

200F-TYPE KEY TELEPHONE UNITS

1.00 GENERAL

1.01 This section covers the identification, connections, and maintenance for the 200F-type key telephone units. It is reissued to:

- Add information for the new 202D, 230B, and 232B key telephone units.
- Add information covering the designation strip used with the 64A1-50 cable terminal.
- Provide an option for a steady visual hold signal when wink signal is not desired.
- Change Table A and the connection drawings to conform with the latest manufacturing specifications.

1.02 The 202C, 230A, and 232A key telephone units are rated Manufacture Discontinued. As manufacturing facilities permit, 200F key telephone units will be equipped with 202D, 230B, and 232B units, although the package code will not be changed to reflect this fact.

1.03 Due to extensive changes marginal arrows have been omitted.

2.00 IDENTIFICATION

2.01 The 200F-type key telephone units are packaged units of the 1A1 and 6A selector-only key telephone systems. These packages provide for:

- Pickup and hold on four to six central office or PBX lines.

- Or pickup and hold on four central office or PBX lines with a 9-station dial selective intercommunicating circuit.

- Electromechanical interrupter, flashing and winking lamps, interrupted audible signal, manual intercommunicating, and time-out.

2.02 The 200F-type key telephone units consist of panel-type key telephone units mounted and factory-wired on a 31A apparatus mounting. The 31A apparatus mounting hinges on a 173B backboard and is enclosed in a 116A cover. Fig. 1 shows a 200F5C KTU without cover.

2.03 A 232A or B KTU equipped with a KS-15900, List 1 interrupter is furnished with each 200F-type KTU.

2.04 Additional numbers and letters added to the basic code designate the eight arrangements of the 200F-type KTU. For example, 200F4DC is a unit as follows:

200F — Type

4 — Four central office or PBX line circuits

D — 9-station dial selective intercommunicating line circuit

C — 64A1-50 cable terminal.

2.05 Fig. 2 shows the arrangement, coding (without cable terminal), and key telephone units used in the 200F-type KTU.

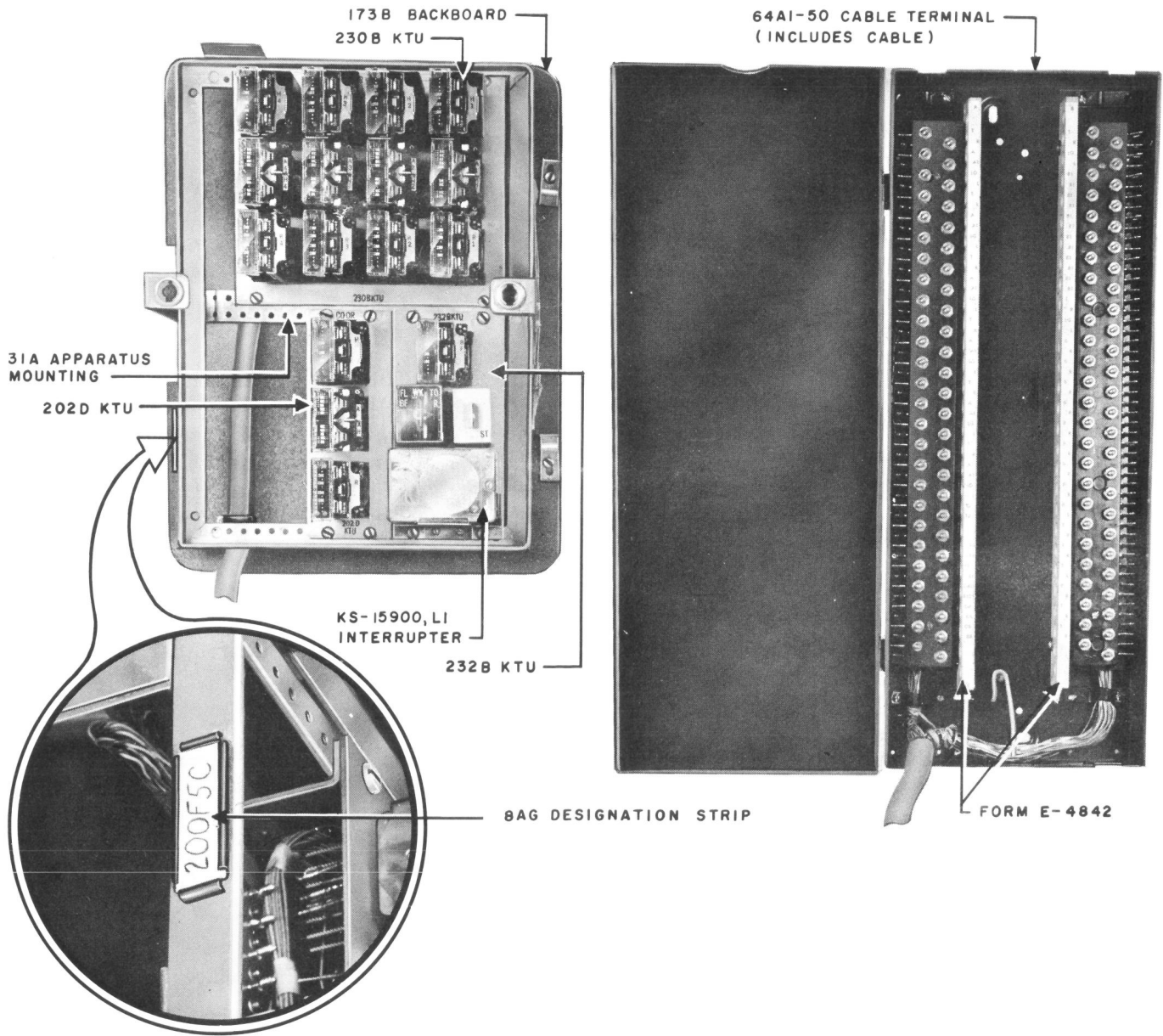


Fig. 1 — 200F5C KTU (Without Cover)

