S Unidyne III:** For stand use. Mounted on a lifetime swivel that also contains an On-Off switch. Supplied with 15-foot detachable, heavy duty, three-conductor shielded cable (microphone impedance is selected at amplifier end of cable) with MALE four-pin MC4M type connector.

**Model 545SD Unidyne III:** For stand or hand use. Features a magnetic reed-type On-Off switch built into the case, with built-in locking plate to permanently lock microphone in On position. Solderless impedance change feature. Supplied with 15-foot detachable, heavy duty, two-conductor shielded cable, with FEMALE professional three-pin audio connector* at microphone end. Model A25B Swivel Adapter included.

**Model 545D Unidyne III: (not shown)** Same as 545SD without On-Off switch. Designed for those numerous applications where built-in switch is not desired, such as when soundman wants to control "On-Off" at audio console.

**Model 545SD-CN Unidyne III:** Same as Model 545SD (above), but supplied with 20-foot professional, heavy duty, two-conductor shielded cable, with professional three-pin audio connectors* on both ends of cable. Model A25B Swivel Adapter included.

**Model 545L Unidyne III:** Designed for lavalier use. Supplied with 20-foot permanently attached, miniature, two-conductor shielded cable. Lavalier clip included. Can also be mounted on a flexible gooseneck, or in an A25B Swivel Adapter.

**Model 544 Unidyne III:** Designed especially for gooseneck mounting. Supplied with seven-foot permanently attached, two-conductor, miniature shielded cable. To obtain microphones complete with goosenecks, order Models 544-G6, 544-G12 or 544-G18 for 6-inch, 12-inch or 18-inch goosenecks.

**Model 546 Unidyne III:** For stand use. Features a special live-rubber vibration-isolation shock mount. Recommended for high quality public address systems and tape recording — especially where floor or stage is "shaky." Combination impedance selection On-Off switch. Supplied with 20-foot professional, heavy duty, two-conductor shielded cable with FEMALE professional three-pin audio connector* on microphone end.

*Designed to mate with Cannon XL series, Switchcraft A3 series or equivalent connector.

## SPECIFICATIONS

**Frequency Response:** 50 to 15,000 Hz.

**Impedance and Output Levels:** Models 545, 545S, 545SD, 545SD-CN, 544. Dual; Model 545L: Low only. Low — −57 db (0 db = 1 milliwatt per 10 microbars); .125 millivolts/microbar. High — −55 db (0 db = 1 volt per microbar); 1.76 millivolts/microbar.

Models 546 Dual. (25-50 ohms)— −58 db (0 db = 1 milliwatt per 10 microbars); .067 millivolts/microbar. (250 ohms)— −57.5 db (0 db = 1 milliwatt per 10 microbars); .158 millivolts/microbar.

## RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Mounts | Isolation Mounts | Distant Pickup Stand | Quick Disconnect | Lavalier Cord | Wind-screen |
|---|---|---|---|---|---|---|---|
| **545** | S33B, S37A | S39A | A55M | S55P | A45 | — | A2WS |
| **545S** | S33B, S37A | S39A | — | — | A47 | — | A2WS |
| **545D; SD; -CN** | S33B, S37A | S39A | — | — | A45 | — | A2WS |
| **546** | S33B | S39A | — | — | A45 | — | A2WS |
| **545L** | S33B, S37A | S39A | A55M | S55P | A45 | A54L (supplied) | A2WS |
| **544** | — | — | — | — | — | | A2WS |

## UNIDYNE® II SERIES


### MODELS 55S · 55SW · 556S

Renowned for ruggedness and reliability, the Unidyne II Series microphones are highly regarded throughout the world — used consistently by famous performers and celebrities for those important events where faithfulness of sound reproduction is critical. Highly recommended for fine-quality public address, theatre-stage sound systems and recording applications. Includes multi-impedance switch for high, medium or low impedance.

**Model 55S Unidyne II:** For stand use. Mounted on lifetime swivel. Supplied with 15-foot detachable, heavy duty, two-conductor shielded cable, with MALE three-pin MC3M type connector on microphone end.

**Model 55SW Unidyne II:** For stand use. Mounted on a lifetime swivel that also contains an On-Off switch. Supplied with 15-foot detachable, heavy duty, two-conductor shielded cable, with MALE three-pin MC3M type connector on microphone end.

**Model 556S Unidyne II:** For stand use. Mounted on lifetime swivel. Features a special live-rubber vibration isolation shock mount built into the stand connector. Supplied with 20-foot professional, heavy duty, two-conductor shielded cable, with FEMALE professional three-pin audio connector* on microphone end of cable.

*Designed to mate with Cannon XL series, Switchcraft A3 series or equivalent connector.

#### SPECIFICATIONS

**Frequency Response:** Models 55S and 55SW, 50 to 15,000 Hz.; Model 556S, 40 to 15,000 Hz.

**Impedance and Output Level:** Models 55S and 55SW: Low (25-50 ohms)— −55.5 db (0 db = 1 milliwatt per 10 microbars); .071 millivolts/microbar. Medium (250 ohms)— −56.5 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High— −55.5 db (0 db = 1 volt per microbar); 1.68 millivolts/microbar.

Model 556S: Low (25-50 ohms)— −56.5 db (0 db = 1 milliwatt per 10 microbars); .067 millivolts/microbar. Medium (250 ohms)— −57.5 db (0 db = 1 milliwatt per 10 microbars); .130 millivolts/microbar. High— −56 db (0 db = 1 volt per microbar); 1.58 millivolts/microbar.

## UNIDYNE® B SERIES

### MODELS 515SA · 515SB · 515BG 515SBG · 515SB-G18

The lowest cost Unidyne, but with all the feedback suppression and uniform, symmetrical pickup pattern features that have made Unidynes world-famous. Each microphone in the Unidyne B Series effectively solves feedback and boominess problems in low-budget sound systems. Excellent choices where budget is the prime consideration. Handsome satin chrome cases with stainless steel screen in a black grille.

**Model 515SA Unidyne B:** For stand or hand use. Supplied with 15-foot permanently attached, heavy duty, single-conductor shielded cable. High impedance only. Built-in locking plate to permanently lock switch in On position. Model A25B Swivel Adapter included.

**Model 515SB Unidyne B:** Same as Model 515SA above, but low impedance only.

**MODEL 515BG Unidyne B:** Same as Model 515SBG, above, but without switch and two-conductor shielded cable.

**Model 515SBG Unidyne B:** For gooseneck use (gooseneck not included). Supplied with 51" permanently attached, four-conductor (two shielded) cable. Built-in non-locking push-to-talk switch activates either microphone or external relay circuit. Low impedance only.

## UNIDYNE® A SERIES


### MODELS 580SA · 580SB

The rugged Unidyne A Series microphones offer unidirectional problem-solving ability at a moderate cost. Highly effective cardioid pickup pattern permits microphones to be located unusually close to loudspeakers. Built-in On-Off switch with locking plate to permanently lock switch in On position. Versatile—can be used on a stand or in the hand, indoors or out. Satin chrome case with stainless steel screen and rugged Black "Armo-Dur" cap. Model A25B Swivel Adapter included.

**Model 580SA Unidyne A:** Supplied with 15-foot permanently attached, one-conductor shielded cable. High impedance only.

**Model 580SB Unidyne A:** Supplied with 15-foot permanently attached, two-conductor shielded cable. Low impedance only.

#### SPECIFICATIONS

**Frequency Response:** 50 to 13,000 Hz.

**Impedance and Output Level:** Model 580SA: High — −56.5 db (0 db = 1 volt per microbar); 1.48 millivolts/microbar.

Model 580SB: Low (25-200 ohms) — −57 db (0 db = 1 milliwatt per 10 microbars); .105 millivolts/microbar.

*Unidyne B Series, continued*

**Model 515SB-G18 Unidyne B:** Same as Model 515SBG (above), but preinstalled on 18" gooseneck, with mounting flange included.

#### SPECIFICATIONS

**Frequency Response:** 80 to 13,000 Hz.

**Impedance and Output Level:** Model 515SA: High only — −58 dB (0 db = 1 volt per microbar); 1.25 millivolts/microbar. Models 515SB, 515BG, 515SBG, and 515SB-G18: Low only (25-250 ohms) — −59 dB (0 dB = 1 milliwatt per 10 microbars); .089 millivolts/microbar.

### RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Quick Disconnect | Wind-screen |
|---|---|---|---|---|
| 55S | S33B, S37A | S39A | A47 | – |
| 55SW | S33B, S37A | S39A | A47 | – |
| 556S | S33B | S39A | A45 | – |
| 515SA (–B) | S33B, S37A | S39A | A45 | A61WS |
| 515SB-G18 | – | – | – | A61WS |
| 580SA (–B) | S33B, S37A | S39A | A45 | A61WS |

## UNISPHERE® I MICROPHONES


### IODELS 565 · 565S · 565SD · 565D · 565SD-CN · 566

The Unisphere I Series gives you all the superb feedback control and uniform cardioid pickup pattern features that have made the Unidyne family of microphones world-renowned for solving difficult public address problems. In addition, these microphones give you effective control of explosive breath sounds ("pop") and minimized wind noise in outdoor locations, eliminating the need for external windscreens. Excellent reproduction of voice and music. For indoor or outdoor use. Gleaming satin chrome case.

**Model 565 Unisphere I:** For stand or hand use. Supplied with 15-foot detachable, heavy duty, three-conductor shielded cable with four-pin MALE MC4M type connector on microphone end of cable (impedance is selected at amplifier end of cable). Model A25B Swivel Adapter included.

**Model 565S Unisphere I:** For stand use only. Mounted on lifetime swivel that also includes an On-Off switch. Supplied with 15-foot detachable, heavy duty, three-conductor shielded cable with four-pin MALE MC4M type connector on microphone end of cable (impedance is selected at amplifer end of cable).

**Model 565SD Unisphere I:** For stand or hand use. Features magnetic reed-type On-Off switch built into the case, with built-in locking plate to permanently lock microphone in On position. Solderless impedance change feature. Supplied with 15-foot detachable, heavy duty, two-conductor shielded cable, with FEMALE professional three-pin audio connector* on microphone end. Model A25B Swivel Adapter included.

**Model 565D Unisphere I:** Same as 565SD without On-Off switch. Designed for those numerous applications where built-in switch is not desired, such as when soundman wants to control "On-Off" at audio console.

**Model 565SD-CN Unisphere I:** Same as Model 565SD, but supplied with 20-foot professional, heavy duty, two-conductor shielded cable, with professional three-pin audio connectors* on both ends of cable. Model A25B Swivel Adapter included.

**Model 566 Unisphere I:** For stand use. Features special built-in vibration isolation shock mount. Supplied with 20-foot professional, heavy duty, two-conductor shielded cable with MALE professional three-pin audio connector* on microphone end. Combination impedance selection On-Off switch.

*Designed to mate with Cannon XL series, Switchcraft A3 series or equivalent connector.

### SPECIFICATIONS

**Frequency Response:** Models 565, 565S, 565SD, 565SD-CN — 50 to 15,000 Hz.

Model 566 — 40 to 15,000 Hz.

**Impedance and Output Levels:** Models 565, 565S, 565SD, and 565SD-CN: Dual: Low (150 ohms) — −57 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar. High — −54.5 db (0 db = 1 volt per microbar); 1.88 millivolts/microbar.

