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## Affordable Portables

### Anytime, Anyplace, Anywhere

By Jeffrey M. Allen and Alan Pearlman

Mobile lawyering means more than simply portable computing. This article presents the ultimate schedule of equipment for the lawyer on the road from the perspective of two seasoned veterans. Remember, success as a road warrior requires individual experience, and you make your own decisions about what works for you in your practice. You'll want to augment our list to satisfy your own needs and requirements. Unless you like carrying extra weight for exercise, you will want to make some decisions about what equipment to take with you on each trip.

#### Laptop Computers

Both of us travel with portable computers due to the nature of our work (please see "Buying a Laptop" on page 20). Alan opts for a Hewlett-Packard ([www.hewlettpackard.com](http://www.hewlettpackard.com)) OmniBook 6000 while Jeff carries either an Apple ([www.apple.com](http://www.apple.com)) Powerbook G4Ti (G4-500Mhz, 384K RAM, built-in Ethernet, DVD ROM drive, 15-inch XGA monitor, about \$3,500), or a Winbook ([www.winbook.com](http://www.winbook.com)) XL3 (Pentium III, 500Mhz, 256k RAM, 56K modem, DVD ROM, and superdrive). (Winbook has discontinued the XL3; you can check its newer models at its website.)

Recently, Jeff has experimented with a Compaq ([www.compaq.com](http://www.compaq.com)) Armada M300 (Pentium III, 600Mhz; 56K modem, built-in Ethernet, 12.1-inch XGA monitor; approximately \$2,700 with the base), which separates into a three-pound computer unit (CPU, monitor, keyboard, hard drive, 56k modem, built in Ethernet connection and battery) and an expansion base that houses the floppy and DVD drives. Without the base unit, the Armada packs nicely into almost any briefcase and helps keep the load light, but still packs plenty of computing power.

Although we opted for somewhat pricey laptops, you can find perfectly satisfactory laptops for \$2,000 or less, particularly if you will accept last quarter's state-of-the-art computer with a clock speed of 100 or 200MHz less than this quarter's state-of-the-art computer. For most mobile attorneys, last quarter's (or even last year's) laptop works just fine. For example, the increase from 400 to 500Mhz for Apple's G4 costs \$400; Winbook and Compaq both take you from 800Mhz to 1Ghz for about \$500. The faster clock speed of the newer model will not help your laptop download information from the Internet, get your e-mail, or process your words noticeably faster than the slightly slower older version. Recommendations for base levels are as follows: Windows compatible laptop with Pentium III, 500Mhz or faster, Ethernet, 56K Modem, 256K RAM (or more), 20 GB hard drive, and XGA screen 12-inch or larger diagonal; or Macintosh Powerbook G3 500 or G4 400 or faster; 256K RAM (or more), 20 GB hard drive (or larger). If you go with the Powerbook, you will also want to acquire Connectix ([www.conectix.com](http://www.conectix.com)) Virtual PC software (\$199 with Windows ME and \$249 with Windows 2000), which enables the Powerbook to run Windows and other software.

#### Printers and Scanners

Expect to pay between \$300 and \$400 for a decent portable printer, but you may be able to find an older model in the \$200 range. Alan likes Citizen's ([www.citizen-america.com](http://www.citizen-america.com)) PN60 (now PN60i) printer (\$399). Jeff prefers Canon's ([www.canon.com](http://www.canon.com)) BJC-50 (\$350). Both printers come in a small, lightweight (less than two pounds without batteries) configuration, print in black and white and color, and work on batteries as well as standard electric current. The Canon can double as a low-resolution scanner if you purchase the optional scanner cartridge.

