

REGISTRATION INTERFACE

RJ11C, RJ11W, RJ12C, RJ12W, RJ13C, RJ13W, RJ17C, RJ18C, RJ19C, AND RJ1DC BRIDGED SINGLE LINE TIP AND RING ARRANGEMENTS

1. GENERAL

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

Note: 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 add:

- (a) Information on Uniform Service Order Code (USOC) RJ1DC
- (b) Photograph of 625C connecting block
- (c) Information on 153-type adapter
- (d) Photograph of 153-type adapter.

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 on contacts 4 and 3, respectively. In addition, where required for 4-wire service, T1 and R1 are furnished or in a key telephone system (KTS), A and A1 leads are furnished. Where make-busy leads MB/MB1 are required, they will appear on contacts 1 and 6, respectively. The equipment must terminate in a modular plug for compatibility. Where A and A1 leads 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 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 will be at satellite closets, distribution boxes, connecting blocks, etc.

1.05 The manufacturer of telephone or ancillary equipment 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, eg, 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.

1.06 Select the appropriate (compatible) interface USOC, using a knowledge of the type of KTS (1A, 1A1, 1A2, or COM KEY) or circuit 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

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CO/PBX line terminations on block 3 using 183B2 adapters. If T, R, A, and A1 leads 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. The T and R leads behind the line circuit and A and A1 leads 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 leads 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 leads 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 Sections 518-450-110 and 518-450-111.

1.08 These arrangements use a standard modular type connecting block (Fig. 1 through 4) as the interface with the CPE as follows:

- For surface-mounted installations (RJ11C, RJ12C, RJ13C, ♦and RJ1DC♦)—use 625A, 625C, 625S*, or 625T* connecting block. For surface-mounted installations requiring contacts 1 and 6 (RJ18C and RJ19C), use the 74D connecting block or equivalent.
- For flush-mounted installations (RJ11C, RJ12C, and RJ13C)—use 625B, 625F, or 625FS* connecting block.

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

- For flush-mounted installations (RJ17C)—use 625H connecting block.
- For wall-mounted telephone set installations (RJ11W, RJ12W, and RJ13W)—use 630A connecting block.

1.09 ♦At existing key system installations wired using connector cables, a 153-type adapter may be used to furnish RJ11C, RJ12C, or RJ13C (Fig. 5 and 6).♦

2. DESCRIPTION

2.01 *USOC RJ11C*: Provides a bridged connection of the tip and ring only of a single line to the equipment (Fig. 2, 3, 4, 7, and 9). Used where customer requires a surface- or flush-mounted installation. Requires installation of a 625-type connecting block at location of connection to equipment. Connection to tip and ring can be at any convenient access point.

2.02 ♦*USOC RJ11C* can also be used as private line services. Only tip and ring are provided through the interface (Fig. 10). The complete lead designation will depend on the private line service as follows: Message Registration—T(MR), R(MR); Off-Premises Station—T(OPS), R(OPS); or Automatic Identification Outward Dialing—T(AI), R(AI).♦

2.03 ♦*USOC RJ11C* can also be intermixed with other properly structured jack arrangements. Specifically, RJ11C can be intermixed with RJ14C, RJ25C, RJ21X, RJ2EX, RJ2FX, RJ2GX, RJ2HX, or RJ2DX. For information on other jack arrangements, refer to Sections 463-400-100 through 463-400-150. If RJ11C is intermixed in any of the listed arrangements having more leads, the unused leads cannot be assigned since the lead structure of the jack would be changed. For instance, if RJ11C (having T, R leads) is intermixed with RJ2DX (having T, R, T1, R1 leads) the pins assigned to the T1, R1 leads in that particular circuit position must be left vacant.♦

2.04 *USOC RJ11W*: Same as RJ11C but installed at wall-mounted installations using 630A connecting block (Fig. 8 and 9).

2.05 *USOC RJ12C*: Provides a bridged connection of a single tip and ring with A lead control (Fig. 2, 3, 4, 7, and 10). Tip and ring are bridged *ahead* of the line circuit because the registered

equipment requires CO/PBX ringing. The A and A1 leads are obtained behind the line circuit. The T, R, A, and A1 leads are supplied 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 equipment is not compatible with tip and ring behind the line circuit.

2.06 USOC RJ12W: Same as RJ12C except requires installation of a 630A connecting block for wall-mounted installations (Fig. 8 and 10).

2.07 USOC RJ13C: Provides a bridged connection of the tip and ring *behind* the KTS line circuit with A lead control to the equipment (Fig. 2, 3, 4, 7, and 12). 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 and 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 equipment is located near the key set.

