SHURE®
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MICROPHONES AND ELECTRONIC COMPONENTS
AREA CODE 312/866-2200 • CABLE: SHUREMICRO
TWX: 910-231-0048 TELEX: 72-4381

**DATA SHEET**

**MODELS 548, 548SD, and 548SH UNIDYNE® IV SERIES**

# UNIDIRECTIONAL DYNAMIC MICROPHONES



**MODEL 548**



**MODEL 548SD**



**MODEL 548SH**

## GENERAL

The UNIDYNE® IV Models 548, 548SD, and 548SH are dual-impedance unidirectional dynamic microphones shipped connected for low-impedance operation. The units provide wide range reproduction of music and voice and can be effectively used outdoors and indoors.

The UNIDYNE IV is ideal for use by professional entertainers in high quality theater-stage sound systems and recording, as well as in critical public-address systems such as those used in political conventions and legislatures, convention halls, hotels, public auditoriums, stadiums, cathedrals and churches.

The UNIDYNE IV has an exceptionally uniform unidirectional pickup pattern that provides an effective solution to feedback problems in reverberant locations, permits best utilization of space in small studios, facilitates orchestral placement, and excludes unwanted background noise.

The UNIDYNE IV features an extremely rugged all metal case and a shock-mounted cartridge, insensitive to handling noise or mechanical vibration.

Models 548 and 548SD can be used as hand-held microphones or they can be stand-mounted with the supplied A25B slip-in swivel adapter. Model 548 is designed for applications where a switch is not required; Model 548SD is equipped with a magnetic reed On-Off switch. Model 548SH has an On-Off switch on the attached swivel assembly for stand-mounting.

## VARIATION

**Model 548SD-CN: Same as Model 548SD, except supplied with professional three-pin male audio connector on equipment end of cable. (See Specifications for details on cable.)**

**Microphone Features:**

- Unusually effective cardioid (unidirectional) pickup pattern reduces feedback (annoying loudspeaker "squeals") and prevents echoing (boominess) that sometimes occurs in partially filled halls. Can also be used closer to loudspeakers than usual without creating feedback problems
- Response especially effective for announcing, narration, vocal and instrumental music
- Shock-mounted cartridge for quiet operation
- Convenient selection of either high or low impedance
- Built-in long-life On-Off switch (548SH, 548SD, and 548SD-CN)
- Rugged professional three-pin audio connector on the microphone
- Strong, detachable cable especially selected for effective shielding from hum pickup
- Supplied with an .050" wrench and a 4-40 socket setscrew (see Figure 4) to securely lock the microphone to the cable connector (548, 548SD, and 548SD-CN)
- Versatile—for use in the hand or on a stand—indoors or outdoors
- Rugged and dependable under all operating conditions
- Available in four versions: without switch (548), with magnetic reed On-Off switch (548SD), with magnetic reed On-Off switch and three-pin professional audio-connector on equipment end of cable (548SD-CN), and with On-Off switch mounted on attached swivel assembly (548SH).

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U.S. Patents 3,132,713, and 3,240,883
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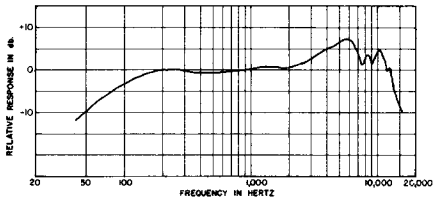
## SPECIFICATIONS

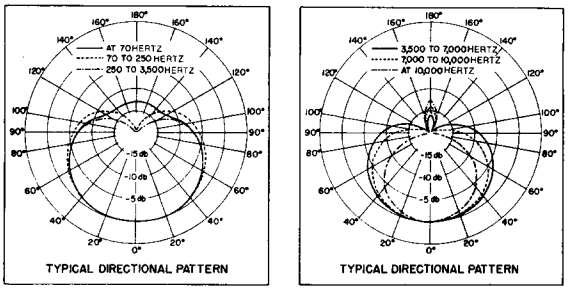
**Type**
Dynamic

**Frequency Response**
40 to 15,000 Hz (see Figure 1)




TYPICAL FREQUENCY RESPONSE
**FIGURE 1**

**Polar Pattern**
Cardioid (unidirectional)—uniform with frequency, symmetrical about axis (see Figure 2)




POLAR PATTERN
**FIGURE 2**

**Impedance**
Dual. Microphone rating impedance is 150 ohms (240 ohms actual) for connection to microphone inputs rated at 19 to 300 ohms and "High" for connection to high-impedance microphone inputs. Wired for low impedance as shipped.

