

SONNET AV/HPV CARD VIDEO ADAPTER KIT

Installation Instructions for Power Macintosh 7100 and 8100

Adapter Kit Inventory

Before installing the AV/HPV Card Video Adapter, you will require the following items (*Figure 1*):

Included with adapter kit:

- 1) Video adapter board
- 2) Video flex cable
- 3) Two 4-40 nuts
- 4) Support standoff (required for 7100 only)
- 5) Two assembly standoffs (required for 8100 only)

Needed; not included with adapter kit:

- 6) Small flatblade screwdriver
- 7) Small Philips screwdriver
- 8) Crescendo NuBus processor upgrade card
- 9) PDS-based AV card or HPV card (AV card shown in illustration)

We suggest that you inventory and lay the items out in front of you prior to proceeding with the installation of the AV/HPV Card Video Adapter Kit.

For the installation of the AV/HPV Card Video Adapter kit in a Power Macintosh™ 7100, continue with instructions below; for the Power Macintosh 8100, skip to page 7.

AV/HPV Card Video Adapter Kit – Power Macintosh 7100 Installation



Support Note: IMPORTANT! – The video adapter board installs into the middle NuBus slot since it aligns with the proper clearance in the support framing of the computer's case. The video adapter board uses the middle NuBus slot as a holder; it does not convert your AV or HPV card into a NuBus card.

We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

1. Shut down your Power Macintosh. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.
3. Open your Power Macintosh by first loosening the security screw (*Figure 2*) on the back of the case with a large flatblade screwdriver; then, gently slide the case cover off the computer.
4. Turn over the cover and locate the large cutout in the support framing (*Figure 3*). This cutout provides the necessary clearance required for the adapter kit to fit inside the computer. Take care when removing and replacing the cover onto your computer to prevent damaging the adapter's video flex cable as it fits into this cutout.
5. Set the cover aside.
6. Identify the internal components of your computer (*Figure 4*). Touch the power supply metal shielding to discharge any potential damaging static electricity.

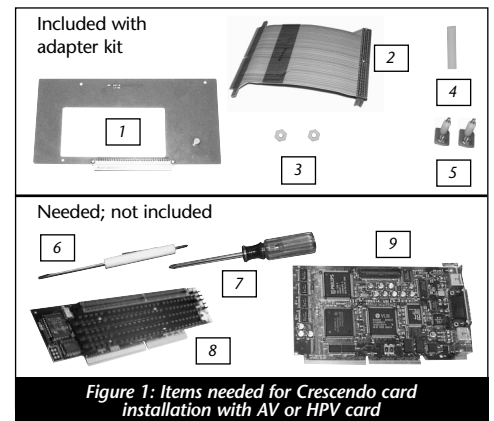


Figure 1: Items needed for Crescendo card installation with AV or HPV card

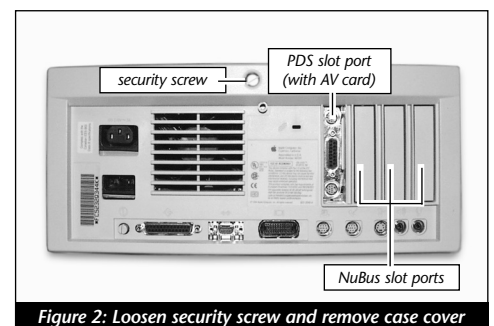


Figure 2: Loosen security screw and remove case cover

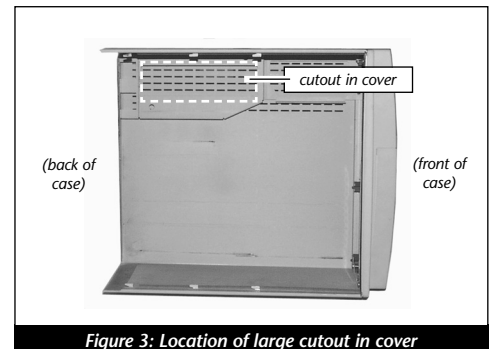


Figure 3: Location of large cutout in cover

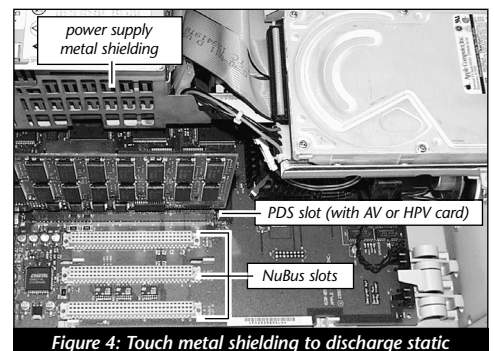


Figure 4: Touch metal shielding to discharge static

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Sonnet AV/HPV Card Video Adapter Kit

7. Locate the PDS slot (**Figure 5**). If there is a PDS card installed (such as the Apple AV or HPV card or Sonnet Crescendo card), remove it and set it aside.
8. Locate the NuBus slots (**Figure 5**). If any NuBus cards are installed, temporarily remove them so you have better clearance for installing the video adapter board. If you have three NuBus cards in your computer, you will only be able to reinstall two of them. The middle NuBus slot is required for the adapter board.
9. Determine if you have an AV or HPV card as follows:
 - **AV Card** – The AV card has a single 15-pin monitor connector for a monitor and S-Video In and S-Video Out ports (**Figure 6**) that support Audio/Video features.
 - **HPV Card** – The HPV (High Performance Video) card has a single 15-pin monitor connector for a monitor and four onboard Video RAM (VRAM) slots (**Figure 7**).
10. Before attaching the AV or HPV card to the video adapter board, you need to bend the metal tab 90° at the end of the AV card (**Figure 8**) or HPV card (**Figure 9**) with a small flatblade screwdriver so it fits in its new location.

