K400(D) 962 KEY TELEPHONE UNIT (KTU)

CENTRAL OFFICE OR PBX LINE CIRCUIT

1.00 GENERAL

1.01 The K400(D)962 KTU is a plug-in CO or PBX line circuit designed for use in a K1A2, K36A or K76A Key Telephone System.

1.02 Ringing bridge impedance is approximately equal to one high impedance ringer. A maximum of three ringers may be connected in combination across the line ahead of or behind the K400D KTU. A non A-lead type station, dialing ahead of the line circuit, could ring up the circuit falsely if longitudinal voltages were present; however, this will not occur unless such voltages are above 35 volts rms. The K400D KTU is normally impervious to induced foreign potentials on the CO line, transversely up to approximately 24 volts rms or longitudinally up to approximately 90 volts rms.

2.00 INSTALLATION

Plugging In

2.01 K400D KTU's are installed one KTU per line required. The units plug into the connectors provided in the key service unit with the printed circuit side of the card to the left. Be sure the KTU is plugged in firmly. After all units are inserted, tighten the retaining bar screws to prevent the units from falling out of the card mounting assembly.

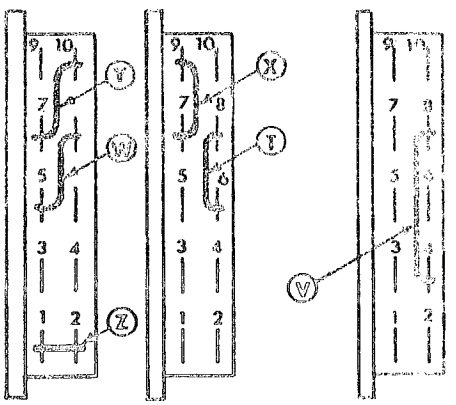

Fig. 1 - K400D (D) KTU, Circuit Options

Options

2.02 Options provided on the K400D KTU are as follows:

Z - Short Time-Out. (Used with automatic ringing CO or PBX.)
W - Interrupted Station Audible Signaling
T - Steady Station Audible Signaling
V - Auxiliary Common Audible Signal Circuit
Y - Winking Hold Lamp
X - Steady Hold Lamp

NOTE: Each K400D is factory wired for options, Z, W and Y. If other options are required by the subscriber, the installer must re-wire the option terminals on the printed circuit board as required. (Fig. 1)

CAUTION: No more than 20 line lamps should be supplied through one 400D KTU.

2.03 If a time-out period shorter than that provided by factory wiring is desired, it can be obtained by adding a resistor across terminals (1) and (3) of the option block. See table A to determine value of resistor required to obtain the desired time-out period.

TABLE A. RESISTANCE REQUIRED FOR VARIOUS TIME-OUT INTERVALS

TIME OUT DESIRED	RESISTANCE (Megohms)
3/4 of original time-out	1.2
2/3 of original time-out	0.75
1/2 of original time-out	0.39
1/3 of original time-out	0.20
1/4 of original time-out	0.13

NOTE: If duration of machine ringing is one second, the time-out shall not be reduced below 1/2 of the original time-out.

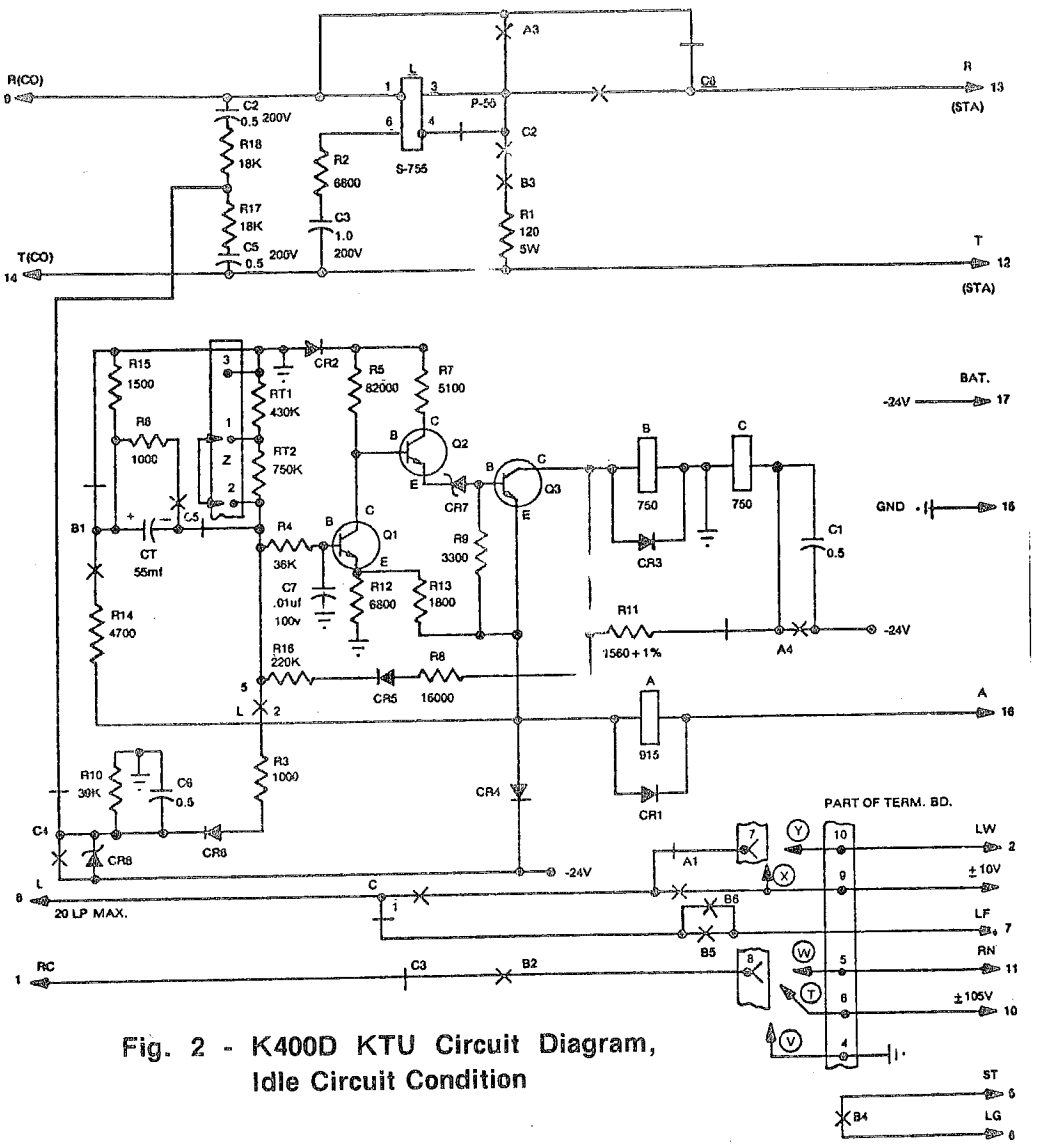

Fig. 2 - K400D KTU Circuit Diagram, Idle Circuit Condition

TECHNICAL NOTE

An incompatibility problem may occur between key systems equipped with K400D KTU's and certain CO's or PBX's. A lost call can result, in some cases, when the switching system reswitches an established connection while the key telephone station is on hold. If the reswitching sequence opens the loop for an interval greater than that required to release the K400D KTU hold circuit, a disconnection will occur.

The release time of the K400D KTU can be extended to bridge the open intervals generated by these reswitching sequences by applying one of the following. (See Figure 1.)

Option ZC. For electronic switching, add a 5 MF capacitor across terminals 2 and 3 of the K400D KTU option block.

Option ZD. For offices other than electronic, add a 1 MF capacitor across terminals 2 and 3 of the K400D KTU option block.

When Z option is used with ZC or ZD option, the strap between terminals 1 and 2 of the option block should be removed and replaced with one of the capacitor leads.

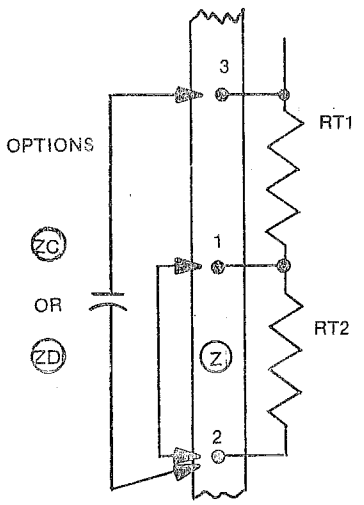

Fig. 3 - Diagram, Options ZC and ZD