MAP 0300: Keyboard Start

Symptom Explanation	Conditions That Could Cause This Symptom
You have entered this MAP because you received a 3XX error code, you have been directed here from another MAP, or you suspect a keyboard problem.	• The keyboard is failing. • The keyboard cable is failing. • The system board is failing.

001

Find your system type in the following figure and go to the MAP indicated.

System Type	MAP
Personal Computer......................	MAP 0300: Keyboard (PC)
Personal Computer XT	MAP 0300: Keyboard (PC)
Portable PC	MAP 0300: Keyboard (PC)
Personal Computer AT	MAP 0300: Keyboard (AT)

Figure 1.   System Identification

0300

Notes:

MAP 0300: Keyboard (PC)

Symptom Explanation	Conditions That Could Cause This Symptom
You have entered this MAP because you received a 3XX error code, you have been directed here by another MAP, or you suspect a keyboard problem.	• The keyboard is failing. • The keyboard cable is failing. • The system board is failing.

001
DO YOU HAVE A TOTALLY NON-FUNCTIONAL KEYBOARD?
Yes   No
 │   │
 │   **002**
 │   Go to Step 004 in this MAP.

003
Go to Step 009 in this MAP.

004
(From Step 002 in this MAP)
- Power off the system.
- Insert the Advanced Diagnostics diskette into drive A.
- Power on the system and observe the POST.

DID YOU RECEIVE A 3XX ERROR?
Yes   No
 │   │
 │   **005**
 │   Go to Step 007 in this MAP.

(Step 006 continues)

006
Go to Step 009 in this MAP.

007
(From Step 005 in this MAP)
- Run the Keyboard tests. Use the **(RUN TESTS ONE TIME)** option.

DID YOU RECEIVE A 3XX ERROR?
Yes No
   |
   008
   You have successfully completed the Advanced Diagnostic tests. If you suspect an intermittent problem, start an error log. If you need instructions, refer to the Reference manual.

009
(From Steps 003 and 006 in this MAP)
IS THE SYSTEM AN IBM PORTABLE PERSONAL COMPUTER?
Yes No
   |
   010
   Go to Step 019 in this MAP.

011
- Power off the system.
- Disconnect the keyboard cable from the system unit.
- Power on the system.
- Check the keyboard connector at the front of the system for the correct voltages as shown in Figure 1.

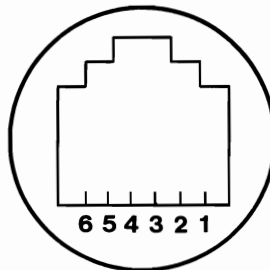| Pin	Voltage (Vdc)
1	Ground
2	+4.8 to +5.25
3	Ground
4	+2.0 to +5.25
5	+2.0 to +5.25
6	Not Used

6 5 4 3 2 1

Figure 1. Voltage Check – Portable Personal Computer

011 (continued)
ARE THE VOLTAGES CORRECT?
Yes　No

    |
    012
    Go to Step 016 in this MAP.

013
DOES THE KEYBOARD CABLE HAVE ANY VISIBLE DEFECTS?
Yes　No

    |
    014
    Replace the keyboard and cable.

015
Replace the keyboard cable.

016
(From Step 012 in this MAP)
- Power off the system.
- Disconnect the internal keyboard cable from the system board.
- Power on the system.
- Check the voltage at the system board keyboard connector as shown in Figure 2.

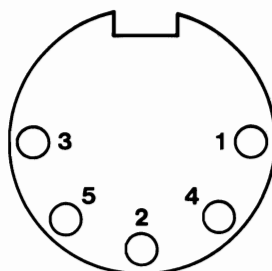| Pin	Voltage (Vdc)
1	+2.0 to +5.5
2	+4.8 to +5.5
3	+2.0 to +5.5
4	Ground
5	+2.0 to +5.5

Figure 2.　Voltage Check – System Board Keyboard Connector

(Step 016 continues)

016 (continued)
ARE THE VOLTAGES CORRECT?
Yes   No

| |
| **017**
| Replace the system board.
|
018
Replace the internal keyboard cable.