Model 566: Dual: Low (25-200 ohms) — −57.5 db (0 db = 1 milliwatt per 10 microbars); .071 millivolts/microbar. Medium (250 ohms) — −57.5 db (0 db = 1 milliwatt per 10 microbars); .154 millivolts/microbars.

### RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Quick Disconnect | Wind-screen |
|---|---|---|---|---|
| **565** | S33B, S37A | S39A | A45 | A61WS |
| **565S** | S33B, S37A | S39A | A47 | A61WS |
| **565D; SD; -CN** | S33B, S37A | S39A | A45 | A61WS |
| **566** | S33B | S39A | A45 | A61WS |

## UNISPHERE® A MICROPHONES


### MODELS 585SA · 585SB · 585SAV · 585SBV

The Unisphere A Series of Microphones are economical unidirectional dynamic microphones featuring a highly effective unidirectional pattern to minimize loudspeaker "squeal" caused by feedback. These models are particularly suitable for use in locations where omnidirectional microphones may not operate properly because of poor acoustics. The 585 Series features a shock-mounted cartridge, and comes with Model A25B Swivel Adapter.

The Model 585SAV and 585SBV are two of the most ingenious microphones ever designed because the volume control on the microphone case enables the user to change the loudness of the P.A. system at the microphone location. Ideal for applications where the amplifier controls are inaccessible or where the speaker or singer wants to control his own volume for dramatic effects.

**Model 585SA Unisphere A:** For hand or stand use. Built-in On-Off switch with locking plate to permanently lock microphone in On position. Supplied with 15-foot detachable, heavy duty, single conductor shielded cable with FEMALE MC1F type connector. High impedance.

**Model 585SB Unisphere A:** For hand or stand use. Built-in On-Off switch with locking plate to permanently lock microphone in On position. Supplied with 15-foot detachable, heavy duty, two-conductor shielded cable with MALE MC2M type connector. Low impedance.

**Model 585SAV Unisphere A:** Same as Model 585SA above, but with adjustable volume control built into microphone case.

**Model 585SBV Unisphere A:** Same as Model 585SB above, but with adjustable volume control built into microphone case.

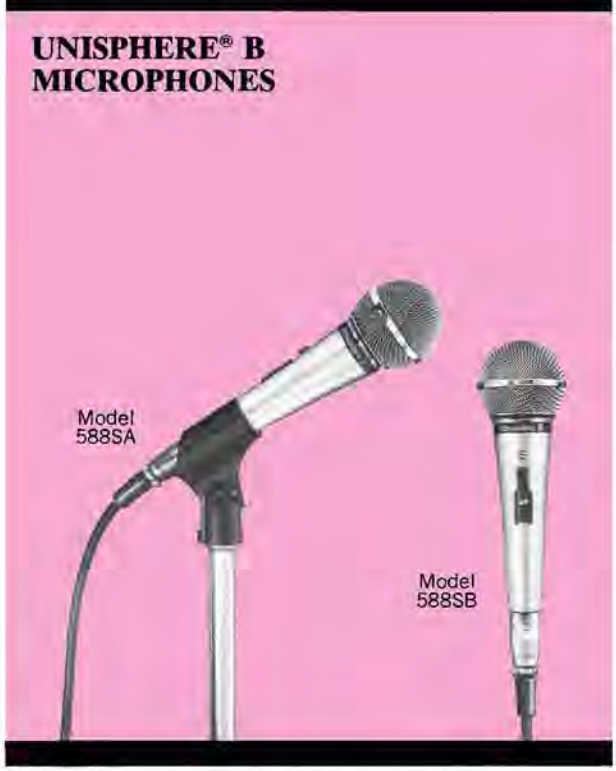
### SPECIFICATIONS

**Frequency Response:** 50 to 13,000 Hz.

**Impedance and Output Level:** Models 585SA and 585SAV: High — −57.5 db (0 db = 1 volt per microbar); 1.32 millivolts/microbar.

Models 585SB and 585SBV: Low (25 to 200 ohms) — −57 db (0 db = 1 milliwatt per 10 microbars); .105 millivolts/microbar.

## UNISPHERE® B MICROPHONES




### MODELS 588SA · 588SB · 588SB-CN

Maximum feature dynamic microphones at minimum cost! True cardioid pickup pattern for feedback control; highly effective filter for indoor and outdoor use that provides protection from wind and "pop" (explosive breath sounds); On-Off switch with built-in locking plate to permanently lock microphone in On position; and professional three-pin audio connector*. For stand or hand use. Gleaming satin chrome case.

**Model 588SA Unisphere B:** Supplied with 15-foot heavy duty, single-conductor shielded cable with FEMALE professional three-pin audio connector* on microphone end. High impedance.

**Model 588SB Unisphere B:** Supplied with 15-foot heavy duty, two-conductor shielded cable with FEMALE professional three-pin audio connector* on microphone end. Low impedance.

**Model 588SB-CN Unisphere B:** Same as Model 588SB above, but with 20-foot professional, heavy duty, two-conductor shielded cable with professional three-pin audio connectors* on both ends of cable.

*Designed to mate with Cannon XL series, Switchcraft A3 series, or equivalent connector.

### SPECIFICATIONS

**Frequency Response:** 80 to 13,000 Hz.

**Impedance and Output Level:** Model 588SA: High — −59 db (0 db = 1 volt per microbar); 1.11 millivolts/microbar.

Models 588SB and 588SB-CN: Low (25 to 200 ohms) — −59.5 db (0 db = 1 milliwatt per 10 microbars); .085 millivolts/microbar.

### RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Quick Disconnect | Wind-screen |
|---|---|---|---|---|
| 585SA (−B), (−AV), and (−SBV) | S33B, S37A | S39A | A45 | A61WS |
| 588SA (−SB), and (−SB-CN) | S33B, S37A | S39A | A45 | A61WS |

## UNI-RON UNIDIRECTIONAL


### MODEL 330

Highly recommended for motion-picture, TV, radio and professional recording studios as well as for all other uses where quality requirements are of the highest. Model 330 has a true super-cardioid unidirectional pickup pattern which solves feedback problems and greatly reduces the pickup of random noise. Strikingly immune to mechanical noises. The features that make the "330" so outstanding in performance and so dependable in operation are the patented "Uniphase" system; the true super-cardioid pickup pattern; a ribbon transducer which provides extended smooth response of 30-15,000 Hz.; a multi-impedance switch; a lifetime swivel; and a vibration-isolation unit mounted in live rubber. Supplied with 20-foot, two-conductor, shielded broadcast type cable, with FEMALE professional three-pin audio connector.*

#### SPECIFICATIONS

**Frequency Response:** 30 to 15,000 Hz.

**Impedance and Output Level:** 25-250 ohm impedance: −60 db (0 db = 1 milliwatt per 10 microbars); .049 millivolts/microbar. 150 ohm impedance: −58.5 db (0 db = 1 milliwatt per 10 microbars); .089 millivolts/microbar. 250 ohm impedance: −58.5 db (0 db = 1 milliwatt per 10 microbars); .111 millivolts/microbar.

*Designed to mate with Cannon XL series, Switchcraft A3 series, or equivalent connector.

## STUDIO GRADIENT


### MODEL 300

The Model 300 Studio Gradient is a bidirectional microphone for recording, broadcast and sound reinforcement which provides sound pickup at the front and rear of the microphone, but greatly reduces pickup at the sides. Can be placed at a much greater distance from the performer than is possible with omnidirectional microphones. Features are a readily accessible Voice-Music switch, a vibration-isolation unit mounted in live rubber, and a multi-impedance switch supplied with 20-foot, two-conductor, shielded broadcast type cable with FEMALE professional three-pin audio connector.*

#### SPECIFICATIONS

**Frequency Response:** 40 to 15,000 Hz.

**Impedance and Output Level:** 25-50 ohms: −60.5 db (0 db = 1 milliwatt per 10 microbars); .043 millivolts/microbar. 150 ohms: −59 db (0 db = 1 milliwatt per 10 microbars); .105 millivolts/microbar. High— −57.5 db (0 db = 1 volt per microbar); 1.32 millivolts/microbar.

## GRADIENT


### MODELS 315 · 315S

These microphones feature frequency response of 50 to 12,000 Hz. that reproduces voice and music in a clear, natural tonal quality in auditoriums, night clubs, schools and churches. Bidirectional "Figure 8" pickup pattern extends over a broad frequency range — permits the sound system to be operated at a level almost 6 db higher than is possible with nondirectional (omnidirectional) microphones. Greatly reduces reverberation and the pickup of random noises. Supplied with 15-foot, two-conductor shielded cable, with three-pin MALE MC3M type connector.

**Model 315 Gradient:** Without On-Off Switch.

**Model 315S Gradient:** With On-Off Switch.

#### SPECIFICATIONS

**Frequency Response:** 50 to 12,000 Hz.

**Impedance and Output Level:** 25-50 ohms impedance: −62 db (0 db = 1 milliwatt per 10 microbars); .044 millivolts/microbar. 150 ohm impedance: −61 db (0 db = 1 milliwatt per 10 microbars); .100 millivolts/microbar. High— −59 db (0 db = 1 volt per microbar); 1.10 millivolts/microbar.

### RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Quick Disconnect |
|---|---|---|---|
| **330** | S33B | S39A | A45 |
| **300** | S33B | S39A | A45 |
| **315S** | S33B, S37A | S39A | A47 |

## VOCAL SPHERE


### MODEL 579SB

A superb sounding omnidirectional microphone that delivers extremely natural, lifelike voice reproduction for vocalists or speakers. An outstanding performer in theatre-stage sound systems in which feedback is not a problem, and in numerous recording and broadcasting applications. Effective built-in wind and "pop" filters reduce breath noises, and the isolated cartridge mount reduces handling noises. Built-in On-Off switch with locking switch plate to lock microphone in On position. Sleek brushed chrome case affords good looks and excellent "handability." Supplied with 20-foot, two-conductor shielded, rubber-jacketed cable, with FEMALE professional three-pin audio connector* at microphone end. Model A57SL Locking Swivel Adapter included.

*Designed to mate with Cannon XL series, Switchcraft A3 series, or equivalent connector.

#### SPECIFICATIONS

**Frequency Response:** 50 to 15,000 Hz.

**Impedance and Output Level:** Low (25 to 200 ohms) — −59 db (0 db = 1 milliwatt per 10 microbars); .100 millivolts/microbar.

## OMNIDYNE ULTRA-SLIM PROBES


### MODELS 578 · 578S

Strikingly modern ultra-slim (¾-inch diameter) design. Inconspicuous because of slender shape. Smooth, natural response without change in pickup pattern or sensitivity from 50 to 17,000 Hz. Ideal for fine-quality home tape recording purposes, or for use in TV, radio and recording studios. Extremely rugged construction. Satin chrome steel case provides magnetic shielding as well as good looks.

**Model 578 Omnidyne:** Built-in On-Off switch in microphone case with locking plate. Supplied with 15-foot permanently attached, heavy duty, three-conductor shielded cable (impedance is selected at amplifier end). Model A57SL Locking Swivel Adapter included.

**Model 578S Omnidyne:** Mounted on a lifetime swivel that contains an On-Off switch. Supplied with 15-foot detachable, heavy duty, two-conductor shielded cable with FEMALE professional three-pin audio connector*.

*Designed to mate with Cannon XL series, Switchcraft A3 series, or equivalent connector.

