

DTF CIRCUIT MODIFICATIONS

1.01 The following circuits have been modified or provided new to reflect coin improvement items including Dial-Tone-First)

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE</u>	<u>FIG.</u>	<u>OPTIONS</u>
No. 5 CROSSBAR				
Incoming Trunk	SD-25911-01	12D	ZH	
Incoming Trunk	SD-26083-01	8D	ZM	
Incoming Trunk	SD-26123-01	4D	J	
Incoming Trunk	SD-26149-01	3D	ZC	
Outgoing Trk or Junctor	SD-26078-01	12D	ZQ	
Outgoing Trk to TSP(S) (Loop)	SD-27547-01	10AC, 13B, 7D	Note 1	
Outgoing Trk to TSP(S) (E&M)	SD-27551-01	8AC, 4D	Note 2	
Outgoing Trk to TSP(S) (E&M)	SD-28062-01	1	Note 3	
Outgoing Trk to TSP(S) (Loop)	SD-28063-01	1	Note 4	
Recording Completing Trk	SD-25923-01	10D	A	
Recording Completing Trk	SD-25923-02	8D	A	
Recording Completing Trk	SD-25923-03	12D	A	
Recording Completing Trk	SD-25923-04	12D	A	
Recording Completing Trk	SD-26091-01	11D	G	
Recording Completing Trk	SD-26093-01	7D	F	
Recording Completing Trk	SD-26099-01	7D	E	
Toll Switching Trk	SD-25712-01	12D	H, ZA	
Toll Switching Trk	SD-26081-01	8D	A	
Toll Switching Trk	SD-26082-01	6D	ZC	
Toll Switching Trk	SD-25854-01	13D	G	
Coin Supervisory	SD-25736-01	26D	Note 5	
Concentrating Ckt for Perm. Sig.				
Holding Trks	SD-25766-01	21D	Note 6	
Toll Swbd. 3C or 3CL Manual Subs.				
Line	SD-56317-01	6D	Z, K	
Toll Swbd. No. 1 Manual Subs. Line	SD-56318-01	4D	Z, K	
Completing Marker	SD-25550-01	58D	EY	
Completing Marker	SD-26002-01	37D	DK	
Originating Register	SD-26040-01	38D	Fig. 33	
Originating Register	SD-25551-01	55D	Fig. 30	
MTF Auto. Monitor	SD-25680-01	78D	Note 7	
MTF Voltmeter Test	SD-25792-01	13D	B or remove A	
Intercept Trk	SD-26121-01	14B	App. Fig. 7	
MTF Trunk Test	SD-25918-01	48D, 50D, 56D	Note 8	
Office Test Frame	SD-27633-01	17D	App Fig. 38, XG	
Off Tst Fr Trbl Ind	SD-27634-01	14D	ZB	

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE</u>	<u>FIG.</u> <u>(Note)</u>	<u>OPTIONS</u> <u>(Note)</u>
No. 1 CROSSBAR				
Subscriber Sender	SD-25012-01	126B	22, B, <u>AI</u> , <u>BH</u> , <u>BJ</u> , <u>BK</u> , <u>BM</u> , <u>BN</u> , <u>CB</u>	<u>GP</u> , <u>HH</u> , <u>MA</u> , <u>MB</u> , <u>MC</u> , <u>NT</u>
Subscriber Sender	SD-27810-01	28B	21, 22	ZH
Originating Marker	SD-25016-01	119B	O, BC	BV
Originating Marker Conn.	SD-25035-01	48B	14*	
Incoming Trk (Mfr Disc)	SD-25026-01	18A		B, ZE, ZC or ZH
Incoming Trk	ES-25723-01	6A		ZB, ZD
Incoming Trk	SD-25876-01	17A		ZJ, ZL, ZQ, ZS
Incoming Trk	SD-25937-01	11A		B, F, J, ZB
Incoming Trk (Mfr Disc)	SD-25263-01	17D		E
Incoming Trk	SD-25303-01	18D		E
Incoming Trk (Mfr Disc)	SD-25308-01	13D		E
Incoming Trk	SD-25883-01	15D		G
Applique Unit	SD-27886-01	3A	1, 2, 3	<u>Y</u> , <u>Z</u>
Outgoing Trk (Mfr Disc)	SD-27555-01	9B	3, 4	N
Outgoing Trk	SD-27814-01	9D	5, 6, 7	
Outgoing Trk	SD-27816-01	8B	5, 6, 7	<u>W</u>
Outgoing Trk (Mfr Disc)	SD-27557-01	10AC	3, 4	<u>J</u> , L
Coin Zone Trk	SD-96518-01	7D	10	G
Vacant Code Trk (Mfr Disc)	SD-25125-01	11D	<u>D</u>	<u>M</u> , R

