

SAGE-AUTOVON ACCESS LINE TEST POSITION
IDENTIFICATION, INSTALLATION,
AND
CONNECTIONS

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pany premises and employs a 6-wire, voice-frequency channel patching bay (VFPB), a 16-button TOUCH-TONE dial key telephone set, and 4-wire central office line circuit equipment arranged to enable maintenance testing of AUTOVON access lines terminating in Dial Restoration Panels (DRP's) and small dial arrangements at Direction Centers, Long Range Radar Sites, and NORAD Control Centers. A description of the SAGE-AUTOVON Access Line Test Position is provided in Section 310-270-100.

1. GENERAL

- 1.01 This section provides information for the identification, installation, and connections of the SAGE-AUTOVON Access Line Test Position.
- 1.02 The SAGE-AUTOVON Access Line Test Position is installed on Telephone Com-

2. EQUIPMENT IDENTIFICATION

2.01 At a given location, the equipment which comprises the SAGE-AUTOVON Access Line Test Position depends on the number of 4-wire AUTOVON access lines for which test access is required. Table A shows the recommended equipment quantities based on the number of 4-wire access lines.

TABLE A
SAGE-AUTOVON ACCESS LINE TEST POSITION
RECOMMENDED EQUIPMENT

TEST POSITION EQUIPMENT	NUMBER OF 4-WIRE ACCESS LINES*			
	1 TO 72	73 TO 144	145 TO 216	217 TO 288
6-Wire VFPB	1 bay		2nd bay required	
TOUCH-TONE Telephone Set	1		Add 2nd tel set	
4-Wire C.O. Line Ckt	2	Add 3rd	Add 4th	Add 5th
Common Audible	1			Add 2nd
Tone Generator	1			

* Each 4-wire C.O. test line uses two jack circuits and therefore reduces the number of jack circuits available for AUTOVON access lines by that number. A 2-bay arrangement fully equipped would require 10 of the available 288 jack circuits to be used to terminate the five 4-wire C.O. test line circuits.

- 2.02 Table B provides identification by code and list number and brief descriptive information of the equipment units which comprise the SAGE-AUTOVON Access Line Test Position.

TABLE B
SAGE-AUTOVON ACCESS LINE TEST POSITION
EQUIPMENT IDENTIFICATION

CODE NO.	DESCRIPTION	QUANTITY
6-WIRE VOICE-FREQUENCY PATCH BAY EQUIPMENT		
J68832N()	6-Wire Voice-Frequency Channel Patching Bay Equipment	
List 1	Bay framework and common equipment for a 6-wire, voice-frequency channel patching bay 11 feet, 6 inches high.	1 per bay
List 3	Bay wiring and common equipment required in addition to List 1 for each bay equipped with a telephone set, piling rail, and battery supply circuit for a 2B trunk test set.	1 per bay
List 16	6-wire monitoring and patching jack equipment required in addition to Lists 1 and 3 for test access to the first 36 4-wire lines in the bay.	1 per bay
List 17	6-wire monitoring and patching jack equipment required in addition to List 16 for test access to the second 36 or fourth (last 36) 4-wire access lines in the bay.	as required
List 18	6-wire monitoring and patching jack equipment required in addition to Lists 16 and 17 for test access to the third 36 four-wire access lines in the bay.	as required
J68832L()	Jack, Key, and Lamp Panel for Telephone Trunk and Transmission Measuring Equipment	
List 6	Assembly, wiring, and common equipment for one jack, key, and lamp panel for telephone set trunks for 24- or 48-volt operation.	1 per bay
List 4	Equipment required in addition to List 6 for lamps in office with 24-volt battery.	1 per panel
List 9	Wiring and equipment required in addition to List 6 when connection to transmission measuring is not required.	1 per panel
List 14	Equipment required in addition to List 6 for each trunk jack and lamp having only one appearance (maximum 8 per panel) for 24-volt battery.	1 per panel
J68832B()	Monitor and Talk Panel	
List 1	Assembly, wiring, and equipment for one monitor and talk panel with rear cover for duct-type framework. This panel contains a single-stage, voice-frequency amplifier for monitoring telephone circuits. This panel is associated with a piling rail per J68832L.	1 per bay

TABLE B (Cont)