The ability to scan on the road can make all the difference in the world. You have an increasing number of choices for portable scanners. Alan favors the Antec ([www.provantage.com](http://www.provantage.com)) Attache portable page scanner (300 x 600 dpi, 11 x 2 x 1.75 inches, 12 ounces, \$83), which scans both black and white and color. The scanner is a great quality product and can be used without a power cord, taking all its power directly from the notebook's USB port. Jeff rarely carries a full-page scanner, but when he does, he opts for a Visioneer ([www.visioneer.com](http://www.visioneer.com)) Strobe Pro (USB, 300 x 600 dpi; 11 x 2.5 x 2 inches, 16 ounces, \$199, Mac and Windows compatible). The Strobe Pro also scans color and black and white and comes with an excellent software package to make scanning and OCR conversion simple and easy.

On a more compact note, both Jeff and Alan find Hewlett-Packard's HP CapShare 920 Model (5.5 x 4.1 x 2.5 inches, 12 ounces, \$299) very useful. It weighs just a few ounces, takes up much less space than a full-page scanner, and easily scans full pages in a couple of sweeps. It holds up to 50 8.5 x 11-inch pages of documents in memory. The CapShare makes it easy to scan book pages, news articles, documents, and even an entire flip chart. It operates on the principle a friend of ours calls SNM (stark naked magic)—as you wave it over a page a few times, it somehow manages to accurately reconstruct the page in its memory. It comes with an impressively accurate OCR program as well.

The C-Pen 800 (about \$200) from C Technologies ([www.cpen.com](http://www.cpen.com)) is an even more diminutive possibility. It easily fits in a shirt or jacket pocket and stores several dozen pages of text. It transmits data through an infrared port, which allows you to transfer information from a business card into your Palm device or any other PDA that has an infrared port. Because the C-Pen reads data one line at a time, it works best for short pieces of text.

#### PDA's

Alan opts for the Pocket PC units, while Jeff is a longtime Palm guy. Alan carries the Hewlett-Packard Jornada 548 unit and enjoys the brilliant colors and display. He likes the fact that he can play MP3 music on the unit, as well as do documents in Pocket Word or spreadsheets in Pocket Excel. Jeff carries a Palm IIIc ([www.palm.com](http://www.palm.com)), also with a color display. Jeff likes the simplicity and the functionality of the basic programs that come with the Palm OS. He uses Documents To Go for a word processing interface with Microsoft Word. Depending on how fancy you want to get, you can get PDA's of this ilk for between \$150 and \$1,000 (or more if you count accessories).

Palm has licensed its operating system, and competitors now manufacture hardware using the Palm OS. Palm OS hardware comes in a variety of configurations offered by Palm and its competitors. Palm introduced two new units, the 500 and the 505, available for preorder as of April 2001. The 500/505 units will combine the sleek design of the Palm V with a universal connector; a slot for add-on cards; 8 MGB of RAM, with additional memory available through add-on memory cards; and, in the case of the 505, a color display.

Both the Palm devices and the Pocket PC units allow for basic PDA functionality (contact information, calendaring, notes, and a "to-do" list) as well as add-ons ranging from word processing to accounting/financial information to database management and

games.

The small handheld units can present difficulties with inputting information. For about \$100, you can alleviate that problem by acquiring a portable keyboard that folds up to the size of the PDA and opens to a full-sized keyboard (such as the Targus Stowaway). If you plan to take notes on the device or do any word processing on it, you should consider one of these keyboards as part of the cost of the PDA.

If you consider the Palm or the Pocket PC devices too bulky, you can choose from a variety of other PDA devices in various configurations at reasonable prices. Those configurations include such wonders as the Rex 6000 (Xircom). The size of a credit card, the Rex functions as a PC card for interfacing with your laptop. The Rex has the ability to hold your to-dos, contacts, and calendar; it can also connect to the Internet to download pages you might want to carry with you. Casio even makes a watch that will hold contact and calendar information. Recently, a number of different devices that combine PDA functionality with other devices (a concept often called convergence) have come to the market, with telephones topping the list. Expect more combined units in the future.

