MAP 3900: IBM Professional Graphics Controller

Symptom Explanation	Conditions That Could Cause This Symptom
You have entered this MAP because the POST did not finish, you visually detected an IBM Professional Graphics Controller or IBM Professional Graphics Display problem, or you have an error message indicating a controller or display problem.	• The Professional Graphics Controller is failing. • The Professional Graphics Display is failing.

001
- Power off the system.
- Insert the Advanced Diagnostics diskette into drive A.
- Power on the Professional Graphics Display.
- Turn the brightness and contrast controls fully clockwise on the Professional Graphics Display.
- Listen to the audio response during the POST.
- Power on the system.

DID YOU HEAR ONE LONG AND TWO SHORT BEEPS?
Yes   No

> **002**
> Go to Step 008 in this MAP.

003
If the Professional Graphics Display is the primary display, ensure the system board switch setting is set for color/graphics operation.

(Step 003 continues)

003 (continued)
IS THE SYSTEM BOARD SWITCH SETTING CORRECT?
Yes No
 | |
 | **004**
 | Correct the system board switch setting. Go to Step 001 in
 | this MAP and repeat the diagnostic tests to verify system
 | operation.
 |
005
IS MORE THAN ONE DISPLAY ADAPTER INSTALLED?
Yes No
 | |
 | **006**
 | Replace the IBM Professional Graphics Controller, if that
 | does not correct the problem replace the system board.
 |
007
Replace the primary display adapter. If that does not correct the
problem replace the system board.

008
(From Step 002 in this MAP)
- Run the Professional Graphics Controller tests. Use the
  (RUN TESTS ONE TIME) option.
- Ensure the brightness and contrast controls are turned fully
  clockwise.

**IS THE SCREEN OF THE PROFESSIONAL GRAPHICS
DISPLAY DARK (NO ILLUMINATION)?**
Yes No
 | |
 | **009**
 | Go to Step 017 in this MAP.
 |
010
IS THE DISPLAY'S POWER-ON INDICATOR LIT?
Yes No
 | |
 | **011**
 | (Step 011 continues)

011 (continued)
Go to Step 014 in this MAP.

012
- Power off the system.
- Power off the Professional Graphics Display.
- Disconnect the Professional Graphics Display signal cable
  from the IBM Professional Graphics Controller.
- Power on the Professional Graphics Display.

IS THE SCREEN STILL DARK (NO ILLUMINATION)?
Yes   No
 | |
 | **013**
 | Replace the IBM Professional Graphics Controller.
 |

014
(From Step 011 in this MAP)
- Power off the Professional Graphics Display.
- Disconnect the display power cord from the outlet, then from
  the display.
- Check the display power cord for continuity.

DOES THE POWER CORD HAVE CONTINUITY?
Yes   No
 | |
 | **015**
 | Replace the IBM Professional Graphics Display power
 | cord.
 |

016
Replace the IBM Professional Graphics Display.

017
(From Step 009 in this MAP)

Notes:

1. If more than one display adapter is installed in the system, the
   information shown in Figure 1 on page 3900-4 may appear
   on the other display.
2. Depending on the position of the emulator jumper, Y or N
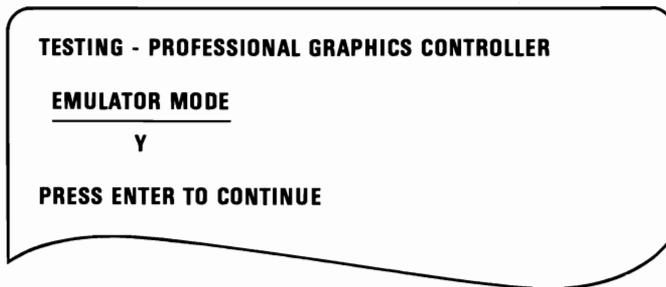   may appear.

```
┌─────────────────────────────────────────────────┐
│  TESTING - PROFESSIONAL GRAPHICS CONTROLLER       │
│                                                   │
│  EMULATOR MODE                                    │
│  ─────────────                                    │
│        Y                                          │
│                                                   │
│  PRESS ENTER TO CONTINUE                          │
│                                                   │
└─────────────────────────────────────────────────┘
```

Figure 1.   Screen

IS THE PRESENTATION ON THE SCREEN THE SAME AS THE ONE SHOWN? (Figure 1)

Yes ' No
```
 │     │
 │     │  018
 │        Replace the IBM Professional Graphics Controller.
 │
```
019
- Press **Enter**.

