

REGISTRATION SERVICE MANUAL



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REGISTRATION SERVICE MANUAL

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Introduction

This manual is a compilation of the BSPs covering the Federal Communications Commission Registration Program. The manual is intended to support the Plant Craftsperson in his daily work operations while installing and maintaining Registration Arrangements.

For information not contained in this manual, refer to the standard BSP files.

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REGISTRATION INTERFACE

SELECTION AND GENERAL INFORMATION

1. GENERAL

1.01 This section contains information for the identification and selection of interface apparatus and general information pertaining to the Federal Communications Commission's (FCC) Registration Program for registered telephone, ancillary, data, and protective circuitry of the type associated with telephone, ancillary, and data customer-provided equipment (CPE).

Note: Customer-provided data equipment connected to the network via the interfaces in this section must have a fixed signal power level under -9 dBm. See Section 590-101-103 for connection of other data devices.

1.02 This section is reissued to add information on USOCs RJ16X, RJ17C, RJ18C, RJ18W, RJ19C, RJ19W, RJ31X, RJ36X, and RJ37X.

1.03 The FCC Registration Program permits the direct electrical connection to the telecommunications network of certain telephone, ancillary, and data CPE which meet FCC registration standards.

1.04 Bell System Practices covering the "standard jack" interfaces under the registration program are as follows:

- Section 463-400-110—RJA1X, RJA2X, RJA3X—Adapter Arrangements
- Section 463-400-120—RJ11C, RJ11W, RJ12C, RJ12W, RJ13C, RJ13W, RJ17C, RJ18C, RJ18W, RJ19C, RJ19W—Bridged Single-Line Tip and Ring and Make-Busy Arrangements
- Section 463-400-121—RJ15C—Bridged Single Line Weatherproof Tip and Ring Arrangements

- Section 463-400-130—RJ16X, RJ31X, RJ32X, RJ33X, RJ34X, RJ35X, RJ36X, RJ37X—Series Single-Line Tip and Ring Arrangements
- Section 463-400-140—RJ14C, RJ14W—Bridged Two-Line Tip and Ring Arrangements
- Section 463-400-141—RJ21X, RJ22X, RJ23X, RJ24X—Bridged Multiple Tip and Ring Arrangements.

1.05 The apparatus required to provide "standard jack" interfaces used under the FCC Registration Program are covered in the following sections:

- Bridging Adapters—Section 461-200-102
- Miniature Ribbon Connectors—Section 461-200-101
- Modular Jacks—Section 503-100-100
- Jacks, Plugs, and Adapters—Section 461-630-100
- 625-, 630- and 635-Type Connecting Blocks—Section 461-610-100.

2. DESCRIPTION

2.01 Table A provides Uniform Service Order Codes (USOCs), equipment used, technical references, BSP numbers, description, and typical CPE to be connected.

3. INSTALLATION

3.01 Each telephone company interface requires a specific wiring arrangement. See Table A for reference to the BSP applicable to each standard interface; these BSPs cover complete descriptions and wiring diagrams for the interfaces. Wiring diagrams of the jacks or adapters used as an interface will designate the contacts by number.

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The numbering arrangement is established by looking into the jack with the release clip opening at the bottom, counting the contacts from left to right. Numbering will be on the basis of the maximum number of contact positions although all positions of the jack may not be equipped. Unused contacts are reserved for telephone company use and are handled according to local instructions.



To assure that proper interfaces are furnished, each USO-coded termination (standard jack) must be wired according to the BSP covering that USOC.

3.02 All wiring required for connection of the interfaces in these BSPs is to be furnished and installed by the telephone company. Registered CPE must be modular plug-ended and connected to the telephone company switched network only through the telephone company-provided interface.

3.03 The interface equipment should be installed in a location mutually acceptable to the customer and the telephone company. The location should facilitate telephone company maintenance and/or customer disconnection for trouble isolation purposes. Where possible, and agreeable with the customer, locate the interface jack as near as possible (approximately 12 inches) to an electrical outlet.

3.04 Surface mounted connecting blocks should be mounted with the modular jack facing downward if the connecting block is at a sufficient height to permit a plug to be inserted with ease. As a second choice, the jack should face to either side. Do not mount a connecting block with the jack facing up—this allows contaminants to enter the jack more easily. A minimum clearance of 3 inches is required directly in front of the modular jack entry to allow for connection and disconnection of equipment, including the possible use of adapters.

3.05 Each installation of a standard interconnection jack(s) should be tested for dial tone, audible noise, ringback, proper tip and ring polarity, and “A” lead control if applicable. Series type jacks should be tested for proper mechanical contact closure to verify that telephone company-provided equipment connected on the “field side” of the series connection will operate properly with or without the registered CPE connected to the standard jack.

Note: The telephone company is not responsible if the registered CPE fails to maintain continuity through the series connection, thus causing the telephone company-provided equipment to malfunction.

If the registered CPE device is readily available and can be quickly and conveniently connected, request the customer to connect the device(s) and verify to his satisfaction that the jack and his equipment work properly. If there is a problem other than ringing, advise the customer that the type of jack ordered is installed and functioning properly. The customer should be advised to disconnect the registered equipment, to verify with the manufacturer or supplier whether the correct standard jack has been ordered, and to follow the manufacturer’s recommended repair procedures.

Note: The total number of telephone company and CPE equivalent ringers bridged across the CO/PBX line must not exceed the limitations outlined in Section 500-114-100 for individual line, capacitor-coupled ringers. If the ringer limitation is exceeded, the customer can do one or a combination of the following.

- (a) Arrange to have the ringer(s) in the CPE disconnected if possible, or arrange to obtain a similar device with a lesser ringer equivalence. **This is not to be done by telephone company personnel.**
- (b) Request the ringer(s) in the telephone company equipment be disconnected.
- (c) Cancel the existing service order.

4. MAINTENANCE

4.01 The telephone company is responsible for providing standard interfaces as described in Sections 463-400-100 through 463-400-141. The telephone company has no responsibility for CPE devices connected to the network via these interfaces. The customer is responsible for the repair of any CPE. No attempt should be made to install, test, modify, or repair customer-owned and maintained equipment.

Caution: Telephone company employees must be sure that commercially powered CPE is disconnected from power and from the telephone company jack

***before working on a standard interface
or its associated inside wiring.***

4.02 When in the judgment of repair personnel the trouble is located in or caused by the CPE, Maintenance of Service Charge Billing should be initiated as required and as outlined in the following:

- Section 660-101-312—Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE)
- Section 660-101-318—Tariff and Registration Violation Notice Procedures.

→ TABLE A ←
GENERAL INFORMATION—REGISTRATION ARRANGEMENTS

USOC	EQUIPMENT USED	DESCRIPTION	TYPICAL CPE TO BE CONNECTED	BSP NUMBER	TECH REF
RJA1X	225AW Adapter	Adapts a modular plug to a 4-prong jack*	Automatic Answering Sets and Announcement Sets	463-400-110	PUB 47102
RJA2X	267AW Adapter	Converts one modular jack to two modular jacks*			
RJA3X	224AW Adapter	Adapts a modular plug to a 12-prong jack*			
RJ11C	See Note	Bridged connection of a single-line tip and ring — surface or flush mounted		463-400-120	PUB 47102
RJ11W	630A Conn Block	Same as above except for portable wall-mounted device			
RJ12C	See Note	Bridged connection of a single-line tip and ring ahead of the line circuit with "A" lead control — surface or flush mounted			
RJ12W	630A Conn Block	Same as above except for portable wall-mounted device			
RJ13C	See Note	Bridged connection of a single-line tip and ring behind the line circuit with "A" lead control — surface or flush mounted			
RJ13W	630A Conn Block	Same as above except for portable wall-mounted device			
RJ14C	See Note	Bridged connection of 2-line tip and ring — surface or flush mounted		2-line Ancillary Devices	463-400-140
RJ14W	630A Conn Block	Same as above except for portable wall-mounted device			
RJ15C	B weatherproof female jack AT-8732	Bridged connections of a single line weatherproof tip and ring arrangement	Single line tel set	463-400-121	PUB 47102
RJ16X		Bridged connections of a single-line tip, ring, MI, and MIC leads	-9 dBm (permissive) Data Equipment With MI (Mode Indication) and MIC (Mode Indication Common Leads)	463-400-130	PUB 47102
RJ17C	See Note	Bridged connection of a single-line tip and ring	Special Nonkey Telephone Sets and Contain Hospital Critical Core Areas (ECG Machine)	463-400-120	PUB 47102

GENERAL INFORMATION—REGISTRATION ARRANGEMENTS

USOC	EQUIPMENT USED	DESCRIPTION	TYPICAL CPE TO BE CONNECTED	BSP NUMBER	TECH REF
RJ18C	74D Conn Block or Equivalent	Bridged connection of single-line tip and ring and make-busy MB/MB1 leads	Answering Sets or Other Equipment Requiring Make-Busy Arrangement	463-400-120	PUB 47102
RJ18W	630A Conn Block E/W 6 Contact Jack	Same as above except for portable wall-mounted device			
RJ19C	74D Conn Block or Equivalent	Bridged connection of single-line tip and ring behind line circuit with "A" lead control and make-busy MB/MB1 leads			
RJ19W	630A Conn Block E/W 6 Contact Jack	Same as above except for portable wall-mounted device			
RJ21X	KS-16690 Connector or Equivalent	Bridged connection of the tip and ring of a multiple number of CO/PBX trunks (max. 25)	Traffic Measuring Devices	463-400-141	PUB 47102
RJ22X		Bridged connection of up to 12 CO/PBX trunks with the tip and ring bridged ahead of the line circuit with "A" lead control	Multiple Answering Sets		
RJ23X		Same as above except T, R, A, and A1 are bridged behind the line circuit	Conferencing Sets		
RJ24X		Provides same T, R, and A appearances plus A1 of a standard 5-line key telephone set			
RJ31X	635A or 635B Conn Block	When plugged in, CPE is placed in series with tip and ring ahead of all station equipment	Alarm Dialers	463-400-130	PUB 47102
RJ32X		Same as above except CPE is connected in series with one station	Series Dialers		
RJ33X		Series tip and ring connection ahead of a KTS line circuit plus bridged A and A1 behind line circuit			
RJ34X		Series tip and ring plus bridged A and A1 behind KTS line circuit			
RJ35X		Provides a series tip and ring connection of all lines appearing in a key telephone set plug bridged A and A1 leads			

→ TABLE A (Contd) ←

GENERAL INFORMATION—REGISTRATION ARRANGEMENTS

USOC	EQUIPMENT USED	DESCRIPTION	TYPICAL CPE TO BE CONNECTED	BSP NUMBER	TECH REF
RJ36X		Series tip and ring with mode indication behind series connection	Mode Indication (Exclusion Key) Telephone Set in Series With Data Jack	463-400-130	PUB 47102
RJ37X		Bridged connection of 2-line tip and ring with exclusion on line 1	Two-line Telephones With Exclusion on One Line for Use With Data Sets Requiring Telephones With Exclusion Feature	463-400-130	PUB 47102

Note: For surface-mounted installations, use a 625A, 625C, 625S, or 625T connecting block. For flush-mounted installations, use a 625B, 625F, or 625FS connecting block. The 625S, 625T, and 625FS have spring-loaded covers which protect the contacts from contamination.

* The adapters are customer-owned in all cases and may be purchased from either the telephone company or an outside supplier.

REGISTRATION INTERFACE

ADAPTER ARRANGEMENTS

RJA1X, RJA2X, AND RJA3X

1. GENERAL

1.01 This section contains information on the standard wiring arrangements, using a modular jack adapter as an interface, to be provided under the Federal Communications Commission's (FCC) Registration Program for registered telephone, ancillary, data, and protective circuitry of the type associated with telephone, ancillary, and data customer-provided equipment (CPE).

Note: Customer-provided data equipment connected to the network via the interfaces in this section must have a fixed signal power level under -9 dBm. See Section 590-101-103 for connection of other data devices.

1.02 This section is reissued to revise Fig. 1, 2, 3, 4, and 6 to indicate new Bell System Logo.

1.03 Under the registration program, customers can purchase certain standard adapters from either the telephone company or an outside supplier. The adapters can be used with either telephone company or customer-provided devices. Adapters that are manufactured for sale to the customer (or other common carriers) will carry a W code (224AW, 225AW, 267AW), will have an imprint showing they were manufactured by Western Electric, and will be translucent with a Bell System Logo. Adapters that are not for sale will be ivory or translucent, will carry a standard code (224A, 225A, 267A), and will be imprinted with the Bell System Logo stamped on them. The differences in marking are intended as aids in establishing ownership of adapters should the occasion arise at a later date; for example, on a repair visit.



Adapters are NOT to be installed when a customer orders a standard jack.

1.04 These arrangements provide:

- A means of adapting a modular telephone or ancillary device to an existing 4- or 12-contact non-modular jacks to modular type
- Two modular jacks in one adapter housing.

The telephone company equipment or registered CPE must terminate in a modular plug to be physically compatible. If the CPE is terminated in a 4- or 12-prong plug and a modular jack is in place, the equipment is not compatible for use with the adapters.

1.05 In these arrangements, tip and ring only are to be furnished to the CPE and appear on contacts 4 and 3 of the adapters, respectively. In 2-line jacks, T2 and R2 appear on contacts 2 and 5. Otherwise, contacts 2 and 5 are reserved for telephone company use. Disposition of these leads should be per local instructions.

Note: Circuit incompatibility may occur involving the spare leads if a change of service is installed, ie, a party line with dial light power installed originally would not be compatible with a subsequent installation of 2-line service. Whenever service is altered at an installation involving registration Uniform Service Order Codes (USOCs), check that all appearances are properly wired.

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2. DESCRIPTION OF ADAPTERS SOLD TO CUSTOMERS

2.01 USOC RJA1X: This arrangement uses a translucent 225AW adapter (Fig. 1) with a Bell System Logo to provide physical compatibility between the modular plug on the CPE and an existing 4-prong jack such as a 548A or 549A (Fig. 4). Tip and ring are always connected through to the CPE. A and A1 or other leads will appear in the adapter if connected in the existing jack.

2.02 USOC RJA2X: Uses a 267AW (Fig. 2) adapter to connect two modular jacks to one modular plug. Four leads are multipled to the same contacts in the plug and both jacks (Fig. 5). Tip and ring are always connected through to the multiple jacks. A and A1 or other leads will appear in the multiple jacks if wired into the existing jack. Leads 1 and 6 are multipled between the two jack ports only and are reserved for Telco use.

2.03 USOC RJA3X: Used to adapt a modular telephone to an existing 12-pin jack, such as a 541A or 551A, to a 6-pin modular jack (Fig. 6). A 224AW adapter (Fig. 3) is plugged into the 12-pin jack, and the modular plug on the telephone company- or customer-provided equipment plugs into the adapter. Tip and ring are always connected through to the CPE. A and A1 or other leads will appear in the adapter if wired into the existing jack. Adapter is provided by either the telephone company or the customer. Pins 1 and 6 are reserved for Telco use.

3. DISTRIBUTION OF ADAPTERS SOLD TO CUSTOMERS

3.01 Registration program standard USO codes have been assigned to the adapters that can be purchased by the customer. These codes make it easier for the customer to order the appropriate adapter and will enable proper billing.

3.02 The USOCs for the adapters described in Part 2 will appear on a service order only when a customer has placed an order to buy the adapter from the telephone company. These codes will not be used under any circumstance for any other purpose.

3.03 Customer requests to purchase adapters should be handled in the same manner as requests for standard jacks used with CPE, that is, the customer should specify the appropriate USOC as advised by the CPE supplier. Requests for adapters received by an installer while on the premises should be referred to the Business Office. Purchased adapters will ordinarily be distributed to customers by mailing.