(Installation instructions continued...)

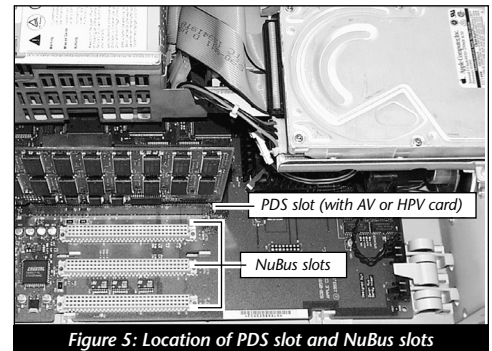


Figure 5: Location of PDS slot and NuBus slots

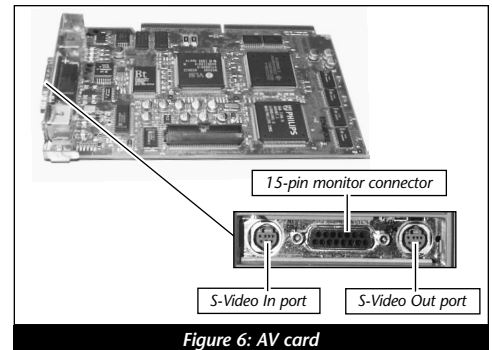


Figure 6: AV card

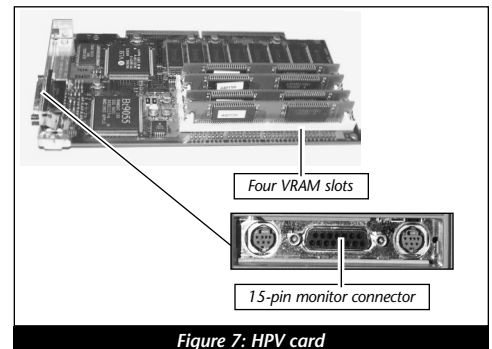


Figure 7: HPV card

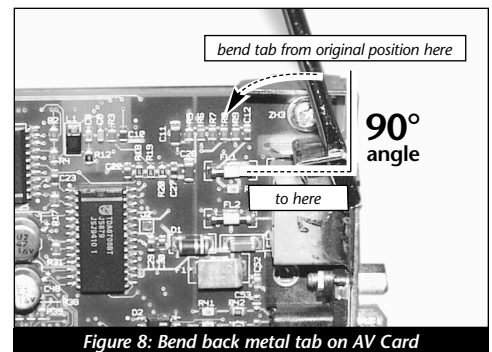


Figure 8: Bend back metal tab on AV Card

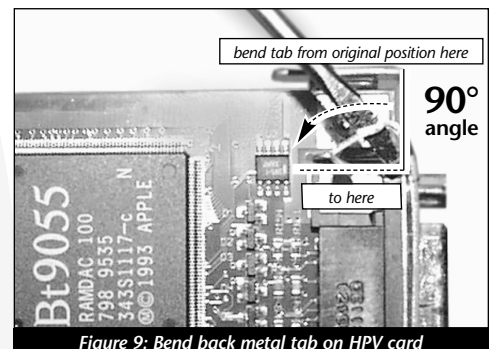


Figure 9: Bend back metal tab on HPV card

11. Affix AV or HPV Card to Video Adapter Board

HPV Card Installation

- Orient the video adapter board in front of you as shown in Figure 10. Using a small Phillips screwdriver, remove the upper left stand-off from the adapter board (**Figure 10**).
- Align the HPV card directly over the video adapter board with the connector of the HPV card facing upward (**Figure 11**). The holes on the HPV card should align directly with the upper right and lower left standoffs on the adapter board.
- Secure the HPV card to the video adapter board with the two nuts (**Figure 12**) supplied with the adapter kit.
- Continue with the instructions at step 12.

AV Card Installation

- Orient the video adapter board in front of you as shown in Figure 13. Align the AV card directly over the adapter board with the connector of the AV card facing upward (**Figure 13**). The holes on the AV card should align directly with the standoffs on the adapter board.
- Secure the AV card to the video adapter board with the two nuts (**Figure 14**) supplied with the adapter kit.
- Continue with the instructions at step 12.

(Installation instructions continued...)