#### SPECIFICATIONS

**Frequency Response:** 50 to 17,000 Hz.

**Impedance and Output Level:** Dual. Low (150 ohms) — −61 db (0 db = 1 milliwatt per 10 microbars); .100 millivolts/microbar.

High — −59 db (0 db = 1 volt per microbar); 1.11 millivolts/microbar.

## OMNIDYNE DYNAMIC


### MODEL 576

A superb professional-quality dynamic probe microphone (with striking slim design and ¾-inch diameter) designed for television, radio-TV broadcasting and recording studios. Features smooth, natural, wide-range response from 40 to 20,000 Hz. for authentic pickup of voice or music. The Model 576 is an ideal hand-held microphone because of its unique "feel" and "balance." Rugged steel case provides effective magnetic shielding as well as good looks. Extremely rugged and dependable for excellent performance under all operating conditions. Versatile—use it in the hand or on a stand, indoors or out. Finished in non-reflecting gray with stainless steel grille. 25-foot permanently attached, three-conductor shielded broadcast cable (impedance is selected at amplifier end). Model A57SL Locking Swivel Adapter included.

#### SPECIFICATIONS

**Frequency Response:** 40 to 20,000 Hz.

**Impedance and Output Level:** Dual. 25-50 ohms— −60 db (0 db = 1 milliwatt per 10 microbars); .050 millivolts/microbar. 150 ohms— −60 db (0 db = 1 milliwatt per 10 microbars); .094 millivolts/microbar.

## SPHER-O-DYNE


### MODELS 533SA · 533SB · 533SAV

An omnidirectional microphone of outstanding quality for such a moderate cost. Built-in wind, breath, and pop filters make it ideal for close-to-the-mouth applications, minimizing explosive breath sounds. The Spher-O-Dynes feature excellent reproduction of voice and music, combined with a well-balanced "handability" for virtually unlimited applications. Model A25B Swivel Adapter included.

**Model 533SA Spher-O-Dyne:** High impedance. Built-in On-Off switch with locking plate to permanently lock microphone in On position. Supplied with 15-foot detachable, single-conductor shielded cable.

**Model 533SB Spher-O-Dyne:** Low impedance. Built-in On-Off switch with locking plate to permanently lock microphone in On position. Supplied with 15-foot detachable, two-conductor shielded cable.

**Model 533SAV Spher-O-Dyne:** High impedance. With adjustable volume control built into microphone case. Supplied with 15-foot detachable, single-conductor shielded cable.

#### SPECIFICATIONS

**Frequency Response:** 40 to 11,000 Hz.

**Impedance and Output Level:** Model 533SA and 533SAV: High impedance — −55 db (0 db = 1 volt per microbar); 1.76 millivolts/microbar.

Model 533SB: Low impedance (25 to 250 ohms) — −56 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar.

## RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Quick Disconnect | Wind-screen |
|---|---|---|---|---|
| **579SA** | S33B, S37A | S39A | A45 | A61WS |
| **578** | S33B, S37A | S39A | A45 | A2WS |
| **578S** | S33B, S37A | S39A | A47 | A2WS |
| **576** | S33B, S37A | S39A | A45 | A2WS |
| **533SB, (−SAV)** | S33B, S37A | S39A | A45 | |

## DYNAMIC LAVALIER MICROPHONES


### MODELS 570 • 570S

These superb professional lavalier microphones are designed for broadcast and sound reinforcement assignments and for use by lecturers, performers and clergymen. They feature special "shaped" response (50 to 12,000 Hz.) for superior lavalier performance and reduction of pickup of clothing and cable noise. Outstanding ruggedness and reliability—even under adverse operating conditions. Designed for inconspicuous use with "Flex-Grip" lavalier assembly (supplied). These microphones are the most versatile available because the "Flex-Grip" design holds the microphone firmly, yet permits easy and quick removal. The lavalier clip opens right or left or can be removed. The case is non-reflecting gray metal with a stainless steel grille. Supplied with 30-foot, non-detachable, two-conductor miniature shielded cable.

**Model 570:** Without On-Off switch.

**Model 570S:** With On-Off switch.

#### SPECIFICATIONS

**Frequency Response:** 50 to 12,000 Hz.

**Impedance and Output Level:** Low impedance (25 to 200 ohms) — −60.5 db (0 db = 1 milliwatt per 10 microbars); .084 millivolts/microbar.

## OMNIDYNE MINIATURE MICROPHONES


### MODELS 571 • 572G

The extremely small Model 571 microphone can be concealed on the person (user) and is also suitable for hand-held, stand, and suspended over-the-stage use. Features smooth peak-free response from 50 to 10,000 Hz. for voice applications where a small, inconspicuous microphone should be used. Recommended for TV, motion picture, theatrical and public-address applications. Supplied with 30-foot non-detachable, two-conductor shielded, miniature cable. Model A57R Swivel Adapter is included.

The Model 572G features the same response and size characteristics of Model 571, with the added feature of permanent mounting on a new small-diameter, ultra-quiet 12-inch gooseneck. Gooseneck comes complete with mounting flange. Ideal for permanent mounting on lecterns, paging and dispatching stations, in language laboratories and other applications where a permanently mounted quality microphone is required. The gooseneck is of the new ultra-slim type that reduces noise usually caused by adjusting the microphone. Supplied with 5-foot non-detachable, two-conductor shielded cable.

#### SPECIFICATIONS

**Frequency Response:** 50 to 10,000 Hz.

**Impedance and Output Level:** Low (25 to 250 ohms)— −61.0 db (0 db = 1 milliwatt per 10 microbars); .079 millivolts/microbar.

## ECONOMY LAVALIER MICROPHONE


### MODEL 560

A dual impedance, dynamic microphone with a tailored response specifically designed for lavalier applications. This is a good, general-purpose lavalier microphone at a very modest price. An excellent choice for lecturers, performers, and clergymen—and for the audio-visual departments of schools where budget is an important consideration. The compact and lightweight modern black satin all-metal case has a stainless steel grille. Impedance can be quickly changed from High to Low by simply moving pin jacks. The clip-grip lavalier assembly (supplied) holds the microphone securely to the wearer. Supplied with 18-foot non-detachable, two-conductor shielded, miniature cable.

#### SPECIFICATIONS

**Frequency Response:** 40 to 10,000 Hz.

**Impedance and Output Level:** Dual. High — −56.5 db (0 db = 1 volt per microbar); 1.48 millivolts/microbar. Low (25 to 250 ohms)— −55.5 db (0 db = 1 milliwatt per 10 microbars); .149 millivolts/microbar.

## DYNAMIC GOOSENECK


### MODEL 561

A compact, high quality, tamper-proof dynamic microphone with an attached cable and standard 5/8-inch-27 thread for direct mounting on either a flexible gooseneck or a fixed pipe. The extremely rugged, dynamic cartridge is easily field replaced. This microphone features excellent voice response for language lab systems, paging applications, base-station communications and talk-back and cuing from professional control-room installations. Its modest cost makes it well-suited for lower-budget installations in which numerous microphones must be used, such as "total communications" meeting room systems. Supplied with 4-foot non-detachable, two-conductor shielded, miniature cable. Gooseneck must be ordered separately. (See Page 18.)

#### SPECIFICATIONS

**Frequency Response:** 40 to 10,000 Hz.

**Impedance and Output Level:** Low (25 to 250 ohms) — −56.0 db (0 db = 1 milliwatt per 10 microbars); .141 millivolts/microbar.

### RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Lavalier | Windscreen |
|---|---|---|---|---|
| **570 (S)** | – | – | A57L* | A2WS |
| **571** | S33B, S37A | S39A | A51L, A57L | A2WS |
| **572G** | – | – | – | A2WS |
| **560** | – | – | A34L* | – |
| **561** | – | – | – | – |

*Furnished Accessory


## SONODYNE MODELS 51 · 51S

These omnidirectional microphones are recommended for schools and other public-address applications where ruggedness and high output are desirable features. Excellent for use with tape recorders requiring microphones with high output. Multi-impedance switch gives choice of Low, Medium, or High impedance. Lifetime positive-lock swivel. Supplied with 15-foot detachable, two-conductor shielded cable with MALE MC3M type connector.

**Model 51 Sonodyne:** Without On-Off switch.

**Model 51S Sonodyne:** With On-Off switch.

### SPECIFICATIONS

**Frequency Response:** 60 to 10,000 Hz.

**Impedance and Output Level:** Low (25-50 ohms) — −51.0 db (0 db = 1 milliwatt per 10 microbars); .118 millivolts/microbar. Medium: (150 ohms) — −51.0 db (0 db = 1 milliwatt per 10 microbars); .265 millivolts/microbar. High — −48.5 db (0 db = 1 volt per microbar); 2.51 millivolts/microbar.

## THE COMMANDO SERIES (CONTROLLED MAGNETIC) MODELS 415 · 420 · 425 · 430

The versatile Commando Series represents a significant achievement in providing super-rugged omnidirectional microphones with good performance at nominal cost. Each Commando microphone incorporates a durable, Shure-patented Controlled Magnetic cartridge. Suitable for indoor or outdoor use, these microphones feature high output, smooth response, extreme ruggedness and resistance to severe moisture and temperature conditions.

**Model 415 Commando:** For hand or stand use. High impedance. Supplied with seven-foot permanently attached, single-conductor shielded cable. Model A25B Swivel Adapter included.

**Model 420 Commando:** Designed for lavalier use. Dual impedance. Supplied with 20-foot permanently attached, miniature, two-conductor shielded cable. Lavalier cord and Model A25B Swivel Adapter included.

**Model 425 Commando:** Designed for gooseneck mounting. Dual impedance. Supplied with seven-foot permanently attached, miniature, two-conductor shielded cable.

**Model 425 Gooseneck Commando:** Model 425 pre-mounted on 6", 12" or 18" gooseneck. Supplied with seven-foot permanently attached, miniature, two-conductor shielded cable.
Model 425-G6 (6")
Model 425-G12 (12")
Model 425-G18 (18")

**Model 430 Commando:** For stand or hand use. Dual impedance. Supplied with 15-foot detachable two-conductor shielded cable. Model A25B Swivel Adapter included.

**Model 430SL Commando:** For base station and paging applications. Features a built-in switch to control both the microphone circuit and an external relay or control circuit (press-to-talk locking or non-locking type). Model S38B Desk Stand and Model A25B Swivel Adapter included. Supplied with 15-foot non-detachable, three-conductor (one shielded) cable.

### SPECIFICATIONS

**Frequency Response:** 60 to 10,000 Hz.

**Impedance and Output Level:** Model 415 is High Impedance. Models 420, 425, 430, and 430SL are Dual (selection by a simple pin-jack changing method). High — −52 db (0 db = 1 volt per microbar); 2.510 millivolts/microbar.

Low — −52 db (0 db = 1 milliwatt per 10 microbars); .225 millivolts/microbar.

## HIGH OUTPUT OMNIDIRECTIONAL MICROPHONES

**Model 425 Commando:** Dual impedance. Supplied with seven-foot, permanently attached, miniature, two-conductor shielded cable and Model A25B Swivel Adapter. Recommended for gooseneck applications. Can also be used with microphone stands such as the Model S38B Desk Stand (see page 18).

