Systems

IBM

3278 Display Station
Problem Determination Guide

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SECTION 1. CLEANING THE DISPLAY SURFACE

Caution: Do not use acid solutions or abrasive products to clean the screen, because the antiglare coating will be damaged.

Turn off the 3278 before cleaning the screen. Clean the screen with a soft cloth and one of

the following:

- Ammonia-based glass cleaner
- Water and detergent, followed by a water-dampened cloth
- Water only

Wipe the screen dry with a clean, soft cloth.

SECTION 2. CONTROLS AND LIGHTS

Light 1
Light 2
Light 3

On/Off Switch — { On / Off }

Ready Symbol — first position of operator information area: ▤ (3274), ▣ (3276), or other symbol.

Display uppercase/lowercase
Display uppercase characters (but store both)
Operating mode
Test mode — displays test pattern

Audible Alarm Volume Control
Contrast Control
Security Keylock
Brightness Control
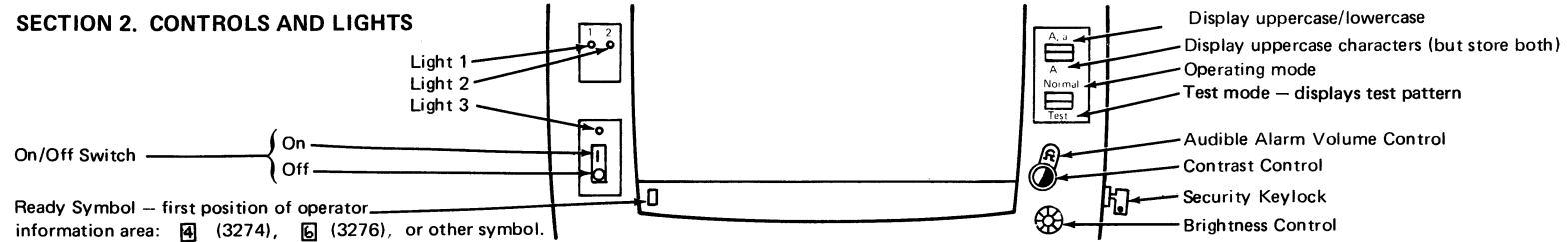
2-1. If the security keylock is present, turn the key clockwise.

2-2. Set the Normal/Test switch to Normal.

2-3. Turn the on/off switch to on (▯).

2-4. The 3278 is ready if, after 30 seconds, the three lights above the on/off switch are lit and the cursor and the ready symbol (▤ ,

▣ , or other symbol) are displayed.

- If one or more of the three lights is not lit, see Section 3, Symptoms.

- If no display, turn the brightness control fully clockwise and release. If neither cursor nor ready symbol is displayed, see Section 3, Symptoms.

Note: *For details on the operator information area, see Section 5. For operational problems, see Section 3.*

SECTION 3. SYMPTOMS (1 of 4) — Use the Problem Report Form, GX23-0201, as directed.

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Match your problem to one of the following symptoms and perform the action(s) indicated.

Symptom	First Action	Follow-Up Action
3-1. Nothing displayed and no lights (1, 2, or 3) lit.	Be sure that: 1. Power is available to 3278. 2. 3278 on/off switch is on.	If same symptom, complete the Problem Report Form.
3-2. Nothing displayed and all lights (1, 2, and 3) lit.	Turn brightness control ☼ clockwise beyond first stop, and release.	If nothing displayed, complete the Problem Report Form. If screen brightens, do the 3278 Tests, Section 6.
3-3. Nothing displayed and one or more lights (1, 2, and 3) not lit.	Complete the Problem Report Form.	
3-4. Not all characters displayed and all lights (1, 2, and 3) lit.	Adjust contrast control ◑ and brightness control ☼ .	
3-5. Display not readable — has slanted lines.	Complete the Problem Report Form.	

Symptom	First Action	Follow-Up Action
3-6. ④ , ⑥ , or other symbol not displayed.	1. If other terminals are working, do the 3278 Tests, Section 6. 2. If other terminals are not working, determine whether the control unit is operating properly.	Notify your supervisor.
3-7. Cannot adjust screen brightness ☼ . or Cannot adjust screen contrast ◑ (if dual brightness is in use).	Complete the Problem Report Form. Complete the Problem Report Form.	Display may be used, if readable.
3-8. Display characters not readable. or Display area shrinks or expands.	Complete the Problem Report Form. Complete the Problem Report Form.	Notify your supervisor.

SECTION 3. SYMPTOMS (3 of 4) — Use the Problem Report Form, GX23-0201, as directed.

Symptom	First Action	Follow-Up Action
3-9. Erroneous or missing characters and no ✘ ↖ in operator information area.	If other terminals are working, do the 3278 Tests, Section 6.	
3-10. Keyboard inoperative, display good.	Be sure the keyboard cable is plugged in.	If same symptom, go to Section 6.
3-11. Pattern shown in step 7-4 of Section 7 is displayed.	If appropriate, perform all Section 7 actions, starting with step 7-5; otherwise, press TEST while	If unsure of appropriate action, see your supervisor.
	holding ALT, and continue.	
3-12. ✘ ↖2⚹⚹	Report the problem to your supervisor. Do not use the Problem Report Form.	Press RESET. Keys might not work as labeled if support is missing in the control unit.
3-13. ✘ ↖ nn or ✘ ↖ nnn or ✘ ↖ nn, nnnn-nnnn	Press RESET, and retry the operation that failed. (Note that n means a digit, 0 through 9.)	If same symptom, notify your supervisor of this symbol, including the numbers for further problem determination.

Symptom	First Action	Follow-Up Action
3-14. ✗ ⌐nn or ✗ ⌐nnn	Press RESET, and retry the operation that failed. (Note that n means a digit, 0 through 9.)	If same symptom, notify your supervisor of this symbol, including the numbers for further problem determination.
3-15. ✗ PROG nn or ✗ PROG nnn	Report the problem to your supervisor. Do not use the Problem Report Form. See Section 7 for cause.	
3-16. Selector pen, magnetic hand scanner, or magnetic slot reader inoperative.	Go to Section 8 or 9.	CURSR SEL may be used in place of selector pen.
3-17. APL or Text malfunction.	Go to Section 10.	
3-18. Programmed Symbols or highlighting problem.	Go to Section 11.	
3-19. Any other symptom.	Press RESET, and retry the operation.	If same symptom, complete the Problem Report Form and notify your supervisor.

ALT   Activates, while pressed, the function on the front face of the keys. Not all keys have an alternate function.

ALT CURSR   Alternately selects one form of the cursor.

CURSR SEL   Selects fields for processing. The cursor must be in a field that your application has designated for cursor selection.

DEV CNCL   Cancels a pending print request by the ▢-▢ key to a printer that is busy, and restores the keyboard. If the printer is not working, it

ENTER   Requests that data from this 3278 be sent to the system.

ERASE EOF   Erases the input field from the cursor to the end of the field. The cursor does not move.

ATTN   Requests attention of the system (only if ᴮ is displayed in the operator information area).

CLEAR   Clears (erases) the display and signals the system that a clear action occurred.

CURSR BLINK   Alternately selects cursor blink or not blink.

restores the keyboard and resets ✗ ▢-➤ and ▢-➤ **nn**, if displayed. See Section 5.

DUP   Causes the prior entry for this field to be duplicated. Displays ⫯ or ✳ and moves the cursor forward to the first position of the next input field.

ERASE INPUT   Erases all input fields and moves the cursor to the first input character position on the screen.

FIELD MARK   Marks the end of the input field on the unformatted screen by displaying either ⫯ or ; .

IDENT Printer identification. Signals that the next two numbers entered will become the IDENT number of the printer assigned to your display. But if ▭—▭??is displayed, ?: is replaced with the current assignment. See Section 5.

SKIP (Data entry keyboard) Moves the cursor forward to the first position of the next input field.

SYS REQ With 🅰 in the operator information area, signals the system that you have a test request message on your display. Ask your supervisor for details.

⬚ Home. Moves the cursor to the first position in the input field of the screen.

⬀ Insert. Allows character insertion in the input field. To end Insert mode, press RESET.

← Moves the cursor backward.

PA Program access keys. Function determined by application.

PF Program function keys. Function determined by application.

