

TELEPHONE UNIT UN10/12

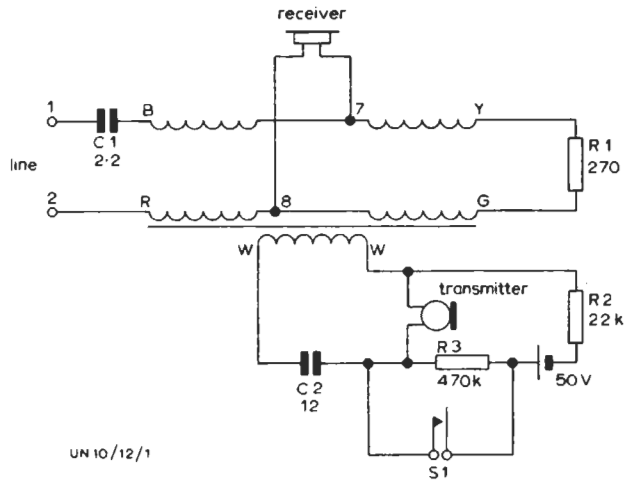


Fig. 1. Explanatory Diagram of the UN10/12

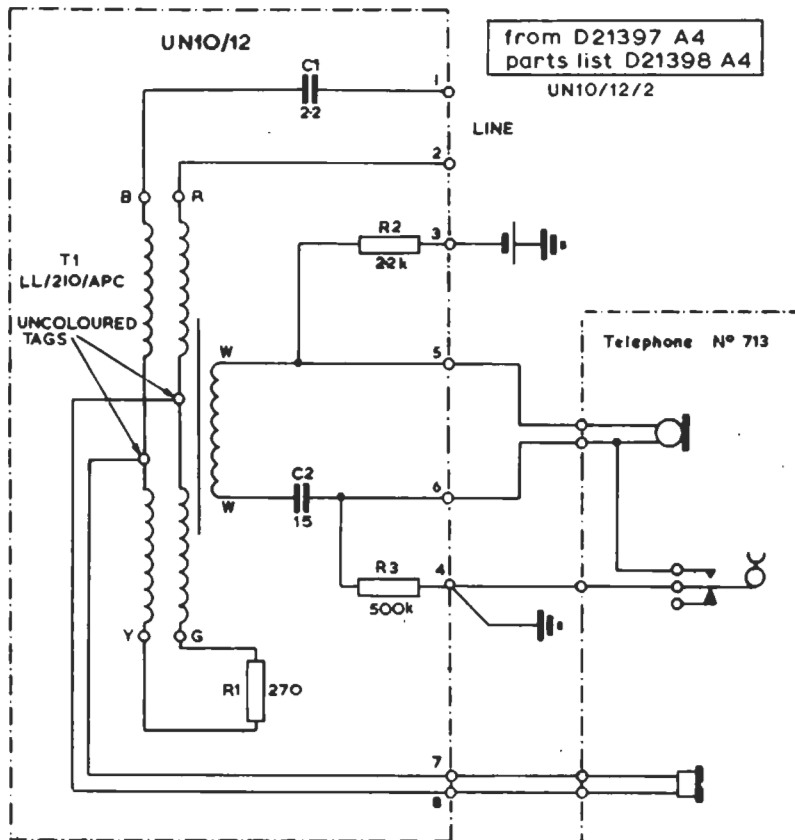


Fig. 2. Circuit of the UN10/12 with Telephone Connections

### Introduction

This unit is for connecting a line and a battery supply to a pendant telephone P.O. No. 713 or an operator's headset Type 4409A. It supersedes the UN10/7 for these applications but is not suitable for use with the obsolescent P.O. No. 246 or for handsets with differential transmitters.

### General Description

The unit is constructed on a printed circuit board measuring  $2\frac{3}{8}$  by  $2\frac{1}{4}$  inches. It is  $\frac{7}{8}$  inch deep. Four holes are provided in the corners of the board for mounting. If it is required to mount the unit against a metal surface an insulated backing must be fitted.

### Circuit Operation (Figs. 1 and 2)

#### General

Fig. 1 is an explanatory diagram. The complete circuit and the interconnections are shown in Fig. 2. T1 is a hybrid transformer connected in the balanced configuration.

### Transmitting

The signal from the transmitter splits between the line and R1, the balancing resistor, which is chosen to give the correct level of sidetone. (See UN10/7). The receiver is connected across points which for this direction of transmission are at roughly equal potential. Hence the signal into the receiver is considerably attenuated.

### Receiving

Signals incoming on the line split between transmitter and receiver, i.e. attenuation of signals into the receiver from the line is kept to a minimum, about 3.5 dB.

### Notes

Capacitor C1 attenuates 17 Hz to prevent ringing deafening the operator. C2 prevents d.c. from the battery saturating the transformer. R2 presents a relatively high impedance to the a.c. voice signals and R3 is a spark quench resistor. S1 is the telephone rest switch, shown depressed.

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