3.04 Adapters available for purchase are not normally carried on installation and repair vehicles. However, if the customer orders an adapter in conjunction with other installation work, the translucent with a Bell System Logo W-coded adapter should be stocked on the truck with the other equipment needed to complete the order.

4. MAINTENANCE

4.01 Maintenance of all arrangements is limited to verification of the telephone company wiring and equipment. Check that the required leads are supplied to the interface used for CPE connection. No attempt should be made to test, modify, or repair customer-owned and maintained equipment. The mounting cord on a CPE device is always customer-owned and maintained.

4.02 Maintenance of service charges will not be made on customer-owned adapters purchased from the telephone company if they become defective within 30 days of the purchase date. After 30 days have elapsed, the charge will apply if a visit to the premises is made.

4.03 When in the judgment of repair personnel the trouble is located in or caused by the CPE, or the customer's adapter (including adapters purchased from the telephone company), the Repair Service Bureau should be notified so that proper Maintenance of Service Charge Billing can be initiated as required and as outlined in the following:

- Section 660-101-312—Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE)
- Section 660-101-318—Tariff and Registration Violation Notice Procedures.



Fig. 1—225AW Adapter

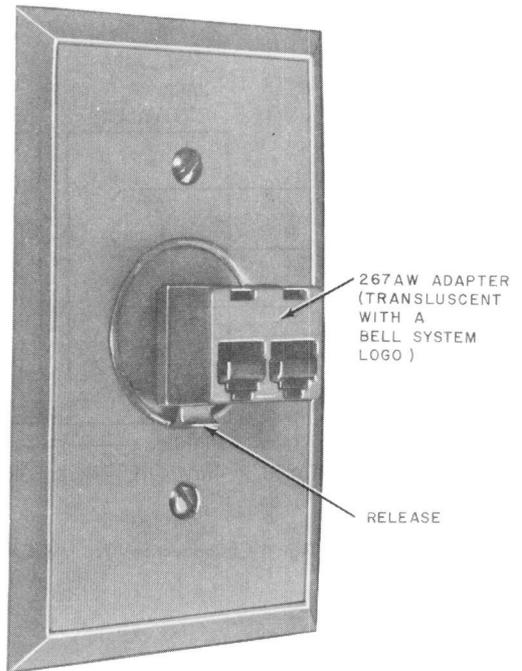


Fig. 2—267AW Adapter Mounted on 625-Type Connecting Block

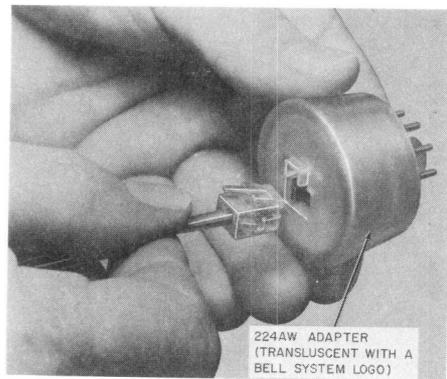


Fig. 3—224AW Adapter

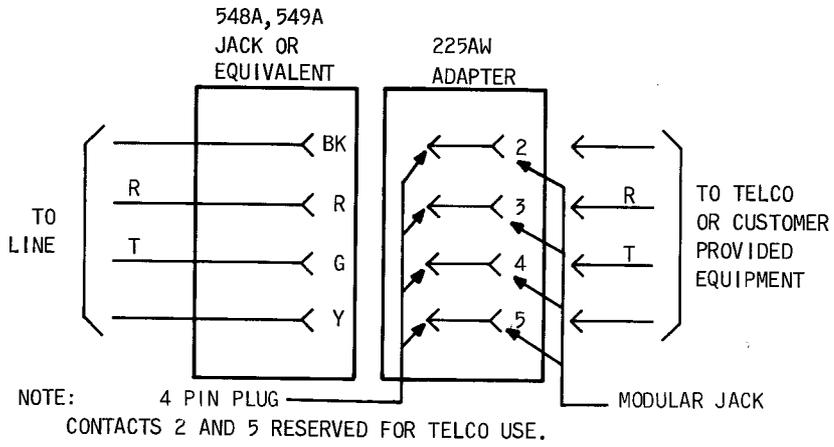


Fig. 4—Connections for USOC RJA1X, 4-Pin Jack to Modular Jack

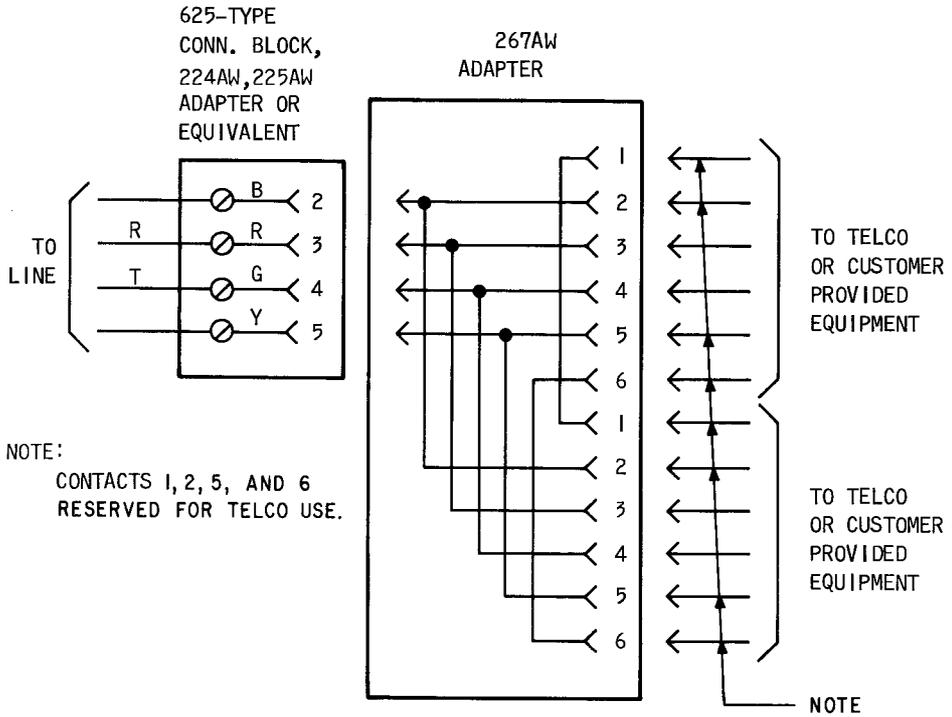
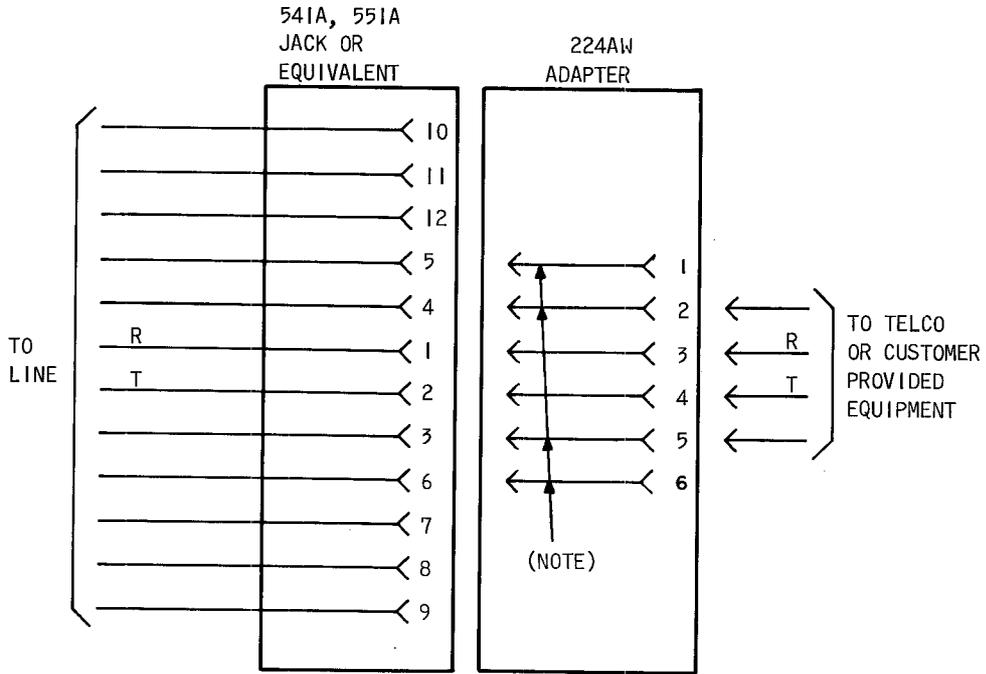


Fig. 5—Connections for USOC RJA2X, Modular Plug to Dual Modular Jack



NOTE:
CONTACTS 1,2,5, AND 6 RESERVED FOR TELCO USE.

Fig. 6—Connections for USOC RJ3X, 12-Pin Jack to Modular Jack

REGISTRATION INTERFACE

RJ11C, RJ11W, RJ12C, RJ12W, RJ13C, RJ13W, RJ17C, RJ18C, RJ18W, RJ19C, AND RJ19W

BRIDGED SINGLE LINE—TIP AND RING ARRANGEMENTS

1. GENERAL

1.01 This section contains information on the standard wiring arrangements to be provided under the Federal Communication Commission's (FCC) Registration Program for registered telephone, ancillary, data, and protective circuitry of the type associated with telephone, ancillary, and data customer-provided equipment (CPE).

Note: Customer-provided data equipment connected to the network via the jacks in this section must have a fixed signal power level under -9 dBm. See Section 590-101-103 for connection of other data devices.

1.02 This section has been reissued to:

- Add USOC RJ17C
- Remove COM KEY 416
- Add USOC RJ18C and RJ18W
- Add USOC RJ19C and RJ19W
- Update text
- Add information on 625H connecting block.

1.03 The arrangements in this section provide a termination of a single line in a modular jack. A bridged connection of the tip and ring is always furnished to the CPE on contacts 4 and 3, respectively. In addition, where required in a key telephone system (KTS), A and A1 leads are also furnished. ♦Where make-busy leads MB/MB1 are required, they will appear on contacts 1 and 6, respectively.♦ The CPE must terminate in a modular plug for compatibility. Where A and A1

are not furnished, contacts 2 and 5 are reserved for telephone company use. Disposition of these leads should be per local instructions.

Note: Circuit incompatibility may occur involving the spare leads if a change of service is installed, ie, a line with "A" lead control installed originally would not be compatible with a subsequent installation of 2-line service. Whenever service is altered at an installation involving registration Uniform Service Order Codes (USOCs), check that all appearances are properly wired.

1.04 Unless otherwise specifically required by a particular wiring arrangement, access to the required leads can be at any access point. If installed in a large key system with color-keyed backboards, the auxiliary (yellow) field should be used; otherwise, access at satellite closets, distribution boxes, connecting blocks, etc.

1.05 The manufacturer of ♦telephone or ♦ancillary CPE intended for use on a key system has the option of designing equipment to be compatible with connections to the tip and ring, either ahead of or behind the KTS line circuit. Certain electrical characteristics of the tip and ring (such as voltages during the ringing cycle and voltages during the holding period) are different, depending on the type of key system. Thus, for example, it is conceivable that a registered answering set would require an RJ12C for COM KEY* systems (tip and ring ahead of the line circuit) or an RJ13C for 1A1-type systems (tip and ring behind the line circuit). Further, it is also possible that a different manufacturer of an answering set would require just the opposite.

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1.06 Select the appropriate (compatible) interface USOC, using a knowledge of the type of Key Telephone System (1A, 1A1, 1A2, or COM KEY) and the selection information provided on the service order; then wire the interface according to the wiring diagram for that specific USOC.

1.07 When necessary to access leads in COM KEY installations, wire as follows.

(a) COM KEY 718—Tip and ring ahead of the line circuit can be obtained at the incoming CO/PBX line terminations on block 3 using 183B2 adapters. If T, R, A, or A1 are required behind the line circuit, they can be accessed per line at any of the line appearances of the station terminations on blocks 3, 4, or 5. Again use 183B2 adapters. For information on COM KEY 718, refer to Section 518-450-100.

(b) COM KEY 1434—Tip and ring ahead of the line circuit can be accessed at the incoming line terminations on block 7 using 183B2 adapters. T and R behind the line circuit and A and A1 for a particular line can be accessed at any of the line appearances of the station terminations on blocks 6 through 15 using 183B2 adapters. For information on COM KEY 1434, refer to Section 518-450-102.

(c) COM KEY 2152—Because of insufficient clearance between the connecting blocks and the closed gate, 183B2 adapters cannot be used on the connecting units of COM KEY 2152. To access T and R ahead of the line circuit, route the incoming CO/PBX line to an external 66-type connecting block, then to block 3 of the 100A1 or 101A-type connecting unit. The 66-type connecting block is then used to provide a multiple of the line. To access T and R behind the line circuit, use an idle station code termination which must be sacrificed for system use. If no idle station terminations are available, use any station code by running a jumper cable to external 66-type connecting blocks and transferring the station cable to these blocks. The blocks are then used to provide the line appearance multiple. For information on COM KEY 2152, refer to Section 518-450-110.

1.08 These arrangements use a standard modular type connecting block (Fig. 1, 2, and 3) as the interface with the CPE as follows.

- For surface-mounted installations (RJ11C, RJ12C, RJ13C)—use 625A, 625C, 625S*, or 625T* connecting block. ♦For surface-mounted installations requiring contacts 1 and 6 (RJ18C, RJ19C), use the 74D connecting block or equivalent.♦

- For flush-mounted installations (RJ11C, RJ12C, RJ13C)—use 625B, 625F, ♦or 625FS*♦ connecting block.

- ♦For flush-mounted installations (RJ17C)—use 625H connecting block.♦

- For wall-mounted telephone set installations (RJ11W, RJ12W, RJ13W)—use 630A connecting block. ♦For wall-mounted equipment requiring 1 and 6 (RJ18W, RJ19W), use a 630A connecting block equipped with a 6-conductor jack.♦

*The ♦625FS, 625H,♦ 625S, and 625T connecting blocks have spring-loaded covers which protect the contacts from contamination.

2. DESCRIPTION

2.01 USOC RJ11C: Provides a bridged connection of the tip and ring only of a single line to the CPE (Fig. 2, 3, and 6). Used where customer requires a surface- or flush-mounted installation. Requires installation of a 625-type connecting block at location of connection to CPE. Connection to tip and ring can be at any convenient access point.

2.02 USOC RJ11W: Same as RJ11C but installed at wall-mounted installations using 630A connecting block (Fig. 4 and 5).

2.03 USOC RJ12C: Provides a bridged connection of a single tip and ring with A lead control (Fig. 2, 3, and 7). Tip and ring are bridged *ahead* of the line circuit because the registered equipment requires CO/PBX ringing. A and A1 are obtained behind the line circuit. T, R, A, and A1 are supplied to the CPE at a surface- or flush-mounted installation using a 625-type connecting block. Connection to the required leads must be made at the KTS multiple for proper access. Typically used for connecting ancillary equipment requiring A lead control where the CPE is not compatible with tip and ring behind the line circuit.

2.04 USOC RJ12W: Same as RJ12C except requires installation of a 630A connecting block for wall-mounted installations (Fig. 4 and 7).

2.05 USOC RJ13C: Provides a bridged connection of the tip and ring *behind* the KTS line circuit with A lead control to the CPE (Fig. 2, 3, and 7). Connection to the leads is made anywhere access to T, R, A, and A1 leads can be obtained, such as the KTS, distribution field, connecting blocks, etc. Uses a 625-type connecting block for surface- or flush-mounted installations. Primarily used for connecting ancillary devices with A lead control where the registered CPE is located near the key set.

