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1. GENERAL

1.01 This section provides information on the 630A key service panel (KSP) and the 113A1 connecting unit (CU).

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

1.03 This section is based on drawing SD-69819-01, Issue 1. If this section is to be used with equipment or apparatus reflecting later issue(s) of the drawing(s), reference should be made to the SDs and CDs to determine the extent of changes and the manner in which the section may be affected.

1.04 Incoming central office (CO) lines are to be installed in compliance with the Federal Communications Commission's (FCC) Registration Program and must be routed through a standard network interface. Information on approved interfaces is contained in Section 461-604-105, entitled Connecting Blocks—66M3-50R—Identification, Installation, and Maintenance.

1.05 After January 1, 1980, connection of customer-provided equipment (CPE) or telephone company-provided equipment to the 1A2 Key Telephone System (KTS) requires the use of a 33B voice coupler when providing music-on-hold.

2. IDENTIFICATION

A. Purpose

2.01 The 630A KSP (Fig. 1) provides mounting and power facilities for 400-type line, intercom, and music-on-hold key telephone units (KTUs). It is used in conjunction with the 113A1 CU or can be connected directly to a key telephone red distribution field without using the 113A1 CU.

2.02 The 113A1 CU (Fig. 2) is a connectorized key telephone distribution field consisting of three 66-type connecting blocks. The 113A1 CU plugs directly into the connectors provided on the 630A KSP.

B. Ordering Guide

- Panel, 630A
- Unit, Connecting, 113A1
- Cover, Decorative, 161A
- Cover, Utility, 163A
- Cover, (End Caps), 153A

- D-180942 Kit of Parts, Hinge Assembly
- Cord, Power (1-1/2 feet)—824013262
- Cord, Power (2 feet)—824013270
- Cord, Power (4 feet)—824013288
- Cord, Power (6 feet)—824013296
- Cord, Power (12 feet)—824010995

C. Common Features

2.03 The 630A KSP has the following features:

- Accommodates 400-series KTUs providing services described in Table A.
- Connectorized for quick connection to 113A1 CU or distribution field.
- Self-contained power unit with two additional receptacles for powering externally mounted modular panels.
- Built-in fuse block assemblies (Table B) with self-indicating fuses.
- Includes KS-15900, L1 interrupter.
- Can be mounted on a vertical surface. The 630A KSP can also be attached to a 113A1 CU with a hinge arrangement (D-180942 Kit of Parts) (Fig. 3).
- Dimensions: 12-3/4 inches wide, 18-3/8 inches high, and 7-1/2 inches deep. When mounted on a 113A1 CU, the depth of the combined units is 12-3/4 inches deep.

2.04 The 113A1 CU has the following features:

- Can be mounted on any vertical surface
- Has provisions for attaching a 630A KSP with the use of a hinge arrangement (D-180942 Kit of Parts)

- Connectorized cables for quick connection to the 630A KSP
- Spare 66-type connecting block for terminating additional station cables and miscellaneous circuits
- Dimensions: 12-3/4 inches wide, 18-3/8 inches high, and 3-1/4 inches deep.

D. Covers

2.05 The 161A decorative cover (Fig. 4) is designed to cover the 630A KSP or 113A1 CU when mounted side by side or when the 630A KSP is mounted on the 113A1 CU with the D-180942 Kit of Parts.

Note: If this cover is used when the KSP and CU are mounted side by side, a minimum space of 1 inch must be left between them.

2.06 The 163A utility cover is designed to cover the 630A KSP or 113A1 CU when mounted side by side. The sides can be covered by attaching end caps (cover, 153A) to the front cover with the clips supplied. Where several panels are mounted next to each other, the front covers form a continuous surface and only two end caps are installed at the extreme ends. The 163A utility cover cannot be used to cover the 630A KSP when it is mounted on the 113A1 CU with the D-190942 Kit of Parts.

E. Hinge Assembly (D-180942 Kit of Parts)

2.07 The 630A KSP can be mounted on the 113A1 CU with the D-180942 Kit of Parts. The kit of parts consists of a latch, two hinge assemblies, and required screws.

2.08 The latch is pressed into the latch notch on the lower left-hand side of the 630A KSP (Fig. 3). Two self-tapping screws attach each hinge on the top and bottom on the right-hand side of the 113A1 CU. Two threaded connecting pins attach the 630A KSP to the hinges on the 113A1 CU. The 630A KSP is designed to swing to the right **only**.

F. Power

2.09 The 630A KSP is equipped with a 287A1 power supply which provides the following voltages:

- Talk Battery 18-27 volt dc 0.6 amperes
- Signal Battery 20-27 volt dc 1.9 amperes
- Lamp Battery 8.75-11 volt ac 4.5 amperes

The 287A1 power supply includes the 117B frequency generator which provides the ringing supply of 110-125 volt ac at 30 Hz.

2.10 The voltages on the 287A1 power supply are wired to fuses on the 630A KSP. Refer to Table B for fuse assignments. The only fuse provided on the 287A1 power supply is a 2-amp Bussman MDL 2, 110-volt ac input fuse which appears on the front of the unit.

2.11 If abnormal commercial ac input voltage is suspected:

- (1) Remove the ac power cord from the ac receptacle.
- (2) Using an ac voltmeter, determine the ac voltage at the commercial ac receptacle.
- (3) Pull out the ac voltage adjustment knob on the front of the power supply and turn the pointer to the voltage stenciled on the power supply that is closest to the commercial alternating current. Push the ac adjustment knob back in.

2.12 The power supply is equipped with a parallel blade ground receptacle. Three conductor power cords with male and female standard three-prong plugs are available in the following lengths and should be ordered separately:

Cord, Power (1-1/2 feet)—824013262

Cord, Power (2 feet)—824013270

Cord, Power (4 feet)—824013288

Cord, Power (6 feet)—824013296

Cord, Power (12 feet)—824010995

2.13 The output cord for the power supply is plugged into the J13 receptacle on the 630A KSP. The J1 and J2 receptacles are available to power two modular panels (Table A and Fig. 5). To disconnect output power cord, squeeze the tabs on the top and bottom of the power cord connector and pull out.

2.14 The 287A1 power supply can be changed by removing four screws from the front of the unit and unplugging the input and output cords.

3. INSTALLATION

3.01 Select a wall location for a key telephone installation in accordance with the following:

- Approval and best interest of customer.
- Accessible with adequate illumination for maintenance.
- Wall offering adequate support and stability.
- As close as practicable to stations being serviced.
- Minimum of 9 inches is required to the right of the 113A1 CU for the 630A KSP to open if mounted on the 113A1 CU with the D-180942 Kit of Parts.
- Close to conduit or duct system for cabling purposes.
- Near commercial ac power receptacle.
- Sufficient clearance above floor to avoid damage from water or blows incidental to cleaning.
- Clean, dry, well-ventilated, and free from flammable or corrosive fumes.
- Where the surrounding room temperature normally does not exceed 110°F. Avoid locations near radiators, steam pipes, registers, and other similar heating devices which would subject the equipment to excessive heat.

3.02 Refer to the following sections for additional information required to plan the installation of a KTS:

- Section 518-010-101—Centralized Key Telephone Installations
- Section 518-010-105—KTS, Grounding and Special Protection Requirements
- Section 518-215-100—1A2 KTS, Identification, and Arrangements
- Section 518-215-400—Service, 1A2 KTS, Line Services
- Section 518-215-401—Service, 1A2 KTS, Auxiliary Line Services
- Section 518-215-402—Service, 1A2 KTS, Intercom Services
- Section 518-215-419—Service, 1A2 KTS, 620A, 641A, and 642A Modular Panels.

3.03 Mount the 113A1 CU on the wall near commercial 110-volts ac power receptacle. If the 630A KSP is to be mounted on the 113A1 CU, use the D-180942 Kit of Parts. Refer to paragraphs 2.07 and 2.08 for additional information.

Note: The 287A1 power unit is equipped with a parallel blade ground receptacle.

3.04 If the 630A KSP is to be mounted on the wall, it must be mounted to the left of the 113A1 CU. This is to allow the cables on the 113A1 CU to reach the connectors on the 630A KSP. The cables from the 113A1 CU are connected to the 630A KSP connectors as follows:

113A1 CU	630A KSP
FROM	TO
P10	J10
P11	J11
P12	J12

Refer to Table C for 630A KSP cable connector assignments.

3.05 To prevent damage to the telephone equipment, it is imperative that the 630A KSP be properly grounded and protected to limit voltage surges.



The susceptibility of surge damage to semiconductor components used in 400-series KTUs requires the grounding and protection procedures be followed carefully. Properly protected and grounded installations will minimize service failures that can result from surge voltages or differences between dissimilar grounds. Refer to Section 518-010-105 for coverage of KTS grounding and protection requirements.

3.06 It is recommended all incoming CO/PBX lines be connected to protectors. The protector ground terminal will serve as the primary KSP ground point and must be connected to the best acceptable ground source, preferably, the same as the ac power service. In any case, the KSP ground source and the power service ground source should be bonded together.

3.07 Using No. 12 gauge wire, connect the circuit ground terminal on the 630A KSP to the protector ground terminal if the incoming CO/PBX lines are protected. If they are not protected, connect the 630A KSP ground to the best acceptable ground source.

Note: To remove strain from the ground terminal, run the No. 12 gauge ground wire to the bottom of the 630A KSP and clamp to the backboard or mounting surface.

Refer to Section 518-010-105 for coverage of KTS grounding and protection requirements.

3.08 Prior to terminating the telephone set cables, the selected KTUs shall be carefully unpacked, options applied as applicable, and installed in their appropriate connector.

3.09 Install KTUs by inserting the plug end of the printed wiring boards into the 630A KSP KTU jacks. Secure the KTUs in the jacks with the locking devices provided.



Exercise care when handling and inserting plug-in KTUs to avoid damage to the printed wiring boards and components.

Refer to Table A for KTU jack locations and the following figure for KTU connections:

Fig. 9—400D KTU (MD) Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 10—400G KTU (MD) Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 11—400H KTU Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 12—498A KTU Connections (Music-On-Hold) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 13—401-Type KTU Connections (Manual Intercom) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 14—407C KTU Connections (Dial Intercom, 10-Code Selector) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 15—424C KTU Connections (Dial Intercom, 19-Code Selector) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 16—494A KTU Connections (TOUCH-TONE Adapter, 19-Code Selector) in 630A Key Service Panel and 113A1 Connecting Unit

Fig. 17—407- or 424-Type KTU (Rotary Selector) Connections in 630A Key Service Panel and 113A1 Connecting Unit Wired to Externally Mounted 440A KTU (MD) (TOUCH-TONE Adapter)

Fig. 18—407- or 424-Type (Rotary Selector) Connections in 630A Key Service Panel and 113A1 Connecting Unit Wired to Externally Mounted 478B KTU (TOUCH-TONE Adapter)

Fig. 19—415A KTU Connections (Automatic, DC Signaling, Private Line) in 630A Key Service Panel and 113A1 Connecting Unit

3.10 The station cables should now be terminated to the 113A1 CU 66-type connecting blocks. Refer to Table D for 113A1 CU terminal assignments.

Note: Connecting block 3 in the 113A1 CU is spare and provided to terminate additional station cables, audible signal configurations, and paging arrangements.

3.11 Before applying power, check for misplaced, missing, or defective fuses. Check for loose or broken wiring connections.

3.12 Apply power and test the KTS for correct operation.

4. INSTALLATION OF 630A KEY SERVICE PANEL WITH LARGER KEY TELEPHONE SYSTEMS

4.01 When a KTS installation exceeds 6 lines or requires additional features, the modular panels described in Section 518-215-419 should be used in addition to the 630A KSP. These modular panels should be mounted to the right of the 630A KSP and the 113A1 CU (Fig. 8). This will provide for the standard right-hand growth arrangement for KTS installations described in Section 518-010-101.

Note: In large installations equipped with dial intercom, it is recommended the 630A KSP be used as the first modular panel.

4.02 The J1 and J2 output power jacks on the 630A KSP are provided to supply power for two modular panels. When more than two modular panels are required, a 79-type power supply should be used.

4.03 The installer shall have the option of terminating the station cables directly on the 113A1 CU and modular panel terminals or may use the 113A1 CU and modular panel terminals as a KTS equipment (red) field with the station terminal (blue) field mounted below.

5. ADDITIONAL FEATURES

Music-On-Hold

5.01 Music-on-hold can be provided by plugging a 498A KTU into jack 6A. Jack 6A is factory-wired to provide music-on-hold for six CO/PBX lines. No further straps are required to provide this service. Refer to Note 1 in Table A for restrictions on music-on-hold for CO lines when the 415 KTU is used.

5.02 The 498A KTU contains four circuits and must be expanded to six circuits with the addition of a 116A1 circuit module to the 498A

KTU when more than four CO/PBX lines are to be equipped with music-on-hold.

5.03 The seventh circuit from the 498A KTU, when it is equipped with a 116A1 circuit module, appears as T7, R7, A7, and L7 on connecting block 2 in the 113A1 CU and can be used to provide music-on-hold on a CO/PBX line in an associated modular panel.

5.04 A 33B voice coupler must be connected between the customer's music source and the 630A KSP music input leads for music-on-hold (Fig. 12).

TABLE A

630A KEY SERVICE PANEL JACK ASSIGNMENTS

JACK	ASSIGNMENT	
J1	Power Source for One Additional Modular Panel	
J2	Power Source for One Additional Modular Panel	
J3A	400-Type KTU (CO/PBX Line) or 401-Type KTU (Manual Intercom) or 415A KTU (Automatic, DC Signaling, Private Line) Note 1	Line 1
J3B		Line 2
J4A		Line 3
J4B		Line 4
J5A		Line 5
J5B		Line 6
J6A	498A KTU (Music-On-Hold) Note 2	
J6B	Vacant	
J7A J7B	401-Type (Manual Intercom) Note 3 or 407-Type KTU (Dial Intercom, Rotary Selector, 10 Codes) or 424-Type KTU (Dial Intercom, Rotary Selector, 19 Codes) or 494A KTU (Dial Intercom, TOUCH-TONE Selector, 19 Codes)	
J8	Receptacle for KS-15900L1 Interrupter	
J9	Input Connector for CO/PBX Feeder Lines	
J10	Output Connectors for 113A1 Connecting Unit or Distribution Field	
J11		
J12		
J13	Power Input From 287A1 Power Supply	

Note 1: If a 415 KTU (automatic, DC signaling, private line) is used and MOH is required, the following conditions must be met:

Music-on-hold can be provided on the first four lines only and the 400-type KTUs associated with MOH can be plugged into connectors J3A, J3B, J4A, and J4B only. The 498A KTU (MOH) must not be equipped with the 116A1 circuit module.

The automatic, DC signaling, private line (415A KTU) can be provided on lines 5 and 6 only and the 415A KTUs associated with the private lines can be plugged into connectors J5A and J5B only.

Note 2: The 498A KTU contains four circuits and must be expanded to six circuits with the addition of a 116A1 circuit module to the 498A KTU when more than four CO/PBX lines are to be equipped with MOH.

Note 3: The 401-type KTU (manual intercom) plugs into J7B only.

TABLE B

630A KEY SERVICE PANEL FUSE ASSIGNMENTS

FUSE	TYPE	AMPERAGE	ASSIGNMENT
F1	70C	3A	10-volt ac feeder fuse for F8, F9, F10, and F11 distribution fuses
F2	70C	3A	10-volt ac feeder fuse for F4, F5, F6, F7, F14, and F15 distribution fuses
F3	70G	5A	10-volt ac for interrupter
F4	70B	2A	10-volt ac for lamp wink on lines 1, 3, and 5
F5	70B	2A	10-volt ac for lamp wink on lines 2, 4, and 6
F6	70B	2A	10-volt ac for lamp wink on jack 1 for additional modular panel
F7	70B	2A	10-volt ac for lamp wink on jack 2 for additional modular panel
F8	70B	2A	10-volt ac for lamp flash, lines 1, 3, and 5
F9	70B	2A	10-volt ac for lamp flash, lines 2, 4, 6, and intercom
F10	70B	2A	10-volt ac for lamp flash on jack 1 for additional modular panel
F11	70B	2A	10-volt ac for lamp flash on jack 2 for additional modular panel
F12	70B	2A	10-volt ac for steady lamp, lines 1, 3, and 5
F13	70B	2A	10-volt ac for steady lamp, lines 2, 4, 6, and intercom
F14	70B	2A	10-volt ac to jack 1 for additional modular panel
F15	70B	2A	10-volt ac to jack 2 for additional modular panel
F16	70B	2A	—24 volt dc —B for additional modular panels, all lines, intercom, and auxiliary services
F17	70B	2A	—24 volt dc —A for additional modular panels, all lines, intercom, and auxiliary services

TABLE C

**630A KEY SERVICE PANEL CABLE
CONNECTOR TERMINAL ASSIGNMENTS**

CONNECTOR J9					
LEAD DESIG	TERMINAL	COLOR	LEAD DESIG	TERMINAL	COLOR
T(1)	26	W-BL	Spare	13	G-BK
R(1)	1	BL-W		39	BK-BR
T(2)	27	W-O		14	BR-BK
R(2)	2	O-W		40	BK-S
T(3)	28	W-G		15	S-BK
R(3)	3	G-W		41	Y-BL
T(4)	29	W-BR		16	BL-Y
R(4)	4	BR-W		42	Y-O
T(5)	30	W-S		17	O-Y
R(5)	5	S-W		43	Y-G
T(6)	31	R-BL		18	G-Y
R(6)	6	BL-R		44	Y-BR
Spare	32	R-O		19	BR-Y
	7	O-R		45	Y-S
	33	R-G		20	S-Y
	8	G-R		46	V-BL
	34	R-BR		21	BL-V
	9	BR-R		47	V-O
	35	R-S		22	O-V
	10	S-R		48	V-G
	36	BK-BL		23	G-V
	11	BL-BK		49	V-BR
	37	BK-O		24	BR-V
	12	O-BK		50	V-S
	38	BK-G		25	S-V

TABLE C (Contd)

**630A KEY SERVICE PANEL CABLE
CONNECTOR TERMINAL ASSIGNMENTS**

CONNECTOR J10					
LEAD DESIG	TERMINAL	COLOR	LEAD DESIG	TERMINAL	COLOR
IT	26	W-BL	RG	13	G-BK
IR	1	BL-W	RX0	39	BK-BR
D1,A	27	W-O	RG	14	BR-BK
AI	2	O-W	RX1	40	BK-S
LG	28	W-G	RG	15	S-BK
L,LA	3	G-W	RX2	41	Y-BL
R0	29	W-BR	RG	16	BL-Y
RG	4	BR-W	RX3	42	Y-O
R1	30	W-S	RG	17	O-Y
RG	5	S-W	RX4	43	Y-G
R2	31	R-BL	RG	18	G-Y
RG	6	BL-R	RX5	44	Y-BR
R3	32	R-O	RG	19	BR-Y
RG	7	O-R	RX6	45	Y-S
R4	33	R-G	RG	20	S-Y
RG	8	G-R	RX7	46	V-BL
R5	34	R-BR	RG	21	BL-V
RG	9	BR-R	RX8	47	V-O
R6	35	R-S	RG	22	O-V
RG	10	S-R	SS	48	V-G
R7	36	BK-BL	RN	23	G-V
RG	11	BL-BK	SP	49	V-BR
R8	37	BK-O	TDX	24	BR-V
RG	12	O-BK	Spare	50	V-S
R9	38	BK-G	Spare	25	S-V

TABLE C (Contd)

**630A KEY SERVICE PANEL CABLE
CONNECTOR TERMINAL ASSIGNMENTS**

CONNECTOR J11					
LEAD DESIG	TERMINAL	COLOR	LEAD DESIG	TERMINAL	COLOR
T(1)	26	W-BL	R(5)	13	G-BK
R(1)	1	BL-W	A(5)	39	BK-BR
A(1)	27	W-O	A1(5)	14	BR-BK
A1(1)	2	O-W	LG(5)	40	BK-S
LG(1)	28	W-G	L(5)	15	S-BK
L(1)	3	G-W	T(6)	41	Y-BL
T(2)	29	W-BR	R(6)	16	BL-Y
R(2)	4	BR-W	A(6)	42	Y-O
A(2)	30	W-S	A1(6)	17	O-Y
A1(2)	5	S-W	LG(6)	43	Y-G
LG(2)	31	R-BL	L(6)	18	G-Y
L(2)	6	BL-R	RC(1)	44	Y-BR
T(3)	32	R-O	RG	19	BR-Y
R(3)	7	O-R	RC(2)	45	Y-S
A(3)	33	R-G	RG	20	S-Y
A1(3)	8	G-R	RC(3)	46	V-BL
LG(3)	34	R-BR	RG	21	BL-V
L(3)	9	BR-R	RC(4)	47	V-O
T(4)	35	R-S	RG	22	O-V
R(4)	10	S-R	RC(5)	48	V-G
A(4)	36	BK-BL	RG	23	G-V
A1(4)	11	BL-BK	RC(6)	49	V-BR
LG(4)	37	BK-O	RG	24	BR-V
L(4)	12	O-BK	10V	50	V-S
T(5)	38	BK-G	ACG	25	S-V

TABLE C (Contd)

**630A KEY SERVICE PANEL CABLE
CONNECTOR TERMINAL ASSIGNMENTS**

CONNECTOR J12					
LEAD DESIG	TERMINAL	COLOR	LEAD DESIG	TERMINAL	COLOR
FC1	26	W-BL	L(7)	13	G-BK
FC2	1	BL-W	M2	39	BK-BR
FC3	27	W-O	M1	14	BR-BK
Y1	2	O-W	Spare	40	BK-S
Y2	28	W-G		15	S-BK
Y3	3	G-W		41	Y-BL
Y4	29	W-BR		16	BL-Y
Y5	4	BR-W		42	Y-O
RS1	30	W-S		17	O-Y
CG	5	S-W		43	Y-G
RH	31	R-BL		18	G-Y
Spare	6	BL-R		44	Y-BR
BR	32	R-O		19	BR-Y
TC	7	O-R		45	Y-S
LT1	33	R-G		20	S-Y
LT2	8	G-R		46	V-BL
BY1	34	R-BR		21	BL-V
J	9	BR-R		47	V-O
LK	35	R-S		22	O-V
TTG	10	S-R		48	V-G
AL1	36	BK-BL		23	G-V
AL2	11	BL-BK		49	V-BR
T(7)	37	BK-O		24	BR-V
R(7)	12	O-BK		50	V-S
A(7)	38	BK-G		25	S-V

