Western Electric Co., Incorporated,
Equipment Engineering Branch, Hawthorne.

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Appendix 1
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METHOD OF OPERATION
LINE CIRCUIT-SUBSCRIBERS
Incoming Mechanical - Outgoing Manual Panel Machine Switching System.

This appendix cancels all circuit requirements, remarks and test notes shown on pages 3 and 4.

ENG: J.J.B.
MM

CHK'D: G.E.H.

APPROVED: E. R. COOKE
H.G.J.

Western Electric Company, Inc.,
Engineering Department,
New York.

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METHOD OF OPERATION
LINE CIRCUIT

Subscribers -- Incoming Mechanical -- Outgoing Manual -- Panel Machine Switching System.

This Method of Operation is prepared from drawing T-512030, Issue 1.

DEVELOPMENT

1. PURPOSE OF CIRCUIT

1.1 This circuit is used in a full mechanical office to permit a denied service subscriber to receive incoming calls and to originate calls through the zero or intercepting operator at the special "A" switchboard.

2. WORKING LIMITS

2.1 This circuit is used with machine switching "A" board cord circuits whose sleeves are connected to battery through a maximum resistance of 128 ohms.

2.2 The maximum external line loop resistance of regular non-coin subscriber's lines shall not exceed 1000 ohms.

2.3 The maximum external line loop resistance of coin lines shall not exceed 1000 ohms with earth potential not greater than 8 volts ±, or 750 ohms with earth potential above 8 volts and not greater than 18 volts ±.

2.4 Minimum external line leak 10,000 ohms.

2.5 Maximum resistance of (S) lead to final selector - 231 ohms.

OPERATION

3. PRINCIPAL FUNCTIONS

3.1 Allows a denied service subscriber to originate a call to the machine switching "A" board.

3.2 Permits inward calls by way of the final to the denied service subscriber.

3.3 Makes the sleeve of final selector busy on incoming and outgoing calls.

3.4 Arranged for P.B.X. and coin line traffic.

4. CONNECTING CIRCUITS

4.1 This line circuit functions with; coin or non-coin subscribers' lines, final selectors, and intercepting and zero operators' cord circuits.

DETAILED DESCRIPTION

5. CALL ORIGINATED BY SUBSCRIBER When the receiver is removed from the switchhook at the subscriber's station, the L relay operates, lighting the line lamp and operating the (L-1) relay. (On coin lines ("C" wiring) it is necessary to deposit a coin in order to operate the L relay). The (L-1) relay operated, connects battery through the 19-BF resistance to lead S, causing the sleeve terminal of the final multiple to test busy to hunting selectors. When the plug of the answering cord is inserted in the answering jack, the CO relay operates. The CO relay operated, releases the L relay and extinguishes the line lamp. The (L-1) relay locks to battery on the armature of the CO relay.

6. DISCONNECTION When the plug of the answering cord is withdrawn from the jack, the CO relay releases, thereby releasing the (L-1) relay. The release of the (L-1) relay disconnects the busy battery from the final sleeve, restoring the circuit to normal. The (L-1) relay is slow acting to prevent its release when the operation of the CO relay has opened the circuit through the L relay, and has not closed the locking circuit for the (L-1) relay.

7. INWARD CALL FROM FINAL MULTIPLE When this line is selected by a final selector on incoming calls, the CO relay operates, either by "A" or "B" wiring for P.B.X. or direct line conditions. The CO relay operated, disconnects the windings of the L relay, preventing the line lamp from lighting. The CO relay is held operated by the final selector. When released by the final selector the circuit is restored to normal.

CIRCUIT REQUIREMENTS

READJUST VALUES ARE FOR
MAINTENANCE PURPOSES ONLY

SEE TEST NOTE #51.

SEE SPECIFICATION X-70087 FOR EXPLANATION OF FORM.

See appendix

APPARATUS	SPEC.NO.	APPARATUS	SPEC.NO.	APPARATUS	SPEC.NO.

RELAYS		MECHANICAL REQ.				DIRECT CURRENT FLOW REQ.					CIRCUIT PREPARATION		TEST SEE		
CODE	DESIG.	SPEC. NUMBER	SKETCH NUMBER	CONT. PRESS.	ARM. TRVL	TEST WDG.	TEST FOR	AFTER SOAK	TEST AMPS.	READJ AMPS.	S.S. POS.	TEST CLIP DATA BLOCK	CONN.BAT.	CONN.GRD.	SET PREP	TEST NOTE	REMARKS
B267	(L)	X-70056	7	-	-	P	O		.013	.010		(CO)O		2-T(CO)	G	2	A
						P	R		.0046	.0049		(CO)O		2-T(CO)	G	2	B
B275	(L)	X-70056	7	-	-	P	O		.013	.010		(CO)O		2-T(CO)	G	2	A
						P	R		.0046	.0049		(CO)O		2-T(CO)	G	2	B
B267	(L)	X-70056	7	-	-	P	O		.0105	.010		(CO)O		2-T(CO)	G	3	C
						P	R		.0046	.0049		(CO)O		2-T(CO)	G	3	B
B275	(L)	X-70056	7	-	-	P	O		.0105	.010		(CO)O		2-T(CO)	G	3	C
						P	R		.0046	.0049		(CO)O		2-T(CO)	G	3	B
E1449	(L-1)	X-70037	3/1	20	.020		O		.034	.032			RL(L-1)		Bat.		
E1951	(CO)	X-70037	15/1	10	.015	P	O		.120	.058		(L-1)O	RU(CO)		Bat.		D
						S	O		.127	.095		(L-1)O	LL(CO)		Bat.		E
						S/T	O		.030	.025		(L-1)O	LU(CO)		Bat.		E
Spl. E D-76085	(CO)	X-70037	15/1	Spl.	.015	P	O		.039	.030		(L-1)O	RU(CO)		Bat.	4	D
						S	O		.127	.119		(L-1)O	LL(CO)		Bat.		E
						S/T	O		.030	.025		(L-1)O	LU(CO)		Bat.		E

TEST NOTES:

1. Test and Readjust only during periods of light traffic loads.
2. Req. for subscribers lines (non-coin).
3. Req. for subscribers lines (coin).
4. No definite contact pressure specified.

CIRCUIT REQUIREMENTS

READJUST VALUES ARE FOR
MAINTENANCE PURPOSES ONLY

RELAYS	MECHANICAL REQ.		DIRECT CURRENT FLOW REQ.						CIRCUIT PREPARATION			TEST SET	SEE TEST
CODE DESIG.	SPEC. NUMBER	SKETCH NUMBER	CONT. PRESS.	ARM. TRVL	TEST WDG.	TEST FOR	AFTER SOAK	TEST AMPS.	READJ AMPS.	S.S. POS.	TEST CLIP BLOCK CONN.	DATA BAT. CONN.	GRD. PREP	NOTE	REMARKS

REMARKS:

A. Max. external subscribers' line loop 1000 ohms.
B. Min. external line leak 10,000 ohms.
C. Max. external line loop 750 ohms earth potential 18±.
D. Max. external cord sleeve resistance - 128 ohms.
E. Max. resistance (S) lead to final selector - 231 ohms.

ENG:-RJH-RS.
3-26-23.

CHK'D.-ANB-CWP.

APPROVED - J. L. DOW, G.M.L.