

The Mac 512 User Group

Newsletter



Inspired by the Original Macintosh, for all Macintosh lovers.

Rebuilding the Desktop- A Tale of Three Centrises

When the Centris model was debuted, no one outside of Apple knew it. This part will focus on three of the "five" Centris models – The Ilvx, Ilvi and the Centris 650. Internationally the Ilvx was released as the Ilvi. The Ilvx was faster, and more sought after. This is like another tale with the Color Classic and Color Classic II, but in reverse. Alas the Ilvx and Ilvi are officially part of the Macintosh II family, not the Centris family. This distinction may make these Macintoshes the most highly, collectible Macs ever! Unless you are into rating Macs based on performance, then the Ilvi would not be in your book. As history unfolds the truth will become more clear.

Ilvx/Ilvi

The Ilvx was the most powerful Mac II except for the Ilfx. However the lower price of the Ilvx made it a clear winner! The 32MHz 68030 CPU was fast in its day. Back then increments of 10MHz was a big thing, nowadays 50MHz increments makes people notice. While the Ilvi speeded at 16Mhz 68030 it still was powerful for most people. Both Macs used a 16-bit bus so the Ilvx was not as speedy as it could of been. This did not make it a bad performer! The built-in math coprocessor made up for it a bit. The Mac Ilvx/ Ilvi made up the low end of the Centris line - officially it may or may not, depending on the source.

If anyone tells you that the Mac Ilvx was some sort of bad apple, understand one thing. Back in the age of 1992, Apple did what it had to in order to stay competitive with the Wintel Cartel. Slower data buses did the trick while keeping costs low. Apple planned in motherboard upgrades so as future models came out which used the Ilvx form factor, you could pop in a faster board. Your other

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Wanted!!

Looking for anything (which maintains the vision for older Macintoshes) our members would like to contribute to this newsletter! We will place next to each item the name who contributed the article or picture.

Is there some tip or topic would would like to share with the other members? Is there a piece of equipment you would like to share some history about?

Please submit all items to:
uginfo@mac512.com

(The Mac 512 User Group reserves the right to dismiss anything we feel does not fit into the newsletter.)

A Tale of Three Centrises

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peripherals worked so no big deal. The Color Classic also suffered this bad rap or being a bad apple. I say down with anyone who calls any Macintosh a piece of crap, we have Mac advocates who believe the Mac IIvx is in one way or another apple crap. I don't agree with them in any way. Maybe one day they will see the light of true Mac advocacy.

A total of 68MB of memory gave the IIvx & IIvi the room to run current applications with ease. You had to install the memory in groups of 4. The internal cache of 32K made the IIvx a clear winner of speed as the CPU would fetch commonly used instructions from that cache instead of going to the main memory. The IIvi did not have the 32K cache built-in, nor could you add it later on.

Normal expandability of SCSI port, printer port, modem port, microphone port, ADB ports, and speaker port made both of these models a clear winner. You



The Mac IIvx/IIvi

could add on anything externally to enhance your Mac to the newest level. The internal CD-ROM bay made adding on a CD-ROM or removable drive easy and it saved on desk space too. If you needed to network this baby, a NuBus card was in order. Up to three cards could be placed inside. The IIvx/IIvi also supported a PDS style of card, however it blocked 1 NuBus card slot so three cards was the maximum any way you cut it.

System Software 7.1 with System Enabler 001 was the original operating system. They could go up to System (Mac OS) 7.6.1. If a 68040 accelerator card was used, there are hacks or techniques which make these Macs use Mac OS 8.0.

I am not sure on the original costs of these Macs. However their lifeline was about 1 year - 10/19/92 - 10/21/93. The Performa 600 is the same as the Mac IIvx.