2.08 USOC RJ13W: Same as RJ13C except installed at wall-mounted installations using a 630A connecting block (Fig. 8 and 12).

2.09 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. 7 and 13). It provides a standard connecting configuration that will only permit connection to the network of equipment conforming to Article 517 of the 1981 National Electrical Code.

2.10 USOC RJ18C: Provides a bridged connection of single-line tip and ring and make-busy leads MB/MB1 (Fig. 14). Used where customer requires surface-mounted installation. Requires installation of a 74D connecting block (Fig. 1) or equivalent at location of connection to equipment. 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 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. 15). Used where customer requires surface-mounted installation. Requires installation of a 74D connecting block (Fig. 1) or equivalent at location of connection to equipment. 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.

2.12 USOC RJ1DC: Provides a bridged connection of the T/R and T1/R1 of a single line to the equipment (Fig. 16). Used where there is terminal equipment requiring 4-wire exchange access. Requires use of 625-type connecting blocks at location of connection to registered terminal equipment. Connection to transmit and receive pairs can be of any convenient access point.

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 equipment 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 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.

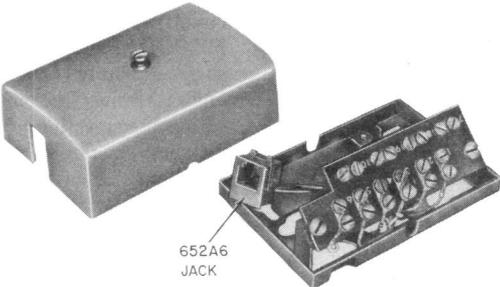


Fig. 1—74D Connecting Block

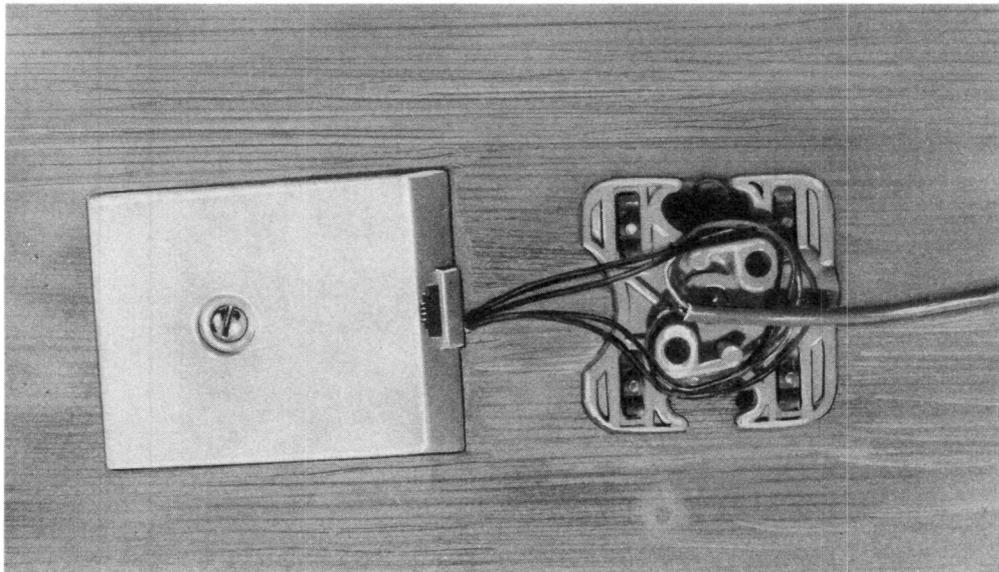
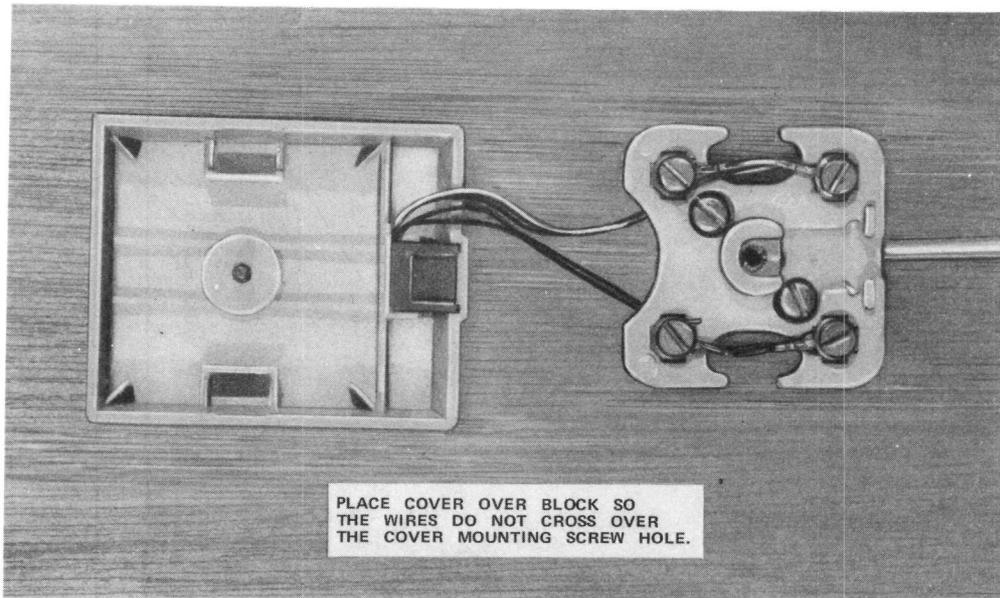


