

VOICE CONNECTING ARRANGEMENT CDA INTERCONNECTING SERVICE UNIT F-58003 AND ASSOCIATED F-58004 KTU AND F-58015 CONSOLE

1. GENERAL

1.01 This section provides identification, installation, operation, maintenance, and connection information for Voice Connecting Arrangement CDA used to terminate a line from a customer-provided (CP) PBX to the telecommunications network.

1.02 Information in this section was formerly contained in Section 463-300-101 which is hereby canceled.

1.03 The customer must be informed by the manufacturer or supplier of the equipment of the proper use and operation of Voice Connecting Arrangement CDA with his equipment.

1.04 If the customer wants a copy of the Technical Reference which covers this interface specification, the customer should contact the local Telephone Company Business Office or the Marketing Representative.

2. IDENTIFICATION

(a) *Purpose*

● The F-58003 Interconnecting Service Unit (ISU) (Fig. 1 and 2), equipped with a number of F-58004 Key Telephone Units (KTUs) equal to the number of central office lines required, and the associated F-58015 console (Fig. 3) provides 2-wire manual access between Bell System Lines and a CP manual PBX arranged for supervision. Fig. 4 shows a typical arrangement for up to five Voice Connecting Arrangements CDA, Fig. 5 shows a typical arrangement of the maximum of 17 Voice Connecting Arrangements CDA.

● The arrangement limits excessive levels from customer-provided equipment and provides protection for personnel and equipment against hazardous voltages.

(b) *Ordering Guide*

● Unit, Service, Interconnecting, F-58003 (one per five CO lines)

● Unit, Key Telephone, F-58004 (one per CO line)

● Console, F-58015 (equipped with one 599A and one 598A key)

Note: First production models were supplied in light beige -60 only. Later production models are supplied in moss green -52, white -58, light beige -60, and light gray -61.

● Block, Connecting, 66M1-50

● Block, Connecting, 66B3-50

● Cord, Power

P-40J326 (1-1/2 ft)

P-40J327 (2 ft)

P-40J328 (4 ft)

P-40J329 (6 ft)

P-40J099 (12 ft)

Replaceable Components (Console and ISU)

● Unit, Power, 28A1

● Cover, P-44C515

● Key, 598A

● Key, 599A

● Dial, 8C

(c) **Design Features**

Interconnecting Service Unit

- Approximate dimensions are 16-1/2 inches high, 13-1/2 inches wide, and 10-1/2 inches deep (Fig. 2).
- Consists of three receptacles which house five 913A connectors into which five F-58004 KTUs can be plugged (Fig. 1).
- A 28A1 plug-in type power unit that supplies negative 24 volts battery and ground (Fig. 1).
- Components are mounted on a 31B apparatus mounting which is mounted on a 177-type backboard (A569329).

Console

- The F-58015 console is supplied with one 599A key, one 598A key, and one 105B apparatus blank. If the 105B apparatus blank is replaced by a 598A key, the console will provide a maximum of 17 pickup buttons and one release button.

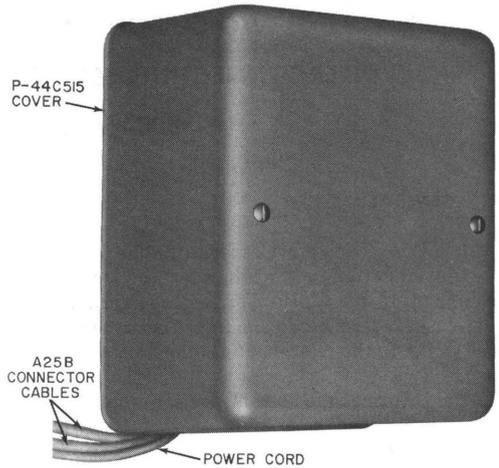


Fig. 2—F-58003 Interconnecting Service Unit (With Cover)

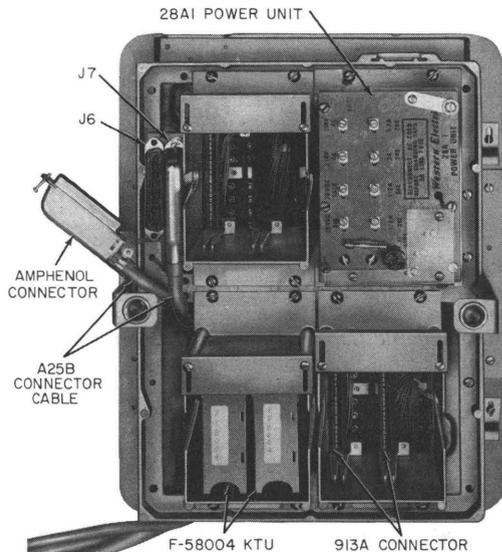


Fig. 1—F-58003 Interconnecting Service Unit (Cover Removed)

