

## KEY TELEPHONE SYSTEMS

### DC LAMP RESISTANCE CIRCUITS

### CONNECTIONS

#### 1. GENERAL

**1.01** This section shows connections for lamp resistances when a dc power supply is used for lamps in key telephone sets or lamp indicators. Resistance may be provided by 22-type key telephone units or 19-type resistors. For dial selective intercom lines (with 208A key telephone unit for flashing line lamps), resistor units ED-91929-01, Group 5 equipped with 18-type resistors are used.

**1.02** Information in this section was formerly contained in Sections 518-112-415, 518-114-418 and 518-114-422 which are hereby canceled.

#### 2. CONNECTIONS

**2.01** Each lamp should have a resistor in series with it. The maximum resistance for any lamp lead shall not exceed 10 ohms. However, three or more stations may have a common L and LG lead when located near each other. This common lead shall not exceed 10 ohms divided by the number of lamps. The L terminals associated with common leads must be strapped together at the resistor (one resistor per lamp).

**2.02** When an intercommunicating line circuit is associated with more than one key telephone system or key equipment, the lamp power supply of the system with which the intercommunicating circuit is primarily associated may be used for all lamps, provided the lamp grounds are common. If lamp grounds are not common, lamps of the other systems shall be operated from their own power supply.

**2.03** Determine lamp lead resistance for type D inside wiring cable using 38.2 feet per ohm. Table A shows some predetermined figures for one or more lamps per lead, assuming negligible resistance between power supply and resistor.

**2.04** Table B shows types of key telephone units or resistors for use with various lamps and battery supplies.

**2.05** Refer to CD- and SD-69203-01 for method of computing currents and feeder resistance.

#### 2.06 Connection Index:

Table A—Cable Length for Lamps

Table B—Battery Supply for 18- or 19-Type Resistors and 22-Type Key Telephone Units

Fig. 1—22-Type Key Telephone Unit Lamp Resistance Circuit

Fig. 2—Connections for Dial Selective Intercom Line with Flashing Line Lamps (208A KTU) to Lamp Resistor Units (ED-91929-01, G5)

TABLE A

CABLE LENGTH FOR LAMPS

LAMPS PER LEAD*	1	3	4	5	6
Max feet from resistor to lamp (using type D IW Cable)	382	126	95	76	63

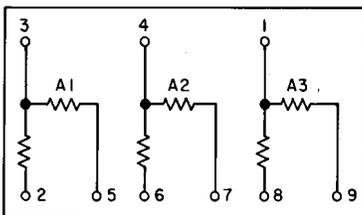
\* One pair (L and LG); to extend to greater distance, more cable pairs may be used.

TABLE B

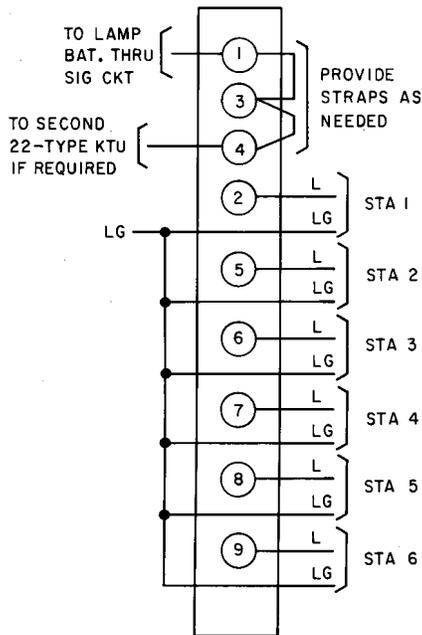
BATTERY SUPPLY FOR 18- OR 19-TYPE RESISTORS AND 22-TYPE KEY TELEPHONE UNITS

LAMP	BATTERY SUPPLY		RESISTOR			22-TYPE KTU
	CELLS	VOLTS	*18-TYPE	19-TYPE	OHMS	
51A	8	14-20	18FD	19RK	210	22F
	9	16-22	18AD	19AH	240	22G
	10	18-24	18DF	19PG	290	22H
	11	20-26	18AS	19DS	350	22J
	12 or 13	22-28				
K2	23	47.5-50 Regulated	18FB	19BA	900	22K
			18AS	19DS	350	22J