TABLE D

113A1 CONNECTING UNIT TERMINAL ASSIGNMENTS

CONNECTING BLOCK 2					
LEAD DESIG	TERMINAL	LEAD DESIG	TERMINAL	LEAD DESIG	TERMINAL
IT	1A-F	RX5	18D		49A-B
IR	2A-F	RX6	18E	RS1	38B
L	3A-F	RX7	18F	CG	39B
LG	4A-F	IT	19A	D1	40B
RG	5A-F	IR	20A	L, LA	41B
R0	6A	L	21A	BR	42B
R1	6B	LG	22A	TTG	43B
R2	6C	RG	23A	LK	44B
R3	6D	RX8	24A	J	45B
R4	6E	A	25A-F	TC	46B
R5	6F	A1	26A-F	TDX	38C
IT	7A-F	LG	27A-F	LT1	39C
IR	8A-F	L	28A-F	LT2	40C
L	9A-F	A	29A-F	AL1	41C
LG	10A-F	A1	30A-F	AL2	42C
RG	11A-F	LG	31A-F	FC1	43C
R6	12A	L	32A-F	FC2	44C
R7	12B	A	33A-F	FC3	45C
R8	12C	A1	34A-F	SP	46C
R9	12D	LG	35A-F	M1	48C-D
RX0	12E	L	36A-F	M2	49C-D
RX1	12F	SS	38A		38E
IT	13A-F	Y1	40A	T(7)	40E
IR	14A-F	Y2	41A	R(7)	41E
L	15A-F	Y3	42A	A(7)	42E
LG	16A-F	Y4	43A	L(7)	43E
RG	17A-F	Y5	44A		49E
RX2	18A	RH	45A	±10V	46F
RX3	18B	BY1	46A	ACG	47F
RX4	18C		48A-B		49F

