press the power key. The screen flickers. The "bong" startles me because it's so deep, nearly as impressive as my 8500. There's a long pause, and then the familiar smiling face. Booting continues quickly. In less than ten seconds I'm looking at the Mac OS desktop pattern.

The screen is magnificent. I cannot imagine the 14.1" could be any better. I run to my room and grab my Apple "shark" Macworld pullout. I unroll the huge actual size picture of the 14.1" G3 and place it over my laptop. I am impressed. It's only about an eighth of inch bigger on each side of my screen. A test quickly shows that a standard 8.5" x 11" piece of paper floats on my screen with room to spare around it! This is truly a monster screen.

Early on in my testing I notice a dead pixel about two inches down from the upper left corner. It glows a faint green. Fortunately, it's only noticeable when the screen's black, like in certain games. I'm disappointed, but dead pixels happen with active matrix screens. After all, with nearly a million pixels to light up, there's no way to guarantee perfection. Usually there are two or three bad ones and they are so tiny they are barely noticeable. Apple's policy is not to replace screens with defective pixels unless there are several within a inch of each other. If you are really concerned about this, find a dealer who will let you test the machine before you buy it.

To my surprise, however, a few days later the bad pixel was gone. It hasn't returned, and running the LCD Screen Tester program I got from <http://www.download.com> showed I now have no bad pixels. I heard several reports on the 'net about this—it seems others have had bad pixels "cured," too. Perhaps it will come back, perhaps not.

Overall, I'm amazed at the screen's quality. It doesn't have the curved surface of my 21" monitor, and while text is smaller (because of the LCD's fine pixels-per-inch), you tend to sit closer to a laptop than to a large screen. I like my menus and icons tiny—it keeps them out of my way. For word processing I usually set my font to 14-point until I'm ready to print, but I do that on my 21" monitor, too. There is some color shifting depending on your viewing angle: from above things are washed out and from below too dark. Things look great from the sides, though dimmer and with some glare. Looking at my 190cs from the sides was terrible: everything looked inverted, like a photo negative.

I look through the installed software. Pretty standard OS 8.1 affair. Webwacker's the only new bundle I see. It apparently lets you download entire Web sites in one go so you can browse them off-line. Sounds interesting.

First disappointment: no ClarisWorks 5.0. I received 4.0 with my 190cs and I'd put off upgrading thinking I'd get a new version with my new computer. Kind of chinsey, Apple. Perhaps this means ClarisWorks is dead or dying. Who knows? But for three grand I would have expected it included.

Now to try out the CD-ROM drive. When I irst heard of including them in laptops I thought the idea ludicrous. They seemed bulky and awkward, and what was the point? Now, however, most software is distributed on CDs. Not having a built-in CD-ROM drive is a huge liability. You can always connect one via SCSI, but that's a hassle, especially when traveling. This is, after all, a PowerBook.

Getting my first CD installed took me a few seconds. There are three tiny spring-loaded tabs around the center hub. You have to press the disc down with a bit of force to get the tabs to snap onto to the CD. Once locked, the CD isn't going anywhere, even if you turn the 'Book upside down. Nice touch. They should do that on portable audio CD players.

As the CD-ROM drive spins up it's pretty loud—not obnoxiously so, but noticeable. The Mac OS 8 CD mounts quickly. Inside, I find similar stuff to what's on the hard drive. I stumble across a couple of QuickTime movie samples, including an MPEG. Double-clicking it launches MoviePlayer which plays it perfectly—no stuttering or missed frames. Even setting it to full screen works fine, and the picture is impressive. The audio, through the dual stereo speakers, is loud and clear. Now I am becoming excited! This laptop is even better than I expected.

I notice another nice ouch: a button on the battery lights up a series of tiny green LEDs to show the curr-ent charge. If all four

are lit, the battery is
fully charged. This
works even when the battery is out of the computer, which is great if you have several batteries and can't remember which one you already used. When you plug in the AC, the battery automatically begins charging. The cool thing is that while it's charging, the lights on the battery glow accordingly, so just looking at the outside of the 'Book tells you if the battery's finished charging or not.

