

December 2000 - Volume 2, Number 3

# The Mac 512 User Group

## Newsletter

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Inspired by the Original Macintosh, for all Macintosh lovers.

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### Note from the Editor

Another calendar year has passed us by. The Mac 512 User Group will be starting its third year in February of 2001. What a blast the first two years has been! I wanted to thank all of you for supporting The Mac 512 User Group. Especially those who supported the diskette ordering! You help have made The Mac 512 User Group stay free for all to enjoy. Thank you!

This month we have some good information, which I hope, helps many of our members. We are using a digital camera that was donated by me. I hope you agree that the picture quality is good enough for the web site and the newsletter.

The PowerBook Duo 230 which I recently purchased is a fine computer. We have added a bit of extra interactive material on the web site. From two original commercials in Quicktime to some original online manuals. I hope this makes your user group experience more entertaining and educational.

This month's newsletter is larger than most of the others, however I did not get November's issue out like I wanted so this issue is really November and December combined.

Happy Holidays!

Sincerely,  
G.

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### Faster Bitmap Printing

The Page Setup dialog box has an option called Faster Bitmap Printing. This setting, once checked, lets you process the bitmap images on your Macintosh instead of the original LaserWriter and LaserWriter Plus. Remember a more current LaserWriter can process the bitmaps faster. So don't use it unless you have a Laserwriter or Laserwriter Plus.

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### Did you know?

- In 1992-
- ◆ 2.1 GB external hard drive was \$3,499
  - ◆ SE/30 color display adapter was \$349
  - ◆ 4MB SIMM of RAM was \$115

## PowerBook Duo 210 and 230: The first of a new breed

The date is October 19, 1992, Apple is busy introducing two new PowerBooks which will give its customers the options they need. Expandability and power! The basis of the Duo line is a light notebook with the option of connecting to a powerful expanding dock. The dock converts the Duo to a full system with a full array of ports, slots and a floppy drive.

The Duo 230 is as powerful as the PowerBook 180 with the exception of the built-in math co-processor (FPU). However once docked the math co-processor is active and alive once added to the Duo Dock. The Duo 210 is as powerful as the PowerBook 160.

The Duo 210 and 230 are only 10.5 x 8.5 x 1.5 inches in size and 4.2 pounds in weight. This makes a nice and light laptop. One memory slot makes the internal 4MB of RAM expandable to 24MB total. The powerhouse 68030 CPU running at 33 MHz is in the Duo 230 while the Duo 210 runs a 68030 at a fast 25MHz. Either speed is fast enough to do major tasks like spreadsheets or word processing.



A brightened look at the overall layout.

The keyboard is a tad smaller than the PowerBook 100, however it is very responsive. The trackball is also smaller than the PowerBook 100. Built-in ports include a Modem RJ-11 jack (if the internal modem is installed), a serial port, the power adapter port and a PDS slot. The internal modem is 14.4 data/9600 fax.

The internal screen is a 9" in size, 4-bit grayscale with 16 shades of gray, the LCD panel displays a screen resolution of 640 x 480. Hard drive sizes come standard with an 80MB (Duo 210) and 80MB – 120MB (Duo 230). The batteries charge very fast thanks to a new battery/charge system inside of the Duo. It takes 1 hour to charge the battery to 100% full. The battery is made from nickel hydride and is smaller and lighter than even the PowerBook 100's battery. Battery life is from 2.5 to 4 hours with the Duo putting itself to sleep when you close the lid.



Duo ejected from the DuoDock

### The Duo system has intelligence built in

- ◆ Press the eject button while the Duo is on and working, the Dock will automatically shutdown the Duo, asking you if you want to save any open documents, and then eject the Duo.
- ◆ If the Duo was using a network file server when docked, it will log you back on when you connect to the dock again. (This did not work for me but it should).
- ◆ If your Duo is sleeping the Dock will refuse to accept the Duo. Make sure your Duo is off when you dock it.

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## DuoDock

The most important thing about the Duo is the number of Docks you can plug the Duo into. The Duo Dock is the cream of the crop as far as Docks go. You push the Duo inside of it and a motor will guide it in the rest of the way. The Eject button will tell the Dock's motor to push the Duo out. A very elegant and expensive way to do that. Apple referred to the whole technique as their PowerLatch technology.

The only alternative is to let the Duo user push and pull at will. This can cause things to break and make a very frustrated Duo user. Let the Dock do the work. Each Duo connects to a dock with a 152-pin Processor Direct Slot port on the back.

