

SHEET INDEX

[illegible]

SUPPORTING INFORMATION

CATEGORY	NO.

SHEET INDEX NOTES

1. WHEN CHANGES ARE MADE IN THIS DRAWING, ONLY THOSE SHEETS AFFECTED WILL BE REISSUED.
2. THIS SHEET INDEX WILL BE REISSUED AND BROUGHT UP TO DATE EACH TIME ANY SHEET OF THE DRAWING IS REISSUED, OR A NEW SHEET IS ADDED.
3. THE ISSUE NUMBER ASSIGNED TO A CHANGED OR NEW SHEET WILL BE THE SAME ISSUE NUMBER AS THAT OF THE SHEET INDEX.
4. SHEETS THAT ARE NOT CHANGED WILL RETAIN THEIR EXISTING ISSUE NUMBER.
5. THE LAST ISSUE NUMBER OF THE SHEET INDEX IS RECOGNIZED AS THE LATEST ISSUE NUMBER OF THE DRAWING AS A WHOLE.

**NOTICE - NOT FOR USE OR DISCLOSURE OUTSIDE
THE BELL SYSTEM EXCEPT UNDER
WRITTEN AGREEMENT.**

SD-69288 - 01

1K99

STATION SYSTEMS
KEY TELEPHONE UNITS CIRCUITS
PANEL MOUNTED UNITS

AT&T
STANDARD

SD-69288-01-A1

101 SHEETS

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
65

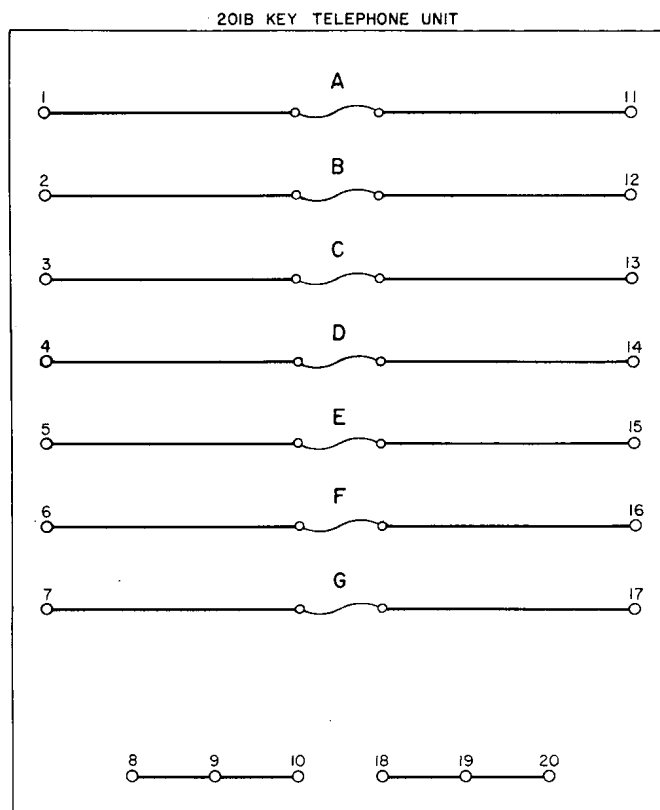
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HENDERK DWG

[illegible]

DRAWING ISSUE	
8A	12B
12B	16B
16B	

FIG. 1 (MFR DISC.)
FUSE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED PRIMARILY FOR USE IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, J53021.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(201B KTU)

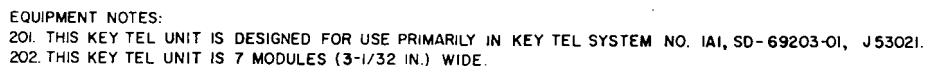
BELL TELEPHONE LABORATORIES
INCORPORATED

35

SD-69288-01-C1

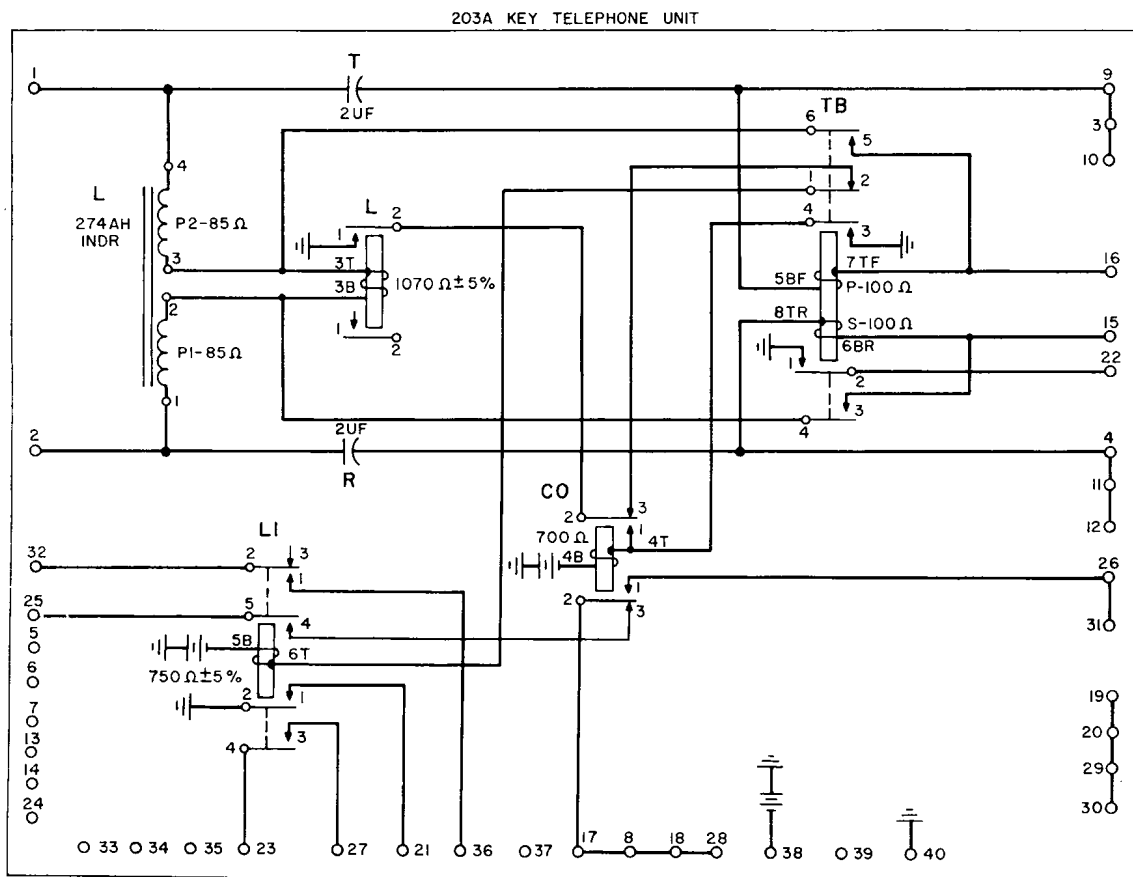
PRINTED IN U. S. A.

DRAWING ISSUE	
8A	ST/MS
11A	NWB DHC
12B	RJT DHC REV
14B	PG DHC ARM
16B	RSB RAB REG



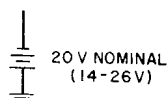
KEY TELEPHONE UNITS CIRCUITS (202B KTU)		SD-69288-01-C2
BELL TELEPHONE LABORATORIES INCORPORATED	5MM SIZE 3S	PRINTER IN U. S. A.

FIG. 3
AUTOMATIC TIE LINE CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69203, J53021.
202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(203A KTU)

SD-69288-01-C3

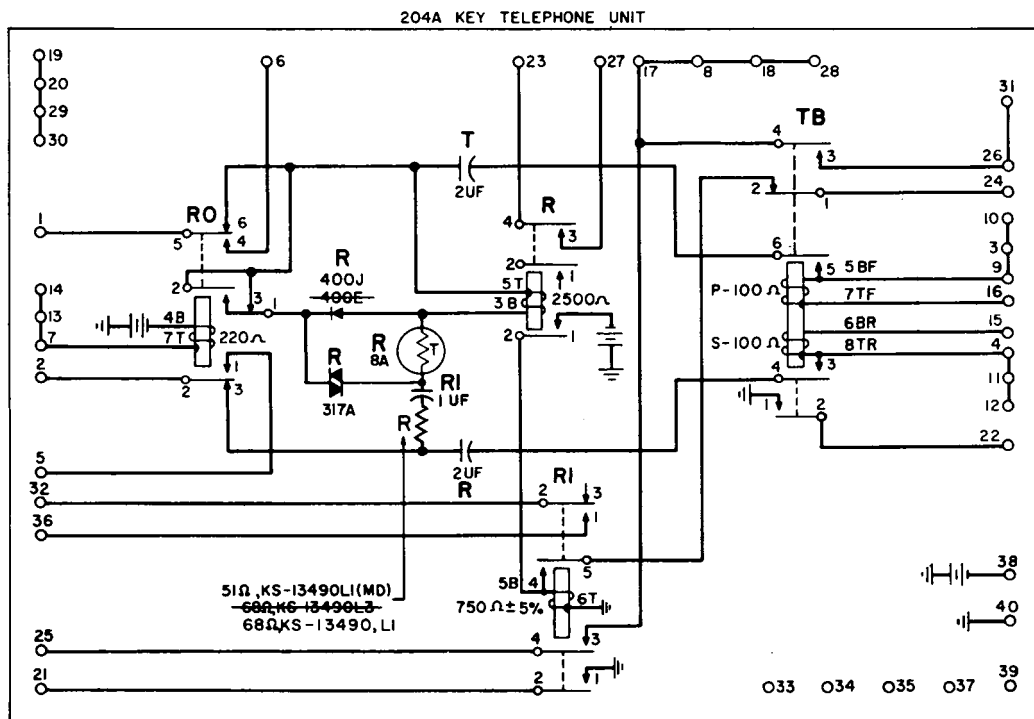
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

PRINTED IN U. S. A.

DRAWING	ISSUE
8A	1/1
11A	1/1
12B	1/1
16B	1/1

FIG. 4
RINGDOWN TIE LINE CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, J 53021.
202. THIS KEY TEL UNIT IS 9 MODULES (3-29/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(204A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

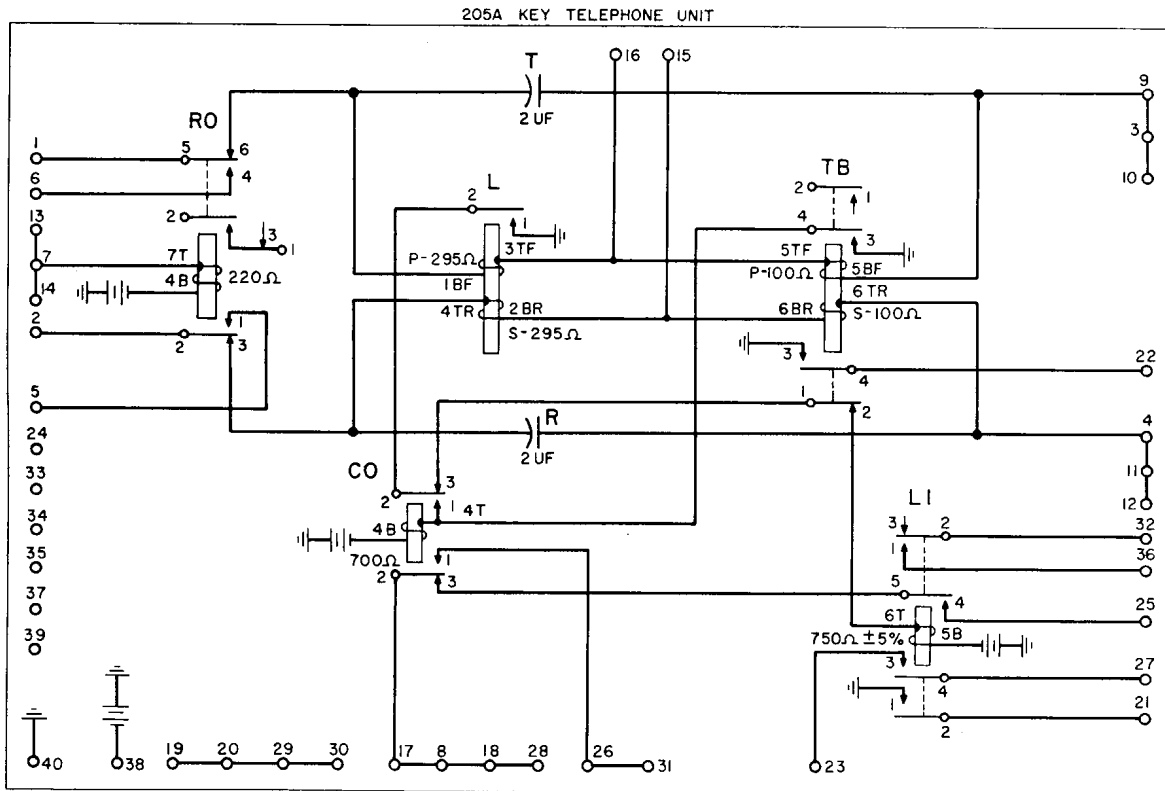
SD-69288-01-C4

3S

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FIG. 5
STATION LINE CIRCUIT

DRAWING ISSUE	
8A	ST/AN
16B	RBB
	RBB
	PEG



EQUIPMENT NOTES:

201. THIS KEY TELEPHONE UNIT IS DESIGNED PRIMARILY FOR USE IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, J53021.
202. THIS KEY TELEPHONE UNIT IS 9 MODULES (3-29/32 IN.) WIDE.

 20 V NOMINAL
(14-26 V)

KEY TELEPHONE UNITS CIRCUITS
(205A KTU)

SD-69288-01-C5

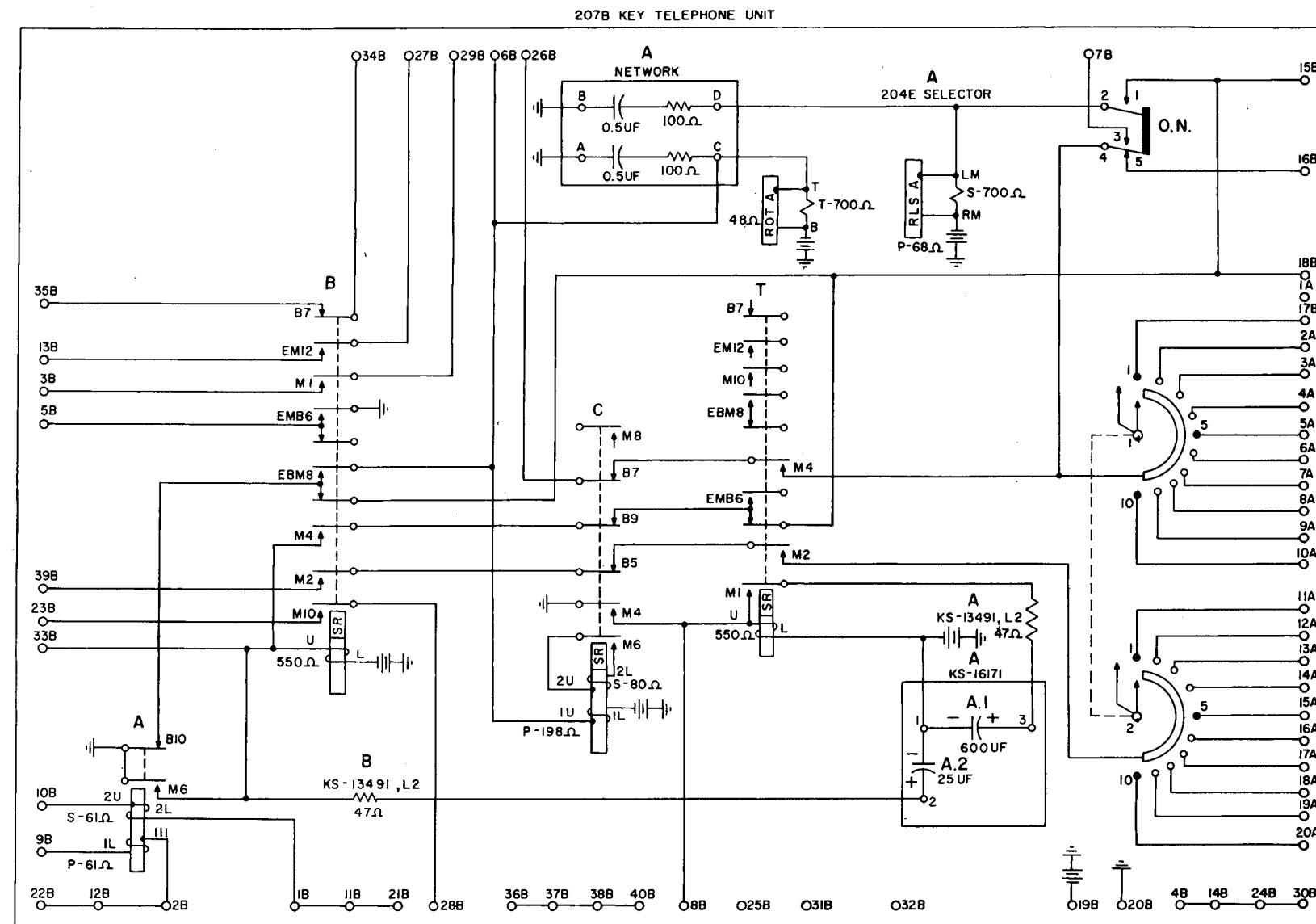
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG. SIZE
3S

PRINTED IN U. S. A.

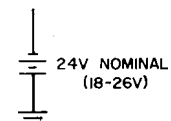
FIG. 6 (MFR DISC.)
SELECTOR CIRCUIT

DRAWING	ISSUE
8A	PT/12
16B	RBB RBB REG



EQUIPMENT NOTES:

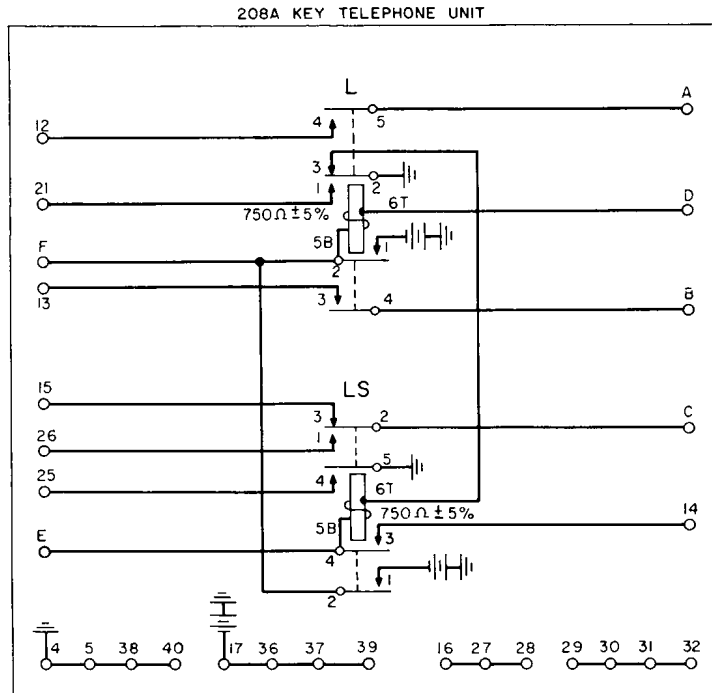
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A, SD-69286-01, J53023
202. THIS KEY TEL UNIT IS 12 MODULES (5 - 7/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS (207B KTU)		SD-69288-01-C6
BELL TELEPHONE LABORATORIES INCORPORATED	65 PRINTED IN U. S. A.	

FIG. 7 (A&M ONLY)
 SIGNALING UNIT FOR FLASHING LINE LAMPS
 SEE NOTE 203

DRAWING
 ISSUE
 8A
 14B
 16B
 EFS
 DHC
 ARM
 RBB
 PDB
 REG



EQUIPMENT NOTES:
 201. THIS KEY TEL UNIT IS DESIGNED FOR USE IN KEY TEL SYSTEM NO. 1A1, SD-69199-01, J53021.
 202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.
 203.

REFERENCE DESIGNATION	PUNCHING		
	CKT 1	CKT 2	CKT 3
A	1	6	9
B	2	7	10
C	33	34	35
D	3	8	11
E	18	19	20
F	22	23	24

20V NOMINAL
 (14-26V)

KEY TELEPHONE UNITS CIRCUITS
 (208A KTU)

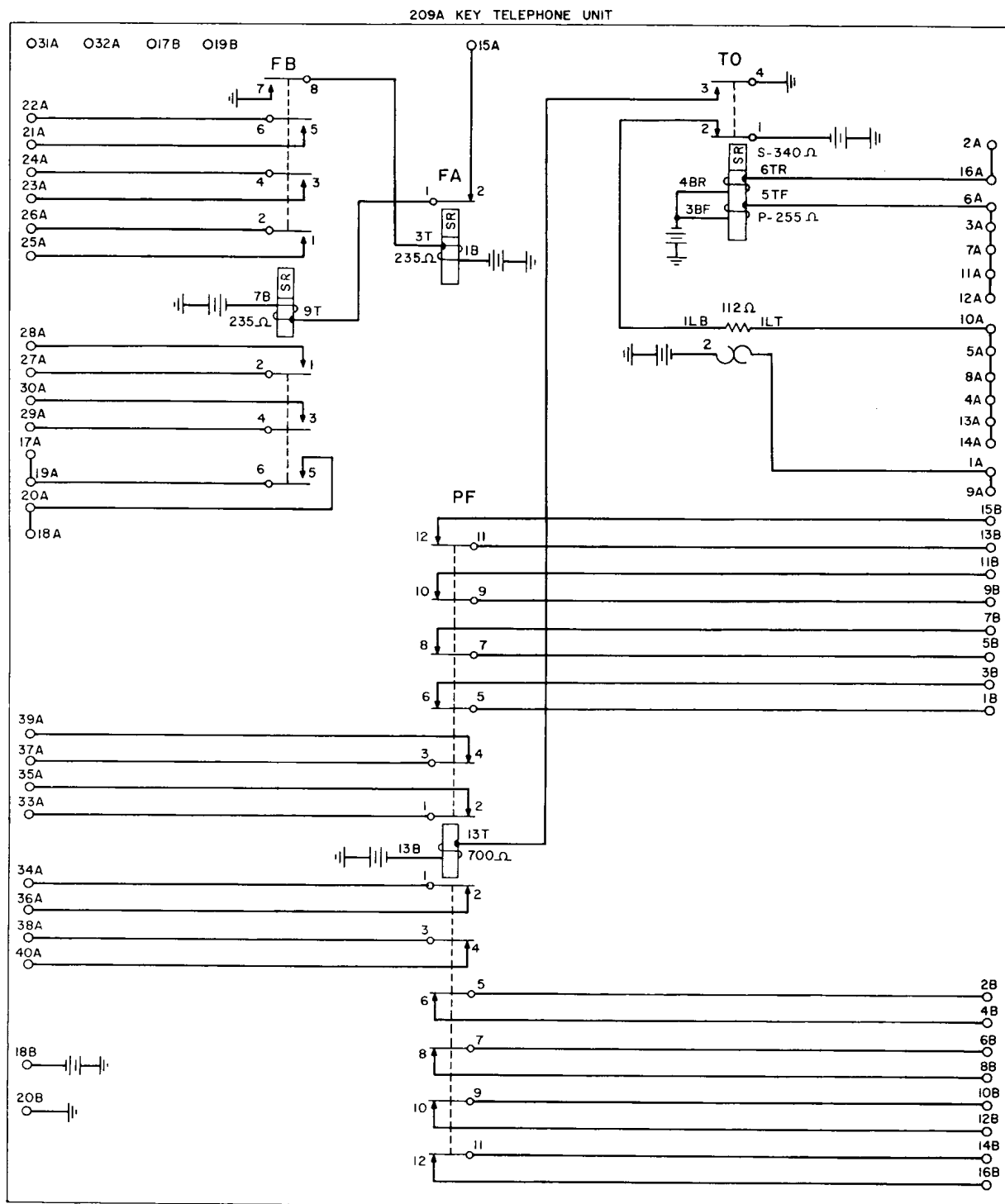
SD-69288-01-C7

BELL TELEPHONE LABORATORIES
 INCORPORATED

3S

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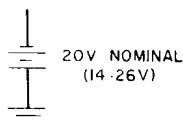
FIG. 8 (MFR DISC.)
LAMP FLASHING AND TIME-OUT CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNATED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, J53021.

202. THIS KEY TEL UNIT IS 11 MODULES (4-25/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(209A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

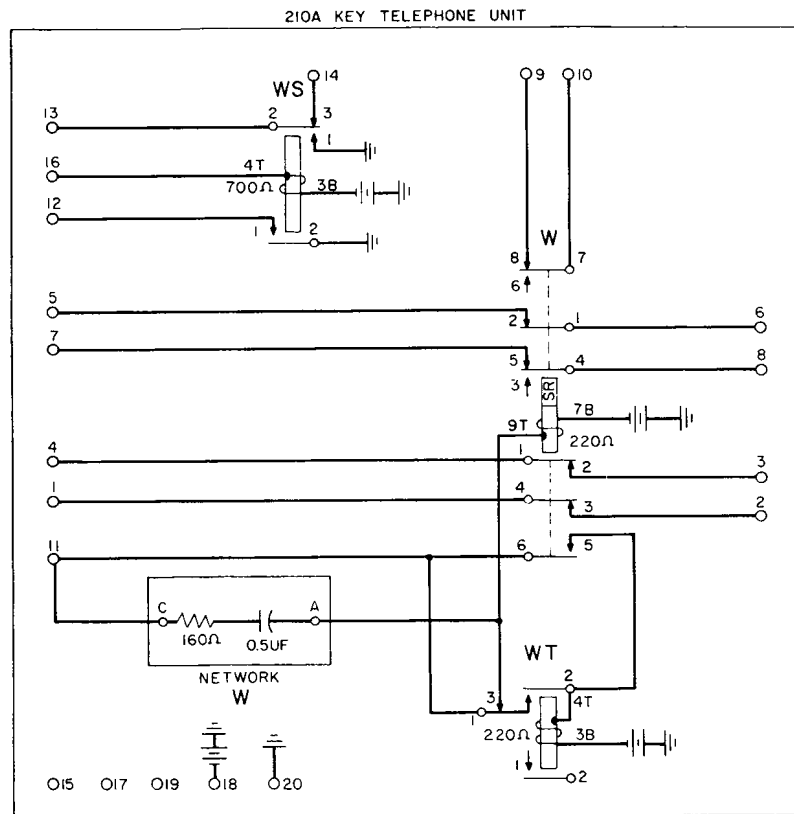
OWG RIF
3S

SD-69288-01-C8

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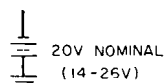
FIG. 9 (A & M ONLY)
WINK CIRCUIT

DRAWING	
ISSUE	
8A	ST/ma
14B	PG
	DHC
	ADM
16B	288
	288
	288



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, J53021.
202. THIS KEY TEL UNIT IS 6 MODULES (2-19/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(210A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

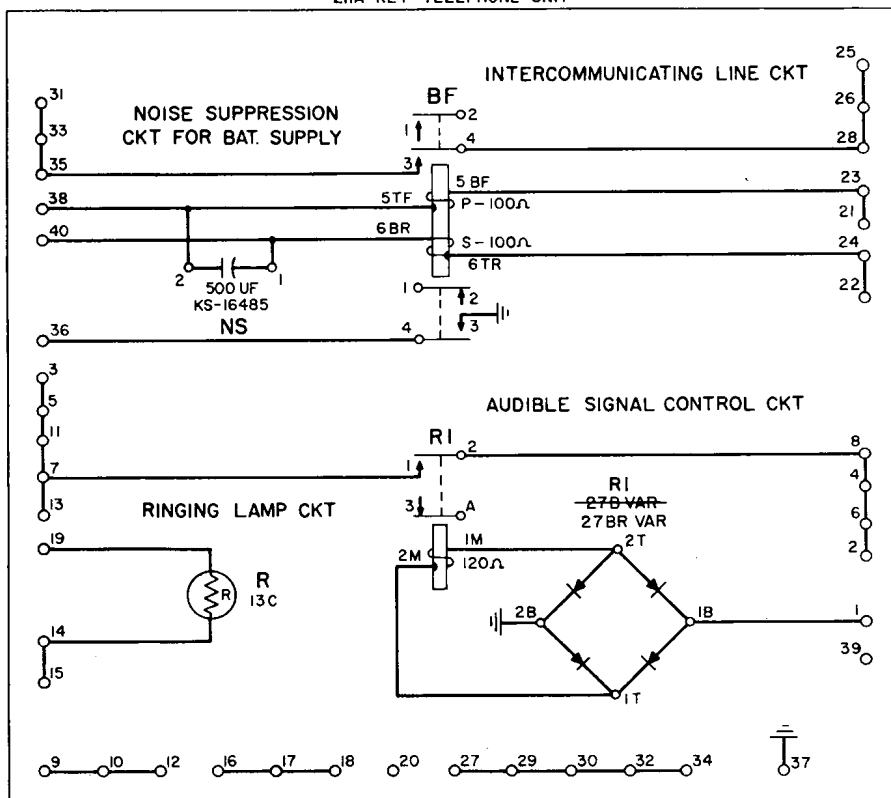
DWG SIZE
3S

SD-69288-01-C9

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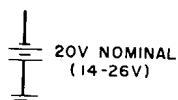
FIG. 10 (A & M ONLY)
INTERCOMMUNICATING LINE CIRCUIT, RINGING LAMP CIRCUIT,
NOISE SUPPRESSION CIRCUIT AND AUDIBLE SIGNAL CONTROL CIRCUIT

211A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, J53021.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(211A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

35

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FIG. 11 (MFR DISC.)
CENTRAL OFFICE OR PBX LINE CIRCUIT
SEE NOTE 204

PART OF 212A KEY TELEPHONE UNIT

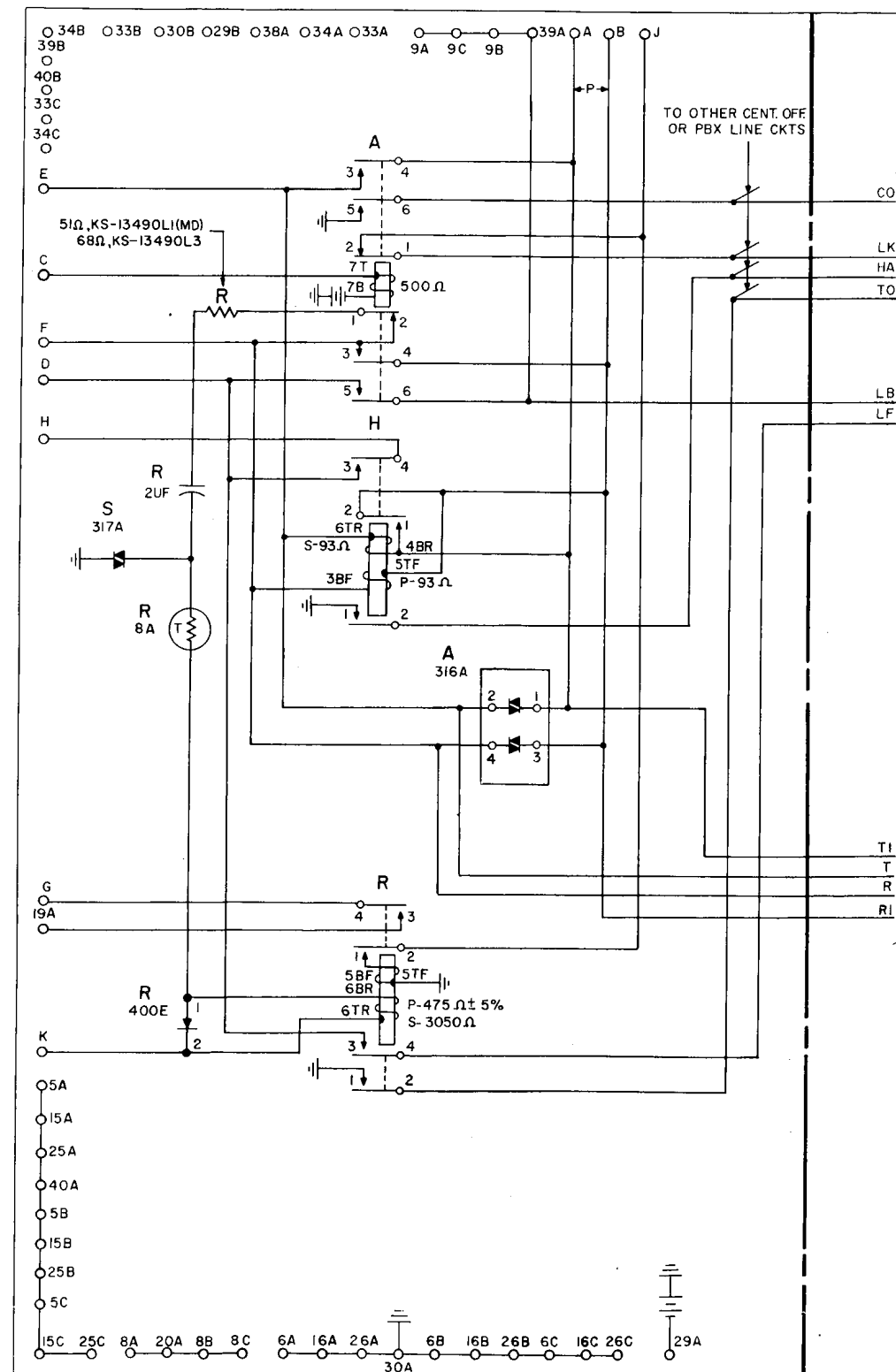
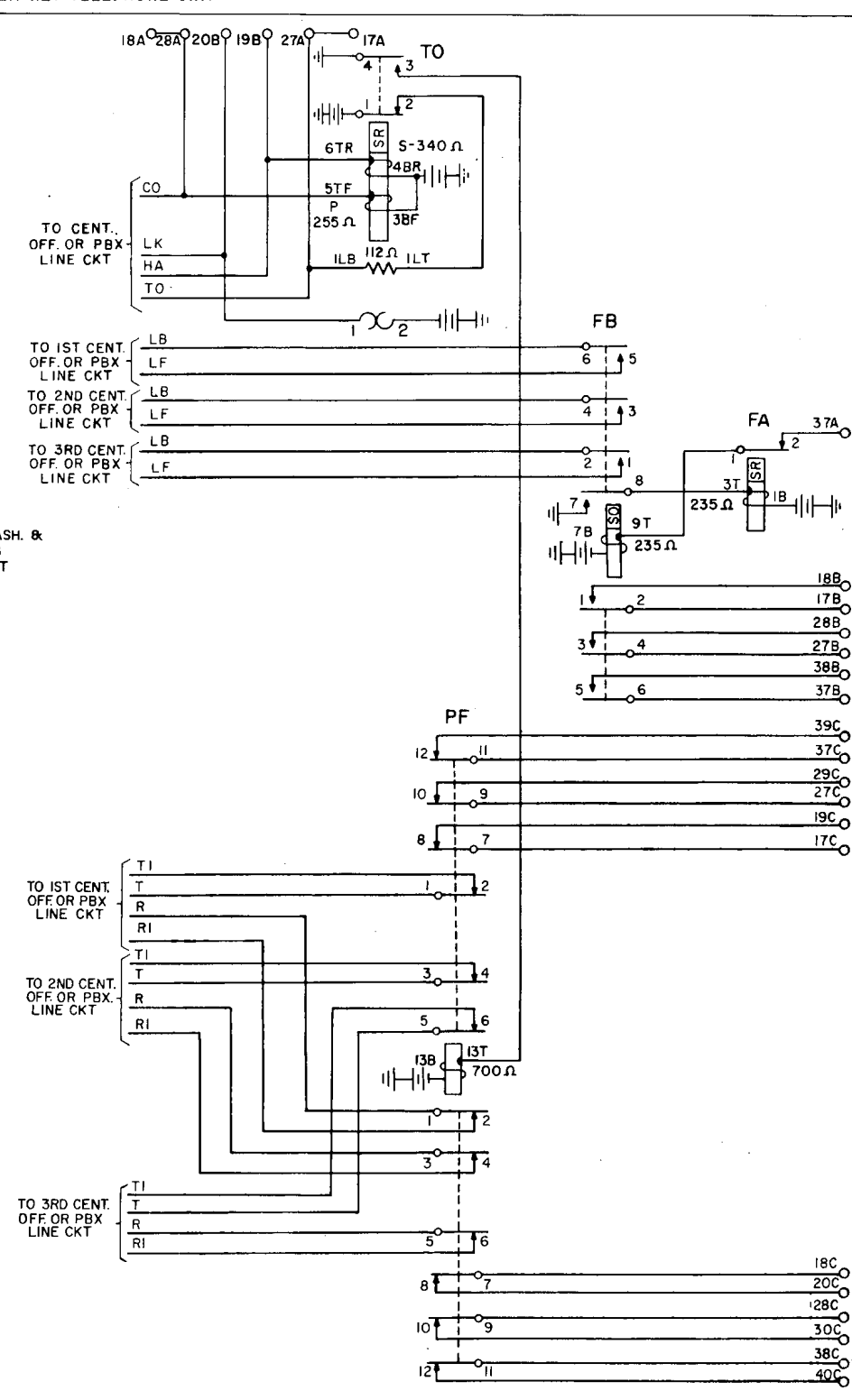


FIG. 12 (MFR DISC.)
LAMP FLASHING AND INCOMING SIGNAL TIME-OUT CIRCUIT

PART OF 212A KEY TELEPHONE UNIT



201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1, SD-69203-01, J53021.
- 202 THIS KEY TEL UNIT IS 21 MODULES (9-5/32 IN.) WIDE.
- 203 SUFFIX AFTER NUMBER OF PUNCHING INDICATES TERMINAL STRIP.
- 204.

REFERENCE DESIGNATION	PUNCHING		
	CKT 1	CKT 2	CKT 3
A	1A, 11A, 21A	1B, 11B, 21B	1C, 11C, 21C
B	2A, 12A, 22A	2B, 12B, 22B	2C, 12C, 22C
C	3A, 13A, 23A	3B, 13B, 23B	3C, 13C, 23C
D	4A, 14A, 24A	4B, 14B, 24B	4C, 14C, 24C
E	31A	31B	31C
F	32A	32B	32C
G	7A	7B	7C
H	10A	10B	10C
J	35A	35B	35C
K	36A	36B	36C

20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS
(212A KTU)

SD-69288-01-C11

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

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FIG.16 (MFR DISC)
SINGLE TALKING LINK CIRCUIT

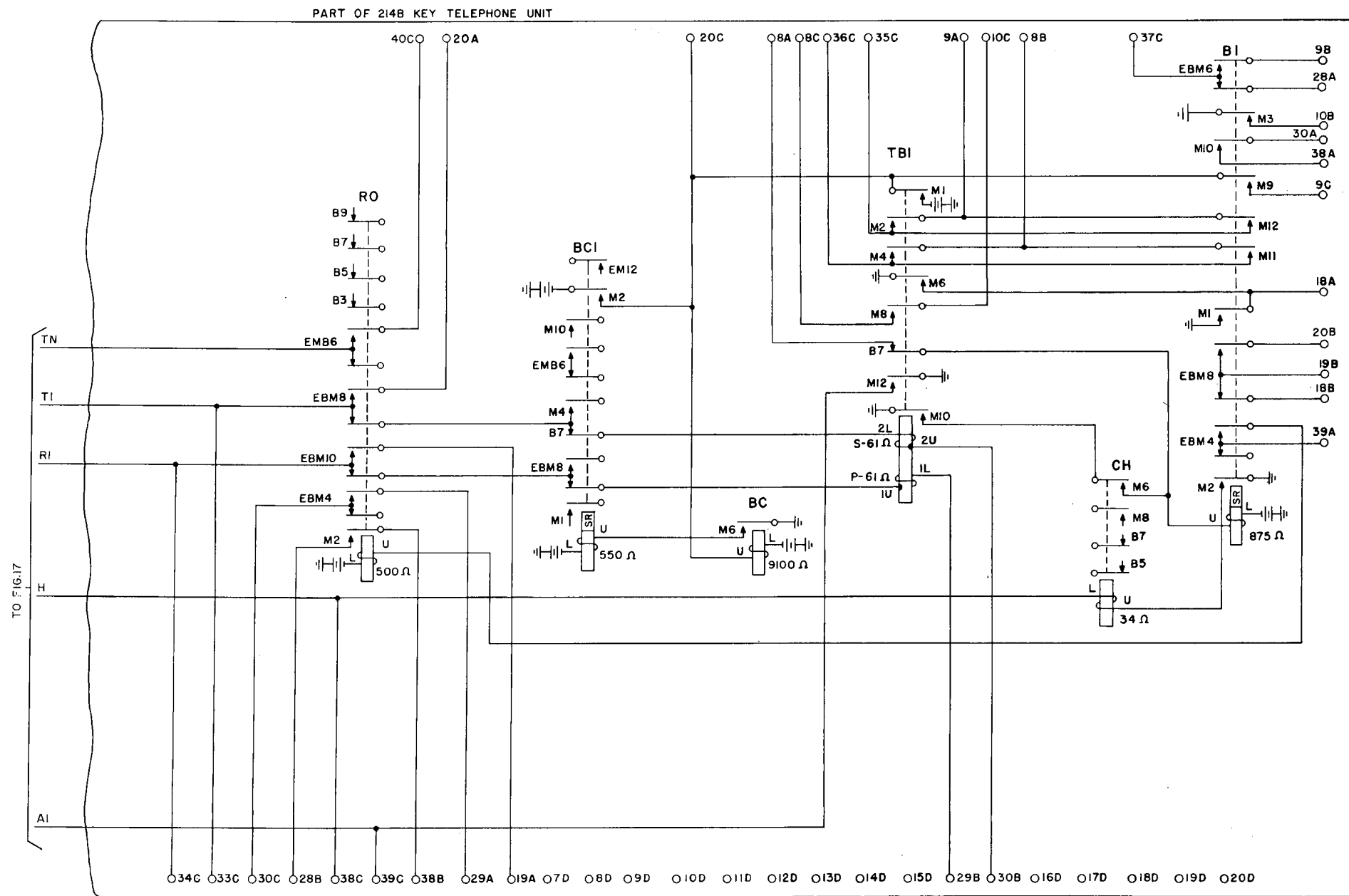
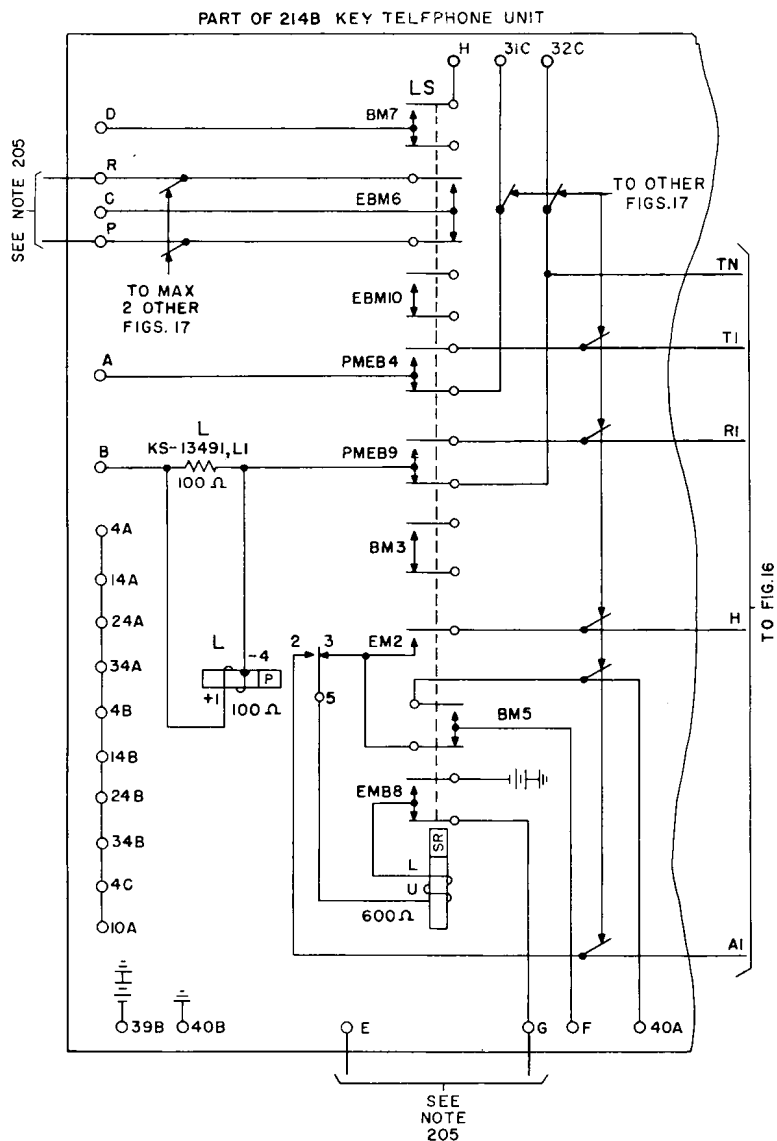


FIG.17 (MFR DISC)
STATION SIGNALING CIRCUIT
(SINGLE TALKING LINK)
 SEE NOTES 204 & 205



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO.6A,SD-69286-01, J 53023.

