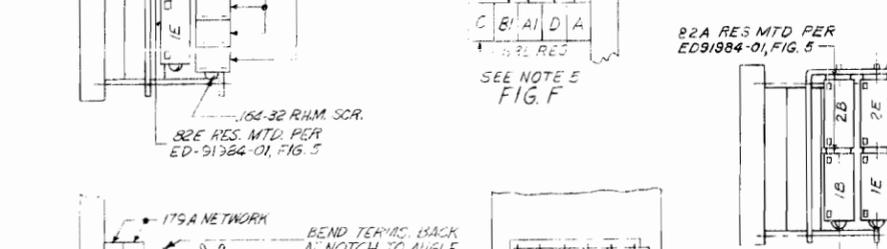
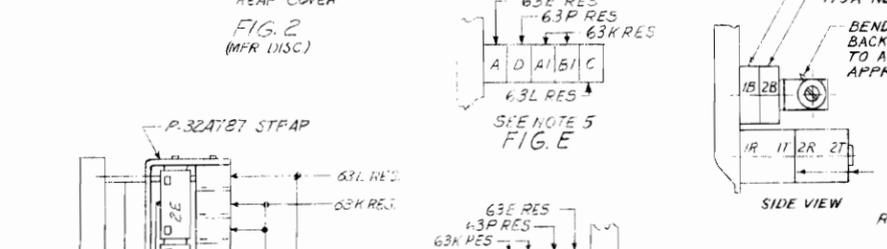
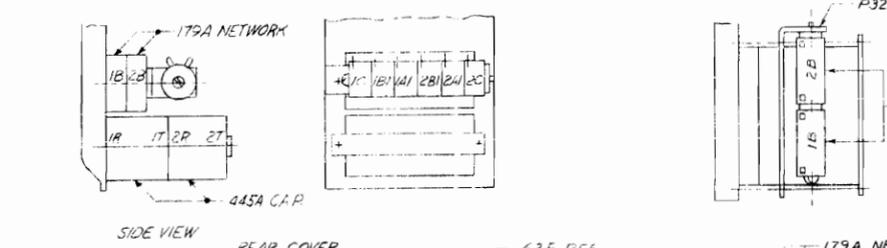
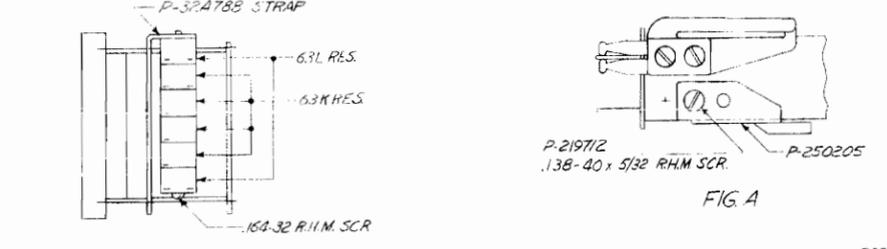
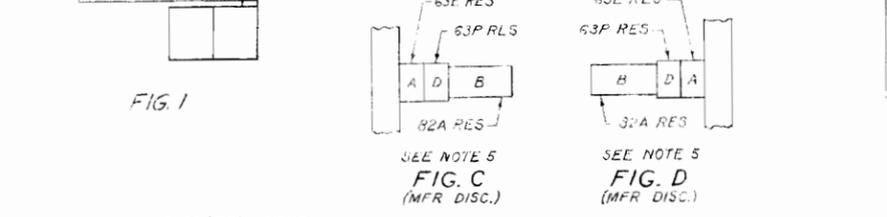
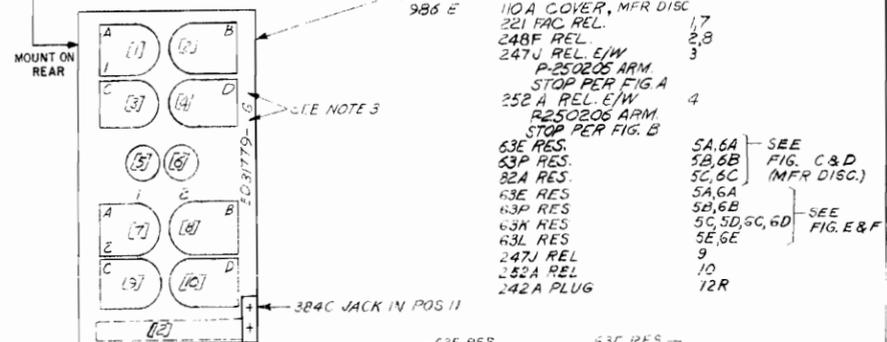


QTY	QTY
4 - 446F 476F DIODE, P.S	2 - KS 20289, L2B, 150Ω, RES. E & B 2-20A TERM PCMG (SEE FIG 7)
2 - KS 20285, L60, 9060Ω, RES A2	2 - 542D CAPACITOR
2 - 580A CAPACITOR, T.R	2 - KS 13490, L2, 150Ω, RES. B, SEE NOTE 9
2 - KS 20289, L2B, 150Ω, RES. B & 2-20A TERM PCMG (SEE FIG 6)	



ENGINEERING NOTES

51.