Fig. 2—625C Connecting Block

- (1) 63-TYPE BRACKET
- (2) GEM BOX AND NORMAL WALL SURFACE
- (3) OR (4) WEEK WALLS, OVER SIZE WIRING HOLE, LOCAL DAMAGE, ETC.
- (5) 1034A MOUNTING PLATE

NOTE:

IF MORE THAN 2 FASTENERS ARE USED ADDITIONAL MOUNTING HOLES AS REQUIRED

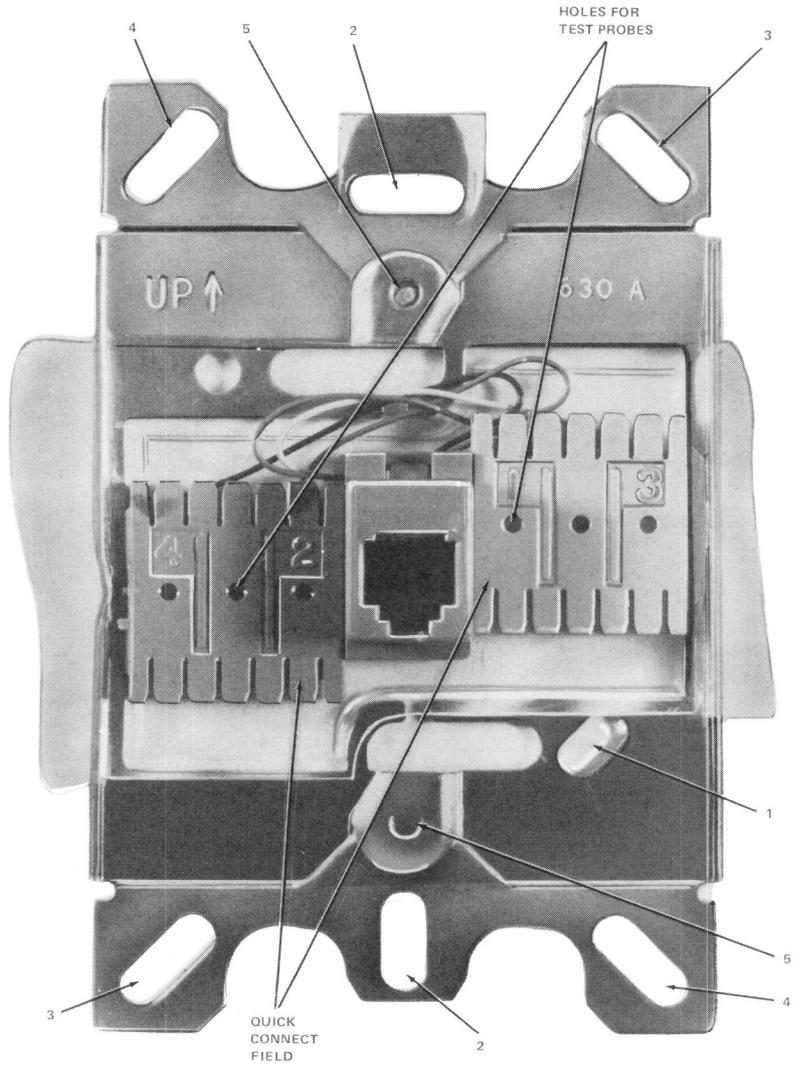


Fig. 3—625F Connecting Block

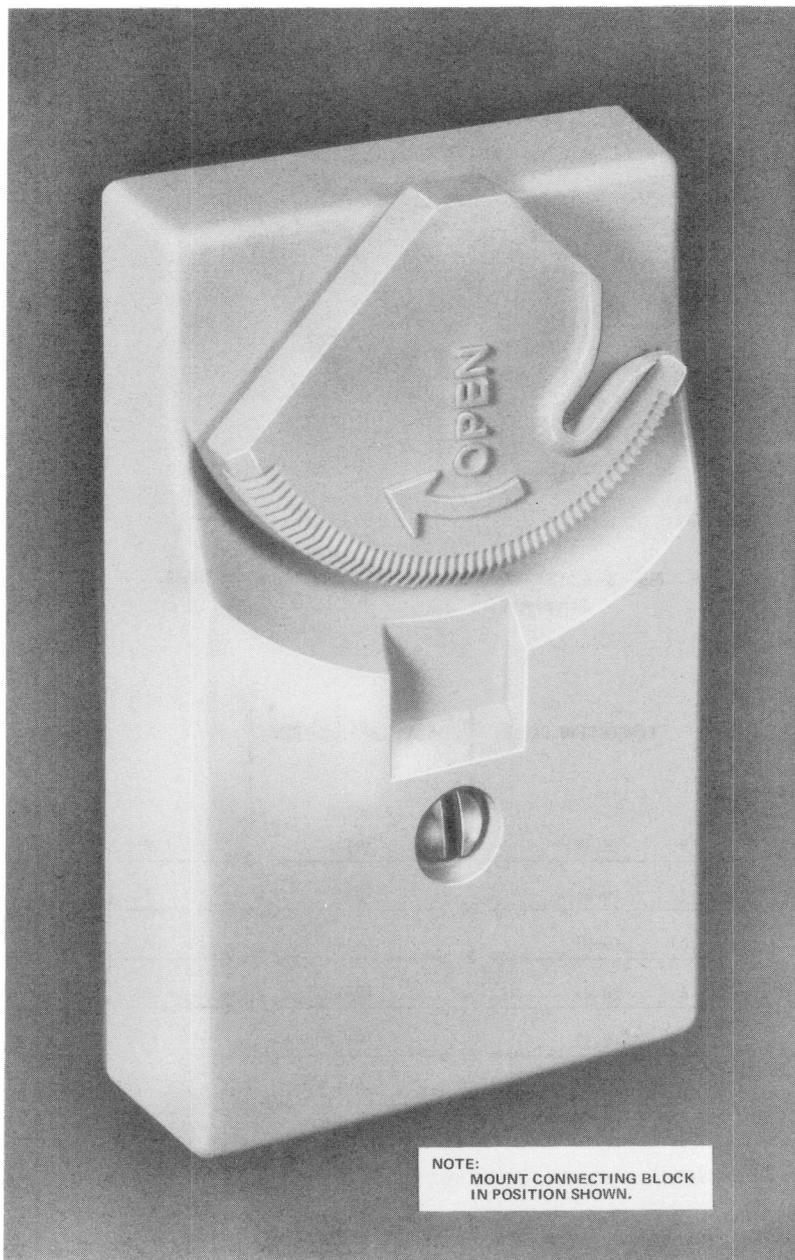