Centris 650

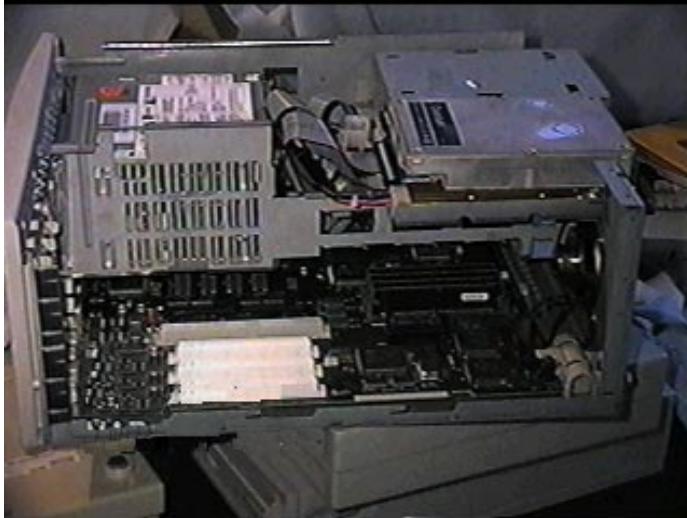
This Macintosh was a gem in the rough! As Apple was focusing on the lower priced onslaught of PCs, Apple's flagship Quadra line was too expensive for consumers who wanted more computer power. Apple released the Centris models hoping to lure people away from the Wintel camp over to the truth of Macintosh. The Centris was an extension of making lower priced computers. During this period Apple did make a few other lower cost models (like the LC series), however the future of the 68040 CPU chips were what people wanted. Apple responded with a Centris so expandable, that you could never outgrow its usefulness. In the low end of the market, the Mac LC series was making headway. The Centris 650 was the natural migration from LC customers, the Centris 650 was as fast as you could get without stepping up the more expensive Quadra line.

The Centris 650 is powered by a speedy 25MHz 68040 CPU which blazes through any current application. Interesting enough the Quadra 650 had the exact insides of this model. When the Quadra 650 was released the Centris 650 was already a popular seller. Everything inside is identical, except for the CPU. The Quadra blazed at 33MHz while the Centris was 25MHz.

The Centris 650 was equivalent in pricing as the Mac IIci, this meant customers could get a new product without the raising of computer prices. In fact, computer prices were dropping for the newest technology to still remain competitive. The power in the Centris 650 is equivalent to the Quadra 700. Only one model of the Centris 650 line uses the 68LC040 chip instead of the 68040. This was the model with 4MB of RAM on-board and no CD-ROM. Still a Centris 650, this was done to lower the price a bit more for those who did not need the math coprocessor or Ethernet. All other

A Look Inside - Macintosh IIvx, IIvi & Centris 650

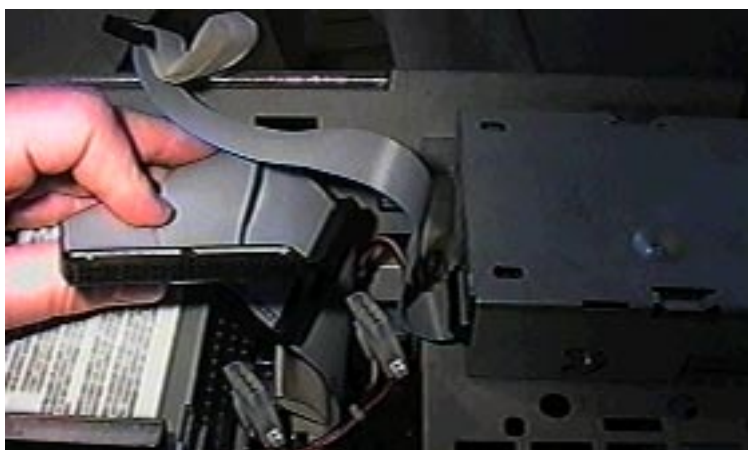
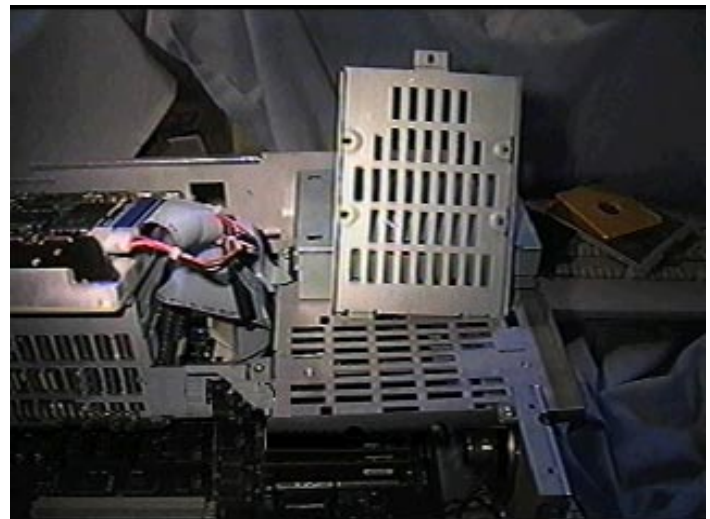
Look at the form factor list and you will see many Power Macintoshes which run in the Macintosh IIvx case. This guide will look inside of the case and show you the components which can be used to retrofit the Macintosh IIvx case.