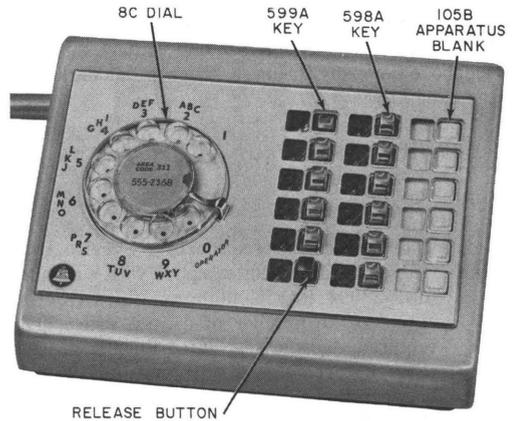


Fig. 3—F58015 Console

3. INSTALLATION

3.01 The ISU will mount to any surface. A backboard is not required unless mounting to a damp surface or when a backboard would facilitate mounting.

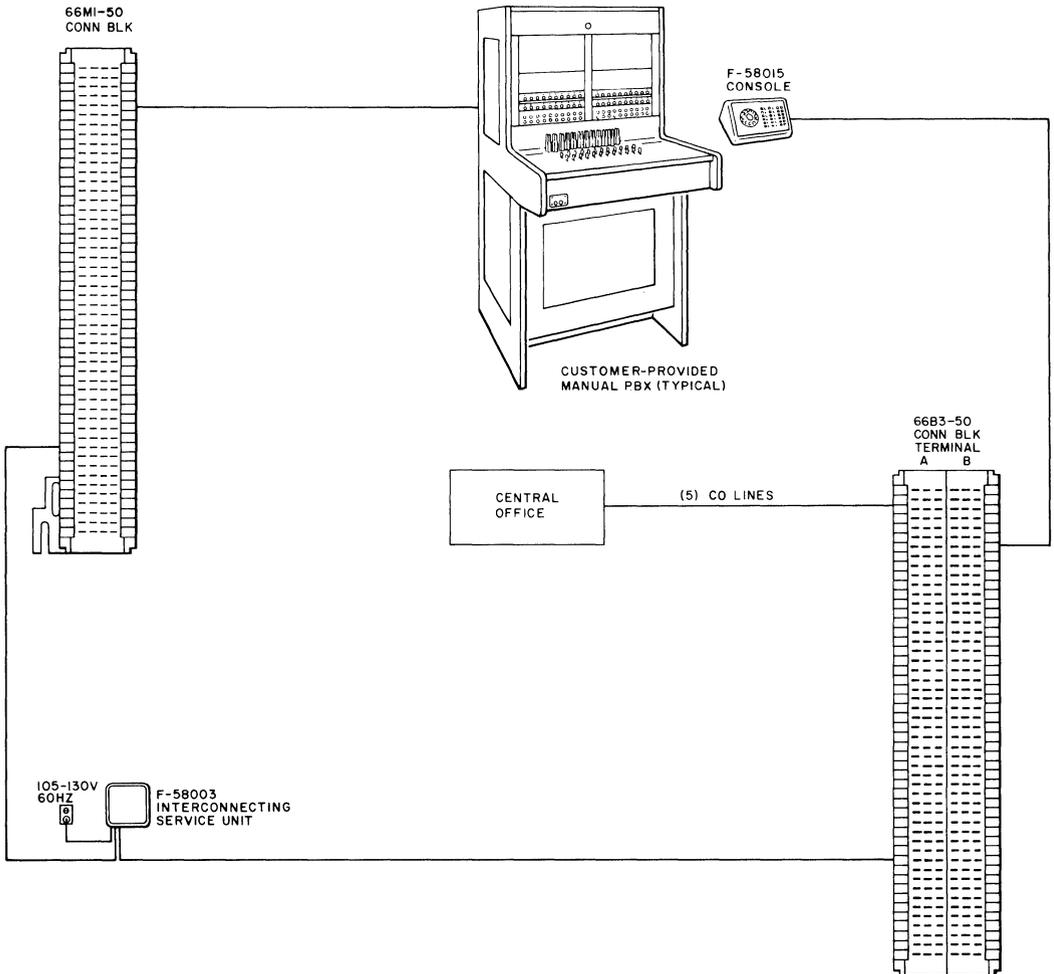


Fig. 4—Typical Installation of up to Five Voice Connecting Arrangements CDA

3.02 Refer to the Plant Series section in Division 463 for mounting backboards.