Fig. 4—625S and 625T Connecting Blocks

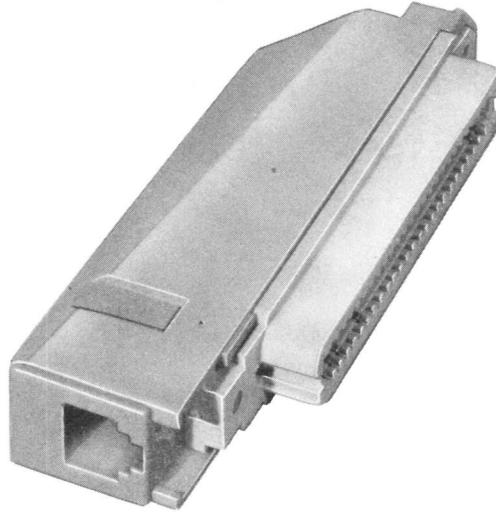
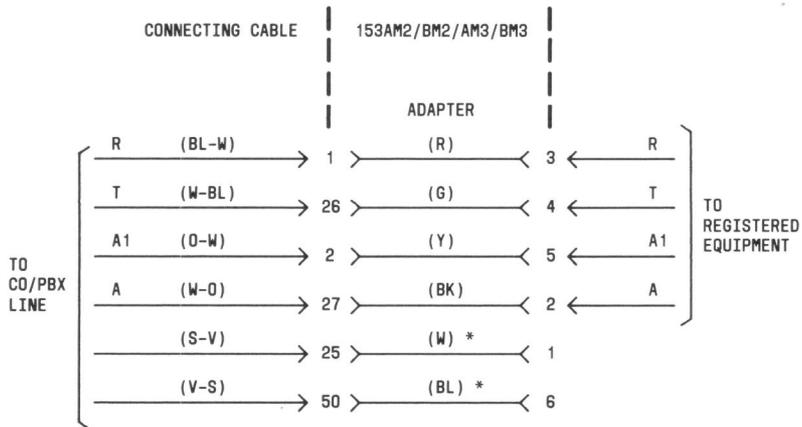
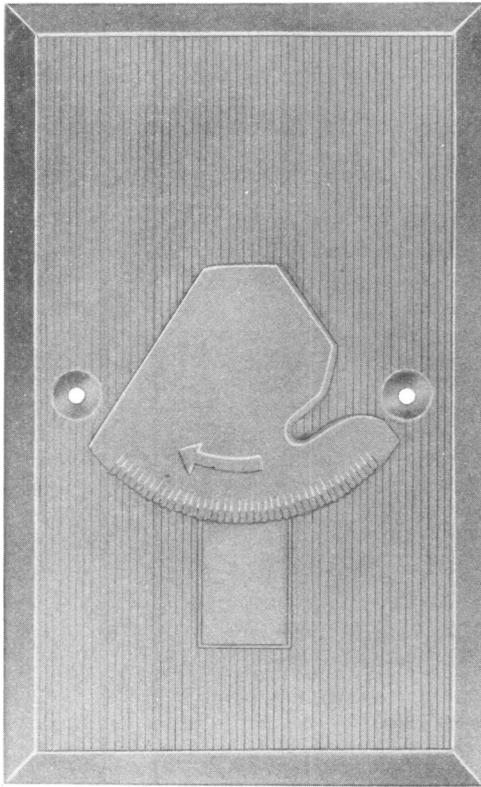


Fig. 5—153AM2, 153BM2, 153AM3, and 153BM3 Adapters

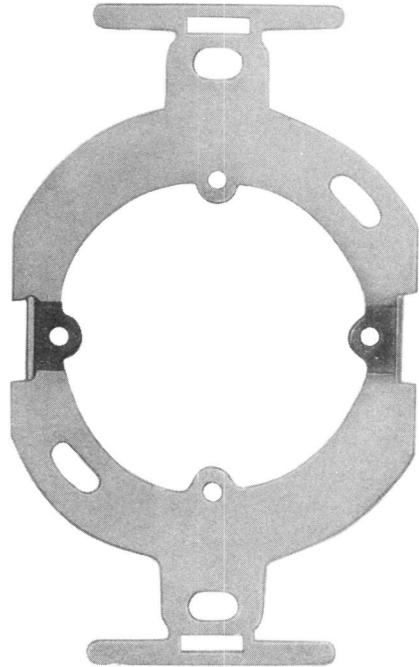


* APPEAR IN 153AM3/BM3 ADAPTER ONLY

Fig. 6—153-Type Adapter Wiring



BRACKET
(PROVIDED WITH CONNECTING BLOCK)



