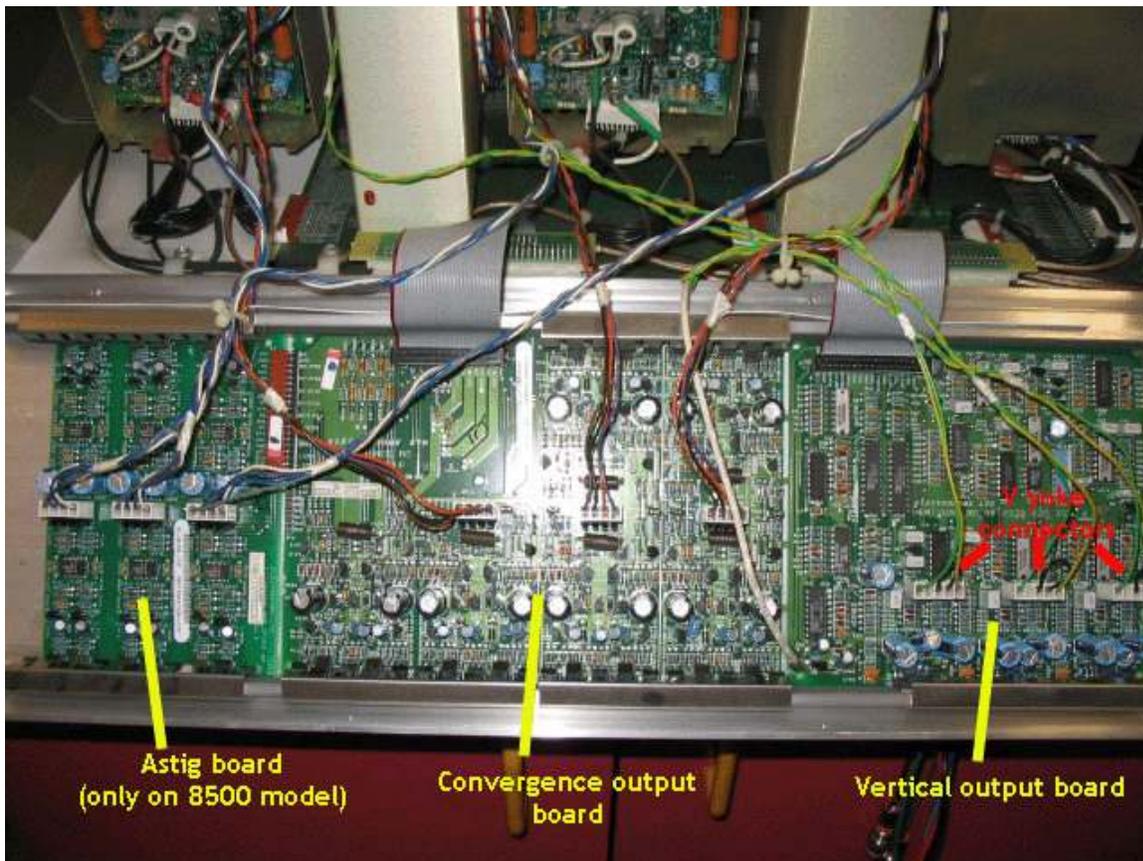


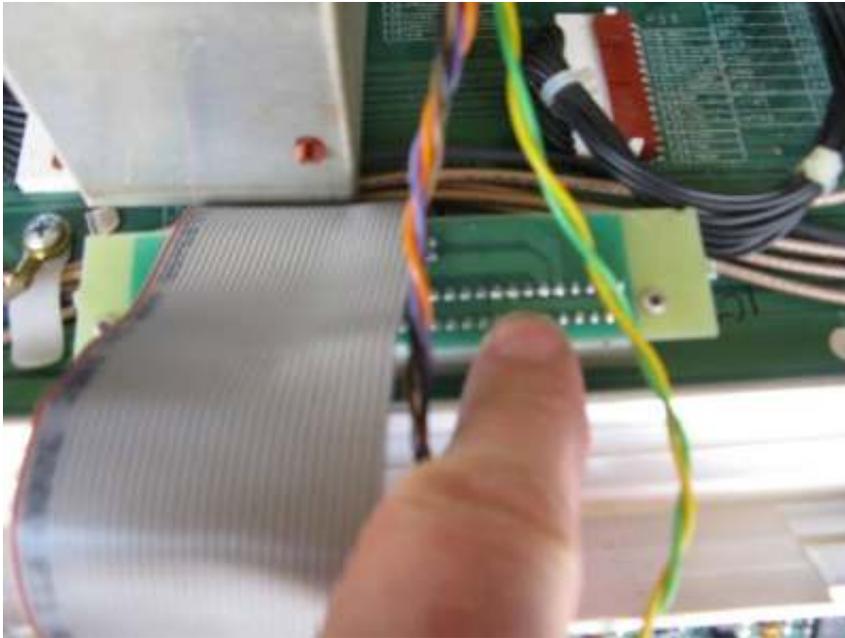
Marquee Circuit Board Removal for Service

Note: I strongly suggest printing this out and using it for both disassembly and re-assembly. I cannot be responsible for any mistakes made from the incorrect use of this guide and damage to a machine. **IF you have trouble reading or following directions please hire a pro to work on your machine.**

- 1) Remove top covers off Marquee.
- 2) Remove 8 screws holding rear cover on (skip for Vision models) and remove the 3 silver braided ground wires to the 3 tubes. I strongly suggest putting all the screws in a sealable sandwich bag. Label bags to keep screws organized.
- 3) Swing the rear heat sink down on its hinges. Be careful not to stretch the wires to the yokes.
- 4) Make sure the heat sink is resting on a bench. Not hanging over the edge like in this picture below when you remove the hinge screws as you don't want it crashing to the floor.



- 5) Unplug the 3 white Molex connector from the Vertical Deflection Module (VDM); it's the board behind the Blue tube which is also the scan reversal. Also unplug 3 leads from the Convergence Amplifier (CVA) which is the center board and the 3 from the Stig board (8500/9500 only)
- 6) Unplug the white ground wire to VDM (if equipped) and the 2 Gray ribbon cables from both boards (Note" never pull on wires or Ribbon cables, grab connector only) If you have trouble grabbing the Black Molex Ribbon cable Connector use a pair of channel lock pliers opened up to the right size. Gently rock the connector side to side until it pops off.
- 7) Now remove the 2 plastic side covers and the gold metal covers underneath them. I suggest keeping all these screws separate in a plastic sandwich bag.
- 8) Pay close attention to whether your Marquee has this kind of connector on the Motherboard:



- 9) If it does it will have a White plastic insulating strip on the inner lip of the heat-sink, like this

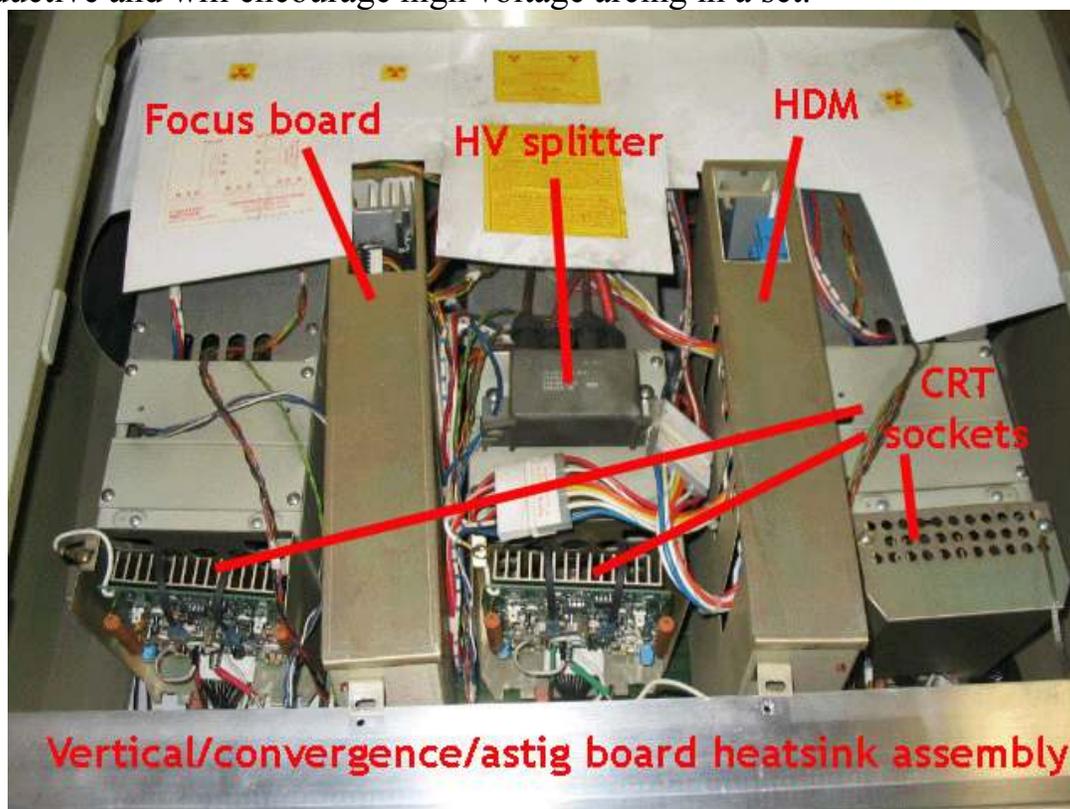


- 10) This strip is very important, make sure you do not lose it and send it to me with the heat-sink. I will glue it securely in place after I service the boards. If this strip gets lost and machine is re-assembled without it you will blow the low voltage power supply when you turn the machine back on.

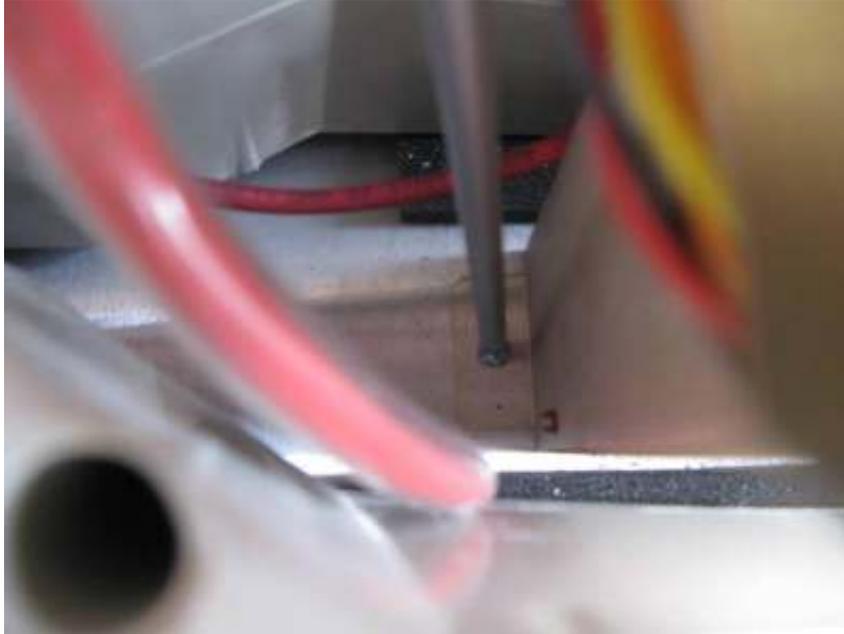
11) Now with all wires disconnected unscrew the rear heat-sink by removing these 2 screws



12) Now it's time to remove the Focus and HDM. It will help to remove the lead shielding to do this and it's a good idea anyway. I suggest some Windex and paper towels to clean off as much of the Black sooty deposits as possible. This stuff is very conductive and will encourage high voltage arcing in a set.

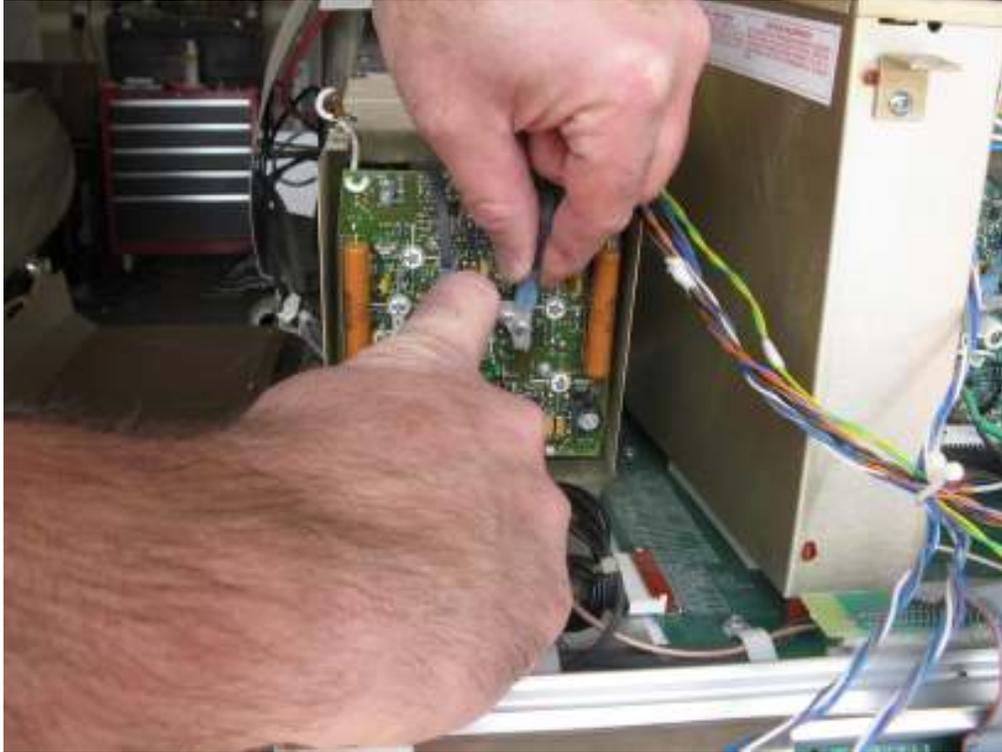


To remove the HDM, First unplug all 3 horizontal scan connectors. There are 6 cardboard tubes visible from the inside, be very careful as they are made of paper and very fragile. For this reason I strongly suggest leaving the board in the cage. Simply remove this screw with a long Phillips screwdriver and pull the cage out complete. Make sure you don't drop the screw down into the chassis where it can jam a cooling fan or short out the motherboard. Get someone with small hands to help you.



- 13) Do the same for the focus board, you will need to pop off the metal top to reach the connectors and unplug the Focus board.
- 14) Now for the 3 Video Neck boards, also called VNB's. First remove the 2 screws holding the metal cage cover on. Put all the screws and braided metal ground straps in a baggy. Tilt the cover back and lift up and off.

15) Remove the 2 Black tube ground straps from the metal cage. Use 1 finger to steady board while rocking and pulling up, like this

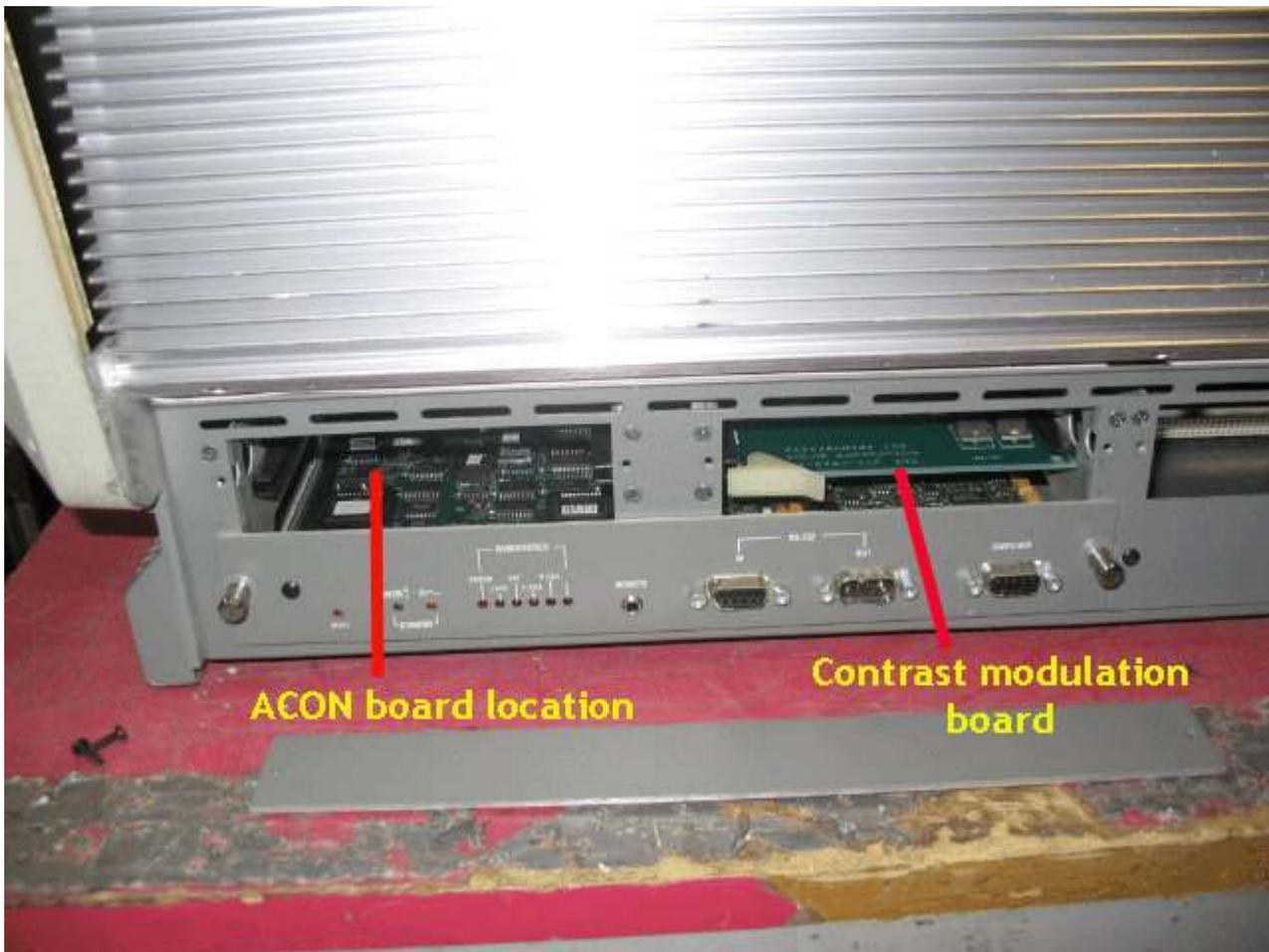


Now remove the pink ground wire from bottom of cage, the color coded G2 power feed, and the White G2 bias wire from the clocking window. Finally remove the Video coaxial (twist and pull) while pushing on the board with your other hand. Lastly, remove the White Molex connector from the board. Use a pair of channel lock pliers to prevent damage. Like this:



Now simply slide the Vide neck board straight back off the tube. Repeat on the other 2 tubes.

8500/9500 only: remove the cover plate directly above the control module in back to access the 2 expansion slots. Use the thumb re-release lever to pop the Contrast Modulation board out (see pic below):



16) Package the all boards carefully with plenty of bubble wrap around it. Wrap the heavy alum. heat sink in big bubble wrap and put it in the bottom of a sturdy box, circuit boards facing up. Then a layer of foam and card-board. Then start stacking the other boards individually wrapped in big bubble wrap with an occasional piece of foam between them. Use only the **big bubble wrap**, **DO NOT USE PEANUTS**. They will get inside every socket and make a huge mess.

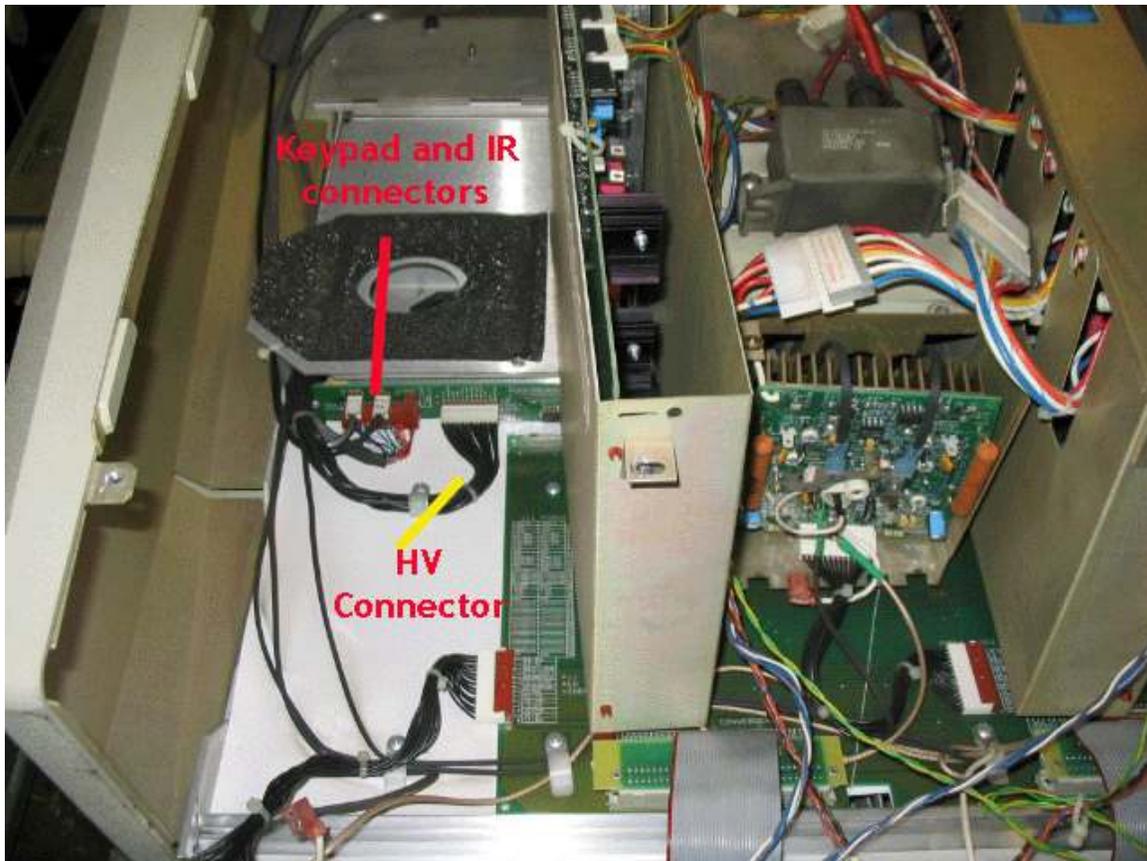
Customers within the continental US (48 states) should send boards to me with insured FedEx ground. Alaska, Hawaii, Canada, and all other international orders

please use your country's regular postal service.

The address is:

Dragan Mejic
1701 Rose Lane
Brighton
CO 80601
USA

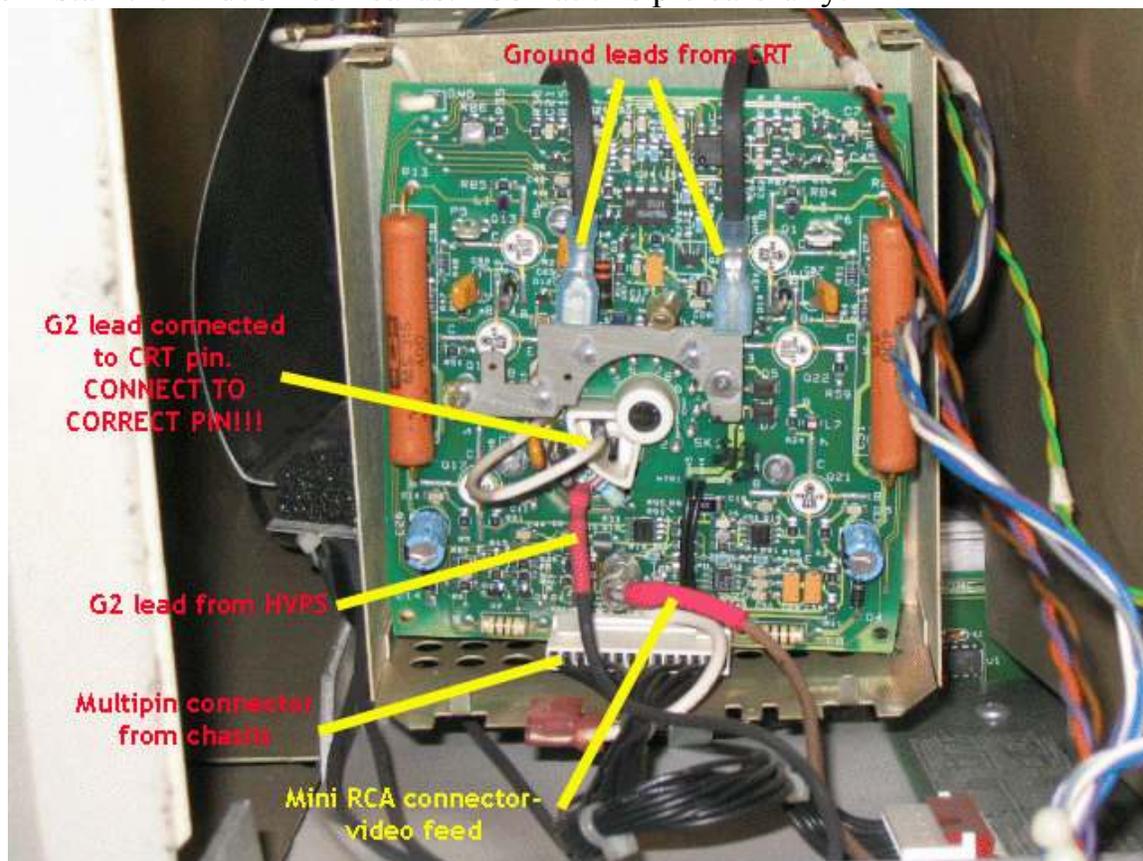
- 17) Upon it's return, re-assemble following the above steps in reverse
- 18) I applied a coating of thermally conductive but electrically insulating grease on the transistors on the big rear heat sink, don't clean this off.
- 19) Note: be very careful if your machine is 1995 to early 1997 model. There is a plastic insulating strip on the bottom of the Big Alum. Heat-sink. Make sure the strip is in place. At the bottom of this pic it shows the old style motherboard which has metal pins on the ribbon cable. This model **needs** the insulating strip



- 20) Re-install the heat sink to back of the machine with the correct fine pitch screws. Replace all 9 Molex connectors, paying close attention so that Red Green, and Blue are in the right place. The board is marked for the right color. Look at the first pic in this guide, Green /yellow wires go to vertical board on right side, Orange/Purple to

Convergence in middle, and Blue/Purple to Stig board on left side. Hold the picture upside down if your machine is on the ceiling.

- 21) Make sure all 6 connectors are plugged in so **that all 4 pins are engaged** in the connector, **DOUBLE CHECK THIS**. If you are off to one side and skip a pin it will blow the channel out on the CVA.
- 22) Unlike the VDM scan reversal connectors. The CVA connectors only go one way and cannot be installed upside down
- 23) Reconnect Ribbon cables
- 24) IF you have a 1995 to 97, reconnect the White ground wire to the Vertical board.
- 25) Plug the Horizontal Deflection and Focus Control Modules back in and put the little screw back in front to hold the cage down. The HDM connectors are labeled for Red, Green, and Blue. The focus board connections on the board are shown on the Lead shielding diagram. The back of the HDM and FCM cages has a Red/Brown foot which has to go through a hole in the motherboard. Push any wires crossing the motherboard out of the way if needed.
- 26) Re-install the Video Neck cards. Look at this pic carefully:



Everything has to be put back **exactly like this**. Most importantly is the G2 wire in clocking window on back of tube. This goes on the upper pin if floor mounted and lower pin if machine is ceiling. If you forget this or screw it up you could spot burn the tube. Also don't forget the 2 Black tube grounding wires. They belong **ONLY** on the sheet metal bridge over the card. Make sure they click on securely and are not loose or sloppy. A loose or sloppy ground wire will cause noise in the picture.

- 27) Put the neck –board covers back on and don't forget the braided steel cables from cage screw to rear heat sink.
- 28) Replace all covers and Lead shielding.
- 29) Double check **everything** before powering machine up