019
(From Step 010 in this MAP)
- Power off the system.
- Disconnect the keyboard cable from the system unit.
- Power on the system.
- Check the voltage at the system board keyboard connector as shown in Figure 3.

Pin	Voltage (Vdc)
1	+2.0 to +5.5
2	+4.8 to +5.5
3	+2.0 to +5.5
4	Ground
5	+2.0 to +5.5
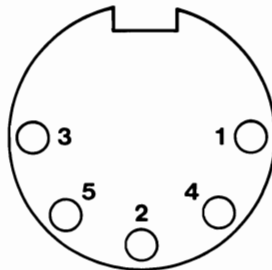
Figure 3.   Voltage Check – System Board Keyboard Connector

ARE THE VOLTAGES CORRECT?
Yes   No

| |
| **020**
| Replace the system board.
|
021
DOES THE KEYBOARD CABLE HAVE ANY VISIBLE DEFECTS?
Yes   No
| (Step 022 continues)

022
  Replace the keyboard and cable.

023
Replace the keyboard cable.

Notes:

MAP 0300: Keyboard (AT)

Symptom Explanation	Conditions That Could Cause This Symptom
You have entered this MAP because you received a 3XX error code, you have been directed here by another MAP, or you suspect a keyboard problem.	• The keyboard is failing. • The keyboard LED card is failing. • The keyboard internal cable is failing. • The keyboard cable is failing. • The control panel is failing. • The system board is failing.

001
ARE YOU SERVICING AN 84–KEY KEYBOARD?
Yes   No
 │   │
 │   **002**
 │   Go to Step 038 in this MAP.
 │
003
(From Step 032 in this MAP)
- Power off the system.
- Insert the Advanced Diagnostics diskette into drive A.
- Power on the system.

DID THE ADVANCED DIAGNOSTICS MENU APPEAR?
Yes   No
 │   │
 │   **004**
 │   Go to Step 014 in this MAP.
 │
005
- Run the Keyboard tests. Use the **(RUN TESTS ONE TIME)** option.

(Step 005 continues)

0300

005 (continued)
CAN THE TEST BE STARTED?
Yes   No
| |
| **006**
| Replace the keyboard assembly.
|
007
- Follow the instructions on the screen.

DID YOU RECEIVE AN ERROR MESSAGE?
Yes   No
| |
| **008**
| You have successfully completed the Advanced Diagnostic
| tests. If you suspect an intermittent problem, start an error
| log. If you need instructions, refer to the Reference
| manual.
|
009
**DID YOU HAVE AN ERROR BECAUSE THE STATUS
LIGHTS DID NOT WORK CORRECTLY?**
Yes   No
| |
| **010**
| Replace the keyboard assembly.
|
011
- Remove the keyboard internal cable.
- Check the continuity of the cable (Figure 1).

Figure 1.   Continuity Check

(Step 011 continues)

011 (continued)
DOES THE KEYBOARD INTERNAL CABLE HAVE CONTINUITY?
Yes   No
 | |
 | **012**
 | Replace the keyboard internal cable.
 |
013
Replace the LED card.

014
(From Step 004 in this MAP)
DID YOU RECEIVE A 302 ERROR MESSAGE DURING THE POST?
Yes   No
 | |
 | **015**
 | Go to Step 023 in this MAP.
 |
016
IS THE KEY LOCK LOCKED?
Yes   No
 | |
 | **017**
 | Go to Step 020 in this MAP.
 |
018
-   Unlock the key lock, then press **F1** to continue.

DOES THE 302 ERROR MESSAGE REMAIN?
Yes   No
 | |
 | **019**
 | Go to Step 023 in this MAP.
 |
020
(From Step 017 in this MAP)
-   Disconnect the control panel cable from the system board.
-   Check the control panel switch as shown in Figure 2 on page 0300-4.

