

## 1A1 KEY TELEPHONE SYSTEM MAINTENANCE

### 1. GENERAL

**1.01** This addendum supplements Section C53.159, Issue 2. It includes connecting information pertaining to radio signal demodulation suppression and deletes a portion of the note which appears below each figure in the section. It also includes Figs. 30, 31, 32, and 33 showing the new 207B key telephone unit.

**1.02** This addendum is issued to provide information pertaining to a modification of the KS-14136 polarized electrolytic capacitor. This capacitor is used in the 23A, 51A, and 211A key telephone units. Information about the KS-16485 nonpolar electrolytic capacitor, which replaces the KS-14136 polarized electrolytic capacitor, also is included in this addendum.

**1.03** This addendum also changes the rating of the section from AT&TCo Provisional to AT&TCo Standard.

**1.04** This modification and change is to eliminate the defect of faulty KS-14136 polarized electrolytic capacitors. Should the dc potential connected to this capacitor be reversed, the capacitor will heat up, causing a gas expansion within the capacitor. Even though a safety vent was included in the case of the capacitor, incidents have been reported where the vent has failed to operate and relieve the pressure within the case of the capacitor. In these incidents the case has actually been forced off the capacitor.

**1.05** The Western Electric Company has modified existing stocks of KS-14136 polarized capacitors by puncturing the case and covering the puncture with three layers of cellophane tape. The capacitor is then marked with a red P stenciled under the KS number on the end of the capacitor. This modification is a temporary expedient, to be used only until the newly developed nonpolar electrolytic capacitor designated KS-16485 is available.

**Caution: Do not modify this capacitor yourself.**

**1.06** The KS-16485 nonpolar electrolytic capacitor will replace the KS-14136 polarized electrolytic capacitor (including the modified capacitor) in all 23A, 51A, and 211A key telephone units. The key telephone unit codes will not change. The KS-16485 capacitor is 1/2 inch longer but has the same diameter as the KS-14136 capacitor, and will mount interchangeably.

**1.07** It is recommended that all working key telephone units (23A, 51A, and 211A) employing the KS-14136 polarized electrolytic capacitor have this capacitor replaced with the KS-16485 nonpolarized electrolytic capacitor on the next station visit. This change is covered in 4.05.

### 2. RADIO SIGNAL DEMODULATION SUPPRESSION

**2.03** Change to read: Where induction is originating from both the line and local wiring and where 500-type key telephone sets are being used, it also may be necessary to install an additional KS-13814, List 7 capacitor between terminals F and L1 on the 425B network of the multibutton sets. An M1W cord, or equivalent, will be needed to connect terminal L1 on the 425B network and terminal R on the key assembly terminal strip. In severe cases of induction, an additional KS-13814, List 7 capacitor also may be required and should be located between terminals R and RR of the 425B network.

### 4. FIGURES

**4.01** Below Figs. 1 through 28, pages 3 through 30, delete the part of the note reading "see 3.01."

**4.02** Replace index table on page 2, with new index table.

Γ4.05 Change to read: When a common source of dc supply is used for the talking circuit and for the operation of audible signals, a noise suppression circuit must be used. This circuit will be the same as that shown in Fig. 23 on page 25, which consists of a 23A or 211A key telephone unit. The KS-14136 polarized electrolytic capacitor must be removed and a KS-16485 nonpolar electrolytic capacitor installed as follows:

- (1) Disconnect battery from the circuit.
- (2) Discharge the KS-14136 capacitor by momentarily shorting the terminals with a screw driver having an insulated handle, or an equivalent tool.

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(3) Disconnect the wire leads from the capacitor and remove the capacitor from its mounting.

(4) Mount the KS-16485 capacitor in the key telephone unit and connect the wire leads to it. Solder the connections.

(5) Reconnect the battery to the circuit.

**Note:** This is a nonpolar capacitor; therefore, it is not necessary to determine the polarity of each wire before connecting it to the capacitor.

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Circuit	Used With	Fig.	Page
Automatic Tie Line Circuit 203A KTU	212A KTU	1	3
	209A KTU	2	4
Automatic Cutoff of Dial Selective Intercommunicating Line Circuit 26B KTU	207A and 208A KTU	3	5
	207B and 208A KTU	30	(Add) 3
Central Office or PBX Line Circuit 202A or 202B KTU with Common Audible Signal	16A, 211A, 212A KTU	4	6
	16A, 209A, 211A KTU	5	7
Central Office or PBX Line Hold Circuit 202A or 202B KTU	Key Telephone Set	6	8
Central Office or PBX Line Circuit 202A or 202B KTU	212A KTU	7	9
	209A KTU	8	10
Cut-through and Control Circuit for Automatic Cutoff 26B and 29A KTU		9-11	11-13
1. Station cannot cut off other stations and can be cut off except during a call (K wiring)		9	11
2. Station can cut off other stations and can be cut off except during a call (H and K wiring)		10	12
3. Station can cut off other stations and cannot be cut off (H and J wiring)		11	13
Code and Selective Signaling 3A KTU		12	14
Dial Selective Intercommunicating Line Circuit	207A KTU	13	15
	207B KTU	31	(Add) 4
Dial Selective Intercommunicating Line Circuit with Flashing Line Lamps	207A, 208A, and 212A KTU	14	16
	207B, 208A, and 209A KTU	32	(Add) 5
	207A, 208A, and 209A KTU	15	17
	207B, 208A, and 212A KTU	33	(Add) 6
Intercommunicating Line Battery Feed Circuit 31A KTU	23A, 209A, 211A, 212A KTU	16	18
Lamp Winking Circuit 210A KTU	202A or 202B KTU and 212A KTU	17	19
	202A or 202B KTU and 209A KTU	18	20
Lamp Resistance Circuit and AC Supply for Lamps (9 to 11 Volts)		19	21
Lamp Resistance Circuit When Flashing Lamp Feature is Provided—101G Power Supply Connections		20	22
Power Failure Circuit 212A KTU	202A or 202B KTU	21	23
Power Failure Circuit 209A KTU	202A or 202B KTU	22	24
Ringer, Buzzer, and Noise Suppression Circuit for Battery Supply A		23	25
Ringdown Tie Line Circuit 204A KTU	212A KTU	24	26
	209A KTU	25	27
Ringling Lamp Circuit and AC Supply for Buzzers (15 to 25 Volts)		26	28
Station Line Circuit 205A KTU	212A KTU	27	29
	209A KTU	28	30
212A Key Telephone Unit		29	31

