# DIMENSION® PBX

# CODE CALLING (CHIME PAGING) CROSS CONNECTION

## CONTENTS



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## 1. GENERAL

1.1 This section provides installation information for the Code Calling (Chime Paging) cross connection for DIMENSION 400 and 2000 PBX.

## 2. DOCUMENTATION

2.1 COD Customer Order Document

SD-1E-445-01
SD-1E-480-01

## 3. REQUIREMENTS

3.1 Equipment needed:

3.1.1 For DIMENSION 400 PBX:

| QTY | ITEM | DESCRIPTION |
|---|---|---|
| 1 | 2012B | Power Transformer per Two 89A Control Units |
| 1 | 89A | Control Unit |

3.1.2 For DIEMENSION 2000 PBX:

| QTY | ITEM | DESCRIPTION |
|---|---|---|
| 1 | 2012B | Power Transformer per Two 89A Control Units |
| 1 | 89A | Control Unit |

## 4. PROCEDURE (CHIME PAGING) FOR 201S

4.1 Insure that Tone Plant C Circuit Pack (LC17B) is installed in the Dimension Line Carrier slot number 07.

4.2 Installation and connection of 89A Control Unit:

4.2.1 The 89A Control Unit should be located as close as possible to the paging Trunk Circuit and paging amplifier to minimize lead lengths. Choose a mounting surface which is firm, flat, and dry; a backboard is not necessary unless the available space is damp or very uneven. The customer is responsible for providing a suitable and convenient AC outlet for the 2012B (one transformer can power up to two 89A Control Units).

4.2.2 Mount the 89A Control Unit as follows:

a) Take the cover off.
b) Separate the printed circuit board from the base pan by removing the six retaining screws.
c) Attach the base pan to the mounting surface with suitable screws so that the Control Unit will be vertical as shown in Fig. 2.
d) Reattach the printed circuit board to the base pan with the six screws. The music and tone level controls should be on top and the external connection screw terminals on the bottom.

NOTE: Do not plug the 2012B Transformer into its assigned outlet until all other installation and connection is completed.

4.2.3 Connect terminals AC1 and AC2 of the 89A Control Unit to the 2012B Transformer with D station wire (Fig. 3).

4.2.4 Make the connection between the 89A Control Unit and Bell System equipment as shown in Figures 1 and 3, using D or G (or equivalent) station wire. NOTE: if any of the equipment is customer-provided, have the customer make the necessary connections.

4.2.5 Option Installation - Options X, Y and Z are enabled by screw switches. S2, S1 and S3, respectively, which are closed at the factory (Figure 2). Do not open these switches except as directed in 4.2.6 through 4.2.8.

4.2.6 If click suppression (option X) is required, install the printed circuit board from kit of parts D-180702 on the Control Unit with the six standoffs and screws supplied in the kit (Figure 2). Electrical connections to the Control Unit are made through the standoffs; no additional wiring is required. When the kit is installed, open switch S2 (Figure 2) by turning it counterclockwise, disabling option X.

4.2.7 If several Control Units are paralleled for "all zone paging" in a system with several zones, disable the Y option. Turn switch S1 counterclockwise to open it. This action changes the Control Unit's input impedance from 600 ohms to 15,000 ohms, while overall T/R impedance for several control units in parallel remains near 600 ohms.

4.2.8 Option Z, as set in the factory by closing switch S3, gives a voice page (if provided) in progress priority over a customer busy-out signal. To disable option Z so that the busy-out signal will interrupt a page in progress, open S3 (counterclockwise).

4.2.9 After all wiring is completed and options installed, replace the cover on the 89A Control Unit and plug the 2012B Transformer into its assigned power outlet.

## 5. PROCEDURE (VOICE PAGING, CHIME PAGING AND BACKGROUND MUSIC FOR 201S

5.1 To have both Chime Paging and Voice Paging, one more 89A Control Unit is needed in addition to list shown in paragraph 3.1.1.

5.2 Insure that the Auxiliary Trunk Interface (LC13) is in position in the Trunk Carrier according to Table A.

TABLE A

CIRCUIT CAPACITY AND POSITION IN TRUNK CARRIER

| CIRCUIT PACK | | NO. OF CKTS. PER CP | MAX. NO. OF CP's PER CARRIER | POSITION IN CARRIER | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| TYPE | CODE | | | 02 | 03 | 04 | 05 | 06 | 07 | 08 | 09 |
| AUX. TRUNK INTERFACE | LC13 | 2 | 8 | 13 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |

5.3 Options on LC13 are implemented by means of a six-section DIP switch mounted at the upper right center of the board (Fig. 4). The sections are identified by numbers 1 through 6; sections 4, 5, and 6 are assigned to Circuit 0; and 1, 2, and 3 to Circuit 1. Switch Circuits are closed by depressing the rocker toward the section number.

5.4 For detail connection using cross connect fields, refer to Figure 5.

IMPORTANT: Customer's equipment must stay on all the time during working hours in his facility. The reason is, COS1 and COS2, pairs for each of the 89A control units, are used to busy-out the other 89A control unit and cannot be used to seize customer's equipment too. Customer can use his equipment to broadcast background music throughout his facility by using CMS1 and CMS2 leads (Fig. 5).

5.5 CX01 terminates on purple field. To connect the GROUND (GRD), and -48V leads, refer to Table B. Choose any pair of GRD, and -48V leads to connect to the yellow cross connect field (preferably use the pair which is either not used or is connected to low noise terminals).

TABLE B

| PIN NO. | COLOR CODE | CX01 |
|---|---|---|
| 41<br>16 | Y-BL<br>BL-Y | -48<br>GRD |
| 42<br>17 | Y-O<br>O-Y | -48<br>GRD |
| 43<br>18 | Y-G<br>G-Y | -48<br>GRD |
| 44<br>19 | Y-BR<br>BR-Y | -48<br>GRD |
| 45<br>20 | Y-S<br>S-Y | -48<br>GRD |

## 6. PROCEDURE (CHIME PAGING) FOR 201L

6.1 Insure that Tone Plant C Circuit pack (LC17B) is installed in the Dimension Line Group Control Carrier slot number 10.

6.2 Installation and connection of 89A Control Unit:

6.2.1 The 89A Control Unit should be located as close as possible to the paging Trunk Circuit and the paging amplifier to minimize lead lengths. Choose a mounting surface which is firm, flat, and dry; a backboard is not necessary unless the available space is damp or very uneven. The customer is responsible for providing a suitable and convenient AC outlet for the 2012B (one transformer can power up to two 89A Control Units).

6.2.2 Mount the 89A Control Unit as follows:

a) Take the cover off.
b) Separate the printed circuit board from the base pan by removing the six retaining screws.
c) Attach the base pan to the mounting surface with suitable screws so that the Control Unit will be vertical as shown in Fig. 2.
d) Reattach the printed circuit board to the base pan with the six screws. The music and tone level controls should be on top and the external connection screw terminals on the bottom.

NOTE: Do not plug the 2012B Transformer into its assigned outlet until all other installation and connection is completed.

6.2.3 Connect terminals AC1 and AC2 of the 89A Control Unit to the 2012B transformer with D station wire (Fig. 3).

6.2.4 Make the connection between the 89A Control Unit and Bell System equipment as shown in Figures 6 and 3, using D or G (or equivalent) station wire. NOTE: if any of the equipment is customer-provided, have the customer make the necessary connections.

6.2.5 Option Installation - Options X, Y and Z are enabled by screw switches. S2, S1 and S3, respectively, are closed at the factory (Figure 2). Do not open these switches except as directed in 6.2.6 through 6.2.8.

6.2.6 If click suppression (option X) is required, install the printed circuit board from kit of parts D-180702 on the Control Unit with the six standoffs and screws supplied in the kit (Figure 2). Electrical connections to the Control Unit are made through the standoffs; no additional wiring is required. When the kit is installed, open switch S2 (Figure 2) by turning it counterclockwise, disabling option X.

6.2.7 If several Control Units are paralleled for "all zone paging" in a system with several zones, disable the Y option. Turn switch S1 counterclockwise to open it. This action changes the Control Unit's input impedance from 600 ohms to 15,000 ohms, while overall T/R impedance for several control units in parallel remains near 600 ohms.

6.2.8 Option Z, as set in the factory by closing switch S3, gives a voice page (if provided) in progress priority over a customer busy-out signal. To disable option Z so that the busy-out signal will interrupt a page in progress, open S3 (counterclockwise).