52. THIS DRAWING COVERS EQUIPMENT FOR FIG. 3 OF SD-31779-01.

53. GROUPS 1-35 INCLUSIVE ARE COVERED ON ED-31779-01.

54. WIRING PER NOTE C, ADDED ON ISSUE 2B, IS REQUIRED TO PREVENT A DISCHARGE FROM THE (T) AND (R) CAPACITORS FROM CAUSING A PRELIMINARY PULSE IN NO. 5 CROSSBAR OFFICES RESULTING IN A FALSE OVERFLOW SIGNAL TO THE CALLING SUBSCRIBER.

55. THE OMISSION OF WIRING PER NOTE D, ADDED ON ISSUE 5D, IS REQUIRED TO PREVENT FALSE REGISTRATION WHEN PULSES ARE SENT FROM A SIX OFFICE TO A NO. 5 CROSSBAR OFFICE.

56. THE FOLLOWING FEATURES WERE ADDED ON ISSUE 7D IN ACCORDANCE WITH SD-31779-01 ISSU# 220:

(a) CONNECTION TO NO. 1 ESS OFFICE

(b) CONNECTION TO NO. 1 CROSSBAR AND PANEL OFFICES IS RATED "A&M ONLY"

(c) CONNECTION TO XBT OFFICE IS RATED "MFR DISC".

(d) OPTION Z1 IS RATED AS STANDARD FOR NO. 5 CROSSBAR

(e) NOTE D AND 55 IS RATED "MFR DISC"

(f) GROUP 40 IS RATED "A&M ONLY"

NOTES CONTINUED ON SHEET 2

NOTE C (MFR DISC)

NOTE B (MFR DISC)

NOTE A (MFR DISC)

GROUP 40 (MFR DISC)

GROUP 39 (MFR DISC)

GROUP 38 (A&M ONLY)

GROUP 37 (MFR DISC)

GROUP 36 (MFR DISC)

MANUFACTURING NOTES

1. THIS UNIT SHALL BE SURFACED WIRED.

2. THE SUFFIX OF THE MFG. DWG. AND THE GROUP NO. OF THE SWITCH ORDERED SHALL BE STAMPED ON THE APPARATUS MFG. PLT.

3. THE NUMBERS IN [] ARE MOUNTING PLATE POSITION NUMBERS ONLY AND SHALL NOT BE STAMPED.

4. THE TERMINALS OF THE 63 AND 82 TYPE RESISTANCES IN POS. 5 & 6 SHALL BE SO POSITIONED THAT THEY DO NOT COME IN CONTACT WITH THE MAGNETIC SHIELD IN THE COVER, AND SPECIAL CARE SHALL BE TAKEN TO DRAW UP THE MOUNTING SCREWS TIGHTLY SO THAT THE TERMINALS WILL RETAIN THEIR POSITIONS.

5. "Z1" WIRING IN GROUP 36 SHALL CONSIST OF MFR STRAPS BETWEEN THE TWO TERMINALS OF EACH DISC OF THE (A1) AND (B1) RESISTANCES AND "V" WIRING IN GROUPS 36 AND 37, STRAPS BETWEEN THE TWO TERMINALS OF EACH OF THE (C) RESISTANCES, ALL OF THESE LOCATED ON REAR COVER.

6. GROUPS 39 AND 40, ADDED ON ISS. 3D, SHALL BE ARRANGED IN ACCORDANCE WITH FIGS. 4, 5, 6 AND F, IN WHICH THE 82 TYPE RESISTORS ARE LOCATED ON THE REAR COVER IN PLACE OF THE 63 TYPE RESISTORS TO ELIMINATE WIRING CONGESTION. THESE GROUPS ALSO INCORPORATE "ZP" WIRING MAKING SUPPLEMENTARY WIRING PER NOTE C NO LONGER NECESSARY.

7. FURNISH "ZP" WIRING IN PLACE OF "Z1" WIRING ON ALL NEW REPEATERS PER G.6 AND G.7.

WHEN REPEATERS PER GROUP 37 OR 40 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT "V" WIRING STRAPS AT 63 TYPE RESISTORS ON REAR COVER OR MFG. PLT. SEE NOTES B&7.

WHEN REPEATERS PER GROUP 36 OR 39 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT "Z1" AND "V" WIRING STRAPS AT 63 TYPE RESISTORS ON REAR COVER OR MFG. PLT. SEE NOTES B & 7.

ASSEMBLY WIRING AND EQUIPMENT FOR TWO LOOP PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO DIAL PULSE TERMINATING SENDERS OR TO CROSSBAR TANDEM, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO BATTERY GROUND PULSING REPEATERS PER GROUP 39 SD-31779-01, FIG. 3 WITH "M", "V" & "ZP" WIRING. SEE NOTES A, 6 & 56

ASSY WIRING AND EQUIP FOR TWO BATT. GND PULSING REPEATERS FOR USE ON TRKS TO NO. 1 CROSSBAR IF CONN TO SUB SDY OF TO PNL, SIX, NO. 5 CROSSBAR NO. 1, E. 35 OR CROSSBAR TANDEM (EAS) WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS OR BY OTHER MINOR WIRING CHANGES TO LOOP PULSING REPEATERS PER GROUP NO. SD-31779-01, FIG. 3 WITH "M", "V" & "ZP" WIRING. SEE NOTES A, 6 & 56

WIRING AND EQUIPMENT REQUIRED IN ADDITION TO GROUP 36, 37, 39, 40, 41 OR 42 FOR TWO OUTGOING REPEATERS IN 35-E-97 OFFICES PER SD-31779-01, FIG. 3, "W" AND "H" OPTIONS ONLY. (SEE NOTES E & 10)

ASSEMBLY WIRING AND EQUIPMENT FOR TWO LOOP PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO DIAL PULSE TERMINATING SENDERS, OR TO CROSSBAR TANDEM, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS. ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO BATTERY GROUND PULSING REPEATERS PER GROUP 36. SD-31779-01, FIG. 3 WITH "M", "V" & "ZP" WIRING. SEE NOTES B, 6 & C.