CODE NO.	DESCRIPTION	QUANTITY																																				
J68832P()	Spare Signal and Test Jack Filter and Resistance Lamp Equipment Unit																																					
List 1	Assembly and common equipment for one spare signal and test jack panel.	1 per bay																																				
List 4	Assembly, wiring, and common equipment required with List 1 for one spare signal and test filter and resistance lamp panel.	1 per panel																																				
List 6	Equipment required in addition to List 4 when cover and forming strips are required for each panel mounted on duct-type framework.	1 per panel																																				
J68832J()	Busy Test Auxiliary Signal, 1000-Cycle Supply, Milliwatt Distribution, Milliwatt Sending Pad and Terminal Strip Equipment Panel for Use in Voice-Frequency Patch Bay																																					
List 1	Assembly, wiring, and equipment for one miscellaneous equipment panel.	1 per bay																																				
List 2	Wiring and equipment for one auxiliary signal circuit.	1 per panel																																				
List 7	Wiring and equipment required in addition to List 1 for ringing tone suppression for each ringing supply connection to a monitor and talk key and jack panel for 24-volt office battery.	1 per panel																																				
List 9	Wiring and equipment required in addition to List 1 when a -16 db send level is required for transmission measuring.	1 per panel																																				
List 14	Wiring and equipment required in addition to List 1 for one busy test circuit.	1 per panel																																				
List 15	Required in addition to List 1 in all cases. Milliwatt supply and distribution.	1 per panel																																				
<p>The following optional equipment should be reviewed and ordered as required for each installation. These include such items as battery supply options, hardening for 3g shock, connections to existing transmission and noise measuring systems, patching and multiple trunks, and miscellaneous items.</p> <table> <tbody> <tr> <td>J68832B()</td> <td>J68832L()</td> <td>J68832N()</td> </tr> <tr> <td>List 4</td> <td>List 3</td> <td>List 11</td> </tr> <tr> <td>List 5</td> <td>List 5</td> <td></td> </tr> <tr> <td>List 6</td> <td>List 7</td> <td></td> </tr> <tr> <td></td> <td>List 8</td> <td>J68832F()</td> </tr> <tr> <td>J68832J()</td> <td>List 11</td> <td>List 8</td> </tr> <tr> <td>List 4</td> <td>List 13</td> <td>List 9</td> </tr> <tr> <td>List 6</td> <td>List 15</td> <td>List 10</td> </tr> <tr> <td>List 10</td> <td>List 16</td> <td></td> </tr> <tr> <td>List 11</td> <td>List 17</td> <td></td> </tr> <tr> <td>List 13</td> <td>List 19</td> <td></td> </tr> <tr> <td></td> <td>List 24</td> <td></td> </tr> </tbody> </table>			J68832B()	J68832L()	J68832N()	List 4	List 3	List 11	List 5	List 5		List 6	List 7			List 8	J68832F()	J68832J()	List 11	List 8	List 4	List 13	List 9	List 6	List 15	List 10	List 10	List 16		List 11	List 17		List 13	List 19			List 24	
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List 10	List 16																																					
List 11	List 17																																					
List 13	List 19																																					
	List 24																																					

TABLE B (Cont)

CODE NO.	DESCRIPTION	QUANTITY
4-WIRE CENTRAL OFFICE LINE CIRCUIT EQUIPMENT		
J53041A() List 1 List 2 List 3	4-Wire Central Office Line Unit – E and M Lead Signaling Assembly, wiring, and equipment for one 4-wire central office line unit. Provides all features required for first telephone set on line except interrupter. Apparatus and wiring mounted on a 4- by 23-inch mounting plate. Equipment and wiring required in addition to List 1 for one additional station set line pickup (adds second pickup to List 1 mounting plate). One KS-19825, List 1 Interrupter (plug-in unit) in addition to List 1. Provides proper interruptions of the visual and audible signals. Mounts on a List 1 mounting plate.	Per Table A 1 per line circuit when second telephone set is added 1 per line ckt
J53041B List 1 List 2 404F 3568HT-60	Line Pickup and Common Audible Equipment Unit Assembly, wiring, and equipment for two station set line pickups mounted on a 2- by 23-inch mounting plate. <i>Note:</i> Additional line pickups are not used, but unit provides essential wiring and mounting for the common audible feature. Equipment and wiring required in addition to List 1 for one common audible ringing supply (maximum of two List 2 units mounted on a List 1 panel). Tone Generator – Wiring and apparatus arranged to provide precise audible ringing tones. Unit contained on a 2- by 23-inch mounting plate. Telephone Set – Desk Type – Equipped with a 16-button TOUCH-TONE dial and a 6-button line key arrangement to provide one hold and five line pickup or signal keys. The telephone set circuits are terminated in a D50W plug ended cord.	1 per test position 1 serves up to four 4-wire central office line ckts Add second for fifth 4-wire central office line ckt 1 per test installation 1 per patch bay
MISCELLANEOUS EQUIPMENT		
3P6D	Patching Cord – 3-conductor, 6 feet in length, slate colored cord terminated at each end in a 310 plug.	3 per 4-wire central office line ckt

TABLE B (Cont)

CODE NO.	DESCRIPTION	QUANTITY
6P1A	Patching Cord – 6-conductor, 6 feet in length, slate colored cord terminated at each end in a 425A plug.	2 per 4-wire central office line ckt
KS-16690, List 1	Connector – 50-pin connector plug. Mates with connector jack supplied on D50W cord of the 3568HT-60 key telephone set.	1 per key telephone set
89-Type Resistor	Plug-in Resistors – 89CA, 89BL, 89AE – Required for 1C pad sockets on J53041A, List 1, 4-wire central office line circuit units.	1 of each per 4-wire central office line ckt

3. INSTALLATION

3.01 Fig. 1 is an equipment oriented block diagram of the SAGE-AUTOVON Access Line Test Position illustrating connecting wiring and cable runs.

