

**SHURE**

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MICROPHONES AND ELECTRONIC COMPONENTS

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

**DATA
SHEET****A95 SERIES
LINE
MATCHING TRANSFORMERS****A95A****A95F****A95P****A95FP****A95D****A95FD****General**

The Models **A95A**, **A95F**, **A95P**, and **A95FP**, are high quality transformers which make it feasible to run a microphone line from a low-impedance microphone to a high-impedance amplifier. This type of connection usually solves the problem of excessive high frequency loss and objectionable hum pickup when long lengths of microphone cable are necessary.

These transformers match microphones with a rated impedance of 25-50 ohms or 150-250 ohms to high-impedance inputs and offer additional versatility when used in conjunction with Shure Dynamic, Ribbon and Controlled Magnetic microphones.

All A95 Series Transformers can also be used to match a high-impedance microphone to an amplifier with an input rating of 25-50 ohms or 150-250 ohms. The Models **A95D** and **A95FD** are specifically intended

for this use and have been equipped with in-line, standard 1/4 inch phone jacks at the high-impedance end of the transformers. These jacks will accept the 1/4 inch phone plugs frequently used as cable connectors from high-impedance microphones.

The transformers are built into a compact, sturdy, magnetic shield case and are provided with input and output connectors as indicated in the following section entitled *Specifications*.

HIGH IMPEDANCE CONNECTIONS

Models A95A, A95F: These models are used to couple a low-impedance microphone line to a high-impedance amplifier when the amplifier input connectors are other than 1/4 inch phone jacks. Under these circumstances, a short adapter cable must be assembled with appropriate mating connectors to connect the transformer to the amplifier. An Amphenol MC1F connector

is supplied for the high-impedance connection from the transformer. Connect the signal or "hot" conductor of the adapter cable to the center contact of the mating MC1F connector and connect the ground conductor (shield) to the shell of the connector. To prevent excessive high frequency loss, a cable length of 1.5m (5 ft) or less is recommended at the high-impedance end of the transformer.

Models A95P, A95FP: These models are used to couple a low-impedance microphone line to a high-impedance amplifier equipped with standard ¼ inch two conductor phone jacks. A phone plug is assembled to the transformer as the high-impedance connection from the transformer and it may be plugged directly into a mixer or amplifier input. The phone plug is equipped with a locking ring which is useful for locking the phone plug on jacks having external threads such as the Shure M68P, PE68M, and VA300.

Models A95D, A95FD: These models are used to couple a high-impedance microphone line to a low-impedance amplifier. Many high-impedance microphones are provided with cables terminated in standard ¼ inch two-conductor phone plugs for amplifier connection. The A95D and A95FD transformers are equipped at the high-impedance end with in-line phone jacks which are compatible with the microphone plugs and provide a quick and easy means of connection.

In the event that the high-impedance microphone being used is provided with a MC1F cable connector, the phone jack adapter may be removed from the transformer and the cable connected using the MC1M connector provided at the high-impedance end of the transformer.

LOW IMPEDANCE CONNECTIONS

A professional three-pin audio connector* (male or female available) is provided at the low-impedance end of the transformer. A low-impedance two-conductor shielded microphone line equipped with a compatible three-pin connector may be connected directly to the transformer provided that it is a balanced line using pins 2 and 3 for the signal or "hot" leads and pin 1 for the shield connection. In the event that the microphone line and transformer connectors are not compatible, a mating connector for the low-impedance connection is supplied with the transformer. When using this connector, connect the two signal conductors of a balanced microphone line to pins 2 and 3; connect the shield to pin 1. For microphones with a separate shield and ground lead, connect both to pin 1. For an unbalanced microphone line, connect the signal conductor to pin 3 and connect the shield or ground leads to both pins 1 and 2.

In applications where an A95 Series Transformer is being used to couple a high-impedance microphone line to a low-impedance amplifier or mixer equipped

with professional three-pin audio connectors*, the transformer may be plugged directly into the input connector. If the amplifier connector or input connections are not compatible with the transformer low-impedance output, an adapter cable will be required. The adapter cable should be wired in accordance with the instructions given in the preceding paragraph. Installation of a cable between the transformer and amplifier can also be used to extend the working distance between the microphone and amplifier. Since this cable is operating in a low-impedance circuit, the length is not critical and can be varied to suit the application.

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

IMPORTANT

When using the **A95P** or **A95FP** with nylon or other non-metallic microphone input jacks, **do not tighten** the phone plug locking ring. Intermittent grounding may result if the locking ring is tightened.

INTERNAL CONNECTIONS

The internal connection of the A95 Series Line Matching Transformers are shown in Figure A.

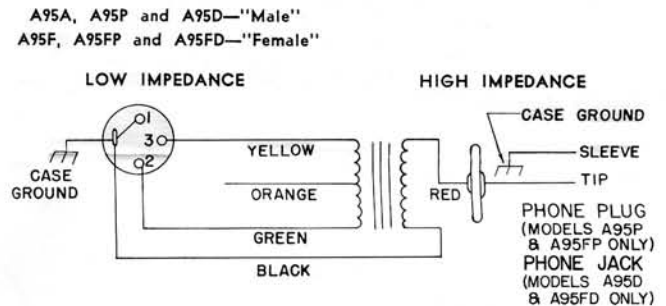


FIGURE A.

IMPEDANCE SELECTION

The Model A95 Series Transformers are supplied wired for 150-250 ohm microphone rating impedance. For use with 25-50 ohm rated impedance proceed as follows:

1. For **Models A95A, A95P, and A95D** remove plug insert at low-impedance end of the transformer by turning screw in (counterclockwise) and withdrawing insert from case.
2. For **Models A95F, A95FP, and A95FD** remove socket insert at low-impedance end of transformer by removing screw (counterclockwise rotation) and withdrawing insert from case.
3. Remove yellow lead from pin No. 3 and insulate bare wire of yellow lead with insulator from orange lead.
4. Solder orange lead to pin No. 3.
5. Reassemble connector insert into transformer housing. NOTE: On **Models A95A, A95P, and A95D**, rotate connector insert—yellow lead included—three turns to twist leads before reassembling in housing. Seat screw securely in place.

Specifications

Frequency Response:

20 to 20,000 Hz

Low-Impedance End:

25-50 ohms and 150-250 ohms

High-Impedance End:

High (25,000 ohms)

Case:

Full magnetic shield; steel with gray enamel

Case Diameter:

19.9 mm (3/4 in.)

Case Length; Less Phone Plug and Phone Jack:

A95A, A95P and **A95D** 63.5 mm (2 1/2 in.)

A95F, A95FP and **A95FD** 88.9 mm (3 1/2 in.)

Terminations:

Model **A95A:**

Input—Professional three-pin audio connector (male)†

Output—Amphenol MC1M type connector*

Model **A95P:**

Input—Professional three-pin audio connector (male)†

Output—Standard 1/4 inch phone plug with locking ring

Model **A95F:**

Input—Professional three-pin audio connector (female)†

Output—Amphenol MC1M type connector*

Model **A95FP:**

Input—Professional three-pin audio connector (female)†

Output—Standard 1/4 inch phone plug with locking ring

Model **A95D:**

Input—Standard 1/4 inch in-line two-conductor phone jack

Output—Professional three-pin audio connector (male)†

Model **A95FD:**

Input—Standard 1/4 inch in-line two-conductor phone jack

Output—Professional three-pin audio connector (female)†

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

*Mating connector supplied with unit.

Replacement Parts:

Phone Jack AdapterRK170P

Phone Plug AdapterRK123P

Net Weight (Less Phone Plug and Phone Jack):

A95A, A95P and **A95D** 71 grams (2 1/2 oz)

A95F, A95FP and **A95FD** 85 grams (3 oz)

Packaged Weight:

241 grams (8 1/2 oz)

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.