ASSEMBLY, WIRING AND EQUIPMENT FOR TWO BATTERY GROUND PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO A SUBSCRIBER SENDER OR TO PANEL, STEP-BY-STEP OR NO. 5 CROSSBAR, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS. ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO LOOP PULSING REPEATERS PER GROUP 37. SD-31779-01, FIG. 3 WITH "M", "Z1", "V" & "ZP" WIRING. SEE NOTES A, C & 6

NOTICE

NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT

REPLACING ED-31779-01 EXCEPT FOR REPEATERS TO C.L.

ISSUE 12B

STEP-BY-STEP SYSTEMS NO. 1, 350A, 355A, 360A OR 35E97 OUTGOING REPEATER EQUIPMENT BATTERY AND GROUND OR LOOP PULSING 2 REPEATERS PER BASE

AT & T CO STANDARD A&M ONLY FOR 350A, 360A AND 35E97

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BELL TELEPHONE LABORATORIES, INC.

ED-31779-02-1

2 SHEETS

WHEN REPEATERS PER GROUP 39 ARE REQUIRED TO OPERATE ON TRUNKS TO NO. 5 CROSSBAR, OMIT "Z1" WIRING

SEE NOTE 55 - MFR DISC

NOTE D

ED-31779-02-1

REV	DATE	BY	CHKD	APPROVED
1	8-24-54	WJL	WJL	WJL
2B	6-25-56	WJL	WJL	WJL
3D	5-23-57	WJL	WJL	WJL
4D	3-12-57	WJL	WJL	WJL
5D	4-2-57	WJL	WJL	WJL
6D	2-3-66	WJL	WJL	WJL
7D	4-8-66	WJL	WJL	WJL
8D	11-10-68	WJL	WJL	WJL
9D	1-8-70	WJL	WJL	WJL
10D	10-10-76	WJL	WJL	WJL
11B	2-20-78	WJL	WJL	WJL
12B	4-10-80	WJL	WJL	WJL

APPROVED

WJL

REVISIONS

1. THIS UNIT SHALL BE SURFACED WIRED.

2. THE SUFFIX OF THE MFG. DWG. AND THE GROUP NO. OF THE SWITCH ORDERED SHALL BE STAMPED ON THE APPARATUS MFG. PLT.

3. THE NUMBERS IN [] ARE MOUNTING PLATE POSITION NUMBERS ONLY AND SHALL NOT BE STAMPED.

4. THE TERMINALS OF THE 63 AND 82 TYPE RESISTANCES IN POS. 5 & 6 SHALL BE SO POSITIONED THAT THEY DO NOT COME IN CONTACT WITH THE MAGNETIC SHIELD IN THE COVER, AND SPECIAL CARE SHALL BE TAKEN TO DRAW UP THE MOUNTING SCREWS TIGHTLY SO THAT THE TERMINALS WILL RETAIN THEIR POSITIONS.

5. "Z1" WIRING IN GROUP 36 SHALL CONSIST OF MFR STRAPS BETWEEN THE TWO TERMINALS OF EACH DISC OF THE (A1) AND (B1) RESISTANCES AND "V" WIRING IN GROUPS 36 AND 37, STRAPS BETWEEN THE TWO TERMINALS OF EACH OF THE (C) RESISTANCES, ALL OF THESE LOCATED ON REAR COVER.

6. GROUPS 39 AND 40, ADDED ON ISS. 3D, SHALL BE ARRANGED IN ACCORDANCE WITH FIGS. 4, 5, 6 AND F, IN WHICH THE 82 TYPE RESISTORS ARE LOCATED ON THE REAR COVER IN PLACE OF THE 63 TYPE RESISTORS TO ELIMINATE WIRING CONGESTION. THESE GROUPS ALSO INCORPORATE "ZP" WIRING MAKING SUPPLEMENTARY WIRING PER NOTE C NO LONGER NECESSARY.

7. FURNISH "ZP" WIRING IN PLACE OF "Z1" WIRING ON ALL NEW REPEATERS PER G.6 AND G.7.

WHEN REPEATERS PER GROUP 37 OR 40 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT "V" WIRING STRAPS AT 63 TYPE RESISTORS ON REAR COVER OR MFG. PLT. SEE NOTES B&7.

WHEN REPEATERS PER GROUP 36 OR 39 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT "Z1" AND "V" WIRING STRAPS AT 63 TYPE RESISTORS ON REAR COVER OR MFG. PLT. SEE NOTES B & 7.