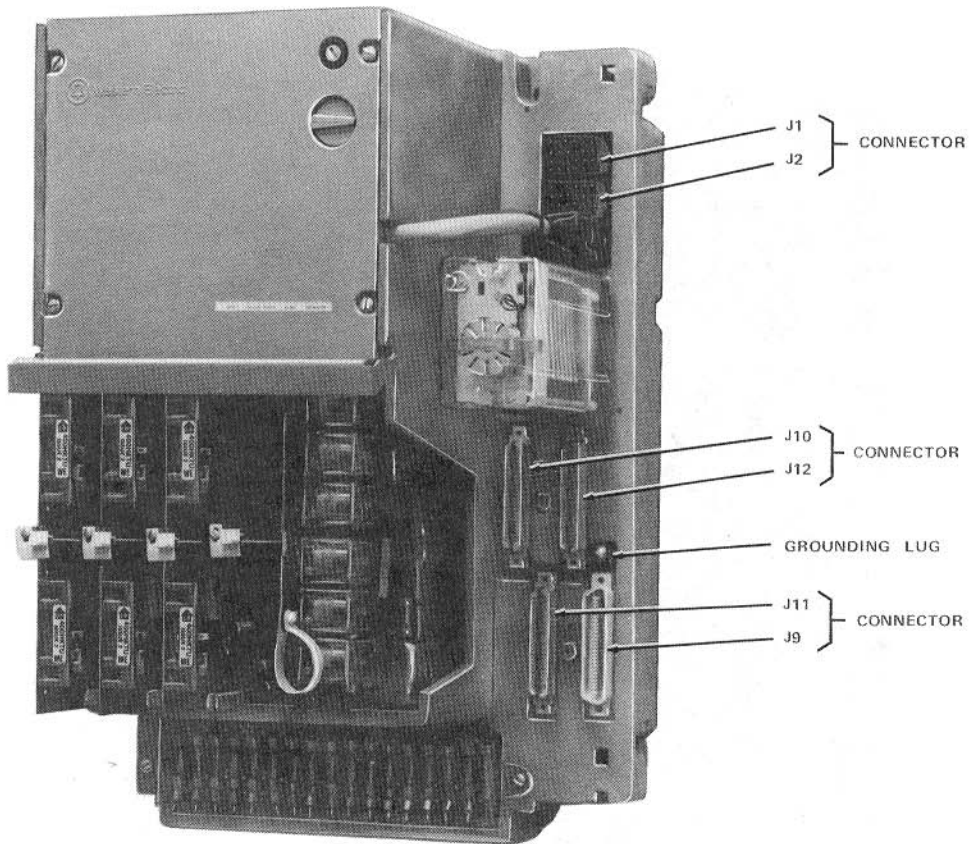


Fig. 1—630A Key Service Panel

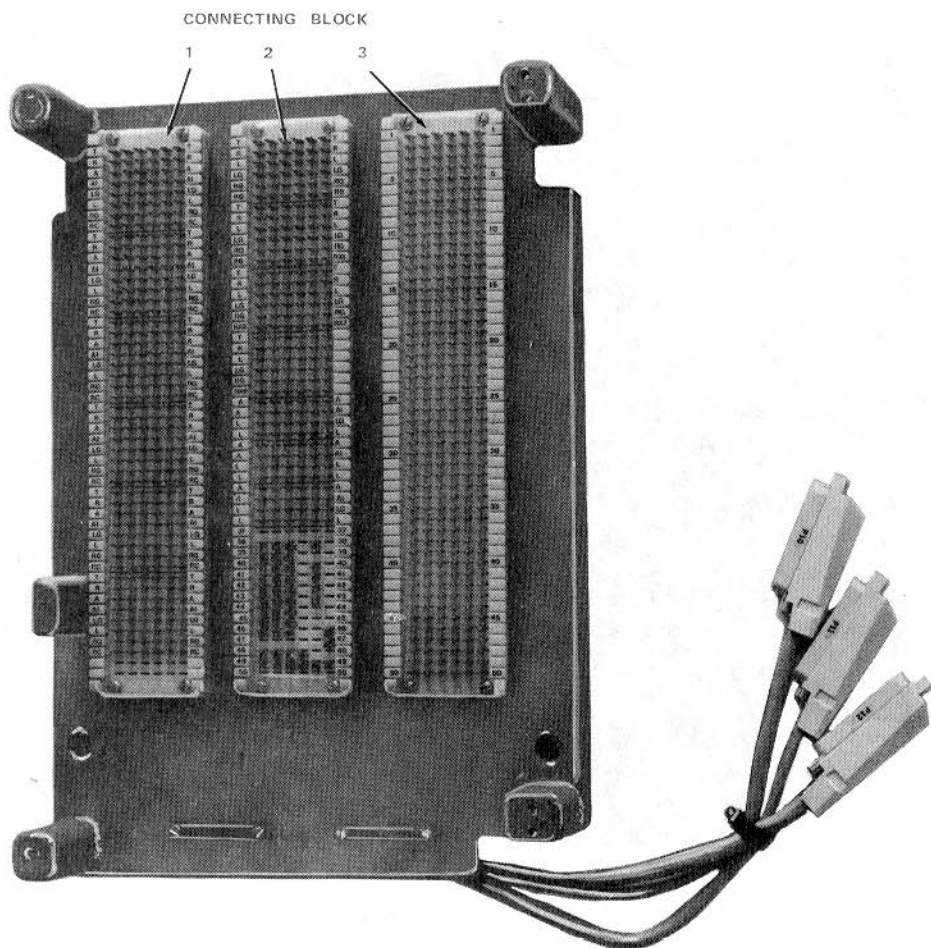


Fig. 2—113A1 Connecting Unit

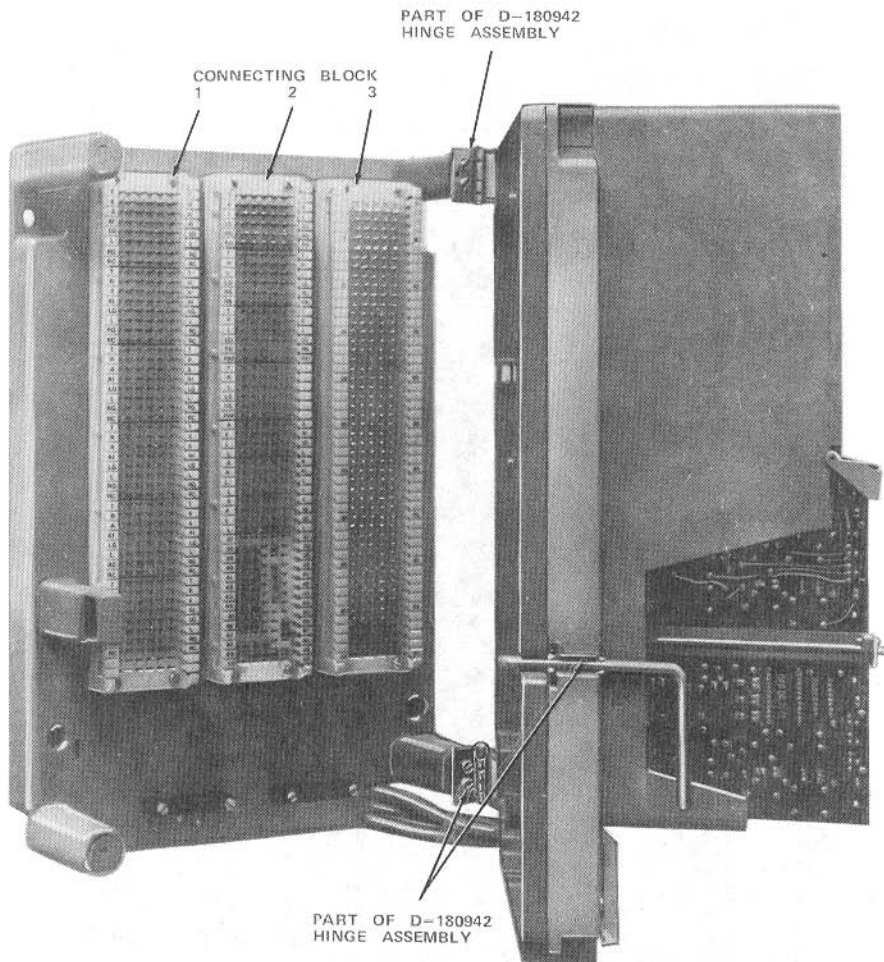


Fig. 3—630A Key Service Panel Mounted on 113A1 Connecting Unit

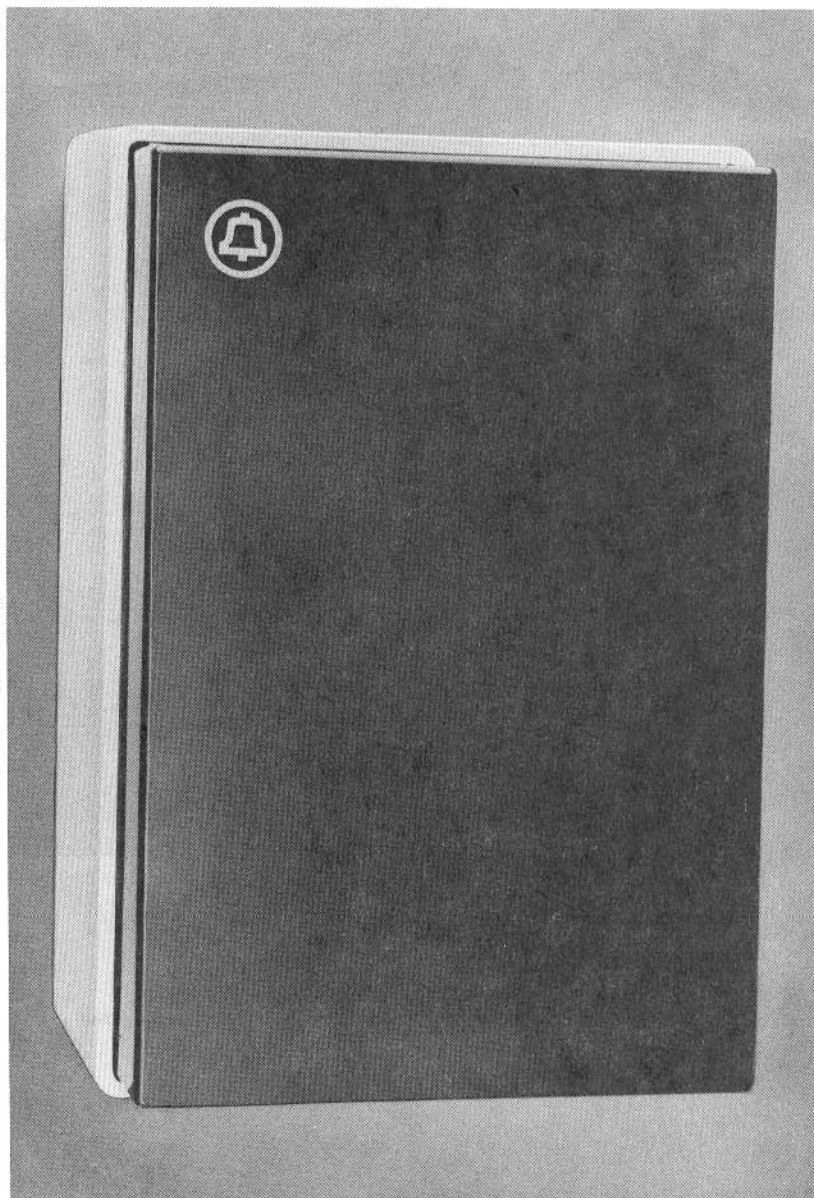


Fig. 4—161A Decorative Cover

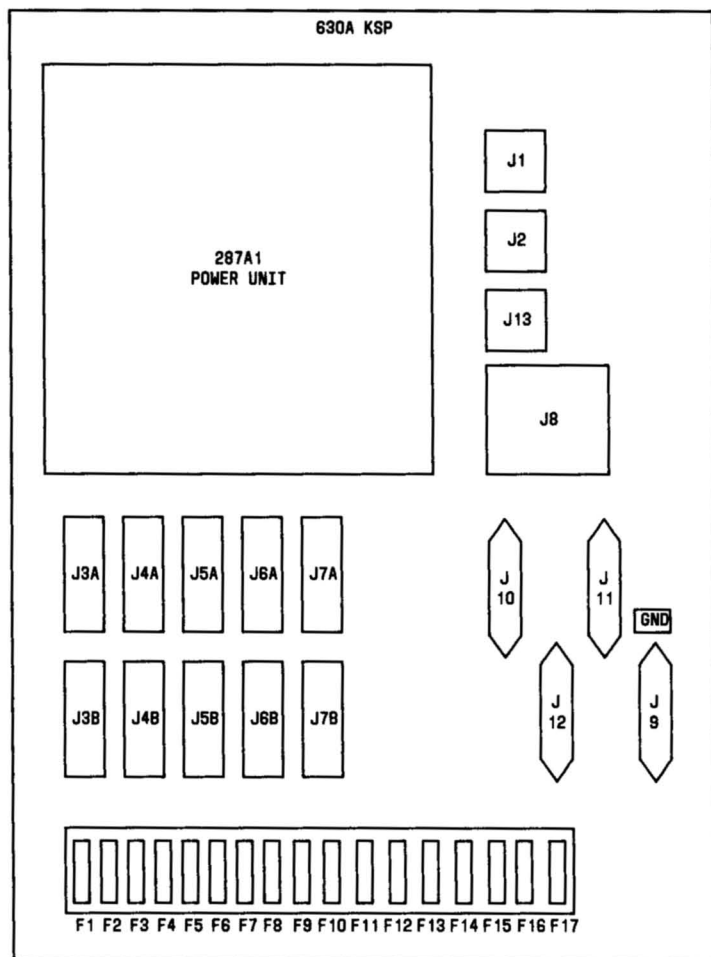


Fig. 5—630A Key Service Panel, Jack, and Fuse Block Locations

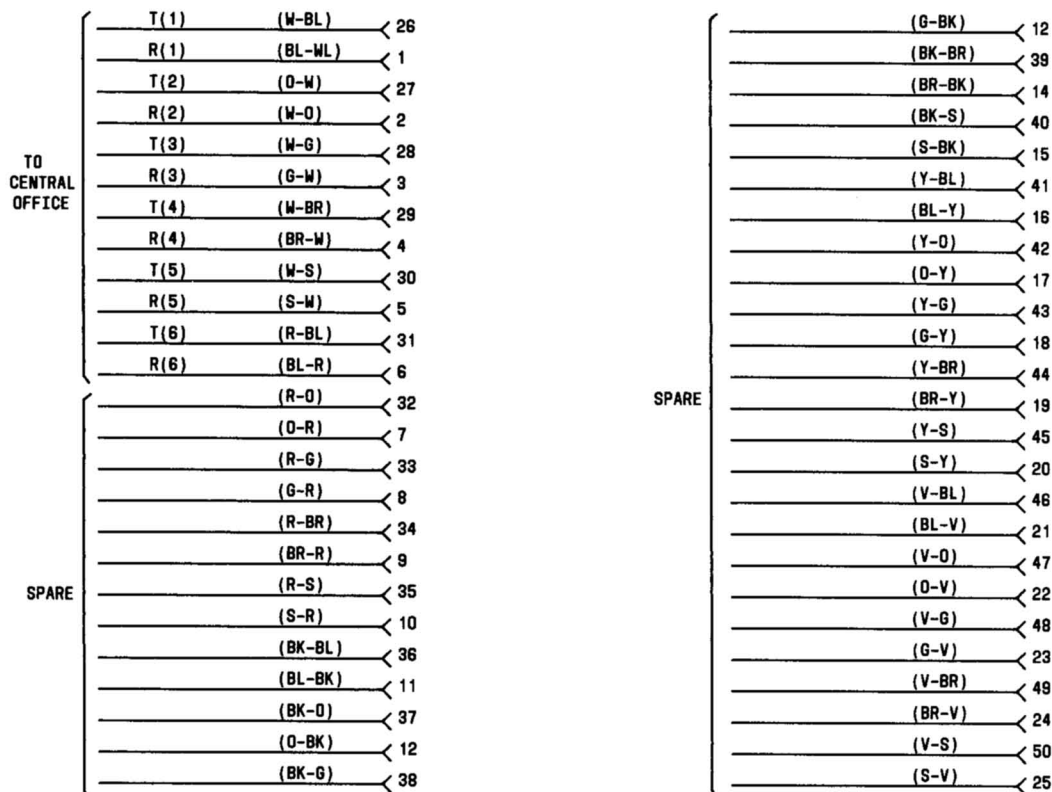
G30A PANEL
CONN J9

Fig. 6—630A Key Service Panel, Cable Connector Terminal Assignments (Sheet 1 of 4)

630A PANEL
CONN J10

TO KEY TEL SET,
TT ADAPTER KTU
OR DELUXE
INTERCOM KTUS
VIA CONN BLK 2
OF 113A1 CONN
UNIT OR
DISTRIBUTION
FIELD

IT	(W-BL)	26
IR	(BL-WL)	1
D1, A	(D-W)	27
A1	(W-D)	2
LG	(W-G)	28
L, LA	(G-W)	3
RO	(W-BR)	29
RG	(BR-W)	4
R1	(W-S)	30
RG	(S-W)	5
R2	(R-BL)	31
RG	(BL-R)	6
R3	(R-D)	32
RG	(D-R)	7
R4	(R-G)	33
RG	(G-R)	8
R5	(R-BR)	34
RG	(BR-R)	9
R6	(R-S)	35
RG	(S-R)	10
R7	(BK-BL)	36
RG	(BL-BK)	11
R8	(BK-D)	37
RG	(D-BK)	12
R9	(BK-G)	38

TO INTERCOM
AUD SIGNAL
VIA CONN BLK 2
OF 113A1 CONN
UNIT OR
DISTRIBUTION
FIELD

TO INTERCOM
AUD SIGNAL VIA
CONN BLK 2 OF
113A1 CONN UNIT
OR DISTRIBUTION
FIELD

TO TT ADAPTER
KTU OR DELUXE
INTERCOM KTUS
VIA CONN BLK 2
OF 113A1 CONN UNIT
OR DISTRIBUTION
FIELD

RG	(G-BK)	12
RX0	(BK-BR)	39
RG	(BR-BK)	14
RX1	(BK-S)	40
RG	(S-BK)	15
RX2	(Y-BL)	41
RG	(BL-Y)	16
RX3	(Y-D)	42
RG	(D-Y)	17
RX4	(Y-G)	43
RG	(G-Y)	18
RX5	(Y-BR)	44
RG	(BR-Y)	19
RX6	(Y-S)	45
RG	(S-Y)	20
RX7	(V-BL)	46
RG	(BL-V)	21
RX8	(V-D)	47
RG	(D-V)	22
SS	(V-G)	48
RN	(G-V)	23
SP	(V-BR)	49
TDX	(BR-V)	24
SPARE	(V-S)	50
SPARE	(S-V)	25

Fig. 6—630A Key Service Panel, Cable Connector Terminal Assignments (Sheet 2 of 4)