0300

Notes:

1. With the key lock locked, the continuity should be 0 Ohms.

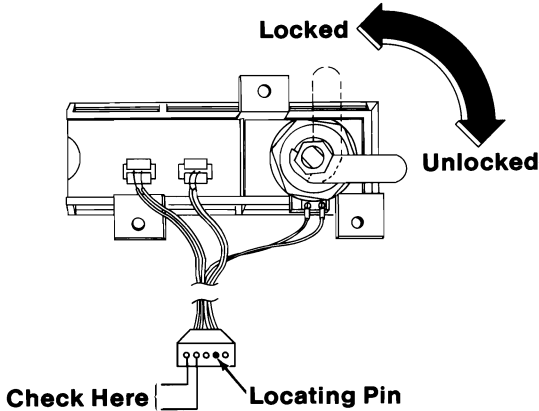2. With the key lock unlocked, there should be no continuity (infinity).

Figure 2. Continuity Check

DOES THE CONTROL PANEL SWITCH HAVE THE PROPER CONTINUITY IN BOTH POSITIONS?
Yes   No
          |
          021
          Replace the control panel.

022
Replace the system board.

023
(From Steps 015 and 019 in this MAP)
DID YOU RECEIVE A 301 ERROR MESSAGE?
Yes   No
          |
          024
          Go to Step 028 in this MAP.

025
(Step 025 continues)

025 (continued)
(From Step 036 in this MAP)
- Disconnect the keyboard cable from the system unit and the keyboard.
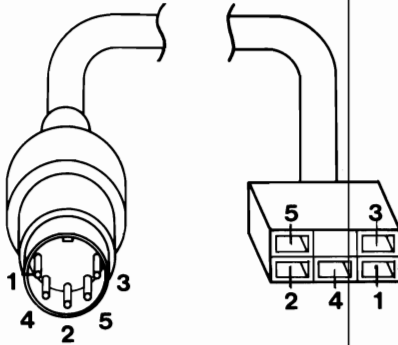- Check continuity of the cable (Figure 3).

Figure 3. Continuity Check

DOES THE KEYBOARD CABLE HAVE CONTINUITY?
Yes No
 | |
 | **026**
 | Replace the keyboard cable.
 |
027
Replace the keyboard assembly.

028
(From Step 024 in this MAP)
DID YOU RECEIVE AN XX301 ERROR MESSAGE?
Yes No
 | |
 | **029**
 | Go to Step 033 in this MAP.
 |
030
- This error message indicates a stuck key.
- Press **F1** to complete the POST.

(Step 030 continues)
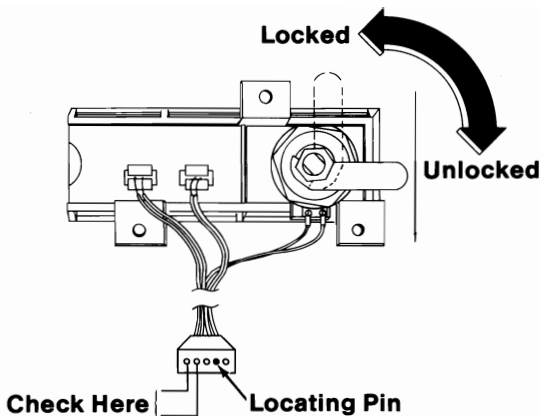
0300

030 (continued)
WERE YOU ABLE TO COMPLETE THE POST?
Yes No
| |
| **031**
| Replace the keyboard assembly.
|

032
Go to Step 003 in this MAP.

033
(From Step 029 in this MAP)
DID YOU RECEIVE A 303 OR A 304 ERROR MESSAGE?
Yes No
| |
| **034**
| Go to "MAP 0020: Power Start."
|

035
- Power off the system.
- Disconnect the keyboard cable from the system unit.
- Power on the system.

DID YOU RECEIVE A 303 OR A 304 ERROR MESSAGE?
Yes No
| |
| **036**
| Go to Step 025 in this MAP.
|

037
Replace the system board.

038
(From Step 002 in this MAP)
- Insert the Advanced Diagnostics diskette into drive A.
- Power on the system.
- Observe the POST.

(Step 038 continues)

038 (continued)
DID YOU RECEIVE A 3XX ERROR?
Yes No
 | |
 | **039**
 | Go to Step 059 in this MAP.

