

Display Panel Installation and Maintenance

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Cray Research, Inc.

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DISPLAY PANEL INSTALLATION AND MAINTENANCE

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Overview

The CRAY T3D display panel is part of a set of three panels that attach to the module cabinet door. All three panels are made from an injection-molded polyurethane plastic. These panels and their accessories compose the display panel kit. The full kit includes:

- Center diamond (display panel)
- Small triangle (lower panel)
- Large triangle (upper panel)
- Power transformer
- PowerBook manuals
- Macintosh keyboard
- Apple Desktop Bus (ADB) mouse

There are no field-replaceable units (FRUs) within the display panel. If the panel fails, order a new panel from Logistics. Return the defective panel to Logistics in Chippewa Falls, Wisconsin (Attn: Returned Parts Coordinator).

The heart of the display panel is an Apple PowerBook 180c system that is programmed at the factory to display animations of the Cray Research, Inc. logo and the CRAY T3D logo. The display panel is loaded with a complete set of operating system and animation software. The animation boots automatically and runs until the CRAY T3D system is powered down.

The display panel is a discrete computer system and does not have Ethernet capability; it cannot be connected to the network at the host site.

Display Panel Specifications

Display Panel Kit

Part Number 1506-1800	Full kit
FRUs	None

Computer system

Model	Apple PowerBook 180c
Hard drive	Internal 80 MB
Power requirements	7.5 Vdc, 3 Amp, 50/60 Hz
Interfaces	Apple Desktop Bus (ADB) port for keyboard and mouse.
Weight	8 lbs (3.6 kg)

Power Adapter

Input	100-240 VAC, 50/60 Hz
Output	7.5 VDC, 3.0 A
Amphenol connector	PT06A-8-4S
Power cabling	22 gauge, 2-wire shielded cable

Physical Features

Power on button (Red)	Bottom right side
Reset button (Black)	Bottom right side
Apple Desktop Bus (ADB) serial port	Bottom right side
SCSI port	Upper right side

Miscellaneous

Applications in the `System:Startup Items` folder boot automatically during power-up.

You receive the entire kit (all three panels) when you order a replacement display panel.

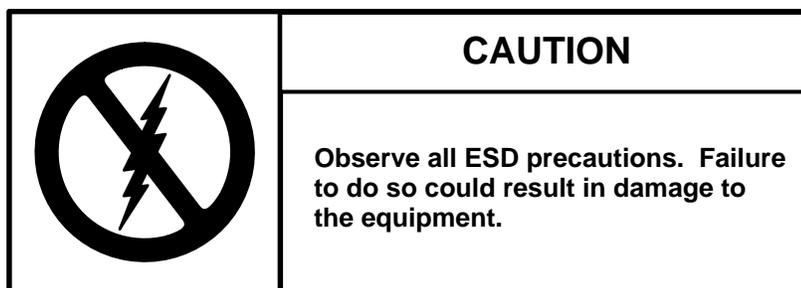
Always return the shipping case to the Logistics department.
(Attn: Returned Parts Coordinator)

Installation Procedure

The display panel attaches to the door of the module cabinet. The display panel is equipped with a power cord connector that attaches to an outlet mounted behind the door of the CRAY T3D chassis.

An external transformer, which plugs into the AC outlet in the CRAY T3D chassis, provides power to the display panel. A shielded cable runs between the PowerBook transformer and the male connector behind the chassis door.

The display panel is an ESD-sensitive device; follow all ESD procedures when handling it. Use the following procedure to install the display panel.



1. Remove the nuts and washers from the 10-24 studs on the back of the panel. Save the nuts and washers.
2. Uncoil the gray power cable.
3. Open the chassis door.
4. Verify that the voltages on the connector pins (on the connector mounted to the chassis) match the voltages shown in Figure 1.

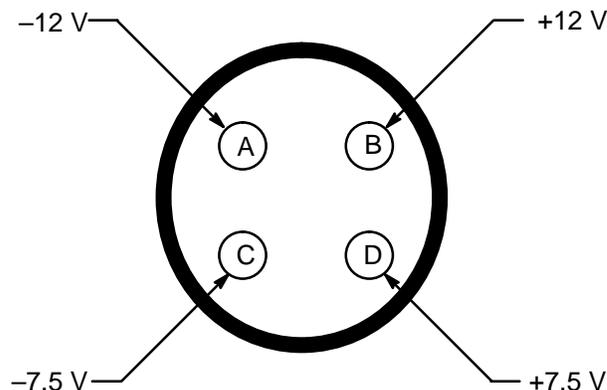


Figure 1. Power Connector Pin Voltages

5. Put the display panel connector through the round hole in the cabinet door.
6. Connect the display panel connector to the connector mounted on the chassis.
7. Facing the front of the cabinet door, turn the display panel so that you are facing the display screen and the red and black buttons are on the bottom right side of the panel.
8. Align the studs on the back of the display panel with the holes in the center of the cabinet door.

