



Tech Info Library

PowerBook 160 and 180: Daughterboard Heat Sink Cautions

Article Created: 25 January 1993

* RESTRICTED: Apple Internal and Support Providers Only *
Not For General Public Release

TOPIC -----

Daughterboards for the PowerBook 160 (P/N 661-0744) and PowerBook 180 (P/N 661-0747) include four heat sinks that protect some of the board's components from overheating. Each heat sink, which is located on top of a specific chip, is made of a delicate, heat-conductive material.

When working with PowerBook 160 and 180 daughterboards, it is important that you:

- Do not cover or remove heat sinks when installing RAM expansion cards.
- Replace any damaged or missing heat sinks.

This article provides details that the "public" version omits.

DISCUSSION -----

Do Not Cover or Remove Heat Sinks -----

Heat sinks may have been covered or removed from PowerBook 160 and 180 daughterboards to install third-party RAM expansion cards. Because heat sinks dissipate heat from the components they're attached to, operating a PowerBook without them significantly increases the risk of a system failure. To prevent this type of failure, Apple strongly recommends installing a RAM card that does not require you to cover or remove heat sinks. Check with the vendors who supply you with RAM expansion cards to determine if their cards meets these criteria.

Since operating a PowerBook 160/180 without heat sinks will cause a system failure, you void the limited product warranty if you remove them or cover them.

Replace Damaged or Missing Heat Sinks -----

You must replace damaged or missing heat sinks on a PowerBook 160 and 180

daughterboard. Failure to do so will cause some of the daughterboard components to run hotter, and ultimately the daughterboard will fail.

Follow these procedures -- at a properly grounded workstation -- to replace damaged heat sinks or to reinstall any heat sinks missing due to installation of a third-party RAM expansion card:

- 1) Carefully peel off any damaged heat sinks from the PowerBook 160 or PowerBook 180 daughterboard.
- 2) Locate the correct replacement part from the Daughterboard Heat Sink Kit, P/N 076-0069, which we've added to the January Service Prices. The kit contains four heat sinks.
- 3) Align the new heat sinks, as shown on Service Source. Be careful that the heat sinks do not hang over the side of the components and cause the leads to short.
- 4) Press the new heat sinks gently so that they stick into place.

These procedures are included on Service Source (Path: PowerBook 160/180, Take-Apart, "Daughterboard").

Copyright 1993, Apple Computer, Inc.

Keywords: <None>

=====
This information is from the Apple Technical Information Library.

19960215 11:05:19.00

Tech Info Library Article Number: 11316