ASSEMBLY WIRING AND EQUIPMENT FOR TWO LOOP PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO DIAL PULSE TERMINATING SENDERS OR TO CROSSBAR TANDEM, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO BATTERY GROUND PULSING REPEATERS PER GROUP 39 SD-31779-01, FIG. 3 WITH "M", "V" & "ZP" WIRING. SEE NOTES A, 6 & 56

ASSY WIRING AND EQUIP FOR TWO BATT. GND PULSING REPEATERS FOR USE ON TRKS TO NO. 1 CROSSBAR IF CONN TO SUB SDY OF TO PNL, SIX, NO. 5 CROSSBAR NO. 1, E. 35 OR CROSSBAR TANDEM (EAS) WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS OR BY OTHER MINOR WIRING CHANGES TO LOOP PULSING REPEATERS PER GROUP NO. SD-31779-01, FIG. 3 WITH "M", "V" & "ZP" WIRING. SEE NOTES A, 6 & 56

WIRING AND EQUIPMENT REQUIRED IN ADDITION TO GROUP 36, 37, 39, 40, 41 OR 42 FOR TWO OUTGOING REPEATERS IN 35-E-97 OFFICES PER SD-31779-01, FIG. 3, "W" AND "H" OPTIONS ONLY. (SEE NOTES E & 10)

ASSEMBLY WIRING AND EQUIPMENT FOR TWO LOOP PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO DIAL PULSE TERMINATING SENDERS, OR TO CROSSBAR TANDEM, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS. ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO BATTERY GROUND PULSING REPEATERS PER GROUP 36. SD-31779-01, FIG. 3 WITH "M", "V" & "ZP" WIRING. SEE NOTES B, 6 & C.

ASSEMBLY, WIRING AND EQUIPMENT FOR TWO BATTERY GROUND PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO A SUBSCRIBER SENDER OR TO PANEL, STEP-BY-STEP OR NO. 5 CROSSBAR, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS. ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO LOOP PULSING REPEATERS PER GROUP 37. SD-31779-01, FIG. 3 WITH "M", "Z1", "V" & "ZP" WIRING. SEE NOTES A, C & 6

NOTICE

NOT FOR USE OR DISCLOSURE OUTSIDE THE BELL SYSTEM EXCEPT UNDER WRITTEN AGREEMENT

REPLACING ED-31779-01 EXCEPT FOR REPEATERS TO C.L.

ISSUE 12B

STEP-BY-STEP SYSTEMS NO. 1, 350A, 355A, 360A OR 35E97 OUTGOING REPEATER EQUIPMENT BATTERY AND GROUND OR LOOP PULSING 2 REPEATERS PER BASE

AT & T CO STANDARD A&M ONLY FOR 350A, 360A AND 35E97

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BELL TELEPHONE LABORATORIES, INC.

