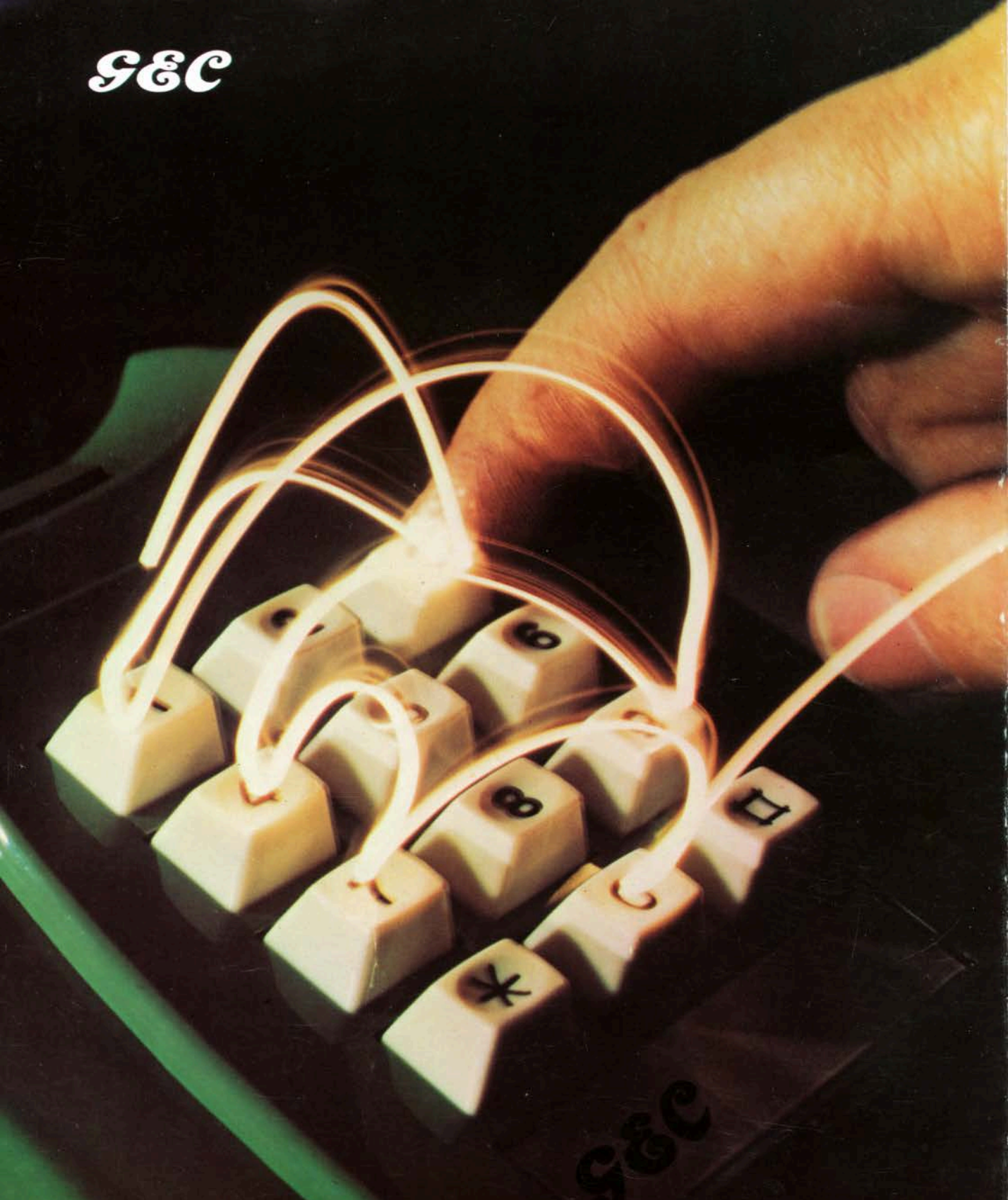


**GEC**



# **KEYPHONE 91**

**FOR MULTIFREQUENCY SIGNALLING**

**GEC**

# Keyphone 91

## PUSHBUTTON TELEPHONE WITH MULTIFREQUENCY SIGNALLING

Keyphone 91 provides audio-frequency signalling to the telephone exchange (to CCITT and CEPT Recommendations). It is based on the GEC 746 – the standard United Kingdom telephone and widely used throughout the world.

A wide range of optional features can be included: PBX recall, ringer volume control, wall mounting, switching telephone systems (System 100 and plan 105/107), extension telephone arrangements, extension bells, amplified handset, dial lock, and a range of seven colours.