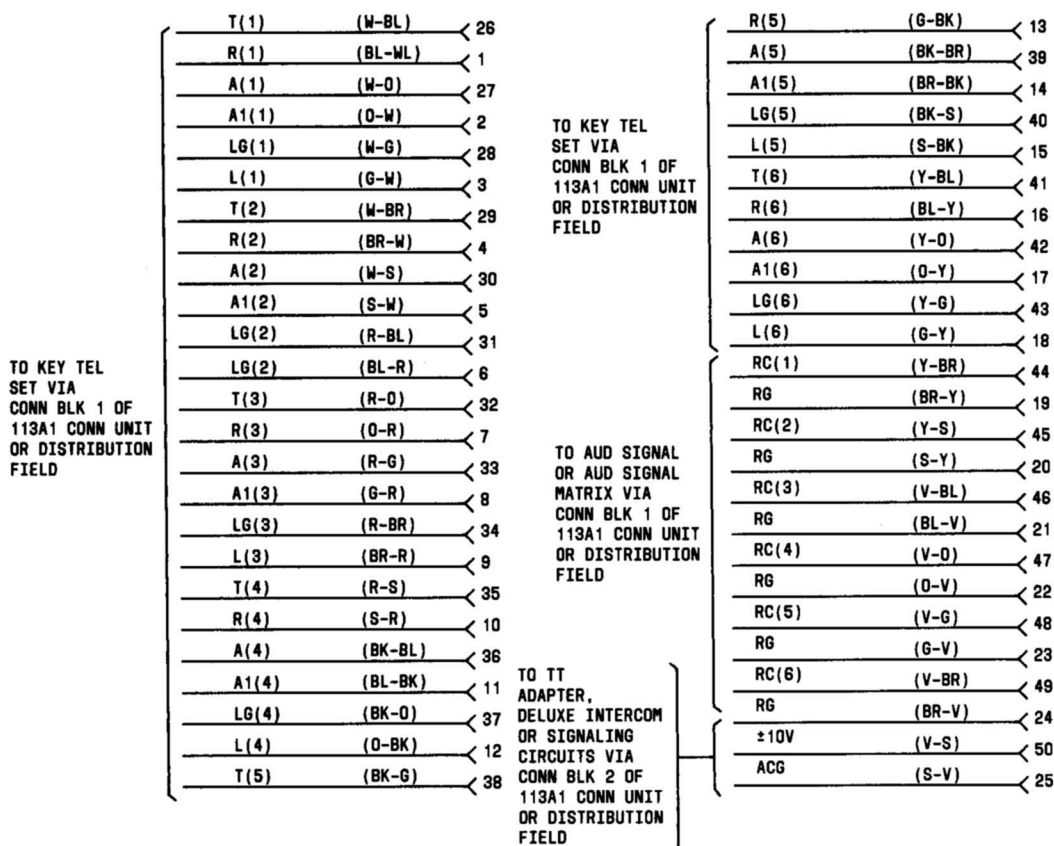
630A PANEL
CONN J11

Fig. 6—630A Key Service Panel, Cable Connector Terminal Assignments (Sheet 3 of 4)

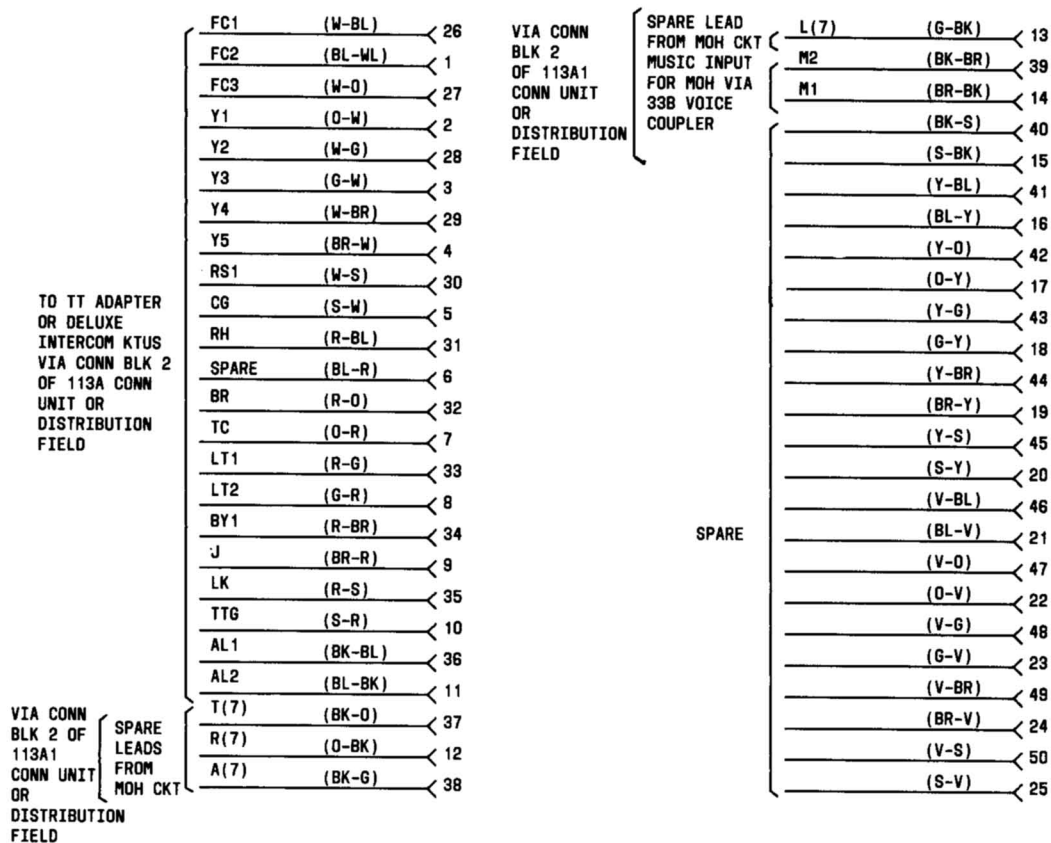
630A PANEL
CONN J12

Fig. 6—630A Key Service Panel, Cable Connector Terminal Assignments (Sheet 4 of 4)

113A1 CONNECTING UNIT

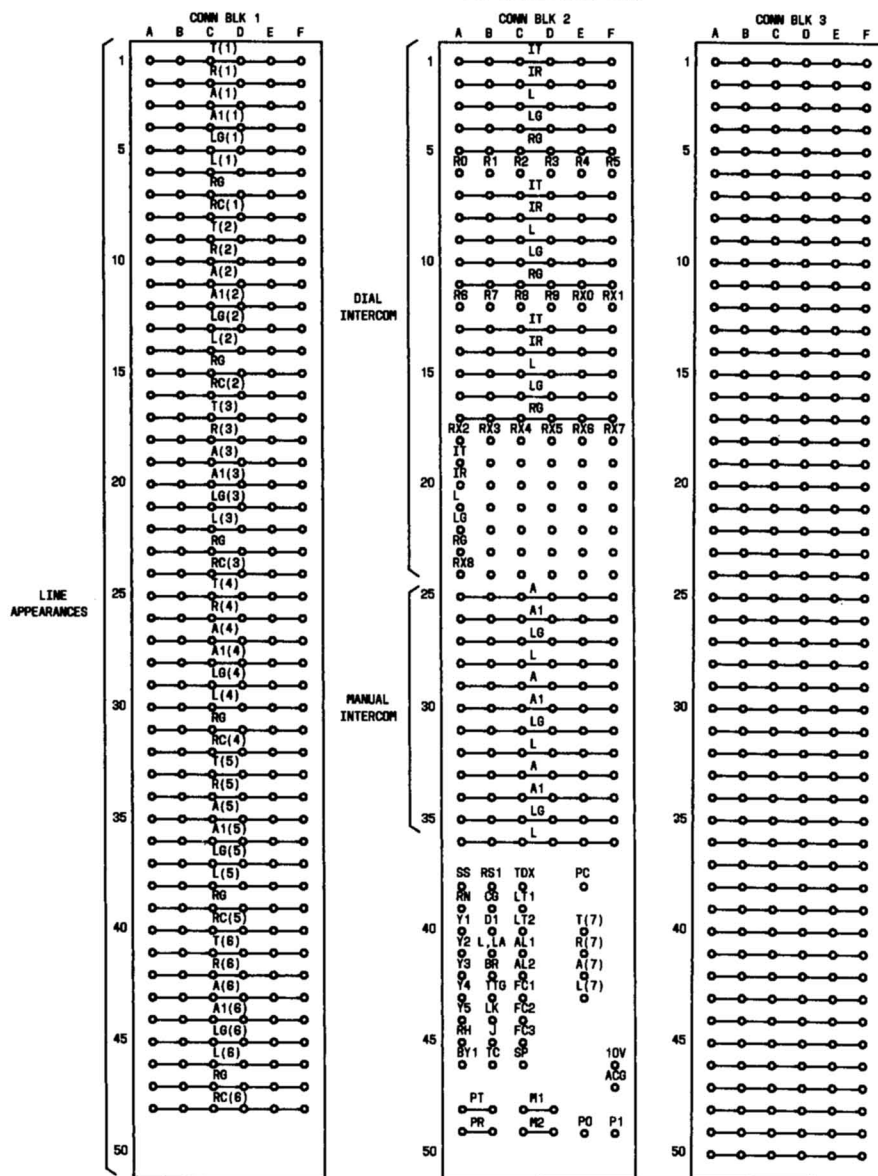


Fig. 7—113A1 Connecting Unit, Connecting Block Assignment

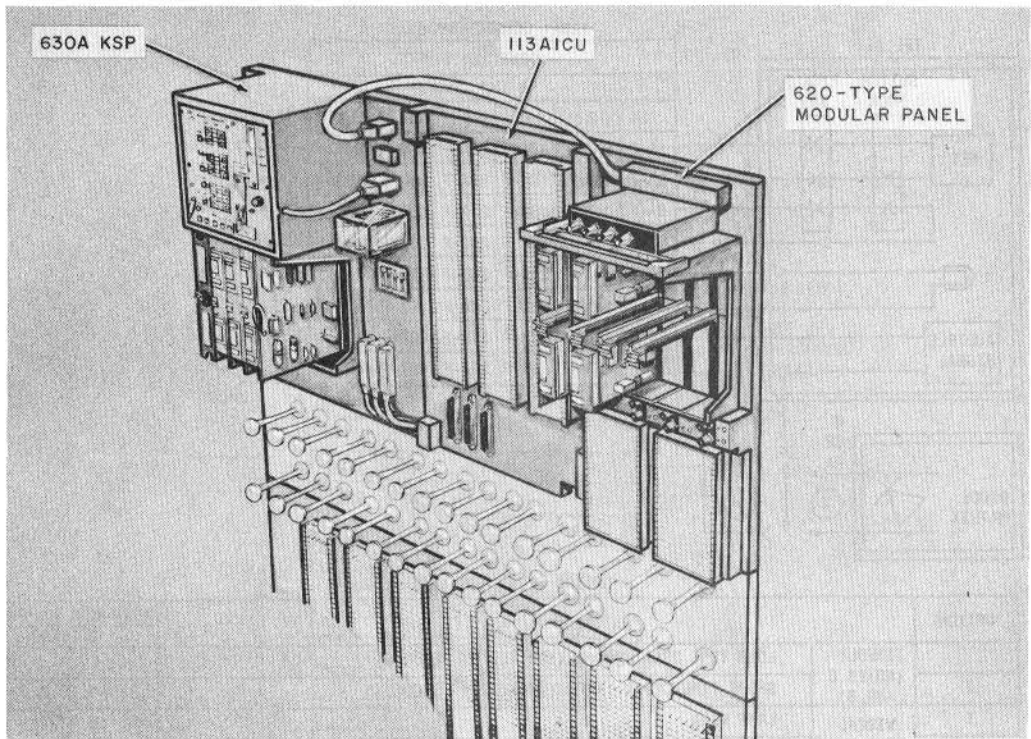
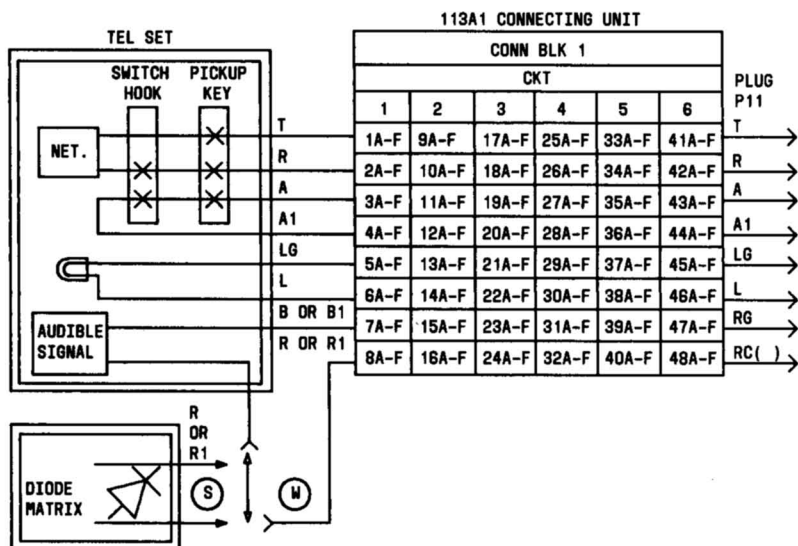