202. THIS KEY TEL UNIT IS 37 MODULES (16 5/32 IN.) WIDE.

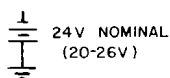
203. SUFFIX AFTER NUMBER OF PUNCHING INDICATES TERMINAL STRIP

204.

REFERENCE DESIGNATION	PUNCHING								
	CKT1	CKT2	CKT3	CKT4	CKT5	CKT6	CKT7	CKT8	CKT9
A	1A	11A	21A	31A	1B	11B	21B	31B	1C
B	2A	12A	22A	32A	2B	12B	22B	32B	2C
C	3A	13A	23A	33A	3B	13B	23B	33B	3C
D	5A	15A	25A	35A	5B	15B	25B	35B	5C
*E	6A	16A	26A	36A	6B	16B	26B	36B	6C
F	7A	17A	27A	37A	7B	17B	27B	37B	7C
*G	11C	12C	13C	14C	15C	16C	17C	18C	19C
H	21C	22C	23C	24C	25C	26C	27C	28C	29C
*P	1D	2D	3D	1D	2D	3D	3D	2D	1D
*R	4D	5D	6D	4D	5D	6D	6D	5D	4D

*SEE NOTE 205

205. EXTERNALLY STRAP ALL E PUNCHINGS; EXTERNALLY STRAP ALL G PUNCHINGS; EXTERNALLY STRAP ALL P PUNCHINGS; EXTERNALLY STRAP ALL R PUNCHINGS.



KEY TELEPHONE UNITS CIRCUITS
(214B KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

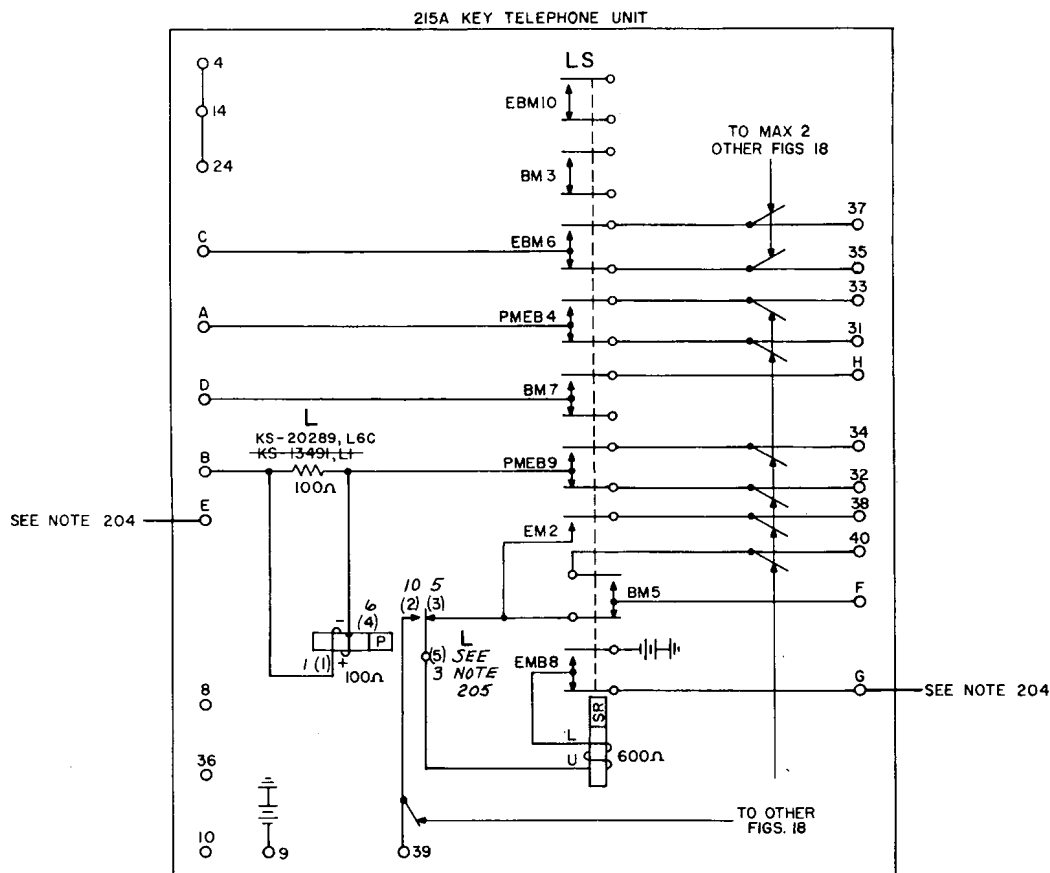
3S

SD-69288-01-C15

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DRAWING
ISSUE
8A
14B
16B
EFS
DHC
ARM
RBB
RBB
PEG

FIG. 18
STATION SIGNALING CIRCUIT
(SINGLE TALKING LINK)
SEE NOTES 203 & 204



EQUIPMENT NOTES:

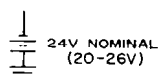
201. THIS KEY TEL UNIT IS DESIGNED FOR USE IN KEY TEL SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 9 MODULES (3-29/32 IN.) WIDE.

203.

REFERENCE DESIGNATION	PUNCHING		
	CKT 1	CKT 2	CKT 3
A	1	11	21
B	2	12	22
C	3	13	23
D	5	15	25
*E	6	16	26
F	7	17	27
*G	18	19	20
H	28	29	30

*SEE NOTE 204

204. EXTERNALLY STRAP ALL E PUNCHINGS; EXTERNALLY STRAP ALL G PUNCHINGS.
205. NUMBERS IN PARENTHESES INDICATE TERMINALS FOR 280M RELAY.



KEY TELEPHONE UNITS CIRCUITS
(215A KTU)

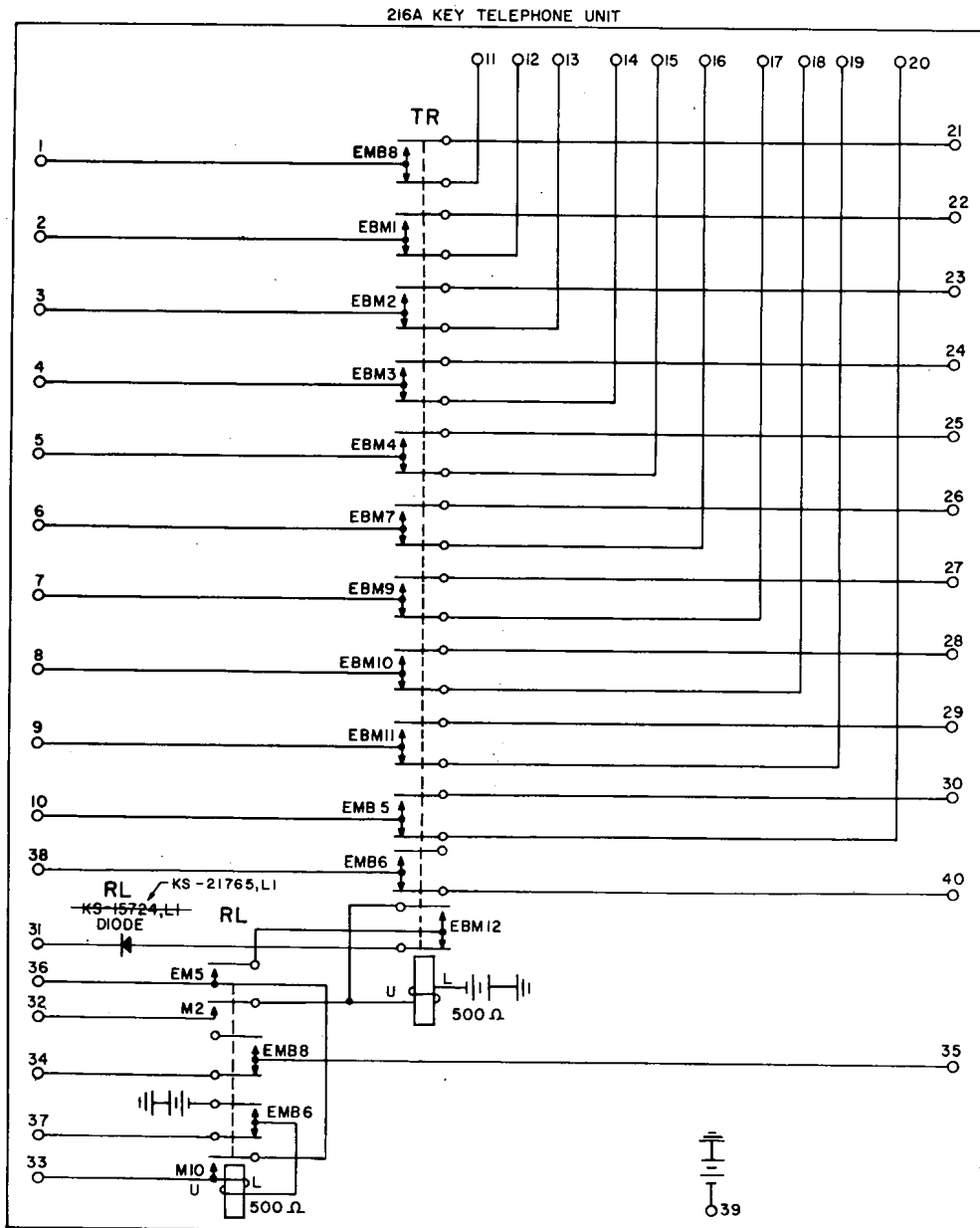
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

SD-69288-01-C16

23B

FIG. 19
TRANSFER CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

24V NOMINAL
(20-26V)

KEY TELEPHONE UNITS CIRCUITS
(216A KTU)

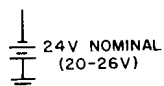
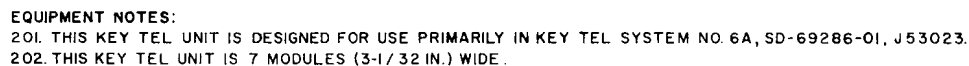
SD-69288-01-C17

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

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DRAWING ISSUE	
8A	STA-B -
16B	RBB RBB PEG



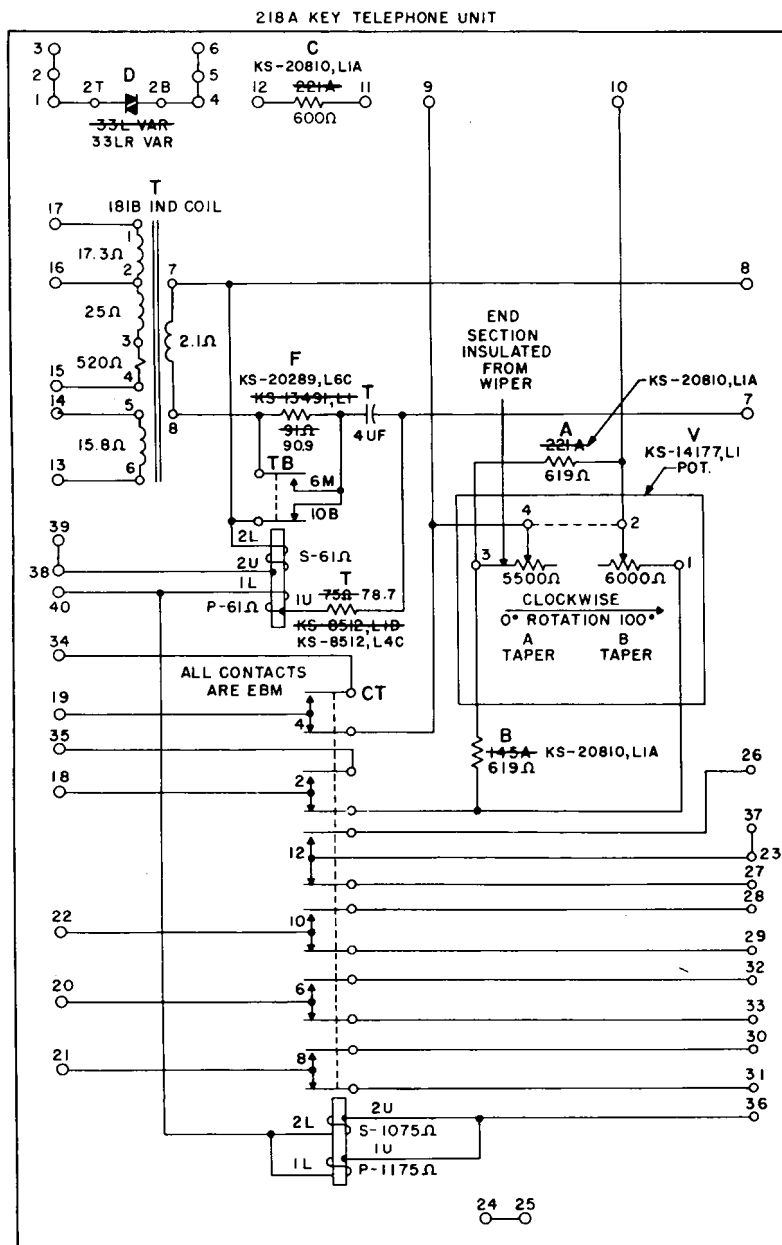
SD-69288-01-C18

DWG SIZE
3 S

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DRAWING	ISSUE
8A	100
16B	RBB RBB PEB
17D	RDY RBB HLL

FIG.21
TWO AND FOUR WIRE PRIVATE LINE
STATION CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN STATION CIRCUIT OF 2 AND 4 WIRE PRIVATE LINE STATION CIRCUIT, SD-69284-01
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS
(218A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

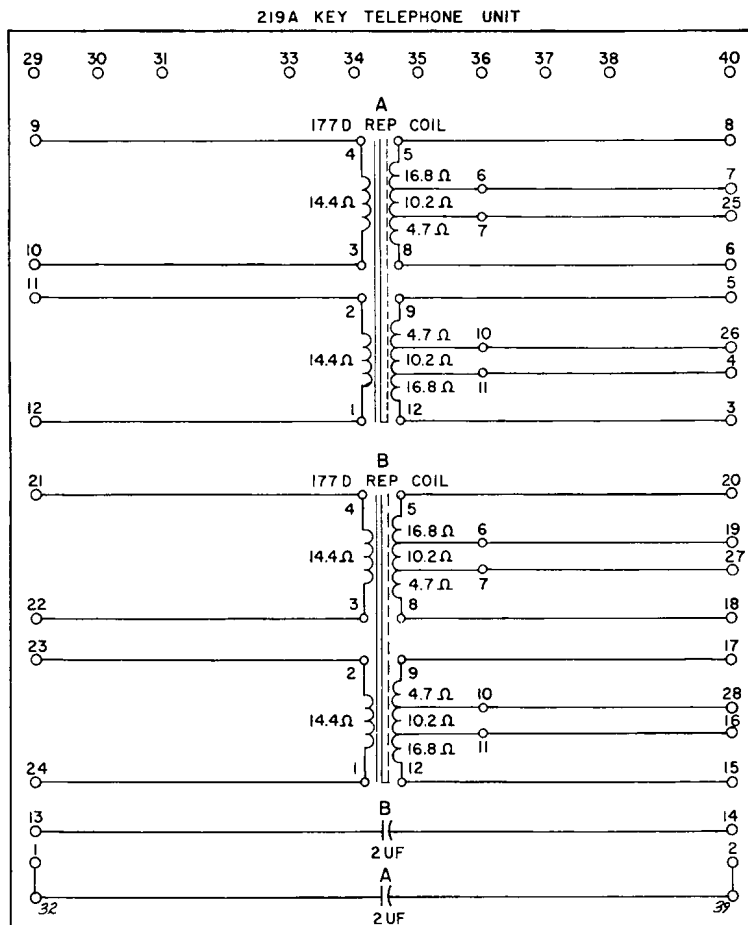


SD-69288-01-C19

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DRAWING ISSUE
8A
16B
17D

FIG. 22
TWO AND FOUR WIRE PRIVATE LINE
LINE CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TELEPHONE UNIT IS DESIGNED FOR USE PRIMARILY IN STATION CIRCUIT OF 2 AND 4 WIRE PRIVATE LINE CIRCUIT, SD-69410-01
202. THIS KEY TELEPHONE UNIT IS 7 MODULES (3-1/32 IN.) WIDE.
203. TERMINALS 32 AND 39 ARE USED TO MOUNT THE "A" CAPACITOR.

KEY TELEPHONE UNITS CIRCUITS
(219A KTU)

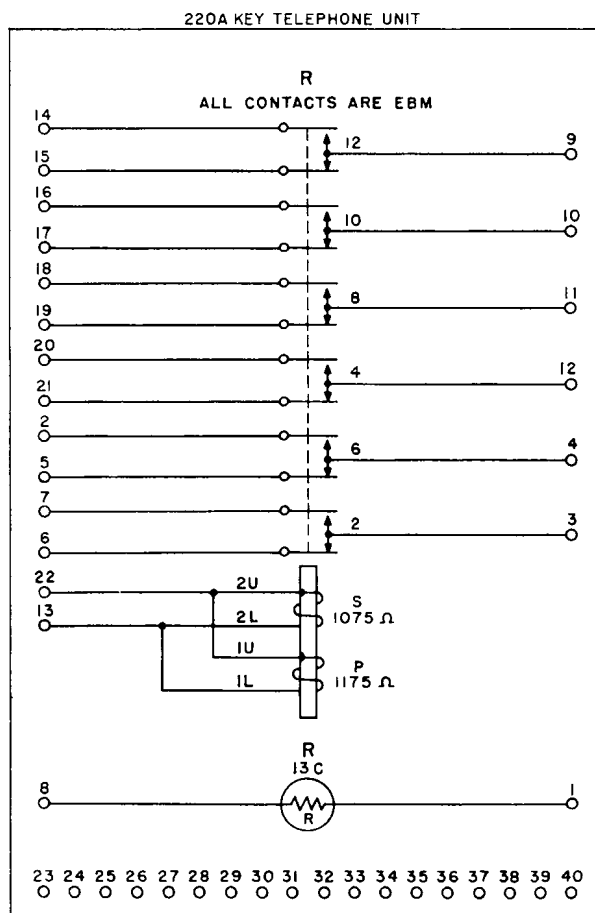
BELL TELEPHONE LABORATORIES
INCORPORATED

3S

SD-69288-01-C20

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FIG. 23
TWO AND FOUR WIRE PRIVATE
LINE RINGING RELAY OR
POWER SUPPLY CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN STATION CIRCUIT OF 2 AND 4 WIRE PRIVATE LINE CIRCUIT, SD-69254-01
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

20V NOMINAL
 (14-26V)

KEY TELEPHONE UNITS CIRCUITS
 (220A KTU)

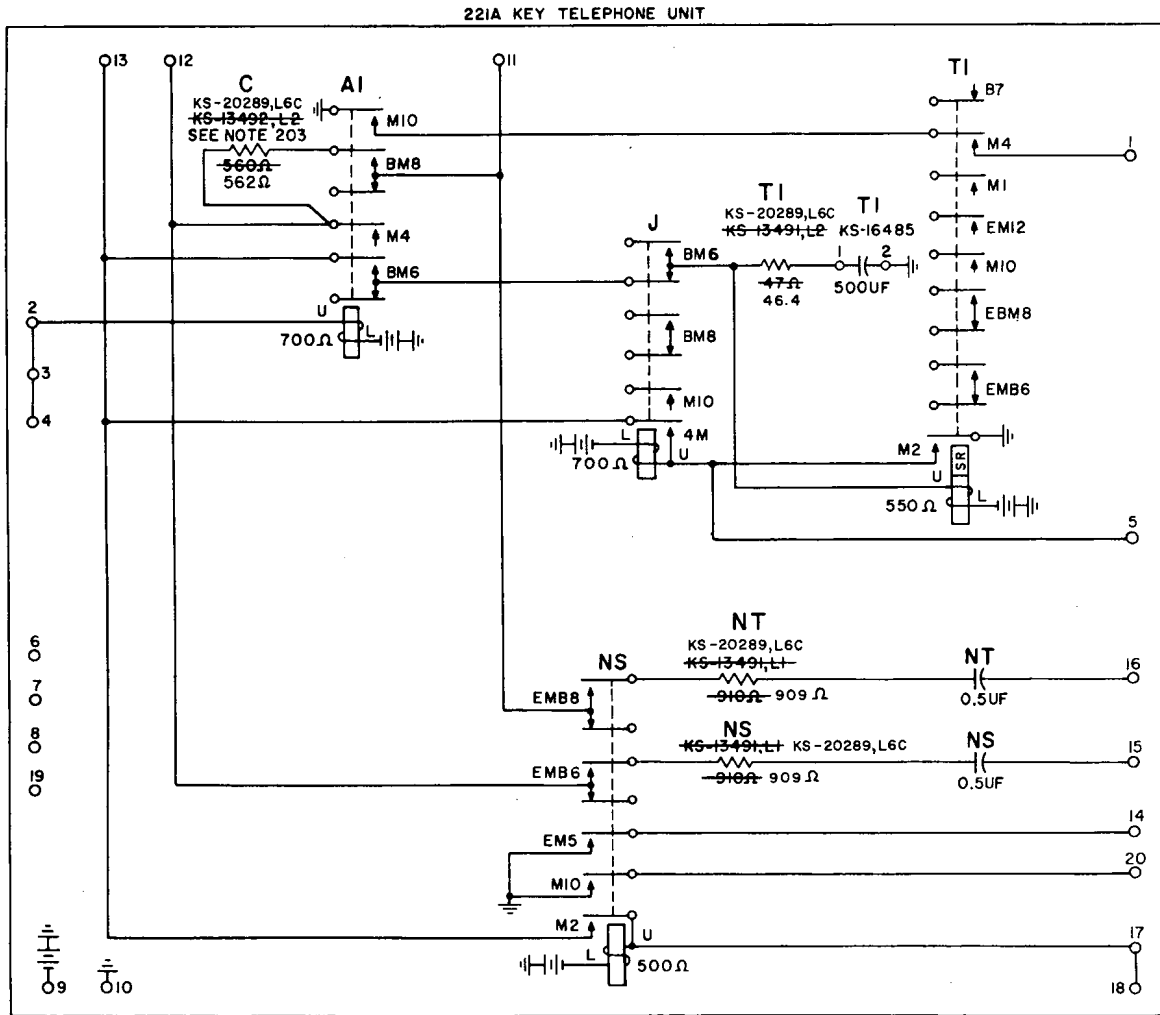
SD-69288-01-C2i

BELL TELEPHONE LABORATORIES
 INCORPORATED

3S

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FIG. 24
EXECUTIVE CALLING CONTROL AND NO-SUCH-NUMBER CIRCUIT



EQUIPMENT NOTES:

- 201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A, SD-69236-01, J53023.
- 202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.
- 203. THE M4 CONTACT OF THE (A1) RELAY IS USED AS AN ANCHOR POINT FOR THE (C) RESISTOR.

24V NOMINAL
(20-26V)

KEY TELEPHONE UNITS CIRCUITS
(221A KTU)

SD-69288-01-C22

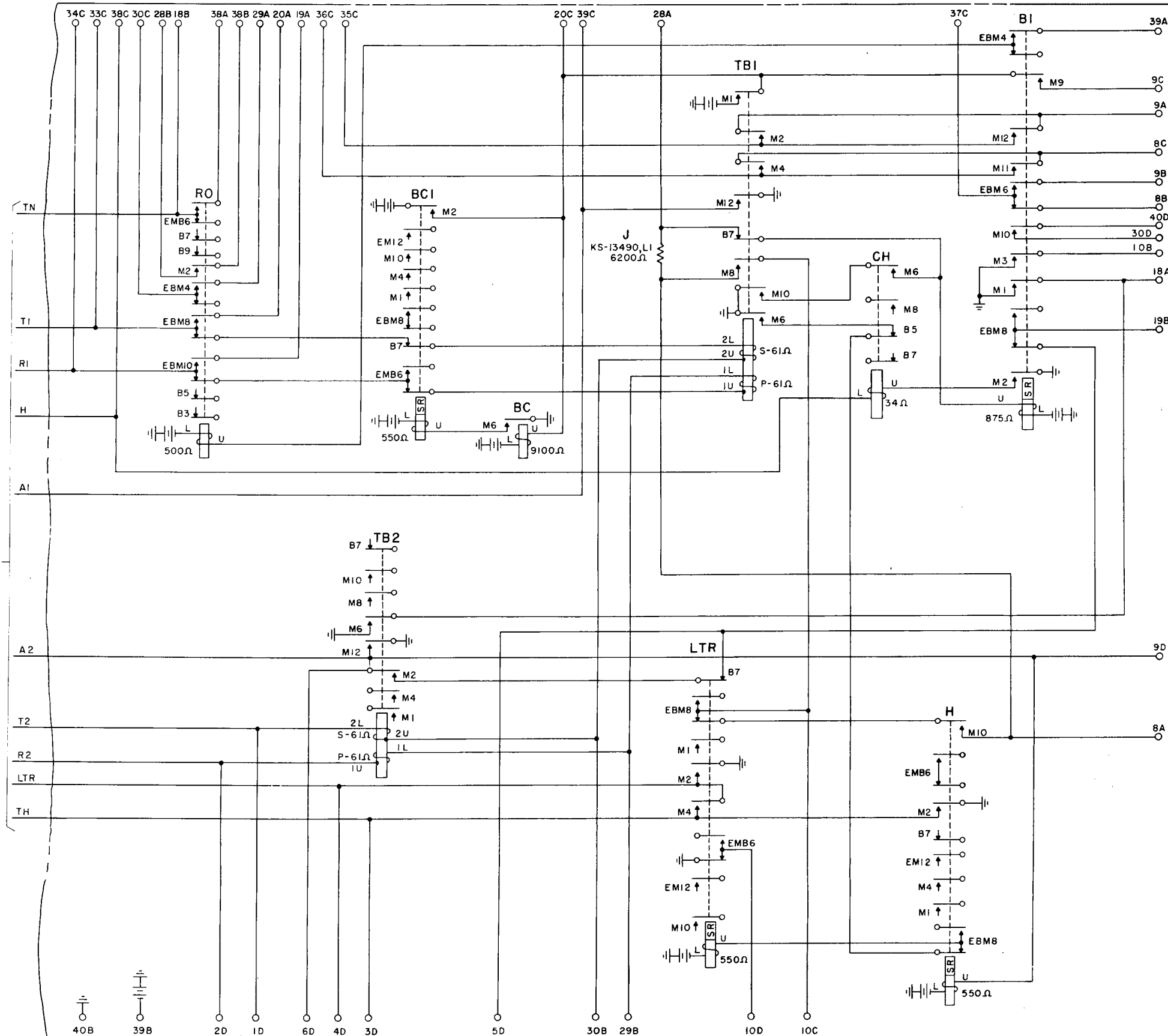
BELL TELEPHONE LABORATORIES
INCORPORATED

OWNERS
3S

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FIG.25
TWO TALKING LINK CIRCUIT

PART OF 222A KEY TELEPHONE UNIT



TO FIG. 26

KEY TELEPHONE UNITS CIRCUITS
(222A KTU)

SD-69288-01-C23

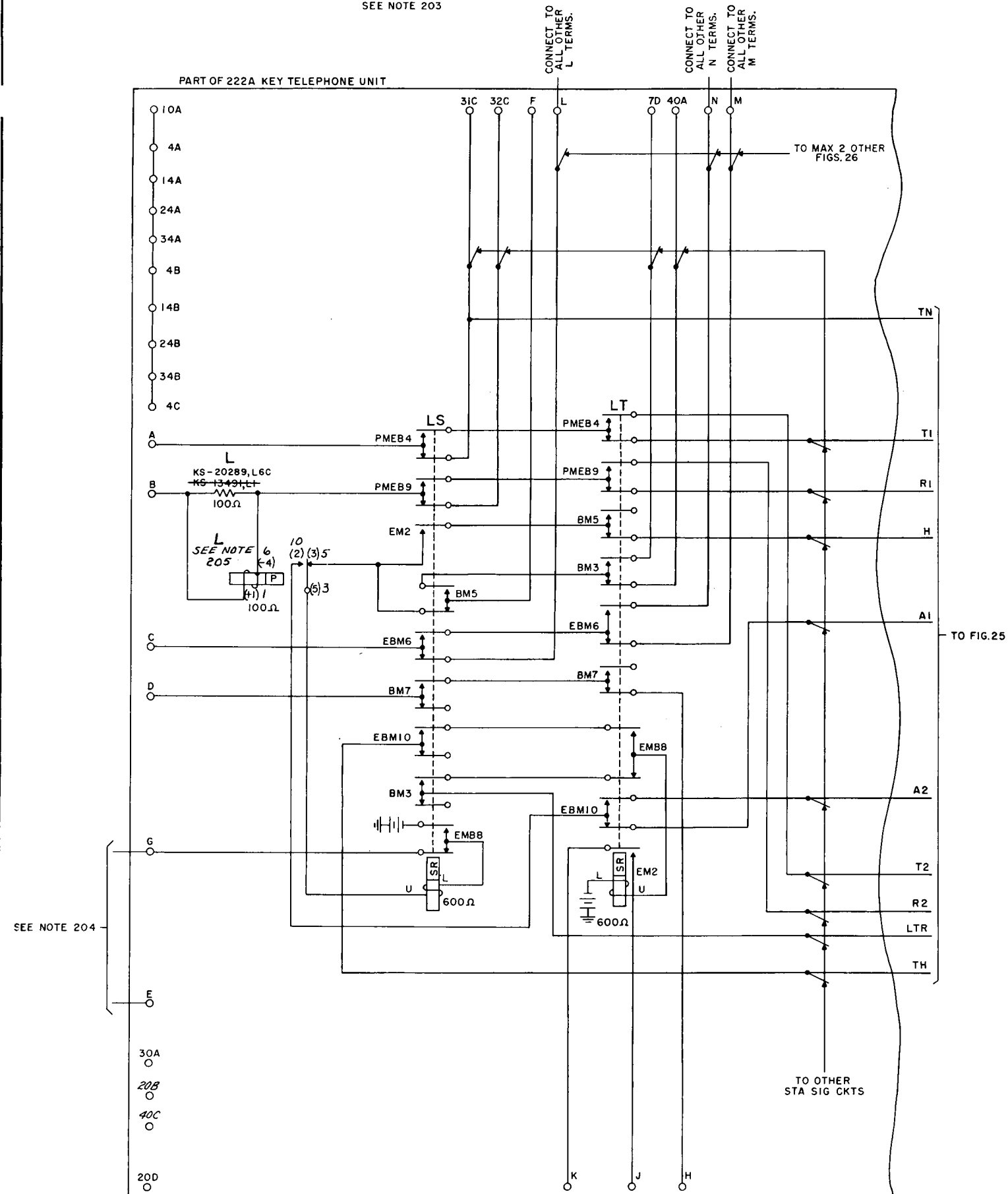
BELL TELEPHONE LABORATORIES
INCORPORATED

6S

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DRAWING
ISSUE
8A 17/44
RBB
16B RBB
PEG
17D RBB
KLU

FIG. 26
STATION SIGNALING CIRCUIT
(TWO TALKING LINKS)
SEE NOTE 203



EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 23 IN. WIDE.

203.

REFERENCE DESIGNATION	CKT 1	CKT 2	CKT 3	CKT 4	CKT 5	CKT 6	CKT 7	CKT 8	CKT 9
A	1A	11A	21A	31A	1B	11B	21B	31B	1C
B	2A	12A	22A	32A	2B	12B	22B	32B	2C
C	3A	13A	23A	33A	3B	13B	23B	33B	3C
D	5A	15A	25A	35A	5B	15B	25B	35B	5C
* E	6A	16A	26A	36A	6B	16B	26B	36B	6C
F	7A	17A	27A	37A	7B	17B	27B	37B	7C
* G	11C	12C	13C	14C	15C	16C	17C	18C	19C
H	21C	22C	23C	24C	25C	26C	27C	28C	29C
J	11D	12D	13D	14D	15D	16D	17D	18D	19D
K	21D	22D	23D	24D	25D	26D	27D	28D	29D
* L	31D	32D	33D	31D	32D	33D	31D	32D	33D
* M	34D	35D	36D	34D	35D	36D	34D	35D	36D
* N	37D	38D	39D	37D	38D	39D	37D	38D	39D

* SEE NOTE 204

204. EXTERNALLY STRAP ALL E PUNCHINGS, EXTERNALLY STRAP ALL G PUNCHINGS, EXTERNALLY STRAP ALL L PUNCHINGS, EXTERNALLY STRAP ALL M PUNCHINGS, EXTERNALLY STRAP ALL N PUNCHINGS.
205. NUMBERS IN PARENTHESES INDICATE TERMINALS FOR 280M RELAY.

KEY TELEPHONE UNITS CIRCUITS
(222A KTU)

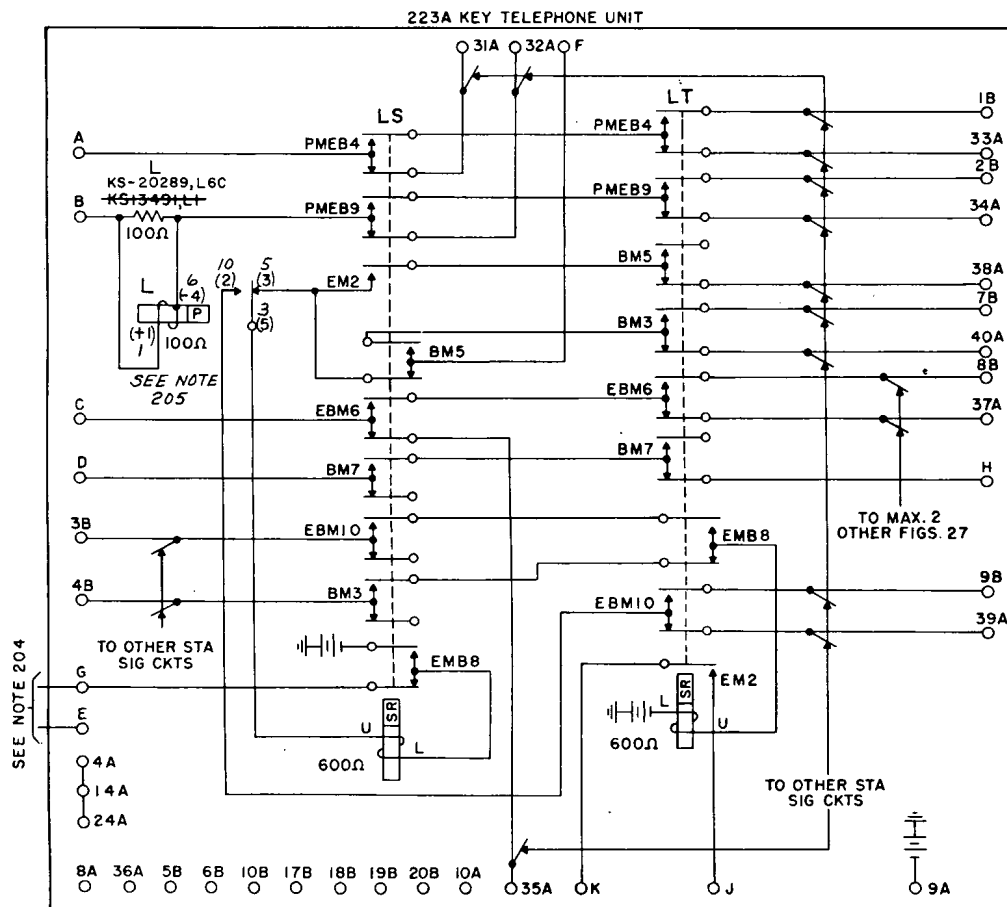
SD-69288-01-C24

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
6S

PRINTED IN U. S. A.

FIG.27
STATION SIGNALING CIRCUIT
(TWO TALKING LINKS)
SEE NOTES 203 & 204



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO.6A,SD-69286-01,J53023.
202. THIS KEY TEL UNIT IS 13 MODULES (5-21/32 IN.) WIDE.

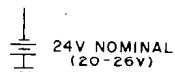
203.

REFERENCE DESIGNATION	PUNCHING		
	CKT 1	CKT 2	CKT 3
A	1A	11A	21A
B	2A	12A	22A
C	3A	13A	23A
D	5A	15A	25A
*E	6A	16A	26A
F	7A	17A	27A
*G	18A	19A	20A
H	28A	29A	30A
J	11B	13B	15B
K	12B	14B	16B

* SEE NOTE 204

204. EXTERNALLY STRAP ALL E PUNCHINGS; EXTERNALLY STRAP ALL G PUNCHINGS.

205. NUMBERS IN PARENTHESES INDICATE TERMINALS FOR 280M RELAY.



KEY TELEPHONE UNITS CIRCUITS
(223A KTU)

SD-69288-01-C25

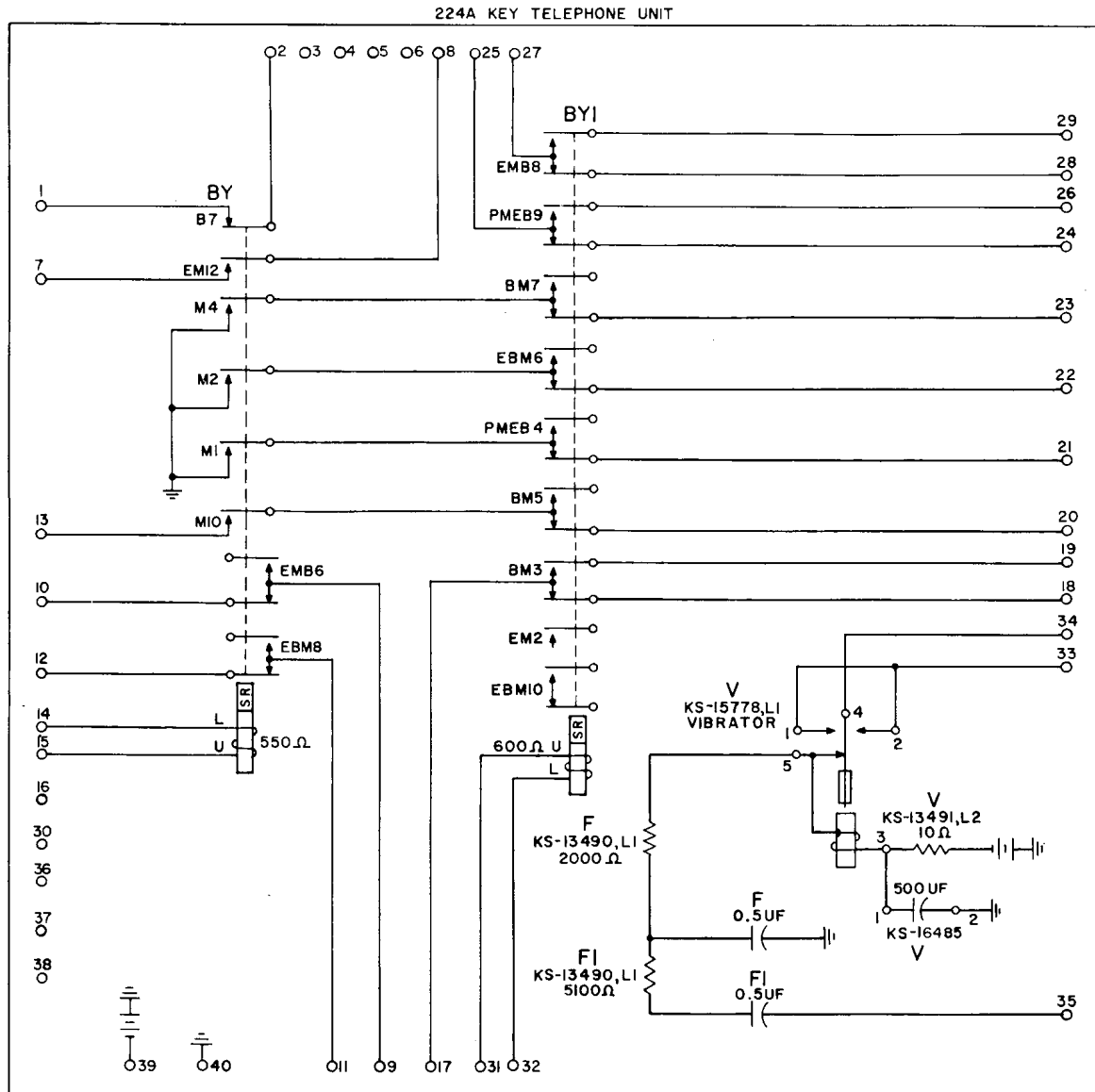
BELL TELEPHONE LABORATORIES
INCORPORATED

3S

PRINTED IN U. S. A.

FIG. 28 (MFR. DISC.)
BUSY SIGNAL AND CAMP-ON CONTROL CIRCUIT

DRAWING
ISSUE
8A
168
RBB
RBB
RBB



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.

24V NOMINAL
(20-26V)

KEY TELEPHONE UNITS CIRCUITS
(224A KTU)

SD-69288-01-C26

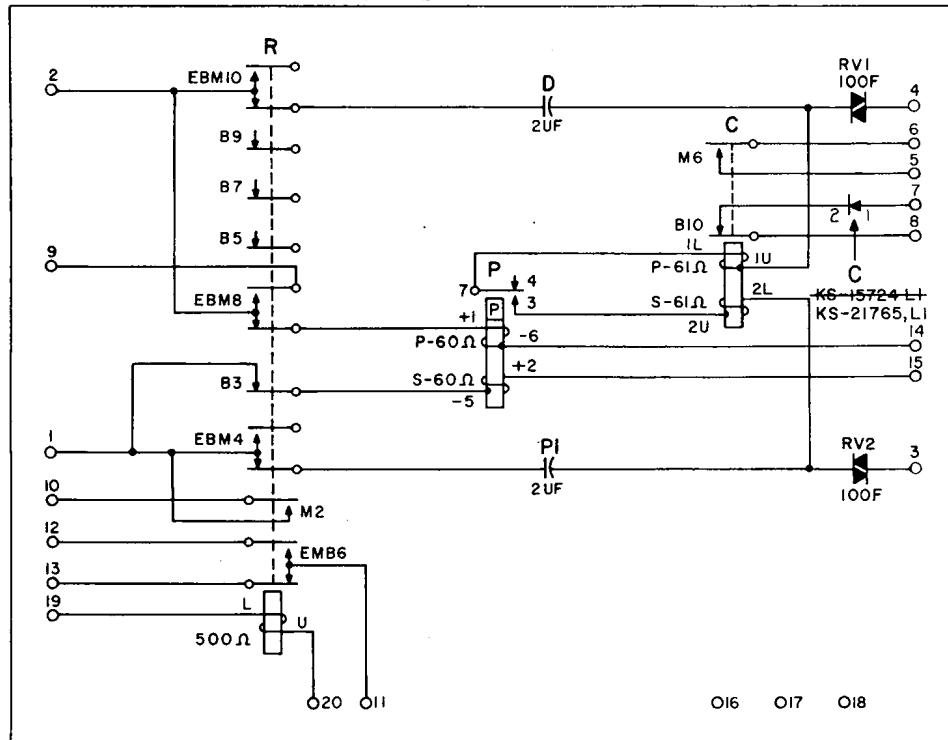
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG. SIZE
3S

PRINTED IN U. S. A.

FIG. 29
LONG LINE CIRCUIT

225A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.

20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS
(225A KTU)

SD-69288-01-C27

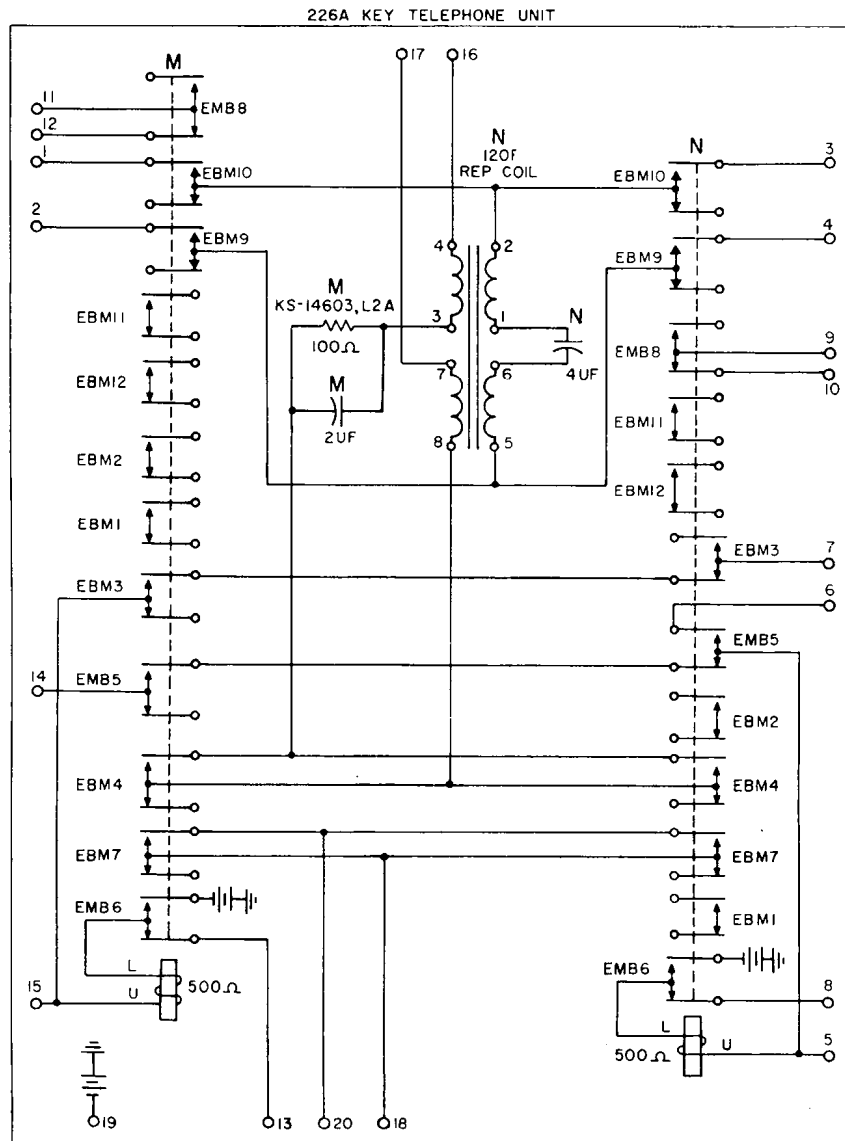
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG. SIZE
3S

PRINTED IN U. S. A.