Each Dock adds new features:

- ◆ Duo MiniDock – adds an audio-in/out ports, a HDI-30 SCSI port, two serial ports (modem and printer), a DB-15 monitor port, an internal modem port (RJ-11), an ADB port, a HDI-20 floppy drive port and an AC adapter port. The external floppy drive is optional and is the same as the PowerBook 100's floppy drive.



Close up of the DuoDock.

- ◆ Duo Floppy Adapter – adds an HDI-20 floppy port and an ADB port. Optional floppy drive.
- ◆ Duo Dock – Adds audio-in/out ports, an HDI-30 SCSI port, two serial ports (modem and printer), a DB-15 monitor port, an internal modem port (RJ-11), an ADB port, and an AC adapter port. Includes a 1.44 floppy drive, 3.5" hard drive bay, two NuBus slots, a FPU socket, and a slot for more VRAM. You can get up to 16-bit color with 1MB of VRAM. Any color Macintosh monitor up to 16" can be used.
- ◆ Duo Dock II – Same as the Duo Dock with 1MB of VRAM standard, internal Ethernet port, the FPU is standard, and a 32K cache for use with 68030 based Duos.
- ◆ Duo Dock II+ - Same as the DuoDock II except **no** FPU and cache.
- ◆ Many third-party docks are available for the PowerBook Duo series.

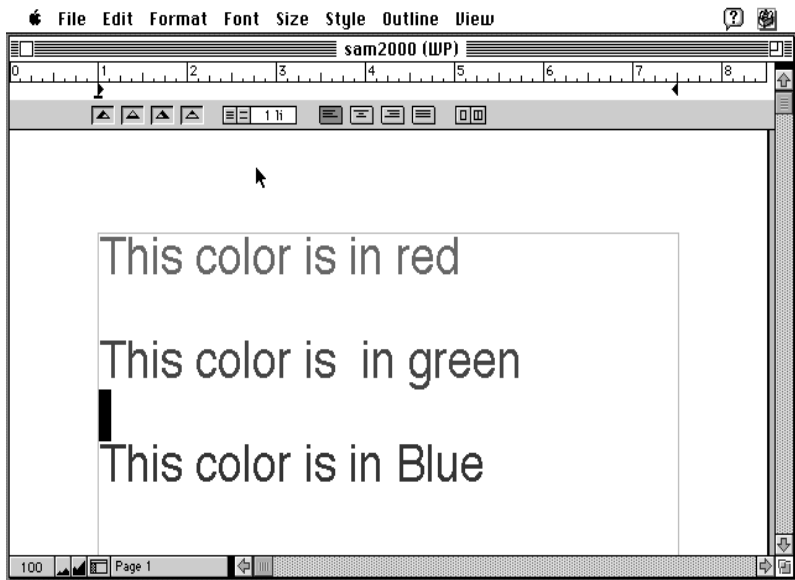
The Docks are the key in the Duo system. They work together to create a unified powerful system. Either a full PowerBook system with portable power with a full range of ports, or a full desktop system with max power with a color screen. Your choice as your needs determine. There is a third in this story, just the PowerBook Duo as it is. This will let you run wild anywhere in the world with enough power as is.