Fig. 8—Typical 630A Key Service Panel and 113A1 Connecting Unit With 620-Type Modular Panel for Large Key Telephone Installations



OPTION STRAPPING (SEE NOTE 1)

OPTION	FEATURES		OPTION BLOCK STRAPPING
			400D (MD)
	TIMEOUT (NOTES 5 AND 6)	LONG TIME DELAY (APPROXIMATELY 30 SECONDS)	
Z		SHORT TIME DELAY (APPROXIMATELY 10 SECONDS)	1 TO 2
Y	VISUAL	LAMP WINK	10 TO 7
X	HOLD CKT	LAMP STEADY	9 TO 7
W	AUDIBLE SIGNAL	INTERRUPTED RING	5 TO 8
T		STEADY RING	6 TO 8
S		COMMON WITH DIODE MATRIX CONTROL	5 TO 8
V		COMMON WITH RELAY CONTROL	4 TO 8
ZC (NOTE 2)	DELAYED HOLD RELEASE	RELEASE OF HOLDING BRIDGE FROM CO/PBX BY LINE CURRENT OPENS GREATER THAN	NOTE 6
ZJ			

* WHEN USED WITH Z OPTION.

† WHEN USED WITH LONG TIME DELAY.

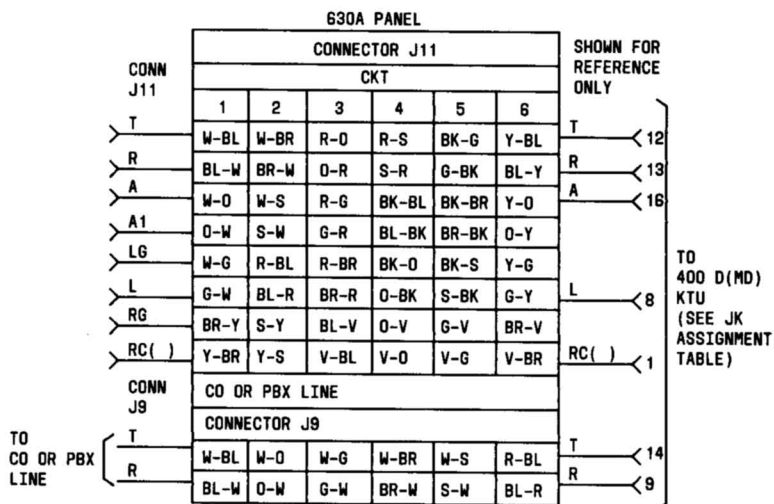
‡ ONLY BARE WIRE STRAPS SHOULD BE

USED ON KTUS MANUFACTURED PRIOR TO 1986.

NOTES:

1. THE 400D (MD) KTU IS FACTORY WIRED FOR 10-SECOND TIMEOUT, PLUS WINKING-HOLD LAMP, AND W AND S WIRING OPTIONS.
2. WHEN THE ZC OPTION IS USED DUE TO THE DELAYED RELEASE OF THE HOLDING BRIDGE, SOME TRANSMISSION LOSS IS ENCOUNTERED FOR APPROXIMATELY 1 SECOND WHEN A STATION REENTERS A HELD CALL.
3. V OPTION MAY BE USED IN LOCALLY ENGINEERED ARRANGEMENTS OR RELAY COMMON AUDIBLE ARRANGEMENTS.
4. ZD OPTION IS REPLACED BY ZJ OPTION. HOWEVER, IT IS NOT NECESSARY TO UPDATE CIRCUITS PREVIOUSLY MODIFIED WITH OPTION ZD.

Fig. 9—400D KTU (MD) Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit
(Sheet 1 of 2)



JK ASSIGNMENT TABLE

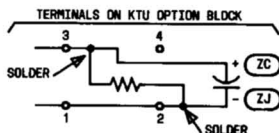
630A PANEL	
400 D(MD) TYPE KTU JK LOCATION	
CKT	JK
1	J3A
2	J3B
3	J4A
4	J4B
5	J5A
6	J5B

NOTES (CONT)

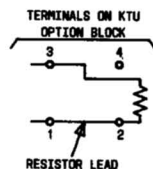
5. FOR 30 SECOND TIME-OUT CYCLE, REMOVE Z OPTION STRAP BETWEEN TERMINALS 1 AND 2.
6. TO PROVIDE TIME-OUT CYCLES OF RING-UP CIRCUITS FROM 3.4 TO 7.5 SECONDS, REPLACE Z OPTION STRAP WITH A KS-13490, L1 OR EQUIVALENT (1/2 WATT) RESISTOR. USE ONE RESISTOR LEAD AS A STRAP BETWEEN TERMINALS 1 AND 2 AND CONNECT THE OTHER LEAD TO TERMINAL 3. USE TABLE BELOW FOR RESISTOR VALUE REQUIRED FOR DESIRED TIME-OUT INTERVAL.

TIME IN SEC FROM 10 SEC TO:	RESISTOR MEGOHM	EFFECT ON DELAYED HOLD RELEASE OPTIONS	
		ZC	ZJ
7.5	1.2	NONE	NONE
6.7	.75	NOT	
5.0	.39	RECOMMENDED	
3.4	.20	(NOTE 5)	

IF THE TIME-OUT CYCLE IS REDUCED IN CONJUNCTION WITH ZC OR ZJ OPTION, CONNECT THE RESISTOR AND CAPACITOR AS SHOWN BELOW:

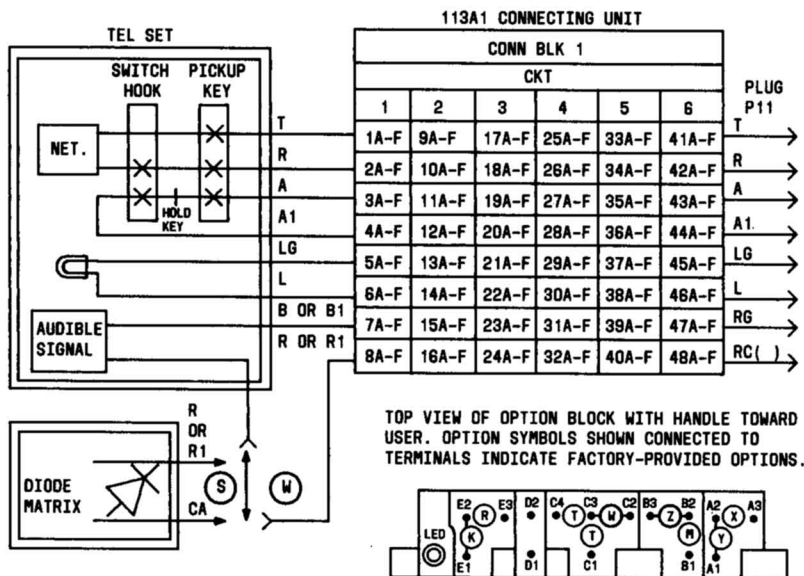


IF TIME-OUT CYCLE IS REDUCED, CONNECT RESISTOR AS SHOWN BELOW:



7. NO. 1 ESS SPECIAL LINE APPLIQUE CIRCUIT (SD-1A297) SHOULD BE USED IN APPLICATIONS WHERE ZC OPTION CANNOT BE APPLIED.
8. WHEN Z OPTION IS PROVIDED WITH ZC OR ZJ OPTIONS, REMOVE THE Z STRAP AND USE THE CAPACITOR LEAD AS A STRAP BETWEEN TERMINALS 1 AND 2.

Fig. 9—400D KTU (MD) Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit
(Sheet 2 of 2)



OPTION		FEATURE		CONNECT TERMINALS
M	RING TIMEOUT	LONG TIME DELAY (APPROXIMATELY 20 SECONDS)		B1-B2
Z		SHORT TIME DELAY (APPROXIMATELY 5.75 SECONDS)		B2-B3†
Y	VISUAL HOLD CKT	LAMP WINK		A1-A2†
X		LAMP STEADY		A2-A3
W	AUDIBLE SIGNAL	INTERRUPTED RING		C2-C3†
T		STEADY RING		C3-C4
S		COMMON WITH DIODE MATRIX CONTROL		C1-C3
V		COMMON WITH RELAY CONTROL		C1-C3
R	DELAYED HOLD RELEASE	RELEASE OF HOLDING BRIDGE FROM CO/PBX BY LINE CURRENT OPENS	MINIMUM OF 25 MS	E2-E3
K			600 MS	E1-E2

† DENOTES FACTORY-PROVIDED OPTIONS.

Fig. 10—400G KTU (MD) Connections (CO/BPX Line) in 630A Key Service Panel and 113A1 Connecting Unit
(Sheet 1 of 2)

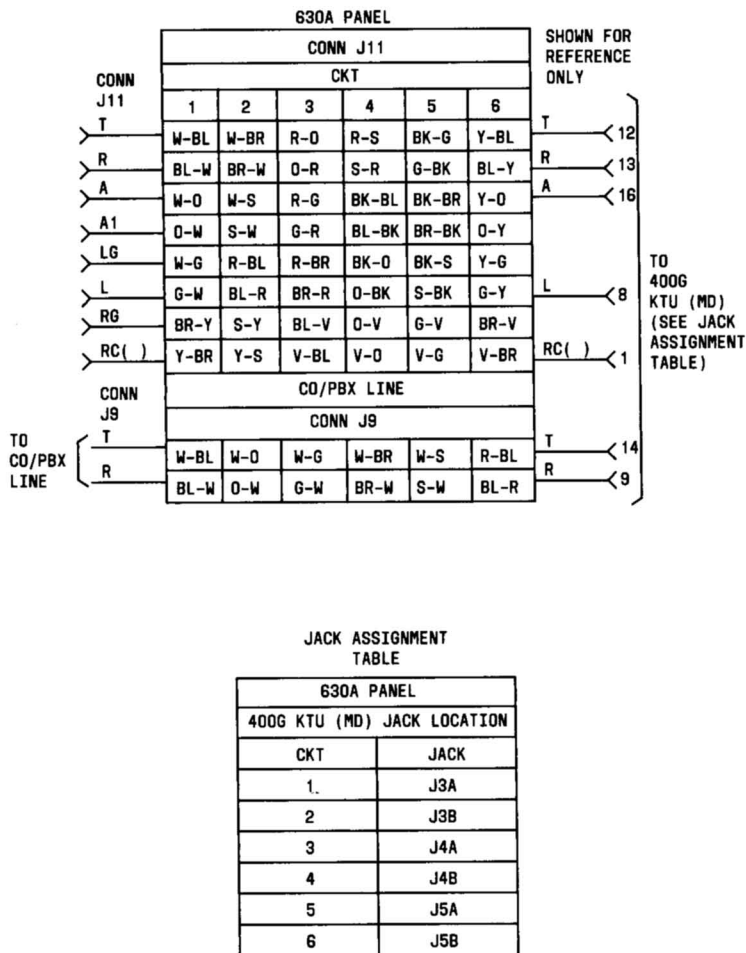
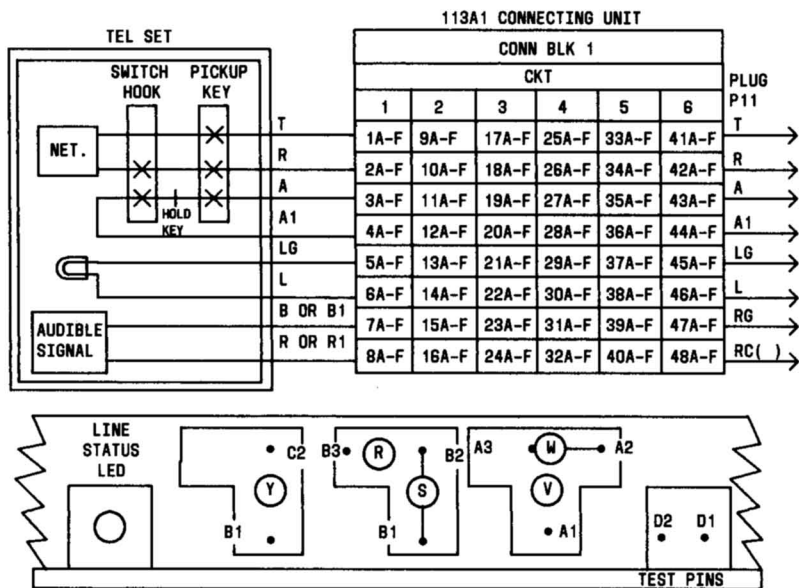


Fig. 10—400G KTU (MD) Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit
(Sheet 2 of 2)



TOP VIEW OF OPTION BLOCK-HANDLE ASSEMBLY.
OPTION SYMBOLS SHOWN CONNECTED ARE IN
FACTORY-INSTALLED POSITIONS.

OPTIONS

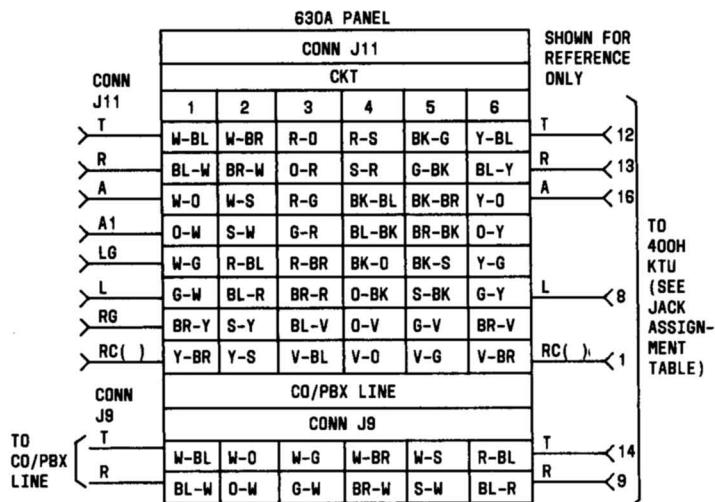
OPT	FEATURES	
T*†	CO OR PBX LINE CIRCUIT	
W*	AUDIBLE SIGNAL	INTERRUPTED RING
V		COMMON AUDIBLE WITH GROUND FOR RELAY CONTROL
S*	HOLD CIRCUIT RELEASE	LONG HOLD ABANDON TIMEOUT (FOR ESS #1, ESS #2, 812 PBX, 770 PBX, DIMENSION PBX)
R		SHORT HOLD ABANDON (FOR ALL OTHERS)
Y†	TIMEOUT	WITH 14 SECONDS
†		WITHOUT 6 SECONDS

* FACTORY INSTALLED.

† AN OPTION PLUG IS NOT PROVIDED. USE KS21290L7
OPTION PLUG COMCODE 841732613.

‡ T OPTION ISSUE 1 ONLY

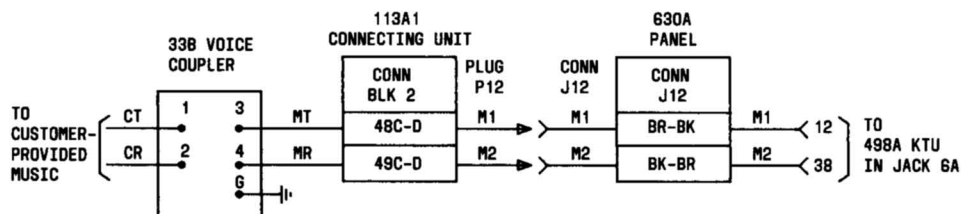
Fig. 11—400H KTU Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit (Sheet 1 of 2)



JACK ASSIGNMENT TABLE

630A PANEL	
400H KTU JACK LOCATION	
CKT	JACK
1	J3A
2	J3B
3	J4A
4	J4B
5	J5A
6	J5B

Fig. 11—400H KTU Connections (CO/PBX Line) in 630A Key Service Panel and 113A1 Connecting Unit (Sheet 2 of 2)

**NOTE:**

498A KTU CONTAINS 4 CKTS AND MUST BE EXPANDED TO 6 CKTS WITH THE ADDITION OF AN 116A1 CKT MODULE TO THE 498A KTU WHEN MORE THAN FOUR CO/PBX LINES ARE TO BE EQUIPPED WITH MUSIC-ON-HOLD.

Fig. 12—498A KTU Connections (Music-On-Hold) in 630A Key Service Panel and 113A1 Connecting Unit

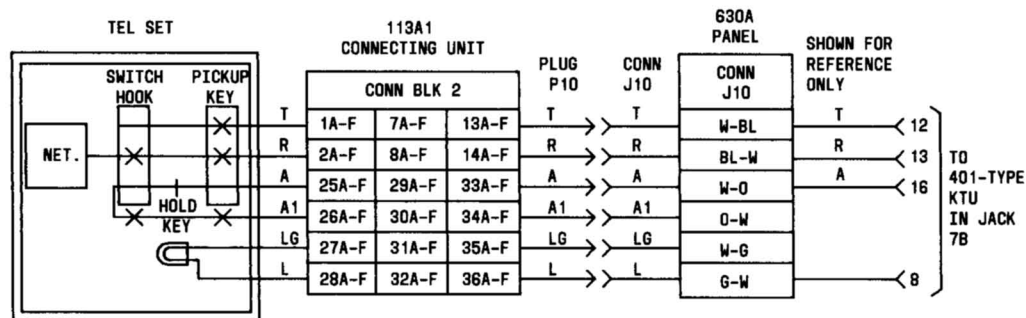


Fig. 13—401-Type KTU Connections (Manual Intercom) in 630A Key Service Panel and 113A1 Connecting Unit

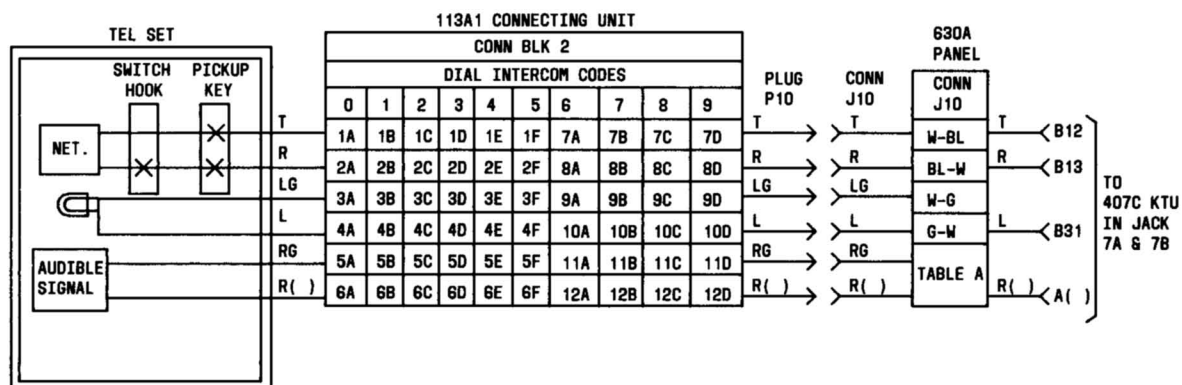


TABLE A

DIAL CODE	COLOR		TERMINAL
	R()	RG	
R0	W-BR	BR-W	A34
R1	W-S	S-W	A28
R2	R-BL	BL-R	A23
R3	R-O	O-R	A25
R4	R-G	G-R	A26
R5	R-BR	BR-R	A20
R6	R-S	S-R	A21
R7	BK-BL	BL-BK	A32
R8	BK-O	O-BK	A30
R9	BK-G	G-BK	A29

Fig. 14—470C KTU Connections (Dial Intercom, 10-Code Selector) in 630A Key Service Panel and 113A1 Connecting Unit



