

PCC Supported Hardware Guide



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PRINTING INSTRUCTIONS: To print out copies of this document, browse to *PCC Supported Hardware Guide* (<http://learn.pcc.com/hardware.pdf>) to download a PDF formatted version. Then select the "File" menu and choose the "Print" option. If you have trouble opening and printing the PDF, please contact PCC support at <support@pcc.com> or (800) 722-1082.

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1. Hardware Purchasing Overview

PCC supports the hardware in your office as it relates to PCC services. Our support team can help you set up a new printer or modem, for example, and we can help you configure your PC to connect to Partner. PCC can not guarantee support for every type and brand of equipment. For guaranteed support, please choose from our list of PCC-approved hardware. Our hardware and manufacturer recommendations represent the "best bets" for clients when considering cost and reliability.

Call PCC

No matter what new hardware you purchase, we encourage you to call PCC's Technical Solutions Team (1-800-722-1082, x2) to discuss the model and sort out any installation issues. PCC has worked with hundreds of offices to design hardware solutions and our consultation is included in your PCC Care Plan.

Below, you will find descriptions of the hardware peripherals on our approved list. Our many years of direct experience with hardware have gone into creating this list. Please refer to our list when you purchase peripherals from the vendors of your choice.

Approved New Hardware Overview

- **Tools for Connecting to Partner:** Linux, Apple Macintosh, and Microsoft Windows personal computers. More information is available. (<http://learn.pcc.com/hardware.html#hwcomputers>)
- **Printers:** HP LaserJet 2300, 2430, 4200, 4250, 4300, 4350, and P3000 Series, Okidata 520 or 521 Serial Dot Matrix Printers, HP LaserJet 3380 and 4101 Multi-Function Printers, Kyocera FS-1900s, and Ricoh Aficio AP4 series. Other printers that support PCL and native Postscript emulation may be suitable. More information is available. (<http://learn.pcc.com/hardware.html#printers>)
- **Remote Connection Equipment and Modems:** 3Com/USR Office Connect 56K Modem. For router recommendations, please contact PCC. More information is available. (<http://learn.pcc.com/hardware.html#modem>)
- **Power Battery Backup:** APC Smart UPS Models (SC 1500). More information is available. (<http://learn.pcc.com/hardware.html#APCUPS>)
- **Cabling:** CAT 5 Cable. More information is available. (<http://learn.pcc.com/hardware.html#CABLE>)

Get More Information:: Please visit the links above to learn more about PCC's recommendations. If you are struggling to decide what PC to buy, for example, click on the "More information" link in the "Tools for Connecting to Partner" section.

Print This List: You can print out this list by opening *PCC Hardware Purchasing Overview* (<http://learn.pcc.com/hardwarelist.html>). PCC strongly recommends that you read the rest of this document so you can make the most informed decision possible.

2. Linux, Macintosh, or Windows Computers or Workstations

Your staff uses computers or workstations to connect to your Partner server. PCC's customers use devices as simple as a \$300 terminal and as complex as a \$3000 personal computer to perform tasks on Partner. PCC does not support or maintain your personal computers, but we do support and maintain their ability to run Partner software. We will work with your office to find the best solution and help you hook it up to your Partner Network.

Hardware vs. Operating System: The *hardware* requirements for connecting to Partner are very minimal. You can still connect to Partner from a ten year-old PC and certainly from any computer you are likely to find new on the market today. The section below lists hardware recommendations, but primarily deals with *operating system* requirements, suggestions, advantages, and drawbacks.

When shopping for a new computer or workstation, please read the specifications below and feel free to call PCC to discuss the benefits and drawbacks of each choice.

2.1. Linux Computers and Workstations

You can connect to Partner using Linux Computers or Linux Workstations. Linux is an open source operating system that has been adapted for most PCs. You can purchase any PC computer and have a Linux professional install Linux on it. You can also purchase Linux computers at many popular retailers. Your Partner server runs on a version of Linux. PCC chose Linux as our operating system because it is extremely secure and virus resistant, rarely crashes, and can be affordably maintained.

PCC recommends two different implementations for using Linux-based machines to connect to Partner:

1. **PCC's Linux Terminal Server Project (LTSP).** PCC can install a central server to provide computing functions to workstations around your office. We can convert your existing PCs into workstations, and additional workstations can be purchased for around \$300. This client-server model of computing creates a secure, virus-free environment while meeting your staff's computing needs (word processing, web-browsing, etc.) For the year 2005, Partner's LTSP is available through the "PCC Subscription Plan PLUS." Speak with PCC Sales at 1-800-722-7708, x2, to learn more.
2. **Linux Installed on Individual Computers.** The Linux operating system can be installed on any existing computer. Linux is a robust, virus-resistant operating system that can be found for free on-line. You can purchase a desktop computer with Linux pre-installed or install it on an existing PC. The disadvantage of Linux is that it will not run Windows software and it can be harder to find local support assistance. PCC uses Cent OS or Red Hat Linux on your server.

2.2. Macintosh Computers

You can connect to Partner using an Apple Macintosh computer. Macintoshes run on a virus-resistant, secure operating system based on Unix, just like your Partner server. The Macintosh OSX operating system is very crash resistant. The disadvantage of Macintosh computers is that they cost more than other options and some familiar software may not be available.

Macintosh Recommended System Specifications.

- Any New Macintosh computer
- For an older, used Macintosh, look for at least:
 - 600 MHz (or faster) processor
 - 128 MB (minimum) of RAM
 - 20 GB (or larger) hard drive
 - OS X
 - Mouse and Keyboard
 - CD Drive

Updates: PCC recommends that Macintosh users run the "Software Update" utility regularly to ensure security on their machines.

2.3. PC Computers Running Microsoft Windows

You can connect to Partner from a Windows PC, such as a Dell, HP, or unbranded computer. PCC will help you connect your PC to Partner, but PCC does not offer specific Microsoft Windows support or training.

Microsoft Windows is the most common operating system for computers sold by most vendors. Windows may contain security vulnerabilities that could endanger your office's network, and there are more viruses for Windows than for other operating systems. Despite these drawbacks, Windows OS machines have the most available software, are the easiest to find, and are the most likely to have a local support vendor. Most PCC clients use Windows machines to connect to Partner.

PCC strongly suggests the following when purchasing a Windows PC:

1. **Have a Local Expert:** Establish a relationship with a local vendor or Windows expert. The Windows operating system requires more up-keep and attention than other operating systems.
2. **Run Windows Updates:** Keep up-to-date with Microsoft Windows updates. They often include vital security patches. Your local Windows expert can help.
3. **Install and Maintain Virus Protection Software:** After purchasing and installing virus-protection software, you must also make sure that the "virus profiles" are updated regularly.
4. **Consider Added Security Measures:** Given the security flaws in the Windows operating system, you should be cautious about keeping private health information on Windows computers.
5. **PCC Provides Support for Connecting to Partner:** PCC will help you connect to Partner from your Windows PC, and your Partner server can provide some security to your network. Beyond those services, PCC does not offer Microsoft Windows training, telephone support, or security solutions.

While Partner's remarkable flexibility allows it to be used with nearly any PC computer, consider the following *minimum* system specifications when purchasing a new Windows PC:

A Windows-Based PC Should Have at Least:

- Intel, Pentium, or Celeron Processor 1.5 Ghz or faster
- 256 MB (minimum) of RAM
- 20 GB (or larger) hard drive
- 15" (or larger) Monitor/Display - a flat panel can save desk space, and a larger monitor will make reports and Partner screens easier to read
- Mouse and Keyboard
- ISA or PCI 10 BASE-T or 10/100 Ethernet Network Adapter
- CD Drive
- Windows XP Professional or Vista. If possible, avoid machines running Windows ME or Windows XP Home. These operating systems do not provide many of the tools recommended for network security. Note also that many popular software products do not run on Microsoft Vista.

For Better Security and Performance, PCC Recommends:

- Windows XP Professional
- 512 MB of RAM

Old Windows

The Microsoft Corporation no longer supports the Windows 95, Windows 98, and Windows NT operating systems. When possible, PCC will still help you connect machines with these older operating systems to Partner.

Remember Updates

The most important thing to remember when using Windows PCs in your office is to keep your virus protection software *and* Windows operating system up-to-date. You should have someone in your office learn how to perform updates or contract with a local PC vendor.

3. Printers

3.1. General Guidelines

When shopping for a printer for your business, consider the following questions.

1. Is the printer you have chosen network capable or network aware?
2. Does the printer you have chosen support PCL 5, PCL 6, or standard Postscript emulation natively?
3. Can the printer you have chosen meet the printing demands of a busy office?
4. Do you have a Cat 5 network outlet near the location for your new printer?

5. Do you have an available port on your network switch or hub?

Network vs. Stand-Alone Printers: PCC recommends you purchase network-ready printers. A network printer offers a shared resource to your office that is more economical than a series of stand-alone printers. A networked printer will help you avoid the cost of maintenance and administration to individual printers. Network business printers have a more robust design and will lead to fewer service calls and replacement costs. The initial purchase price of a network-aware printer may be higher, but the extended life and decreased maintenance costs will be a benefit to your office.

3.2. Recommended Printer Models

PCC's Technical Solutions team has an extensive list of printers that work with Partner. The sections below describe printers that we have tested and can confidently recommend; other printer solutions may be available. Contact PCC Support at (800)722-1082 x2 to discuss your printer options or to check on the compatibility of a specific printer model.

3.2.1. Hewlett-Packard LaserJet Business-Class Printers

Over the years, PCC clients have had success with the business-class, single-purpose laser printers from HP. Printers like the 4100, 4200, and 4300 series connect to Partner flawlessly and print thousands of pages with minimal maintenance. While these specific lines are no longer available, many of the business-class HP LaserJet printers (usually in the \$800-\$1200 range) will likely be suitable for a busy practice.

At this time, PCC confidently recommends: HP P3005, HP 4350, HP 4500 Color, HP P4014, HP 4015. If you have questions on a specific model, please contact PCC Technical Solutions at 1-800-722-1082, x2.

Laser printers can handle high volume printing better than consumer-line inkjet printers. While laser ink cartridges are more expensive than inkjet cartridges, they last for thousands of pages. When selecting an HP printer, make certain it is network ready, has the number of trays you will need for your practice, has a duplexer if you desire one, and can handle high volume.

3.2.2. Kyocera FS and Ricoh Aficio AP4

PCC has recently tested several Kyocera and Ricoh printers and can confidently recommend these models:

Kyocera: FS-1900, FS-2000, FS-3900, FS-4000

Ricoh: Aficio AP4## Series

As noted above, please contact PCC Technical Solutions if you would like more advice on printer selection.

3.2.3. Multi-Function Printers

When you want a copier, scanner, fax machine, and printer all in one device, you want a "Multi-Function Printer." PCC technicians have tested two popular models and can support you and help you connect them to your Partner network.

- HP LaserJet 3380 All-in-One

An affordable MFP. Requires a print server to work on your network.

- HP LaserJet 4101 MFP

A larger MFP that holds more paper and includes double-sided printing capabilities.

Other models may be available. Contact PCC Technical Solutions for more information.

3.2.4. Okidata 520 Serial Dot Matrix Printer

Okidata 520 printers, though no longer a viable option for most printing needs, were an economical option for printing simple standardized forms, claims, and labels. Some PCC clients still use Okidata 520 printers, and PCC provides minimal assistance with maintaining their connection to Partner.

Note: PCC recommends electronic claim submission and ebills rather than in-office printing of claims and personal bills.

520 and 320 Turbo Are Not Supported. The Okidata "Turbo" models are not Partner compatible. The standard 320 and 520 models are.

3.3. Print Servers

If your printer does not ship "Network Ready," with an ethernet card, you will need to purchase a print server to put your printer on your network. PCC recommends the following print server:

HP DirectJet 170x: A reliable, general purpose print server that will allow your printer to be added to your network. You can purchase the HP 170x through Hewlett-Packard's Web site (<http://www.hp.com>).

Please contact PCC at 1-800-722-1082, x2, if you have any questions about network printing.

4. Other Hardware

4.1. Modems

PCC recommends the 3Com/USR Office Connect 56K Modem. This is a high speed modem that connects to Partner over a phone line.

4.2. Routers and Other Networking Equipment

PCC supplies your office with a hub or switch, and the Partner server can provide routing services to your entire office. For assistance with additional routers, codex units, or other connection equipment, please contact PCC at 1-800-722-1082, x2.

Approved Wireless Router: PCC's approved wireless router is the Netgear Wireless Access Point WS302G. We have tested this router and can verify that it meets requirements for HIPAA and includes other important services that allow it to work with a Partner network. If you wish to set up a wireless network in your practice, PCC can install and support the Netgear WS302G. If you have other wireless equipment needs, contact PCC.

4.3. APC Smart UPS Models

These battery powered back-up units protect your computer from power surges and keep your system running through brown-outs and power outages with up to 15 minutes of stand-by power (enough time to perform a safe system shut-down).

PCC's Current Model: APC Smart-UPS SC 1500

4.4. Category 5 or 6 Ethernet Cable

Networked PCs/Macs connect to the hub in your office with the economical CAT 5 cable. Always consult PCC before you begin building an office network; we know what cabling works best with your network. CAT 5 cable can be purchased and installed by your electrician. We will help you if you have trouble finding this cable locally.

4.5. Back-Up Tapes and Tape Cleaning Kits

PCC recommends you replace your backup tapes every six months to prevent failed or bad backups. Your tape size is dictated by the style and size of your tape drive. If you are not sure which tape you need, call us, and we will help you choose.

A dirty tape drive can cause failed or bad backups. PCC recommends you clean your tape drive weekly with the cleaning tape we provided during your installation or upgrade.

Tip: If you recently upgraded your Partner server, you should have at least one extra tape and one cleaning cartridge. Check the materials that your PCC Support Technician left in your office.

4.6. Old Hardware

PCC also still supports some older hardware. While we do not recommend these options for a new purchase, we will still help you keep them running well with your Partner server.

Terminals

- IBM 3151 (models 410, 510, 610, 660)
- IBM 3153 (models BA3, BG3, BW3)
- AT&T (models 605, 607, 705)

Printers

- Okidata Serial Dot Matrix (models 320, 321, 390, 391)
- Okidata Laser (models 400, 400e, 800, 810, 810e, 1200)
- HP LaserJet (models 5, 4000 Series [T and se], 4050 Series [N, T, TN], and 4100 [N, T, TN, DTN])

Remote Connection Equipment

- US Robotics Courier 33.6K and 56K
- For assistance with other discontinued remote connection equipment, please contact PCC at 1-800-722-1082, x2.

5. Unapproved and Unsupported Hardware

Are you thinking of purchasing hardware that is not on the PCC-Approved list? Maybe you are wondering if a cheap, secondary printer is okay for your back office? PCC recommends the following steps:

1. Work With PCC

Discuss your needs with our client sales specialists or a PCC technician. We may be able to recommend a better solution to your problem and can provide alternatives. Call us at 1-800-722-1082, x2.

2. Anticipate Compatibility Problems

If you buy hardware that is not on PCC's list, it may not work properly with your system and it may open up security problems for your office. We recommend you keep your receipt and have a local computer vendor on-hand to help resolve unpredictable problems.

3. Let PCC Test the Equipment

You can have your new printer or other device shipped directly to PCC's offices in Vermont. We will then attempt to connect the hardware to a Partner system. We offer this service at a cost of \$150/hour, with a minimum charge of \$150, plus shipping. If all is well, we will pack up the hardware, cables, and adapters and ship them to you via the shipping method of your choice.

If the hardware cannot be connected, the minimum charge of \$150, plus shipping, will be charged.

We reserve the right to consider adding such hardware to the "PCC-Approved" list after it has been tested.

4. Find Local Support For Your Device

If you choose unsupported hardware and do not use our testing service, PCC can not provide support for your hardware. As always, we will do our best to help you keep your office running... but if your unsupported printer can not talk to your Partner network, for example, PCC will not know how to help you. You should develop a support relationship with your local hardware vendor.