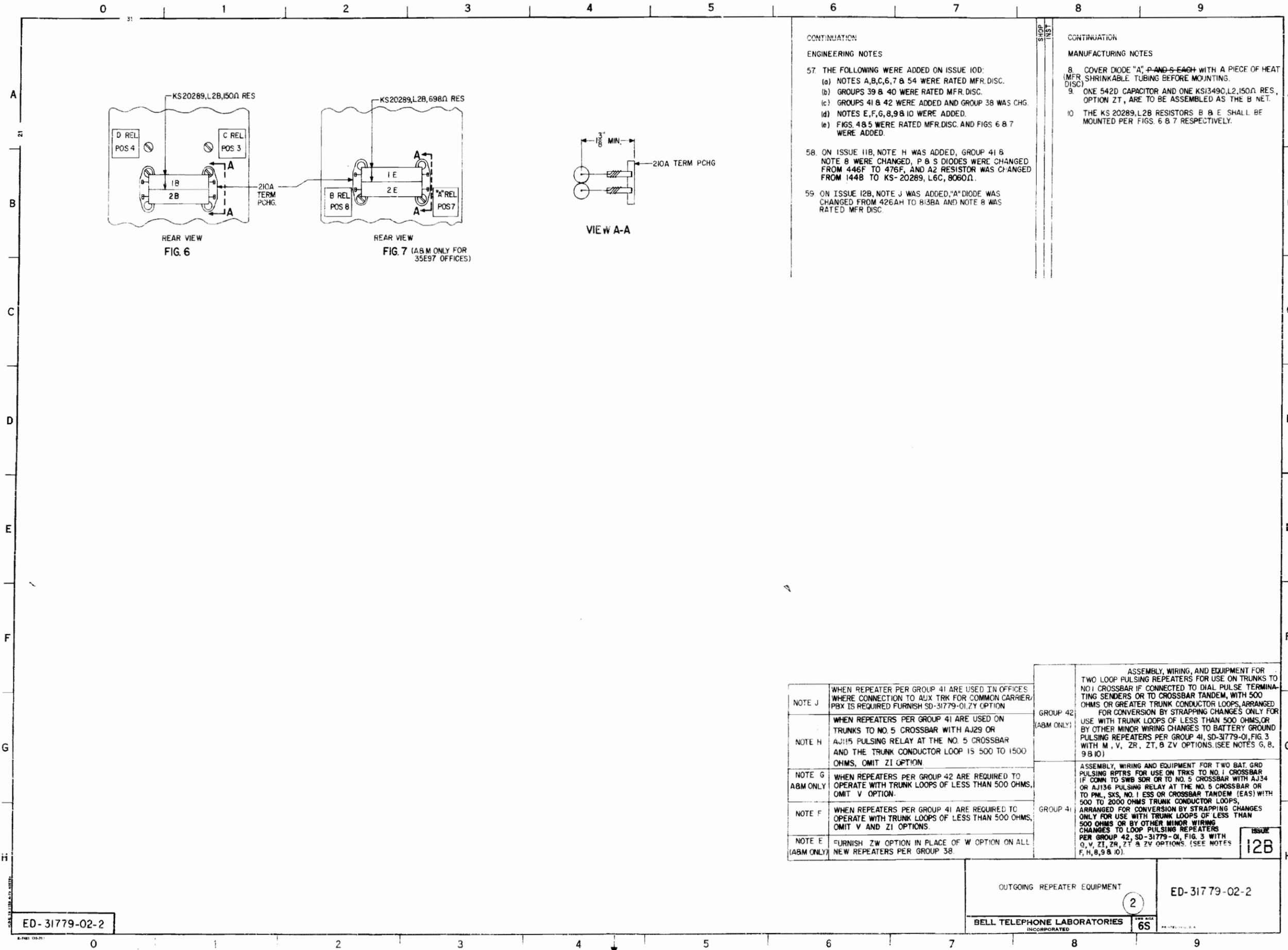
ED-31779-02-1

2 SHEETS

WHEN REPEATERS PER GROUP 39 ARE REQUIRED TO OPERATE ON TRUNKS TO NO. 5 CROSSBAR, OMIT "Z1" WIRING

SEE NOTE 55 - MFR DISC

NOTE D



CONTINUATION
 ENGINEERING NOTES
 57. THE FOLLOWING WERE ADDED ON ISSUE 10D:
 (a) NOTES A, B, C, 6, 7 & 54 WERE RATED MFR. DISC.
 (b) GROUPS 39 & 40 WERE RATED MFR. DISC.
 (c) GROUPS 41 & 42 WERE ADDED AND GROUP 38 WAS CHG.
 (d) NOTES E, F, G, 8, 9 & 10 WERE ADDED.
 (e) FIGS. 4 & 5 WERE RATED MFR. DISC. AND FIGS. 6 & 7 WERE ADDED.
 58. ON ISSUE 11B, NOTE H WAS ADDED, GROUP 41 & NOTE B WERE CHANGED, P & S DIODES WERE CHANGED FROM 446F TO 476F, AND A2 RESISTOR WAS CHANGED FROM 144B TO KS-20289, L6C, 8060Ω.
 59. ON ISSUE 12B, NOTE J WAS ADDED, "A" DIODE WAS CHANGED FROM 426AH TO 813BA AND NOTE B WAS RATED MFR. DISC.

CONTINUATION
 MANUFACTURING NOTES
 8. COVER DIODE "A" P AND S EACH WITH A PIECE OF HEAT (MFR. SHRINKABLE TUBING BEFORE MOUNTING).
 9. ONE 542D CAPACITOR AND ONE KS13490, L2, 150Ω RES. OPTION ZT, ARE TO BE ASSEMBLED AS THE B NET.
 10. THE KS 20289, L2B RESISTORS B & E SHALL BE MOUNTED PER FIGS. 6 & 7 RESPECTIVELY.

NOTE J	WHEN REPEATER PER GROUP 41 ARE USED IN OFFICES WHERE CONNECTION TO AUX TRK FOR COMMON CARRIER PBX IS REQUIRED FURNISH SD-31779-01, ZY OPTION	GROUP 42 (ABM ONLY)	ASSEMBLY, WIRING, AND EQUIPMENT FOR TWO LOOP PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO DIAL PULSE TERMINATING SENDERS OR TO CROSSBAR TANDEM, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO BATTERY GROUND PULSING REPEATERS PER GROUP 41, SD-31779-01, FIG. 3 WITH M, V, ZR, ZT, & ZV OPTIONS. (SEE NOTES G, B, 9 & 10)
NOTE H	WHEN REPEATERS PER GROUP 41 ARE USED ON TRUNKS TO NO. 5 CROSSBAR WITH AJ29 OR AJ115 PULSING RELAY AT THE NO. 5 CROSSBAR AND THE TRUNK CONDUCTOR LOOP IS 500 TO 1500 OHMS, OMIT ZI OPTION.		
NOTE G (ABM ONLY)	WHEN REPEATERS PER GROUP 42 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT V OPTION.	GROUP 41	ASSEMBLY, WIRING AND EQUIPMENT FOR TWO BAT. GRD PULSING RPTRS FOR USE ON TRKS TO NO. 1 CROSSBAR IF CONN TO SWB SDR OR TO NO. 5 CROSSBAR WITH AJ34 OR AJ136 PULSING RELAY AT THE NO. 5 CROSSBAR OR TO PNL, SXS, NO. 1 LESS OR CROSSBAR TANDEM (EAS) WITH 500 TO 2000 OHMS TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS OR BY OTHER MINOR WIRING CHANGES TO LOOP PULSING REPEATERS PER GROUP 42, SD-31779-01, FIG. 3 WITH Q, V, ZI, ZR, ZT & ZV OPTIONS. (SEE NOTES F, H, 8, 9 & 10).
NOTE F	WHEN REPEATERS PER GROUP 41 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT V AND ZI OPTIONS.		
NOTE E (ABM ONLY)	FURNISH ZW OPTION IN PLACE OF W OPTION ON ALL NEW REPEATERS PER GROUP 38.		

