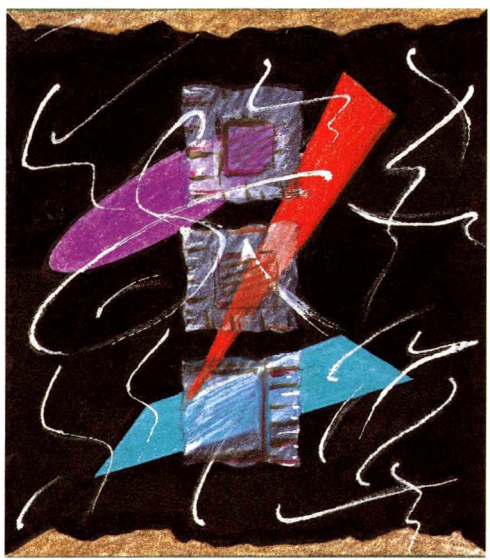
IMPROVING THE POWER AND PERFORMANCE OF
IMAGING AND COMPUTER TECHNOLOGY

MACCLIP & POWERCLIP JR



Newer™
TECHNOLOGY

MacClip & PowerClip Jr

User Manual

Toll-Free Technical Support

30-Day Money Back Guarantee

June , 1995
Version 2.0

Newer™ TECHNOLOGY

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The PowerClip Jr and MacClip Jr accelerators have passed FCC Class B testing which means they have been approved for use in both a business environment (FCC Class A) as well as home use, the more stringent (Class B testing).

FCC Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may result in harmful interference to radio communication. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Shielded cables and I/O cords must be used for this equipment to comply with the relevant FCC regulations.

Changes or modifications not expressly approved in writing by Newer Technology may void the user's authority to operate this equipment.

Installation Overview

The PowerClip Jr and MacClip Jr CPU accelerators attach to the CPU clock crystal, boosting the CPU clock speed and thus accelerating Power Macintosh 60MHz, 66MHz and 80MHz 601 systems as well as the 8100/100. No software, soldering, wires or chip pulling is required.

The PowerClip and MacClip Jr accelerators also include a fan assembly that cools the accelerated CPU chip to normal operating temperatures. **Remember to use the supplied anti-static wrist strap during installation to ground yourself before handling any components — especially when working around Power Macs.**

Some photos in this manual show the installed PowerClip and/or MacClip Jr with a white plastic outer piece attached — this was a product development feature which has been eliminated from shipping units. **Eliminating this piece in no way affects the performance of either accelerator.**

Once installed, you set the accelerator's speed using the DIP switches on the accelerator, and the charts listed for each specific Mac model. Remember that as you move up from stock speed to the top accelerated speed, the computer must run for about two to three continuous hours initially, to reach normal operating temperature. This ensures that when you test your applications for consistency, the tests will be made under "normal" operating conditions. **All speed changes should be made with the computer off.**

As with any major system upgrade, you should be confident that you have a recent backup of your hard drive. You should only back up data that you don't wish to recreate.

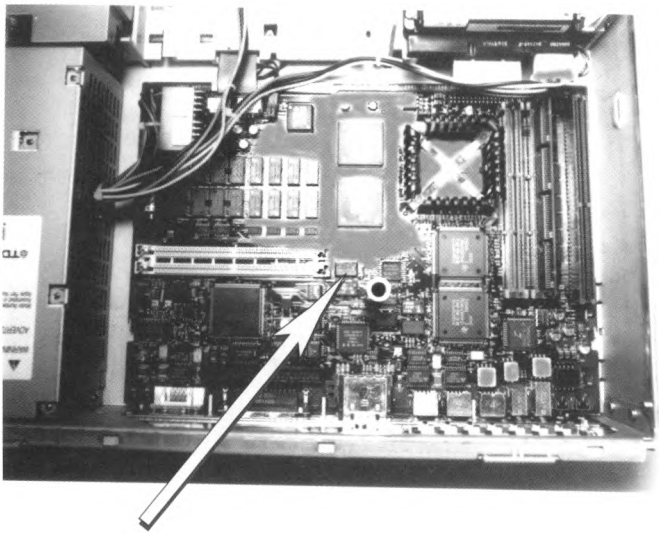
Power Macintosh 6100/60, 6100/60AV, 6100/66, 6100/66AV, Performa 6110, 6112, 6115, 6117, 6118

1) Shut Down the computer. Leave the power cord plugged into the wall outlet.

2) Detach peripherals that may block your access to the work area and to the inside of the Macintosh case.

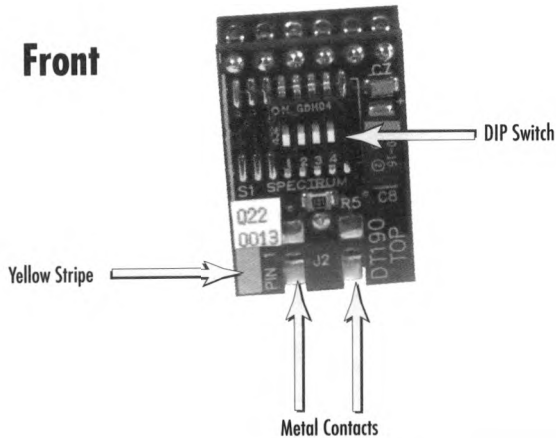
3) To open the case, locate the two tabs at the rear of the case top, lift up on them with your fingers to release the case lid. Now you should be able to lift up at the back, bringing the top toward you and off. **Attach the supplied anti-static wrist strap to any metal surface, such as the power supply, before handling any components.**

4) If you need extra working room, remove any DRAM SIMMs installed into the two sockets next to the clock chip by locating the two locking tabs at each end of the socket and spreading them outward. That will release the SIMM and it can be rotated rearward and removed. Locate the CPU and clock chip on the motherboard. The clock chip is marked **"30.000MHz" in the 60MHz** and **"33.000MHz" in the 66MHz** Macs.

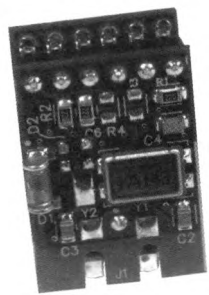


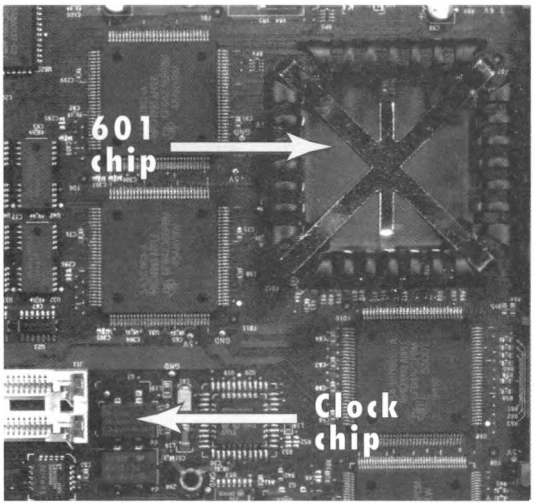
The case top removed from the 6100 computer with the front of the Mac at the top of the photo. The arrow shows the location of the clock chip. The large heat sink on top of the 601 CPU chip can be seen in the upper right corner of the motherboard (right top).

Front


DIP Switch
Yellow Stripe
Metal Contacts
S1 SPECTRUM
R5
C8
J2
PIN 1
DT190
TOP

Back

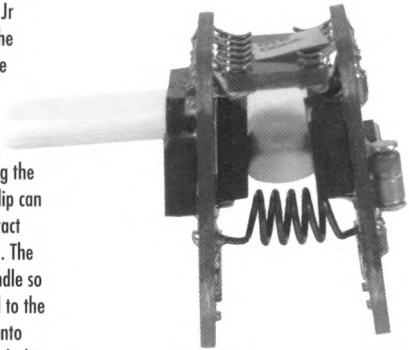


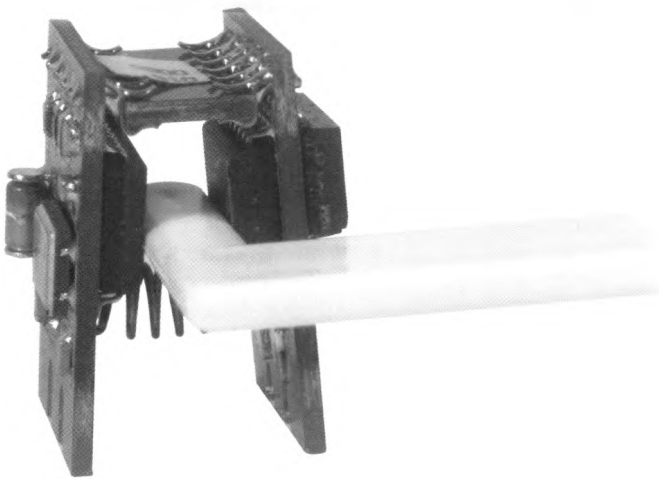


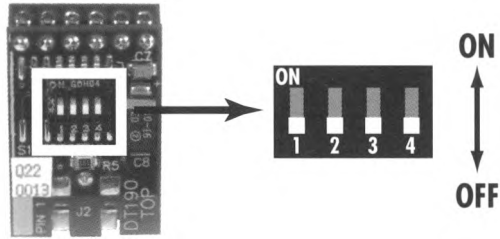
At the bottom of this photo is the CPU clock speed chip marked 30.000 MHz for 60MHz Macs or 33.000 MHz for the 66MHz models. It is near the two SIMM sockets. The PowerClip Jr accelerator attaches to the clock chip indicated above.

5) PowerClip Jr installs by spreading the two halves (sides) of the unit apart by inserting the smaller end of the supplied spreader tool into the Clip (vertically) and turning it so that the spreader is sideways to the Clip. PowerClip Jr is aligned with the clock chip by matching the yellow stripe on the accelerator board with the indentation on top of the clock chip. The Clip faces the front of the computer. Verify that the accelerator is making contact with all four metal contacts of the clock chip. By turning the spreader tool to vertical, the

The spreader tool inserted into the Clip Jr accelerator. The tool is inserted inside the Clip, smaller oval end first, and then the larger end (handle) is rotated so that the widest part of the oval spreader is sideways to the Clip (between the two inside chips, spreading the legs apart). With the legs spread, the Clip can be lowered onto the clock chip and contact with the legs of the chip can be verified. The spreader is removed by turning the handle so that the wide part of the oval is vertical to the Clip (which closes the sides of the Clip onto the legs of the clock chip). Once installed, the spreader can be removed from the Clip.

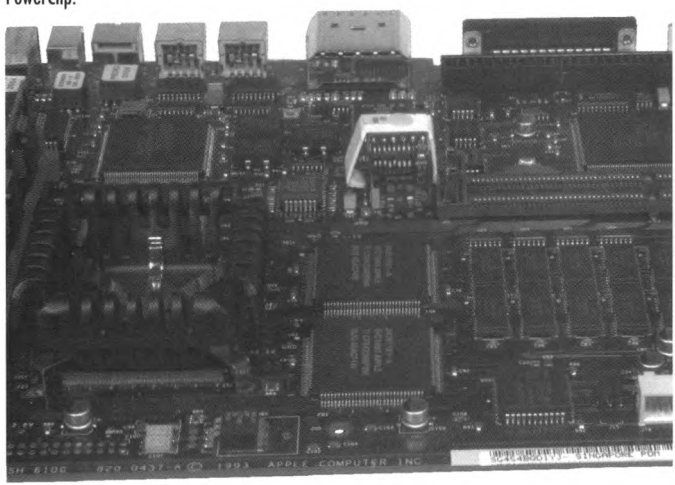






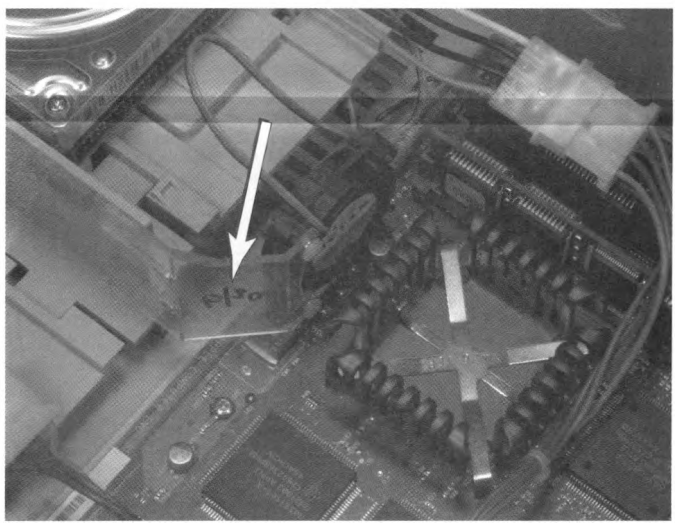
TOP: Here are the DIP switches located on the side of the PowerClip Jr accelerator. This is how the speed of the PowerClip Jr accelerator is set. Remember that ON is when the small white switch is in the up position (the switches shown here are all in the down or OFF position).

BELOW: The PowerClip installed. Notice that the DIP switch faces the front of the Mac. The white outer piece shown below has been discontinued and in no way affects the performance of the PowerClip.

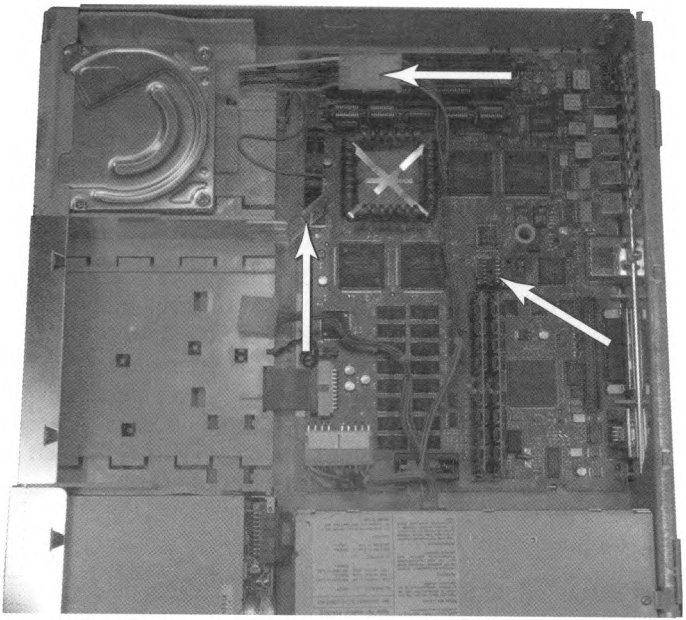


Clip's legs will close. An internal spring clamps the accelerator onto the clock chip securely. When installed, the DIP switches face the front of the case.

6) Install the PowerClip Jr fan by sliding the plastic portion of the fan assembly onto the vertical side of the drive bay mount. The top of the fan will be between flush with the top and about 1/4-inch below the top of the heat sink. Pull the four position white power cable connector from the back of the hard disk and connect



The fan installed on the side of the drive bay mount. The disk drive shown below has been moved forward to better show the mounting position.



The complete installation into the 6100. The PowerClip Jr and fan have been placed. The fan power cable has been attached to the back of the hard drive.

The top arrow is the power pulled from the back of the hard drive. The PowerClip Jr power cable is plugged into this cable then plugged into the back of the hard drive.

it to the fan's power cable, then plug the fan cable into the back of the hard disk. Reinstall any DRAM SIMMs removed earlier.