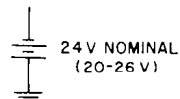
FIG. 30 (MFR DISC)
INWARD CONFERENCE CONTROL CIRCUIT

DRAWING	ISSUE
8A	ST/MA
9A	ST/MA
16B	RBB
	RBB
	RBB



EQUIPMENT NOTES:

201. THIS KEY TEL. UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL. SYSTEM NO. 6A, SD-69286-01, J 53023.
202. THIS KEY TEL. UNIT IS 8 MODULES (3-15/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(226A KTU)

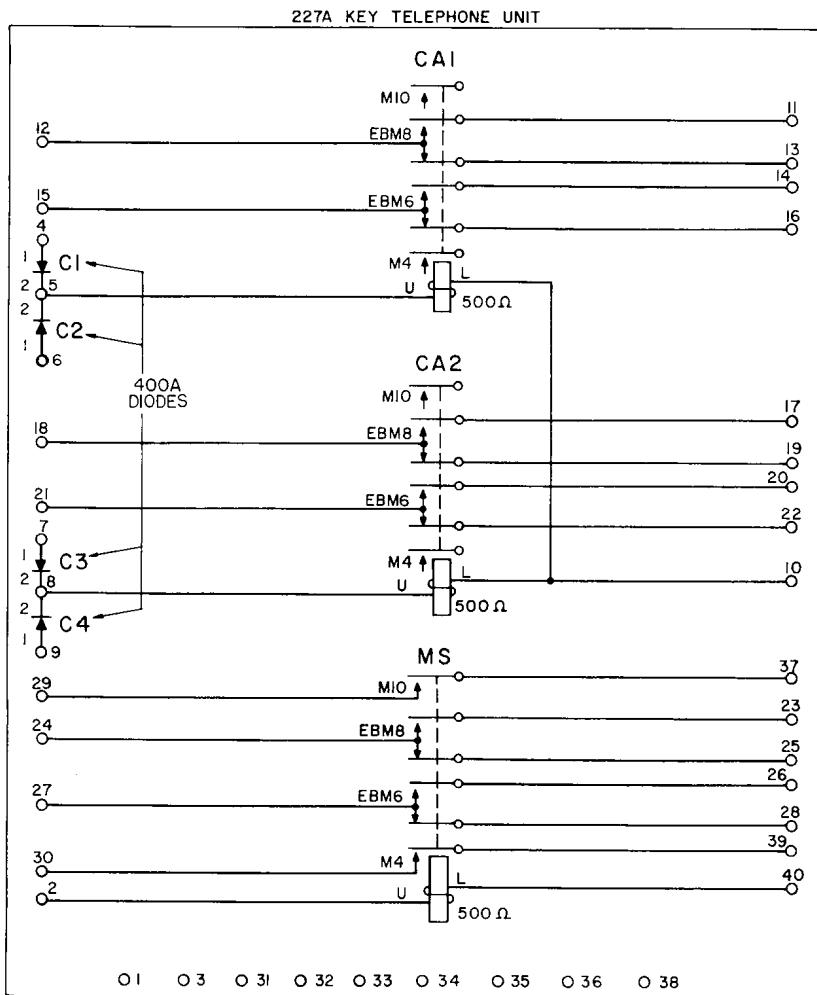
BELL TELEPHONE LABORATORIES
INCORPORATED

OWN SIZE
3S

SD-69288-01-C28

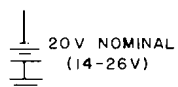
PRINTED IN U. S. A.

FIG. 31(MFRDISC)
COMMON AUDIBLE CONTROL CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A,SD-69286-01,J53023.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(227A KTU)

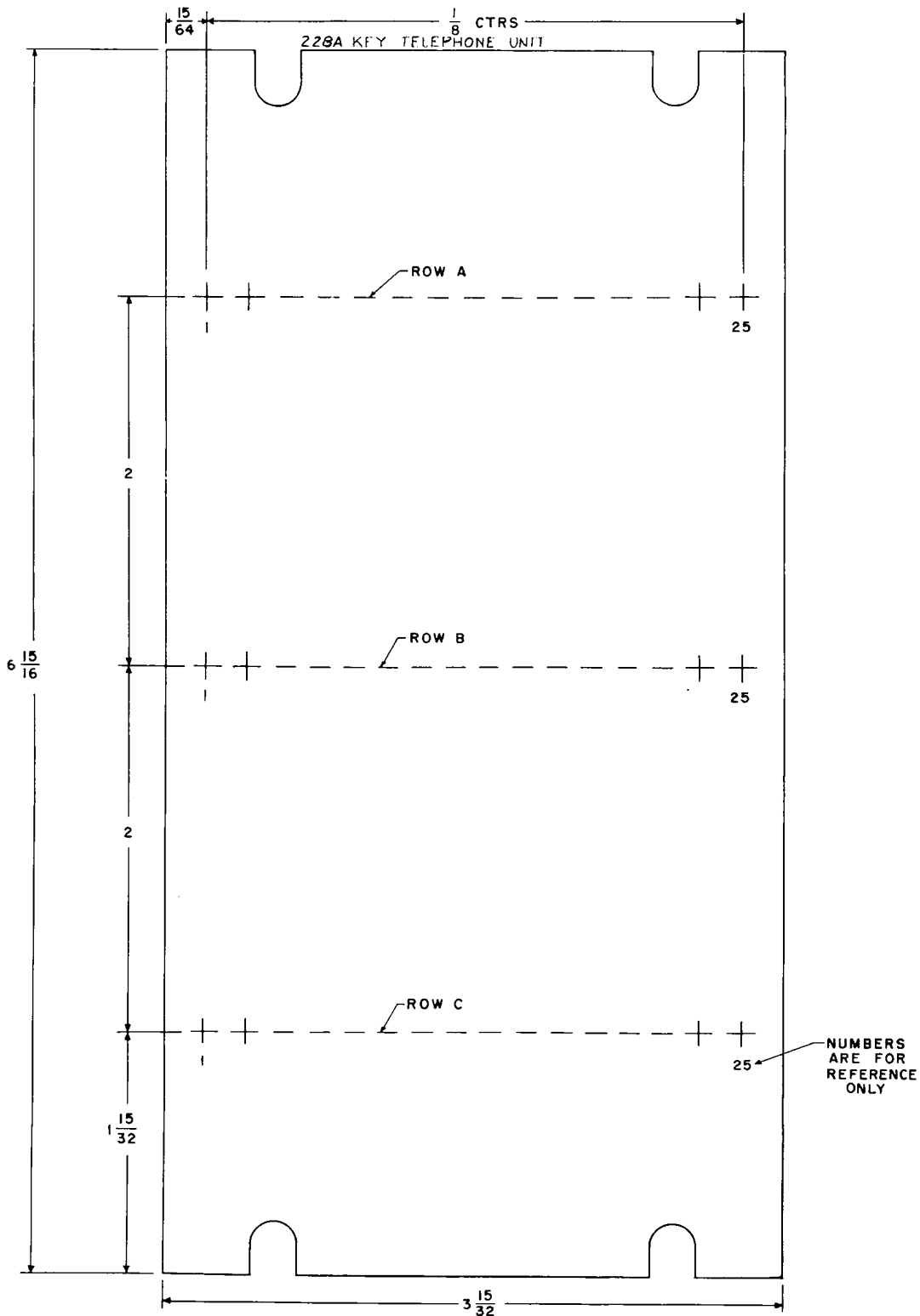
BELL TELEPHONE LABORATORIES
INCORPORATED

35

SD-69288-01-C29

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FIG. 32
BLANK UNIT



DRAWING ISSUE	
8A	SY/80
11A	JWB PHC
16B	LAB PLA

EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1 (SD-69203-01, J53021) AND NO. 6A (SD-69286-01, J53023).
202. THIS KEY TEL UNIT IS 8 MODULES 3-(15/32 IN) WIDE.
203. THIS KEY TEL UNIT IS PROVIDED WITH 40 SCREW TYPE TERMINAL PUNCHINGS.

KEY TELEPHONE UNITS CIRCUITS
(228A KTU)

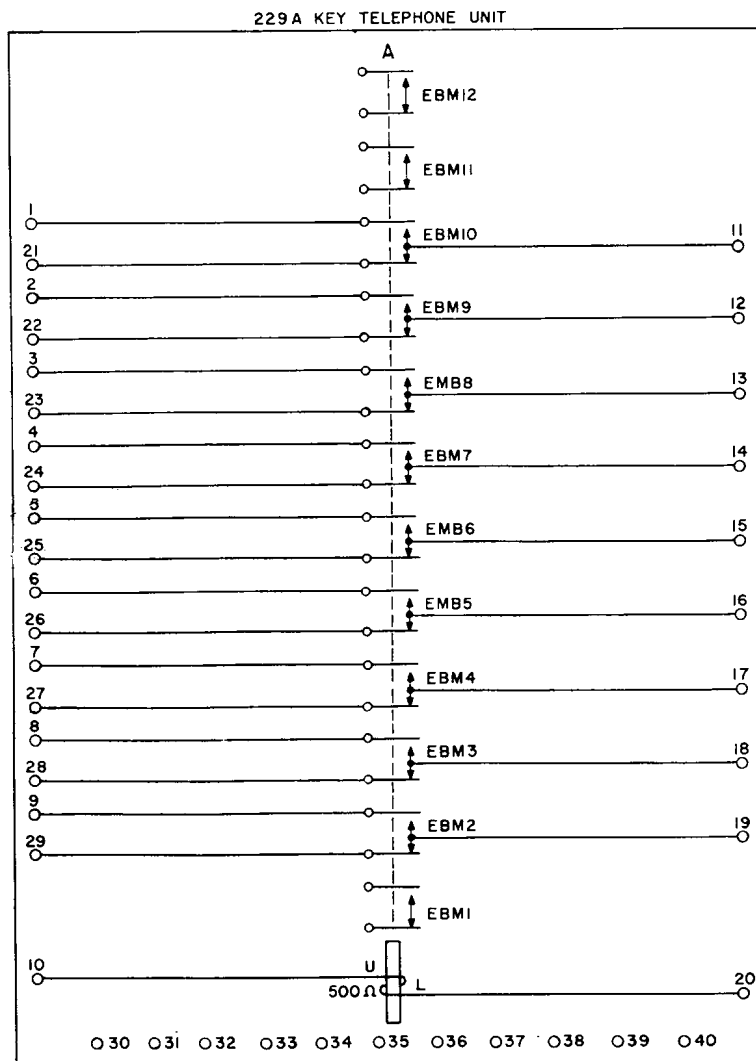
SD-69288-01-C30

BELL TELEPHONE LABORATORIES
INCORPORATED

SIZE
3S

PRINTED IN U. S. A.

FIG. 33 MFR(DISC)
AUXILIARY RELAY UNIT



EQUIPMENT NOTES:

201. THIS KEY TELEPHONE UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TELEPHONE SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TELEPHONE UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

24V NOMINAL
(20-26V)

KEY TELEPHONE UNITS CIRCUITS
(229A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

SD-69288-01-C31

PRINTED IN U. S. A.

DRAWING	ISSUE
8A	ST/80
12B	RJT
	ENC
	REF
16B	RBB
	REG

DRAWING ISSUE	
8A	ST/LB
10A	D.R. DHC
11A	JWB DHC
16B	R.BB R.BB P.B.



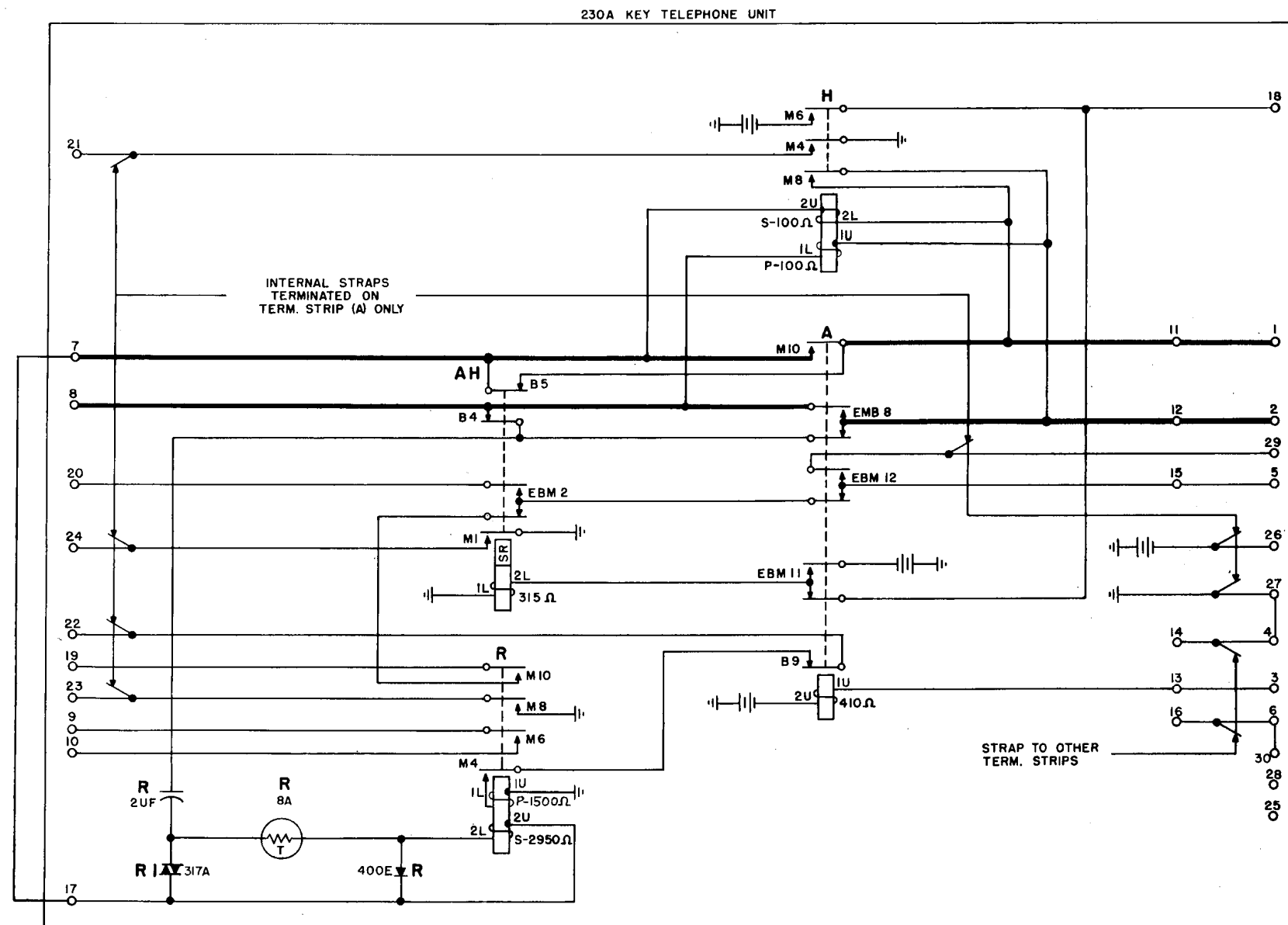
20V NOMINAL
(14-26V)

BELL TELEPHONE LABORATORIES
INCORPORATED

DWA SIZE
3S

PRINTED IN U. S. A.

FIG.35(MFR DISC.)
CO OR PBX LINE CIRCUIT
(SEE NOTES 203 & 204)



EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69270-01, J53021.
202. THIS KEY TEL UNIT IS 19 MODULES (8-9/32 IN.) WIDE.
203. TERMINAL STRIP (A) ONLY EQUIPPED WITH TERMINALS 21 THROUGH 30.
204.

INTERNAL STRAPPING OF TERMINAL STRIPS			
TS(A) CKT 1	TS(B) CKT 2	TS(C) CKT 3	TS(D) CKT 4
1 11	1 11	1 11	1 11
2 12	2 12	2 12	2 12
3 13	3 13	3 13	3 13
4 14	4 14	4 14	4 14
5 15	5 15	5 15	5 15
6 16	6 16	6 16	6 16
7 17	7 17	7 17	7 17
8 18	8 18	8 18	8 18
9 19	9 19	9 19	9 19
10 20	10 20	10 20	10 20
11 21	11 21	11 21	11 21
12 22	12 22	12 22	12 22
13 23	13 23	13 23	13 23
14 24	14 24	14 24	14 24
15 25	15 25	15 25	15 25
16 26	16 26	16 26	16 26
17 27	17 27	17 27	17 27
18 28	18 28	18 28	18 28
19 29	19 29	19 29	19 29
20 30	20 30	20 30	20 30

KEY TELEPHONE UNITS CIRCUITS
(230A KJU)

BELL TELEPHONE LABORATORIES
INCORPORATED

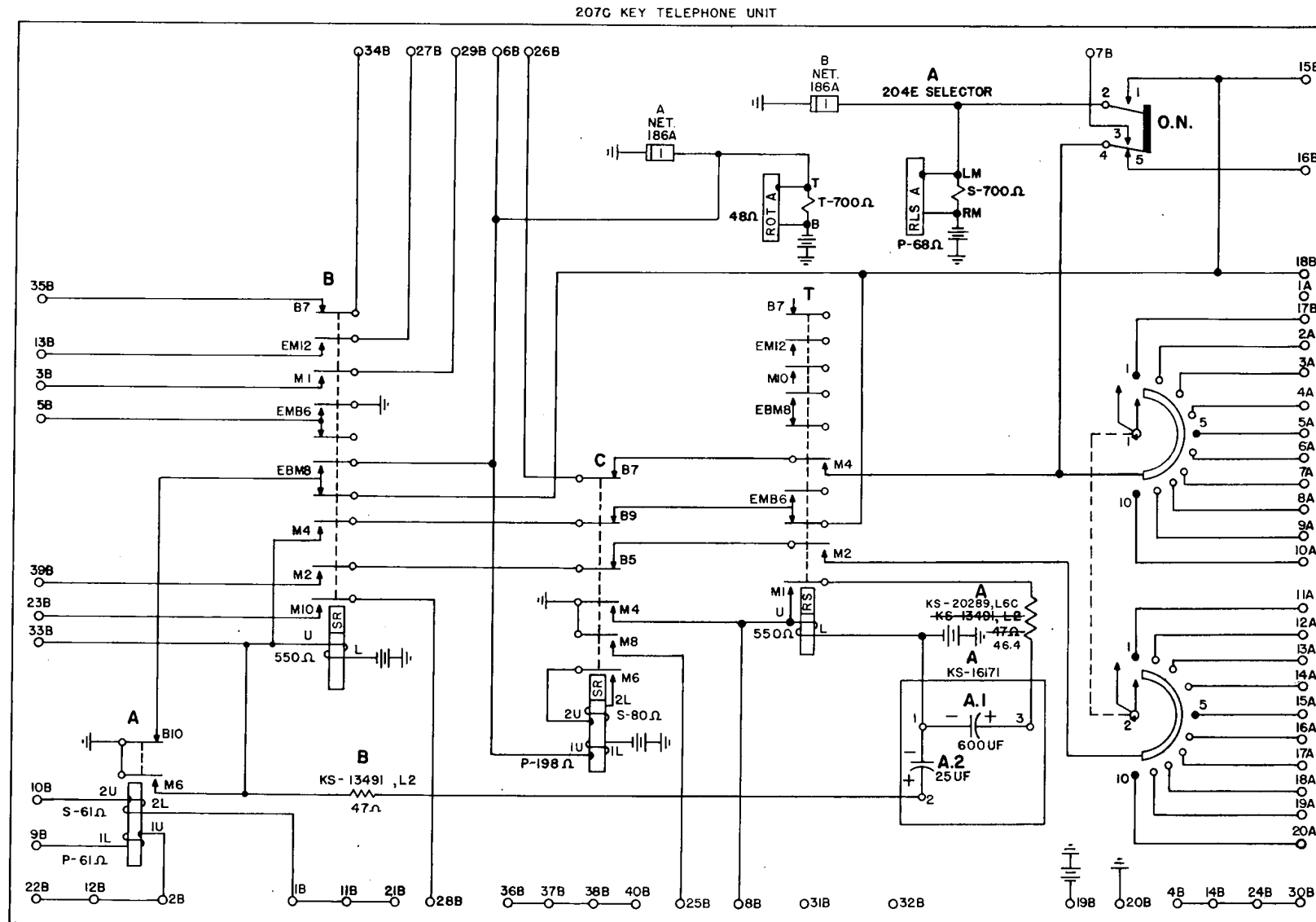
6S

SD-69288-01-C33

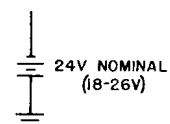
PRINTED IN U. S. A.

FIG.37
SELECTOR CIRCUIT

DRAWING
ISSUE
8A
V6B
K2B
L2B
R2B



EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 12 MODULES (5-7/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS

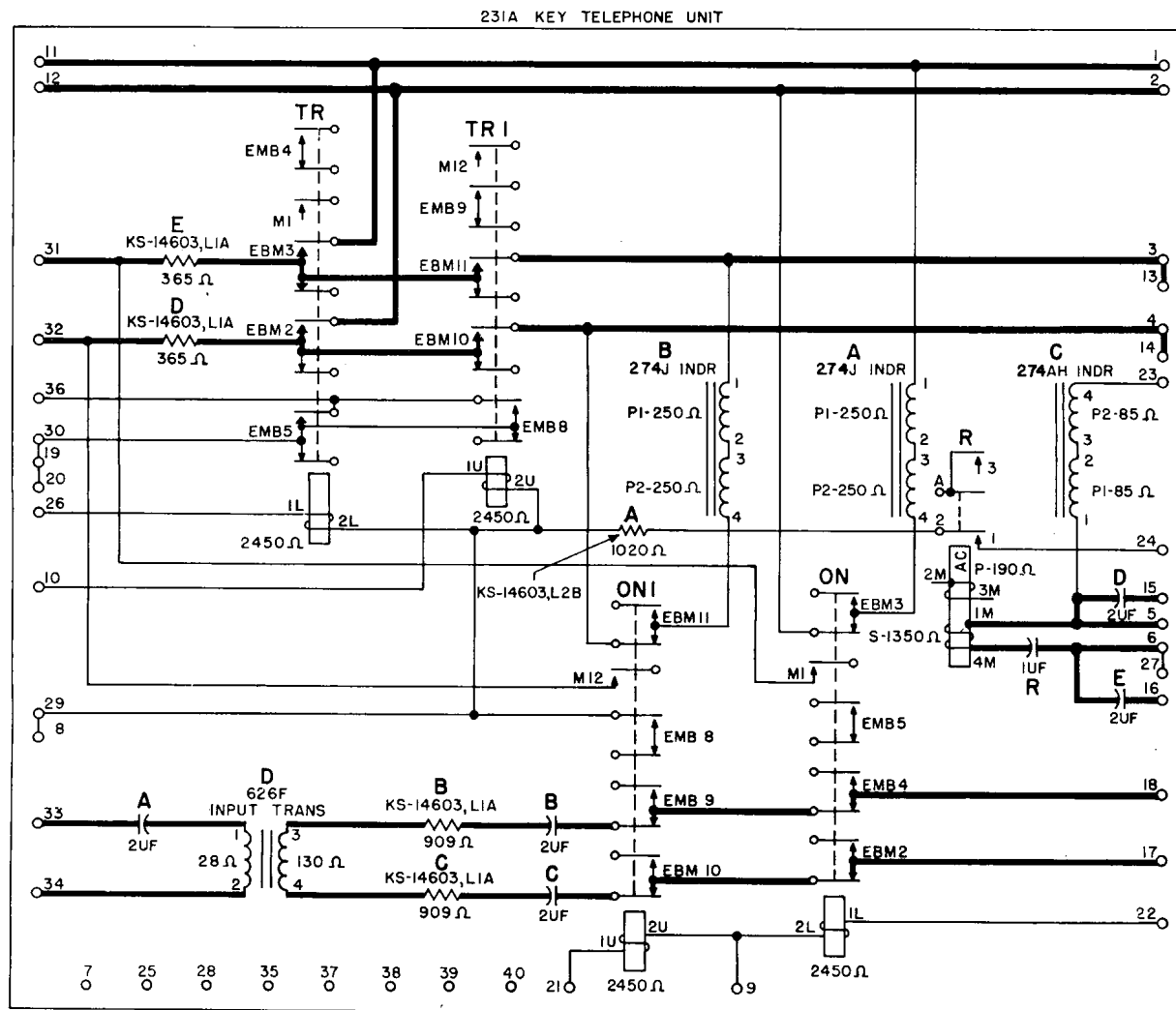
SD-69288-01-C34

BELL TELEPHONE LABORATORIES
INCORPORATED

65

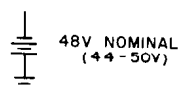
PRINTED IN U. S. A.

FIG. 38 (MFR DISC)
LINE AND CONTROL CKT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN CONTROL STATION CIRCUIT SD-69364-01, J95421
202. THIS KEY TEL UNIT IS 13 MODULES (5-21/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(231A KTU)

SD-69288-01-C35

BELL TELEPHONE LABORATORIES
INCORPORATED

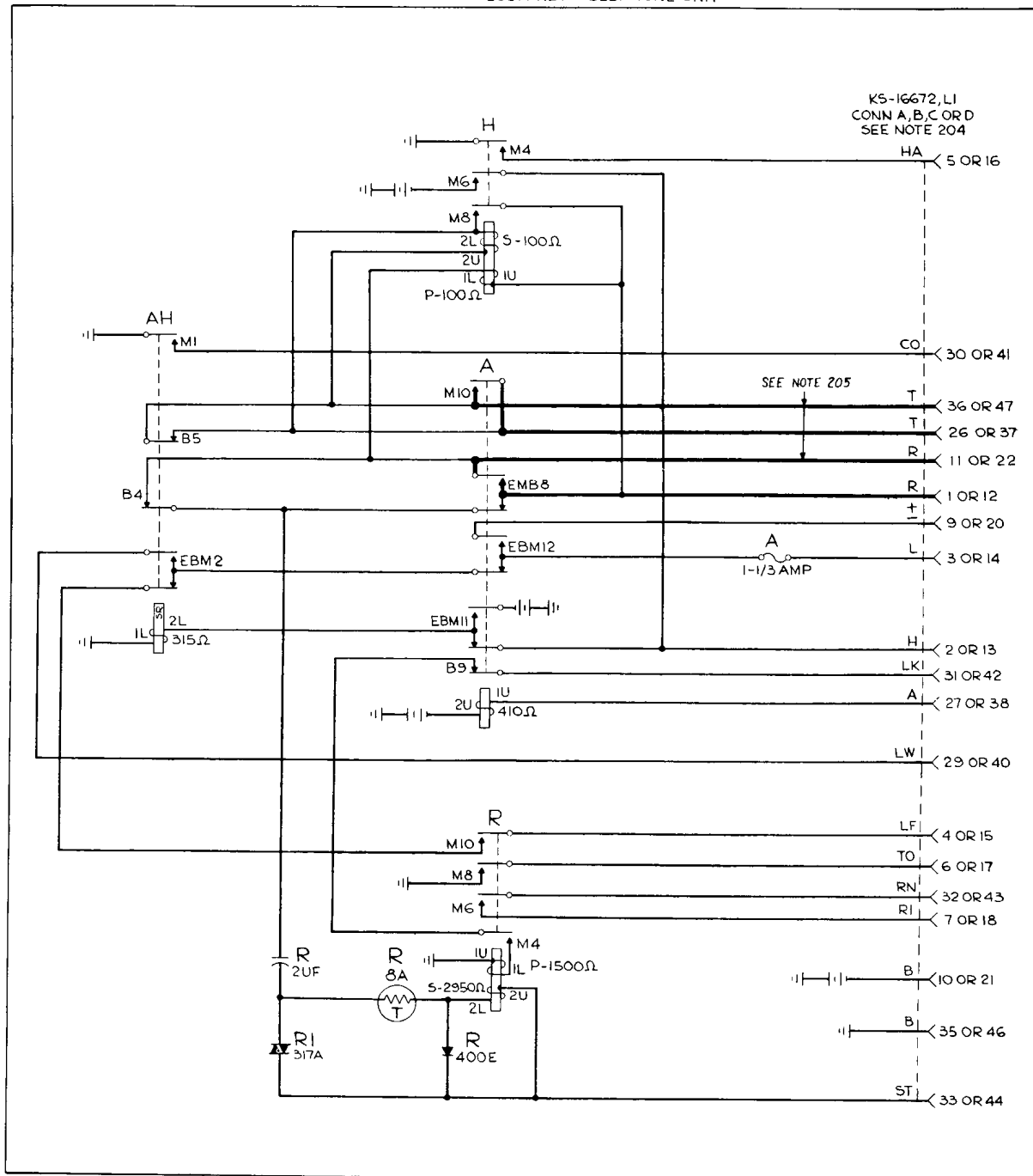
3S

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FIG.39(MFR DISC.)

CENTRAL OFFICE OR PBX LINE CIRCUIT
(10 CIRCUITS)

233A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL. UNIT IS USED PRIMARILY IN KEY TEL. SYS NO. 1A1, SD 69270-01, J53021.
 202. THIS KEY TEL. UNIT IS 23 IN. WIDE.
 203. THE (H) RELAY SHALL BE EQUIPPED WITH A P-19A14G SHIELD.
 204. CONN. A FOR CKTS. 1 AND 2
 CONN. B FOR CKTS. 3 AND 4
 CONN. C FOR CKTS. 5 AND 6
 CONN. D FOR CKTS. 7 AND 8
 CONN. E FOR CKTS. 9 AND 10
 TERMINALS 1 TO 11 AND 26 TO 36 ARE FOR ODD NUMBERED CKTS.
 TERMINALS 12 TO 22 AND 37 TO 47 ARE FOR EVEN NUMBERED CKTS.
 205. TO CO. OR PBX.

14-26 V

DRAWING	ISSUE
8A	157-18
11A	JWB
12B	RT
16B	128

KEY TELEPHONE UNITS CIRCUITS
(233A KTU)

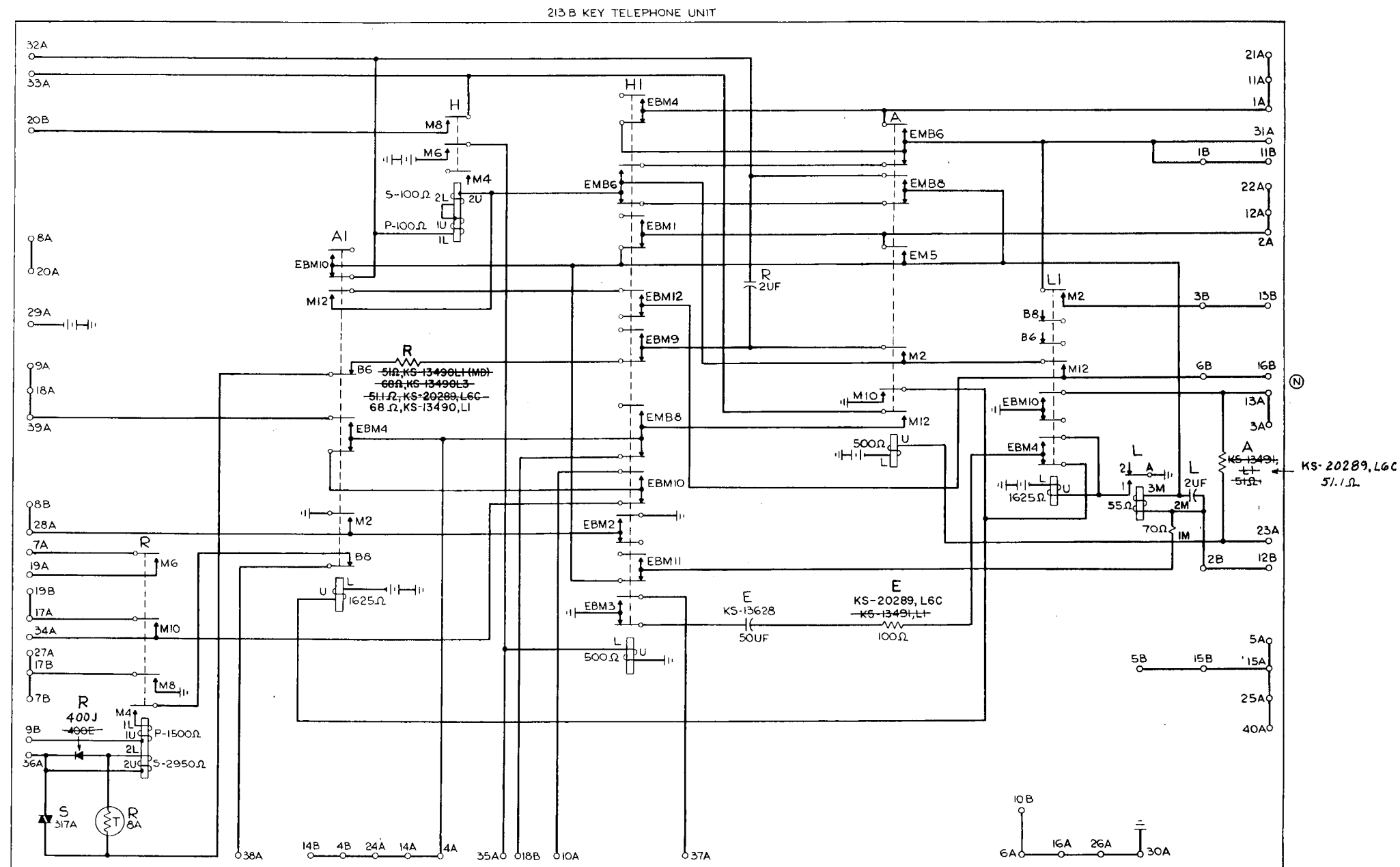
SD-69288-01-C36

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

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FIG.40
JOINT USE LINE CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE WITH KEY TEL SYSTEM NO. 1A & 1A1 AND KEY EQUIPMENTS NO. 100, NO. 101A, AND 101B CIRCUIT SHOWN ON DRAWING SD-69230-01, J53021.
202. THIS KEY TEL UNIT IS 11 MODULES (4-25/32 IN.) WIDE.
203. THE (H) RELAY IS EQUIPPED WITH A P-19A146 SHIELD.

20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS
(213B KTU)

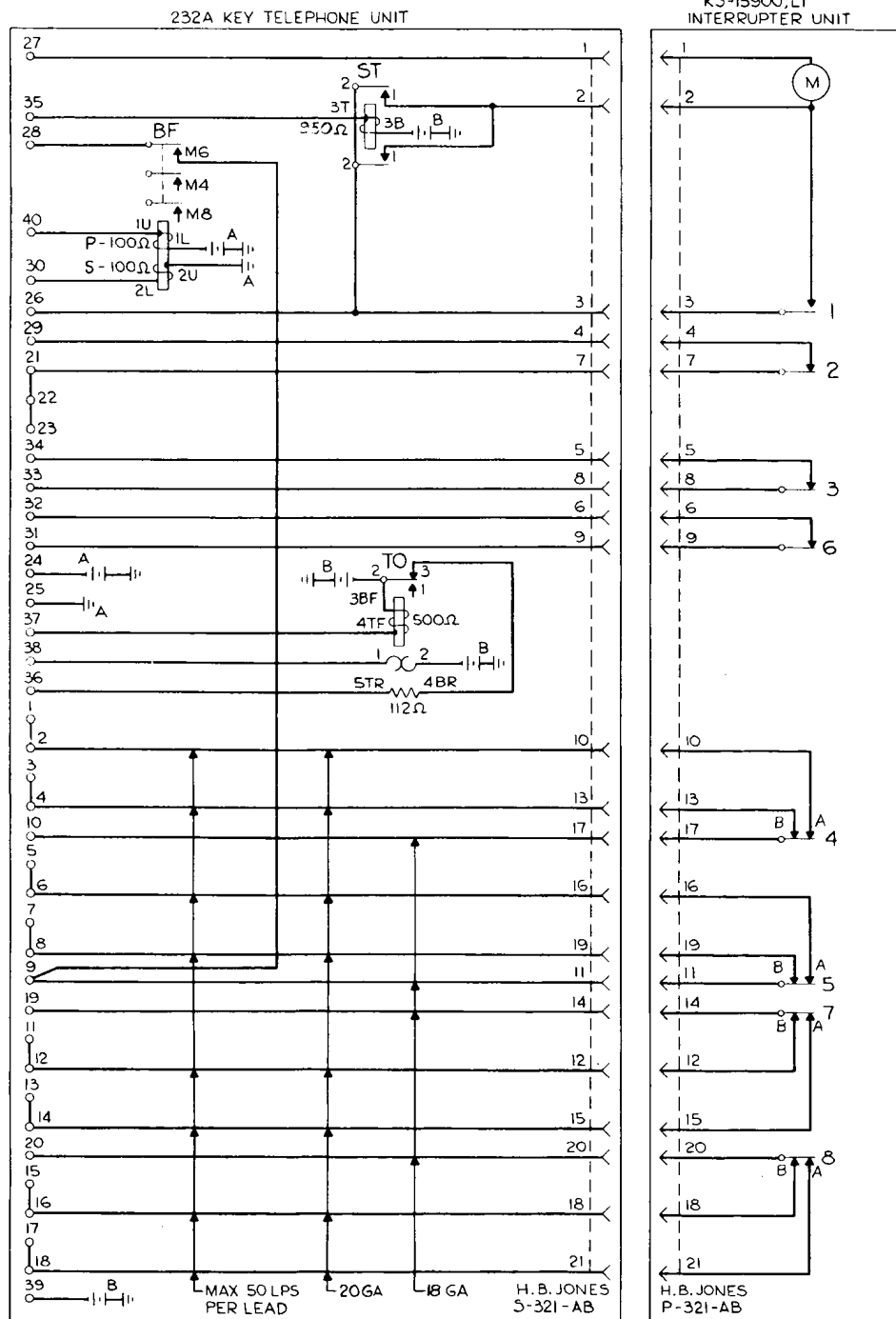
SD-69288-01-C37

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

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FIG. 41 (MFR DISC.)
ELECTRO-MECHANICAL FLASH, WINK, RING AND TIMEOUT CIRCUIT



20V NOMINAL
(14 - 26 V)

KEY TELEPHONE UNITS CIRCUITS
(232A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

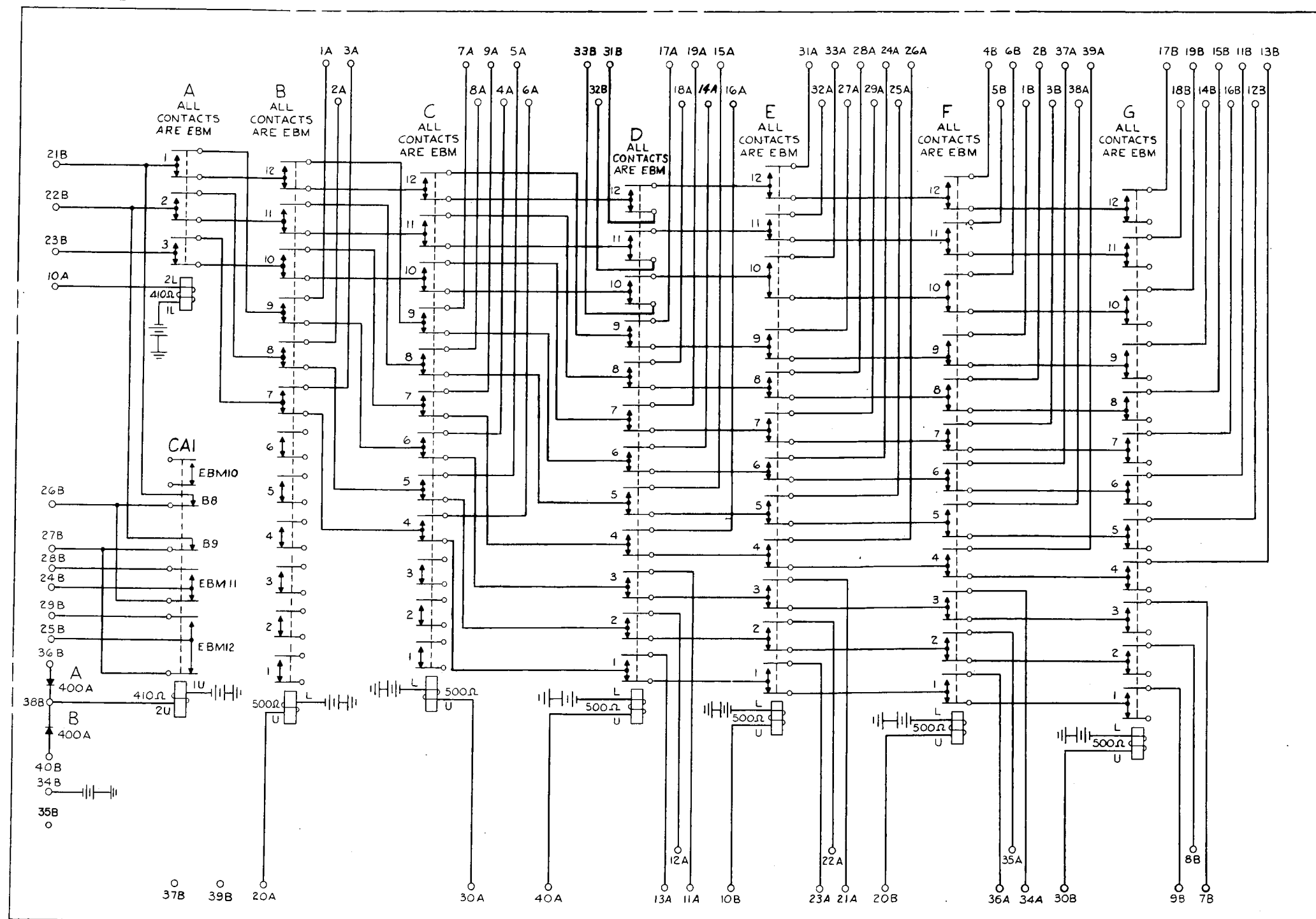
SD-69288-01-C38

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DRAWING	ISSUE
8A	ST/PM
9A	2/16
11A	JWB
12B	RJT
16B	PAB
	PEG

FIG. 43 (MFR DISC.)
STATION LINE CONCENTRATOR FOR 18 LINES

235A KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS PRIMARILY FOR USE IN KEY TEL SYSTEM NO. 6A, 1A1 AND 1A2 PER SD 69387-01, SD 69498-01 AND SD 69499-01.
202. THIS KEY TEL UNIT IS 14 MODULES (6-3/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(235A KTU)

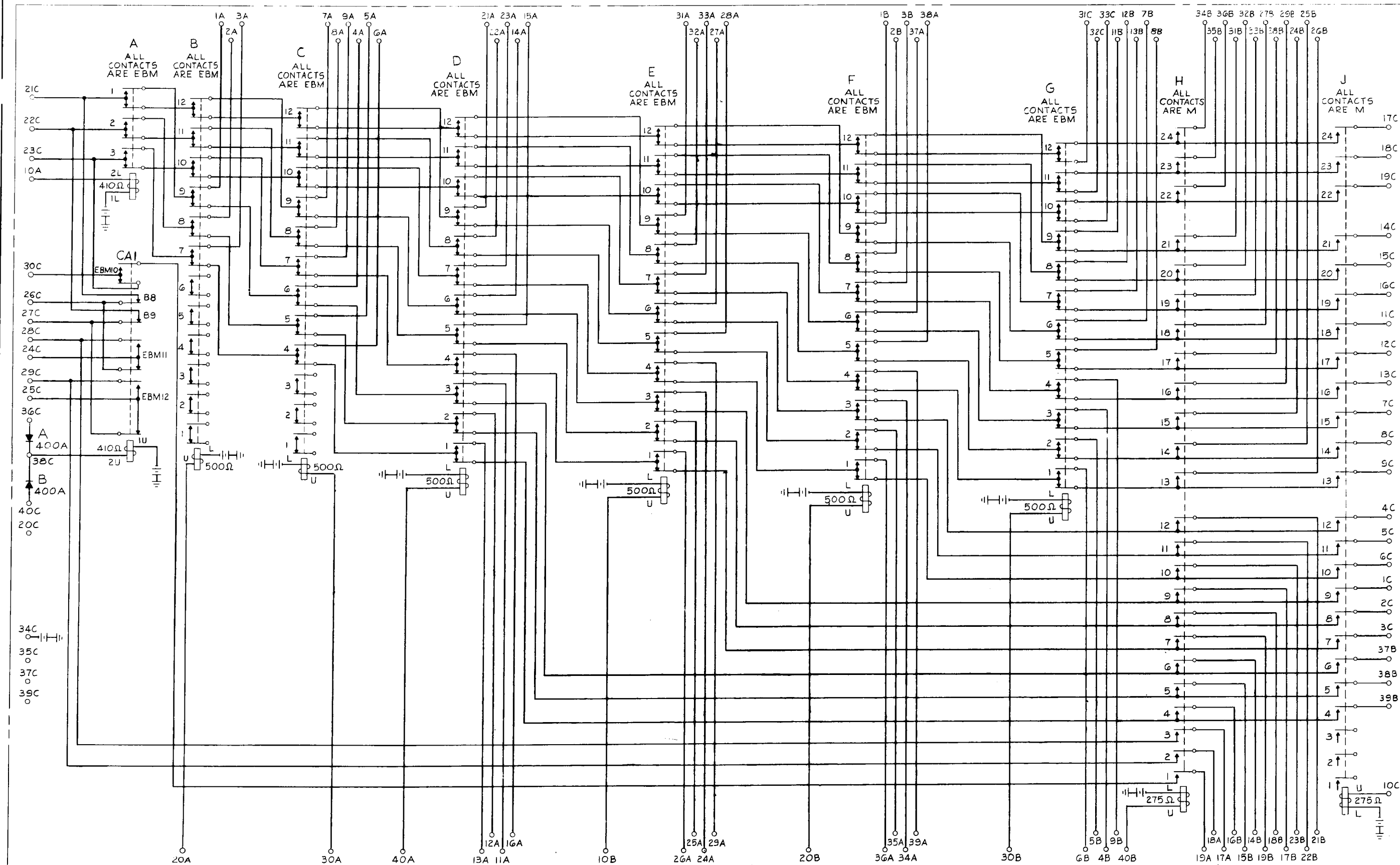
BELL TELEPHONE LABORATORIES
INCORPORATED

65

SD-69288-01-C41

FIG. 44 (MFR. DISC.)
STATION LINE CONCENTRATOR FOR 30 LINES

236A KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS PRIMARILY FOR USE IN KEY SYSTEM NO. 6A, 1A1 AND 1A2 PER SD-69387-01, SD-69498-01 AND SD-69499-01
202. THIS KEY TEL UNIT IS 20 MODULES (8-23/32 IN.) WIDE.