ED-31779-02-2

OUTGOING REPEATER EQUIPMENT
 2
 BELL TELEPHONE LABORATORIES
 INCORPORATED
 6S
 ED-31779-02-2

QTY
 4 - 446F 476F DIODE, P, S
 2 - 426AH 8138A DIODE, A
 2 - 144B RESISTOR A
 2 - KS-20289, L 6C, 8060Ω, RES A2
 2 - 580A CAPACITOR, T, R
 2 - KS20289, L 2B, 150Ω, RES. B & 2-210A TERM PCHG (SEE FIG. 6)

QTY
 2 - KS 20289, L 2B, 698Ω, RES E & 2-210A TERM PCHG. (SEE FIG. 7)
 2 - 542D CAPACITOR
 2 - KS13490, L 2, 150Ω, RES } B, SEE NOTE 9

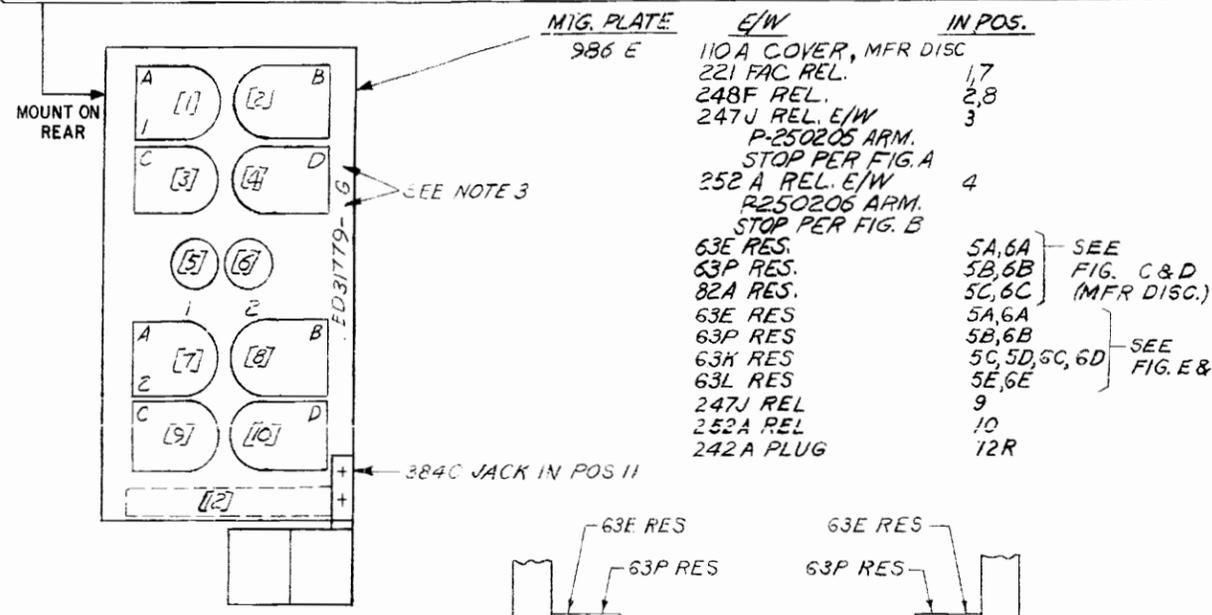
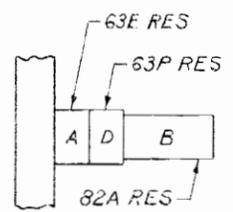
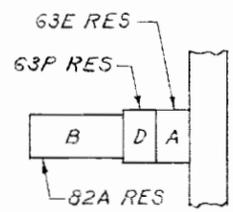


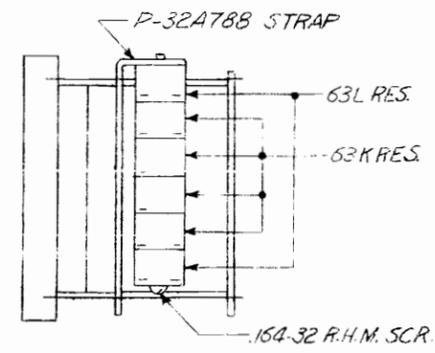
FIG. 1



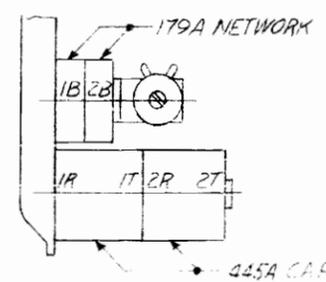
SEE NOTE 5
 FIG. C
 (MFR DISC.)



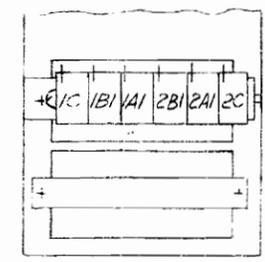
SEE NOTE 5
 FIG. D
 (MFR DISC.)



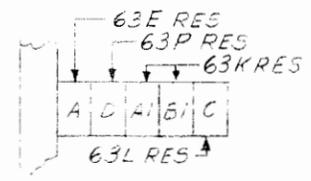
REAR COVER
 FIG. 2
 (MFR DISC.)



SIDE VIEW



REAR COVER
 FIG. 2
 (MFR DISC.)