DID YOU RECEIVE A U–XX ERROR MESSAGE INDICATING THE REPLACEMENT OF A MODULE?
Yes   No
```
 │     │
 │     │  020
 │        Continue with Step 022 in this MAP.
 │
```
021
Go to Step 061 in this MAP.

022
(From Step 020 in this MAP)
DID YOU RECEIVE AN ERROR MESSAGE INDICATING THE REPLACEMENT OF THE PROFESSIONAL GRAPHICS CONTROLLER?
Yes   No
```
 │     (Step 023 continues)
```

023
Continue with Step 025 in this MAP.

024
Replace the IBM Professional Graphics Controller.

025
(From Step 023 in this MAP)

Too Dim   **Too Wide**   **Too Narrow**

Too Short   **Shrunken**   **Tilted**

Changes Size When   **Out of Focus**   **Characters Shifted Left**
Brightness Control   **or Right, or Up or Down,**
Turned   **Off the Display Area**
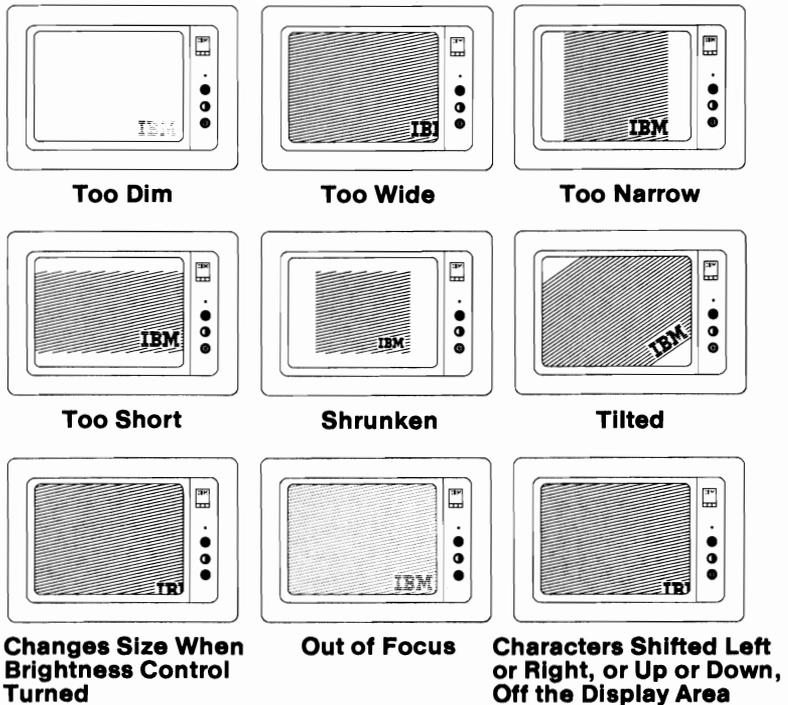
Figure 2.   Screen Distortion

IS THE SCREEN UNSTABLE OR DISTORTED? (Figure 2)
Yes   No
      |
      026
      Continue with Step 028 in this MAP.

(Step 027 continues)

027
Replace the IBM Professional Graphics Display.

028
(From Step 026 in this MAP)
**DID THE VERTICAL DISPLAY SCREEN APPEAR WITH 42
EVENLY SPACED, VERTICAL, WHITE LINES?**
Yes No
 │   │
 │   **029**
 │   Replace the IBM Professional Graphics Controller.
 │
030
- Press **Y** then **Enter**.

**DID THE HORIZONTAL DISPLAY SCREEN APPEAR WITH
28 EVENLY SPACED, HORIZONTAL, WHITE LINES?**
Yes No
 │   │
 │   **031**
 │   Replace the IBM Professional Graphics Controller.
 │
032
- Press **Y** then **Enter**.
The Blank Display 1 screen appears. The title "**BLANK
DISPLAY 1**" should be at the top of the screen. The question
"**(IS THE SCREEN CORRECT (Y/N)?)**" should be at the
bottom of the screen.

DID IT APPEAR AS DESCRIBED?
Yes No
 │   │
 │   **033**
 │   Replace the IBM Professional Graphics Controller.
 │
034
- Press **Y** then **Enter**.
The Blank Display 2 screen appears. The title "**BLANK
DISPLAY 2**" should be at the top of the screen. The question
"**(IS THE SCREEN CORRECT (Y/N)?)**" should be at the
bottom of the screen.

034 (continued)
DID IT APPEAR AS DESCRIBED?
Yes   No
| |
| **035**
| Replace the IBM Professional Graphics Controller.
|
036
- Press **Y** then **Enter**.

**DID THE CHECKERBOARD DISPLAY SCREEN APPEAR
SHOWING A BLACK AND WHITE CHECKERBOARD
PATTERN?**
Yes   No
| |
| **037**
| Replace the IBM Professional Graphics Controller.
|
038
**IS THE IBM PROFESSIONAL GRAPHICS CONTROLLER
JUMPER SET TO THE EMULATOR MODE?**
Yes   No
| |
| **039**
| You have successfully completed the Advanced Diagnostics
| tests. If you suspect an intermittent problem start an error
| log. If you need instructions, refer to the Reference
| manual.
|
040
- Press **Y** then **Enter**

**DID THE EMULATOR NUMERICAL DISPLAY SCREEN
APPEAR SHOWING THE NUMBERS 0 THROUGH 9?**
Yes   No
| |
| **041**
| Replace the IBM Professional Graphics Controller.
|
042
- Press **Y** then **Enter**.

(Step 042 continues)

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042 (continued)
DID THE EMULATOR CURSOR DISPLAY SCREEN APPEAR SHOWING A WHITE BAR WITH A BLINKING BLACK SQUARE IN THE MIDDLE?
Yes   No
 | |
 | **043**
 | Replace the IBM Professional Graphics Controller.
 |

044
- Press **Y** then **Enter**.
The Emulator Attribute Display screen appears.
- Ensure the normal, intensified, reverse video, and blinking lines match their description.
- Ensure the colors are present and correct.

IS THE SCREEN CORRECT?
Yes   No
 | |
 | **045**
 | Replace the IBM Professional Graphics Controller.
 |

046
- Press **Y** then **Enter**.

ARE ALL CHARACTERS PRESENT AND CORRECT ON THE CHARACTER SET SCREEN (NO EXTRA DOTS IN CHARACTER BOXES OR MISSING DOTS FROM CHARACTER FIGURE)?
Yes   No
 | |
 | **047**
 | Replace the IBM Professional Graphics Controller.
 |

048
- Press **Y** then **Enter**.

ARE ALL CHARACTERS PRESENT AND CORRECT ON THE CHARACTER SET SCREEN (NO EXTRA DOTS IN CHARACTER BOXES OR MISSING DOTS FROM CHARACTER FIGURE)?
Yes   No
 | (Step 049 continues)

049
  Replace the IBM Professional Graphics Controller.

050
- Press **Y** then **Enter**.

IS EMULATOR VIDEO PAGE 0 DISPLAYED?
Yes No
    |
    051
    Replace the IBM Professional Graphics Controller.

052
- Press any key. Video Page 1 appears. Continue to press any
  key for Video Pages 2 through 7 until Emulator Video Page 0
  appears.

WERE ALL 8 VIDEO PAGES (0 THROUGH 7) DISPLAYED?
Yes No
    |
    053
    Replace the IBM Professional Graphics Controller.

054
- Press **Y** then **Enter**.
The Emulator 320x200 Graphics Color Set 0 screen appears.
The background should be dark cyan. The boxes, from left to
right, should be intensified green, intensified red, and intensified
yellow. The characters are displayed in intensified yellow.

DID IT APPEAR AS DESCRIBED?
Yes No
    |
    055
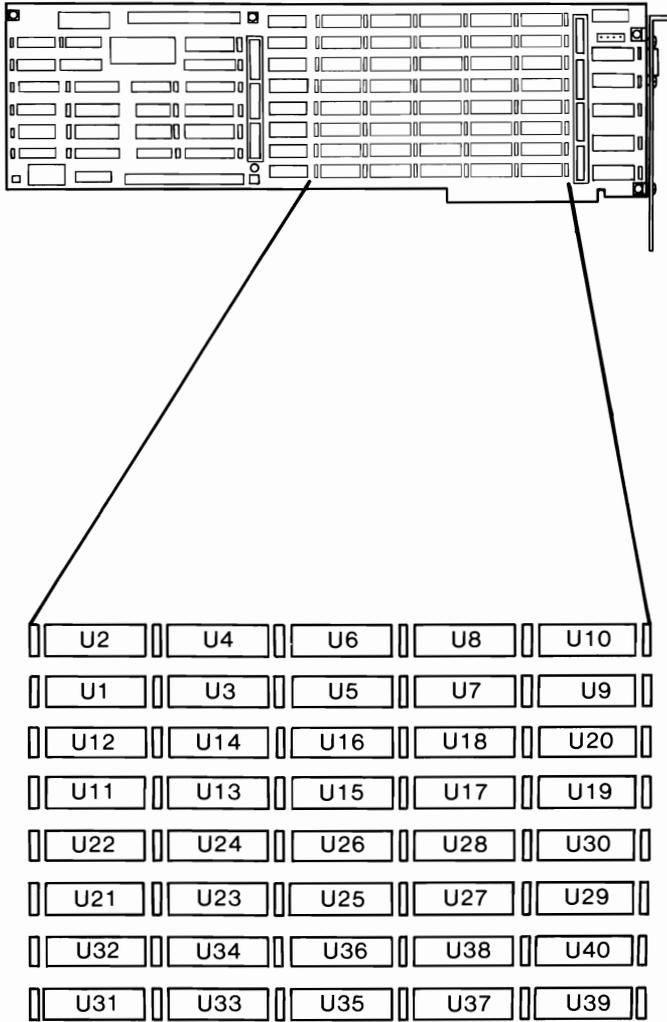   Replace the IBM Professional Graphics Controller.

056
- Press **Y** then **Enter**.
The Emulator 320x200 Graphics Color Set 1 screen appears.
The background should be intensified red. The boxes, from left to
right, should be dark cyan, dark magenta, and non-intensified
white (light gray). The characters are displayed in dark magenta.

(Step 056 continues)

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056 (continued)
DID IT APPEAR AS DESCRIBED?
Yes No
| |
| **057**
| Replace the IBM Professional Graphics Controller.

058
- Press **Y** then **Enter**.

The Emulator 640x200 Graphics screen appears.
The background should be black. The boxes, from left to right, should be gray, gray, and white. The characters are displayed in white.

DID IT APPEAR AS DESCRIBED?
Yes No
| |
| **059**
| Replace the IBM Professional Graphics Controller.

060
You have successfully completed the Advanced Diagnostics tests.
If you suspect an intermittent problem start an error log. If you need instructions, refer to the Reference manual.

061
(From Step 021 in this MAP)
- Match the U-XX error code with the module location in the following illustration, then replace the memory module.

Figure 3.   Module Location

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Notes: