

## INTERCONNECTING DEVICES, COMMON EQUIPMENT

### 615A PANEL

#### 1. GENERAL

**1.01** This section provides identification, installation, and connection information for the 615A panel used to mount interconnecting units (IUs).

**1.02** Whenever this section is reissued, the reason for reissue will be listed in this paragraph.

**1.03** The 615A panel provides connecting facilities between telephone company central office (CO) or PBX lines and customer-provided equipment (CPE).

**1.04** The internal panel wiring is covered in this section. Refer to the section covering the specific Voice Connecting Arrangement (VCA) for connections for the CPE and the particular IU in use.

#### 2. IDENTIFICATION

##### DESCRIPTION

**2.01** The 615A panel (Fig. 1 and 2) consists of a cast aluminum carrier equipped with three 914A connectors in the upper row and three 913A connectors in the lower row. The 6- by 8-inch carrier has a full rear panel mounted on four standoffs making it 9-1/4 inches deep. The vertical rack space required is 8 inches (9 inches when mounted on 99B brackets).

**2.02** The rear panel is provided with a plug (P1) and a 66T1 connecting block. The 66T1 connecting block provides terminations for the incoming T and R leads, CT and CR leads from the 914A connectors, battery and ground, ringing supply, and for multiplying power to other 615A panels. The plug provides for circuit connections to CPE. Separate fuses are provided for each connector.

**2.03** Three 8-inch IUs (101-, 102- or 120-type) or six 4-inch IUs (108A) can be mounted in the 615A panel. It is not wired to accept the 75A control unit; VCAs requiring this unit must use

the 604B or 604C panel. Each 8-inch IU plugs into a vertical arrangement of an A connector (914A, 40 pin) over a B connector (913A, 20 pin). The 4-inch IUs will plug into either connector. A P40V590 guide assembly must be mounted in the center of each vertical position to support the 4-inch IUs. Fig. 3 shows the connector and trunk arrangement in the 615A panel. Fig. 4 shows the lead designations and pin numbers for these IUs, and Table A shows the connectors in which they are used.

**2.04** The fuse and power distribution is shown in Fig. 5 and Table B. The 615A panel is designed to be used with a 24-volt or 48-volt power supply. The latter is used only when 120-type IUs arranged for 48-volt operation are installed.

**2.05** The 24E 1/2-ampere fuses attach to screw terminals on the rear of the panel as shown in Fig. 2.

**2.06** The A and B connectors are factory-wired to the 66T1 connecting block and to the 50-pin KS-16671, List 1 plug (P1) on the rear of the panel. Fig. 6 shows connections to the 66T1 connecting block, Fig. 7 shows the connections to the A and B connectors, and Fig. 8 shows the connections to plug P1.

##### ORDERING GUIDE

- Panel, 615A (fuses are supplied with panel)
- Cable, A25B (one per panel)
- Assembly, Guide, P40V590 (three per panel, required for 108A IU only).

#### 3. INSTALLATION

**3.01** Mount the 615A panel on a standard relay rack or 16C apparatus mounting (or equivalent) using the 99-type bracket. Remove the center mounting bar from the 16C to allow the 615A to fit on the bracket.