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

Fig. 7—625FS or 625H Connecting Block

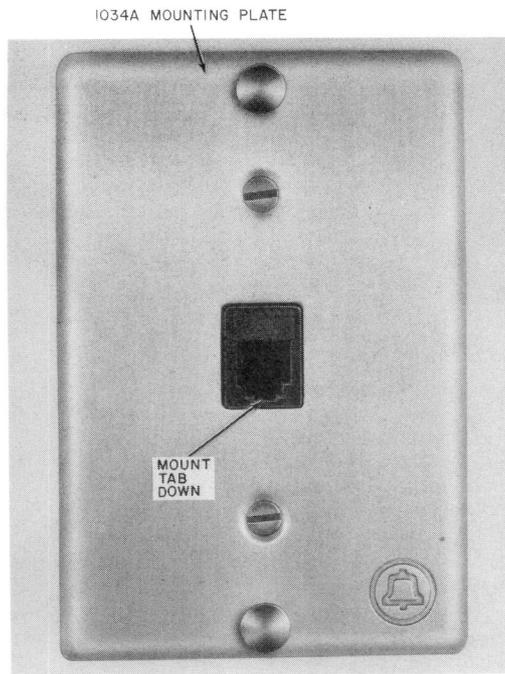


Fig. 8—630-Type Connecting Block

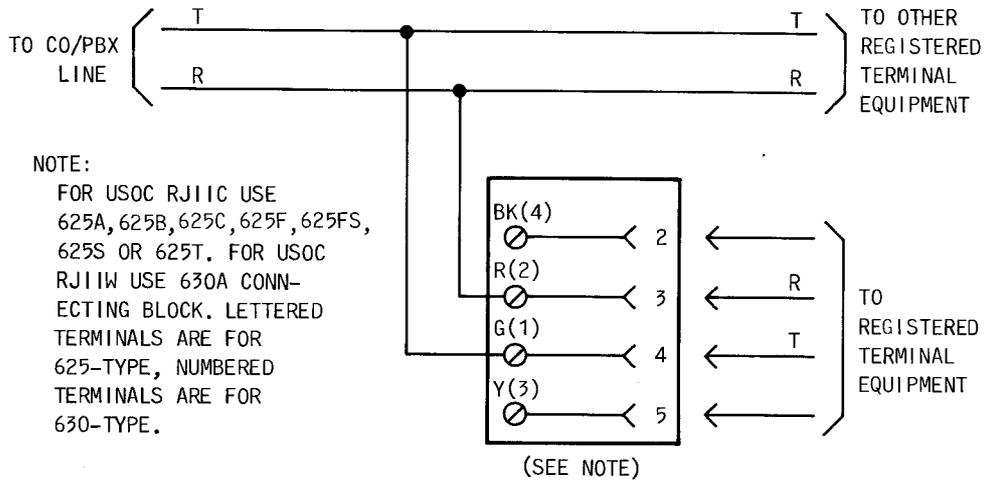
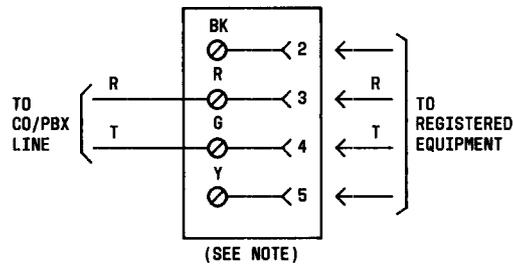
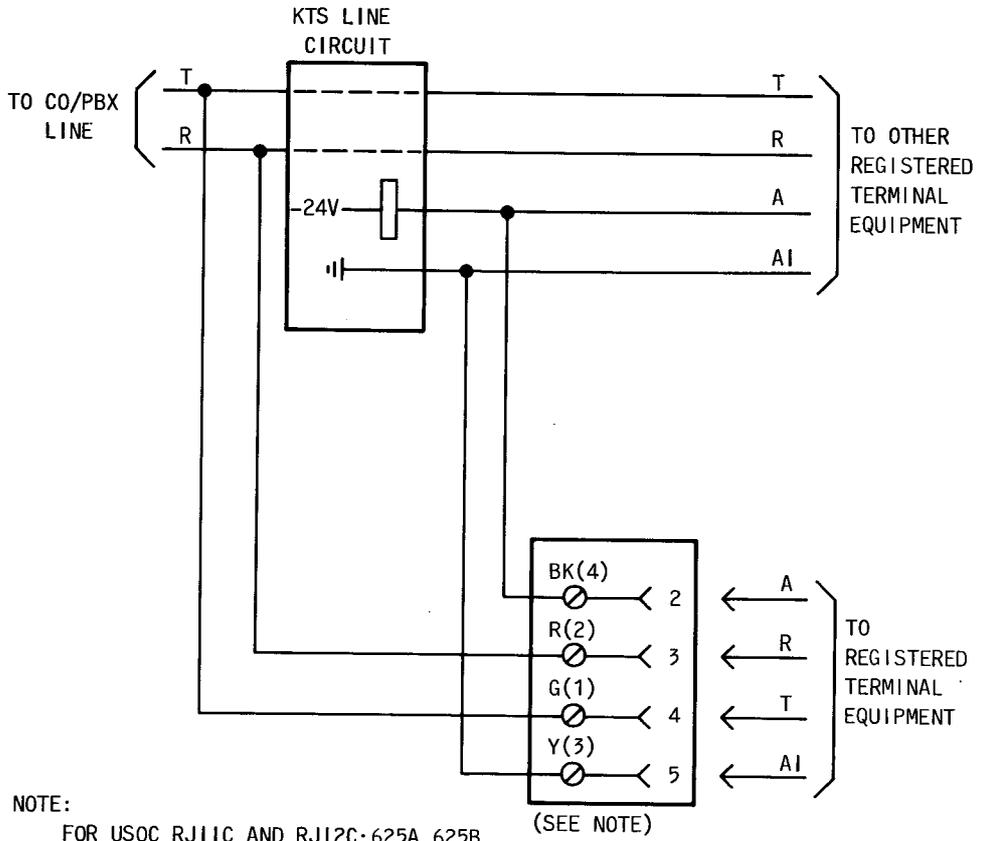


Fig. 9—Connections for USOC RJ11C and RJ11W—Bridged Tip and Ring



NOTE:
FOR USOC RJ11C
USE 625A, 625B,
625C, 625F, 625FS,
625S, 625T, OR
625WP

Fig. 10—USOC RJ11C Used as Network Interface†



NOTE:

FOR USOC RJ11C AND RJ12C; 625A, 625B, 625C, 625F, 625FS, 625S OR 625T CONNECTING BLOCK.
 FOR USOC RJ12W USE 630A CONNECTING BLOCK.
 LETTERED TERMINALS ARE FOR 625-TYPE,
 NUMBERED TERMINALS ARE FOR 630-TYPE.