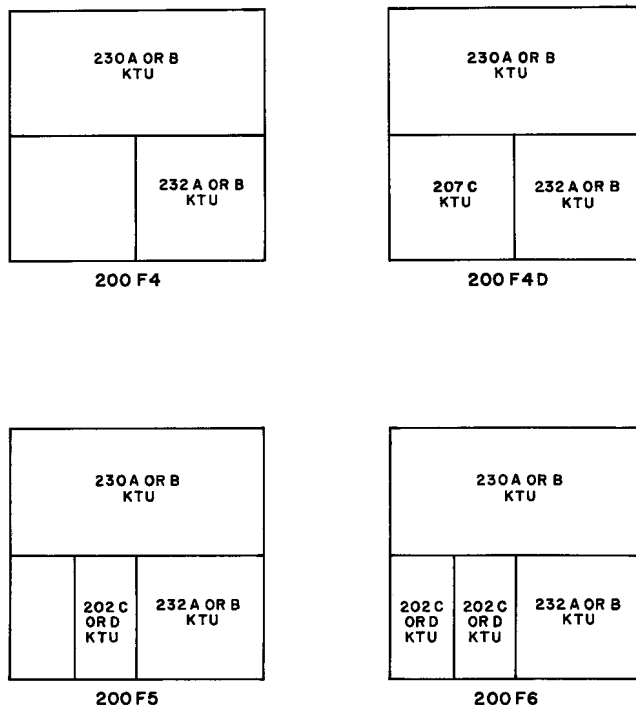


Fig. 2 — Block Diagram

2.06 The 200F-type key telephone units may be ordered with or without a 64A1-50 cable terminal factory-wired to the key telephone units. The 64A1-50 cable terminal, when ordered as a subcode C, is a 50-pair inside wiring cable terminated on two 31D connecting blocks at one end and terminated on the back of the key telephone units at the other end. The connecting blocks are mounted on 102D adapters in a GC52 terminal box. Fanning strips on the 102D adapters are equipped with a pressure-sensitive tape furnished with each cable terminal to show binding post designations. Standard length of running cable is 8 feet, measured from point of entry to point of entry.

2.07 The 64A1-50 cable terminal, equipped with a 15-foot cable tail, can be ordered separately. Designation strips preprinted to conform with feature layouts for both 200F-type and 200K-type key telephone units are furnished. Two additional blank strips are furnished for field changes.

2.08 Pressure-sensitive tapes may be ordered separately as necessary.

- Form E-4842 consists of two dual strips (each pair marked "A" and "B") preprinted to conform to the feature layout of the 200F-type KTU (Fig. 1).
- Form E-4848 consists of four blank strips which may be designated as necessary to fit the need.

3.00 CONNECTIONS

3.01 Table A shows the connections for the running or key cables at either the terminal plate or the key telephone units.

3.02 When 10 volts ac is used for the station lamps, the KS-15900, List 1 interrupter may also be operated from the same source, depending on the total ac drain imposed on the power plant. Allow approximately 300 ma for the motor load. This is equivalent to about eight 51A lamps.

3.03 Fig. 3 gives an arrangement for manual signaling for five pushbuttons and five buzzers when the dial selective intercommunicating line circuit is not provided.