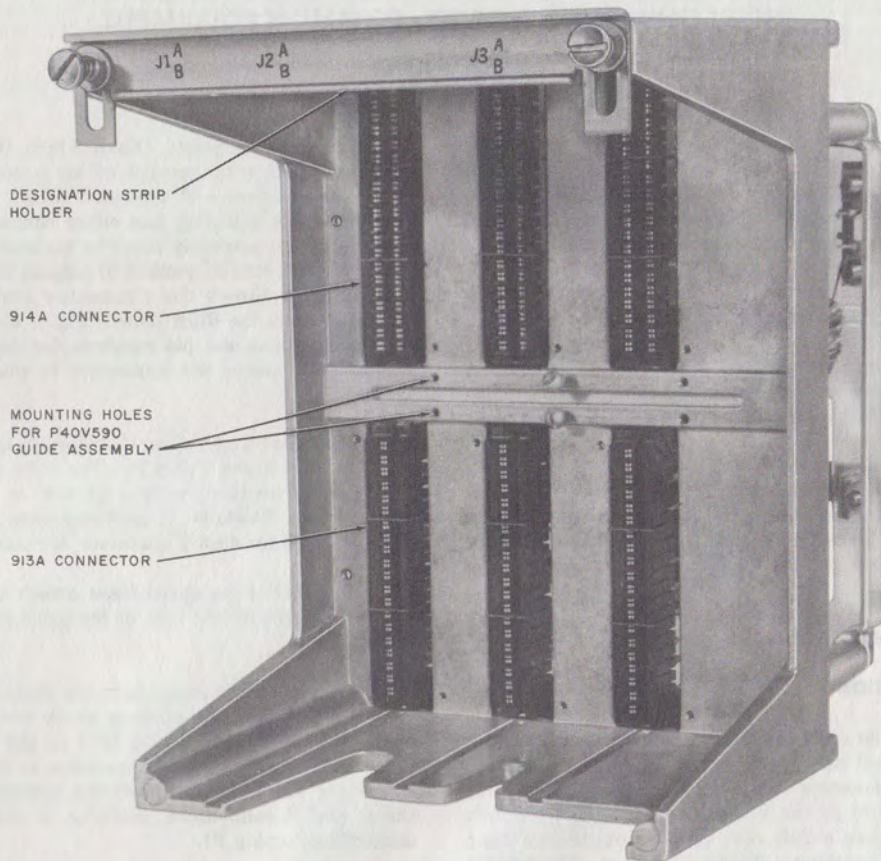


Fig. 1—615A Panel (Front View)

**3.02** Use an A25B (or equivalent) connector cable to connect the 615A panel to the 66M1-50 interface connecting block. Plug the A25B connector cable into plug P1 on the rear of the 615A panel. Terminate the raw end of the A25B connector cable on the telephone company side of the 66M1-50 interface connecting block according to standard even count color code. Follow the wiring plan shown in the section for the particular VCA being installed. Stencil lead designations on the 66M1-50 interface connecting block as required.

**Note:** When only the CT and CR leads (which are terminated at both plug P1 and

the 66T1 connecting block) are to be extended from the 615A to the interface block, D inside wiring cable may be used instead of the A25B cable.

**3.03** The customer must terminate the CPE on the 66M1-50 interface connecting block using the terminals on the customer side.

**3.04** Use D inside wiring cable to extend the T and R leads from the CO or PBX connecting block to the 66T1 connecting block on rear of the 615A panel as shown in Fig. 6.

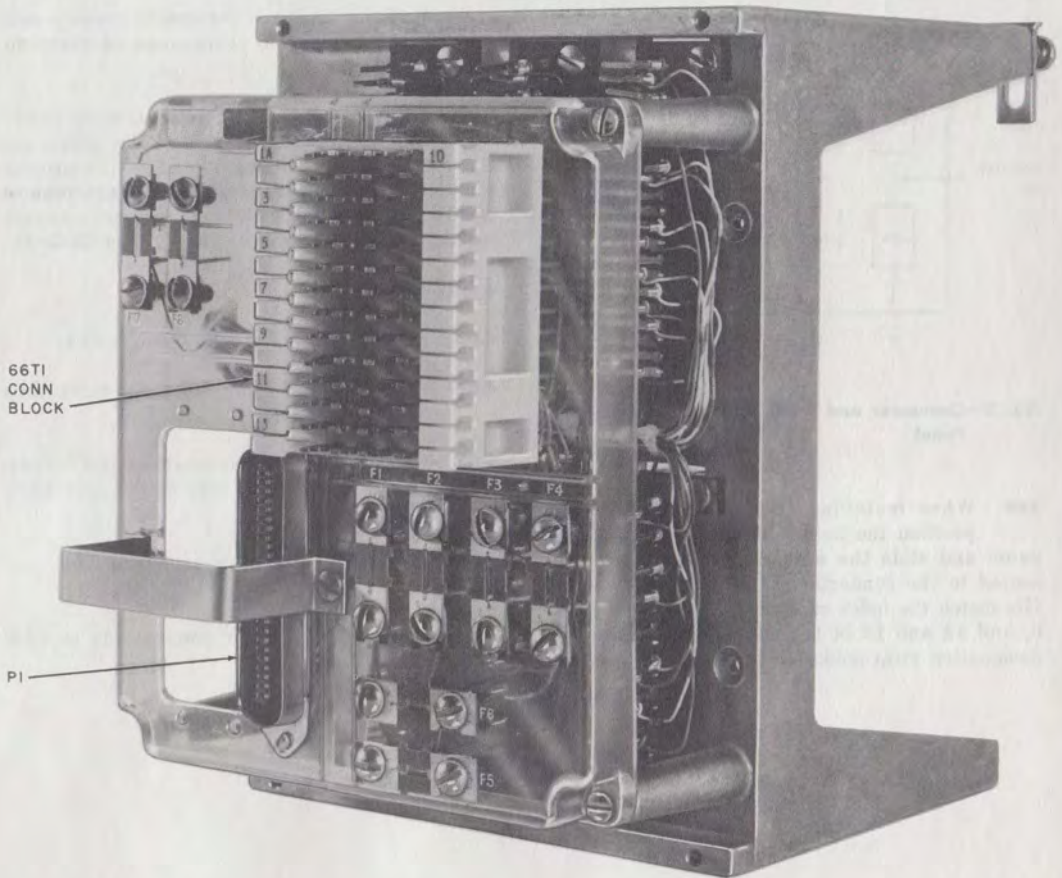
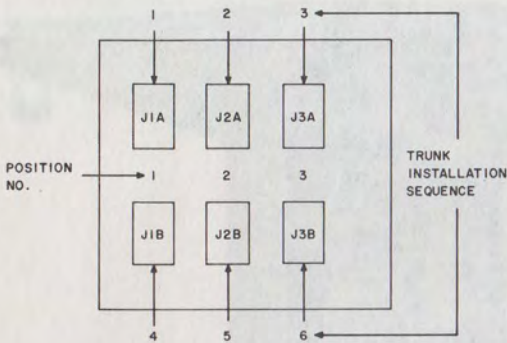