3.04 The interconnecting service unit may be used with CP manual type PBXs.

3.03 Refer to the Plant Series section in Division 461 for mounting 66B3-50 and 66M1-50 connecting blocks.

3.05 The customer must provide a 105-130 volt, 60 Hz outlet. This outlet should not be under control of a wall switch.

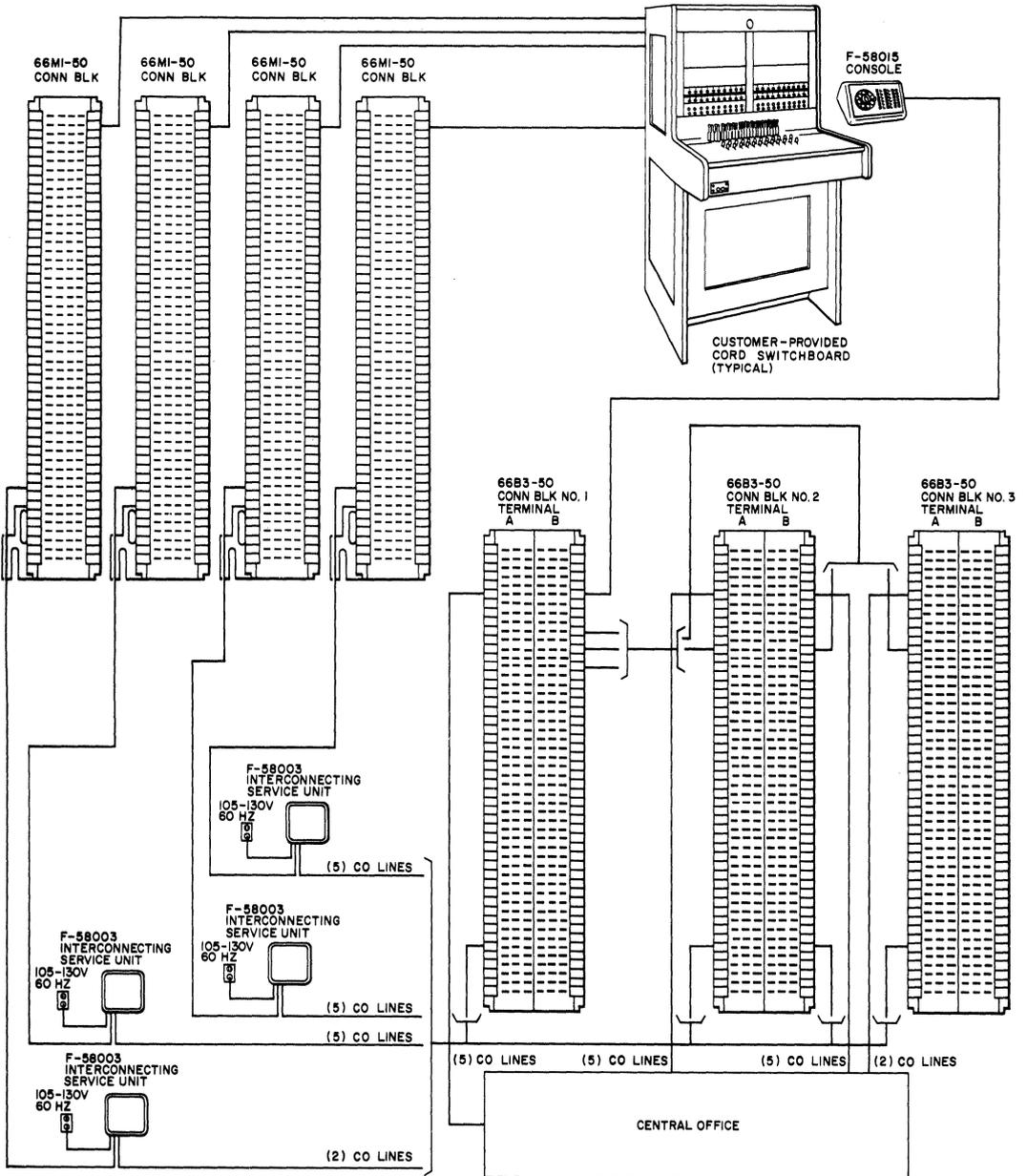


Fig. 5—Typical Installation of 17 Voice Connecting Arrangements CDA

- 3.06** Refer to Plant Series section in Division 167 for proper grounding of power plants.