6.2.9 After all wiring is completed and options installed, replace the cover on the 89A Control Unit and plug the 2012B Transformer into its assigned power outlet.

## 7. PROCEDURE (VOICE PAGING, CHIME PAGING AND BACKGROUND MUSIC) FOR 201L

7.1 To have both Chime Paging and Voice Paging, one more 89A Control Unit is needed in addition to list shown in paragraph 3.1.2.

7.2 Insure that the Auxiliary Trunk Interface (LC13) is in position in the Module Control and Trunk Port Carrier (Fig. 8 - 10) and Trunk Port Carrier (Fig. 11 -13). See Table C and D. Refer to COD for actual slot assignment.

TABLE C

MODULE CONTROL AND TRUNK PORT CARRIER (NOTE A)

| CIRCUIT PACK | | NO. OF CKTS. PER CP | POSITION IN CARRIER | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| TYPE | CODE | | 06 | 07 | 08 | 10 | 12 | 15 | 19 |
| AUX. TRUNK INTERFACE | LC13 | 2 | 13 | 13 | 13 | 13 | 13 | 13 | 13 |

TABLE D

TRUNK PORT CARRIER (NOTE B)

| CIRCUIT PACK | | NO. OF CKTS. PER CP | POSITION IN CARRIER | | | | | |
|---|---|---|---|---|---|---|---|---|
| TYPE | CODE | | 03 | 04 | 05 | 06 | 07 | 08 |
| AUX. TRUNK INTERFACE | LC13 | 2 | 13 | 13 | 13 | 13 | 13 | 13 |

NOTES:

A - The wiring for this carrier comes out on MX01 through MX03. Fig. 8 - 10.

B - The wiring for this carrier comes out on TX01 through TX03, Fig. 11 - 13.

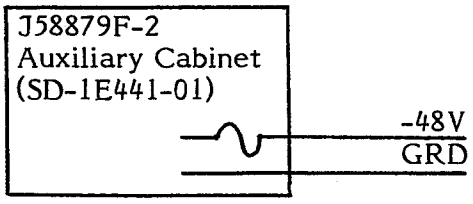
7.3 Options on LC13 are implemented by means of a six-section DIP switch mounted at the upper right center of the board (Fig. 4). The sections are identified by numbers 1 through 6; sections 4, 5, and 6 are assigned to Circuit 0; and 1, 2, and 3 to Circuit 1. Switch Circuits are closed by depressing the rocker toward the section number.

7.4 For detail connection using cross-connect fields, refer to Figure 7.

IMPORTANT: Customer's equipment must stay on all the time during working hours in his facility. The reason is, COS1 and COS2, pairs for each of the 89A control units, are used to busy-out the other 89A control unit and cannot be used to seize customer's equipment too. Customer can use his equipment to broadcast background music throughout his facility by using CMS1 and CMS2 leads (Fig. 7).

7.5 -48V and ground (GRD) can be picked up either way mentioned below.

a) Use -48V power from Auxiliary Cabinet (if provided)




b) Mount the 284B1 power unit close to the cross-connect field, and pick up the -48V and GRD from the 284B1 power unit.