**Output Level** (at 1,000 Hz)

| | IMPEDANCE Low | High |
|---|---|---|
| Open Circuit Voltage* | −76.0 dB (.158 mV) | −54.0 dB (2.0 mV) |
| Power Level** | −56.0 dB | |

*0 dB = 1 volt per microbar
**0 dB = 1 milliwatt per 10 microbars

**Switch**
548SD and 548SD-CN: Built-in magnetic reed On-Off switch with lockplate. To lock switch in On position, remove screw on lockplate and turn lockplate 180°. Reassemble and tighten screw.
548SH: Built-in slide-to-talk, positive detent On-Off switch mounted on attached swivel assembly; supplied with accessory lockplate.

**Cartridge Shock Mount**
Internal rubber vibration-isolator

**Swivel**
548SH: Positive action, permits tilting microphone through 135°, suitable for mounting on stand with 5/8"-27 thread

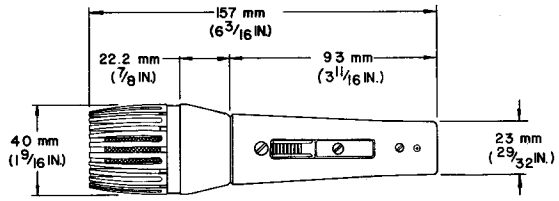
**Swivel Adapter**
548, 548SD, and 548SD-CN: Positive action, adjustable through 90° from vertical to horizontal, permits easy removal for hand-held use, suitable for mounting on stand with 5/8"-27 thread

**Case**
Black and satin-chrome finished all-metal case and grille with stainless steel screen

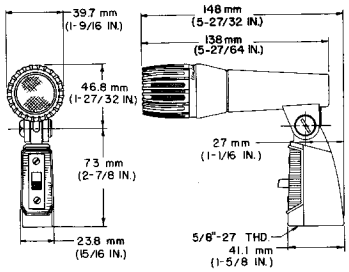
**Cable**
548, 548SD, 548SH—4.6m (15 ft) two-conductor shielded (rubber-jacketed) with a professional three-pin female audio connector† on the microphone end
548SD-CN—6.1m (20 ft) two-conductor shielded (rubber-jacketed) with a professional three-pin female audio connector† on the microphone end and a professional three-pin male audio connector† on the equipment end

† Designed to mate with Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connector.

**Dimensions**
See Figure 3




MODELS 548, 548SD AND 548SD-CN
OVERALL DIMENSIONS




MODEL 548SH — OVERALL DIMENSIONS
**FIGURE 3**

**Weight**

| | Net (less cable) | Combined Net | Packaged |
|---|---|---|---|
| 548SH | 460g (16 oz) | 733g (28¾ oz) | 944g (37 oz) |
| 548 & 548SD | 311g (11 oz) | 723g (25½ oz) | 842g (33 oz) |
| 548SD-CN | 311g (11 oz) | 778g (30½ oz) | 975g (38¼ oz) |

## OPERATION

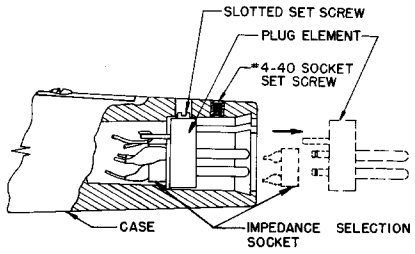
Models 548, 548SD, 548SD-CN, and 548SH are dual-impedance microphones for connection to a 19 to 300 ohm rated input or to a high-impedance input. The microphones are shipped from the factory connected for low-impedance operation.

