REMOTE TERMINAL SD-7C000-01

CROSS-CONNECTIONS

CABLE PRESSURE MONITORING SYSTEM (CPMS)

1. GENERAL

1.01 This section covers information regarding the cross-connections necessary to provide a monitoring network for a remote terminal.

1.02 This section is reissued to provide satellite terminal cross-connections.

1.03 Due to the varied configurations involved, the craft must be familiar with the practice of cross-connection. Should there be any doubt concerning cross-connection practices, consult the specific section in the 069 and 201 Divisions.

1.04 When running or handling jumpers, be careful not to kink or knot the wire or to break the insulation.

2. CROSS-CONNECT REQUIREMENTS

Cross-Connect Rules

2.01 The four rules to be followed in making connections from the CPMS remote terminal to the appropriate sensor are as follows:

(1) Connections to sensors are made at a location within the wire center where the sensor is accessed most conveniently. Usually the most convenient access point is at the main frame.

(2) All cross-connections to sensors are made at a terminal strip location separate from the remote terminal in order to eliminate all cross-connect activity on the Line Access Relay Panel (LARP) terminal strip (LR) and the Logic And Measurement Panel (LAMP) terminal strip (LS).

(3) Designations which identify the LARP and the line access relay number will be carried through on all intermediate connection points (or terminal strips).

(4) Marking of the cross-connect points should be sufficient to insure that the sensors are not disconnected from the remote terminal by routine telephone company activity on the main distributing frame. Use special service markers to indicate those lines which have transducers attached.

Status Indicator Connections

2.02 Status indicators are connected from the distributing frame intermediate terminal strip to the terminal strip which contains the dedicated pairs; this strip is found on the MDF (Fig. 1). These interconnections are located on the terminal strips designated LS and marked on the main frame for identification as shown in Fig. 5 and 7.

Airflow Connections

2.03 Airflow sensor connections are made to a distributing frame intermediate terminal strip and then to the B transducer terminal strip located near or in the cable vault (Fig. 1). However, depending upon the wire-center main frame arrangement, it may be more convenient to make the connections directly to the terminal strip in or near the cable vault. ***AIRFLOW*** will be marked on the main frame as shown in Fig. 5.

2.04 All cabling to the intermediate terminal strip is installed by Western Electric Company with direction from the Equipment Engineer of the associated telephone company. During this installation, proper identification of cabling is necessary in order to associate the cross-connect terminals with the proper LARP.

Transducer Connections

2.05 Transducers assigned to subscriber lines are jumpered to avoid interference with subscriber service. A ***loop*** pattern is used to connect the customer to the line equipment through the remote

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terminal. Fig. 2 shows two subscribers connected to the line equipment using this method.

Satellite Terminal Connections

2.06 The dedicated trunk pairs to be connected between the remote terminal and satellite terminals are derived from the 40 leads (20 pairs) associated with SIA2. These cross-connections are different from transducer cross-connections; therefore, special care must be taken in making these cross-connections to the trunk pairs.

2.07 The trunk pairs will be connected from the cable location on the VMDF to the cross-connect field in the SIA location of the auxiliary terminal strip on the HMDF (Fig. 3). The SIA2 terminal assignments for each pair are given in Table A.

3. BASIC TRANSDUCER CROSS-CONNECTIONS

3.01 There will be variations in main frame connections. Fig. 2 illustrates a typical arrangement whereby the remote terminal will be connected into the telephone circuit. The principle goal is to connect the remote terminal to the sensor on a customer line without disturbing service. This can be accomplished by the following steps:

(1) Run jumper from designated terminals on the distributing frame intermediate terminal strip to the subscriber exchange cable pair located on the vertical MDF.

(2) Run another jumper from designated terminals on the distributing frame intermediate terminal strip to the line equipment pair assigned to the subscriber located on the horizontal MDF.

(3) Remove jumper (if present) between the line equipment pair on the horizontal MDF and the exchange cable pair located on the vertical MDF.

(4) The connection at the exchange cable pair on the vertical MDF must be marked to prevent disconnection by routine telephone company activity.

(5) Request central terminal operator to verify installation of jumper.

(6) In cases where a subscriber is denied service, do ***not*** remove heat coils from the pair.

4. CENTRAL OFFICE CONFIGURATIONS

4.01 The overview of how the remote terminal is connected is shown in Fig. 4. As previously stated, the main purpose is to connect the remote terminal into the monitoring circuits without impairing customer service or going through the switching equipment. Fig. 5 shows in detail how the cabling and cross-connections should be run on the Conventional Main Distributing Frame in order to complete a connection. The connection shown will use LARP-01, relay 30 which can furnish connection facilities for the two sensors that are located on customer A and B line. If this is a new subscriber installation, simply run jumpers as shown, with A leads for customer A and B leads for customer B. When a customer is already connected, the frame personnel must run jumpers A and C and then remove B as shown on Fig. 6.

4.02 The Modular Main Distributing Frame, due to its compactness, should present a neater and more simplified jumper path as illustrated in Fig. 7. As before, the connection will be to LARP-01, relay 30. To minimize the length of jumpers, the terminal field on the modular frames is limited to the 8 by 16 configuration.

4.03 There may be combinations of the two main frames that have been illustrated, but whatever the configuration, the principle is the same. The remote terminal will be hard-wired to the intermediate terminal strip on the distributing frames. From there the telephone company runs jumpers to the designated line equipment pair, from the terminal strip to the designated exchange cable pair and ***then removes the jumper from subscribers exchange pair to the line equipment pair (if present).*** In the case of sensors which are not on subscriber lines, the jumper will run from the intermediate terminal strip on the distributing frame to a terminal strip for the tie cable to the air dryers and pipe panels which may be located in or near the cable vault. If the sensors are on dedicated lines, the jumper will be from the intermediate terminal strip to the dedicated pairs on the main distributing frame.

5. DEDICATED ALARM CONNECTIONS

5.01 An option is provided for the operating company to monitor, on a continuous basis, up to 16 of the 159 status indicator pairs by connecting these selected pairs to the Dedicated

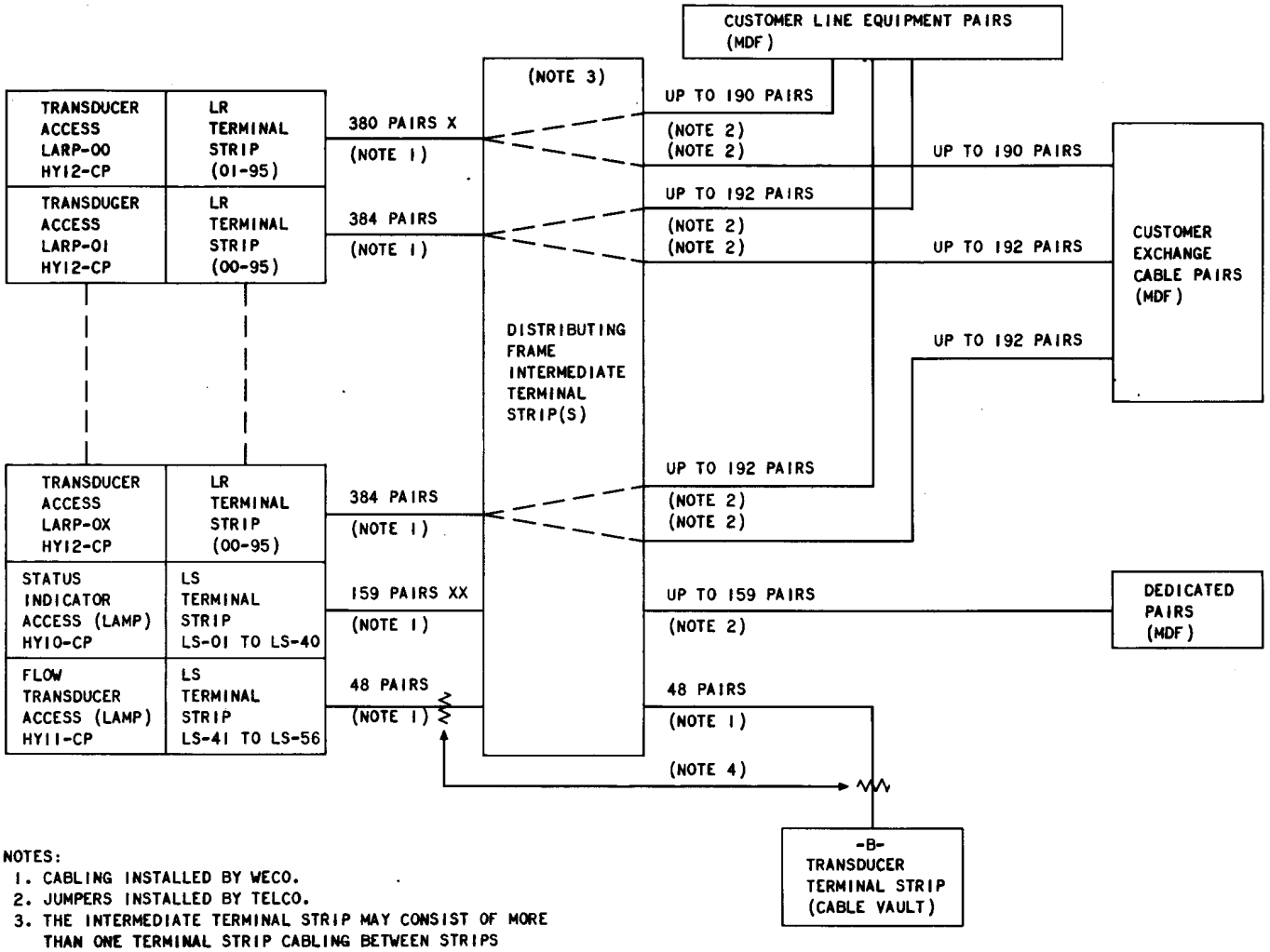
Alarm (DAL) circuit through diodes on the LS terminal strip. These connections are made by the telephone company.

5.02 The procedure consists of running a strap from the ring terminal of a status pair to the ring terminal of one of the 16 diodes as shown in Fig. 8. This strap should be run on the front of the LS terminal strip. Note that the LS terminal strip terminals in each row are numbered from 0 to 7 top to bottom, and the rows are numbered 01 to the 100 left to right.

TABLE A

SATELLITE TERMINAL DEDICATED TRUNK PAIR ASSIGNMENTS

REMOTE TERMINAL ACCESS IDENTIFICATION FOR SATELLITE TERMINAL	SIA2 TERMINAL NUMBER	
	TIP SIDE OF DEDICATED PAIR	RING SIDE OF DEDICATED PAIR
40	11-1	16-1
41	12-1	17-1
42	13-1	18-1
43	14-1	19-1
44	15-1	20-1
50	11-3	16-3
51	12-3	17-3
52	13-3	18-3
53	14-3	19-3
54	15-3	20-3
60	11-5	16-5
61	12-5	17-5
62	13-5	18-5
63	14-5	19-5
64	15-5	20-5
70	11-7	16-7
71	12-7	17-7
72	13-7	18-7
73	14-7	19-7
74	15-7	20-7



NOTES:
1. CABLING INSTALLED BY WECO.
2. JUMPERS INSTALLED BY TELCO.
3. THE INTERMEDIATE TERMINAL STRIP MAY CONSIST OF MORE THAN ONE TERMINAL STRIP CABLING BETWEEN STRIPS INSTALLED BY WECO.
4. THE DISTRIBUTION FRAME INTERMEDIATE TERMINAL STRIP MAY BE OMITTED AND CONNECTIONS MADE DIRECTLY TO THE TERMINAL STRIP LOCATED IN OR NEAR THE CABLE VAULT AREA.

* THE FIRST ROW (00) ON LARP-00 IS USED FOR CALIBRATION PURPOSES.

** THE FIRST PAIR POSITION (01-0 AND 01-1) IS USED FOR CALIBRATION PURPOSES.

Fig. 1—Cross-Connect Block Diagram

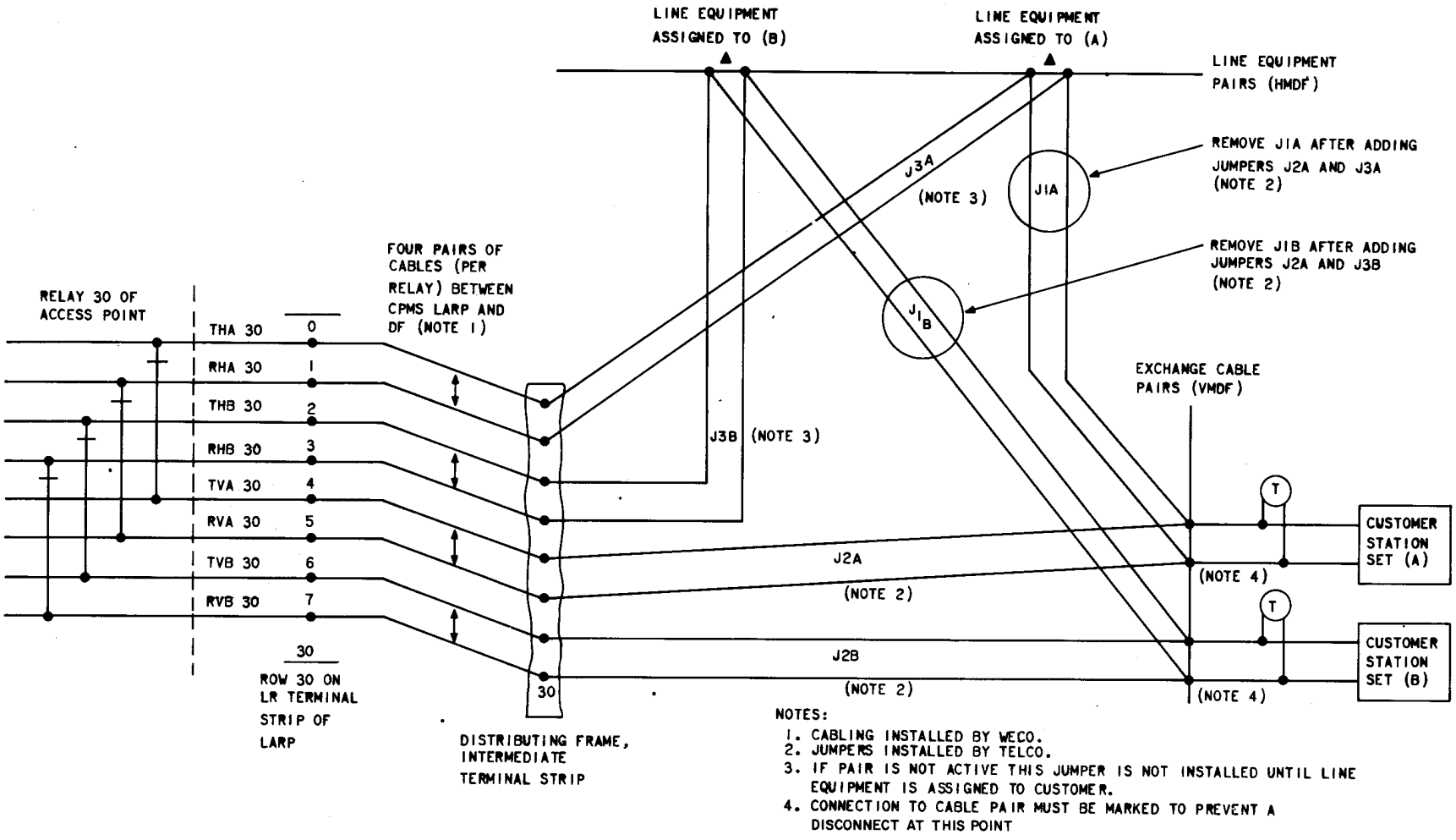


Fig. 2—Basic Wiring Diagram for Connections Between Access Circuits and Transducers on Active Pairs