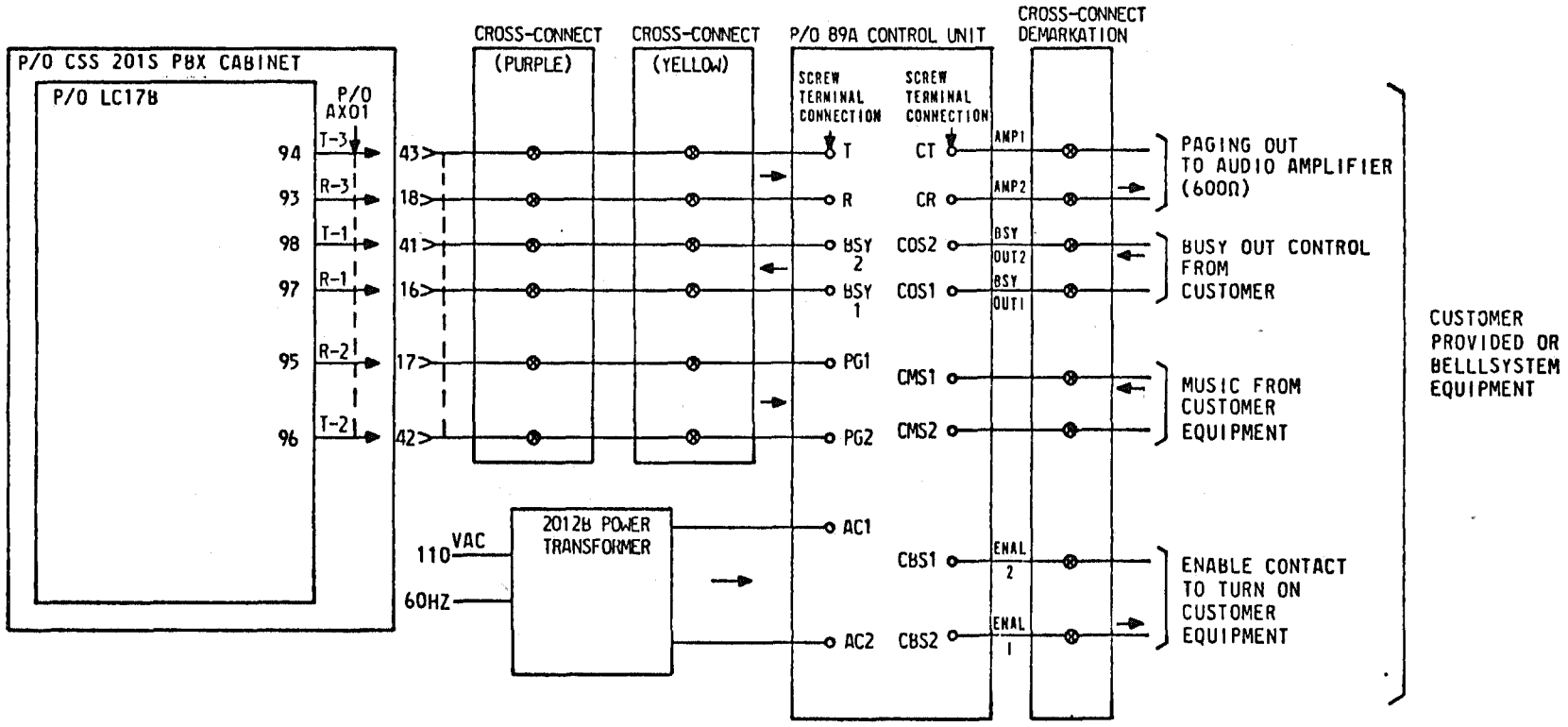



Fig. 1 - CODE CALL WIRING USING 89A CONTROL UNIT, FOR 201S

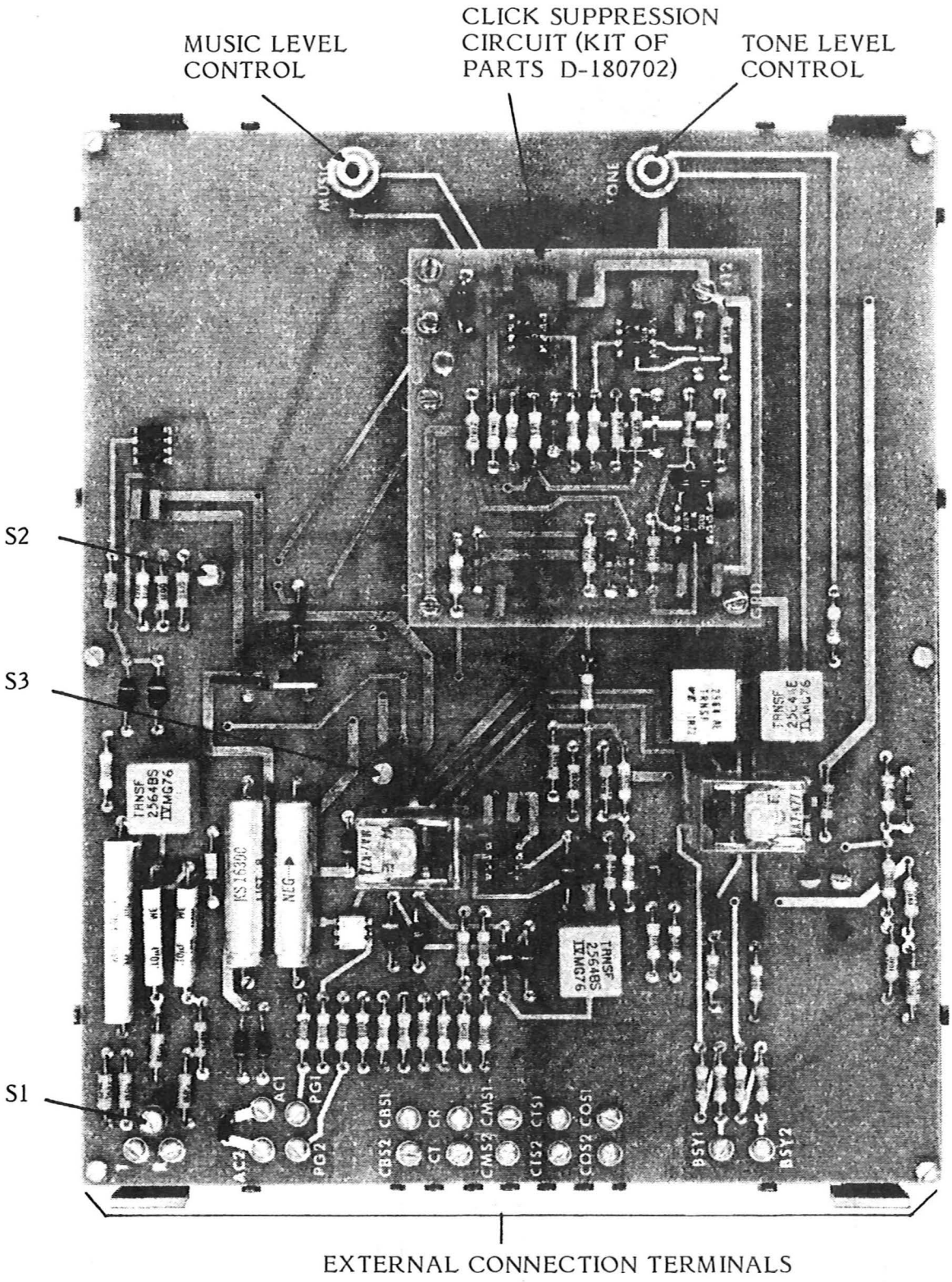



Fig. 2 - 89A Control Unit, Mounted With Cover Removed

NOTE: Kit of parts D-180702 might become part of main circuit board, but the X, Y, Z options are still present.

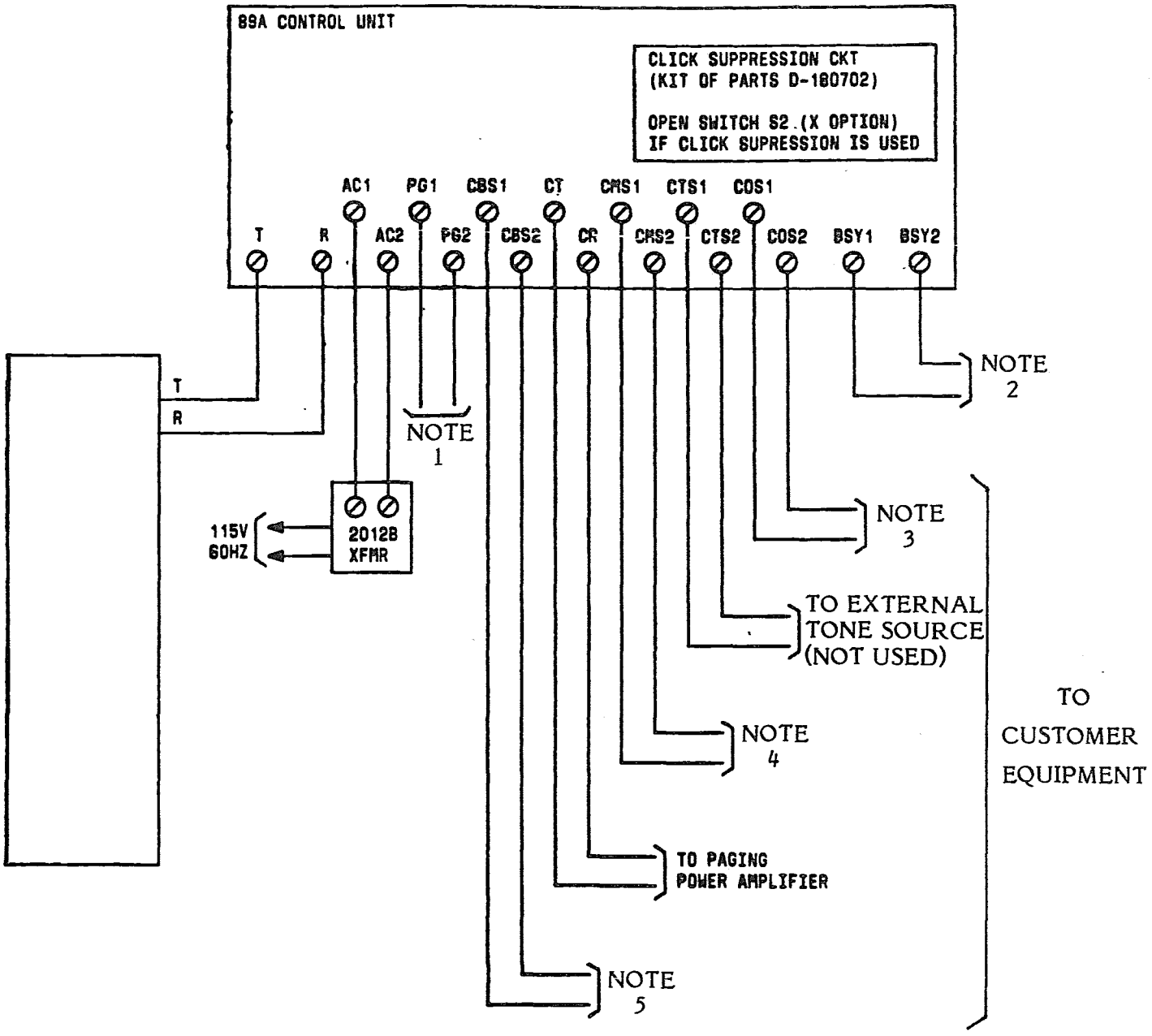



**Fig. 3—Connections for 89A Control Unit**

NOTES:

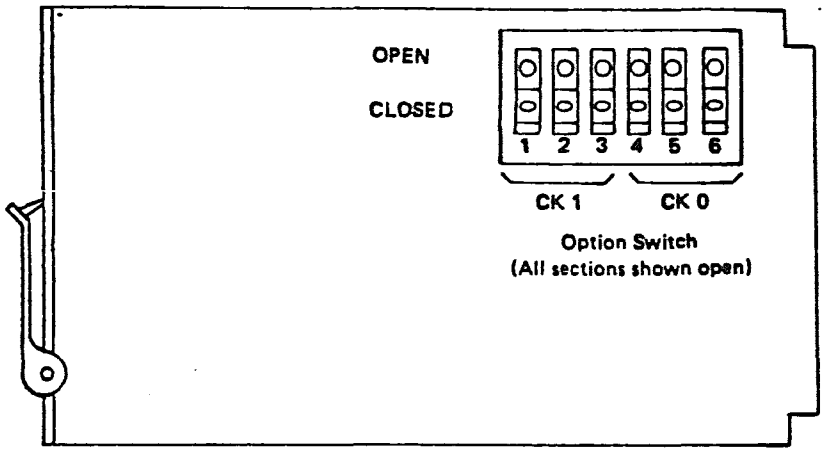
1. PG1 and PG2 are connected to the PBX as is shown in Figure 1 (for 201S) and Figure 6 (for 201L).

2. BSY1 and BSY2 are connected to the PBX as is shown in Figure 1 (for 201S) and Figure 6 (for 201L).

3. COS1 and COS2 are connected to the customer's equipment. These connections are used by customer for maintenance purposes. By busying out the circuit, there will not be signal passage through the busy-out 89A Control Unit. When maintenance work is done, he takes the 89A Control Unit out of the busy mode by disabling (opening up) the COS1 and COS2 which will put the 89A Control Unit on the line again.

4. CMS1 and CMS2 should be connected to the customer's system if the customer has or wants to play music over the same system, which will be used for Chime Paging while Chime Paging is not in process. Otherwise, do not connect CMS1 and CSM2 to the customer's system.