### Wireless Communicators

Pagers in the traditional sense of the term (little boxes that beep and display the telephone number of caller) rank right alongside rotary dial telephones in terms of high-tech status. The new, politically correct terms, "wireless communicator" or "wireless communications device," describe an evolution of the concept roughly equivalent (for you Darwinists out there) to the difference between Neanderthals and Homo sapiens. Wireless communicators enable text communications from virtually anywhere to anywhere else (subject to limitations of radio frequencies.) The devices vary in size from the equivalent of a pack of cigarettes to the size of a skinny PDA, half an inch to one-and-a-half inches deep. Most of them have a complete, miniaturized keyboard. The general approach to using these devices involves cradling the device in the fingers of both hands and typing with your thumbs. You might think typing with your thumbs would take a lot of time; in truth, you can get up to speed very quickly. Wireless communicators deliver text messages from and to similar devices on any system and also work with any Internet e-mail-enabled device or connection. With some service providers, they can also send talk to fax machines or to telephones (via a computer voice synthesizer).

Our favorites are the Motorola ([www.motorola.com](http://www.motorola.com)) PageWriter 2000X (\$320), the Rim ([www.rim.net](http://www.rim.net)) 850/950 (\$299 for 2mb, \$399 for 4mb), and the RIM 857/957 (\$499 for 5mb). The 800 and 900 series numbers on the RIM pagers refer to the broadcast frequency; the units otherwise are the same. All of these are excellent. Alan prefers the Motorola because of its clamshell case and slightly larger keyboard. Jeff prefers the RIM 850/950 for most purposes due to its smaller size, ease of typing, and the independent keys it offers instead of the Chicklet-style keyboard of the PageWriter. The more expensive RIM 857/957 has more memory and a much larger screen and uses the same style keyboard, in a slightly smaller configuration, making it a little less comfortable for typing than the 850/950. All of the units are capable of wireless Internet browsing.

You can find a variety of less expensive units on the market. If you do not plan to use the wireless communicators a lot, often one of the smaller units will work fine and cost considerably less. Motorola has several in the \$100 range.

We experimented with the wireless communicators on three of the major network system providers—the Motorola device on Skytel ([www.skytel.com](http://www.skytel.com)) and each of the two RIM units on programs run through Cingular ([www.cingular.com](http://www.cingular.com)) and Motient ([www.motient.com](http://www.motient.com)). Pricing is comparable. The Motient system costs between \$25 (24K/month character limit plus charges for overage) and \$59.95 (unlimited use) per month. Cingular offers service ranging from \$9.95 (15K/month characters) to \$59.95 (unlimited use) per month. Skytel's Skywriter service costs \$24.95 per month for 10K characters and \$.10 per 10 character block after 10K characters. Each system offers additional features such as fax capability and personal phone access number for additional fees. You may find a local service under a different name that in reality ties in to one of the other networks. The BlackBerry Solution, for example, use more than one network.

The bottom line on networks: they all work but not consistently well in all areas. Although all three systems bill themselves as "nationwide," each has large areas with little or no coverage. As a general rule, the denser the population, the better the effort to provide good coverage; but, conversely, the denser the population, the higher the level of demand on the service and the greater the amount of interference. We have noticed that delivery and reporting speed on the Cingular system has slowed down noticeably during the last year, which we attribute to the increasing demand on the network by escalating use of wireless communicators. No provider consistently beat out the others. In fact, we noticed that the results of timed message tests within the same area differed depending on the day and time of the test. In the San Francisco/Oakland Bay area, the Cingular network was most often subject to delivery delays. As with cell phones, your choice of carrier will depend on where you live/work and where you travel. Most carriers (all three of the ones we mentioned here) have coverage maps available on their websites. Motient provides the most exact information about its coverage, allowing you to check availability by street address. We have had technical issues with each of the companies and on occasion encountered some technical customer support difficulties.

One word of advice: if you choose to go with Motient, opt for the RIM 857 over the 850 because there is a significant difference in battery life between the RIM 850 on the Motient network and the RIM 950 on the Cingular network. The RIM 857/957 units did not show that difference. We were advised by Motient that the variation results from their using a "single frequency re-use" network that enables them to keep units in constant contact with base stations. The trade-off is the additional power drain on the batteries.

We also experimented with two Internet service providers that offer mini-browser software and Internet connectivity through wireless communicators: WolfeTech's ([www.wolfeotech.com](http://www.wolfeotech.com)) Pocket Genie (\$14.95 unlimited use) and Go America's ([www.goamerica.net](http://www.goamerica.net)) GoWeb (\$9.95/month for 25 KB, \$.30 per KB to maximum monthly charge of \$19.95 for unlimited use). Both systems worked fairly well. Both have built-in services (such as yellow pages, driving directions, movie listings, horoscopes, stock quotes, headline and financial news, restaurant listings, shopping, package tracking, sports scores, flight listings, weather reports, and a large variety of information services). Both offer Internet access within limitations regarding graphics requirements and the size of the site. They do a decent job with Internet access and offer a functionality far superior, in our opinion, to that available through the use of an Internet-capable cell phone without a keyboard, the Palm VII, or other third-party wireless solutions with devices lacking an integrated typing keyboard.

On a related note, two ISPs, AOL and Yahoo, have set up direct access to their systems for instant messaging and mail using proprietary software and RIM 850/950 communicators. These devices will not function in any arena other than the dedicated ISP use; however, the Yahoo device will also function as a PDA using RIM's software.

### Projectors

Those of you who teach, make presentations to clients, and project graphics or pictures in court may have need for a small portable projector. Recent innovations have allowed manufacturers to develop smaller and smaller units with greater power at a lower cost. It's hard to ask for more than that. This year we have seen small projectors drop to the three-pound range and cost

less than \$5,000, yet generate 900 to 1100 lumens (a standard measure of brightness). (The more lumens a projector generates, the brighter the image.) Don't rely too heavily on the lumen ratings claimed by the manufacturer; try the projector before you buy it. Some machines with lower lumen ratings produce brighter images than projectors with higher ratings. As always, you pay a premium for maximum portability. Smaller, lighter projectors cost about \$4,500 and up. You can save a substantial amount of money if you will accept a 10-pound projector, which costs about \$2,500 and generally has a high lumen rating. You also can save money by getting a lower resolution projector. Most current models come in either SVGA (800 x 600) or XGA (1024 x 768) resolutions, but many of the lower resolution models will adjust and accept higher resolution signals.

Jeff tested several of the newer smaller units in connection with this article. Here are his favorites (ranked by order of preference):

1. Compaq MP2800—1000 lumens, XGA resolution, 3 pounds, 7.11 x 2.71 x 8.71 inches, Digital Light Processing (DLP), \$4,999.
2. Proxima's ([www.proxima.com](http://www.proxima.com)) ultralight S520—800 lumens, SVGA, 5 pounds, 10.9 x 2.4 x 8.3 inches, \$3,499 list, \$2,128 street.
3. Canon LV-5100—700 lumens, 5.4 pounds, 7.46 x 12.26 x 3.57 inches, SVGA.

The Compaq easily won the "favorite" category due to its unique form factor, diminutive size, and almost unbelievably lightweight. It is also the slickest looking of the new projectors. A true multimedia projector, the MP-2800 easily connects to and projects from computers, DVD players, VHS players, and camcorders. The MP-2800 sports a magnesium casing that is lighter than aluminum and stronger than plastic, which makes the projector a bit more rugged and well suited for travel. Its 1000 lumens generated a respectably bright image in "normal" lighting situations. The list price of \$4,999 will likely follow the tendency toward lower prices by the end of the year. Incidentally, the Compaq MP-2800 won a "Best of Comdex" Award at Comdex Fall 2000. If you want to spend less money and will accept SVGA instead of XGA resolution, the Proxima offers a good alternative. At approximately half the price, it weighs only two pounds more and is a bright 800 lumens. All three machines support both Macintosh and Windows platforms and are quite easy to use.

### Storage Devices

You will want to back up your work on the road. Some computers accept swappable drives for internal bays, others do not. If yours does, consider a Zip drive. If not, the new external iomega ([www.iomega.com](http://www.iomega.com)) USB 250MB Zip drive is an excellent choice (it also comes in a PCMCIA version if you do not have a USB port). Both Mac and Windows compatible, the 250 MB Zip drive reads both newer 250 MB and older 100 MB Zip disks. It lists at \$179 but is available for less, and is small and light. It's a worthwhile accessory to carry along on your trip.

### For Want of a Nail...(Do Sweat the Small Stuff)

As a high-tech mobile lawyer, you will inevitably find yourself looking at an array of wires, chargers, connectors, etc., and wondering what in the heck they belong to. Some of them may belong to your current tools; others may belong to tools you disposed of some time ago. Few things frustrate a mobile lawyer more than carefully packing gear, only to find on arrival that they have the wrong AC adaptor and cannot recharge batteries or even run the computer on AC. A word to the wise: be sure that you have the right connectors. Check before you pack. If you want to find an easy and inexpensive way to guard against such problems, get a box of self-sealing baggies at the grocery store and a fine-point marking pen. Put the connector for each device in a baggie, seal it, and label it. If you faithfully return devices to their appropriate baggies, it's a lot less likely you will take the wrong connector.

When traveling in the fast lane, remember the old adage that you will never ever have enough power in your machine to go to Europe or coast to coast, for that matter! But with the DC/airline power adapter, you can always be powered up and ready for anything. The combined adapter adds only a little extra weight to the package and offers a more compact alternative to separate adapters. Not all airlines have added power for computers to all of their planes yet. Always check your airline to see if they have underseat power. American Airlines appears to be one of the leaders in that regard.

### Carrying Cases

If you plan on taking the tools necessary to allow you to practice on a trip, you will need a case to carry the equipment. If you travel frequently, you will likely accumulate a variety of cases of different sizes and configurations. In choosing a case, you have many considerations: price, style, functionality, size, material, and configuration.

Theft and damage to equipment present serious potential problems to the mobile lawyer. It's hard to use equipment after someone steals it from you. Broken and damaged equipment also pose serious problems. We have found several good computer bags that offer substantial padding and protection against damage. Unfortunately, most of them look like computer bags and signal their contents to potential thieves. Many experienced travelers suggest that you pack your computer in something that does not look like a computer bag, but such luggage usually lacks the padding and protection of a good computer bag. You can mitigate this problem by acquiring a protective computer sleeve for \$20 and up. There is no limit on how much you can spend on computer bags, but you can get superb equipment for \$400 or less.

The authors have somewhat differing viewpoints on bags. Alan opts for bags that do not look like computer bags, and Jeff leans toward well-constructed computer bags that provide good protection against damage. Alan likes the Targus ([www.targus.com](http://www.targus.com)) backpack (\$69.95 to \$259.95, depending on model and material). Alan also likes the Shaun Jackson Lapdog, which doubles as a laptop workplace, but does not provide much space for files, papers, or other equipment. Jeff generally uses a bag from the Brenthaven line, reasoning that Brenthaven's ([www.brenthaven.com](http://www.brenthaven.com)) award-winning computer-protection sleeve provides good insurance against damage, even though the bag looks like it probably has a computer in it. While Jeff prefers a bag with wheels, the Brenthaven bags sport the most comfortable handles we have found on a computer bag. Both backpacks and bags with wheels minimize the impact of carrying the weight of the bag on your body. Recently, well-known luggage maker Travelpro ([www.travelpro.com](http://www.travelpro.com)) released a line of well-made and highly functional bags worth looking at, if you are in the market for a new computer bag.

For those trips that require a substantial amount of equipment, Jeff's favorite is the Brenthaven Mobile Topload (\$425). Properly packed, he has been able to store a laptop, a small LCD projector, camera, recording device, some files, and an assortment of odds and ends in this bag. It offers excellent protection for computers and uses a special suspended in-line skate wheel system for mobility. Brenthaven makes a smaller wheeled unit called the Mobile Urban (\$399) that packs nicely, but with a much smaller capacity. The model unit that we tested was quite satisfactory, but we noticed that by comparison to its larger sibling, it rolled less smoothly and evenly over uneven terrain and/or with another piece of luggage attached than did the Mobile Topload. Both bags use in-line skate wheels for easy rolling. If you opt for a bag without wheels, the Brenthaven Topload (a slightly smaller version of the wheeled Topload) offers an excellent solution at a list price of \$295.

If you opt to use a bag that lacks appropriate protection for computers, be sure to get a computer sleeve. Brenthaven, Eagle Creek, and many others make such sleeves so that you can pack a computer in virtually any suitcase if you choose to do so. The Brenthaven Glove (\$135), Jeff's favorite, provides good protection for the computer, functions as a sleeve for use with non-computer-friendly luggage, and also functions as a small computer briefcase (complete with handles and a shoulder strap) once you arrive.

If you want to pack clothes and your business files and computer in the same bag, Travelpro's wheeled Business Plus VIP bag (\$595) includes a built-in computer bag that separates from the main body of the bag. It attaches by a zipper to the main bag for easy transport. This bag also has an excellent bonus in that a hard plastic flap comes up from the back of the bag and across the top, providing level support about the size of a laptop computer so that you have a solid work surface for the computer. Travelpro's CompuGuard removable support system offers substantial protection for your laptop. This is a great combination bag—well made, easy to use, and well designed.

When you decide to shop for computer bags, be sure to measure your computer. You will want to make sure that the bag you buy comfortably but securely accommodates your computer and peripherals. Manufacturers make computer bags out of a variety of materials. As a general rule, a good quality leather bag will cost more than a nylon bag. We prefer the ballistic nylon bags because they cost less and seem to hold up better than the leather bags. Like many other products, luggage sells at different prices to different people. Before you buy a computer bag at your local luggage store, you might check on the Internet for pricing. We have found large discounts that way, often from vendors linked directly to the manufacturer's site. The discounts range from a few percentage points to as much as 45 percent. The best discount we found in connection with the research for this article got us a price of \$330 for Travelpro's Business Plus VIP bag listing at \$595.

#### Extra Set of Hands

Well, there you have it, a rather large list of essentials and a cast of supporting devices that can carry you almost anywhere and keep you working productively. In an upcoming issue, we will discuss cellular telephones, audio recording equipment, and digital camera equipment. Practically speaking, while some pieces of the kit make virtually every trip, others spend much of their time off the road. The purpose, location, and length of the travel dictate what elements of the kit make each trip.

Oh, yes, one more thing, you might want to consider taking your significant other with you on the trip. Aside from the obvious entertainment and companionship benefits deriving from such a decision, you'll have help carrying the equipment. Remember, *don't ever check the equipment bag*. If you fly, every piece of equipment you pack should fit in carry on luggage. If you have to check something, check your clothes, you can replace them more easily! Good purchasing and happy travels!

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#### Absolute Basics for Every Trip

1. Surge protector.
2. Modem line circuit tester to allow testing phone lines to ensure they're analog, not a digital high power lines that can "fry" your modem.
3. Ethernet connector cable (try the newer self-retracting variety).
4. Telephone connection cord (try the newer self-retracting variety).
5. Double female telephone line connector and telephone jack doubler.
6. Extension cord.
7. Extra computer battery.
8. Computer AC adapter
9. Printer cable.
10. Connecting and charging cables for PDA.
11. Computer lock (most laptops come with a slot for a standard computer cable locking system using key or combination locks).
12. Small computer emergency tool kit.
13. Cell phone, extra battery, AC charger/adaptor, and DC adapter.
14. Laser pointer.
15. Critical software/data collection.
16. A selection of audio CDs and DVD movies (all work and no play...).

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