



TECHNICAL SPECIFICATIONS & REQUIREMENTS

Notes:

1. Twice a 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. Please check the expiration date in the upper right hand corner of this document. If the document has already expired, please contact us for a new copy or retrieve it on our website at <http://www.dental-specialty-software.com/>
2. If you already have hardware you have used with a previous software product we are converting you from or are an existing user of our software products and are upgrading to a newer version, we also publish minimum requirements that will tell you what minimum hardware specifications Henry Schein Practice Solutions products will run on. Going below those specifications will fundamentally and negatively affect the usability and stability of the software. Please contact us anytime you have any questions regarding how Henry Schein Practice Solutions will perform on existing systems or systems you are consider 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 as well as our Official Installation Guide to the letter. If he or she has any questions, they are welcome to 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 performs best that no technician can match.
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 products. Use the minimum, standards if:
 - i. You already own hardware, 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 should you be purchasing 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 below.

Item	Specifications	Recommended	Minimum	Comments/Recommendations
File Server (non-dedicated) or Workstation (single or multiple)	CPU : RAM: Hard Drive: Video: Operating System: CD-ROM: Audio: Network Card Monitor:	Intel Core2 Duo -- 2.93 GHz 1 GB Server – 1 TB or larger (EIDE or Ultra-Wide SCSI) Workstation – 80 GB or larger (EIDE or Ultra-Wide SCSI) XGA (1024 x 768 x 256K), 4MB Video Memory Windows Vista Business, Windows Vista Ultimate or Windows 7 Professional DVD SoundBlaster® 32 and speakers (optional) 32-bit PCI Plug and Play adapter (100 / 1000 mb) 15" or larger Flat Screen	Intel Pentium 4 – 2.0 GHz 512 MB Server - 100 GB or larger (EIDE or Ultra-wide SCSI) Workstation – 20 GB or larger (EIDE or Ultrawide SCSI) XGA (1024 x 768 x 256K), 4MB Video Memory Windows XP Professional, Windows 2000 Professional 32X Soundblaster 32 and speakers (optional) 32-bit PCI Plug and Play adapter (100 MB) 17" monitor or 15" Flat Screen	<ol style="list-style-type: none"> 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. 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. 3. Windows 95, 98, and ME are <u>not</u> 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. 4. Anti-virus software is recommended in cases where you will be connecting to the internet. 5. Please consult with your hardware specialist on what other software should be installed. 6. HSPS is Vista and Windows 7 compatible. 7. Any workstation connecting to the ICat must meet additional minimum specifications. 2ghz cpu, 1gb memory, and 2 gb free hard drive space. 8. When setting up the server please keep in mind full read/write permissions are

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				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.
Notebook Computers	CPU : RAM: Hard Drive: Video: Operating System: CD-ROM: Audio: Network Card: Monitor:	Intel Core 2 Duo 2.8 Ghz 1 GB 20 GB or larger XGA (1024 x 768 x 256K), 4MB Video Memory or higher Windows Vista Business, Windows Vista Ultimate, or Windows 7 Professional DVD optional Integrated 100/1000MB or 3COM® PCMCIA 100 / 1000 MB card 14" or larger monitor	Intel Pentium 4 – 2.0 Ghz 512 MB 4 GB or larger XGA (1024 x 768 x 256K), 4MB Video Memory Windows XP Professional, Windows 2000 Professional 32X optional Integrated 10/100/1000MB or 3com pcmcia 10/100MB card 14" monitor	See above
File Server (dedicated) Note (4 Workstations or more require a dedicated Server.)	CPU : RAM: Hard Drive:	1-20 Dual Core Xeon 2.0 GHz or Intel Quad Core Xeon 1.6 Ghz 10 -25 Xeon 3.2 to 3.6 Ghz 25+ dual Xeon 3.6 Ghz 4 Gig 1 TB or larger (EIDE or	Intel Pentium 4 – 3 GHz 1 Gig 100 GB or larger (EIDE or	<ol style="list-style-type: none"> 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. 2. We recommend you exclusively use servers with a genuine Intel Xeon processor.

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	Video: Operating System: Network Card: Monitor:	Ultra-Wide SCSI) XGA (1024 x 768 x 256K), 4MB Video Memory Windows 2003 Server, Windows 2008 Server 32-bit PCI Plug and Play adapter (100 / 1000 MB) 15" or larger Flat Screen	Ultra-Wide SCSI) Mono or Color Windows 2000 Server, Windows 2003 Server 32-bit PCI Plug and Play adapter 100 MB 17" monitor or 15" Flat Screen	Computers with Celeron or other manufacturer's processors (e.g., AMD, Cyrix) may cause incompatibilities. 3. A dedicated server <u>must</u> 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. 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. 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. 6. Sybase Sql Anywhere is 64-bit compliant so running the database on a 64-bit dedicated server is supported.
Printers – General Use	Any Windows XP Pro, Vista, or Windows 7 compatible printer. Note: Laser printers require 4 MB or greater RAM.			1. Henry Schein Practice Solutions products will output in color if a color printer is available and configured properly. 2. 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 are often part of the device installation disk. Note: Inkjet printers are not recommended as the office's only printer.
Printers – Label (Optional)	Dymo® LabelWriter™ 450			1. If the office plans to print single address or chart labels, a label printer is recommended over dot matrix, pin-fed printers.

