



Shure Brothers Incorporated
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Models 545D and 545SD User Guide



MODEL 545D



MODEL 545SD

GENERAL

The UNIDYNE® III Models 545D and 545SD are dual-impedance unidirectional, dynamic microphones shipped connected for low-impedance operation. The microphones provide wide range reproduction of music and voice and can be effectively used outdoors and indoors.

The UNIDYNE III 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 III features an exceptionally uniform pickup pattern-provides an effective solution to feedback problems in reverberant locations, permits best utilization of space in small studios, facilitates orchestral placement, and provides practically complete exclusion of unwanted noises.

Model 545D is designed for applications where a switch is not required. Model 545SD is equipped with a magnetic reed On-Off switch

VARIATIONS

Model 545SD-CN: Supplied with cable (See Specifications for details on cable.)

Models 545D-LC and 545SD-LC: Supplied without cable.

Features

- *Unusually effective cardioid 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*
- *Excellent reproduction of voice and music*
- *Shock mounted cartridge for quiet operation*
- *Quick, neat, solderless impedance selection*
- *Built-in, long-life, magnetic reed ON/OFF switch (545SD)*
- *Rugged professional three-pin audio connector on the microphone*
- *Strong, detachable cable especially selected for effective shielding from hum pickup (545SD-CN)*
- *Versatility-for use in the hand or on a stand-indoors or outdoors*
- *Available in three versions: without switch or cable (545D-LC), with switch and cable (545SD-CN), and with switch but without cable (545SD-LC)*

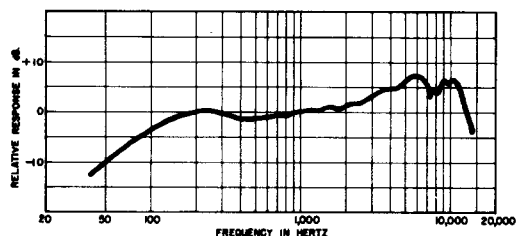
SPECIFICATIONS

Type

Dynamic

Frequency Response

50 to 15,000 Hz (see Figure 1)

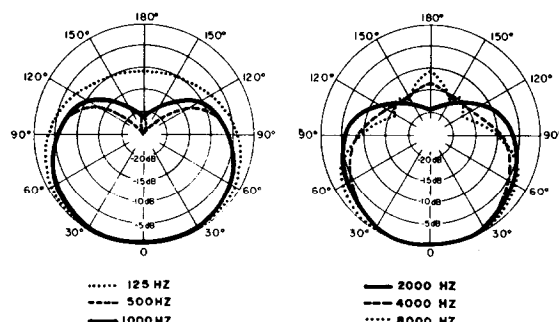


TYPICAL FREQUENCY RESPONSE

FIGURE 1

Polar Pattern

Cardioid (unidirectional)-uniform with frequency, symmetrical about axis (see Figure 2)



TYPICAL POLAR PATTERNS

FIGURE 2

Impedance

Dual. Microphone rating impedance is 150 ohms (275 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 supplied. To change impedance, see sections on Impedance Selection and Connections.

Output Level (at 1,000 Hz)

	"L"	"H"
Open Circuit Voltage*	-78.0dB (0.13 mV)	-55.0 dB (1.76 mV)
Power Level**	-58.5dB	

*0 dB = 1 volt per microbar

**0 dB = 1 milliwatt with 10 microbars

Phasing

Positive pressure on diaphragm produces positive voltage on pin 2 in low impedance and on pin 1 in high impedance (with respect to pin 3). See Figure 5.

Switch

545SD: 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.

Cartridge Shock Mount

Internal rubber vibration-isolator

Cable

545SD-CN: 6.1 m (20 ft) two-conductor shielded, detachable, with professional three-pin audio connectors* on microphone and equipment ends

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

Swivel Adapter

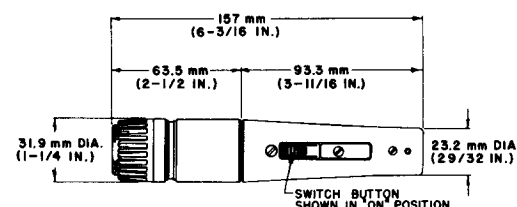
Positive action, adjustable through 90° from vertical to horizontal, permits easy removal for handheld use, suitable for mounting on stand with $\frac{5}{8}$ "-27 thread

Case

Chrome-plated die casting with ARMO-DUR® grille and stainless steel screen

Dimensions

See Figure 3



OVERALL DIMENSIONS

FIGURE 3

Net Weight (less cable)

255 grams (9 oz)

Packaged Weight

545SD-CN: 1042 grams (2 lb, 4 $\frac{3}{4}$ oz)

545D-LC and 545SD-LC: 556 grams (1 lb 3 $\frac{3}{4}$ oz)

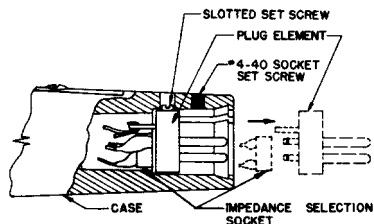
Certifications

Conforms to European Union directives, eligible to bear CE marking; meets European Union EMC Immunity Requirements (EN 50 082-1, 1992); RF radiated (IEC 801-3); ESD (IEC 801-2); EFT (IEC 801-4).

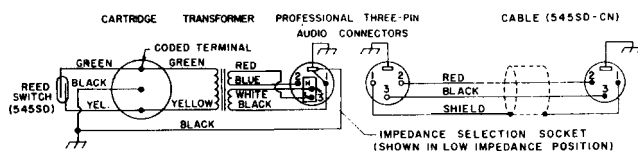
IMPEDANCE SELECTION

The microphones 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.
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 seal setscrew securely by turning out (clockwise).



IMPEDANCE SELECTION-
RECEPTACLE END OF MICROPHONE
FIGURE 4



INTERNAL CONNECTIONS
FIGURE 5
CONNECTIONS

When using the microphone in low impedance, the cable conductors from connector pins 2 and 3 are the audio signal carriers. Connect the shield to amplifier or chassis ground.

When using the microphone in high impedance, the cable conductor from pin 3 and the shield are the audio signal carriers. Connect the conductor from pin 3 to the "hot" amplifier input; connect the shield to amplifier or chassis ground. An unused lead attached to pin 2 should be insulated before attaching a connector to a two-conductor shielded bare-ended cable.

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 ensure 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 inter-

change 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 Figure 5). This should be performed by your dealer, the Shure Factory Service Department, or other qualified service personnel.

FURNISHED ACCESSORY

Swivel Adapter A25E

OPTIONAL ACCESSORIES

Line Matching Transformer A95 Series
Desk Stand S37A, S39P
Isolation Mount A55M
Dual Mount A25M
Windscreen A2WS
Cable, LO-Z (6.1 m - 20 ft) C20H
Cable, LO-Z (6.1 m - 20 ft, mic connector only) .. C20D
Cable, HI-Z (6.1 m-20 ft) C20P

REPLACEMENT PARTS

	<u>545D-LC</u>	<u>545SD-LC</u>	<u>545SD-CN</u>
Cartridge	R45	R45	R45
.....		—	C20H
Plug Element	RK169P	RK169P	RK169P

ARCHITECTS' SPECIFICATIONS

The microphone shall be a moving coil (dynamic) type with a frequency response of 50 to 15,000 Hz. The unit shall have a cardioid polar characteristic. The cancellation at the

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

(0 dB = 1 milliwatt per 10 microbars)

High Impedance

(0 dB = 1 volt per microbar)

audio connector.* Models 545SD-CN and 545SD-LC shall

The microphone shall be provided with a swivel adapter,

able for mounting on a stand having a $\frac{5}{8}$ "-27 thread.

The overall dimensions of the microphone shall be 157 mm ($6\frac{3}{16}$ in.) in length and 31.9 mm ($1\frac{1}{4}$ in.) in diameter.

The microphone shall be the Shure Model 545D-LC, 545SD-CN, 545SD-LC or equivalent.

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

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The Sound of Professionals...Worldwide™

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