

Parkend Exchange Ringer and Power Control Circuit

This equipment can be used with a battery supplied exchange or one fitted with a mains supply only. In the latter case a 12 volt battery is provided to "start" the exchange. The 12 volt supply is connected to the LS relays in the line circuits from the PS1 lead so that any caller causes current to flow through the 300 ohm resistor, forward biasing the transistor which switches on and operates the PS relay. Contact PS1 in turn operates the PSR relay from the 12 volt supply. PSR has mains voltage contacts which turn on the mains to the power unit. This supplies 50 volts negative to the exchange which then operates normally throughout the call.

Parkend Exchange however is provided with a 50 volt battery supply and the PS and PSR relays are not in use.

When the exchange is not in use, the rectifier is switched off and only the battery is connected to the exchange. When a call is made, the equipment calls the control circuit via the "power hold" and "ring start" leads. RS and PH operate and in turn operate RSA and PHA. RSA3 sends an earth to operate the ringer start relay MS. PHA4 sends an earth to the rectifier via the PHR2 lead so turning it on to provide charge for the battery for the duration of the call and for some minutes afterwards,

When the ringer is no longer required RS is released. When the next S pulse arrives RSB operates and holds and when the Z pulse occurs RSC operates to release RSA and RSB. RSC also releases. RSA3 releases the motor start relay which stops the ringer. The ringer has therefore run on for some time after it was required.

When the ringer has stopped and the call has cleared so that there is no earth on the PH lead, relay PH releases. When the next S pulse arrives PHB operates and holds and when the Z pulse occurs PHC operates to release PHA and PHB. PHC also releases. The release of PHA removes the earth from the PHR2 lead which switches off the rectifier. The charge has therefore continued for some time after all calls have cleared on the exchange.