Fig. 2—615A Panel (Rear View)

**3.05** Use 20-gauge wire to connect either telephone company or CP ringing supply and 24-volt or 48-volt dc power to the terminals on the 66T1 connecting block as shown in Fig. 5 and 6 and Table C. Customer-provided 24-volt or 48-volt dc power must be routed through a KS-20944 protector before connecting to the power terminals on the 615A panel. Refer to Section 463-300-109 for information on the KS-20944 protector. If the customer furnishes 48-volt dc power, the 604B panel or the 604C with 21 apparatus unit installed must be used instead of the 615A for 101, 102, and 108-type IUs.

**3.06** When telephone company-provided power supplies are used (if required by VCA installation), the customer must provide a 105- to 130-volt, 60-Hz outlet within reach of available power cords (locally furnished). This electrical outlet should not be under control of a wall switch.

**3.07** Refer to the appropriate section in Division 518 for proper grounding of power units. Proper grounding of equipment and power unit is important to prevent damage from power line surges.



**Fig. 3—Connector and Trunk Arrangement in 615A Panel**

**3.08** When installing IUs in the 615A panel, position the boards in the grooves of the panel and slide the unit in until it is properly seated in the connector. The code slots on the IUs match the index clips between contacts 5 and 6, and 12 and 13 in the connector. Lower the designation strip holder to hold the IUs securely

in place. Refer to Fig. 3 for installation sequence of IUs in the panel to correspond to the plug wiring arrangement.

**3.09** After installation is complete, apply power and perform tests shown in the section for the particular VCA being installed. To protect the electrical components of IUs, always remove the fuse associated with that particular circuit before removing or installing an IU. See Table B.