To the left you see the insides. The "cage" holds the power supply, floppy drive, CD-ROM drive and hard drive.

The slots are on the left hand side and the memory is on the right. The VRAM is under the power supply.

To the right, the floppy drive and hard drives are mounted on a "sled". This sled screws on the drive with four screws, then you place the sled on the vacant spot and screw it down to the cage.



To the left is the dual SCSI cable (black ends) and the dual power cable (white ends) which feeds the CD-ROM drive and hard drive.

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Centris 650 models had Ethernet and the math coprocessor standard.

CD-ROMs were becoming the standard and the Centris 650 could come with one as an option. Software was becoming more popular in the CD-ROM format over diskettes. It would take a few more years before floppy disks were really replaced for good for mainstream software media. If you did not want an internal CD-ROM, you can place in any removable drive in the CD-ROM spot. Finding the appropriate cover is the main chore nowadays if you wanted to do this.

Memory expansion was in the form of four 72-pin SIMM slots holding up to 136MB of memory. You can install the memory in any combination. If you placed two SIMMS which were identical next to each other the technique called memory interleaving speeded up the system even more. The Centris can talk to the pair of



The Centris 650 with 14" monitor.

SIMMS like they were one, thus parallel calls to both memory SIMMs. The processor would communicate in burst mode.

The three NuBus slots meant expandability was a definite option. With the faster models having Ethernet built in, you could add in any number of cards ranging from high-speed SCSI cards, to multiple monitor cards for a four headed Mac! If you wanted to use a PDS style of card, you gave up one NuBus slot, so the total of slots is three if you used the fourth PDS slot or not. The option of using an existing PDS card instead of purchasing a new NuBus card was worth it. Most new people just used the NuBus cards.

The other standard ports on the IIvx were included. The sound out port is capable of stereo output so crank up your favorite music CD! Sound in was mono so recording audio was not there yet, eventually the Centris 660AV would fix that once for all. Hard drive options were 80MB - 500MB internally and any combination of external drives which used the external SCSI port.

Video resolutions up to 832 x 624 in 16-bit video was produced if you have 1MB of Video RAM (VRAM) using a 17" or lower monitor. You can drive 21" monitors in 8-bit mode. The maximum video depth of 1152 x 870 gives you enough screen real estate to have a monstrous spreadsheet or graphic showing almost the entire city of New York! Just make sure your monitor can support it! If you have an IBM VGA PC style of monitor the Centris 650 can support that as well with a conversion adapter. Some Super VGA monitors are not supported though.

System 7.1 with System Enabler 040 was the original System Software version for the Centris 650. System (Mac OS) 8.0 is the last version any 68040 based Mac can run. Accelerator cards using the PPC technology may make this Mac run future System versions. I have not had the chance to do this as I don't have the Power Macintosh accelerator card.

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The back of a Centris 650 - This is the same on the Mac Ilvx and Ilvi..

Pricing ranged from \$2,699 up to \$5,129. This was the new Mac for the business power user! The Centris 650 lasted 8 months, 2/10/93 to 10/21/93. Then the Quadra 650 took over until 9/12/94.