RESET Resets ✖ conditions as noted in Section 5. Resets ⋀ condition and printer IDENT operation. Cancels dead key operation, leaving the stand-alone accent at the cursor.

With 🅱 in the operator information area, switches the 3278 between application and control programs. **Clears the display.** Ask your supervisor for details.

TEST Used to start and end special problem determination functions. **Clears the display.** See Section 7.

→ Moves the cursor forward.

↑ Moves the cursor up.

↓ Moves the cursor down.

→| Tab. Moves the cursor forward to the first position of the next input field.

◄─ Back tab. Moves the cursor backward to the first position of the input field. If the cursor is in the first position of the field, moves the cursor to the first position of the preceding input field.

⇧ Upshift.

⇩ (Data entry keyboard only) Downshift.

🔒 Typewriter keyboard: Locks keyboard in upshift.

Print. Sends data from this display station to the assigned printer. See Section 5 for related operator information.

↵ New line. Moves the cursor to the first position of the first input field in the next line.

▸▸ Moves the cursor forward rapidly.

◂◂ Moves the cursor backward rapidly.

Data entry keyboard: Alternately locks and unlocks upshift.

Alternately turns the keyboard clicker on or off.

Delete. Deletes the character at the cursor position in the input field.

Note: *For additional or special-purpose keys, see Sections 10 through 13.*

Far Left: Readiness, System Connection

Right: Printer Status

�⌐ **The 3276 (6), 3274 (4), or other symbol: the control unit is working (ready).**

6
4
(other symbol)

A
B **Online A or Online B.** The control unit is connected to the system under "A" or "B" rules. Proceed.

◻─◻ nn **Printer assignment.** The terminal may use printer number **nn**. 01–31 are individual printers; 70–85 are "classes" of printers.

◻─◻?? **Assignment pending.** The printer authorization has changed. Use the IDENT key to cause the new assignment to display.

◻─■ nn **Printer printing.** Printer **nn** is printing your work.

◻─▶ nn **Printer failure.** Failure. Printer **nn** failed while printing your work.

■ Terminal is connected to your **job** (application).

▒ Terminal is connected to the **system operator** (control program).

▨ Terminal is connected to the system, but not to your job or system operator. Use SYS REQ if LOGON is required.

TEST Terminal is in Test mode. See Section 7.

◻─◻ _ _ **Printer Selection.** When you are changing the printer IDENT, the two numerals you key will appear in the printer authorization columns.

(nothing displayed) If nothing is displayed in the printer status columns and the ready symbol is:
- (6), you have no automatic authorization.
- (4), you cannot print at all.
- Other symbol, you cannot print at all.

✕ means DO NOT ENTER (input inhibited)

✕ ⟡   **Time** is required for the system to perform a function. Wait.

✕ ?+   **What?** Input not understood. Check the screen. Press RESET, and try again.
- Do not key when ✕ is displayed.
- If ALT or ⇩ or ⇧ was involved, press that key again. Press RESET, and re-key.
- If IDENT was involved, press RESET. Start IDENT operation

✕ -f   **Minus function.** You requested an unavailable function. Press RESET.
- If 🅰 is displayed at left: the function is permanently unavailable (except IDENT — see below); do not repeat.
- If ᴮ🅷 is displayed at left: ATTN, PA, PF, CURSR SEL, or transmission to the system via selector pen, magnetic hand scanner, or magnetic slot reader will not work until 🅷 changes.
- If ᴮ❓ is displayed at left: ENTER and all functions listed

again, or take other action.

✕ SYSTEM   **System lock.** System has locked the keyboard following entry. Look for message. Press RESET.

✕ ←⫞→   **Go elsewhere** on the screen to take that action. Press RESET. Move the cursor, or take other action.

✕ ⫞>   **More than.** You have tried to insert more data than this field can hold. Press RESET. Correct entries.

✕ ⫞NUM   **Numeric.** You should enter only numerics in this field. Press RESET. Enter numerics.

above for ᴮ🅷 will not work until ❓ changes.
- If TEST is displayed at left: follow instructions in Section 7.
- In all other situations: the function is temporarily unavailable. Check the screen, and try again later. IDENT will not work while ▭—■nn is displayed at right.

✖ means DO NOT ENTER (input inhibited)

✖ ⚷#?   **What number?** Only certain numerals are accepted here. Press RESET.

