

## Recommended Hardware Specifications and Requirements

Please Note:

1. Twice each year Henry Schein Practice Solutions republishes these hardware, networking and systems software recommendations. They serve as the official recommendation of our company for use with our software products. Check the expiration date in the upper right hand corner of this document. If the document has expired, please contact us for a new copy or visit our Web site [www.henryschein.com/specialtysoftware](http://www.henryschein.com/specialtysoftware).

2. If you already have hardware you have used with a previous software product or are an existing user of our software products and are upgrading to a newer version, we also publish a related document that will tell you what minimum hardware specifications Henry Schein Practice Solutions specialty products will run on. Not meeting those specifications will fundamentally and negatively affect the usability and stability of the software. Please contact us anytime if you have any questions regarding how Henry Schein Practice Solutions will perform on your existing systems or systems you are considering purchasing.

3. Your choice of a technician is at least as important as your choice of hardware and systems. Ultimately, the performance and stability of your software and hardware are intimately tied to how well your systems are configured and installed. Please make sure your technician follows the guidelines below and the Installation Guide to the letter. If he or she has any questions, contact us at any time for assistance. We strenuously request that you discourage the slightest deviation from what we recommend. Please understand that our many years of experience with our product gives us knowledge on how it best performs.

4. If you plan to run other software on these systems, please confer with the specifications published by your other software vendors. We only request that if there appears to be a conflict, contact us and the other company and let us help you resolve the conflict.

5. A note about Minimum vs. Recommended specifications:

a. Minimum: This refers to a standard you cannot go below if you wish to successfully run Henry Schein Practice Solutions specialty products. Use the minimum, standards if:

- i. You have recently purchased a Henry Schein Practice Solutions product and wish to know if you can use your existing hardware.
- ii. You already are a Henry Schein Practice Solutions user and want to make sure a new update will still work with your existing systems

b. Recommended: This refers to a standard based on our recommendations when you purchase new hardware. In other words, if you need to purchase hardware, do not go below (you can always feel free to go above) the recommended specifications that follow.

## Hardware Disclaimer

Support for any third party software and for all peripherals (hardware, network) is provided by the original manufacturer and/or service provider. Henry Schein Practice Solutions makes no warranties for service, software, hardware or other non-HSPS products installed and/or used by your network. Warranty and service for non-HSPS products, if any, is provided by the original manufacturer or service provider.

1. Henry Schein Practice Solutions is not responsible for the installation of any hardware or software at your site. If you require assistance with hardware and software installation, HSPS strongly urges you to contact your hardware technician. Regardless of your choice in hardware technician, HSPS does not assume any responsibility for your hardware, network, system configuration, system performance or system stability. You have been provided guidelines on the proper installation of our software (see the envelope labeled "FOR YOUR HARDWARE TECHNICIAN") as well as hardware and network components guidelines to run our software properly. We urge you to follow these instructions to the letter; deviations, albeit small, will almost certainly result in poor performance and system instability.

2. In order for your practice management software to perform as designed, the installed hardware must meet or exceed the specifications outlined in this document. If you or your hardware technician has any questions regarding these specifications, please call customer service at 800.323.3370 for assistance.

3. Any existing hardware (i.e., hardware used with previous systems and not being purchased new) must comply with the same hardware specifications and be in working order to perform properly with your new software.

4. The envelope you received marked "FOR YOUR TECHNICIAN" also contains a document labeled Installation Guide. This document clearly describes the steps to properly install your software. It is critical that your technician follows these procedures exactly without any deviation. If you or your technician have any questions about the document or issues associated with the installation, you can purchase installation assistance by phone for an hourly rate. Please visit our Web site, [www.henryschein.com/specialtysoftware](http://www.henryschein.com/specialtysoftware) for rates and further details.

5. New computers often come loaded with many free applications. We urge you to uninstall any memory-resident applications except those designed to protect your system from viruses, spam, spyware and other malicious attacks.

6. Henry Schein Practice Solutions and Microsoft strongly recommends that your servers and workstations contain only professional versions of the Microsoft Windows® operating system.\*\*

a. For your workstations, use only Windows 2000 Professional or Windows XP Professional

b. For your servers, use only Windows 2000 Server or Windows 2003 Server

7. HSPS cannot assume any responsibility for poorly configured, maintained, or inadequate hardware that may be present at your site.

## Item: File Server (non-dedicated) or Workstation (single or multiple)

Specifications	Recommended	Minimum	Comments/Recommendations
CPU :	Intel Pentium 4—3.2 GHz or Core2 Duo—2.0 GHz	Intel Pentium 4—2.0 GHz	<ol style="list-style-type: none"> <li>1. If the office plans on running other software applications at the same time, such as Digital Radiography and/or Intra-Oral Camera, it is highly recommended that hard drive size be increased to 72 GB or higher. Please consult with your imaging software company and/or hardware provider for additional details and recommendations.</li> <li>2. We recommend you exclusively use servers and workstations with true Intel Pentium 4, Core2 Duo, or Xeon processors. Computers with Celeron or other manufacturer's processors (e.g., AMD, Cyrix) may cause incompatibilities.</li> <li>3. Windows 95, 98, and ME are not recommended as they are not business operating systems, cannot manage memory properly and often lead to instability and difficult to diagnose hardware, software and networking issues.</li> <li>4. Anti-virus software is recommended in cases where you will be connecting to the Internet.</li> <li>5. Please consult with your hardware specialist on what other software should be installed.</li> <li>6. HSPS software is Vista compatible. Due to known instabilities in Vista it is not yet recommended. We recommend waiting until after service pack 1 is in full release. Vista SP1 is in Beta release now.</li> <li>7. Any workstation connecting to the ICat must meet additional minimum specifications. 2GHz CPU, 1GB memory, and 2 GB free hard drive space.</li> <li>8. When setting up the server please keep in mind full read/write permissions are required for the root drive that Henry Schein Practice Solutions is installed on. The same permissions are required for any digital x-ray software folders that may be bridged to Henry Schein Practice Solutions.</li> </ol>
RAM:	1 GB	512 MB	
Hard Drive:	Server - 36 GB or larger (EIDE or Ultra-Wide SCSI) Workstation – 36 GB or larger (EIDE or UltraWide SCSI)	Server - 18 GB or larger (EIDE or Ultra-wide SCSI) Workstation – 4 GB or larger (EIDE or Ultrawide SCSI)	
Video:	XGA (1024 x 768 x 256K), 4MB Video Memory	XGA (1024 x 768 x 256K), 4MB Video Memory	
Operating System:	Windows XP Professional	Windows XP Professional, Windows 2000 Professional	
CD-ROM:	32X	32X	
Audio:	SoundBlaster® 32 and speakers (optional)	Soundblaster 32 and speakers (optional)	
Network Card	32-bit PCI Plug and Play adapter (100 / 1000 MB)	32-bit PCI Plug and Play adapter (100 MB)	
Monitor:	17" monitor or 15" Flat Screen	17" monitor or 15" Flat Screen	

## Item: Notebook Computers

Specifications	Recommended	Minimum	Comments/Recommendations
CPU :	Intel Pentium M Processor – 1.7 GHz <b>or</b> Intel Pentium 4 2.8 GHz Intel Core 2 Duo 2.8 GHz	Intel Pentium 4 – 2.0 GHz	See Notes for File Server or Workstation
RAM:	1 GB	512 MB	
Hard Drive:	20 GB or larger	4 GB or larger	
Video:	XGA (1024 x 768 x 256K), 4MB Video Memory <b>or</b> higher	XGA (1024 x 768 x 256K), 4MB Video Memory	
Operating System:	Windows XP Professional	Windows XP Professional, Windows 2000 Professional	
CD-ROM:	32X	32X	
Audio:	optional	optional	
Network Card	Integrated 10/100MB or 3COM® PCMCIA 100 / 1000 MB card	Integrated 10/100MB or 3com pcmcia 10/100MB card	
Monitor:	14" monitor	14" monitor	

## Item: Printers — General Use

Specifications	Comments/Recommendations
Any Windows XP Pro compatible printer.	<ol style="list-style-type: none"> <li>Henry Schein Practice Solutions products will output in color if a color printer is available and configured properly.</li> <li>Whenever possible load only Windows native drivers. Where this isn't possible load only the manufacturer's drivers and not all of the applets that often part of the device installation disk.</li> </ol>
Note: Laser printers require 4 MB or greater RAM.	
	Note: Inkjet printers are not recommended as the office's only printer.

## Item: Printers — Label (Optional)

### Specifications

Dymo® LabelWriter™ 400

### Comments/Recommendations

1. If the office plans to print single address or chart labels, a label printer is recommended over dot matrix, pin-fed printers.

## Item: File Server (dedicated) **NOTE:** Four workstations or more require a dedicated server.

### Specifications

#### Recommended

#### Minimum

### Comments/Recommendations

Specifications	Recommended	Minimum	Comments/Recommendations
CPU :	1-20 Pentium 4 3.4 GHz' Or Dual Core Xeon 2.0 GHz <b>or</b> Intel Quad Core Xeon 1.6 GHz 10 -25 Xeon 3.2 to 3.6 GHz 25+ dual Xeon 3.6 GHz	Intel Pentium 4 – 3 GHz	<ol style="list-style-type: none"> <li>1. These recommendations assume that this server is running the Sybase SQL database engine exclusively. If this server is used to run any other programs, the CPU, hard drive size, ram, and operating system may need to be changed. Please consult with your hardware provider for additional specifications.</li> <li>2. We recommend you exclusively use servers with a genuine Intel Pentium 4 or Xeon processor. Computers with Celeron or other manufacturer's processors (e.g., AMD, Cyrix) may cause incompatibilities.</li> <li>3. A dedicated server must be dedicated. This means the server should NOT be used as a workstation to run other programs and never be configured to run screen savers or programs in the background.</li> <li>4. Network printers should not be attached or shared through the file server. Consult your hardware technician on the proper use of network print servers.</li> <li>5. When setting up the server please keep in mind full read/write permissions are required for the root drive that Henry Schein Practice Solutions is installed on. The same permissions are required for any digital x-ray software folders that may be bridged to Henry Schein Practice Solutions.</li> </ol>
RAM:	2 GB	1 GB	
Hard Drive:	72 GB or larger (EIDE or Ultra-Wide SCSI)	18 GB or larger (EIDE or Ultra-Wide SCSI)	
Video:	XGA (1024 x 768 x 256K), 4MB Video Memory	Mono or Color	
Operating System:	Windows 2003 Server	Windows 2000 Server, Windows 2003 Server	
Network Card:	32-bit PCI Plug and Play adapter (100 / 1000 MB)	32-bit PCI Plug and Play adapter 100 MB	
Monitor:	17" monitor or 15" Flat Screen	17" monitor or 15" Flat Screen	

## Item: Electronic Claims

### Specifications

Emdeon Version 1.3

### Comments/Recommendations

1. Emdeon Version 1.3 requires Internet access in order to process claims.

## Item: Modem

### Specifications

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For CDANet customers an external 56k modem is required (US Robotics preferred) along with a dedicated phone line.

### Comments/Recommendations

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1. Modems are not network shareable devices. Therefore if you want to communicate from more than one workstation you will need more than one modem.

#### Recommended Modems

2. US Robotics 56k external modem.
3. For more information, please refer to the "Modem" white paper in the HSPS System Installation Handbook.

## Item: Communications Software

### Specifications

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pcAnywhere® 32, Version 11 or higher (required)  
LogMeIn.com  
GoToMyPC.com

### Comments/Recommendations

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1. Secure remote access to your system via the Internet is required by Henry Schein Practice Solutions. PcAnywhere is one option for this requirement; other options include Remote Desktop or Terminal Services/Citrix.
2. Please have your hardware technician consult with Henry Schein Practice Solutions on which one of the above options you choose to use.

## Item: Data Backup

### Specifications

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Any Windows XP Professional or 2003 Server compatible system is acceptable – with appropriate software to run under Windows XP Professional or 2003 Server.

Daily and regular backup of your data is critical and the responsibility of the individual customer. Rotation of your backup media is strongly recommended.

Off-Site backup is also highly recommended

### Comments/Recommendations

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1. The system should be capable of executing a backup script. The amount of additional information, such as images, will affect which backup system will be sufficient.

#### Recommended Backup Systems

- Small database: ZIP Drive (storage limit =250 MB).
  - Large database: internal or external tape (DAT or TRAVAN) drive (storage limit = 20 GB +).
  - For off-site backup - LiveVault.
2. For more information, refer to the "Data Backup" white paper included in the Installation Guide.