* SD-25035-01 Fig. 14 required for non-dial-tone-first senders

Note: Underscored figure and options are conditionally required — see SD drawing.

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE</u>	<u>FIG.</u> <u>(Note)</u>	<u>OPTIONS</u> <u>(Note)</u>
No. 1 CROSSBAR (Contd)				
Vacant Code Trk (Mfr Disc)	SD-25134-01	18D	G†	H, <u>S</u> , <u>ZA</u>
Vacant Code Trk (Mfr Disc)	SD-25467-01	10D	<u>B</u>	K, <u>M</u>
Perm. Sig. Holding Trk	SD-25418-01	24B		<u>ZN</u>
Perm. Sig. Holding Trk	SD-25126-01	18B	C	
Perm. Sig. Holding Trk (Mfr Disc)	SD-25425-01	11B	A	M
Coin Supv. Ckt.	SD-25061-01	29B	H, K†	E, <u>ZB</u>
Coin Supv. Ckt.	SD-25061-02	32B	D, Q, S†	W, <u>ZS</u> , <u>ZT</u> , <u>ZU</u>
Coin Supv. Ckt.	SD-25444-01	19B	F†	<u>ZK</u>
Coin Sup. Conc. Ckt.	SD-27153-01	6A		E, H
Coin Sup. Overtime Mon. Ckt.	SD-56000-01	9B		N remove M
Talking Battery Filter	SD-27899-01	2D	1	
Orig. Sdr. Test Ckt.	SD-25221-01	107B	17D	<u>NA</u> , <u>NB</u> , <u>NE</u> , <u>PX</u> , <u>49</u> , <u>PZ</u> , <u>QB</u> , <u>QD</u> , <u>QE</u> , <u>QF</u> , <u>50</u> , <u>SM</u> , <u>SN</u> , <u>YS</u> , <u>RMV B</u> , <u>SW</u> , <u>VS</u> or <u>VT</u>
District Junctor Test	SD-25158-01	65A	<u>AH</u> , <u>AI</u> , <u>AK</u>	<u>VF</u> , <u>WY</u> , <u>WZ</u>
ANI Trunk Test	SD-95889-01	22B		XL, YA, YF, YI, <u>YK</u> , YL, <u>YM</u> , <u>YN</u> , YO, <u>ZD</u> , <u>ZE</u> , <u>ZF</u> , <u>ZV</u> , <u>ZW</u> , <u>ZX</u> , <u>ZZ</u>
LAMA Trunk Test	SD-27587-01	8D		V, X
Outgoing Trunk Test Frame	SD-25177-01	72A		UG
Station Ringer Test	SD-96218-01	22D		<u>ZM</u>
Coin Zone Trunk Test	SD-96372-01	13D	F	F
Perm. Sig. Holding Trk	SD-55870-01	14B		<u>ZA</u>
Toll Link Ckt.	SD-55779-01	5B	<u>A</u> , <u>B</u> , C	<u>H</u> , K, <u>S</u>
Special Service Trk.	SD-56278-01	3AC	F, <u>G</u>	Q, R
Sender Make Busy Test	SD-21697-01	14B		M
Orig. Trouble Indicator	SD-25018-01	63B	48	

† The supply for coin collection and coin return must be CC+ and CR-, respectively.