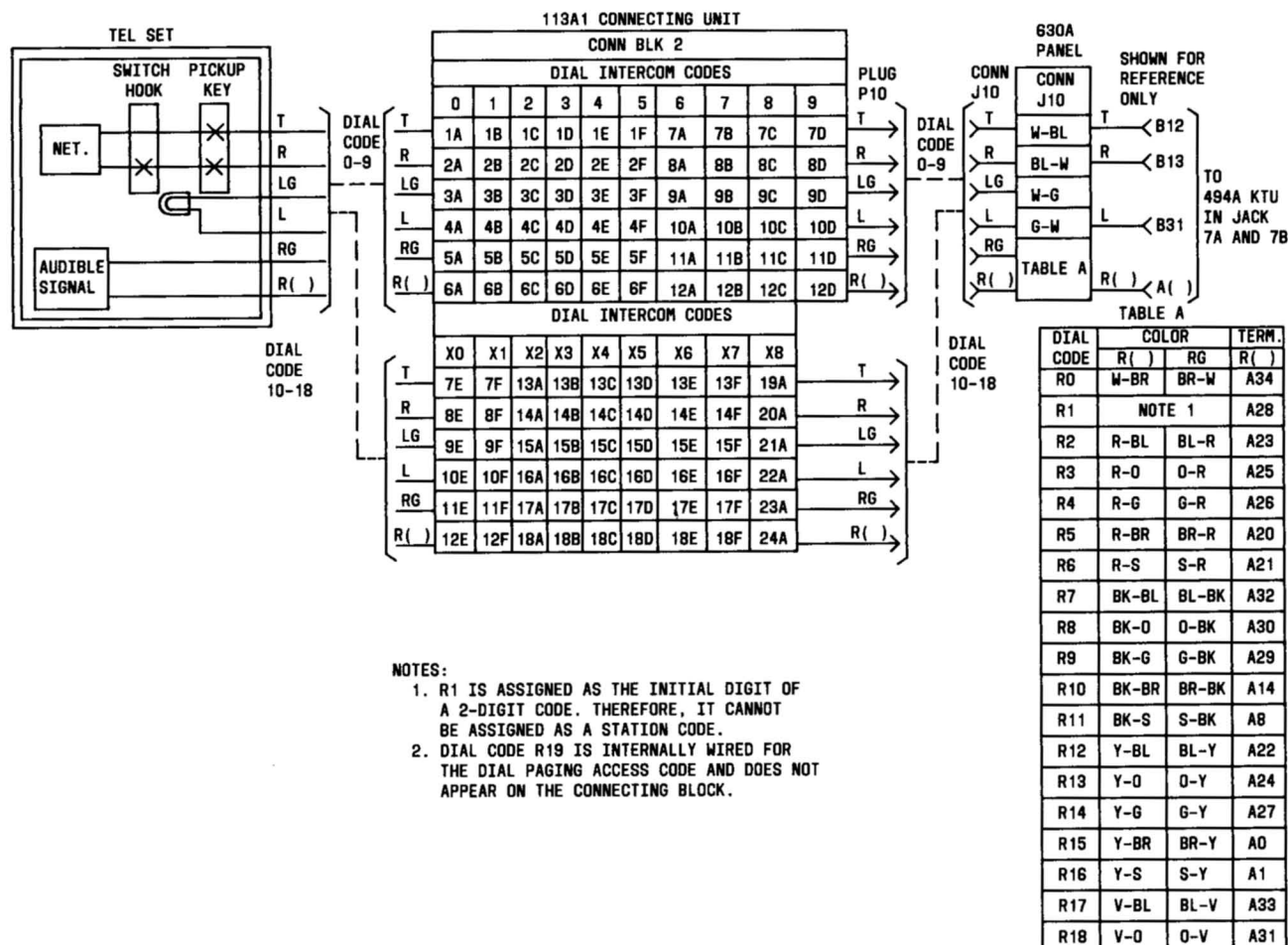


Fig. 16—494A KTU Connections (TOUCH-TONE Adapter, 19-Code Selector) in 630A Key Service Panel and 113A1 Connecting Unit

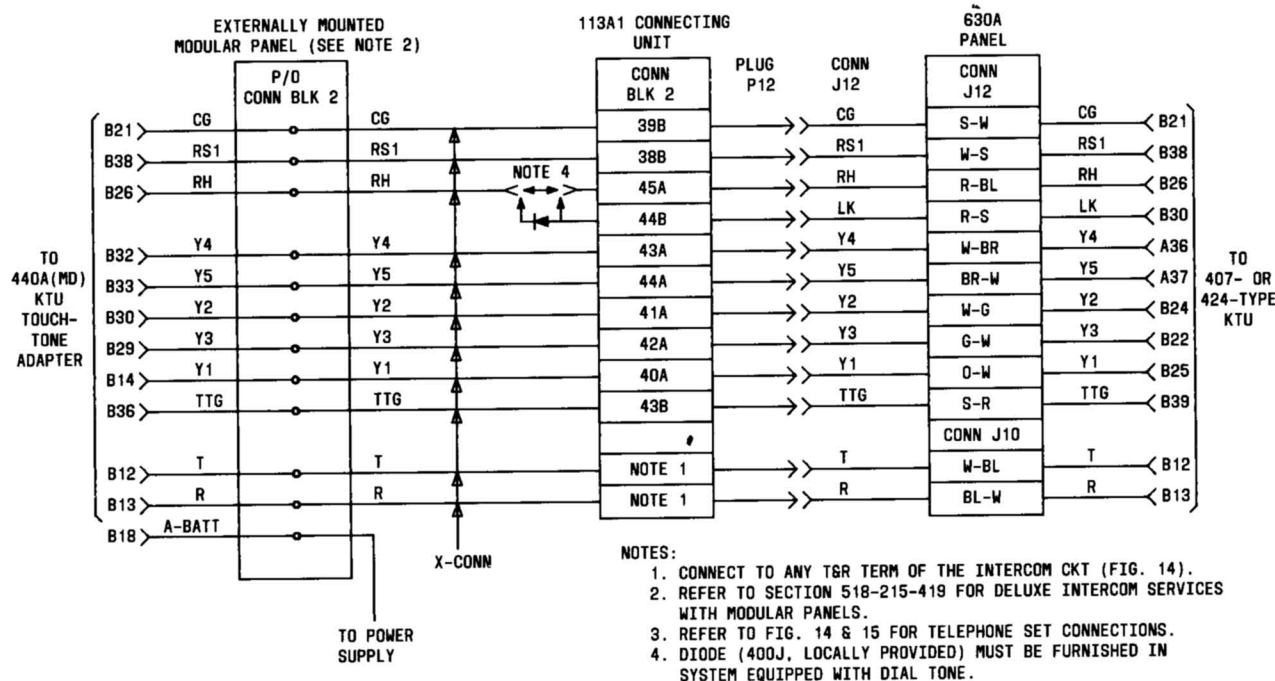


Fig. 17—407- or 424-Type KTU (Rotary Selector) Connections in 630A Key Service Panel and 113A1 Connecting Unit Wired to Externally Mounted 440A KTU (MD) (TOUCH-TONE Adapter)

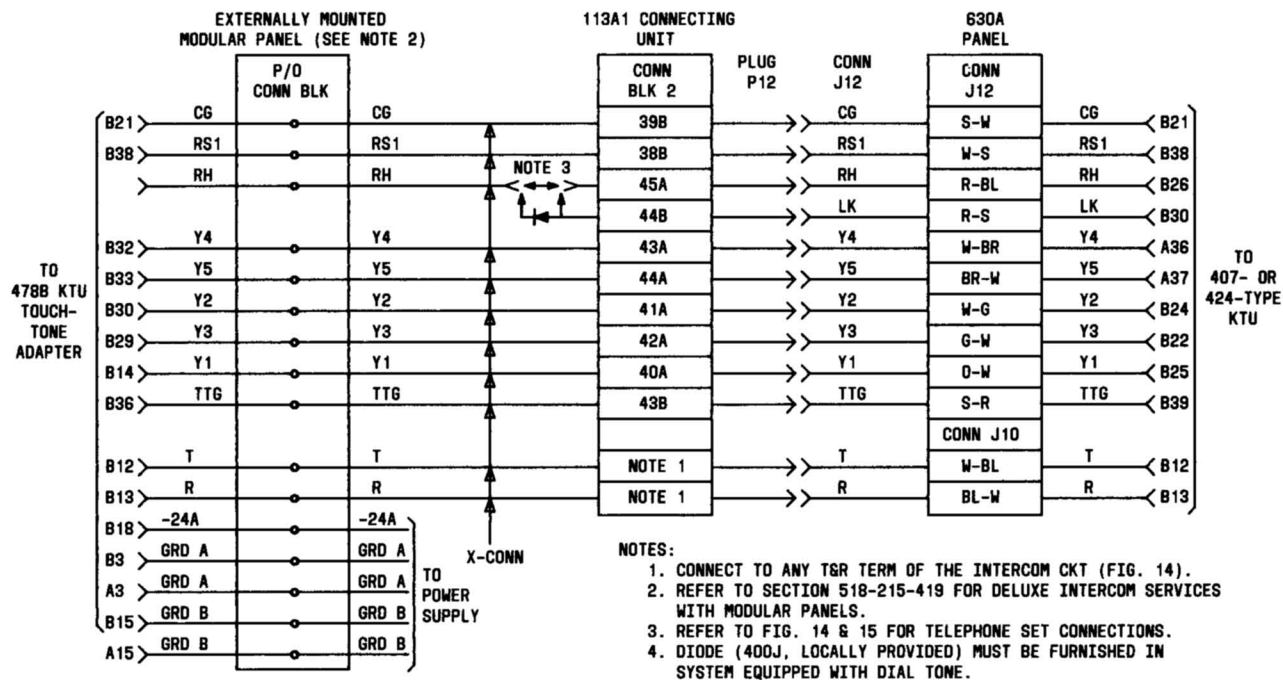
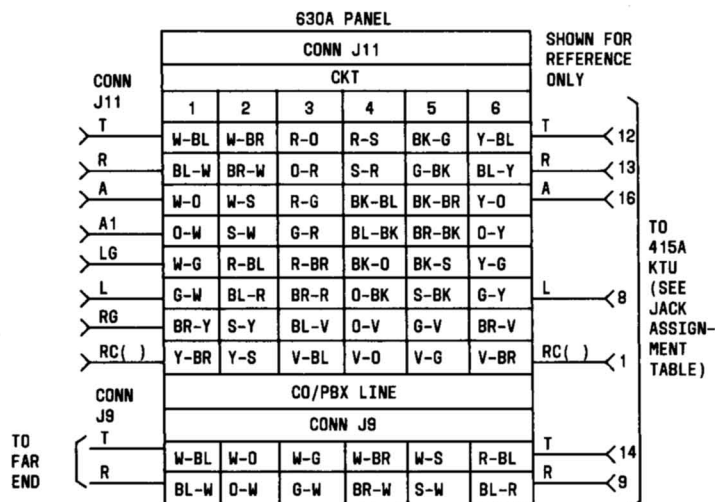


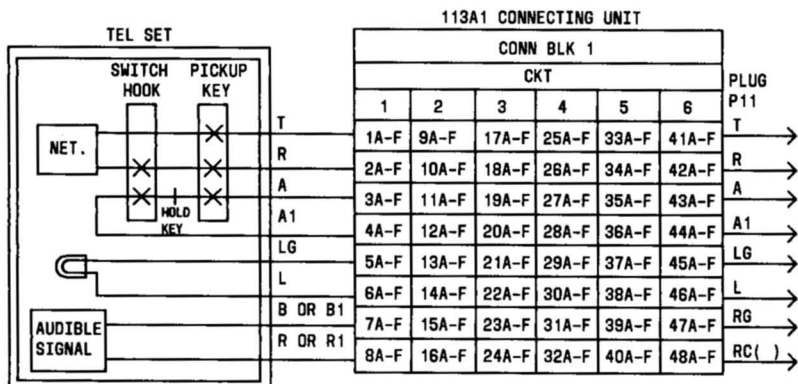
Fig. 18—407- or 424-Type ((Rotary Selector) Connections in 630A Key Service Panel and 113A1 Connecting Unit Wired to Externally Mounted 478B KTU (TOUCH-TONE Adapter)



JACK ASSIGNMENT TABLE

630A PANEL	
415A KTU JACK LOCATION	
CKT	JACK
1	J3A
2	J3B
3	J4A
4	J4B
5	J5A
6	J5B

Fig. 19—415A KTU Connections (Automatic, DC Signaling, Private Line) in 630A Key Service Panel and 113A1 Connecting Unit (Sheet 1 of 2)



NOTES:

1. REFER TO SECTION 518-215-400 FOR ADDITIONAL INFORMATION ON THE 415A KTU.
2. SEE NOTE 1 IN TABLE A FOR RESTRICTIONS ON MUSIC-ON-HOLD FOR CO LINES WHEN THE 415A KTU IS USED

Fig. 19—415A KTU Connections (Automatic, DC Signaling, Private Line) in 630A Key Service Panel and 113A1 Connecting Unit (Sheet 2 of 2)