3.04 Fig. 4 shows strapping between the 202C, 230A, 232A, and 207C key telephone units and key cable connections.

3.05 Fig. 5 shows strapping between the 202D, 230B, 232B, and 207C key telephone units and key cable connections.

4.00 MAINTENANCE

4.01 Circuit drawings (Fig. 6A, B, and C) are included as aids for making connections and clearing trouble.

4.02 For additional maintenance information, refer to the C Section covering the key telephone units involved.

TABLE A
200F-TYPE KTU — CONNECTIONS

Feature	Lead Designation	64A1-50 Cable Terminal		Terminal on 232A or B KTU*	Terminal on KTU		Terminal on 202C or D KTU	Terminal on 207C KTU
		30-Type Conn Block Terminal	Inside Wiring Cable		230A	230B †		
Key or Keyless Stations	Line 1	T	1T	W		1A-11A		
		R	1R	BL		2A-12A		
		A	2T	W		3A-13A		
		A1	2R	OR		4A-14A		
		LG	3T	W		6A-16A		
	Line 2	L	3R	GN		5A-15A		
		T	4T	W		1B-11B		
		R	4R	BR		2B-12B		
		A	5T	W		3B-13B		
		A1	5R	SL		4B-14B		
	Line 3	LG	6T	R		6B-16B		
		L	6R	BL		5B-15B		
		T	7T	R		1C-11C		
		R	7R	OR		2C-12C		
		A	8T	R		3C-13C		
	Line 4	A1	8R	GN		4C-14C		
		LG	9T	R		6C-16C		
		L	9R	BR		5C-15C		
		T	10T	R		1D-11D		
		R	10R	SL		2D-12D		
	Line 5	A	11T	BK		3D-13D		
		A1	11R	BL		4D-14D		
		LG	12T	BK		6D-16D		
		L	12R	OR		5D-15D		
T		13T	BK			1-11	1st	
R	13R	GN			2-12			
A	14T	BK			3-13			
A1	14R	BR			4-14			
LG	15T	BK			6-16			
Line 6	L	15R	SL			5-15		
	T	16T	Y			1-11	2nd	
	R	16R	BL			2-12		
	A	17T	Y			3-13		
	A1	17R	OR			4-14		
LG	18T	Y			6-16			
Motor Supply	GRD	19T	Y	27				
	10V ±	19R	BR	26				
Spare		20T	Y					
		20R	SL					
Lamp Supply	± or BAT.	21T ‡	V	9				
	± or BAT.	21R ‡	BL	10				
	GRD	22T	V		30A	6A		
	± or BAT.	22R ‡	OR		29A	29A		
Audible Signal Supply	GRD	23T	V		25A	30A		
	BAT., ±, or 105V ±	23R	GN	29				
20V DC Talk or A Battery	GRD	24T	V	25				
	BAT.	24R	BR	24				
20V DC Signal or B Battery	GRD	25T	V		27A	4A		
	BAT.	25R	SL		26A	26A		

Blue Binder

* The 232B KTU is arranged internally to disable time-out feature when BF relay is operated. See Fig. 6B.

† The 230B KTU is arranged for individual fusing of circuits 1 and 2 and circuits 3 and 4 lamp input power.

‡ With 1 to 72 lamps, strap 21R, 21T, and 22R; with 73 to 144 lamps, strap 21R and 22R and run separate power lead to 21T.

TABLE A (Cont)
200F-TYPE KTU – CONNECTIONS

Feature	Lead Designation	64A1-50 Cable Terminal		Terminal on 232A or B KTU	Terminal on KTU		Terminal on 202C or D KTU		Terminal on 207C KTU
		30-Type Conn Block Terminal	Inside Wiring Cable		230A	230B			
Manual Intercom Line	T	26T	W	30					
	R	26R	BL	40					
	LG	27T*	W	†					
	L	27R	OR	28					
Audible Signal	Line 1	B1 or BZ1	28T	W		25A	30A		
		R1 or BZ	28R	GN		10A	10A		
	Line 2	B1 or BZ1	29T	W		25A			
		R1 or BZ	29R	BR		10B			
	Line 3	B1 or BZ1	30T	W		28A	30A		
		R1 or BZ	30R	SL		10C	10C		
Line 4	B1 or BZ1	31T	R		28A	25A			
	R1 or BZ	31R	BL		10D	10D			
Line 5	B1 or BZ1	32T	R				25	1st	
	R1 or BZ	32R	OR				10		
Line 6	B1 or BZ1	33T	R				25	2nd	
	R1 or BZ	33R	GN				10		
Dial Selective Intercom Line	T	34T	R						1B-11B-21B
	R	34R	BR						2B-12B-22B
	LG	35T	R						32B
	L	35R	SL						3B
	B(2)	36T	BK						36B
	R(2)	36R	BL						12A
	B(3)	37T	BK						*36B
	R(3)	37R	OR						13A
	B(4)	38T	BK						37B
	R(4)	38R	GN						14A
	B(5)	39T	BK						37B
	R(5)	39R	BR						15A
	B(6)	40T	BK						38B
	R(6)	40R	SL						16A
B(7)	41T	Y						38B	
R(7)	41R	BL						17A	
B(8)	42T	Y						40B	
R(8)	42R	OR						18A	
B(9)	43T	Y						40B	
R(9)	43R	GN						19A	
B(0)	44T	Y						31B	
R(0)	44R	BR						20A	
CO or PBX	Line 1	T	45T	Y		7A			
		R	45R	SL		8A			
	Line 2	T	46T	V		7B			
		R	46R	BL		8B			
	Line 3	T	47T	V		7C			
		R	47R	OR		8C			
	Line 4	T	48T	V		7D			
		R	48R	GN		8D			
	Line 5	T	49T	V				7	1st
		R	49R	BR				8	
	Line 6	T	50T	V				7	2nd
		R	50R	SL				8	

Orange Binder

* Strap to 22T or terminate LG lead to lamp ground if cable terminal is not provided.

† Not terminated.