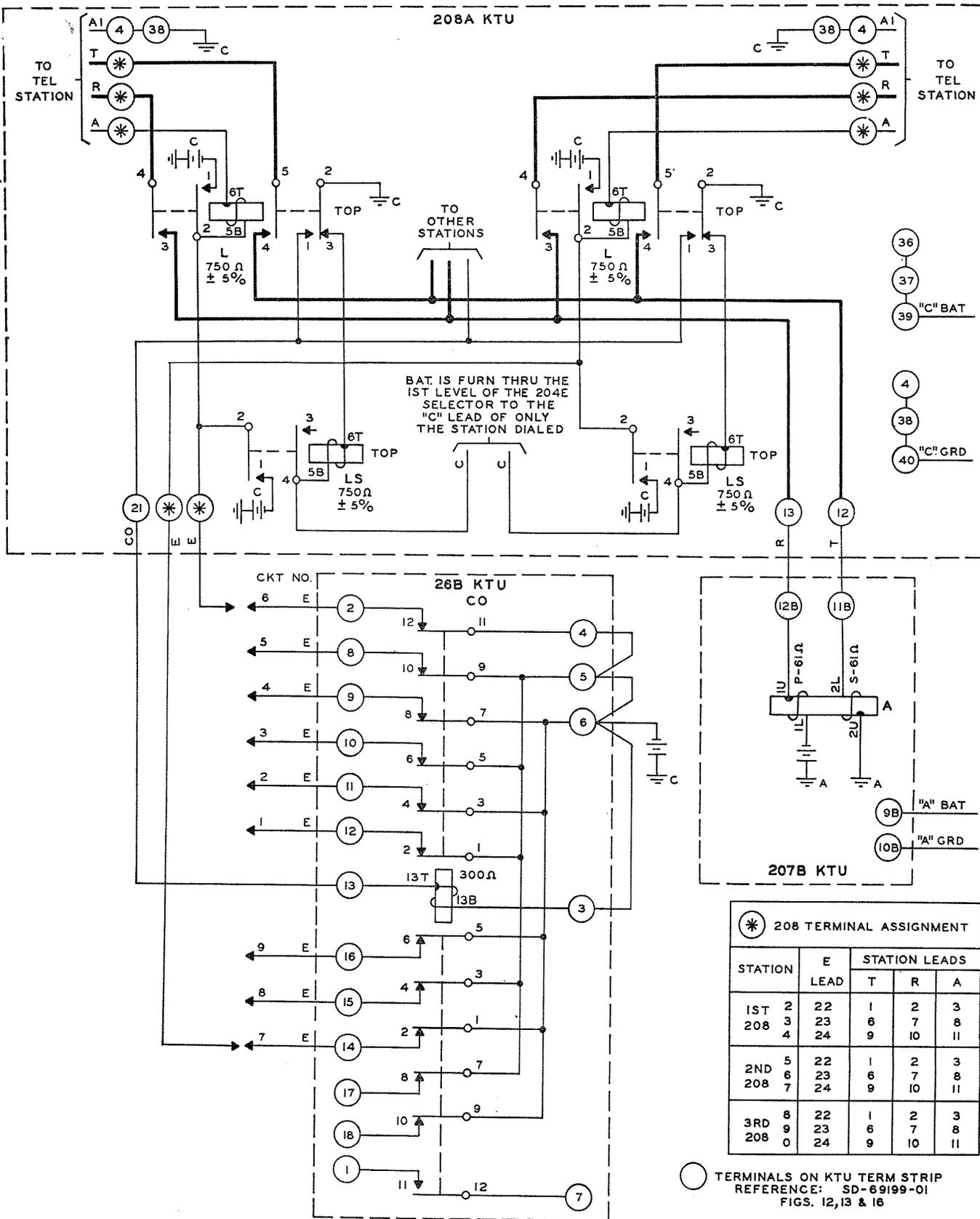


FIG. 30—AUTOMATIC CUTOFF OF DIAL SELECTIVE INTERCOMMUNICATING LINE CIRCUIT—26B, 207B, AND 208B KEY TELEPHONE UNITS



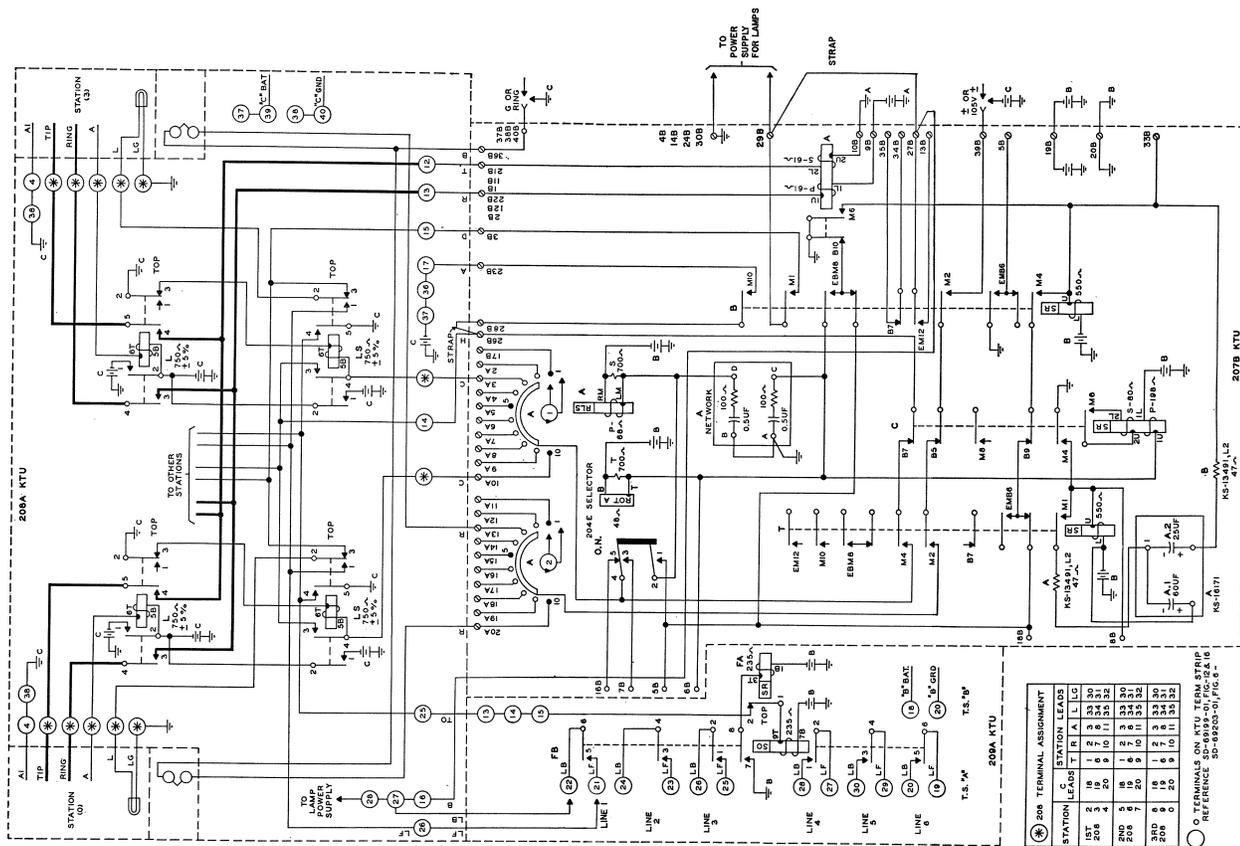
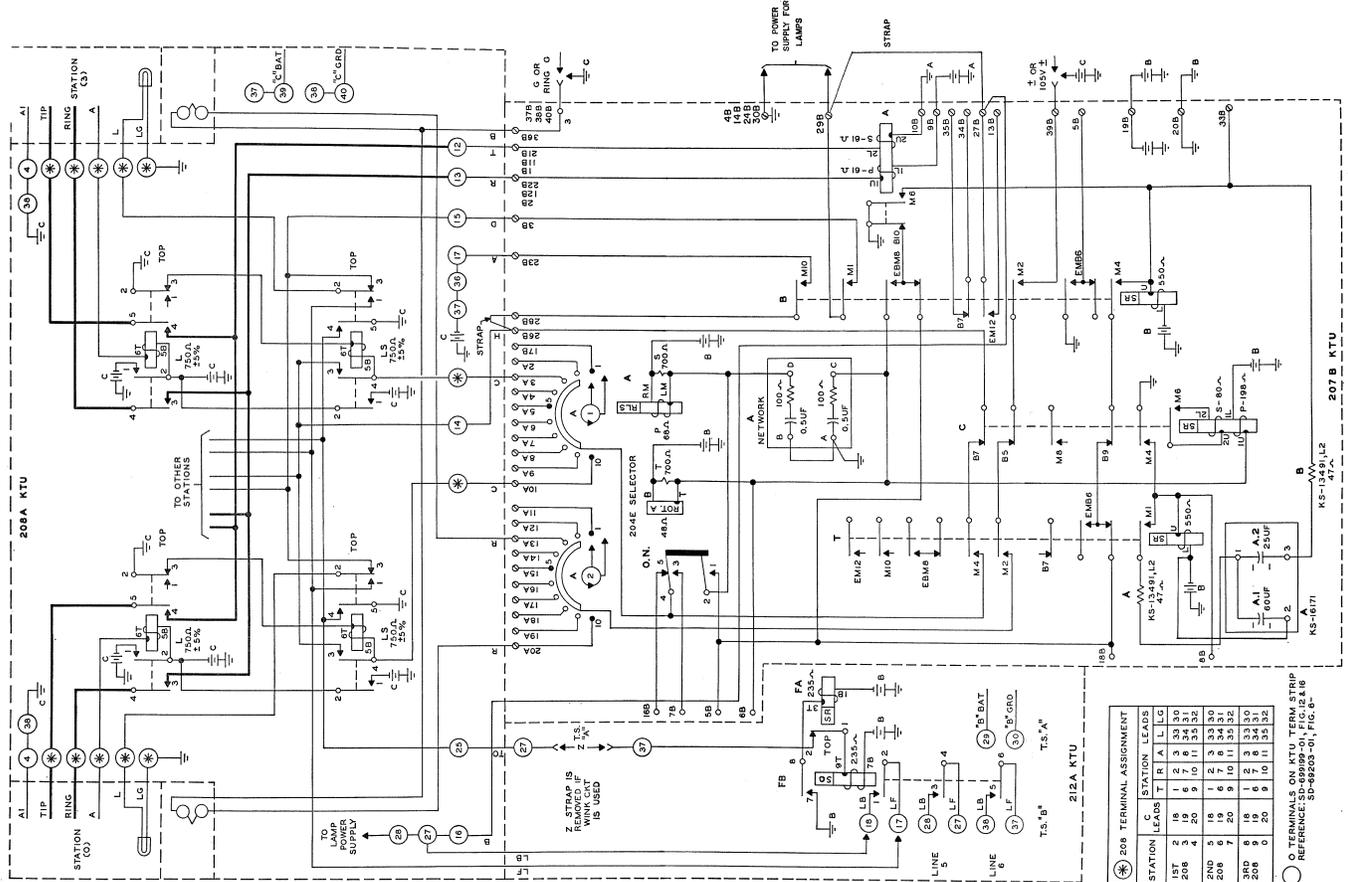


FIG. 32—DIAL SELECTIVE INTERCOMMUNICATING LINE CIRCUIT WITH FLASHING LINE LAMPS—207B, 208A, AND 209A KEY TELEPHONE UNITS



204E TERMINAL ASSIGNMENT

STATION	C	STATION	LEADS	T	R	A	L	LC
1ST	2	18	1	2	3	33	30	C
208	4	20	5	10	11	35	32	
2ND	5	18	1	2	3	33	30	
208	6	19	6	7	8	34	31	
208	7	19	9	10	11	35	32	
208	8	19	6	7	8	34	31	
208	9	19	9	10	11	35	32	
208	10	19	6	7	8	34	31	
208	11	19	9	10	11	35	32	

○ 0 TERMINALS ON KTU TERM STRIP  
 REFERENCE: SP-6959-01, FIG. 12.4.8  
 SP-6926-01, FIG. 6

FIG. 33—DIAL SELECTIVE INTERCOMMUNICATING LINE CIRCUIT WITH FLASHING LINE LAMPS—207B, 208A, AND 212A KEY TELEPHONE UNITS