

**SHURE**

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**MICROPHONES AND ELECTRONIC COMPONENTS**

® AREA CODE 312/328-9000 • CABLE: SHUREMICRO

**DATA SHEET****MODELS SA-1F AND SA-2FE SOLO-PHONE®**

## PANEL MOUNTED STEREO HEADPHONE AMPLIFIERS

The Shure Solo-Phone Stereo Amplifier is designed specifically for high fidelity listening with headphones. It provides sufficient amplification and equalization to use any fine quality magnetic phono cartridge (such as the Shure Stereo Dynetic). Additional inputs are available to plug in a multiplex FM tuner or a tape playback unit. Figure A shows a typical arrangement using a turntable with a magnetic cartridge and a tuner or a tape recorder.

The Solo-Phone is primarily designed for private high fidelity listening to records, FM, and tape in:

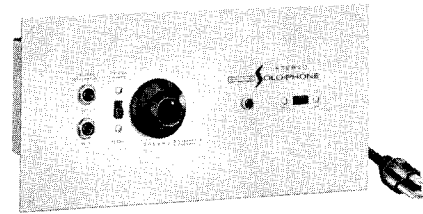
- School music libraries
- Classrooms
- Business and institutional libraries
- Music instruction schools
- Hospitals
- Religious reading rooms

The Solo-Phone can be used for special applications such as:

- Headphone isolation amplifier (monitoring while tape recording, etc.)
- Transcribing disc recordings using tape recorder.
- Ceramic microphone amplifier (connect to magnetic cartridge input).
- Special installations for the hard-of-hearing.
- Ideal for practicing—in private by players and students of electronic organs.

The SA-1F has:

- Listing by Underwriters' Laboratories, Inc., and by Canadian Standards Association as certified.
- A convenient 3 wire and 3 prong outlet (including ground) to meet stringent building code requirements.
- An 8-foot (2.44 m) long line cord.



## MOUNTING AND OPERATION

**Mounting:** The Model SA-1F and SA-2FE are recommended for panel or desk mounting where standard line cord and standard phono jack inputs are used. Refer to Figure B for panel mounting hole dimensions and panel cutout for amplifier. The Model SA-1F and SA-2FE Solo-Phones are not intended for wall mounting where various electrical codes require permanent wiring and connections. Make sure adequate clearance exists for input and output plugs.

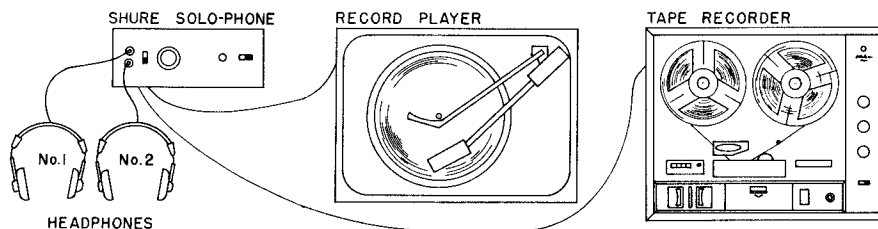
**Operation:** A convenient switch on the front panel permits selection of program sources (Phono or Tape and Tuner). Two stereo headphone jacks are provided on the front panel, *permitting two sets of stereo headphones to be used at the same time.*

An On-Off switch and pilot light are provided on the front panel.

1. For Phono operation connect the signal leads from the phono cartridge to the jacks on the chassis marked "Magnetic Phono Input."

For Tape or Tuner operation, connect the signal leads from the tuner or tape player to the jacks on the bottom panel marked "Tape or Tuner Input."

Attention must be given to the information in the phono, tape, or tuner equipment data sheets regarding their connections for "Right" or "Left" channel, phasing and grounding. Ground leads from the metal parts of the phono, tape, or tuner



TYPICAL SOLO-PHONE INSTALLATION  
**FIGURE A**

equipment, and the external ground may be connected to the screw below the magnetic phone input terminals.

2. Plug the headphones into the jack on the front panel. Set the selector switch to the desired function (Tape or Tuner, or Phono).

The volume control is a two-part control allowing separate adjustment of each stereo channel to achieve proper balance between channels. After each channel has been adjusted, simple over-all volume adjustments can be made by turning either part of the dual control.

3. Connect the Solo-Phone power line cord to the proper A.C. power outlet three wire receptacle. See Operating Voltage under Specifications.

The SA-1F is supplied with a three wire, three prong type plug. A two wire receptacle may be used by obtaining a standard three wire to two wire adapter. When using the adapters, be sure to make proper connections with the ground plug. These adapters are available at hardware stores and electrical supply houses.

The Model SA-2FE is supplied with a three-conductor power line cord, but no plug. The power line cord *plug* should be installed by qualified service personnel. The *brown* lead should be connected to the "live" or "hot" terminal of the plug and the *blue* lead to the neutral terminal of the plug. The *green/yellow* lead is the grounding conductor and should be connected to the ground or earth terminal of the plug.