**Models 520SL · 520SLB · 520 · 520B**

Dispatcher Models 520SL and 520SLB combine the microphone, the grip-to-talk slide-to-lock switch, and the desk stand as a complete assembly. This series, with rugged Controlled Magnetic elements, is favorite among dispatchers because of its dependability. Designed for base-station use in police, fire, utility, forestry and transportation services, as well as paging and call systems. Green Bullet Models 520 and 520B are microphone heads alone, and are exceedingly rugged utility public address microphones. Choice of Low or High impedance in both series.

**Model 520SL Dispatcher:** High impedance. Switch bar activates both relay and microphone circuits, and has optional locking feature to lock microphone in On position. Microphone switch is normally shorted, relay portion is normally open. A separate switch enables user to disable relay control and microphone circuit for VOX operation. Supplied with seven-foot, two-conductor shielded cable.

**Model 520SLB Dispatcher:** Low impedance. Switch bar activates both microphone and relay circuits, and has optional locking feature to lock microphone in On position. Relay switch is normally open, and microphone switch is normally open or normally shorted, as required. Supplied with seven-foot, four-conductor (two shielded) cable.

**Model 520 Green Bullet:** High impedance. Microphone head only. Supplied with seven-foot, non-detachable, single-conductor shielded cable.

**Model 520B Green Bullet:** Low impedance. Microphone head only. Supplied with seven-foot, non-detachable single-conductor shielded cable.

### Specifications

**Frequency Response:** 100 to 9,000 Hz.

**Impedance and Output Level:** Models 520SLB and 520B, Low (150 to 250 ohms) — −51 db (0 db = 1 milliwatt per 10 microbars); .281 millivolts/microbar. Models 520SL and 520, High — −52.5 db (0 db = 1 volt per microbar); 2.3[illegible] millivolts/microbar.

## VERSADYNE I


**Models 575S • 575SB**
The omnidirectional dynamic Versadyne microphones feature very good quality at a very low price. Their smooth, wide-range response of 40 to 15,000 Hz makes them ideal for home tape recording, general public address, as well as many other applications. The 575 Versadyne I Series case is black and satin chrome. Built-in filters to reduce voice "pop," plus a slide-to-talk switch. Lavalier cord and stand adapter are included. Supplied with 7-foot permanently attached, one-conductor shielded cable.

**Model 575S Versadyne I:** High impedance.

**Model 575SB Versadyne I:** Low impedance.

**Specifications**
**Frequency Response:** 40 to 15,000 Hz.
**Impedance and Output Level:** Model 575S: High – –56 db (0 db = 1 volt per microbar); 1.58 millivolts/microbar.
Model 575SB: Low (25 to 250 ohms) – –57.5 db (0 db = 1 milliwatt per 10 microbars); .171 millivolts/microbar.

**Model 275S (not shown)** A low-cost, ceramic-element microphone (similar in styling to Model 575S, above) offering a good response suitable for tape recording, general public address, and other applications requiring an economical microphone. Locking On-Off switch and stand adapter.

**Specifications**
**Frequency Response:** 40 to 12,000 Hz.
**Impedance and Output Level:** High –59.5 db (0 db = 1 volt per microbar); 1.050 millivolts/microbar.

## HAND-HELD PAGING MICROPHONE


**Model 514B**
This omnidirectional microphone is designed specifically for use in deluxe paging systems in stores, restaurants, travel terminals, and hospitals. The Model 514B combines high intelligibility with an extended low frequency response that gives paging messages an unusually smooth "high fidelity" sound. Rugged matte black Armo-Dur™ case. "Million-cycle" grip-to-talk switch activates both microphone and external relay circuit. Four-conductor (two shielded), neoprene-jacketed coil cord. Accessory hang-up bracket included.

**Specifications**
**Frequency Response:** 100 to 10,000 Hz.
**Impedance and Output Level:** Low (25-250 ohms) –56 db (0 db = 1 milliwatt per 10 microbars); .131 millivolts/microbar.

## SONODYNE II


**Models 540 • 540S**
A compact, versatile, modern omnidirectional microphone with a high output dynamic element—at a moderate cost. The "Sonodyne II" features wide-range, adjustable frequency response which allows the user to tailor the microphone's response to the application. Supplied with 15-foot detachable, two-conductor shielded cable, with MALE MC3M type connector.

**Model 540 Sonodyne II:** Without On-Off switch.

**Model 540S Sonodyne II:** With On-Off switch.

**Specifications**
**Frequency Response:** 50 to 13,000 Hz.
**Impedance and Output Level:** Dual. Low (25 to 250 ohms) – –56.0 db (0 db = 1 milliwatt per 10 microbars); .149 millivolts/microbar.
High – –53.5 db (0 db = 1 volt per microbar); 2.13 millivolts/microbar.

## DISPATCHER


**Model 450**
The new modern design of this rugged omnidirectional Dispatcher Microphone fits every decor for dispatching and paging use—and features a telescoping height adjustment (approx. 2½") for maximum convenience. The case is made of rugged gray Armo-Dur™, which won't crack, peel, rust, or dent. The patented Controlled Magnetic Cartridge incorporates an impedance switch for low or high impedance. The push-to-talk switch bar activates both microphone and relay circuits, and has an optional locking feature to lock microphone in On position. The relay switch is normally open and the microphone switch can be normally open or normally shorted, as required. Seven-foot, four-conductor (two shielded) cable.

**Specifications**
**Frequency Response:** 100 to 10,000 Hz.
**Impedance and Output Level:** Dual: Low (25-250 ohms), –53.0 db (0 db = 1 milliwatt per 10 microbars); .225 millivolts/microbar. High, –54 db (0 db = 1 volt per microbar); 2.00 millivolts/microbar.

## RECOMMENDED ACCESSORIES

| Model | Desk Stand | Isolation Desk Stand | Lavalier Cord | Quick Disconnect |
|---|---|---|---|---|
| **540, 540S** | S33B, S37A | S39A | — | A47 |
| **575S** | S38B | S39A | A27L (supplied) | — |
| **275S** | S38B | S39A | A27L (supplied) | — |

## RUGGED HAND-HELD CONTROLLED MAGNETIC AND CARBON MICROPHONES


### Models 404B • 404C • 104A • 104B • 405K • 405T • 418A

These omnidirectional microphones provide high speech intelligibility and are used extensively in police, taxi, bus, sports, industrial and commercial applications. Featuring Armo-Dur® high-impact cases, they fit comfortably in the palm of the hand, and are rugged units—with a reputation for trouble-free performance under severe operating conditions. They are provided with a bracket for permanent placement in portable or mobile equipment.

### Specifications

| Model | Type | Frequency Response | Impedance and Output Level | Switch Mic. Circ. | Relay Circ. | Cable |
|---|---|---|---|---|---|---|
| **404B** | Controlled Magnetic | 200 to 8,000 Hz. | 150-250 ohms. −52 db (0 db = 1 milliwatt per 10 microbars); .21 millivolts/microbar. | Open* | Open | 5½-foot four-conductor (two-conductor shielded) coiled cord. |
| **404C** | Controlled Magnetic | 200 to 8,000 Hz. | High. −54.0 db (0 db = 1 volt per microbar); 2.0 millivolts/microbar. | Closed** | Open | 5½-foot three-conductor (one-conductor shielded) coiled cord. |
| **104A** | Carbon | 300 to 4,000 Hz. | 50-100 ohms. 5 db below 1 volt for 100 microbar speech signal. | Open | Open | Four-conductor unshielded cadmium copper coiled cord. |
| **104B** | Carbon | 300 to 4,000 Hz. | 50-100 ohms. 5 db below 1 volt for 100 microbar speech signal. | — | Open | Four-conductor unshielded cadmium copper coiled cord. |
| **405K** | Controlled Magnetic | 200 to 4,000 Hz. | High. −14 db (0 db = 1 volt per 100 microbars). | Open | Open | 5-foot three-conductor, one shielded coiled cord. |
| **405T** | Controlled Magnetic (With transistor amplifier) | 200 to 4,000 Hz. | 100-500 ohms. −1 db loaded with 500 ohms. (0 db = 1 millivolt per 100 microbars). | — | Open | 5-foot four-conductor stranded coiled cord. |
| **418A** | Controlled Magnetic | 200 to 4,000 Hz. | Medium (1500 ohms) −22.5 db (0 db = 1 volt per 100 microbars). | Open | Open | 5-foot four-conductor, one shielded coiled cord. |

## THE COMPACT RANGER II SERIES


### Models 414A • 414B • 414C

Ideal for miniaturized or portable communications systems, the 414 Series of Controlled Magnetic omnidirectional microphones are about half the size and weight of conventional microphones, yet perform as well or better. They are rugged units recommended for critical outdoor-indoor communications in mobile and fixed-station use, as in police, fire, taxi, bus, utility, forestry, and transportation services, commercial, industrial, radio telephone, amateur radio, and similar applications. Switching on Model 414A, microphone circuit normally closed, relay circuit normally open; Models 414B and 414C, microphone circuit normally open, relay circuit normally open.

### Specifications

**Frequency Response:** 400 to 4,000 Hz.

**Impedance and Output Level:**

Model 414A: High. −54.5 db (0 db = 1 volt per microbar); .188 volts.

Model 414B: 150-250 ohms. −52.5 db (0 db = 1 milliwatt per 10 microbars); 0.20 volt.

Model 414C: Recommended AC load, 100 to 1,000 ohms. −1.5 db (0 db = 1 volt with 100 microbars), using 6 volts D.C. and 500-ohm load.

**Cable:** 5½-foot extended.

Model 414A: Three-conductor (one shielded) neoprene-jacketed coil cord.

Model 414B: Four-conductor (two shielded) neoprene-jacketed coil cord.

Model 414C: Four-conductor, neoprene-jacketed, coil cord.

# OUTSTANDING NOISE-CANCELLING MICROPHONES

## SONO-BAR Models 488A • 488B • 488C • 488T
## RANGER II Models 419A • 419B

Exceptionally effective and rugged, these two series of noise-cancelling microphones provide highly intelligible speech communication in mobile and fixed-station use where high volume background noise is found, such as airplanes, helicopters, motorcycles, trucks, fire engines, power boats, sporting events, drop-forges, press-rooms, engine-rooms, factories, etc. These patented Shure Controlled Reluctance microphones shut out background noise, permit clear transmission even where the noise level is so great that the operator cannot hear himself talking! The high-impact Armo-Dur® case is lightweight, feels natural to the touch even in temperature extremes. Four versions of the Sono-Bar 488 Series are described below, the 488A which is high impedance, the 488B which is low impedance and the 488C and 488T Models which are transistorized for direct replacement of carbon microphones (the 488T is F.A.A. Certified for aircraft applications).

The 419 Series is smaller, more compact, than the 488 Series. All models are equipped with coiled cord and long-life heavy-duty push-to-talk switches.