CAUTION

Do not press directly on the inner display screen. Pressing on the inner display screen could result in damage to the display panel.

9. Carefully push the studs through the holes by pressing the panel against the door. Do not press on the inner display screen.
10. Hold the panel in place and put the washers and nuts back onto the studs. Tighten the nuts until they hold the panel securely.
11. Attach both triangular panels to the chassis door.

CAUTION

Do not over-tighten the nuts. Overtightening the nuts may crack the plastic housing.

12. Carefully close the door. Ensure that the power cable is not caught in the hinge area between the door and the chassis.
13. Press the red button to turn on the display. The animation should boot automatically.
14. Return the shipping case to Logistics in Chippewa Falls, Wisconsin.

Troubleshooting

If the display panel fails, you may be able to solve the problem by resetting the panel, interrupting power to it, or replacing the animation software. Some troubleshooting procedures require you to use a mouse or keyboard to interact with the Macintosh operating system. If troubleshooting does not solve the problem, return the display panel to Logistics. There are no FRUs in the display panel.

Connecting a Mouse or Keyboard to the Display Panel

The keyboard/mouse port is on the bottom right side of the panel. You can plug either the keyboard or the mouse directly into the port.

The Macintosh menu bar is difficult to see because it is partially covered by the panel plastic. If you are not familiar with the Macintosh Finder interface, please refer to the PowerBook user manual supplied with the display panel kit before troubleshooting the panel.

Connecting a SCSI Device to the Display Panel

Most display panels (S/N 6 and above) are equipped with a SCSI port. Using this port, you can connect any Macintosh SCSI device to the display panel. This enables you to load different animations or system software into the display panel. To attach a SCSI device to the display panel perform the following steps:

1. Connect the mouse to the ADB port.
2. Click the mouse button once. This will stop the animation and bring you to the Macintosh Finder desktop.
3. Power down the panel by selecting Shut Down from the Special menu. The menu bar is partially obscured, so you may have to search for the Special menu. Refer to the PowerBook user's manual if you are not familiar with the Macintosh interface.
4. Connect the SCSI device to the display panel using a standard SCSI cable.
5. Power up the external SCSI device.
6. Power up the display panel by pushing the red button.

7. When the animation begins, click the mouse button once to stop the animation.
8. The icon for the SCSI device should appear on the desktop.

Installing New Animation Software

Before you can install new animation software, you must connect an external SCSI device. Refer to the “Connecting a SCSI Device to the Display Panel” section of this module for more information.

1. Double click on the hard drive icon.
2. Open the `System` folder by double clicking on its icon.
3. Open the `Startup Items` folder by double clicking on its icon.
4. Remove the `T3D Startup animation` icon from the `Startup Items` folder.
5. Drag the new animation from your SCSI device into the `Startup Items` folder.
6. Start the new animation by double clicking on its icon.

Stopping and Restarting the Animation

Stopping a locked animation may clear the PowerBook and enable you to successfully restart the animation. To stop the animation, perform the following steps:

1. Connect the mouse to the ADB port at the base of the panel.
2. Click the mouse button once. This should stop the animation and bring up the Macintosh desktop.
3. To restart the animation, either press the black button to reset the display panel, or click twice on the `System:Startup Items:T3D animation` icon.

Troubleshooting Flow Chart

The following flow chart illustrates the power-on sequence for the display panel. It also shows potential failures and the steps to correct each failure.