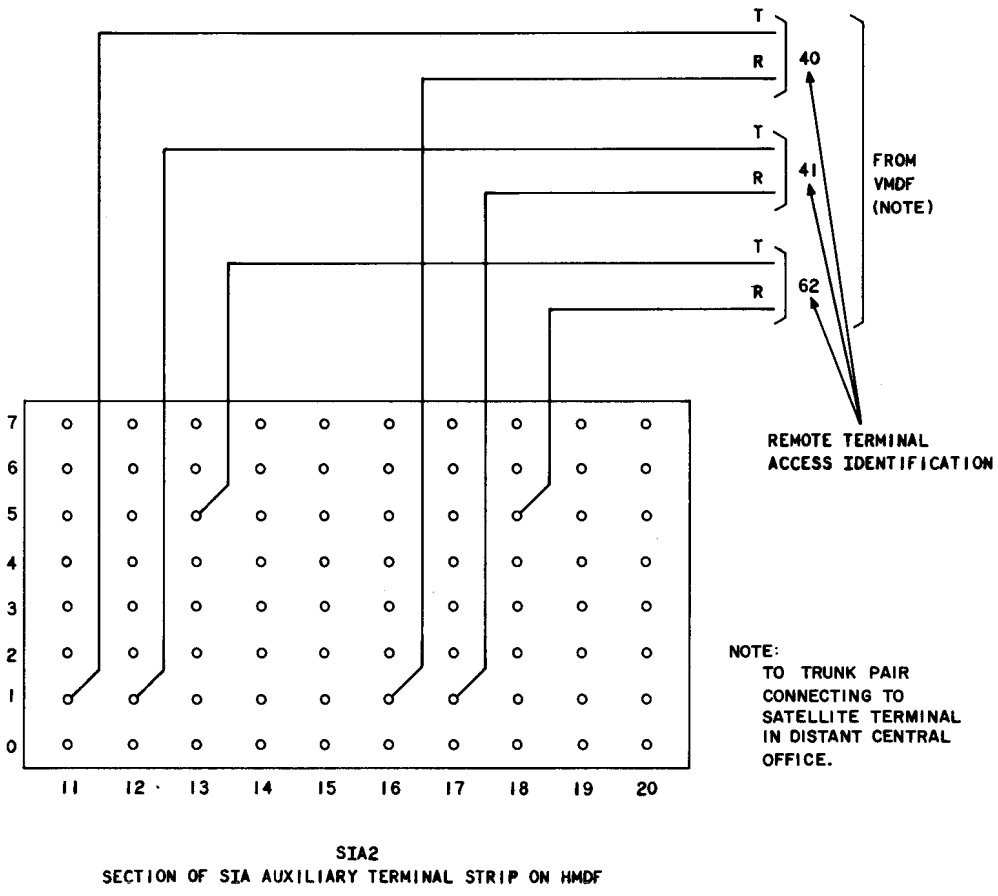


Fig. 3—Example of Satellite Terminal Dedicated Pair Assignment