## PowerBook Duo 210 & 230: The first of a new breed

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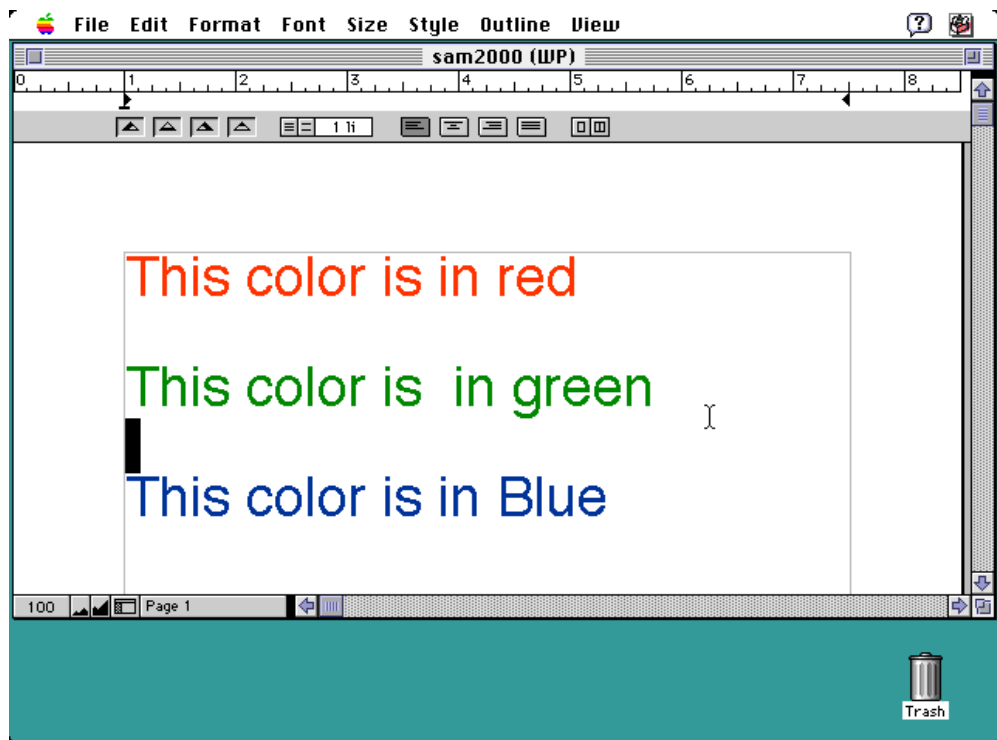
Changing the battery is pretty easy. Place the Duo vertically. Slide the battery latch until it makes a click noise. If there is a battery in there pull it out. Insert the new battery into the slot and let it drop the rest of the way down. The grooves on the side of the battery should align with the grooves on the Duo. Slide the latch back and you are set. The latch is built into the battery.

The Duo in portable mode has the old style of windows, while docked it has the new 3D style.



The Duo screen shows color as grayscale.

**Tip:**  
To restart a crashed Duo press the Control, Command and Power keys together.



The Duo showing the original color document while docked.

### Software

The Duo 210 and 230 shipped with System 7.1 System Enabler 201. No other software was loaded from what I could find, meaning no word processor (SimpleText does not count), no spreadsheets, no databases, etc.

## PowerBook Duo 210 & 230: The first of a new breed

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### Pricing (as of introduction date)

The Duo 210 cost \$2,249 for a 4/80 configuration (4MB of RAM and 80MB of Hard Disk).

The Duo 230 cost \$2,609 for a 4/80 configuration and \$2,969 for a 4/120 configuration.

Duo MiniDock cost \$589.

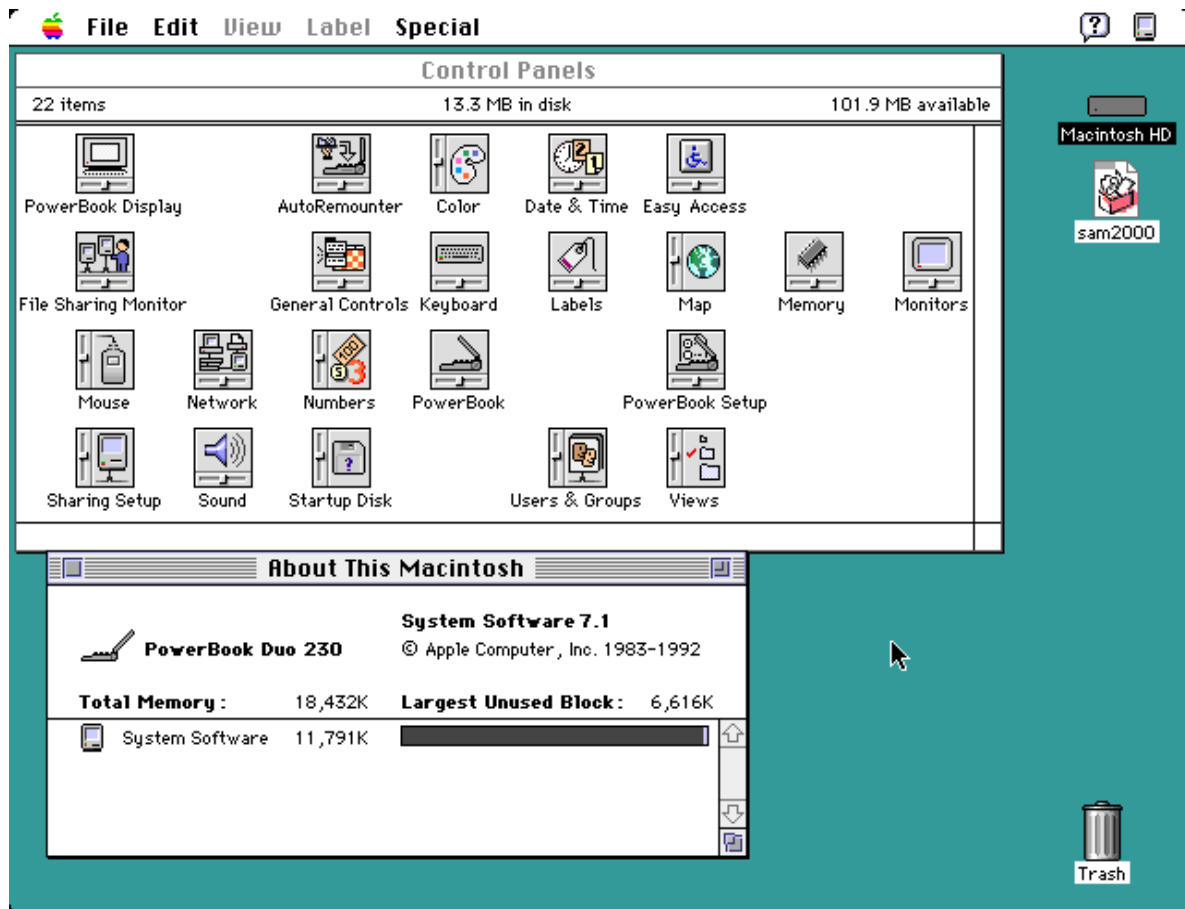
DuoDock cost \$1,079 which includes 512K of VRAM and no FPU.