2.06 USOC RJ13W: Same as RJ13C except installed at wall-mounted installations using a 630A connecting block (Fig. 4 and 8).

2.07 ♦USOC RJ17C: Provides a bridged connection of the tip and ring only of a single line to special telephone sets or ancillary equipment (eg, ECG machines) in hospital critical care areas (Fig. 5 and 9). It provides a standard connecting configuration that will only permit connection to the network of equipment conforming to Article 517 of the 1978 National Electrical Code.♦

2.08 ♦USOC RJ18C: Provides a bridged connection of single-line tip and ring and make-busy leads MB/MB1 (Fig. 10). Used where customer requires surface-mounted installation. Requires installation of a 74D connecting block (Fig. 1) or equivalent at location of connection to CPE. Connection to the network should be made per Operating Company make-busy circuit drawings.

Note: Do not connect MB/MB1 leads directly across tip and ring of the network.♦

2.09 ♦USOC RJ18W: Same as RJ18C but installed at wall-mounted installations using a 630A connecting block equipped with a 6-conductor jack (Fig. 4 and 10).♦

2.10 ♦USOC RJ19C: Provides a bridged connection of single-line tip and ring behind

a line circuit with "A" lead control and make-busy leads MB/MB1 (Fig. 11). Used where customer requires surface-mounted installation. Requires installation of a 74D connecting block (Fig. 1) or equivalent at location of connection to CPE. Connection to the network should be made per Operating Company make-busy circuit drawings.

Note: Do not connect MB/MB1 leads directly across tip and ring of the network.♦

2.11 ♦USOC RJ19W: Same as RJ19C but installed at wall-mounted installations using a 630A connecting block equipped with a 6-conductor jack (Fig. 4 and 11).♦

3. MAINTENANCE

3.01 Maintenance of the wiring arrangements covered in this section is limited to:

- Verification of the telephone company wiring and equipment
- Assurance that the required leads are supplied in the interface used for CPE connection.



No attempt should be made to test, modify, or repair customer-owned and maintained equipment.

3.02 When in the judgment of repair personnel the trouble is located in or caused by the CPE, the Repair Service Bureau should be notified so that proper Maintenance of Service Charge Billing can be initiated as required and as outlined in the following:

- Section 660-101-312—Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE)
- Section 660-101-318—Tariff and Registration Violation Notice Procedures.

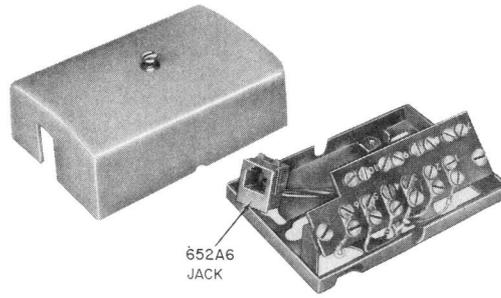


Fig. 1—74D Connecting Block

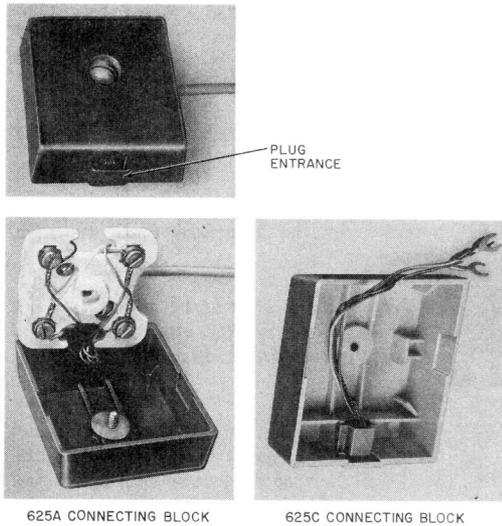
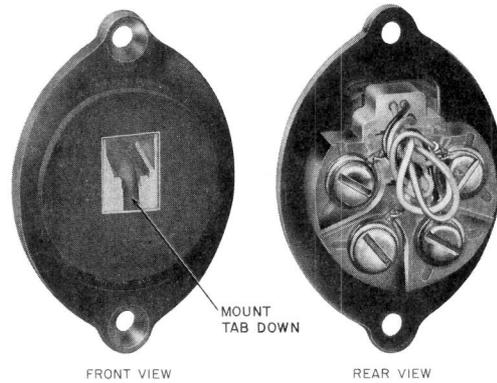


Fig. 2—625A and 625C Connecting Block



- 4 CONTACTS
- FLUSH MOUNTED:
USING 63-TYPE OR KS-20502, L2 BRACKET
AND I6A FACEPLATE OR IN STANDARD
ELECTRICAL OUTLET BOX USING 43B
BRACKET OR IN WOODWORK USING
1-1/4 INCH HOLE
- MATES WITH D4BU MOUNTING CORD PLUG
- MOUNTING SCREWS SUPPLIED
- FOR NEW INSTALLATIONS OR MODULAR
REPLACEMENT OF 548-TYPE JACKS

Fig. 3—625F Connecting Block

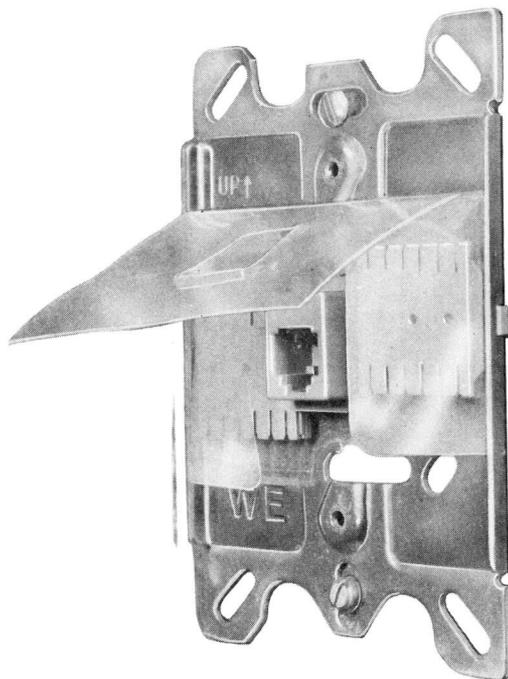
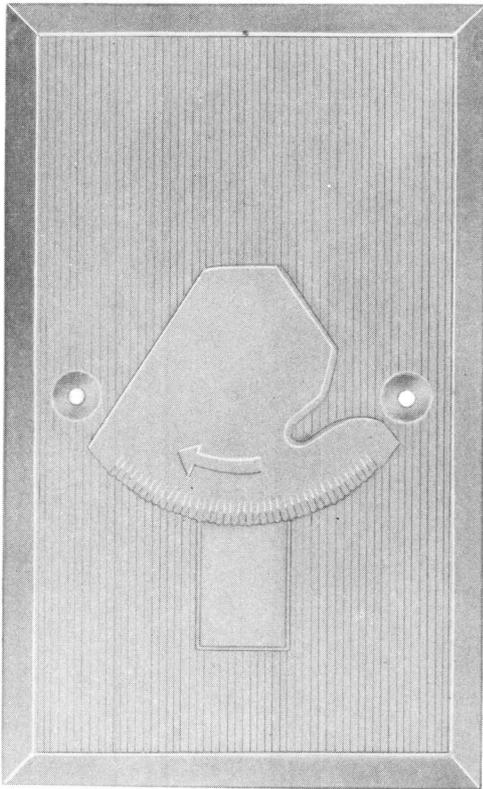
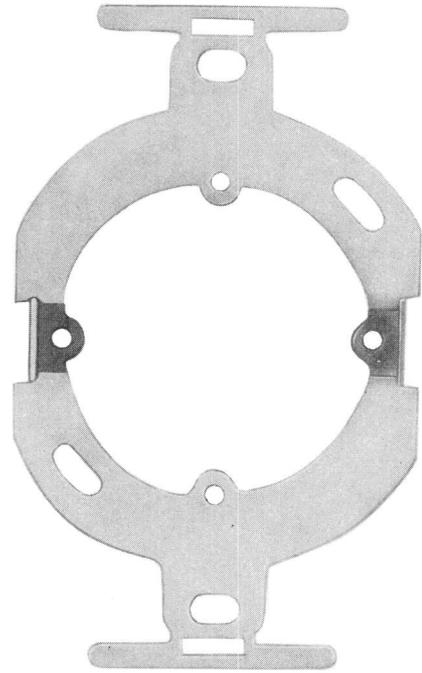


Fig. 4—630-Type Connecting Block (Without Mounting Plate)



BRACKET
(PROVIDED WITH 625H CONNECTING BLOCK)



NOTE:
BRACKET IS USED TO MOUNT 625H TO GEM
BOX, 63A, OR 63B MOUNTING BRACKET.

Fig. 5—625H Connecting Block

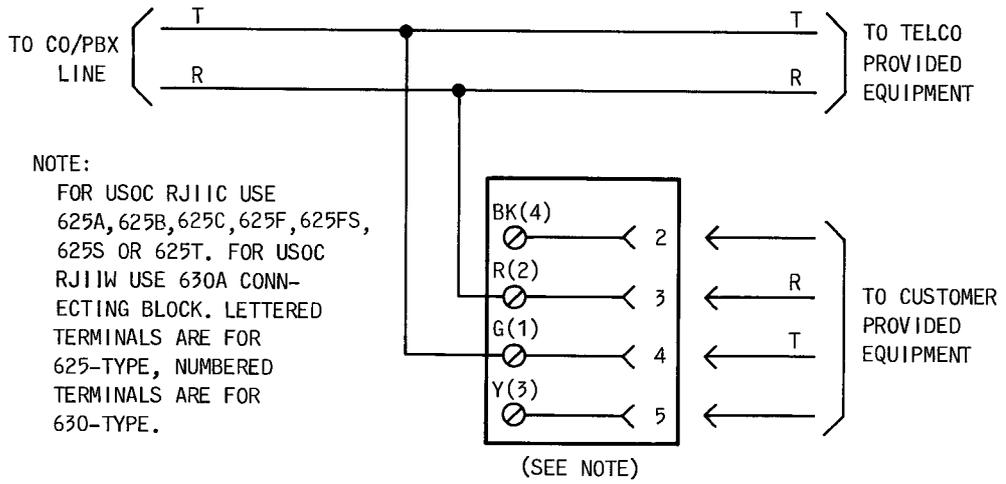


Fig. 6—Connections for USOC RJ11C and RJ11W—Bridged Tip and Ring

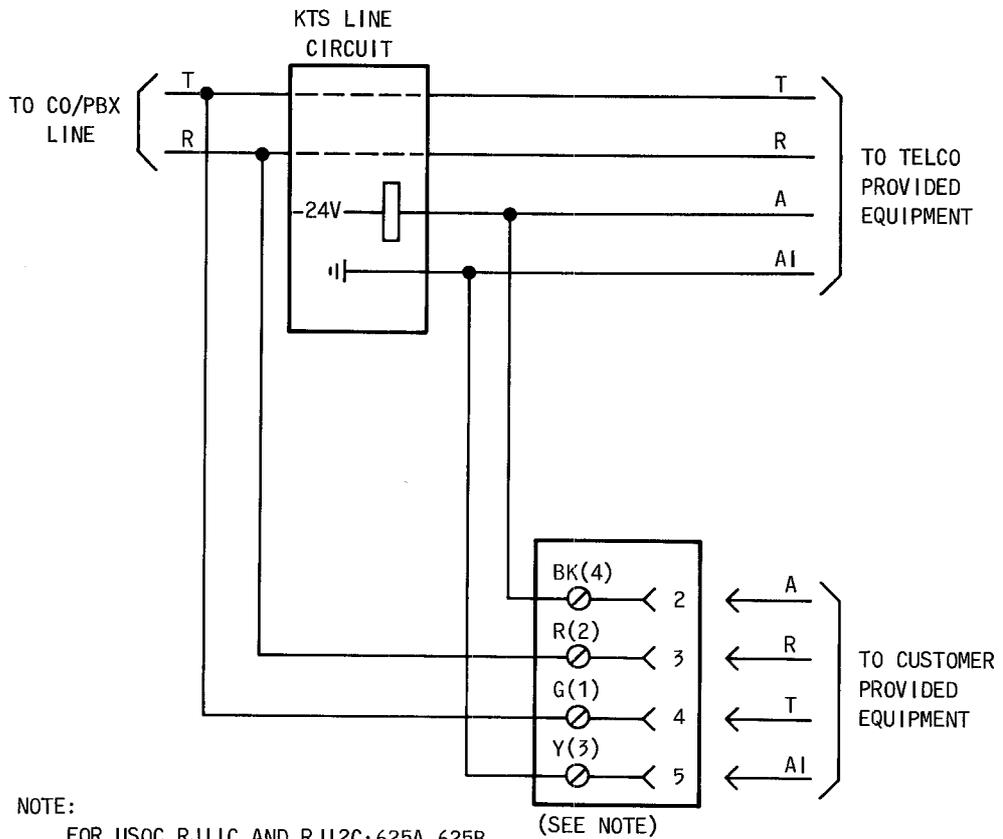


Fig. 7—Connections for USOC RJ12C and RJ12W—Bridged Tip and Ring Ahead of Line Circuit With A Lead Control

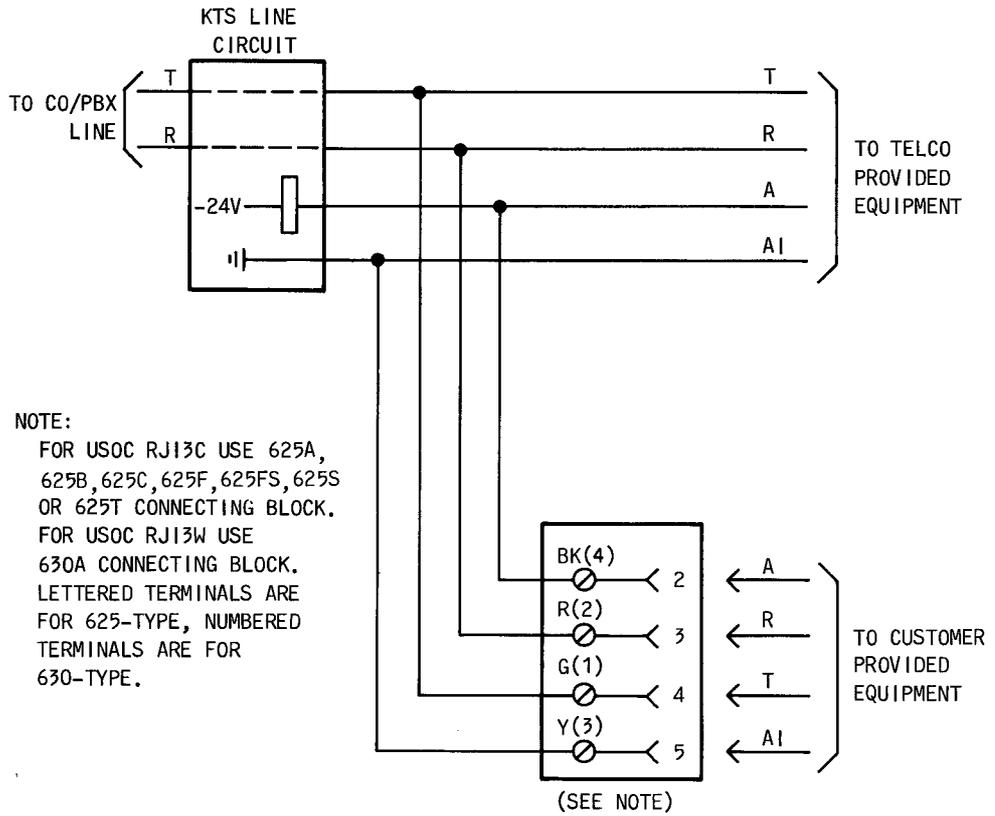
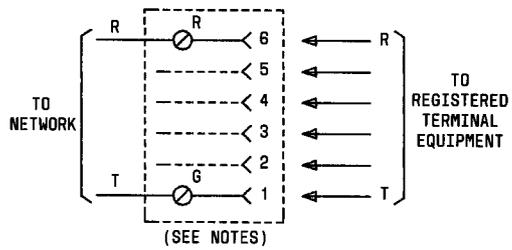