- Printer number: Start again — IDENT key plus two valid numerals.
- Test mode: Follow instructions in Section 7.

✖ ⌐   **Security key** is off. Keyboard can be unlocked only by key.

✖ ⤙z nnn ⎫ **Communication check.** A communication link error was
 or   ⎬ detected, so you cannot send data. (**n** is a digit, 0 through 9.)
✖ ⤙z nn   ⎭ Press RESET. If the problem persists, use Section 3.

✖ PROG nnn ⎫ **Programming error.** A programming error was detected in
 or   ⎬ data received by the control unit. (**n** is a digit, 0 through 9.)
✖ PROG nn ⎭ Press RESET. If the problem persists. see Section 3.

- For Encrypt/Decrypt failure: Incorrect value was keyed in.

✖ ⌑←⊞   A message from ⊞ was received and rejected. Press RESET.
✖ ⌑—⌑?   **Printer busy.** The printer connected to your terminal is busy. If ⌑—➤ shows on the right, it is your own work. Wait or use DEV CNCL. (If you used ⌑—⌑ key, you may be able to select a different printer.)

✖ ⌑—⌑? ?   **Printer very busy.** Same as above, except more time than usual is anticipated before your work will be accepted.

✖ ⍀ nnn   **Machine check.** Your terminal is not working properly.
 or   (**n** is a digit, 0 through 9.) Press RESET. If the problem
✖ ⍀ nn   persists, see Section 3.

✖ ⍀ 2%%   **Machine check: Feature mismatch.** The units are not configured properly. Press RESET. Keys might not work as labeled if support is missing in the control unit. See Section 3.

✕ means DO NOT ENTER (input inhibited)

✕ ⅄✕ **Operator not authorized** to do that function. Press RESET. Check printer assignment columns at right.
- After �□→◻ or IDENT: no printer assigned. (If □–□ nn displayed: error in authorization matrix; request help or change assignment.)
- After IDENT key plus two numbers: not authorized for that

✕ □–◆ **Printer not working.**
Restore printer or report trouble as directed by your organization.
- After ◻→◻ key: request was canceled. DEV CNCL resets keyboard.
- If □–■ nn shows at right, the printer stopped during your own last print. DEV CNCL resets keyboard and instructs control unit/adapter to stop monitoring that print.

printer. Start IDENT again or take other action.

Middle: Keyboard State, Reminders

⇧ **UP.** Keyboard is in upshift.

NUM **Numeric.** Keyboard is in numeric shift (enables 0 through 9, period (.), minus (-), and **DUP** only).

∧ **Insert Mode.** A character may be inserted at the cursor location.

- You may be able to use another printer.
- After other key (ENTER, PA, etc.): the system has control.

→⤳ nnn **Communication reminder.** The communication link connecting
or your control unit to the system's computer is not working properly.
→⤳ nn (**n** is a digit, 0 through 9.)

□◆⊞ Reserved for future use; ignore.

SECTION 6. 3278 TESTS (1 of 3) — Use the Problem Report Form, GX23-0201, as directed

Actions — Must be performed in sequence	**Expected Results**
6-1. Set the Normal/Test switch to Test; set the A,a /A switch to A,a. Compare the screen with the expected results.	Lines 1 and 2 and the operator information area should match one of the character arrangements shown either below or at the top of the next page.

Models 2, 3, 4, and 5 — Expected Results: If the result differs, press the Normal/Test switch to Normal, then back to Test, and restart the test. If the result again differs, record the failing step. Lines 1 and 2 and the operator information area contain:

Line 1 äė î ôüâê î ôûáé í óúñÂÈ Ì ÒÙÃÕYAEE I OUYCÄÈ Ì ÒÙÂÊ Î ÔÛÁÉ Í ÓÚÑabcdef gh i jkl mnopqrs tuvwxyz æøáç♂♀

Line 2 ÄBCDEFGHIJKLMNOPQRSTUVWXYZÆØÅÇ;*0̈1̈2̈3̈4̈5̈6̈7̈><[])(){ ='"/\|¦!?!$¢£¥₧₪0123456789ß§#@%_

Op Inf Area 0̈1̈2̈3̈4̈5̈6̈7̈><[])(){ ='"/\|¦!?!$¢£¥₧₪0123456789ß§#@%_&-.,:+⌐¬°¨^˜···ˊˋ,àè î ôüãõÿàèé î ôùüc

SECTION 6. 3278 TESTS (2 of 3) — Use the Problem Report Form, GX23-0201, as directed.

