

[illegible]

SUPPORTING INFORMATION

CATEGORY	NO.
EQUIPMENT DRAWINGS	ED-31606-01 J33017AY
KEYSHEETS SXS NO. 1 SXS NO. 350A	S0-31359-01 S0-31364-01
BSP MAINTENANCE	226-801-500 227-186-500 227-305-500

DWG ISS	CD ISSUE	DWG ISS	CD ISSUE	DWG ISS	CD ISSUE
1	1	2D	2D	3D	APD 1D
4D	3D	5D	APP 1D	6D	APP 2D
7B	4B	8D	5D	9D	APP 3D
10D	APP 2D	11D	APP 3D	12D	APP 4D
13D	APP 5D	14D	6D	15D	7D
16D	APP 1D	17D	8D	18B	APP 1B
DWG ISSUE	CD ISSUE	DATE ISSUED		DRAWN	APPRO
19D	9D	1-16-57		LWR W.F.S.	A.S. R.C.D.
20D	APP 1D	4-23-57		V.S. F.G.S.	A.S. R.C.D.
21D	APP 2D	12-6-57		H.C. C.H.D.	A.S. R.C.D.
22D	APP 3D	1-3-62		FJD ARW	EA FBB
23B	APP 4B	12-3-62		R.L.Z. CND	MKD RJJ
24D	10D	8-3-64		FF	NPS RJJ
25D	APP 1D	2-3-66		AFR REH	GM NPS
26D	APP 2D	4-21-72		JTC SAK	RJF LBC
				GK	SEF

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.

REPLACING SD-30284-01 & SD-31207-01 EXCEPT FOR ADDITIONS

SD-31606-01

1099

ISSUE
260

AT&T CO
STANDARD

A8M ONLY FOR 350A

STEP BY STEP SYSTEMS
NO. 1 OR 350 A
30, 60 AND 120 I.P.M. INTERRUPTER
AND INTERRUPTER ALARM CIRCUITS

SD-31606-01-1
6 SHEETS

(60 I.P.M. FILTER) (120 I.P.M. FILTER) (120 I.P.M. INT)
(30 I.P.M. INT) (60 I.P.M. INT) (60 & 120 I.P.M. TRNS & ALM)

BELL TELEPHONE LABORATORIES
INCORPORATED

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CIRCUIT NOTES:
101. PROVIDE 1 1/3 AMP FUSES FROM 48V SIG BAT. AS FOLLOWS:
ONE FUSE FOR (C) RELAYS OF ALL FIGS. 2 PROVIDING 120 I.P.M.
ONE FUSE FOR (D) RELAYS OF ALL FIGS. 2 PROVIDING 120 I.P.M.
ONE FUSE FOR (C) RELAYS OF ALL FIGS. 2 PROVIDING 60 I.P.M.
ONE FUSE FOR (D) RELAYS OF ALL FIGS. 2 PROVIDING 60 I.P.M.
ONE FUSE FOR (A) AND (B) RELAYS OF FIG. 1 OR 12
ONE FUSE FOR (A) AND (B) RELAYS OF FIG. 1 OR 12
ONE FUSE FOR FIGS. 4 OR 8 WITH "W" WIRING & FIGS. 5 OR 9 & 5B FOR 120 I.P.M.
ONE FUSE FOR FIGS. 4 WITH "W" WIRING & FIGS. 5 FOR 60 I.P.M.
(MFR DISC.) SEE NOTE 114
ONE FUSE FOR EACH FIG. 6 AND 8A OR 8B
ONE FUSE FOR ALL FIGS. 4 WITH "W" WIRING (MFR DISC.) SEE NOTE 114
ONE FUSE FOR (T) RELAY OF FIG. 13
ONE FUSE FOR (T) RELAY OF FIG. 13
ONE FUSE FOR RELAY (L) OF FIG. 14
ONE FUSE FOR (W), (W), (Z) & (Z) RELAYS IN FIG. 14
ONE FUSE FOR (R), (R), (S) & (S) RELAYS IN FIG. 14
PROVIDE ONE 1 1/3 AMP FUSE FROM 24V SIG SUP FOR ALL FIGS. 4 OR 8 WITH "V" WIRING.
PROVIDE ONE 1 1/3 AMP FUSE FROM LTI-60 I.P.M. BR2 OR LTI-120 I.P.M. BR2 TONE SUPPLY PER OFFICE.

102. DESIGNATIONS "A" AND "IA" ARE USED WITH FIGS. ASSOCIATED WITH 120 I.P.M. INTERRUPTIONS. DESIGNATIONS "B" AND "IB" ARE USED WITH FIGS. ASSOCIATED WITH 60 I.P.M. INTERRUPTIONS. DESIGNATIONS "C" AND "IC" ARE USED WITH FIGS. ASSOCIATED WITH 30 I.P.M. INTERRUPTIONS.
103. PROVIDE "X" WIRING AND APPARATUS WHEN FIG. 7 CONNECTS TO TOLL AND COMBINATION CONNECTORS OR TO BUSY SIGNAL CIRCUIT OF OPERATORS TRAINING EQPT NO. 28 OR TO CIRCUITS WITH CONNECTING LEADS DESIGNATED "60F" OR "120F".
104. LEADS DESIGNATED "C" SHALL BE RUN IN SEPARATE CABLE. CKTS OR LEADS MARKED "X" HAVE OPTIONAL CONNECTIONS TO 80 I.P.M. OR 120 I.P.M. THE FREQUENCY INDICATED IS STD.
105. NOT MORE THAN 6 FIGS. 2 AND/OR 10 SHALL BE CONNECTED TO ONE "A" OR "B" LEAD OF FIG. 1 WHEN "T" OPTION IS PROVIDED WHEN "U" OPTION IS IN USE NOT MORE THAN 5 FIGS. 2 AND/OR 10 SHALL BE CONNECTED TO ONE "A" OR "B" LEAD. WHEN PREPAY COIN SERVICE IS FURN. A MINIMUM OF 2 FIGS. 2 OR 10 FOR 60 I.P.M. SHALL BE PROVIDED.
106. FIG. 11 SHALL BE PROVIDED EXCEPT FOR LEADS ASSOCIATED WITH ANY CIRCUIT OF TABLE C OR F FOR DESIGNATED "60C", "60D", "120C" OR "120D". SEE NOTE 118.
107. FIGS. 5A AND 6A ARE RATED "MFR DISC." AND ARE SUPERSEDED BY FIGS. 5B AND 6B ON ISSUE 20. PRIOR TO ISSUE 20 FIGS. 5B AND 6B WERE NOT SHOWN AND FIGS. 5A AND 6A WERE NOT "MFR DISC." AND WERE PART OF FIGS. 5 AND 6 RESPECTIVELY.
108. PRIOR TO ISSUE 3D 60 I.P.M. ONLY WAS PROVIDED FOR THE A.C. POWER ALARM CKT.
109. PRIOR TO ISSUE 7S, FIG. 6 USED "PUI" AND "AI" LEADS FROM COMMON TIMING CIRCUIT.
110. PROVIDE FEATURE OR OPTION AS FOLLOWS:

FEATURE OR OPTION	FIG. OR WIR.	QUANTITY
EXISTING OFFICE WITH PILOT LAMP CKT	Y	1
350A DIAL OFFICE	Y	1
NEW OFFICES WITH AISLE PILOTS	Z	1

NOTE 117

103. DESIGNATIONS "A" AND "IA" ARE USED WITH FIGS. ASSOCIATED WITH 120 I.P.M. INTERRUPTIONS. DESIGNATIONS "B" AND "IB" ARE USED WITH FIGS. ASSOCIATED WITH 60 I.P.M. INTERRUPTIONS. DESIGNATIONS "C" AND "IC" ARE USED WITH FIGS. ASSOCIATED WITH 30 I.P.M. INTERRUPTIONS.

104.	PROVIDE "X" WIRING AND APPARATUS WHEN FIG. 7 CONNECTS TO TOLL AND COMBINATION CONNECTORS OR TO BUSY SIGNAL CIRCUIT OF OPERATORS TRAINING EGPT NO. 28 OR TO CIRCUITS WITH CONNECTING LEADS DESIGNATED "60F" OR "120F".
105.	LEADS DESIGNATED "C" SHALL BE RUN IN SEPARATE CABLE.
106.	IF OR LEADS MARKED "X" HAVE OPTIONAL CONNECTIONS TO 80 I.P.M. OR 120 I.P.M. THE FREQUENCY INDICATED IS STD.
107.	NOT MORE THAN 6 FIGS. 2 AND/OR 10 SHALL BE CONNECTED TO ONE "A" OR "B" LEAD OF FIG. 1 WHEN "T" OPTION IS PROVIDED WHEN "U" OPTION IS IN USE NOT MORE THAN 5 FIGS. 2 AND/OR 10 SHALL BE CONNECTED TO ONE "A" OR "B" LEAD, WHEN PREPARED FOR SERIAL IS FURNISH A MINIMUM OF 2 FIGS. 2 OR 10 FOR 60 I.P.M. SHALL BE PROVIDED.

114. PROVIDE ONE 1 1/3 AMP FUSE FROM 48V SIG BAT. FOR ODD FIGS. 4 OR 8 WITH "W" WIRING AND ASSOC. FIGS. 3 OR 9 & 5B FOR 30 OR 60 I.P.M.; AND PROVIDE ONE 1 1/3 AMP FUSE FROM 48V SIG BAT. FOR EVEN FIGS. 4 OR 8 WITH "W" WIRING FOR 30 OR 60 I.P.M.
115. THE 60 I.P.M. LEAD "A" OF THE CONNECTING CKT SHALL CONNECT TO AN ODD FIG. 2 OR 10 AND THE 60 I.P.M. LEAD "B" TO AN EVEN FIG. 2 OR 10.
116. THE DIFFERENCE BETWEEN THE (E) RELAYS IS AS FOLLOWS:
117. PROVIDE ONE 1 1/3 AMP FUSE FROM LTI-60 I.P.M. BR4, LTI-120 I.P.M. BR7, LTI-60 I.P.M. BR2 OR BT2 60 I.P.M. FOR ALL FIGS. 7 WITH "X" OPTION AND ONE 1 1/3 AMP FUSE FROM LTI-120 I.P.M. BR2 OR BT2 120 I.P.M. FOR ALL FIGS. 15 & FIGS. 7 WITH "Q" OPTION. PROVIDE ONE 1 1/3 AMP FUSE FROM LTI-120 I.P.M. BR2 OR BT2 120 I.P.M. FOR ONE 1 1/3 AMP FUSE FROM LTI-60 I.P.M. BR4 OR BT2 IN FIG. 14. PROVIDE ONE 1 1/3 AMP FUSE FROM LTI-60 I.P.M. BR4 OR BT2 IN FIG. 13.