Fig. 8—Connections for USOC RJ13C and RJ13W—Bridged Tip and Ring Behind Line Circuit With A Lead Control



NOTE:

1. FOR USOC RJ17C USE 625H CONNECTING BLOCK
2. ONLY POSITIONS 1 AND 6 IN THE JACKS ARE EQUIPPED WITH CONTACTS

Fig. 9—Connections for USOC RJ17C—Bridged Tip and Ring

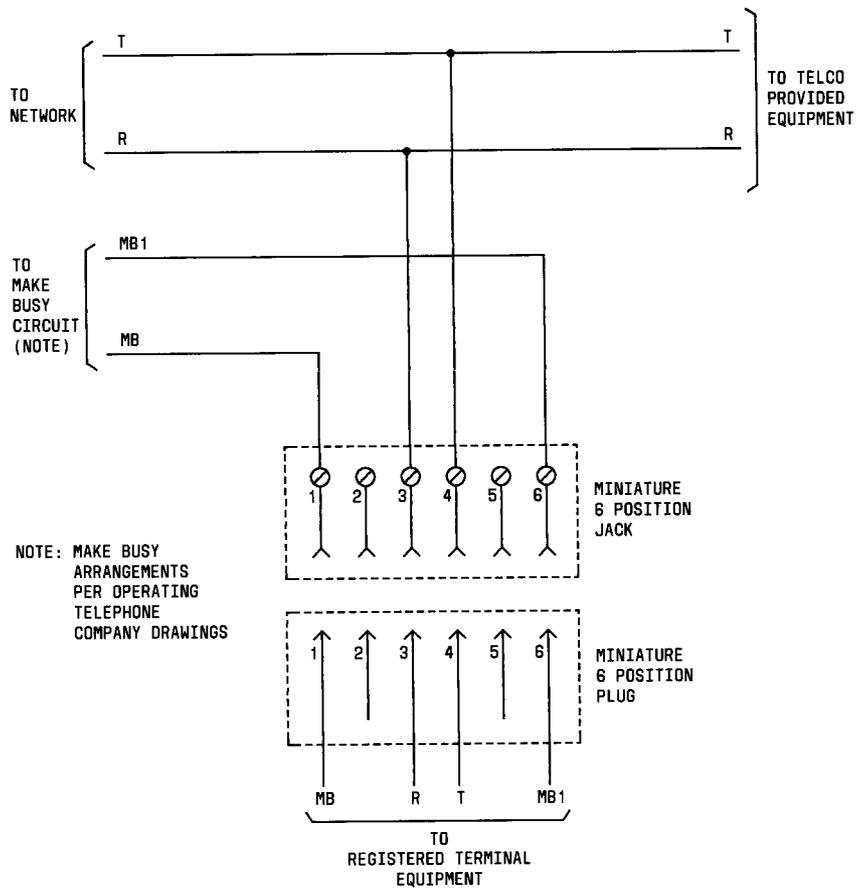


Fig. 10—Connections for USOC RJ18C and RJ18W—Bridged Tip and Ring With Make-Busy Leads

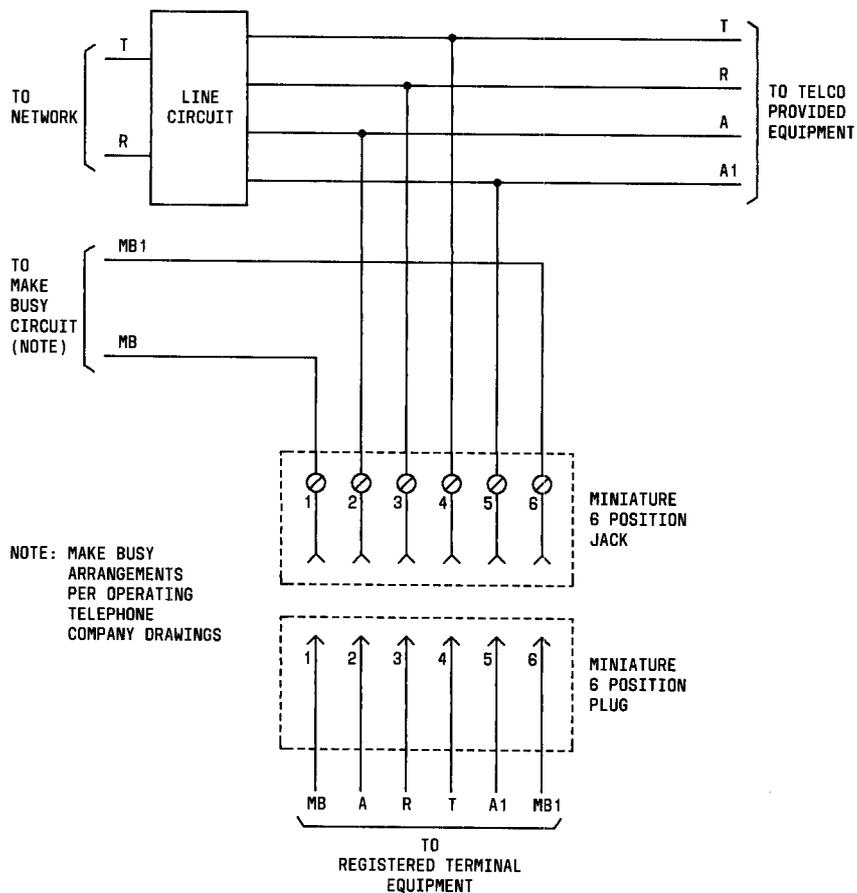


Fig. 11—Connections for USOC RJ19C and RJ19W—Bridged Tip and Ring With A Lead Control and Make-Busy Leads

REGISTRATION INTERFACE
BRIDGED SINGLE LINE WEATHERPROOF
TIP AND RING ARRANGEMENTS
RJ15C

1. GENERAL

1.01 This section contains information on the standard arrangement to be provided under the Federal Communications Commission's (FCC) Registration Program for telephone, ancillary, and protection circuitry of the type associated with telephone and ancillary customer-provided equipment (CPE).

1.02 This section is reissued to:

- Update text
- Change Fig. 1.

1.03 For arrangement RJ15C, provide the following:

- At existing installations where the brass outlet box used with a KS-8421 jack is in place—use a B Weatherproof Female Jack Adapter, AT-8732 (Fig. 3)
- At all other installations—use a B Outlet Box, AT-8732, and a B Weatherproof Female Jack, ♦Adapter♦ AT-8732 (Fig. 1 and 2).

2. IDENTIFICATION

2.01 *USOC RJ15C*: Provides a bridged connection of the tip and ring only of a single line to the CPE (Fig. 4). Used at docks or

marinas to provide connections to boats having no "on-board" wiring. Uses a B Weatherproof Female jack, AT-8732 ♦(Fig. 2 or 3)♦ as the interface to the CPE.

3. MAINTENANCE

3.01 Maintenance of the wiring arrangements covered in this section is limited to:

- Verification of the telephone company wiring and equipment
- Assurance that the required leads are supplied in the interface used for CPE connection.

No attempt should be made to test, modify, or repair customer-owned and maintained equipment.

3.02 When in the judgment of repair personnel the trouble is located in or caused by the CPE, the Repair Service Bureau should be notified so that proper Maintenance of Service Charge Billing can be initiated as required and as outlined in the following:

- Section 660-101-312—Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE)
- Section 660-101-318—Tariff and Registration Violation Notice Procedures.

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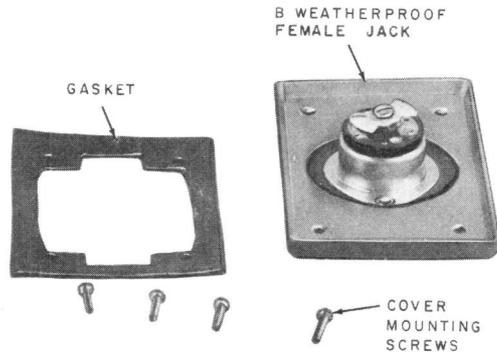


Fig. 1—B Weatherproof Female Jack

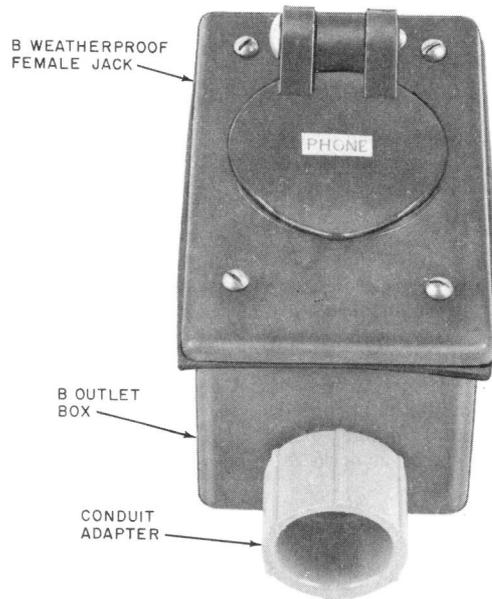


Fig. 2—B Weatherproof Female Jack on B Outlet Box

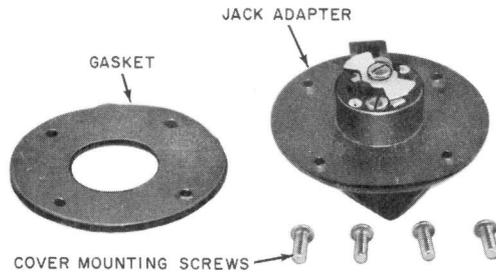


Fig. 3—B Weatherproof Female Jack Adapter

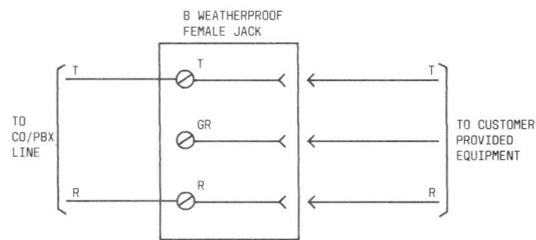


Fig. 4—Connections for USOC RJ15C—Bridged Tip and Ring

REGISTRATION INTERFACE

SERIES SINGLE LINE

TIP AND RING ARRANGEMENTS

RJ16X, RJ31X, RJ32X, RJ33X, RJ34X, RJ35X, RJ36X, RJ37X, AND RJ38X

1. GENERAL

1.001 This addendum supplements Section 463-400-130, Issue 2. Place this pink sheet ahead of Page 1 of the section.

1.002 This addendum is issued to add RJ38X to the title and to add information on arrangement RJ38X to the text.

2. CHANGES TO SECTION

2.001 On Page 3, following paragraph 2.08, add the following:

2.09 This arrangement provides a series single line arrangement ahead of all station equipment

and has a continuity circuit. A strap must be added to terminals 2 and 7 of the 635-type connecting block (Fig. 10)—terminals 3 and 6 are reserved for TELCO use. When the CPE is plugged into the 635-type connecting block, the CPE is placed in series with the tip and ring of the line. When the CPE plug is removed, tip and ring are cut through to the station equipment. ***The 635-type connecting block must be wired in the circuit ahead of ALL station equipment, to prevent false operation of the registered device and to cut off ALL station equipment from the line.*** Typical usage is alarm reporting devices.

2.001 On Page 12, add new Fig. 10.

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NOTES:

1. SHORTING BARS OPEN CIRCUITS BETWEEN 1-4 AND 5-8 WHEN CPE PLUG IS INSERTED IN JACK.
2. IN EARLY PRODUCTION LEADS 2 AND 7 WERE NOT TERMINATED.
3. SPARE TERMINALS

TO PROTECTOR OR LINE

TO ALL TELCO PROVIDED EQUIPMENT

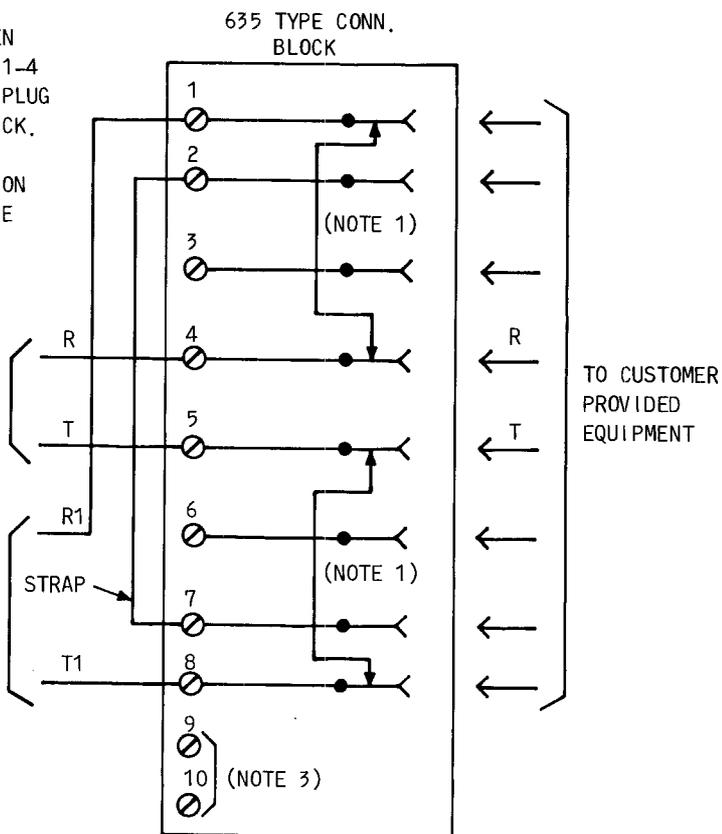


Fig. 10—Connections for USOC RJ38X

REGISTRATION INTERFACE

SERIES SINGLE LINE

TIP AND RING ARRANGEMENTS

RJ16X, RJ31X, RJ32X, RJ33X, RJ34X, RJ35X, RJ36X, AND RJ37X

1. GENERAL

1.01 This section provides information on the standard arrangements to be provided under the Federal Communications Commission's (FCC) Registration Program for registered telephone, ancillary, data, and protective circuitry of the type associated with telephone, ancillary, and data customer-provided equipment (CPE).

Note: Customer-provided data equipment connected to the network via the jacks in this section must have a fixed signal power level under -9 dBm. See Section 590-101-103 for connection of other data devices.

1.02 This section is reissued to provide information on the 635B connecting block, RJ16X, RJ36X, and RJ37X. Due to extensive changes change arrows have been omitted.

Note: The differences between the 635A and 635B are:

1. The 635A removes the short on insertion of a 6 or 8 position plug.
2. The 635B provides a bridged connection with a 6 position plug and a series connection with an 8 position plug.
3. The 635A uses a shorting bar while the 635B uses outrigger contacts.

1.03 The arrangements covered in this section require the installation of a 635-type connecting block. This connecting block is designed to place the CPE or Telephone Company (TELCO)-provided equipment in series with the telephone line and the CPE or TELCO-provided equipment when the

plug from the CPE or TELCO-provided equipment is inserted in the modular jack. In this mode, loop continuity must be maintained through the registered equipment. When the CPE or TELCO-provided equipment plug is removed, the circuit is restored between the line and the CPE or TELCO-provided equipment by the shorting bars.

Note: In some instances (RJ35X, RJ16X) the telephone company provides an exclusion set which controls a customer-provided data set.