In the Model SA-2FE either operating voltage is selected by a switch on the back panel. A switch lock plate is provided to prevent accidental switching to the 120 VAC position. The Solo-Phone is shipped with operating voltage selector switch locked in the 210-240 VAC position. The lock plate can be removed from the locking position by loosening (do not remove) the screw holding the lock plate, rotating the lock plate 90°, and re-tightening the screw.

**CAUTION:** Do not plug power line cord of Model SA-2FE into 210-240 volts when switched to 120 VAC.

4. A convenient 3 wire outlet is provided on the back of the SA-1F. This outlet is switched with the SA-1F power switch. The outlet can be used to supply 120 volts at up to 3 amperes to an associated tuner, record player, or tape recorder.

## SPECIFICATIONS

### Gain and Frequency Response:

Frequency	Phono Function*	Tape or Tuner Function
100 Hz	+13 dB +3, -2 dB Ref: 1,000 Hz level	+3, -2 dB Ref: 1,000 Hz level
1,000 Hz	34 dB ± 3 dB 6 mV input produces 300 mV output	7 dB ± 3 dB 150 mV input pro- 340 mV output
10,000 Hz	-14 dB ± 2 dB Ref: 1,000 Hz level	± 2 dB Ref: 1,000 Hz level

\*Standard RIAA Equalization

### Input Impedance:

Phono—47 kilohms  
Tuner—250 kilohms

### Range of Load:

The unit shall operate satisfactorily using any earphones with impedances of 4 to 200 ohms. For optimum results, use earphones of 4- to 16-ohm impedance.

### Channel Separation:

40 dB minimum from 50 to 20,000 Hz.

### Power Output:

20 mW per channel.

### Total Harmonic Distortion:

Less than 1% driving both channels simultaneously to 8-ohm resistive load at 100 mV level.

### Clipping Level:

400 mV at 1,000 Hz and 8-ohm load.

### Operating Voltage:

Model SA-1F 108-132 volts, 50/60 Hz.  
Model SA-2FE 108-132 volts, 50/60 Hz.  
or  
210-240 volts, 50/60 Hz.

### Mounting:

See Paragraph on Mounting and Operation.

### Panel Finish:

Satin Aluminum

## GUARANTEE

This Shure product is 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.

## SHIPPING INSTRUCTIONS

Carefully repack the unit and return it prepaid to the factory. 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.

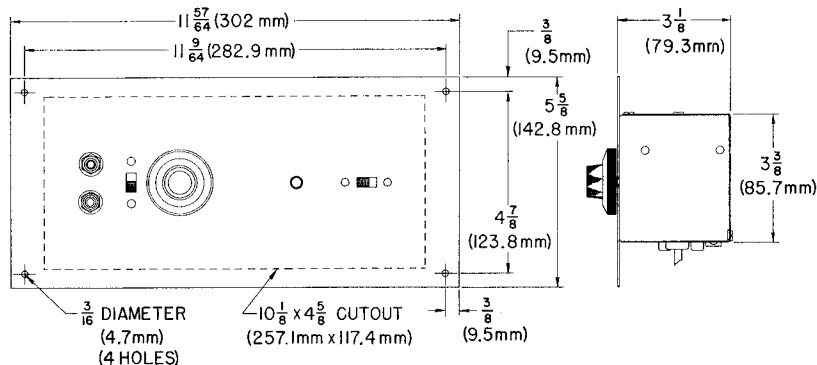
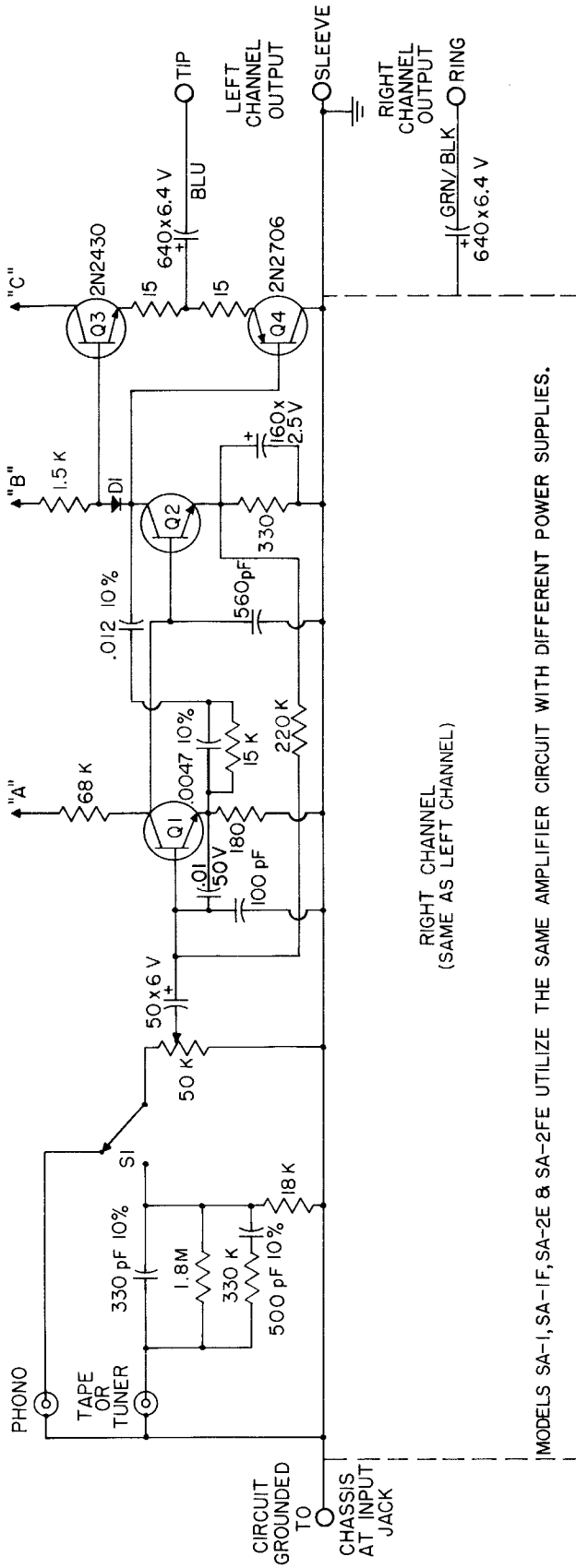