In the past, Apple's Nickel-Cadmium batteries suffered a "memory" problem. If you used up half a battery's charge and then refilled it, from that point on it would begin to think that half-full was full. You had to be careful to discharge the battery to nothing before recharging. Thankfully, the new Lithium-Ion batteries are not supposed to suffer from that problem.

A few more tests and experiments and I'm ready to customize. I restart while holding down the "C" key to boot from the CD. It works perfectly. I find Drive Setup and, in about five minutes, I've erased and partitioned my two-GB hard drive into four volumes: Boot (500), Apps (900), Data (350), and Scratch (289). For a number of reasons, I like my software separated. (I like my food the same way.)

The Mac OS CD includes a "restore hard drive" application which quickly recreates the entire original PowerBook G3 Series hard drive from a huge disk image. It takes about five minutes —far less than a clean install of a brand new OS.

That done, I boot from the newly partitioned hard drive. Works fine. I quickly go through the Mac OS Setup assistant, and begin to customize my OS with my own preferences and Finder settings, and pick a cool desktop picture that looks amazing in full 24-bit color.

The next step is to set the PowerBook SCSI Disk Mode ID to 2 and shut down. In my room, I shut down my 8500 and connect the 'Book, using a standard SCSI cable and my handy adapter. A switch on the adapter lets me set the cable to act as SCSI-to-device or SCSI   Disk Mode. I choose the latter and connect it to my SCSI chain. Turning the PowerBook on gives me a bouncing SCSI icon with the number "two" floating inside it. Booting the 8500 works. In minutes, my PowerBook's four volumes join the numerous hard drives on my desktop machine.

Copying all the material from my desktop machine takes nearly an hour and it fills up my G3's hard drive! But it's a wonderful way to get all my desktop material to my PowerBook. If I had to do that with Zip disks or even via Ethernet network, it would have taken a whole day. The 2G hard drive now seems small—but that's because I installed 3D graphics programs and other high-end software I would have never thought of doing on my old laptop. Oh, it's manageable, but I suppose someday I'll want a bigger drive.

To test out the video system, I ran Doom II, Duke Nukem, Quake, Virtual Pool, and few other games. Now I'm not much of a game player, but with this system, I just might become one. Most of those games could be set to full-screen mode, and with the stereo speakers right below the screen, the overall multimedia effect was inspiring. Monsters growl to your right and when you turn, bam! They are right there, in your face! Not being a gamer I can't judge how well these played compared to other systems, but I found nothing slow about them. Everything happened as fast as I could move, and I had everything set to maximum: largest screen, most sounds, most detail, etc. The games that permitted it I ran in thousands of colors (16-bit) and the graphics were spectacular. Virtual Pool spins the table around so fast if you aren't careful you end up back where you started—a full 360° in a fraction of a second!

For another performance test, I ran Connectix's Virtual PC 2.0. I was conscious I didn't have enough RAM to run it without RAM Doubler, so I suspected it would be slow—it was. I allocated 25MB to VPC (which meant 18MB for W95). Not only was my Mac memory virtual, but Windows 95's own virtual memory kicked in! Running Word Pad, every time I selected a menu, the disk would thrash. At least Solitaire ran fine. (What else is Windows good for, anyway?)

Still, VPC 2.0 is optimized for the G3 chip—performance was on par or better than on my 8500 (which has 114MB of RAM but a tiny 256K L2 cache). When I ran a demo of EA Sports World Cup 98 game—unfortunately PC only—on my 8500, it was so slow I couldn't even get the game's controls to work. On the G3, however, it was able to respond to my clicks and enter game mode. Completely unplayable, but the graphics weren't bad to look at. I'll have to try it again after I upgrade my memory.

Settling down for some actual work, I discovered the ideal use for the CD-ROM drive: audio CDs. No more need to lug a portable CD player with you when you go on trips. Just pop in an audio CD and hear gorgeous sound from the built-in speakers: at high volume this thing can double as a stereo system! The speakers certainly sound better than most of those mini-speakers you attach to portable CD players. While I'm no audiophile, I could sense a lack of bass and certain tinniness in some high notes, but I still found it more than satisfactory for a laptop. For richer sound, just plug in a good pair of headphones or connect to your stereo. A nice touch: the headphone jack is not hidden behind the rear door with the other ports.

