Reslo

Line Coupling Unit

TYPE LTU1

Made in England

TECHNICAL DATA
AND
INSTRUCTIONS FOR USE

RESLOSOUND LIMITED

Sales Division: 24 UPPER BROOK STREET, MAYFAIR, LONDON W1

Cable address: Derritron London *Telephone*: HYDe Park 2291-2-3 *Telegrams*: Derritron, Audley, London

Service and Spares enquiries; RESLO WORKS, SPRING GARDENS, ROMFORD, ESSEX

Telephone: Romford 49087 *Telegrams*: Reslosound, Romford, Essex

INTRODUCTION

High impedance ribbon and dynamic microphones are generally considered to have an impedance of 50,000 ohms or so, and are thus suitable for use only with low capacity cable, and even then this type is restricted to a length of 6 yards approx. before the high frequency losses become appreciable due to the self capacity of the cable being in parallel with the "high impedance".

Crystal microphones, however, act as capacitors and only suffer loss of output with increasing length of high impedance cable, the overall frequency response remaining generally unaffected.

All high impedance low capacity cables are susceptible to hum and interference pick-up, and can generate noise when moved.

The most versatile microphone arrangement is undoubtedly to use a "low impedance" line of between 15 and 50 ohms, with a twin twisted flexible screened cable to link the microphone to the associated amplifier or recorder. It is then necessary at the amplifier or recorder to provide a microphone input transformer, to step up the very low line signal to the microphone valve pre-amplifier stage. The transformer can either be incorporated in the actual recorder or amplifier or can be provided externally in the form of a "Line Coupler".

Long lengths of twisted and screened cable can be used to link microphones to the associated equipment without degrading the frequency response or appreciably affecting the signal level. Provided that reasonable size conductors are used, e.g. 23/0.0076, up to a mile or so of cable can in fact be employed, the return resistance of the cable being kept low compared to the microphone impedance of 30 ohms.

All Reslo high impedance (Hi-Z) microphones thus have a 30–50 ohms "low impedance" connection which can be brought automatically into use by mounting them on the appropriate "low impedance" cable set connector (marked with a white dot) which can be supplied as an extra to order. The change of impedance is accomplished by using the two contacts in the Reslo T.C. plug that are close together for low impedance connection, and the contact beside the slot or indent and that farthest away for the high impedance connections.

The twin twisted and screened cable enables a further advantage to be gained by use of the "balanced to earth" technique. The Reslo line coupler described here has a centre tapped input line or primary winding which "balances" the twin line with respect to earth and still further improves the line's low response to interference, unwanted signals and ordinary hum pick-up.

THE RESLO LTU.1 LINE COUPLER

The LTU.1 is a very elegant complete unit designed for external use adjacent to the associated tape recorder or amplifier. The mu-metal screened transformer is mounted in a die-cast metal housing fitted at one end with the Reslo three contact socket for the microphone line connections, the appropriate plug being provided. At the other end, a length of high impedance flexible cable, terminated with a screened type tip and sleeve plug, is provided for connection to the associated tape recorder or amplifier.

The use of the standard Reslo plug and socket for the microphone connections allows easy line extension by means of Reslo line plugs and sockets, the extra lengths of screened and twisted microphone cable being inserted or removed at will. The microphone line connections are "balanced to earth".

SPECIFICATION

LTU.1 line coupler, transformer mu-metal shielded and fitted in circular die-cast case, 3 pin plug balanced connections for low impedance input, screened jack plug (tip and sleeve type) for high impedance output.

Nominal input: 40 (15-50) ohms)
Nominal output: 100,000 ohms for valve grid
Frequency response: ±1 dB 50 c/s to 15 Kc/s
Dimensions: length 2¼ ins. (5.71 cm.), diameter 1½ ins. (3.81 cm.)
Weight: 10 ozs. (0.283 kg.)
Finish: Die-cast housing stove enamelled with polished chrome fittings.

