# METHOD OF COMPARING AMA CARDS
# NO. 1 ACCOUNTING CENTER
# AUTOMATIC MESSAGE ACCOUNTING SYSTEM

## 1. GENERAL

**1.01** This section describes a method for comparing resultant output card sets with AMA test card sets using the No. 519 IBM punch associated with the tape-to-card converter. Procedures for reproducing double punch and blank column test card sets in the format used in the particular accounting center are also covered.

**1.02** This section is reissued to update Table A, Fig. 1, to change Fig. 2, and to change figure and table headings.

**1.03** Comparison of two sets of AMA cards is made to verify the accuracy of (1) a resultant output card set with the output test card set, (2) a duplicate test card set with the original.

## 2. APPARATUS

**2.01** The following apparatus will be required for performing the operations covered by this section:

No. 519 IBM Punch

Terminal hub removing tool (for removing control panel cross-connections)

Unpunched IBM cards, as required

J49805H test card sets

Control panel for IBM punch

Control panel connectors, as required

Resultant output card sets to be verified

**2.02** Where desired, resultant output card sets which have been compared and verified with the standard test card set may be properly marked and retained for use in column-for-column comparison of resultant output card sets obtained in subsequent tests of the converter.

## 3. PREPARATION OF CONTROL PANEL FOR COMPARING RESULTANT OUTPUT CARD SETS WITH TEST CARD SETS

**3.01** All information normally punched by the converter on the output cards is contained in columns 1 to 44, inclusive, of the detail test card sets and in columns 1 to 22, inclusive, of the summary test card sets. Table A shows the column assignments for typical detail test card sets and Table B shows the column assignments for summary test card sets.

**3.02** To compare a resultant output card set with the test card set, prepare a control panel with the following connections:

(a) For each column of the resultant output card set to be verified, connect the GANG PUNCH AND INTERPRETING BRUSH outlet corresponding to the column number on the output card set to the COMPARING UNIT inlet corresponding to the test card set column containing the information to be verified.

**TABLE A — TYPICAL DETAIL CARDS**

| TEST CARD SET COLUMN NUMBER | INFORMATION PUNCHED |
|---|---|
| 1 | AMA Check — 9 |
| 2 | AMA Class — X |
| 3 | Billing — X |
| 4 | Nonbilling — Y |
| 5 | Collate Month |
| 6 | Calendar Month |
| 7 | Day — Tens |
| 8 | Day — Units |
| 9 | Hour — Tens |
| 10 | Hour — Units |
| 11 | Minute — Tens |
| 12 | Minute — Units |
| 13 | Calling Office — A |
| 14 | Calling Office — B |

| TEST CARD SET COLUMN NUMBER | INFORMATION PUNCHED |
|---|---|
| 15 | Calling Office — C |
| 16 | Calling Number — Thousands |
| 17 | Calling Number — Hundreds |
| 18 | Calling Number — Tens |
| 19 | Calling Number — Units |
| 20 | Area Code — A |
| 21 | Area Code — B |
| 22 | Area Code — C |
| 23 | Called Office — A |
| 24 | Called Office — B |
| 25 | Called Office — C |
| 26 | Called Number — Ten Thousands |
| 27 | Called Number — Thousands |
| 28 | Called Number — Hundreds |
| 29 | Called Number — Tens |
| 30 | Called Number — Units |
| 32 | Day-Night Class |
| 33 | Elapsed Time — Tens |
| 34 | Elapsed Time — Units |
| 35 | Message Units — Tens |
| 36 | Message Units — Units |
| 37 | Month — Tens |
| 38 | Month — Units |
| 39 | Identification Class |
| 40 | Month — Single Column |
| 41 | Dial Control |
| 42 | Station-Person |
| 43 | Trunk Number — Tens |
| 44 | Trunk Number — Units |

