

Grampian

INSTRUCTIONS FOR USE

Dynamic Pressure Types DP4-5-6
Ribbon Types GR1-2.
Cardioid Types GC1-2.

The suffix letter /L Low impedance, 25/50 ohms.
following the type /X Medium " 200 ohms.
number is the im- /M " 600 ohms.
pedance value. /H High " 50K ohms or greater.

All microphones are supplied in a strong box complete with a screened cable having twin twisted conductors, for low hum pick up and should be connected as shown.

IMPEDANCES.

The low impedance models should be used with Amplifiers and Tape Recorders having low impedance inputs.

When required to be used with Amplifiers and Tape Recorders with inputs of high impedance a special step up transformer, such as our G7/LH, is required at the amplifier input end. Under both of these conditions long microphone leads can be used.

The Medium impedance models are for use with Transistor Amplifiers, Tape Recorders and systems having medium impedance inputs, i.e. 200 or 600 ohms.

Long microphone leads may be used under these conditions. The High impedance models are for direct connection to Amplifiers and Tape Recorders which are fitted with high impedance input, 50K or greater.

Under these conditions the length of microphone lead should not exceed 25 feet and the recommended maximum length is 18 feet. The use of longer connecting cables has a tendency to introduce hum and losses in the high frequencies.

CABLE CONNECTIONS.

Where two or more microphones in close proximity are to be used with a mixer unit it is important that each microphone is wired in the same phase and to ensure this the red or white wire in the cable should be taken as the "live" side and the black one as the "earthy" side. The cable screening should be connected to earth at the amplifier input only.

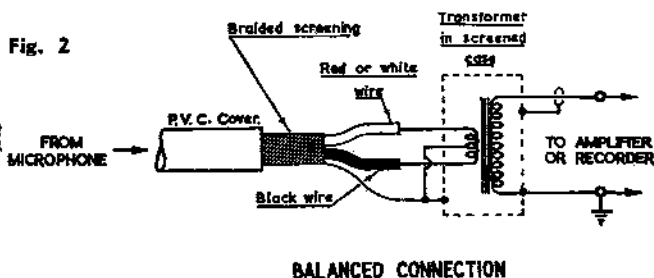
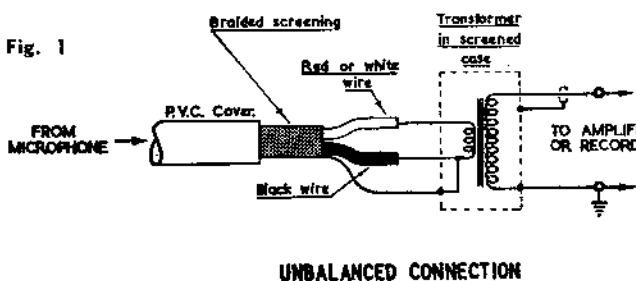
When a long cable is used with a low impedance model in conjunction with a G7 step-up unit the cable should be connected to the input of the G7 unit. The lead between the unit and the amplifier input must be screened and made as short as possible.

Two methods of connection may be used, that is unbalanced and balanced, as shown in circuit diagrams Figs. 1 and 2.

It will be seen that in the unbalanced arrangement the black wire and the screening are connected to the "earthy" end of the transformer primary and also to the case.

In the balanced arrangement the red wire goes to one end of the primary winding and the black wire to the other end. The braided screening is connected to the transformer case.

The unbalanced connection condition will be suitable under most conditions, however under certain exceptional circumstances it may be found advantageous to use the balanced method of connection.



The free end of the lead must be fitted with a type of plug or connector suitable for your amplifier or recorder. Figure 3 shows the method for use with standard type jack plug, unbalanced line working and Figure 4 the connections for the tip, ring and sleeve type of jack plug for balanced line working.

Fig. 3. STANDARD JACK PLUG FOR UNBALANCED CONNECTIONS.

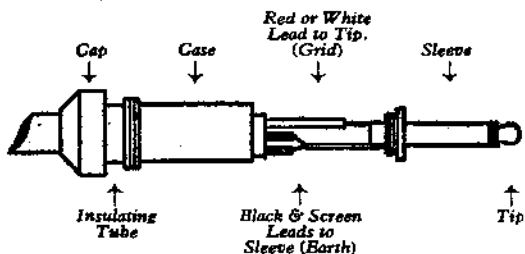
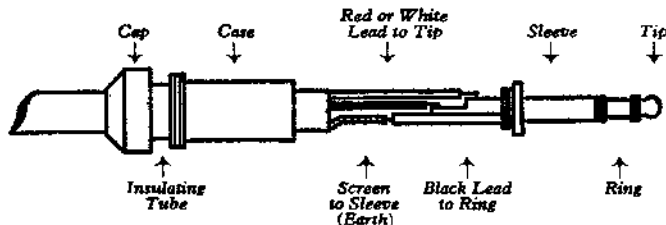


Fig. 4. TIP, RING AND SLEEVE JACK PLUG FOR BALANCED CONNECTIONS.



NOTES

There are many types of plugs and sockets fitted to amplifiers and tape recorders and the actual connections do not conform to any standard arrangement. Always check carefully with the makers instruction book and circuit diagram before fitting a plug. In case of difficulty consult your dealer.

Connections shown apply to all impedances.

The lead length normally supplied is 18 feet long.