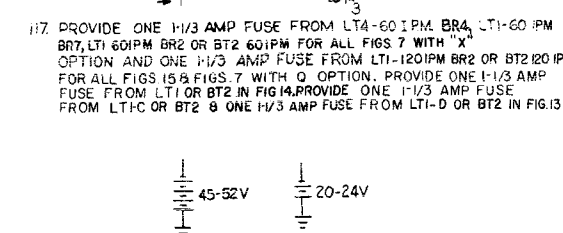
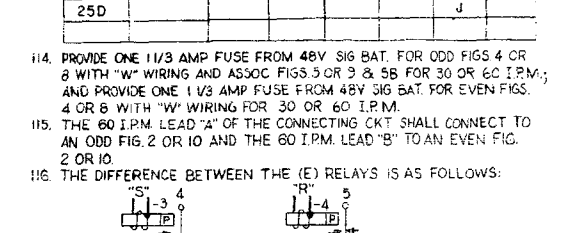
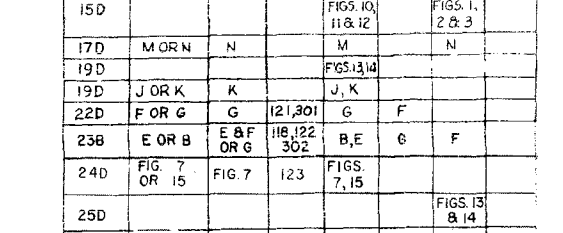
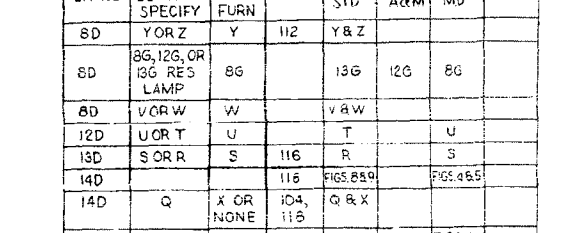
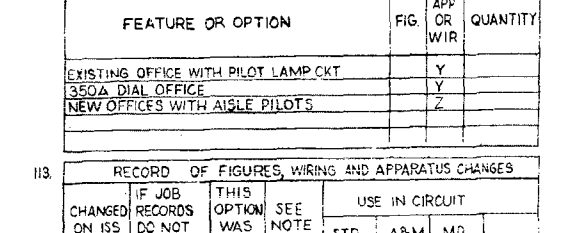


FIG. 1 (MFR DISC.)
TRANSFER KEY CIRCUIT
ONE PER OFFICE

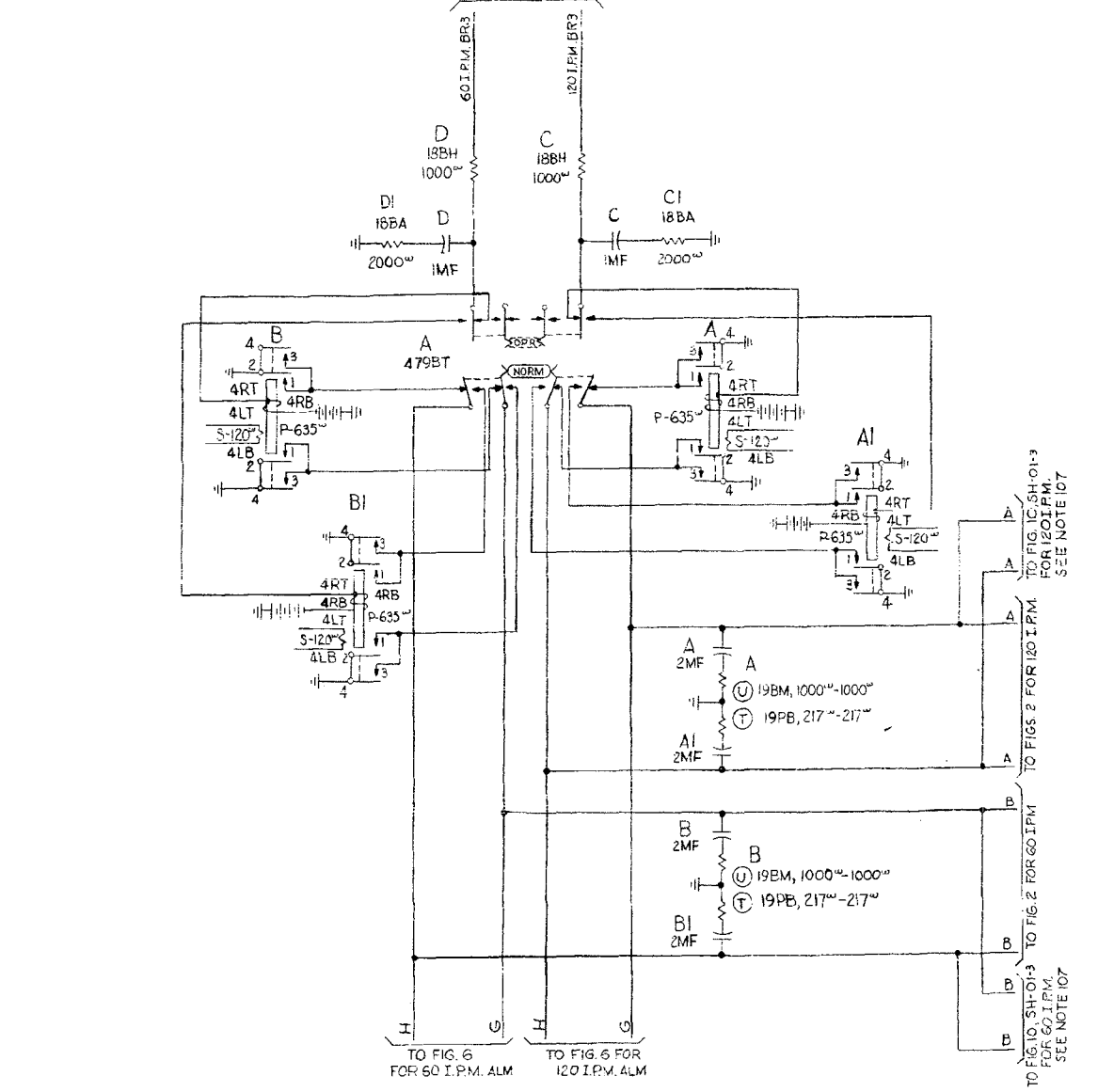


FIG. 2 (MFR DISC.)
INTERRUPTER CIRCUIT
FURNISH AS REQUIRED FOR
60 I.P.M. AND 120 I.P.M. LEADS
SEE NOTE 107

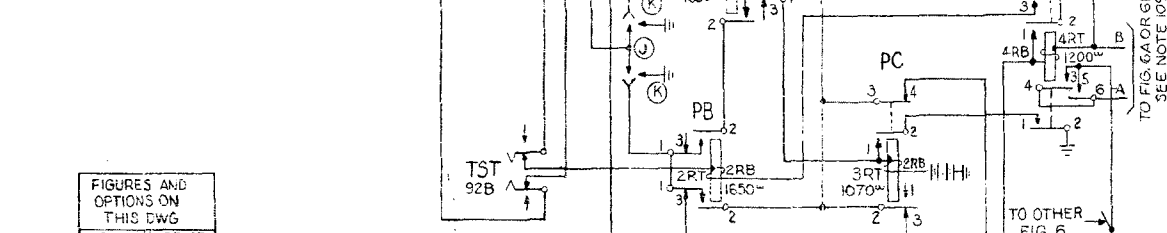


FIG. 3 (MFR DISC.)
RESISTANCE LAMP
ONE PER "D" LEAD WHICH REQ.
SEE NOTES 108 & 109

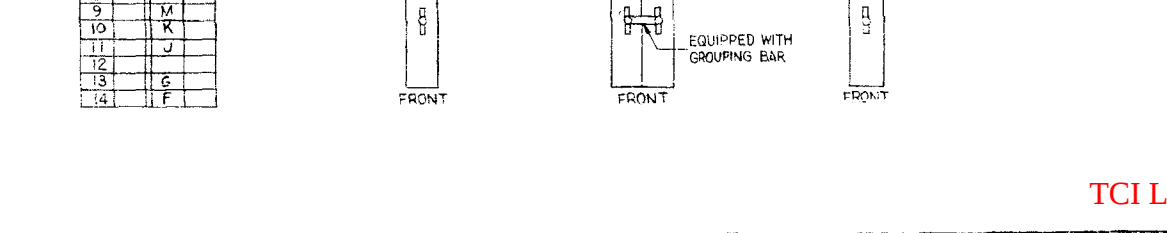


FIG. 4 (MFR DISC.)
ALARM RELAY
ONE PER FIG. 2 WHEN REQ.

FIG. 5 (MFR DISC.)
60 AND 120 I.P.M. BUSY FLASH ALARM CIRCUIT
ONE FOR 60 I.P.M. AND ONE FOR 120 I.P.M.

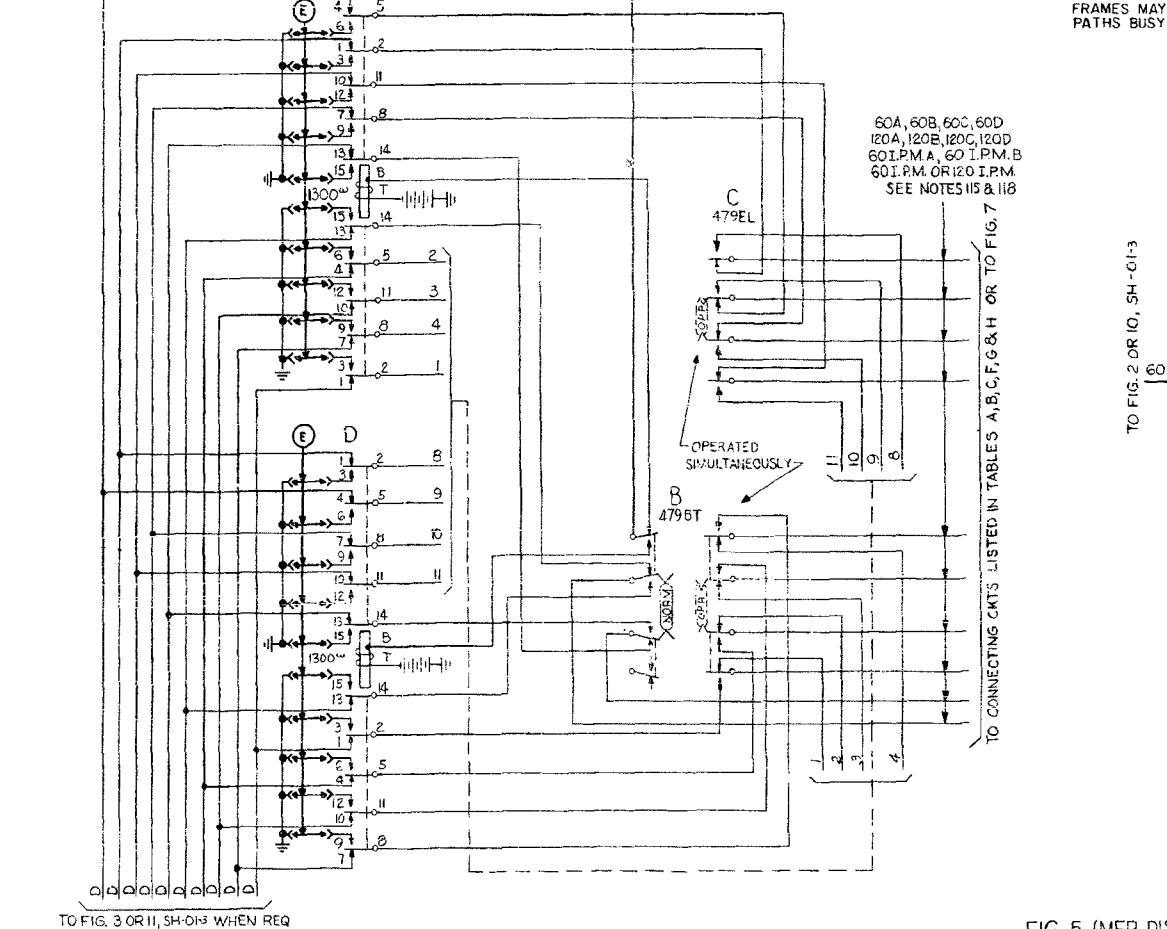


FIG. 5A (MFR DISC.)
SEE NOTE 109

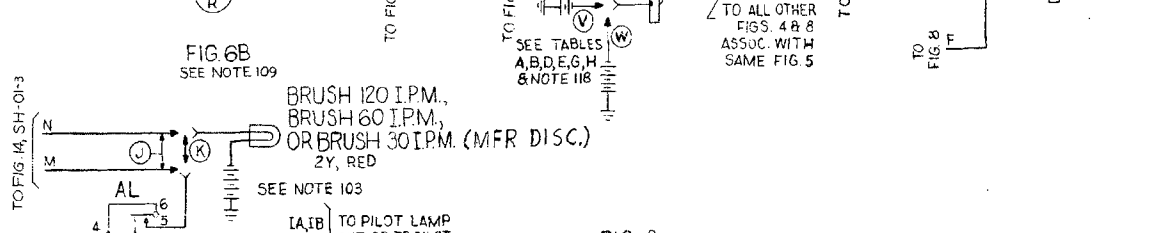


FIG. 5B (MFR DISC.)
120 I.P.M. BT, 120 I.P.M. BF, 60 I.P.M. BF OR 30 I.P.M. NC (MFR DISC.)
2Y GREEN
SEE NOTE 109

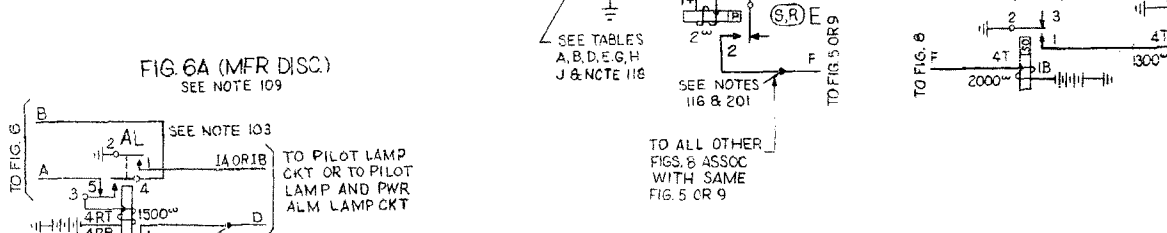


FIG. 6 (MFR DISC.)
SEE NOTE 109

FIG. 7 (MFR DISC.)
EXISTING CONNECTING CIRCUITS CAN BE ARRANGED WITHOUT A CHANGE TO RETURN BUSY TONE IN PLACE OF BUSY FLASH BY USING F OPTION AND THE EXISTING KEY ON THE SWITCH TROUBLE ALARM CIRCUIT.

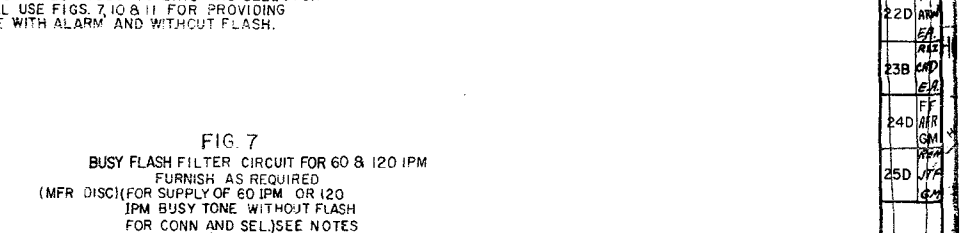


FIG. 8 (MFR DISC.)
ALARM RELAY
ONE PER FIG. 2 OR 10 WHEN REQ. OR ONE PER FIG. 15

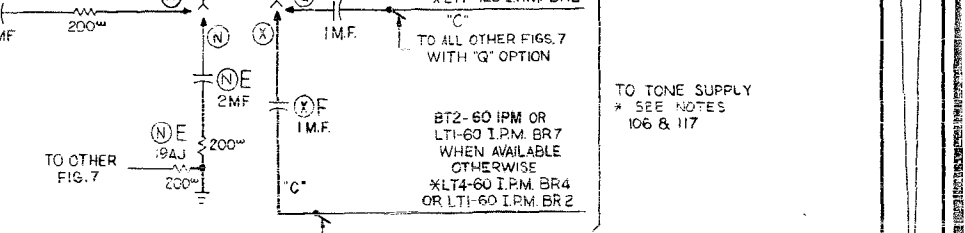


FIG. 9 (MFR DISC.)
30 (MFR DISC.) 60 & 120 I.P.M. BUSY FLASH OR TONE ALARM CIRCUIT
ONE FOR 30 I.P.M. (MFR DISC.), ONE FOR 60 I.P.M., ONE FOR 120 I.P.M. AND ONE FOR 120 I.P.M. TONE.

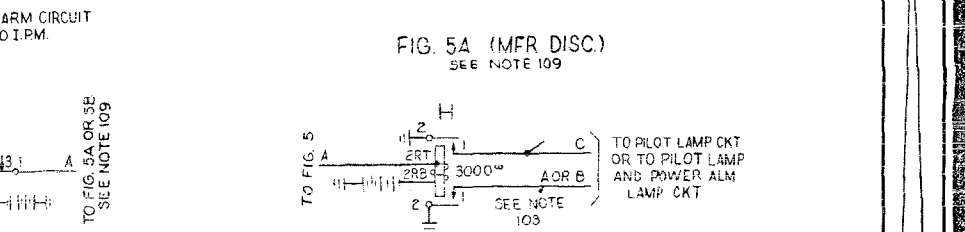


FIG. 10 (MFR DISC.)
30 (MFR DISC.) 60 & 120 I.P.M. BUSY FLASH OR TONE ALARM CIRCUIT
ONE FOR 30 I.P.M. (MFR DISC.), ONE FOR 60 I.P.M., ONE FOR 120 I.P.M. AND ONE FOR 120 I.P.M. TONE.

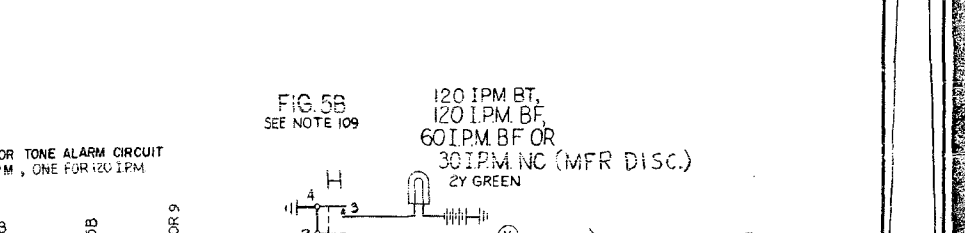


FIG. 11 (MFR DISC.)
30 (MFR DISC.) 60 & 120 I.P.M. BUSY FLASH OR TONE ALARM CIRCUIT
ONE FOR 30 I.P.M. (MFR DISC.), ONE FOR 60 I.P.M., ONE FOR 120 I.P.M. AND ONE FOR 120 I.P.M. TONE.

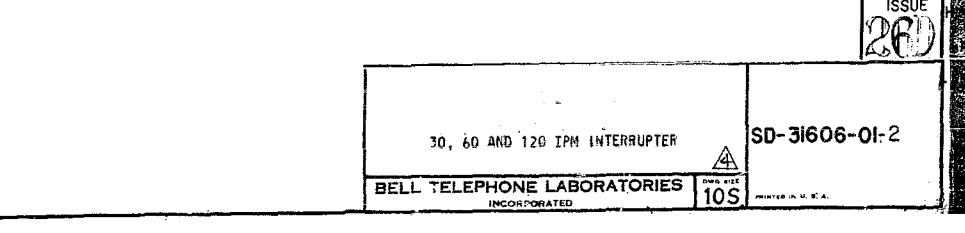
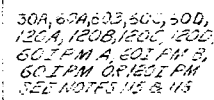


FIG. 10

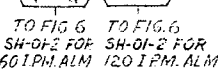


TO CONNECTING CIRCUITS
LISTED IN TABLES
A, B, C, F, G, H, J, K, L, M, N, O, P, Q, R, S, T, U, V, W, X, Y, Z, AA, AB, AC, AD, AE, AF, AG, AH, AI, AJ, AK, AL, AM, AN, AO, AP, AQ, AR, AS, AT, AU, AV, AW, AX, AY, AZ, BA, BB, BC, BD, BE, BF, BG, BH, BI, BJ, BK, BL, BM, BN, BO, BP, BQ, BR, BS, BT, BU, BV, BW, BX, BY, BZ, CA, CB, CC, CD, CE, CF, CG, CH, CI, CJ, CK, CL, CM, CN, CO, CP, CQ, CR, CS, CT, CU, CV, CW, CX, CY, CZ, DA, DB, DC, DD, DE, DF, DG, DH, DI, DJ, DK, DL, DM, DN, DO, DP, DQ, DR, DS, DT, DU, DV, DW, DX, DY, DZ, EA, EB, EC, ED, EE, EF, EG, EH, EI, EJ, EK, EL, EM, EN, EO, EP, EQ, ER, ES, ET, EU, EV, EW, EX, EY, EZ, FA, FB, FC, FD, FE, FF, FG, FH, FI, FJ, FK, FL, FM, FN, FO, FP, FQ, FR, FS, FT, FU, FV, FW, FX, FY, FZ, GA, GB, GC, GD, GE, GF, GG, GH, GI, GJ, GK, GL, GM, GN, GO, GP, GQ, GR, GS, GT, GU, GV, GW, GX, GY, GZ, HA, HB, HC, HD, HE, HF, HG, HH, HI, HJ, HK, HL, HM, HN, HO, HP, HQ, HR, HS, HT, HU, HV, HW, HX, HY, HZ, IA, IB, IC, ID, IE, IF, IG, IH, II, IJ, IK, IL, IM, IN, IO, IP, IQ, IR, IS, IT, IU, IV, IW, IX, IY, IZ, JA, JB, JC, JD, JE, JF, JG, JH, JI, JJ, JK, JL, JM, JN, JO, JP, JQ, JR, JS, JT, JU, JV, JW, JX, JY, JZ, KA, KB, KC, KD, KE, KF, KG, KH, KI, KJ, KK, KL, KM, KN, KO, KP, KQ, KR, KS, KT, KU, KV, KW, KX, KY, KZ, LA, LB, LC, LD, LE, LF, LG, LH, LI, LJ, LK, LL, LM, LN, LO, LP, LQ, LR, LS, LT, LU, LV, LW, LX, LY, LZ, MA, MB, MC, MD, ME, MF, MG, MH, MI, MJ, MK, ML, MM, MN, MO, MP, MQ, MR, MS, MT, MU, MV, MW, MX, MY, MZ, NA, NB, NC, ND, NE, NF, NG, NH, NI, NJ, NK, NL, NM, NN, NO, NP, NQ, NR, NS, NT, NU, NV, NW, NX, NY, NZ, OA, OB, OC, OD, OE, OF, OG, OH, OI, OJ, OK, OL, OM, ON, OO, OP, OQ, OR, OS, OT, OU, OV, OW, OX, OY, OZ, PA, PB, PC, PD, PE, PF, PG, PH, PI, PJ, PK, PL, PM, PN, PO, PP, PQ, PR, PS, PT, PU, PV, PW, PX, PY, PZ, QA, QB, QC, QD, QE, QF, QG, QH, QI, QJ, QK, QL, QM, QN, QO, QP, QQ, QR, QS, QT, QU, QV, QW, QX, QY, QZ, RA, RB, RC, RD, RE, RF, RG, RH, RI, RJ, RK, RL, RM, RN, RO, RP, RQ, RR, RS, RT, RU, RV, RW, RX, RY, RZ, SA, SB, SC, SD, SE, SF, SG, SH, SI, SJ, SK, SL, SM, SN, SO, SP, SQ, SR, SS, ST, SU, SV, SW, SX, SY, SZ, TA, TB, TC, TD, TE, TF, TG, TH, TI, TJ, TK, TL, TM, TN, TO, TP, TQ, TR, TS, TT, TU, TV, TW, TX, TY, TZ, UA, UB, UC, UD, UE, UF, UG, UH, UI, UJ, UK, UL, UM, UN, UO, UP, UQ, UR, US, UT, UY, UV, UW, UX, UZ, VA, VB, VC, VD, VE, VF, VG, VH, VI, VJ, VK, VL, VM, VN, VO, VP, VQ, VR, VS, VT, VU, VV, VW, VX, VY, VZ, WA, WB, WC, WD, WE, WF, WG, WH, WI, WJ, WK, WL, WM, WN, WO, WP, WQ, WR, WS, WT, WU, WV, WW, WX, WY, WZ, XA, XB, XC, XD, XE, XF, XG, XH, XI, XJ, XK, XL, XM, XN, XO, XP, XQ, XR, XS, XT, XU, XV, XW, XX, XY, XZ, YA, YB, YC, YD, YE, YF, YG, YH, YI, YJ, YK, YL, YM, YN, YO, YP, YQ, YR, YS, YT, YU, YV, YW, YX, YY, YZ, ZA, ZB, ZC, ZD, ZE, ZF, ZG, ZH, ZI, ZJ, ZK, ZL, ZM, ZN, ZO, ZP, ZQ, ZR, ZS, ZT, ZU, ZV, ZW, ZX, ZY, ZZ.

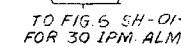


TO ALL OTHER FIGS. II
ASSOC. WITH SAME FIG. 10 OR 2
OR WHEN FIG. 15 IS USED
TO MAX. 5 OTHER FIGS. II

FIG. 12
5 PER KEY CK
F PER OFFICE



TRANSFER KEY CIRCUIT
FOR 30 IPM
ONE PER OFFICE



30 I.F.M. INTERRUPTER
CKT

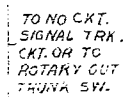


FIG. 15
LIVER CIRCU

0-1 PM BUS
FLASH SE

BR2 TO CONNECTING CKTS
C LISTED IN TABLE K

OR
BR2 TO TONE SUPPLY
C SEE NOTE 117

TO FIG. 11

30,60 AND 120 I.P.M. INTERRUPTER

ISSUE
26

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TABLE A CIRCUITS REQUIRING 60 I.P.M. INTERRUPTIONS WITH 48V. ALARM FEATURE ("W" WIRING) (FOR 60 I.P.M. BR3 LEADS SEE TABLE G)	
REVERTING CALL SELECTOR CKT., OR COIN CONTROL SELECTOR CKT. OR SWITCH TROUBLE ALARM CKT. FOR TRUNK & MISC. SHELVES ASSOCIATED WITH THESE CKTS., OR COIN CONTROL CONNECTOR	ONE LEAD PER FRAME EQUIPPED WITH SUCH CKTS. ONE LEAD PER OFFICE
CHECKING TRUNK AND CHECKING FIRST SELECTOR CKT.	ONE LEAD PER OFFICE
*BUSY BACK CKT. FOR USE WITH CALL WIRELESS TRUNKS	ONE LEAD PER OFFICE
COIN BOX TRUNK ALARM CKT. (A&M ONLY)	ONE LEAD PER CKT.
INTERRUPTER AND ALARM CKT. FOR PREPAY COIN TRUNKS	2 LEADS PER CKT. (SEE NOTES 114 & 115)
A.C. POWER ALARM CKT. (SUPERIMPOSED RINGING)	ONE LEAD PER CKT. (SEE NOTE 110)
INTERRUPTER AND ALARM CKT. FOR DELAY INTERVAL	ONE LEAD PER CKT.
*VACANT SELECTOR LEVEL TONE CKT.	ONE LEAD PER CKT.
SUBSCRIBER RECORDING COMPLETING TRUNK CKT.	ONE LEAD PER OFFICE
OUTGOING TRUNK TO SPECIAL SERVICE OPERATOR - RING BACK	ONE LEAD PER OFFICE
*A B TOLL TRANSMISSION SELECTOR - REPEATED DIALING TRAIN (LINE BUSY FLASH)	ONE LEAD PER 3 CKTS.
NO SUCH NUMBER TONE SUPPLY CKT.	TWO LEADS PER CKT.
INTERTOLL DIALING TIMING CIRCUIT	ONE LEAD PER CKT.
TOLL SWITCHBOARD NO. 1 TONE JACK CKT.	ONE PER CKT.
TEST CKT. FOR TESTING 209FA RELAYS	ONE LEAD PER OFFICE
AUXILIARY SIGNAL CKT. FOR PLUGGING UP CKT. PANEL	ONE LEAD PER OFFICE
OPERATING ROOM CALLING IN SIGNAL	ONE LEAD PER OFFICE
AUXILIARY TRK. COIN CONTROL	ONE LEAD PER 6 CKTS.
TRANSMISSION TEST LINE	ONE LEAD PER 10 CKTS.
AUTOMATIC TICKETING TRUNK (MFR.DISC.)	ONE LEAD PER OFFICE
AUTOMATIC TICKETING TRUNK TEST CKT.	ONE LEAD PER CKT.
AUTOMATIC TICKETING SENDER	ONE LEAD PER 10 CKTS.
RECORDING COMPLETING TRUNK - COIN & NON COIN CX SIGNALING	ONE LEAD PER 5 CKTS.
VACANT CODE TRUNK CKT.	ONE LEAD PER OFFICE
SELECTOR REPEATER	ONE LEAD PER OFFICE
CABLE TEST DESK NO. 3	AUXILIARY SIGNAL CKT. TEL. & M.D.F. LOUD SPEAKER CKT. WITH COMMON OR INDIVIDUAL - TRANSMITTERS
LOCAL TEST DESK NO. 14	AUXILIARY SIGNAL CKT. PRIMARY AND SECONDARY TEST CKT. LINE INSULATION BREAKDOWN CKT. HOWLER CKT. TEL. & M.D.F. LOUD SPEAKER CKT. WITH COMMON OR INDIVIDUAL - TRANSMITTERS
INFORMATION DESK NO. 1, 2, 17-D OR 17-MC FLASHING CIRCUIT	ONE LEAD PER INFORMATION DESK
KEY CABINET NO. 20 TRANSFER AND AUX. SIG. CKT.	ONE LEAD PER CABINET
INFORMATION DESK NO. 3 AND NO. 4	ALLOTTER CIRCUIT
START CIRCUIT	ONE LEAD PER CIRCUIT
SEQUENCE STORING TIMING CIRCUIT	ONE LEAD PER OFFICE
REPAIR SERVICE DESK NO. 2 - TEST SUPERVISOR'S PRIVATE DESK	TRANSFER AND MAKE BUSY CIRCUIT
702-A P.B.X. AUXILIARY LINE CIRCUIT	ONE LEAD PER 10 CIRCUITS
PERMANENT SIGNAL TEST CIRCUIT	ONE LEAD PER CIRCUIT
PERMANENT SIGNAL HOLDING TRK.	ONE LEAD PER OFFICE
TEST LINE CIRCUIT FOR TESTING RINGING AND CONTINUITY	ONE LEAD PER OFFICE
702-A P.B.X. INTERRUPTER CIRCUIT FOR FLASHING TRUNK LAMPS	ONE LEAD PER CIRCUIT
702-A P.B.X. AUDIBLE AND FLASHING RECALL CIRCUIT	ONE LEAD PER CIRCUIT
TONE JACK CIRCUIT - SWITCHBOARD NO. 140, 140, 140, OR 150	ONE LEAD PER CIRCUIT
TOLL SWITCHBOARD NO. 3, 3C OR 3CF TONE JACK CIRCUIT	ONE PER CIRCUIT
INTERTOLL DIALING - TOLL SWITCH TRUNK - TO REP. DIAL TOLL TRAIN	ONE LEAD PER OFFICE
NJ MOBILE RADIO TELEPHONE SYSTEM - COMMON PULSE CIRCUIT	ONE LEAD PER SYSTEM
ALL CKTS. WITH CONNECTING LEAD DESIG. "60A"	

*SEE NOTE 106

TABLE B CIRCUITS REQUIRING 120 I.P.M. INTERRUPTIONS WITH 48V. ALARM FEATURE ("W" WIRING) (FOR 120 I.P.M. BR3 LEADS SEE TABLE H)	
INCOMING TRUNK TO TOLL INCOMING SELECTOR	ONE LEAD PER 5 CKTS.
AUXILIARY TRUNK CKT. BETWEEN TOLL SELECTOR MULTIPLE & INTERCEPTING TRUNK FOR DELAYING CUT THRU	ONE LEAD PER 5 CIRCUITS.
*OUTGOING TRUNK CKT FROM "A" SWITCHBOARD NO. 150, TO LOCAL SELECTOR, TEST DISTRIBUTOR, SELECTOR FOR COMPLETING INTERCEPTING CALLS, OUTGOING REPEATER, INCOMING REPEATER OR AB TOLL TRANSMISSION SELECTOR.	ONE LEAD PER MAX. 50 CKTS.
TOLL TEST BOARD 17B OR 18B	DC & MF KEY SET CKT.
CABLE TEST DESK NO. 3 & LOCAL TEST DESK NO. 14. TEL. & M.D.F. LOUD SPEAKER CKT. - INDIVIDUAL TRANSMITTERS	ONE LEAD PER 5 CKTS. ONE LEAD PER DESK PER FLOOR (SEE NOTE 202)
ANSWER TIME REORDER	ONE LEAD PER 10 CKTS.
CHECKING TRUNK AND CHECKING FIRST SELECTOR CKT.	ONE LEAD PER OFFICE
*OPERATOR RECORDING COMPLETING TRUNK CKT.	ONE LEAD PER OFFICE
RECORDING COMPLETING TRUNK - COIN AND NON CON- CX SIG.	ONE LEAD PER 5 CKTS.
TEST LINE CKT. FROM CONNECTOR MULTIPLE	ONE LEAD PER OFFICE
*SWITCH TROUBLE ALARM CKT. FOR "B" SWITCHBOARD	ONE LEAD PER OFFICE
RINGING INTERRUPTER AND ALARM CKT. FOR 8 PARTY SEMI-SELECTIVE RINGING	ONE LEAD PER OFFICE
RINGING INTERRUPTER AND ALARM CIRCUIT FOR 10 PARTY TERMINAL PER LINE CODE RINGING	ONE LEAD PER OFFICE
COMMON TIMING CIRCUIT	ONE LEAD PER CIRCUIT
"B" SWITCHBOARD POSITION CIRCUIT	ONE LEAD PER OFFICE
*"B" SWITCHBOARD LINK CIRCUIT	ONE LEAD PER FRAME
DIAL TESTER CIRCUIT USING 51 TYPE DIAL TESTER	ONE LEAD PER GROUP OF CIRCUITS
ANNOUNCEMENT DESK NO. 1 DESK CIRCUIT	ONE LEAD PER DESK
"A" SWITCHBOARD CORD TESTING CIRCUIT	ONE LEAD PER CIRCUIT
*KEY PULSING COMMON TIMING AND ALARM CIRCUIT	TWO LEADS PER OFFICE
*AB TOLL PRECEDING SELECTOR CIRCUIT OR SWITCH TROUBLE ALARM CIRCUIT FOR SELECTOR SHELVES	ONE LEAD PER FRAME OR BAY
*KEY PULSING "A" SWITCHBOARD OUTGOING TRUNK CIRCUIT FOR COMPLETING INTER- CEPTED CALLS	ONE LEAD PER 50 TRUNKS
*CENTRAL "A" SWITCHBOARD INCOMING TRUNK CIRCUIT FOR COMPLETING INTERCEPTED CALLS	ONE LEAD PER 50 TRUNKS
A.C. POWER ALARM CIRCUIT (A.C. - DC RINGING)	ONE LEAD PER CIRCUIT (SEE NOTE 110)
TOLL SWITCHBOARD NO. 3, 3B OR 3C - SWITCHBOARD NO. 11 - R.D. INTERTOLL TRK. CIRCUIT	ONE LEAD PER BAY
INTERTOLL DIALING - TOLL SWITCH TRUNK - TO REP. DIAL TOLL TRAIN	ONE LEAD PER OFFICE
PERMANENT SIGNAL HOLDING TRUNK	ONE LEAD PER OFFICE
SERVICE OBSERVING CIRCUIT (MULTI-LINES-SPEED OF ANSWER)	ONE PER 6 CKTS.
ALL CIRCUITS WITH CONNECTING LEAD DESIG. "120A"	
MISC TONE AND TONE ALARM CKTS. ONE PER 3 CKTS.	
*SEE NOTE 106	