Even better, playing audio CDs uses very little battery power. When using the drive to read CD-ROMs you can hear it spin up to 20x speed: it's noisy and there's some vibration. With audio CDs, however, it's smooth and nearly silent. In one experiment, after running on battery power for nearly three hours (including game playing and lots of CD-ROM use), I set the screen to turn off instead of dim, and let the hard drive go to sleep. The only thing running was an audio CD with the volume up to nearly maximum. It played the entire CD (about 45 minutes) and still had some juice left!

One nice touch is that Apple included volume control right on the keyboard. Pressing up or down instantly adjusts the volume. Because you often use your PowerBook in public environments, this is essential and far more convenient than software volume control. There's even a handy mute button—great if the telephone rings and you need instant peace and quiet. One warning, however: the volume control is only available on the 13" and 14" models! This is because on the 12" model the control acts as a contrast adjustment instead. For me, this alone is a strong argument in favor of the larger screens.

Other Amenities

One of the nice features of the PowerBook G3 Series is dual drive bays. The right bay handles 3.5" or 5.25" drives, like the CD-ROM drive. The left bay only accepts 3.5" drive or batteries. You can even install two batteries and double your battery life. Best of all, everything is hot-swappable—you don't even need to put the 'Book to sleep to exchange things!

My first experience with this in action was confusing. Every time I ejected the battery, the computer immediately turned off. It was plugged in, so power shouldn't have been this issue. After fussing with this for a few minutes, even double checking all my connections, I discovered the power cable had become disconnected from my surge strip! Once everything

was plugged in, removing the battery and popping in the floppy drive, worked flawlessly. Note that you need to push the device all the way in until you hear it click in place. Once I didn't press in the battery all the way and when I disconnected the AC cable, the computer turned off.

Ejecting devices is easy and cool: there re hidden levers on each side at the front of the PowerBook. Pulling the lever toward you pops out the device. My 190cs' removable floppy drive had a tiny latch underneath the 'Book—you nearly had to flip the thing over to get to it. And that latch didn't do anything but unlock the drive—you still had to forcibly drag it from the bay. With the G3 Series, the lever pops the device out a good quarter-inch or so, and it removes easily. Assuming I can find the floppy drive, I can swap out the battery and have a floppy disk mounted in less than ten seconds.

Be aware that you can eject devices while they are in use—not a good idea. If you do so, an alert immediately advises you to reinsert the device or lose data. I tried this while playing an audio CD and it didn't hurt anything (except it forgot which track it had been playing).

It is interesting to note that in the Read Me that ships with the 'Book Apple mentions that copy protected programs that require key disk authorization might have trouble recognizing disks if the floppy's in the left bay. I don't know why this is, but sure enough, my attempt to authorize my copy of Final Draft screenwriting software failed until I moved the floppy to the right-hand bay. I'm glad they mentioned it, otherwise I would have been frustrated. (Copy protection is a vile enough practice as it is.)

All G3 Series PowerBooks come with a 4Mbps infrared port. Though I had no way to test mine, it will be more useful as Apple builds infrared into more computers (like the forthcoming iMac) and manufacturers include them into devices like printers.

My digital camera is a Nikon Coolpix 100 I picked up a couple of months ago for a mere $99. It's not high-resolution, but the pictures are clear. It's innovative in that its built on a PC Card. To transfer pictures from it, you simply pop into a PC Card slot (upper or lower) and the camera's 1MB flash RAM mounts as a PC hard disk volume. The images are in standard JPEG format—open or copy them at will. It worked fine with my 190cs, and just as good with my new G3—except that now the pictures actually look good on the laptop screen!

I tested out the S-Video Out port, just to see how it worked. I used the S-Video-to-composite cable Apple included and connected it to a TV. Using the Control Strip's resolution options, I tried both 800x600 and 640x480 NTSC modes. The television picture was clear and remarkably stable (TV tends to flicker). Menus and small text, especially italic type, were difficult to read. The only real disadvantage of this mode that I could see was that since none of the TV resolutions match the PowerBook's 1024x768, it can cause havoc repositioning your desktop icons and windows. Still, for outputting movies or presentations to videotape, this feature is great.