Future

All Macs in this form factor share one interesting tidbit – they all can upgrade to the Power Macintosh 7100 logic board! Just pop out your logic board, and power supply (if you need a beefier one) and pop in the replacement. Simple, easy and fun! For the most easiest upgrade chart around look at The Mac 512's Form Factor listing at:

<http://www.mac512.com/formfactor.htm>

With the Apple Power Macintosh upgrade card, the Centris 650 (& Quadra 650) can become a Power Macintosh Centris 650 or a Power Macintosh Quadra 650. This upgrade is just an accelerator card you pop in one of the available slots, and away you go! There is software which lets you select if you will be using the Power PC CPU or the 68040 CPU chip.

The Mac Ilvi and Ilvx can utilize any third party accelerator card that is manufactured specially for it. Many of these cards let you upgrade to a 68040 CPU chip. I have not seen a Power PC upgrade card that will work with the Ilvx/Ilvi.

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A good picture of the sled outside of the case. The left is the power supply. You pull the power supply straight up to remove, push down to place.



The bottom of the power supply has a white connector which fits on the motherboard in one way. (The sled was removed to show you how it goes in. The sled supports the power supply so you can't break the power connector.)



The power light uses a plastic piece to bring the light from inside of the case to the outside.

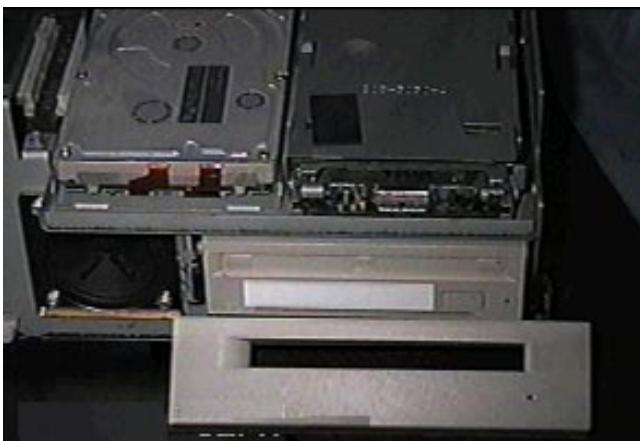
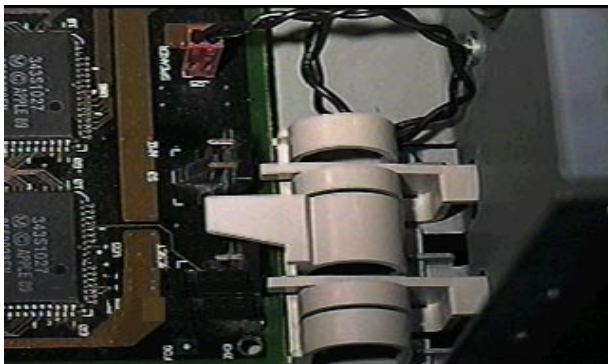
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The motherboard without any pieces in the way. You can see where the speaker is mounted. The white piece under is the reset and interrupt switches. Below is a better picture of the white switches.



The CD-ROM goes right under the floppy drive and next to the speaker. You need the front bezel to make your IIvx look pretty.

The Ultimate IIvx/Centris 650

- ◆ Macintosh 7100/80AV motherboard with Sonnet Technologies Crescendo G4 NuBus Processor upgrade card (360MHz in the 80MHz 7100/80AV motherboard, 1MB backside cache)
- ◆ Onboard Ethernet (AAUI plug - need Apple Media Filter to convert to RJ-45 plug)
- ◆ External SCSI removable hard drive (Zip or SyQuest)
- ◆ Internal CD-ROM
- ◆ Large color monitors (19" or 21") & two NuBus video cards - I like a 3 headed monster please!
- ◆ 136MB of RAM
- ◆ 2MB of VRAM to drive the largest monitors
- ◆ Color Printer, laser of course
- ◆ Color Scanner (SCSI)

The Mac 512 User Group Newsletter

The Mac 512 User Group Newsletter is written and produced by G. Younk. Its intent is to share ideas and some history to people interested in older Macintoshes.

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We encourage comments . Thank you!

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The Mac 512 User Group Web Site:
<http://www.mac512.com>