### Specifications

| Model | Frequency Response | Impedance and Output Level | Switch Mic. Circ. | Relay Circ. | Cable |
|---|---|---|---|---|---|
| 488A | 200 to 4,000 Hz. | High. .141 volts (−17 db). (0 db = 1 volt per 100 microbar field.) | Closed* | Open | 5½-foot three-conductor (one-conductor shielded) coiled cord. |
| 488B | 200 to 4,000 Hz. | 150-250 ohms. .014 volts (−37 db). (0 db = 1 volt per 100 microbar field.) | Open** | Open | 5½-foot four-conductor (two-conductor shielded) coiled cord. |
| 488C | 200 to 4,000 Hz. | Transistorized. 100-500 ohms. 0.45 volts (−7 db) using 6 v. DC and 500-ohm load. (0 db = 1 volt per 100 microbar field.) | Open | Open | 5½-foot four-conductor coiled cord. |
| 488T | 200 to 4,000 Hz. | Transistorized aircraft. Recommended AC load 100 to 800 ohms. .71 volts (−3 db) using 12 volts and 500-ohm load. (0 db = 1 volt per 100 microbar field.) | Open | Open | 5½-foot three-conductor tinsel coiled cord. |
| 419A | 200 to 4,000 Hz. | High. .12 volt (−18.5 db). (0 db = 1 volt per 100 microbar field.) | Closed | Open | 5½-foot three-conductor (one-conductor shielded) coiled cord. |
| 419B | 200 to 4,000 Hz. | 150-250 ohms. .014 volt (−37 db). (0 db = 1 volt per 100 microbar field.) | Open | Open | 5½-foot four-conductor (two-conductor shielded) coiled cord. |

*Provision for simple change to normally open. **Provision for simple change to normally closed.

# COMMUNICATIONS MICROPHONES FOR POLICE CARS, TAXIS, TRUCKS, BUSES AND AMBULANCES

## Models 507B • 407A • 407B

Ruggedness, reliability and top performance in new modular-design microphones that disassemble quickly and make every part accessible—permit easier in-the-field maintenance. Two-tone gray Armo-Dur® cases are lightweight, immune to shock, and unaffected by oil, sun, salt, spray, acids, rust, or corrosion. Triple-Flex™ cable provides three to four times longer flex life than previously available coiled cords. Small, easy-to-handle design, with rugged dynamic and Controlled Magnetic elements for excellent voice intelligibility. Hum-shielded and insulated against shock. Model 507B features extended low and high frequency response.

### SPECIFICATIONS

| Model | Type | Frequency Response | Impedance & Output Levels | Switch Mic. Circ. | Relay Circ. | Cable |
|---|---|---|---|---|---|---|
| 507B | Dynamic | 100 to 10,000 Hz. | Single. Low only −77 dB = 1 volt per microbar.) 1 milliwatt with 10 microbars | Open* | Open | three cond., (two shielded) neoprene jacketed Triple Flex cable. 5½ feet, coiled |
| 407A | Controlled Magnetic | 200 to 4,000 Hz. | Single. High only −50.5 dB (0 dB = 1 volt per microbar.) 1 milliwatt with 10 microbars. | Closed** | Open | three cond., (one shielded). Triple Flex coil cord (5½ feet, coiled) or retractible cable. |
| 407B | Controlled Magnetic | 200 to 4,000 Hz. | Single. Low only −70.5 dB (0 dB = 1 volt per microbar). 1 milliwatt with 10 microbars | Open* | Open | four-cond., (two shielded). Triple Flex coil cord (5½ feet, coiled) or retractible cable. |

## A SPECIAL "HAM" MICROPHONE

### Model 444

Controlled Magnetic omnidirectional microphone specifically designed to meet the needs of the discriminating amateur radio enthusiast. The 444 is made of rugged Armo-Dur® which won't crack, peel, rust, or dent. This is a modern microphone with unmatched performance characteristics. It features an adjustable stand that raises or lowers the microphone for most comfortable talking position (approx. 2½") and a push-to-talk switch bar with optional locking feature to operate an external relay control and microphone muting circuits. A separate switch enables user to disable the relay control circuit for VOX operation. Seven-foot, two-conductor shielded cable.

#### Specifications

**Frequency Response:** 300 to 3,000 Hz.
**Impedance and Output Level:** High: —53 db (0 db = 1 volt per microbar); 2.25 millivolts/microbar.

## TRANSISTORIZED CB MICROPHONE

### Model 444T

This Controlled Magnetic omnidirectional microphone is designed specifically for CB base station operation. Features a built-in two-transistor preamplifier with volume control to give variable high output. Push-to-talk switch bar with optional locking feature to key CB transmitter and activate transistor amplifier in the microphone. Self-contained battery operates up to 300 hours before replacement. Enables you to maintain maximum modulation. Same adjustable height case design as model 444 (above). Five-foot (extended) four-conductor (two shielded) coiled cord.

#### Specifications

**Frequency Response:** 200 to 6,000 Hz.
**Impedance:** Less than 1,000 ohms.
**Output Level:** Adjustable from 2mv to 45mv for 1 microbar input.

## NOISE-SUPPRESSING MICROPHONE

### Model 522

This is a Dynamic microphone with a unidirectional pickup pattern that suppresses unwanted background noise—the type of noise generated by other dispatchers working nearby, ventilating equipment, or office machines in the same area. It also suppresses feedback in public address paging applications. Long-life finger-tip control bar (locking and non-locking action) actuates microphone circuit and normally open external relay circuit. Adjustable height from 9¾" to 12½" overall. Sturdy, high impact Armo-Dur® base and case. High or Low impedance selector switch. Seven-foot, four-conductor (two-conductor shielded) cable.

#### Specifications

**Frequency Response:** 60 to 11,000 Hz.
**Impedance:** Dual. Switch for 25 to 200 ohms, or high.
**Output:** High impedance: —56.5 db (0 db = 1 volt per microbar); 1.48 millivolts/ microbar. Low impedance: —57 db (0 db = 1 milliwatt per 10 microbars); .105 millivolts/microbar.

## PROFESSIONAL TELEPHONE HANDSET

### Model TH100

The TH100 is an omnidirectional Controlled Magnetic communications handset specifically designed for industrial radio communications uses in applications such as ship-to-shore, police, safety, forestry, amateur radio, citizen's band, and paging systems. When not in use and the handset is hanging in the cradle, an automatic switch permits an external loudspeaker to function. When the handset is lifted from the cradle, the loudspeaker signal is transferred to the handset. Control of the transmitter circuits is operated by the push-to-talk handset switch. Four-conductor, (one shielded) plastic-jacketed coil cord on handset; Four-foot, four-conductor, (one shielded) plastic-jacketed cable on hangup cradle.

#### Specifications

**Frequency Response:** 200 to 3,000 Hz.
**Impedance and Output Level:** Transmitter: High. Receiver: 125 ohms —13.0 db (0 db = 1 volt per 100 microbars); .22 volt.

## LOW COST HAND-HELD MICROPHONES FOR CB, AMATEUR, MOBILE

### Models 401A • 401B • 201 • 202

Designed to provide excellent performance at low cost, these microphones are ideal replacement units in all communications equipment.

#### Specifications

| Model | Type | Frequency Response | Impedance and Output Level | Cable |
|---|---|---|---|---|
| 401A | Controlled Magnetic | 200 to 4,000 Hz. | High. —51 db (0 db = 1 volt per microbar.) 2.81 millivolts /microbar. | 5-foot three-conductor, one-conductor shielded. |
| 401B | Controlled Magnetic | 200 to 4,000 Hz. | 150-250 ohms. —49 db (0 db = 1 milliwatt per 10 microbars); .31 millivolts/microbar. | 5-foot four-conductor, two-conductor shielded. |
| 201 | Ceramic (omnidirectional) | 200 to 4,000 Hz. | High. —55.5 db (0 db = 1 volt per microbar); 1.680 millivolts/ microbar. | 5-foot three-conductor, one-conductor shielded. |
| 202 | Ceramic (noise reducing) | 200 to 4,000 Hz. | High. —50.5 db (0 db = 1 volt per microbar); 3.500 millivolts/ microbar. | 5-foot three-conductor, one-conductor shielded. |

## A15 SERIES "PLUG-IN" MICROPHONE ATTENUATORS, EQUALIZERS AND ADAPTERS

A series of in-line microphone attenuators, equalizers and adapters that plug in to give instant modifications of response and performance in microphones and sound systems — without time-consuming permanent rewiring or soldering. Only 4½" long x ¾" dia., with color-coded nameplates for quick identification. Three-pin Female input and Male output professional audio connectors.*

**A15A Microphone Attenuator:**
Prevents input overload in applications where very strong signals are applied to a microphone input. Inserts a 15 db loss.

**A15PR Phase Reverser:**
Reverses the phase of a balanced line without modification of equipment.

**A15HP High Pass Filter:**
Provides a low frequency cut-off to reduce unwanted low frequency noises.

**A15LP Low Pass Filter:**
Provides a high frequency cut-off to reduce objectionable high frequency noises.

**A15PA Presence Adapter:**
Adds "presence" to vocals or instruments in recording, broadcasting, and P.A. applications.

**A15RS Response Shaper:**
Provides sibilance filtering in recording, broadcasting, and P.A. applications.

**A15LA Line Input Adapter:**
Converts balanced low impedance microphone input to bridging line level input.

**A15BT Bridging Transformer:**
Matches balanced or unbalanced devices of different impedances. (33 K ohm primary, and 600 or 7,500 ohm secondary.)

**A15TG Tone Generator:**
Produces a continuous 700 Hz signal capable of driving low impedance balanced lines, and is extremely useful in setting up and trouble-shooting audio equipment. Plugs into microphone input to enable engineer to check levels, connections, mixer inputs, cables, and speakers. Permits one man to do the work of two. Powered by a miniature mercury battery.

Designed to mate with Cannon XL series, Switchcraft A3 series, or equivalent connector.

## A95 SERIES LINE TRANSFORMERS

High quality transformers which make it possible to connect a low impedance microphone to a high impedance amplifier input or vice versa. Solves problems of excessive high frequency loss and objectionable hum when long lengths of cable are used.

**Model A95A:** Male professional three-pin audio input connector†* and MC1M type output connector.*

**Model A95P:** Male professional three-pin audio input connector.†* High impedance output terminates in removable locking phone plug adapter.

**Model A95F:** Female professional three-pin audio input connector†* and MC1M type output connector.*

**Model A95FP:** Female professional three-pin audio input connector.†* High impedance output terminates in removable locking phone plug adapter.

**Model A95D:** Input—Standard ¼-inch in-line two conductor conductor phone jack. Output—Professional three-pin audio connector†* (male).

**Model A95FD:** Input—Standard ¼-inch in-line two conductor phone jack. Output—Professional three-pin audio connector†* (female).

**A97A Line Matching Transformer:** High quality transformer designed to properly match 150 ohm—600 ohm microphone outputs to medium impedance (1-10 K ohm) devices, such as those frequently used in cassette recorders. Input—Professional three-pin audio connector (male)†*. Output—MC1M type connector.*

†*Designed to mate with Cannon XL series, Switchcraft A3 series, or equivalent connector.
*Mating connector supplied with unit.

### MINIATURE, CONTROLLED MAGNETIC MICROPHONES MODELS MC11J • MC20AJ • MC30J

Miniature microphones especially designed for use in small, compact vacuum tube or transistor devices, hearing aids, amplifiers, transmitters, dictating equipment or concealed microphone applications—wherever space is critical and reliability is essential. Metal cases protect against hum. Rugged, immune to mechanical shock and to varying conditions of heat and humidity. Recommended for use wherever size and weight are important factors.

For additional information and complete specifications, write *Shure Marketing Services.*

**Miniature Microphones**

| | MC11J (Circular) | MC20AJ (Rectangular) | MC30J (Square) |
|---|---|---|---|
| Size | 1.025" dia. x .4535" thick max. | .934" w. x .622" h. x .302" d. | .5" sq. x .265" thick |
| Impedance | 1 K ohms @ 1 KHz | 2 K ohms @ 1 KHz | 1850 ohms @ 1 KHz |
| Output | 73 dB below 1 volt/microbar (225 mv) @ 1 KHz measured across 1 K ohms. | 72 dB below 1 volt/microbar (.251 mv) @ 2 KHz measured across 2 K ohms. | 77.5 dB below 1 volt/microbar (.131 mv) @ 1 KHz measured across 2 K ohms. |

## MICROPHONE STANDS FOR EVERY APPLICATION


**Model S33B Modern Desk Stand.** Black finish. For use with Microphone Models 330, 415, 430, 533, 545, 546, 548, 556S, 566, 571, 576, 578, 579, 580, 585 and 588.

**Model S37A Modern Desk Stand.** Non-reflective, textured gray finish. For use with all microphones with swivel connector assemblies, or microphones with swivel adapters.

**Model S38B Round Stand.** Black finish. For use with Models 245, 275, 415, 430, 515, 533, 545, 546, 548, 565, 566, 575, 579, 580, 585, and 588 series.

**Model S39A Vibration-Isolation Stand.** For all applications where vibration is a problem. Fits all Shure microphones.

**Model CO-1 Stand Adapter.** Screw-type clamp with ⅝"—27 Male thread for mounting second microphone on microphone stand, table or desk top. Adjustable 360° swivel aids horizontal positioning.

## QUICK DISCONNECT ISOLATION UNITS


Designed for use with microphones normally mounted on desk or floor stands but which are periodically removed from stand for hand-held or carry-around use. The molded rubber insert isolates the microphone from mechanical vibration.

**Model A45.** Designed for microphones incorporating an isolation assembly such as Models 330, 546, 556, and all others using an A25B Swivel Adapter. Satin Aluminum finish.

**Model A45B.** Same as A45, but Black finish.

**Model A47.** Designed for microphones with connectors such as Models 55S, 545S, 565S, etc. or nearly all microphones with a standard ⅝" — 27 thread.

**Model S40A Desk Stand.** Similar to S37A Stand with push-to-talk switch included. Fits microphones with ⅝"—27 thread connectors. Includes provisions for optional "in use" light. Shielded 2.1 m (seven-foot), four-conductor cable may be wired to any standard microphone connector.

## GOOSENECKS


High quality flexible goosenecks in 12" and 18" lengths. "Silent-type" design limits mechanically induced noises. Mounting flange included.

**Model G12:** 12" flexible gooseneck.

**Model G18:** 18" flexible gooseneck.

**Model G12-CN:** 12" flexible gooseneck with professional Female three-pin audio connector*.

**Model G18-CN:** 18" flexible gooseneck with professional Female three-pin audio connector*.

**Model G6A:** 6" flexible gooseneck (side vent)

**Model G12A:** 12" flexible gooseneck (side vent)

**Model G18A:** 18" flexible gooseneck (side vent)

**Model A12:** Mounting flange

## LAVALIER ASSEMBLIES


*Designed to mate with Cannon XL series, Switchcraft A3 series or equivalent connector.

Six different professional quality lavalier assemblies, each designed for one of the Shure Lavalier Microphones. "Positive-lock" design holds the microphone securely, yet allows easy, noiseless adjustment of microphone position. Snaps on and off in an instant.

**Model A22L:** Fits Model 777.

**Model A27L:** Fits Models 275, 575.

**Model A34L:** Fits Models 4[illegible] 420, 430.

**Model A51L:** Plastic. Fits Models 570 and 571.

**Model A54L:** Fits Model 545L

**Model A57L:** Rubber. Fits Models 570 and 571.

## S55P LOW-PROFILE MICROPHONE STAND

## FOR BETTER SOUND QUALITY IN "DISTANT-PICKUP" SOUND REINFORCEMENT AND RECORDING

A breakthrough in microphone placement technique. Minimizes the "hollow sound" caused by floor reflections usually associated with distant microphone pick-up techniques. Holds the microphone just a fraction of an inch above the floor for better sound quality in "footlight" type placement for recording or sound reinforcement of choral, orchestral or ensemble musical events and dramatic presentations. Effectively isolates mechanical noises. For Shure 545 and other Shure tapered-handle microphones. (Not recommended for microphones with "On-Off" switches in the handle.) Height 4-25/32".

## MICROPHONE REPLACEMENT CARTRIDGES

For complete Shure microphone replacement parts catalog, write for CS210A, *Accessories and Replacement Parts for Microphones.*


## DUAL MICROPHONE MOUNTS

Designed for mounting two microphones, one above the other. Minimum visual obstruction. Minimal disturbance of directional characteristics or frequency response of microphones feeding the same mixer. Ideal for mounting microphones feeding separate systems, or when one microphone is needed as a spare, such as on speakers' rostrums.

**Model A25M.** Designed for use with Shure Models 545, 545SD, and 545L microphones.

**Model A26M.** Designed for use with microphones listed above when using A2WS Windscreen, and "ball-type" Models 565, 565SD, 548, 548SD, 588, 515 Series, and other Shure microphones with tapered handles.

## FLOOR STANDS

**Model MS-10C Floor Stand.** Quickly and easily adjusts from 35" to 64" high. Positive ring lock maintains desired height. Standard ⅝"-27 thread accepts any threaded Shure microphone, mount or swivel adapter. Also accepts Model BB-1 Baby Boom described below. Chrome-plated. Weighted 10" base for stability.

**Model BB-1 Baby Boom.** 31" adjustable boom arm. Fits Model MS-10C Floor Stand above. Standard ⅝"-27 thread accepts any threaded Shure microphone, mount or swivel adapter.

## MICROPHONE WINDSCREENS

**Model A2WS.** Designed to effectively minimize wind noise in outdoor locations and control explosive breath sounds in any location. For Models 544, 545, 545SD, 545S, 545L, 546, 571, 576, 578 and 578S.

**Model A61WS. (not shown)** Controls wind noise and "pop." For use on all Shure "ball-type" microphones, such as the Unisphere models.

## ISOLATION MOUNTS

**Model A55M Isolation Mount.** A breakthrough in noise isolation. Reduces mechanical and vibration noises by more than 20 db. Swivels 180°, standard ⅝"-27 female thread fits all Shure desk and floor stands. Fits all Unidyne and Unisphere microphones, except those models with built-in switches or built-in swivel mounts. Size: 3¾" H x 1½" D x 2" Diam.

## MICROPHONE SWITCHES

**Model A88A.** Provides momentary press-to-talk On-Off switching capability, or locks in On position. Comfortable grip bar minimizes hand and finger fatigue. Long-life leaf switch with silver contacts. Easily attaches to Shure microphones with stand swivel adapter, such as Models 55S, 545S, 565S.

## MICROPHONE CASES

These black, impact-proof microphone carrying cases are ideal for carrying the microphone, cable and accessories from place to place, conveniently and safely. The foam inserts hold the contents securely.

| Model No. | Designed to Fit |
|---|---|
| AC54 | Model 545, 545SD, 545SD-CN, 548, 548SD, 548SD-CN, Type Microphones |
| AC54S | Model 545S, 548S Type Microphones |
| AC55 | Model 55S, 55SW Type Microphones |
| AC56 | Model 565, 565SD, 565SD CN, 585SA, 585SAV, 533, 588SA, 588SB CN Series Microphones |
| AC56S | Model 565S Type Microphones |
| AC57 | Model 576, 578 Type Microphones |
| AC58 | Model 515, 580 Type Microphones |

## NEW! COLOR-CHARGED WINDSCREENS!

No more microphone mix-ups when soundmen color-code these windscreen rainbow colors with control console knobs (matching set of self-adhesive "color dots" included). Blue (A61WS-BL), brown (A61WS-BR), green (A61WS-GN), orange (A61WS-OR), red (A61WS-RD), and yellow (A61WS-YL) windscreens fit *all* Shure "ball-type" microphones for greater protection from wind noise and "pop." And, they add a splash of color to any act.

## SWIVEL ADAPTERS

**Model A25B.** (Black) To be used with Models 415, 430, 515, 545, 548, 565, 580, 585, and 588 microphones – For use with standard desk or floor stand.

**Model A57SL.** Slip-in Locking Swivel Adapter for Models 570, 576, 578 and 579SB. ¾" diameter microphones – For use with standard desk or floor stand.

**Model A57R.** Slip-in Swivel Adapter for Model 571.

**Model A75A.** Stand adapter designed for use with Microphone Models 275S and 575S. Standard ⅝"-27 thread fits all Shure floor and desk stands.


## MODELS M68 • M68FC • M68P • M68RM

Shure Microphone Mixers are a practical, efficient and economical way to increase the efficiency, usefulness and flexibility of public-address and paging systems, or tape recorders using more than one microphone or other sound source. (One prime example: extra microphones can be placed in the audience for question-and-answer sessions.) These mixers are unique in that they satisfy the requirements of most sound system installations and serious tape recording enthusiasts, while being light enough to be portable, simple to operate and modest in cost. Each microphone (or other sound source) can be independently balanced for volume without affecting any of the other inputs. In addition to independent volume controls, a master volume control simultaneously controls the gain of all inputs. The M68 can therefore be used as a conveniently-at-hand sound system volume control in situations where the regular amplifier is located some distance away.

**Model M68 Mixer.** Input connections are MALE professional three-pin audio connectors* for 120 Volts AC ±10% 50/60 Hz.

**Model M68FC Mixer.** Input connections are FEMALE professional three-pin audio connectors* for 120 Volts AC ±10% 50/60 Hz.

**Model M68FCE Mixer.** Same as M68FC, but for both 120 Volts AC ±10% 50/60 Hz and 240 Volts AC ±10% 50/60 Hz with 3 Conductor Cable.

**Model M68P Mixer.** Input connections are phone plug (high impedance only). 120 Volts AC ±10% 50/60 Hz.

## REVERBERATION MIXERS

**Model M68RM.** 4-channel Reverberation Mixer. Female professional three-pin audio connectors* 120 Volts ±10% AC, 50/60 Hz.

**Model M68RM-2E.** Same as M68RM but for 240 Volts ±10% AC 50/60 Hz. 3 Conductor Cable.

*Designed to mate with Cannon XL series, Switchcraft A3 series or equivalent connector.

### Specifications for M68 Series Mixers

**Type:** Transistorized.

**Frequency Response:** Flat ±3 db, 40 to 20,000 Hz.

**Power Consumption:** 3 watts.

**Microphone Inputs:** Accept Dynamic, Ribbon or Condenser microphones (not recommended for crystal or ceramic microphones), either high impedance (unbalanced) or low impedance (balanced transformer input). Input impedance for each microphone is selected by a slide switch. You can use one type or model microphone, or mix several types and impedances. (Model M68P is High Impedance only.)

**Auxiliary Input:** High level—accepts output of additional M68 Series Mixer, tape recorder, tuner, or phonograph signal (with additional preamplifier).

**Controls:** Four individual Microphone Volume Controls to raise or lower the level of sound from each microphone. Auxiliary Input Volume Control adjusts sound level of tape recorder, phonograph, tuner or additional mixer. Master Volume Control simultaneously adjusts the volume of all inputs. On-Off switch and Pilot Light.

**Outputs:** Two outputs: one provides high or low impedance output for connection to the microphone input of a sound system amplifier or tape recorder. Impedance is selected by switch. The other provides a high impedance, high level output designed primarily to feed a power amplifier or tape recorder requiring 0.5 to 2 volts.