Low and medium impedance leads may be of any length but high impedance leads should not exceed 25 feet. 600 ohm microphones match into most transistorised tape recorders.

POLAR RESPONSE.

The DP4 - 5 - 6 types are pressure operated and have an omni-directional polar response, i.e. are almost non-directional. The type GR1 microphone has a semi-cardioid response and is suitable for use in sound reinforcement installations where feedback between the loudspeaker and the microphone is a problem. This microphone has approximately 10db suppression of the higher frequencies reaching its rear face, and, because of its slightly lower sensitivity at lower frequencies, it will normally be necessary to place it nearer the sound source than the type GR2. The rear face of the microphone is identified by its oxidised colour, the front face having the normal satin chrome finish.

The type GR2 microphone has a "figure-of-eight" bi-directional polar response in both the horizontal and vertical planes. This means that the instrument is most sensitive at the front and back and least sensitive at the sides and top and bottom. This directional property is very useful in that the instrument can be positioned for maximum pick-up of the wanted sounds and minimum pick-up of unwanted sounds and noise. It also has the effect of enabling the microphone to be placed approximately 1½ times farther away from the sound source than is possible with the pressure-type microphones. A further advantage of the ribbon microphone is that under highly reverberant conditions the instrument discriminates against the unwanted reflected side sounds to a greater extent than is possible with pressure-type microphones which are equally sensitive in all directions.

The G.C.1 types have a cardioid polar response pattern, i.e. a heart-shaped pattern with minimum pickup at the rear and, like the ribbon type, can be positioned to discriminate against unwanted sounds.

MICROPHONE POSITIONING.

The DP4 - 5 - 6 type microphones may be used either hand held or stand-mounted, and the normal operating distance for speech varies between approximately 6 inches and two feet depending upon the strength of the performer's voice.

The GR1 and GR2 type ribbon microphones should always be stand-mounted. The GR1 is intended mainly for speech reinforcement systems where feedback between the loudspeakers and microphone can be reduced by placing the rear (oxidised) face for minimum pickup from the loudspeakers.

The GR2 type ribbon microphone is intended for high quality pickup of speech and music. For speech the operating distance may vary between 18 inches and six feet. For singing and other musical items the distance may be even greater dependent upon the number and loudness of the performers/instruments.

The GC1 type cardioid microphones, like the ribbon types, should also be stand-mounted as these types, being velocity-operated, are very sensitive to handling noise. The working distance of the GC1 is approximately similar to that of the GR2. "Close Talking" with both the ribbon and cardioid types should be avoided as this causes bass accentuation.

The ribbon and cardioid microphones should not be used outdoors as they are very sensitive to wind noise.

CARE OF THE MICROPHONE.

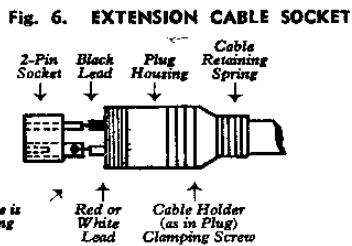
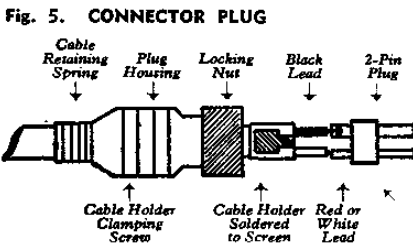
When not in use always keep the ribbon microphone in its protective polythene cover and never allow it to come in contact with iron filings, dust, etc. Do not tamper with microphones in any way.

EXTENSION CABLES.

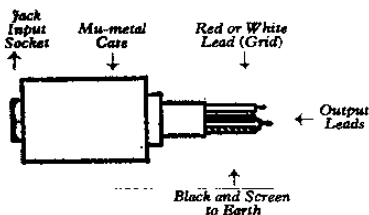
When required, extension cables may be used with our microphones, **excepting all HZ models**, where the maximum length is limited to 25 feet.

Please note that DP4/5 connectors and cable sockets are not interchangeable with GR patterns, which are used with DP6, GR and GC type microphones.

The connector plug and cable extension sockets are connected as shown in figures 5 and 6.



TYPE G7 MICROPHONE MATCHING UNITS



A range of microphone transformers or matching units for use with Tape Recorders, Home Cine Sound equipment, Amplifiers, etc. in cases where the impedance of the microphone is different from the input impedance of the main equipment, or when the same microphone is to be used with various amplifiers, recorders or vice versa.

G7 Matching Units supplied in the following impedances
Standard Units unbalanced.

Consisting of a double wound transformer housed in a Mu-metal case, it is provided with a jack socket on the primary side for input and a short screened lead on the output for connecting to the input of the amplifier, etc.

Balanced Units supplied to order.

The "low to high" model, type G7/LH is of special advantage in instances where it is required to use a very long microphone lead. It permits the use of a low impedance microphone in conjunction with high impedance input equipment, without the instability and treble loss which occurs if the high impedance leads are extended.

Input	Output	Type
15-30 ohms	High Impedance	G7/LH
15-30 ohms	600 ohms	G7/LM
600 ohms	High Impedance	G7/MH
High impedance	600 ohms	G7/HM
15-30 ohms	200 ohms	G7/LX
200 ohms	High Impedance	G7/XH

NOTE: High Impedance = 50,000 ohms or greater.

Length 3 3/8" x 1 1/2" dia. Weight 5 1/2 ozs