1.04 In all the arrangements, tip and ring of a single line are supplied through the interface. Where the arrangement is used with a key telephone system (KTS), the **A** and **A1** leads are also furnished on a bridged basis.

1.05 All unused leads and terminals are reserved for telephone company use. Disposition of spare leads should be per local instructions. All contact positions of the modular jack used in the 635-type connecting block are equipped with leads. In early production, the leads associated with contacts 2 and 7 were not terminated but were insulated and stored, since there are only six contacts on the connecting block terminal.

Note: Circuit incompatibility may occur involving spare leads if a change in service is installed, ie, a line with **A** lead control installed originally would not be compatible with a subsequent installation involving a data set. Whenever service is altered at an installation involving registration Uniform Service Order Codes (USOCs), check that all appearances are properly wired.

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1.06 Unless otherwise specifically required by a particular wiring arrangement, access to the required leads can be at any access point. USOC RJ35X must be accessed in the telephone set in order to provide the series tip and ring connection of all lines appearing in the set. Figure 1 provides modification of the more common sets. For the other arrangements, if installed in a large KTS with color-keyed backboards, the auxiliary (yellow) field should be used; otherwise, access at satellite closets, distribution boxes, connecting blocks, etc.

1.07 When necessary to access leads in COM KEY* installations, wire as follows:

*Trademark

(a) COM KEY 718—Tip and ring ahead of the line circuit can be obtained at the incoming CO/PBX line terminations on block 3 using 183B2 adapters. If **T**, **R**, **A**, or **A1** are required behind the line circuit, they can be accessed per line at any of the line appearances of the station terminations on blocks 3, 4, or 5. Again use 183B2 adapters. For information on COM KEY 718, refer to Section 518-450-100.

(b) COM KEY 1434—Tip and ring ahead of the line circuit can be accessed at the incoming line terminations on block 7 using 183B2 adapters. **T** and **R** behind the line circuit and **A** and **A1** for a particular line can be accessed at any of the line appearances of the station terminations on blocks 6 through 15 using 183B2 adapters. For information on COM KEY 1434, refer to Section 518-450-102.

(c) COM KEY 2152—Because of insufficient clearance between the connecting blocks and the closed gate, 183B2 adapters cannot be used on the connecting units of COM KEY 2152. To access **T** and **R** ahead of the line circuit, route the incoming CO/PBX line to an external 66-type connecting block, then to block 3 of the 100A1 or 101A1 connecting unit. The 66-type connecting block is then used to provide a multiple of the line. To access **T** and **R** behind the line circuit, use an idle station code termination which must be sacrificed for system use. If no idle station terminations are available, use any station code by running a jumper cable to external 66-type connecting blocks and transferring the station cable to these blocks. The blocks are then used to provide the line appearance multiple. For

information on COM KEY 2152, refer to Section 518-450-110.

2. IDENTIFICATION

2.01 USOC RJ16X: This arrangement in connection with a series jack such as RJ36X provides "mode indication" leads (M1 and M1C) for data sets using the "permissive" mode of transmission (Fig. 2 and 3).

2.02 USOC RJ31X: This arrangement is wired so that when the CPE is plugged into the 635-type connecting block, the CPE is placed in series with the tip and ring of the line (Fig. 4). When the CPE plug is removed, tip and ring are cut through to the station equipment. **The 635-type connecting block must be wired in the circuit, ahead of ALL station equipment, to prevent false operation of the registered device and to cut off ALL station equipment from the line.** Typical usage is an alarm dialer.

2.03 USOC RJ32X: This arrangement (Fig. 5) also provides a series tip and ring connection through the 635-type connecting block but is used where the CPE is connected in series with a single station, such as an automatic dialer.

2.04 USOC RJ33X: Provides a series connection of the tip and ring of a KTS line ahead of the line circuit because the registered equipment requires CO/PBX ringing and a bridged connection of **A** and **A1** from behind the line circuit. It provides the busy feature at other stations in the same KTS. (Fig. 6). Tip and ring are the only leads opened when the CPE plug is inserted in the 635-type connecting block. Typical usage would be for customer-provided automatic dialers or call restrictors. Access to the required leads can be anywhere leads are available, but tip and ring must be ahead of the line circuit.

2.05 USOC RJ34X: This arrangement provides a series tip and ring connection and a bridged **A** and **A1** to the CPE. All leads are connected behind the line circuit (Fig. 7). Typical usage is for automatic dialers and call restrictors.

2.06 USOC RJ35X: Provides a series tip and ring connection to whatever line has been selected in a key telephone set plus a bridged **A** and **A1**. The arrangement requires that the set

wiring be modified as shown in Fig. 1 to put the CPE in series with the **T** and **R** multiple from the key(s) and the **T** and **R** going to the speech network. Connections between the 635-type connecting block and the telephone set terminals can be made using a D6AA cord.

2.07 USOC RJ36X: This arrangement provides a connection for a telephone set equipped with an exclusion key where the telephone line is also to be used with a registered data set. The arrangement provides a series connection to the tip and ring, plus mode indication leads M1 and M1C. The exclusion key can be used to transfer the telephone line between the data set and the telephone set. This arrangement will be associated with a telephone company provided data jack (Fig. 8).

2.08 USOC RJ37X: This arrangement provides for the connection of two lines. The tip and ring of both lines are bridged at the jack which provides the ability to exclude one line. The telephone company will wire the jack in the sequence designated by the customer. Typical usage is for two line telephones with exclusion on one line for use with data sets requiring telephones with the exclusion feature (Fig. 9).

3. MAINTENANCE

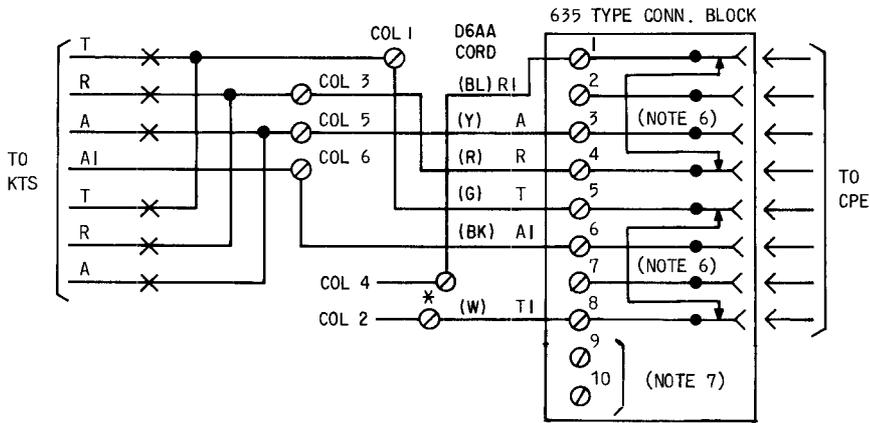
3.01 Maintenance of the wiring arrangements covered in this section is limited to:

- Verification of the telephone company wiring and equipment
- Assurance that the required leads are supplied in the interface used for CPE connection.

No attempt should be made to test, modify, or repair customer-owned and maintained equipment.

3.02 When in the judgment of repair personnel the trouble is located in or caused by the CPE, the Repair Service Bureau should be notified so that proper Maintenance of Service Charge Billing can be initiated as required and as outlined in the following:

- Section 660-101-312—Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE)
- Section 660-101-318—Tariff and Registration Violation Notice Procedures.



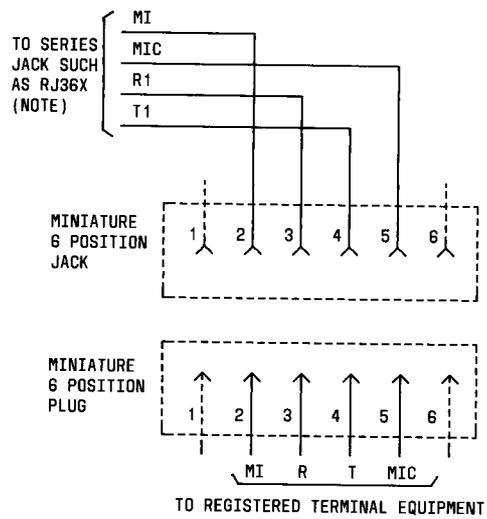
NOTE: IN EARLY PRODUCTION LEADS 2 AND 7 WERE NOT TERMINATED.

TELEPHONE SET CODE	COLUMN 1	COLUMN 2	COLUMN 3	COLUMN 4	COLUMN 5	COLUMN 6	
	T	TI	R	RI	A	AI	
565GK	F	BL (DIAL)	N	G	M	IB	
565HK/LK			9	(L SW)			
2565GK	L2	G (DIAL)	N	G	5	I	
2565HK/LK			9	(L SW)			
630D/631D	F	BL (DIAL)	2	G	7	8	
630DA/631DA			13	(L SW)	5	I	
636C/637D			2	BL-W	7	8	
636CA/637CA			9	(FLASH)	7	8	
2630D/2631D	4	G (DIAL)	2	G	5	I	
2630DA/2631DA	12		13	(L SW)	7	8	
2636C/2637D	4		2	BL-W	5	I	
2636CA/2637DA	12		9	(FLASH)	7	8	
851-TYPE	F	BL (DIAL)	13	G	9	4	
2851-TYPE	20	G (DIAL)		(L SW)			
830/831-TYPE	F	BL (DIAL)	6	G	22	10	
2830/2831-TYPE	8	G (DIAL)					(L SW)
832/833-TYPE	F	BL (DIAL)		15	5		I
2832/2833-TYPE		G (DIAL)					
634D/635D	F	BL (DIAL)	12	G(L SW)	5	I	
634DA/635DA	F	BL (DIAL)	13	G(L SW)	56	10	
2634D/2635D	4	G (DIAL)	2	G(L SW)	5	I	
2634DA/2635DA	L2	G (DIAL)	13	G(L SW)	56	10	

MODIFY SETS AS FOLLOWS:

- DISCONNECT COLUMN 2 LEAD FROM COLUMN 1 TERMINAL. CONNECT TO TI LEAD FROM JACK USING D-161488 CONN. OR SPARE TERMINAL.
- CONNECT T LEAD FROM JACK TO COLUMN 1 TERMINAL.
- DISCONNECT COLUMN 4. LEAD FROM COLUMN 3 TERMINAL. CONNECT TO RI LEAD FROM JACK USING D-161488 CONN. OR SPARE TERMINAL.
- CONNECT R LEAD FROM JACK TO COLUMN 3 TERMINAL.
- CONNECT A AND AI LEADS TO TERMINALS IN COLUMNS 5 AND 6 RESPECTIVELY.
- SHORTING BARS OPEN CIRCUITS BETWEEN 1-4 AND 5-8 WHEN CPE PLUG IS INSERTED IN JACK.
- SPARE TERMINALS.

Fig. 1—Connections for USOC RJ35X



NOTE:

MI AND MIC LEADS ARE TYPICALLY WIRED TO AN RJ36X SERIES JACK WHICH CAN BE USED TO CONNECT AN EXCLUSION KEY TELEPHONE SET AHEAD OF THE DATA EQUIPMENT.

Fig. 2—Connections for USOC RJ16X

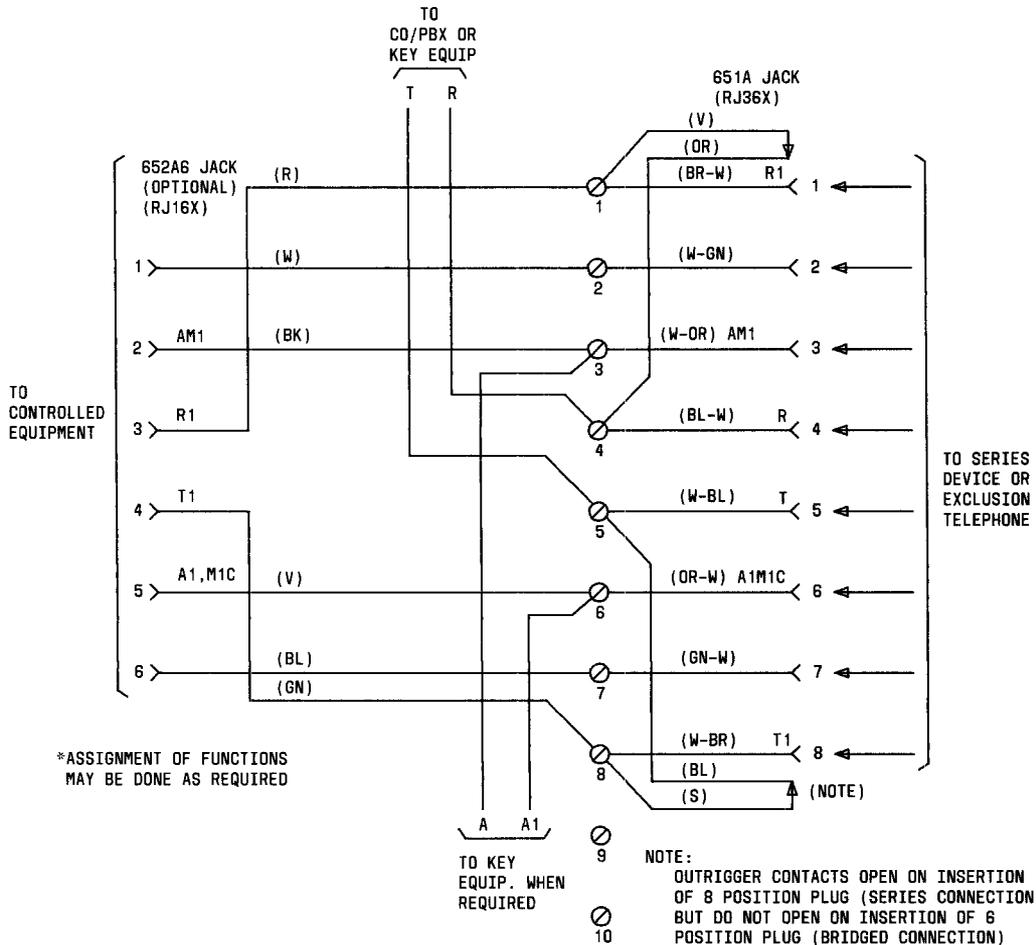


Fig. 3—Schematic Diagram, 635B Connecting (625A6 Jack for Controlled Station, Mounted in 635B Connecting Block Cover or Externally Mounted (as required)

NOTES:

1. SHORTING BARS OPEN CIRCUITS BETWEEN 1-4 AND 5-8 WHEN CPE PLUG IS INSERTED IN JACK.
2. IN EARLY PRODUCTION LEADS 2 AND 7 WERE NOT TERMINATED.
3. SPARE TERMINALS