SEE NOTE 5

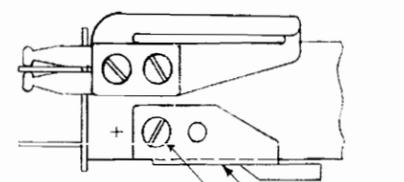


FIG. A

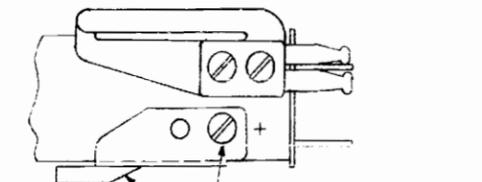
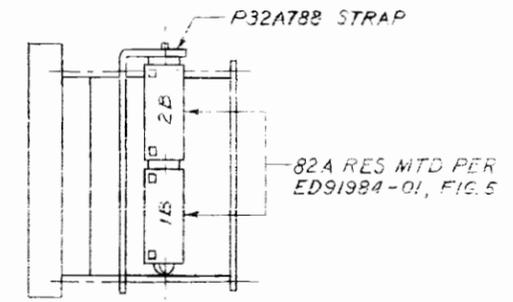
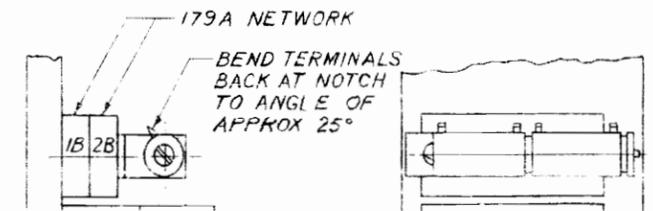


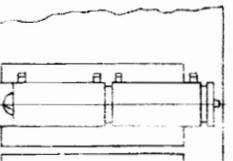
FIG. B



82A RES MTD PER
 ED91984-01, FIG. 5



BEND TERMINALS
 BACK AT NOTCH
 TO ANGLE OF
 APPROX 25°



P-32A787 STRAP

ENGINEERING NOTES

- 51.
52. THIS DRAWING COVERS EQUIPMENT FOR FIG. 3 OF SD-31779-01.
53. GROUPS 1-35 INCLUSIVE ARE COVERED ON ED-31779-01.
54. WIRING PER NOTE C, ADDED ON ISSUE 2B, IS REQUIRED TO PREVENT A DISCHARGE FROM THE (T) AND (R) CAPACITORS FROM CAUSING A PRELIMINARY PULSE IN NO. 5 CROSSBAR OFFICES RESULTING IN A FALSE OVERFLOW SIGNAL TO THE CALLING SUBSCRIBER.
55. THE OMISSION OF WIRING PER NOTE D, ADDED ON ISSUE 5D, IS REQUIRED TO PREVENT FALSE REGISTRATION WHEN PULSES ARE SENT FROM A SXS OFFICE TO A NO. 5 CROSSBAR OFFICE.
56. THE FOLLOWING FEATURES WERE ADDED ON ISSUE 7D IN ACCORDANCE WITH SD-31779-01 ISSUE 22D:
 - (a) CONNECTION TO NO. 1 ESS OFFICE
 - (b) CONNECTION TO NO. 1 CROSSBAR AND PANEL OFFICES IS RATED "A&M ONLY"
 - (c) CONNECTION TO XBT OFFICE IS RATED "MFR DISC".
 - (d) OPTION ZI IS RERATED AS STANDARD FOR NO. 5 CROSSBAR
 - (e) NOTE D AND 55 IS RATED "MFR DISC"
 - (f) GROUP 40 IS RATED "A&M ONLY"

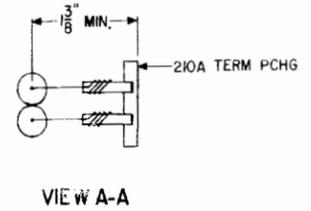
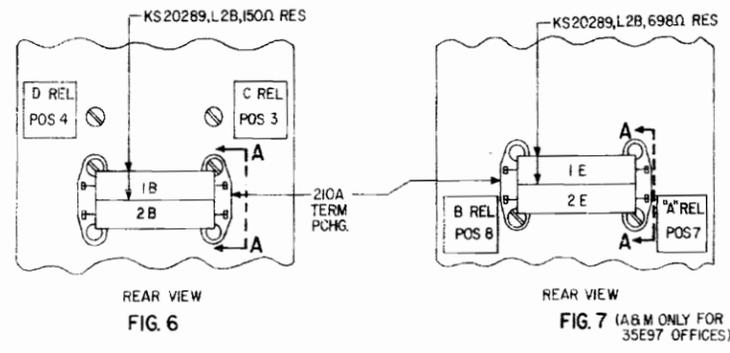
NOTES CONTINUED ON SHEET 2