4. METHOD OF OPERATION

Incoming Call

4.01 Ringing current over a central office line operates R relay which closes contacts over the C1 and C2 leads to operate a signal circuit in the CP PBX. The operator answers a call at switchboard providing an off-hook indication (contact closure on CS and CG leads) operating an S relay. Operation of S relay opens the ringing circuit and establishes a talking path.

4.02 When the operator gets on-hook supervision from the called party the connection is broken at the switchboard opening the CS and CG leads which releases S relay, restoring the circuit to normal.

Outgoing Call

4.03 The operator at the PBX connects to a vacant trunk and provides an off-hook indication contact closure on CS and CG leads to the F-58003 ISU. Ground on the A lead operates an S relay which disconnects the ringing circuit and completes a talking path to the central office. The operator then depresses the pickup button on the F-58015 console associated with the trunk. The depressed button closes ground through the contacts to operate a D relay in a particular F-58004 KTU. D relay, operated, places the pulsing and off-normal contacts of the dial into the circuit. After completion of dialing, the release button on the console is depressed, releasing the pickup button causing D to release which disconnects the console from the circuit.

4.04 When the operator gets on-hook supervision from the calling party, the connection is broken at the switchboard opening the CS and CG leads which releases S relay, restoring the circuit to normal.

5. MAINTENANCE

5.01 When trouble is reported, open circuit leads at interface connecting block and verify

whether the trouble is in the CP equipment or in the ISU and associated apparatus, by performing the following tests.

5.02 *Transmission Test:* Connect a 1013A (or equivalent) test set across T and R leads. Set TALK-MON switch of the test set to TALK position. Connect a short between A and A1 leads. Dial tone should be heard on the test set receiver.

5.03 *Dialing Test:* Push the dialing button on the F-58015 console associated with the interconnecting arrangement under test; then, dial operator using the F-58015 console dial.

5.04 *Ringing Test:* Request that the central office ring the CO line connected to the voice connecting arrangement under test. Disconnect the short between CS and CG leads. Connect an 81A test set between leads C1 and C2 to check the continuity during the ringing cycle. Continuity shows the NO contacts are closed indicating R relay in the ringing bridge circuit is operated. Connect a short between CS and CG leads to answer the call.

5.05 *Customer False Dialing Test:* Connect a 1013A (or equivalent) test set across CS and CG leads. Set TALK-MON switch to the TALK position. Dial 0 using the test set dial. Observe the interconnecting circuit S relay to make sure it does not follow the dial pulses.

5.06 If the trouble is in the CP equipment, inform the customer that the trouble tests toward his equipment.



Do not attempt any repairs to the CP equipment.

5.07 Maintenance is limited to checking connections on connecting blocks, replacement of F-58004 KTUs, or 28A1 power unit, and components shown in Ordering Guide.

