

# PCC Supported Hardware Guide



The Physician's Computer Company

support@pcc.com  
1 Main Street, Suite 7  
Winooski, VT 05404  
(800) 722-7708 Admin  
(800) 722-1082 Support

Copyright © 2005, 2006, 2007 The Physician's Computer Company  
2007/10/15 21:24:28

**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.

## Table of Contents

<b>1. Hardware Purchasing Overview .....</b>	<b>3</b>
<b>2. Linux, Macintosh, or Windows Computers or Workstations .....</b>	<b>3</b>
2.1. Linux Computers and Workstations .....	4
2.2. Macintosh Computers .....	4
2.3. PC Computers Running Microsoft Windows .....	5
<b>3. Printers.....</b>	<b>6</b>
3.1. General Guidelines .....	6
3.2. Recommended Printer Models .....	7
3.3. Print Servers .....	8
<b>4. Other Hardware.....</b>	<b>9</b>
4.1. Modems .....	9
4.2. Routers and Other Networking Equipment .....	9
4.3. APC Smart UPS Models .....	9
4.4. Category 5 Cable .....	9

4.5. Back-Up Tapes and Tape Cleaning Kits.....	9
4.6. Old Hardware .....	10
<b>5. Unapproved and Unsupported Hardware .....</b>	<b>10</b>

# 1. Hardware Purchasing Overview

PCC supports the hardware in your office as it relates to PCC services. We can help you set up a new printer or modem, for example, and we can help you configure your PC to connect to Partner. We can not guarantee support for every type and brand of equipment, however. For guaranteed support, you must choose from our list of PCC-approved hardware. We believe the hardware and manufacturers we recommend represent the "best bets" for our clients when everything from cost to reliability is considered.

## 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 helped hundreds of offices understand their hardware needs and that service is available to you at no additional charge.

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#computers>)
- **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. 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 (700 or higher). 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 around the office to connect to your Partner server. PCC's clients are using 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 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 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
  - Mac OS 9 or 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 contains many security vulnerabilities that could endanger your office's network. For example, there are far 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.** Having virus protection software on all of your Windows computers is not enough. You must also make sure that the "virus profiles" are updated regularly.
4. **Consider HIPAA Violations.** Given the security flaws in the Windows operating system, you should be cautious about keeping sensitive data 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 in spite of the Microsoft Windows operating system. At this time, however, we do not offer Microsoft Windows specific 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 95 (version B), 98, NT, 2000 or XP Professional. 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.

**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**

The sections below will help you pick a printer for your office. PCC supports many printer alternatives, but some printers do not have the necessary features for Partner printing.

### **3.1. General Guidelines**

The following rules should guide your printer selection.

- **Important Shopping Questions:** 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? How many pages per day will your printer need to print?
  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.
  - **Ethernet Network vs. Serial Network:** Always speak with PCC's Technical Solutions Team (1-800-722-1082, x2) to determine whether you need an ethernet network-ready printer or a printer with a serial card. Depending on the type of network in your office, you may need to purchase a print server or serial card in order for Partner to print to your new printer.

## **3.2. Recommended Printer Models**

PCC's Technical Solutions team has an extensive list of printers that work with Partner. The sections below describe only those 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 2300, 4200, 4250, 4300, 4350, P3000, etc.**

These are the ideal printers for the busy practice: quiet, fast, and reliable, with professional quality printouts. In addition to the models listed, PCC clients have had great success with the HP 2430, 4000, 4050, and 4100 series printers. Though discontinued, these models can still be found through some vendors.

Sometimes HP printers come with a number and a code letter: HP 4050N, HP 4300TN, etc. What do all the letters mean?

- **N** is for "Network." A printer with this letter can plug directly into your network without additional cost for a print server.
- **T** stands for "Tray." A printer with this letter has an extra tray for more paper or different kinds of paper, such as letterhead paper.
- **D** stands for "Duplexer." A printer with this letter has an attached device that allows you to print double-sided pages.
- **MFP** stands for "Multi-Function Printer." See those which work with Partner below.

Experience shows us that these printers are well worth the investment. They handle high volume printing better than consumer model printers. They are all laser printers, which use ink cartridges that are far more affordable per-page than those used by "cheaper" ink-jet printers. They also work flawlessly with all of your Partner printing needs, particularly because they have an adjustable form length.

### **3.2.2. Kyocera FS and Ricoh Aficio AP4**

PCC is working to expand their list of supported printers. While we will always recommend the most durable, business class printers for a busy office, we understand that your printing needs may vary. We make every effort to allow Partner software to print to different models of printers.

We have installed several Kyocera and Ricoh printer models in our client offices with complete success and Partner compatibility.

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

**Ricoh:** Aficio AP4## Series

### **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.

### **3.2.4. Okidata 520 Serial Dot Matrix Printer**

Okidata 520 printers are an economical option for printing HCFA forms, mailing labels, postcards, and data mailer bills.

**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:

1. 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 provides 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 700

### **4.4. Category 5 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.

**Note:** If you do not have an ethernet network and you are adding a printer, terminal, or modem in a different room from your Partner Server, you may need to install Belden 9933 cable inside your walls or ceiling. Belden 9933 is a special shielded cable recommended by IBM for serial network connections. If you are not certain if you have a serial or ethernet network, please contact PCC at 1-800-722-1082, x2.

## 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. Unless otherwise specified, PCC clients should purchase **4mm DDS3 Backup Tapes** from the vendor and brand of their choice.

A dirty tape drive can cause failed or bad backups. PCC recommends you clean your tape drive monthly. You should purchase a cleaning tape of the same size as your backup tapes.

**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.