Note: Underscored figures and options are conditionally required — see SD drawing.

CRAFTS MANUAL 2-3

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE</u>	<u>SD NOTE</u>	<u>OPTIONS‡</u> (Note)
STEP-BY-STEP				
Recording Completing Trk	SD-30953-01	4D	109	Fig. 3 & J, M, G* (N)
Recording Completing Trk	SD-31750-01	11D	110	Fig. 2 & S, T, W
Recording Completing Trk	SD-31888-01	13D	110	Fig. 2 & A, ZB, ZE ZC* (ZA)
Recording Completing Trk	SD-32042-01	15D	110 & 111	Fig. 6 & ZH
Recording Completing Trk	SD-32168-01	11D		G, J
Recording Completing Trk	SD-32300-01	4D	111	ZA, ZC, ZE, ZF* (ZD)
Recording Completing Trk	SD-32301-01	2D		J, M
Outgoing Trk to Operator	SD-31146-01	11D		H, K
Outgoing Trk to Operator	SD-31315-01	19D		ZT, ZW
Outgoing Trk to Operator	SD-31752-01	11D	115	Fig. 3, ZG, ZI, ZJ* (ZF)
2-Way Trk to Toll Office	SD-30900-01	10D		Fig. 2, ZL, ZN
2-Way Trk to Toll Office	SD-30901-01	11D		Fig. 2, W, ZA
2-Way Trk to Toll Office	SD-31747-01	21D	114	Fig. 2, ZM
2-Way Trk to Toll Office	SD-31775-01	23D	111	Fig. 2, W, ZR, ZV, ZW, ZT* (ZS)
2-Way Trk to Toll Office	SD-31874-01	11D		Fig. 2, ZF
2-Way Trk to Toll Office	SD-32340-01	4D		Fig. 2, V, ZF
ANI Trunk	SD-32344-01	13B		B, ZV, <u>ZU</u> , <u>ZW</u>
ANI Trunk	SD-32542-01	1		X
ANI Trunk	SD-35023-01	1		N
ANI Trunk	SD-35024-01	1		X
ANI Trunk	SD-32551-01	1		S, X, Z
Incoming Trunk	SD-31703-01	9D		Fig. F, N, K
Incoming Trunk	SD-31887-01	14D	107 & 109	Fig. C, 2A, ZE, ZI, ZH, ZK, ZL, ZO, ZS*
Toll Transmission Sel.	SD-30949-01	7D		Fig. D, ZA, ZE
Toll Transmission Sel.	SD-31723-01	24D		Fig. N, <u>ZA</u> , ZF, ZH, A
Toll Transmission Sel.	SD-31745-01	17D		ZL, ZN
Toll Transmission Sel.	SD-31841-01	22D	102	ZP, <u>ZK</u> , <u>ZL</u> , <u>ZO</u> , <u>ZQ</u> , <u>ZR</u> , <u>YG</u> , <u>YH</u> , <u>T</u> , <u>V</u>
Line Circuit	SD-31531-01	28D	111 & 303	Fig. 1, 2, <u>ZD</u> , <u>ZE</u> , <u>ZF</u>
Line Circuit	SD-31777-01	35D	107	Fig. 1, 2, X
Line Circuit	SD-32133-01	19D	110 & 305	Fig. 2, 9, 10, A, B, E
Line Finder	ES-30427-01	41D	126 & 303	Fig. 1A, 1B, 5A, 5B <u>ZD</u> , <u>ZE</u> , <u>ZF</u>
Primary Line Switch	SD-31644-01	28D		Q
Coin Control Trunk	SD-32288-01	5D		E
Coin Control Trunk	SD-32289-01	4D		Q
Coin Control Trunk	SD-32298-01	7D		ZD
Aux. Coin Trunk	SD-32538-01	1		Fig. 1

‡ Options followed by * are new units. Options enclosed with () are field modifications.

Note: Underscored figures and options are conditionally required — see SD drawing.

