INSTRUCTION MANUAL

CT-110C
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CALL TRANSFER UNIT MODEL CT-110C

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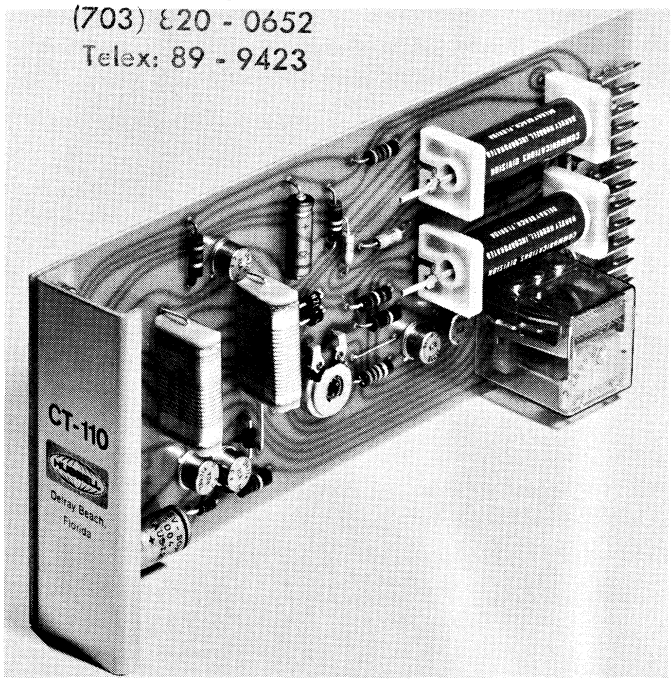

The CT-110 call transfer unit functions as a ring no answer device that transfers unanswered calls to any other preselected working line in the same central office.

1. GENERAL

1.01 The CT-110 unit is a small solid state printed circuit board designed to provide call transfer from one line to another preselected line.

1.02 The CT-110 functions as a ring no answer device that can be used between two private lines served from the same central office.

1.03 The CT-110 is actuated by the incoming ringing voltage on line 1. Transfer interval is adjustable from 2 to 6 ring cycles during installation.

1.04 Parallel or exclusive operation is provided by the connection made on line 1.

1.05 Protection circuitry permits normal service and privacy of each line for regular calls.

1.06 Transfer only occurs when line 2 is idle and when line 1 is not answered before the transfer interval has elapsed.

2. OPERATION

2.01 Refer to Figure 1.

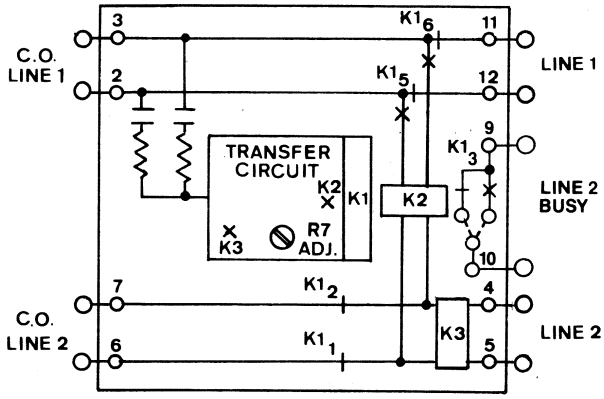

Figure 1. CT-110 BLOCK DIAGRAM

2.02 Isolation for normal service is maintained by the normally open contacts K15 and K16.

2.03 When ringing is applied to line 1 each cycle is sampled and stored by the transfer circuit. Operation of K1, the transfer relay, is adjustable from 2 to 6 rings by R-7 ADJ control.

2.04 As long as line 1 calls are answered within the transfer interval each line functions normally and privacy is maintained for regular calls.

2.05 For transfer to occur, line 2 must be idle since K3 inhibits transfer when line 2 subset is off-hook.

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2.06 When the call on line 1 is unanswered relay K1 operates at the end of the transfer interval. Relay K1

a. disconnects line 1
b. transfers ringing to line 2 via relay K2
c. disconnects line 2 from the C.O.
d. provides contacts to make line 2 busy during call transfer

2.07 When line 2 answers call, K2 operates to hold transfer for duration of the call.

2.08 When subset on line 2 is returned to on-hook position relays K1 and K2 release and both lines return to their exclusive connection for regular service.

2.09 For parallel operation line 1 is connected directly to C.O. This eliminates step 2.06a above allowing line 1 to operate like an extension phone when call transfer occurs.

3. CIRCUIT DESCRIPTION

3.01 Refer to Figure 2.

3.02 The CT-110 transfer unit consists of four functional parts; the ringing detector, the counting circuit, the threshold detector, and the voltage regulator circuit.

3.03 Ringing is detected by the circuitry connected to line 1. Neons L1 and L2 isolate the detector circuit from the line until ringing is applied. The ringing voltage is partially rectified and applied to Q1. During ringing Q1 saturates, thus acting like a switch, and applies a fixed output across R6 which is fed to the counting circuit.

3.04 The counting circuit, C3, Q2, R11 and R7 is an integrating circuit that stores the pulses of current on C3. Adjustment R7 determines the magnitude of the current pulses thus controlling the storage rate on C3.

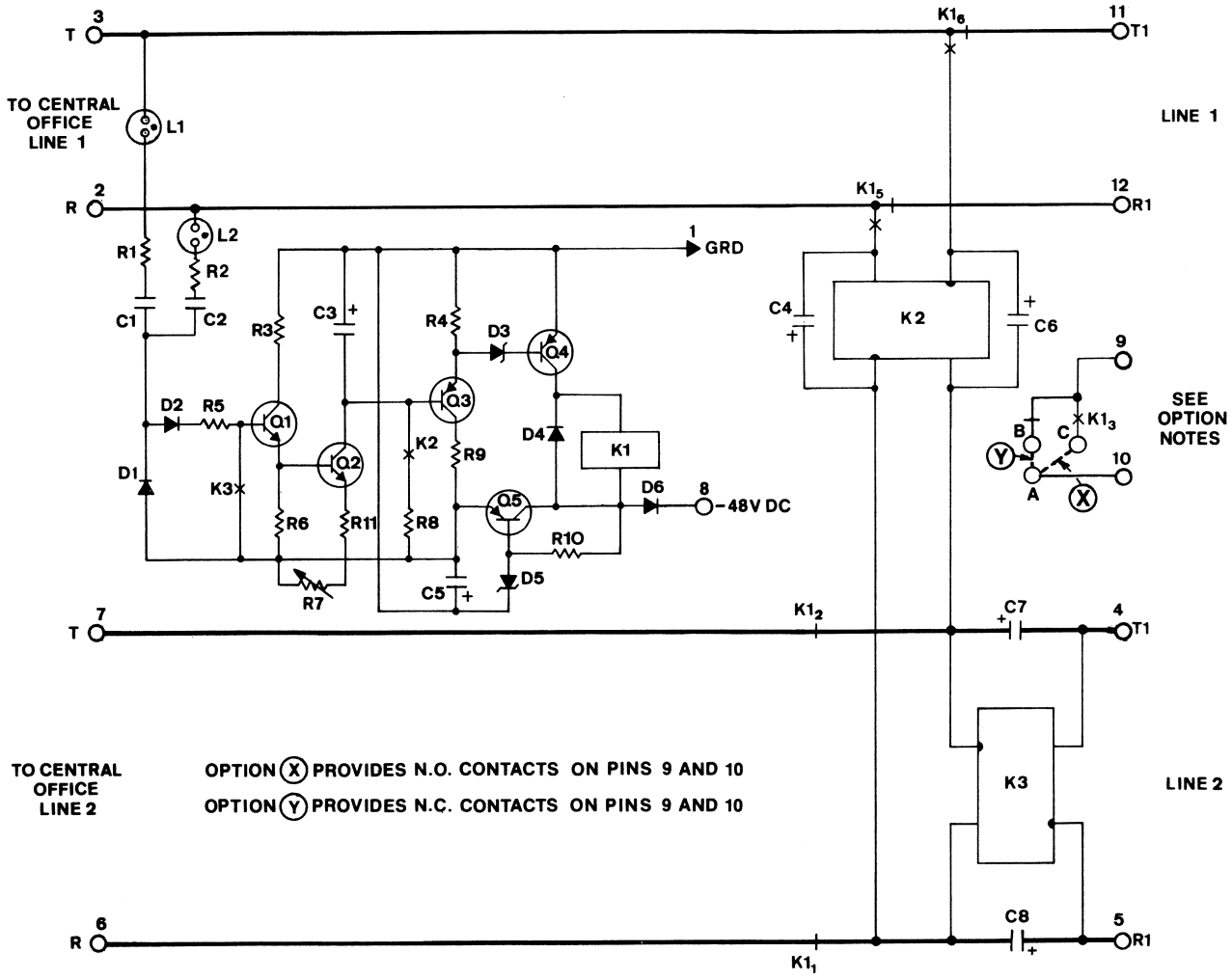

Figure 2. CT-110 SCHEMATIC