6. CONNECTIONS

6.01 Refer to Tables A, B, C, Fig. 6 and 7.

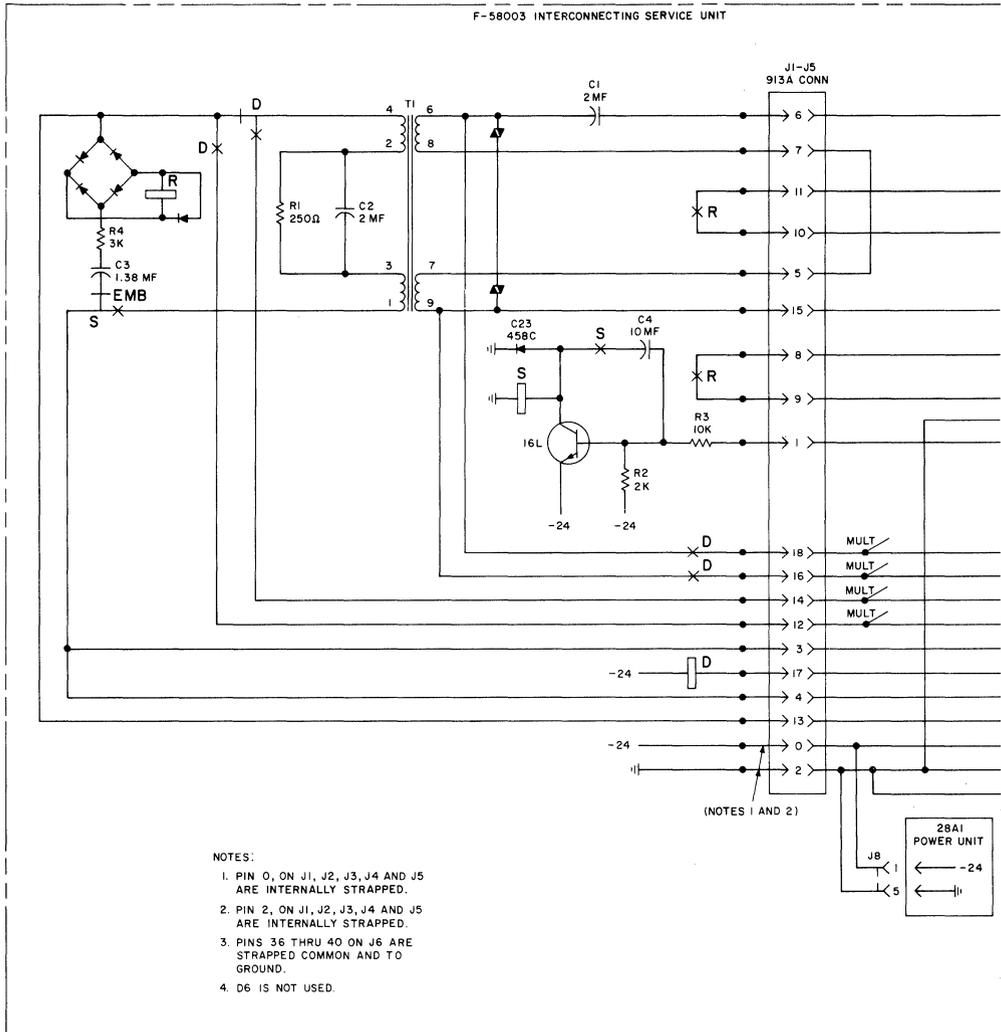


Fig. 6—Connections for Voice Connecting Arrangement CDA (Sheet 1)