6-Wire VFPB

3.02 At a given SAGE-AUTOVON location, the J68832N() 6-wire, voice-frequency patching bay or bays should be installed in the Telephone Company Equipment Building in the same general area with other patching bays and test-boards. The 6-wire patching and monitoring jacks are intermediate distribution frame (IDF) terminated and cross connected to SAGE-AUTOVON access lines and access line test circuits as required.

3.03 The desk-type 3568HT-60 telephone set is normally placed on the writing shelf of the 6-wire VFPB. The telephone set is terminated in a D50W plug ended cord. This mates with the KS-16690, List 1 connector at the VFPB

4-Wire Central Office Line Circuit Equipment

3.04 The J53041A() 4-wire central office line circuit equipment units and the J53041B() common audible circuit units may be mounted on a 23-inch miscellaneous bay or in an equipment cabinet. For convenience of wiring, it is recommended that the 4-wire central office line circuit units be grouped first, second, third, etc., followed by the common audible unit.

3.05 The J53041A, List 1, 4-wire central office line circuit unit includes three transistorized plug-in circuit packs CP1, CP2, and CP3. These circuit packs are packaged separately by the factory and must be plugged into the appropriate connectors on the J53041A, List 1 unit at time of installation. The J53041A, List 1 unit has 3 connectors (910A) and guides for installing the circuit packs. The connectors are stenciled on the front of the unit CP1, CP2, and CP3 from left to right. The plug-in circuit packs have no stenciled identification. They may be identified as follows:

CP1 — no potentiometers

CP2 — two potentiometers

CP3 — one potentiometer

Circuit packs CP1 and CP2 are a pair and must carry the same serial numbers which are stenciled on the right-hand corner of the circuit packs. These circuit packs are paired by the factory for adjustment and the pairing must be maintained. All power should be removed from the J53041A, 4-wire central office line circuit unit before placing the circuit packs into their respective connectors. Care should be exercised in handling the circuit packs to ensure that the adjustable potentiometers are not disturbed.

3.06 At time of installation, a check should be made to ensure that the 1C pad sockets located on the back of the 4-wire central office line circuit unit are equipped with the correct 89-type

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plug-in resistors. For this installation, the pads should be equipped as follows:

PAD	PLUG-IN RESISTOR	LOSS
T	89CA	20 db
RA	89BL	15 db
RB	89AE	6 db

Tone Generator

3.07 The 404F tone generator unit may be installed in the same area as the line circuit equipment or in another convenient location with its output cabled to the 4-wire central office line circuit units.

3.08 Wire, cable, and other equipment needed for connecting the test position equipment must be provided as required. Generally, 24 gauge wire should be used. Wire wrap connections should be used where practicable. Wiring and cabling should be made in accordance with standard Bell System Practices. Connection tables for the test position installation are provided in Part 4 of this section.

3.09 All equipment units, circuits, etc., which make up the installation should be identified by stamping, stenciling, or other appropriate means.

4. CONNECTIONS

4.01 The 6-wire, voice-frequency patch bay test equipment units shall be connected in accordance with the standard drawings, depending on requirements at a given location.

4.02 The 6-wire patching and monitoring jacks are IDF terminated and cross connected to the AUTOVON access lines as shown in Table C and to access line test circuits as shown in Table F and Fig. 2. Fig. 2 also illustrates the patching required to connect the test access circuit to the AUTOVON access line. As shown in Fig. 2, the 4-wire central office line circuit is connected via the IDF to two 6-wire patching jacks in tandem. This arrangement permits the test access line to be patched to an AUTOVON access line and test equipment to be inserted while the test access patch is up.

TABLE C
CONNECTIONS FOR 6-WIRE PATCHING AND MONITORING JACKS,
VIA IDF, TO ACCESS LINE

CROSS CONNECT VIA IDF TO ACCESS LINE		
FROM JACK DESIGNATION	LEAD	TO ACCESS LINE EQPT
DEM OUT	T1, R1	From AUTOVON switch
EQ IN	T1, R1	Toward OPERATIONS bldg
MOD IN	T, R	Toward AUTOVON switch
EQ, OUT	T, R	From OPERATIONS bldg
SIG L	E, M	Toward AUTOVON switch
SIG(EQ)	E, M	From OPERATIONS bldg