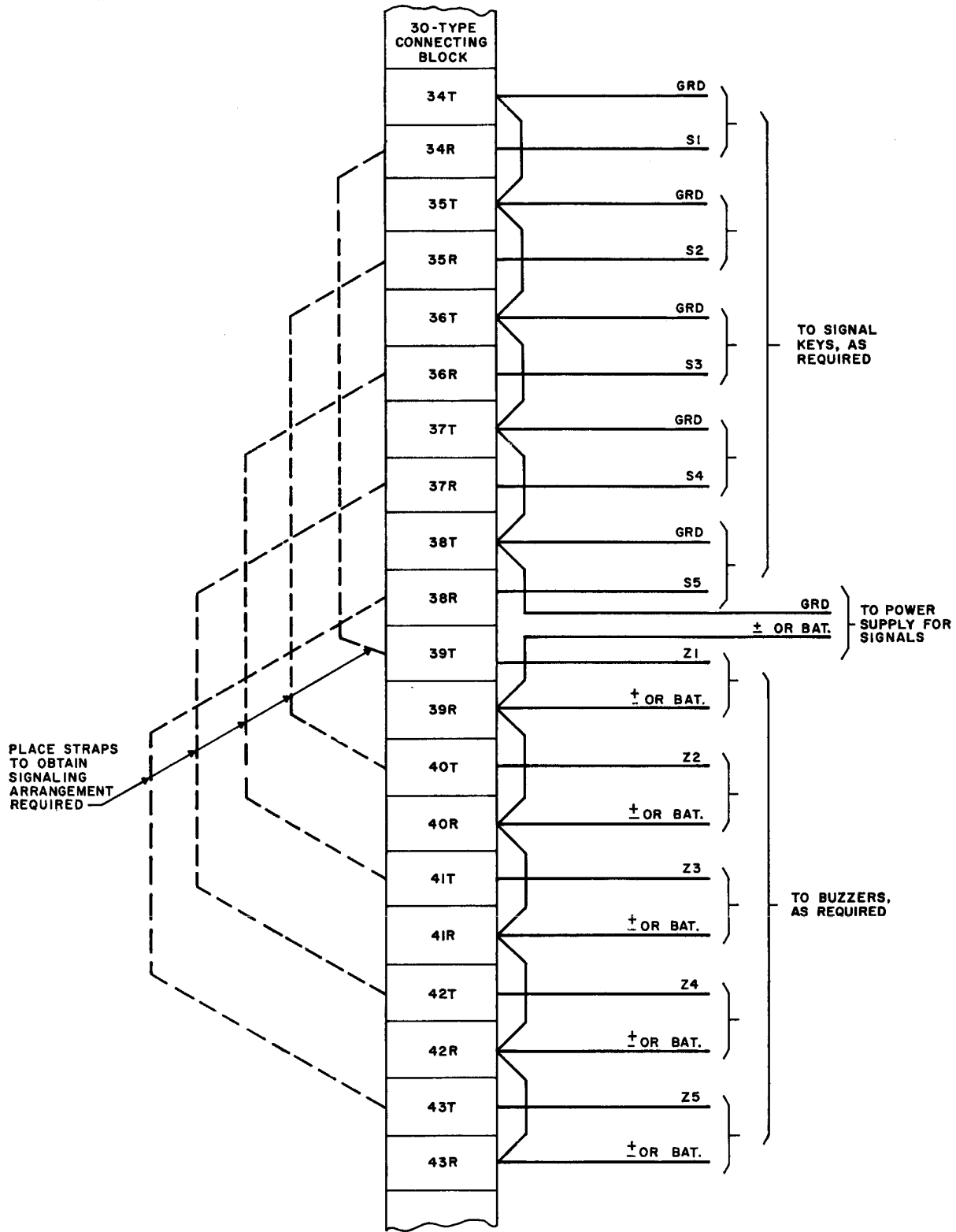
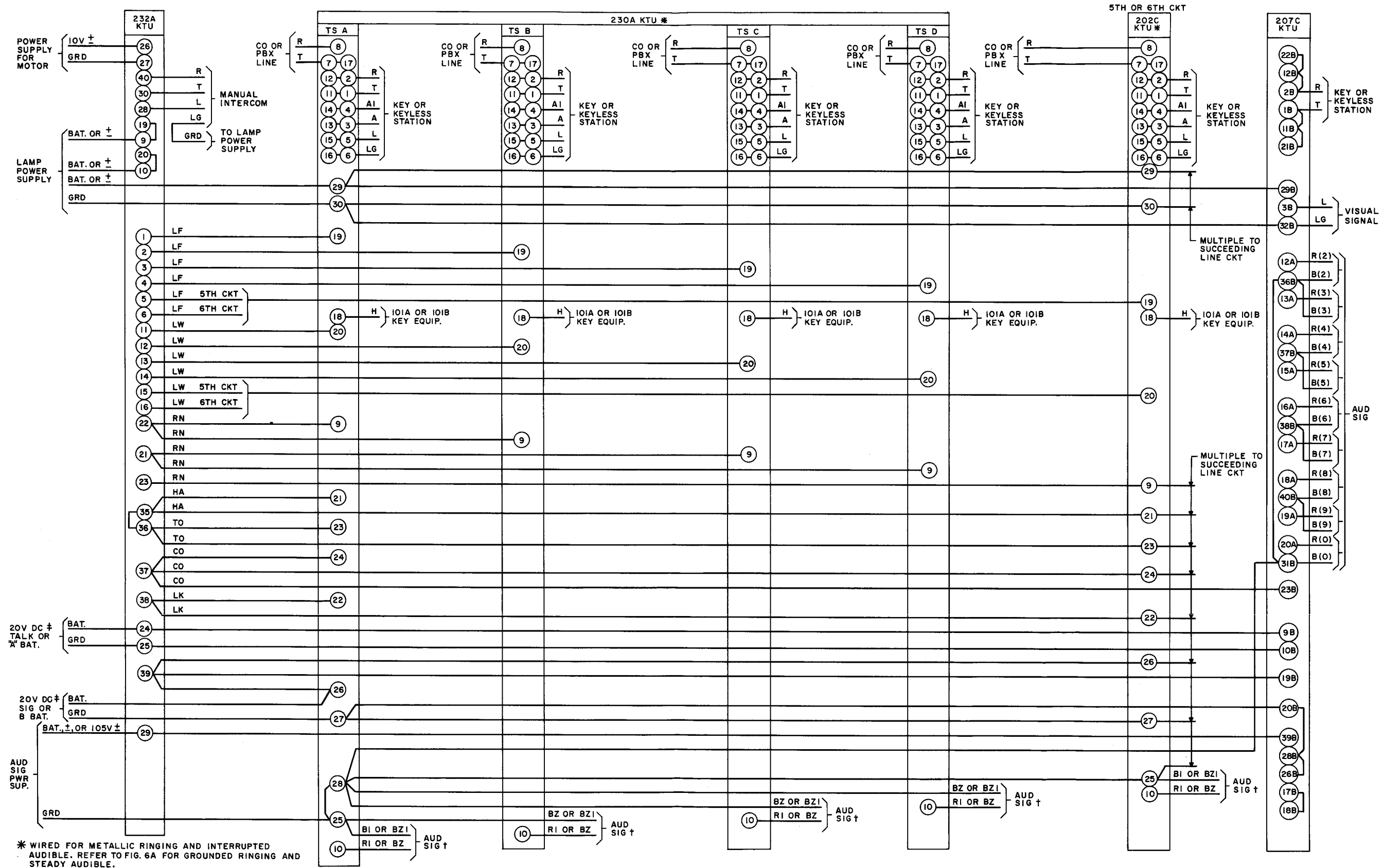