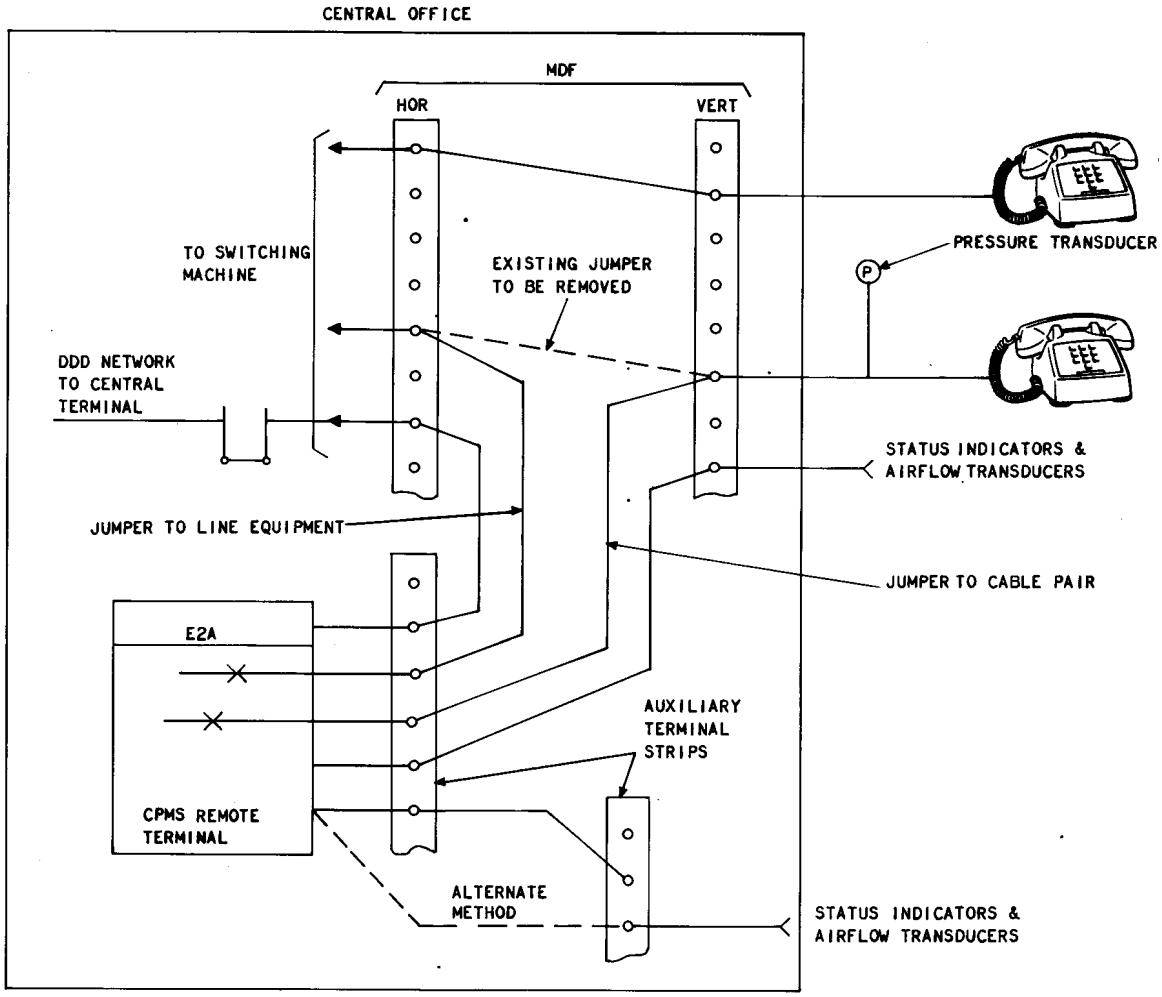
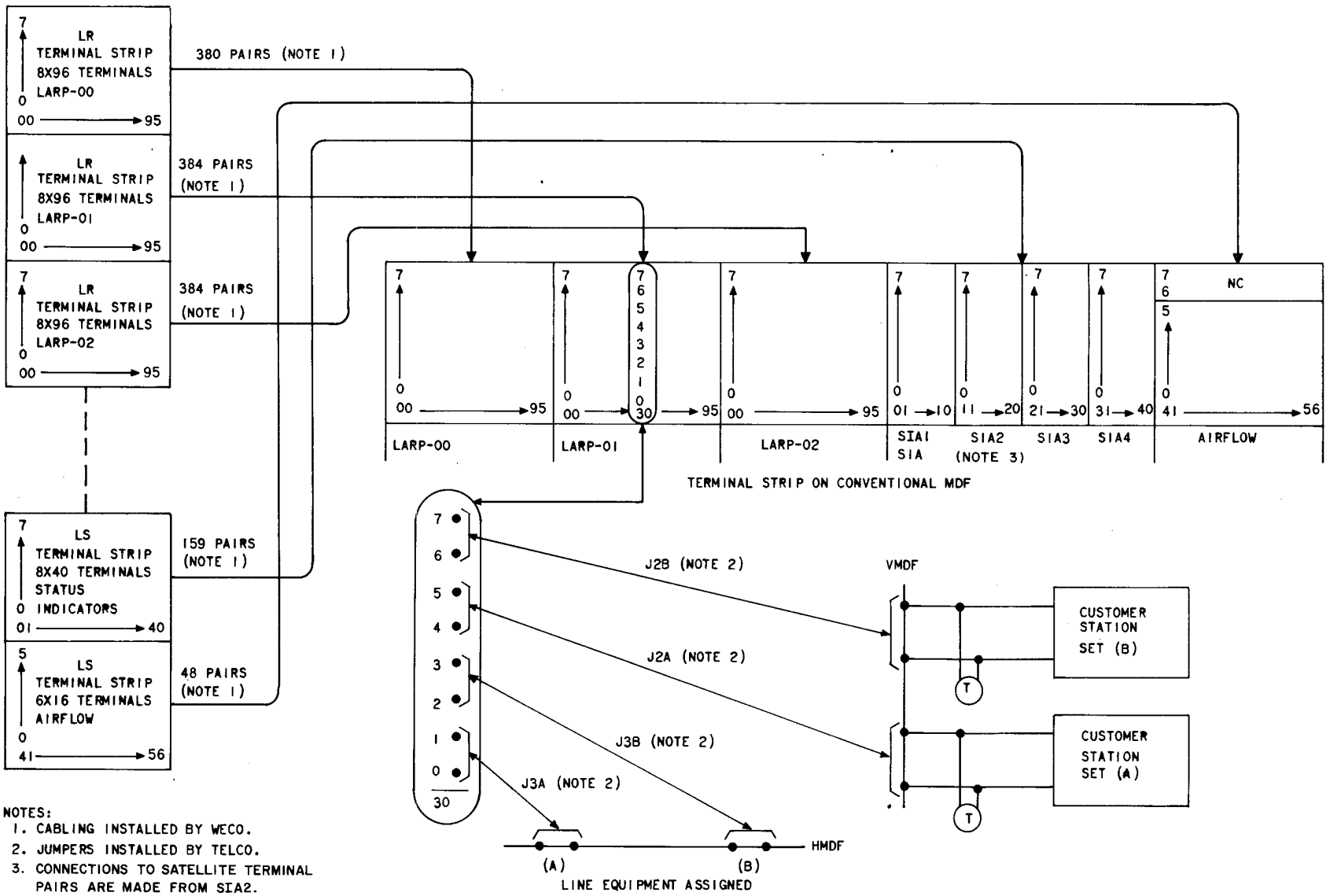