TABLE C CIRCUITS REQUIRING 120 I.P.M. INTERRUPTIONS WITHOUT ALARM FEATURE (OMIT RES. LAMPS (D) OF FIG. 3 OR 11)	
"A" SWITCHBOARD POSITION CIRCUIT	ONE LEAD PER POSITION
"A" SWITCHBOARD AUDIBLE AND FLASHING RECALL CIRCUIT	ONE LEAD PER POSITION
KEY PULSING "A" SWITCHBOARD	ONE LEAD PER OFFICE
KEY SET CIRCUIT	TWO LEADS PER OFFICE, ONE FOR ODD, ONE FOR EVEN POSITIONS
KEY MONITORING CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3 - TRUNK CIRCUIT - OUTGOING TO TEMPORARY OPERATING POSITION	ONE LEAD PER BAY
MAJOR AUDIBLE ALARM CIRCUIT	ONE LEAD PER OFFICE
ALL CIRCUITS WITH CONNECTING LEAD DESIG. "120C" OR "120D"	

TABLE D CIRCUITS REQUIRING 60 I.P.M. INTERRUPTIONS WITH FILTER PER FIG. 7 AND 48V. ALARM FEATURE ("W" WIRING)	
*SWITCH TROUBLE ALARM CIRCUIT FOR CONNECTORS	ONE LEAD PER FRAME EQUIPPED WITH LOOP DIALING TOLL OR COMBINATION CONNECTORS
*OPERATORS' TRAINING EQUIPMENT NO. 2B - SIGNAL CORD CIRCUIT - BUSY SIGNAL CIRCUIT	ONE LEAD PER OFFICE
COMMON SYSTEMS - INCOMING TRUNK REGISTER AND CONNECTOR CIRCUIT.	ONE LEAD PER PERSONAL SIGNALING SYSTEM
ALL CIRCUITS WITH CONNECTING LEAD DESIG. "60E" OR "60F"	
*SEE NOTE 106	

TABLE E CIRCUITS REQUIRING 120 I.P.M. INTERRUPTIONS WITH FILTER PER FIG. 7 AND 48V. ALARM FEATURE ("W" WIRING)	
*SWITCH TROUBLE ALARM CIRCUIT FOR SELECTOR SHELF CIRCUITS	ONE LEAD PER FRAME
*LOOP DIALING TOLL TRANSMISSION SELECTOR CIRCUIT	ONE LEAD PER FRAME
*AB TOLL TRANSMISSION SELECTOR CIRCUIT - LOOP DIALING TRAIN	ONE LEAD PER FRAME
*TOLL INTERMEDIATE SELECTOR CIRCUIT	ONE LEAD PER FRAME
*SELECTOR CIRCUIT FOR COMPLETING INTERCEPTED CALLS	ONE LEAD PER FRAME
*AB TOLL TRANSMISSION SELECTOR CIRCUIT - REPEATED DIALING TRAIN - (ALL TRUNKS BUSY FLASH)	ONE LEAD FOR 80 OR LESS SELECTORS ON THE SAME FRAME OR BAY
*OPERATORS TRAINING EQUIPMENT NO. 2B - SIGNAL CORD CIRCUIT - REORDER SIGNAL CIRCUIT	ONE LEAD PER OFFICE
*DISTRIBUTOR CIRCUIT FOR VERIFICATION SERVICE OR SWITCH TROUBLE ALARM FOR MISC. CIRCUITS.	ONE LEAD PER FRAME
COMMON SYSTEMS - INCOMING TRUNK REGISTER AND CONNECTOR CIRCUIT.	ONE LEAD PER PERSONAL SIGNALING SYSTEM
COMMON SYSTEMS - REGISTER CHECK AND CONNECTOR CONTROL CIRCUIT.	ONE LEAD PER PERSONAL SIGNALING SYSTEM
NJ MOBILE RADIO TELEPHONE SYSTEM-DUPL SW AND TEST ACCESS CIRCUIT	ONE LEAD PER SYSTEM
SMALL NJ MOBILE RADIO TELEPHONE SYSTEM-LINE CIRCUIT	ONE LEAD PER SYSTEM
ALL CIRCUITS WITH CONNECTING LEAD DESIG. "120E" OR "120F"	
*SEE NOTE 106	

TABLE F CIRCUITS REQUIRING 60 I.P.M. INTERRUPTIONS WITHOUT ALARM FEATURE (OMIT RES. LAMPS (D) OF FIG. 3 OR 11)	
COMMON TIMING CIRCUIT	TWO LEADS PER CIRCUIT
TOLL SWITCHBOARD NO. 3 - SWITCHBOARD NO. 11 - R.D. TOLL LINE MULT. CKT.	ONE LEAD PER BAY
MAJOR AUDIBLE ALARM CIRCUIT	ONE LEAD PER OFFICE
ALARM CHECKING TERMINAL CKT.	ONE LEAD PER CIRCUIT
ALL CIRCUITS WITH CONNECTING LEAD DESIG. "60C" OR "60D"	

TABLE G CIRCUITS REQUIRING 60 I.P.M. INTERRUPTIONS WITH ALARM FEATURE 24V. ALARM - CONNECTING LEADS DESIG. "60 I.P.M. BR1" PROVIDE "V" WIRING 48V. ALARM - CONNECTING LEADS DESIG. "60 I.P.M. BR3" PROVIDE "W" WIRING	
TOLL TEST BOARD NO. 17B OR 18B - TIMED RINGING CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3 OR 3C - TOLL SWITCHING TRUNK CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3, 3B OR 3C - SWITCHBOARD NO. 11 - TOLL TEST BOARD NO. 5, 17B OR 18B - TELEGRAPH TEST BOARD NO. 9 - POSITION TEST CIRCUIT	ONE LEAD PER CKT.
CROSSBAR SWITCHING - LINK ALLOTING AND ALARM CIRCUIT	ONE LEAD PER OFFICE
CROSSBAR SWITCHING - POSITION GROUP CONTROL CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3 OR 3C - SWITCHBOARD NO. 11 - TOLL TEST BOARD NO. 17B OR 18B - AUTOMATIC OUTGOING TRUNK CIRCUIT TO DESK	ONE LEAD PER BAY
TOLL SWITCHBOARD NO. 3 - BUSY BACK OR REORDER CIRCUIT	ONE LEAD PER CKT.
TOLL SWITCHBOARD NO. 1 OR 3 - TOLL TANDEM SWITCHBOARD NO. 1 OR 3 - RINGING CONT. CIRCUIT	ONE LEAD PER OFFICE
OPERATING ROOM CALLING IN SIGNAL CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3C - KEY SET CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 1, 3, 3C OR 3CL OR TEST AND CONTROL BOARD NO. 8 (DC OR DC & MF KEY SET CIRCUIT)	ONE LEAD PER 5 CKTS.
TOLL SWITCHBOARD NO. 3 OR 3CL	ONE LEAD PER OFFICE
OPERATOR'S RECORDING COMPLETING TRUNK CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARDS	ONE LEAD PER OFFICE
OPERATOR'S TRAINING EQUIPMENT LINE BUSY FLASH	ONE LEAD PER OFFICE
TEST LINE CIRCUIT - ONE WAY TRANSMISSION TESTING	ONE LEAD PER 10 CKTS.
"A" SWITCHBOARD INCOMING TRUNK	ONE LEAD PER OFFICE
COMMON SYSTEMS - COMMON TIMING AND ALARM CIRCUIT.	ONE LEAD PER OFFICE
ALL CIRCUITS USING 24V. BATTERY AND WITH CONNECTING LEADS DESIG. "60B"	

TABLE H CIRCUITS REQUIRING 120 I.P.M. INTERRUPTIONS WITH ALARM FEATURE 24V. ALARM - CONNECTING LEADS DESIG. "120 I.P.M. BR1" PROVIDE "V" WIRING 48V. ALARM - CONNECTING LEADS DESIG. "120 I.P.M. BR3" PROVIDE "W" WIRING	
TOLL TANDEM SWITCHBOARD NO. 3C - REORDER CIRCUIT	ONE LEAD PER OFFICE
TOLL TEST BOARD NO. 17B OR 18B - KEY SET CIRCUIT	TWO LEADS PER OFFICE, ONE FOR ODD, ONE FOR EVEN POSITIONS
TOLL SWITCHBOARD NO. 3B OR 3C - KEY SET CIRCUIT	TWO LEADS PER OFFICE, ONE FOR ODD, ONE FOR EVEN POSITIONS
TOLL SWITCHBOARD NO. 3 OR 3C - TOLL SWITCHING TRUNK CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3 - INTERTOLL TRUNK AND RURAL SUBSCRIBER'S LINE CIRCUIT	ONE LEAD PER BAY
TOLL SWITCHBOARD NO. 3 OR 3C - R.D. INTERTOLL TRUNK CIRCUIT	ONE LEAD PER BAY
TOLL SWITCHBOARD NO. 3B OR 3C - TOLL TEST BOARD NO. 5, 17B OR 18B - TELEGRAPH TEST BOARD NO. 9 - POSITION TEST CIRCUIT	ONE LEAD PER CKT.
TOLL SWITCHBOARD NO. 1B, 3, 3B OR 3C - TOLL TANDEM SWITCHBOARD NO. 3 - OVERFLOW CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3 - KEY PULSING TEST SET	ONE LEAD PER CKT.
TOLL SWITCHBOARD NO. 3B - DISCRIMINATING CIRCUIT AND OPERATOR'S CONT. CIRCUIT	ONE LEAD PER POSITION
TOLL SWITCHBOARD NO. 3 - AUXILIARY SIGNAL AND FLASH CIRCUIT	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3 - BUSY BACK OR REORDER CIRCUIT	ONE LEAD PER CKT.
TOLL SWITCHBOARD NO. 3 - STD. TRUNKING OFFICE SWITCHING TRUNK CIRCUIT.	ONE LEAD PER POSITION
TOLL TANDEM SWITCHBOARD NO. 1 OR 3 - RELAY INT. CIRCUIT	ONE LEAD PER OFFICE
INCOMING TRUNK TO INFORMATION DESK	ONE LEAD PER 10 CKTS.
TOLL SWITCHBOARDS	ONE LEAD PER OFFICE
OPERATOR'S TRAINING EQUIPMENT ALL TRUNKS BUSY FLASH	ONE LEAD PER OFFICE
TOLL SWITCHBOARD NO. 3 - KEY SET CIRCUIT	ONE LEAD PER 50 KEY SETS
COMMON SYSTEM - COMMON TIMING AND ALARM CIRCUIT	ONE LEAD PER OFFICE
ALL CIRCUITS WITH 24V. BATTERY AND WITH CONNECTING LEADS DESIG. "120B"	