5. CBS1 and CBS2 should be connected to the customer's system if there exists the possibility that the customer's system is only used for Chime Paging and will stay idle the rest of the time. Therefore,the CBS1 and CBS2 connection will seize (activate) the customer's system everytime the 89A Control Unit is seized to transmit the Chime Paging signal from the PBX to the customer's equipment. But, there is no need to connect CBS1 and CBS2 if the customer is using the same system for other purposes (for example, background music) because his system is not idle between Chime Pagings.




*CAUTION:*

Never operate switches while power is applied to the circuit.

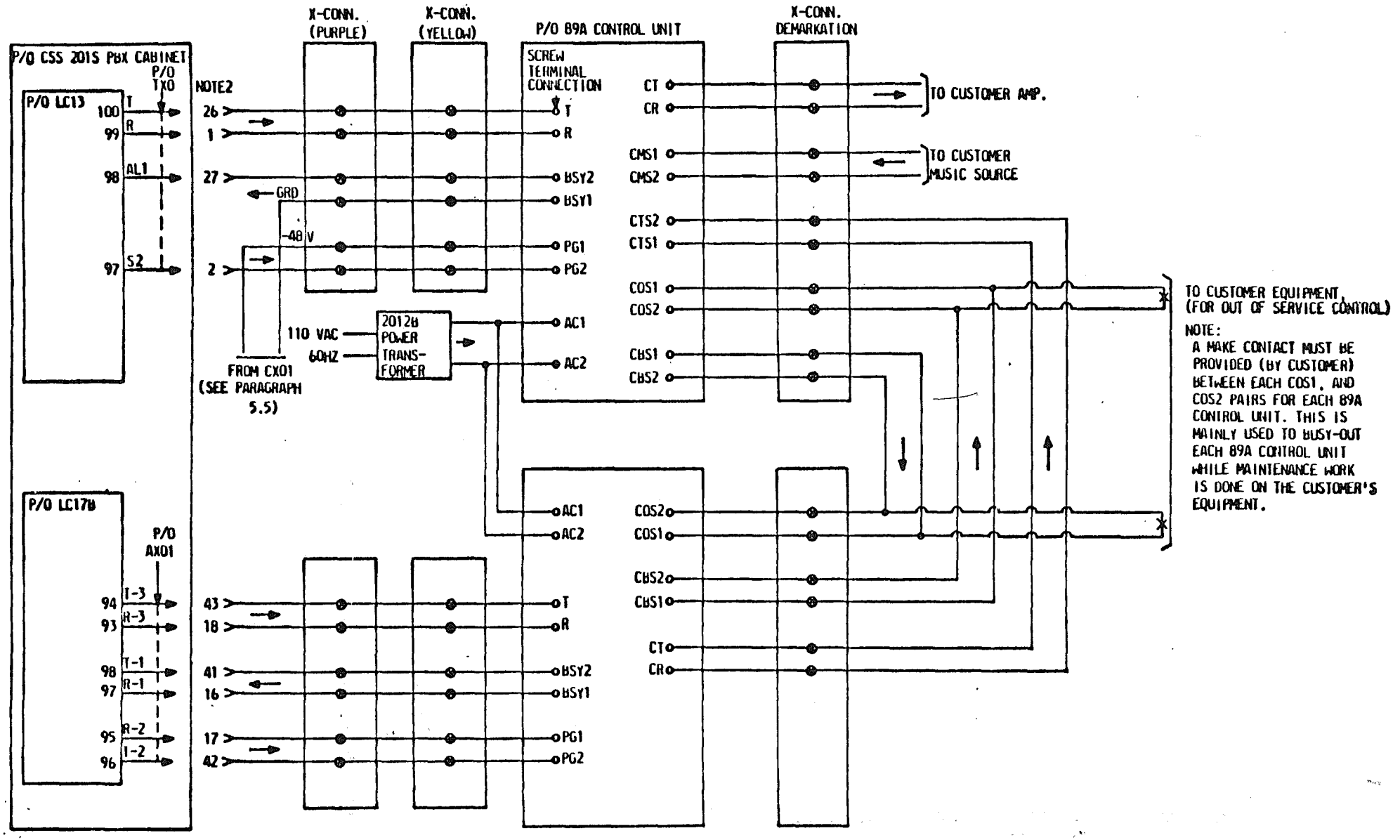
SWITCH SETTINGS

| Circuit | Switch Section | Loudspeaker Paging |
|---|---|---|
| 0 | 6 | C |
| | 5 | O |
| | 4 | O |
| 1 | 3 | O |
| | 2 | O |
| | 1 | C |

**O = Open, C = Closed**

Note: In Fig. 5 or 7, Connection for Circuit 0 is shown.

FIG. 4 - LC13 OPTIONS




NOTE:
1. NOT TO SCALE
2. SEE TABLE E

FIG. 5 - CHIME PAGING, VOICE PAGING AND BACKGROUND MUSIC WIRING USING 89A CONTROL UNIT FOR 201S

TABLE E

| LEAD DESIGN FOR LC13 | | | | |
|---|---|---|---|---|
| COLOR CODE | PIN NO. | TX01 | TX02 | TX03 |
| W-BL | 26 | T/0-3/020 | T/0-3/050 | T/0-3/080 |
| BL-W | 1 | R/0-3/020 | R/0-3/050 | R/0-3/080 |
| W-O | 27 | AL1/0-3/020 | AL1/0-3/050 | AL1/0-3/080 |
| O-W | 2 | S2/0-3/020 | S2/0-3/050 | S2/0-3/080 |
| W-BR | 29 | T/0-3/021 | T/0-3/051 | T/0-3/081 |
| BR-W | 4 | R/0-3/021 | R/0-3/051 | R/0-3/081 |
| W-S | 30 | AL1/0-3/021 | AL1/0-3/051 | AL1/0-3/081 |
| S-W | 5 | S2/0-3/021 | S2/0-3/051 | S2/0-3/081 |
| R-BR | 34 | T/0-3/030 | T/0-3/060 | T/0-3/090 |
| BR-R | 9 | R/0-3/030 | R/0-3/060 | R/0-3/090 |
| R-S | 35 | AL1/0-3/030 | AL1/0-3/060 | AL1/0-3/090 |
| S-R | 10 | S2/0-3/030 | S2/0-3/060 | S2/0-3/090 |
| BK-O | 37 | T/0-3/031 | T/0-3/061 | T/0-3/091 |
| O-BK | 12 | R/0-3/031 | R/0-3/061 | R/0-3/091 |
| BK-G | 38 | AL1/0-3/031 | AL1/0-3/061 | AL1/0-3/091 |
| G-BK | 13 | S2/0-3/031 | S2/0-3/061 | S2/0-3/091 |
| Y-O | 42 | T/0-3/040 | T/0-3/070 | |
| O-Y | 17 | R/0-3/040 | R/0-3/070 | |
| Y-G | 43 | AL1/0-3/040 | AL1/0-3/070 | |
| G-Y | 18 | S2/0-3/040 | S2/0-3/070 | |
| Y-S | 45 | T/0-3/041 | T/0-3/071 | |
| S-Y | 20 | R/0-3/041 | R/0-3/071 | |
| V-BL | 46 | AL1/0-3/041 | AL1/0-3/071 | |
| BL-V | 21 | S2/0-3/041 | S2/0-3/071 | |

EXAMPLE: T/0-3/080

T = Functional lead name
0-3 = Carrier level
08 = Slot number
0 = Circuit number

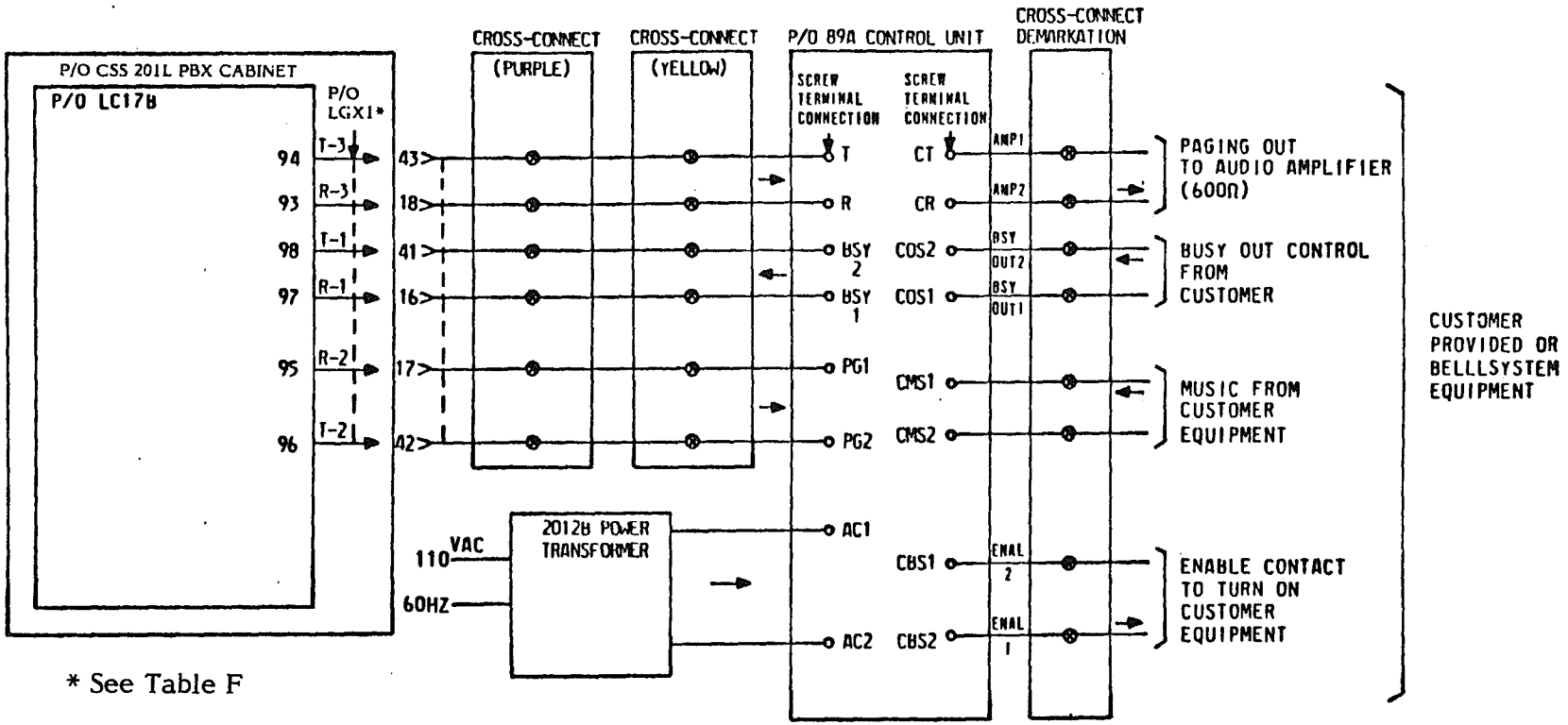
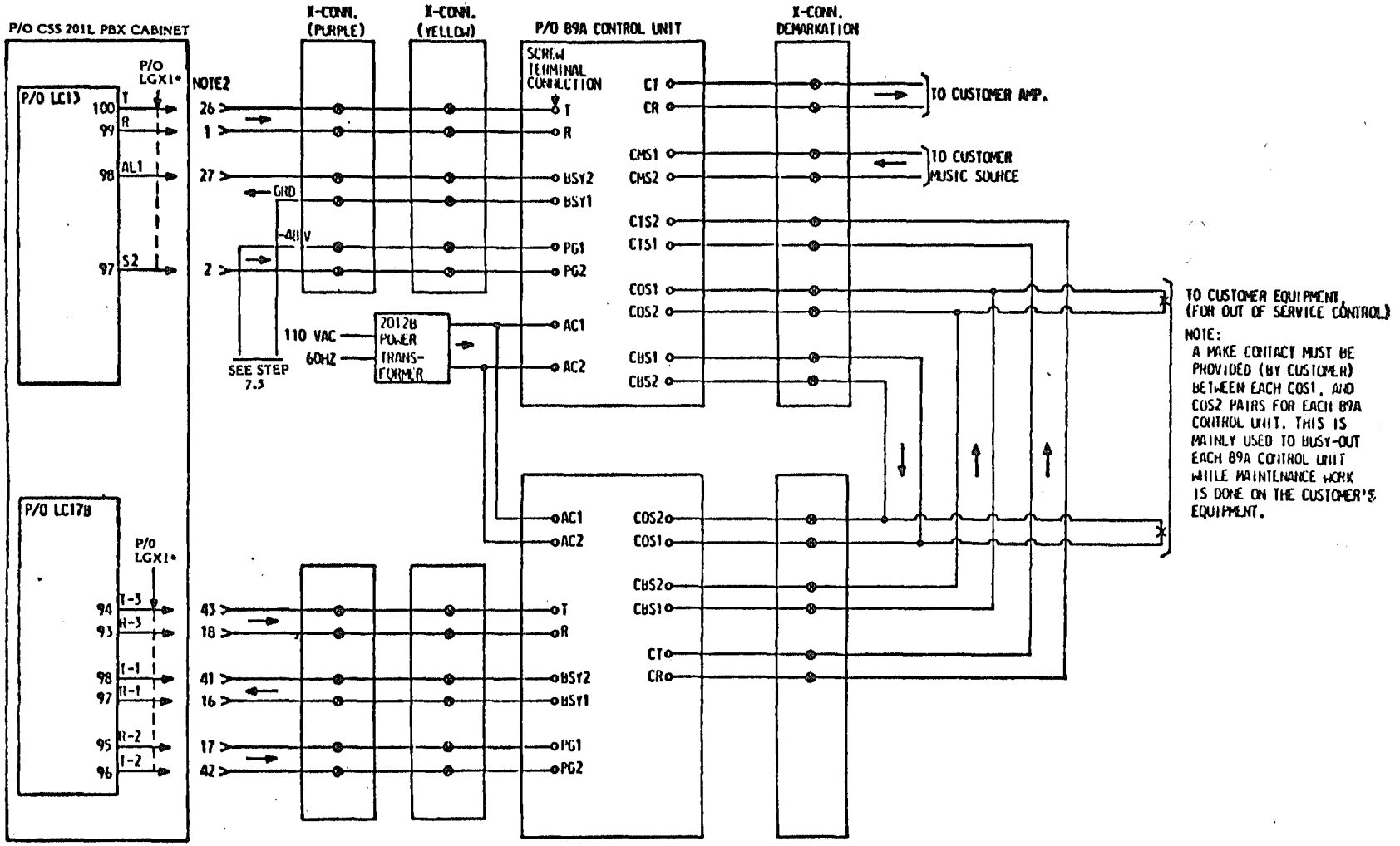



FIG. 6 - CODE CALL WIRING USING 89A CONTROL UNIT, FOR 201L




NOTE:

1. NOT TO SCALE
2. SEE FIG. 8 - 13
* SEE TABLE F

FIG. 7 - CHIME PAGING, VOICE PAGING AND BACKGROUND MUSIC WIRING USING 89A CONTROL UNIT FOR 201L

TABLE F

LINE GROUP CONTROL CARRIER

| CP SLOT NO. | CONNECTOR TERMINAL | CKT. NO. | LEAD DESIGN | COLOR CODE | TO CONN. BLK. (PURPLE) |
|---|---|---|---|---|---|
| 10 | LGX1 | 1 | T | Y-G | 35 |
| | | | R | G-Y | 36 |
| | | 2 | T | Y-BR | 37 |
| | | | R | BR-Y | 38 |
| | | 3 | T | Y-S | 39 |
| | | | R | S-Y | 40 |