(SEE NOTE)

Fig. 11—Connections for USOC RJ12C and RJ12W—Bridged Tip and Ring Ahead of Line Circuit With A Lead Control

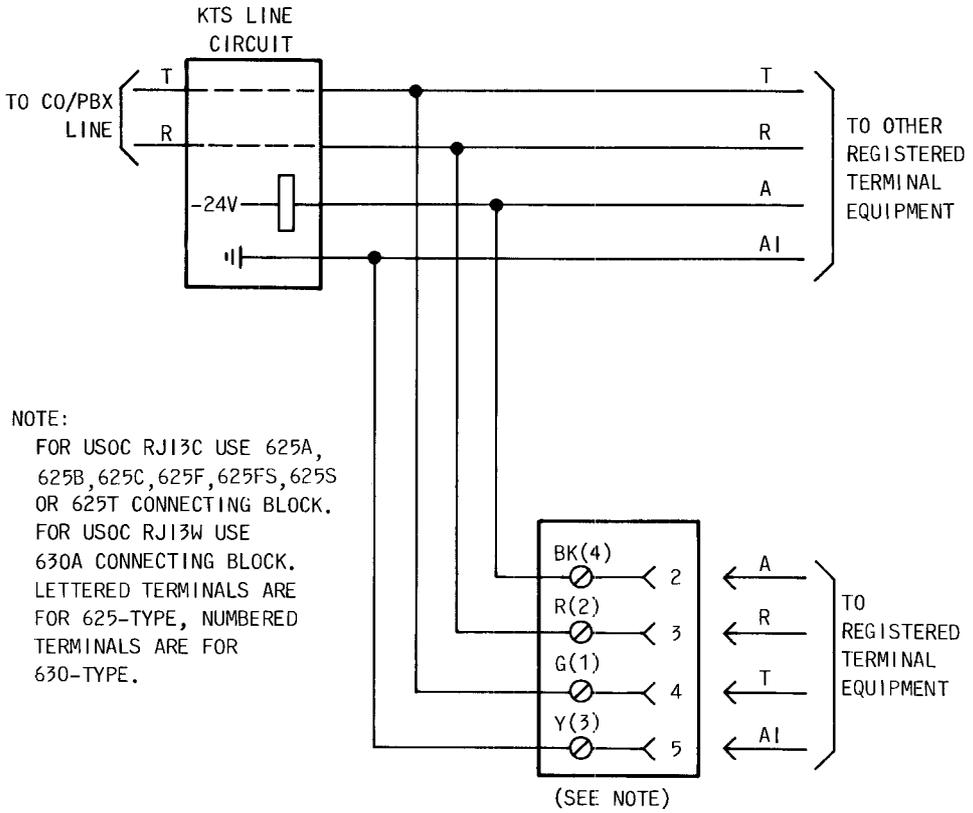
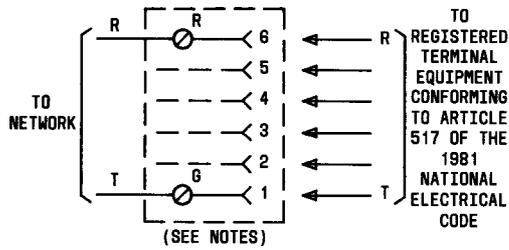


Fig. 12—Connections for USOC RJ13C and RJ13W—Bridged Tip and Ring Behind Line Circuit With A Lead Control



