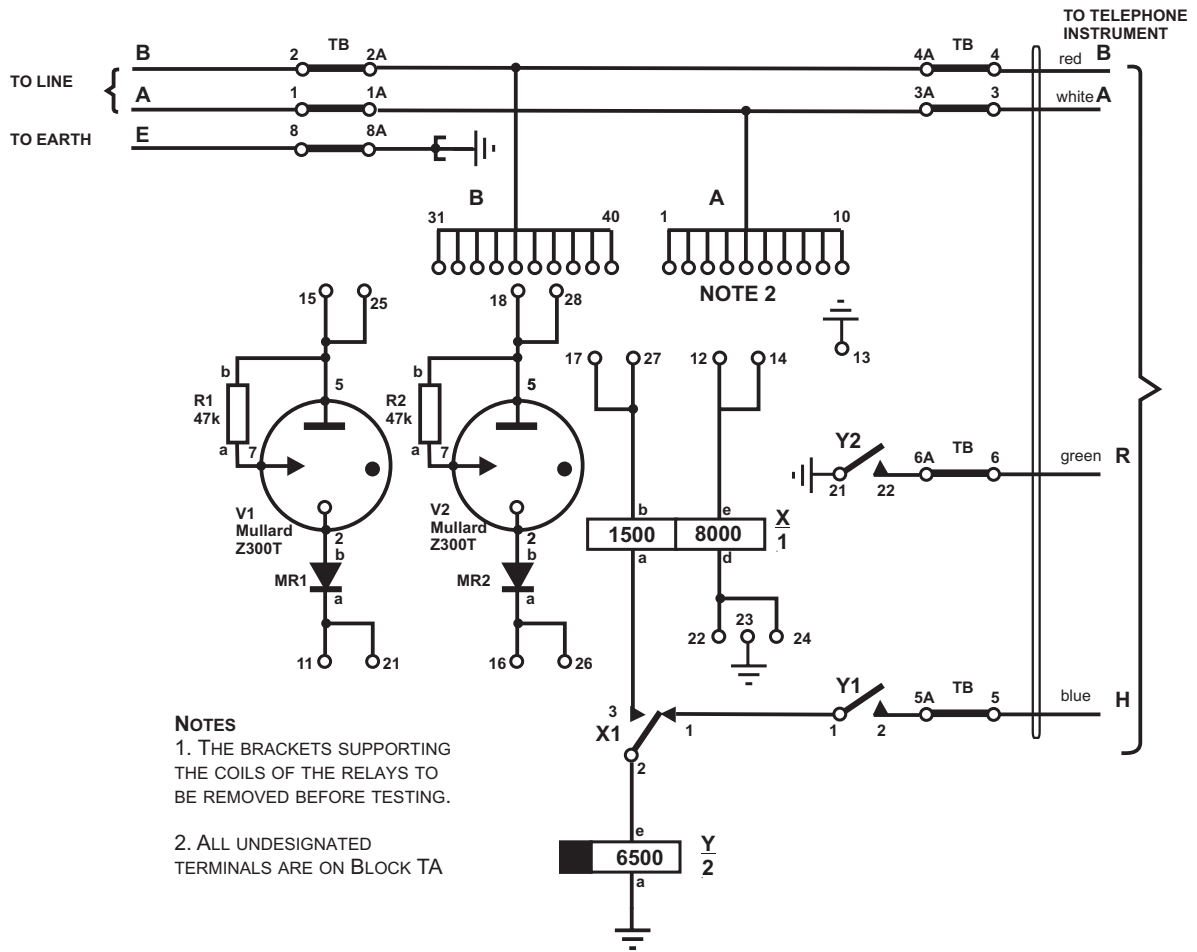


SELECTION UNIT FOR AUTO PARTY LINE EQUIPMENT WITH
SELECTIVE RINGING
AEI DRAWING NO XTW 80569



- NOTES**
 1. THE BRACKETS SUPPORTING THE COILS OF THE RELAYS TO BE REMOVED BEFORE TESTING.
 2. ALL UNDESIGNATED TERMINALS ARE ON BLOCK TA

STRAPPING CHART NOTE 1

STATION CODE NUMBER	STRAP BLOCK TA AS SHOWN BELOW					PULSES	
						1ST	2ND
1	5-15	11-12	16-17	22-23	28-38	+A	+B
2	5-15	12-13	17-18	21-22	26-36	+A	-B
3	1-11	12-13	16-17	24-25	28-38	-A	+B
4	1-11	14-15	17-18	22-23	26-36	-A	-B
5	8-18	11-12	16-17	22-23	25-35	+B	+A
6	6-16	12-13	17-18	21-22	25-35	+B	-A
7	8-18	12-13	16-17	21-31	24-25	-B	+A
8	6-16	14-15	17-18	21-31	22-23	-B	-A
9	12-13	17-18	21-22	25-35	26-36	+B	-B
0	12-13	16-17	21-31	24-25	28-38	-B	+B
11	5-15	6-16	18-17	21-22	12-13	+A	-A
12	1-11	25-24	12-11	8-18	16-17	-A	+A

Circuit Description for Station strapped as No 6

The first pulse (+130V on the B leg) arrives via the strappings on the terminal block, 35-25, through V1 and MR1 and strap 21-22 to operate relay X over its d-e winding and strap 12-13 to earth. Contact X1 prepares the operate winding of relay Y.

The second pulse arrives immediately afterwards (-130V on the A leg) via strap 6-16 MR2 and V2, strap 18-17, through relay X's 1500 ohm winding and closed contact X1 to operate relay Y.

Relay X holds on its 1500 ohm winding and relay Y operates. After the second pulse a hold potential of the same voltage as the second pulse (+130V) is applied to the A leg. Relay X releases first because relay Y has a slugged coil making it slow to release.

Contact X1 now applies the Y relay coil via the Y1 contact and the telephone instrument A button to the A leg. Relay Y thus holds to a 50V potential on the A leg. Contact Y2 applies earth behind the telephone instrument ringer, which is connected to the B leg via the contacts of the telephone's A button. Ringing current is now sent out on the B leg and returns via earth.

When button A is pressed to answer, ringing ceases and relay Y releases, having been disconnected by the A button.

Note: Tubes fitted are Mullard Z300T which will strike at 90V but not at 70V.

Additional notes from John Goldfinch

I have added codes 11 & 12, in purple, which may be valid strappings, comparing them with 9 & 0, but not used because of the numbering system decided on for selection by use of a dial. Hence the extract "By using a signalling earth return, coding each pulse either negative or positive and using each leg of the line separately, a total of 10 independent selections *could be made*" is not strictly correct in logic terms, but is correct for the system as devised.

And Mike Tyrrell adds:

John is correct in saying that the coding scheme would accept 12 codes because in the original equipment, which was for a job in West Africa somewhere, it had lines of 12 phones.

When I specified for the permanent installations, we had a loan system to try of the African variety, I wanted to use the standard Southern Region numbering scheme as this would readily transfer to ETD (Extension Trunk Dialling) when the time came.