**Battery Operation:** All units can be operated from an external battery supply. See accessories on page 23 for battery supply unit.

**Weight:** Model M68P, 2¾ lbs.; Models M68, M68FC and M68FC 4 lbs.; Models M68RM and M68RM-2E, 5⅛ lbs.

**Case Dimensions:** 2¾" high, 11⅜" wide, 5¼" deep. (M68RM 7¼" deep). UL and CSA listing on models M68, M68FC, M68P, and M68RM only.


## MODEL M688 SERIES MICROPHONE MIXERS

The Model M688 Stereo Microphone Mixer provides unusual versatility and excellent audio control in (1) audio-visual and multi-media presentations in which a stereo music source is used in the input "mix"; (2) for high quality amateur recording with tape recorders that do not have mixing capability; (3) for high quality, versatile sound reinforcement systems that call for simultaneous stereo recording; (4) for location stereo recording of musical or dramatic events; and (5) for mixing sound-on-sound tape recordings.

## INPUTS AND OUTPUTS

The M688 accepts four high or low impedance Dynamic, Ribbon or Condenser microphones through four microphone inputs, each with its own individual volume control. Inputs #1, #2 and #3 have slide switches for "left channel" or "right channel" output; input #4 features a pan control which adjusts the apparent location of Mic. #4 to the left channel, the right channel, or anywhere in between. Stereo high-level auxiliary inputs accept signals from a tape recorder, tuner, or the output of a stereo magnetic phono preamplifier, such as the Shure M64 Series Preamplifiers. A ganged stereo master volume control simultaneously adjusts the level of all inputs. Additional inputs may be added by paralleling an M67 Mixer or additional M688 unit via the mix bus jacks.

Outputs include stereo auxiliary output jacks which feed a power amplifier or the auxiliary or tuner inputs of an amplifier or tape recorder. A high or low impedance mono microphone level output ("mixed" L + R of all sources) feeds an amplifier or tape recorder microphone level input. The auxiliary outputs may be converted to monophonic output by a Mono-Stereo selector switch.

**Model M688 Mixer.** For 120 Volts, AC ±10%, 50/60 Hz.

**Model M688E Mixer.** Same as M688, but for 120 Volts AC ±10%, 50/60 Hz, or 240 Volts AC ±10%, 50/60 Hz with 3 conductor cable.

### Specifications

**Gain (at 1,000 Hz):**

| Input | OUTPUT: Mix Bus | Low Imp. Mic. | High Imp. Mic. | Aux. (High Imp.) |
|---|---|---|---|---|
| Low Imp. Mic. | +18.5 db | + 1.5 db | +25.5 db | +59.0 db |
| High Imp. Mic. | − 4.5 db | −21.5 db | + 2.5 db | +36.0 db |
| Mix Bus | — | −23.0 db | + 1.0 db | +34.5 db |
| Aux. | −26.0 db | −43.0 db | −19.0 db | +14.5 db |

**Frequency Response:** Flat ±3 db from 40 Hz to 20,000 Hz.

**Input Impedance:** Microphone inputs suitable for high or low impedance dynamic, ribbon or condenser microphones. Auxiliary Input—50,000 ohms. Mix Bus—3,300 ohms.

**Recommended Load Impedance:**
Low Impedance Microphone Output . . 25 to 600 ohms
High Impedance Microphone Output . . 20,000 ohms or greater
Auxiliary High Impedance Output . . . . 50,000 ohms or greater
Mix Bus . . . . . 2,700 ohms or greater

**Distortion:** Less than 1% Total Harmonic Distortion when Low Impedance Microphone Output is at 5 mv level, High Impedance Microphone Output is at 70 mv level, and Aux. Output is at 2.0 volt level.

**Input Clipping Level:**

| | Minimum Clipping Level |
|---|---|
| Low Impedance Microphone Input | 25 mv |
| High Impedance Microphone Input | 350 mv |
| Mix Bus | 650 mv |

**Output Clipping Level:**

| | | Minimum Clipping Level |
|---|---|---|
| | Stereo | 7 mv |
| Low Imp. Mic. | Mono | 14 mv |
| | Stereo | 110 mv |
| High Imp. Mic. | Mono | 220 mv |
| | Stereo | 6.6 v |
| Aux. | Mono | 5.7 v |

**Phase:** The Mono Mic. Output is in phase with all microphone inputs. The Mix Bus is out of phase with pin 3 of the microphone inputs. The Auxiliary Input is out of phase with pin 3 of the microphone inputs. The Auxiliary Output is in phase with the Aux. Input and the Mix Bus.

**D.C. Voltage:** 30 volts, 6.7 ma. See accessories on page 23 for battery supply unit.

**Case:** Painted Metal.
**Dimensions:** 2¾" x 11⅜" x 7"
**Net Weight:** 5 pounds.


## MODEL M67 PROFESSIONAL MICROPHONE MIXERS

A compact, lightweight and economical professional microphone mixer/remote amplifier specifically designed for professional recording, TV and radio studios, remote broadcasting, and sound reinforcement installations. Provides four low-impedance transformer-coupled balanced microphone inputs (one convertible to line input). The excellent performance and versatility of the M67 make it ideal for use as a complete, compact console for original installation use—and as an "add-on" mixer for expanding existing facilities and providing additional microphone inputs with tape recorders and VTR's. Built-in tone oscillator provides calibration signal to adjust signal levels.

The M67 features balanced 600 ohm line and microphone level outputs; an illuminated VU meter calibrated for +4 and +10 dBm out; extremely low noise and RF susceptibility; wide, flat frequency response; two-level headphone monitor jack. AC or battery operation (see battery pack and other accessories on following page). Noiseless automatic switchover to battery if AC line fails.

**Model M67.** For 120 Volts AC ±10%, 50/60 Hz.

**Model M67-2E.** For 240 Volts AC ±10%, 50/60 Hz with 3 Conductor Cable.

### M67 Specifications

**Frequency Response:** ±2 db from 30 to 20,000 Hz.

**Gain:** 90 db max; 150 ohm microphone to 600 ohm line.

**Equivalent Input Noise:** —129 dbv, 300 to 20,000 Hz, at 90 db gain.

**Hum and Noise:** —125 dbv maximum equivalent input hum and noise, 20 to 20,000 Hz, at 90 db gain.

**Distortion:** Under 1% from 20 to 20,000 Hz at +10 dbm output, 0.5% typical.

**Power Consumption:** 3 watts.

**Inputs:** Four low-impedance microphones, one convertible to line, bridging or 600 ohms.

**Outputs and Levels:** 600 ohm line output, +18 dbm max; lo-impedance microphone output, —44 dbv max, Headphone output for 600-2,000 ohm headphones.

**Size:** 2¾" × 11⅜" × 7 5/16"

**Weight:** 4 lbs., 13 oz.

**Operating Temperature:** 0° to 135° F.

**UL and CSA Listing:** On Model M67 only.

**Weight:** 4 lbs., 13 oz.

## MODEL M675 BROADCAST PRODUCTION MASTER

A totally new approach to broadcast systems flexibility. The M675 was designed for use primarily with the Shure M67 Series Microphone Mixers to provide a complete, small size, professional quality broadcast console—with cueable magnetic phono and line inputs. (The M675 may also be used with the Shure M63 and M63-2E Audio Master and with the M67-2E Mixer.)

Use the M675 with a Shure M67 as a production studio console for recording with cuing and monitoring, as a complete audio console for both in-studio and remote assignments, as a complete CATV (audio) console, and as a stand-by console in any broadcasting operation. With the Shure M63 Audio Master, the M675 may be used f tape duplication and equalization assignments.

The M675 features extremely low noise and RF susceptibility, with wide frequency response. Four inputs, each with its own individual gain control and its own switchable "Cue" mode: two balanced line inputs are convertible to magnetic phono inputs (RIAA equalization) through front-panel slide switches, and the other two balanced line inputs are switchable between high impedance bridging and 600 ohm terminating line inputs. Four monitoring facilities: (1) an internal speaker built into the front panel; (2) a rear-panel, eight-ohm speaker output jack with provision for external muting; (3) a front-panel headphone jack that provides an automatic muting of the internal speaker or external speaker output; and (4) a rear-panel headphone jack which enables the engineer or announcer to monitor only program material. Outputs (1), (2), and (3) reproduce both program and cue material. Built-in D.C. power pack powers the M675 and an M67 or M63 in the event of A.C. power failure. Size and weight: 2-3/4" × 11-3/8" × 7-1/2", 5 lbs.

Write "Shure Marketing Services" for complete specifications and technical description.

## MODEL M625 VOICEGATE

Voice-activated microphone gain controller with response-shaped voice-frequency sensor. Blocks unwanted background noise. Adjustable to keep microphone "on" up to 30 seconds during conversation pauses. Professional three-pin audio connectors: female input and male output, designed to mate with Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connectors. Designed especially for multi-microphone systems.

**Model M625.** For 120-volts AC ±10%, 50/60 Hz, and can also be powered by a 9- and 30-volt external DC source.

**Model M625AM** is a "modular" unit which takes its power from the M625. (One M625 can power three M625AM units for a total of four gain controls.)

**Model M625-2E.** For 240-volts AC ±10%, 50/60 Hz with 3 conductor cable.

## MODEL M610 FEEDBACK CONTROLLER

The Shure M610 Feedback Controller marks the beginning of a new era in sound reinforcement. When the M610 is included in the sound system, its special set of filters and roll-off switches are used to smooth out the peaks and valleys in the system's frequency response, so that the system gain may be increased to significantly higher levels before reaching the feedback threshold! The user is able to "tune" the sound system to the acoustics of the room to maximize output and minimize feedback.

The M610 gives you the basic advantages of room/system equalization – but without the high costs involved in elaborate, complex, highly specialized equalization equipment. The M610 Feedback Controller uses eight resonant dip filters, each controlled by a linear-motion potentiometer. Each of these filters, unlike highly selective "notch" or single-frequency filters, acts on a band of frequencies around its center frequency, so that attenuation is smooth and complete. These filters function in the most critical portion of the audio spectrum, with center frequencies of 63, 125, 250, 500, 1,000, 2,000, 4,000, and 8,000 Hz. Each is infinitely variable from "0 attenuation" (flat) to a maximum cut of 12 dB. The M610 also features "high end" (above 8 kHz) and "low end" (below 63 Hz) roll-off switches to control response outside the range of these filters.

Built-in, variable amplification allows the user to conveniently increase the overall gain of the system to a level even higher than original level – even though any or all of the filters have been activated! The M610 also may be used to improve sound quality and increase intelligibility by filtering out "problem frequencies" that cause oscillating ("ringing"), boominess and other disruptive resonances in acoustically difficult rooms.

**Filter Characteristics:** Typical filter frequency response characteristics are shown in Figures D and E. Filters are electrically isolated for minimum phase interaction.

Moving Filter Frequency control from 0 to 12 reduces gain by 12 dB ±2 dB at frequency of maximum attenuation. This center frequency is within ±20% of nominal frequency. One octave from center frequency, moving Filter Frequency control from 0 to 12 reduces gain by 3.5 dB ±1 dB.

**Model M610.** For 120 V., A C, ±10%, 50/60 Hz, 3 watts.

**Model M610-2E.** For 240 V. AC, ±10%, 50/60 Hz with 3 conductor cable.

Write "Shure Marketing Services" for complete specifications and technical description.