SEE NOTE 54
 MFR DISC
 SEE NOTE 7

SHCH	INST.	MA
	1.	
	2.	THIS UNIT S
	3.	THE SUFFIX NO. OF THE ON THE APPA
	4.	THE NUMBERS POSITION NUM STAMPED.
	5.	THE TERMINAL TANCES IN PI THAT THEY DI MAGNETIC SH CARE SHALL I NG SCREWS WILL RETAIN
	6.	"ZI" WIRING STRAPS BETWI (MFR. DISC.) OF THE (A) WIRING IN GI THE TWO TERM RESISTANCES COVER.
	7.	GROUPS 39 AI (MFR. BE ARRANGED DISC) E AND F, IN ARE LOCATED THE 63 TYPE CONBSTRUCTION. "ZP" WIRING PER NOTE C I
	NOTE C	FURNISH WIRING (MFR. DISC.) AND G3
	NOTE B	WHEN RE REQUIRE OF LESS ING ST REAR CO
	NOTE A	WHEN RE REQUIRE OF LESS "V" WIF TORS OF NOTES I
	GROUP 40	ASSEMBL LOOP PI TRUNKS TO DIAL TO CROS GREATER RANGED CHANGES OF LESS MINOR Y GROUND SD-317 "ZP" WI
	GROUP 39	ASSY WF PULSING NC. 1. (TO PNL ESS OR WITH SC DUCTOR BY STRA WITH TE OHMS OF TO LOOP 40. SE "ZI", NOTES I
	GROUP 38	WIRING ADDITIO FOR TWO OFFICES, AND "H" ASSEMBL TWO LOC ON TRUN CONNECT

A&M ONLY

A
B
C
D
E
F
G
H



CONTINUATION
ENGINEERING NOTES
57. THE FOLLOWING WERE ADDED ON ISSUE 10D:
(a) NOTES A, B, C, 6, 7 & 54 WERE RATED MFR. DISC.
(b) GROUPS 39 & 40 WERE RATED MFR. DISC.
(c) GROUPS 41 & 42 WERE ADDED AND GROUP 38 WAS CHG.
(d) NOTES E, F, G, 8, 9 & 10 WERE ADDED.
(e) FIGS. 4 & 5 WERE RATED MFR. DISC. AND FIGS. 6 & 7 WERE ADDED.
58. ON ISSUE 11B, NOTE H WAS ADDED, GROUP 41 & NOTE 8 WERE CHANGED, P & S DIODES WERE CHANGED FROM 446F TO 476F, AND A2 RESISTOR WAS CHANGED FROM 144B TO KS-20289, L6C, 8060Ω.
59. ON ISSUE 12B, NOTE J WAS ADDED, 'A' DIODE WAS CHANGED FROM 426AH TO 813BA AND NOTE 8 WAS RATED MFR. DISC.

CONTINUATION
MANUFACTURING NOTES
8. COVER DIODE 'A', P AND S EACH WITH A PIECE OF HEAT (MFR SHRINKABLE TUBING BEFORE MOUNTING. DISC)
9. ONE 542D CAPACITOR AND ONE KS13490, L2, 150Ω RES, OPTION ZT, ARE TO BE ASSEMBLED AS THE B NET.
10. THE KS 20289, L2B RESISTORS B & E SHALL BE MOUNTED PER FIGS. 6 & 7 RESPECTIVELY.

NOTE J	WHEN REPEATER PER GROUP 41 ARE USED IN OFFICES WHERE CONNECTION TO AUX TRK FOR COMMON CARRIER PBX IS REQUIRED FURNISH SD-31779-01, ZY OPTION.	GROUP 42 (ABM ONLY)	ASSEMBLY, WIRING, AND EQUIPMENT FOR TWO LOOP PULSING REPEATERS FOR USE ON TRUNKS TO NO. 1 CROSSBAR IF CONNECTED TO DIAL PULSE TERMINATING SENDERS OR TO CROSSBAR TANDEM, WITH 500 OHMS OR GREATER TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OR BY OTHER MINOR WIRING CHANGES TO BATTERY GROUND PULSING REPEATERS PER GROUP 41, SD-31779-01, FIG. 3 WITH M, V, ZR, ZT, B ZV OPTIONS. (SEE NOTES G, 8, 9 & 10)
NOTE H	WHEN REPEATERS PER GROUP 41 ARE USED ON TRUNKS TO NO. 5 CROSSBAR WITH AJ29 OR AJ115 PULSING RELAY AT THE NO. 5 CROSSBAR AND THE TRUNK CONDUCTOR LOOP IS 500 TO 1500 OHMS, OMIT ZI OPTION.		
NOTE G (ABM ONLY)	WHEN REPEATERS PER GROUP 42 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT V OPTION.	GROUP 41	ASSEMBLY, WIRING AND EQUIPMENT FOR TWO BAT. GRD PULSING RPTRS FOR USE ON TRKS TO NO. 1 CROSSBAR IF CONN TO SWB SDR OR TO NO. 5 CROSSBAR WITH AJ34 OR AJ136 PULSING RELAY AT THE NO. 5 CROSSBAR OR TO PNL, SXS, NO. 1 ESS OR CROSSBAR TANDEM (EAS) WITH 500 TO 2000 OHMS TRUNK CONDUCTOR LOOPS, ARRANGED FOR CONVERSION BY STRAPPING CHANGES ONLY FOR USE WITH TRUNK LOOPS OF LESS THAN 500 OHMS OR BY OTHER MINOR WIRING CHANGES TO LOOP PULSING REPEATERS PER GROUP 42, SD-31779-01, FIG. 3 WITH Q, V, ZI, ZR, ZT & ZV OPTIONS. (SEE NOTES F, H, 8, 9 & 10)
NOTE F	WHEN REPEATERS PER GROUP 41 ARE REQUIRED TO OPERATE WITH TRUNK LOOPS OF LESS THAN 500 OHMS, OMIT V AND ZI OPTIONS.		
NOTE E (ABM ONLY)	FURNISH ZW OPTION IN PLACE OF W OPTION ON ALL NEW REPEATERS PER GROUP 38.		

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OUTGOING REPEATER EQUIPMENT
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