INTERRUPTION REQUIRED	VOLTAGE OF CONNECTING CIRCUIT	FIGS.	PROVIDE OPTIONS	CONNECTING CKT. LEAD DESIGNATION
60 I.P.M. WITH ALARM	24V. 48V.	10, 11	E, W E, W	60B 60A
120 I.P.M. WITH ALARM	24V. 48V.	10, 11	E, W E, W	120B 120A
60 I.P.M. WITHOUT ALARM	24V. 48V.	10	E	60D 60C
120 I.P.M. WITHOUT ALARM	24V. 48V.	10	E	120D 120C
PATHS BUSY TONE* WITH ALARM AND WITHOUT FLASH* *	48V	7, 10 8, 11	G, W, X G, Q, W	*60E OR *60F *120F
PATHS BUSY FLASH* WITH ALARM AND WITHOUT TONE	48V	7, 10 8, 11	B, E, W	*120E
PATHS BUSY FLASH* WITH ALARM AND TONE	48V	7, 10 8, 11	B, E, Q, W	*120F
LINE BUSY FLASH* WITH ALARM AND TONE	48V	7, 10 8, 11	B, E, W, X	*60E OR *60F
30 IPM WITH ALARM	48V	10 8, 11	E, W	30A
30 IPM TONE		15 8, 14		L1 30 IPM
PATHS BUSY TONE WITH ALARM AND WITHOUT FLASH**	48V	11, 15		L1: 120 IPM BR2

SD-31606-01				5 PAGES				CIRCUIT REQUIREMENTS												[A]														
30, 60 AND 120 I.P.M. INTERRUPTER AND INTERRUPTER ALARM CIRCUI (160 I.P.M. INT.) (120 I.P.M. INT.) (60 & 120 I.P.M. TRNS.) (FILTER) (30 I.P.M.)																																		
APPARATUS				MECH REQ				CIRCUIT PREPARATION				DIRECT CURRENT FLOW REQ					REMARKS																	
DESIG	CODE	OPTION	CKT FIG.	RESID	BSP FIG.	CONT PRESS.	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET PREP	SEE TEST NOTE NO.	TEST WDG	TEST FOR	AFTER SOAK	TEST MA.	TEST MA.	TEST READJ																
RE-AYS																																		
A.B	R878		1		11/11	H	15		RT	REL TST	GRD	1	P	O		24.5	23																	
																9.5	10																	
A.B	U1254		12		111/101	H	29		T	REL TST	GRD	1		O		9.4	8.9																	
A.B	R576		1		11/11	H	15		RT	REL TST	GRD	2	P	O		24.5	23																	
																9.5	10																	
A.B	U1254		12		111/101	H	29		T	REL TST	GRD	2		O		9.4	8.9																	
AL	R1296		6A		9/11	H	35	3T(AL)	RT(AL)	REL	GRD			O		21	20																	
AL	R1816		FB		23/9	L	35	35(AL)	RT(AL)	REL	GRD			O		25.5	24																	
C.D	2238N		2	5-4	292		16		B	REL TST	GRD			O	FS	19.5	18.5																	
												3		NO	FS	10	10.6																	
C.C1	J337		10		52/521	H	41		T	REL TST	GRD			O		24	22.5																	
D.D1																																		

TEST NOTES

1. KEY (A) OPERATED

2. KEY (A) NON-OPERATED

3. AS PERMITTED BY SEQUENCE ANY TWO BREAK CONTACTS MAY BREAK.

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APPARATUS				MECH REQ				CIRCUIT PREPARATION				TEST SET PREP		DIRECT CURRENT FLOW TEST				REMARKS	
DESIG	CODE	OPTION	CKT FIG	BSP FIG	CONT PRESS	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET PREP	TEST NOTE NO	TEST WDG	TEST FOR	AFTER SOAK MA	TEST MA	READJ MA			
S	U1318		14	160/132	H	47		2B(S) 1B(R)	T(S)	GRD	1	0	0	9.4 36	8.9 34		WHD ALONE		
SI	U1B5		14	132/101	H	47		2T(S1) 1B(R)	T(S1)	GRD	2	0	0	7.3 27.5	6.9 26		WDG ALONE		
R	U1318		13	160/132	H	47			T(T)	GRD		0		9.4	8.9		KEY(D) OPERATED		
TI	U1318		13	160/132	H	47			T(T)	GRD		0		9.4	8.9		KEY(D)NON-OPERATED		
W	U829		14	121/130	H	50		2B(Z) 1B(W)	T(W)	GRD	3	0	0	22 32.5	21 31		WDG ALONE		
WI	U829		14	121/130	H	50		2T(Z1) 1B(W)	T(W)	GRD	4	0	0	22 32.5	21 31		WDG ALONE		
TEST NOTES																		4. PAR COMB,(W)&(Z)RELAYS, EACH IN SERIES WITH 1/2 RES.(A)	
1. PAR COMB,(R)&(S)RELAYS, EACH IN SERIES WITH 1/2 RES.(B)																			
2. PAR COMB,(R1)&(S1)RELAYS, EACH IN SERIES WITH 1/2 RES.(B1)																			
3. PAR COMB,(W)&(Z)RELAYS, EACH IN SERIES WITH 1/2 RES.(A)																			

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APPARATUS				MECH REQ				CIRCUIT PREPARATION				DIRECT CURRENT FLOW REQ				REMARKS	
DESIG	CODE	OPTION	CKT FIG.	DSP FIG.	CON PRESS	AIR TRV	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET PREP	TEST NOTE NO.	TEST WDG	TEST FOR	AFTER SOAK	TEST MA.	TEST MA.	
E	206 FP OR 280 CH	S R	4	B				3(E)	1(E)	NGB			O	-180		4.3	REMOVE NO.8 OR 12 TYPE LPS OF ASSOC FIGS.3 OR UNSOLDER WIRE FROM 1(E)
								3(E)	1(E)	NGB			NO	-180		3.1	
								3(E)	1(E)	NGB			O	-180	44.5	42	
								3(E)	1(E)	NGB			R	180	13.3	14	
E	206 FP OR 280 CH	S R	8	B				(E)JK-R	(E)JK-T	B/G			O	-180		4.3	
								(E)JK-R	(E)JK-T	B/G			NO	-180		3.1	
								(E)JK-R	(E)JK-T	B/G			O	-180	44.5	42	
								(E)JK-R	(E)JK-T	B/G			R	180	13.3	14	
F	102 Y		5	H				(B) F	GRD				O		41	39	
								(B) F	GRD				NO		28.5	30	
F	Y142		9	175/164	H	47		T (F)	GRD	I			O	FS	17.5	16.5	
								T (F)	GRD	I			H	FS	1.5	1.4	
								T (F)	GRD	I			R	FS	0-8	1	
G	149 CG		5	A				1 (F)	GRD				O		14.7	14	
								1 (F)	GRD				R		0.9	1	
G	Y126		9	175/164	H	47		T (G)	GRD	I			O	FS	21	20	
								T (G)	GRD	I			H	FS	1.8	1.7	
								T (G)	GRD	I			R	FS	0.9	1.2	
H	E555		5A	1/1	H	15		RT(H)	GRD				O		9.5	9	
TEST NOTES:																	
1. ADJACENT RELAYS SHALL NOT BE ENERGIZED. SEE BSP																	

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APPARATUS				MECH REQ		CIRCUIT PREPARATION				DIRECT CURRENT FLOW REQ				REMARKS			
DESIG	CODE	OPNNG	CKT FIG.	BSP FIG.	CONT ARM REGTRV	BLOCK OR INSULATE	TEST CLIP DATA	CONN BAT.	CONN GRD.	TEST SET PREP	SEE TEST NOTE NO.	TEST WDG	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.	
Z	U1318		14	160/122	H	47	2B (2) 1B (W)		T (Z)	GRD	1	0		5.4	18	13	WDG ALONE
Z1	U105		14	132/101	H	47	2T (21) 1B (W1)		T (Z1)	GRD	2	0		7.3	8.6	20	WDG ALONE

APPARATUS				MECH REQ			CIRCUIT PREPARATION			TEST SET PREP		DIRECT CURRENT FLOW REQ					REMARKS
DESIG	CODE	OPTION	CKT FIG.	BSP FIG.	CONT PRESS.	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA		TEST SET NO.	TEST WDG	TEST FOR	AFTER SOAK MA.	TEST MA.	READJ MA.		
H	R 351		5B	11/1	H	15			RT(H)	GRD		0		9.5	9		
L	U1250		6B	11/101	H	29	2T,2B(L)		T (L)	GRD		0		6.3	6		
PAPB	R827		6	14/14	H	35			RT REL TST	GRD		0		10.5	10	CONN. DIRECT BAT TO RB OF REL UNDER TST	
PC	R1484		6	10/3	H	20	(PU) NO		RT(PC)	GRD		0		19	18		
PU	R1378		6	23/23	L	30	(PC) O (AL) NO		RT(PU)	GRD		0		14.5	13.5	CONN. DIRECT BAT TO RB (PU)	
R	U829		14	121/130	H	50						0		22	21	WDG. ALONE	
							2B(R) 1B(R)		T(R)	GRD	1	0		32.5	31		
RI	U829		14	121/130	H	50						0		22	21	WDG. ALONE	
							2T(S1) 1B(R1)		T (R1)	GRD	2	0		32.5	31		
TEST NOTES																	
1. PAR. COMB. (R) & (S) RELAYS, EACH IN SERIES WITH 1/2 RES. (B)																	
2. PAR. COMB. (R1) & (S1) RELAYS, EACH IN SERIES WITH 1/2 RES. (B1)																	

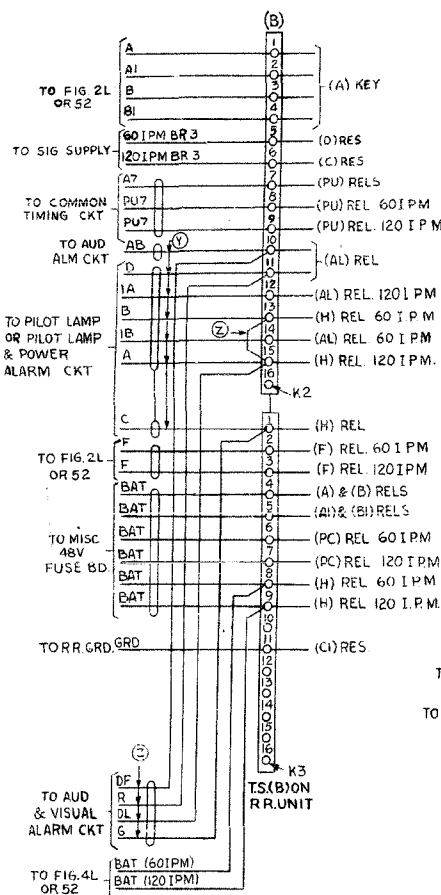
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5 PAGES

FIG. 155

SD-31606-01 5 PAGES CIRCUIT REQUIREMENTS																													
30, 60 AND 120 I.P.M. INTERRUPTER AND INTERRUPTER ALARM CIRCUIT (160 I.P.M. INT.) (120 I.P.M. INT.) (60 & 120 I.P.M. TRNS.) (FILTER) (30 I.P.M.)																													
APPARATUS					MECH REQ					CIRCUIT PREPARATION					DIRECT CURRENT FLOW REQ					REMARKS									
DESIG	CODE	OPTION	CKT FIG.	RESID	BSP FIG.	CONT PRESS.	ARM TRVL	BLOCK OR INSULATE	TEST CLIP DATA	TEST SET PREP	TEST SET NO.	TEST WDG	TEST FOR	TEST AFTER SOAK	TEST MA.	TEST MA.	TEST READJ	TEST MA.	TEST MA.										
TEST NOTES																													
1. PAR COMB, (R) & (S) RELAYS, EACH IN SERIES WITH 1/2 RES (B)																													
2. PAR COMB, (R) & (S) RELAYS, EACH IN SERIES WITH 1/2 RES. (B)																													

FIGS. 1L, 5L & 6L (MFR DISC.)
SEE NOTE 203



FIGS. 2L & 4L (MFR DISC.)
SEE NOTE 203

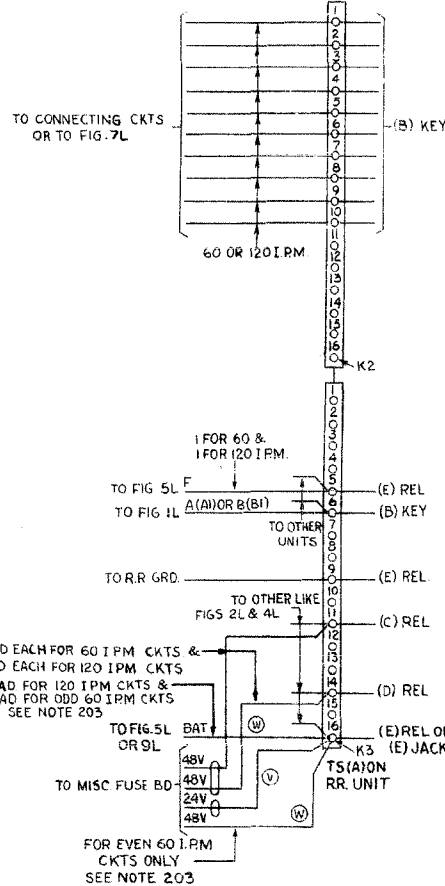
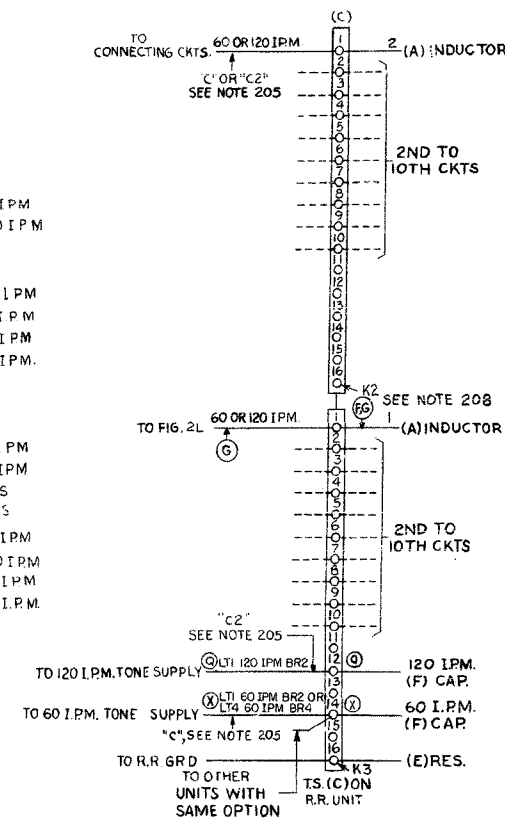
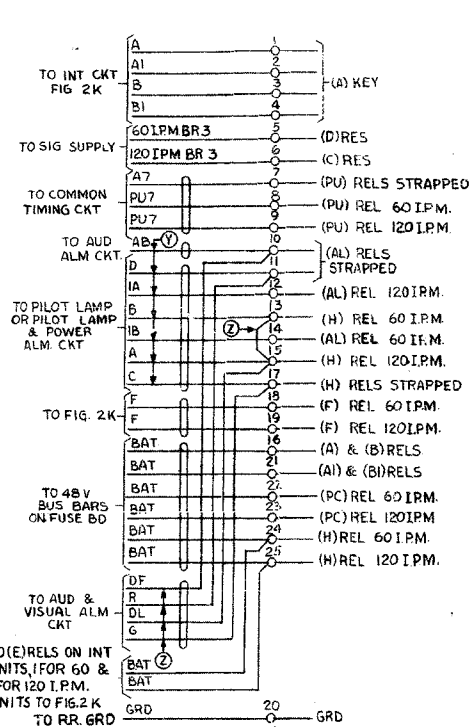


FIG. 7L (MFR DISC.)



FIGS. 1K, 5K, & 6K (MFR DISC.)



FIGS. 2K & 4K (MFR DISC.)

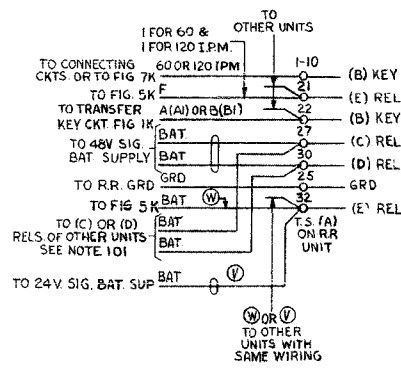


FIG. 7K (MFR DISC.)

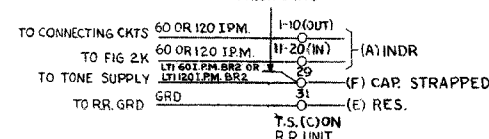


FIG. 51
(FOR FIGS. 5B, 6, 6B, 9 & 12)

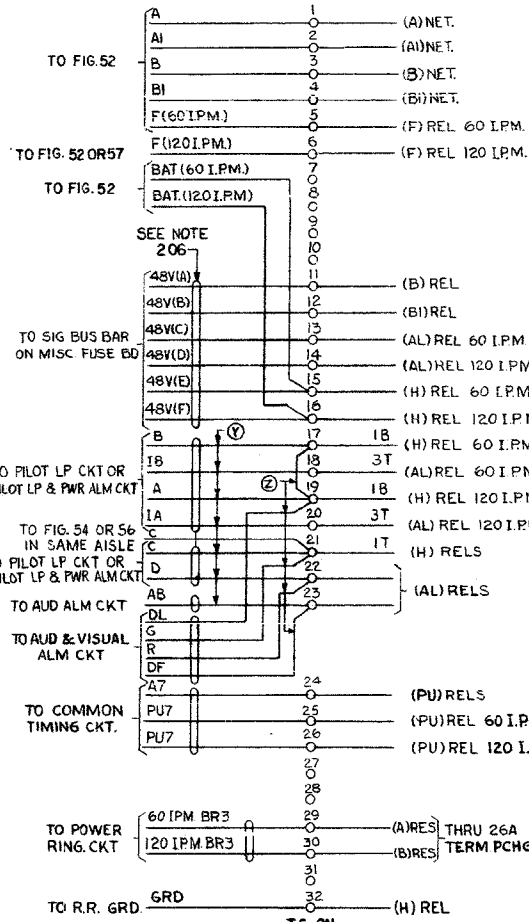


FIG. 52

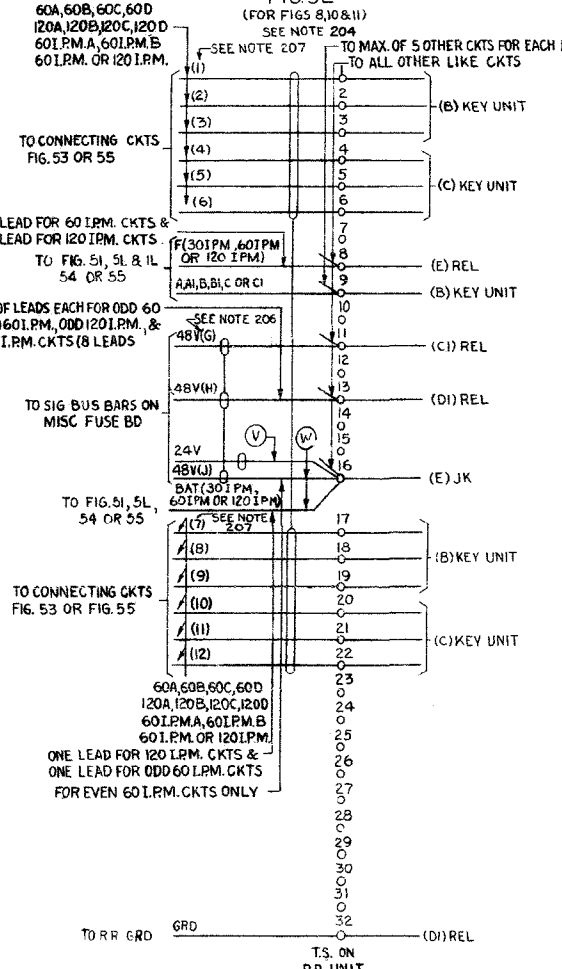


FIG. 53

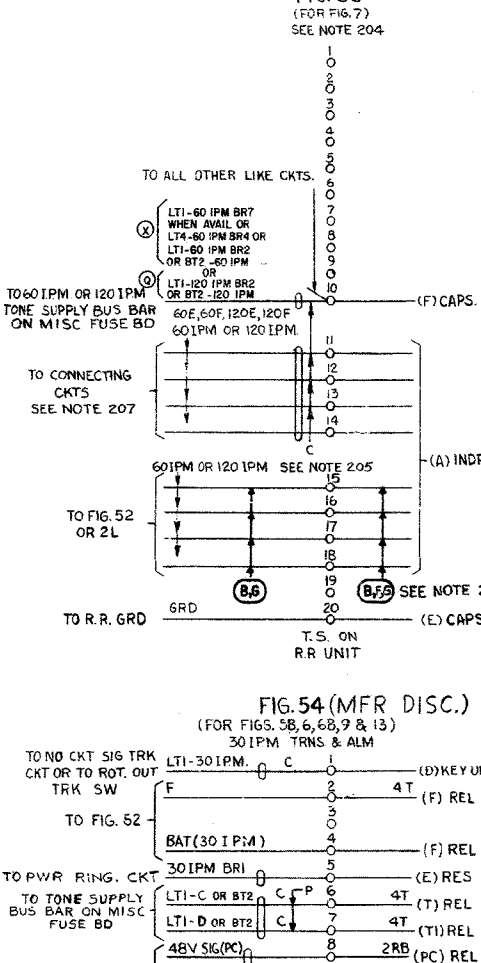


FIG. 54 (MFR DISC.)