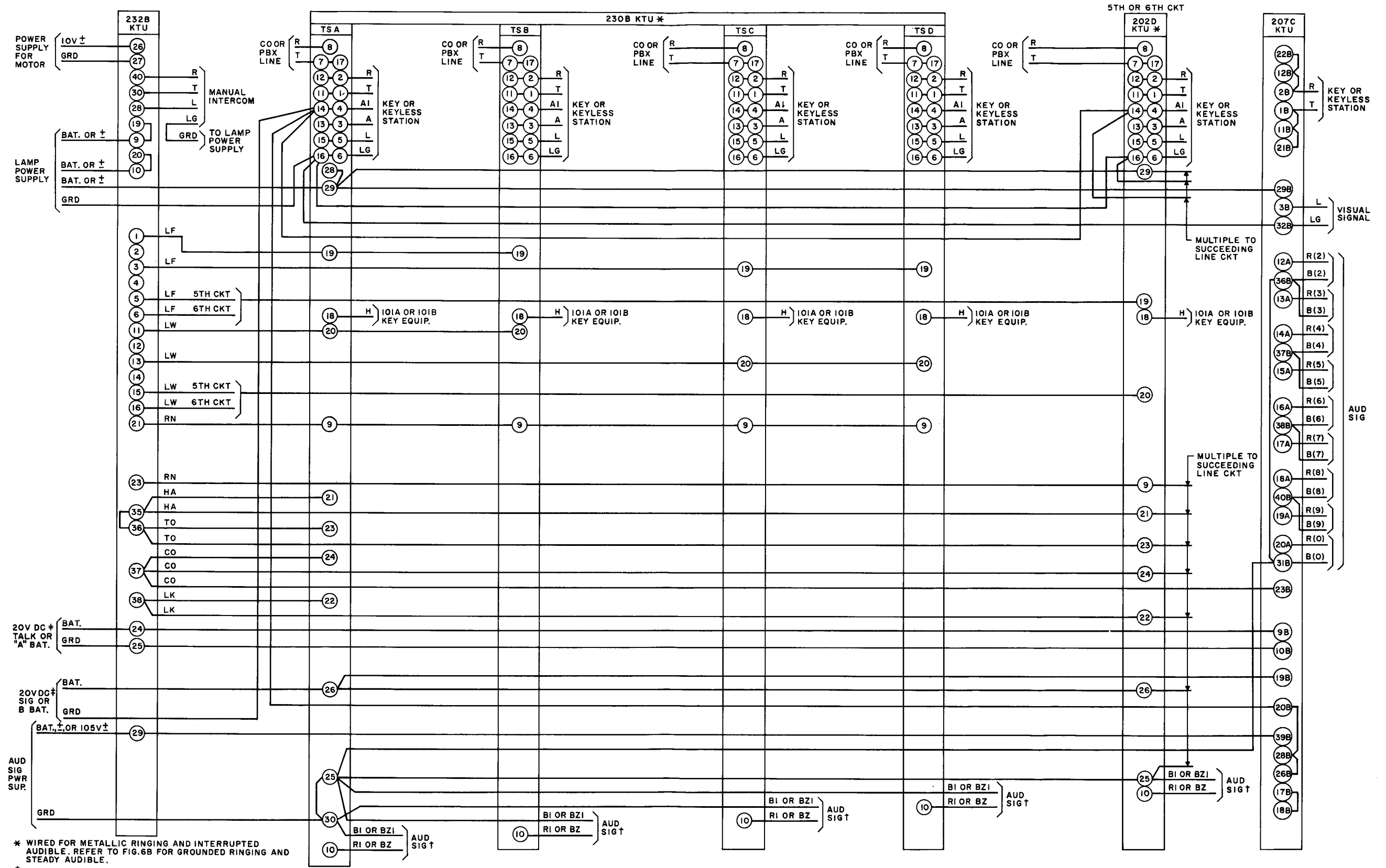