I didn't test the monitor-out port, but it works similar to TV-out. One disappointment with both is that you cannot setup your PowerBook to support dual-screens. It's one or the other,

or the external monitor simply duplicates the PowerBook screen (video mirroring). (Note that for video mirroring, your external monitor must support the same resolution as the PowerBook screen: 1024 x 768. It obviously won't work with a TV.) But I have heard that a couple third-parties are busy creating add-in devices for the G3 Series that will give you true dual-monitor support, so that option may be available for an extra cost.

The Future

So what's next? Well, I didn't get the built-in modem, so probably at some point I'll order a cheap PC Card model. That's not quite as convenient as a built-in one, but it shouldn't cost much and will work fine.

The first thing on the agenda will be more memory. There are two memory slots on the PowerBook G3 series. The lower one is filled with 32MB module. The max that slot will hold is 64MB, and Apple requires an authorized technician to do that upgrade as it is underneath the CPU daughtercard. The upper slot you can fill yourself. I upgraded the RAM on my 190cs, which wasn't difficult, and it sounds like Apple made the upgrade process even simpler on the G3 Series. You empty both bays to access hidden latches inside the bays which releases the keyboard. With the keyboard removed, you can do any internal upgrades, including removing the hard drive. The maximum size upgrade for the upper slot is 128MB, meaning a total of 160MB or 192MB, depending on whether or not you replace the lower module. Adding 64MB would only give me 92MB—probably enough, but I'd be limited if I later needed more. So I'm thinking of waiting until the 128MB modules reach closer to $200. Currently I've seen them for about $250–300.

I'll also want an extra battery at some point, a case, and now that VST's Zip drives for the G3 expansion bay have gotten down to a street price of $219, one of those is tempting. VST also makes expansion bay hard drives for the G3 Series (note that older ones for the 5300-series are not compatible with the new laptops) which I might want in the future. And Farallon's infrared printer adapter that lets any infrared-equipped PowerBook print without wires sounds intriguing. By any measure, that's more than enough expansion options to keep me busy for quite a while!

Overall Impression

Am I satisfied with my purchase? Definitely. Any gripes I have are tiny, minute things. For instance, the little modem door on the left side of the 'Book tends to catch on things and open inadvertently. Also, the latch that holds the computer shut is a little stiff and hard to get open. But it's better to have it too secure than not secure enough.

Overall, Apple has a winner. I do hope that they will offer CPU upgrades eventually—it's not fair to penalize early adopters who simply can't afford the initially high prices of the faster CPUs. I would have loved to have gotten the 250/13.3" model—that one strikes me as the perfect system (without being exorbitant)—but I just couldn't afford it.

These laptops are the first I've seen that conceivably can replace your desktop machine. They offer enough speed, convenience, and expandability for nearly anyone. For intense Photoshop work you'd want an external monitor, but just about any other user would be happy with the built-in screen. If I hadn't invested so much in my 8500, I'd seriously consider replacing it with a G3 Series 292-MHz model. Keeping in mind that laptops are more fragile

than desktop systems, prone to thievery and data loss, and more expensive, however, I'm more than content with my choice.

I recommend going with at least the 13.3" screen if the you can. I haven't seen the economical 12" model, though it's larger than the screens of the 1400- and 3400-series. It's nice when Apple's new low-end exceeds its previous high-end!

Finally, remember that laptops are extremely personal creatures—what's perfect for one person is another's irritation. For instance, I've heard others complain about the new trackpad and trackpad button—some going so far as saying that you need to connect a mouse for optimal use—but I really like the button and pad. Others are really bothered by excess heat. It rarely bothers me, but a fully-loaded G3 Series with CD-ROM and battery does get quite hot. Some heat is dissipated via the keyboard, which makes the keys warm. Nice in winter, but in summer I wouldn't use this thing on your lap while wearing shorts! I know some people empty the bays and run off AC just because it's cooler.

If you're finicky, or if you've never owned a PowerBook before, I highly recommend you check out the new G3 PowerBooks at your nearest Apple dealer. Examine the different screens, feel the keyboard, test out the weight, run a few applications, and decide which model your pocketbook best gets along with. Unlike desktop models, PowerBooks aren't as easy to customize if you don't like something, but with the new G3 Series, Apple makes it easier to do just that.