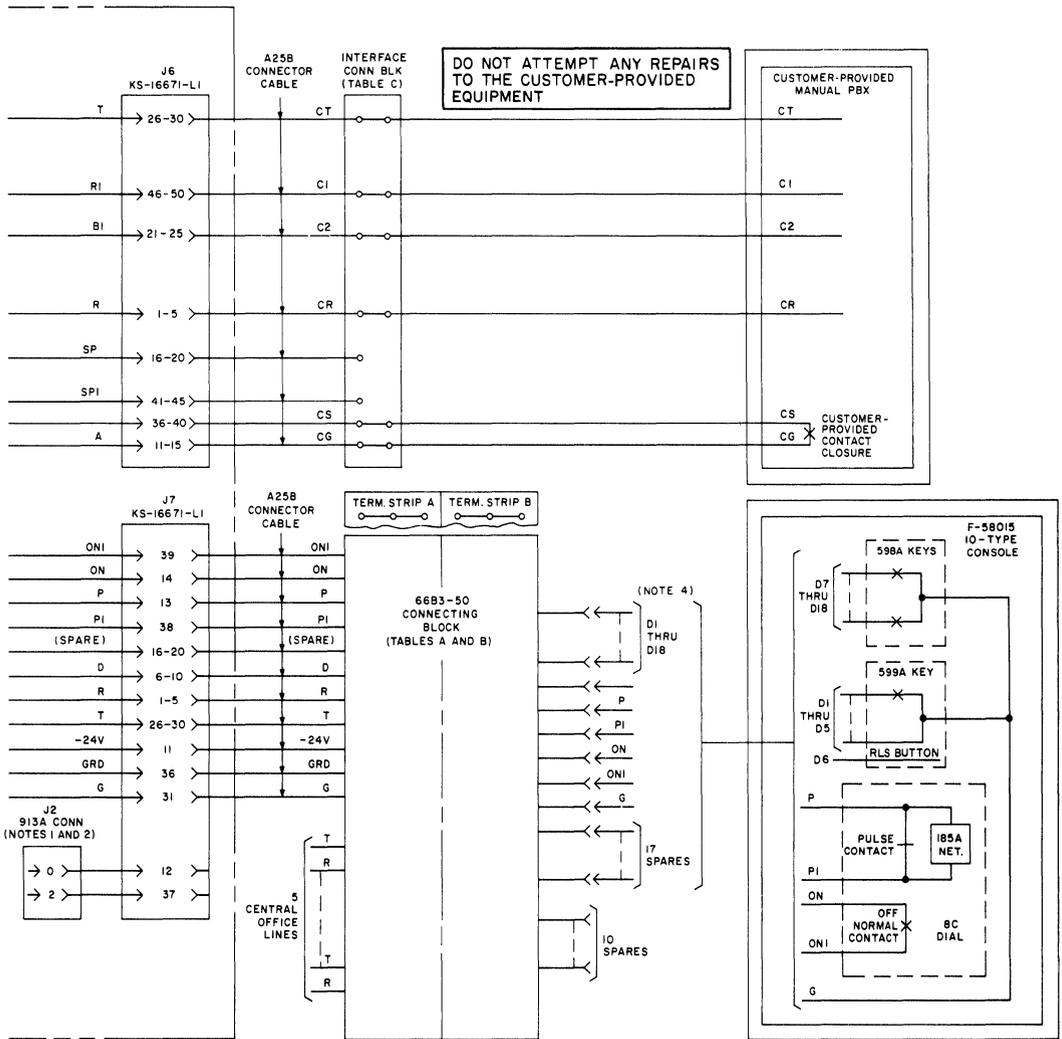


Fig. 6—Connections for Voice Connecting Arrangement CDA (Sheet 2)

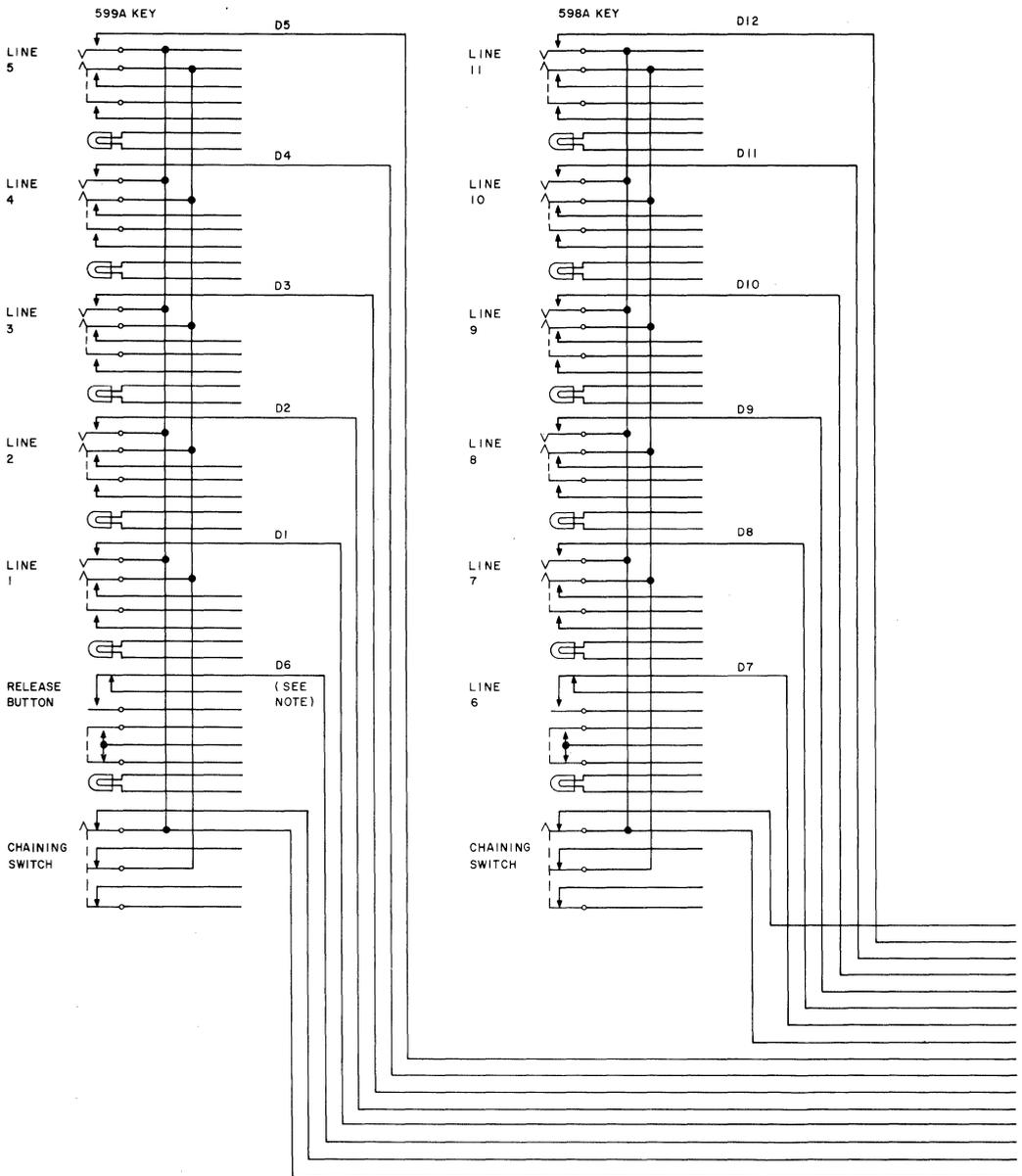


Fig. 7—F-58015 Console Circuit (Sheet 1)