Fig. 3 – Connections for Manual Signaling When Dial Selective Intercommunicating Circuit Is Not Used



* WIRED FOR METALLIC RINGING AND INTERRUPTED AUDIBLE. REFER TO FIG. 6A FOR GROUNDED RINGING AND STEADY AUDIBLE.
 † FOR COMMON AUDIBLE, STRAP ALL NO. 10 TERMINALS.
 ‡ A AND B GROUNDS MUST BE CONNECTED TOGETHER AT POWER SUPPLY.

Fig. 4 - 200F-Type KTU (202C, 230A, 232A, and 207C) - Connections and Strappings



* WIRED FOR METALLIC RINGING AND INTERRUPTED AUDIBLE. REFER TO FIG.6B FOR GROUNDED RINGING AND STEADY AUDIBLE.
 † FOR COMMON AUDIBLE, STRAP ALL NO.10 TERMINALS
 ‡ A AND B GROUNDS MUST BE CONNECTED TOGETHER AT POWER SUPPLY.

Fig. 5 - 200F-Type KTU (202D, 230B, 232B, and 207C) - Connections and Strappings

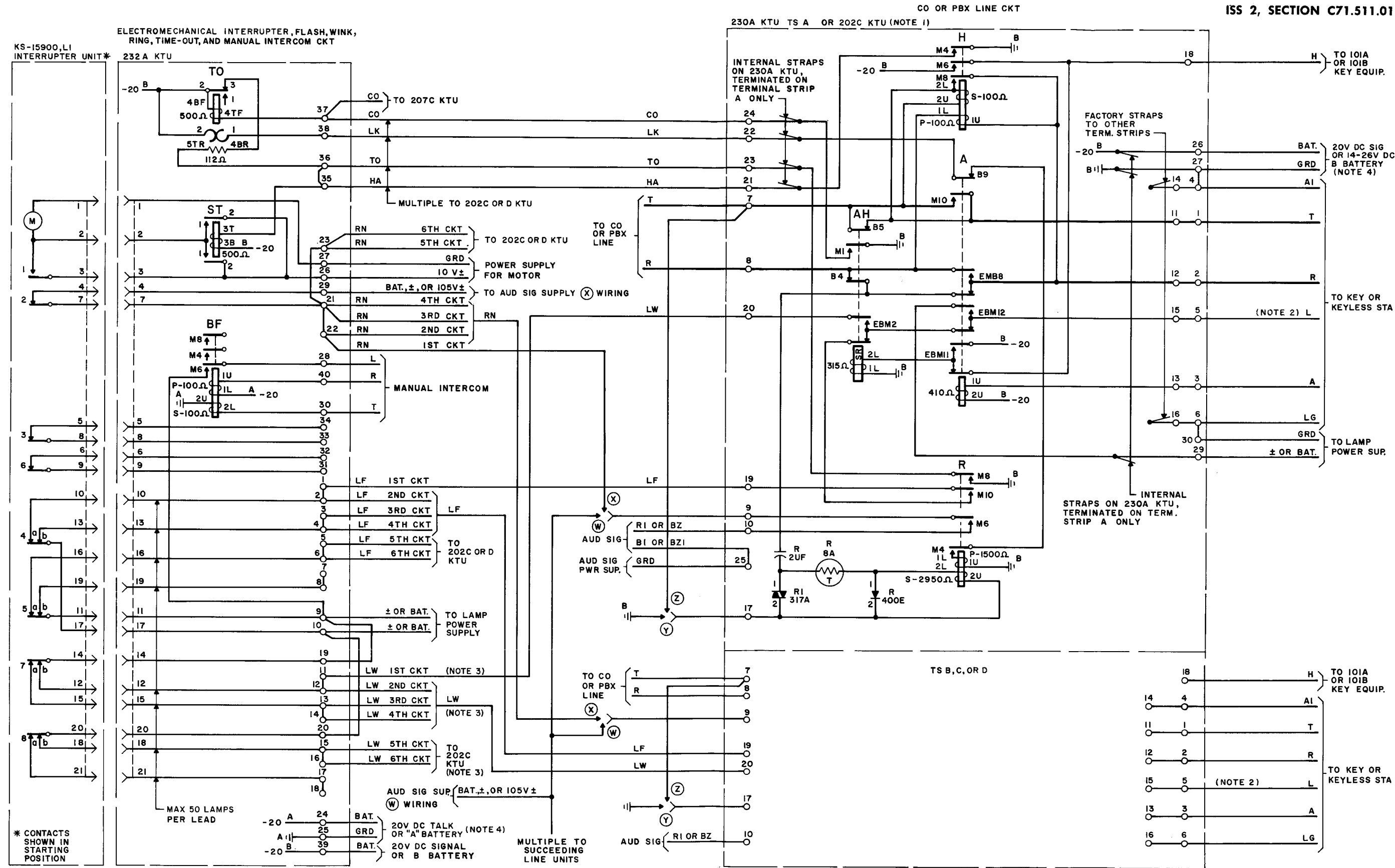


Fig. 6A - 200F-Type KTU (202C, 230A, and 232A)-
Schematic Drawing
(For Wiring Options and Circuit Notes,
see Fig. 6C)