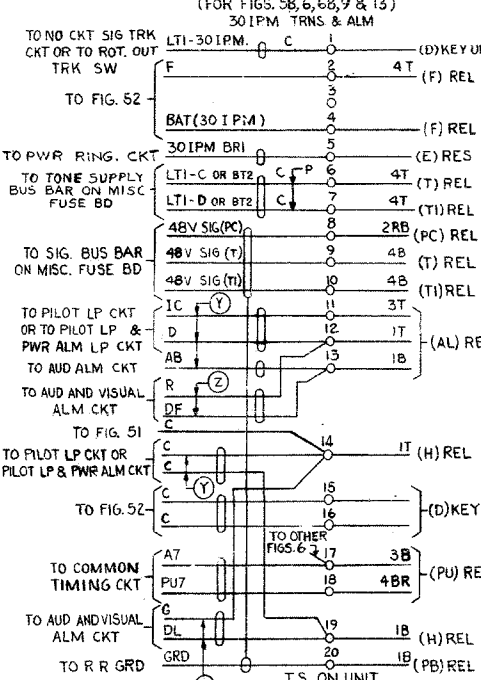


FIG. 55 (MFR DISC.)

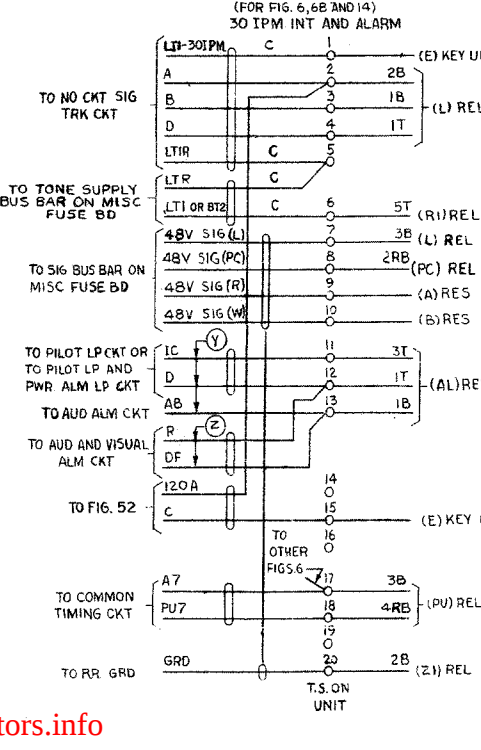


FIG. 56 (MFR DISC.)
(FOR FIGS. 5B, 6, 6B, 9 & 14)
30 I.P.M. INT. & ALM

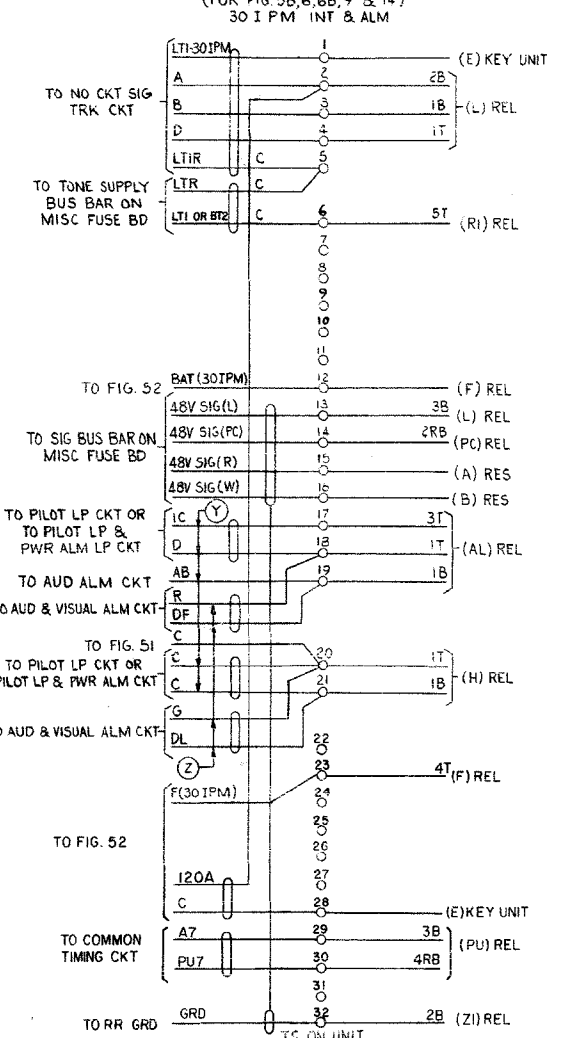
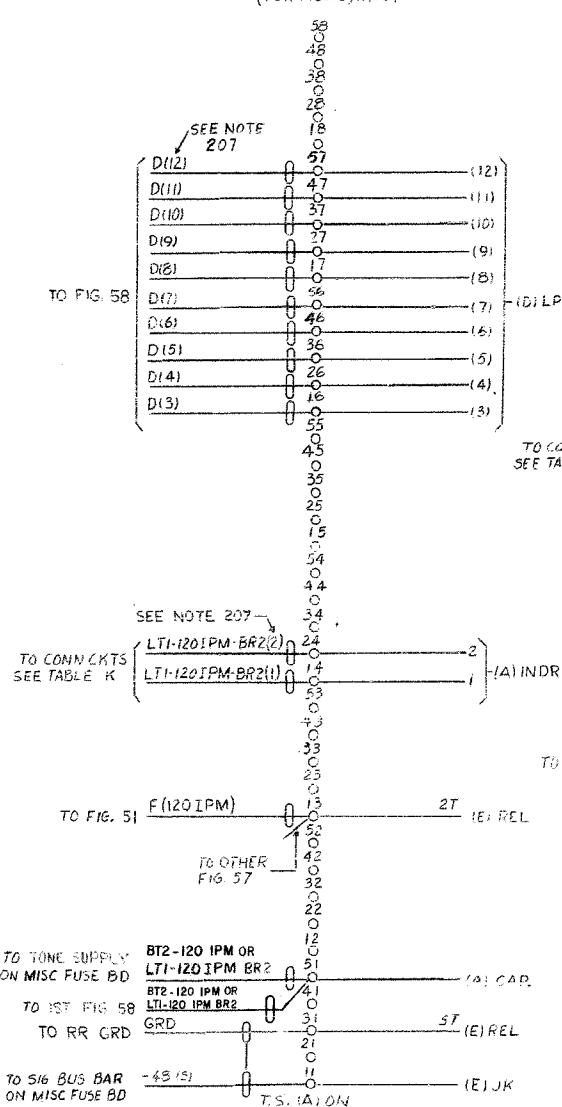
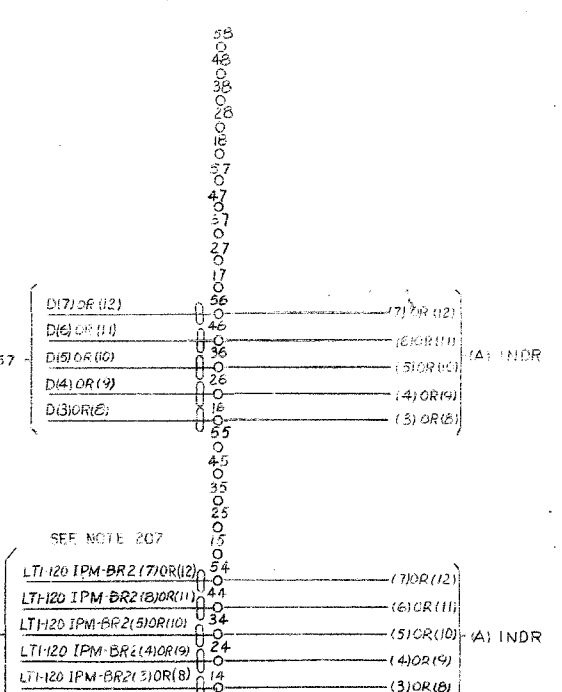


FIG. 57
(FOR FIGS. 5, 11, 15)

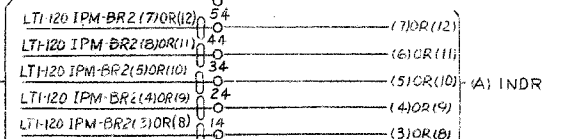


- EQUIPMENT NOTES:
- THE 206 TYPE RELAYS SHALL BE MOUNTED ON A MIN. OF 3-1/2" CENTERS BOTH HORIZONTALLY AND VERTICALLY WITH RESPECT TO THEMSELVES AS WELL AS ALL OTHER IRON COVERED OR MAGNETIC APPARATUS.
 - IF THE TEL. & MDE LOUD SPEAKER CKTS. FOR BOTH A CABLE TEST DESK NO. 3, AND A LOCAL TEST DESK NO. 14 ARE MOUNTED IN THE SAME LOCATION, ALL CIRCUITS MAY BE SERVED BY THE SAME 60 I.P.M. & 120 I.P.M. LEADS.
 - PRIOR TO ISSUE 140, SEPARATE 48V (W/OPTION) BAT. SUPPLY WAS NOT SHOWN FOR EVEN 60 I.P.M. CKTS. IN FIG. 4L ON ISSUE 150, SEPARATE "Q" OPTION LEAD WAS ADDED TO FIG. 7L.
 - SEPARATE EQUIPMENT UNITS WIRED PER FIGS. 52 & 53 OR 57 & 58 ARE REQUIRED FOR 30 I.P.M., 60 I.P.M. AND 120 I.P.M.
 - LINE AND PATHS BUSY FLASH AND INTERRUPTED TONE LEADS SHALL BE RUN IN "C" WIRING. THIS SHALL BE DONE IN THE CASE OF PATHS BUSY FLASH IRRESPECTIVE OF WHETHER TONE IS FURNISHED INITIALLY TO PROVIDE FOR POSSIBLE FUTURE ADDITION OF TONE.)
 - FOR IDENTIFICATION PURPOSES 48V FUSE DESIGNATIONS ARE INDICATED ON THE LEADS TO THE FUSE BOARD IN FIGS. 51 & 52 CORRESPONDING WITH FUSE DESIGNATIONS ON THE WIRING DIAGRAM.
 - 30 I.P.M., 60 I.P.M. & 120 I.P.M. LEADS SHALL BE NUMBERED CONSECUTIVELY IN THE OFFICE (ONE NUMBER SERIES FOR 60 I.P.M. AND ONE FOR 120 I.P.M.) 1-12 FOR THE FIRST UNIT, 13-24 FOR THE 2ND UNIT, ETC. FILTERED LEADS PER FIGS. 7 AND 83 OR 15 AND 57 SHALL BEAR THE NUMBERS AS THE ASSOCIATED LEADS FROM FIGS. 10 AND 52 OR 11 AND 58 RESP.
 - ON ISSUE 220 F AND G OPTIONS WERE ADDED IN FIGS. 7L AND 53. G OPTION IS FURNISHED AS STANDARD FOR FLASH OR FLASH AND TONE. WHERE EXISTING CONNECTING CIRCUITS ARE TO BE PROVIDED WITH TONE IN PLACE OF BUSY FLASH PER NOTE 301, F OPTION MAY BE AFFECTED BY DISCONNECTING THE G OPTION LEAD. Q OR X OPTION MUST BE CONNECTED.
 - ON ISSUE 220 F OPTION WAS RATED MFR DISC. G OPTION WAS RATED A & M ONLY IN FIGS. 7L AND 53 AND B OPTION WAS ADDED IN FIG. 53. B OPTION IS FURNISHED AS STANDARD FOR FLASH OR FLASH AND TONE. WHERE EXISTING CONNECTING CIRCUITS ARE TO BE PROVIDED WITH BUSY TONE ONLY G OPTION IS TO BE PROVIDED WITH BUSY TONE ONLY G OPTION MUST BE CONNECTED.
 - ON ISSUE 250 FIGS. 54 & 56 WERE RATED MFR DISC.

FIG. 58
(FOR 5 FIGS. 15)



SEE NOTE 207



TO CONN. CKTS. SEE TABLE K

TO SUCC. FIG. 56

TO FIG. 57

T.S. (A) ON UNIT