## MODEL M64 STEREO PREAMPLIFIER

Provides stable voltage gain, no microphonics, freedom from noise, and equalization necessary to operate magnetic phono cartridges (such as Shure Dynetic Cartridges) and tape playback heads with audio amplifiers that have no equalization. Without using equalization feature, Model M64 is recommended for use with microphones and as buffer amplifier.

Three-position switch controls equalization selection (phono, tape, and flat). All input and output connectors are standard phono jacks. Two phono jack inputs, On-Off switch controlled AC or DC operation.

**Model M64.** For 120 V., AC, ±10%, 50/60 Hz.

**Model M642-E.** For 240 V., AC, ±10%, 50/60 Hz.

### SPECIFICATIONS

**Frequency Response:**
Flat – ±2 dB, 20 Hz to 20 KHz.
Phono – ±2 dB of standard RIAA curve (40 Hz to 15 KHz).
Tape – ±2 dB of the 7-1/2 IPS curve (50 Hz to 15 KHz).

**Gain:** Measured at 1 KHz with inputs through 680 ohms; 47 K ohm output terminations.

| Equalization Switch Position | High Level Output | Low Level Output |
|---|---|---|
| Flat | +27.5 dB | + 4 dB |
| Phono | +34.5 dB | +11 dB |
| Tape | +37 dB | +13.5 dB |

**Distortion:** Under 1% total harmonic distortion for 2 volt output at 1 KHz for phono, tape or flat position. In phono position, less than 1% at 30 Hz (2 volts output).

**Clipping Level:** Phono and tape (100 mV); flat (250 mV) – maximum input at 1 KHz without clipping.

**Outputs and Levels:** Four phono jacks (2 high level, 2 low level). High Level Impedance – less than 1 K ohm at 1 KHz (minimum recommended load is 22 K ohms). Low Level Impedance – 600 ohms. Any low level load does not affect input clipping level.

**Dimensions:** 5-19/32" w. × 2-21/64" h. × 4-1/2" d.

**Weight:** 1-3/4 lbs.

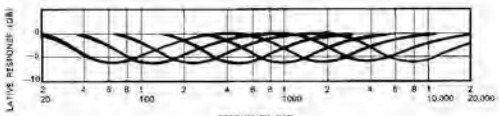


FIGURE D1—EACH FILTER AT 6 DB ATTENTUATION

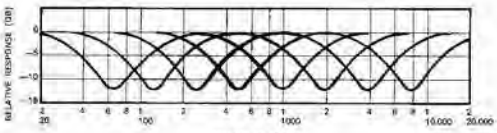


FIGURE D2—EACH FILTER AT MAXIMUM ATTENTUATION

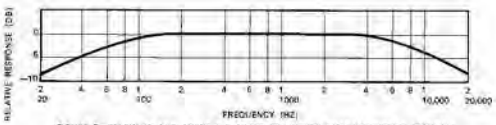


FIGURE E—BELOW 63 AND ABOVE 8 K FILTER FREQUENCY CHARACTERISTICS (TYPICAL)


## MODEL M63 SERIES AUDIO MASTER

A new concept in economical, total control of audio response. Can be used to equalize sound systems, correct room acoustics, reduce feedback, provide special sound effects, reduce stage and stand noise – or for tape recording. Ideal as a low-cost equalizer when teamed-up with M68 series or M67 mixers . . . gives you more output modes and response control than any other system on the market.

Efficient, continuously variable high-pass and low-pass 6 db-per-octave filters, plus separate bass and treble controls, can be combined for virtually unlimited response characteristics as a result of the "hinge" effect of bass and treble controls, and "slope" effect of high and low filters.

VU meter for correct output readings. Five outputs: high impedance high level, high impedance mic level, low impedance mic level, 600 ohm balanced line, headphone. Two inputs accept signals from microphone mixers, tape recorders or tuners. Master volume control adjusts both inputs simultaneously. UL and CSA listing on Model M63 only. Only 11⅜" x 6" x 2¾". 3lbs., 2 oz.

**Model M63.** For 120 Volts AC ± 10%, 50/60 Hz.

**Model M63-2E.** For 240 Volts AC ± 10%, 50/60 Hz with 3 conductor cable.

*Write "Shure Marketing Services" for complete specifications and descriptions.*

## MODEL M62V LEVEL-LOC® AUDIO LEVEL CONTROLLER

The Shure Model M62V Level-Loc is a low-cost, versatile audio level controller designed especially for paging, public address and tape recording applications. It reduces an overly strong input signal by as much as 100 times – automatically and instantly – to keep actual sound output at a predetermined maximum level. The M62V features three variable sound control zones (6", 12" and 18" from the microphone) with a variable level control that functions *between* these zones, and as an input attenuator for signals that are higher in level than microphone signals. An effective component for control of excessive output volume in a variety of sound reinforcement and recording situations. Operates from self-contained 9-volt transistor-type battery, A67B battery power supply, or can be powered directly from any Shure M67 or M68 Series mixer or M63 Audio Master.

Write "Shure Marketing Services" for complete specifications and technical description.

**RAISE THIS FLAP FOR ACCESSORIES**

# SHURE
# CIRCUITRY COMPONENT ACCESSORIES

**AC60 Attache Carrying Case**—Handsome slimline vinyl leatherette attache case holds mixer, microphones, cables. 3⅜" x 18⅜" x 11⅝". Fits M62V, M63, M67, M675, M688 or M68 Series.

**A68B Battery Power Supply**—Eliminates need for 115 V., A.C., hookup. Supplied less U20 type (30 V., D.C.) battery. Use with M62V and all M68 Series, except M688, M68RM and M68RM-2E.

**A67B Battery Power Supply** for M63, M67, M68RM, M68RM-2E, or M688. May be used as sole power source. On the M67 it may also be used as standby during AC operations providing noiseless switchover in case of AC failure.

**A67H Handle/Tilt Stand**—Serves as a handy carrying handle, or provides a locking tilt of 20° for greater controls visibility and ease of operation. Fits M62V Level-Loc, M63 Audio Master, M67 and M68 Series Mixers, M675 and M688.

**A68C Output Cable Kit**—Enables you to connect any of the circuitry products to the mic input of virtually any P.A. system or amplifier. Includes cables and adapters for Hubbel, Amphenol MC1 type and standard phone plug inputs.

**A68P Phono Preamp**—Converts the Auxiliary input channel to a magnetic or ceramic phonograph input. Built-in scratch filter has On-Off switch. Takes its power directly from the mixer. Use with M68 Series Mixers or M63 Audio Master. May be used with the M67 by replacing the Phono Plug with a Male professional three-pin audio connector.

**A68S Stacking Kit**—Enables you to conveniently interconnect and stack 2 Units—with 2 M68's you get 8 microphone inputs and 1 Auxiliary input. With 2 kits you can stack three Units—say 2 M68's and 1 M63. A single master volume control handles the entire matrix. Includes brackets, interconnecting cable. Fits M62V, M63, M67 and M68 Series, and M688.

**A68SC Interconnecting Cable Only**—Enables you to interconnect mixers as above, but without stacking brackets. Use with M68 Series, M688, M63 and M67. (M688 requires two.)

**A68L Locking Panel**—Fastens over controls, locks in place with padlock (provided). Prevents tampering. Fits all Shure circuitry (except M625) units.

**A68R Rack Panel Kit**—Standard 19" x 3½" audio equipment rack panel for use with all circuitry except M625 units. Gray Hammertone finish.

**A68R-AL Rack Panel Kit**—Same as Model A68R (above), except aluminum finish.

**A68R-BL Rack Panel Kit**—Same as Model A68R (above), except black finish.

**Model A62R Rack Panel**—Standard rack panel kit for up to four Voicegate units. Includes blank rack faces to cover unused slots when fewer than four units are used. Dark Gray/Brown finish. Also available in Black (A62R-BL) and Aluminum finish (A62R-AL).

**A68M Microphone Preamplifier**—Designed to provide a balanced line input or additional microphone input channel to Shure audio control components. Mounts on the left side of the "master" component, and allows input selections of low impedance balanced microphone, high impedance unbalanced microphone or balanced line. Aux. output through shielded cable and phono pin plug. Use with M610, M63, M68 Series and M688 Series (twin A68M units needed for stereo pair inputs).

## GOLD MICROPHONES

Feature Gold finish on metal cases and grille. Specifications are identical to standard models.

| Model No. | Description | Specifications To Be Found On: |
|---|---|---|
| **545S Gold** | Unidyne III | Page 5 |
| **545 Gold** | Unidyne III | Page 5 |
| **545L Gold** | Unidyne III | Page 5 |
| **55S Gold** | Unidyne II | Page 6 |
| **55SW Gold** | Unidyne II | Page 6 |
| **565 Gold** | Unisphere I | Page 7 |
| **585SA Gold** | Unisphere A | Page 8 |

## MICROPHONES WITH ATTACHED PLUGS ON BOTH CABLE ENDS

Identical in specifications to standard models, but with the added feature of a special prewired plug end connector assembly which can be used as an MC1F, an MC1M, or a phone plug. Italicized listings have Male professional three-pin audio connectors designed to mate with Cannon XL series, Switchcraft A3 series or equivalent connector.

| Model No. | Description | Specifications To Be Found On: |
|---|---|---|
| **548SD-CN** | *Unidyne IV* | *Page 4* |
| **545SC** | Unidyne III | Page 5 |
| **545SD-CN** | *Unidyne III* | *Page 5* |
| **545C** | Unidyne III | Page 5 |
| **55SWC** | Unidyne II | Page 6 |
| **580SAC** | Unidyne A | Page 6 |
| **515SAC** | Unidyne B | Page 6 |
| **565C** | Unisphere I | Page 7 |
| **565SC** | Unisphere I | Page 7 |
| **565SD-CN** | *Unisphere I* | *Page 7* |
| **585SAC** | Unisphere A | Page 8 |
| **585SAVC** | Unisphere A | Page 8 |
| **588SAC** | Unisphere B | Page 8 |
| **588SB-CN** | *Unisphere B* | *Page 8* |
| **560C** | Lavalier | Page 11 |
| **533SAC** | Spher-O-Dyne | Page 10 |
| **533SAVC** | Spher-O-Dyne | Page 10 |
| **575SC** | Versadyne | Page 12 |

### SHURE Model Number Codes

A guide to prefix and suffix lettering for all Shure general line microphone and circuitry product model numbers shown in this catalog.

*NOTE:* Please be sure to check the specifications for each model, because there are some variations from this lettering code.

**PREFIX**
- A = Accessory
- AC = Accessory Case
- C = Cable
- G = Gooseneck
- M = Mixer
- MS = Microphone Stand
- R = Replacement Cartridge
- S = Stand

**SUFFIX**
- A = High Impedance
- B = Low Impedance
- C = Attached ¼" Phone Plug
- CN = Three-pin audio connector on both ends of cable. (One male, one female.)
- FC = Female Connector
- G = Gooseneck
- L = Lavalier

**SUFFIX (Cont'd.)**
- P = Phone Plug
- RM = Reverb Mixer
- S = Switch
- SD = Magnetic Reed Switch
- SL = Slide-to-lock switch
- SW = Switch
- T = Transistorized
- V = Volume Control
- WS = Windscreen
- 2E = 240 volt input

### SHURE GUARANTEE

**Shure products are guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from the date of purchase. Please retain proof of purchase date. This guarantee includes all parts and labor.**

SHURE® Specialized Microphones

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