DuoDock II cost \$949 which includes 1024K of VRAM, FPU and Ethernet.

DuoDock to DuoDock II upgrade cost \$499.

### The Ultimate PowerBook Duo

- ◆ PowerBook Duo PowerPC upgrade kit after upgrading first using the 280c motherboard upgrade kit.
- ◆ DuoDock II
- ◆ External SCSI removable hard drive (DVD-RAM, Zip, Ditto or SyQuest)
- ◆ External AppleCD 800i 12X CD-ROM
- ◆ Internal monitor card with 4MB of video RAM
- ◆ Extra monitor card with at least 4MB of video RAM
- ◆ One 16" color monitor and one 21" color monitor for twice as much desktop space
- ◆ 40MB of memory
- ◆ Color printer, laser of course
- ◆ Color scanner (SCSI)



Sample screen from a Duo 230

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# Installing an Ethernet card

You have a network and have outgrown your LocalTalk (aka PhoneNET) setup, or you are getting into networking and are starting with Ethernet (regular or fast). No matter which way you choose, Ethernet is a good way to start.

## Basics

Before getting started understand three basic connection concepts of Ethernet:

- ◆ Each device needs a network card(card may be integrated on the logic board)
- ◆ Each device needs to be terminated by using a hub/switch or a crossover cable (for only two connections)
- ◆ Each device needs a software driver for the Ethernet card to work.

Now we can plug and play to our hearts content.

## Adding the Card

Depending on your Macintosh model you may have to lift on two tabs, or unscrew two thumbscrews or remove five hex screws. Once your Macintosh is open you can rock 'n roll! Adding a card is as easy as inserting, well a card! Seriously each card has pins which need to be inserted into some sort of connector. It may be a connector with holes or a connector with a slot design. Once the card is in the connector the card and Macintosh will be able to talk together.

Keep in mind that there are three connectors on the card used with Ethernet:

- ◆ AAUI - uses a transceiver which changes it into a RJ-45 port,
- ◆ RJ-45 - Uses 8 wire large phone type of plug, commonly referred to 10BaseT or 100BaseT.
- ◆ Thinet or Thicknet - Uses coaxial cable, commonly referred to as 10Base2 and 10Base5.



