TERMINATING SENDER LINK AND CONTROLLER SD-25028-01 AND SD-25459-01 CROSS-CONNECTIONS NO. 1 CROSSBAR OFFICES

1. GENERAL

1.01 This section describes the method of making cross-connections on terminating sender link and controllers SD-25028-01 and SD-25459-01 in connection with changes in the treatment or routing of calls in No. 1 crossbar offices. Information is also included in this section regarding the functions of the various cross-connections.

1.02 This section is reissued to cover cross-connections required when DID options have been installed and to delete information covering calls through B board.

1.03 Cross-connection information covering cross-connections that are not normally changed by the Telephone Company are not covered in this section.

2. APPARATUS

2.01 Soldering copper and soldering materials as required.

2.02 298A (make-busy) plug.

2.03 322A (make-busy) plug.

2.04 P-26991 sleeved strap wire.

3. TERMINATING SENDER LINK FRAME CROSS-CONNECTIONS

GENERAL

3.01 The terminating sender link frame is equipped with three 100-point primary crossbar switches and three 100-point secondary switches. The horizontal multiples of the three primary switches are divided so that for each group of 10 incoming trunks there are three verticals. These three verticals fan out and appear as the verticals on the three secondary switches. The horizontals on the three secondary switches are wired in the case of SD-25028-01 to 30 senders in three subgroups of 10 or in the case of SD-25459-01 either to 30 senders in three subgroups of 10 or to 60 senders in six supergroups of 10. In the latter case, the horizontal multiple is divided. Since a subgroup of senders appears on the horizontals of each secondary switch, this arrangement gives each trunk group access to each of three sender subgroups.

SENDER SUBGROUP PREFERENCE

3.02 Circuit arrangements provide for the preference in the choice of one of the available subgroups of senders. To distribute the wear of the apparatus, it may be desirable to change the preference for the subgroup. This is accomplished by changes in the strapping at the terminal strip at the top of the frame.

3.03 Before making any strapping changes, make the associated controller busy by inserting a make-busy plug into the MB jack.

3.04 The punchings of the terminal strips at the top of the frame or in the case of the emergency control circuit, at the top of the unit, are designated at the bottom, at the right, and at the left. The hundreds and tens digit appear at the right and at the left and the units digit appears at the bottom. The sender subgroup preference leads are located on the terminal strip as follows.

(a) On SD-25028-01 the sender subgroup preference leads SG0, SG1, and SG2 are wired to punchings 326, 327, and 328 respectively of the MISC terminal strip. The RP lead, which is used to rotate the sender group preference, is wired to punching 329 and the preferred sender subgroup is obtained by strapping the SG0, SG1,

or SG2 lead to the RP lead. For example, if the preferred sender subgroup is 0, strap punching 326 through 329.

(b) On SD-25459-01, the sender subgroup preference leads SG0, SG1, and SG2 are wired to punchings 117, 118, and 119 respectively of the CONT terminal strip. The RP lead which is used to rotate the sender group preference is wired to punching 116 and the preferred sender subgroup is obtained by strapping the SG0, SG1, or SG2 lead to the RP lead. For example, if the preferred sender subgroup is 0, strap punching 117 to 116. On frames serving three sender subgroups the strapping of the SG0 causes preference for subgroup 0. On frames serving six sender subgroups the strapping of SG0 causes preference for subgroup 0 or subgroup 3 depending upon the destination of the links associated with the trunk group involved.

(c) On both SD-25028-01 and SD-25459-01 the successive frames in a given multiple shall have their preference cross-connections rotated in the order SG0, SG2, SG1, SG0, etc. If mated frames are in separate multiples, this rotation must be out of phase; if the first frame in one multiple prefers SG0, the first in the other would prefer SG2. In no case shall mated frames prefer the same sender subgroup.

3.05 When an emergency control circuit is provided, it is mounted on the miscellaneous frame and the SG0, SG1, and SG2 leads are wired as follows.