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE</u>	<u>SD NOTE</u>	<u>OPTIONS</u> (Note)
STEP-BY-STEP (Contd)				
Coin Trunk	SD-31592-02	30D		ZW, ZY
Aux. Line Ckt.	SD-32024-01	9D		W, T
Aux. Line Ckt.	SD-32166-01	7D	301	Fig. <u>1</u> , <u>2</u> , T
Aux. Line Ckt.	SD-95607-01	4D		T
Coin Connector	SD-33022-01	12D		ZD
Dial Long Line	SD-32053-01	29D	109 & 110	Fig. <u>A</u> , ZL, ZN, ZO, ZR
Misc. Alarm Ckt.	SD-31980-01	30B, 29D	119 & 122	Fig. 35, 36, YO, YH
Misc. Alarm Ckt.	SD-32193-01	7D		W
+48 Volt Battery Filter	SD-32537-01	2D		Fig. 1
Alarm Checking Term.	SD-31835-01	19D		Fig. 13, ZM
Rotary Line Circuit	SD-31259-01	23D		ZB
Misc. and Fuse Alarm Ckt.	SD-31209-01	43D	172 & 173	Fig. 8, 11
Misc. and Fuse Alarm Ckt.	SD-31558-01	34D		Fig. 21, PU9 & A9 Leads
Misc. and Fuse Alarm Ckt.	SD-31613-01	24D	125	Fig. 7, 8, N
Misc. and Fuse Alarm Ckt.	SD-31974-01	20D	110	Fig. 36, 37
Misc. and Fuse Alarm Ckt.	SD-32192-01	22D		Fig. 13A
Misc. and Fuse Alarm Ckt.	SD-31035-01	16D	108	Fig. 6, 16, 17
Common Timing Circuit	SD-31310-01	29D		Fig. 16, PU9 & A9 Leads
Common Timing Circuit	SD-30303-01	40D		Fig. 14, PU9 & A9 Leads
Trunk Test Line	SD-31636-01	14D	114	Fig. G, A
Coin Box Trunk Test Set	SD-31858-01	15D		ZH, ZK
Trunk Test Set	SD-90469-02	17D		ZH, ZK
ANI "B" Trunk Test Circuit	SD-32315-01	12D		<u>YA</u> , <u>YF</u> , <u>XE</u>
ANI "C" Test Circuit	SD-32379-01	11D		ZD
Conv. Trunk Circuit	SD-32326-01	7B		V
TOUCH-TONE Conv. Circuit	SD-32328-01	21B		Fig. 14 & 15, <u>ZU</u> , ZV, <u>ZT</u>
Conv. Test Circuit	SD-32329-01	8B		Fig. 4, Z
Conv. Test Circuit	SD-32330-01	10B, 12B		E, F
Orig. Reg. and Outpulsing Cont.	SD-32351-01	29D	102	Fig. 12, <u>13</u> , <u>YY</u> , <u>YX</u> , <u>YU</u> , <u>XF</u> , <u>XG</u> , <u>XH</u>
Register Trunk and Line	SD-32353-01	24D		ZI
Translator Conn. Decode	SD-32354-01	10D		R, S, T, V
Translator Circuit	SD-32355-01	13D	106	Fig. 8, M
Decoder Circuit	SD-32356-01	13D		Fig. 14, J
Manual Test Circuit	SD-32362-01	12D		Fig. 7, 8
Manual Test Set	SD-32363-01	8D	107	R, S
Trouble Ticketer	SD-32364-01	6D	102	W, <u>N</u>
Automatic Test	SD-32365-01	15D	102	Fig. 16, 17, 18, 19, <u>ZA</u> , <u>ZB</u> , <u>ZC</u> , ZJ
Aux. Trunk Circuit	SD-30806-01	5D	105 & 302	Fig. 4, 5, <u>Q</u> , <u>R</u> , V
Aux. Trunk Circuit	SD-32025-01	7D	106 & 302	Fig. 4, Q, <u>M</u> , <u>N</u> , R
Coin Box Trunk	SD-32539-01	1	102	Fig. 1, 2, <u>4</u> , 5, <u>7</u> , 8, <u>ZE</u>

Note: Underscored figures and options are conditionally required — see SD drawing.