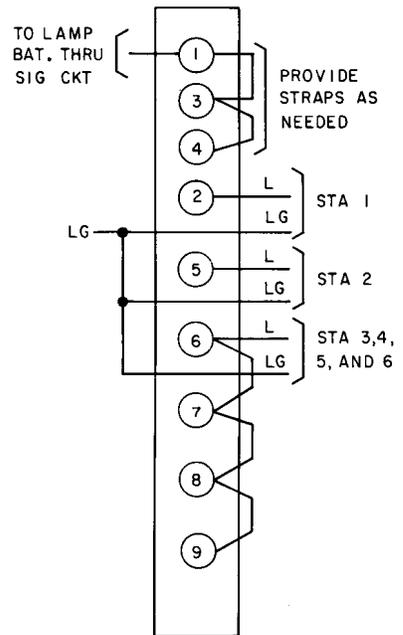
\* Use with resistor unit, ED-91929-01, Group 5.



SCHEMATIC



CONNECTIONS FOR ONE LAMP LEAD



CONNECTIONS FOR COMMON LEAD SHOWING FOUR LAMPS COMMON

Fig. 1—22-Type Key Telephone Unit, Lamp Resistance Circuit

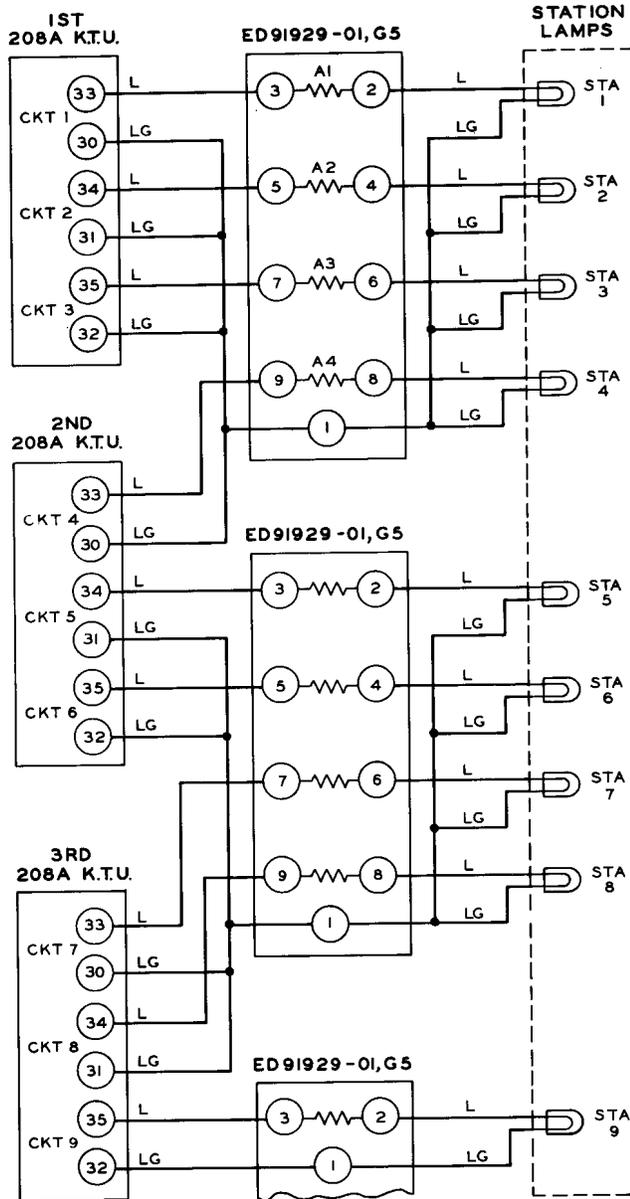


Fig. 2—Connections for Dial Selective Intercom Line with Flashing Line Lamps (208A KTU) to Lamp Resistor Units (ED-91929-01, G5)