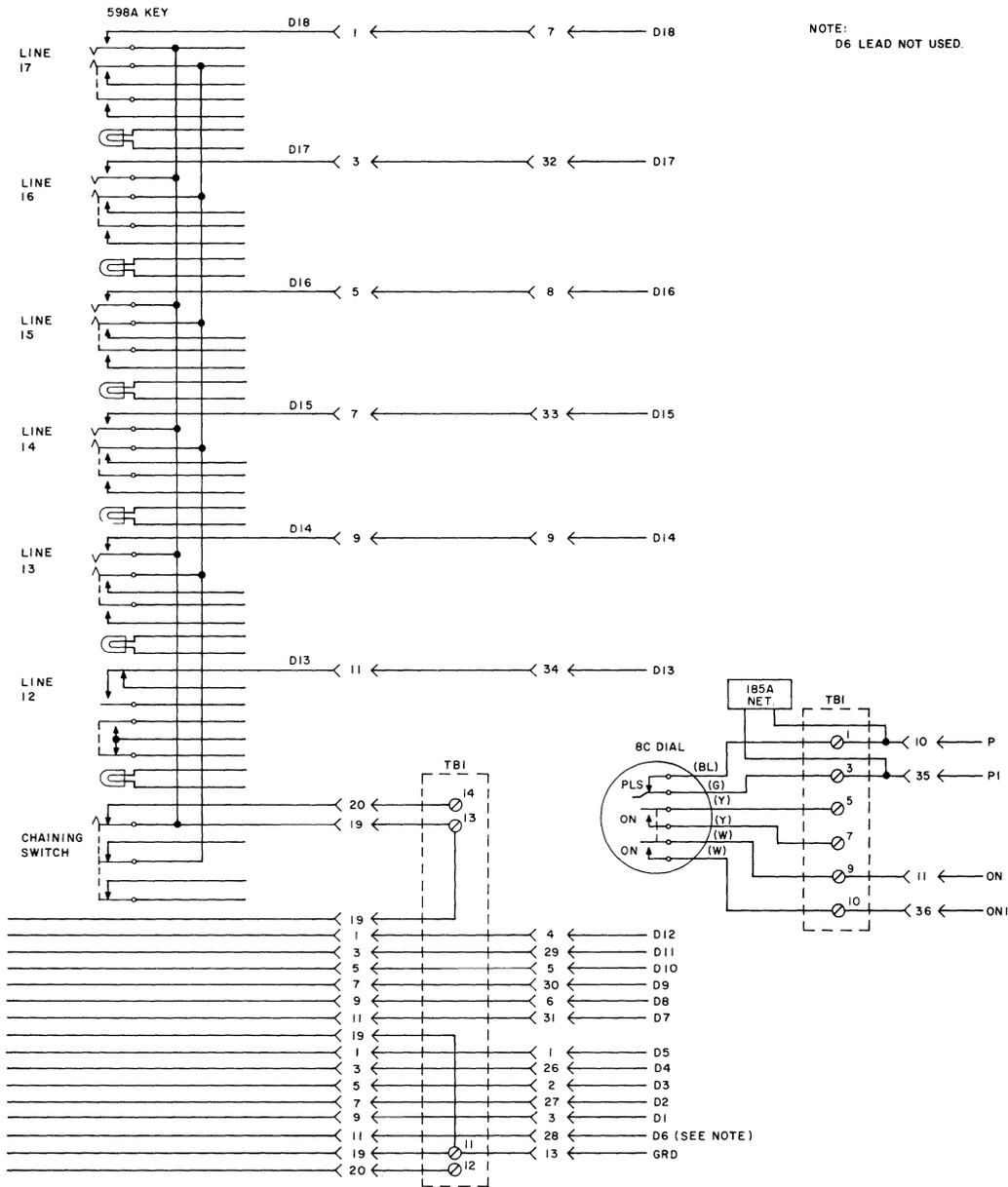


Fig. 7—F-58015 Console Circuit (Sheet 2)