| A25D CONNECTOR CABLE TO MODULE CONTROL AND TRUNK PORT CARRIER CONNECTOR MX01 (NOTE 2) | | | | | | TO PURPLE BACKBOARD | | SLOT |
|---|---|---|---|---|---|---|---|---|
| LEAD DESIGNATION FOR CIRCUIT PACKS (NOTE 1) | | | | | | CUT LEADS DOWN ON | | |
| LC7 | LC8C, LC9 | LC11 | LC13 | LC15 NOTE 4 | LC16B NOTE 3 | LEAD COLOR | CONN BLK TERMINALS | |
| T | T(0) | T1(0) | T(0) | CID-0 | M(0) | W-BL | 1 | |
| R | R(0) | R1(0) | R(0) | CIG-0 | | BL-W | 2 | |
| | T(1) | T(0) | AL1(0) | CID-1 | M(1) | W-OR | 3 | |
| | R(1) | R(0) | S2(0) | CIG-1 | | OR-W | 4 | |
| | | E(0) | CO(0) | CID-2 | M(2) | W-GR | 5 | |
| | | M(0) | | CIG-2 | | GR-W | 6 | |
| | | T1(1) | T(1) | CID-3 | M(3) | W-BR | 7 | |
| | | R1(1) | R(1) | CIG-3 | | BR-W | 8 | 06 |
| | | T(1) | AL1(1) | CID-4 | M(4) | W-S | 9 | |
| | | R(1) | S2(1) | CIG-4 | | S-W | 10 | |
| | | E(1) | CO(1) | CID-5 | M(5) | R-BL | 11 | |
| | | M(1) | | CIG-5 | | BL-R | 12 | |
| | | | | CID-6 | M(6) | R-OR | 13 | |
| | | | | CIG-6 | | OR-R | 14 | |
| | | | | CID-7 | M(7) | R-GR | 15 | |
| T | T(0) | | | CIG-7 | | GR-R | 16 | |
| R | R(0) | T1(0) | T(0) | CID-0 | M(0) | R-BR | 17 | |
| | T(1) | R1(0) | R(0) | CIG-0 | | BR-R | 18 | |
| | R(1) | T(0) | AL1(0) | CID-1 | M(1) | R-S | 19 | |
| | | E(0) | S2(0) | CIG-1 | | S-R | 20 | |
| | | R(0) | CO(0) | CID-2 | M(2) | BK-BL | 21 | |
| | | M(0) | | CIG-2 | | BL-BK | 22 | |
| | | T1(1) | T(1) | CID-3 | M(3) | BK-OR | 23 | |
| | | R1(1) | R(1) | CIG-3 | | OR-BK | 24 | |
| | | T(1) | AL1(1) | CID-4 | M(4) | BK-GR | 25 | 07 |
| | | R(1) | S2(1) | CIG-4 | | GR-BK | 26 | |
| | | E(1) | CO(1) | CID-5 | M(5) | BK-BR | 27 | |
| | | M(1) | | CIG-5 | | BR-BK | 28 | |
| | | | | CID-6 | M(6) | BK-S | 29 | |
| | | | | CIG-6 | | S-BK | 30 | |
| | | | | CID-7 | M(7) | Y-BL | 31 | |
| | | | | CIG-7 | | BL-Y | 32 | |
| T | T(0) | T1(0) | T(0) | CID-0 | M(0) | Y-O | 33 | |
| R | R(0) | R1(0) | R(0) | CIG-0 | | O-Y | 34 | |
| | T(1) | T(0) | AL1(0) | CID-1 | M(1) | Y-G | 35 | |
| | R(1) | R(0) | S2(0) | CIG-1 | | G-Y | 36 | |
| | | E(0) | CO(0) | CID-2 | M(2) | Y-BR | 37 | |
| | | M(0) | | CIG-2 | | BR-Y | 38 | |
| | | T1(1) | T(1) | CID-3 | M(3) | Y-S | 39 | |
| | | R1(1) | R(1) | CIG-3 | | S-Y | 40 | |
| | | T(1) | AL1(1) | CID-4 | M(4) | V-BL | 41 | 08 |
| | | R(1) | S2(1) | CIG-4 | | BL-V | 42 | |
| | | E(1) | CO(1) | CID-5 | M(5) | V-OR | 43 | |
| | | M(1) | | CIG-5 | | OR-V | 44 | |
| | | | | CID-6 | M(6) | V-GR | 45 | |
| | | | | CIG-6 | | GR-V | 46 | |
| | | | | CID-7 | M(7) | V-BR | 47 | |
| | | | | CIG-7 | | BR-V | 48 | |
| | | | | | | V-S | 49 | |
| | | | | | | S-V | 50 | |

NOTES:
1. leads not designated are cut down on connecting blocks, but not used for cross-connections.
2. connector MX01 serves carrier slots 6,7,and 8.
3. LC16B for FP9 only.
4. LC07 and LC15 for FP8 only.

Fig. 8 -Module Control and Trunk Port Carrier Cross-Connections

| A25D CONNECTOR CABLE TO MODULE CONTROL AND TRUNK PORT CARRIER CONNECTOR MX02 (NOTE 2) | | | | | | TO PURPLE BACKBOARD | | SLOT |
|---|---|---|---|---|---|---|---|---|
| LEAD DESIGNATION FOR CIRCUIT PACKS (NOTE 1) | | | | | | CUT LEADS DOWN ON | | |
| LC7 | LC8C, LC9 | LC11 | LC13 | LC15 NOTE 4 | LC16B NOTE 3 | LEAD COLOR | CONN BLK TERMINALS | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | W-BL | 1 | |
| R | R(0) | R1(0) | R(0) | | | BL-W | 2 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | W-OR | 3 | |
| | R(1) | R(0) | S2(0) | | | OR-W | 4 | |
| | | E(0) | CO(0) | M-2 | M(2) | W-GR | 5 | |
| | | M(0) | | | | GR-W | 6 | |
| | | T1(1) | T(1) | M-3 | M(3) | W-BR | 7 | |
| | | R1(1) | R(1) | | | BR-W | 8 | |
| | | T(1) | AL1(1) | M-4 | M(4) | W-S | 9 | 10 |
| | | R(1) | S2(1) | | | S-W | 10 | |
| | | E(1) | CO(1) | M-5 | M(5) | R-BL | 11 | |
| | | M(1) | | | | BL-R | 12 | |
| | | | | M-6 | M(6) | R-OR | 13 | |
| | | | | | | OR-R | 14 | |
| | | | | M-7 | M(7) | R-GR | 15 | |
| T | T(0) | | | | | GR-R | 16 | |
| R | R(0) | T1(0) | T(0) | M-0 | M(0) | R-BR | 17 | |
| | T(1) | R1(0) | R(0) | | | BR-R | 18 | |
| | R(1) | T(0) | AL1(0) | M-1 | M(1) | R-S | 19 | |
| | | E(0) | S2(0) | | | S-R | 20 | |
| | | R(0) | CO(0) | M-2 | M(2) | BK-BL | 21 | |
| | | M(0) | | | | BL-BK | 22 | |
| | | T1(1) | T(1) | M-3 | M(3) | BK-OR | 23 | |
| | | R1(1) | R(1) | | | OR-BK | 24 | |
| | | T(1) | AL1(1) | M-4 | M(4) | BK-GR | 25 | 12 |
| | | R(1) | S2(1) | | | GR-BK | 26 | |
| | | E(1) | CO(1) | M-5 | M(5) | BK-BR | 27 | |
| | | M(1) | | | | BR-BK | 28 | |
| | | | | M-6 | M(6) | BK-S | 29 | |
| | | | | | | S-BK | 30 | |
| | | | | M-7 | M(7) | Y-BL | 31 | |
| | | | | | | BL-Y | 32 | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | Y-O | 33 | |
| R | R(0) | R1(0) | R(0) | | | O-Y | 34 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | Y-G | 35 | |
| | R(1) | R(0) | S2(0) | | | G-Y | 36 | |
| | | E(0) | CO(0) | M-2 | M(2) | Y-BR | 37 | |
| | | M(0) | | | | BR-Y | 38 | |
| | | T1(1) | T(1) | M-3 | M(3) | Y-S | 39 | |
| | | R1(1) | R(1) | | | S-Y | 40 | |
| | | T(1) | AL1(1) | M-4 | M(4) | V-BL | 41 | 15 |
| | | R(1) | S2(1) | | | BL-V | 42 | |
| | | E(1) | CO(1) | M-5 | M(5) | V-OR | 43 | |
| | | M(1) | | | | OR-V | 44 | |
| | | | | M-6 | M(6) | V-GR | 45 | |
| | | | | | | GR-V | 46 | |
| | | | | M-7 | M(7) | V-BR | 47 | |
| | | | | | | BR-V | 48 | |
| | | | | | | V-S | 49 | |
| | | | | | | S-V | 50 | |

**NOTES:**

1. leads not designated are cut down on connecting blocks, but not used for cross-connects.
2. connector MX02 serves carrier slots 10, 12, and 15.
3. LC16B for FP8 only.
4. LC07 and LC15 for FP8 only.