**TABLE B — SUMMARY CARDS**

| TEST CARD SET COLUMN NUMBER | INFORMATION PUNCHED |
|---|---|
| 1 | AMA Check — 9 |
| 2 | AMA Class — X |
| 3 | One Thousand Message Units |
| 4 | Less Than One Thousand MU |
| 5 | Collate Month |
| 6 | Calendar Month |
| 7 | Day — Tens |
| 8 | Day — Units |
| 9 | Calling Office — A |
| 10 | Calling Office — B |
| 11 | Calling Office — C |
| 12 | Calling Number — Thousands |
| 13 | Calling Number — Hundreds |
| 14 | Calling Number — Tens |
| 15 | Calling Number — Units |
| 16 | Summary — Thousands |
| 17 | Summary — Hundreds |
| 18 | Summary — Tens |
| 19 | Summary — Units |
| 20 | Month — Tens |
| 21 | Month — Units |
| 22 | Month — Single Column |

(b) Where a column of a resultant output card set contains an overpunch and a 0-9 punch, connect the GANG PUNCH AND INTERPRETING BRUSH outlet for this column to the COMMON inlet of a COLUMN SPLIT and connect 0-9 and 11-12 to the COMPARING UNIT inlets corresponding to the test card set columns containing the information to be verified.

(c) Connect the COMPARING BRUSH outlet corresponding to the test card set column being verified to the corresponding COMPARING UNIT inlet.

(d) Connect together the REP outlets designated 0.

(e) Connect together outlets designated STOP and COMP.

(f) Connect together MS outlets designated F.

**3.03** If duplicate card sets are to be compared column-for-column, connect the GANG PUNCH AND INTERPRETING BRUSH outlet directly to the same numbered COMPARING UNIT inlet and the corresponding numbered comparing brush outlet to the other COMPARING UNIT inlet. Make other connections as covered in 3.02 (d), (e), and (f).

**3.04** Where the No. 519 IBM punch is equipped with only 45 comparing units, the gang punch and interpreting brushes for the columns to be verified on the resultant output card sets and the comparing brushes for the corresponding columns of the test card set may be connected to any selected comparing unit. In this case a record should be kept of the comparing units corresponding to the columns to be verified to permit identification in case of failure to compare. The indicator corresponding to the comparing unit connected will indicate the column or columns on which the failure occurred.

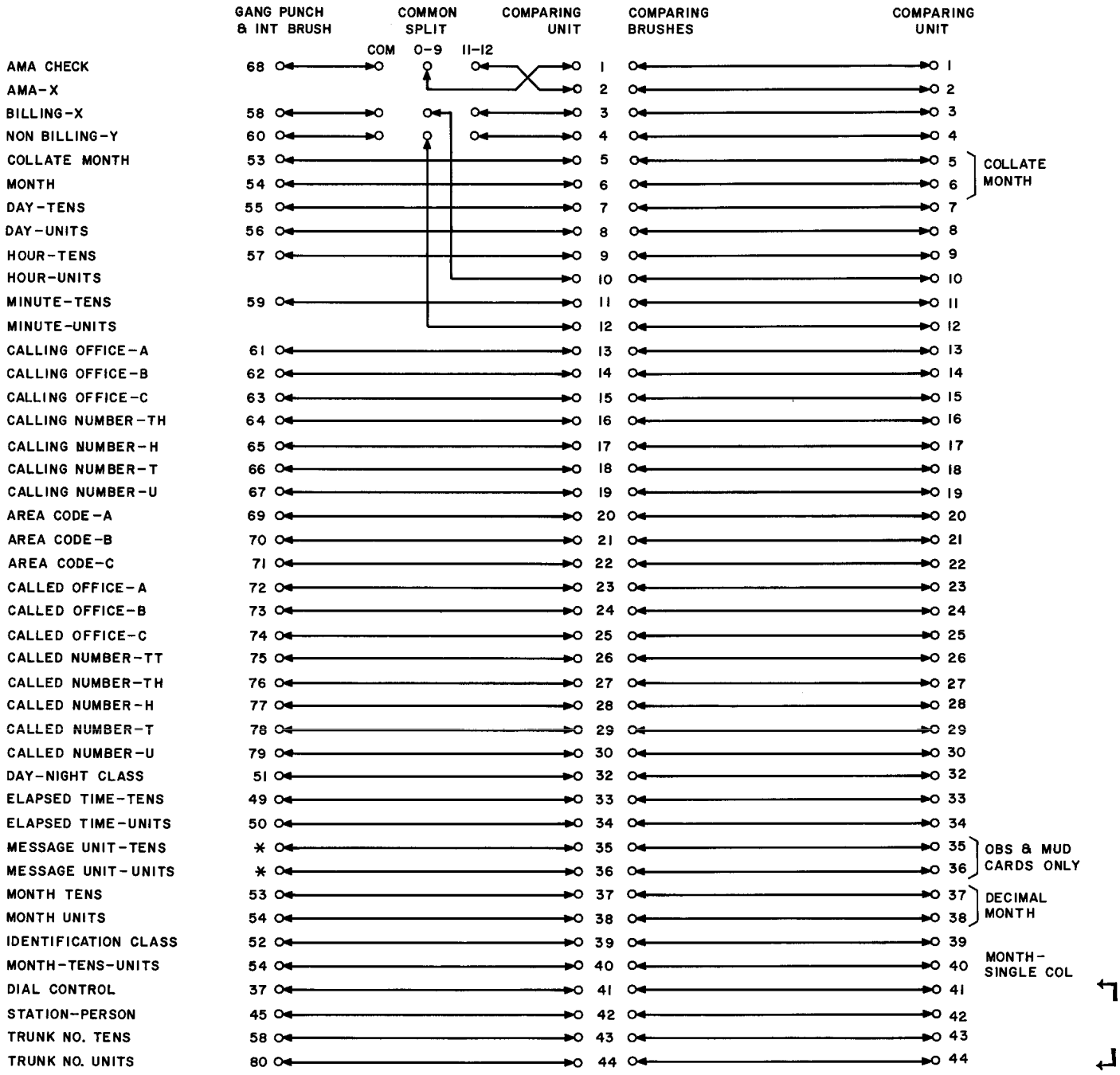


**Fig. 1 — Typical Control Panel Connections for Comparing Test Card Sets**

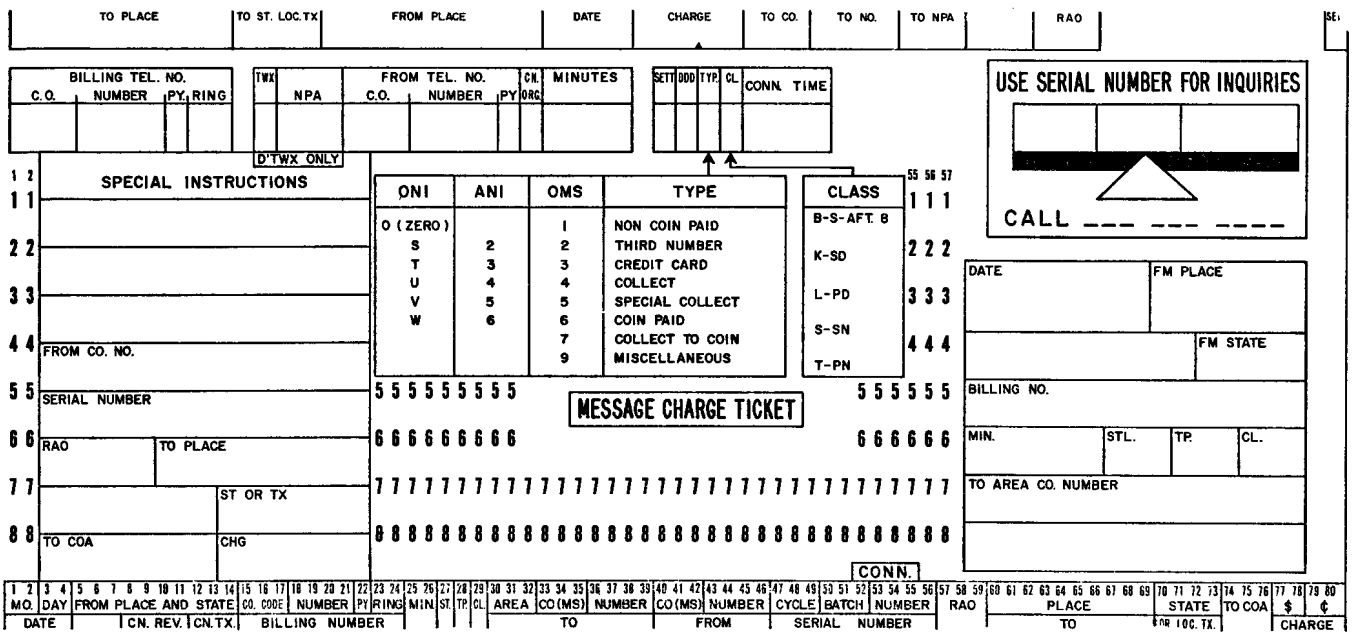


**FIG. 2 — EDP Out Ticket and DDD Sent Paid and Collect Ticket**

**3.05** Fig. 1 illustrates typical connections for a control panel arranged to compare test card sets with resultant output card sets punched in the card format shown in Fig. 2. The information normally punched by the converter is contained in columns 49 through 80 of the typical message card illustrated.

## 4. COMPARING TEST CARD SETS

**4.01** Open the hinged door at the lower left front side of the No. 519 IBM punch and insert the control panel prepared as covered in Part 3. Close the hinged door to lock the panel in position.

**4.02** Open the cover at the top front side of the No. 519 IBM punch and disengage the printing unit (located to the left of the punched card stacker) by latching it in the front notch. Close the front cover.

**4.03** Disconnect the multicontact plug which connects the IBM punch to the reader cabinet.

**4.04** At the right end of the punch, operate the POWER switch to the ON position. Observe that the red POWER signal lamp at the left of the IBM machine lights. Observe that the PRINT lamp is dark.

**4.05** Remove all cards from the reading unit and punch unit feed hoppers and operate the CARD ADVANCE button three times at about 1-second intervals to be sure that no cards remain in the punch. Remove any cards which may be in the stackers.

