

Norchard Exchange Outgoing Junction Relay Set

This is a very simple junction relay set. It has P wire battery testing, a very simple transmission bridge and two stage drop back.

two stage drop back is provided by relays C and CA. When the caller dials out to the junction, relay A repeats the impulses to the distant exchange. It also operates relay C and in turn CA, which hold during the pulse train. Contact C1 provides a zero ohm loop whilst the pulses are being repeated to the junction and thereby provides clean pulses to the line.

It is not possible to "drop back" to the I relay 100 ohm loop as soon as C releases as the inductance of I would cause the line current to drop momentarily to a very low level, thereby introducing an extra pulse on the junction. Relay CA has a lag and during this lag the I relay has a 340 ohm resistance placed in parallel with it. This resistance holds the distant A relay whilst allowing current to build back up in the I relay. This technique prevents the introduction of an extra pulse at the end of each dial train.

This equipment was originally destined for Parkend exchange but that exchange was designed with the thought that it would be mains operated. It was intended that a 12 volt battery would be enough to "start" the exchange and that when 50 volts was applied it would be held on during the call. This technique required each piece of apparatus to provide an earth to a "power hold" lead during the call. Contact BA1 fulfilled this requirement. However the relay set has been transferred to Norchard and the contact is redundant.

High hum levels were experienced on the Norchard to Parkend junctions and this is believed to be due to the use of the mains earth for telecoms purposes at both sites. The set has been converted to a transformer bridge action to eliminate any ripple being connected via the junctions and the capacitors in the original design.

Norchard - O/G Junc R/S Diagram Notes		
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