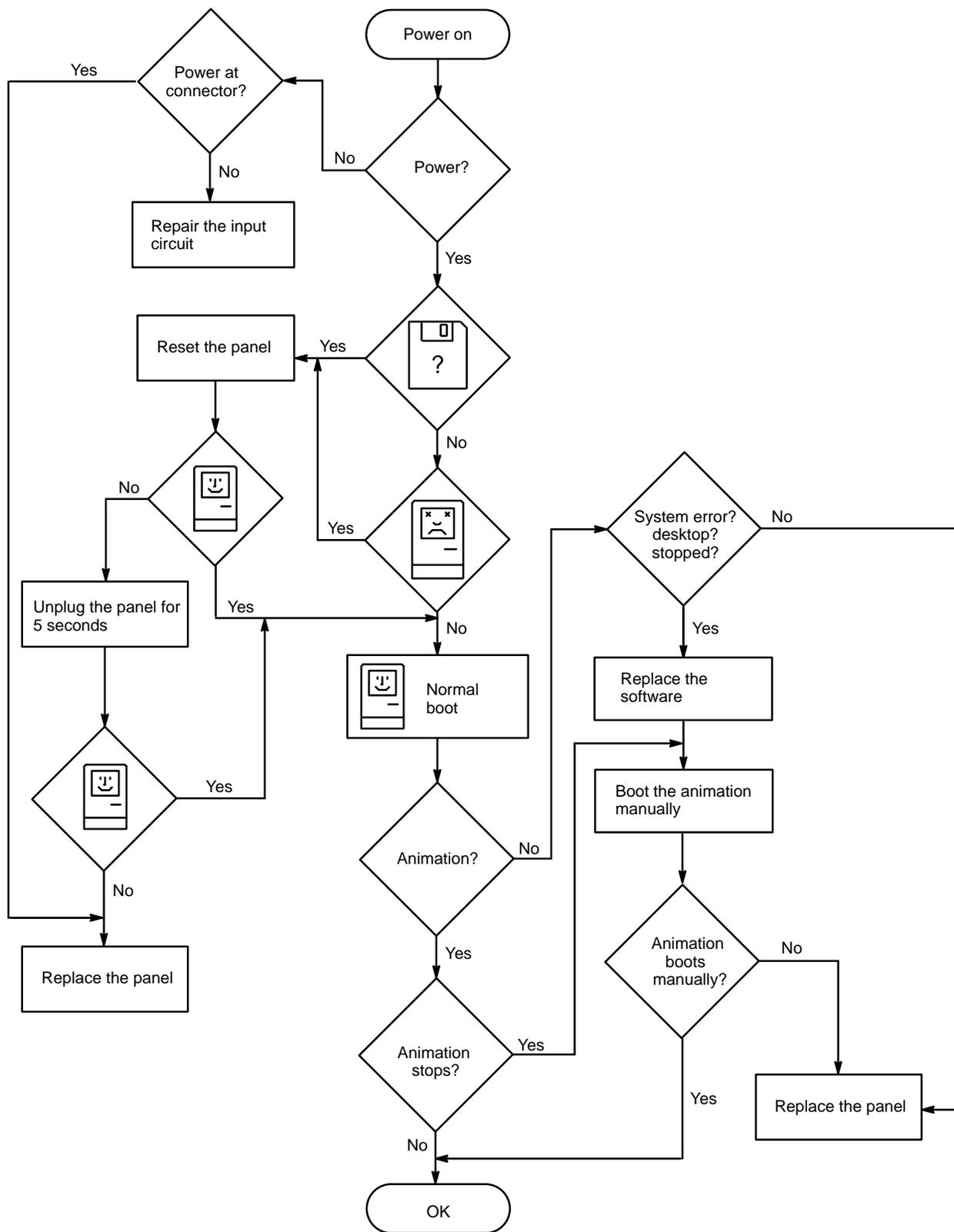


Figure 2. Troubleshooting Flow Chart

Restoring the Animation Software

The file containing the animation software can become corrupted. To correct the problem, you can replace the file with a backup copy. Use the following procedure to replace the animation software.

1. Delete the current animation software from the `System:Startup Items` folder.
2. Drag a copy of the animation software from the `Backup Animations` folder into the `System:Startup Items` folder.
3. Start the animation by double clicking on its icon or pressing the black reset button.

NOTE: You may also use software from an external SCSI device. See the “Installing New Animation Software” section of this module for this replacement procedure.

Replacing the Display Panel

1. Open the chassis door.
2. Unplug the female connector.
3. Remove the nuts and washers from the studs that attach the display panel to the mainframe door.
4. Return the panel to Logistics in Chippewa Falls, Wisconsin (Attn: Returned Parts Coordinator).
5. Install the new panel. Refer to page 4 for the installation procedure.