#### 4. CONNECTIONS

**4.01** Refer to Fig. 4 for connections to IUs.

**4.02** Refer to Fig. 5 and Table C for connections to power supplies.

**4.03** Refer to Fig. 6 for connections to CO lines, power, and CPE by way of the 66T1 block on the 615A panel.

**4.04** Refer to Fig. 7 for connections to A and B connectors.

**4.05** Refer to Fig. 8 for connections to CPE through plug P1.

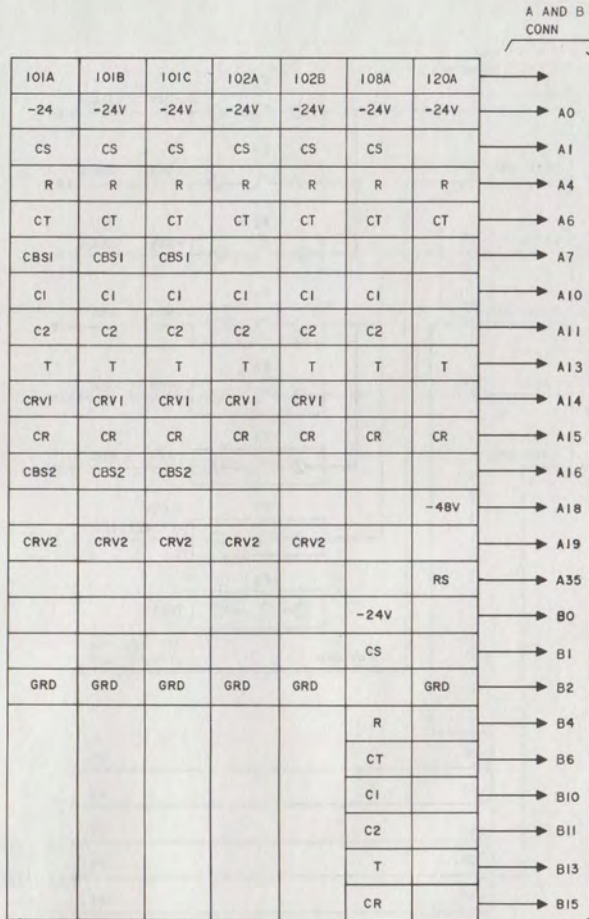


Fig. 4—Lead Designations For Interconnecting Units

TABLE A  
CONNECTOR USE TABLE

UNIT CODE	POSITIONS					
	1		2		3	
	J1A	J1B	J2A	J2B	J3A	J3B
101-Type	•		•		•	
102-Type	•		•		•	
108A	•	•	•	•	•	•
120A	•		•		•	

•Usable in indicated connectors.