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

Fig. 13—Connections for USOC RJ17C—Bridged Tip and Ring

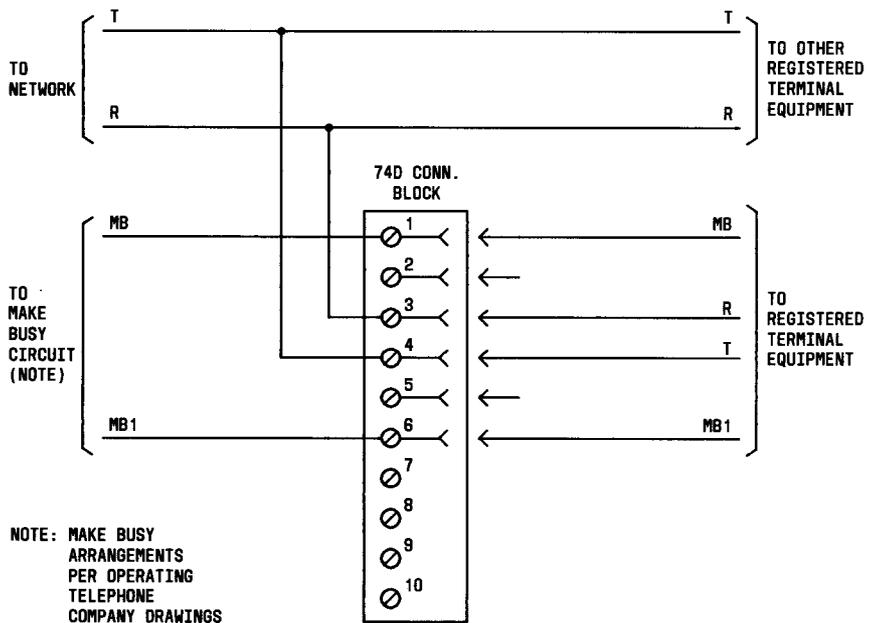


Fig. 14—Connections for USOC RJ18C—Bridged Tip and Ring With Make-Busy Leads

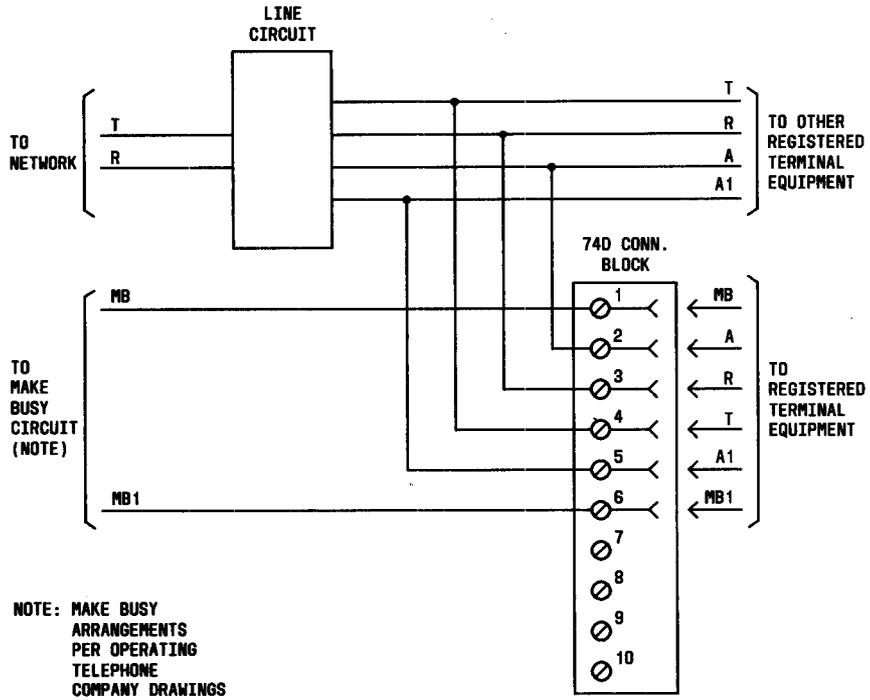


Fig. 15—Connections for USOC RJ19C—Bridged Tip and Ring With A Lead Control and Make-Busy Leads

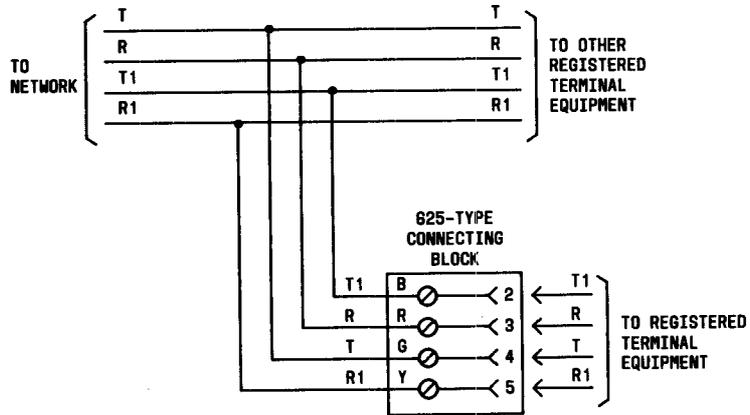


Fig. 16—Connections for USOC RJ1DC—Single Line Bridged 4-Wire T/R and T1/R1