The low-impedance connection (as shipped) is recommended where long cable lengths are required or under conditions of severe hum disturbance. The permissible cable length is practically unlimited since neither response nor level is appreciably affected by long cables. Shure Model A95 Series Line Matching Transformers are available for use when a low-impedance microphone line is desirable but the associated amplifier has a high-impedance input. These transformers provide a proper impedance match between a 19 to 300 ohm microphone line and a high-impedance input and are available with various input and output connectors.

## IMPEDANCE SELECTION

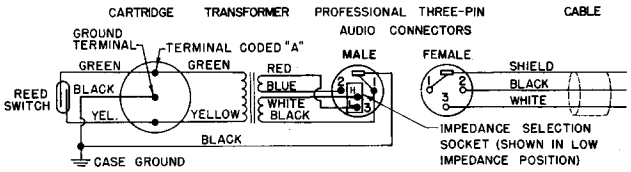
Models 548, 548SD, and 548SD-CN are shipped connected for low-impedance operation. To change to high impedance (see Figures 4 and 5), proceed as follows:

1. Remove plug element at receptacle end of microphone by turning slotted setscrew in (counterclockwise) and carefully withdrawing plug element from case.
2. Disconnect 2-terminal impedance selection socket from rear of plug element.

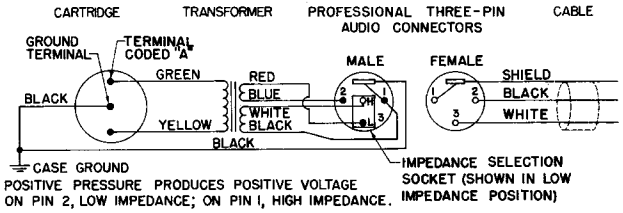



MODELS 548, 548SD AND 548SD-CN
IMPEDANCE SELECTION — RECEPTACLE END OF MICROPHONE

**FIGURE 4**




MODELS 548SD AND 548SD-CN
INTERNAL CONNECTIONS



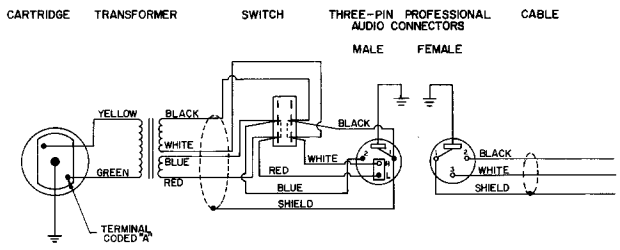

MODEL 548 — INTERNAL CONNECTIONS

**FIGURE 5**

3. Reconnect 2-terminal impedance selection socket in reverse position so that pin 3 of plug element is inserted in socket terminal "H".
4. Reassemble plug element into microphone and seat setscrew securely by turning out (clockwise).

Model 548SH is shipped connected for low-impedance operation. To change to high impedance (see Figure 6), proceed as follows:

1. Remove the two No. 2-56 screws holding the switch to connector and switch housing.
2. Remove the nameplate and take the switch out of the switch housing.
3. Proceed as described in steps 2 and 3 above.
4. Re-assemble switch and nameplate to switch housing. Tighten screws securely.




MODEL 548SH — INTERNAL CONNECTIONS

**FIGURE 6**

## CONNECTIONS

When using the microphone in low impedance, the BLACK and WHITE cable leads are the "hot" conductors for balanced line connections to a low-impedance amplifier input; the shield is connected to the chassis or amplifier ground.

When using the microphone in high impedance, the WHITE cable lead is the "hot" conductor for connection to a high-impedance amplifier input; the shield is connected to the chassis or amplifier ground. The BLACK cable lead should be insulated at the equipment end when not used.

## PHASING

To test two microphones and/or their cables for proper phasing, connect them to an amplifier and talk or sing into them while holding them three or four inches apart. The sound from the speakers should be the same when talking into either microphone or directly between them if they are in phase with each other. If the sound drops drastically, or if a dead spot is found when talking between the two microphones, either the microphones or their cables (low impedance only) are out of phase. All cables and microphones should be tested in this manner to insure that they are in phase with each other.