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Model 1 — Expected Results: If the result differs, press the Normal/Test switch to Normal, then back to Test, and restart the test.

If the result again differs, record the failing step. Lines 1 and 2 and the operator information area contain:

Line 1 àè ìòù߈ÿàéé ìòùū̧̠ àëìöüâê ì ôûáé íóúñÀ̈È̠ìÒÙÃÕYAEE IOUYCÁ̈Ë Ï̈ÖÜÂÊ Î̈ÖÛÁÉ Í̈ÓÚÑabcdefghijklmnop

Line 2 qrstuvwxyzæø̊ā̧çŦ⌶ABCDEFGHIJKLMNOPQRSTUVWXYZÆØÅÇ;*0̄1̄2̄3̄4̄5̄6̄7̄><[]>(){ =' "∕∖|¦?!\$¢£¥₽⋈

Op Inf Area   0̄1̄2̄3̄4̄5̄6̄7̄><[]>(){ =' "∕∖|¦?!\$¢£¥₽⋈0123456789ß§#@%_&-.,:+ ̄ ̄°˘^˄~¨˙`´,

Keyboard Check

6-2. Press each key (except the control key) while observing the screen. Notice that each key displays the symbol in this diagram (ignore the keytop symbol on the keyboard) and that the cursor moves to the next character position. (Do not hold down any key long enough to cause typamatic action.) If the result differs, retry by turning the 3278 off, then on, and restart this step. If the result again differs, record the failing step. (The control key may be labeled RESET or with a PF number.)

Control Key
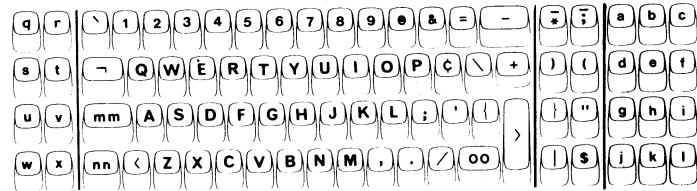
If present 30

SECTION 6. 3278 TESTS (3 of 3) — Use the Problem Report Form, GX23-0201, as directed.

Actions — Perform in sequence.

Expected Results — If the result differs, retry by turning the 3278 off, then on, and restart the test. If the result again differs, record the failing step.

Function Check

6-3. Press the control key; then press the C key. ──────────► All characters entered in step 6-2 are replaced by test pattern characters, as in step 6-1.

6-4. Press the control key; then press the B key. ──────────► $\overline{2}$ is displayed in the first position of the operator information area.

6-5. Press the control key; then press the B key three times. ──────────► $\overline{\odot}$ is displayed in the first position of the operator information area.

6-6. Press the control key; then press the M key. Press the A,then B,then C keys. ──► First three positions of the first line now display ABC.

For Model 5:

Press the control key, then the K key, then the Q key. ──────────► Test pattern on screen is now 132 characters per line.

Press the 7 key. ──────────► Test pattern on screen is now 80 characters per line.

6-7. Set the Normal/Test switch to Normal. ──────────► Test pattern is no longer displayed.

6-8. Perform 3278/Control Unit Tests, Section 7.

Action — Perform in sequence.   **Expected Results** — If the result differs, record the failing step.

7-1. Verify that the control unit ready symbol is displayed in the ——— 🔲 , 🔲 , or other symbol is displayed in the first position of the operator
operator information area. If it is not, ready the control unit and   information area.
continue when expected results appear.

7-2. Set the A, a/A switch to the A position.

7-3. While holding ALT, press TEST. ————————————→ TEST is displayed in the operator information area. The display is
cleared, with the cursor in the first position of the first line.

7-4. Press the slash (/) key; then press ENTER. ——————————→ This pattern is displayed: Legend:

Avoid typamatic action.

```
TEST: CCCC;NN
?SEL PEN      SEL PEN
  &SEL PEN     >SEL PEN
  DISPLAY   INSERT CK
```

CCCC identifies the control
unit to which the 3278
is attached.