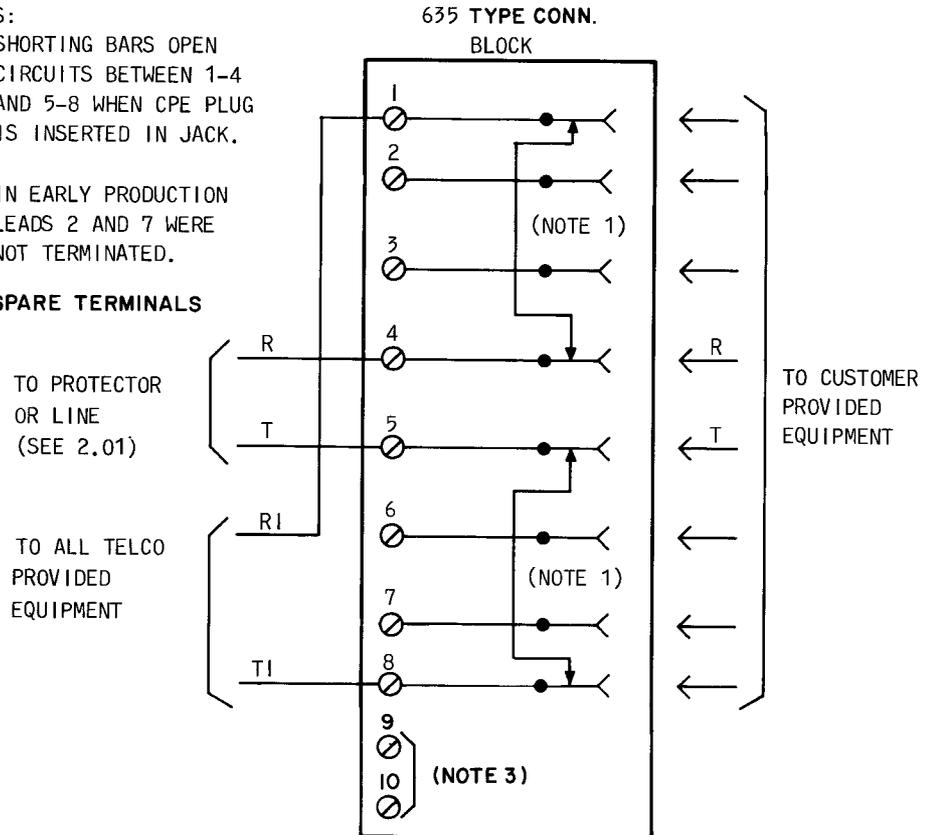


Fig. 4—Connections for USOC RJ31X

NOTES:

1. SHORTING BARS OPEN CIRCUITS BETWEEN 1-4 AND 5-8 WHEN CPE PLUG IS INSERTED IN JACK.
2. IN EARLY PRODUCTION LEADS 2 AND 7 WERE NOT TERMINATED.
3. SPARE TERMINALS

INSIDE WIRE FROM PROTECTOR (SEE 2.02)

TO TELCO PROVIDED EQUIPMENT ASSOCIATED WITH CPE

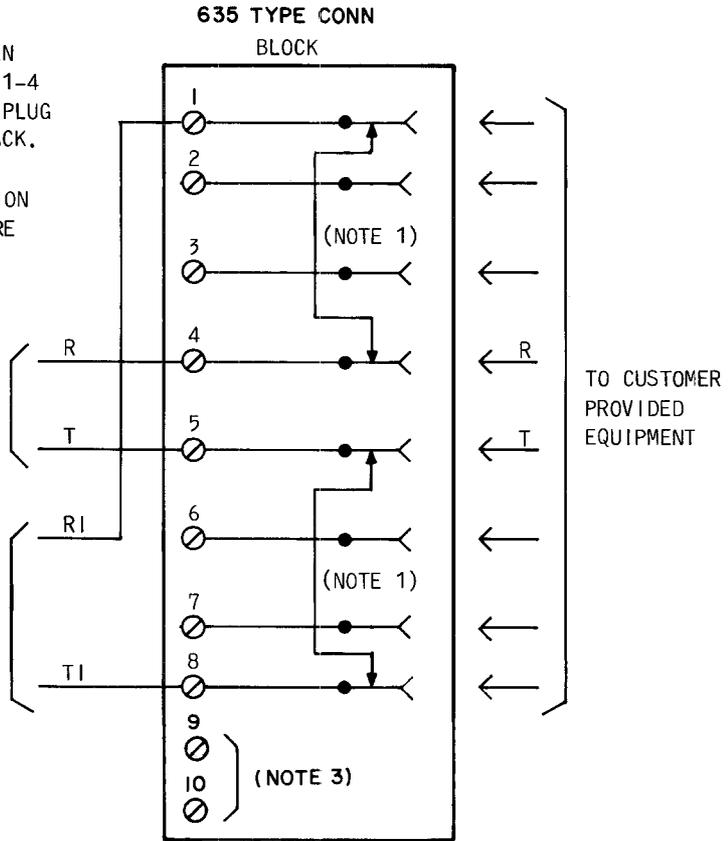


Fig. 5—Connectors for USOC RJ32X

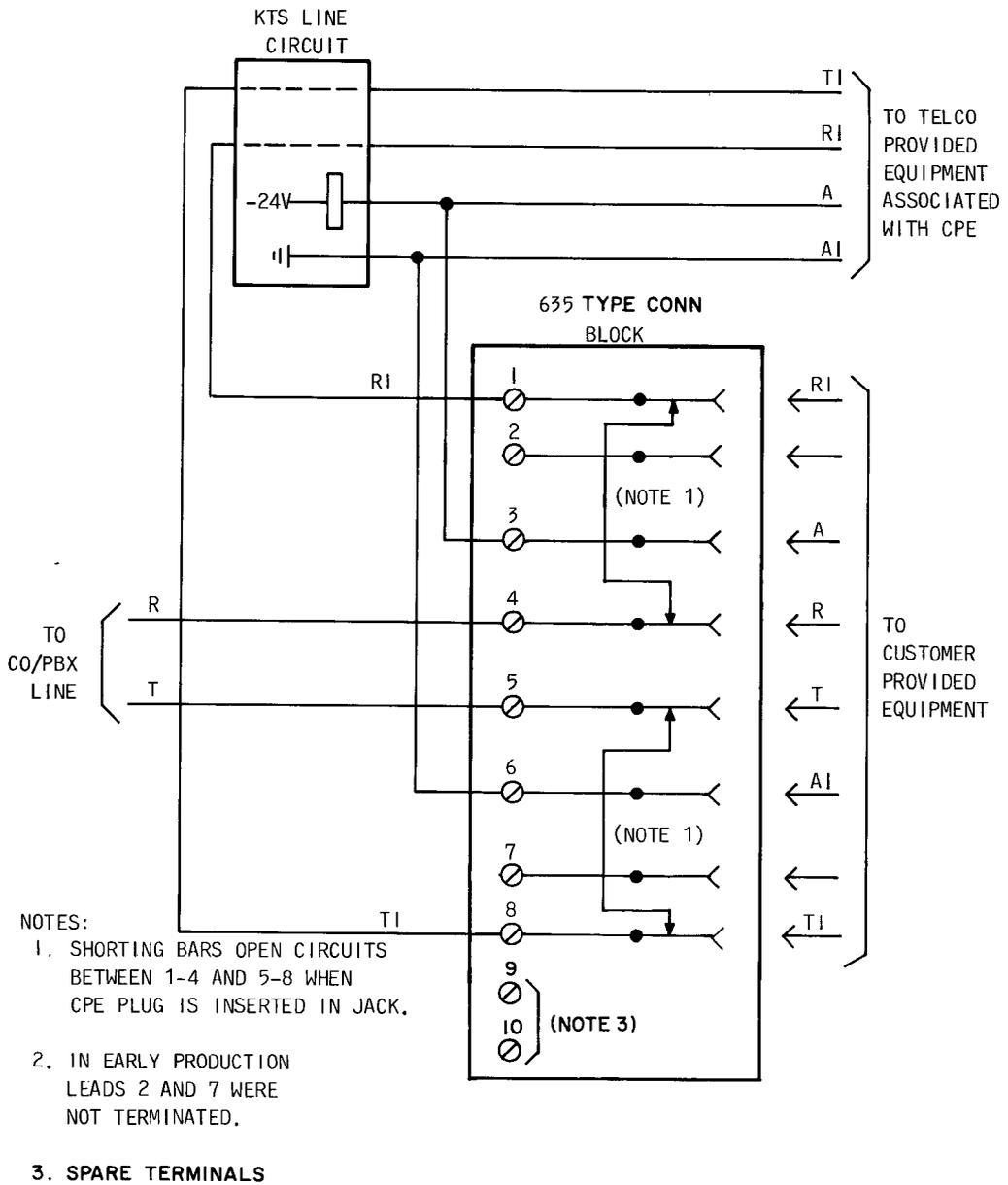
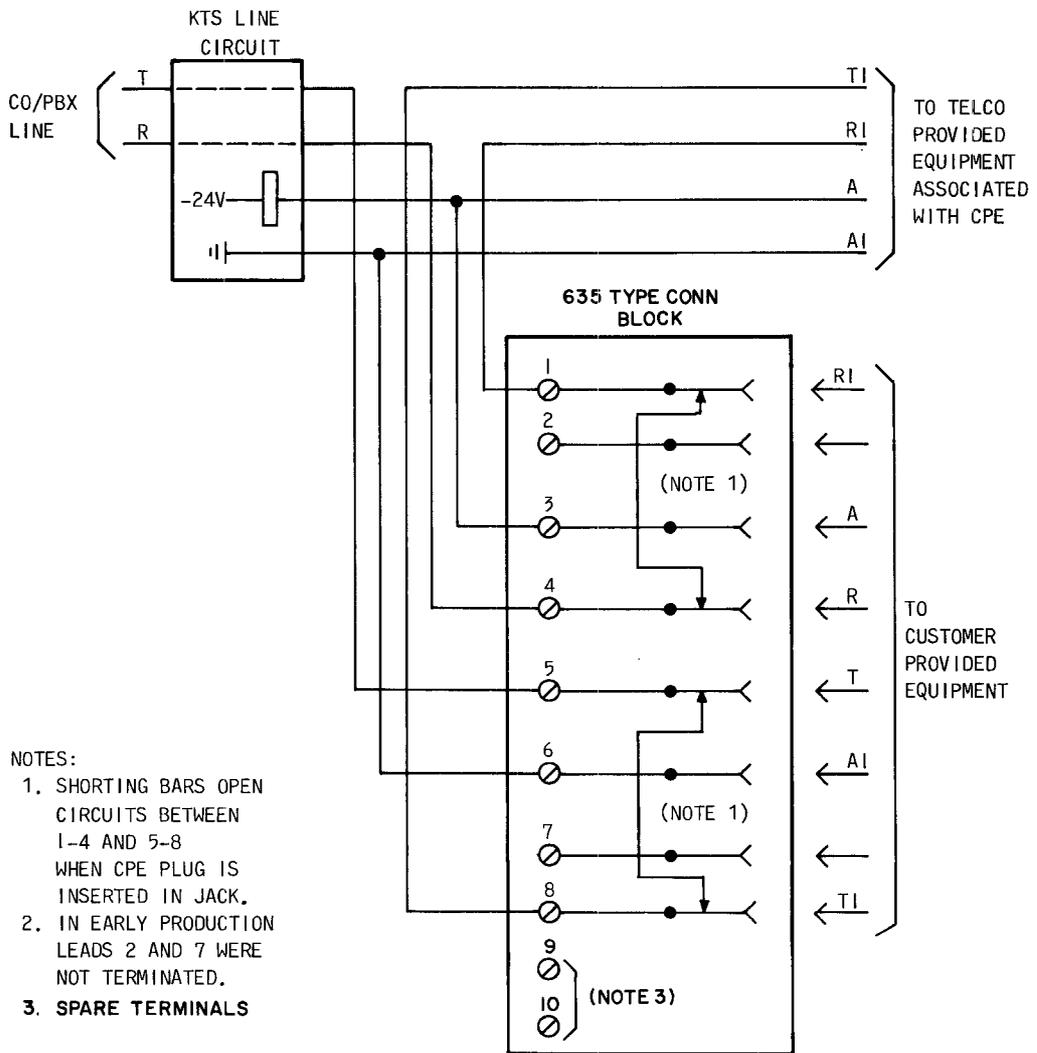
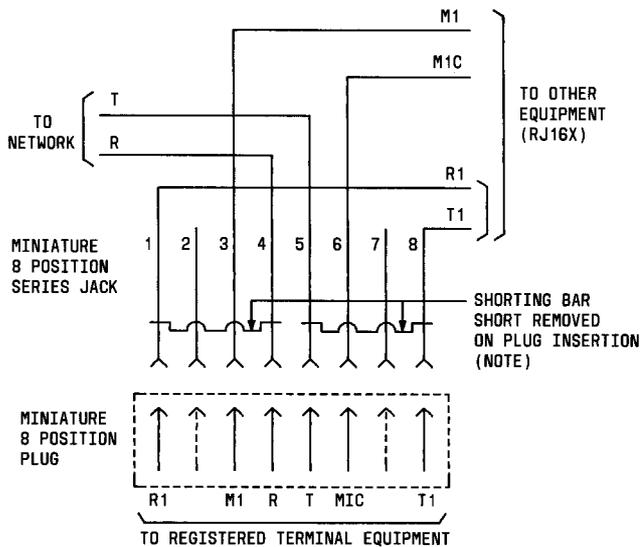


Fig. 6—Connections for USOC RJ33X



- NOTES:
1. SHORTING BARS OPEN CIRCUITS BETWEEN 1-4 AND 5-8 WHEN CPE PLUG IS INSERTED IN JACK.
 2. IN EARLY PRODUCTION LEADS 2 AND 7 WERE NOT TERMINATED.
 3. SPARE TERMINALS

Fig. 7—Connections for USOC RJ34X



- NOTE: THE DIFFERENCE BETWEEN THE 635A AND 635B ARE
1. THE 635A REMOVES THE SHORT ON INSERTION OF A 6 OR 8 POSITION PLUG.
 2. THE 635B PROVIDES A BRIDGED CONNECTION WITH A 6 POSITION PLUG AND A SERIES CONNECTION WITH AN 8 POSITION PLUG.

Fig. 8—Connections for USOC RJ36X

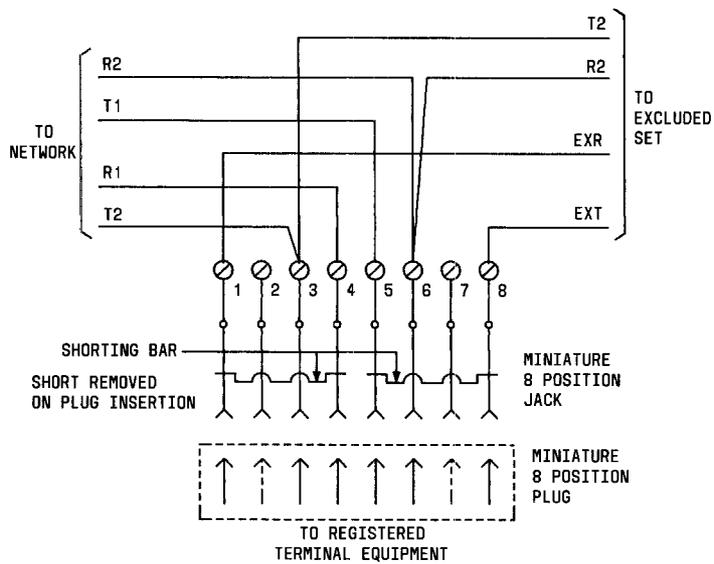


Fig. 9—Connections for USOC RJ37X

REGISTRATION INTERFACE
BRIDGED TWO LINE
TIP AND RING ARRANGEMENTS
RJ14C AND RJ14W

1. GENERAL

1.01 This section contains information on the standard wiring arrangements to be provided under the Federal Communications Commission's (FCC) Registration Program for registered telephone, ancillary, data, and protective circuitry of the type associated with telephone, ancillary, and data customer-provided equipment (CPE).

Note: Customer-provided data equipment connected to the network via the jacks in this section must have a fixed signal power level under -9 dBm. See Section 590-101-103 for connection of other data devices.

1.02 This section is reissued to make minor text changes.

1.03 This section covers 2-line interface connections. For information on multiple (more than two lines) connections, refer to Section 463-400-141.

Note: Circuit incompatibility may occur involving the spare leads if a change of service is installed, ie, a line with "A" lead control installed originally would not be compatible with a subsequent installation of 2-line service. Whenever service is altered at an installation involving registration Uniform Service Order Codes (USOCs), check that all appearances are properly wired.