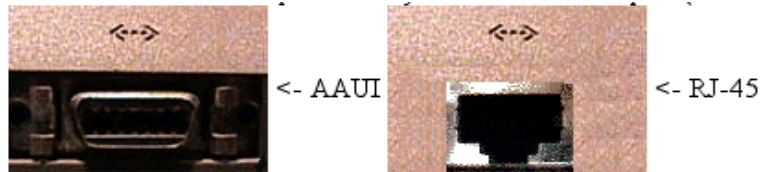
Inside of a LC form factor - open slot



Inside of a LC form factor - Ethernet card in slot

## Installing an Ethernet card

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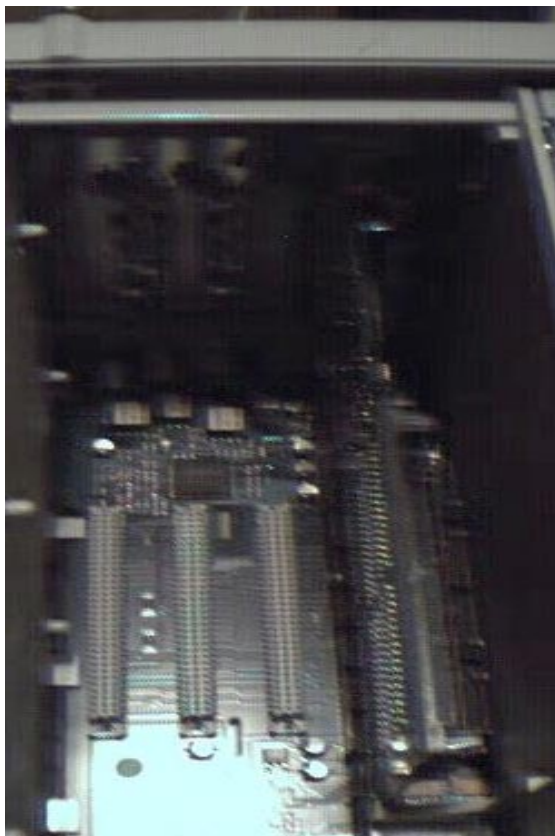


### Loading the Software

My first suggestion is to use the Ethernet drivers from any version of the Macintosh System Software (a.k.a Mac OS). I have found many Ethernet cards work with them including some Sonic Systems cards and some Farallon cards.

We have an archive of the Apple Ethernet set of drivers available from The Mac 512's AppleTalk-ing section. Please download them if you need them. The URL is <http://www.mac512.com/nsdl.htm>

Loading the software is as easy as using the Installer that comes with the System Software, or use the Installer which comes with the Ethernet driver archive.



NuBus open slot in a Mac II or Power Mac Series

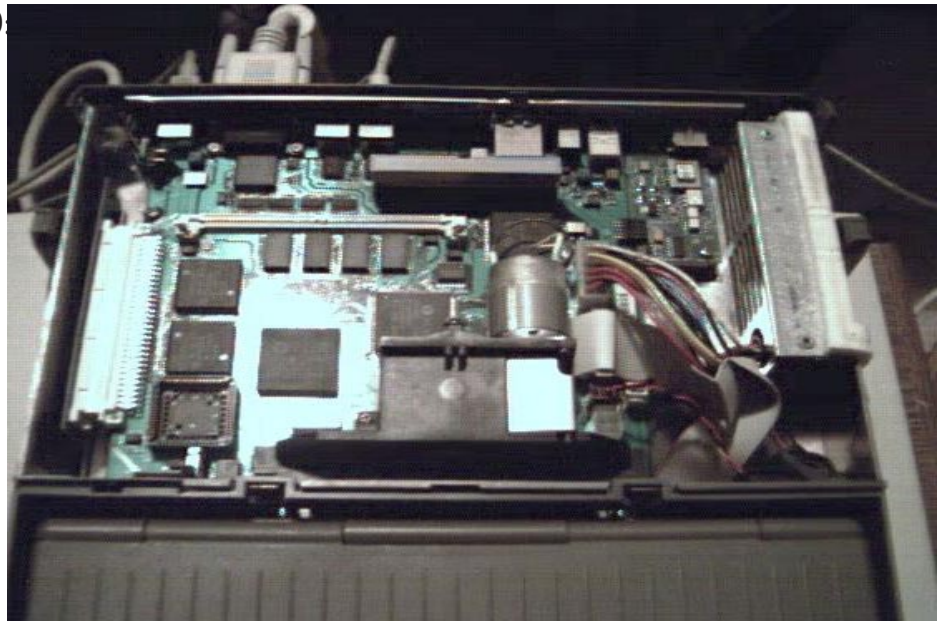


Comm Slot open slot of a Performa form factor

PowerBook Duo 210 & 230  
The first of a new breed  
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The inside of a  
DuoDock showing  
the electronics  
inside.

The motor is the  
metal object around  
the middle.



## **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. All content is copyrighted, any official Apple User Group may reproduce articles without permission by giving credit to The Mac 512 User Group and sending The Mac 512 User Group a copy of the newsletter.

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The Mac 512 User Group Newsletter is published roughly bi-monthly. We support exchanging newsletters with other official Apple Macintosh User Groups. We encourage comments Thank you!

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