NN is the port number of the
requesting terminal.

SECTION 7. 3278/CONTROL UNIT TESTS (2 of 2) — Use the Problem Report Form, GX23-0201, as directed.

Actions — Perform in sequence	Expected Results — If the result differs, record the failing step.
7-5. Move the cursor under the C of CK, in the fourth line of the test pattern. →	Fourth line: DISPLAY INSERT C̲K
7-6. Press the ⚐ key.	⌃ is displayed in the operator information area.
7-7. Press the A, B, and C keys in succession.	Fourth line: DISPLAY INSERT ABC̲K
	✗ ⚐> and ⌃ are now displayed in the operator information area.

7-8. Press RESET. →✗ ⚐> and ⌃ are no longer displayed.

7-9. If you have a selector pen, a magnetic slot reader, or another feature to test, see Sections 8 through 13.

7-10. To end the test, hold ALT and press TEST. If normal operational problems are still present, notify your supervisor so that problem determination can be performed.

Note: *For additional test procedures, see Sections 10 through 13.*

SECTION 8. SELECTOR PEN (1 of 2) — Use the Problem Report Form, GX23-0201, as directed.

Selector Pen Tests	Expected Results — If results differ, record the failing step.

8-1. Set the A,a /A switch to the A position.

8-2. While holding the ALT key, press the TEST key. ──────────────────► TEST is displayed in the operator information area. The display is cleared with the cursor in the first position of the first line.

8-3. Press the slash (/) key, then press the ENTER key. ──────────► This pattern is displayed:

Avoid typamatic action.

```
TEST:   CCCC;NN
?SEL PEN      SEL PEN
    &SEL PEN      >SEL PEN
    DISPLAY   INSERT CK
```

Legend:

CCCC identifies the control unit to which the 3278 is attached.

NN is the port number of the requesting terminal

Selector Pen Tests	Expected Results — If the result differs, record the failing step.

8-4. Perform a selector-pen action on the second line of the test pattern, in the field that displays ?SEL PEN.* •————————→ Second line displays   >SEL PEN   SEL PEN

If no response, increase brightness and repeat the test.

8-5. Perform a selector-pen action again in the same field.*————→ Second line displays   ?SEL PEN   SEL PEN

8-6. Perform a selector-pen action on the third line of the test pattern, in the field that displays >SEL PEN * ————————————→ Third line displays   &SEL PEN   SEL PEN

8-7. Perform a selector-pen action again in the same field.* ————→ Third line displays   &SEL PEN   SEL PEN

*If **✕**-f is displayed in the operator information area, press RESET, and retry in the location specified.

Operator Information Area

✕ ⚡⊟? Questionable card. That magnetic stripe card cannot be used in this operation. Some cards are acceptable with ■ but not with ▩ .
Others are never acceptable. Press RESET. Try another card or request help.

Magnetic Hand Scanner and Magnetic Card Reader Tests	Expected Results — If the result differs, record the failing step.

9-1.   Set the A,a /A switch to the A position.

9-2.   While holding ALT, press TEST.———————————————————→ TEST is displayed in the operator information area. The display is cleared
with the cursor in the first position of the first line.

9-3.   Press the slash (/) key; then press ENTER.——————————→ This pattern is displayed: Legend:

Avoid typamatic action.

```
TEST: CCCC;NN
?SEL PEN    SEL PEN
   &SEL PEN    >SEL PEN
   DISPLAY  INSERT CK
```

CCCC identifies the control
unit to which the 3278
is attached.

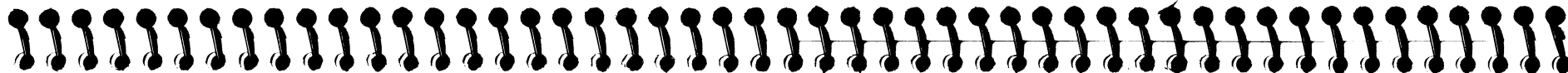_   NN is the port number of the
requesting terminal.

Tests

Expected Results — If the result differs, record the failing step.

9-4. Move the cursor to the first position of the fifth line (the line below the test pattern).

9-5. Read the test card. ————————————————————→ The cursor moves the number of positions equal to the number of characters on the test card, the green light on the reader lights, and **✗** – f displays. If the result differs, perform the magnetic slot reader or magnetic hand scanner checks described in the *MSR/MHS Replacement Procedure* manual (GA24-3663)(shipped

with the device), and then perform steps 9-4 and 9-5. If the result still differs, complete the Problem Report Form by recording step 9-5 as the failing step.

9-6. Press RESET. ———————————————————→ **✗** – f no longer displayed.

9-7. If you are sure of your results, hold ALT and press TEST to end the test. ————→ The test pattern is no longer displayed, and TEST is no longer displayed in the operator information area.

9-8. If you still have a symptom, complete the Problem Report Form by recording the symptom, giving as much detail as possible.

SECTION 10. APL AND TEXT

Keyboard Keys

APL
ON/OFF
Used to start and end APL mode. APL ON makes available the characters labeled on the right of the keys, those in the middle, and A–Z with ALT.

TEXT
ON/OFF
Used to start and end Text mode. For those key positions with right and left labels, ON selects right and middle, OFF selects left.

Operator Information Area

APL
APL characters available: those labeled on the right of the keys, those in the middle, and A–Z with ALT.

TEXT
Text characters available: those labeled on the right and those in the middle.

PSxAPL
↑ A-F
A mixture of Programmed Symbols and APL characters is available. See Section 11 for information about Programmed Symbols.

SECTION 11. PROGRAMMED SYMBOLS AND HIGHLIGHTING (1 of 4)

Keyboard

Programmed Symbols

PSA
PSB } Selects the Programmed Symbol (PS) set from which subsequent
PSC characters are chosen.
PSD

Highlighting

◨ Reverse video — Selects reverse video as the highlighting to be applied to subsequent characters entered.

ⓐ Blink — Selects blink as the highlighting to be applied to subsequent characters entered.

PSE }
PSF

a Underscore — Selects underscore as the highlighting to be applied to subsequent characters entered.

▶ Field inherit — Cancels the highlighting selected and returns control of highlighting to your job (application); highlighting will be inherited from field characteristics.

▶ Field inherit — Cancels the PS set selected and returns control of Programmed Symbol sets to your job (application); programmed symbols will be inherited from field characteristics.

Note: *Color keys do not work.*

Operator Information Area

Programmed Symbols

Keyboard status for Programmed Symbols sets: Subsequent characters keyed will come from the set designated:

SO Set zero; refer to labels on the keys.

PSA through PSF; use appropriate keyboard overlay (or notes).

Highlighting

Keyboard status for highlighting: Subsequent characters keyed will be highlighted as indicated by the first of a pair of characters (blanks mean highlighting is not selectable from the keyboard):

First Character:

a	No highlighting	☀	Blink
▉	Reverse video	a̲	Underscore

A character following the PS identifier indicates that PS sets are selectable from the keyboard, and also how the current set was selected.

　♟　Current set was selected by a specific PS key.

　▶　Current set was selected by the ▶ key or by not taking any action.

A blank means the character set is nonselectable.

Second Character:

　♟　Current status was selected by a specific highlighting key.

　▶　Current status was selected by the ▶ key or by not taking any action.

DO NOT ENTER Condition

✖ -f♟✖ **Minus Function Operator Not Authorized.** Selection of PS (one or more) or highlighting is not permitted by your job (application). Press RESET.

Test	Results

11-1.   Set the A,a /A switch to the A position.

11-2.   While holding ALT, press TEST. ◄——————————————————————► TEST is displayed in the operator information area. The display is cleared with the cursor in the first position of the first line.

11-3.   Press the slash (/) key, then the 8 key, then the ENTER key. ——► The test pattern is displayed. Look for the details noted below. If the pattern on the screen differs from the pattern below, complete the Problem Report Form and notify your supervisor.

11-4.   While holding ALT, press TEST to end the test.
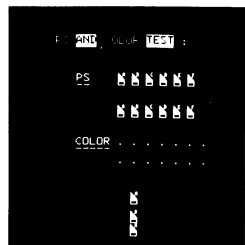
Line 1: The letters "PS" and the word "COLOR" will blink. The words "AND" and "TEST" are displayed in reverse video.