1.04 These arrangements use a standard modular type connecting block (Fig. 1, 2, 3, 4, 5, and 6) as the interface with the CPE as follows:

- For surface-mounted installations (RJ14C)—use 625A, 625C, 625S*, or 625T* connecting block

- For flush-mounted installations (RJ14C)—use 625B, 625F, or 625FS* connecting block

- For wall-mounted telephone set installations (RJ14W)—use 630A connecting block.

*The 625S, 625FS, and 625T connecting blocks have spring-loaded covers which protect the contacts from contamination.

2. IDENTIFICATION

2.01 USOC RJ14C—Provides bridged connections of the tips and rings of two lines to the CPE (Fig. 1, 2, 3, 4, or 5). Used where customer requires a surface- or flush-mounted installation. Requires installation of a 625-type connecting block at location of connection to CPE. Connection to CPE can be at any convenient point. Figure 7 shows connections for RJ14C.

2.02 USOC RJ14W—Same as RJ14C except installed at wall-mounted installations using 630A connecting block (Fig. 6). Figure 7 shows connections for RJ14W.

3. MAINTENANCE

3.01 Maintenance of the wiring arrangements covered in this section is limited to:

- Verification of the telephone company wiring and equipment
- Assurance that the required leads are supplied in the interface used for CPE connection.

No attempt should be made to test, modify, or repair customer-owned and maintained equipment.

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3.02 When in the judgment of repair personnel the trouble is located in or caused by the CPE, the Repair Service Bureau should be notified so that proper Maintenance of Service Charge Billing can be initiated as required and outlined in the following:

- Section 660-101-312—Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE)
- Section 660-101-318—Tariff and Registration Violation Notice Procedures.

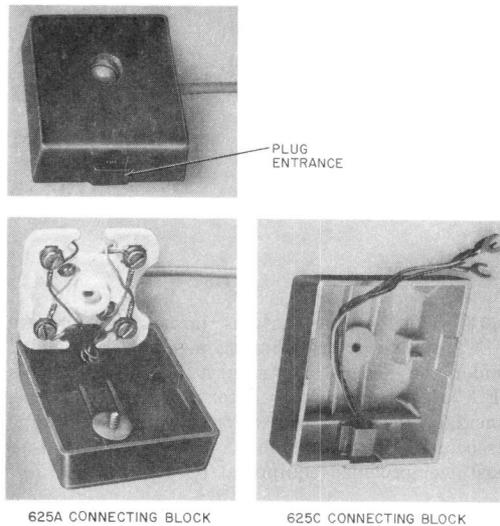
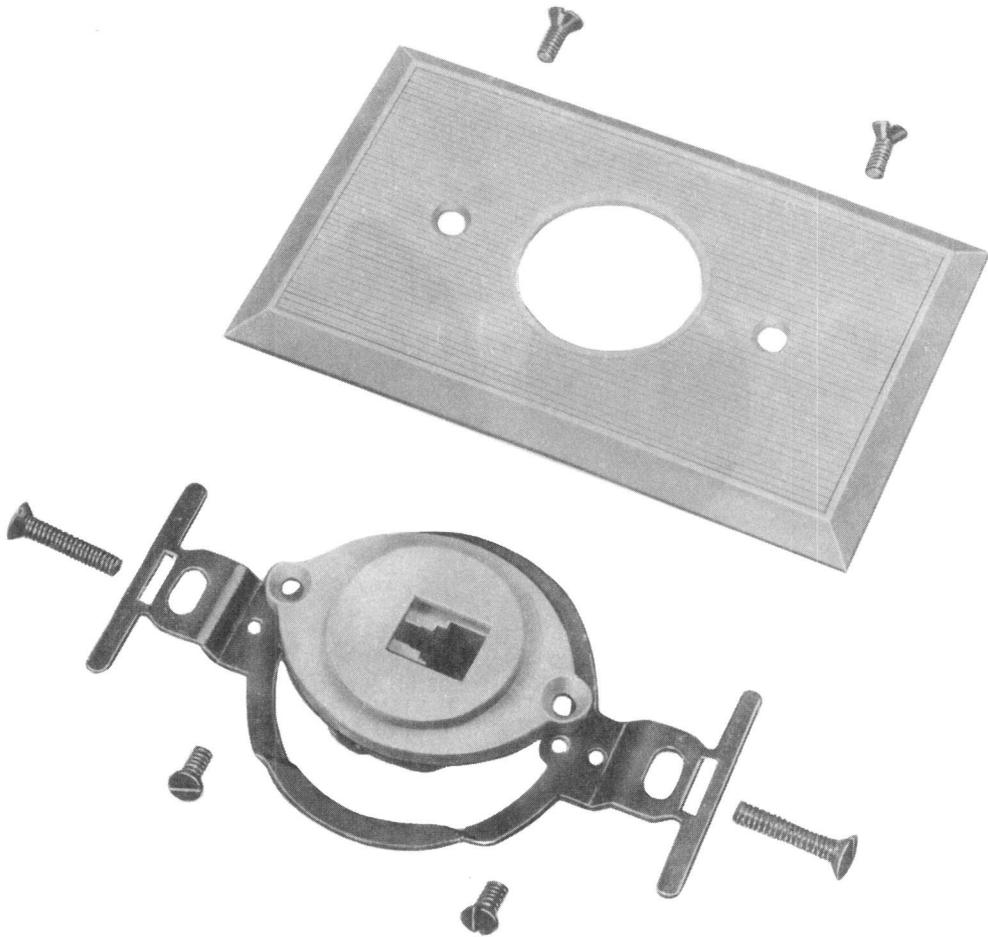
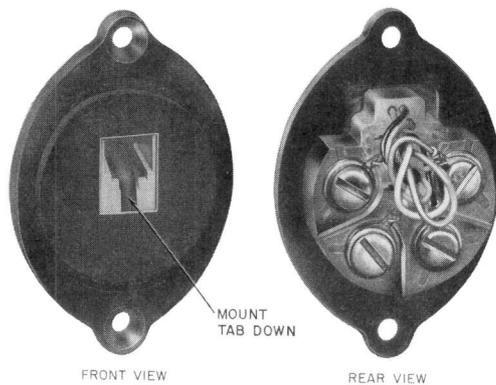


Fig. 1—625A and 625C Connecting Block



- 4 CONTACTS
 - FLUSH MOUNTED:
FOR USE IN STANDARD ELECTRICAL OUTLET BOX
- NOTE:
- MOUNTING SCREWS, BRACKET, AND
FACEPLATE PROVIDED
 - MATES WITH D4BU MOUNTING CORD PLUG
 - FOR NEW INSTALLATIONS OR MODULAR
REPLACEMENT OF 548-TYPE JACKS

Fig. 2—625B Connecting Block (Includes Mounting Hardware)



- 4 CONTACTS
- FLUSH MOUNTED:
USING 63-TYPE OR KS-20502,L2 BRACKET
AND 16A FACEPLATE OR IN STANDARD
ELECTRICAL OUTLET BOX USING 43B
BRACKET OR IN WOODWORK USING
1-1/4 INCH HOLE
- MATES WITH D4BU MOUNTING CORD PLUG
- MOUNTING SCREWS SUPPLIED
- FOR NEW INSTALLATIONS OR MODULAR
REPLACEMENT OF 548-TYPE JACKS

Fig. 3—625F Connecting Block

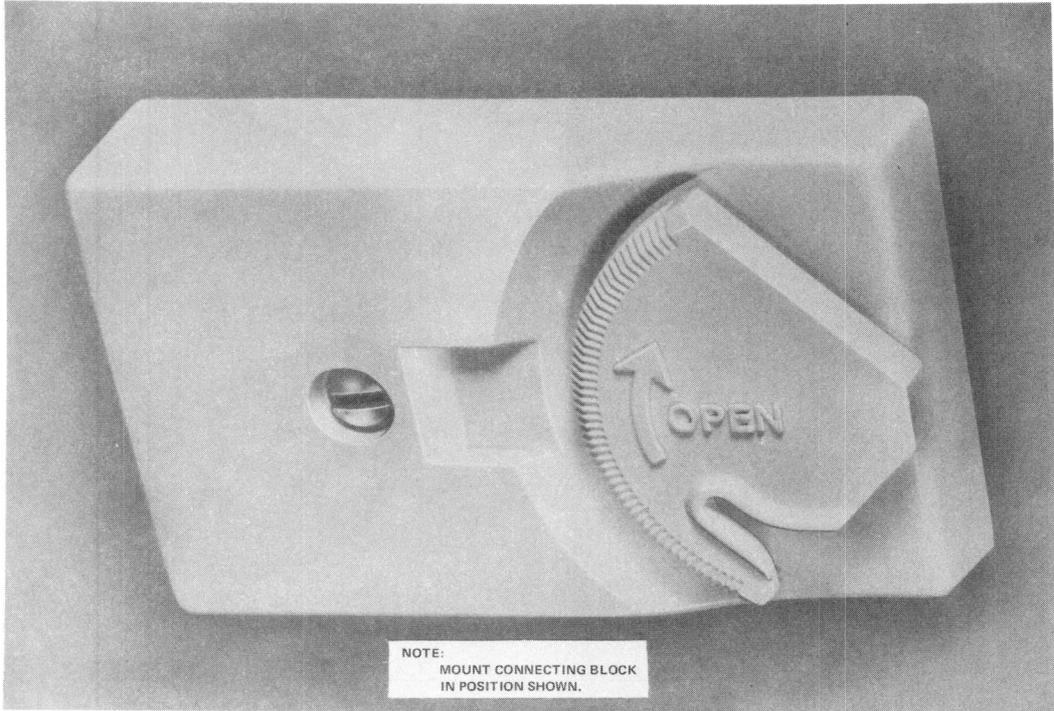
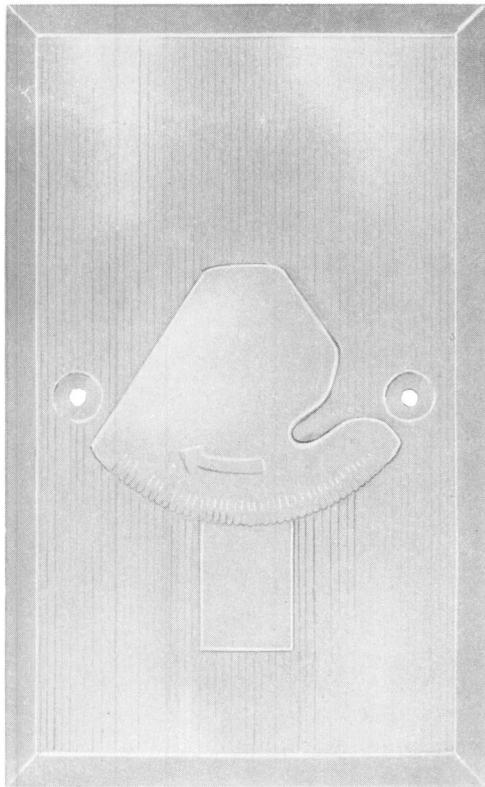
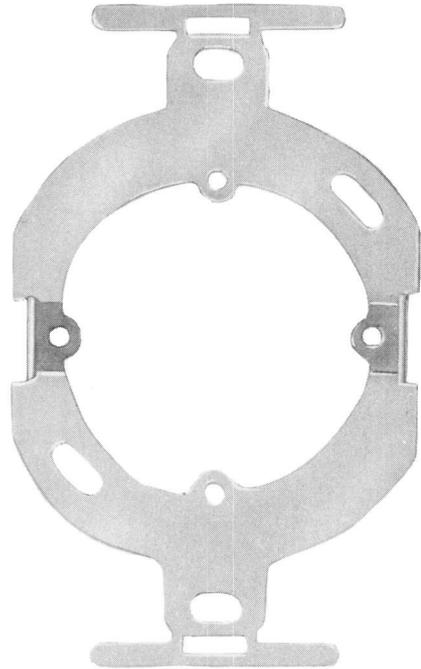


Fig. 4—▶625S Connecting Block◀



BRACKET
(PROVIDED WITH 625FS CONNECTING BLOCK)



NOTE:
BRACKET IS USED TO MOUNT 625FS TO GEM
BOX, 63A, OR 63B MOUNTING BRACKET.

Fig. 5—625FS Connecting Block

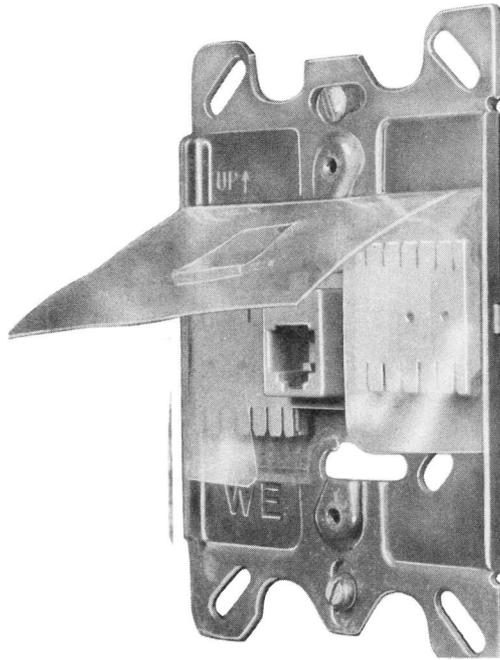


Fig. 6—630-Type Connecting Block (Without Mounting Plate)

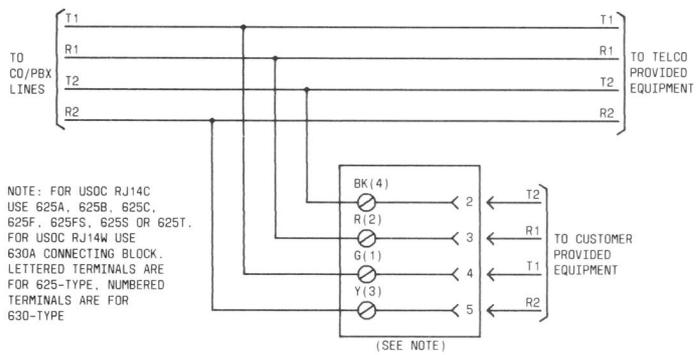


Fig. 7—Connections for USOC RJ14C and RJ14W—Bridged Tip and Ring of Two Lines

REGISTRATION INTERFACE
BRIDGED MULTIPLE
TIP AND RING ARRANGEMENTS
RJ21X, RJ22X, RJ23X, AND RJ24X

1. GENERAL

1.01 This section contains information on the standard wiring arrangements to be provided under the Federal Communications Commission's (FCC) Registration Program for registered telephone, ancillary, data, telephone, and protective circuitry of the type associated with ancillary and data customer-provided equipment (CPE). This section covers multiple (more than two lines) connections. For information on 2-line interface connections, see Section 463-400-140. This section contains information formerly found in Section 463-400-140.

Note: Customer-provided data equipment connected to the network via the jacks in this section must have a fixed signal power level under -9 dBm. See Section 590-101-103 for connection of other data devices.

1.02 This section is reissued to:

- Remove COM KEY 416 information
- Make minor text changes.

1.03 Arrangements RJ21X, RJ22X, RJ23X, and RJ24X use a 50-pin miniature ribbon connector (female) to provide a bridged tip and ring connection of several telephone lines. Where key telephone systems (KTSs) are involved, the A and A1 leads may also be supplied. The plug (male) in the registered CPE must be a compatible 50-pin miniature ribbon connector.

1.04 Figure 1 is provided as an aid in establishing the position and numbering in the connector. The lead to pin assignments differs for each arrangement, requiring care be taken that the jack be wired per Fig. 2 through 5. Interfaces RJ21X,

RJ22X, and RJ23X are to have the designated lines **consecutively** wired into the jack in the **sequence** specified by the customer, starting with the first position and not skipping any positions.

1.05 In some of the arrangements, only tip and ring are to be furnished to the CPE. Disposition of the other leads should be per local instructions.