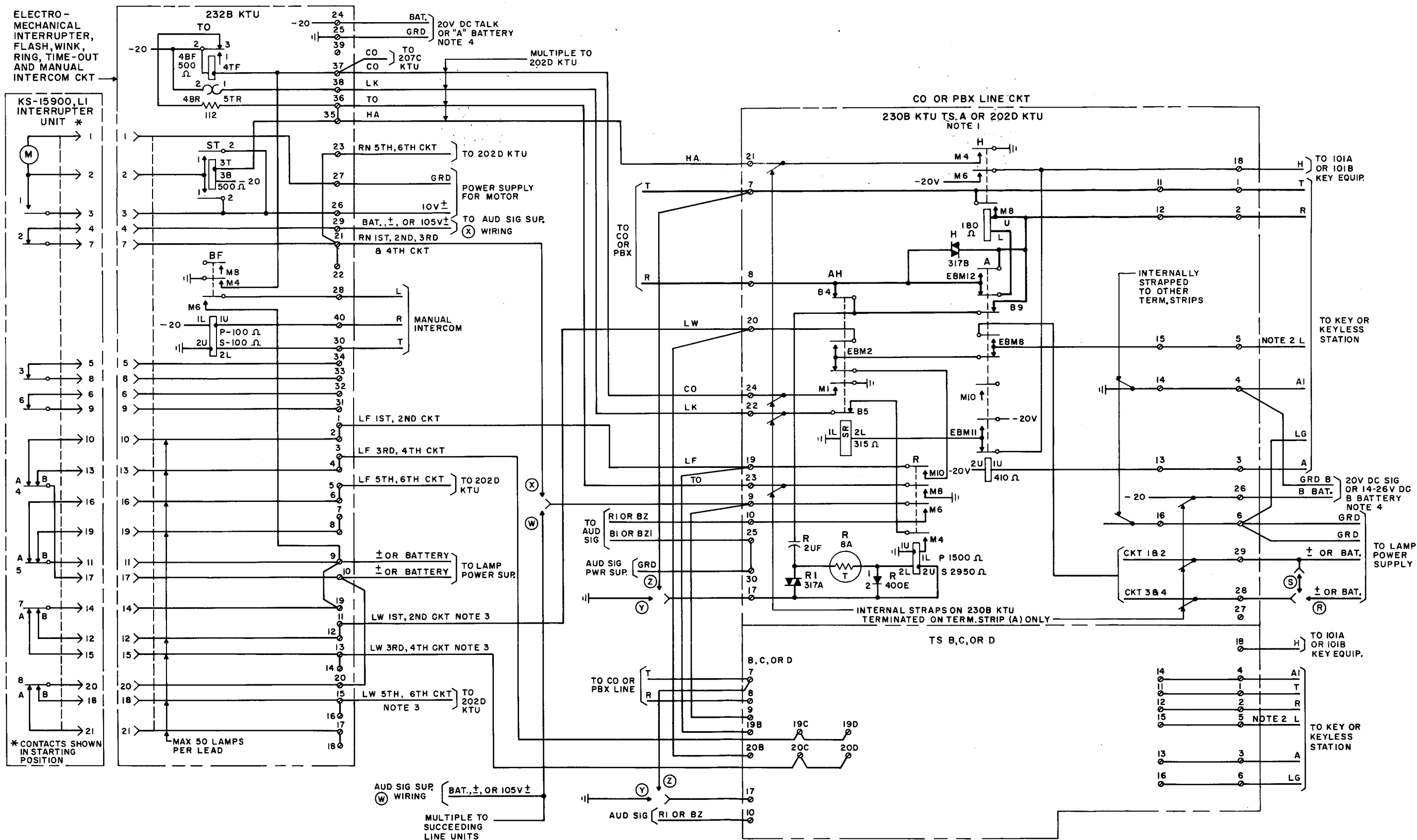
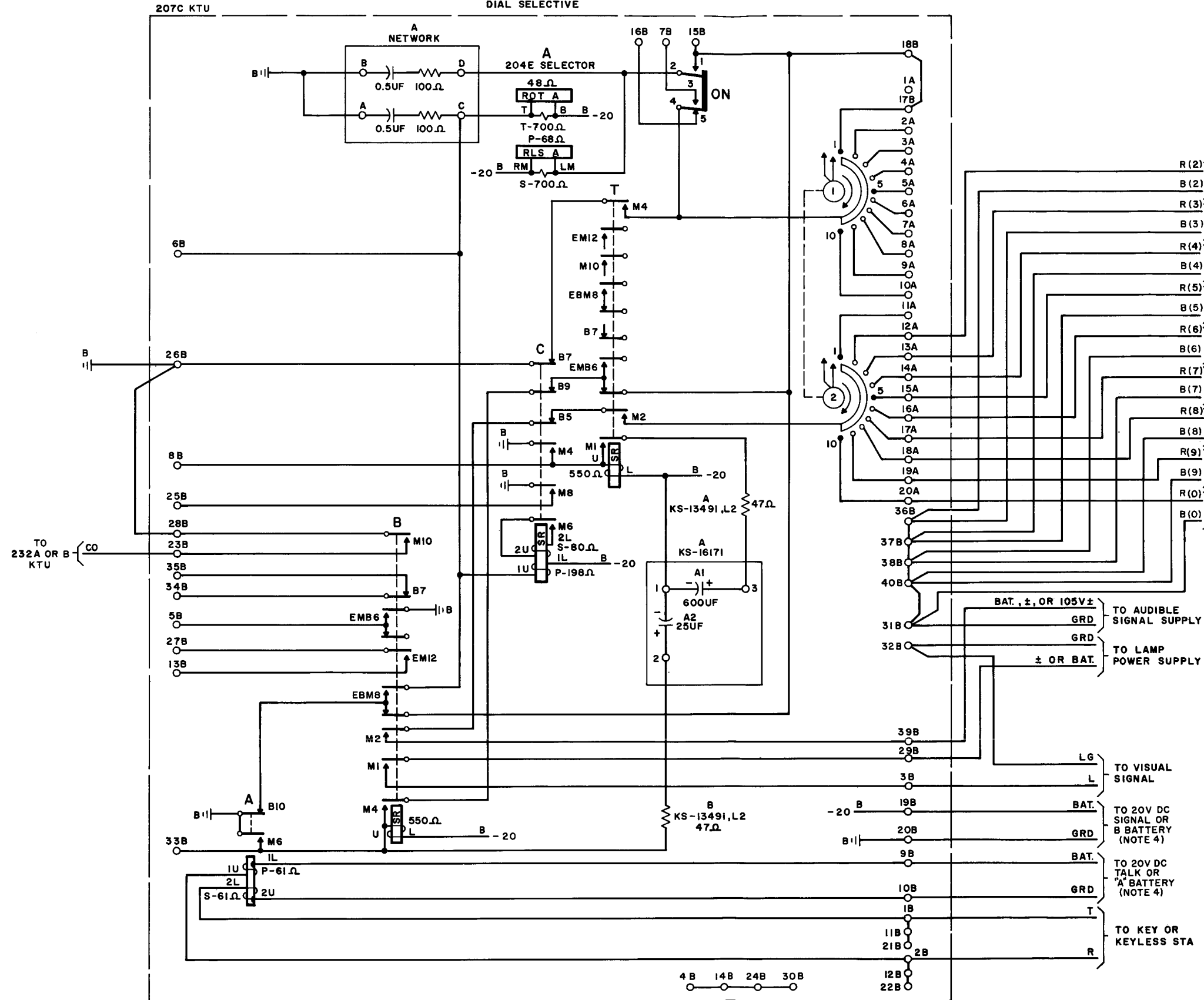