Fig. 9 -Module Control and Truck Port Carrier Cross-Connections

| A25D CONNECTOR CABLE TO MODULE CONTROL AND TRUNK PORT CARRIER CONNECTOR MX03 (NOTE 2) | | | | | | TO PURPLE BACKBOARD | | SLOT |
|---|---|---|---|---|---|---|---|---|
| LEAD DESIGNATION FOR CIRCUIT PACKS (NOTE 1) | | | | | | CUT LEADS DOWN ON | | |
| LC7 | LC8C, LC9 | LC11 | LC13 | LC15 NOTE 4 | LC16B NOTE 3 | LEAD COLOR | CONN BLK TERMINALS | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | W-BL | 1 | 17 |
| R | R(0) | R1(0) | R(0) | | | BL-W | 2 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | W-OR | 3 | |
| | R(1) | R(0) | S2(0) | | | OR-W | 4 | |
| | | E(0) | CO(0) | M-2 | M(2) | W-GR | 5 | |
| | | M(0) | | | | GR-W | 6 | |
| | | T1(1) | T(1) | M-3 | M(3) | W-BR | 7 | |
| | | R1(1) | R(1) | | | BR-W | 8 | |
| | | T(1) | AL1(1) | M-4 | M(4) | W-S | 9 | |
| | | R(1) | S2(1) | | | S-W | 10 | |
| | | E(1) | CO(1) | M-5 | M(5) | R-BL | 11 | |
| | | M(1) | | | | BL-R | 12 | |
| | | | | M-6 | M(6) | R-OR | 13 | |
| | | | | | | OR-R | 14 | |
| | | | | M-7 | M(7) | R-GR | 15 | |
| T | T(0) | | | | | GR-R | 16 | |
| R | R(0) | T1(0) | T(0) | M-0 | M(0) | R-BR | 17 | 19 |
| | T(1) | R1(0) | R(0) | | | BR-R | 18 | |
| | R(1) | T(0) | AL1(0) | M-1 | M(1) | R-S | 19 | |
| | | E(0) | S2(0) | | | S-R | 20 | |
| | | R(0) | CO(0) | M-2 | M(2) | BK-BL | 21 | |
| | | M(0) | | | | BL-BK | 22 | |
| | | T1(1) | T(1) | M-3 | M(3) | BK-OR | 23 | |
| | | R1(1) | R(1) | | | OR-BK | 24 | |
| | | T(1) | AL1(1) | M-4 | M(4) | BK-GR | 25 | |
| | | R(1) | S2(1) | | | GR-BK | 26 | |
| | | E(1) | CO(1) | M-5 | M(5) | BK-BR | 27 | |
| | | M(1) | | | | BR-BK | 28 | |
| | | | | M-6 | M(6) | BK-S | 29 | |
| | | | | | | S-BK | 30 | |
| | | | | M-7 | M(7) | Y-BL | 31 | |
| | | | | | | BL-Y | 32 | |
| T | T(0) | | | | | Y-O | 33 | 21 |
| R | R(0) | | | | | O-Y | 34 | |
| | T(1) | | | | | Y-G | 35 | |
| | R(1) | | | | | G-Y | 36 | |
| T | T(0) | | | | | Y-BR | 37 | 23 |
| R | R(0) | | | | | BR-Y | 38 | |
| | T(1) | | | | | Y-S | 39 | |
| | R(1) | | | | | S-Y | 40 | |
| T | T(0) | | | | | V-BL | 41 | 25 |
| R | R(0) | | | | | BL-V | 42 | |
| | T(1) | | | | | V-OR | 43 | |
| | R(1) | | | | | OR-V | 44 | |
| | | | | | | V-GR | 45 | |
| | | | | | | GR-V | 46 | |
| | | | | | | V-BR | 47 | |
| | | | | | | BR-V | 48 | |
| | | | | | | V-S | 49 | |
| | | | | | | S-V | 50 | |

NOTES:
1. leads not designated are cut down on connecting blocks, but not used for cross-connections.
2. connector MX03 serves carrier slots 17, 19, 21, 23, and 25.
3. LC16B for FP9 only.
4. LC07 and LC15 for FP8 only.

Fig. 10- Module Control and Trunk Port Carrier Cross-Connections

| A25D CONNECTOR CABLE TO MODULE CONTROL AND TRUNK PORT CARRIER CONNECTOR TX01 (NOTE 2) | | | | | | TO PURPLE BACKBOARD | | SLOT |
|---|---|---|---|---|---|---|---|---|
| LEAD DESIGNATION FOR CIRCUIT PACKS (NOTE 1) | | | | | | CUT LEADS DOWN ON | | |
| LC7 | LC8C, LC9 | LC11 | LC13 | LC15 NOTE 4 | LC16B NOTE 3 | LEAD COLOR | CONN BLK TERMINALS | |
| T | T(0) | T1(0) | T(0) | CID-0 | M(0) | W-BL | 1 | 02 |
| R | R(0) | R1(0) | R(0) | CIG-0 | | BL-W | 2 | |
| | T(1) | T(0) | AL1(0) | CID-1 | M(1) | W-OR | 3 | |
| | R(1) | R(0) | S2(0) | CIG-1 | | OR-W | 4 | |
| | | E(0) | CO(0) | CID-2 | M(2) | W-GR | 5 | |
| | | M(0) | | CIG-2 | | GR-W | 6 | |
| | | T1(1) | T(1) | CID-3 | M(3) | W-BR | 7 | |
| | | R1(1) | R(1) | CIG-3 | | BR-W | 8 | |
| | | T(1) | AL1(1) | CID-4 | M(4) | W-S | 9 | |
| | | R(1) | S2(1) | CIG-4 | | S-W | 10 | |
| | | E(1) | CO(1) | CID-5 | M(5) | R-BL | 11 | |
| | | M(1) | | CIG-5 | | BL-R | 12 | |
| | | | | CID-6 | M(6) | R-OR | 13 | |
| | | | | CIG-6 | | OR-R | 14 | |
| | | | | CID-7 | M(7) | R-GR | 15 | |
| | | | | CIG-7 | | GR-R | 16 | |
| T | T(0) | T1(0) | T(0) | CID-0 | M(0) | R-BR | 17 | 03 |
| R | R(0) | R1(0) | R(0) | CIG-0 | | BR-R | 18 | |
| | T(1) | T(0) | AL1(0) | CID-1 | M(1) | R-S | 19 | |
| | R(1) | E(0) | S2(0) | CIG-1 | | S-R | 20 | |
| | | R(0) | CO(0) | CID-2 | M(2) | BK-BL | 21 | |
| | | M(0) | | CIG-2 | | BL-BK | 22 | |
| | | T1(1) | T(1) | CID-3 | M(3) | BK-OR | 23 | |
| | | R1(1) | R(1) | CIG-3 | | OR-BK | 24 | |
| | | T(1) | AL1(1) | CID-4 | M(4) | BK-GR | 25 | |
| | | R(1) | S2(1) | CIG-4 | | GR-BK | 26 | |
| | | E(1) | CO(1) | CID-5 | M(5) | BK-BR | 27 | |
| | | M(1) | | CIG-5 | | BR-BK | 28 | |
| | | | | CID-6 | M(6) | BK-S | 29 | |
| | | | | CIG-6 | | S-BK | 30 | |
| | | | | CID-7 | M(7) | Y-BL | 31 | |
| | | | | CIG-7 | | BL-Y | 32 | |
| T | T(0) | T1(0) | T(0) | CID-0 | M(0) | Y-O | 33 | 04 |
| R | R(0) | R1(0) | R(0) | CIG-0 | | O-Y | 34 | |
| | T(1) | T(0) | AL1(0) | CID-1 | M(1) | Y-G | 35 | |
| | R(1) | R(0) | S2(0) | CIG-1 | | G-Y | 36 | |
| | | E(0) | CO(0) | CID-2 | M(2) | Y-BR | 37 | |
| | | M(0) | | CIG-2 | | BR-Y | 38 | |
| | | T1(1) | T(1) | CID-3 | M(3) | Y-S | 39 | |
| | | R1(1) | R(1) | CIG-3 | | S-Y | 40 | |
| | | T(1) | AL1(1) | CID-4 | M(4) | V-BL | 41 | |
| | | R(1) | S2(1) | CIG-4 | | BL-V | 42 | |
| | | E(1) | CO(1) | CID-5 | M(5) | V-OR | 43 | |
| | | M(1) | | CIG-5 | | OR-V | 44 | |
| | | | | CID-6 | M(6) | V-GR | 45 | |
| | | | | CIG-6 | | GR-V | 46 | |
| | | | | CID-7 | M(7) | V-BR | 47 | |
| | | | | CIG-7 | | BR-V | 48 | |
| | | | | | | V-S | 49 | |
| | | | | | | S-V | 50 | |

**NOTES:**

1. leads not designated are cut down on connecting blocks, but not used for cross-connections.
2. connector TX01 serves carrier slots 2, 3, and 4.
3. LC16B for FP3 and FP9; LC16 can be used for FP3.
4. LC15 for FP8 and FP10