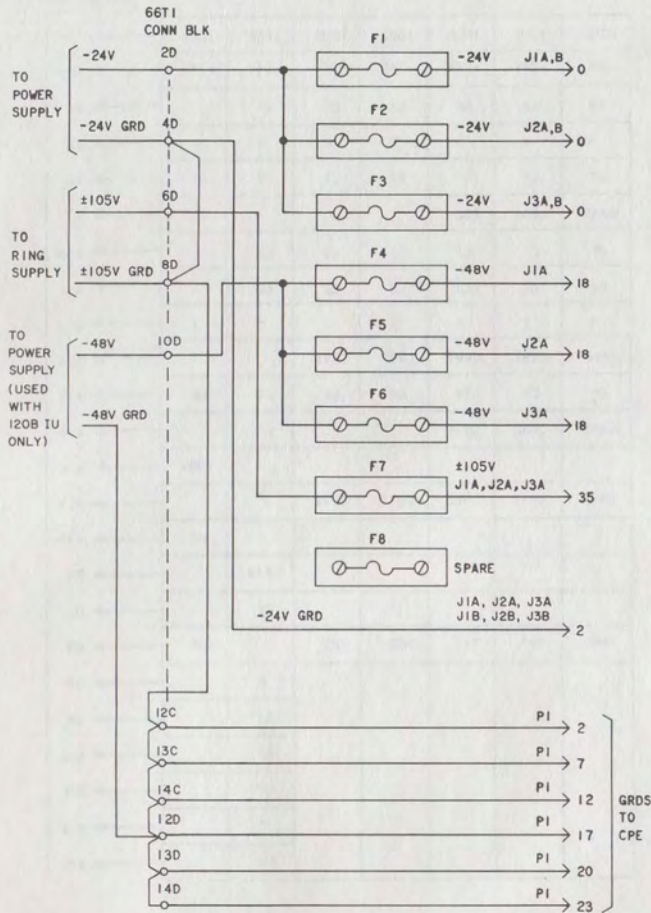


Fig. 5—Fuse and Power Distribution



J1A	J2A	J3A
0 > -24V ○ F1	0 > -24V ○ F2	0 > -24V ○ F3
1 > CS → 27(P1)	1 > CS → 32(P1)	1 > CS → 37(P1)
1 > GRD →	1 > GRD →	1 > GRD →
2 > R → 2(J3B), 2(J2A)	2 > R → 2(J1A), 2(J3A)	2 > R → 2(J2A), 4D(66T1)
4 > R → 2A(66T1)	4 > R → 4A(66T1)	4 > R → 6A(66T1)
6 > CT → 26(P1), 1B(66T1)	6 > CT → 31(P1), 3B(66T1)	6 > CT → 36(P1), 5B(66T1)
7 > CBS1 → 30(P1)	7 > CBS1 → 35(P1)	7 > CBS1 → 40(P1)
10 > C1 → 28(P1)	10 > C1 → 33(P1)	10 > C1 → 38(P1)
11 > C2 → 3(P1)	11 > C2 → 8(P1)	11 > C2 → 13(P1)
13 > T → 1A(66T1)	13 > T → 3A(66T1)	13 > T → 5A(66T1)
14 > CRV1 → 29(P1)	14 > CRV1 → 34(P1)	14 > CRV1 → 39(P1)
15 > CR → 1(P1), 2B(66T1)	15 > CR → 6(P1), 4B(66T1)	15 > CR → 11(P1), 6B(66T1)
16 > CBS2 → 5(P1)	16 > CBS2 → 10(P1)	16 > CBS2 → 15(P1)
18 > -48V ○ F4	18 > -48V ○ F5	18 > -48V ○ F6
19 > CRV2 → 4(P1)	19 > CRV2 → 9(P1)	19 > CRV2 → 14(P1)
35 > RS → 35(J2A)	35 > RS → 35(J1A), 35(J3A)	35 > RS → 35(J2A), F7
J1B	J2B	J3B
0 > -24V ○ F1	0 > -24V ○ F2	0 > -24V ○ F3
1 > CS → 42(P1)	1 > CS → 45(P1)	1 > CS → 48(P1)
1 > GRD →	1 > GRD →	1 > GRD →
2 > R → 2(J2B)	2 > R → 2(J1B), 2(J3B)	2 > R → 2(J1A), 2(J2B)
4 > R → 8A(66T1)	4 > R → 10A(66T1)	4 > R → 12A(66T1)
6 > CT → 41(P1), 7B(66T1)	6 > CT → 44(P1), 9B(66T1)	6 > CT → 47(P1), 11B(66T1)
10 > C1 → 43(P1)	10 > C1 → 46(P1)	10 > C1 → 49(P1)
11 > C2 → 18(P1)	11 > C2 → 21(P1)	11 > C2 → 24(P1)
13 > T → 7A(66T1)	13 > T → 9A(66T1)	13 > T → 11A(66T1)
15 > CR → 16(P1), 8B(66T1)	15 > CR → 19(P1), 10B(66T1)	15 > CR → 22(P1), 12B(66T1)

Fig. 7—Connections to Jacks J1 to J3



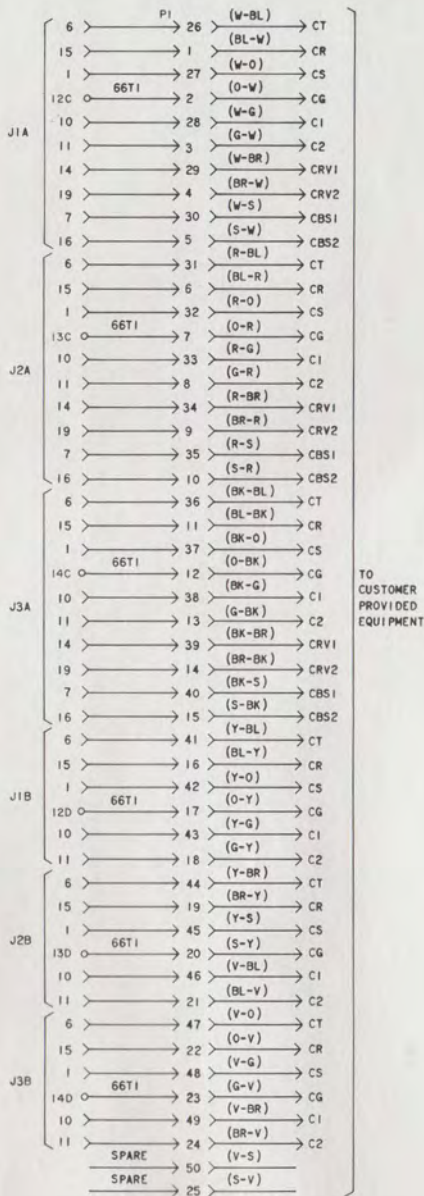


Fig. 8—Connections to Plug P1

TABLE B  
615A PANEL FUSE ASSIGNMENT

VOLTAGE	FUSE NO*	CONNECTOR
-24V	F1	J1A,B
	F2	J2A,B
	F3	J3A,B
-48V	F4	J1A
	F5	J2A
	F6	J3A
±105 VAC	F7	J1A, J2A, J3A
	F8	SPARE

\*Fuses are 24E, 1/2 ampere.

TABLE C

POWER CONNECTIONS	
VOLTAGE	615A PANEL*
-24V	2D
24V GRD	4D
-48V	10D
48V GRD	12D
±105VAC	6D
±105V GRD	8D

\* Terminals on 66T1 connecting block.

TO  
CUSTOMER  
PROVIDED  
EQUIPMENT