20V NOMINAL
(14 - 26V)

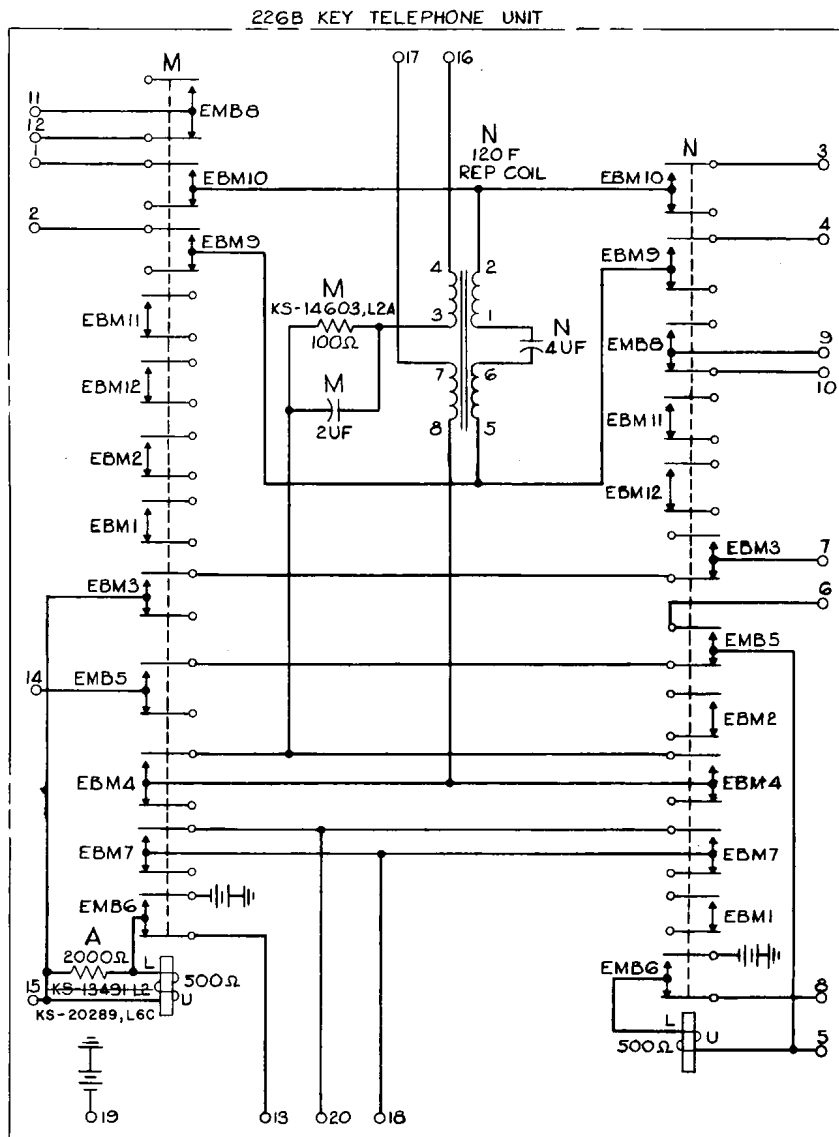
KEY TELEPHONE UNITS CIRCUITS
(236A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

65

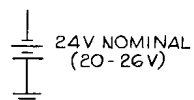
SD-69288-01-C42

FIG. 45
INWARD CONFERENCE CONTROL CKT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(226B KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

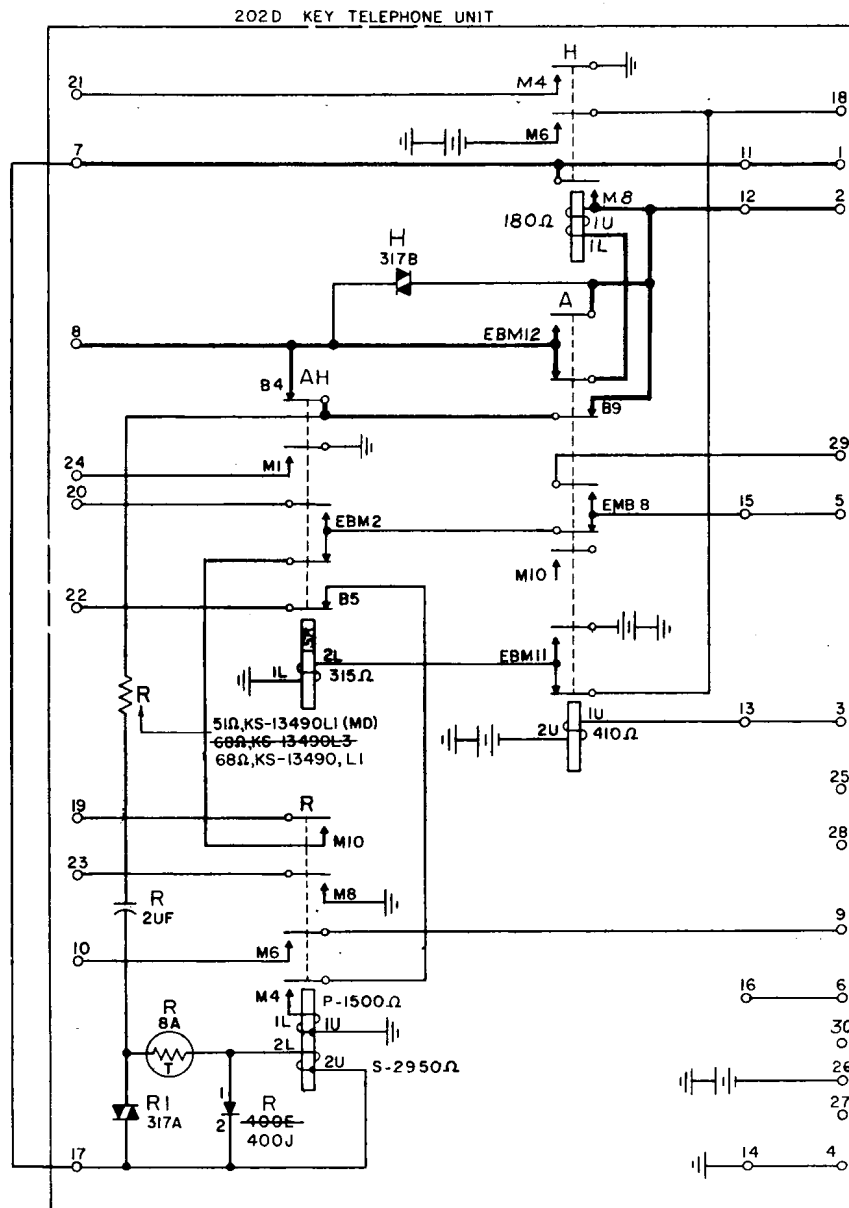
OWO SIZE
3S

SD-69288-01-C43

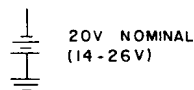
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FIG 46
CO OR PBX LINE CIRCUIT

DRAWING	ISSUE
10A	27A
12B	107
16B	168
16B	168
16B	168



EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO 1A1, SD-69270-01, J53021.
202. THIS KEY TEL UNIT IS 6 MODULES (2-19/32 IN) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(202D KTU)

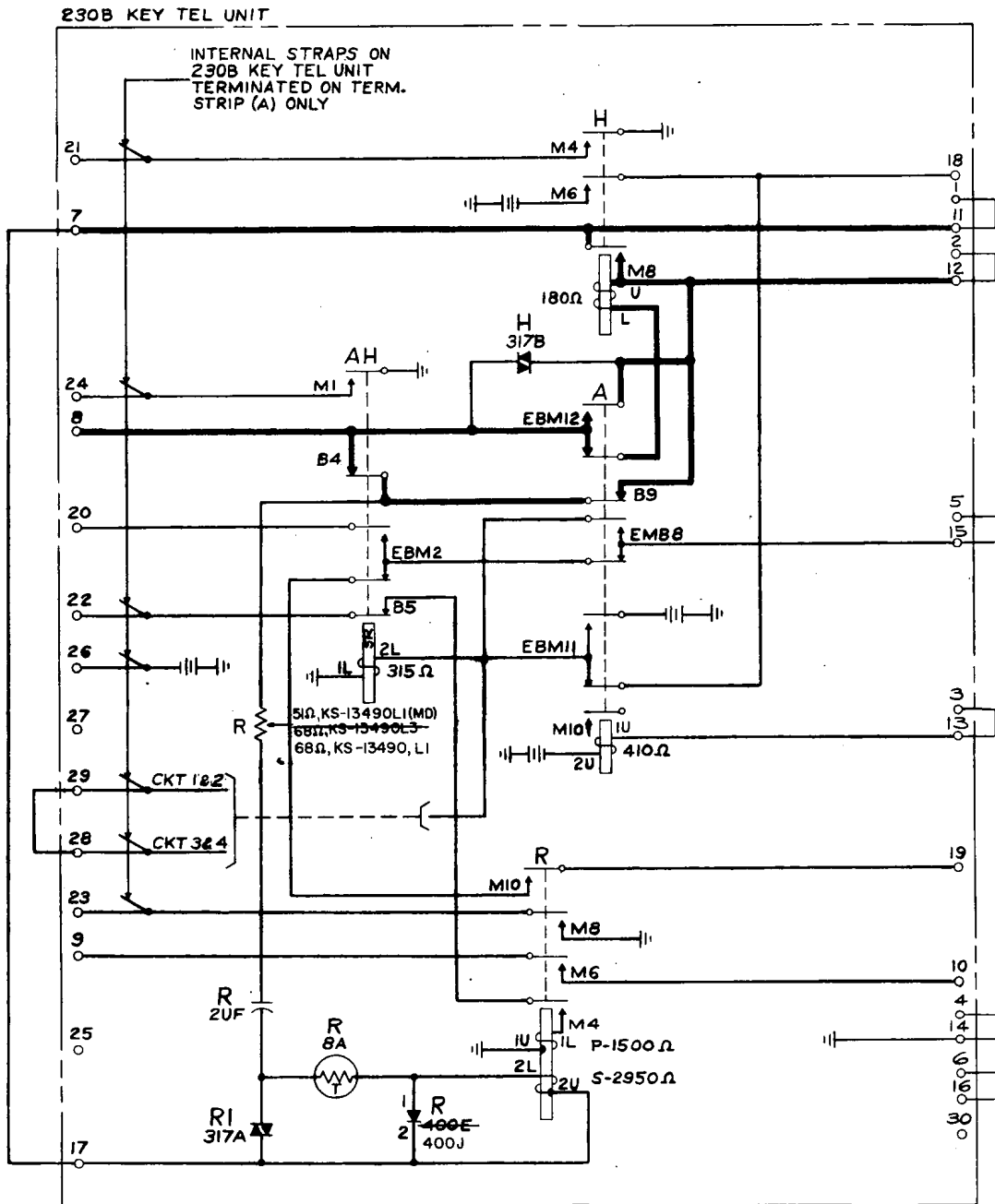
SD-69288-01-C44

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

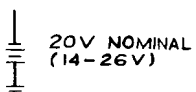
PRINTED IN U.S.A.

FIG. 47
CO OR PBX LINE CKT
(4 CKTS)



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69270-01, J53021.
202. THIS KEY TEL UNIT IS 19 MODULES (8-9/32 IN.) WIDE.
203. TERMINALS 21 THROUGH 30 ARE ON TERMINAL STRIP (A) ONLY.



KEY TELEPHONE UNITS CIRCUITS
(230B KTU)

SD-69288-01-C45

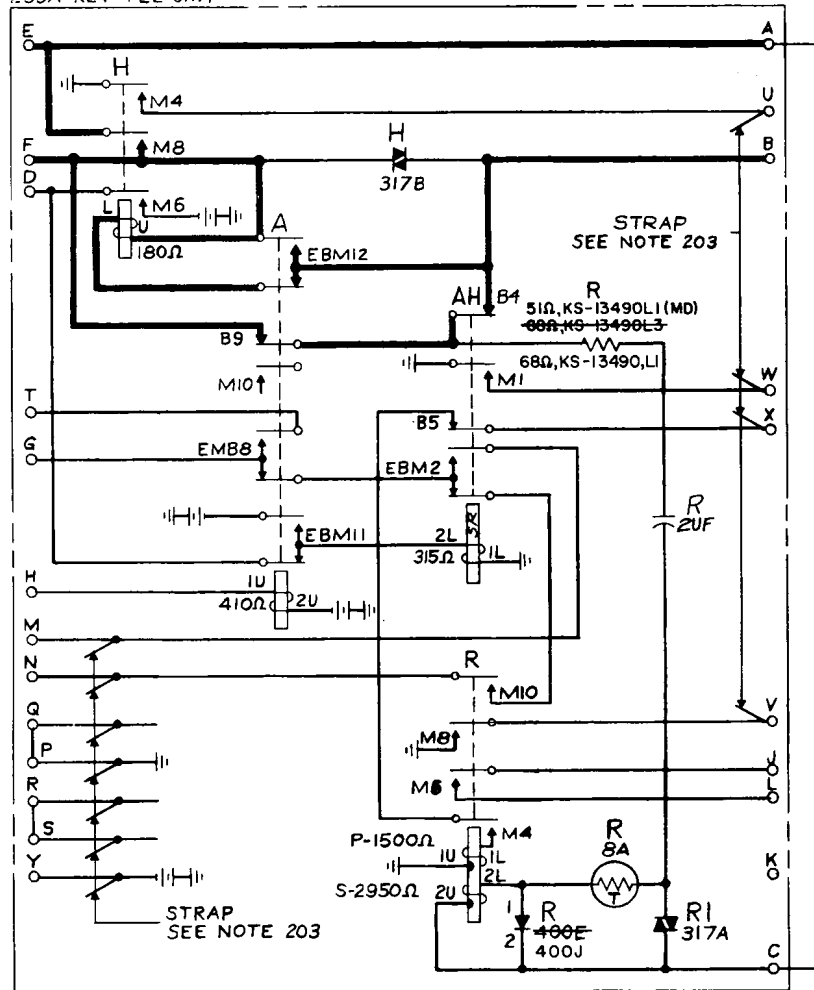
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
35

PRINTED IN U.S.A.

FIG. 48
CO OR PBX LINE CKT
(11 CKTS)

239A KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69270-01, J53021.
202. THIS KEY TEL UNIT IS 23 IN. WIDE.

203.

REF DESIG	CKT 1	CKT 2	CKT 3	CKT 4	CKT 5	CKT 6	CKT 7	CKT 8	CKT 9	CKT 10	CKT 11
A	7A	27A	7B	27B	7C	27C	7D	27D	7E	27E	7F
B	8A	28A	8B	28B	8C	28C	8D	28D	8E	28E	8F
C	17A	37A	17B	37B	17C	37C	17D	37D	17E	37E	17F
D	21F	22F	23F	24F	25F	31F	32F	33F	34F	35F	36F
E	1A, 11A	21A, 31A	1B, 11B	21B, 31B	1C, 11C	21C, 31C	1D, 11D	21D, 31D	1E, 11E	21E, 31E	1F, 11F
F	2A, 12A	22A, 32A	2B, 12B	22B, 32B	2C, 12C	22C, 32C	2D, 12D	22D, 32D	2E, 12E	22E, 32E	2F, 12F
G	5A, 15A	25A, 35A	5B, 15B	25B, 35B	5C, 15C	25C, 35C	5D, 15D	25D, 35D	5E, 15E	25E, 35E	5F, 15F
H	3A, 13A	23A, 33A	3B, 13B	23B, 33B	3C, 13C	23C, 33C	3D, 13D	23D, 33D	3E, 13E	23E, 33E	3F, 13F
J	20A	40A	20B	40B	20C	40C	20D	40D	20E	40E	20F
K	18A	38A	18B	38B	18C	38C	18D	38D	18E	38E	18F
L	19A	39A	19B	39B	19C	39C	19D	39D	19E	39E	19F
M		15G		16G		17G		18G		19G	20G
N		5G		6G		7G		8G		9G	10G
P		9A		9B		9C		9D		9E	9F
Q	4A, 14A, 24A, 34A		4B, 14B, 24B, 34B		4C, 14C, 24C, 34C		4D, 14D, 24D, 34D		4E, 14E, 24E, 34E		4F, 14F
R	6A, 16A, 26A, 36A		6B, 16B, 26B, 36B		6C, 16C, 26C, 36C		6D, 16D, 26D, 36D		6E, 16E, 26E, 36E		6F, 16F
S		29A		29B		29C		29D		29E	29F
T		30A, 25G		30B, 26G		30C, 27G		30D, 28G		30E, 29G	30F, 30G
Y		10A		10B		10C		10D		10E	10F
U			1G				11G			21G	
V			2G				12G			22G	
W			3G				13G			23G	
X			4G				14G			24G	

REMOVABLE STRAPS ON THE FOLLOWING TERMS:

TERM. STRIPS (A), (B), (C), (D) AND (E), 1-11, 21-31, 2-12, 22-32, 3-13, 23-33, 4-14-24-34, 5-15, 25-35, 6-16-26-36, 7-17, 27-37.
TERM. STRIP (F), 1-11, 2-12, 3-13, 4-14, 5-15, 6-16, 7-17.
TERM. STRIP (G), 1-11-21, 2-12-22, 3-13-23, 4-14-24.

1
20V NOMINAL
14-26V

KEY TELEPHONE UNITS CIRCUITS
(239A KTU)

SD-69288-01-C46

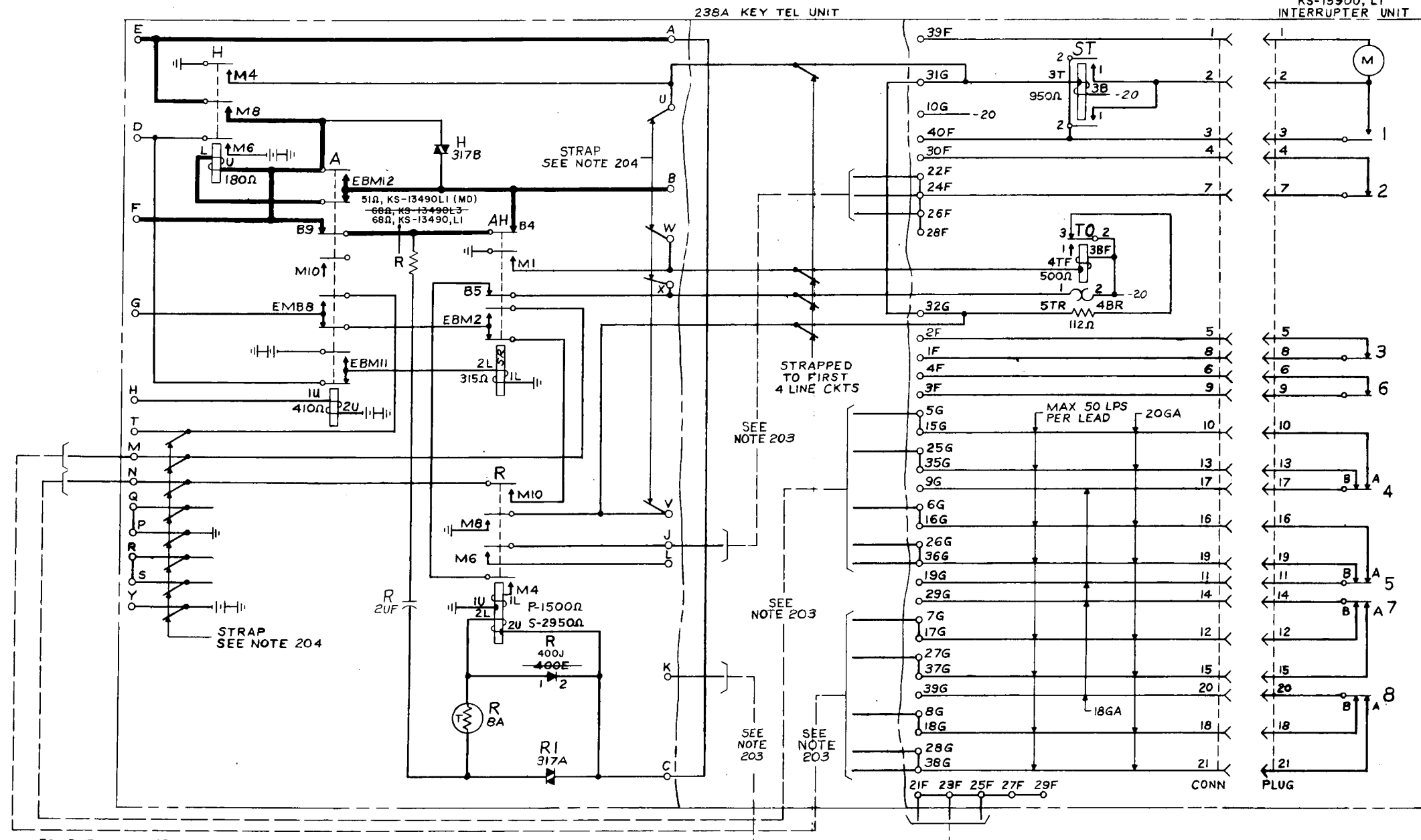
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

PRINTED IN U.S.A.

DRAWING
ISSUE
11A
12B
12C
12D
12E
12F
12G
12H
12I
12J
12K
12L
12M
12N
12O
12P
12Q
12R
12S
12T
12U
12V
12W
12X
12Y
12Z

FIG. 49
9 CO OR PBX LINE CKT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, SD-69270-01, J53021.

202. THIS KEY TEL UNIT IS 23 IN. WIDE.

203. PROVIDE REMOVABLE STRAPS ON FOLLOWING PCHGS:
20A-40A-20B-40B-22F, 20C-40C-20D-40D-24F, 20E-26F,
18A-38A-18B-38B-21F, 18C-38C-18D-38D-23F, 18E-25F,
6F-7G, 7F-8G, 8F-27G, 9F-28G, 10F-38G,
36E-5G, 37E-6G, 38E-25G, 39E-26G, 40E-36G.

204.

REF DESIG	CKT 1	CKT 2	CKT 3	CKT 4	CKT 5	CKT 6	CKT 7	CKT 8	CKT 9
A	7A	27A	7B	27B	7C	27C	7D	27D	7E
B	8A	28A	8B	28B	8C	28C	8D	28D	8E
C	17A	37A	17B	37B	17C	37C	17D	37D	17E
D	21E	22E	23E	24E	25E	31E	32E	33E	34E
E	1A, 11A	21A, 31A	1B, 11B	21B, 31B	1C, 11C	21C, 31C	1D, 11D	21D, 31D	1E, 11E
F	2A, 12A	22A, 32A	2B, 12B	22B, 32B	2C, 12C	22C, 32C	2D, 12D	22D, 32D	2E, 12E
G	5A, 15A	25A, 35A	5B, 15B	25B, 35B	5C, 15C	25C, 35C	5D, 15D	25D, 35D	5E, 15E
H	3A, 13A	23A, 33A	3B, 13B	23B, 33B	3C, 13C	23C, 33C	3D, 13D	23D, 33D	3E, 13E
J	20A	40A	20B	40B	20C	40C	20D	40D	20E
K	18A	38A	18B	38B	18C	38C	18D	38D	18E
L	19A	39A	19B	39B	19C	39C	19D	39D	19E
M	6F	26F	7F	27F	8F	28F	9F	29F	10F
N	36E	37E	38E	39E	40E	41E	42E	43E	44E
P	9A	29A	9B	29B	9C	29C	9D	29D	9E
Q	4A, 14A, 24A, 34A	4B, 14B, 24B, 34B	4C, 14C, 24C, 34C	4D, 14D, 24D, 34D	4E, 14E, 24E, 34E	4F, 14F, 24F, 34F	4G, 14G, 24G, 34G	4H, 14H, 24H, 34H	4I, 14I, 24I, 34I
R	6A, 16A, 26A, 36A	6B, 16B, 26B, 36B	6C, 16C, 26C, 36C	6D, 16D, 26D, 36D	6E, 16E, 26E, 36E	6F, 16F, 26F, 36F	6G, 16G, 26G, 36G	6H, 16H, 26H, 36H	6I, 16I, 26I, 36I
S	29A	29B	29C	29D	29E	29F	29G	29H	29I
T	30A, 16F	30B, 17F	30C, 18F	30D, 19F	30E, 20F	30F, 21F	30G, 22F	30H, 23F	30I, 24F
Y	10A	10B	10C	10D	10E	10F	10G	10H	10I
U	11A	11B	11C	11D	11E	11F	11G	11H	11I
V	21A	21B	21C	21D	21E	21F	21G	21H	21I
W	31A	31B	31C	31D	31E	31F	31G	31H	31I
X	41A	41B	41C	41D	41E	41F	41G	41H	41I

REMOVABLE STRAPS ON THE FOLLOWING TERMS:

TERM. STRIPS (A), (B), (C) AND (D), 1-11, 21-31, 2-12, 22-32, 3-13, 23-33, 4-14-24-34, 5-15, 25-35, 6-16-26-36, 7-17, 27-37.
TERM. STRIP (E), 1-11, 2-12, 3-13, 4-14, 5-15, 6-16, 7-17.
TERM. STRIP (G), 1-11-21, 2-12-22, 3-13-23, 4-14-24.

PROVIDED WITH
KS-15900, L1
INTERRUPTER UNIT

20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS
(238A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

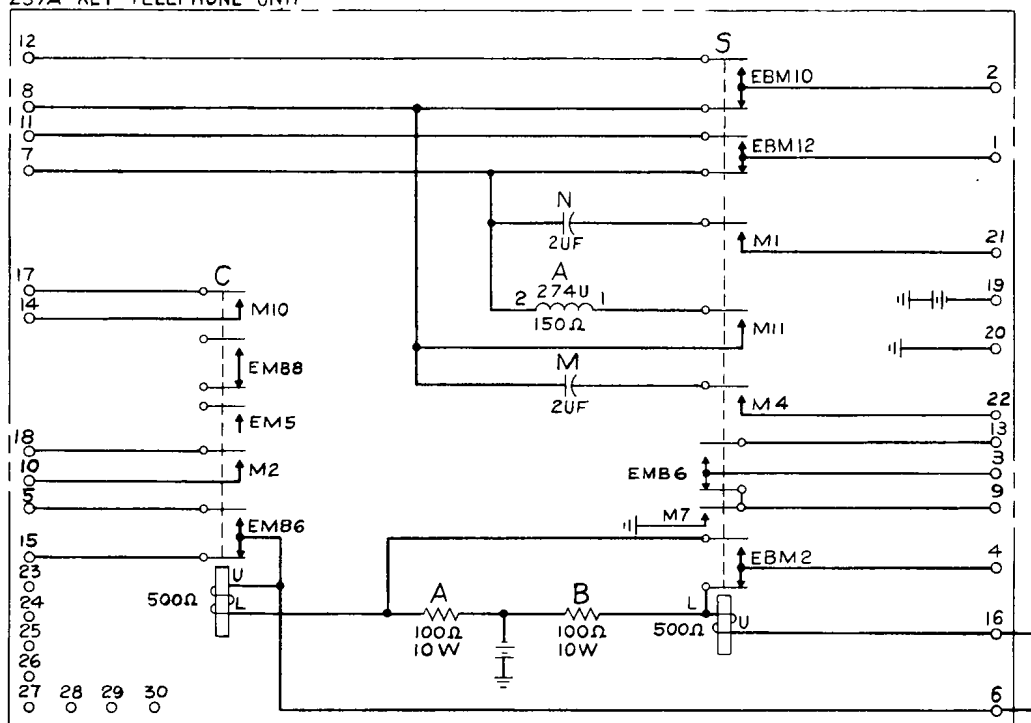
SD-69288-01-C47

PRINTED IN U.S.A.

FIG. 50 (MFR DISC.)
BRIDGING CIRCUIT

DRAWING ISSUE	
11A	WJB DWC
14B	P.G. DWC
16B	ARM
	222 125 154

237A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69270.
202. THIS KEY TEL UNIT IS 6 MODULES (2-19/32 IN.) WIDE.

 20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS
(237A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

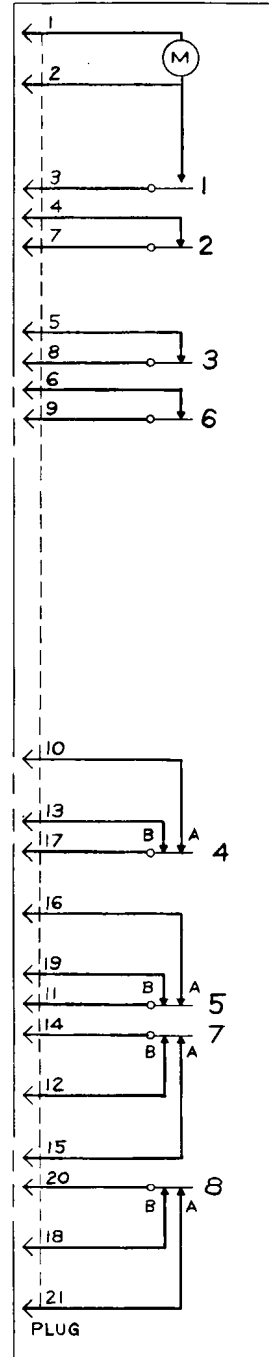
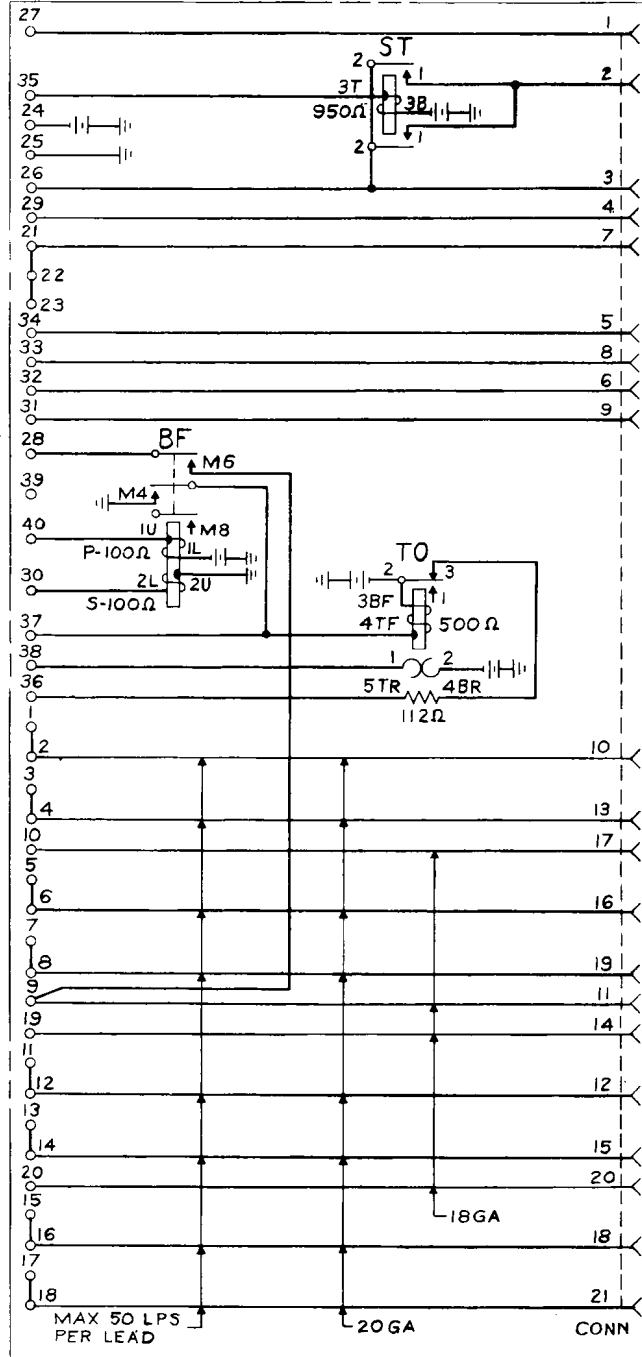
SD-69288-01-C48

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FIG. 51 (MFR DISC.)
FLASH, WINK, RING AND TIMEOUT CIRCUIT
(ELECTRO-MECHANICAL)
(THIS KEY TEL UNIT NOT TO EXCEED 200 LAMPS)

PROVIDE WITH KS-15900, LI
INTERRUPTER UNIT

232B KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY STATION TEL SYSTEMS
VISUAL AND AUDIBLE SIGNAL CIRCUITS, SD 69294-01
202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.
203. THE KS-15900, LI UNIT IS NOT FURNISHED AS A PART OF THE 232B KEY TEL UNIT.

20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS

SD-69288-01-C49

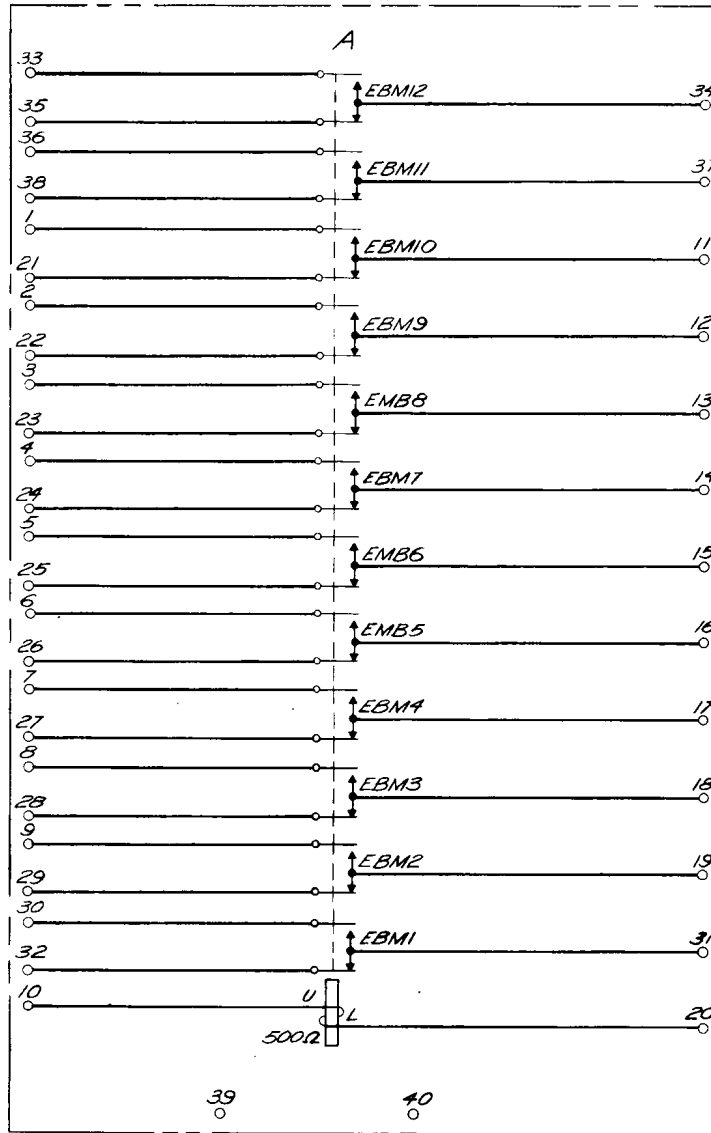
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

PRINTED IN U.S.A.

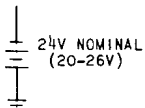
FIG. 52
AUXILIARY RELAY UNIT

229B KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TELEPHONE UNIT IS DESIGNED FOR USE PRIMARILY IN 4-WIRE SUBSCRIBER LINE CIRCUITS, SD-69414-01.
202. THIS KEY TELEPHONE UNIT IS 7 MODULES (3-1/32 IN.) WIDE.



KEY TELEPHONE UNIT CIRCUIT

(229B KTU)

SD-69288-01-C50

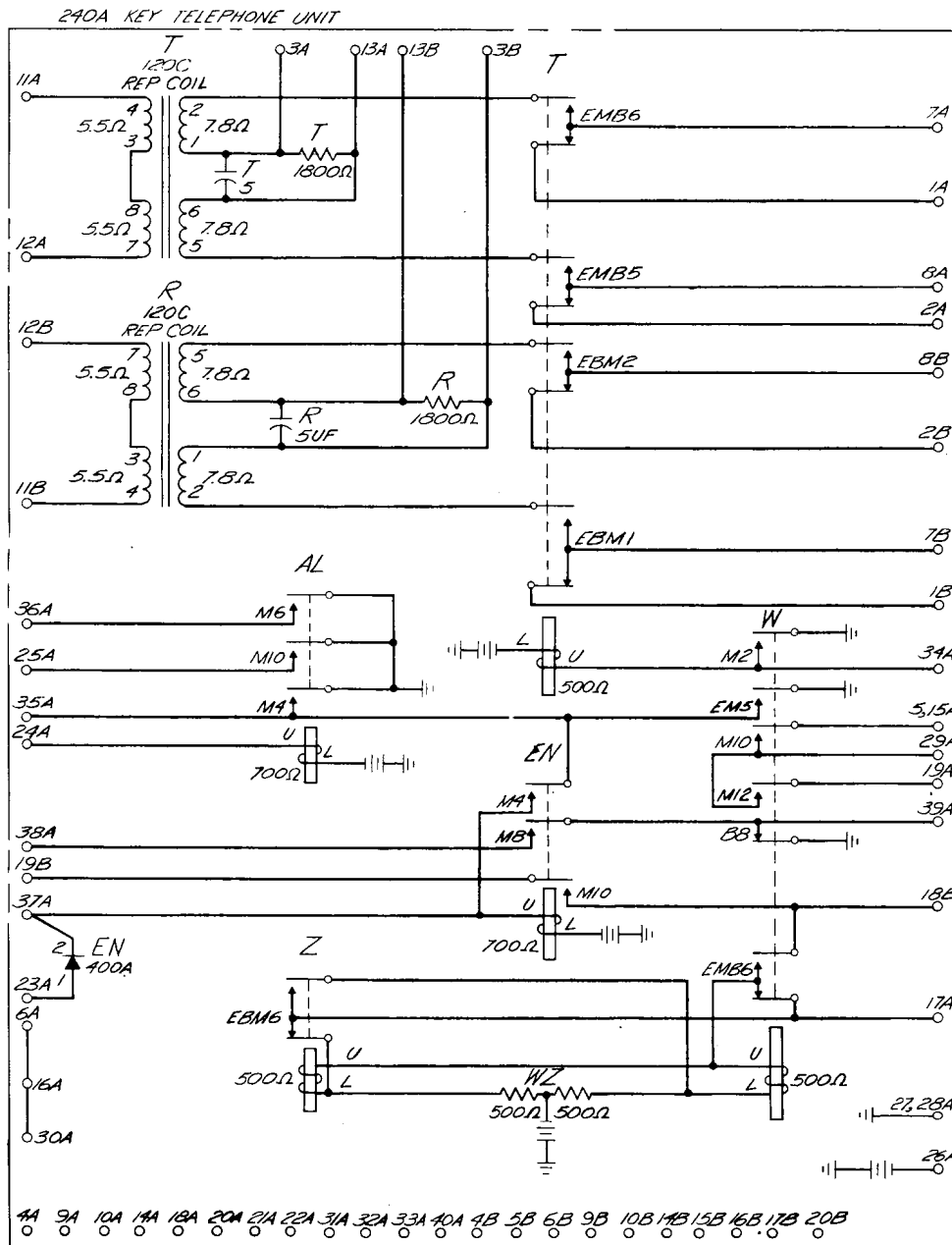
BELL TELEPHONE LABORATORIES
INCORPORATED

3S

PRINTED IN U.S.A.

FIG. 53 (MFR DISC.)
LINE TRANSFER CIRCUIT

DRAWING	ISSUE
12B	R.T. DHC M.C.
14B	PG DHC ARM
16B	PA R.S. L.G.



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1,
SD-69422-01.
202. THIS KEY TEL UNIT IS 16 MODULES (6-31/32 IN.) WIDE.