TABLE A
CONNECTIONS FOR 66B3-50 CONNECTING BLOCK

FROM F-58003 INTERCONNECTING SERVICE UNIT			A25B CONN. CABLE	FROM F-58015 CONSOLE	
AMP CONN. PIN NO.	LEAD DESIG.	66B3-50 CONN. BLOCK TSA		66B3-50 CONN. BLOCK TSB	LEAD DESIG.
26	T†	1	W-BL	1	D2
1	R†	2	BL-W	2	D1
27	T†	3	W-O	3	D4
2	R†	4	O-W	4	D3
28	T†	5	W-G	5	D6‡
3	R†	6	G-W	6	D5
29	T†	7	W-BR	7	D8
4	R†	8	BR-W	8	D7
30	T†	9	W-S	9	D10
5	R†	10	S-W	10	D9
31	G	11	R-BL	11	D12
6	D1	12	BL-R	12	D11
32		13	R-O	13	D14
7	D2	14	O-R	14	D13
33		15	R-G	15	D16
8	D3	16	G-R	16	D15
34		17	R-BR	17	D18
9	D4	18	BR-R	18	D17
35		19	R-S	19	P1
10	D5	20	S-R	20	P
36	GRD	21	BK-BL	21	ON1
11	-24 BATT	22	BL-BK	22	ON
37	GRD	23	BK-O	23	SPARE
12	-24 BATT	24	O-BK	24	SPARE
38	P1	25	BK-G	25	
13	P	26	G-BK	26	GRD
39	ON1	27	BK-BR	27	
14	ON	28	BR-BK	28	
40		29	BK-S	29	
15		30	S-BK	30	
41		31	Y-BL	31	
16	*	32	BL-Y	32	
42		33	Y-O	33	
17	*	34	O-Y	34	
43		35	Y-G	35	
18	*	36	G-Y	36	
44		37	Y-BR	37	
19	*	38	BR-Y	38	
45		39	Y-S	39	
20	*	40	S-Y	40	
46		41	V-BL	41	
21		42	BL-V	42	
47		43	V-O	43	
22		44	O-V	44	
48		45	V-G	45	
23		46	G-V	46	
49		47	V-BR	47	
24		48	BR-V	48	
50		49	V-S	49	
25		50	S-V	50	

Note: Add F-58003 for each additional five central office lines and terminate A25B connector cable on 66-type connecting block. Duplicate connections on TSA.

* Spare

† Terminate pairs from central office on TSA 1 thru 10

‡ Spare at release button

TABLE B

STRAPS REQUIRED ON 66B3-50 CONNECTING BLOCK

	66B3-50 CONNECTING BLOCK	
	TERM NUMBER	TSB CONN BLOCK 1
	FROM	TO
LINES 1 THRU 5 TSA CONN. BLOCK 1	11	26
	12	2
	14	1
	16	4
	18	3
	20	6
	25	19
	26	20
	27	21
	28	22
LINES 6 THRU 10 TSA CONN. BLOCK 2	11	26
	12	8
	14	7
	16	10
	18	9
	20	12
	25	19
	26	20
LINES 11 THRU 15 TSB CONN. BLOCK 2	11	26
	12	11
	14	14
	16	13
	18	16
	20	15
	25	19
	26	20
	27	21
	28	22
LINES 16 AND 17 TSA CONN. BLOCK 3	11	26
	12	18
	14	17
	25	19
	26	20
	27	21
28	22	

TABLE C

CONNECTIONS ON 66M1-50 CONNECTING BLOCK

LEAD DESIG.	A25B CONN. CABLE	66M1-50 CONN. BLOCK
	COLOR	PAIR
CT	W-BL	1
CR	BL-W	
CT	W-O	2
CR	O-W	
CT	W-G	3
CR	G-W	
CT	W-BR	4
CR	BR-W	
CT	W-S	5
CR	S-W	
SPARE	R-BL	6
	BL-R	
	R-O	7
	O-R	
	R-G	8
	G-R	
	R-BR	9
	BR-R	
	R-S	10
	S-R	
CS	BK-BL	11
CG	BL-BK	
CS	BK-O	12
CG	O-BK	
CS	BK-G	13
CG	G-BK	
CS	BK-BR	14
CG	BR-BK	
CS	BK-S	15
CG	S-BK	
SP1	Y-BL	16
SP	BL-Y	
SP1	Y-O	17
SP	O-Y	
SP1	Y-G	18
SP	G-Y	
SP1	Y-BR	19
SP	BR-Y	
SP1	Y-S	20
SP	S-Y	
C1	V-BL	21
C2	BL-V	
C1	V-O	22
C2	O-V	
C1	V-G	23
C2	G-V	
C1	V-BR	24
C2	BR-V	
C1	V-S	25
C1	S-V	
	SPARE	26