Fig. 6B - 200F-Type KTU (202D, 230B, and 232B)- Schematic Drawing (For Wiring Options and Circuit Notes, see Fig. 6C)

INTERCOMMUNICATING LINE CIRCUIT
DIAL SELECTIVE



TO AUDIBLE SIGNAL

WIRING	OPTION
METALLIC RINGING (FURNISHED)	Z
GROUNDING RINGING	Y
INTERRUPTED AUDIBLE SIG (FURNISHED)	X
STEADY AUDIBLE SIGNAL	W
LAMP SUPPLY	MAX 40 LAMPS (FURNISHED)
	MAX 80 LAMPS
	S
	R

FACTORY STRAPPING OF TERMINAL STRIPS FOR THE 230A KEY TEL UNIT

DOTTED LINE - INTERNAL STRAPPING
SOLID LINE - SURFACE STRAPPING

TS A		TS B		TS C		TS D	
I	II	I	II	I	II	I	II
1	21	1	11	1	11	1	11
2	0	2	0	2	0	2	0
3	0	3	0	3	0	3	0
4	0	4	0	4	0	4	0
5	15	5	15	5	15	5	15
6	0	6	0	6	0	6	0
7	0	7	0	7	0	7	0
8	0	8	0	8	0	8	0
9	0	9	0	9	0	9	0
10	20	10	20	10	20	10	20
11	30	11	30	11	30	11	30

NOTE 1: FOR THE 230A AND B KTU, THE FOLLOWING APPLIES FOR PUNCHINGS 1 THROUGH 20:
LINE 1 TERMINATES ON TERMINAL STRIP A.
LINE 2 TERMINATES ON TERMINAL STRIP B.
LINE 3 TERMINATES ON TERMINAL STRIP C.
LINE 4 TERMINATES ON TERMINAL STRIP D.
BATTERY AND GROUND TERMINATED ON TERMINAL STRIP A AND STRAPPED INTERNALLY.

NOTE 2: MAXIMUM 20 LAMPS PER L LEAD.

NOTE 3: WHEN STEADY HOLD LAMP IS REQUIRED INSTEAD OF LAMP WINK, PROVIDE STRAPS AS FOLLOWS:
202C & 202D KTU - TERM. 20 AND 29
230A KTU - TERM. 20A, B, C, D AND 29A
230B KTU - TERM. 20A, B AND 29A
TERM. 20C, D AND 28A

CAUTION: IF PACKAGE INTERRUPTER IS USED TO FURNISH LAMP WINK FOR OTHER SYSTEMS, DISCONNECT AND TAPE LW LEADS AT TERMINAL 20 OF EACH LINE CIRCUIT NOT USING THE WINK FEATURE.

NOTE 4: A AND B GROUNDS MUST BE CONNECTED TOGETHER.

Fig. 6C—200F-Type KTU (207C)—Schematic Drawing, Wiring Options, and Circuit Notes