Line 3: PS is underscored.

Lines 3 and 5: A symbol is displayed for each PS storage installed. The leftmost symbol is PS "A", the rightmost is PS "F". A dot is displayed if the PS storage is not installed.*

Lines 7 and 8: "COLOR" is underscored.

Lines 10, 11, and 12: Symbols A, B, and A, respectively, are displayed.

*Be sure that no lines of dots are missing.

Notes:
1. Lines 2, 4, 6, and 9 are blank.
2. Models 1, 2, 3, and 4: There is no space between PS symbols on lines 11 and 12.
3. Models 3 and 4: There is no space between PS symbols on lines 10 and 11.
4. Model 4 only: Does not display bottom portion of PS symbols.
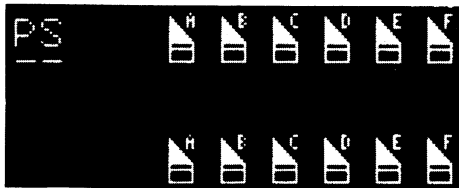
Be sure that the dot patterns for lines 3 and 5 are identical with these.

SECTION 12. NATIONAL SPECIALTIES

Canadian French Keyboard Dead Keys

Five keys ´ ` ^ ¨ ‚ enter the corresponding accent but do not move the cursor, allowing an accent to be combined with a letter. Key the accent first, then the letter (or space) to form *one* character. RESET cancels the dead key operation, leaving a completed accent character at the cursor position. Valid combinations are:

Operator Information Area

✘ ⚐ ´+?
✘ ⚐ `+?
✘ ⚐ ^+? } **Accent plus what?** The keystroke following the dead key accent was not valid, so the accent has become a stand-alone character. Press RESET. Re-key both accent and letter.
✘ ⚐ ¨+?
✘ ⚐ ‚+?

`` ` `àÀèÈùÙ ``   ¨ëËïÏüÜ

´éÉ   ‚çÇ

^âÂêÊîÎôÔûÛ

Character Sets for Austria, Germany, Spain, Norway, Denmark, Sweden, and Finland.

Operator Information Area

✘ -S   **Minus Symbol.** The symbol keyed is not available. Press RESET.

Control Keys

Places the keyboard into Extension mode when pressed while the ALT key is being held, and enables the following network function keys. Pressing any key other than these keys will cause unwanted results. Pressing the Extension mode key again, or any key (except RESET), ends Extension mode.

▶ **COMM** Causes the control unit to go into Call Ready state if it was in Local mode.

Operator Information Area

▶ **Extension Mode.** The keyboard is in Extension mode; the keys with ▶ are enabled.

N **Network in Use.** The control unit is connected to the system through the network.

▶ **DIAL** Causes the control unit to go into Dial In mode; the display is cleared and dial digits may be entered.

▶ **DIRECT** Causes the control unit to initiate the network connection to the system and go into Outgoing Call in Process mode.

▶ **DISC** Causes the control unit to stop operation with the system, disconnect from the network, and go into Call Ready state.

▶ **LOCAL** Causes the control unit to go into Local mode if it was in a Call Ready state.

—z— **Call Ready.** The control unit is ready to call or to be called.

—z—N nn **Call Ready with Call Progress Signal.** The control unit is ready to call or to be called; the status code (**nn**) is from the network.

—z—#? **Dial In Mode — This Keyboard.** Press ENTER after last dial digit is entered. The dial digit number(s) may now be entered at the keyboard.

—z—## **Dial In Mode — Other Keyboard(s).** The control unit is in Dial In mode. The dial digit number cannot be entered at this terminal.

Outgoing Call in Process. The control unit is calling the system.

Outgoing Call in Process with Call Progress Signal. The control unit is calling the system; the status code (**nn**) is from the network.

Incoming Call in Process. The control unit is being called from the system.

✗ ⟶z̲ nn
or
✗ ⟶z̲ nnn The control unit has detected a network error; the status code (**nn** or **nnn**) is from the control unit. Notify your supervisor.

Disconnect in Process. The control unit is being disconnected from the network.

Local Mode. The control unit is in Local mode. To go to Call Ready state, press COMM.

Operator Communication Check. A network function key was pressed under improper conditions. Press RESET, and verify the sequence.