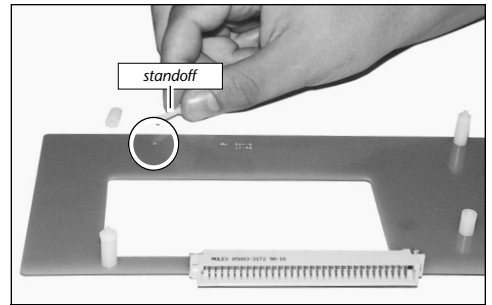


Figure 10: Remove upper left standoff

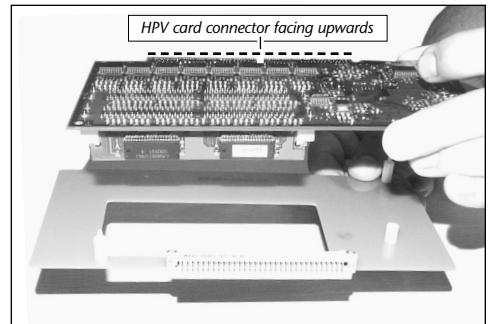


Figure 11: Orient HPV card over adapter board

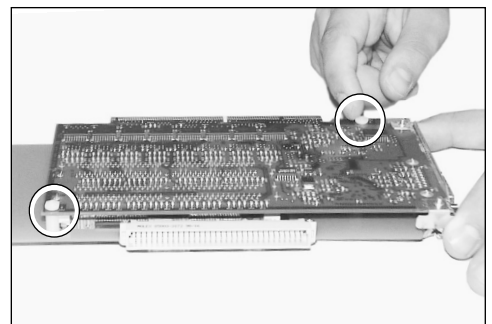


Figure 12: Secure HPV card to adapter board with nuts

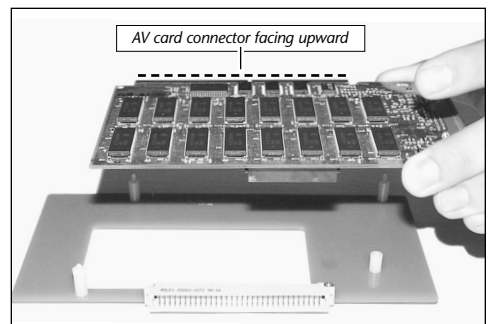


Figure 13: Orient AV card over adapter board

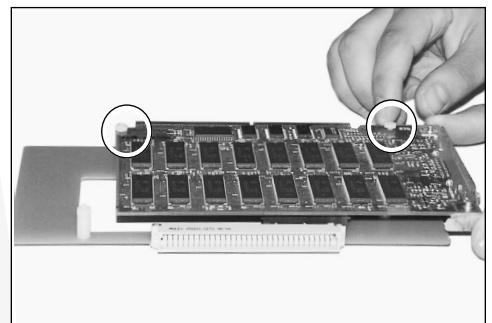


Figure 14: Secure AV card to adapter board with nuts

Sonnet AV/HPV Card Video Adapter Kit

12. Place the Crescendo card in front of you with the pass-through slot facing upward. Screw the support stand-off (supplied with the adapter kit) onto the card (**Figure 15**).
13. Install the video flex cable into the pass-through slot of the Crescendo card (note the notch in the cable for orientation). Press down on the outer edges of the cable until it is firmly seated (**Figure 16**).
14. Align the Crescendo card over the PDS slot on the logic board with the card's heatsink facing toward the power supply. Gently press down until the card is firmly seated in the PDS slot (**Figure 17**).
15. Remove the access port cover (if installed) from the middle NuBus port located at the back of the computer (**Figure 18**). Use your finger or a small flatblade screwdriver to push it out from the port as shown in Figure 18.
16. Insert the access port cover into the PDS port (**Figure 19**).

(Installation instructions continued...)