INPUT PLUG, CABLE CONNECTING INSTRUCTIONS

A Reslo TC (three contact) screened plug is provided with the LTU.1 to connect the screened and twisted microphone cable. The red insulated wire has to be soldered to the pin next to the locating tongue in the side and the black insulated wire has to be soldered to the pin nearest to it. There is no connection to the distant third pin. The flexible screening is connected to the plug body as described below.

Detailed Instructions

(1) First remove the TC plug connector from the LTU.1 by unscrewing the knurled locking ring and withdrawing the plug.

(2) Dismantle the plug connector by unscrewing the knurled cable securing cap and the protective cable spring. Withdraw the rubber cable bush, unscrew the counter-sunk screw in the plug body side and release the moulding from the plug body.

(3) Remove the outer P.V.C. sheath from the microphone cable for about 1½" by "ringing" and making a parallel cut with a sharp razor blade. Be careful not to cut through the tinned copper screening wires.

(4) Unwind the lapped screening, lightly twist and cut off the two lengths of cotton filler.

(5) Slide cable securing cap followed by the protective spring up the cable and then slide on the rubber cable clamp, the larger diameter end first, some 6" or so up the cable. If the rubber cable clamp is very difficult to slide along, dust the cable with french chalk or talcum powder.

(6) Follow on now with the plug locking ring, plain end first, and then the main plug body, threaded end first, all the time keeping the screening wires and red and black insulated wires together.

(7) Now cut the red and black wires to approximately ½" in length and remove about ¼" of the red and black P.V.C. insulating sheath. Tin the ends ready for soldering to the appropriate pins.

(8) Now prepare the plug moulding for soldering. This has three pins arranged in a triangle. Pin C is placed away from the other two and with this close to you, pin A on the left is to have the red wire attached and pin B on the right is to have the black wire attached. Stand the moulding, pins downwards, on an old folded newspaper or similar, and taking a hot soldering iron with a clean well tinned bit, apply radio type resin-cored solder to the hollow pins. Fill up with solder, one at a time, and then with the iron still applied, insert the tinned cable ends in the appropriate pins right up to the P.V.C. insulation. Quickly cool by blowing on the joint until the solder hardens. Wipe off any surplus flux or resin with a clean cloth.

(9) Now pull plug body forward over the moulding and refit the countersunk screw at the side.

(10) Twist the screening wires more tightly together and pull forward over the plug body. Slide forward the rubber cable clamping bush into the threaded end and just before pushing fully home, take the twisted screening wires and make a complete circle round the cable bush in a clockwise direction, cutting off the surplus.

(11) Push the bush fully home and bring forward the cable spring, seating it firmly against the bush.

(12) Slide forward the plug locking ring as far as it will go over the plug body and then fit the knurled securing cap over the cable spring and screw firmly on the threaded end of the plug body as tightly as possible.

EXTENDING THE MICROPHONE CABLE

Reslo TC cable connectors are available in pairs or singly from the Works so that users can make up as required various lengths of screened and twisted cable. These can then be coupled together as required to extend the microphone connections as desired.

The Reslo TC plug as supplied with the LTU.1 is part No. A900 and the Reslo line extension socket assembly is part A901.

INPUT IMPEDANCE OF ASSOCIATED AMPLIFIER OR TAPE RECORDER

As stated in the specification, the nominal output of the LTU.1 coupler is at 100,000 ohms, which is suitable for direct connection to a valve input stage grid. It should be noted that 100,000 ohms is the lowest impedance that the coupler should be connected to, without attenuating the bass response, but input impedances greater than this and up to several megohms are even more satisfactory.

PERFORMANCE AND WORKMANSHIP

Reslosound Ltd. have taken every possible care to provide a satisfactory and reliable product and each transformer unit is carefully examined, tested packed to ensure that it reaches the dealer or user in perfect condition.

Should however, the coupler fail to work properly it should be returned to the Reslo Works for examination, with a label attached giving details of the unsatisfactory performance, date of purchase and name and address of the supplier.

Reslosound Ltd. then reserve the right to consider on its merits each individual case and to decide what repair or handling charge should be made, if any. In all cases, Reslosound Ltd. undertake to give the maximum possible assistance to users of their equipment.

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