7) For the 6100/60 see speeds listed page 86
For the 6100/60AV see speeds listed page 87
For the 6100/66 see speeds listed page 88
For the 6100/66AV see speeds listed page 89

Set the DIP switches to the desired clock speed settings using the charts listed previously. Begin with the (lowest) 78MHz setting. If you want to accelerate the CPU faster, make sure that the computer is fully warmed to operating temperature before making a speed compatibility determination. This temperature can be reached after about two to three hours of continuous operation. Once this temperature has been reached, you can change speeds without waiting. Remember, all speed changes are made with the computer Shut Down.

8) Reattach the monitor cable and any external devices disconnected earlier and replace the case top. Restart the Mac and try all of your major applications.

9) You can safely increase the speed setting of the new PowerClip accelerator after it has been in use for at least two to three hours, continuously. If no abnormal system behavior appears, you can Shut Down the computer and adjust the speed setting using the DIP switch. Copy the program Clockometer from the supplied diskette onto your hard drive. This application

measures the speed of your CPU. The speeds shown in Clockometer are close to, but usually don't match exactly, the speeds in the manual. When you have gone beyond the upper speed limit, you will: get erratic serial and printer port operation, hear a bad boot tone, applications will unexpectedly quit, "Math Coprocessor Not Installed" errors, Bad F-Line errors and/or other unusual system behavior. At that point, Shut Down the computer and then set the speed setting lower using the DIP switch and Restart. You do not have run another two hours — simply test your apps and the serial and printer ports for consistent, reliable operation.

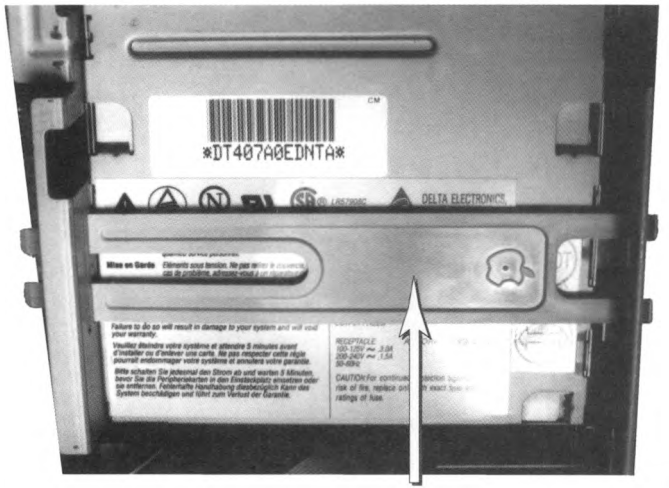
Power Macintosh 7100/66, 7100/66AV, 7100/80, 7100/80AV

1) To open the 7100 case, locate the single screw on the back of the case edge. Remove the screw and the top of the case can be pulled forward and off the base.

2) **Attach the supplied anti-static wrist strap to any metal surface inside the case** (see page 20 for suggestions). Detach peripherals that may block your access to the surrounding work area and to the inside of the Mac case.

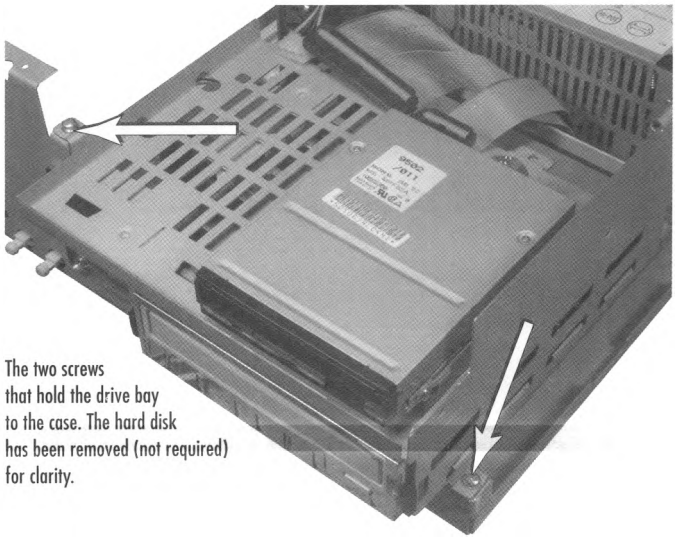
3) In order to get at the CPU clock speed chip, you'll have to remove the power supply and drive bay. A single screw holds the power supply to the rear vertical part of the case.

4) A plastic retainer may be present that runs across the top of the power supply and must be removed. Reach underneath the power supply and pull it straight up and out of the case.



This is the plastic retaining clip, which if present, must be removed before the power supply can be removed and pulled out of the way.

5) Two Philips screws hold the drive bay in place. Both screw heads face straight up. One is located about two inches from the green on light on the lower right side of the computer. The second is on top, just left of the hard drive. Once they are removed, lift the front edge of the drive bay up. Notice that the drive bay is hinged into the back of the computer case. By lifting further on the front of the drive bay, it can be lifted up and the drive cables can be disconnected. It's easier to remove the cables from the back of the drives than from the motherboard. Unhook the drive bay from back of the case and pull the drive bay out of the case.

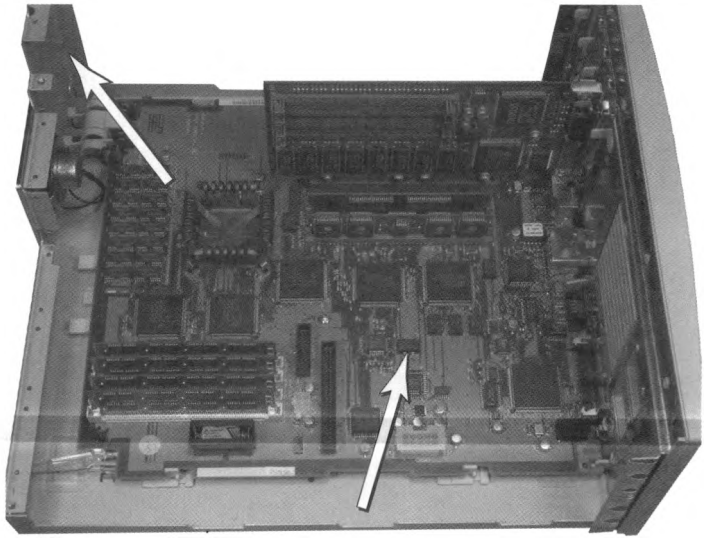


The two screws that hold the drive bay to the case. The hard disk has been removed (not required) for clarity.

6) The clock chip is found near the top center of the motherboard (see the photos on following pages).

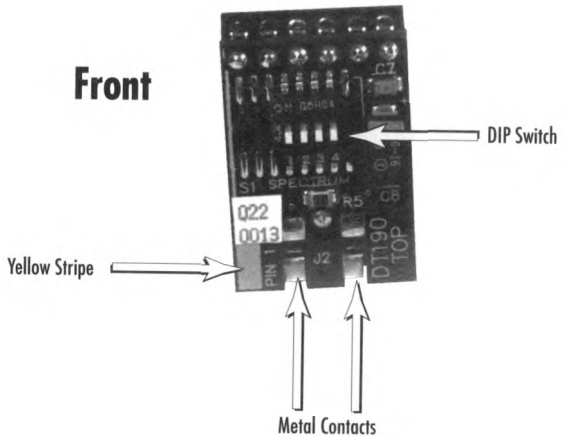
7) To install the PowerClip, spread the legs (sides) of the accelerator open slightly by inserting the supplied spreader tool inside the Clip, smaller oval end first. Rotating the larger end to a sideways position (see following pages), the oval end will spread the legs of the accelerator. Orient it with the yellow stripe on the

Once the drive bay screws have been removed, the power supply can be pulled straight up and out of the back of the drive bay area. The drive bay hinges into the back of the case at the arrows. Once the power supply is out, lift the front edge of the drive bay up and rotate it up to a vertical position and pull the two hinged tabs out of the back of the case.

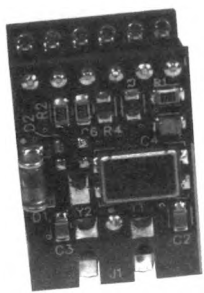


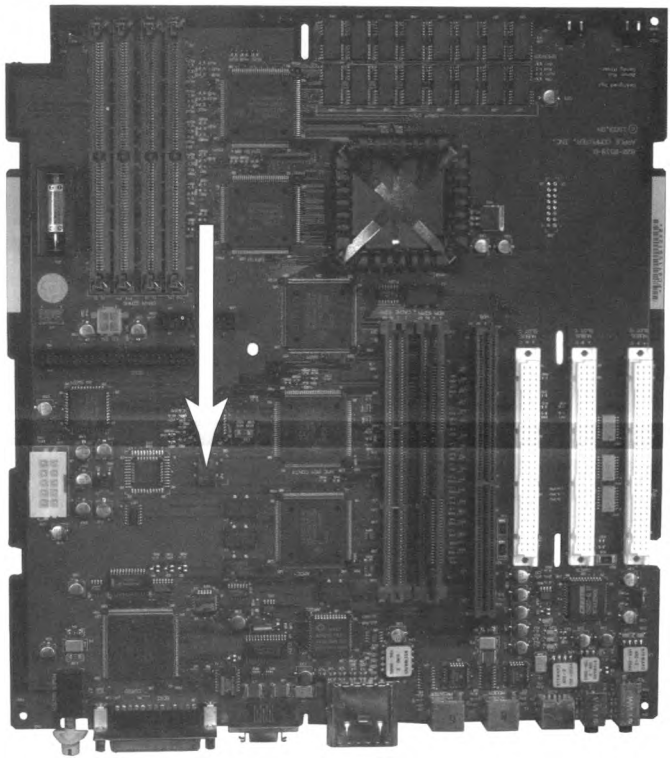
This is the Power Macintosh 7100 with the case top, power supply and drive bay removed. The clock chip is highlighted by the right arrow. Also note (left arrow) one possible attachment point for the anti-static wrist strap. The front of the case is facing left in this photo.

Front

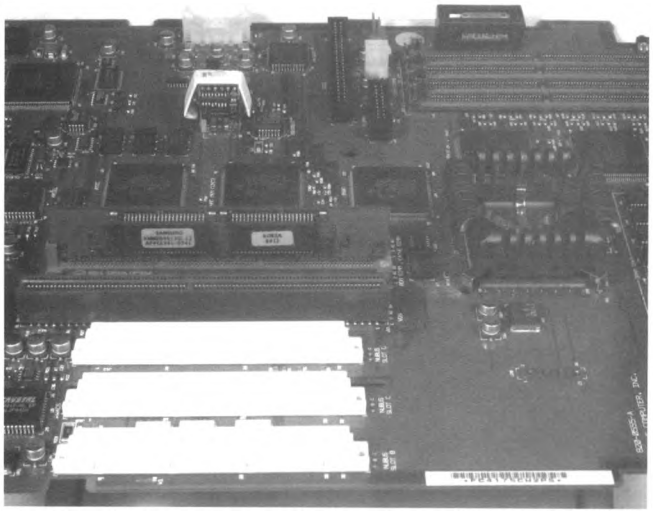

DIP Switch
Yellow Stripe
Metal Contacts
S1 SPECTRUM
022
0013
PIN 1
J2
DT190
TOP

Back

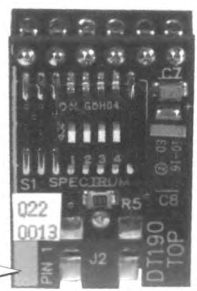




The clock chip on the Power Macintosh 7100 motherboard. The bottom of the photo is the rear of the computer.

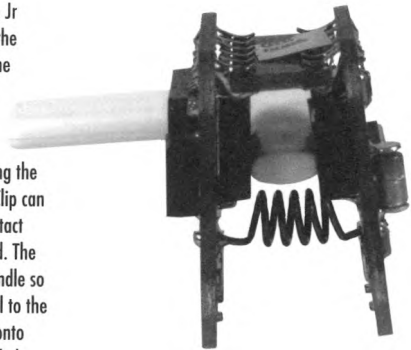


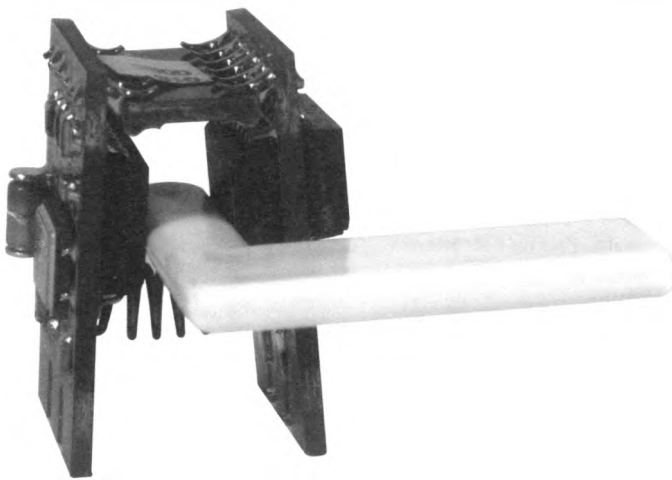
ABOVE: The PowerClip Jr installed. The fan has not been installed into the 601 CPU heat sink yet. The white outer piece shown here around the outside of the PowerClip Jr has been discontinued and in no way affects the performance.

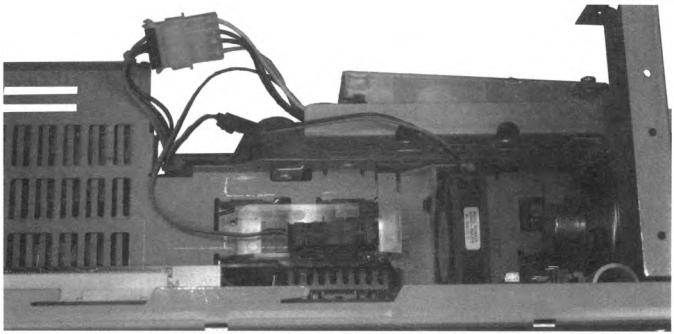


Yellow stripe aligns with the notch on top of the clock chip.

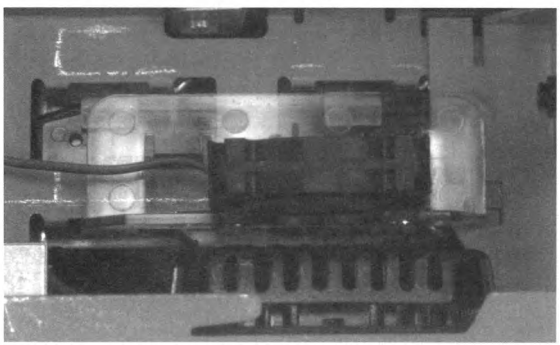
The spreader tool inserted into the Clip Jr accelerator. The tool is inserted inside the Clip, smaller oval end first, and then the larger end (handle) is rotated so that the widest part of the oval spreader is sideways to the Clip (between the two inside chips, spreading the legs apart). With the legs spread, the Clip can be lowered onto the clock chip and contact with the legs of the chip can be verified. The spreader is removed by turning the handle so that the wide part of the oval is vertical to the Clip (which closes the sides of the Clip onto the legs of the clock chip) and then pulled out.