FIGURE B

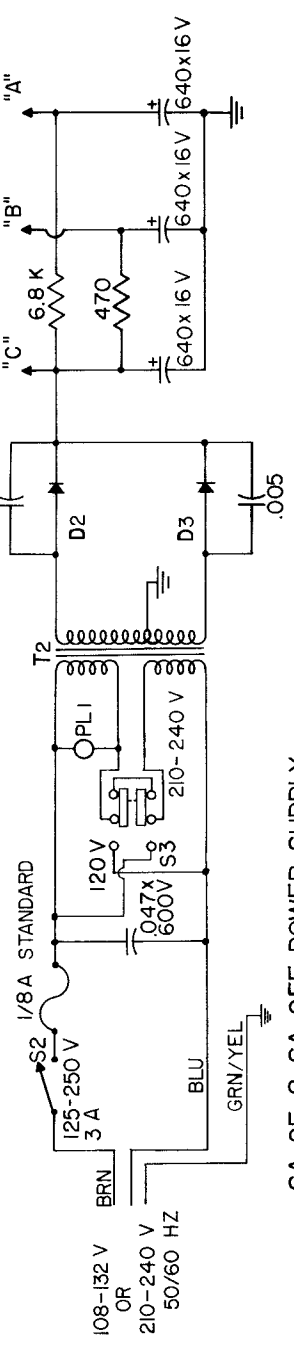
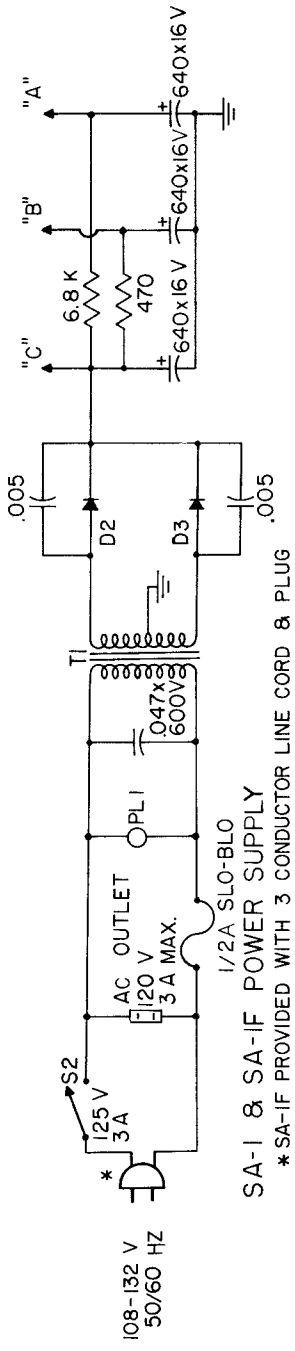


RIGHT CHANNEL  
(SAME AS LEFT CHANNEL)

MODELS SA-1, SA-1F, SA-2E & SA-2FE UTILIZE THE SAME AMPLIFIER CIRCUIT WITH DIFFERENT POWER SUPPLIES.

PART	DESCRIPTION	SHURE PART NO.	COMMERCIAL ALTERNATE
DI-D3	DIODE	RKC-79	IN4001
Q1-Q2	TRANSISTOR	RKC-9	2N5088
Q3-Q4	TRANSISTOR (MATCHED SET)	95A180 (86A323 AND 86A322)	2N2707 (2N2430 AND 2N2706)
T1	TRANSFORMER	51A251	NONE
T2	TRANSFORMER	51A211	NONE

NOTES:  
1. ALL CAPACITORS IN MFD UNLESS SHOWN OTHERWISE AND WORKING VOLTAGES OVER 100 UNLESS SHOWN.  
2. ALL RESISTORS 1/2 WATT 10%



SA-1F AND SA-2FE SOLO-PHONE  
CIRCUIT DIAGRAMS