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE</u>	<u>OPTIONS</u>
<u>SWITCHBOARDS</u>			
3CF — Recording Comp. Trunk	SD-55120-01	6B	B, G
3CF — Toll Switching Trunk	SD-55122-01	10A	G, J
3, 3C, 3CL — Toll Switch Trk.	SD-55341-01	27AC	ZW, ZY
3, 3C, 3CL — Toll Switch Trk.	SD-55352-01	13AC	ZB, ZD
3, 3C, 3CL — Recording Comp. Trunk	SD-55946-01	11AC	Fig. G, ZA
3, 3C, 3CL — Recording Comp. Trunk (Mfr Disc)	SD-56008-01	17D	ZB, ZD
1 — Toll Switch Trunk	SD-56204-01	9AC	ZE, ZG
3, 3C — Recording Comp. Trunk (Mfr. Disc)	SD-62441-01	31AC	ZN, ZS, ZU
1 — Recording Comp. Trunk	SD-62496-01	18B	ZF, ZH
3, 3C, 3CF, 3CL — Subs. Line Ckt.	SD-64502-01	14B	H, J
1 — Toll Switch Trunk	SD-64875-01	11B	ZB, ZD
13C, 13D, 14C, 14D, 15C, 15D — Special Service Trunk	SD-1B067-01	3B	Fig. 2
3C — Special Service Trunk (Mfr Disc)	SD-55183-01	8AC	Fig. G, H, J, Q

Note 1: Option H for coin only trunks.
Option ZB and ZE for coin — noncoin trunks.
Option ZI and ZJ for trunks — restricted ringback.

Note 2: Option N for coin only trunks.
Option Q and E for coin — noncoin trunks.

Note 3: Apparatus Fig. 3 and 4 and Option Q with multiwink coin control.
Apparatus Fig. 2 and Option R for inband coin control.
Apparatus Fig. 2 and Option R for coin only with inband coin control.

Note 4: Apparatus Fig. 3 and 6 with multiwink coin control.
Apparatus Fig. 2 and Option R for coin only with polar marginal coin control.
Apparatus Fig. 2 and 6 for coin and noncoin trunks with polar marginal coin control.

Note 5: Option YC and YD without coin overtime.
Apparatus Fig. 5 and Options YC and YE with coin overtime.

Note 6: Add Option ZC or remove Option ZE.

Note 7: Options ZZG, ZZH, ZZK, and ZVN where any registers are modified for DTF plus Options WG and ZZI where both loop start and ground start in some register groups or Options WG and ZZJ where separate loop start and ground start register groups are provided.

Note 8: Apparatus Fig. J and Options RO, TF, TI, TH, UF, UJ, and UZ plus Option TD if coin overtime is provided.