**4.06** If the reading unit of the IBM punch has not been in use for several hours, oil may have collected on the rollers of the card feed mechanism which will be deposited on the first few cards passing through the reading unit. To avoid staining the test card set, insert approximately eight blank cards in the reading unit card feed hopper and an equal number of blank cards in the punch unit card feed hopper. Depress and hold the CARD ADVANCE button until all cards have passed through the punch. Remove the cards from the reading unit stacker and observe that the top card is clean. If not, repeat the operation. Remove the cards from both stackers.

**4.07** Remove the plastic card weight from the reading unit card feed hopper and place the test card set in the hopper with the face down and the cut corner of the 12 edge toward the front. Be sure that the cards are properly aligned and in proper sequence, then replace the card weight.

**4.08** Remove the plastic card weight from the punch unit card feed hopper and place the card set to be verified in the hopper with the face down and the cut corner of the 12 edge toward the front. Be sure the cards are properly aligned and in proper sequence, then replace the card weight.

**4.09** Operate the CARD ADVANCE button of the IBM punch three times at approximately 1-second intervals. Comparing then continues until the last card leaves the hopper or until a discrepancy between the cards is encountered.

**4.10** When a failure to compare is encountered, the comparing light flashes on and the comparing indicator points out the comparing position or positions in which the failure occurred.