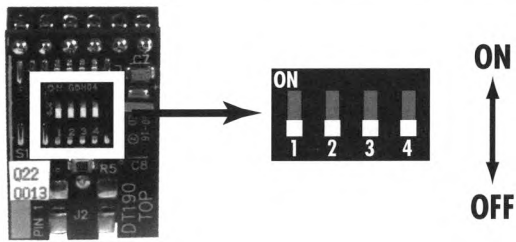


The PowerClip Jr fan installed just above the 601 heat sink. The two connectors attached the fan wires are for power . The photo on the next page shows how this connection is made.



accelerator next to the notch on the top of the clock chip. **The clock for the 66MHz Mac is marked 33.000MHz** and the **80MHz Mac is marked 40.000MHz.** Once placed onto the clock chip the spreader handle can be rotated to vertical and re-

moved. When the accelerator legs are spread using the supplied spreader tool, the contacts on the sides of the PowerClip Jr will cling to the pins on the clock chip's legs under the tension of an internal spring. Verify that

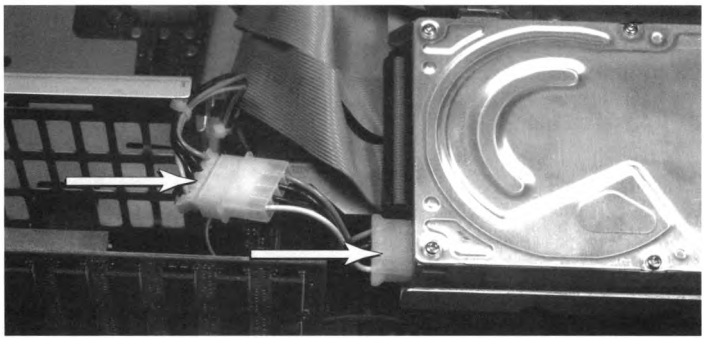


the accelerator's metal contacts is making contact with all four legs of the clock chip. When installed PowerClip Jr's DIP switch will face the NuBus slots on the left side of the computer (as you face the front of the case).

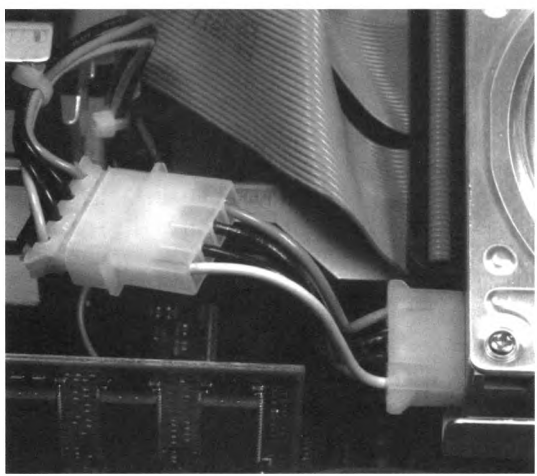
8) Check the clock speed setting for your Power Macintosh and set the DIP switches found on the side of the PowerClip Jr using the charts listed below:

Power Mac 7100/66 see page 90
Power Mac 7100/66AV see page 91
Power Mac 7100/80 see page 92
Power Mac 7100/80AV see page 93

Begin by setting the PowerClip Jr with the lowest possible speed setting.



The PowerClip Jr fan connected. The hard disk's four prong power connector is pulled from the back of the hard disk and is plugged into the fan's pass through connector. The pass through is then attached to the back of the hard disk.



9) Reinstall the drive bay and the power supply. Reattach all removed internal cables and the monitor if disconnected earlier as well as any other external devices.

10) Install the PowerClip Jr fan by placing the plastic mounting tabs inside opening in the drive bay and press it into position. The top of the fan will be about 1/4-inch below the top of the heat sink. Slide the assembly from side to side until the fan is centered over the CPU chip. Pull the power cable from the back of the hard disk and connect it to the fan's power cable, then plug the fan cable into the back of the hard disk. This is called a pass-through connector. See photos on the previous page.

11) Restart the Mac. You can safely increase the speed setting of the new PowerClip Jr accelerator after it has been in use for at least two to three hours, continuously. **Remember, speed changes are made only when the Mac is Shut Down**. You will probably want to experiment with the PowerClip Jr to find which of the four speed settings is your Mac's top speed. Copy the program Clockometer from the supplied diskette onto your hard drive. This application measures the speed of your CPU. The speeds shown here are close to, but usually don't match exactly, the speeds in the manual. When you have gone beyond your specific Mac's upper speed limit, you will: get erratic serial printer port operation, hear a bad or no boot tone, no video, experience applications that unexpectedly quit, "Math Coprocessor Not Installed" errors, Bad F-Line errors

and/or other unusual system behavior. At that point, Shut Down the computer and then back the speed settings down using the DIP switch settings.

NOTE: When updating the System software from 7.5 to 7.5.1, be sure to remove the Clip first, run the updater and then reinstall the Clip. ALSO, the Newer 7.5 patch software, supplied on diskette, will correct a few minor bugs in the system on 7100 and 8100 computers.

To change speeds, Shut Down the computer, change the DIP switch settings, then Restart the computer. Make sure that the computer has initially been warmed to full operating temperatures (two to three hours, continuous) before making any determination about how well the new speed is working. Remember, all speed settings changes should be made with the computer Shut Down. Once operating temperature has been reached it is not necessary to run another two hours after a speed change. Be sure to test printing and/or modem use while accelerated. Some INITs can limit the top speed of your Mac. You may decide that living without a certain troublesome INIT will add another two or four MHz to your Mac's top speed.

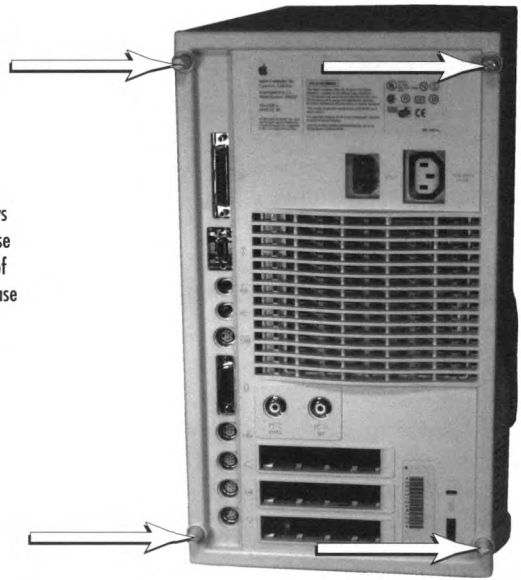
Power Macintosh 8100/100

1) Shut Down the Macintosh and ensure that power is off. The computer should remain plugged in to an electrical outlet help ensure proper grounding.

2) Remove all external peripheral devices from your Power Macintosh. These external devices might be things like: hard disk(s) tape backup units, keyboard, modems, mouse, monitor(s), and printer(s).

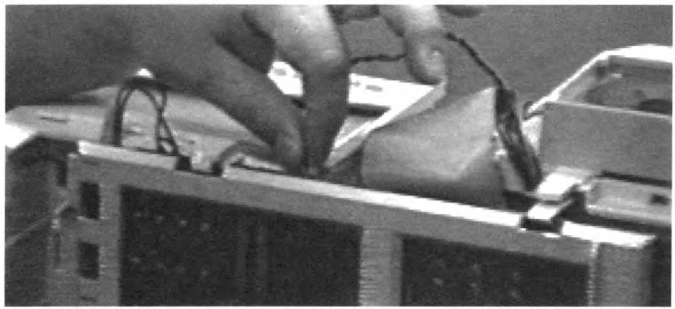
3) To open the case on a Power Macintosh 8100, unscrew the long finger screws on the rear of the case (one in each corner of the case) allow the case top and sides to be removed.

The long finger screws on the rear of the case (one in each corner of the case) allow the case top and sides to be removed.



4) Remove the Apple video upgrade card. A small catch on the inside of the computer case holds the metal edge on the back of the video card in place. It must be pressed toward the side to allow the card to be pulled from the case. Access to this card is through the left side of the case once the case top has been removed. Also remove any NuBus cards that are installed.

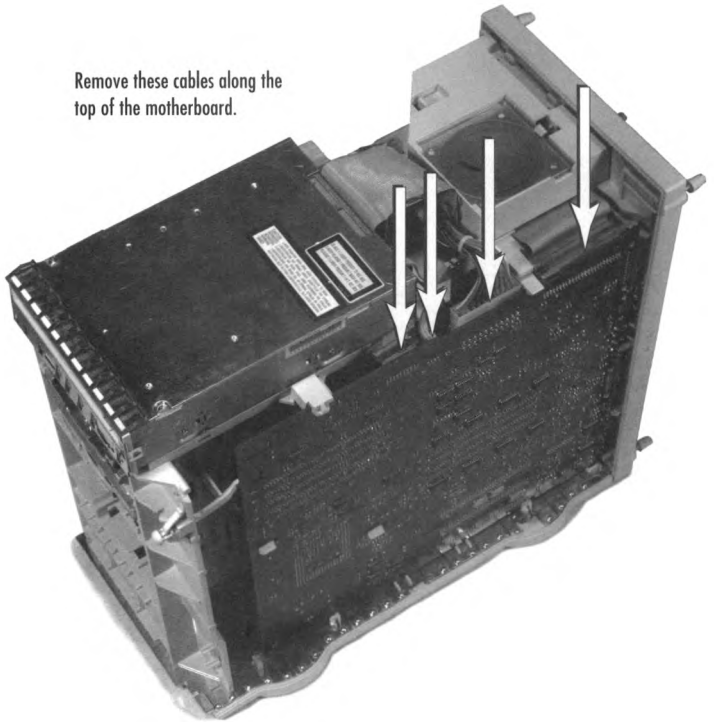
5) At the top of the computer, disconnect the black twisted wire which connects the speaker to the motherboard.



This is the connection for the speaker. By gently pulling the connector, it should pull up and out.

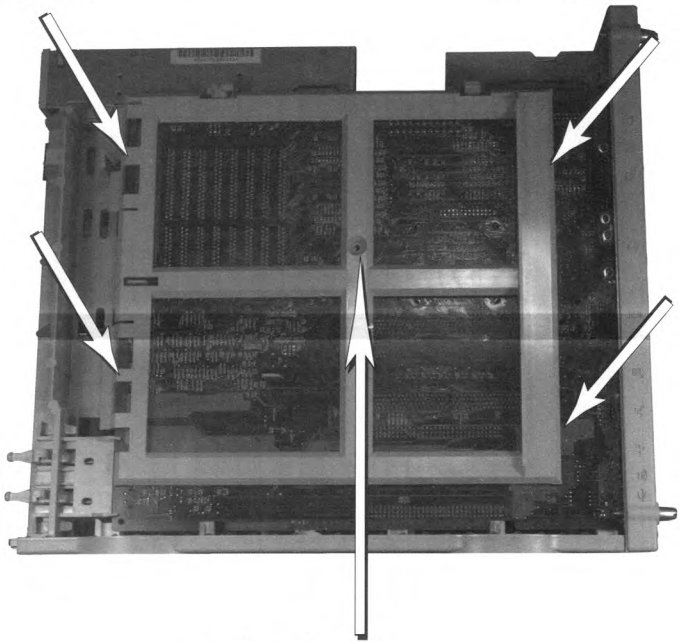
6) Also on the top and near the front of the motherboard is a red and black twisted wire which connects the drive indicator light to the motherboard. Disconnect it.

7) Disconnect the large multicolored power cable from the motherboard by pressing in the thumb catch, squeezing and lifting up.

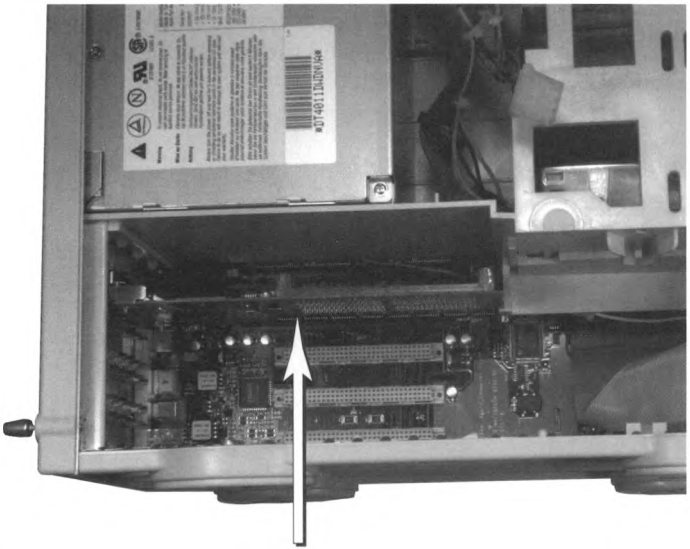

Remove these cables along the
top of the motherboard.

By releasing these two tabs along the edge of the bracer, the bracer can be hinged out and lifted off the motherboard.

The two points where the bracer hinges into the motherboard.

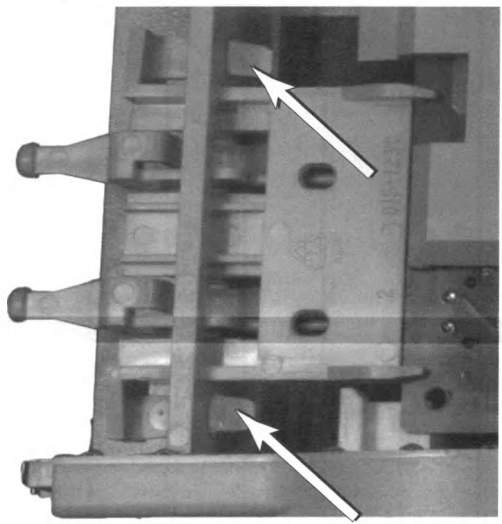


This is the screw that must be removed from the frame to release the motherboard from the case.



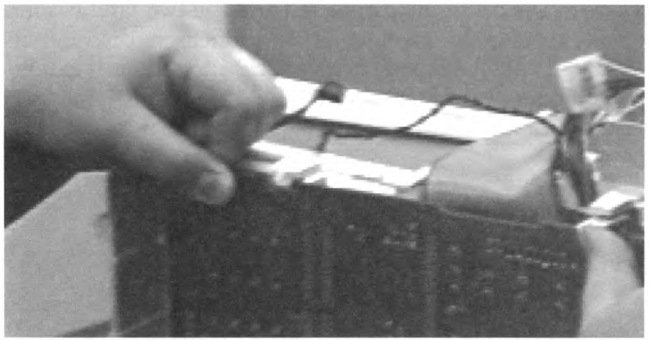
By turning the computer around to the side opposite of the motherboard, you can gain access to the video or AV card and the NuBus slots. You must remove either the AV card or the video card (whichever is installed) and any other NuBus cards before attempting to remove the motherboard.

8) At the bottom front of the case are the reset switches. Push in the tab at the top and the one at the bottom and pull the entire switch piece out, from the front.



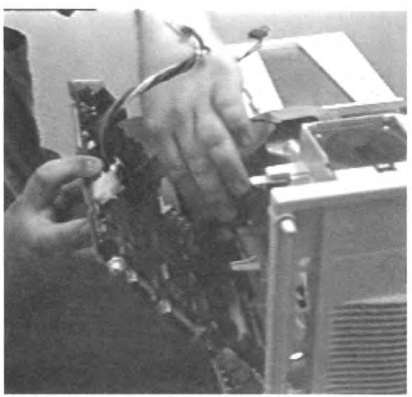
The reset switches are removed in one unit by pressing the top and bottom release tabs at the same time and pulling the entire switch unit our from the front.

9) Remove the cross shaped spacer on the motherboard by first removing the screw in the middle of the spacer then pressing in the tabs located on the side nearest the front, swing it outward until it comes loose from the hinges on the other side.



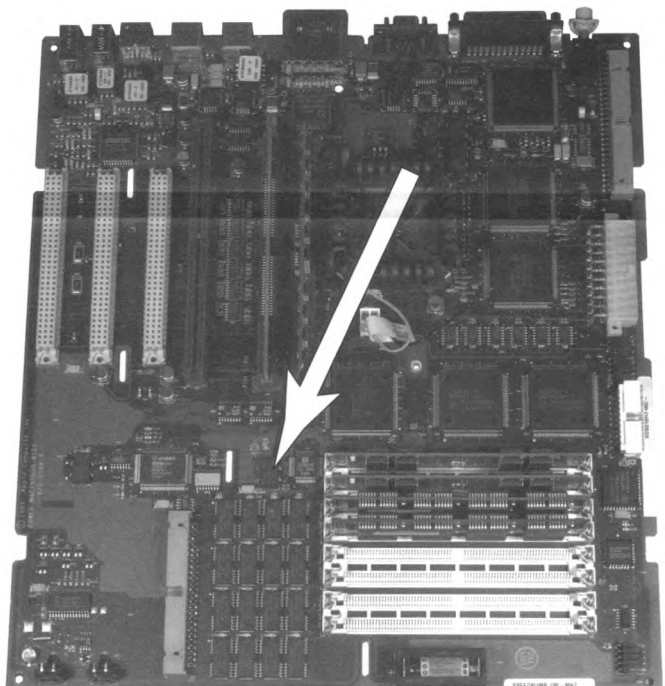
The two latches along the top edge have been released and the motherboard can be lowered.

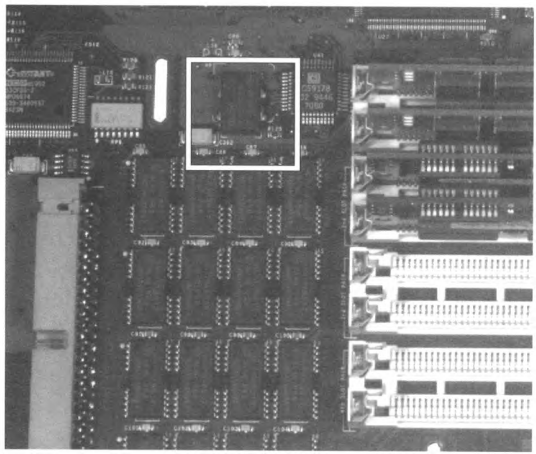
10) These two ribbon cables, one for the floppy drive and one for the hard drive should be disconnected by firmly pulling them from the motherboard. A second SCSI cable attaches to the bottom edge of the motherboard.



With the motherboard tipped back, the drive cables can be removed.

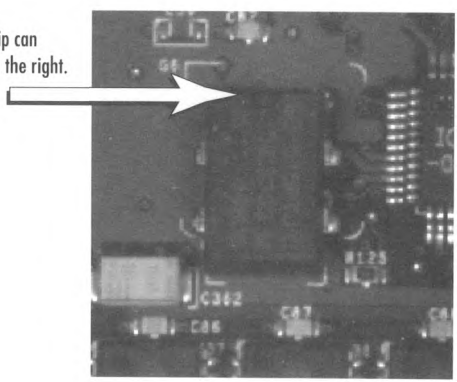
11) With the cables disconnected and the two latches along the top edge of the motherboard released, the motherboard will slide forward about 1/2-inch, then it can be rotated outward. Disconnect the drive cables that prevent the motherboard from laying flat.





The clock chip on the 8100/100 motherboard.

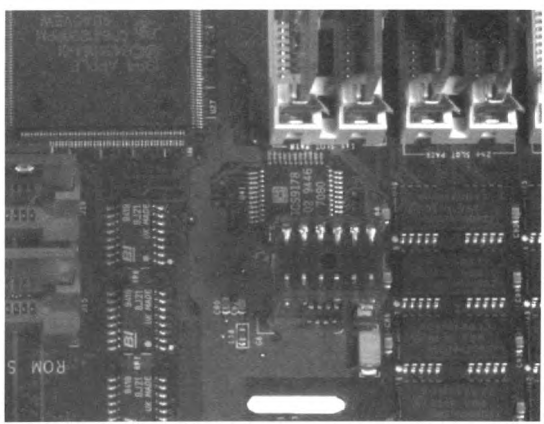
The indentation on the clock chip can be seen in the enlarged shot on the right.



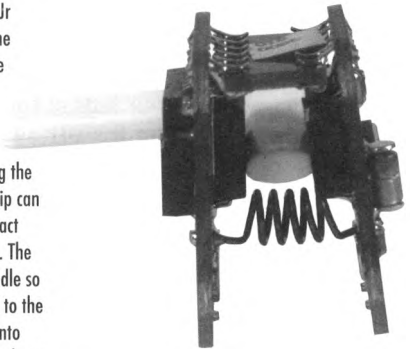
12) The clock chip is found near the top center of the motherboard (see the photo, previous page).

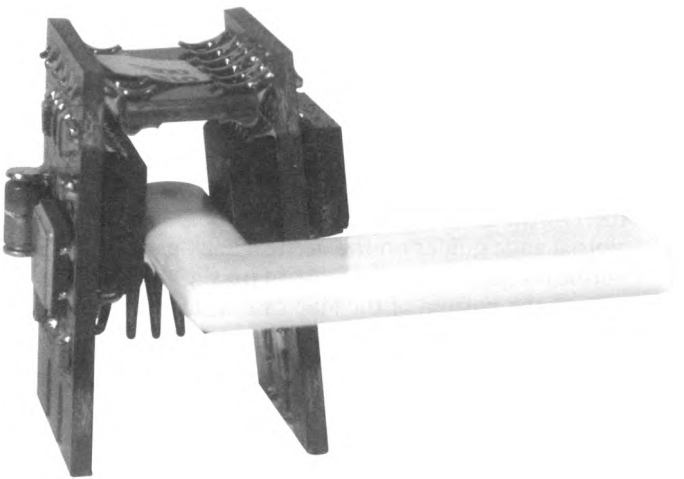
13) To install the PowerClip Jr, spread the legs (sides) of the accelerator open slightly by spreading them with the supplied spreader tool. Insert the smaller oval end of the spreader between the legs (sides) of the Clip and Rotate the larger handle end of the spreader from its vertical position to a sideways position, which opens the legs of the Clip apart. Orient the Clip with the yellow stripe of the accelerator next to the notch on the top of the clock chip. **The clock chip is marked "33.333MHz."** When positioned, rotate the handle of the spreader from its sideways position to a vertical position which closes the Clip legs onto the clock chip.

14) When the accelerator is installed, the contacts on the



The spreader tool inserted into the Clip Jr accelerator. The tool is inserted inside the Clip, smaller oval end first, and then the larger end (handle) is rotated so that the widest part of the oval spreader is sideways to the Clip (between the two inside chips, spreading the legs apart). With the legs spread, the Clip can be lowered onto the clock chip and contact with the legs of the chip can be verified. The spreader is removed by turning the handle so that the wide part of the oval is vertical to the Clip (which closes the sides of the Clip onto the legs of the clock chip) and then pulled out of the Clip.





bottom edge of the PowerClip Jr cling to the clock chip's legs under the tension of an internal spring. Verify that the accelerator's metal contacts are making contact with all four legs of the clock chip. When installed PowerClip Jr's DIP switch will face the white memory sockets. Remove the spreader tool from within the Clip.

NOTE: There is no CPU fan provided with the 8100/100 because the computer fan is directly over the CPU when the motherboard is installed into the computer.

15) Check the clock speed setting for the Power Macintosh 8100/100 and set the DIP switches found on the side of the PowerClip Jr using the chart on page 92. Begin with the lowest possible speed setting.

16) After installing the PowerClip Jr, tilt the motherboard back up toward the case and plug in the ribbon cables for the floppy and hard drives.

17) Reinstall the motherboard by first fitting the bottom back corner of the motherboard to the back of the case, then fit the back edge of the motherboard into the slotted edge guides on the vertical back panel. Back the bottom edge of the motherboard up slightly into the pegs at the bottom of the Mac case which also fit into the corresponding notches on the board. Make sure that the two tabs that hook into the slots in the middle of the motherboard also are aligned at this point.

18) At the top of the computer, push up the connector

latch so that the motherboard can slip inside.

19) At this point you should carefully guide and align the motherboard so that the two white pegs offset from one another (and near the middle of the machine) show through the corresponding slots in the motherboard.

20) Slide the motherboard toward the back until it's snug.

21) Reinsert the reset switches making sure that the hooks are facing toward you. Lock it into place, making sure both tabs click into their notches. This keeps the motherboard from sliding forward.

22) Reconnect the speaker wire plug, the drive light indicator plug and the power supply plug disconnected earlier.

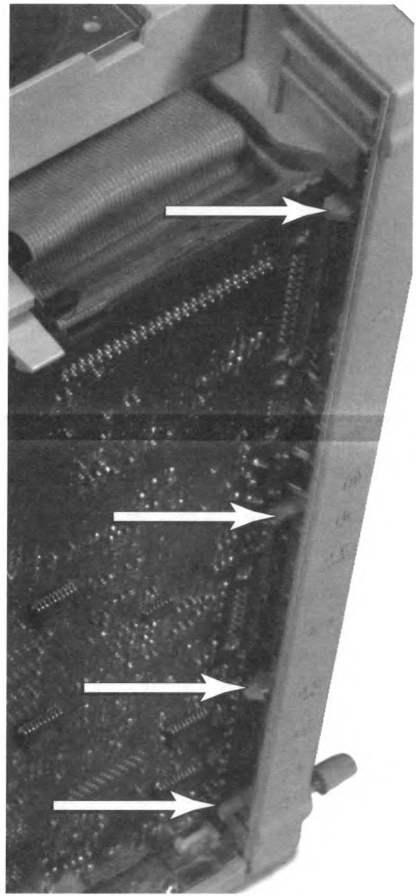
23) Replace either the AV card or the video card removed earlier.

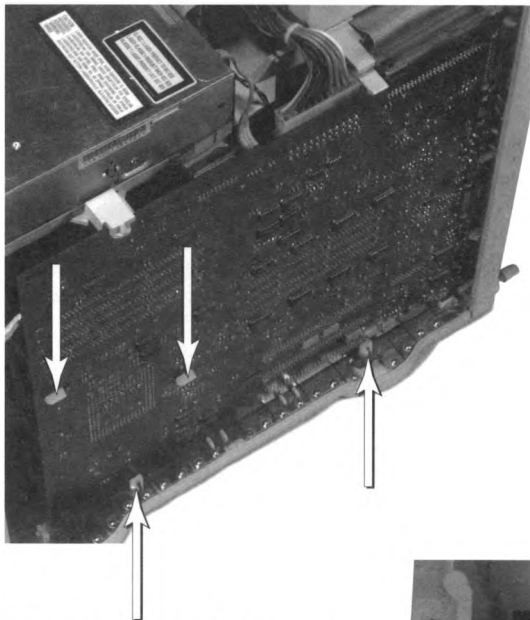
24) Replace the cross-shaped spacer frame onto the motherboard by lining up the hinges on the side nearest the back of the board with the tabs on the frame. Swing the bracer toward the front of the computer and snap the tabs back into place along the front edge of the motherboard.

25) Replace the one screw in the center of the spacer frame.

26) Slide the case cover on until snug and tighten the four

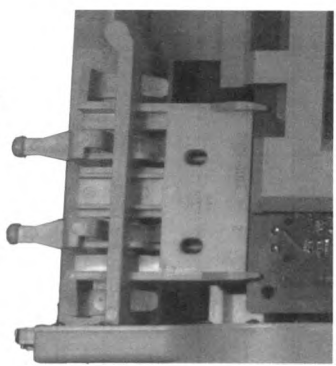
When reinstalling the motherboard, look for the guides along the back edge of the case. By fitting the motherboard into these guides, the reinstallation will be much easier.





ABOVE: The two top arrows indicate the supports within the case that hold the motherboard from the center. The bottom two arrows indicate the two supports that guide the motherboard into position.

RIGHT: The reset switch reinstalled into the case. This switch presses the motherboard back into position and holds it there.



thumb screws.

27) Restart the Mac. You can safely increase the speed setting of the PowerClip Jr accelerator after it has been in use for at least two to three hours, continuously. **Remember, speed changes are made only when the Mac is Shut Down**. You will probably want to experiment with the PowerClip Jr to find which of the four speed settings are your Macs' top speed. Copy the program Clockometer from the supplied diskette onto your hard drive. This application measures the speed of your CPU. The speeds shown here are close to but usually don't match exactly the speeds in the manual. When you have gone beyond your specific Mac's upper speed limit, you will: get erratic serial printer port operation, hear a bad or no boot tone, no video, experience applications that unexpectedly quit, "Math Coprocessor Not Installed" errors, Bad F-Line errors and/or other unusual system behavior. At that point, Shut Down the computer and then back the speed settings down using the DIP switch settings.

    To change speeds, Shut Down the computer, change the DIP switch settings, then Restart the computer. Make sure that the computer has initially been warmed to full operating temperatures (two to three hours, continuous) before making any determination about how well the new speed is working. Remember, all speed settings changes should be made with the computer Shut Down. Once operating temperature has been reached, it is not necessary to run another two

hours after a speed change. Be sure to test printing and/or modem use while accelerated. Some INITs can limit the top speed of your Mac. You may decide that living without a certain troublesome INIT will add another two or four MHz to your Mac's top speed.

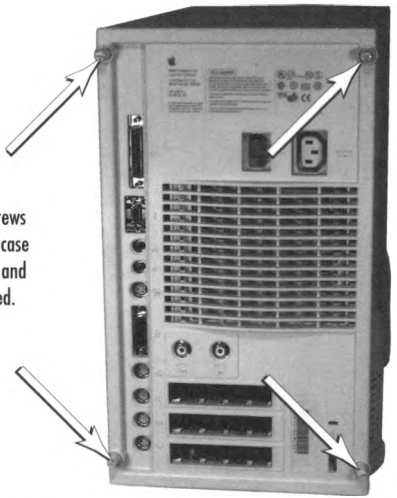
NOTE: When updating the System software from 7.5 to 7.5.1, be sure to remove the Clip first, run the updater and then reinstall the Clip. ALSO, the Newer 7.5 patch software, supplied on diskette, will correct a few minor bugs in the system on 7100 and 8100 computers.

Quadra 840AV, Quadra 800

1) The first thing to do when installing the MacClip Jr accelerator in your Macintosh is to Shut Down and ensure that power is off. However the computer should remain plugged into an electrical outlet to help ensure proper grounding.

2) Remove all external peripheral devices from your Macintosh which will get in the way of the installation. These external devices might be things like: hard disk(s) tape backup units, modems, mouse, monitor(s), and printer(s).

   You will now open the Macintosh. If during any phase of the installation you are unsure of how to perform any procedure, do not hesitate to contact Newer Technology Technical Support at 1-800-678-3726 or 1-316-685-4904 between the hours of 8:30 AM to 5:30 PM C.S.T.



The long finger screws on the rear of the case allow the case top and sides to be removed.

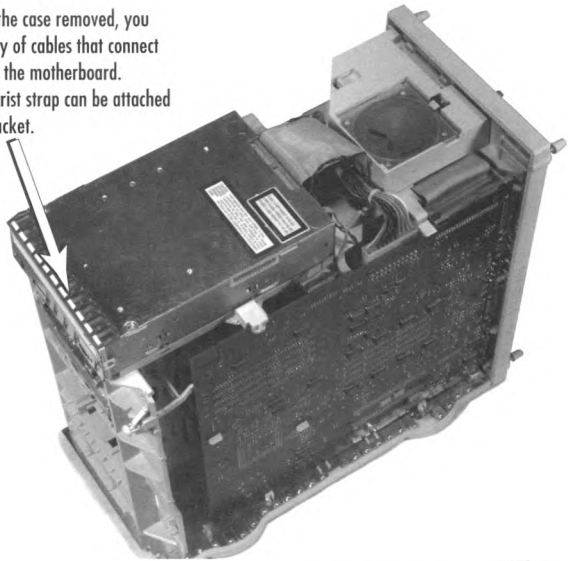
3) To open the Quadra case, first you unscrew the four finger screws on the back, one at each corner.