(a) On SD-25028-01 the sender subgroup preference leads SG0, SG1, and SG2 were wired to punchings 111 through 113 respectively on earlier and to punchings 121 through 123 respectively on later installations on the terminal strip associated with the control unit. The RP lead which is used to rotate the subgroup preference is wired to punching 110 on earlier installations and to punching 120 on later installations. The preferred sender subgroup is obtained by strapping punching 110 to 111, 112 or 113 on earlier installations and 120 to 121, 122, or 123 on later installations.

(b) On SD-25459-01 the sender subgroup preference leads SG0, SG1 and SG2 are wired to punchings 121 through 123 respectively. The RP lead which is used to rotate the subgroup preference is wired to punching 120 and the preferred sender subgroup is obtained by strapping punching 120 to 121, 122 or 123.

(c) On SD-25028-01 and SD-25459-01 the preferred subgroup shall be that one which follows the preferred subgroup of the associated terminating sender link frame in the order SG0, SG2, SG1, SG0, etc.

3.06 When changing cross-connections on the regular or emergency frame, also change the marking on the sender multiple designation cards on the link frames indicating the preferred sender subgroup.

3.07 After making any strapping changes, remove the make-busy plug from the MB jack.

OFFICE INDICATION

3.08 When the terminating senders serve calls to multioffice terminating units, provision is made to supply the office indication to the terminating sender in one of the ways described in 3.09. Cross-connections are required only when a signal is given on a trunk group basis. When arranged on an individual trunk group basis, in order to gain access to office A, an OA (Office A) cross-connection is required; to office B, on OB (Office B) cross-connection is required.

3.09 When calls to multioffices are handled by a common group or groups of trunks the indication is given on a trunk group basis and the office indication is passed to the terminating sender as follows.

(a) Full Selector Calls: Where the office is provided with both common and individual groups, cross-connection for the OA lead is necessary in the common group. Five additional incoming group pulses are required by the originating sender on calls to one office. These five pulses are not required for calls to the other office. Since the pulses are transmitted to the originating sender by the terminating sender, the number of pulses transmitted indicates to the terminating sender which office is desired.

(b) Calls Through Dial Pulse Incomings: The OC lead is grounded to cause a high tone to be transmitted to enable the operator to identify calls requiring office information. The

office designation is dialed into the terminating sender by the operator. No other office indication cross-connections are required.

(c) Calls Through AC Keypulsing Incomings: The OC lead is grounded to indicate that an office digit will be transmitted before the numerical code. This condition exists in offices which serve areas having both four and five numerical digits. Where the office serves only areas requiring five numerical digits, the OC connection is not required. The originating operator is required to key this extra digit on calls of this type, the first numerical digit after the two letters to be keyed being the office digit.

3.10 On SD-25028-01 two terminal strips are mounted on the top relay mounting strip inside the relay casing associated with the controller equipment, one of which is designated A and the other B. These terminal strips are divided into two parts, top and bottom, each part having two rows of punchings of eight punchings each. The punchings as viewed from the front of the equipment are numbered from 1 at the upper left through 16 at the lower right consecutively. Top punchings 1 through 10 of terminal strip A connect to trunk group circuits 0 through 9 respectively. Bottom punchings 1 through 3 of terminal strip A connect to terminating sender leads OA, OB, and OC respectively. Provide strapping as required between these two sets of punchings. For example, if it is desired to route calls on trunk group 3 to office A, strap top punching 4 to bottom punching 1.

3.11 On SD-25459-01, terminal punchings for office indications are mounted on the MISC terminal strip at the top of the frame. The office indications OA, OB, and OC are wired to punchings 320, 321 and 322 respectively and are cross-connected as required to punching 260 to 269 inclusive. Provide strapping as required between these two sets of punchings. For example, if the trunk group 0 is to be associated with the Oa lead, connect punching 260 to punching 320.