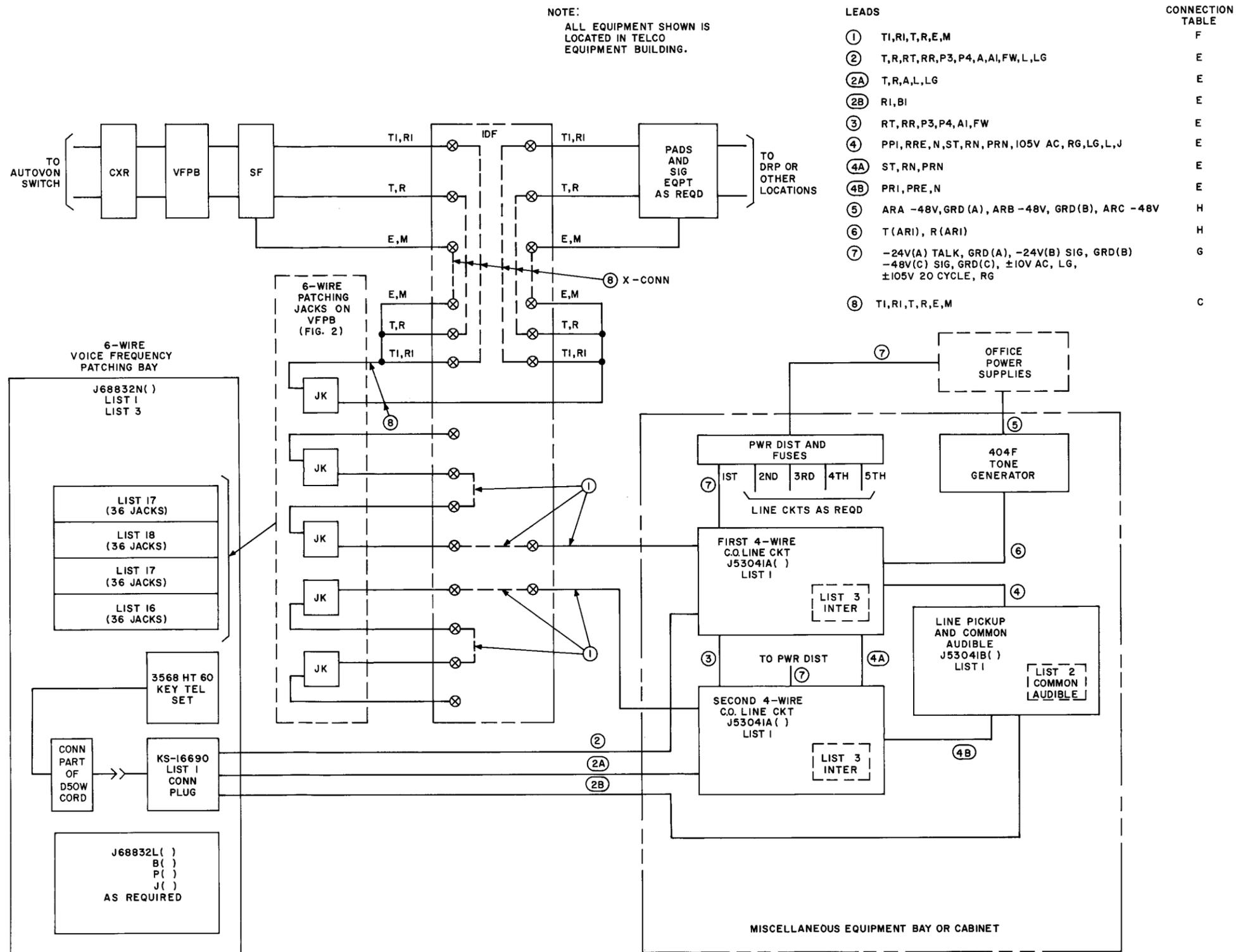


Fig. 1 — SAGE-AUTOVON Access Line Test Position

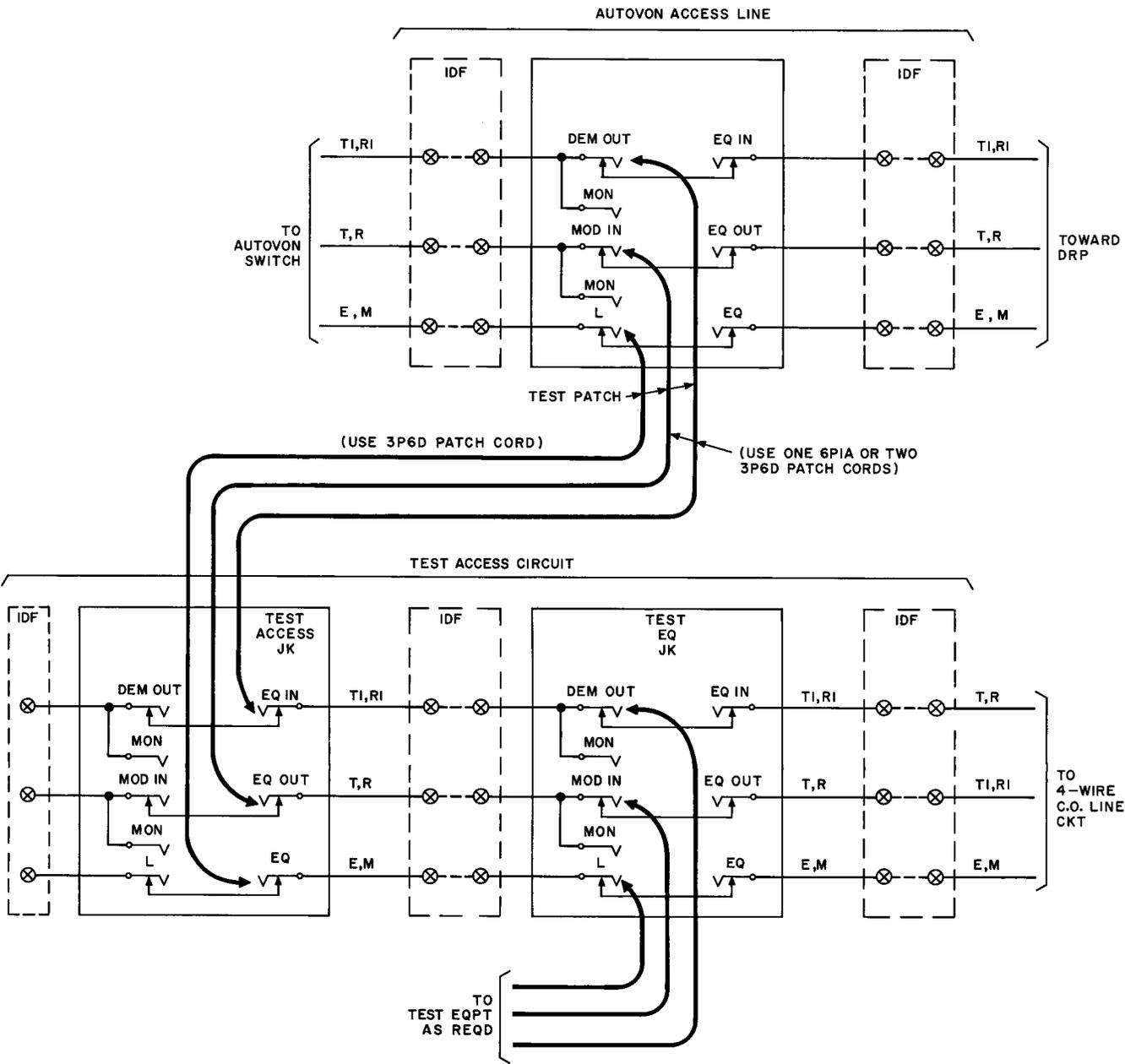


Fig. 2 — SAGE-AUTOVON Access Line Test Position Patching Arrangements with the 4-Wire Central Office Line Circuit Connected to Two 6-Wire Patching Jacks in Tandem

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4.03 The connection tables D through J provide connecting information for either a minimum installation consisting of two 4-wire central office line circuit units and one key telephone set, or any combination of up to five 4-wire central office line circuits and two key telephone sets. The tables are applicable as follows:

TO CONNECT	USE TABLES
Two 4-wire central office line circuits and one key telephone set	D, E, F, G, H
3rd, 4th, and 5th 4-wire central office line circuit units	D, I, F, G, H
Line circuit units 1 through 5 to 2nd telephone set	D, J

TABLE D
STRAPPING FOR EACH 4-WIRE CENTRAL OFFICE LINE CIRCUIT UNIT

STRAP			
FROM		TO	
TERM NO.	LEAD	TERM NO.	LEAD
TS(A) 57	T	TS(A) 56	TT
TS(A) 47	R	TS(A) 46	RR
TS(A) 37	T1	TS(A) 36	TT1
TS(A) 27	R1	TS(A) 26	RR1
TS(A) 54	RTS	TS(A) 44	RTS
Additional straps below required when second telephone set is used.			
TS(C) 58	T	TS(C) 48	A
TS(C) 57	R	TS(C) 47	C
TS(C) 46	—	TS(C) 36	E
TS(C) 45	—	TS(C) 35	G
TS(C) 21	L	TS(C) 31	L