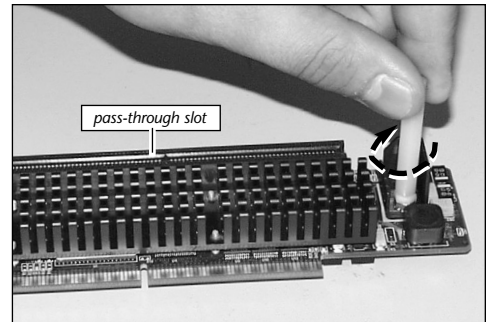


Figure 15: Screw support stand-off onto Crescendo card

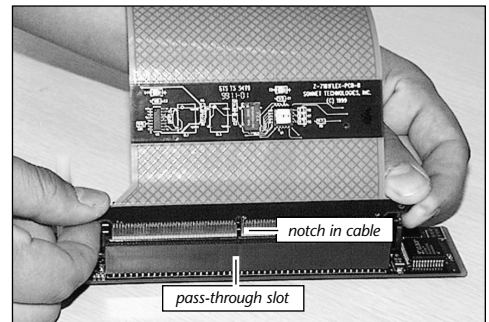


Figure 16: Attach video flex cable to Crescendo card

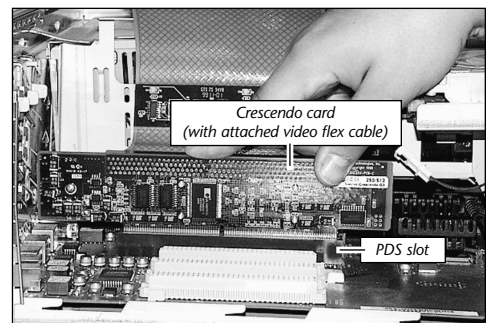


Figure 17: Install Crescendo card into PDS slot

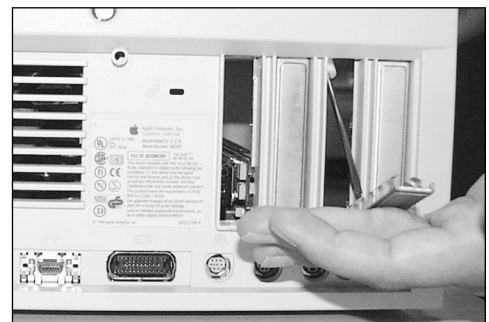


Figure 18: Push out middle NuBus port cover



Figure 19: Insert access port cover into PDS port

17. If you are reinstalling any NuBus cards, first install a NuBus card into the NuBus slot closest to the power supply. Then, align the video adapter board over the **middle NuBus slot** on the logic board with the inverted AV or HPV card on the adapter board facing toward the power supply (**Figure 20**). Verify the adapter board lines up with the inline NuBus guides of the 7100's case. Gently press down on the adapter board (not directly on the AV or HPV card) until the adapter board is firmly seated in the middle NuBus slot. If you encounter excessive resistance, check for bent connector pins, re-align the adapter board over the middle NuBus slot, and gently press down again. If you have a second NuBus card to install, install it into the outer NuBus slot.
18. Attach the connector on the video flex cable to the AV or HPV card (**Figure 21**). Gently press down on the outer edges of the connector to avoid pricking your fingers on the series of pins on top of the connector. If necessary, use a piece of foam from the packaging material your card shipped in to provide a cushion between your finger and the pins.
19. Return the computer to your computing area.
20. **IMPORTANT!** – Before replacing the cover onto your computer, attach your monitor's video cable to the AV or HPV card 15-pin monitor connector (**Figure 22**). Secure the cable by tightening the thumbscrews on the cable's connector. Connecting the cable anchors the card in place while replacing the cover.
21. Turn over the cover and locate the large cutout in the support framing (**Figure 23**). This cutout provides the necessary clearance required for the video adapter board to fit inside the computer. **Take care when removing and replacing the cover onto your computer to prevent damaging the adapter's video flex cable.**
22. **Carefully** replace the cover onto your computer by slanting the front end of the cover over the computer (**Figure 24**). Confirm the inner grooves of the bottom of the case align with the tabs in the cover. As you slide back the cover, the top of the video adapter board and attached flex cable should fit nicely into the cutout of the cover. When the cutout of the cover clears the connector, you can lower the cover into place.

(Installation instructions continued...)

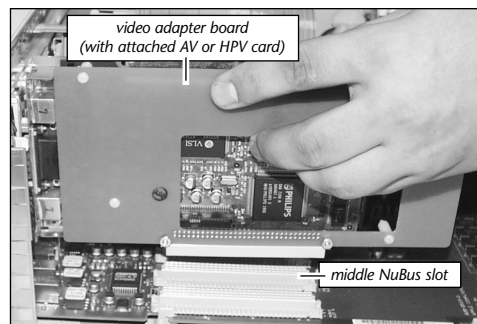


Figure 20: Install adapter board into middle NuBus slot

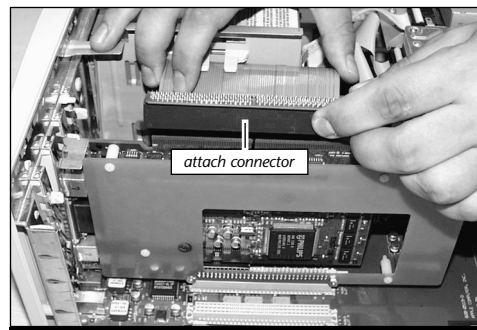


Figure 21: Attach video flex cable to AV or HPV card

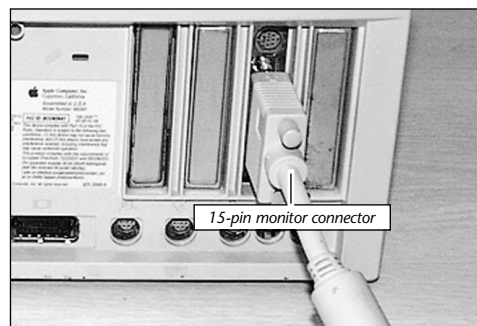


Figure 22: Reattach 15-pin monitor connector

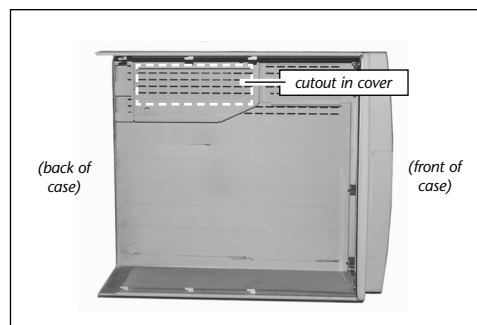


Figure 23: Location of large cutout in cover

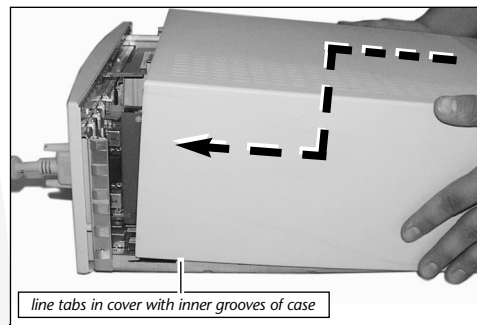


Figure 24: Replace case cover onto computer

23. Make certain the cover lines up with the support runner of the computer's case (**Figure 25**). The video adapter board should be firmly in place and not misaligned with the access port slot. If the video adapter board appears "tweaked" you will need to carefully realign the case back onto the computer.
24. Finish sliding the cover onto the computer until it lines up with the rear of the computer (**Figure 26**).
25. Once the cover is in place, tighten the security screw on the back of computer's case.
26. Reconnect the power and peripheral cables to the computer.
27. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.

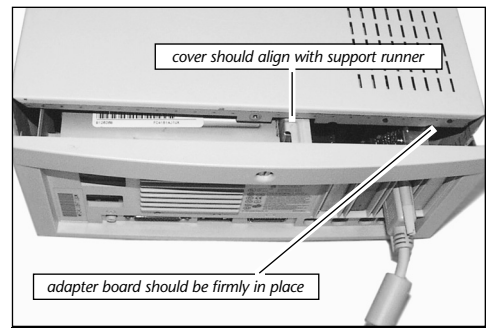


Figure 25: Verify cover aligns with support runner

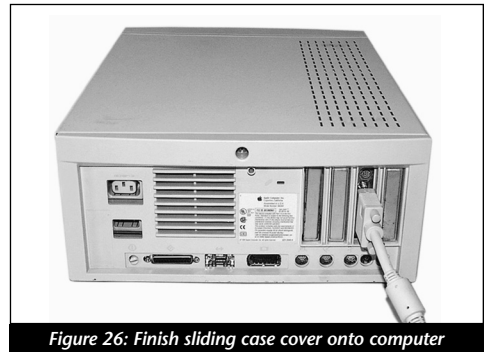


Figure 26: Finish sliding case cover onto computer

AV/HPV Card Video Adapter Kit – Power Macintosh 8100 Installation



Support Note: IMPORTANT! – The video adapter board installs into the middle NuBus slot of your computer. The video adapter board uses the middle NuBus slot as a holder; it does not convert your AV or HPV card into a NuBus card.

We recommend that you make a backup of important information on your hard drive prior to installing new hardware or software. When handling computer products, you must take care to prevent components from being damaged by static electricity. Avoid carpeted areas, handle processor upgrade cards only by their edges, and avoid touching connector traces and component pins.

1. Shut down your Power Macintosh. If the computer has been on for any length of time, wait a few minutes for it to cool before beginning the installation.
2. Disconnect the power and peripheral cables from the back of the computer and move it to an area where you can freely work.
3. Open your Power Macintosh by first loosening the four security screws on the back of the case with a large flatblade screwdriver; then, gently slide the case cover off the computer (*Figure 27*).
4. Lay the computer on a flat surface so that you may gain access to the interior of the computer (*Figure 28*).
5. Identify the internal components of your computer. Touch the power supply metal shielding (*Figure 28*) to discharge any potential damaging static electricity.
6. Locate the PDS slot (*Figure 29*) directly under the metal shielding of the internal power supply. If there is a PDS card installed (such as the Apple AV or HPV card or Sonnet Crescendo card), remove it. Gently unlatch the inner case tab away from the PDS card with your finger or the head of a small flatblade screwdriver (*Figure 29, inset*), then grasp the edges of the card firmly and pull it out of the PDS slot.
7. Locate the NuBus slots (*Figure 29*). If any NuBus cards are installed, temporarily remove them so you have better clearance for installing the video adapter board. If you have three NuBus cards in your computer, you will only be able to reinstall two of them. The middle NuBus slot is required for the adapter board.
8. Determine if you have an AV or HPV card as follows:
 - **AV Card** – The AV card has a single 15-pin monitor connector for a monitor and S-Video In and S-Video Out ports (*Figure 30*) that support Audio/Video features.
 - **HPV Card** – The HPV (High Performance Video) card has a single 15-pin monitor connector for a monitor and four onboard Video RAM (VRAM) slots (*Figure 30*).

(Installation instructions continued...)

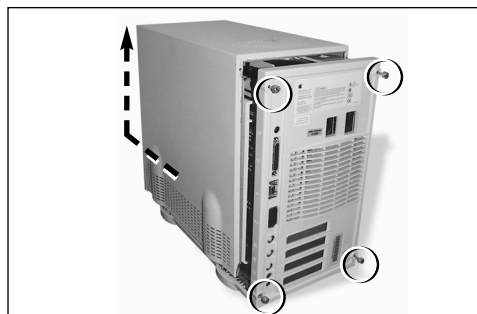


Figure 27: Loosen security screws and remove case cover

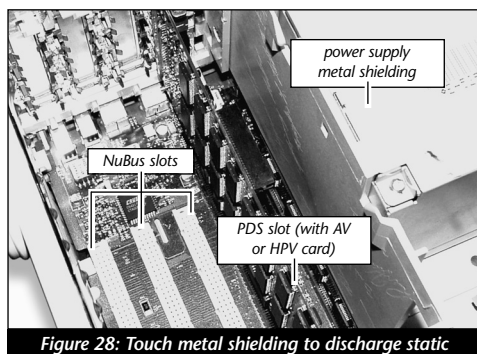


Figure 28: Touch metal shielding to discharge static

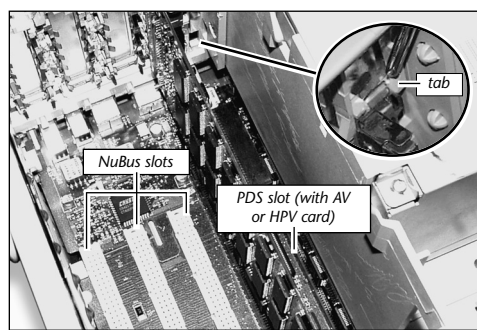


Figure 29: Remove any cards from PDS and NuBus slots

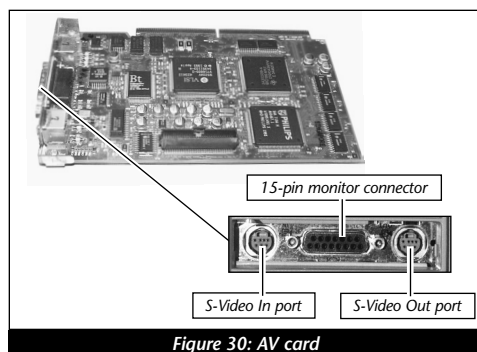


Figure 30: AV card

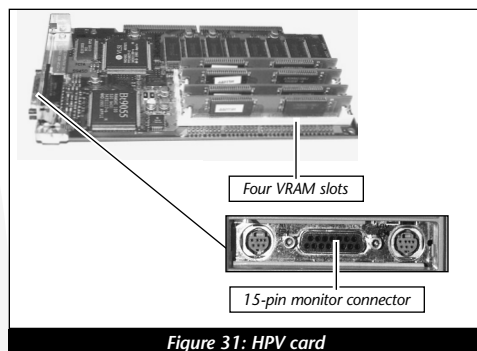


Figure 31: HPV card

- Before attaching the AV or HPV card to the video adapter board, you need to bend the metal tab 90° at the end of the AV card (**Figure 32**) or HPV card (**Figure 33**) with a small flatblade screwdriver so it fits in its new location.

10. Affix AV or HPV Card to Video Adapter Board

HPV Card Installation

- Using a small Phillips screwdriver, remove the three standoffs from the video adapter board. Locate the two subassembly standoffs from the video adapter packaging. Assemble and secure one subassembly standoff to the upper right corner of the board, and the other subassembly standoff to the lower left corner (**Figure 34**).
- Align the HPV card directly over the video adapter board with the connector of the HPV card facing upwards (**Figure 35**). The holes on the HPV card should align directly with the standoffs on the adapter board. Secure the HPV card to the video adapter board with the two nuts (**Figure 35**) supplied with the adapter kit.
- Continue with the instructions at step 11.

AV Card Installation

- Using a small Phillips screwdriver, remove the three standoffs from the video adapter board. Locate the two subassembly standoffs from the video adapter packaging. Assemble and secure the two subassembly standoffs to the upper left and right corners of the adapter board (**Figure 36**).
- Align the AV card directly over the video adapter board with the connector of the AV card facing upward (**Figure 37**). The holes on the AV card should align directly with the standoffs on the adapter board. Secure the AV card to the video adapter board with the two nuts (**Figure 37**) supplied with the adapter kit.
- Continue with the instructions at step 11.

(Installation instructions continued...)

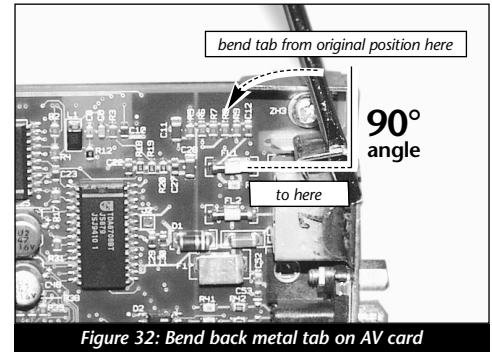


Figure 32: Bend back metal tab on AV card

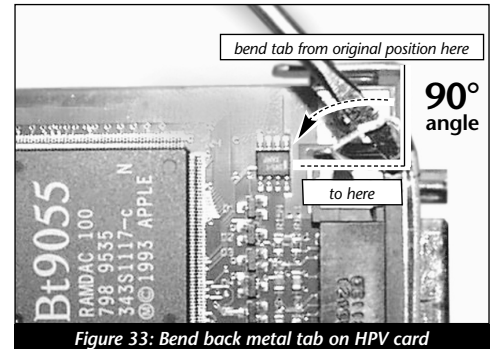


Figure 33: Bend back metal tab on HPV card

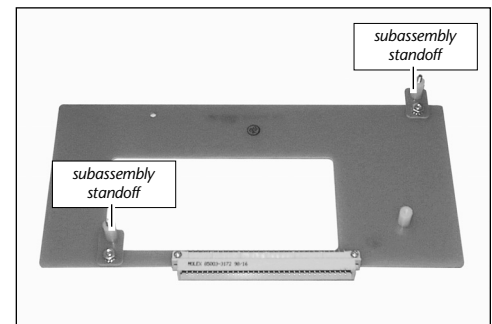


Figure 34: Assemble subassembly standoffs for HPV card

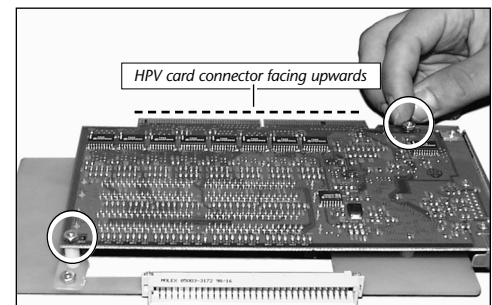


Figure 35: Secure HPV card to adapter board with nuts

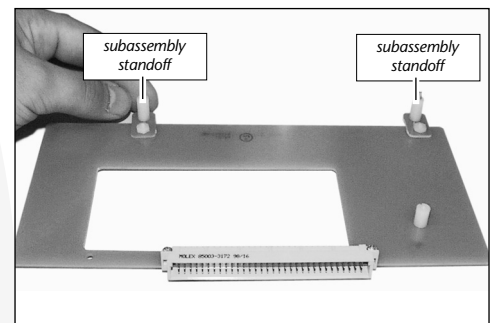


Figure 36: Assemble subassembly standoffs for AV card

Sonnet AV/HPV Card Video Adapter Kit

11. Attach the video flex cable into the pass-through slot of the Crescendo card (note the notch in the cable for orientation). Press down on the outer edges of the cable until it is firmly seated (*Figure 38*).
12. Align the Crescendo card over the PDS slot on the logic board with the card's heatsink facing toward the power supply. Gently press down until the card is firmly seated in the PDS slot (*Figure 39*).
13. Remove the access port cover (if installed) from the middle NuBus port located at the back of the computer (*Figure 40*). Use your finger or a small flatblade screwdriver to push it out from the port as shown in *Figure 40*.
14. Insert the access port cover into the PDS slot (*Figure 41*).

(Installation instructions continued...)

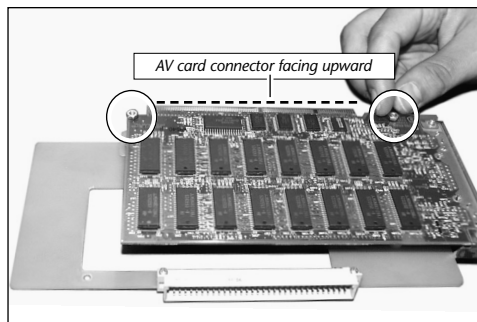


Figure 37: Secure AV card to adapter board with nuts

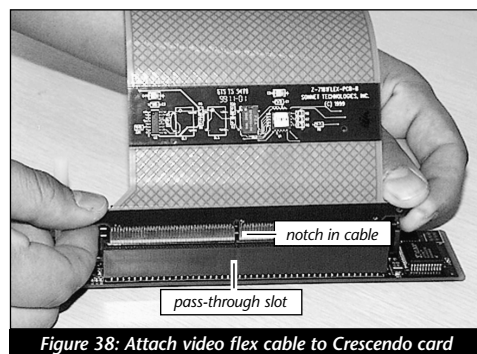


Figure 38: Attach video flex cable to Crescendo card

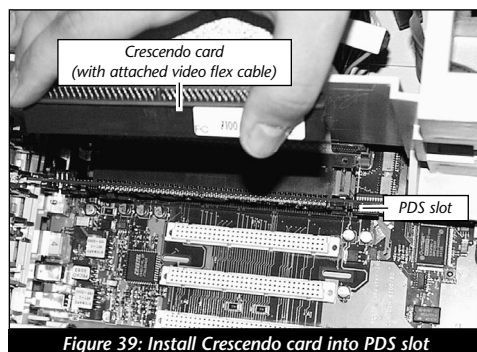


Figure 39: Install Crescendo card into PDS slot



Figure 40: Push out middle NuBus access port cover

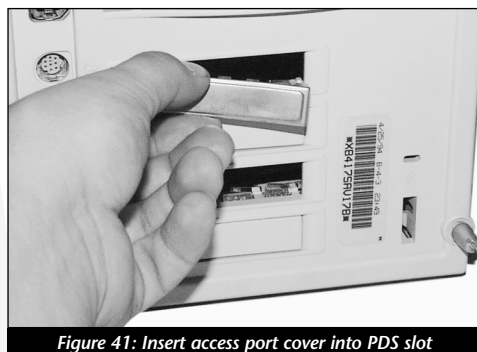


Figure 41: Insert access port cover into PDS slot

15. If you are reinstalling any NuBus cards, first install a NuBus card into the NuBus slot closest to the power supply. Then, align the video adapter board over the **middle NuBus slot** on the logic board with the inverted AV or HPV card on the adapter board facing toward the power supply (**Figure 42**). Verify the adapter board lines up with the inline NuBus guides of the 8100's case. Gently press down on the adapter board (not directly on the AV or HPV card) until the adapter board is firmly seated in the middle NuBus slot. If you encounter excessive resistance, check for bent connector pins, re-align the adapter board over the middle NuBus slot, and gently press down again. If you have a second NuBus card to install, install it into the outer NuBus slot.
16. Attach the connector on the video flex cable to the AV or HPV card (**Figure 43**). Gently press down on the outer edges of the connector to avoid pricking your fingers on the series of pins on top of the connector. If necessary, use a piece of foam from the packaging material your card shipped in to provide a cushion between your finger and the pins.
17. Return the computer to your computing area.
18. **IMPORTANT!** – Before replacing the cover onto your computer, attach your monitor's video cable to the AV or HPV card 15-pin monitor connector (**Figure 44**). Secure the cable by tightening the thumbscrews on the cable's connector. Connecting the cable anchors the card in place while replacing the cover.
19. **Carefully** replace the cover onto your computer by slanting the front end of the cover over the computer, making sure the tabs on the back of the cover slide inside the rear of the case (**Figure 45**). Finish sliding the cover onto the computer until it is flush with the rear of the computer (**Figure 46**). The video adapter board should be firmly in place and not misaligned with the access port slot. If the adapter board appears "tweaked" you will need to remove the cover and firmly align the adapter board.
20. Once the cover is in place, tighten the four security screws on the back of computer's case.
21. Reconnect the power and peripheral cables to the computer.
22. Turn on your Power Macintosh. Your newly accelerated machine should boot as normal.

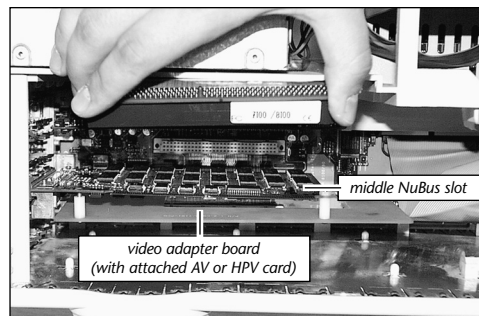


Figure 42: Install adapter board into middle NuBus slot

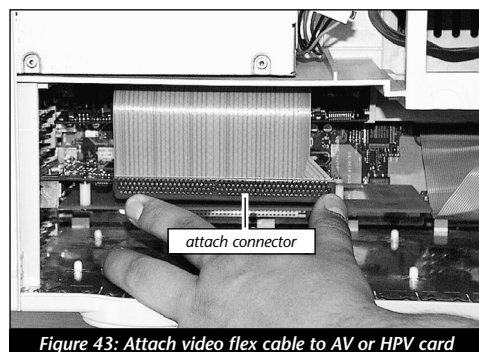


Figure 43: Attach video flex cable to AV or HPV card

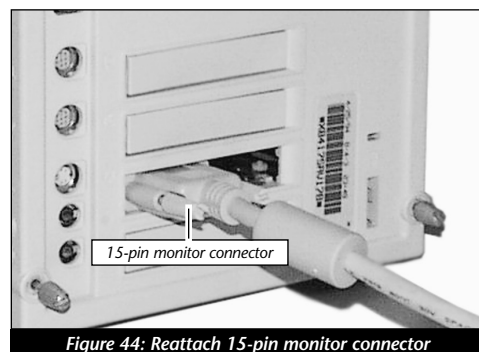


Figure 44: Reattach 15-pin monitor connector

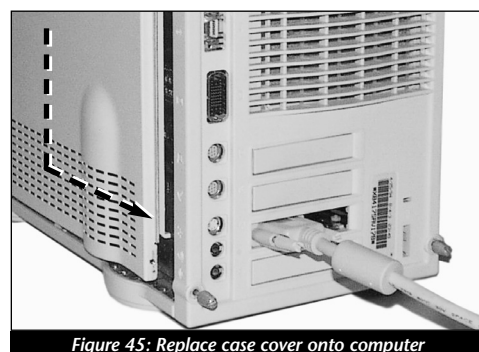


Figure 45: Replace case cover onto computer



Figure 46: Finish sliding case cover onto computer