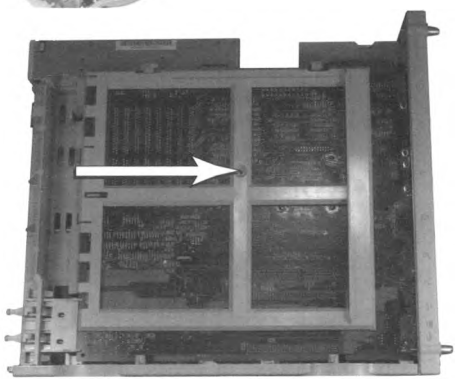
4) Once the finger screws are loosened, you can slide the case top and sides forward, lifting it up and off in one piece. **Attach the supplied anti-static wrist strap to any metal inside the computer such as the disk drive bracket.**

5) Remove any NuBus cards which may be installed including the AV card, if present.

6) Inside you will see a cross shaped spacer frame which holds the motherboard in place. One screw near the intersection of the cross must be removed.

With the top of the case removed, you can see the array of cables that connect along the top of the motherboard. The anti-static wrist strap can be attached to this metal bracket.





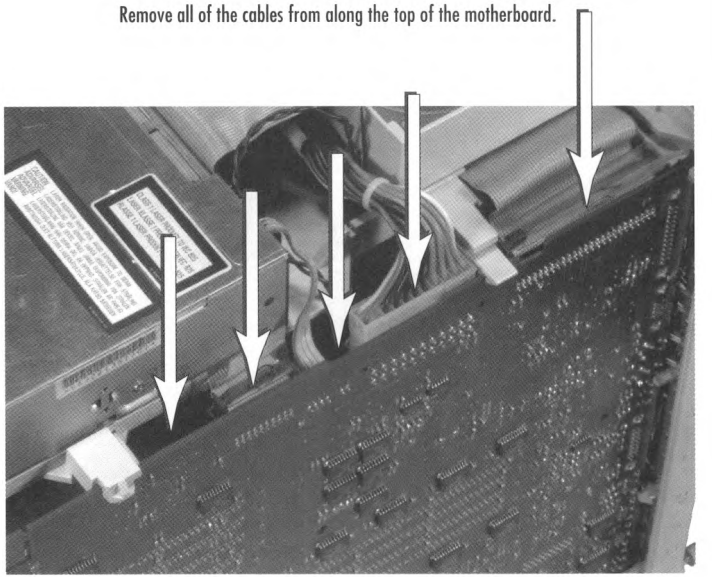
This is the screw that must be removed from the frame to release the motherboard from the case.

7) At the top of the computer you will need to disconnect the black twisted wire which connects the speaker to the motherboard.

8) Also on the top and near the front of the motherboard is a red and black twisted wire which connects the drive indicator light to the motherboard. Disconnect it.

9) Disconnect the large multicolored power cable from motherboard by pressing in the thumb catch, squeezing and lifting up.

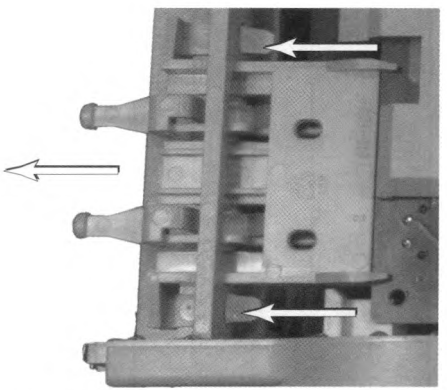
Remove all of the cables from along the top of the motherboard.

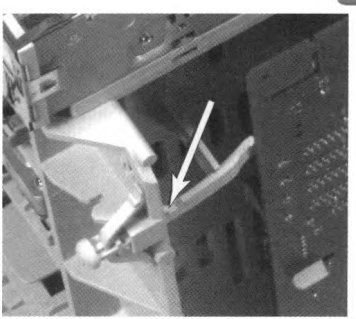


10) At the bottom front of the case are the reset switches. Push in the tab at the top and the one at the bottom and pull the switch piece out from the front.

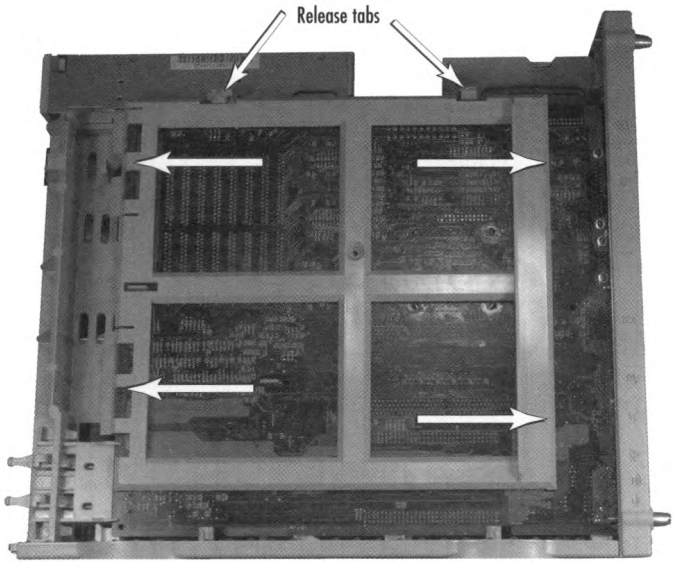
11) Remove the cross shaped spacer by pressing in the tabs located on the side nearest the front, swing it outward until it comes loose from the hinges on the other side.

The reset switch is removed in one unit by pressing the top and bottom tabs at the same time and pulling the unit out from the front.



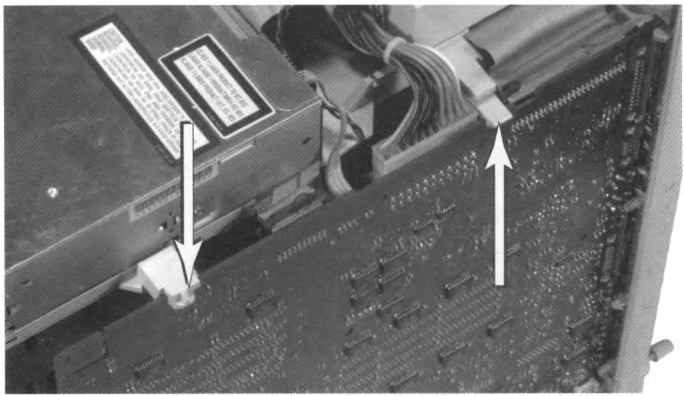


Quadra 840AV only:
Remove the power switch from the upper portion of the motherboard by pressing the small tab on the back side of the switch assembly (just behind the case) and pull it out from the front.

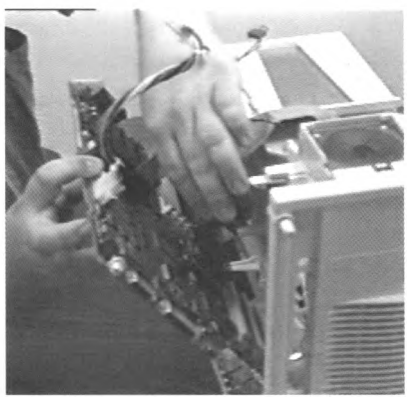


The front of the computer faces left. The spacer is hinged at the two points on the right into the motherboard. Releasing the leading edge tabs on the left, the bracer can be hinged out of way to gain access to the motherboard.

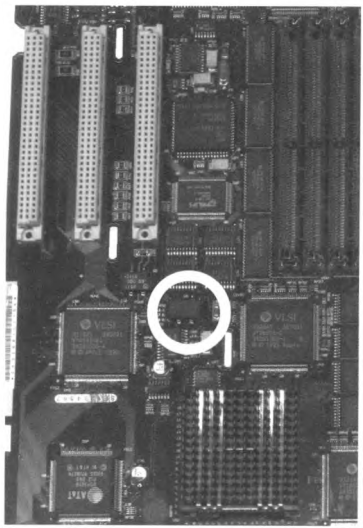
12) Pull the motherboard forward about 1/2 inch until the top left side until it clears the notch, then push the latch up at the top right side. This releases the motherboard and swings the entire top toward you, exposing the ribbon cables.



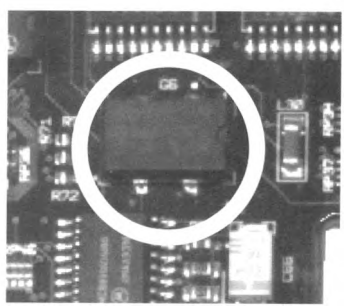
The motherboard must move forward about 1/2 inch to clear the top left notch. Then lift the top rear notch up and the motherboard can be lowered as shown below.

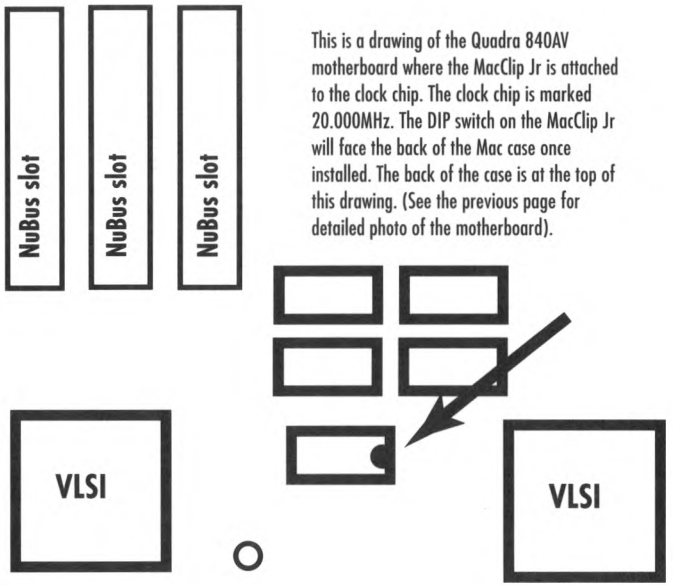


With the motherboard tipped back, the drive cables can be removed.

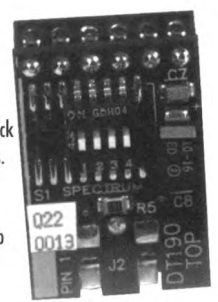


At left, the Quadra 840AV motherboard. The CPU is near the bottom of this photo with the three NuBus slots at the top (the front of the motherboard is at the bottom of the photo). The clock crystal is outlined at right and enlarged below for better detail. The clock chip is marked 20.000MHz. A drawing of the motherboard is on the following page. When installed, the DIP switch on the MacClip Jr faces the rear edge of the motherboard (away from the CPU chip and toward the NuBus slots).



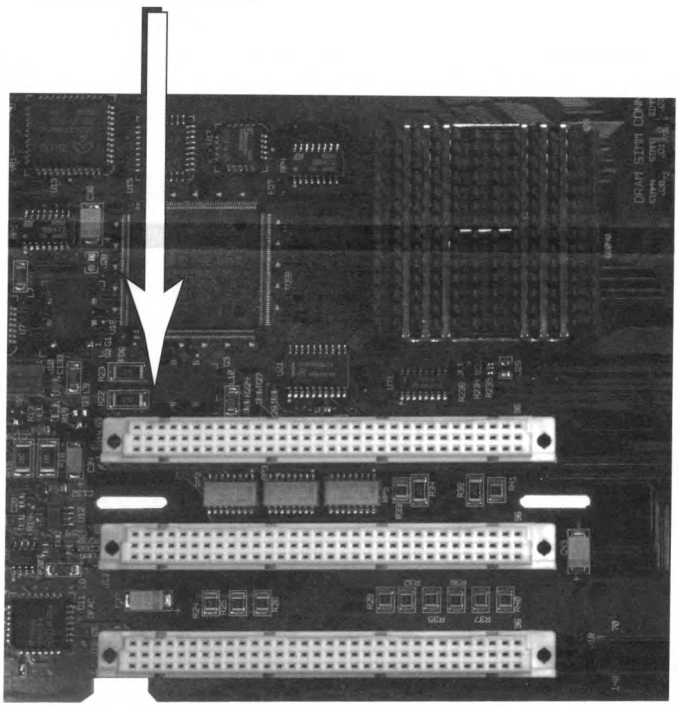


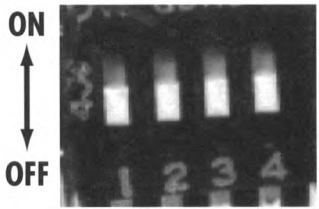
This is a drawing of the Quadra 840AV motherboard where the MacClip Jr is attached to the clock chip. The clock chip is marked 20.000MHz. The DIP switch on the MacClip Jr will face the back of the Mac case once installed. The back of the case is at the top of this drawing. (See the previous page for detailed photo of the motherboard).



This is the MacClip Jr accelerator. It fits over the top of the clock chip and clamps around it, making contact with the chip's legs. A spring inside the legs (sides) of the accelerator hold it onto the clock chip. A yellow stripe on the side of the accelerator should be aligned with the indentation on the top of clock chip making the DIP switch face the back of the Mac case when installed.

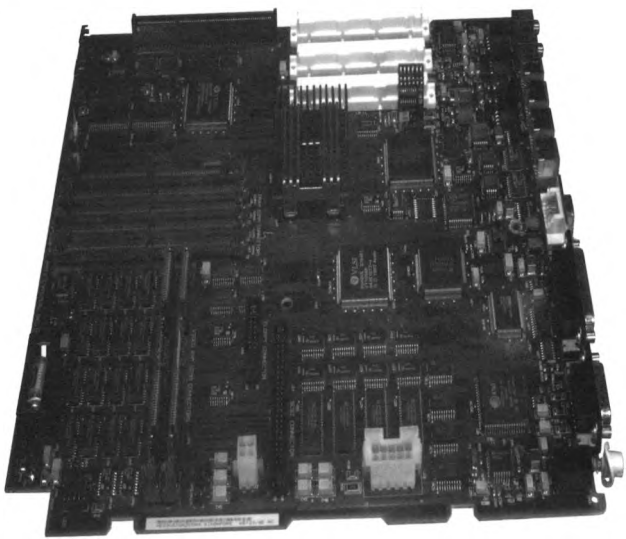
This is a photo of the Quadra 800 motherboard. The front of the computer is on the right. The MacClip Jr accelerator installs on the clock chip indicated here. The clock chip is marked **"16.667MHz."**



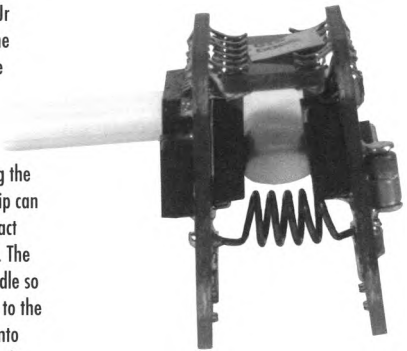


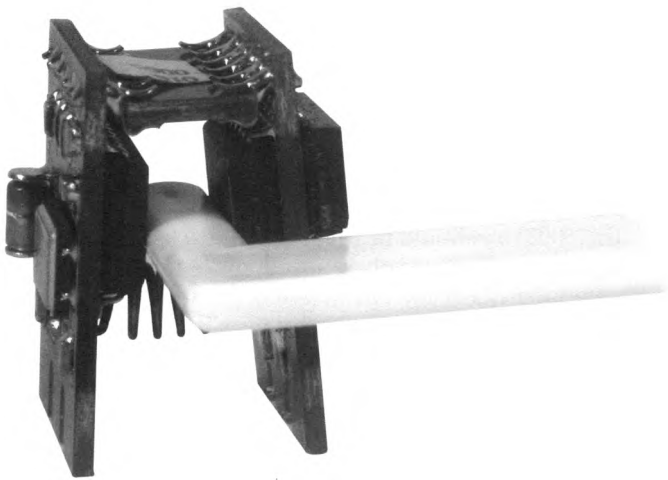
Here is the DIP switch located on the side of the MacClip Jr. accelerator. This is how the speed of the MacClip Jr accelerator is set (using the charts beginning on page 95 or 96). Here the switches shown at left are all in the OFF (down) position.

BELOW: The MacClip, installed onto the Quadra 800 motherboard, is very close to the NuBus slot however both can used together. The DIP switch on the MacClip Jr faces up when installed.



The spreader tool inserted into the Clip Jr accelerator. The tool is inserted inside the Clip, smaller oval end first, and then the larger end (handle) is rotated so that the widest part of the oval spreader is sideways to the Clip (between the two inside chips, spreading the legs apart). With the legs spread, the Clip can be lowered onto the clock chip and contact with the legs of the chip can be verified. The spreader is removed by turning the handle so that the wide part of the oval is vertical to the Clip (which closes the sides of the Clip onto the legs of the clock chip) and then pulled from within the Clip.

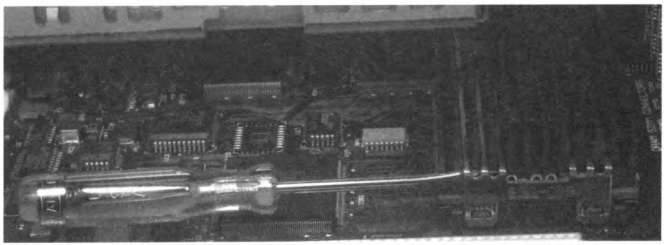




13) These two ribbon cables, one for the floppy drive and one for the hard drive should be disconnected by pulling them from the motherboard.

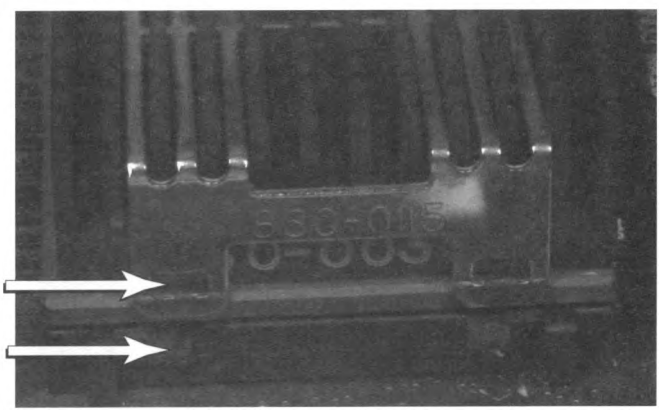
14) With the motherboard laid flat, orient the MacClip Jr with the clock chip so that the yellow stripe on the accelerator is next to the indentation on the top of the chip. The DIP switch faces away from the NuBus slots. To install the PowerClip Jr, spread the legs (sides) of the accelerator open slightly by spreading them with the supplied spreader tool. Insert the smaller oval end of the spreader between the legs (sides) of the Clip and Rotate the larger handle end of the spreader from its vertical position to a sideways position, which opens the legs of the Clip apart. Orient the Clip with the yellow stripe of the accelerator next to the notch on the top of the clock chip. When positioned, rotate the handle of the spreader from its sideways position to a vertical position which closes the Clip legs onto the clock chip.

15) Set the DIP switches to the clock speed settings using the charts on page 95 for the 840AV and page 96 for the 800. You should begin at the lowest speed and work up. To test for the highest speed, make sure that the computer is already warmed to operating temperature before making a speed compatibility determination. This temperature can initially be reached after about two to three hours of continuous operation. Remember, all speed settings should be made with the computer Shut Down.



By using a small flat blade screwdriver, **gently** spread the shiny metal clips from the base of the CPU socket. By releasing one side, the heat sink and the clip can be pulled off the CPU chip.

The metal heat sink clip has been popped over the small nubs on the base of the CPU socket. Once you reach this point, the heat sink and clip can be pulled off of the CPU chip.



16) Remove the heat sink from the CPU chip by gently prying the shiny metal clip edges away from the side of the chip. **Make sure that nothing touches the motherboard which might scratch or scrape** the delicate traces (gold lines). Once the heat sink clip has been removed, the entire heat sink can be removed. Place the square gray paper-like sheet on top of the CPU chip. This is a thermal conductor that helps transmit heat from the CPU chip to the heat sink. To install the MacClip Jr heat sink/fan assembly onto the CPU, unscrew the base of the assembly. Slide this base part of the assembly over the CPU chip. Then screw the heat sink onto the base unit, finger tight. Pull the power cable (which originates at the power supply) from the back of the hard disk (or use the second drive power cable, which is loose if there is only one hard disk installed) and connect it to the fan's power cable, then plug the fan cable into the back of the hard disk.

17) Reinstall the motherboard and reattach all cables in the reverse order removed. Install the reset switch. Reinstall the power switch in the Quadra 840AV. Reinstall the cross spacer onto the motherboard. Re–attach the monitor to the computer. Reinstall the AV card and other NuBus cards removed earlier. Replace the case top when completely done adjusting the speed of the MacClip Jr.

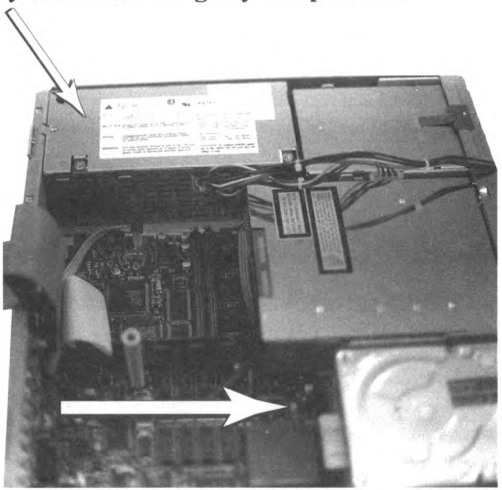
18) Restart the Macintosh and insert the supplied diskette, copy the Clockometer application to your hard drive and run Clockometer to verify that the speed is faster

than the Quadra 840AV's stock 40MHz or the 800's 33MHz stock speed. You will find that the speed registered by Clockometer will not match **exactly** the speed listed in DIP switch setting charts in this manual. This is not a problem, just a reflection of two slightly different methods of speed measurement.

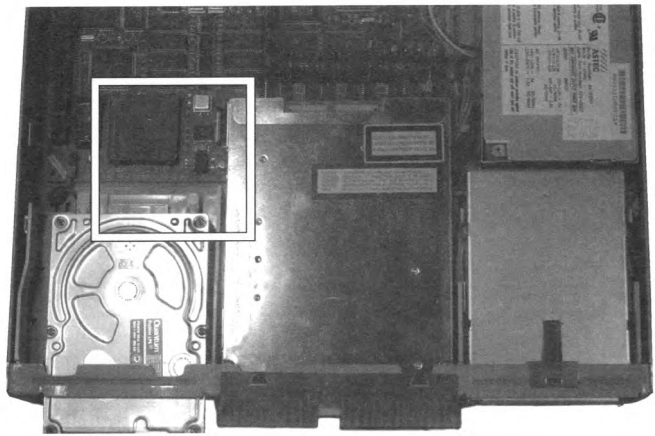
19) You can safely increase the speed setting of the new MacClip Jr accelerator after it has been in use for at least two to three hours continuously. When you have gone beyond the upper speed limit, you will: hear a bad boot tone, experience applications that unexpectedly quit, "Math Coprocessor Not Installed" errors, Bad F-Line errors, printer and serial ports will stop working and/or other unusual system behavior. At that time, Shut Down and then adjust the speed settings to slow the Mac down using the DIP switch settings.

Quadra 660AV, Centris 660AV

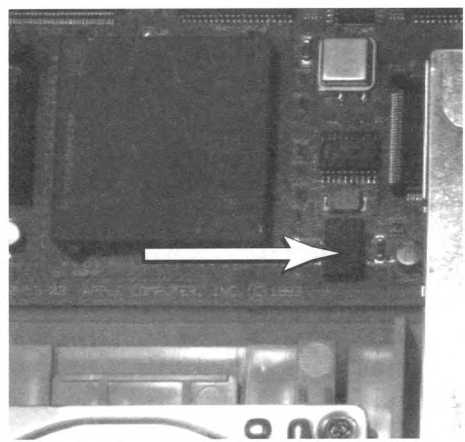
1) To open the 660AV case, locate the two tabs at the rear of the case top, lift up on them with your fingers to loosen the case lid. Now you should be able to lift up at the back, bringing the top toward you and off. **Be sure to attach the supplied anti-static wrist strap to the metal exterior of the power supply before handling any components.**



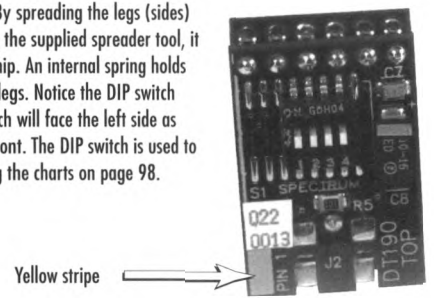
RIGHT: The 660AV with the case top removed. The clock chip is noted here (lower arrow). You may find that the CD-ROM and the hard disk hang over the clock chip too far for easy MacClip Jr installation. In that case, pull both drives forward increasing the space available around the chip for installation.



The location of the clock chip is just behind the hard disk on the left side of the computer (as you face the front of the Mac). You may find that it helps to pull the hard disk and/or the CD-ROM forward (as shown above) to make enough room to get the MacClip Jr to fit around the clock chip. The drives are released by pushing the tab (molded into the plastic drive bracket) underneath the drive and pulling the drive forward. The indentation faces the rear of the computer.



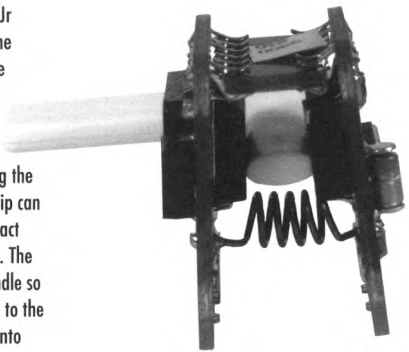
This is the MacClip Jr accelerator. By spreading the legs (sides) of the MacClip Jr accelerator using the supplied spreader tool, it can be positioned onto the clock chip. An internal spring holds the MacClip Jr onto the clock chip legs. Notice the DIP switch located on the side of the unit which will face the left side as you look the computer from the front. The DIP switch is used to make the CPU speed settings using the charts on page 98.

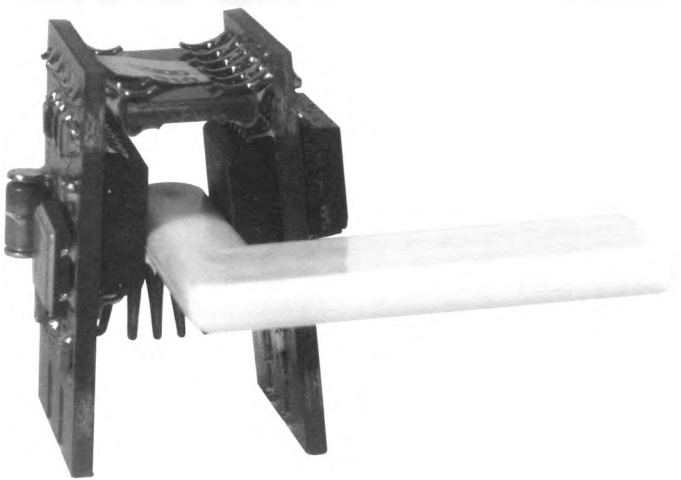


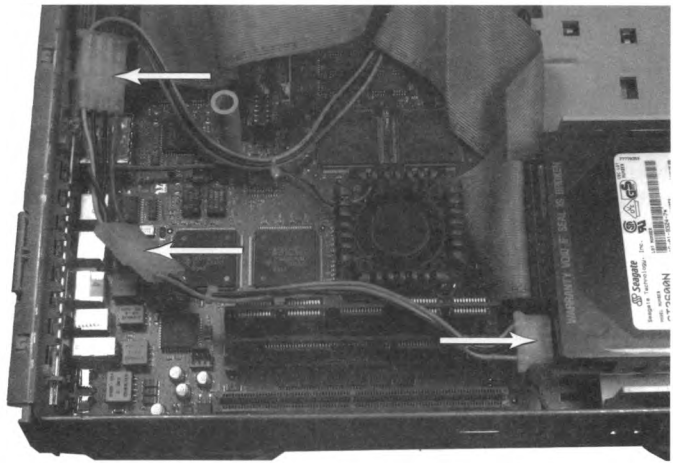
3) Place the square gray paper-like sheet on top of the CPU chip. This is a thermal conductor that helps move heat from the CPU chip to the heat sink. Install the heat sink/fan assembly onto the CPU by pressing it onto the top of the CPU chip, making sure that the shiny metal clamp fits over and onto the base of the CPU socket. Pull the power cable from the back of the hard disk and connect it to the fan's power cable, then plug the fan cable into the back of the hard disk.

4) Locate the clock chip by referring to the photos on the previous pages. You may find that moving the hard disk (and the CD-ROM drive, if present) forward toward the front of the case will make more room for the MacClip Jr to fit around the clock chip. This is done by pressing the tab that's part of the plastic drive bracket, underneath the drive itself. **The top of the clock chip is marked "12.500 MHz."**

The spreader tool inserted into the Clip Jr accelerator. The tool is inserted inside the Clip, smaller oval end first, and then the larger end (handle) is rotated so that the widest part of the oval spreader is sideways to the Clip (between the two inside chips, spreading the legs apart). With the legs spread, the Clip can be lowered onto the clock chip and contact with the legs of the chip can be verified. The spreader is removed by turning the handle so that the wide part of the oval is vertical to the Clip (which closes the sides of the Clip onto the legs of the clock chip). When installed, remove the spreader from within the Clip.







This is a photo of the 6100 - however the arrangement of the hard drive and cables are very similar. Notice the fan power pass through connector mated with the hard disk's power cable.

5) To install the PowerClip Jr, spread the legs (sides) of the accelerator open slightly using the supplied spreader tool. Insert the smaller oval end of the spreader between the legs (sides) of the Clip and

rotate the larger handle end of the spreader from its vertical position to a sideways position, which opens the legs of the Clip apart. Orient the Clip with the yellow stripe of the accelerator next to the notch on the top of the clock chip. When positioned, rotate the handle of the spreader from its sideways position to a vertical position which closes the Clip legs onto the clock chip.

6) Set the MacClip Jr DIP switches to the desired clock speed settings using the chart on page 95. You should begin at the lowest speed setting and work up. Make sure that the computer is fully warmed to operating temperature before making a speed compatibility determination. This temperature can be reached after about two to three hours of continuous operation. Once the computer has reached operating temperature, you can make changes without waiting another two hours. Remember, all speed settings should be made with the computer Shut Down.

7) Restart the Mac and insert the supplied diskette, copy the Clockometer application to your hard drive and run Clockometer to verify that the speed is faster than the stock 25MHz. You will find that the speed registered by Clockometer **will not match exactly** the speed listed in DIP switch setting charts in this manual. This is not a problem.

8) You can safely increase the speed setting of the new MacClip Jr accelerator without worrying about hurting any hardware. When the accelerator is set too fast, you

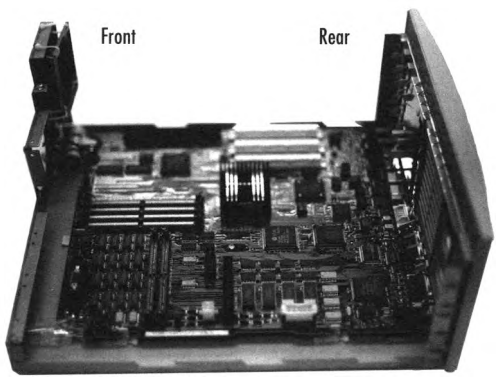
will: experience erratic operation of the printer and serial ports, hear a bad boot tone, applications will unexpectedly quit, "Math Coprocessor Not Installed" errors, Bad F-Line errors and/or other unusual system behavior. At that point, Shut Down the computer and then back the speed settings down using the DIP switch settings.

Once you have completed the speed experimentation process, you can replace the Mac case top.

Centris 650, Quadra 650

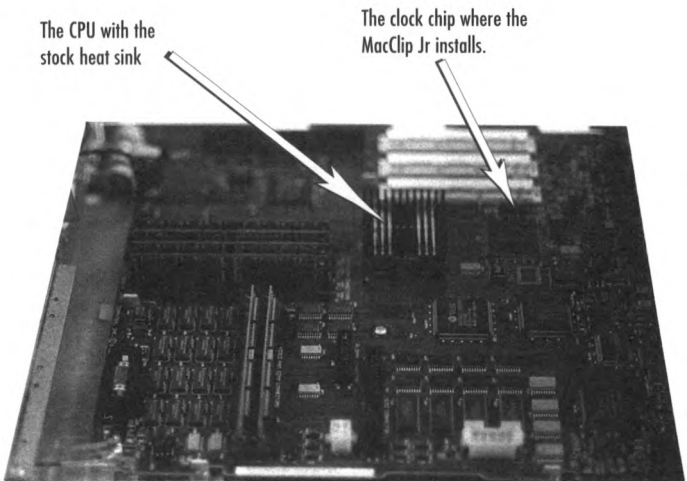
1) To open the 650 case, locate the single screw on the back of the case edge. Remove this screw and the top of the case can be pulled forward and off the base.

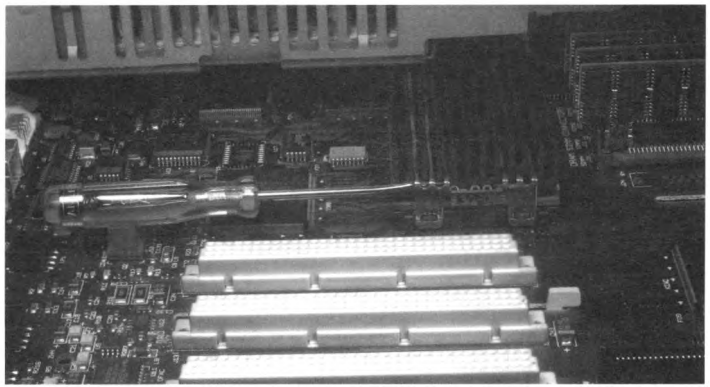
2) **Attach the supplied anti-static wrist strap to any metal such as the power supply before handling any components.** Detach peripherals that may block your the work area and to the inside of the Mac case.



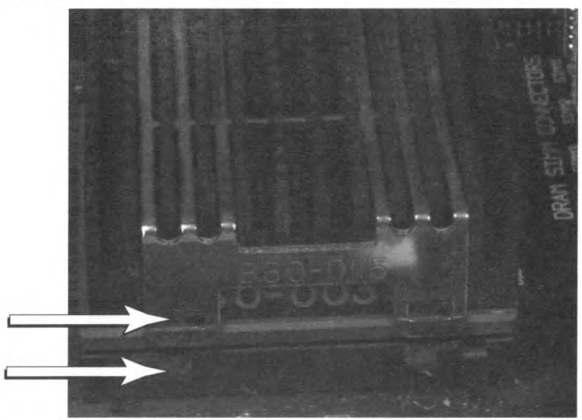
3) Remove the existing heat sink from the CPU chip by gently prying the edges of the shiny metal clip out and off of the chip using a small flat screwdriver. **Be careful not to touch or scratch the traces (gold lines) on the motherboard while removing the heat sink clip**. After releasing both sides of the clip, the heat sink and clip can be removed.

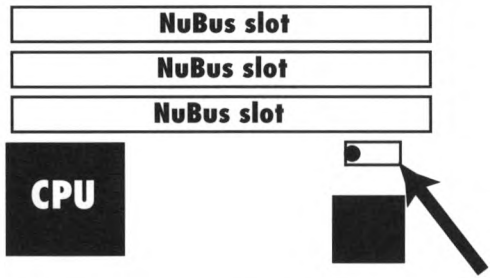
4) Place the square gray paper-like sheet on top of the CPU chip. This is a thermal conductor that helps move heat from the CPU to the heat sink. To install the heat sink/fan assembly onto the CPU, place it over the chip and press both sides of the clip onto the chip until it





Using a small flat blade screwdriver, pry the shiny metal clip on the heat sink away from the base of the CPU socket. Be careful not to touch the motherboard with the screwdriver or you could cut traces or other delicate components. Once the end of the clip has cleared the base of the socket, the heat sink and clip can be pulled off of the CPU chip.



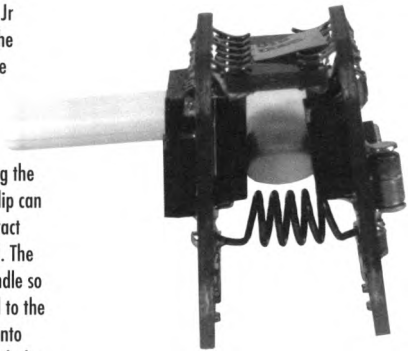


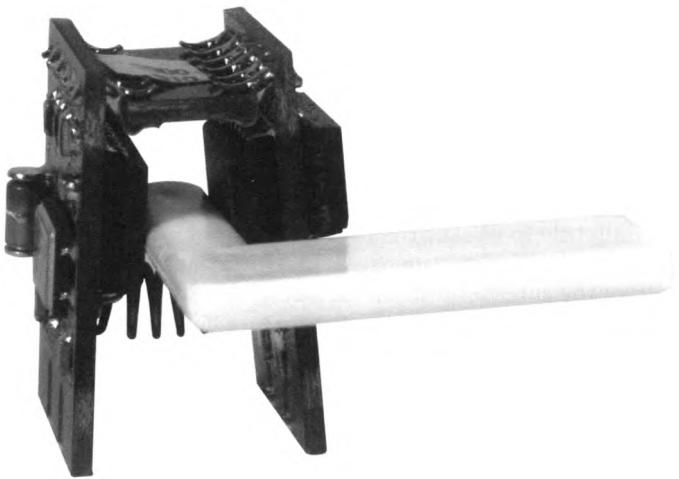
The three NuBus slots are at the top of this motherboard drawing. The clock chip where the MacClip Jr accelerator is installed is pointed out here and is marked 16.667 MHz for the Quadra 650 and 12.500 MHz for the Centris 650. Notice on your motherboard that the clock chip has only four legs while most other chips have at least eight per side. Notice also that the MacClip Jr will fit rather close to the nearest NuBus slot. Both can be installed and work successfully, just pull the NuBus card out, install the MacClip Jr and then reinstall the NuBus card.

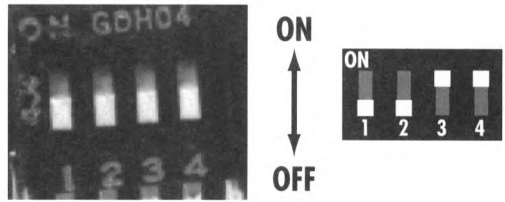
This is the MacClip Jr accelerator. It fits over the top of the clock chip and clamps around it, making contact with the chip's legs. By spreading the legs of the MacClip Jr using the supplied spreader tool, it fits onto the clock chip. A spring inside the legs of the accelerator hold it onto the clock chip. A yellow stripe on the side of the accelerator should be aligned with the indentation on the chip. When installed, the DIP switch faces the center of the motherboard (away from the NuBus slots).

Yellow stripe

The spreader tool inserted into the Clip Jr accelerator. The tool is inserted inside the Clip, smaller oval end first, and then the larger end (handle) is rotated so that the widest part of the oval spreader is sideways to the Clip (between the two inside chips, spreading the legs apart). With the legs spread, the Clip can be lowered onto the clock chip and contact with the legs of the chip can be verified. The spreader is removed by turning the handle so that the wide part of the oval is vertical to the Clip (which closes the sides of the Clip onto the legs of the clock chip). Once installed, the spreader tool can be removed from the Clip.



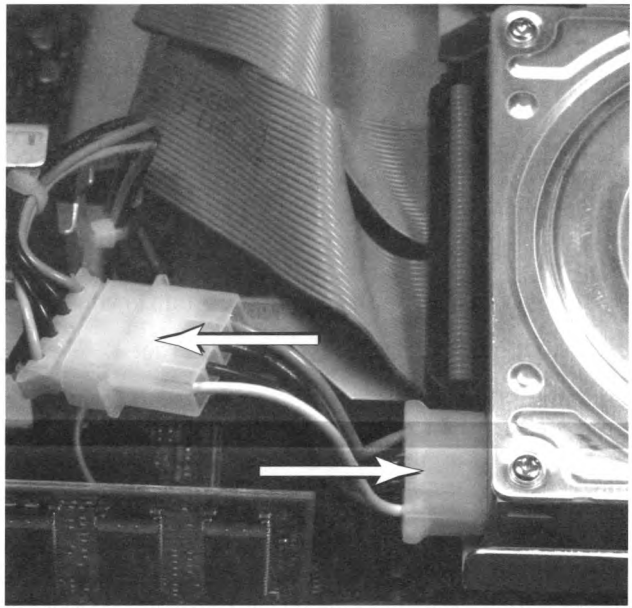




snaps into place. Pull the power cable from the back of the hard disk and connect it to the fan's power cable, then plug the fan cable into the back of the hard disk.

5) Locate the clock chip on the motherboard by referring to the drawing on pages 72 and 74. The top of the clock chip is marked **"16.667 MHz" for the Quadra** and **"12.500MHz" for the Centris.** If a NuBus card is installed into the closest NuBus slot, pull the card. It can be reinstalled after the MacClip Jr has been installed.

6) The legs (sides) of the accelerator can be spread apart slightly to fit over the top of the clock chip by using the supplied spreader tool. Insert the smaller oval end of the spreader into the Clip vertically. By rotating the larger handle end of the tool to a sideways position, the tool will force the legs of the Clip apart, allowing you to get it onto the clock chip. Orient the MacClip Jr accelerator onto the chip so that the yellow stripe on the accelerator is next to the indentation on the top of



The CPU fan power pass through connector installed into the back of the hard drive. Then the hard drive connector is plugged into the other end of the Clip fan pass through.

the chip. This means that **the DIP switch will face away from the NuBus slots.** Once positioned, turn the handle end of the tool to a vertical position which closes the Clip sides onto the clock chip. An internal spring holds the accelerator onto the clock chip legs. Verify that the accelerator is making contact with all

four of the clock chip's legs.

7) Set the DIP switches to the desired clock speed settings using the charts on page 96 for the Quadra 650 and page 97 for the Centris 650. You should begin with the lowest speed setting and work up. Make sure that the computer is fully warmed to operating temperature before making a speed compatibility determination. This temperature can be reached after about two to three hours of operation. Remember, all speed settings should be made with the computer Shut Down.

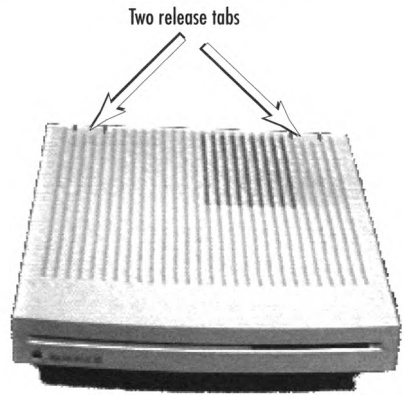
8) Reinstall the NuBus card if removed earlier.

9) Attach the cables removed earlier. Reinstall the case top. Restart the Mac and insert the supplied diskette, copy the Clockometer application to your hard drive and run Clockometer to verify that the speed is faster than the stock. You will find that the speed registered by Clockometer **will not match exactly** the speed listed in DIP switch setting charts in this manual. This is not a problem.

10) You can safely increase the speed setting of the new MacClip Jr accelerator after it has been in use for at least two to three hours continuously. When you have set it too fast, you will: get erratic serial and printer port operation, hear a bad boot tone, applications will unexpectedly quit, "Math Coprocessor Not Installed" errors, Bad F-Line errors and/or other unusual system behavior. At that point, Shut Down the computer and then back the CPU speed settings down using the DIP switch on the side of accelerator.

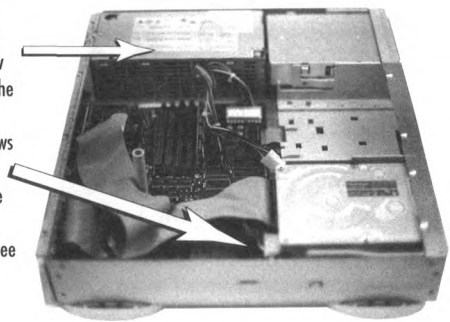
Centris 610, Quadra 610

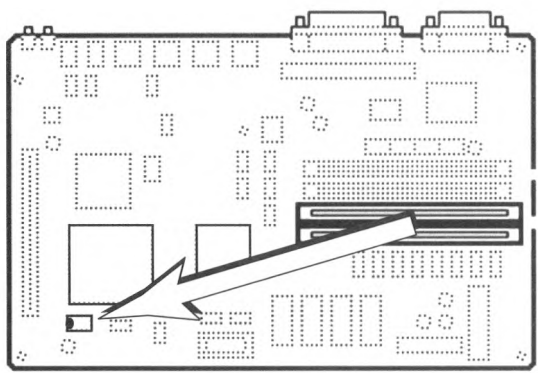
1) To open the 610 case, locate the two tabs at the rear of the case top, lift up on them with your fingers to loosen the case lid. Now you should be able to lift up at the back, bringing the top toward you and off.



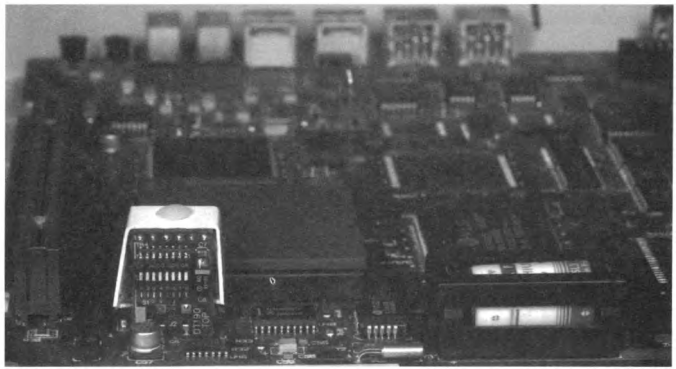
2) **Attach the supplied anti-static wrist strap to any metal surface, such as the power supply, before handling any components.** Detach peripherals that may block your access to the work area and to the inside of the Mac case.