## Item: Network Cable

### Specifications

100baseT or 1000baseT (Switch)

### Comments/Recommendations

1. A switch is strongly recommended over a hub.
2. 1000baseT is recommended over 100baseT.

## Item: Wide-Area Networking (multiple office connection)

### Specifications

Point to Point dedicated T1 phone line (provided by local phone company).

T1-capable IP router at each location

Installation and setup by the phone company

DSL is not recommended.

Citrix® Metaframe™ or Microsoft Terminal Server™ is a viable alternative but requires a Citrix / Windows Terminal Server certified technician to install and configure. \*\* See Citrix / Terminal Server setup section at the bottom of this document.

### Comments/Recommendations

**WARNING: Wide-Area Networking (WAN) is a specialty. Most technicians who are experts at installing personal computers and local networks do NOT have the required skill set to install and maintain a WAN.**

1. Dental Software requires 1.1 megabit per second bandwidth or greater for true WANs. When using T1 lines, therefore, you need to dedicate 20 of the 24 channels for data throughput. Citrix networks may be able to use considerably less depending on the architecture of that network. The usual rule of thumb is to have 40 – 78KB per workstation for Citrix WANs. See more information on the section on Citrix below.
2. DSL is often not able to guarantee consistent throughput depending on location and delivery quality. Check with your DSL service provider to confirm that:
  - a. Service is reliable. In some areas, DSL can fail several times a day, requiring restarting of the network and resulting in significant downtime.
  - b. Performance is consistently at 1.1 megabits per second or higher.

Most DSL providers supply DSL quality that varies widely. In these cases, performance may occasionally meet the 1.1 megabit per second specification as its 'peak' but often or usually will not. In fact, performance can degrade to 10% or less of the specification.

3. Point to Point T1's are required. Internet T1's are not recommended as they require additional firewall protection. This additional protection uses up more bandwidth and doesn't provide you with the full advantages of the point to point T1 option.

## Item: ClinicalVision VR

### Specifications

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- SXGA Monitor with 1280 x 1024 resolutions.
- USB Voice Recognition Headset for the Voice Activated Charting

### Comments/Recommendations

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1. Compatible only with Windows XP Pro Integrated voice recognition
2. When using voice recognition the workstation must have a minimum of 1GB of memory.
3. It is strongly recommended that any workstation running CV VR have 1 GB of memory even if voice recognition is not being used.

## Item: Database Server ( in conjunction with Citrix® Metaframe™ Server)

### Specifications

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- Windows 2003 server
- Xeon - 3.2 GHz or higher CPU
- 2 GB RAM
- Hard drive(s) should have 133 MB/sec transfer rate or higher
- 100 / 1000 MB network card

### Comments/Recommendations

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1. Multiple hard drives setup for hardware RAID1 or RAID 5 is suggested.

## Item: Citrix® Metaframe™ Server

### Specifications

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- Xeon – 3.2 GHz CPU or higher
- Dual Core Xeon 2.0 GHz
- Intel Quad Core Xeon 1.6 GHz
- 2 GB RAM or higher
- Citrix load balancing module
- 100 / 1000 MB network card

### Comments/Recommendations

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1. Each server should hold 30-35 users.
2. Bandwidth should be about 78k per busy workstation.

## Item: Tablet PC's

### Specifications

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- Pentium M 1.60 GHz CPU or higher
- 512 MB RAM or higher
- Hard Drive 20 GB or higher

### Comments/Recommendations

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## Item: Rover2.5

### Specifications

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- Mobile 5.0
- Mobile 6.0
- HP Ipaq HX 2490
- Audiovox 6700
- Dell Axim x51
- Treo 700W SmartPhone
- PC2003-
- Dell Axim X30
- Audiovox PPC6600

### Comments/Recommendations

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Please note that these are the devices that have been certified to work with Rover2.5. If you have other devices they may work with Rover2.5 but have not been tested. If you do not see your device on the list and wish to find out if it is compatible, talk to your sales representative about arranging for us to test your device.

## Item: Vital Signs Monitors

### Specifications

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- Criticare
- ComfortCuff
- Poet line
- Scholar line
- Welch-Alyn
- Spot LXi
- Spot Vital Signs
- VSM 5200
- VSM 300

### Comments/Recommendations

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Please note that these are the devices that have been certified to work with Rover2. If you have other devices they may work with Rover2 but have not been tested. If you do not see your device on the list and wish to find out if it is compatible, talk to your sales representative about arranging for us to test your device.