20V NOMINAL
(20-26V)

KEY TELEPHONE UNIT CIRCUIT
(240A KTU)

SD-69288-01-C51

BELL TELEPHONE LABORATORIES
INCORPORATED

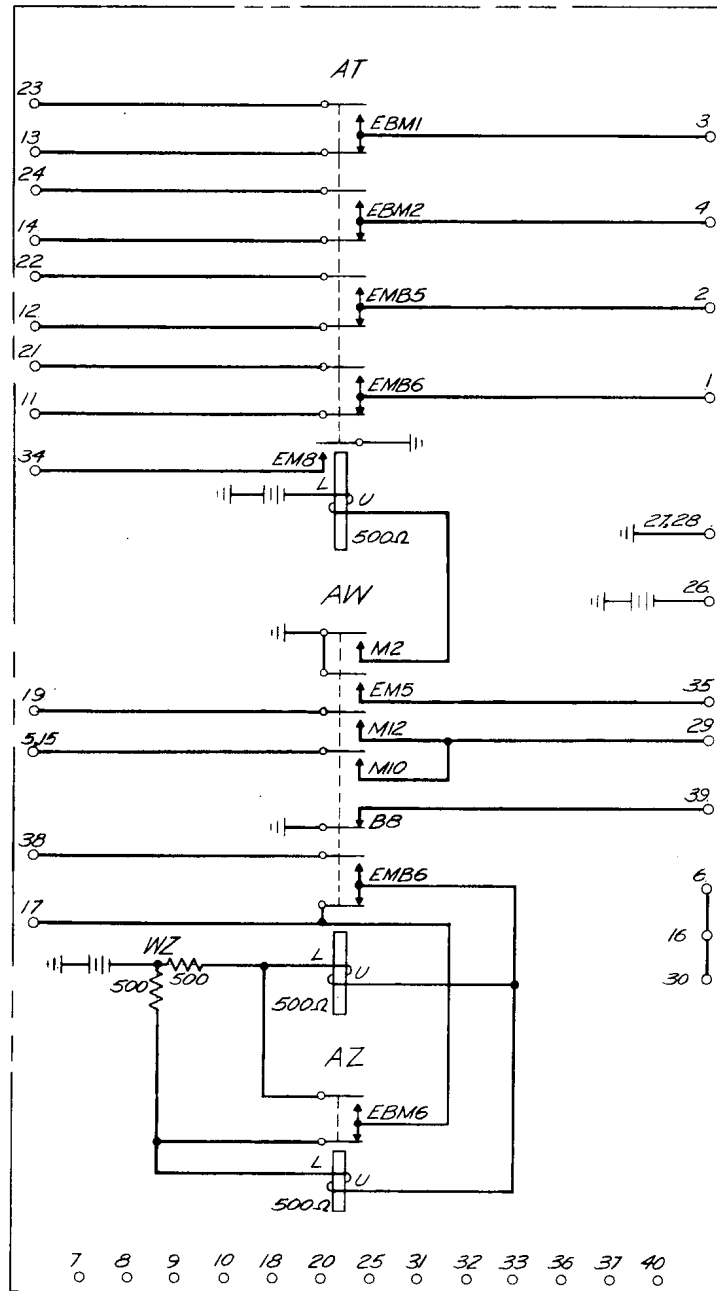
35

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FIG. 54 (MFR DISC)
AUXILIARY LINE
TRANSFER CIRCUIT

DRAWING	ISSUE
128	VR17 DHC MST
148	EFS DHC ARM
168	PBB PBB PLG
170	PBB PBB M/L

241A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1, SD-69422-01.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

20V NOMINAL
(20-26V)

KEY TELEPHONE UNIT CIRCUIT
(241A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

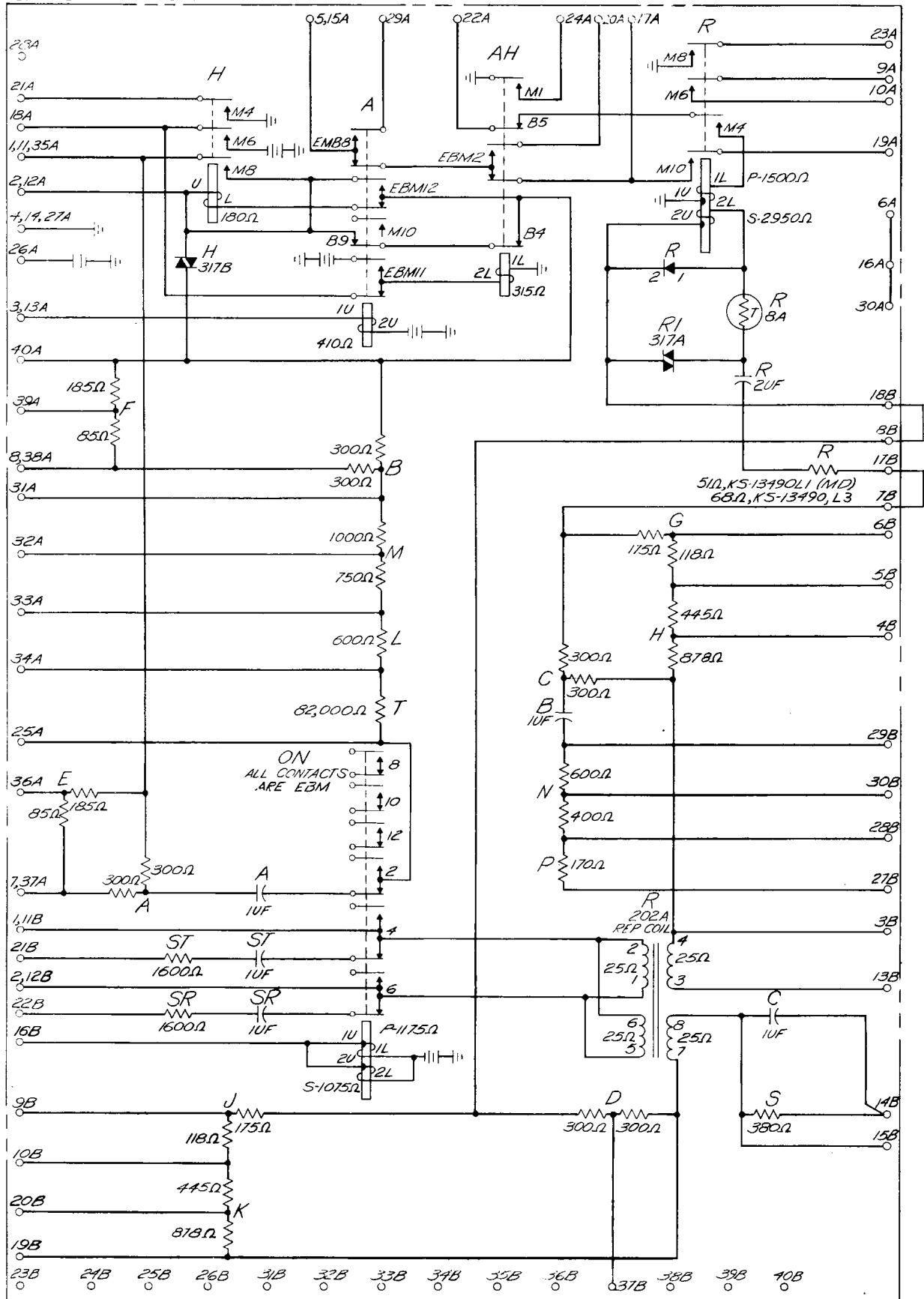
SD-69288-01-C52

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DRAWING ISSUE	
128	RJT DNC MFG
138	RE DNC APR
168	ESB ESB LEG

FIG. 56 (MFR DISC)
1-WIRE LINE CIRCUIT
(ROTARY DIAL SETS)

243A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN 4 WIRE SUBSCRIBER LINE CIRCUITS SD-69414-01.

202. THIS KEY TEL UNIT IS 19 MODULES (8-9/32 IN.) WIDE.

24V NOMINAL
(20-26V)

KEY TELEPHONE UNIT CIRCUIT
(243A KTU)

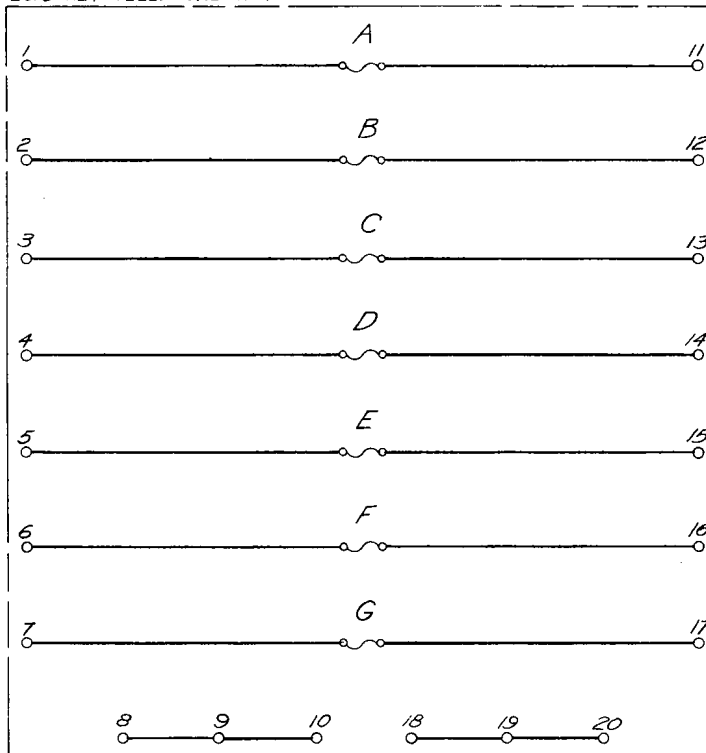
BELL TELEPHONE LABORATORIES
INCORPORATED

SD-69288-01-C54

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FIG. 57
FUSE UNIT

201C KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED PRIMARILY FOR USE IN KEY TEL SYSTEM NO. 1A1, SD-69203-01, J53021.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.
203. FUSES ARE NOT PROVIDED WITH THE UNIT, THEY ARE SHOWN FOR REFERENCE ONLY.

DRAWING	ISSUE
12B	RIT RMC WEL
16B	RBA RBA REG
17D	RBA RBA WJ1

KEY TELEPHONE UNIT CIRCUIT
(201C KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
35

SD-69288-01-C55

PRINTED IN U.S.A.

DRAWING ISSUE	
13B	GME DHC AFM
16B	RBB RBB PEG

201. THIS KEY TEL UNIT IS DESIGNED FOR USE
PRIMARILY IN SWITCHING SYSTEM NO. 400,
SD-69474-01, J53035.

202. THIS KEY TEL UNIT IS 6 MODULES (2-19/32 IN.) WIDE.

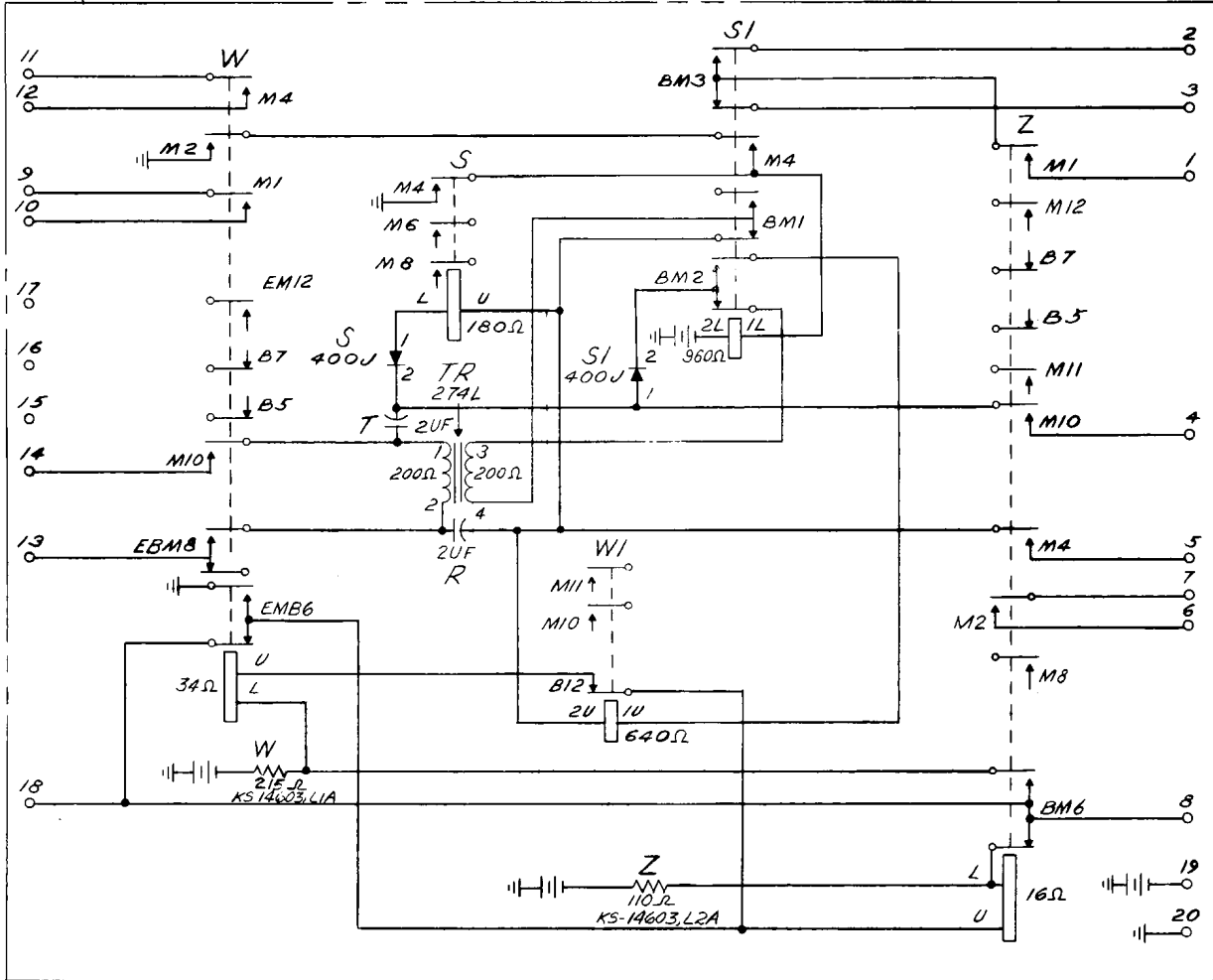
20V NOMINAL
(20-26V)

PRINTED IN U.S.A.

FIG. 59
ADD-ON CIRCUIT

DRAWING	ISSUE
138	17A DPA APR
168	22B PAB JUN
170	17D APR MAY

250A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL. UNIT IS DESIGNED FOR USE PRIMARILY IN SWITCHING SYSTEM NO. 400, SD-69474-01, J53035.
202. THIS KEY TEL. UNIT IS 8 MODULES (3-15/32 IN.) WIDE.

20V NOMINAL
(14-25V)

KEY TELEPHONE UNIT CIRCUIT
(250A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
35

SD-69288-01-C57

PRINTED IN U.S.A.

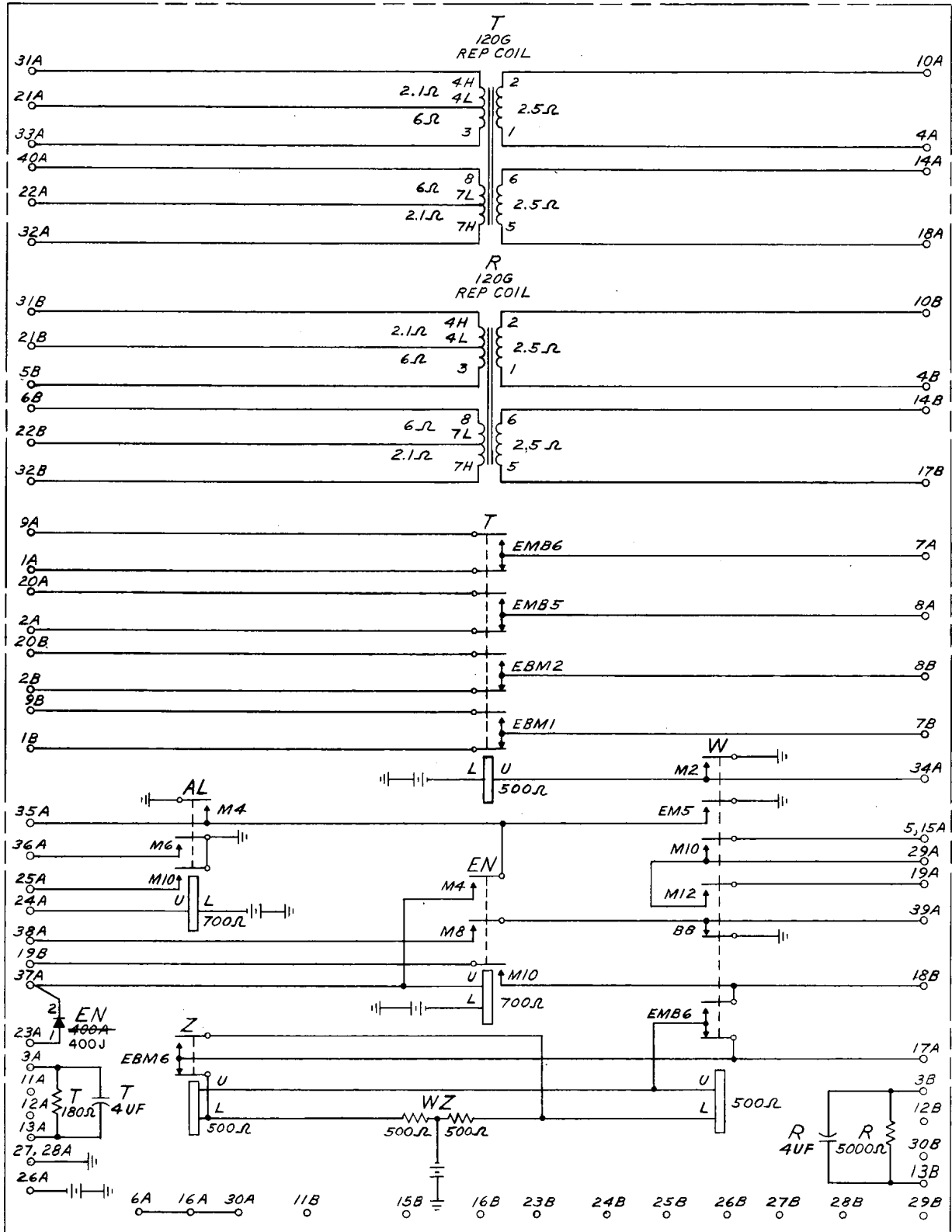


- 20V NOMINAL
(20-26V)

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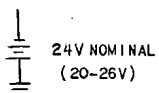
FIG. 61
LINE TRANSFER CKT

244A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1, SD-69422-01.
202. THIS KEY TEL UNIT IS 16 MODULES (6-31/32 IN.) WIDE.



KEY TELEPHONE UNIT CIRCUIT
(244A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

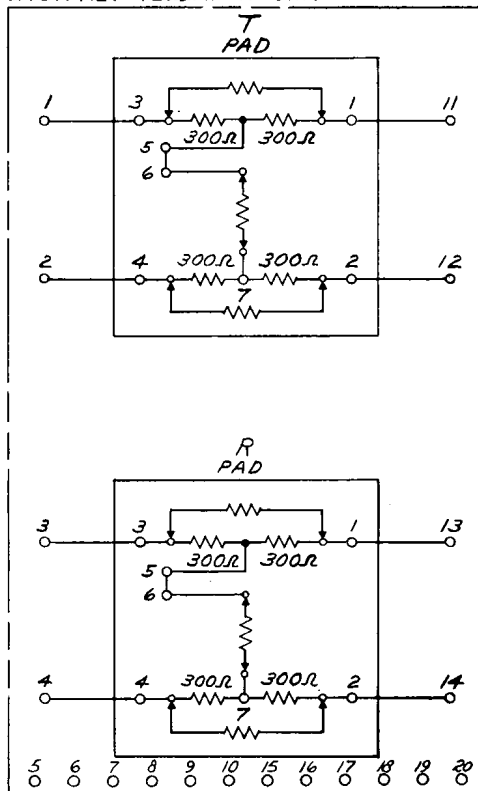
DWG SIZE
3S

SD-69288-01-C59

PRINTED IN U.S.A.

FIG. 62
ATTENUATOR PAD

245A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1, SD-69422-01.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(245A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

SD-69288-01-C60

PRINTED IN U.S.A.

FIG. 63 (MFR DISC)
TOUCH-TONE ADAPTER
RECEIVER CRT

DRAWING	ISSUE
PG	DNC
148	ARM
168	R88
	R80
	R86
	R89
	R88
	HJJ

PART OF 247A KEY TEL UNIT

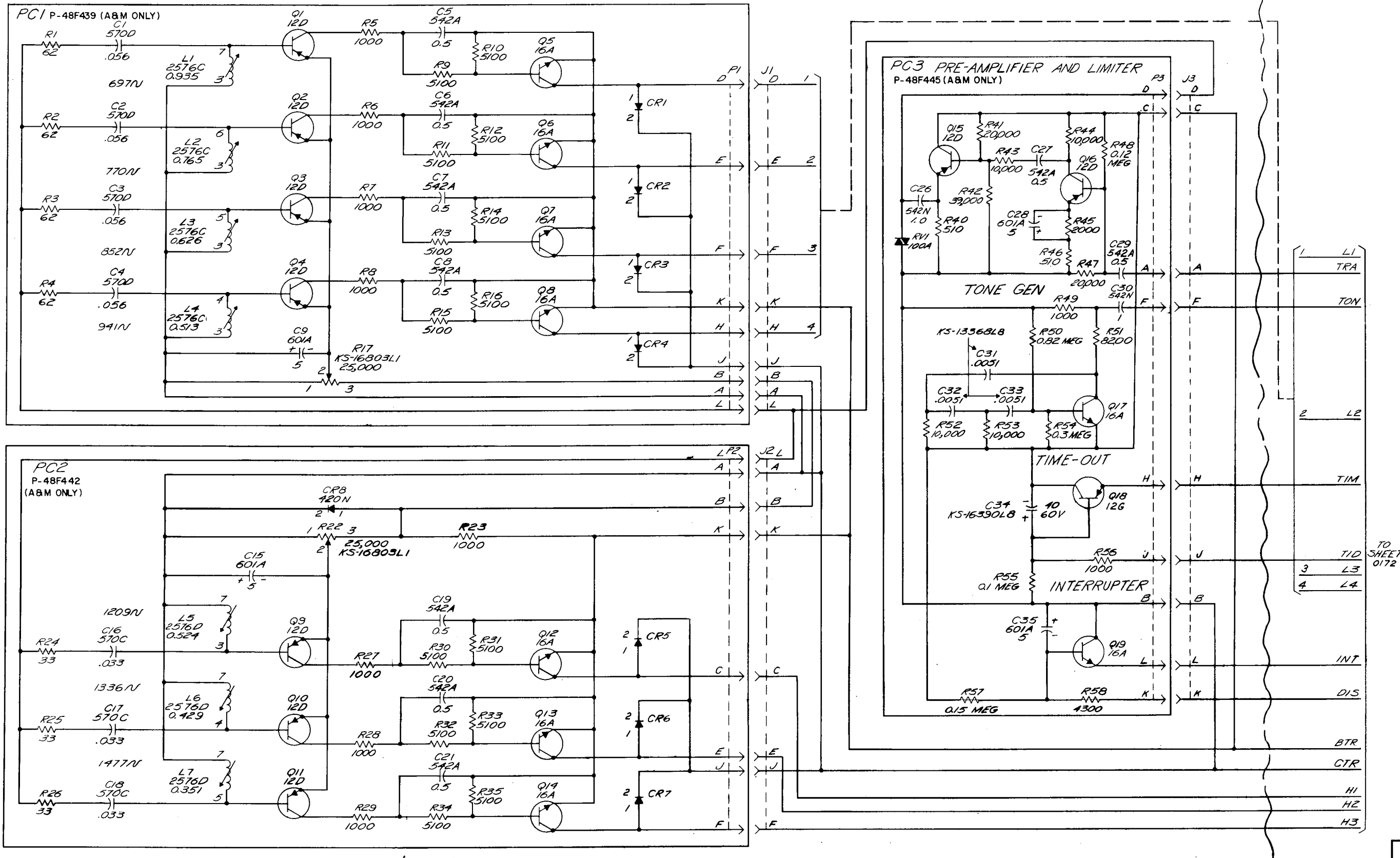
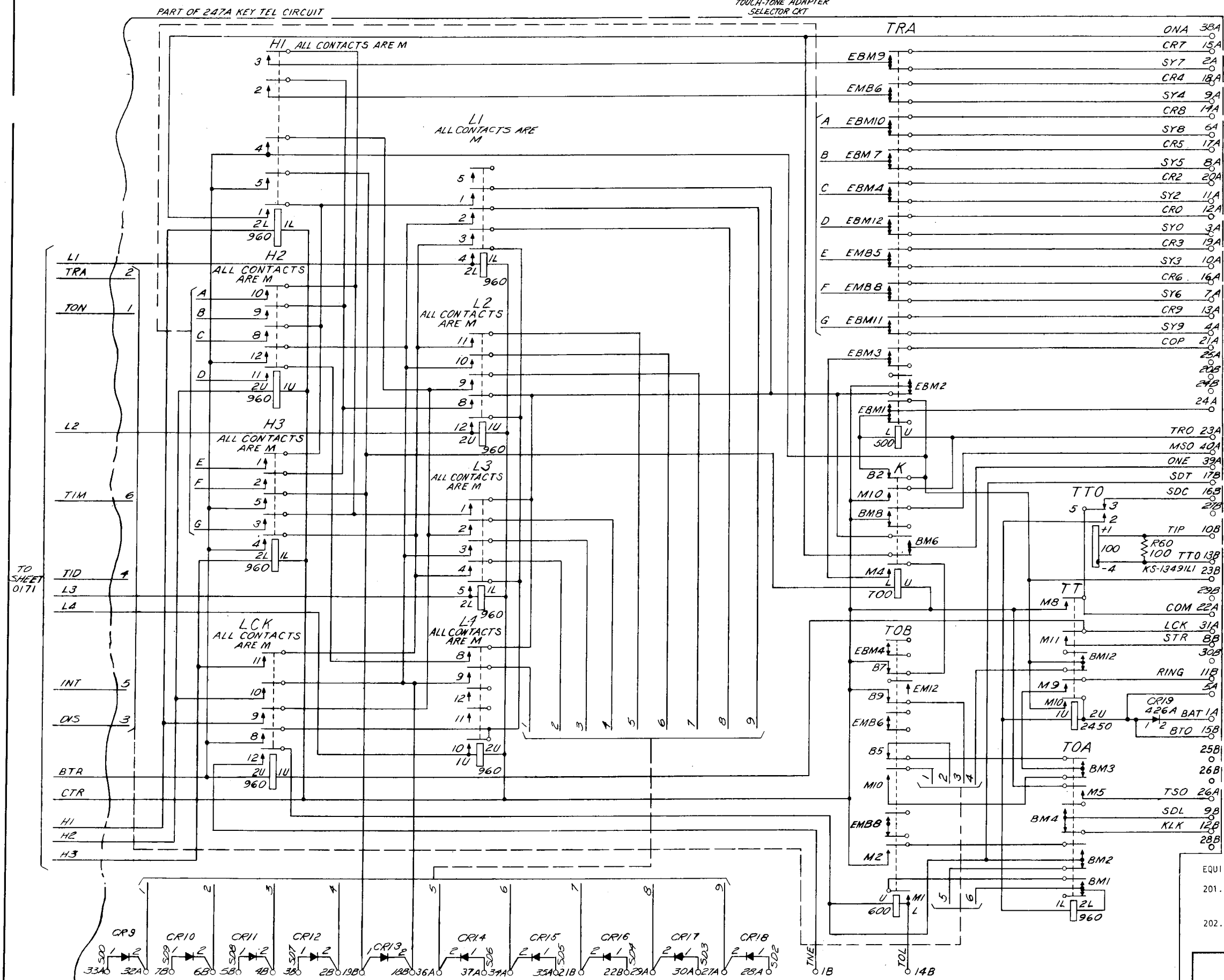


FIG. 64 (MFR DISC)
TOUCH-TONE ADAPTER
SELECTOR CKT



- EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY WITH KEY TEL SYSTEM NO 6A, AND NO. 2A, TOUCH-TONE ADAPTER CKT, SD-69447-01.
 202. THIS KEY TEL UNIT IS 21 MODULES (9 5/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(PART OF 247A KTU)

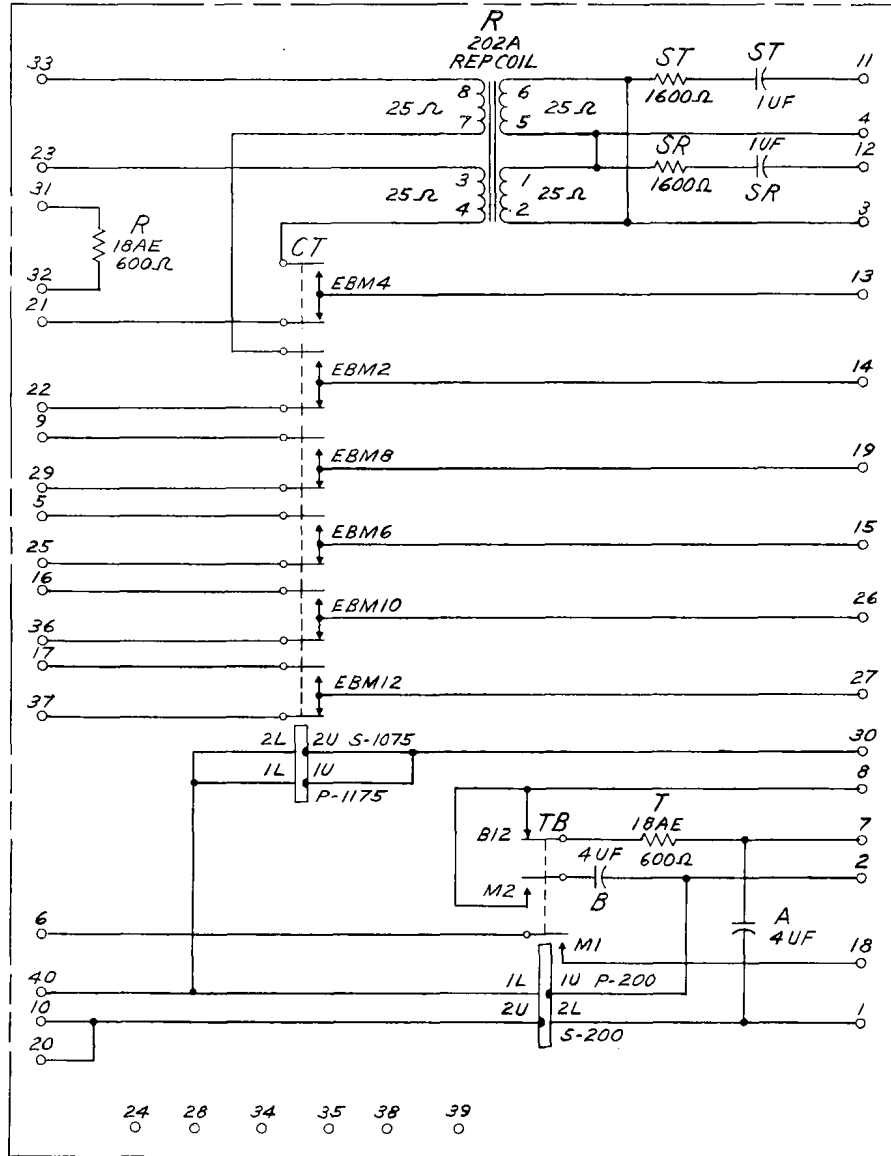
BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-69288-01-C62

FIG. 65
4-WIRE PRIVATE LINE STATION CKT

248A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN 4-WIRE PRIVATE LINE CIRCUITS, SD-69449-01.
202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(248A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

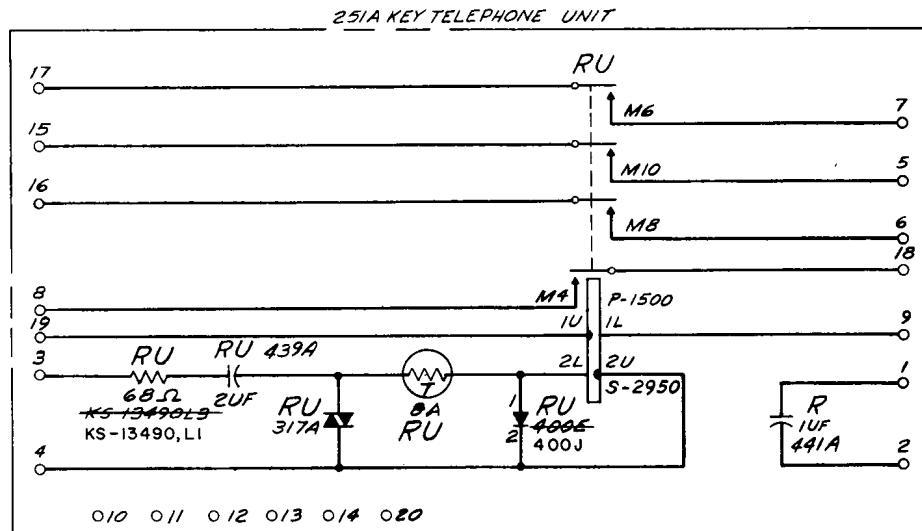
SD-69288-01-C63

PRINTED IN U.S.A.

DRAWING
ISSUE
14B EFS
DHC
ARM
15B DLD
DHC
ARM
16B RBB
RBB
PEG

DRAWING	ISSUE
148	DNC
158	22A
170	22B

FIG. 66
RINGUP RELAY CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN SWITCHING SYSTEMS NO. 300, 301, AND 302, SD-69410-01.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(251A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

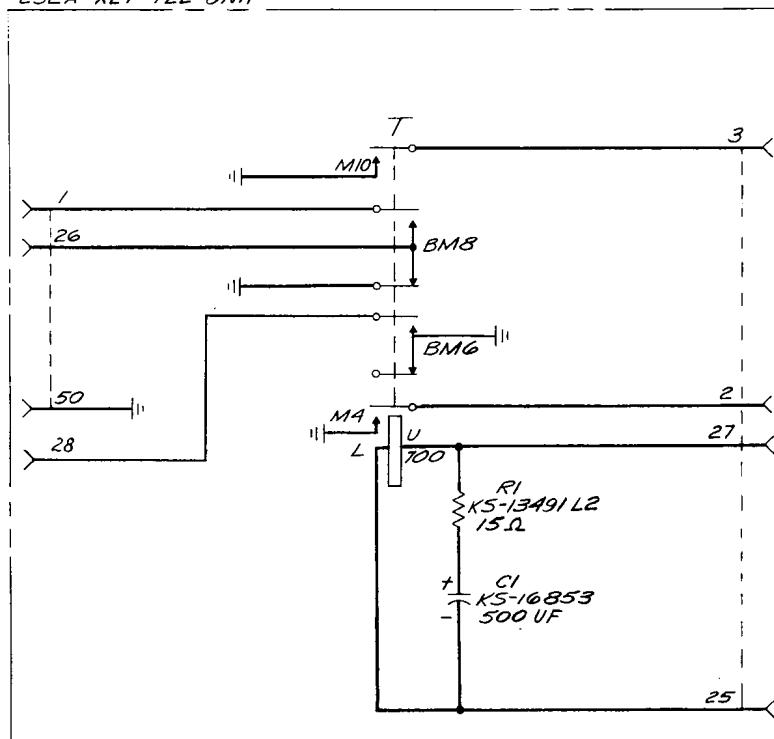
3S

SD-69288-01-C64

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FIG. 67 (MFR. DISC.)
TONE CUTOFF CKT

252A KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN INTERCOMMUNICATION SYSTEM NO. 2A, SD-69480-01.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(252A KTU)

SD-69288-01-C65

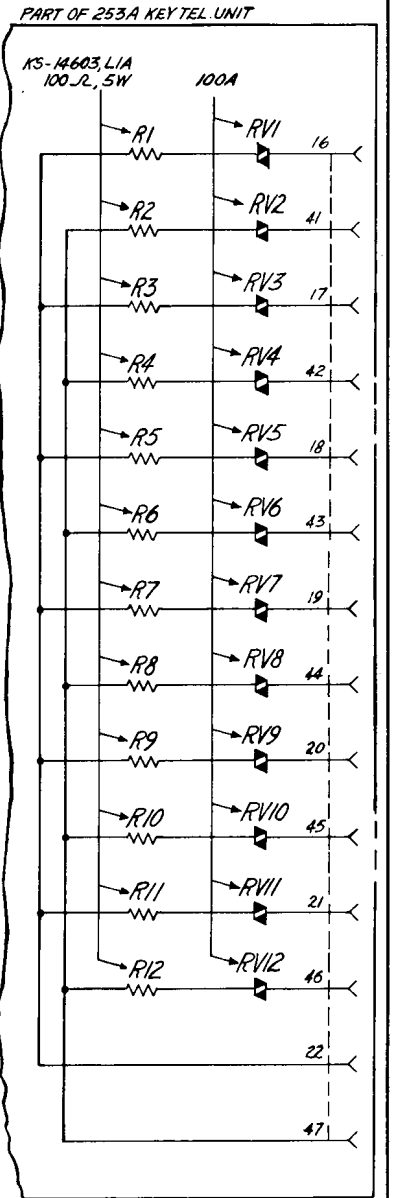
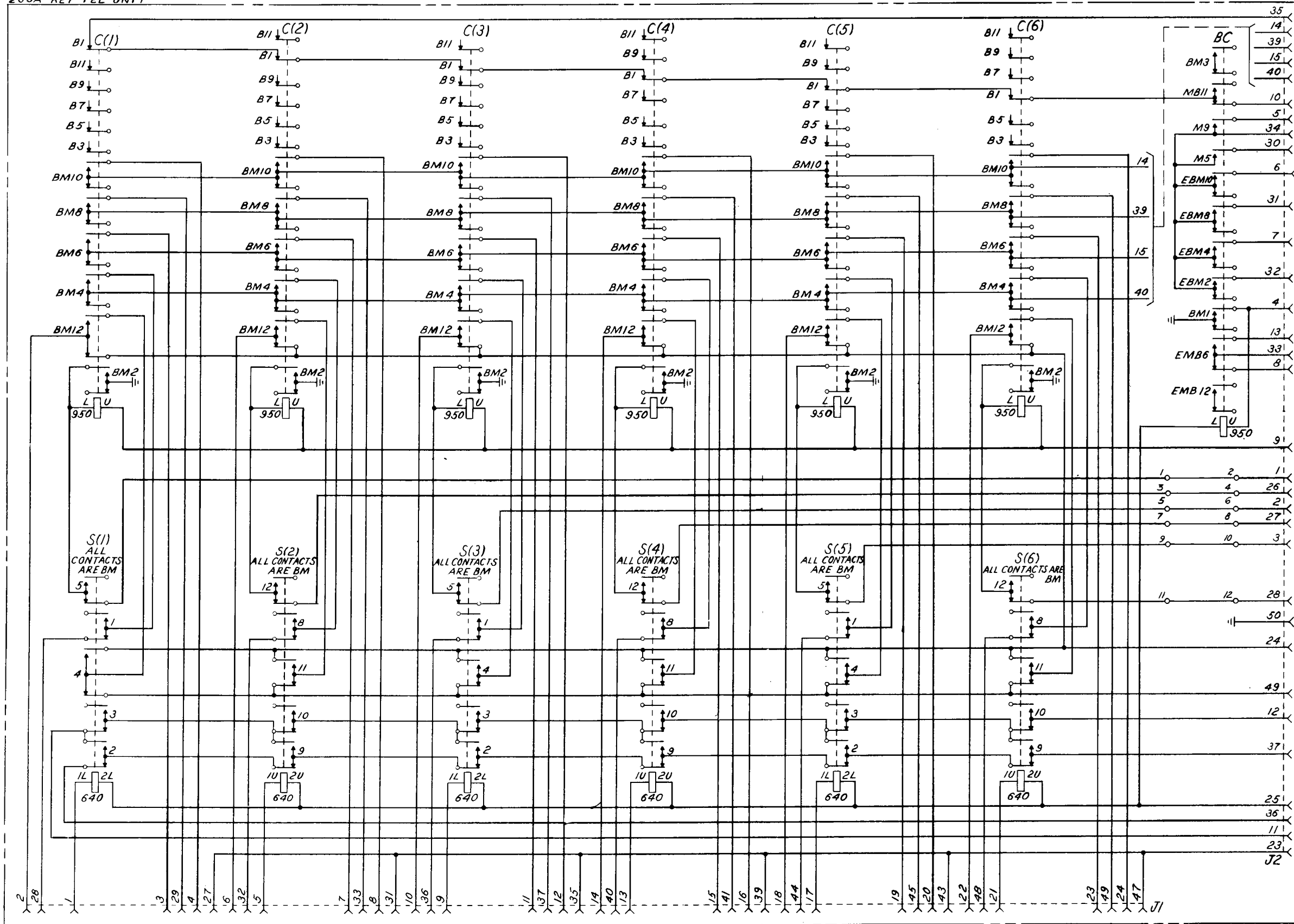
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

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FIG. 68 (MFR. DISC.)
STATION SELECTION CKT

253A KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN INTERCOMMUNICATION SYSTEM NO. 2A, SD-69480-01.

202. THIS KEY TEL UNIT IS 16 MODULES (6-31/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(253A KTU)

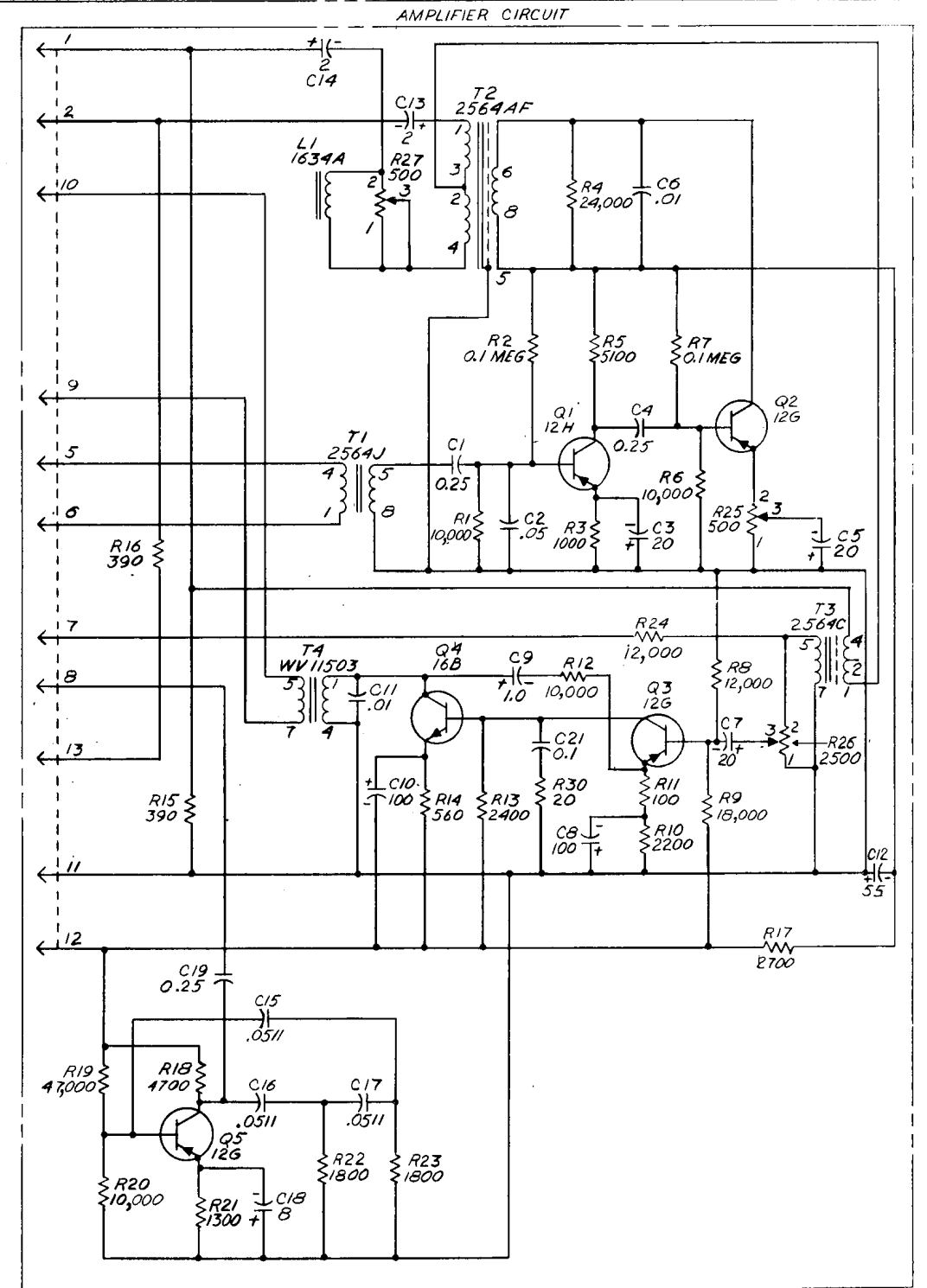
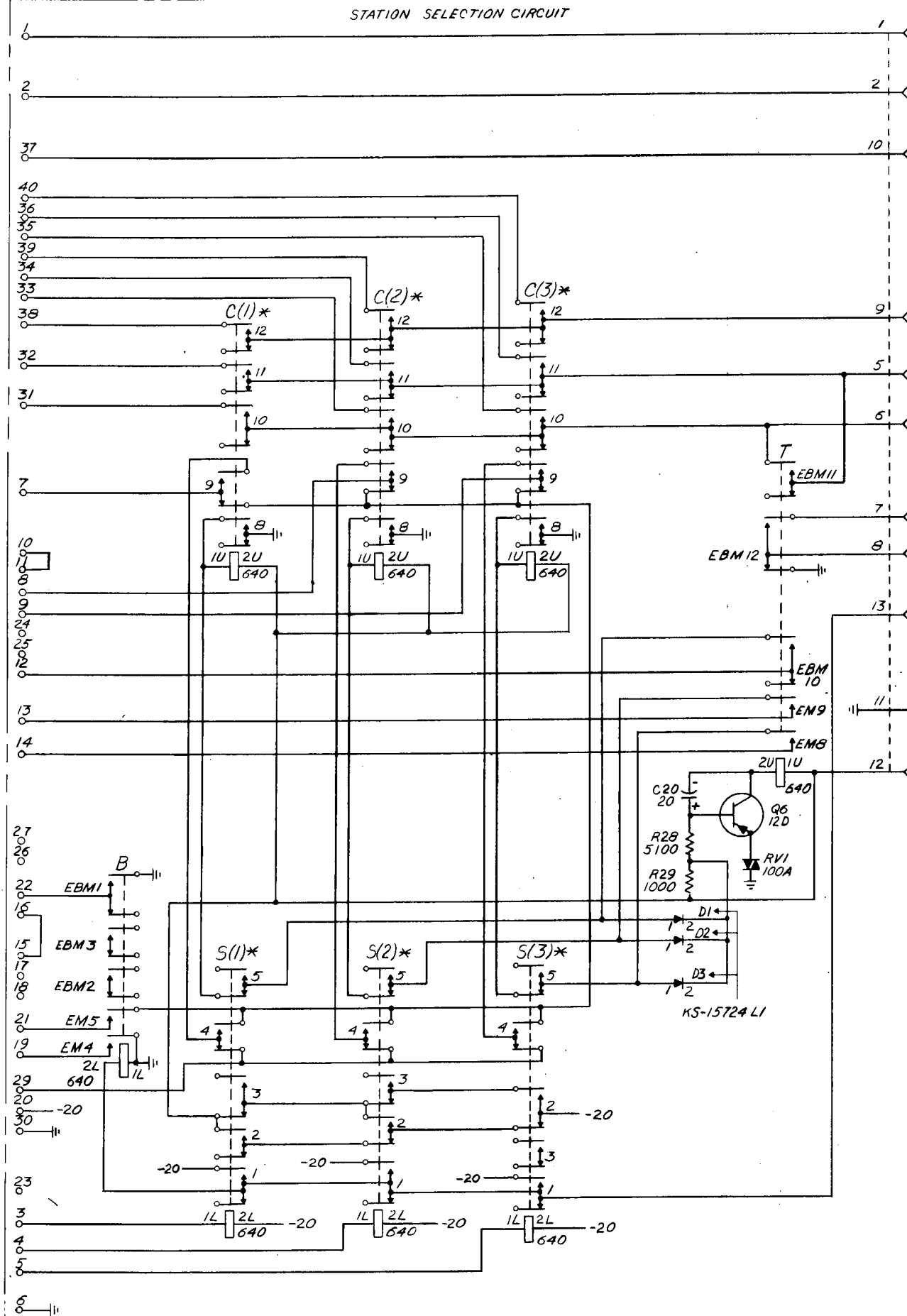
BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-69288-01-C66

FIG. 69 (MFR DISC)
STATION SELECTION & AMPLIFIER CIRCUIT

254A KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED PRIMARILY FOR USE IN INTERCOMMUNICATION SYSTEM NO. 1A, SD-69479-01.
202. THIS KEY TEL UNIT IS 13 MODULES (5-21/32 IN.) WIDE.