Apart from the keyset, all components are common to the Keyphone 91, Keyphone 89 and GEC 746 ranges of telephones, giving maximum compatibility



throughout the ranges to minimize spares inventory and installation training.

The keyset comprises a 12-button keypad and an audio oscillator. An individual combination of two frequencies is generated when a key is operated. Twelve combinations are used (ten for 'dialling', and two for extra features). The pushbuttons have a 'fall through' action to ensure positive operation. They are carefully shaped to assist finger location and minimize 'wrong number' selection.

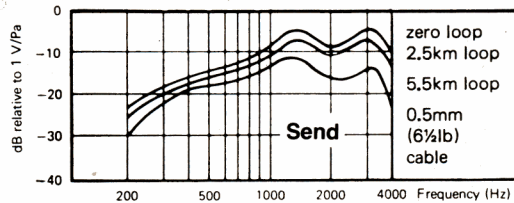
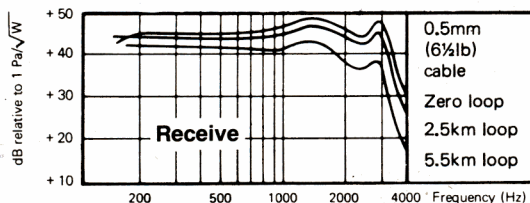
No local power supply is used – the oscillator is powered over the telephone line from the exchange battery.

# ABRIDGED TECHNICAL DATA

TROPICALIZED COMPONENTS THROUGHOUT  
NO EXPOSED SWITCH CONTACTS  
BUILT-IN VOLUME REGULATOR  
SCRATCH AND STAIN RESISTANT MOULDINGS

- Exterior** Case and handset moulded in ABS high-impact plastic. Choice of seven colours.
- Cords** PVC-covered cadmium-tinsel conductors. Held by stress-relieving grommets.  
**Line cord:** straight; choice of 1.5m (59in), 2m (78in), or 3m (118in).  
**Handset cord:** coiled; 200mm (8in) unextended, 1.7m (68in) extended.
- Signalling** **Multifrequency signalling:** two-frequency audio oscillator, line powered; 2-out-of-7 frequency calling, to CCITT recommended frequencies (DTMF).  
**Pushbutton keyset:** 12 buttons, with black numerals on a white background, arranged in the CCITT recommended 3+3+3+1 format with 'fall through' action to ensure positive operation: the extra buttons (\* and #) provide, for example, PABX operator recall.
- Oscillator characteristics** **Frequency tolerance**  $\pm 1.5\%$   
**Signal amplitude** high group  $-6 \text{ dBm} \pm 2 \text{ dB}$ ; low group  $-8 \text{ dBm} \pm 2 \text{ dB}$ ; measured at 600 ohms on a zero-length line.  
Amplitude differential: high group level exceeds the low group level by  $2 \text{ dB} \pm 1 \text{ dB}$ .  
**Start-up time** within 10ms.  
**Return loss** greater than 14 dB at 600 ohms.  
**Distortion** at least 20 dB below the level of the low-group component.  
**Line range** 1250 ohms for a  $+2 \text{ dBm}$  to  $-3 \text{ dBm}$  level tolerance (48V exchange battery, 200+200 ohm feed bridge).
- Transducers** **Receiver inset:** rocking armature; replaceable capsule; sensitivity  $+55 \text{ dB}$  relative to  $1 \text{ Pa}/\sqrt{W}$ .  
**Transmitter inset:** carbon granule, replaceable capsule; sensitivity  $-10.5 \text{ dB}$  relative to  $1 \text{ V}/\text{Pa}$  at 2 Pa input.

**Overall transmission characteristics**



- Regulator** A built-in automatic volume regulator limits speech-signal amplitudes on lines shorter than  $400 \Omega$ ; virtually no attenuation on longer lines.
- Ringer** Double coil; DC resistance  $1000 \Omega$ , impedance at 25 Hz  $2000 \Omega$ , impedance at 1000 Hz  $20 \text{ k}\Omega$ ; accepts ringing currents of between 16 and 30 Hz; bells, double-gong harmonizing tones; optional bell-volume control.
- Environment** Suitable for all climates; protected against the entry of insects.
- Dimensions and weight** Height: 119mm (4 3/4 in)                      Width: 250mm (10 in) over handset; 140mm (5 1/2 in) over case.  
Depth: 216mm (8 1/2 in) over case              Weight: 1.7 kg (3 1/2 lb) complete telephone; 230g (8 oz) handset.

The Company reserves the right without notice, to make such changes in equipment, design or components as progress in engineering or manufacturing methods may warrant.

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