

NON-COIN SUBSCRIBER SENDERS — SENDER SELECTOR TYPE

TEST OF SENDER SIGNALS

PANEL OFFICES

1. GENERAL:

- 1.1 This section describes methods of testing the time measure alarm, dial tone, priming release and group busy alarm features of non-coin subscribers' senders (sender selector type).
- 1.2 The tests outlined in this section should be made only at a time when the requisite number of senders can be spared from service.
- 1.3 An assistant is required for tests (c), (d) and (e).
- 1.4 The usual wiring arrangement of the time measure selector provides for a time interval of from 30 to 60 seconds, preceding the appearance of each type of signal. Where other time intervals are used, the routine should be modified accordingly. The character of the signals received under different sender conditions are not specified in the test procedure, as these are not the same in all offices. The tester should observe, however, that the signals received for a given test are identical for a particular group of equipment.
- 1.5 Tests (a) and (b) check a major portion of the time measure alarm circuit and can be made at times when it is impracticable to make tests (d) and (e).

2. APPARATUS:

- 2.1 Tests (a), (b), (d) and (e): One Watch or Stop-Watch.
- 2.2 Test (b): Ten No. 110 Plugs. (Tip and ring of each plug should be short circuited.)
Note: These plugs should have some distinguishing characteristic such as different colored shells, to avoid substitution for No. 184 make-busy plugs in regular service.
- 2.3 Test (c): One No. 184 Make-busy Plug.
- 2.4 Test (c), (d) and (e): One Operator's Telephone Set.
- 2.5 Tests (d) and (e): One District Selector Test Box.
- 2.6 Tests (d) and (e): No. 184 Make-busy Plugs, as required.

3. METHOD:

(a) Test for Permanent Signals Appearing at the M.S. "A" Board:

- 3.1 At the M.S. "A" board, insert plugs of semi-mechanical cords or manual answering cords into the priming jacks of a maximum of ten senders and note the time that this is done.

Note: Not more than one-half of the senders of a group should be tested at one time.

- 3.2 In from 30 to 60 seconds, the supervisory lamps of these senders should light.
- 3.3 Remove the plugs from the sender priming jacks and note that the sender supervisory lamps are extinguished.

(b) Test for Permanent Signals Appearing at the Sender Monitor Board:

- 3.4 At the sender monitor board, insert short-circuited No. 110 plugs into the make-busy jacks of a maximum of ten idle senders and note the time that this is done.

Note 1: Short-circuited plugs should not be inserted into the make-busy jacks of busy senders as this may cause interference with service calls. The use of these plugs should always be preceded by a test of the sleeve of each sender make-busy jack for a busy or idle condition. The presence of battery on a sender make-busy jack sleeve indicates an idle condition.

Note 2: Not more than one-half of the senders of a group should be tested at one time.

- 3.5 In from 30 to 60 seconds, the supervisory lamps of these senders should light.
- 3.6 Remove the plugs from the sender make-busy jacks and note that the sender supervisory lamps are extinguished.

(c) Test for Signals Appearing at the Sender Make-busy Frame:

- 3.7 Establish a talking connection between the sender make-busy frame and the M.S. "A" board by means of the tie line to the sender monitor's position.

- 3.8 Have the attendant at the sender monitor's position insert a No. 245 plug into the priming jack of the sender under test. This should cause the corresponding lamp at the sender make-busy frame to light.
- 3.9 Insert a No. 184 plug into the make-busy jack at the make-busy frame and verify that this results in the lighting of the sender supervisory signal at the sender monitor's position.
- 3.10 Remove the plug from the make-busy jack and have the plug removed from the priming jack. This should extinguish the corresponding lamp signals.

(d) Test for Partial Dial Signal, Dial Tone and Group Busy Alarm:

- 3.11 Ascertain the number of available senders in the group to be tested and make busy a corresponding number of the district selectors served by this group.

Note: When an individual sender circuit is to be tested, make only one district selector busy, set the associated sender selector on the terminals of the sender to be tested, and proceed as described in the following paragraphs.

- 3.12 Manually raise the brush rods of these selectors about two inches, to bring them above the brush tripping zone.
- 3.13 Connect the district selector test box as required for a test of district selectors.
- 3.14 Insert the BY or, in the case of line switch selectors, the TST plug of the test box into the test jack of one of the selectors previously made busy.

Note: Where combined test and make-busy jacks are used, it will be necessary to remove the make-busy plug at this time. In such cases, the plug need not be reinserted when the TST or BY plug is removed from the test jack.

- 3.15 Operate the STM key and when dial tone is heard, dial an office code with which numerical digits are normally required.

Note: Since the brush rod has been raised above the tripping zone, the code selected should be one which will not result in sending the district selector to tell-tale during brush and group selections.

- 3.16 After dialing, allow sufficient time for the sender to make district brush and group se-

lections. Then release the STM key and repeat the above operations (paragraphs 3.14 to 3.16), until all of the district selectors mentioned in paragraph 3.11 have made brush and group selections.

- 3.17 Check that the sender group busy alarm rings and that the busy lamp of the group under test is lighted, at the sender monitor position.

Note: The signals may be received after a measured time interval or immediately, depending upon the type of alarm circuit used.

- 3.18 In from 30 to 60 seconds after dialing on a sender, a partial dial signal should be received at the sender monitor's position.

Note: In offices where the senders are so wired that this method results in stuck sender signals, a partial dial signal test may be made on the individual sender circuit basis, described in the note of paragraph 3.11, by performing the operations of paragraphs 3.13 to 3.15. In this case, the group busy alarm and priming release features would be tested only under test (e).

- 3.19 After the group busy alarm signal has appeared, prime senders at the sender monitor's position as the corresponding partial dial signals are received.

Note: Where sender circuits are not arranged for priming under this condition, allow sufficient time for the signals to be recorded by the attendant at the sender monitor's position and then turn the sequence switches of the associated district selectors into position 18. Note that this retires the sender signals and restores the district selectors to normal.

- 3.20 Restore the district selectors used for the test to service, if this has not been done.

(e) Test for Stuck Sender Signal, Dial Tone and Group Busy Alarm:

- 3.21 This test is identical with test (d) with the exception that a two (or three) digit operator's code is dialed and a stuck sender signal is received.

4. REPORTS:

- 4.1 The required record of this routine should be entered on the proper form.