KEY TELEPHONE UNITS CIRCUITS

(254A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

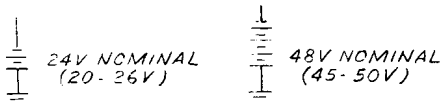
SD-69288-01-C67

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255A KEY TELEPHONE UNIT



202. THIS KEY TEL UNIT IS 14 MODULES (6-3/32 IN.) WIDE.



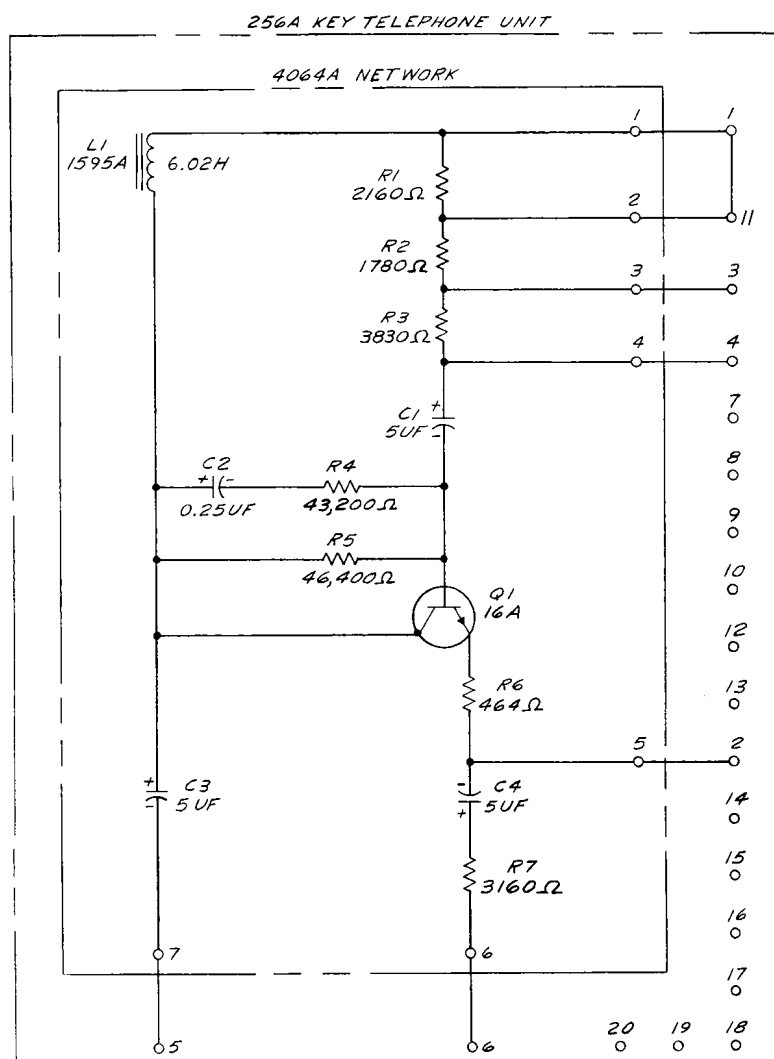
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
35

SD-69288-01-C68

PRINTED IN U S A

FIG. 71
ACTIVE SIDE-TONE NETWORK FOR 4-WIRE LINES



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY WITH NORAD SWITCHED NETWORK, SD-69488-01.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.

KEY TELEPHONE UNIT CIRCUIT
(256A KTU)

SD-69288-01-C69

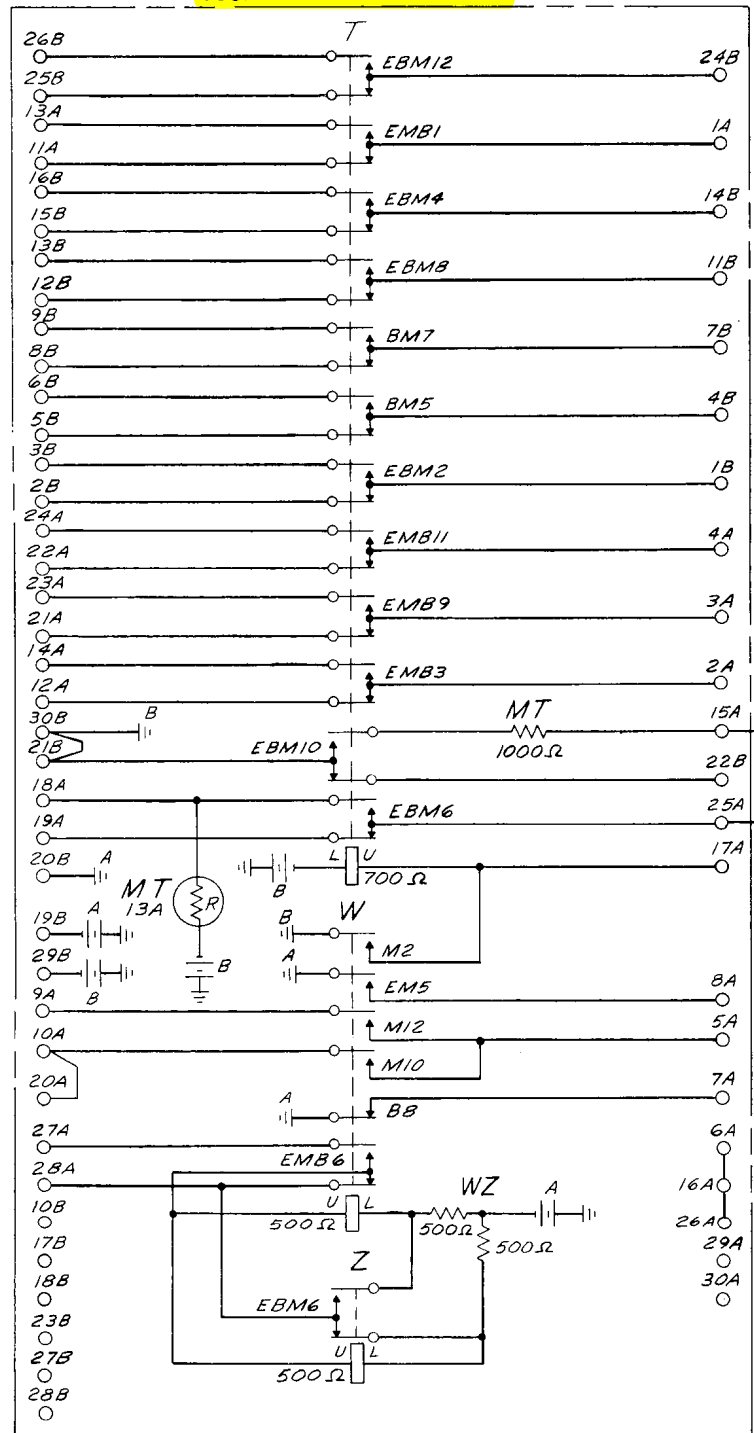
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG SIZE
3S

PRINTED IN U.S.A.

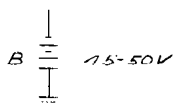
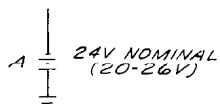
FIG. 72
LINE TRANSFER CIRCUIT

258A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN 4-WIRE SUBSCRIBER LINES WITH E & M LEAD SIGNALING, SD-69491-01.
202. THIS KEY TEL UNIT IS 11 MODULES (4-25/32 IN.) WIDE.



KEY TELEPHONE UNIT CIRCUIT
(258A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

3S

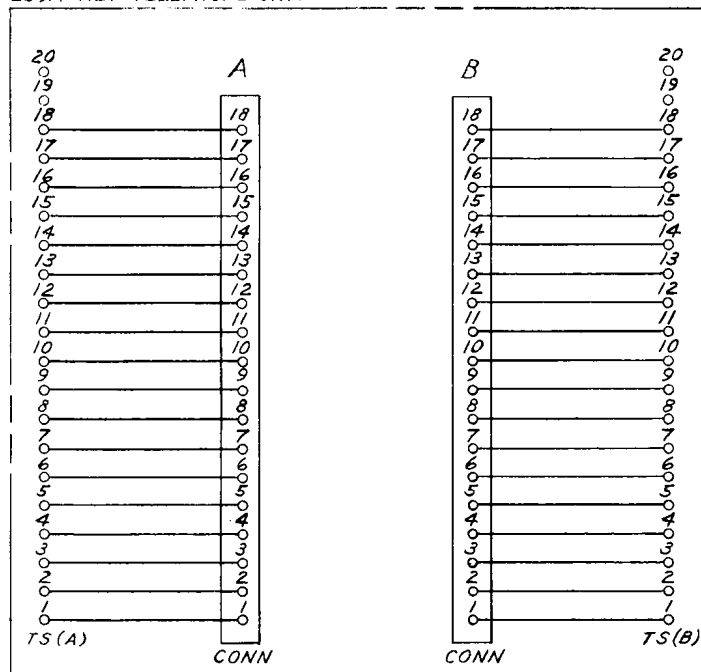
SD-69288-01-C70

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DRAWING	ISSUE
148	DNC ARM
15B	DLD DNC ARM
16B	EBB RBB REG

FIG. 73 (MFR DISC)
ADAPTER UNIT

259A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1 AND 1A2.
202. THIS KEY TEL UNIT IS 9 MODULES (3-29/32 IN.) WIDE.

DRAWING	ISSUE
14B	DHC ARM
15B	DLD DHC ARM
16B	RBB RBB PEG

KEY TELEPHONE UNITS CIRCUITS
(259A KTU)

SD-69288-01-C71

BELL TELEPHONE LABORATORIES
INCORPORATED

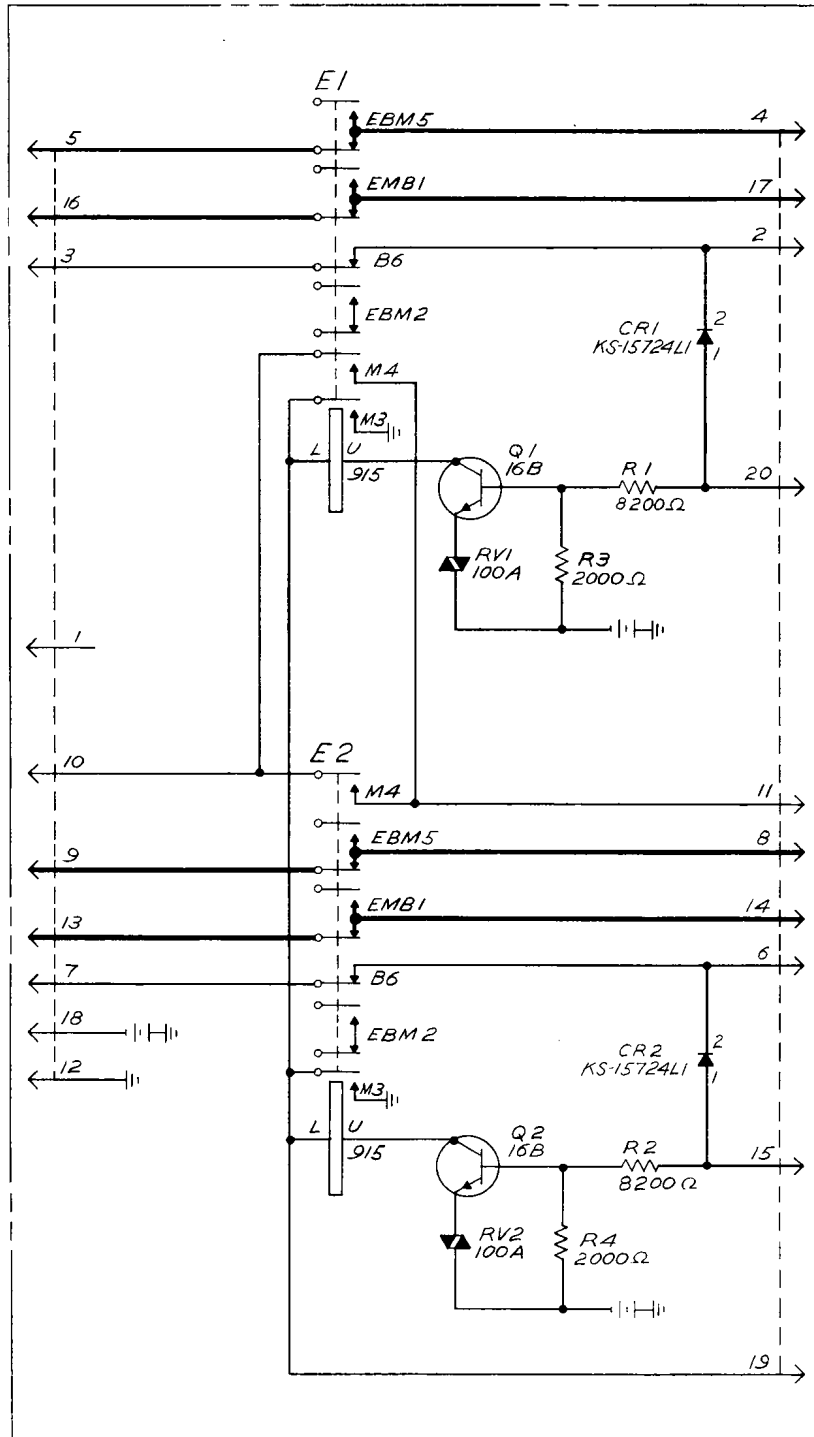
DWG SIZE
3S

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FIG. 74
MULTI-LINE EXCLUSION CKT (MFR DISC)

DRAWING	ISSUE
15B	DLD DNC ARM
16B	PBB PFB REG

260A KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1 AND 1A2, SD-69489-01.
202. THIS KEY TEL. UNIT FITS INTO A 259B KTU, WHICH IS 9 MODULES (3- 29/32 IN.) WIDE.

24V NORMAL
(20-26V)

KEY TELEPHONE UNITS CIRCUITS
(260A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

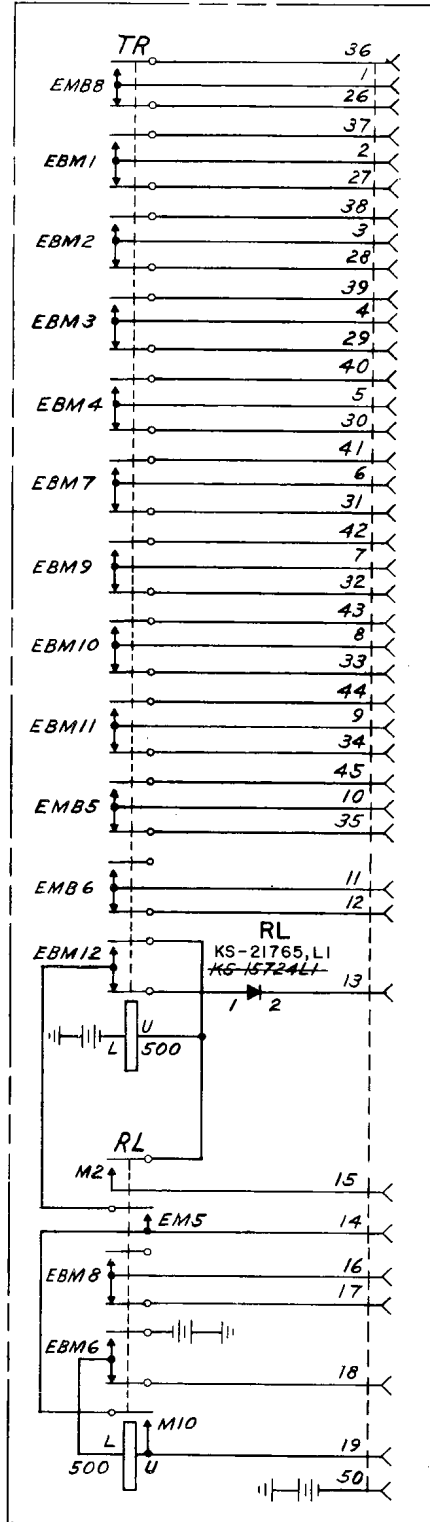
3S

SD-69288-01-C72

PRINTED IN U.S.A.

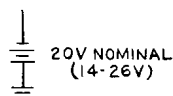
FIG. 75
TRANSFER CKT

216B KEY TELEPHONE UNIT



CIRCUIT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN INTER-COMMUNICATION SYSTEM NO. 2A, SD-69480-01.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.



KEY TELEPHONE UNITS CIRCUITS
(216B KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

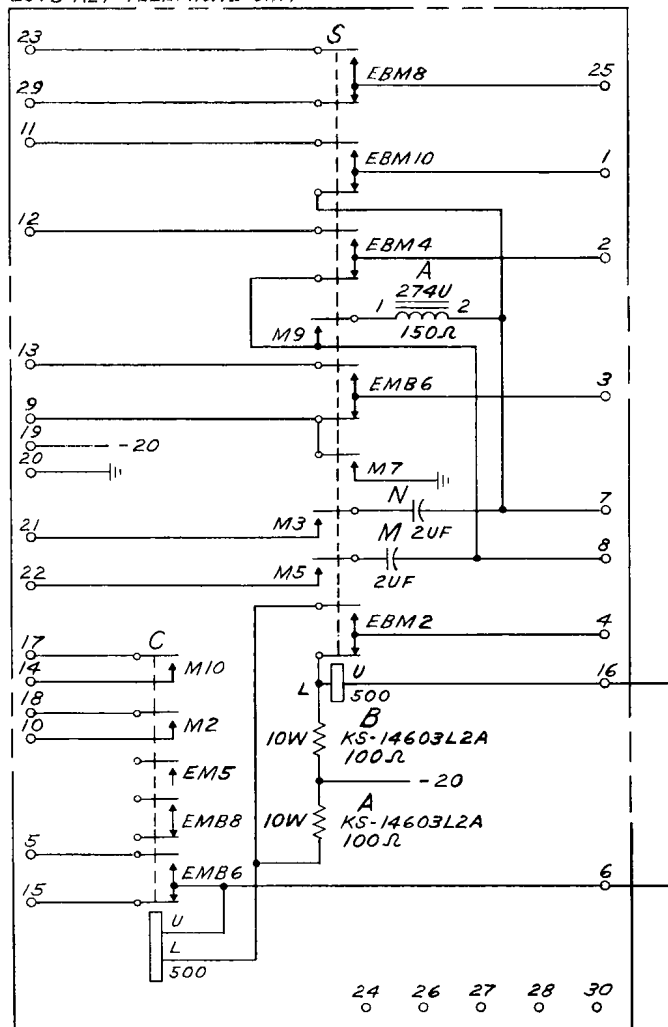
DWG SIZE
3S

SD-69288-01-C73

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FIG. 76
BRIDGING CKT

2378 KEY TELEPHONE UNIT



EQUIPMENT NOTES:

- 2.01 THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1 PER SD-69412-01
- 2.02 THIS KEY TEL UNIT IS 6 MODULES (2 17/32 in.) WIDE.

KEY TELEPHONE UNITS CIRCUITS
(2378 KTU)

SD-69288-01-C74

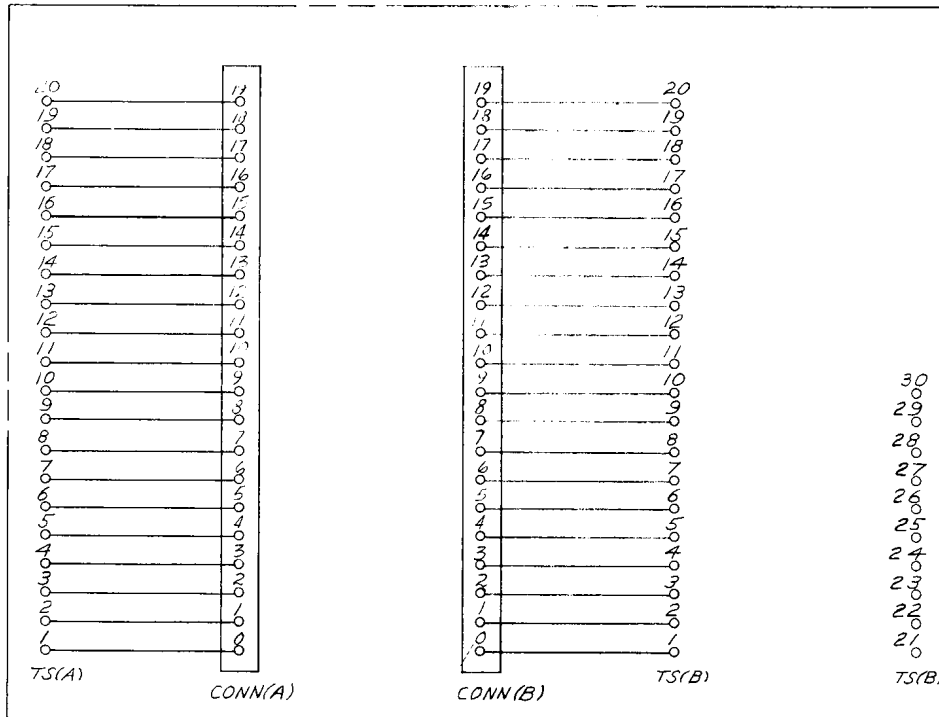
BELL TELEPHONE LABORATORIES
INCORPORATED

OWG 812E
3S

PRINTED IN U.S.A.

FIG. 77
ADAPTER UNIT

259B KEY TELEPHONE UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1 AND 1A2 PER SD-69489-01
202. THIS KEY TEL UNIT IS 9 MODULES (3-29/32 IN.) WIDE.

DRAWING	ISSUE
15B	DLD DHC ARM
16B	RBB RBB REG

KEY TELEPHONE UNITS CIRCUITS
(259B KTU)

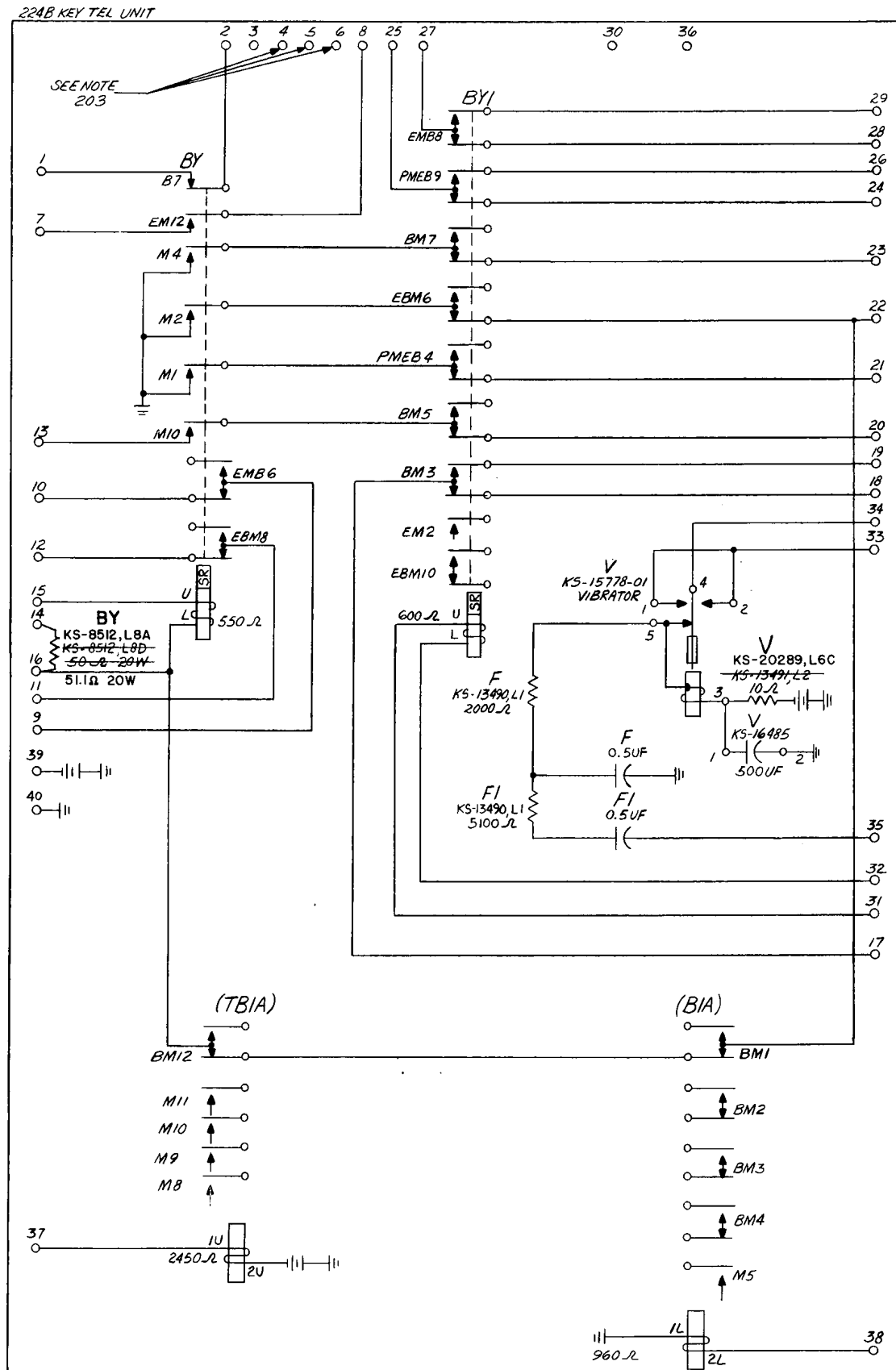
SD-69288-01-C75

BELL TELEPHONE LABORATORIES
INCORPORATED

DWG. SIZE
3S

PRINTED IN U.S.A.

FIG. 78
BUSY SIGNAL AND CAMP-ON CONTROL CIRCUIT

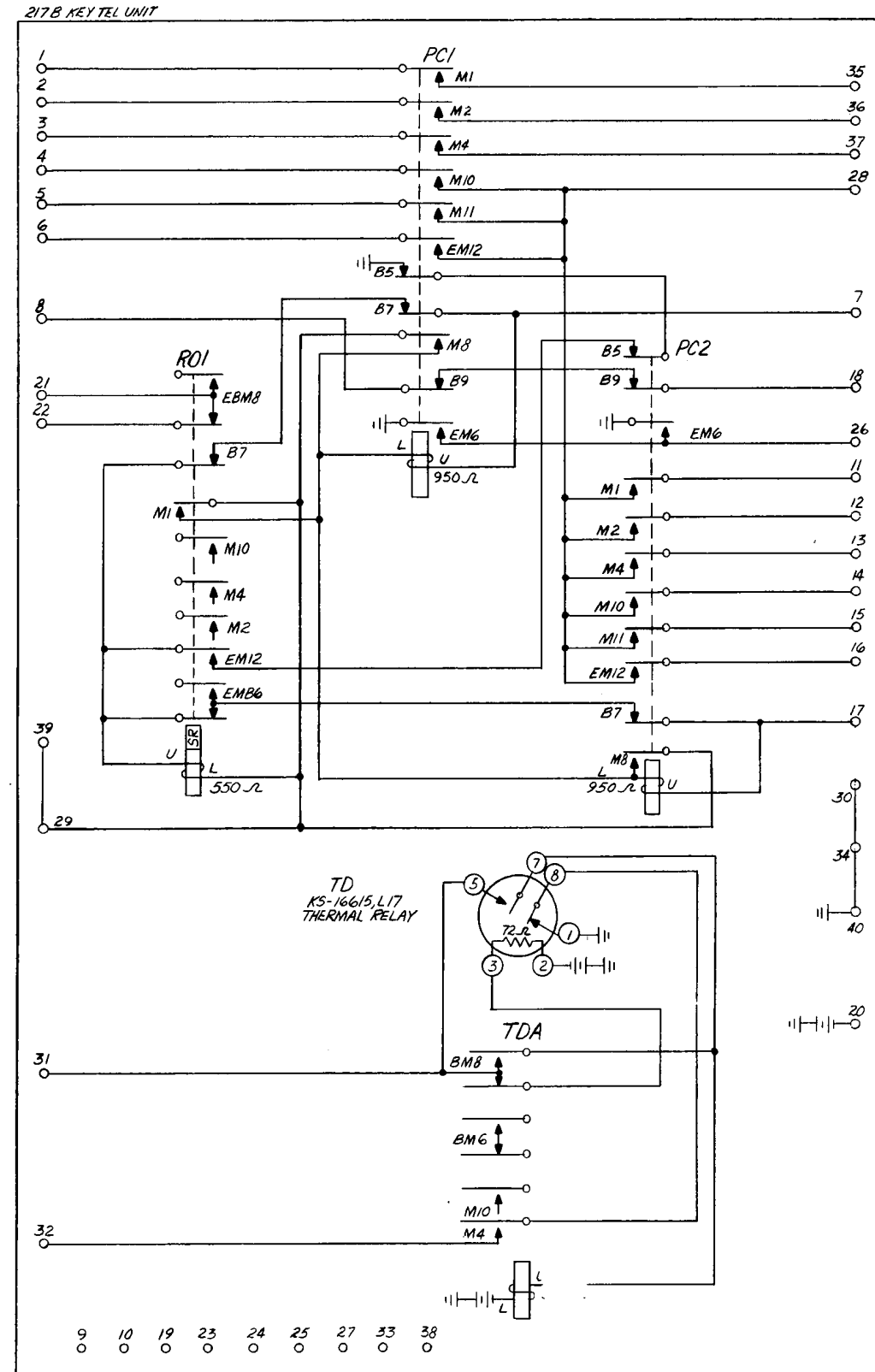


EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.

203. TERMINALS 4, 5 AND 6 NOT AVAILABLE FOR FUTURE USE DUE TO INTERFERENCE FROM (BY) RESISTOR.

24V NOMINAL
(20-26V)

FIG. 79
PRESET CONFERENCE CIRCUIT
AND CONFERENCE TIME-OUT CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A, SD-69286-01, J53023.
202. THIS KEY TEL UNIT IS 8 MODULES (3-15/32 IN.) WIDE.

24V NOMINAL
(20-26V)

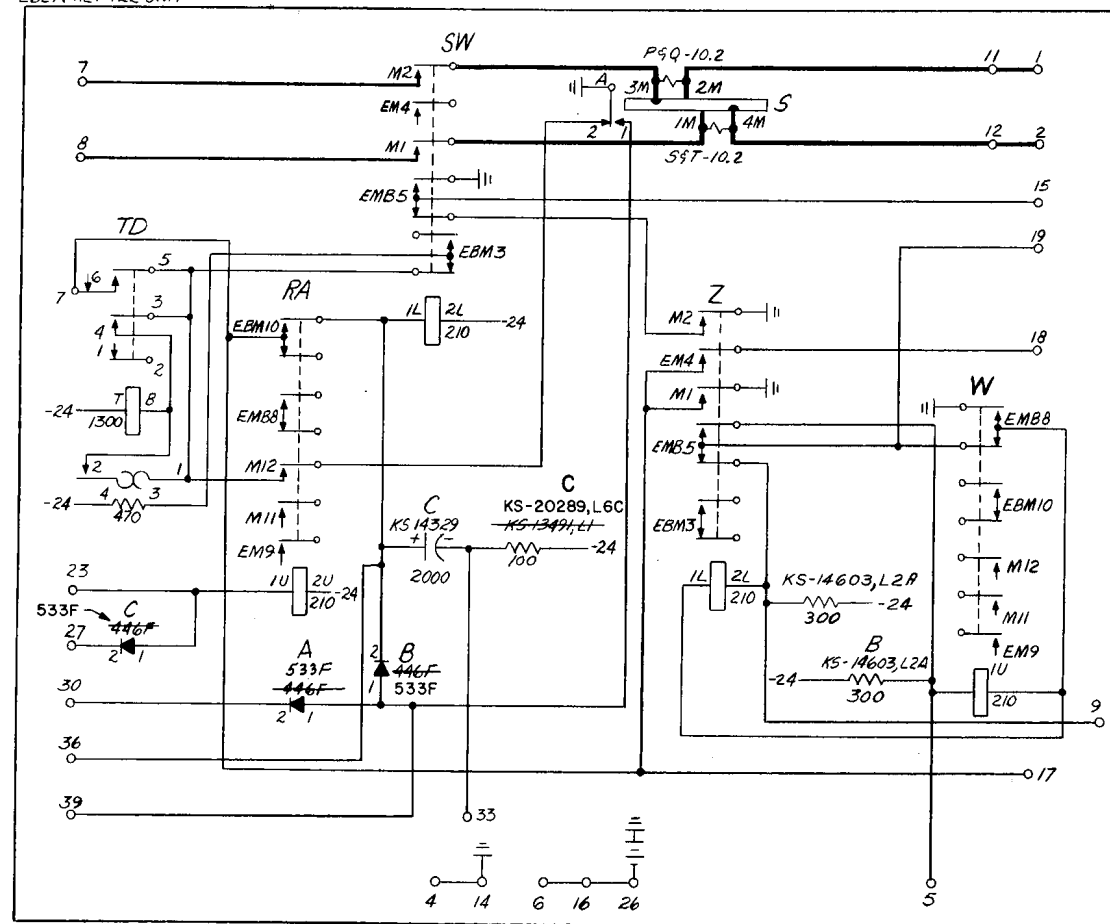
KEY TELEPHONE UNITS CIRCUITS
(217B & 224B)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-69288-01-C76

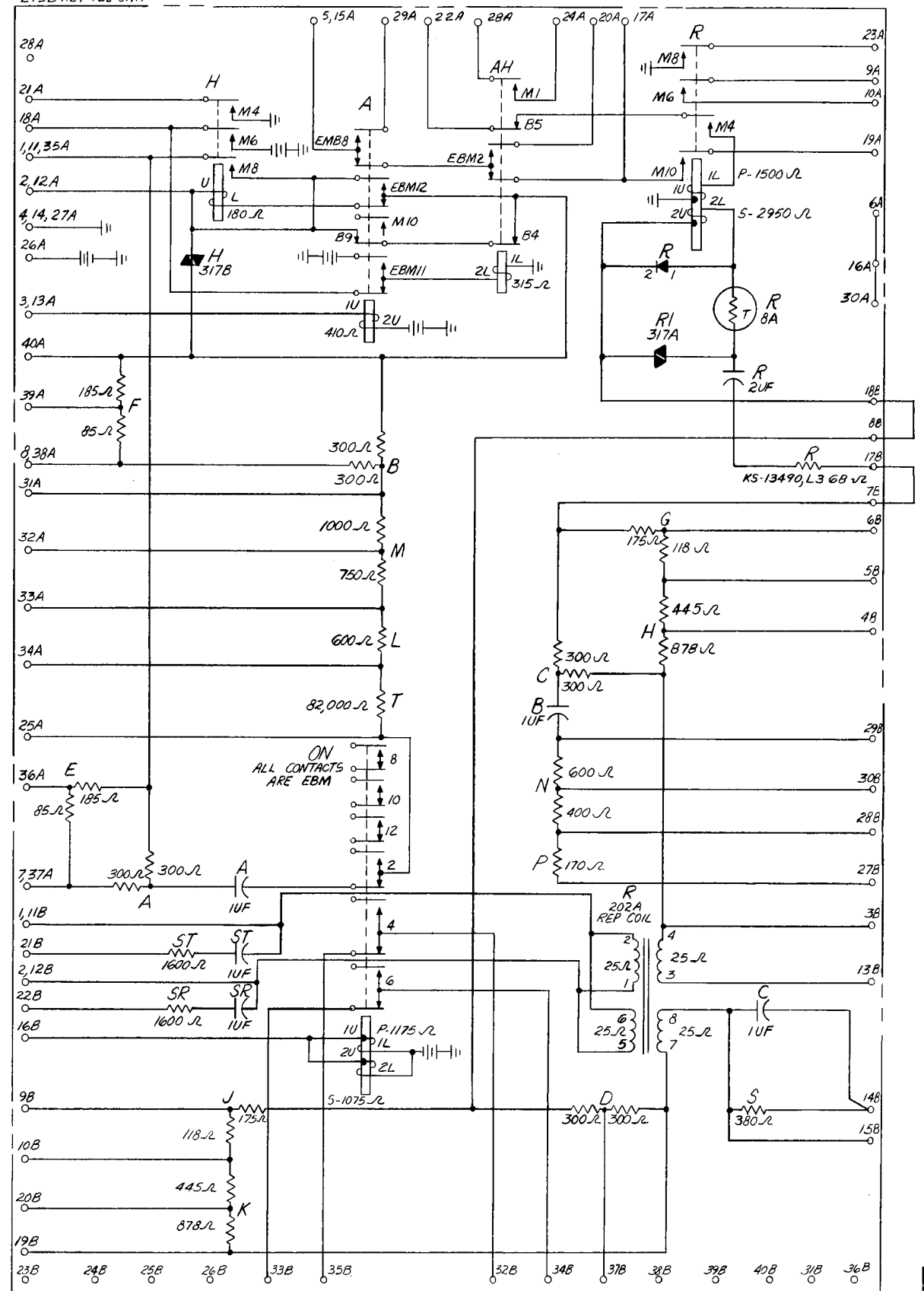
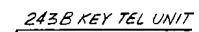
262A KEY TEL UNIT



201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A OR 1A1,
SD-69528-01.

20V NOMINAL
(14-26V)

4 WIRE LINE CIRCUIT
(ROTARY DIAL SETS)



201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY
IN 4-WIRE SUBSCRIBER LINE CIRCUITS SD-69414-01

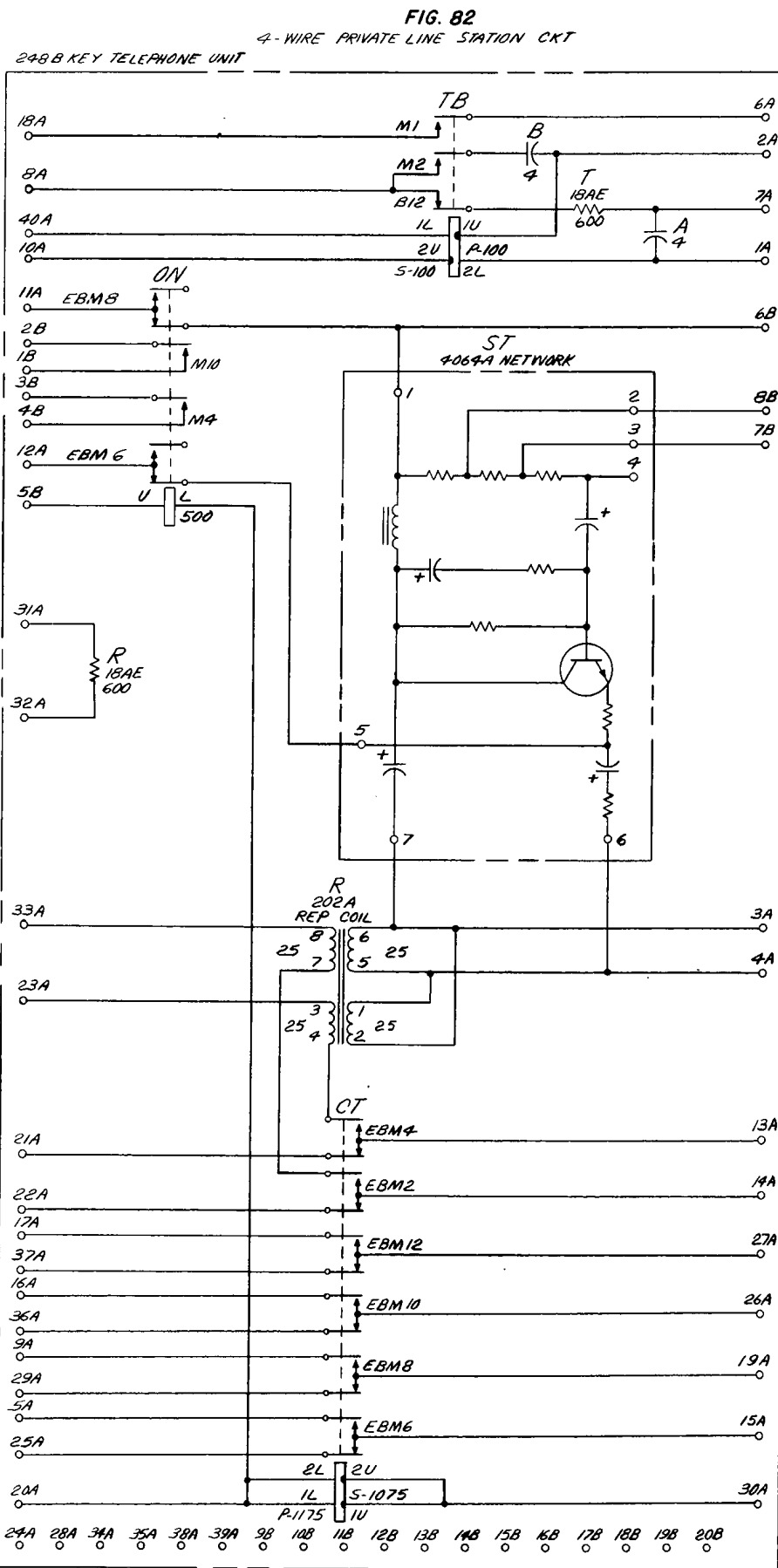
202. THIS KEY TEL UNIT IS 19 MODULES (8-9/32 IN.) WIDE.

 24 V, NOMINAL
(20-26V)

BELL TELEPHONE LABORATORIES
INCORPORATED

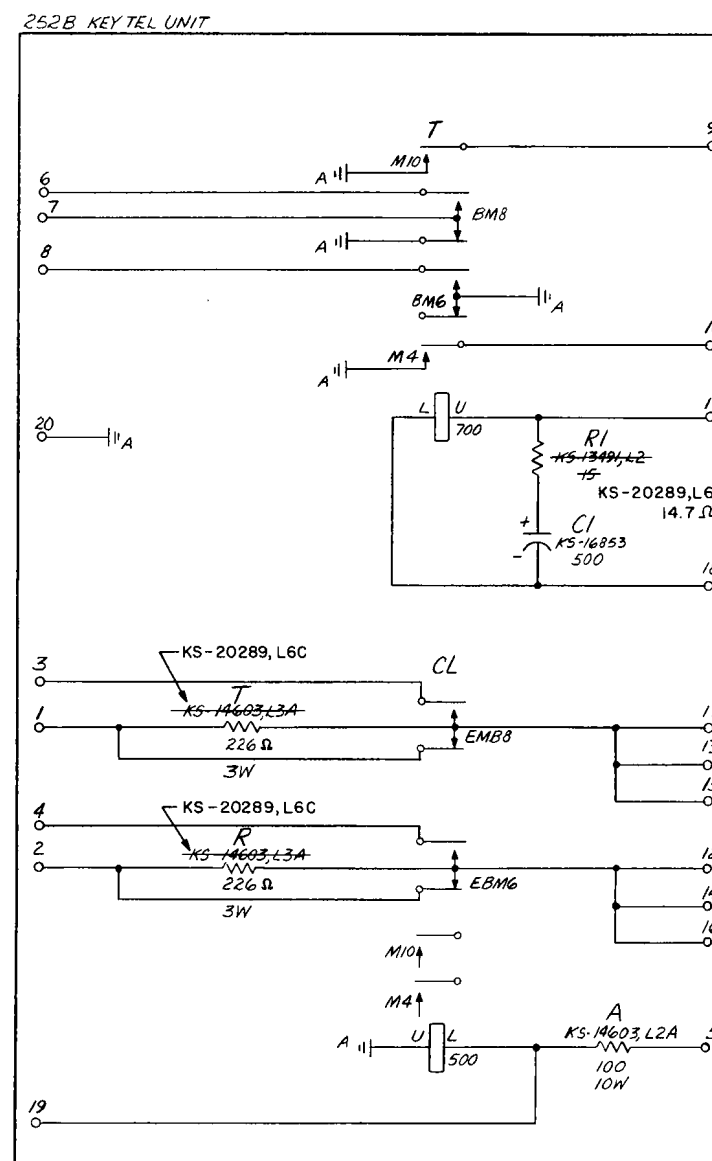
SD-69288-01-C77

6S PRINTED IN U.S.A.



EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN 4-WIRE PRIVATE LINE CIRCUITS, SD-69480-01.
202. THIS KEY UNIT IS 11 MODULES (4 25/32) WIDE.

FIG. 83
TONE CUTOFF & LINE
CURRENT LIMITING CIRCUITS



EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN INTERCOMMUNICATION SYSTEM NO. 2A, SD-69480-01.
202. THIS KEY TEL UNIT IS 5 MODULES (2-5/32 IN.) WIDE.

KEY TELEPHONE UNIT CIRCUIT
(248B, 252B)

BELL TELEPHONE LABORATORIES
INCORPORATED

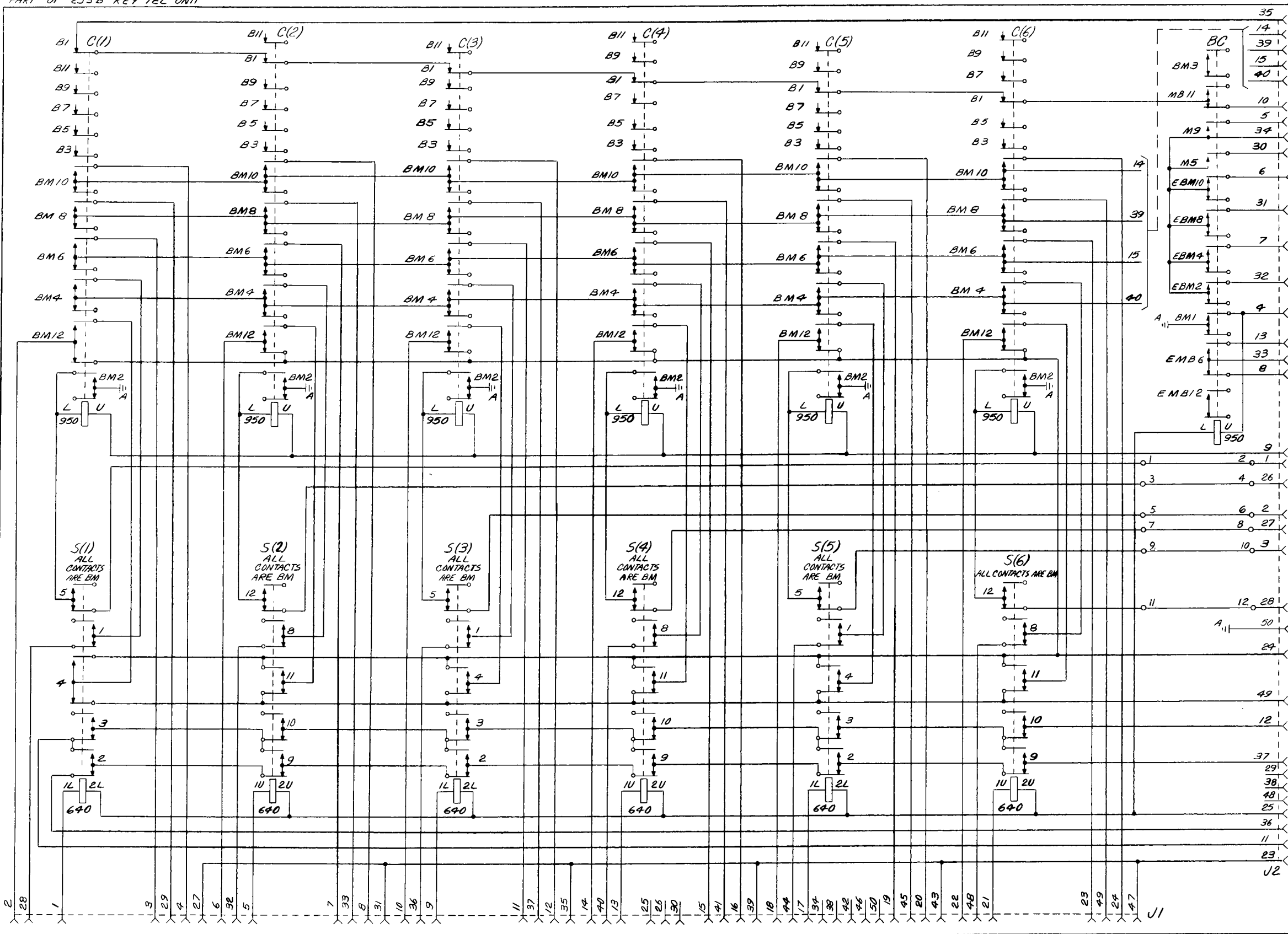
DWG NO.
6S

SD-69288-01-C78

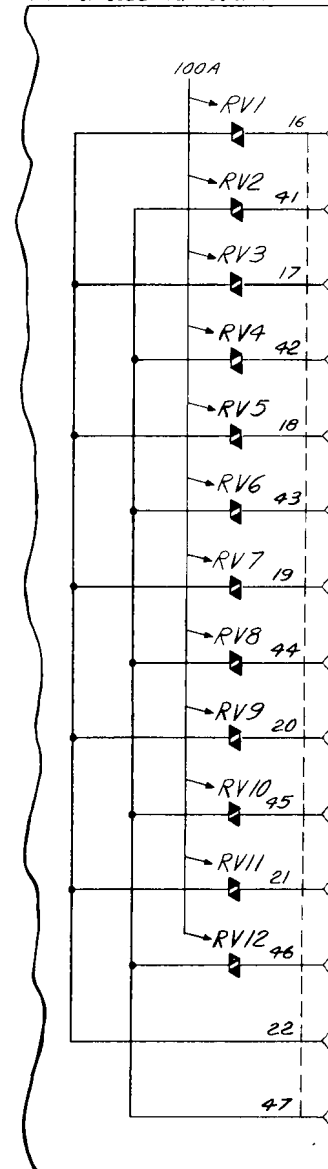
PRINTED IN U.S.A.

FIG. 84
STATION SELECTOR CRT

PART OF 253B KEY TEL UNIT



PART OF 253B KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN INTERCOMMUNICATION SYSTEM NO. 2A SD-69480-01.
202. THIS KEY TEL UNIT IS 1/2 MODULES (1/2 - 31/32 IN.) WIDE.

KEY TELEPHONE UNIT CIRCUIT
253B K.T.U.

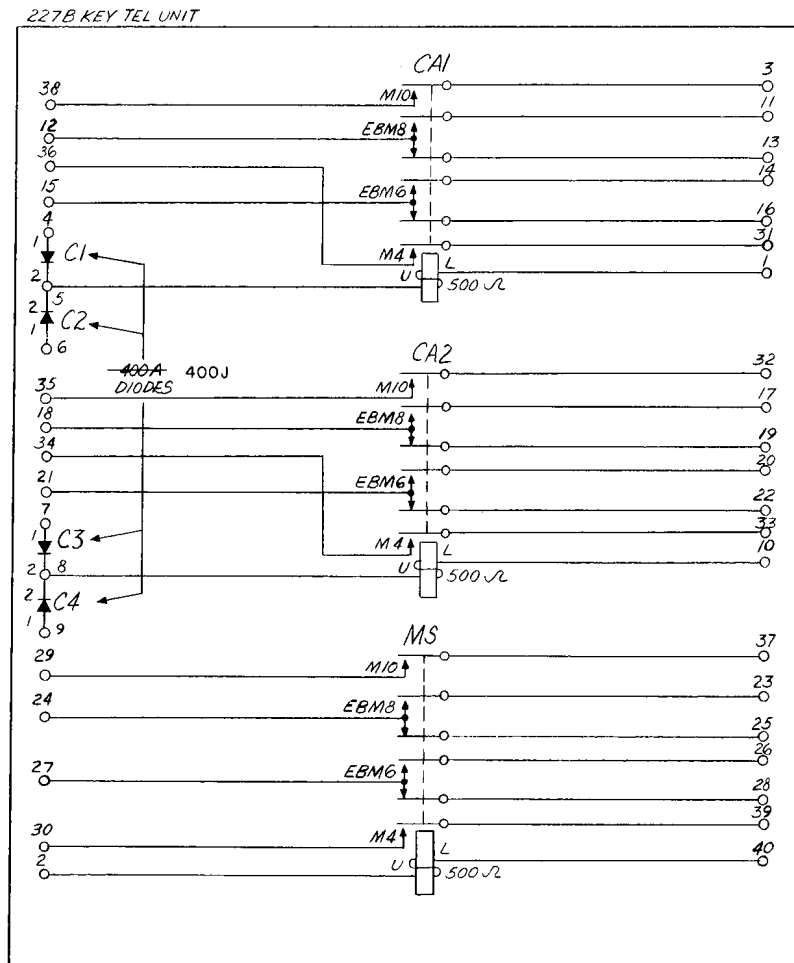
SD-69288-01-C79

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

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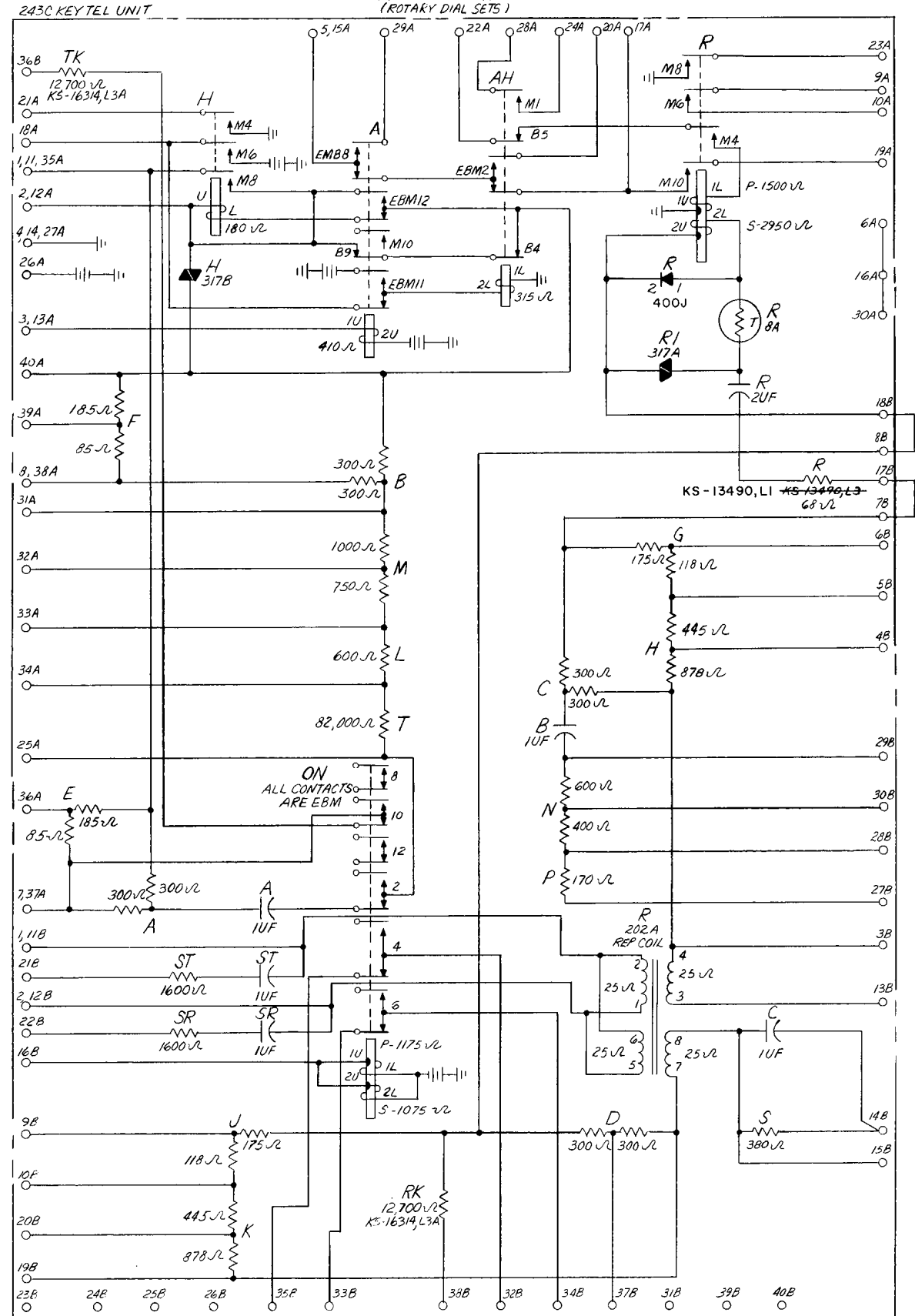
FIG. 85
COMMON AUDIBLE CONTROL CIRCUIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 6A, SD-69286-01 J53023.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

FIG 86
4 WIRE LINE CIRCUIT
(ROTARY DIAL SETS)



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN 4-WIRE SUBSCRIBER LINE CIRCUITS SD-69414-01.
202. THIS KEY TEL UNIT IS 19 MODULES (8-9/32 IN.) WIDE.

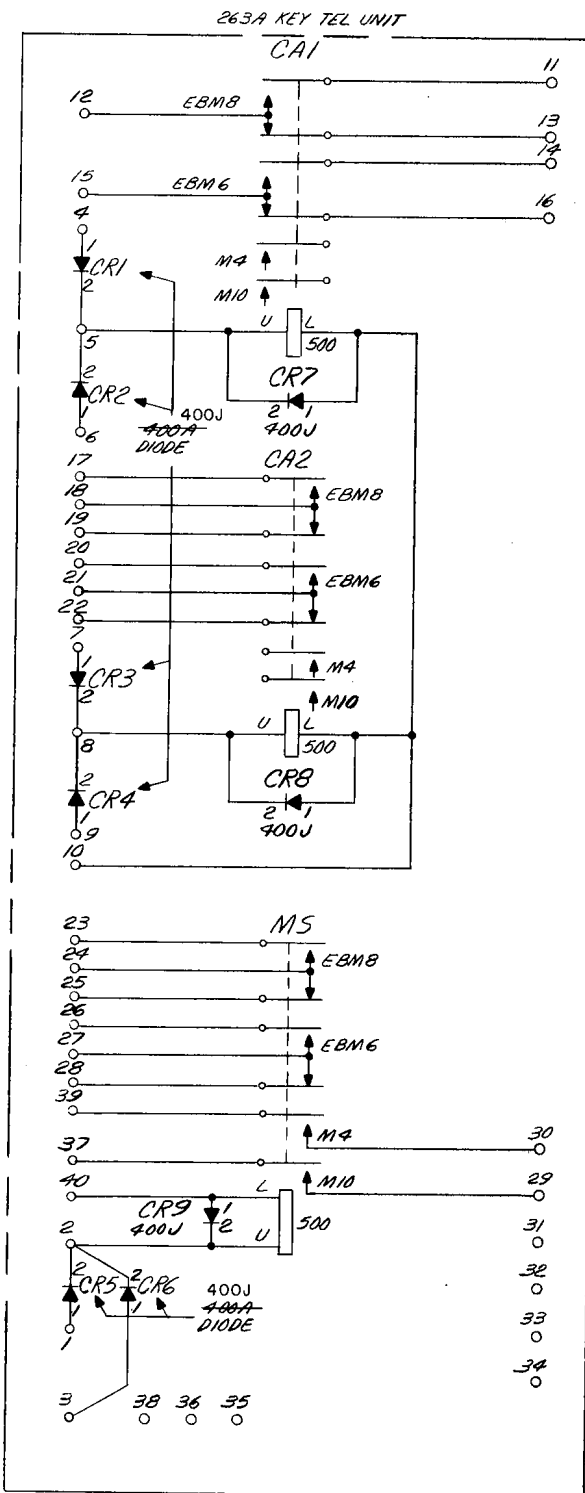
KEY TELEPHONE UNIT CIRCUIT
(227B, 243C K.T.U.)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-69288-01-C80

FIG. 87
COMMON VISUAL AND AUDIBLE SIGNAL CONTROL CKT

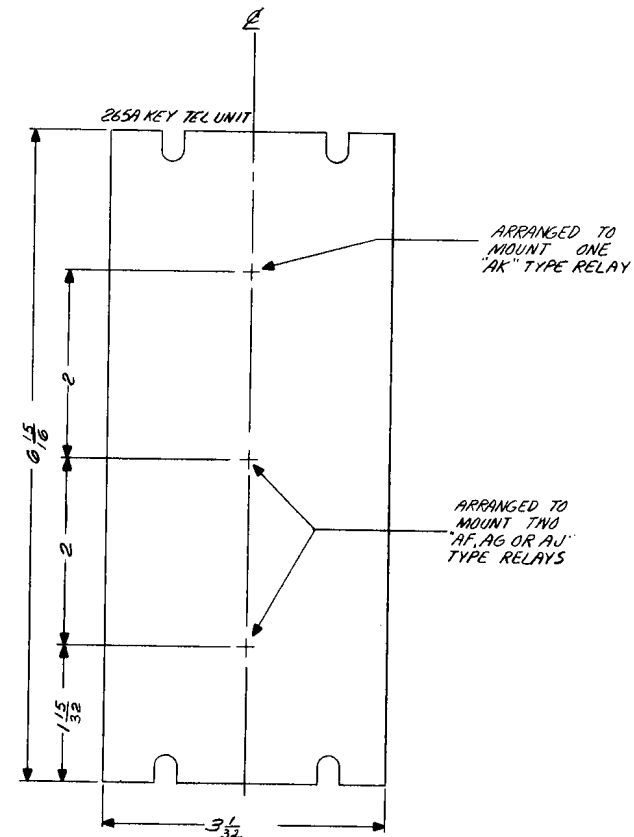


EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1, SD-69535-01.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

24 V NOMINAL
(20-26 V)

FIG. 88
BLANK UNIT WITH
RELAY MOUNTINGS



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEM NO. 1A1 (SD-69203-01) AND NO. 6A (SD-69286-01).
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.
203. THIS KEY TEL UNIT IS PROVIDED WITH 40 SCREW TERMINAL PUNCHINGS.

KEY TELEPHONE UNIT CIRCUIT
(263A, 265A K.T.U.)

SD-69288-01-C81

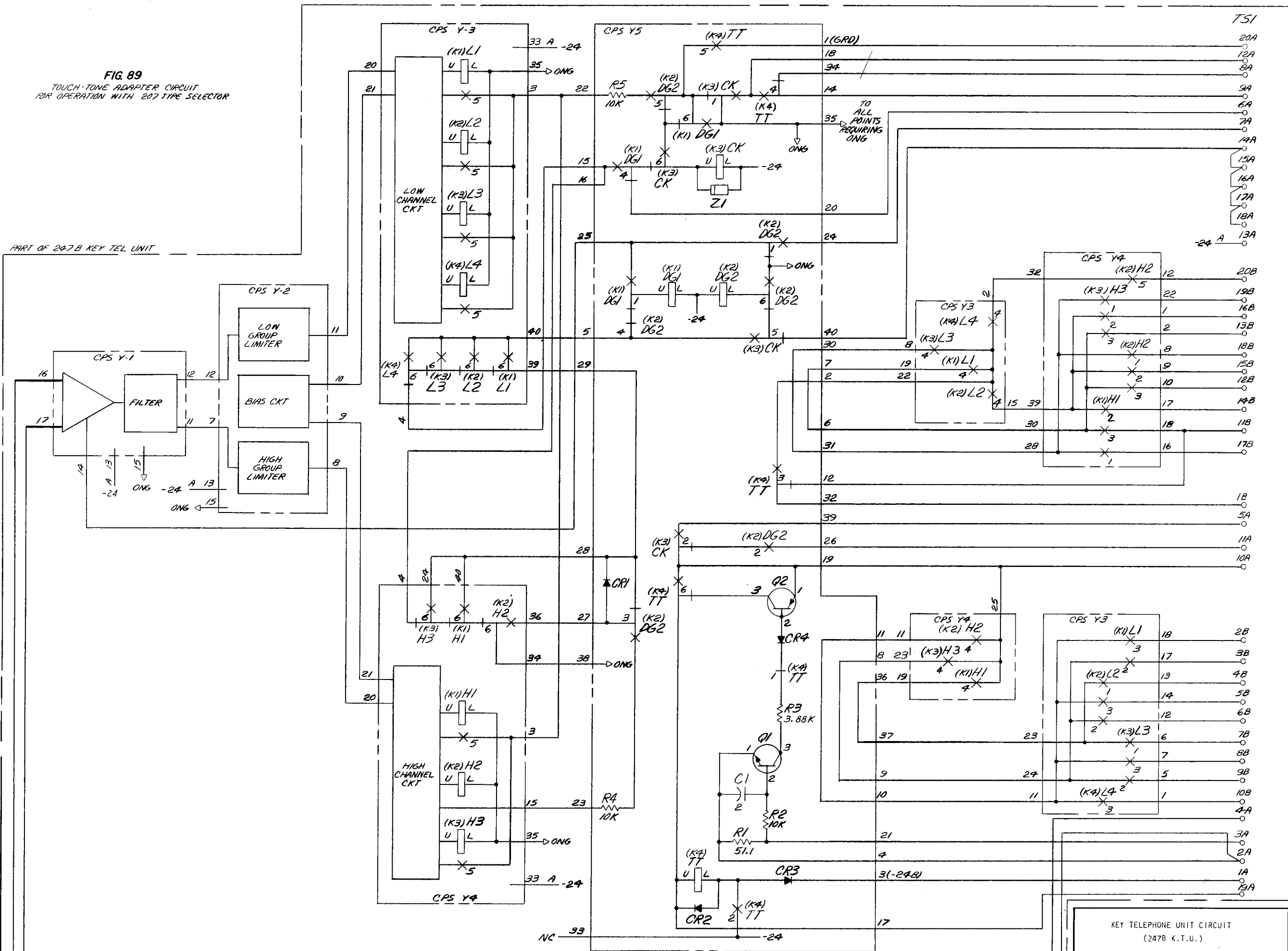
BELL TELEPHONE LABORATORIES
INCORPORATED

6S

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FIG 89
TOUCH-TONE ADAPTER CIRCUIT
FOR OPERATION WITH 207 TONE SELECTOR

PART OF 247B KEY TEL UNIT



KEY TELEPHONE UNIT CIRCUIT
(247B K.T.U.)

BELL TELEPHONE LABORATORIES
INCORPORATED

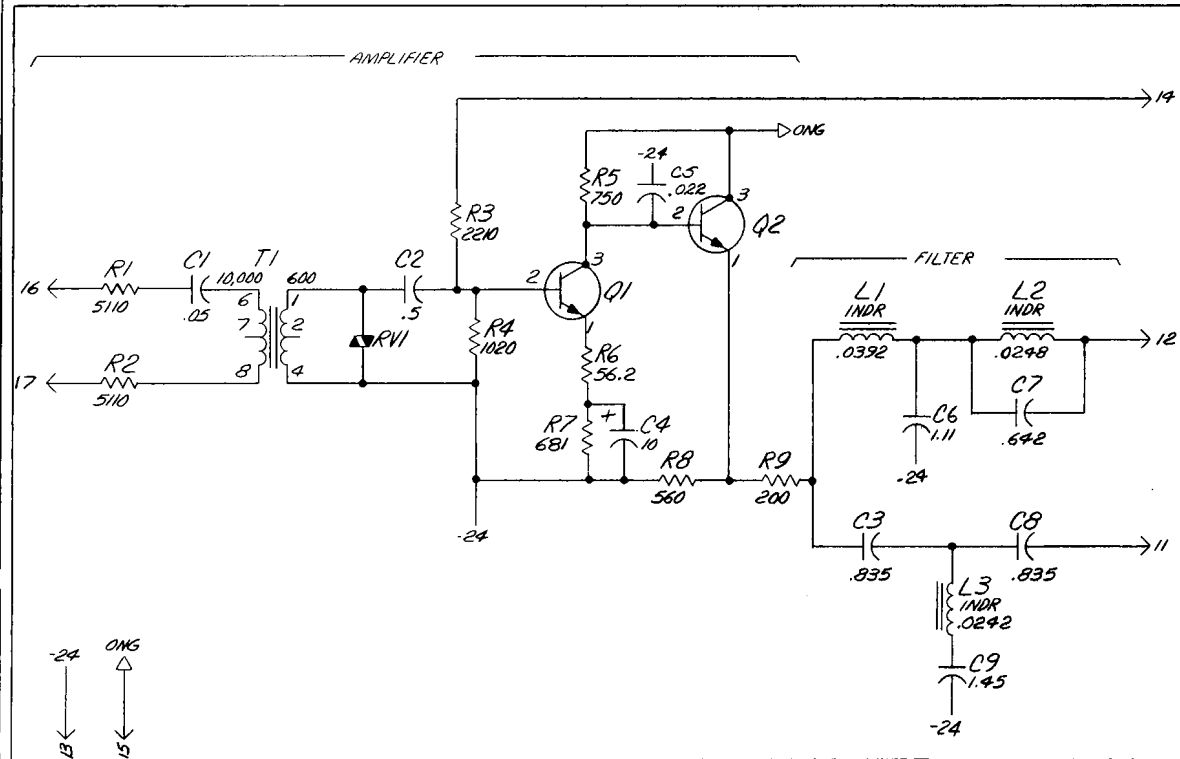
SD-69288-01-C82

SD-69288-01-C82

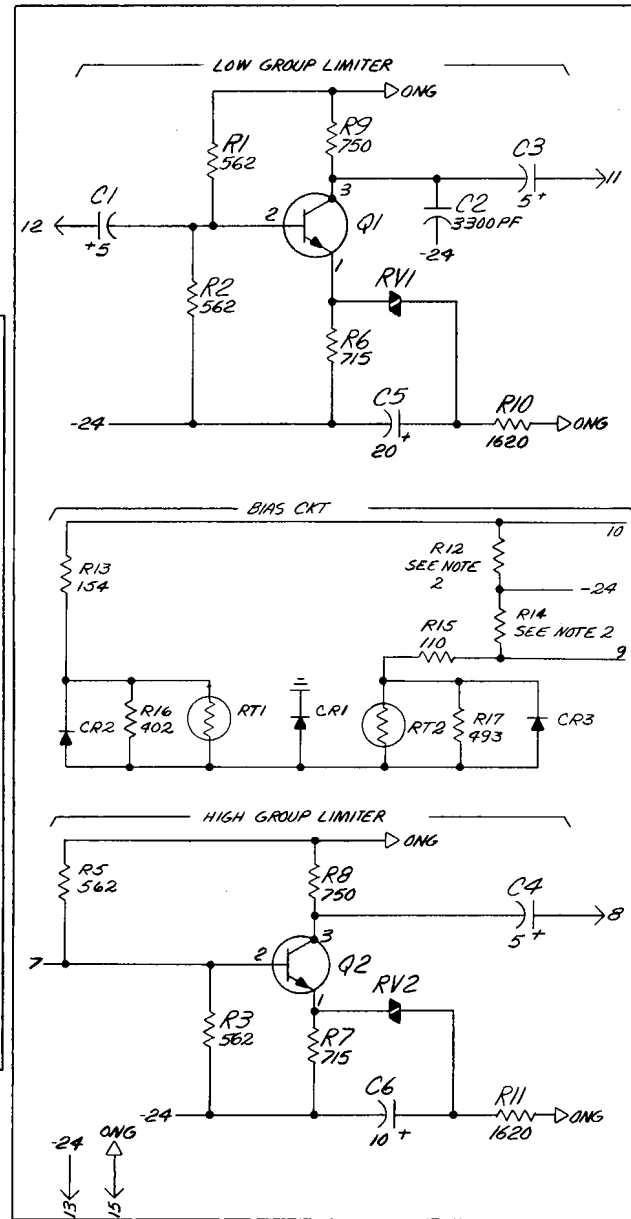
PART OF FIG. 91
SUB CIRCUITS
PART OF TOUCH-TONE ADAPTER CKT

PART OF 247B KEY TEL UNIT

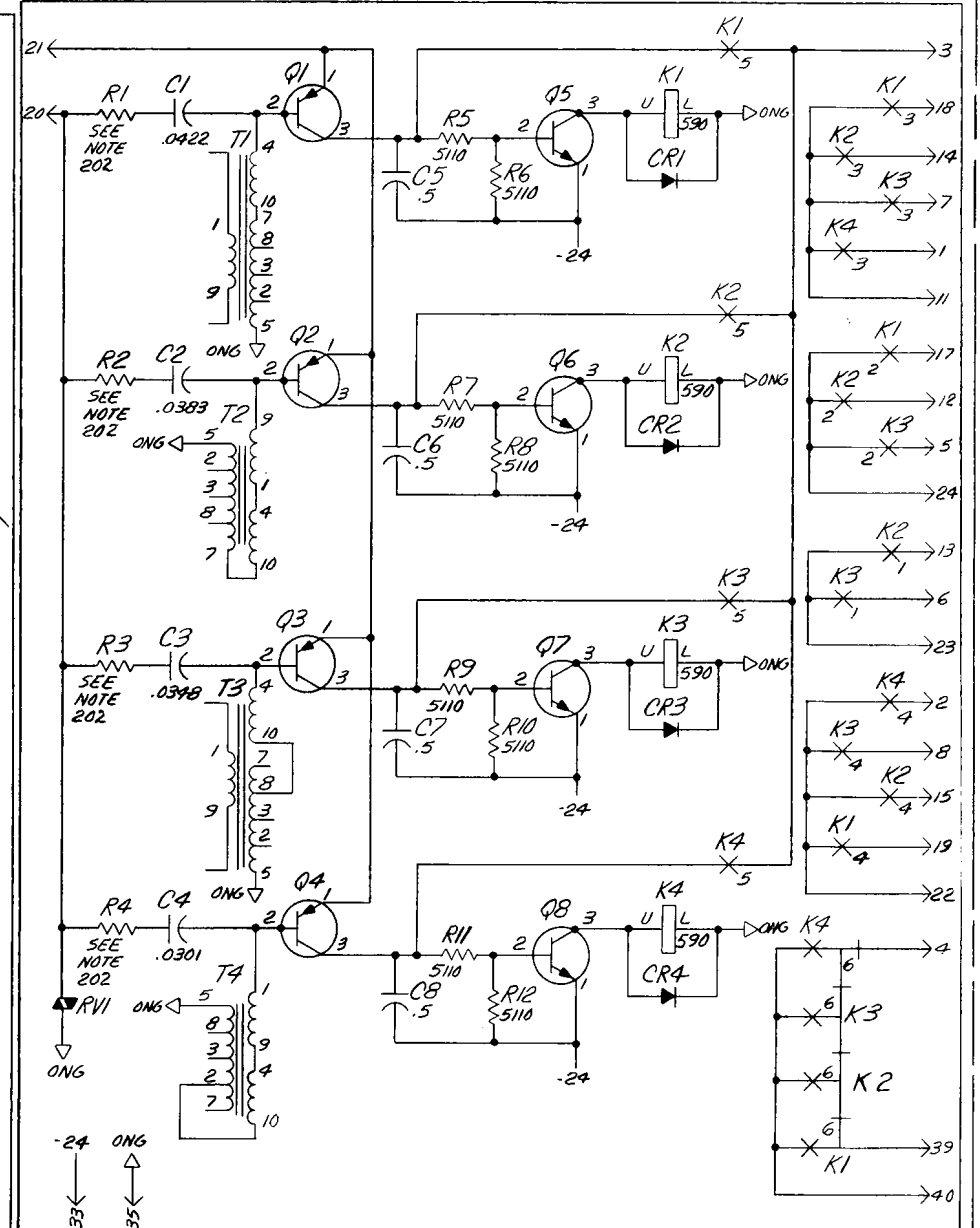
CPS Y1
INPUT AMPLIFIER AND FILTER



CPS Y2
LIMITER AND BIAS CIRCUITS



CPS Y3
LOW CHANNEL CIRCUITS



EQUIPMENT NOTES:

201. THE VALUES OF RESISTORS R12 AND R14 SHOULD BE SELECTED FROM THE FOLLOWING LIST TO PROVIDE REQUIRED BIAS.

VOLTAGE ACROSS CR1	RESISTANCE VALUE R12	R14
5.8V TO 6.0V	3120	4020
6.1V TO 6.3V	3650	4810
6.4V TO 6.6V	4480	6420

202. TO PROVIDE THE REQUIRED CHANNEL BANDWIDTH THE VALUES OF RESISTORS R1, R2, R3 AND R4 SHOULD BE SELECTED FROM THE FOLLOWING LIST:

14.7, 31.6, 48.7, 64.9, 80.9, 95.3, 110, 124, 140, 156, 172, 187, 203, 218 AND 234.

203. TO PROVIDE THE REQUIRED CHANNEL BANDWIDTH THE VALUES OF RESISTORS R1, R2 AND R3 SHOULD BE SELECTED FROM THE FOLLOWING LIST:

80.9, 95.3, 110, 124, 140, 156, 172, 187, 203, 218, 234, 249, 267, 284, 301, 316, 332 AND 348. (SEE SD-69288-01-95)

204. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY WITH KEY TEL SYSTEMS NO. 2A AND NO. 6A, TOUCH TONE ADAPTER CKT, SD-69529-01.

205. THIS KEY TEL UNIT IS 17 MODULES (7 1/2 IN.) WIDE

20 V NOMINAL
(14-26 V)

KEY TELEPHONE UNIT CIRCUITS
(247B K.T.U.)

BELL TELEPHONE LABORATORIES
INCORPORATED

SD-69288-01-C84

6S
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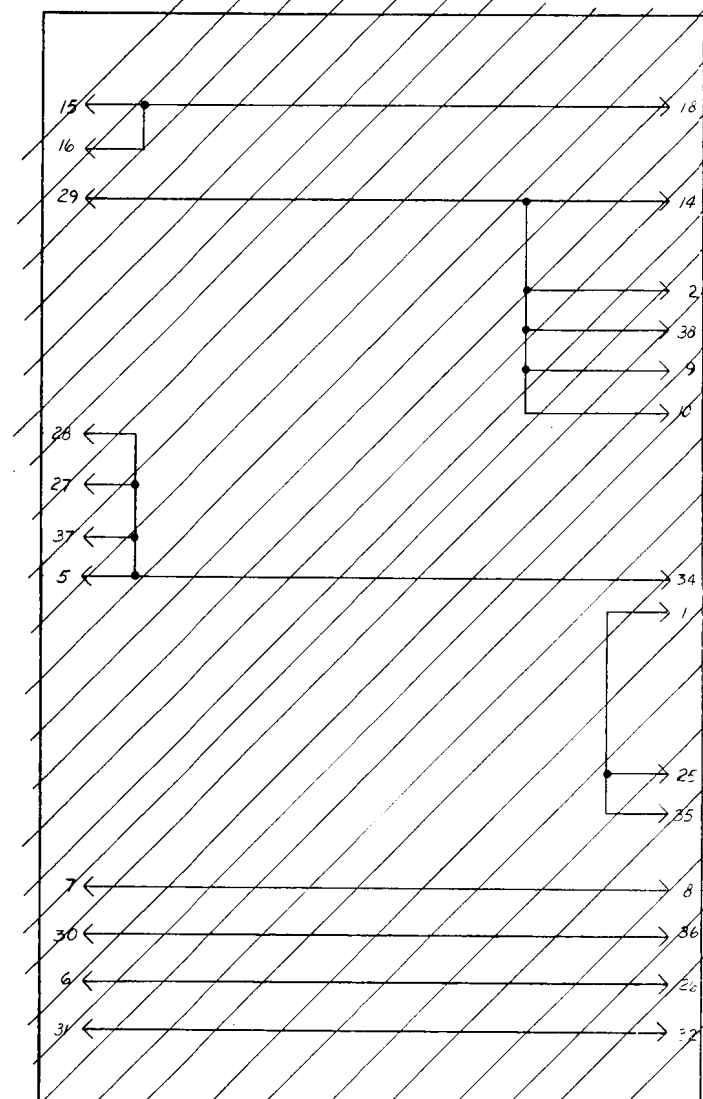
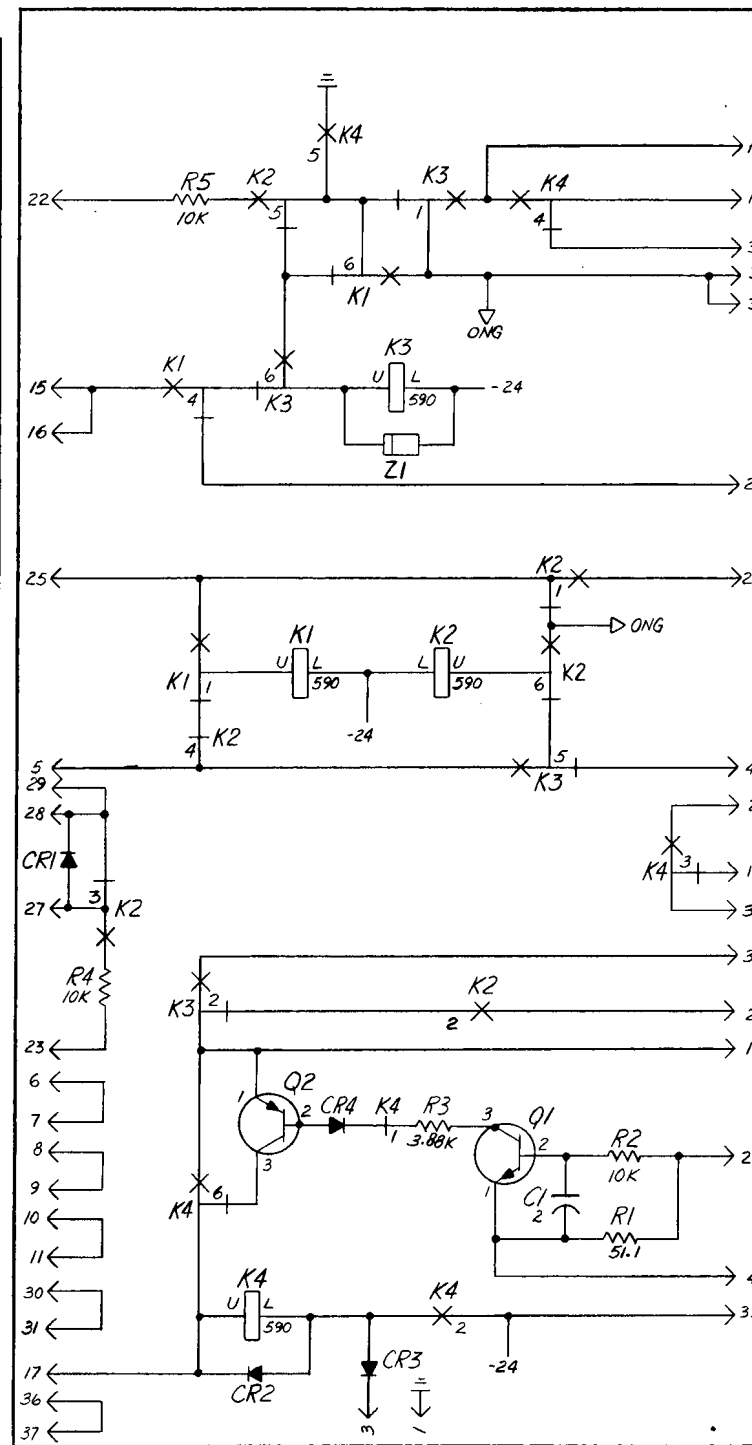
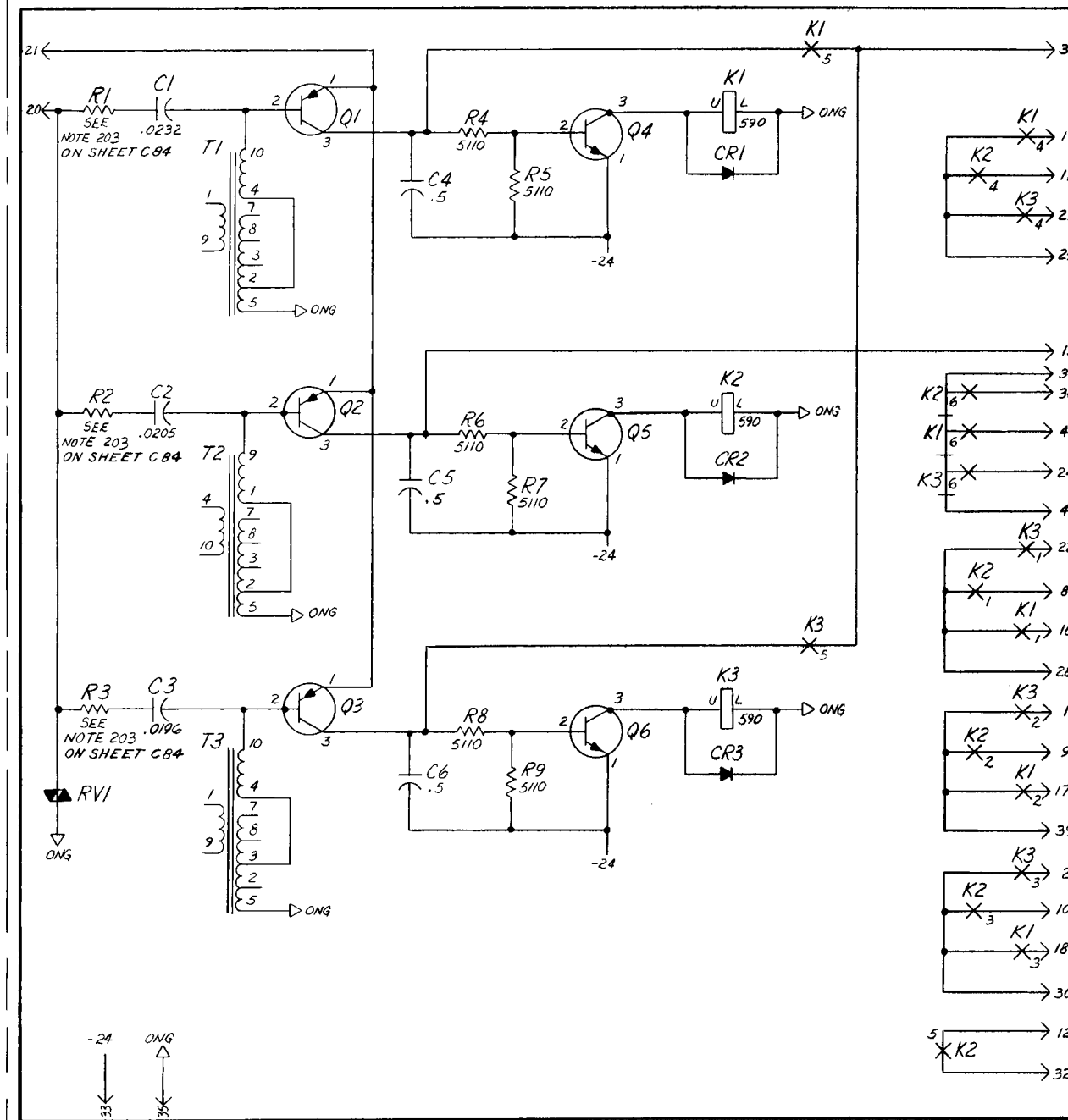
PART OF FIG 91
SUB-CIRCUITS
PART OF TOUCH-TONE ADAPTER CIRCUIT

PART OF 247B KEY TEL UNIT

CPS Y4
HIGH CHANNEL CIRCUITS

CPS Y5
ADAPTER FOR 207 TYPE CONNECTOR

CPS Y6
ADAPTER FOR 487A SELECTOR



KEY TELEPHONE UNIT CIRCUITS
(247B K.T.U.)

SD-69288-01-C85

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

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0

1

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6

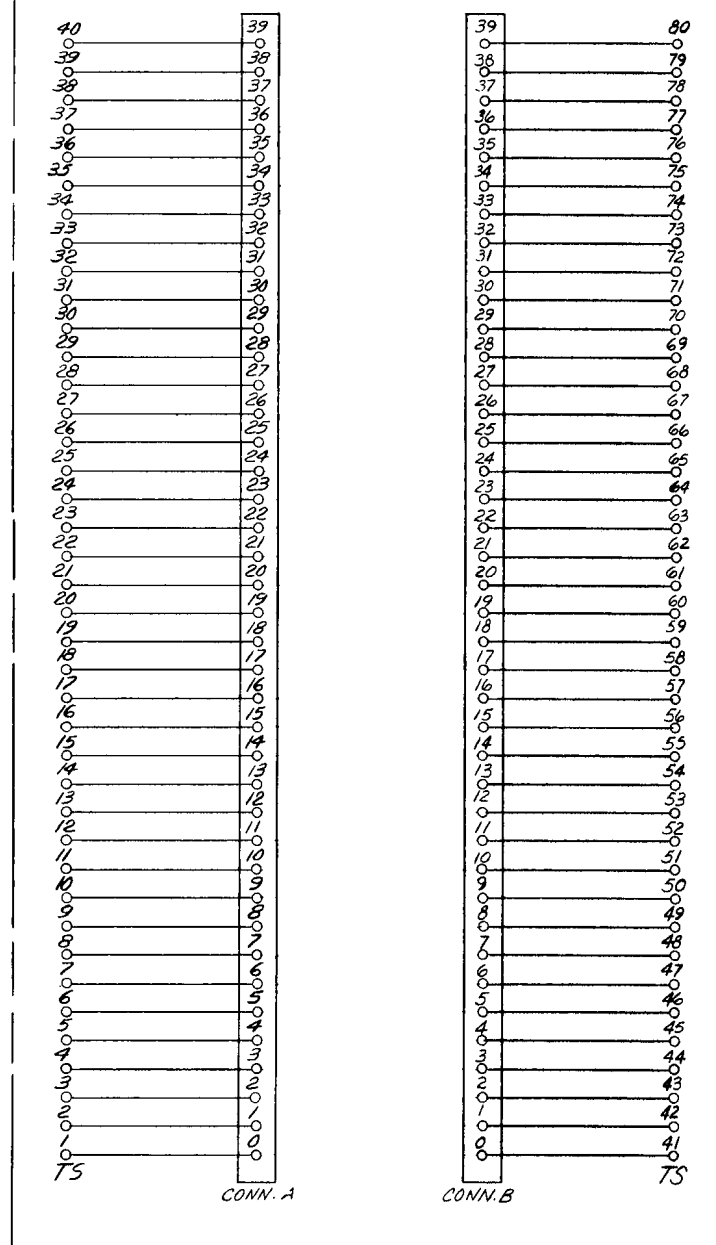
7

8

9

FIG. 92 (MFR DISC)
ADAPTER UNIT

259C KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1 AND 1A2.
202. THIS KEY TEL UNIT IS 9 MODULES (3 7/8 IN.) WIDE.

DRAWING	
ISSUE	
16B	TN/
17D	REG
17D	REG
17D	REG

KEY TELEPHONE UNIT CIRCUIT
(259C K.T.U.)

SD-69288-01-C86

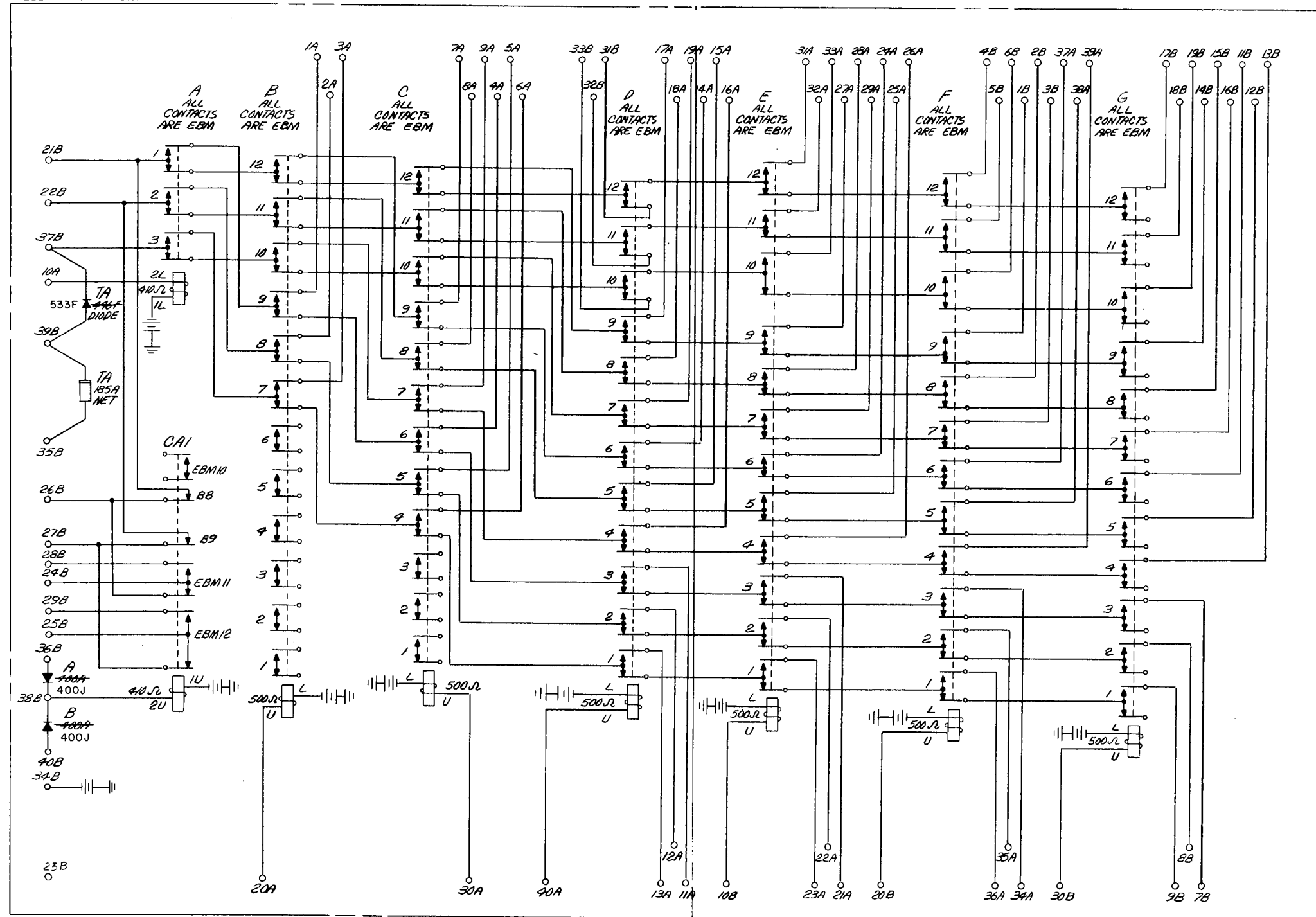
BELL TELEPHONE LABORATORIES
INCORPORATED

DWG. SIZE
6S

PRINTED IN U.S.A.

FIG. 93
STATION LINE CONCENTRATOR FOR 18 LINES

235B KEY TEL UNIT



EQUIPMENT NOTES:

201. THIS KEY TEL UNIT IS PRIMARILY FOR USE IN KEY TEL SYSTEM NO. 6A, 1A1 AND 1A2 PER SD-69288-01 AND SD-69289-01.
202. THIS KEY TEL UNIT IS 14 MODULES (6-3/32 IN.) WIDE.

20V NOMINAL
(14-26V)

23B

KEY TELEPHONE UNITS CIRCUITS
(235B KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

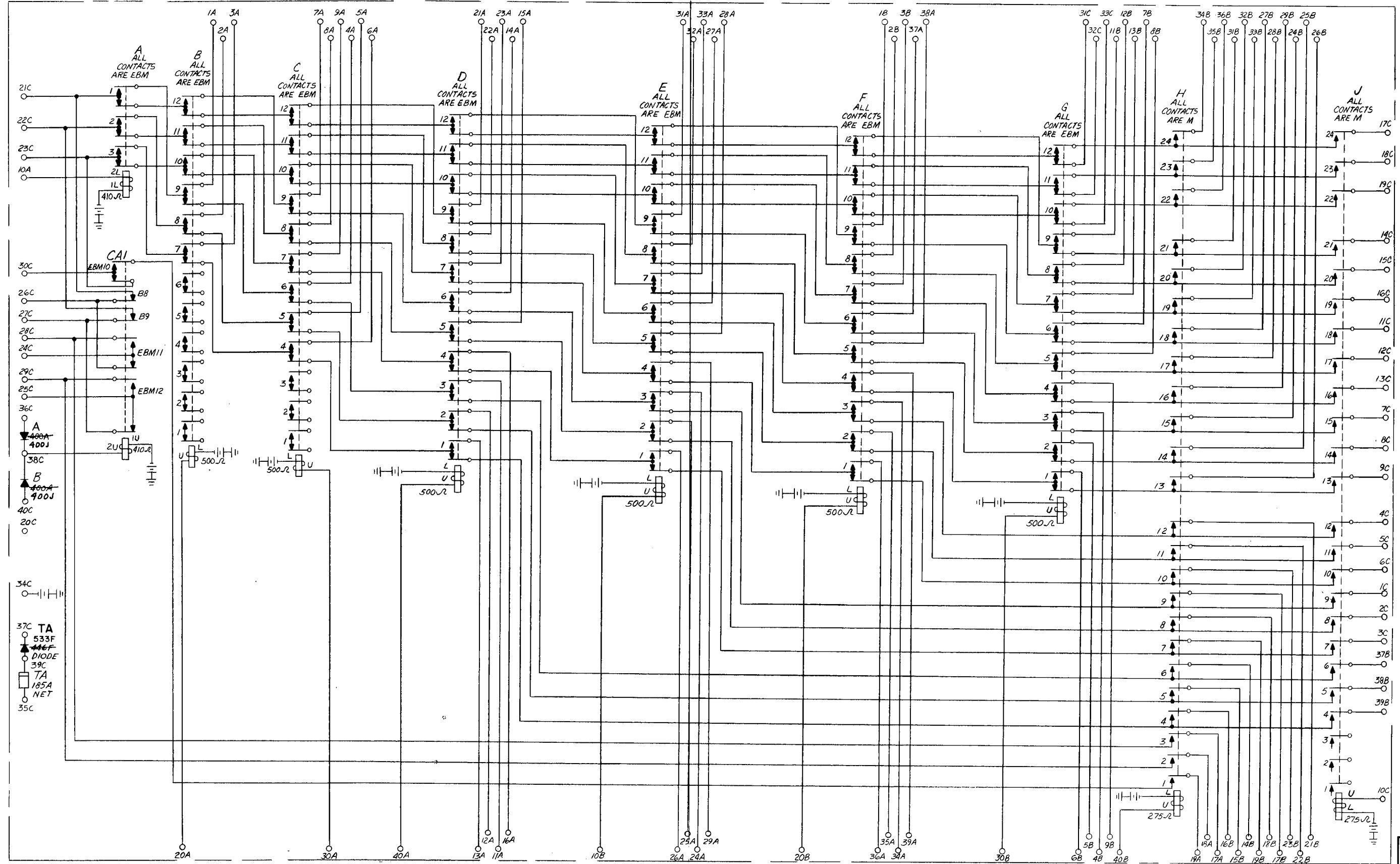
6S

SD-69288-01-C87

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FIG 94
STATION LINE CONCENTRATOR FOR 30 LINES

236B KEY TEL UNIT



EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS PRIMARILY FOR USE IN KEY TEL SYSTEM NO. 6A, 1A1 AND 1A2 PER SD-69498-01 AND SD-69499-01.
202. THIS KEY TEL UNIT IS 20 MODULES (8-23/32 IN.) WIDE.

20V NOMINAL
(14-26V)

KEY TELEPHONE UNITS CIRCUITS (236B KTU)		SD-69288-01-C88
BELL TELEPHONE LABORATORIES INCORPORATED	DWG SIZE 6S	PRINTED IN U.S.A.

0

1

2

3

4

5

6

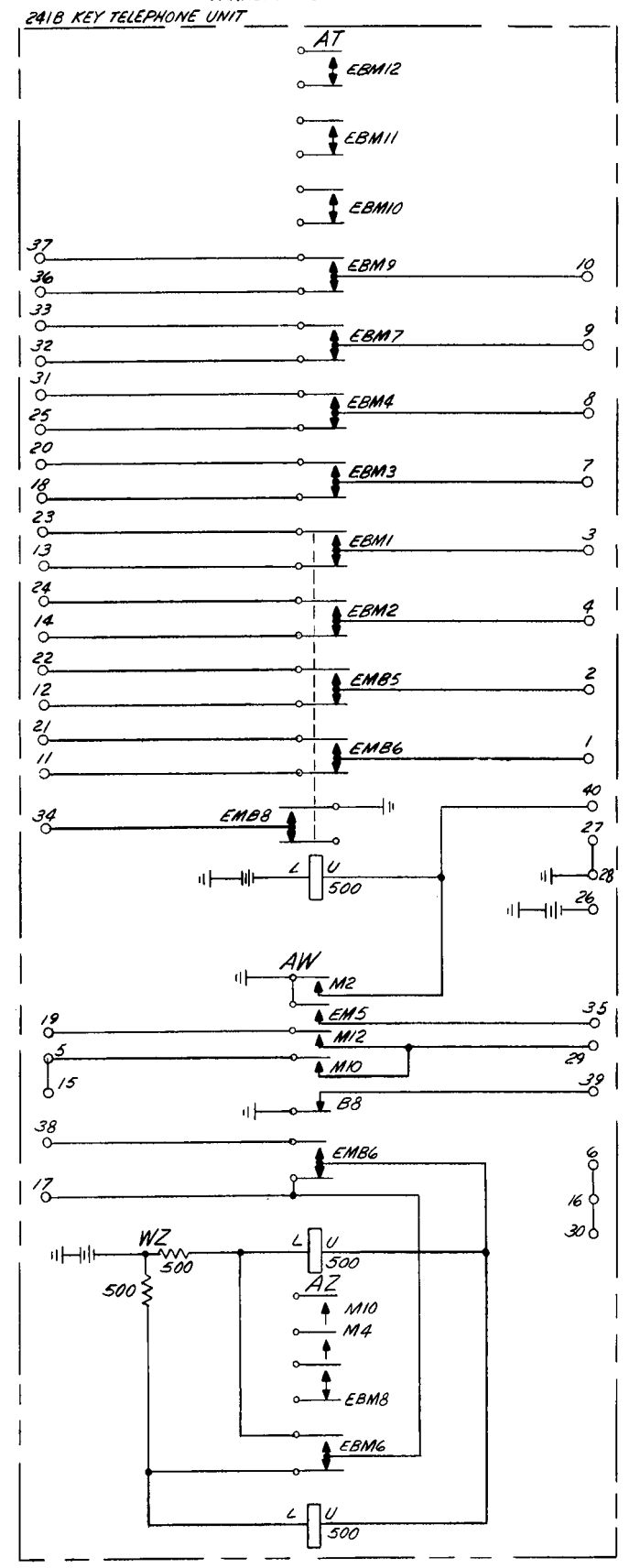
7

8

9

DRAWING
ISSUE
170 170
170 170

FIG 95
AUXILIARY LINE
TRANSFER CIRCUIT



20V NOMINAL
(20-26V)

EQUIPMENT NOTES:
201. THIS KEY TEL UNIT IS DESIGNED FOR USE PRIMARILY IN KEY TEL SYSTEMS NO. 1A1, SD-69422-01.
202. THIS KEY TEL UNIT IS 7 MODULES (3-1/32 IN.) WIDE.

KEY TELEPHONE UNIT CIRCUIT 241B		SD-69288-01-C89
BELL TELEPHONE LABORATORIES INCORPORATED		
ONE SIZE 6S		PRINTED IN U.S.A.

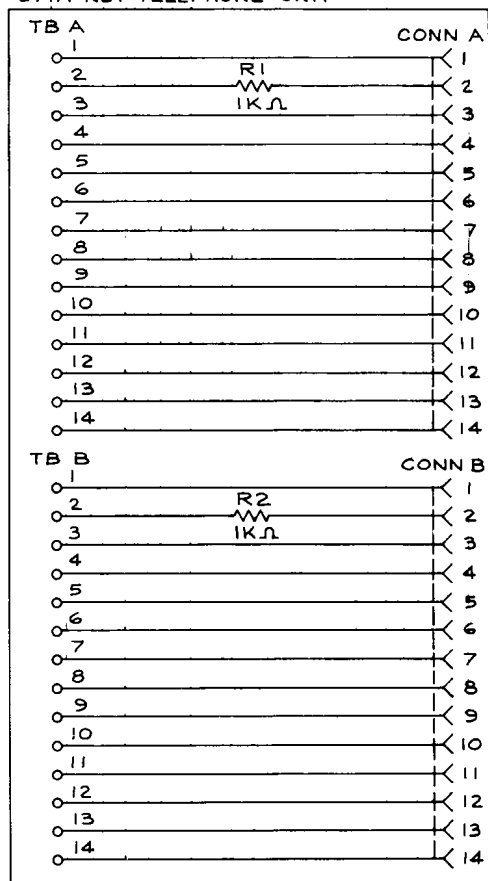
FIG. 96

DRAWING

ISSUE

18D

271A KEY TELEPHONE UNIT

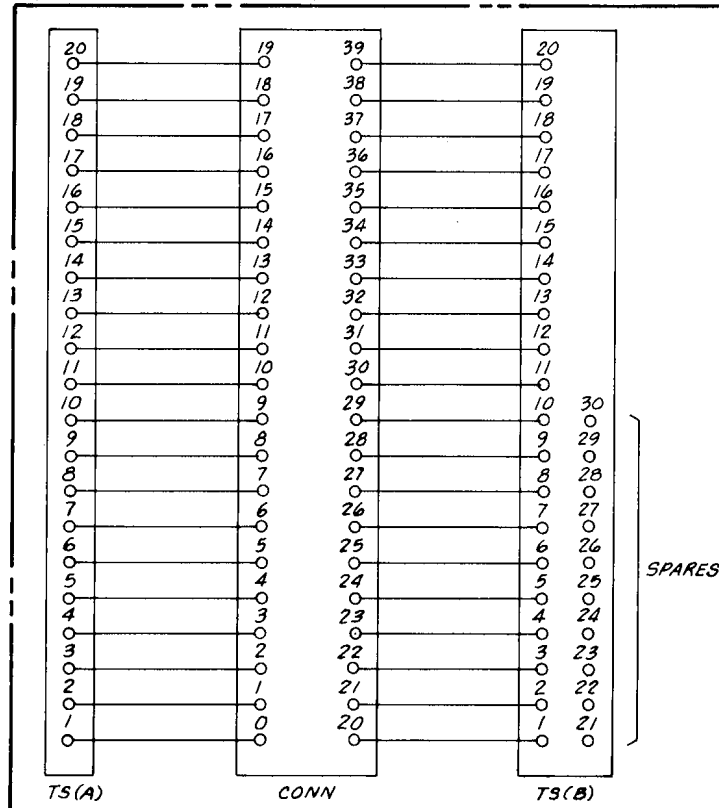
KEY TELEPHONE UNITS CIRCUITS
(271A KTU)BELL TELEPHONE LABORATORIES
INCORPORATEDDWG SIZE
3S

SD-69288-01-C90

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FIG. 97

272A KEY TELEPHONE UNIT



KEY TELEPHONE UNITS CIRCUITS
(272A KTU)

BELL TELEPHONE LABORATORIES
INCORPORATED

6S

SD-69288-01-C9I

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CIRCUIT PREPARATION																DRAWING ISSUE	
APPARATUS				MECH REQ			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					REMARKS
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	
RELAYS																	
B1A	AK10		78	7					1L (B1A)	BAT		BOT	0		16.3	15.5	MTD WITH (TB1A)
												H		2.7	2.6		
BC	AJ7		14 16 25 42	1			(BC1) NO.				1		0		1.7	1.6	
BC	AJ500		68 84	226					L (BC)	U (BC)	B/G		0		17.0	16.0	
BC1	AG26		14 16 25 42	222B									0	FS	26.5	25.0	
													H	FS	4.1	3.9	
													R	FS	2.1	2.5	
BF	AJ50		41 51	46							2	F/S	0		10.5	10.0	
													NO		5.2	5.5	
BF	UA 129		10	111/110	H	35						P/S	0		19.5	18.5	
BY	AG26		28 78	222B									0	FS	26.5	25.0	
													H	FS	4.1	3.9	
													R	FS	2.1	2.5	
BY1	AG29		28 78	408B									0	FS	23.5	22.0	
													H	FS	3.9	3.7	
													R	FS	1.9	2.2	
C	AG27		6, 37, 42	45B			6M (C)					S	0		47.5	45.0	
											3	P	0	FS	34.0	32.0	
											3	P	H	FS	4.8	4.5	
											3	P	R	FS	2.7	3.4	
											4	P	0	FS	220.0	210.0	
											4	P	H	FS	31.0	29.5	
											4	P	R	FS	12.8	16.0	
C	AJ40		29	52							5	P/S	0		17.5	16.5	
												P/S	R		0.1	0.2	
C	AF124		50 76	287							6		0		17.0	16.0	
C(1-6)	AJ65		68,94	59			M2(C)(1-6)	L (REL TEST)	U (REL TEST)	B/G			0		14.0	12.5	
C(1-3)	1/2 AK6		69	2				2U (C)	1U (C)	B/G		T	0		29.0	27.5	MTD WITH (S) REL
CA1	AF86		31	237									0		16.8	16.0	
CA2			85 87														

TEST NOTES:

- CONTACT MAKE 5, NO MAKE 8.5, READJ: MAKE 3.5, NO MAKE 10, TEST. ARM. BACK TENSION MIN 18 GRAMS, READJ. 16 GRAMS.
- CONTACT MAKE 5, NO MAKE 8.5, READJ: MAKE 3.5, NO MAKE 10, TEST. ARM. BACK TENSION MIN 20 GRAMS READJ. 15 GRAMS, TEST.
- FOR (C) REL ONLY. REMOVE PARALLEL CONN TO T (ROT) MAG.
- FOR CIRCUIT COMBINATION OF (ROT) MAG AND (C) REL.
- ARM. BACK TENSION MIN 20 GRAMS, READJ. 15 GRAMS, TEST. CONTACTS BREAK ON 5, NOT BREAK ON 8.5, READJ: BREAK 3.5, NOT BREAK 10, TEST. CONTACTS MAKE 5, NO MAKE 8.5, READJ: MAKE 3.5 NO MAKE 10, TEST.
- REMOVE STRAP BETWEEN TERMINALS 6 AND 16.
- CONTACT MAKE 6 READJUST, 4 TEST.

KEY TELEPHONE UNIT CIRCUITS

BELL TELEPHONE LABORATORIES
INCORPORATED

SD-69288-01-D2

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CIRCUIT REQUIREMENTS																	DRAWING ISSUE	
APPARATUS				MECH REQ'T			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ'T					REMARKS
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST WDG			TEST FOR	AFTER SOAK MA	TEST MA	READJ MA		
RELAYS																		
CA1	AK14		43	208								TOP	0		25.5	24.0	MTD WITH (A) REL	
			44															
			93															
			94															
CA1	AF86		87	237					TERM. 5	GRD		0			17.2	16.4		
CA2	AF86		31	237								0			16.8	16.0		
			85															
CA2	AF86		87	237					TERM. 8	GRD		0			17.2	16.4		
CH	AF89		14	41B								0			47.5	45.0		
			16															
			25															
			42															
CL	AF86		83	237					TERM. 19	BAT		0			16.8	16.0		
CO	U735		3,5	132/132	H	47						0			17.0	16.0		
CT	AF123		21	217					2U (CT)	GRD	P/S	0			19.0	18.0	PARALLEL AIDING	
			65															
			82															
EN	AF50		53	18					U (EN)	GRD		0			23.0	22.0		
			60															
			61															
FA	Y221		8	131/164	H	SPL						0			54.0	51.0		
			12									NO			36.0	38.0		
												H			4.1	3.8	ARM. TRVL 59	
												R			1.9	2.5		
FB	Y284		8	212/123	SPL	29					7	0	FS		49.5	47.0		
			12									NO	FS		33.0	35.0		
												H	FS		8.3	7.9		
												R	FS		2.0	2.6		
											</							

CIRCUIT REQUIREMENTS															DRAWING ISSUE			
APPARATUS				MECH REQ			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					REMARKS	
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA		
RELAYS																		
H	UA133		2	229/205	SPL	SPL	IU (H)				1,2	P/S	0		10.5	10.5	ARM. TRVL 17	
											3	P/S	0		11.0	11.0		
											2	P/S	NO		7.6	8.1		
														6.6	7.0			
H	UA133		11	229/205	SPL	SPL	IT (H) (PF) 0				1,2	P/S	0		10.5	10.5	ARM. TRVL 17	
											2	P/S	NO		7.5	8.0		
											3	P/S	0		11.0	11.0		
											3	P/S	NO		7.6	8.1		
H	UA133		13	229/205	SPL	SPL	(A1) 0				4		0		9.3	8.7	ARM. TRVL 17	
H	AG 26		25	222B									0	FS	26.5	25.0		
													H	FS	4.1	3.9		
													R	FS	2.1	2.5		
H	AJ 50		34	46			(AH) 0				5,6,7	P/S	0		10.5	10.0		
			35									P/S	NO		5.2	5.5		
			39															
			40															
H	AJ100		46, 47 48, 49 55, 56 58, 59 81, 86	46			(AH) 0, 12B (A)				5		0		10.5	10.0		
													NO		5.0	5.3		
H	AJ100		70	46			(AH) 0, 10B (A)	L (A)	U (A)	B/G	5		0		10.5	10.0		
													NO		5.0	5.3		
H1	AF125		13	245									0		21.0	20.0		
H1	AJ43		40	249									0		24.5	23.0		
H1	1/2 AK2		64	1				2L	1L	B/G	8	B	0		12.1	11.5	MTD WITH (H2) REL	
H2	1/2 AK2		64	1				2U	1U	B/G	8	T	0		12.1	11.5	MTD WITH (H1) REL	
H3	1/2 AK2		64	1				2L	1L	B/G	8	B	0		12.1	11.5	MTD WITH (LCK) REL	
H, J	AJ203		44 94	500									0		35.0	33.3		
J	AF50		24	18									0		23.1	22.0		
K	AF114		64	54			2B, 8M, 10M (K)	L	U	B/G	8		0		25.5	23.0		
CPS Y3																		
K1, K2 K3, K4	MB13		91	201				U	L	B/G	12		0		22.5			
CPS Y4																		
K1, K2 K3	MB13		91	201				U	L	B/G	12		0		22.5			
CPS Y5																		
K1, K2 K3	MB5		91	203				U	L	B/G	12		0		24			
K2	MB7		91	205				U	L	B/G	12		0		24			
TEST NOTES:																		
1. CONTACT MAKE 6 READJUST, 4 TEST.																		
2. WINDINGS ONLY.																		
3. EACH WINDING PARALLELED BY ONE UNIT OF A 316A VARISTOR.																		
4. CONTACTS MAKE 6 READJ; 4 TEST. CONTACTS 1-2T AND 1-2B NEED NOT CLOSE ON THE OPERATE CURRENT. (THIS ADJUSTS FOR USE WHERE ONLY ONE MAKE IS REQUIRED.)																		
5. CONTACT MAKE 5. NO MAKE 8.5, READJ; MAKE 3.5, NO MAKE 10, TEST ARM. BACK TENSION MIN 20 GRAMS, READJ, 15 GRAMS TEST.																		
6. REL EQUIPPED WITH A P-19A146 SHIELD.																		
7. STRAP IU AND 2L.																		
8. DISCONNECT TIP LEAD FROM TERM 10B.																		
9. TEST CLIP DATA IS FOR TERM. ON TERM STRIP (B).																		
10. ARM TRVL MAX 17. CONTACT MAKE 6, READJ, 4 TEST.																		
11. CONNECT TEST SET TO TERMINALS 31C & 32C FOR FIGURES 15, 17, 26 & 42; TO TERMINALS 31 & 32 FOR FIGURE 18; AND TO TERMINALS 11A & 32A FOR FIGURE 27. STRAP INDIVIDUAL A & B. TERMINALS TO SELECT REL UNDER TEST. FOR TEST WHEN NOT IN CIRCUIT ADJUST WITH 100 OHM ± 5% RES IN PARALLEL.																		
12. THE CURRENT FLOW INFORMATION APPLIES ONLY WHEN THE RELAY TO BE TESTED IS REMOVED FROM THE PRINTED CIRCUIT BOARD.																		
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CIRCUIT REQUIREMENTS																DRAWING ISSUE	
APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ				REMARKS
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST WDG			TEST FOR	AFTER SOAK MA	TEST MA	READJ MA	
RELAYS																	
L	B1175		13	8		30	(H1) O					O		4.5	4.2		
												R		1.9	2.1		
L	B1175		40	8		30					9	O		4.5	4.2		
												R		1.9	2.1		
L	UA48		3	205/205	SPL	SPL					10	O		3.6	3.4		
L	UA84		5	205/136	H	SPL						P/S P/S	O R	25 25	6.5 1.7	6.1 1.8	ARM. TRVL 23 MAX
L	U902		7	108/111	H	47						O		15.5	14.4		
L	280M		15, 17	B							11	O NO O R	-54 -54 -54 -54		1.1 0.2 6.1 1.8		
L	313C		18,26, 27,42	B								O R		5.4 1.6	4.9 2.2	REPLACES 280M	
L1	AG23		13	286B			4M (L1)					O H R	FS FS FS	6.8 1.2 0.6	6.4 1.1 0.8		
L1	AG23		40	286B								O H R	FS FS FS	6.8 1.2 0.6	6.4 1.1 0.8		
L1	U902		3,5	108/111	H	47						O		15.5	14.4		
L1	1/2 AK 2		64	1				2L	1L	B/G 8	B	O		12.1	11.5	MTD WITH (L2) REL	
L2	1/2 AK 2		64	1				2U	1U	B/G 8	T	O		12.1	11.5	MTD WITH (L1) REL	
L3	1/2 AK 2		64	1				2L	1L	B/G 8	B	O		12.1	11.5	MTD WITH (L4) REL	
L4	1/2 AK 2		64	1				2U	1U	B/G 8	T	O		12.1	11.5	MTD WITH (L3) REL	
LCK	1/2 AK 2		64	1				2U	1U	B/G 8	T	O		12.1	11.5	MTD WITH (H3) REL	
LO	1/2 AK 4		70	202					1U	GRD		O		11.8	11.3	MTD WITH (R) REL	
LS	AG29		15,17 18,26 27,42	408B								O H R	FS FS FS	23.5 3.9 1.9	22.0 3.7 2.2		
LS	U902		7	108/111	H	47						O		15.5	14.4		
LT	AG29		26 27	408B								O H R	FS FS FS	23.5 3.9 1.9	22.0 3.7 2.2		
LTR	AG26		25	222B								O H R	FS FS FS	26.5 4.1 2.1	25.0 3.9 2.5		
</																	

CIRCUIT REQUIREMENTS															DRAWING ISSUE	
APPARATUS				MECH REQ			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ				REMARKS
DES'G	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	
RELAYS																
M	AJ43		30		249							0		24.5	23.0	
M	AJ43		45		249							0		32.0	29.0	
MS	AF86		31 85		237							0		16.8	16.0	
MS	AF86		87		237			TERM.2	GRD			0		17.2	16.4	
N	AJ43		30 45		249							0		24.5	23.0	
NS	AF124		24		287							0		17.0	16.0	
ON	AF86		82		237			U (ON)	GRD			0		16.8	16.0	
ON	AK4		38		202							0		11.9	11.3	
															MTD WITH (ON1)	
ON	AF123		56 81 86		217						P/S	0		19.0	18.0	
ON	1/2 AK1		70		201			1U	GRD			0		26.0	24.5	
															MTD WITH (AH) REL	
ON1	AK4		38		202							0		11.9	11.3	
															MTD WITH (ON)	
P	280FP		29		B							P/S	0	-28	0.7	
												P/S	NO	-28	0.5	
												P/S	0	-28	5.9	
												P/S	REL	+28	3.1	
PC1	AJ46		20 79		266		(R01) 0	U (PC1)				0		12.3	11.7	
PC2	AJ46		20 79		266		(R01) 0	U (PC2)				0		12.3	11.7	
PF	UA132		8 12		125/125	SPL	SPL			1		0		18.0	17.0	
R	AF123		23		217						P/S	0		19.0	18.0	
R	1/2 AK4		70		202			1L	GRD			0		11.8	11.3	
															MTD WITH (LO) REL	
R	AF125		29		245							0		21.0	20.0	

TEST NOTES:

1. ARM. TRVL 59 MIN TENSION ALL 8 SPRINGS 10 GRAMS READJ, 8 GRAMS TEST.

2. ARM. BACK TENSION MIN 20 GRAMS, READJ. 15 GRAMS, TEST.

3. TEST BY APPLYING MIN 95V 20~ (1100-1200 RPM) RING, IN SERIES WITH A 138 RES LAMP OR EQUIV AND A 7000-OHM RES TO TERM. NO. 8 WITH GRD ON TERM. NO. 17.

4. TEST BY APPLYING MIN 95V 20~ (1100-1200 RPM) RING, IN SERIES WITH A 138 RES LAMP OR EQUIV AND A 7000-OHM RES TO BA CONTACT OF (AH) REL AND WITH GRD ON ST LEAD OF CKT UNDER TEST.

5. ARM. BACK TENSION MIN 15 GRAMS TEST; 20 GRAMS READJ.

6. TEST AND READJ THE (R) REL ON AC BY RING ON THE LINE AT CO. PBX LINES SHALL BE CONNECTED TO THE CO WITH THE TALKING KEY NORMAL. THIS TEST MAY ALSO BE MADE BY APPLYING MIN 95V 20~ (1100-1200 RPM) RING, IN SERIES WITH A 138 RES LAMP OR EQUIV AND A 7000-OHM RES TO THE RING OF THE LINE TERM. THE LINE IS OPENED TOWARD THE CO OR PBX.

7. TEST AND READJ BY CONN MIN 95V, 20~ (1100-1200 RPM) RING, SUPPLY THROUGH A 13C RES LAMP OR EQUIV AND A 10,000-OHM NONINDUCTIVE RES IN SERIES.

8. THIS TEST MAY BE MADE BY APPLYING MIN 95V, 20~ 1100-1200 RPM RING IN SERIES WITH A 138 RES LAMP OR EQUIV AND A 7000-OHM RES TO TERM NO. 32 WITH GRD ON TERM NO. 36.

9. THIS TEST MAY BE MADE BY APPLYING MIN 95V, 20~ (1100-1200 RPM) RING, IN SERIES WITH A 138 RES LAMP OR EQUIV AND A 7000-OHM RES TO TERM. NO. F

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CIRCUIT REQUIREMENTS															DRAWING ISSUE			
APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					REMARKS
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST WDG			TEST FOR	AFTER SOAK MA	TEST MA	READJ MA		
RELAYS																		
R	AJ48		34 35 40 46 47 48 49 55 56 58 81 86	3							2	P	0		8.8	8.0		
													NO		6.1	6.5		
											3	S	0		AC	AC		
R	AJ48		39								2	P	0		8.8	8.0		
											4	S	0		AC	6.5		
R	AJ48		40	3							5	P	0		8.4	8.0		
											5	P	NO		6.1	6.5		
											6	S	0		AC	AC		
R	J23		38	5		23					7	S	0		AC	AC		
												S	NO		7.2	7.2		
R	UA57		2	111/111	H	SPL						P	0		18.0	17.0		
												P	NO		11.4	12.0		
											8	S	0		AC	AC		
R	UA57		11	111/111	H	SPL					14	P	0		18.0	17.0		
												P	NO		11.4	12.0		
											9	S	0		AC	AC		
R	UA57		13	111/111	H	SPL						P	0		18.0	17.0		
												P	NO		11.4	12.0		
											10	S	0		AC	AC		
R	UA71		4	111/111	H	29	3T (RO)						0		4.7	4.4		
													NO		3.0	3.2		
											11		0		AC	AC		
R1	B617		10	9		30					12		0		5.8	5.5		
											12		R		1.9	2.5		
											13		0		AC	AC		
R1	U902		4	108/111	H	47							0		15.5	14.4		
RA	1/2AK17		80	212				2U	1U	B/G		T	0		44.0	41.0		
RL	AF124		19 42 75	287									0		17.0	16.0		
RO	AF86		14	237									0		16.8	16.0		
RO	AF125		16 25 42	245									0		21.0	20.0		
RO	U204		4 5	102/132	H	53							0		32.5	31.0		
TEST NOTES: (CONTD)																		
10. THIS TEST MAY BE MADE BY APPLYING MIN 95V, 20~ (1100-1200 RPM) RING, IN SERIES WITH A 13B RES LAMP OR EQUIV AND A 7000-OHM RES TO TERM. NO 32A WITH GRD ON TERM NO. 36A.																		
11. TEST AND READJ THE (R) REL FOR OPERATION ON AC BY CONNECTING MIN 95V, 20~ (1100-1200 RPM) RING. SUPPLY THROUGH A 13C RES LAMP OR EQUIV AND A 10,000-OHM RES TO B (R) AND RING. GRD TO T (R).																		
12. WINDING ONLY.																		
13. APPLY MIN 95V, 20~ (1100-1200 RPM) RING, VOLTAGE IN SERIES WITH A 13B RES LAMP OR EQUIV AND A 7000-OHM RES TO TERM. NO. 1.																		
14. BLOCK (TO) RELAY OPERATED.																		
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CIRCUIT REQUIREMENTS															DRAWING ISSUE	
APPARATUS				MECH REQ			CIRCUIT PREPARATION			TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ				REMARKS
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA				TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	
RELAYS																
R01	AG26		20	222B			5 (PC2)					0	FS	26.5	25.0	
			79				7 (PC1)					H	FS	4.1	3.9	
							7 (PC2)					R	FS	2.1	2.5	
RW	AJ48		66	3				1L	1U	B/G	1	P	0	8.5	8.0	
												NO		6.9	6.5	
S	AJ111		76	328					TERM 16		2	S	0	AC	AC	
											4		0	19.5	18.5	
S	AJ101		50	323							4		0	18.0	17.0	
															ARM. TRVL 44	
S	AJ100		59	46				L (S)	U (S)	B/G			0	10.5	10.0	
S	B1048		80	82				1M	3M	B/G	3		0	8.9	8.7	
S1	1/2AK15		59	9					1L (S1)	GRD			0	12.6	11.9	
															MTD WITH (W1) REL	
S(1-3)	1/2AK6		69	2				2L	1L	B/G		B	0	29.0	27.5	
															MTD WITH (C) REL	
S(1-6)	1/2AK6		68	2				2L	1L	B/G		B	0	30.0	27.5	
			8A					2U	1U	B/G		T	0	30.0	27.5	
ST	EA47		41	1/1							5		0	11.2	10.6	
			49													
			51													
SW	1/2AK17		80	212				2L	1L	B/G		B	0	44.0	41.0	
															MTD WITH (RA)	
T	AG26		6	222B								0	FS	26.5	25.0	
			37				IN (T)					H	FS	4.1	3.9	
			42									R	FS	2.1	2.5	
T	AJ43		53	249					U (T)	GRD	6		0	24.0	23.00	
			60													
			61													
T	1/2AK13		69	203				2U	1U	B/G		T	0	24.0	23.0	
															MTD WITH (B) REL	
T	AJ516		72	299					U	GRD			0	41.0	39.0	
T	AF50		67	18				L		BAT	7		0	22.0	21.0	
			83					L		BAT	7		NO	13.2	12.6	
T1	AG26		24	222B								0	FS	26.5	25.0	
												H	FS	4.1	3.9	
												R	FS	2.1	2.5	
TB	AJ40		21	52								P/S	0	18.0	16.5	
TB	UA129		5	111/110	H	35						P/S	0	19.5	18.5	

TEST NOTES:

1. ARM. BACK TENSION MIN. 20 GRAMS READJ., 15 GRAMS TEST

2. TEST BY APPLYING MIN. 95V 20-CYCLE RINGING IN SERIES WITH A 13B RES LAMP OR EQUIV AND A 7000-OHM RES TO TERM. 3 WITH GRD ON TERM 4.

3. THROUGH PRIMARY AND QUATERNARY IN MULTIPLE AND SECONDARY AND TERTIARY IN MULTIPLE IN SERIES AIDING.

4. REMOVE STRAP BETWEEN TERMINALS 6 AND 16.

5. BLOCK (TO) RELAY OPERATED TO REMOVE HEATER WINDING FROM CIRCUIT WHILE TEST IS APPLIED.

6. PART OF 240A,240B AND 244A KEY TEL UNITS.

7. DISCONNECT NEG. LEAD OF (C1) CAP.

8. CONTACT MAKE 5, NO MAKE 8.5,READJ: MAKE 3.5,NO MAKE 10, TEST, ARM. BACK TENSION 20 GRAMS READJ, 15 GRAMS TEST.

9. CONTACT BREAK 13 READJ, 11.5 TEST, NO BREAK 16.5 READJ, 18 TEST.

10. ARMATURE BACK TENSION MINIMUM 20 GRAMS READJUST, 15 GRAMS TEST.

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CIRCUIT REQUIREMENTS																	DRAWING ISSUE			
APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					REMARKS		
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST WDG			TEST FOR	AFTER SOAK MA	TEST MA	READJ MA				
RELAYS																			16B	PBB RAB P66
TB	UA130		3,4	120/111	H	35	5T (TB), 3T (TB)					P/S	0		23.0	21.5		17D	PBB RAB HCU	
TB	AJ102		65 70	75			2L	1U		M	8,9	P/S P/S	0 R		15.5 5.8	14.0 6.1	SERIES AIDING			
TB	AJ134		82	75				2L (TB)	1U (TB)	M	10	P/S	0		14.4	13.7	SERIES AIDING			
TB1	AJ24		14 16 25 42	66								P/S	0		29.0	27.5				
TB1A	AK10		78	7				2U (TB1A)		GRD		TOP H	0 H		7.8 1.6	7.4 1.5	MTD WITH BIA			
TB2	AJ42		25	66								P/S	0		29.0	27.5				
TD	307B		80	51				T	B		11		0 NO		11.0 10.0	10.2 9.6	ARMATURE TRAVEL 47			
TD	KS-16615,L17		79					3 (TD)		GRD							SET FOR MIN. 23 SEC MAX. 40 SEC			
TDA	AF50		79	18				U(TDA)		GRD			0		23.0	22.0				
TO	271A		41 49 51	132/1									0		16.5	15.5	ARM. TRVL 47			
TO	282A		8 12	188/2	H	35					12 12 12 13	P P P S Y	0 H R C O	FS FS FS	41.0 3.4 2.0 33.0	39.0 3.2 2.2				
TQA	1/2AK10		64	7			2B(K)	2L	1L	B/G	14,15 14,15	B	0 H		16.5 2.7	15.5 2.6	MTD WITH (TT) REL			
TQB	AG33		64	305B			2B(TQA)	L	U	B/G	14		0 H R		14.7 2.5 1.3	14.0 2.3 1.5				
TEST NOTES (CONT)																			PAGE	
11. ADJUST THERMAL CONTACTS ON (TD) RELAY FOR OPERATING TIME OF 30±4 SECONDS, APPLYING DC VOLTAGE (26.5 MAXIMUM, 26.0 MIN.) ALLOW AT LEAST 120 SECONDS FOR THERMAL WINDING TO COOL BETWEEN SUCCESSIVE TESTS.																				
12. BUFFER SPRINGS MAX 125 GRAMS. MAX TENSION 2B=30 GRAMS.																				
13. BLOCK (TO) OPERATED FOR 5 MIN BEFORE TESTING HEATER WDG. HEATER SHALL OPEN BOT 1-2 IN NOT LESS THAN 20 SEC WITH 16 TO 26 VOLTS APPLIED.																				
14. DISCONNECT TIP LEAD FROM TERM 10B.																				
15. DISCONNECT BATTERY LEAD FROM TERM 1A.																				
KEY TELEPHONE UNIT CIRCUITS																	SD-69288-01-D5			
BELL TELEPHONE LABORATORIES INCORPORATED																	DWG SIZE 6S PRINTED IN U.S.A.			

CIRCUIT REQUIREMENTS																	DRAWING ISSUE	
APPARATUS				MECH REQ			CIRCUIT PREPARATION				TEST SET PREP	SEE TEST NOTE	DIRECT CURRENT FLOW REQ					REMARKS
DESIG	CODE	OPT.	FIG.	BSP FIG.	CONT PRES	ARM. TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST WDG			TEST FOR	AFTER SOAK MA	TEST MA	READJ MA		
RELAYS																		
TR	AJ43		19 42 75	249									0		24.5	23.0		
TR	AK4		38	202									0		11.9	11.3	MTD WITH (TR1)	
TRI	AK4		38	202									0		11.9	11.3	MTD WITH (TR)	
TRA	AJ43		64	249				L	U	B/G	1		0		24.5	23.0		
TT	1/2 AK10		64	7			8M, 10M (TT)	2U	1U	B/G	1, 2	T	0		7.8	7.4	MTD WITH (TOA)REL	
TT0	280M		64	8				TERM.13B	TERM.10B	B/G	1, 2		0 NO O R	-54 -54 -54 -54		1.1 0.8 6.1 1.8		
TT0	313C														5.4 1.6	4.9 2.2		
W	Y318		9	219/201	H	50							0 H R	42 42 42	29.0 7.3 1.5	27.5 6.9 1.9		
W	AJ36		59	215			(W1) 0		U (W)	GRD			0		52.0	49.0		
W	AF145		53 60 61 72	269			(Z) NO 6M, 6B (W)		U (W)	GRD	3		0		17.0 36.0	16.0 34.0	WDG ALONE REQ FOR CKT COMB OF (W) & (Z) REL & (WZ) RES	
W	1/2 AK17		80	212				2U	1U	B/G			T	0	44.0	41.0	MTD WITH (Z)	
W1	1/2 AK15		59	9				1U (W1) 1U (W1)	2U (W1) 2U (W1)	B/G B/G			0 H		14.3 6.0	13.5 5.6	MTD WITH (S1)	
WS	U422		9	132/101	H	47							0		14.4	13.7		
WT	UA76		9	106/101	H	44	3T (WT)						0 NO		19.0 10.8	18.0 11.4		
Z	AF86		53 60 61 72	237			6M, 6B (W)		U (Z)	GRD	3		0		17.0 36.0	16.0 34.0	WDG ALONE REQ FOR CKT COMB OF (W) & (Z) REL & (WZ) RES	
Z	AF6		59	29			(W1) 0 6B (W)		U (Z)	GRD			0		101.0	95.0		
Z	1/2 AK17		80	212				2L	1L	B/G			B	0	44.0	41.0	MTD WITH (W)	
TEST NOTES:																		
1. DISCONNECT TIP LEAD FROM TERM. 10B.																		
2. DISCONNECT BATTERY LEAD FROM TERM. 1A.																		
3. PART OF 240A, 240B, 244A, AND 258A KEY TEL UNITS.																		
KEY TELEPHONE UNIT CIRCUITS																	SD-69288-01-D6	
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DRAWING	ISSUE
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DWG SIZE
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