**4.11** If the stoppage was due to a failure to compare, remove all cards from both feed hoppers and stackers. Reset the comparing indicator. Operate the CARD ADVANCE button three times at approximately 1-second intervals to feed the nonmatching cards into the stackers. Remove the cards from both stackers and inspect visually the punches on the two top cards to determine the discrepancy. Restore the remainder of the cards in the reading unit and punch unit feed hoppers and operate the CARD ADVANCE button three times to resume the comparing process. Make sure in this operation that the first card in each set is a matching card.

**4.12** If the stoppage is due to the last card of the set being fed into the punch, operate the CARD ADVANCE button three times at approximately 1-second intervals to complete the comparison.

**4.13** Remove all cards from the punch unit and reading unit stackers. Operate the POWER switch to the OFF position and reconnect the multicontact plug to the jack on the reader cabinet.

## 5. REPRODUCING DOUBLE PUNCH AND BLANK COLUMN TEST CARD SET FOR USE WITH REGULAR CONTROL PANEL

**5.01** The IBM punch is arranged to provide a double punch and blank column check for any of 30 selected columns contained on the output card. The detail double punch and blank column test card set contains double punches and blank columns in columns 1 to 30 inclusive. The summary double punch and blank column test card set contains double punches and blank columns in columns 1 to 19 inclusive. Before making a double punch blank column test on the converter it will be necessary to translate the test card set into the card pattern in use in the accounting center. To accomplish this a control panel should be prepared as shown in Fig. 3 or 4. Reproducing brushes are wired to punch direct in the columns used for the indicated items and the corresponding gang punch and interpreting brushes are wired to the inlets 1 to 19 or 1 to 30 of the comparing unit. The comparing brushes are likewise wired to the corresponding comparing unit inlets. Reproducing is wired ON. Comparing is wired to STOP and mark sensing is wired OFF.

**5.02** To reproduce the double punch and blank column test card set in the accounting center, insert the control panel prepared as covered in 5.01 in the IBM punch. Disconnect the multicontact plug from the reader cabinet jack. If it is desired to end print the list and card numbers on the reproduced cards, latch the printing unit in the center notch.

**5.03** Place two blank cards in front of the double punch blank column test card set and then place this test card set in the reading unit card hopper face down with the cut corner of the 12 edge toward the front. Place the plastic card weight on top of the card set.

**5.04** Place a supply of blank cards in the punch unit card feed hopper face down with the cut corner of the 12 edge toward the front. Place the plastic card weight on top of the supply of blank cards.