Note: Circuit incompatibility may occur involving the spare leads if a change of service is installed, ie, RJ21X, if installed originally, would not be compatible with a subsequent installation of RJ22X. Whenever service is altered at a location involving registration Uniform Service Order Codes (USOCs), check that all appearances are properly wired.

1.06 Unless otherwise specifically required by a particular wiring arrangement, access to the required leads can be at any access point. If installed in a large key system with color-keyed backboards, the auxiliary (yellow) field should be used; otherwise, access at satellite closets, distribution boxes, connecting blocks, etc.

1.07 When necessary to access leads in COM KEY* installations, wire as follows:

- (a) COM KEY 718—Tip and ring ahead of the line circuit can be obtained at the incoming CO/PBX line terminations on block 3 using 183B2 adapters. If T, R, A, or A1 are required behind the line circuit, they can be accessed per line at any of the line appearances of the station terminations on blocks 3, 4, or 5. Use 183B2 adapters. For information on COM KEY 718, refer to Section 518-450-100.

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(b) COM KEY 1434—Tip and ring ahead of the line circuit can be accessed at the incoming line terminations on block 7 using 183B2 adapters. T and R behind the line circuit and A and A1 for a particular line can be accessed at any of the line appearances of the station terminations on blocks 6 through 15 using 183B2 adapters. For information on COM KEY 1434, refer to Section 518-450-102.

(c) COM KEY 2152—Because of insufficient clearance between the connecting blocks and the closed gate, 183B2 adapters cannot be used on the connecting units of COM KEY 2152. To access T and R ahead of the line circuit, route the incoming CO/PBX line to an external 66-type connecting block, then to block 3 of the 100A1 or 101A1 connecting block. The 66-type connecting block is then used to provide a multiple of the line. To access T and R behind the line circuit, use an idle station code termination which must be sacrificed for system use. If no idle station terminations are available, use any station code by running a jumper cable to external 66-type connecting blocks and transferring the station cable to these blocks. The blocks are then used to provide the line appearance multiple. For information on COM KEY 2152, refer to Section 518-450-110.

2. IDENTIFICATION

2.01 USOC RJ21X: This arrangement provides a bridged connection of the tip and ring of a multiple number of CO or PBX trunks to the CPE. The connection is furnished through a female ribbon connector, such as the KS-16690 connector or equivalent, as part of an A25B connector cable. Up to 25 trunks or lines can be furnished (Fig. 2). Bridging to the tip and ring may be at various locations. Typical usage for RJ21X would be for connection of registered traffic data recording equipment furnished by the customer.

2.02 USOC RJ22X: Provides up to 12 CO/PBX circuits to the CPE where the tip and ring must be bridged ahead of the line circuit and A lead control is required. Leads furnished to the CPE on a per line basis are T, R, A, and A1 using a KS-16690 connector or equivalent (Fig. 3). Access to leads will probably be at the KTS to permit connecting tip and ring ahead of the line circuit and A and A1 behind line circuit. Primary use of

arrangement will be to provide for connection of a number of CPE ancillary devices, requiring A lead control.

2.03 USOC RJ23X: This arrangement is similar to RJ22X except the tip and ring, as well as A and A1, are connected behind the line circuit. Up to 12 circuits are connected using the KS-16690 connector or equivalent (Fig. 4).

2.04 USOC RJ24X: Provides the same T, R, and A appearances plus A1 as a standard 5-line key telephone set to the CPE (Fig. 5). The L and LG appearances must be omitted to be in conformance with tariffs. Connection to the CPE is through a KS-16690 connector or equivalent. All connections are bridged behind the line circuit.

Note: Some multibutton key sets are terminated in other than the standard wiring arrangement. When accessing the leads for this arrangement, care must be taken that the desired leads will appear on the connector as required.

3. MAINTENANCE

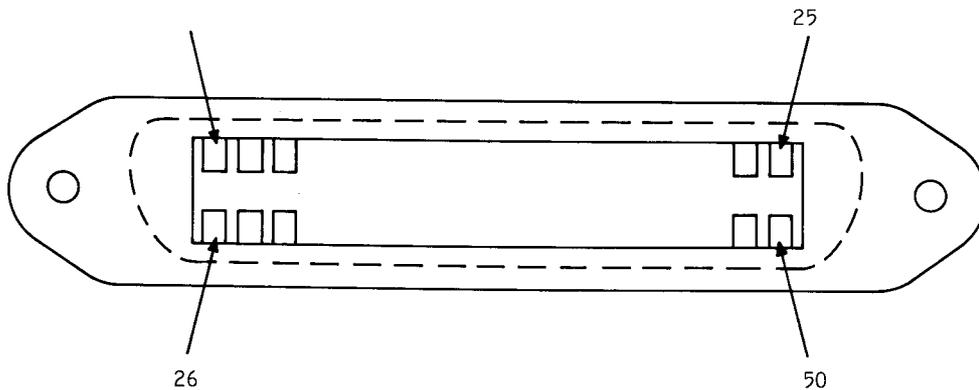
3.01 Maintenance of the wiring arrangements covered in this section is limited to:

- Verification of the telephone company wiring and equipment
- Assurance that the required leads are supplied in the interface used for CPE connection.

No attempt should be made to test, modify, or repair customer-owned and maintained equipment.

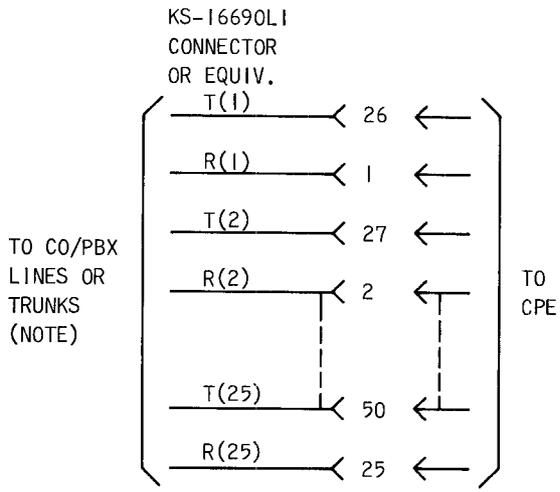
3.02 When in the judgment of repair personnel the trouble is located in or caused by the CPE, the Repair Service Bureau should be notified so that proper Maintenance of Service Charge Billing can be initiated as required and as outlined in the following:

- Section 660-101-312—Maintenance of Service Charge on Services With Customer-Provided Equipment (CPE)
- Section 660-101-318—Tariff and Registration violation Notice Procedures.



NOTE:
CONNECTOR VIEWED FROM WIRING SIDE

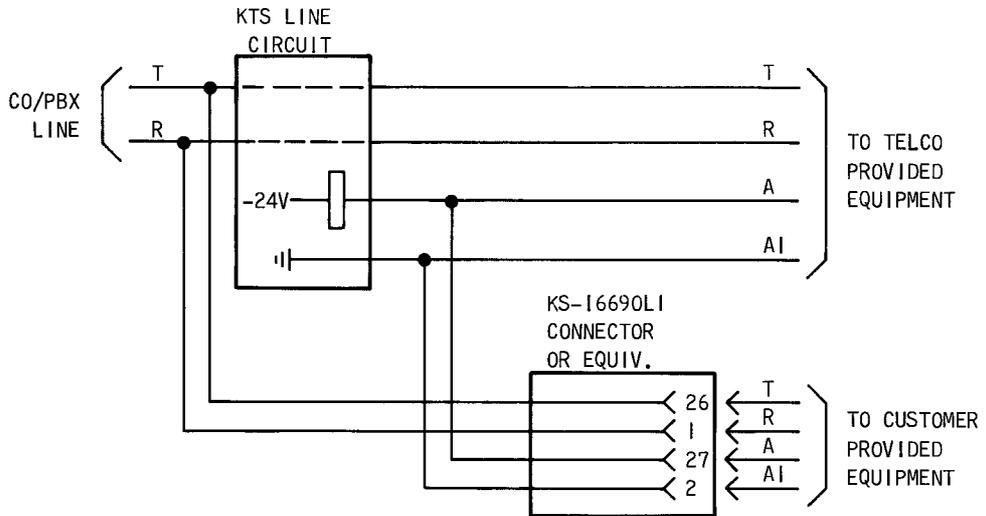
Fig. 1—Location of Contacts in KS-16690 Connector



NOTE:
CONNECT CIRCUITS
AS REQUIRED

CKT	LEAD	PIN	CKT	LEAD	PIN
1	T R	26 1	14	T R	39 14
2	T R	27 2	15	T R	40 15
3	T R	28 3	16	T R	41 16
4	T R	29 4	17	T R	42 17
5	T R	30 5	18	T R	43 18
6	T R	31 6	19	T R	44 19
7	T R	32 7	20	T R	45 20
8	T R	33 8	21	T R	46 21
9	T R	34 9	22	T R	47 22
10	T R	35 10	23	T R	48 23
11	T R	36 11	24	T R	49 24
12	T R	37 12	25	T R	50 25
13	T R	38 13			

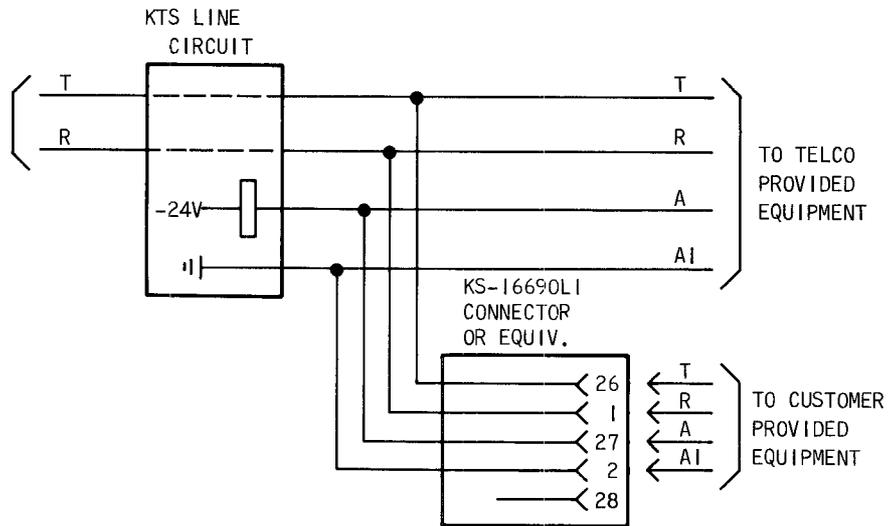
Fig. 2—Connections for USOC RJ21X—Multiple Bridged Tip and Ring



CKT	LEAD	PIN	CKT	LEAD	PIN
1	T	26	7	A	39
	R	1		AI	14
	AI	27	8	T	40
2	T	28		R	15
	R	3		AI	41
3	A	29	9	T	42
	AI	4		R	17
	T	30		AI	43
4	R	5	10	T	44
	A	31		R	19
	AI	6		AI	45
5	T	32	11	T	46
	R	7		R	21
	A	33		AI	47
6	AI	8	12	T	48
	T	34		R	23
	R	9		AI	49
7	A	35			24
	AI	10			50
	T	36			25
	R	11			
	AI	12			
		13			

NOTE:
CONNECT
CIRCUITS AS
REQUIRED. ONLY
1ST CIRCUIT SHOWN
CONNECTED

Fig. 3—Connections for USOC RJ22X—Multiple Bridged Tip and Ring Ahead of Line Circuit With "A" Lead Control



CKT	LEAD	PIN	CKT	LEAD	PIN
1	T	26	7	A	39
	R	1		AI	14
	AI	27			40
2	T	28	8	R	15
	R	3		A	41
	AI	29		AI	16
		4			42
3	T	30	9	R	17
	R	5		A	43
	AI	31		AI	18
		6			44
4	T	32	10	R	19
	R	7		A	45
	AI	33		AI	20
		8			46
5	T	34	11	R	21
	R	9		A	47
	AI	35		AI	22
		10			48
6	T	36	12	R	23
	R	11		A	49
	AI	37		AI	24
		12			50
7	T	38			25
	R	13			

NOTE:
CONNECT CIRCUITS
AS REQUIRED. ONLY
1ST CIRCUIT SHOWN
CONNECTED.

Fig. 4—Connections for USOC RJ23X—Multiple Bridged Tip and Ring Behind Line Circuit With "A" Lead Control

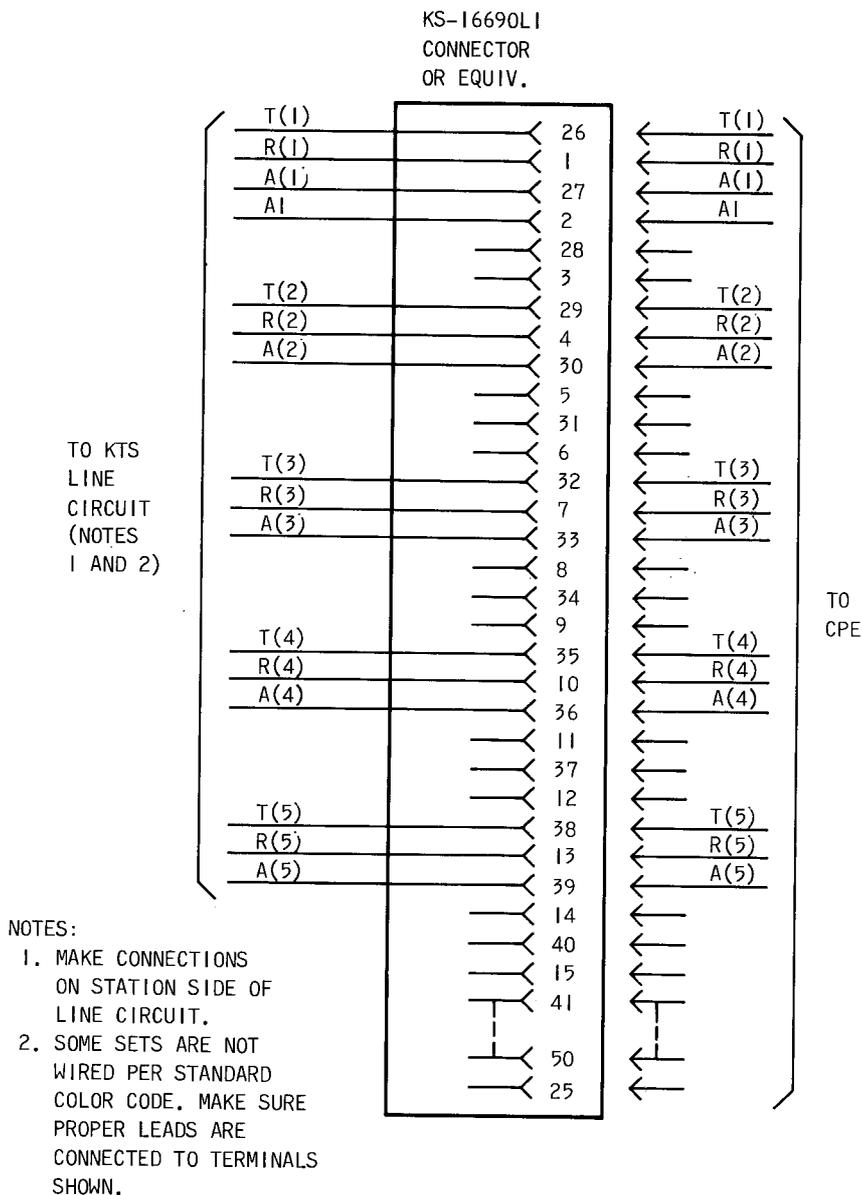


Fig. 5—Connections for USOC RJ24X—Multiple Bridged Tip and Ring With "A" Lead Control, Standard Appearance