To change the phase of a low-impedance microphone cable, either use a Shure A15PRS Phase Reverser or interchange the wires connected to pins 2 and 3 of the connector. To change the phase of a microphone, the microphone cartridge leads must be interchanged (see Figures 5 and 6). This should be performed by your dealer, the Shure Factory Service Department, or other qualified service personnel.

## FURNISHED ACCESSORIES

Swivel Adapter (548, 548SD, 548SD-CN) .....A25B
Connector Locking Kit (548, 548SD, 548SD-CN) .....90CK1371
Lockplate (548SH) .....90NR1371

## OPTIONAL ACCESSORIES

Line Matching Transformer .....A95 Series
Windscreen .....A61WS
Quick Disconnect Adapter
(548, 548SD, 548SD-CN) .....A45, A45B
(548SH) .....A47
Desk Stand .....S37A, S39A, S40A

## REPLACEMENT PARTS

Cartridge (all models) .....R48
Cable (548, 548SH, 548SD) .....C59
(548SD-CN) .....C50CN
Screen and Grille Assembly (all models) .....RK38G
Plug Element (all models) .....RK169P
On-Off Switch (548SD, 548SD-CN) .....RK106S
(548SH) .....RK32S

## ARCHITECTS' SPECIFICATIONS

The microphone shall be a moving coil (dynamic) type with a frequency response of 40 to 15,000 Hz. The unit shall have a cardioid polar characteristic. The cancellation at the sides shall be approximately 6 dB, and the cancellation at the rear shall be 15 to 20 dB. The microphone shall be dual impedance with a rated impedance of 150 ohms for connection to microphone inputs rated at 19 to 300 ohms and "High" for connection to high-impedance microphone inputs. (Impedance change shall be solderless at the microphone connector.)

The microphone output shall be:

Low Impedance ..... −56.0 dB
0 dB = 1 milliwatt per 10 microbars

High Impedance ..... −54.0 dB
0 dB = 1 volt per microbar

Models 548SD, 548SD-CN, and 548SH shall be equipped with a built-in On-Off switch.

Models 548, 548SD, and 548SD-CN shall be provided with a swivel adapter, adjustable through 90° from vertical to horizontal, and suitable for mounting on a stand having a 5/8"-27 thread.

Model 548SH shall be equipped with a swivel, adjustable through 135°, and suitable for mounting on a stand having a 5/8"-27 thread.

Models 548, 548SD, and 548SH shall be provided with a detachable 4.6m (15 ft) two-conductor shielded cable with a professional three-pin audio connector* (female) on the microphone end.

Model 548SD-CN shall be provided with a detachable 6.1m (20 ft) two-conductor shielded cable with professional three-pin audio connectors* (male and female) on the equipment and microphone ends.

The overall dimensions of Models 548, 548SD, and 548SD-CN shall be 157 mm (6-3/16 in.) in length and 40 mm (1-9/16 in.) in diameter.

The overall dimensions of Model 548SH shall be 120 mm (4-23/32 in.) in height, 148 mm (5-27/32 in.) in depth, and 39.7 mm (1-9/16 in.) in width.

The microphone shall be the Shure Model 548, 548SD, 548SD-CN, 548SH, or equivalent.

*Designed to mate with Cannon XL series, Switchcraft A3 (Q.G.) series or equivalent connector.

## GUARANTEE

This Shure product is guaranteed in normal use to be free from electrical and mechanical defects for a period of one year from date of purchase. Please retain proof of purchase date. This guarantee includes all parts and labor. This guarantee is in lieu of any and all other guarantees or warranties, express or implied, and there shall be no recovery for any consequential or incidental damages.

## SHIPPING INSTRUCTIONS

Carefully repack the unit and return it prepaid to:

Shure Brothers Incorporated
Attention: Service Department
1501 West Shure Drive
Arlington Heights, Illinois 60004

If outside the United States, return the unit to your dealer or Authorized Shure Service Center for repair. The unit will be returned to you prepaid.