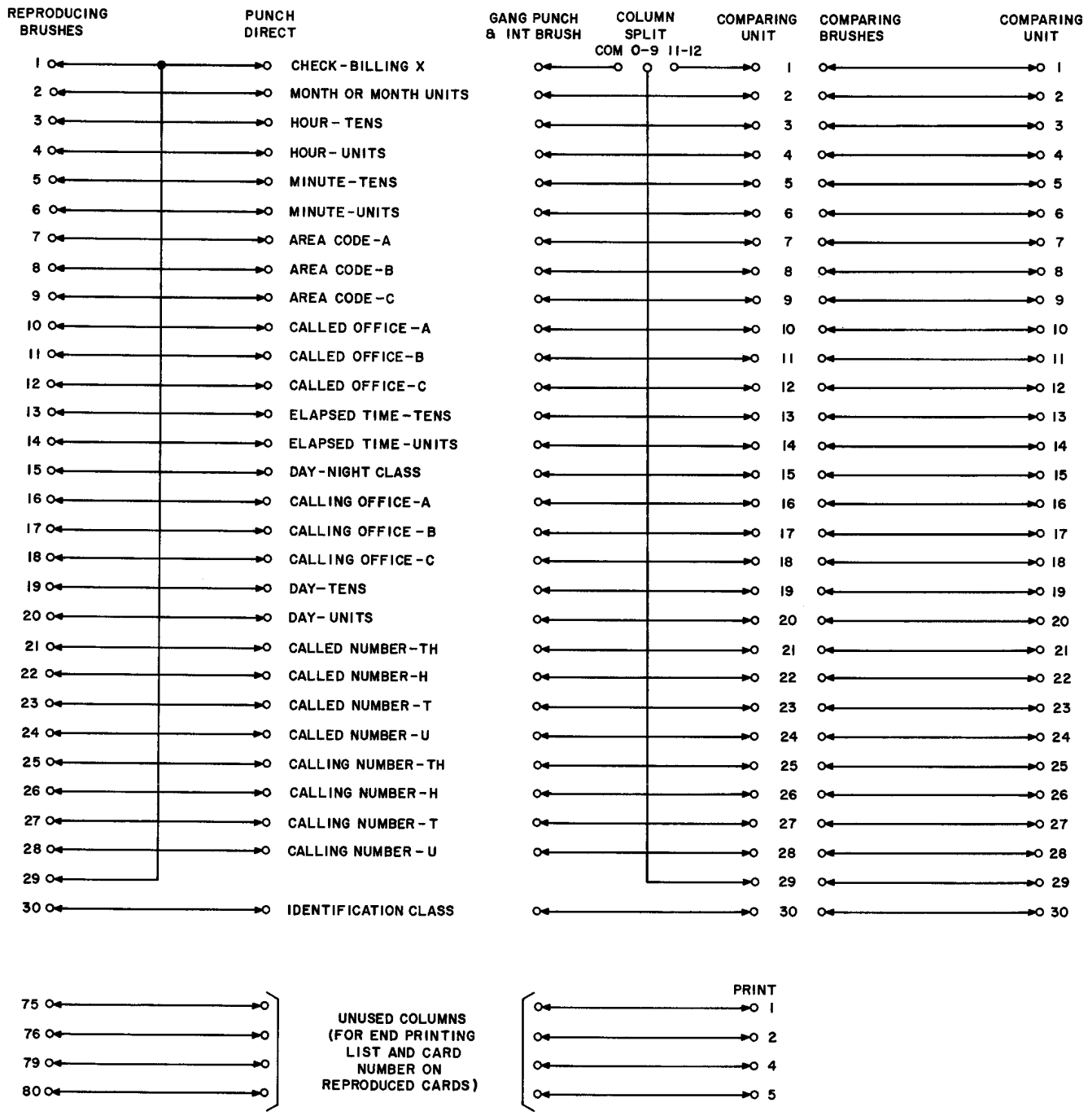


**Fig. 3 — Typical Control Panel Connections for Reproducing Summary DPBC Test Card Set**

**5.05** Operate the POWER switch at the right-hand end of the cabinet to the ON position. Note that the red POWER signal lamp at the left of the IBM punch lights.

**5.06** Operate the CARD ADVANCE button of the IBM punch three times at approximately 1-second intervals. The IBM punch should then continue to feed and punch the cards until the last card in the read unit hopper is fed into the punch. The cards are compared as they pass the comparing brushes and if a mismatch is encountered the comparing lamp will light and the comparing indicator will indicate the card column of the test card set on which the mismatch occurred. In this case proceed as covered in 4.10 and 4.11.

**5.07** When the IBM punch stops due to the last card in the reading unit card hopper being fed into the machine, remove all remaining blank cards from the punch unit card feed hopper and operate the CARD ADVANCE button three times to feed the remaining cards into the stackers.

**5.08** Remove the card sets from the stackers and designate the reproduced card set as a secondary standard for making the double punch blank column test on the particular converter. If end printing is used in accordance with the connections shown in Fig. 3 or 4, the list number of the test card set and the card number will be printed on the end of each reproduced card automatically for identification purposes.

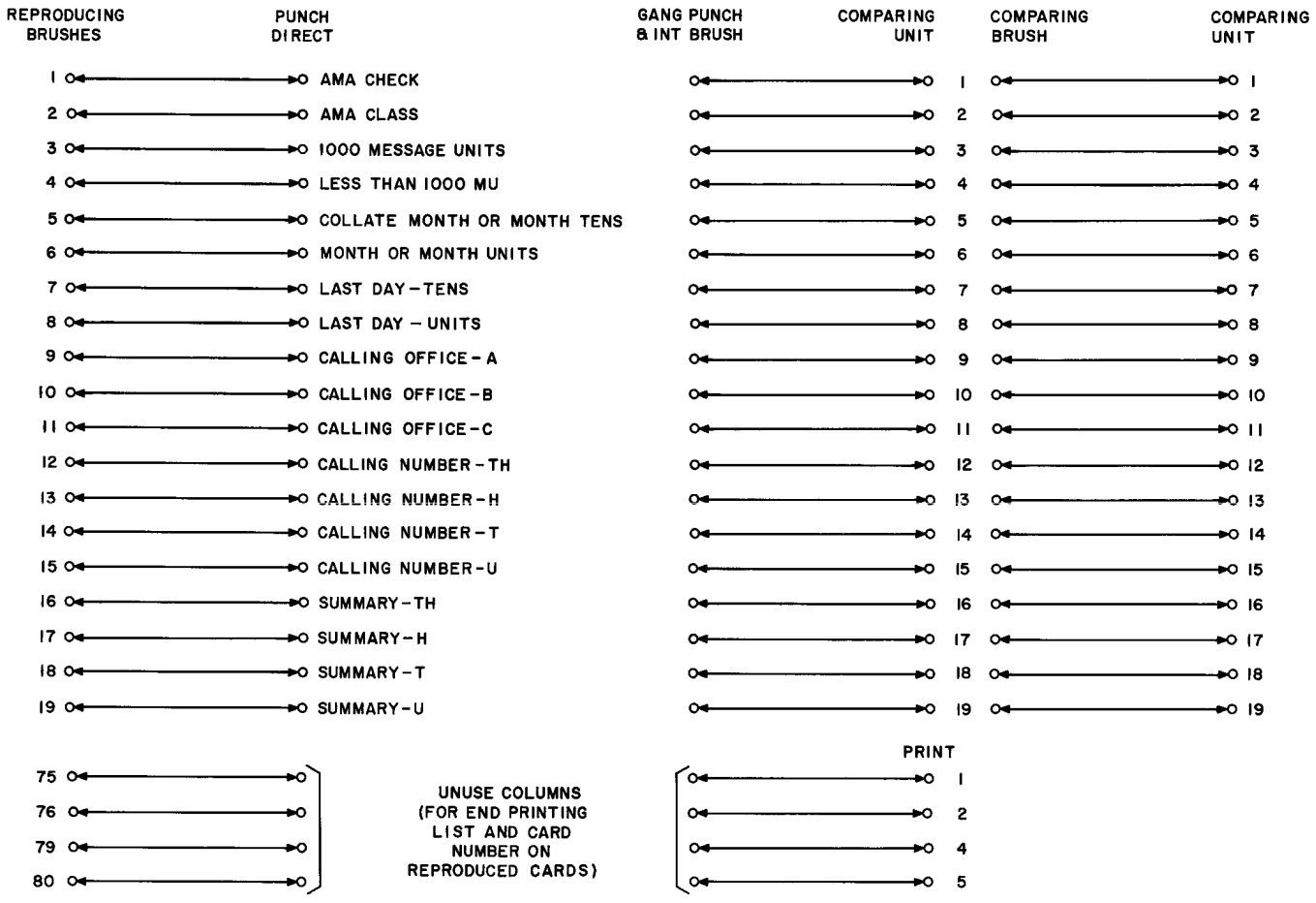


**Fig. 4 — Typical Control Panel Connections for Reproducing Detail DPBC Test Set**