TABLE E
CONNECTIONS FOR TWO 4-WIRE CENTRAL OFFICE LINE CIRCUIT UNITS TO FIRST TELEPHONE SET AND FIRST COMMON AUDIBLE

CONNECT ②*			CONNECT ④*			CONNECT ③* ④A*		
FROM 1ST 4-WIRE C.O. LINE CKT UNIT		TO 1ST KS-16690, L1 CONN ON VFPB	FROM 1ST 4-WIRE C.O. LINE CKT UNIT		TO COMMON AUDIBLE UNIT	FROM 2ND 4-WIRE C.O. LINE CKT UNIT		TO 1ST 4-WIRE C.O. LINE CKT UNIT
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(B) 58	T	26	TS(D) 35	PR1	TS(G) 13	TS(B) 38	RT	TS(B) 38
TS(B) 48	R	1	TS(D) 25	PRE	TS(G) 52	TS(B) 28	RR	TS(B) 28
TS(B) 38	RT	44	TS(D) 15	N	TS(G) 42	TS(B) 56	P3	TS(B) 56
TS(B) 28	RR	19	TS(D) 18	ST	TS(G) 32	TS(B) 18	P4	TS(B) 18
TS(B) 56	P3	47	TS(D) 17	RN	TS(G) 22	TS(B) 36	A1	TS(B) 36
TS(B) 18	P4	22	TS(D) 25	PRN	TS(G) 12	TS(B) 37	FW	TS(B) 37
TS(B) 47	A	27	TS(A) 11	105VAC	TS(G) 11	TS(D) 18	ST	TS(D) 18
TS(B) 36	A1	2	TS(A) 31	RG	TS(G) 21	TS(D) 17	RN	TS(D) 17
TS(B) 37	FW	5	TS(B) 23	LG	TS(G) 41	TS(D) 25	PRN	TS(D) 25
TS(B) 45	L	3	TS(C) 21	L	TS(E) 21			
TS(B) 55	LG	28	TS(C) 33	J	TS(E) 33			

* Numbers in circles indicate numbered wiring paths illustrated in Fig. 1.

TABLE E (Cont)

CONNECT (2A) *			CONNECT (4B) *			CONNECT (2B) *		
FROM 2ND 4-WIRE C.O. LINE CKT UNIT		TO 1ST KS-16690, L1 CONN ON VFPB	FROM 2ND 4-WIRE C.O. LINE CKT UNIT		TO COMMON AUDIBLE UNIT	FROM 1ST COMMON AUDIBLE UNIT		TO 1ST KS-16690, L1 CONN ON VFPB
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(B) 58	T	29	TS(D) 35	PR1	TS(G) 43	TS(G) 51	R1	20
TS(B) 48	R	4	TS(D) 25	PRE	TS(G) 33	TS(G) 31	B1	45
TS(B) 47	A	30	TS(D) 15	N	TS(G) 23			
TS(B) 45	L	6						
TS(B) 55	LG	31						

* Numbers in circles indicate numbered wiring paths illustrated in Fig. 1.

TABLE F

CONNECTIONS FOR 4-WIRE CENTRAL OFFICE LINE CIRCUIT UNIT,
IDF TERMINATED, AND CROSS CONNECTED TO TWO TEST ACCESS 6-WIRE JACKS
IN TANDEM

CONNECT			CROSS CONNECT AT IDF		
FROM EACH 4-WIRE C.O. LINE CKT UNIT		TO IDF	FROM EACH IDF TERMINATED 4-WIRE C.O. LINE CKT	TO 1ST OF TWO ASSOCIATED 6-WIRE JACKS ON VFPB	
TERM NO.	LEAD		LEAD	JACK DESIGNATION	LEAD
TS(A) 58	T	↑ IDF Terminals ↓	T	EQ IN	T1
TS(A) 48	R		R		R1
TS(A) 38	T1		T1	EQ OUT	T
TS(A) 28	R1		R1		R
TS(A) 34	E		E	SIG EQ	E
TS(A) 24	M		M		M

TABLE F (Cont)

CROSS CONNECT AT IDF		
FROM 1ST OF TWO ASSOCIATED 6-WIRE JACKS ON VFPB		TO 2ND OF TWO ASSOCIATED 6-WIRE JACKS ON VFPB
JACK DESIGNATION	LEAD	JACK DESIGNATION
DEM OUT	T1	EQ IN
	R1	
MOD IN	T	EQ OUT
	R	
(SIG) L	E	(SIG) EQ
	M	

TABLE G

POWER CONNECTIONS TO
EACH LINE CIRCUIT UNIT

FROM OFFICE POWER SUPPLIES DISTRIBUTION BUS		TO EACH LINE CIRCUIT UNIT
LEAD	FUSE (AMP)	TERM NO.
-24V(A) TALK	3/4	TS(B) 51
GRD(A)		TS(B) 53
-24V(B) SIG	3/4	TS(B) 41
GRD(B)		TS(B) 43
-48V(C) SIG	3/4	TS(B) 11
GRD(C)		TS(B) 33
±10V AC LAMP	1	TS(B) 22
LG		TS(B) 23
±105V, 20-cycle ringing	1/2	TS(A) 11
RG		TS(A) 31

TABLE H

CONNECTIONS FOR 404F TONE GENERATOR
TO POWER SUPPLY AND
4-WIRE LINE CIRCUIT UNIT

CONNECT			
FROM CONNECTOR JACK KS-14528, L2		TO OFFICE POWER SUPPLY DIST BUS	TO 1ST LINE CKT UNIT (See Note 2)
TERM NO.	LEAD	FUSE (AMP)	TERM NO.
A	ARA -48V	1 1/2	—
C	GRD A		—
H	ARB -48V	1 1/3	—
F	GRD B		—
B	ARC -48V	1 1/3	—
D	T(AR1)		TS(A) 42
E	R(AR1)		TS(A) 52

Note 1: The 404F tone generator power input and signal output circuits are terminated in a KS-14527, List 1 connector plug mounted on the unit. A mating KS-14528, List 2 connector jack is furnished with the unit.

Note 2: For tone to second, third, fourth, and fifth 4-wire, central office line circuit units, multiple T(AR) and R(AR) leads from terminal TS(A) 42 and terminal TS(A) 52, respectively, on second to first and third to second, etc., as required.

TABLE I
CONNECTIONS FOR THIRD, FOURTH, AND FIFTH
4-WIRE CENTRAL OFFICE LINE CIRCUIT UNITS
TO FIRST TELEPHONE SET CONNECTOR AND
FIRST COMMON AUDIBLE

THIRD LINE CKT								
CONNECT			CONNECT			CONNECT		
FROM 3RD LINE CKT	TO 1ST KEY TEL SET CONNECTOR		FROM 3RD LINE CKT	TO 2ND LINE CKT		FROM 3RD LINE CKT	TO 1ST COMMON AUDIBLE	
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(B) 58	T	32	TS(B) 38	RT	TS(B) 38	TS(D) 35	PR1	TS(G) 24
TS(B) 48	R	7	TS(B) 28	RR	TS(B) 28	TS(D) 25	PRE	TS(G) 14
TS(B) 47	A	33	TS(B) 56	P3	TS(B) 56	TS(D) 15	N	TS(G) 53
TS(B) 45	L	9	TS(B) 18	P4	TS(B) 18			
TS(B) 55	LG	34	TS(B) 36	A1	TS(B) 36			
			TS(B) 37	FW	TS(B) 37			
			TS(D) 18	ST	TS(D) 18			
			TS(D) 17	RN	TS(D) 17			
			TS(D) 25	PRN	TS(D) 25			
FOURTH LINE CKT								
CONNECT			CONNECT			CONNECT		
FROM 4TH LINE CKT	TO 1ST KEY TEL SET CONNECTOR		FROM 4TH LINE CKT	TO 3RD LINE CKT		FROM 4TH LINE CKT	TO 1ST COMMON AUDIBLE	
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(B) 58	T	35	TS(B) 38	RT	TS(B) 38	TS(D) 35	PR1	TS(G) 54
TS(B) 48	R	10	TS(B) 28	RR	TS(B) 28	TS(D) 25	PRE	TS(G) 44
TS(B) 47	A	36	TS(B) 56	P3	TS(B) 56	TS(D) 15	N	TS(G) 34
TS(B) 45	L	12	TS(B) 18	P4	TS(B) 18			
TS(B) 55	LG	37	TS(B) 36	A1	TS(B) 36			
			TS(B) 37	FW	TS(B) 37			
			TS(D) 18	ST	TS(D) 18			
			TS(D) 17	RN	TS(D) 17			
			TS(D) 25	PRN	TS(D) 25			

TABLE I (Cont)

FIFTH LINE CKT								
CONNECT			CONNECT			CONNECT		
FROM 5TH LINE CKT	TO 1ST KEY TEL SET CONNECTOR		FROM 5TH LINE CKT	TO 4TH LINE CKT		FROM 5TH LINE CKT	TO 2ND COMMON AUDIBLE	
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(B) 58	T	38	TS(B) 38	RT	TS(B) 38	TS(D) 35	PR1	TS(G) 17
TS(B) 48	R	13	TS(B) 28	RR	TS(B) 28	TS(D) 25	PRE	TS(G) 56
TS(B) 47	A	39	TS(B) 56	P3	TS(B) 56	TS(D) 15	N	TS(G) 46
TS(B) 45	L	15	TS(B) 18	P4	TS(B) 18			
TS(B) 55	LG	40	TS(B) 36	A1	TS(B) 36			
			TS(B) 37	FW	TS(B) 37			
			TS(D) 18	ST	TS(D) 18			
			TS(D) 17	RN	TS(D) 17			
			TS(D) 25	PRN	TS(D) 25			