040
IS THE ERROR MESSAGE A 302?
Yes No
 | |
 | **041**
 | Go to Step 052 in this MAP.

042
IS THE KEY LOCK LOCKED?
Yes No
 | |
 | **043**
 | Go to Step 046 in this MAP.

044
- Unlock the key lock, then press **F1** to continue.

DOES THE 302 ERROR MESSAGE REMAIN?
Yes No
 | |
 | **045**
 | Go to Step 049 in this MAP.

046
(From Steps 043 and 065 in this MAP)
- Disconnect the control panel cable from the system board.
- Check the control panel switch as shown in Figure 4 on
  page 0300-8.

  Notes:

  1. With the key lock locked, the continuity should be
     0 Ohms.

  2. With the key lock unlocked, there should be no continuity
     (infinity).

Figure 4. Continuity Check

**DOES THE CONTROL PANEL SWITCH HAVE THE
PROPER CONTINUITY IN BOTH POSITIONS?**
Yes No
| |
| **047**
| Replace the control panel.

048
Replace the system board.

049
(From Step 045 in this MAP)
DID YOU RECEIVE A 3XX ERROR MESSAGE?
Yes No
| |
| **050**
| Go to Step 059 in this MAP.

051
Go to Step 054 in this MAP.

052
(From Step 041 in this MAP)
**DO YOU HAVE A COMPLETELY NONFUNCTIONING
KEYBOARD?**
Yes No
| |
| (Step 053 continues)

053
Press **F1** to complete the POST, then go to Step 059 in this MAP.

054
(From Steps 051 and 062 in this MAP)
- Power off the system.
- Disconnect the keyboard cable from the system unit.
- Power on the system.
- Check the voltage on the system board keyboard connector as shown in Figure 5.

Pin	Voltage (Vdc)
1	+2.0 to +5.5
2	+2.0 to +5.5
3	Not Used
4	Ground
5	+2.0 to +5.5

Rear View of System Unit
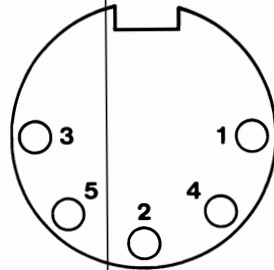
Figure 5.   Voltage Check

ARE THE VOLTAGES CORRECT?
Yes   No

    055
    Replace the system board.

056
- Check the keyboard cable for continuity as shown in Figure 6 on page 0300-10.
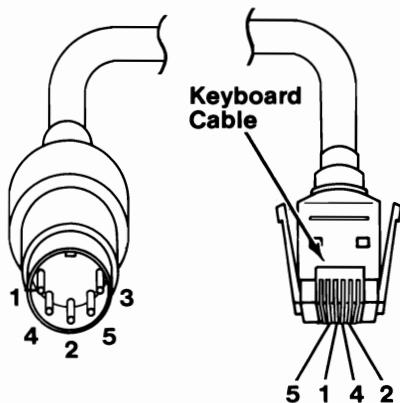
    Note: Wire 3 is not used.

0300

Keyboard Cable

1 3
4 2 5

5 1 4 2

Figure 6. Continuity Check

DO YOU HAVE CONTINUITY ON ALL WIRES?
Yes No

057
Replace the keyboard cable.

058
Replace the keyboard.

059
(From Steps 039, 050, 053, and 064 in this MAP)
- Run the Keyboard tests. Use the **(RUN TESTS ONE TIME OPTION)**.

DID YOU RECEIVE A 3XX ERROR?
Yes No

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

061
(Step 061 continues)

061 (continued)
IS THE ERROR MESSAGE A 317?
Yes   No
  | |
  | **062**
  | Go to Step 054 in this MAP.

063
IS THE KEY LOCK CABLE PROPERLY CONNECTED TO THE SYSTEM BOARD?
Yes   No
  | |
  | **064**
  | Connect the key lock cable to the system board, then go to
  | Step 059 in this MAP.

065
Go to Step 046 in this MAP.

Notes: