

# telaloud

Latest development by F.W. Reynolds Ltd.



**Mark 6  
Handset  
Loudspeaking  
Telephone**

## INTRODUCTION

The Mark 6 Loudspeaking Telephone is a duplex instrument designed for use in conjunction with Standard Extension Telephones on 50 volt automatic or manual systems.

The instrument styling is British Post Office 706 pattern in two standard colours, these being two-tone grey and ivory. Other colours such as black, red, yellow and two-tone green are available to order. A separate loudspeaker is housed in an attractive matching case with each different coloured telephone.

The instrument may be used as a conventional telephone by simply lifting the handset and using it in the normal manner.

Depression of a key switch which is illuminated when in use initiates "handsfree" operation, which allows speech to be conducted via the same microphone in the handset, as used conventionally, to the amplifier which incorporates a novel hybrid circuit (patent applied for). The higher transmitting gain that is required during "handsfree" operation is automatically adjusted by the instrument.

An external control is fitted for loudspeaker (received) volume whilst all other controls are internally preset for optimum performance.

Use of the handset during private conversations automatically disconnects the loudspeaking circuitry.

During both conventional and "handsfree" operation, the solid state amplifier housed inside the main instrument case is used to amplify speech to and from the line, thus ensuring the transmission is of a far higher quality than that of a conventional telephone.

The standard instrument requires no external power supply, all power required being derived from the telephone line. (See technical specification.)

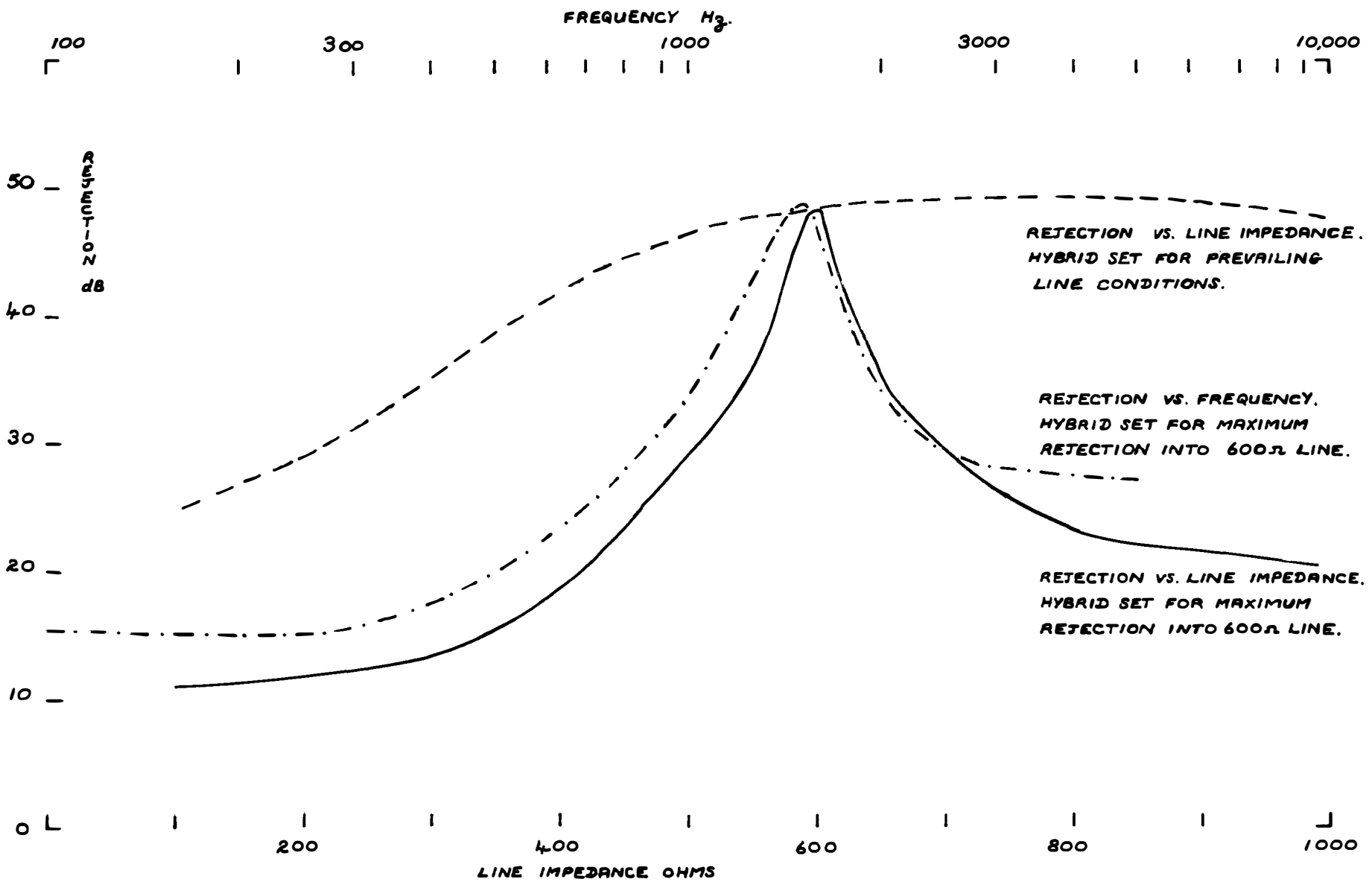
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## HANDSET RECEPTION LEVEL

The facility of being able to increase or decrease the received handset speech level above standard will be found quite useful by many operators when using the instrument on lines where the loss is abnormally high.

In order to provide an acceptable received level when the handset is used, a fixed resistor is connected in series with the receiver insert. If desired the received level may be adjusted by changing the value of the fixed resistor which is mounted between terminals 1 and 4 on the telephone instrument and a change in value only requires the use of a screwdriver.

Two alternative resistors can be provided, one having a value of 1500 ohms which will give an increased received level of 5.3 db above standard level and another of 3900 ohms which would drop it 3.5 db below standard level. Note 2 on circuit diagram CT0030 refers.



## TECHNICAL SPECIFICATION

### CONSTRUCTION

The electronic circuits are grouped on a single printed circuit board. This may be replaced without the use of a soldering iron.

### LOUDSPEAKER

3 $\frac{3}{8}$  in diameter (8.45 cm). 11/15 ohms impedance.

### POWER REQUIREMENTS

On exchanges with a 50 volt "Stone" bridge, no external power supply is required for lines up to 500 ohms loop resistance. Instruments fitted with a warning lamp will operate satisfactorily on lines of 500 ohms loop resistance. On lines between 500 and 850 ohms loop, there is a small reduction in maximum loudspeaker volume and slight flickering of the warning lamp on loud speech. For operation on magneto or central battery signalling exchanges, or for special purpose, a modified instrument can be provided requiring a local battery supply of 9–50 volts. The telephone may be used on PMBX2/2 types if connected via a 2/4 wire conversion unit (British Post Office UAA96).

### ELECTRICAL

Nominal signal to line (Speech 3 ft from microphone)	800 mV peak–peak
Maximum signal to line (maximum for 5% distortion)	3.1V peak–peak for 5% distortion
Loudspeaker output 250mV R.M.S. maximum instantaneous	1V peak–peak
Signal to line from handset (average voice)	200mV peak–peak
Signal at receiver insert for 100mV peak–peak on line	approx. 12dB
Loudspeaker volume control range	300Hz–3500Hz =3dB ref. 0dB at 800Hz
Frequency response (transmitting and receiving)	26dB
Transmit level control range	600 ohms
Terminal Impedance at 800Hz	180 ohms
Terminal resistance	
Hybrid rejection (see performance curves)	
Operating temperature range	–5°C to 40°C
Preset Controls	{ Transmit gain. (handsfree only) Hybrid balance. Receive gain. (range control)

## OPERATING INSTRUCTIONS

### HANDSET OPERATION

Use as a conventional telephone.

### "HANDSFREE" OPERATION

Press "Handsfree" switch (situated opposite the digit 8 on the dial). When dial tone is heard from the loudspeaker (some adjustment of the external volume control may be necessary to obtain a comfortable listening level), dial the required number. "Ringing" or "Engaged" tone will then be heard from the called party. Speak to "the instrument" as if the called party were in the same room and adjust the loudspeaker volume control to obtain a comfortable reception level. On completion of the call, press the "Handsfree" button again to release the switch.

Lifting the handset during a "handsfree" call causes an automatic transfer to conventional operation.

### WARNING LIGHT

Remember that if the handset is on the rest and the warning light is showing, the amplifier is "LIVE TO LINE" and that conversation in the room may be overheard.



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