

On-Site Computing

by Philip Hagopian



Desktop computers are handy in the office, but construction projects are usually many miles away. This distance separates builders from the source of the very information they need most while at the job site. It's no wonder, then, that portable computers are finding their way onto construction sites with increasing frequency.

Mobile computing is perfect for small builders. Running more than one project at a time will keep you busy, but if you're also doing some of the labor and lining up the next job, then you know that your time is a precious commodity. Since a job's profit depends on timely completion, any tool that helps prevent costly delays or double work is worth looking into.

A portable computer is the next logical step beyond a job-site phone in extending office technology directly to the building site. As you hustle from office to job site to lumberyard, then to a client meeting and back to the site again, how much more efficiently could you operate if you had the files and drawings from the office computer with you at all times?

Case Study

Gary Moore, field supervisor for Sunday River Builders, asked himself that question before purchasing the Mac Powerbook 170. (Apple Computer has since replaced the Model 170 with the Model 180. For more information, contact Apple Computer, 20525 Mariani Ave., Cupertino, CA 95014; 408/996-1010.) Having used it now for a few months, Moore has embraced portable computing with relish. "Sunday River has used PCs and Macs in our offices for years," says Moore, "but until recently, we've never seriously considered the merits of carrying a portable onto job sites. Now, I don't leave my office without one."

Sunday River is based in Stratham,

N.H., but works throughout southeastern New Hampshire and the southern Maine area, designing and building new homes, both custom and on spec. Moore travels daily from his office in Stratham to various job sites to check work in progress. It's no small task to bring every project in on time and budget, and his job requires keen administrative skills as well as a background in swinging a hammer.

Information overload. In the past, Moore returned to the office from his daily trek to construction sites with pages of scribbled notes and sketches. The corresponding files on his office computer had to be updated with this new information, either directly by Moore, or in memos to the accountant or office clerk. This was a tedious chore at best, but crucial to keeping office records current.

Last summer, however, conditions reached critical mass. Sunday River began construction on a 60-unit subdivision of starter homes. Moore was assigned to the project while still running his other jobs. His organizational skills were stretched to the limit. "A typical day found me going in a hundred different directions," said Moore. "I needed instant on-site access to current drawings and specs, and I needed to cross-reference material deliveries with subcontractor and employee work schedules. I needed to instantly recall decisions I'd made earlier in the day and send batch memos to all parties involved."

Office on site. With his work load more than doubled, Moore was forced to change his work routines. "I now carry a copy of every document our company has generated for a particular job — CAD plans, specifications, correspondence — plus a database for costing change orders, a project management program, and an appointment calendar. It's all loaded onto the Powerbook's hard drive," says Moore. "I'm no longer corralled into returning to the office each



Apple's Powerbook 180 (\$4,109 list with an 80-MB hard disk) weighs in at under seven pounds. The system comes with 4 MB of RAM and a built-in trackball.



The Macintosh Duo System combines a lightweight portable computer with a stationary docking station, making it easy to switch between desktop and on-the-road computing.

night. Instead, I work from the Powerbook and use it to update files on my office machine. Worst case, I can use the modem to download any file I don't have with me."

Another plus has been Moore's ability to prepare a change order right on the site and fax it to get authorization almost immediately. "Ten years ago, I'd have never thought that the technology I'm using today would have such practical application for home builders. A guy can install a cellular phone in his rig, buy a portable computer and printer, and operate his business from the cab of his pickup."

Double Duty

The downside to toting your office around with you comes with having to update the files. The usual routine is to copy files from the office desktop computer to the portable's hard drive before leaving for the site each morning. On the return trip to the office in the afternoon, the process is reversed: the files from the portable are copied back onto the desktop to make the "parent" files current. This shuttle routine gets old fast, and using a modem only eliminates the actual trip back to the office, not the organizing and copying of files.

One way to solve the problem and still ensure that you're using the latest version of a file is to use the same portable computer both in the field and at the desk. Most portables come with special ports for external moni-

tors, and keyboards that can easily be connected and disconnected.

Another way to solve the problem is to use the new Macintosh Duo System. Essentially it's two computers in one: A traditional desktop system (*Duo Dock*) and a lightweight notebook computer (*Powerbook Duo*). The Duo Dock is an enclosure that provides the ports and expansion slots needed to configure a full-fledged desktop system for the office. The Powerbook Duo offers the full mobility of a portable computer, and houses the "brains" of the system (the processor, memory, and hard drive).

With the Duo System, when you're ready to leave for the field after working on a document at the office, just touch the eject button on the Duo Dock and out slides the Powerbook Duo, which you can take with you as you would any portable computer. And you can be sure that the files you use in the field are the same as the files you were working with at the office.

One final caution: A notebook computer is a delicate piece of electronic equipment. Make sure yours is equipped with a sturdy, padded carrying case. And whether it's in use or not, protect it from moisture and temperature extremes. ■

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Gary Moore of Sunday River Builders uses an on-site equipment storage box as a makeshift desk as he reviews a framing detail on his Macintosh Powerbook 170 with lead carpenter Steve Collins.