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Electronic Claims	Henry Schein E-Services	<ol style="list-style-type: none"> 1. Sending attachments requires a separate sign up. 2. High speed internet connection required
Modem	<p>For CDANet customers an external 56k modem is required (US Robotics preferred) along with a dedicated phone line.</p> <p>ltrans is available and requires internet access not modems.</p>	<ol style="list-style-type: none"> 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 <p><u>Recommended Modems</u></p> <ol style="list-style-type: none"> 2. US Robotics 56k external modem 3. For more information, please refer to the "Modem" white paper in the HSPS System Installation Handbook.
Communications software	<p>pcAnywhere® 32, Version 11 or higher (required)</p> <p>LogMeIn.com</p> <p>GoToMyPC.com</p> <p>MS Remote Desktop</p>	<ol style="list-style-type: none"> 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.

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Data Backup	Any Windows XP Professional, Vista, Windows 7, 2003 Server, or 2008 server compatible system is acceptable – with appropriate software to run under Windows XP Professional, Vista, Windows 7, 2003, or 2008 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.		<ol style="list-style-type: none"> 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. <u>Recommended Backup Systems</u> <ul style="list-style-type: none"> <input type="checkbox"/> Small database: ZIP Drive (storage limit = 250 MB) <input type="checkbox"/> Large database: internal or external tape (DAT or TRAVAN) drive (storage limit = 20 GB +) <input type="checkbox"/> Off-site backup For more information, refer to the "Data Backup" white paper included in the Henry Schein Practice Solutions System Installation Handbook.
Network Cable	100baseT or 1000baseT (Switch)			<ol style="list-style-type: none"> A switch is strongly recommended over a hub. 1000baseT is recommended over 100baseT
Wide-Area Networking (multiple office connection)	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 <u>not</u> 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.	<p>WARNING: Wide-Area networking (WAN) is a specialty. Most technicians who are experts at installing personal computers and local networks do <u>NOT</u> have the required skill set to install and maintain a WAN.</p> <ol style="list-style-type: none"> 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 DSL is often not able to guarantee

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				<p>consistent throughout depending on location and delivery quality. Check with your DSL service provider to confirm that:</p> <ol style="list-style-type: none"> 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 <u>consistently</u> 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. <p>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.</p>
<p>ClinicalVision VR</p>	<ul style="list-style-type: none"> ❑ SXGA Monitor with 1280 x 1024 resolutions. ❑ USB Voice Recognition Headset for the Voice Activated Charting 			<p>Compatible only with Windows XP Pro, Windows Vista Integrated voice recognition</p> <p>When using voice recognition the workstation must have a minimum of 1GB of memory</p> <p>It is strongly recommended that any workstation running CV VR have 1 GB of memory even if voice recognition is not being used</p>

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Database Server (in conjunction with Citrix® Metaframe™ Server)	<ul style="list-style-type: none"> <input type="checkbox"/> Windows 2003 server <input type="checkbox"/> Windows 2008 Server <input type="checkbox"/> Xeon - 3.2 GHz or higher CPU <input type="checkbox"/> 2 gigabytes RAM <input type="checkbox"/> Hard drive(s) should have 133 MB/sec transfer rate or higher <input type="checkbox"/> 100 / 1000 mb network card 		<ol style="list-style-type: none"> 1. Multiple hard drives setup for hardware RAID1 or RAID 5 is suggested
Citrix® Metaframe™ Server	<ul style="list-style-type: none"> <input type="checkbox"/> Xeon – 3.2 GHz CPU or higher <input type="checkbox"/> Dual Core Xeon 2.0 GHz <input type="checkbox"/> Intel Quad Core Xeon 1.6 Ghz <input type="checkbox"/> 2 gigabyte RAM or higher <input type="checkbox"/> Citrix load balancing module <input type="checkbox"/> 100 / 1000 mb network card 		<ol style="list-style-type: none"> 1. Each server should hold 30-35 users 2. Bandwidth should be about 78k per busy workstation
Tablet PC's	<ul style="list-style-type: none"> <input type="checkbox"/> Pentium M 1.60 GHZ CPU or higher <input type="checkbox"/> 512 Mb RAM or higher <input type="checkbox"/> Hard Drive 20 Gigabyte or higher 		
Vital Signs Monitors	<ul style="list-style-type: none"> <input type="checkbox"/> Criticare <input type="checkbox"/> ComfortCuff <input type="checkbox"/> Poet line <input type="checkbox"/> Scholar line <input type="checkbox"/> nGenuity 	<ul style="list-style-type: none"> <input type="checkbox"/> Welch-Alyn <input type="checkbox"/> Spot LXi <input type="checkbox"/> Spot Vital Signs <input type="checkbox"/> VSM 5200 <input type="checkbox"/> VSM 300 	<p>Please note that any Criticare monitor that is capable of transmitting a CSV formatted file thru a serial port will work with the Henry Schein Practice Solutions bridge.</p> <p>A certified null modem cable is required for communication with the Criticare device.</p>

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	<ul style="list-style-type: none"> <input type="checkbox"/> Datascope <input type="checkbox"/> Any monitor that supports DIAP 	<ul style="list-style-type: none"> <input type="checkbox"/> Phillips VS Series <input type="checkbox"/> Network <input type="checkbox"/> Serial 	
	<ul style="list-style-type: none"> <input type="checkbox"/> GE <input type="checkbox"/> Dash 2000 		
<p>I-CAT Integration</p>	<ul style="list-style-type: none"> <input type="checkbox"/> NextGen <input type="checkbox"/> Classic <input type="checkbox"/> Gendex CB500 		