TABLE J

CONNECTIONS FOR 4-WIRE CENTRAL OFFICE LINE CIRCUITS
1 THROUGH 5 TO SECOND TELEPHONE SET CONNECTOR

FIRST LINE CKT			SECOND LINE CKT					
CONNECT			CONNECT			CONNECT		
FROM 1ST LINE CKT	TO 2ND KEY TEL SET CONNECTOR		FROM 2ND LINE CKT	TO 1ST LINE CKT		FROM 2ND LINE CKT	TO 2ND KEY TEL SET CONNECTOR	
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(C) 58	T	26	TS(C) 56	RT	TS(C) 56	TS(C) 58	T	29
TS(C) 57	R	1	TS(C) 55	RR	TS(C) 55	TS(C) 57	R	4
TS(C) 56	RT	44	TS(C) 33	P3	TS(C) 33	TS(C) 34	A	30
TS(C) 55	RR	19	TS(C) 54	P4	TS(C) 54	TS(B) 45	L	6
TS(C) 33	P3	47	TS(C) 13	A1	TS(C) 13	TS(B) 55	LG	31
TS(C) 54	P4	22	TS(C) 24	FW	TS(C) 24			
TS(C) 34	A	27						
TS(C) 13	A1	2						
TS(C) 24	FW	5						
TS(B) 45	L	3						
TS(B) 55	L6	28						

TABLE J (Cont)

THIRD LINE CKT					
CONNECT			CONNECT		
FROM 3RD LINE CKT		TO 2ND LINE CKT	FROM 3RD LINE CKT		TO 2ND KEY TEL SET CONNECTOR
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(C) 56	RT	TS(C) 56	TS(C) 58	T	32
TS(C) 55	RR	TS(C) 55	TS(C) 57	R	7
TS(C) 33	P3	TS(C) 33	TS(C) 34	A	33
TS(C) 54	P4	TS(C) 54	TS(B) 45	L	9
TS(C) 13	A1	TS(C) 13	TS(B) 55	LG	34
TS(C) 24	FW	TS(C) 24			
FOURTH LINE CKT					
CONNECT			CONNECT		
FROM 4TH LINE CKT		TO 3RD LINE CKT	FROM 4TH LINE CKT		TO 2ND KEY TEL SET CONNECTOR
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(C) 56	RT	TS(C) 56	TS(C) 58	T	35
TS(C) 55	RR	TS(C) 55	TS(C) 57	R	10
TS(C) 33	P3	TS(C) 33	TS(C) 34	A	36
TS(C) 54	P4	TS(C) 54	TS(B) 45	L	12
TS(C) 13	A1	TS(C) 13	TS(B) 55	LG	37
TS(C) 24	FW	TS(C) 24			
FIFTH LINE CKT					
CONNECT			CONNECT		
FROM 5TH LINE CKT		TO 4TH LINE CKT	FROM 5TH LINE CKT		TO 2ND KEY TEL SET CONNECTOR
TERM NO.	LEAD	TERM NO.	TERM NO.	LEAD	TERM NO.
TS(C) 56	RT	TS(C) 56	TS(C) 58	T	38
TS(C) 55	RR	TS(C) 55	TS(C) 57	R	13
TS(C) 33	P3	TS(C) 33	TS(C) 34	A	39
TS(C) 54	P4	TS(C) 54	TS(B) 45	L	15
TS(C) 13	A1	TS(C) 13	TS(B) 55	LG	40
TS(C) 24	FW	TS(C) 24			

SECTION 310-270-200

5. TESTS

5.01 After installation is completed, each access line test circuit should be patched to an available AUTOVON access line and tested in accordance with Section 480-716-501. The applicable tests are:

- Test A. Routine Outgoing Call
- Test B. Routine Incoming Call
- Test C. Precedence Call — Incoming
- Test D. Preemption Followed by Incoming Precedence Call
- Test I. Precedence and Preemption Timing Circuit Tests and Adjustment

5.02 Tests of the TOUCH-TONE dial, including precedence keying, may be performed by dialing a preselected number which connects the line to a TOUCH-TONE keying and ringing test circuit at the AUTOVON switch.

6. REFERENCES (NOT ATTACHED)

6.01 The following drawings and BSP's provide additional information on equipment used in the SAGE-AUTOVON Access Line Test Position.

SD-69543-01 — Switching System No. 309 — 4-Wire Central Office Line Circuit

SD-81838-01 — Signaling Circuit Audible Ring Tone Generator

SD-69539-01 — Key and Telephone Circuit for 2- and 4-Wire Lines Arranged for TOUCH-TONE Calling 3568-Type Telephone Set

SD-59329-01 — 6-Wire Voice-Frequency Channel Patching Bay Equipment

Section SAGE-AUTOVON Access Line 310-270-100 — Test Position Description

Section Switching System No. 309 981-210-100 — (AUTOVON) General Description

Section Switching System No. 309 In- 480-716-501 — Service Operational Tests

Section Switching System No. 309 Identification and Installation 480-716-200 —

Section Telephone Set 3568-Type Identification, Installation and Maintenance 502-532-110 —

Section Telephone Set 3568-Type Connections 502-532-440 —