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE FOR DTF/OPTION</u>	<u>LATEST ISSUE (DATE)</u>
<u>No. 1 ESS</u>			
Outgoing Trk. Ckt. to Swbd. No. 3CL	SD-1A169-01	11B/M	11B(3-3-69)
Outgoing Trk. Ckt. To Swbd. No. 3CL in Distant Bldg. High-Low Supervision Rev. Batt. Ringback Coin Cont. on T & R	SD-1A169-05	1/§	2A(1-17-78)
Incoming Trk. Ckt. From Swbd. No. 3CL	SD-1A184-01	9B/§	9B(5-20-70)
Incoming Trk. Ckt. From Swbd. No. 3CL in Distant Bldg. Third Wire Coin Control Simplex Ringing Signal	SD-1A184-05	1/§	2D(2-11-77)
2-Way Trk Swbd. No. 3CL	SD-1A192-02	1/§	6B(10-12-73)
Swbd. No. 3CL In Distant Bldg. Reverse Batt. Supervision Inband Coin and Rering Signal	SD-1A192-05	1/§	2D(2-3-76)
Outgoing Trk. Ckt. to Crossbar Tandem Office or TSPS No. 1 Sys. High-Low & Reverse Batt. Supervision	SD-1A203-01	1/§	10B(6-27-77)
Outgoing Trk to X-BR Tandem or TSPS	SD-1A203-05	1/§	2B(6-14-76)
Outgoing Trk. Ckt. to Swbd. No. 3C or 3CL in the Same Bldg.	SD-1A223-01 SD-1A223-05	5B/T 1/§	7B(1-18-77) 1(4-29-77)
Incoming/Trk. Ckt. to Swbd. No. 3C or 3CL in the Same Bldg.	SD-1A224-01	6B/T	9B(2-5-76)
Incoming Trk. Ckt. from Swbd. No. 3C or 3CL in the Same Bldg.	SD-1A224-05	1/§	1(6-9-77)
2-Way Trk. Ckt. E&M Lead Supervision MF Pulsing 4-Wire Term. Set	SD-1A236-01	5B/X	9D(12-12-75)
2-Way Trk. Ckt. E&M Lead Supervision MF Pulsing	SD-1A252-01 SD-1A252-05	1/§ 1/§	7D(1-5-78) 2D(2-11-78)

§ No option designation. Wiring shown as strapping on frame or at master scanner.

CRAFTS MANUAL 2-3

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE FOR DTF/OPTION</u>	<u>LATEST ISSUE (DATE)</u>
<u>No. 1 ESS (Contd)</u>			
Outgoing Trk. Ckt. Coin Zone Dialing to Swbd. No. 3CL in Distant Bldg. Polar Double — Duplex Supervision	SD-1A254-01	4B/Y.	5B(9-7-71)
Outgoing Trk. Ckt. Local Coin Overtime and Stuck Coin to Swbd. No. 3CL in Distant Bldg.	SD-1A255-01	3B/Y	5B(10-5-72)
Incoming Trk. Ckt. E&M Leads Super- vision MF Pulsing	SD-1A312-01	1/§	2D(5-16-77)
Incoming Trk. Ckt. E&M Lead Supervision	SD-1A312-05	1/§	2D(2-11-77)
§ No option designation. Wiring shown as strapping on frame or at master scanner.			

<u>TITLE</u>	<u>CIRCUIT</u>	<u>ISSUE FOR DTF/OPTION</u>	<u>LATEST ISSUE (DATE)</u>
<u>No. 2 ESS</u>			
Two-Way Trk. Ckt. E&M Lead Supervision	SD-2H112-01	1/W, V	13B(10-26-76)
Two-Way Trk. Ckt. Swbd. No. 3CL in Distant Bldg. Reverse Batt. Supervision Inband Coin and Rering Signal	SD-2H110-02	1/W	1(3-23-78)
Outgoing Trk. Ckt. Local Coin Overtime and Stuck Coin to Swbd. No. 3CL in Distant Bldg.	SD-2H113-01	1/Y	3B
	SD-2H110-01	1/W	8B(11-21-78)
Outgoing Trk. Ckt. to Swbd. No. 3CL in Distant Bldg. High-Low Supervision Rev. Batt. Ringback Coin Control on T&R	SD-2H105-01	2A/Z, X	4D(6-10-75)
Outgoing Trk. Ckt. Coin Zone Dialing to Swbd. No. 3CL in Distant Bldg.	SD-2H151-01	1/Y	7B(12-31-75)
Outgoing Trk. Ckt. to X-BR Tandem CAMA or TSPS, SXS, CAMA, or TSPS No. 1 High-Low and Rev. Batt. Supervision	SD-2H144-01	5AC/S	6AR(2-27-75)

No. 3 ESS ¶

Dial-Tone-First Coin Line Circuit	SD-3H205-01	1	1
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RSS No. 10A ¶

Ground Start Applique Ckt.	FE108	1	2
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¶ Dial-tone-first option is provided per line applique.