DID INDICATION

3.12 When the office provides DID to PBX stations, provision is made to inform a terminating sender that a call is a direct-in-dialed call from a dedicated panel DID trunk group. Lead NS1 grounded indicates this type of call while lead NS0 grounded indicates a non-DID trunk group. A cross-connection is placed between the NS punching and the NS0 or NS1 punching as required.

4. TERMINATING SENDER SELECTION UNIT CROSS-CONNECTIONS (MISC FRAME)

INDIVIDUAL SENDER PREFERENCE

4.01 The circuit arrangements provide for the preference of a sender in a subgroup of senders. The preference depends upon which trunk in a subgroup of 10 is serving the call. One sender selector unit is provided for each subgroup of ten senders or less. These units are mounted on miscellaneous frames in three groups. As in the case of the sender subgroup preference, here also it may be desirable to change the sender preference to more evenly distribute the wear of the apparatus.

4.02 The sender preference may be changed by making changes at the MISC and A and B terminal strips associated with the terminating sender selector unit located at the miscellaneous frame.

4.03 Before making any strapping changes at the MISC and A and B terminal strips, make the associated sender selector unit busy by inserting a make-busy plug into the MB jack of the selector unit or at the trouble indicator frame.

4.04 The MISC terminal strip, on which the sender preference is changed, is designated at the left, right, and bottom. The units digit appears at the bottom and the tens digit appears at the left and right.

(a) In the case of SD-25028-01 punchings, 80 through 89 are wired to T0 through T9 leads and punchings 90 through 99 are wired to B0 through B9 leads. The T0 through T9 punchings are used for trunk groups of full selector incomings requiring full selector terminating senders. The B0 through B9 punchings are used for trunk groups of call distributing B switchboard incomings requiring B senders, or for incomings requiring dial pulse senders.

(b) In the case of SD-25459-01 punchings, 80 through 89 are wired to A0 through A9 leads and punchings 90 through 99 are wired to B0 through B9 leads. Where there is only one type of sender in a subgroup, connect punching P- to the A-punching, where there is more than

one type of sender in a subgroup, connect punching P- to the A- punching for the first type of sender and to punching B- for the second type of sender.

4.05 The punchings on terminal strips A and B are divided into ten groups designated 0 through 9 corresponding to the designation of the individual sender relays of the selector unit. The punchings on each of these terminal strips are numbered from 0 through 31 of which only 0 through 29 are used. Punching 15 of each of the ten groups of punchings associated with the individual sender relays circuit is used for the P0 through P9 leads respectively. Unless otherwise specified, the order of preference is from the bottom up and therefore punchings 15 are strapped as follows.

Only One Kind of Sender in Subgroup

(a) SD-25028-01—When only full selector senders are in the subgroup, strap punching 15 associated with sender selector 0 through punching 80, punching 15 associated with sender selector 1 to punching 81, etc. When only B or dial pulse senders are in the subgroup, strap punching 15 associated with sender selector 0 punching 90, punching 15 associated with sender selector 1 to punching 91, etc.

(b) SD-25459-01—When only one kind of sender is in the subgroup regardless of the kind, strap punching 15 of sender selectors 0 through 9 inclusive to punchings 80 through 89 respectively.

Two Kinds of Senders in Subgroup—(Both SD-25028-01 and SD-25459-01)

(a) When two kinds of senders are in a subgroup, the kind of sender that is apt to increase is connected to the secondary switch horizontals from 0 up and the other kind is connected from horizontal 9 down. Strapping is as follows. Strap punching 15 associated with sender selector 0 through punching 80, punching 15 associated with sender selector 1 through punching 81, etc, until all senders of the kind that are apt to increase are connected; strap punching 15 associated with sender selector 9 through punching 90, punching 15 associated with sender selector 8 through punching 91, etc.

4.06 Remove the make-busy plug from the MB jack.

5. REPORTS

5.01 Any required record of the changes in the cross-connections should be entered on the proper form.