The 610 (front of the case is on the right of this photo) with the case top removed. The top arrow shows the power supply where the anti-static wrist strap can be attached. The bottom arrow shows the location of the clock chip relative to the motherboard. The wide SCSI cable can be pushed aside to reveal the chip better. See the drawing below.





This is a drawing of the 610 motherboard (the front of the case is at the bottom of the drawing). The clock chip is pointed out here.

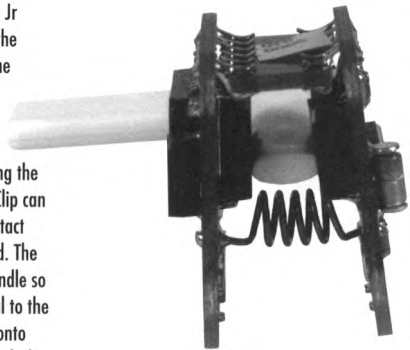


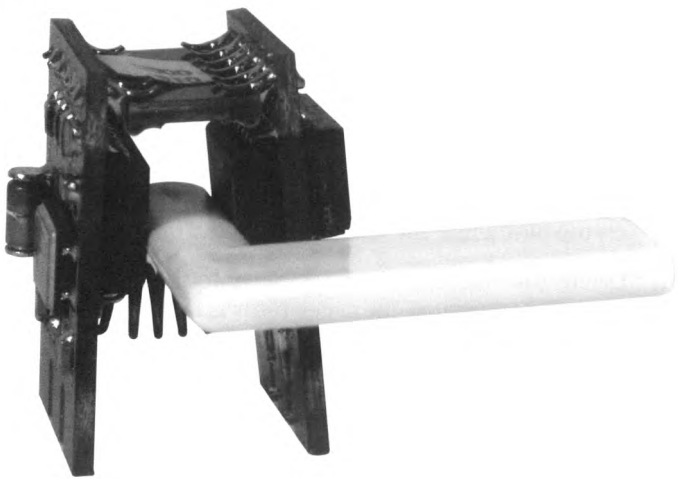
This is the MacClip accelerator. Notice the DIP switches located on the sides of the unit. The front of the computer is at the bottom of this photo. The white outer piece was used in development (eliminated now) and in way effects the performance of the MacClip Jr.

3) Locate the clock chip on the motherboard by referring to the drawing on the previous page. You will probably have to move the wide SCSI cable to see the clock chip. You can easily determine which chip is the clock chip because it has two thick legs on each side of the chip and the top of the **Centris has "10.000 MHz"** printed on top of it while the **Quadra has "12.500 MHz."**

4) Orient the MacClip Jr accelerator onto the chip so that the yellow stripe on the accelerator is next to the indentation on the top of the chip. The DIP switch will face the front of the computer case. The legs (sides) of the accelerator can be spread apart slightly to fit over the top of the clock chip by using the supplied spreader tool. Insert the smaller oval end of the spreader into

The spreader tool inserted into the Clip Jr accelerator. The tool is inserted inside the Clip, smaller oval end first, and then the larger end (handle) is rotated so that the widest part of the oval spreader is sideways to the Clip (between the two inside chips, spreading the legs apart). With the legs spread, the Clip can be lowered onto the clock chip and contact with the legs of the chip can be verified. The spreader is removed by turning the handle so that the wide part of the oval is vertical to the Clip (which closes the sides of the Clip onto the legs of the clock chip). Once installed, the spreader tool can be removed from inside the Clip Jr.

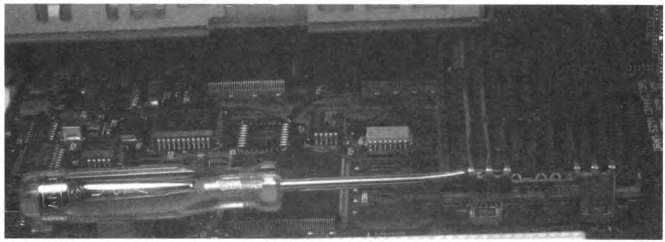




the Clip vertically. By rotating the larger handle end of the tool to a sideways position, the tool will force the legs of the Clip apart, allowing you to get it onto the clock chip. Once positioned, turn the handle end of the tool to a vertical position which closes the Clip sides onto the clock chip. The internal spring holds the MacClip Jr onto the clock chip's legs. Verify that the accelerator is making contact with all four legs of the clock chip. Remove the spreader tool from the Clip.

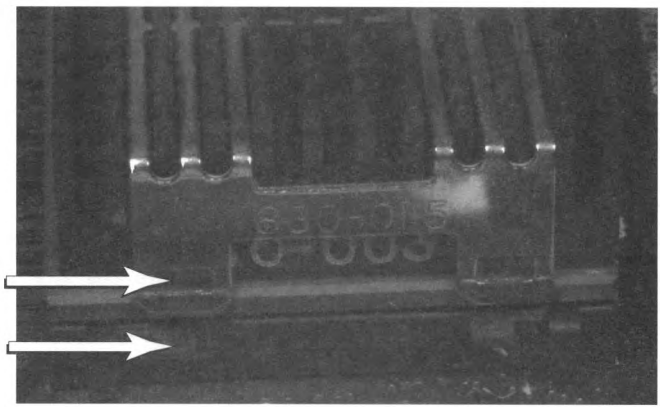
5) If a heat sink is already installed, remove it from the CPU by gently prying the shiny metal clip from edges of the CPU using a small flat screwdriver. **Be careful to not scratch the motherboard while removing the clip.** Once both sides of the clip are released from the chip, the heat sink can be removed. Place the square gray paper-like sheet onto the top of the heat sink. This is a thermal conductor that helps move heat from the chip to the heat sink. To install the heat sink/fan assembly onto the CPU, place it over the top of the CPU chip, aligning the clip tabs over the CPU socket. Then press both edges of the clip down until they clamp onto the CPU chip securely. Pull the power cable from the back of the hard disk and connect it to the fan's power cable, then plug the fan cable into the back of the hard disk.

6) Set the DIP switches to the desired clock speed settings using the charts on page 97 for the Quadra 610 and page 98 for the Centris 610. You should begin at the lowest speed setting and work up. Make sure that the computer is fully warmed to operating temperature before making a compatibility determination. This



By using a small flat blade screwdriver, **gently** spread the shiny metal clips from the base of the CPU socket. By releasing one side, the heat sink and the clip can be pulled off the CPU chip.

The metal heat sink clip has been popped over the small nubs on the base of the CPU socket. Once you reach this point, the heat sink and clip can be pulled off of the CPU chip.



temperature can be reached after about two to three hours of continuous operation. Remember, all speed settings should be made with the computer Shut Down. After each speed change, let the computer run while testing each of your major applications for compatibility at the higher speed.

7) Restart the Mac and insert the supplied diskette, copy the Clockometer application to your hard drive and run Clockometer to verify that the speed is faster than the stock speed of 20MHz for the Centris 610 and 25MHz for the Quadra 610.

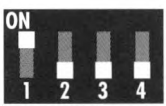
8) You can safely increase the speed setting of the new MacClip Jr accelerator after it has been in use for at least two to three hours, continuously. When you have set the accelerator too fast, you will: get erratic serial and printer port operation, hear a bad boot tone, applications will unexpectedly quit, "Math Coprocessor Not Installed" errors, Bad F-Line errors and/or other unusual system behavior. At that point, Shut Down the computer and then back the speed settings down using the DIP switch settings. Remember, all speed settings should be made with the computer Shut Down.

DIP Switch Settings for 6100/60, Performa 611X series

On is when the little switch is in the up position. A ballpoint pen or any other instrument can be used to move the switches up and down.

78MHz

82MHz



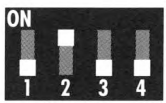
80MHz

84MHz

DIP Switch Settings for 6100/60AV

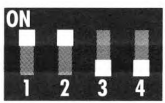
On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.

78MHz



82MHz

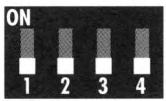
80MHz



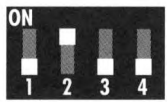
84MHz

DIP Switch Settings for 6100/66

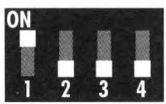
On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.



78MHz



82MHz

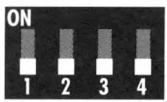


80MHz

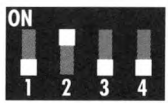
84MHz

DIP Switch Settings for 6100/66AV

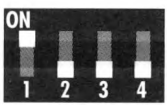
On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.



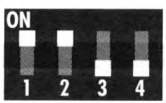
78MHz



82MHz



80MHz



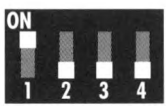
84MHz

DIP Switch Settings for 7100/66

On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.

78MHz

82MHz

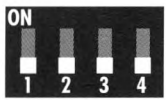


80MHz

84MHz

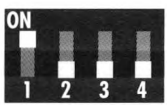
DIP Switch Settings for 7100/66AV

On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.

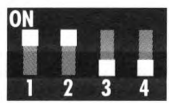


78MHz

82MHz



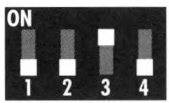
80MHz



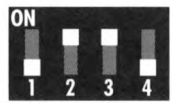
84MHz

DIP Switch Settings for 7100/80

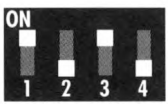
On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.



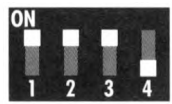
88MHz



92MHz



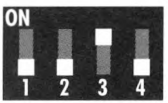
90MHz



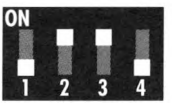
94MHz

DIP Switch Settings for 7100/80AV

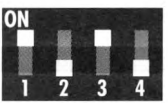
On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.



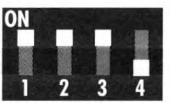
88MHz



92MHz



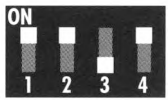
90MHz



94MHz

DIP Switch Settings for 8100/100

On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.



116MHz

120MHz

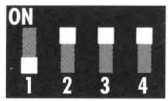
118MHz

122MHz

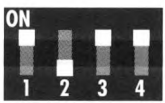
DIP Switch Settings for Quadra 840AV

On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.

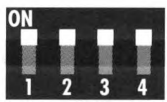
42MHz



44MHz



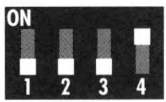
43MHz



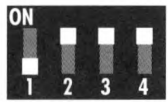
45MHz

DIP Switch Settings for Quadra 800, Quadra 650

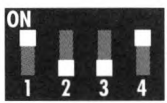
On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.



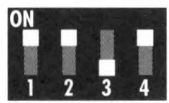
38MHz



40MHz



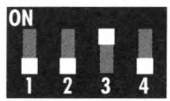
39MHz



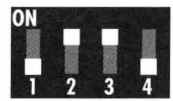
41MHz

DIP Switch Settings for Quadra 610, Quadra 660AV, Centris 660, Centris 650

On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.

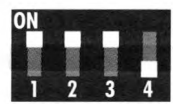


29MHz



31MHz

30MHz



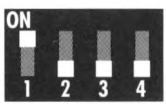
32MHz

DIP Switch Settings for Centris 610

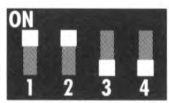
On is when the little switch is up. A ballpoint pen or any other instrument can be used to move the switches up and down.

25MHz

27MHz



26MHz



28MHz

Troubleshooting

1) Make sure that the PowerClip Jr is attached to the correct clock chip and that it is oriented correctly.

2) Recheck the PowerClip Jr to ensure that it has made full contact with the clock chip's legs and has not been bumped loose or is touching any other devices inside the Mac. Pull vertically on the Clip - if it is gripping the clock chip, it should not come off.

3) Verify that the DIP switch settings are correct for your specific Mac model using the charts beginning just before this section of the manual. Start at the lowest speed available then work up to a setting that offers the highest reliable speed.

4) Make sure that any peripherals that were disconnected earlier in the installation have been reattached properly and that the cables are fully attached. Reboot with Extensions off by holding the Shift key during boot to establish whether or not an Extension is reacting badly to the higher speed setting. You may find that a certain INIT can prevent you from getting an additional two or four MHz of speed.

5) Make sure that the AV card or the video memory upgrade card is fully seated into the Mac. Also check the cache SIMM — removing and reinstalling it can occasionally solve problems with booting.

6) When updating the System software from 7.5 to 7.5.1,

be sure to remove the Clip first, run the updater and then reinstall the Clip. ALSO, the Newer 7.5 patch software, supplied on diskette, will correct a few minor bugs in the system on 7100 and 8100 computers.

7) After you have checked these suggestions, take advantage of our Technical Support people who can assist you with further problem diagnostics.

If things still won't work, you may have a more "general" system problem. By zapping the PRAM and rebuilding the desktop, you can make the system reset certain functions that are easily corrupted. Many Mac users make a routine of these two operations just as a matter of preventative maintenance. You can "zap" or reset the Parameter RAM (PRAM) by holding down the Command, Option, P and R keys and waiting for the third chime. Then rebuild the desktop by holding down the Command and Option keys as the Macintosh restarts. You may also want to check to make sure that a more general problem has just decided to show up, such as SCSI ID# conflict.

It's always fastest for you to have eliminated all of the previously mentioned problems before calling our Technical Support for assistance. You can reach Newer Technology Technical Support at 800-678-3726 or 316-685-4904, fax 316-685-9368 or AppleLink at Newer.Tech, eWorld at NewerTech or techsupport@newertech.com on the Internet if you have further questions.

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THE FOREGOING WARRANTY IS SUBJECT TO THE FOLLOWING CONDITIONS (WHICH MUST BE MET, OR OTHERWISE THE MANUFACTURER MAKES NO WARRANTY EXPRESSED OR IMPLIED ABOUT THE PRODUCT OR TITLE):

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B) THE DEFECTIVE UNIT IS RETURNED TO MANUFACTURER, FREIGHT PREPAID, WITHIN THIRTY (30) DAYS OF THE DISCOVERY OF SUCH DEFECT, AND

C) MANUFACTURER'S EXAMINATION OF SUCH UNITS SHALL DISCLOSE TO ITS REASONABLE SATISFACTION THAT SUCH DEFECTS EXIST AND HAVE NOT BEEN CAUSED BY MISUSE, NEGLECT, IMPROPER INSTALLATION, REPAIR, ALTERATION OR ACCIDENT CAUSED BY PARTIES OTHER THAN MANUFACTURER.

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Related Newer Technology Products

For all Power Macintosh and Performa 611X series users, Newer Technology has 256K, 512K and 1MB Level 2 cache SIMM memory. Also for Power Macintosh users, Newer Technology offers 4MB, 8MB, 16MB, 32MB and 64MB SIMMs as well as 4MB, 8MB, 16MB, 32MB, 64MB and 128MB DIMMs from our own state-of-the-art surface mount production facility in Wichita, Kansas.

All Newer Technology accelerator products come with a two-year parts and labor warranty. Memory products come with a lifetime parts and labor warranty. All Newer Technology products have a 30-day money-back guarantee, illustrated installation manual and unlimited toll-free technical support.

Newer Technology

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