**Fig. 11 - Trunk Port Carrier Cross-Connections**

| A25D CONNECTOR CABLE TO MODULE CONTROL AND TRUNK PORT CARRIER CONNECTOR TX02 (NOTE 2) | | | | | | TO PURPLE BACKBOARD | | SLOT |
|---|---|---|---|---|---|---|---|---|
| LEAD DESIGNATION FOR CIRCUIT PACKS (NOTE 1) | | | | | | CUT LEADS DOWN ON | | |
| LC7 | LC8C, LC9 | LC11 | LC13 | LC15 NOTE 4 | LC16B NOTE 3 | LEAD COLOR | CONN BLK TERMINAL | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | W-BL | 1 | 05 |
| R | R(0) | R1(0) | R(0) | | | BL-W | 2 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | W-OR | 3 | |
| | R(1) | R(0) | S2(0) | | | OR-W | 4 | |
| | | E(0) | CO(0) | M-2 | M(2) | W-GR | 5 | |
| | | M(0) | | | | GR-W | 6 | |
| | | T1(1) | T(1) | M-3 | M(3) | W-BR | 7 | |
| | | R1(1) | R(1) | | | BR-W | 8 | |
| | | T(1) | AL1(1) | M-4 | M(4) | W-S | 9 | |
| | | R(1) | S2(1) | | | S-W | 10 | |
| | | E(1) | CO(1) | M-5 | M(5) | R-BL | 11 | |
| | | M(1) | | | | BL-R | 12 | |
| | | | | M-6 | M(6) | R-OR | 13 | |
| | | | | | | OR-R | 14 | |
| | | | | M-7 | M(7) | R-GR | 15 | |
| | | | | | | GR-R | 16 | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | R-BR | 17 | 06 |
| R | R(0) | R1(0) | R(0) | | | BR-R | 18 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | R-S | 19 | |
| | R(1) | E(0) | S2(0) | | | S-R | 20 | |
| | | R(0) | CO(0) | M-2 | M(2) | BK-BL | 21 | |
| | | M(0) | | | | BL-BK | 22 | |
| | | T1(1) | T(1) | M-3 | M(3) | BK-OR | 23 | |
| | | R1(1) | R(1) | | | OR-BK | 24 | |
| | | T(1) | AL1(1) | M-4 | M(4) | BK-GR | 25 | |
| | | R(1) | S2(1) | | | GR-BK | 26 | |
| | | E(1) | CO(1) | M-5 | M(5) | BK-BR | 27 | |
| | | M(1) | | | | BR-BK | 28 | |
| | | | | M-6 | M(6) | BK-S | 29 | |
| | | | | | | S-BK | 30 | |
| | | | | M-7 | M(7) | Y-BL | 31 | |
| | | | | | | BL-Y | 32 | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | Y-O | 33 | 07 |
| R | R(0) | R1(0) | R(0) | | | O-Y | 34 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | Y-G | 35 | |
| | R(1) | R(0) | S2(0) | | | G-Y | 36 | |
| | | E(0) | CO(0) | M-2 | M(2) | Y-BR | 37 | |
| | | M(0) | | | | BR-Y | 38 | |
| | | T1(1) | T(1) | M-3 | M(3) | Y-S | 39 | |
| | | R1(1) | R(1) | | | S-Y | 40 | |
| | | T(1) | AL1(1) | M-4 | M(4) | V-BL | 41 | |
| | | R(1) | S2(1) | | | BL-V | 42 | |
| | | E(1) | CO(1) | M-5 | M(5) | V-OR | 43 | |
| | | M(1) | | | | OR-V | 44 | |
| | | | | M-6 | M(6) | V-GR | 45 | |
| | | | | | | GR-V | 46 | |
| | | | | M-7 | M(7) | V-BR | 47 | |
| | | | | | | BR-V | 48 | |
| | | | | | | V-S | 49 | |
| | | | | | | S-V | 50 | |

**NOTES:**

1. leads not designated are cut down on connecting blocks, but not used for cross-connections.
2. connector TX02 serves carrier slots 5, 6, and 7.
3. LC16B for FP3 and FP9; LC16 can be used for FP3.
4. LC15 for FP8 and FP10

Fig. 12- Trunk Port Carrier Cross-Connections

| A25D CONNECTOR CABLE TO MODULE CONTROL AND TRUNK PORT CARRIER CONNECTOR TX03 (NOTE 2) | | | | | | TO PURPLE BACKBOARD | | SLOT |
|---|---|---|---|---|---|---|---|---|
| LEAD DESIGNATION FOR CIRCUIT PACKS (NOTE 1) | | | | | | CUT LEADS DOWN ON | | |
| LC7 | LC8C, LC9 | LC11 | LC13 | LC15 NOTE 4 | LC16B NOTE 3 | LEAD COLOR | CONN BLK TERMINALS | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | W-BL | 1 | 08 |
| R | R(0) | R1(0) | R(0) | | | BL-W | 2 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | W-OR | 3 | |
| | R(1) | R(0) | S2(0) | | | OR-W | 4 | |
| | | E(0) | C0(0) | M-2 | M(2) | W-GR | 5 | |
| | | M(0) | | | | GR-W | 6 | |
| | | T1(1) | T(1) | M-3 | M(3) | W-BR | 7 | |
| | | R1(1) | R(1) | | | BR-W | 8 | |
| | | T(1) | AL1(1) | M-4 | M(4) | W-S | 9 | |
| | | R(1) | S2(1) | | | S-W | 10 | |
| | | E(1) | C0(1) | M-5 | M(5) | R-BL | 11 | |
| | | M(1) | | | | BL-R | 12 | |
| | | | | M-6 | M(6) | R-OR | 13 | |
| | | | | | | OR-R | 14 | |
| | | | | M-7 | M(7) | R-GR | 15 | |
| | | | | | | GR-R | 16 | |
| T | T(0) | T1(0) | T(0) | M-0 | M(0) | R-BR | 17 | 09 |
| R | R(0) | R1(0) | R(0) | | | BR-R | 18 | |
| | T(1) | T(0) | AL1(0) | M-1 | M(1) | R-S | 19 | |
| | R(1) | E(0) | S2(0) | | | S-R | 20 | |
| | | R(0) | C0(0) | M-2 | M(2) | BK-BL | 21 | |
| | | M(0) | | | | BL-BK | 22 | |
| | | T1(1) | T(1) | M-3 | M(3) | BK-OR | 23 | |
| | | R1(1) | R(1) | | | OR-BK | 24 | |
| | | T(1) | AL1(1) | M-4 | M(4) | BK-GR | 25 | |
| | | R(1) | S2(1) | | | GR-BK | 26 | |
| | | E(1) | C0(1) | M-5 | M(5) | BK-BR | 27 | |
| | | M(1) | | | | BR-BK | 28 | |
| | | | | M-6 | M(6) | BK-S | 29 | |
| | | | | | | S-BK | 30 | |
| | | | | M-7 | M(7) | Y-BL | 31 | |
| | | | | | | BL-Y | 32 | |
| T | T(0) | | | | | Y-O | 33 | 11 |
| R | R(0) | | | | | O-Y | 34 | |
| | T(1) | | | | | Y-G | 35 | |
| | R(1) | | | | | G-Y | 36 | |
| T | T(0) | | | | | Y-BR | 37 | 12 |
| R | R(0) | | | | | BR-Y | 38 | |
| | T(1) | | | | | Y-S | 39 | |
| | R(1) | | | | | S-Y | 40 | |
| T | T(0) | | | | | V-BL | 41 | 13 |
| R | R(0) | | | | | BL-V | 42 | |
| | T(1) | | | | | V-OR | 43 | |
| | R(1) | | | | | OR-V | 44 | |
| | | | | | | V-GR | 45 | |
| | | | | | | GR-V | 46 | |
| | | | | | | V-BR | 47 | |
| | | | | | | BR-V | 48 | |
| | | | | | | V-S | 49 | |
| | | | | | | S-V | 50 | |

**NOTES:**

1. leads not designated are cut down on connecting blocks, but not used for cross-connections.
2. connector TX03 serves carrier slots 8, 9, 11, 12, and 13.
3. LC16B for FP3 and FP9; LC16 can be used for FP3.
4. LC15 for FP8 and FP10

Fig. 13 - Trunk Port Carrier Cross-Connections

Reason for issue:
New Section

Manager, Denver PBX PECC