Fig. 4—Remote Terminal Interconnections Conventional MDF



NOTES:
1. CABLING INSTALLED BY WECO.
2. JUMPERS INSTALLED BY TELCO.
3. CONNECTIONS TO SATELLITE TERMINAL PAIRS ARE MADE FROM SIA2.

Fig. 5—Cabling and Cross-Connect Configuration for Conventional MDF

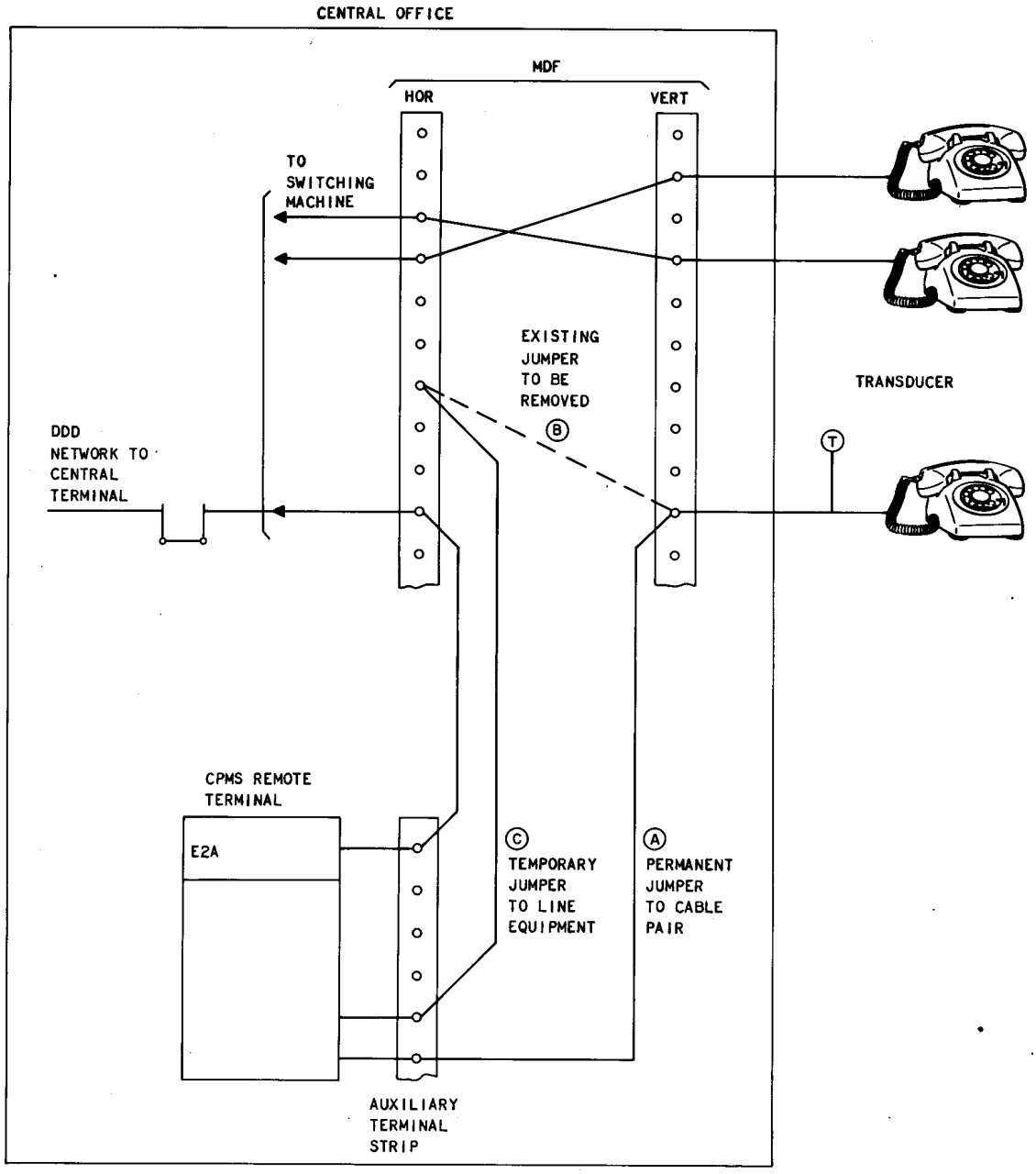


Fig. 6—Central Office

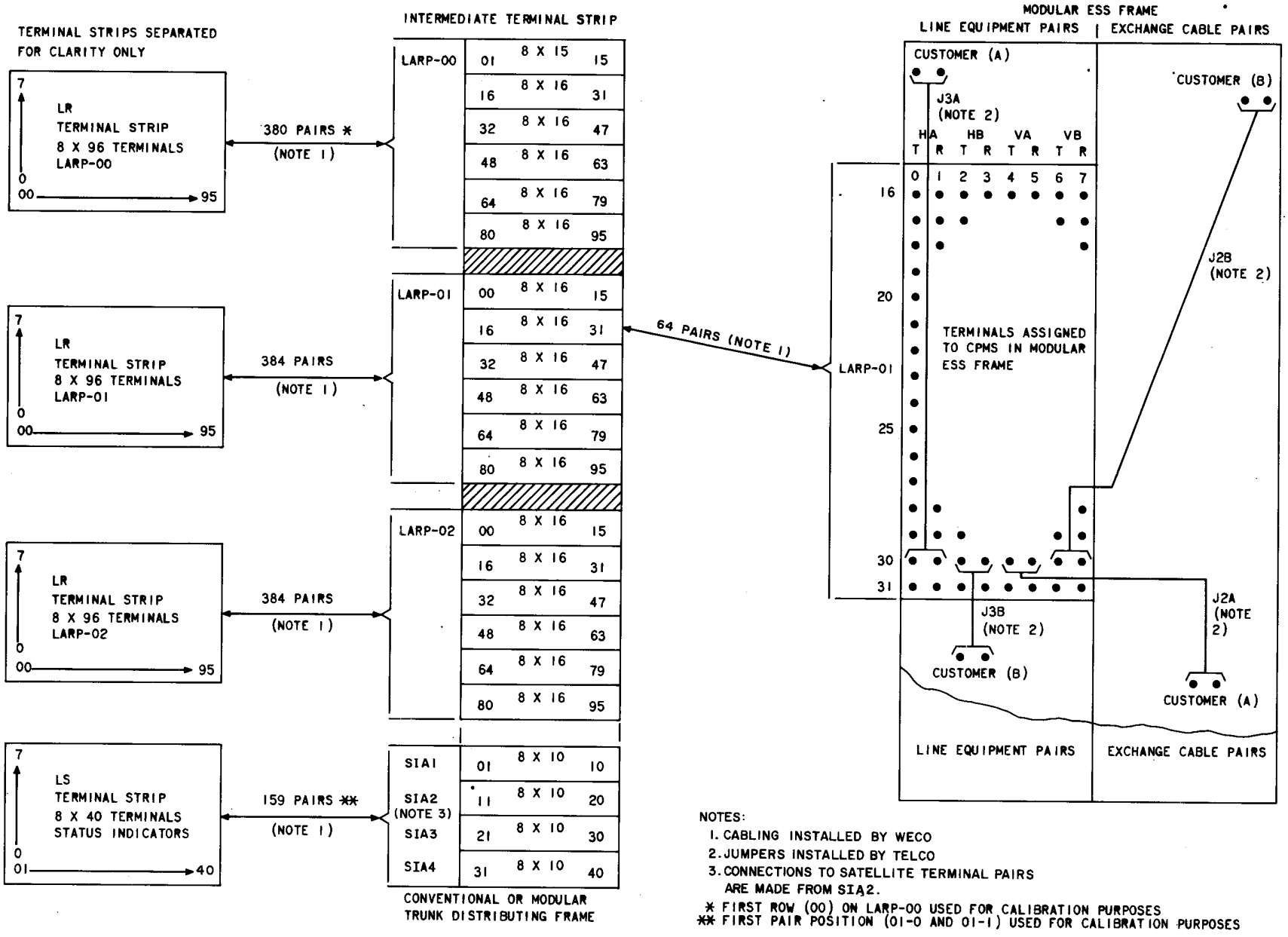
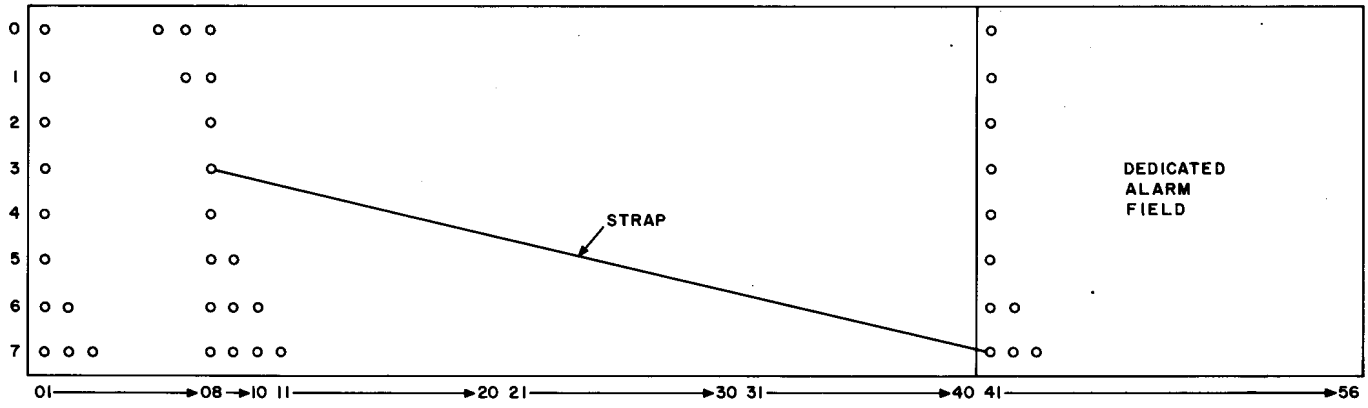


Fig. 7—Cross-Connect Configuration for Modular Type Frames



LS-TERMINAL STRIP

STRAP CONNECTING STATUS PAIR LOCATED ON TERMINALS LS-08-2 AND 3 TO FIRST DEDICATED ALARM PAIR LOCATION ON TERMINALS LS-41-6 AND 7

EXAMPLE SHOWN IS STRAP FROM RING TERMINAL (RSI 17) LS-08-3 TO RING TERMINAL (RL1) LS-41-7

Fig. 8—Dedicated Alarm Connection