



**SeisWare**™  
Industrial Strength Interpretation

**System Requirements for *SeisWare* Software**  
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Prices are approximate and are current as of November 2009 and subject to change.

## System Configurations

	<b>Minimum Requirements</b>	<b>Typical Workstation System</b>	<b>Typical Laptop System</b>	<b>64bit Workstation System</b>
Price Point		\$8000 CAD	\$3700 CAD	\$9000 CAD
Operating System	Windows XP Professional®	Genuine Windows Vista® Business Service Pack 1, with media, 32-bit	Genuine Windows® 7 Professional, with Media, 32-bit	Genuine Windows® 7 Professional, with Media, 64-bit
Monitor	17" flat panel monitor	2 x 22" flat panel monitors	17" LCD Display - (Additional Monitors - optional)	2 x 22" flat panel monitors
Memory	1 GB RAM	3GB, DDR3 RDIMM Memory, 1333MHz, ECC (3 DIMMS)	4.0GB, DDR3-1066MHz SDRAM, 4 DIMMS	12GB, DDR3 RDIMM Memory, 1066MHz, ECC (6 DIMMS)
Processor	2.8 GHz Intel Pentium D	Quad Core Intel® Xeon® Processor W5580 3.20GHz, 8M L3, 6.4GT/s, turbo	2.5 GHz Intel™ Core 2 Duo	2 x Quad Core Intel® Xeon® Processor W5580 3.20GHz, 8M L3, 6.4GT/s, turbo
Hard Disk	300 GB disk	2 x 750GB SATA 3Gb/s with NCQ and 16MB DataBurst Cache™	DUAL HARD DRIVES, 500G (2x 250) 7200RPM SATA hard drive	2 x 750GB SATA 3Gb/s with NCQ and 16MB DataBurst Cache™
Misc.		Keyboard and optical mouse - Bluetooth	Wireless Keyboard and Mouse, Matrox® DualHead2Go® (optional - see below)	Keyboard and optical mouse - Bluetooth
CD Rom	16x DVD/CD burner	16XDVD / 16x DVD +/-RW	8X CD/DVD Burner w/ double-layer DVD+R write capability	16XDVD / 16x DVD +/-RW
Floppy	3.5" Floppy disk drive	3.5" floppy disk		3.5" floppy disk
Power	300 watt power supply	1000 watt power supply	85 WHr 9-cell Lithium Ion Primary Battery	1100 watt power supply
Chassis	Mid-size tower chassis	Full-size tower chassis	N/A	Full-size tower chassis
Video	Video card supporting 1280x1024 resolution with 16,000 colors (high color)	Dual 768MB NVIDIA® Quadro® FX 1800, QUAD MON, 4DP & 2DVI	NVIDIA® Quadro® FX 2700M, 512MB Discrete (See note below regarding compatibility issues)	Dual 1.0GB NVIDIA® Quadro® FX 3800, QUAD MON, 4DP & 2DVI
Warranty		4 year NBD Onsite service	4 year NBD Onsite service	4 year NBD Onsite service

## Software Compatibility Table

	<i>XP®</i>	<i>XP® 64bit</i>	<i>Vista®</i>	<i>Vista 64bit®</i>	<i>Windows 7®</i>	<i>Windows 7® 64bit</i>	<i>SQL Server® Express 2005</i>	<i>MS Access™</i>
<i>SW- 32bit</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>SW- 64bit</i>		✓		✓		✓	✓	

## ***Laptops***

If you plan to use your laptop with 2 or more ***external monitors or projectors*** then you will need to also purchase 3<sup>rd</sup> party hardware to accomplish this. We have tested the Matrox® DualHead2Go™ Digital (or Analog) Edition. Matrox also offers the TripleHead2Go™ Digital (or Analog) Edition. You will need to go to the Matrox website – [www.matrox.com](http://www.matrox.com) where you will find the compatibility list. This is a list of all the compatible notebooks based on the type of graphics chip sets. Make sure the system you are considering for purchase is on the compatibility list.

You should be able to find compatible laptops off the shelf at stores like London Drugs, Best Buy, Future Shop, etc. These systems are generally purchased as is and normally the systems are not generally customizable. These systems generally have only 2 Gb of RAM memory. Also, the systems will most likely have Windows Vista Home as the operating system. If you want a more easily configurable system then you may want to try Dell® ([www.dell.ca](http://www.dell.ca)), HP® ([www.hp.ca](http://www.hp.ca)) or other similar companies.

## ***Workstations***

### ***Disk Space***

The amount of Disk Space needed depends mainly on: the average size of your projects, and are the projects stored locally or on a server. The cost for SATA hard drives is relatively inexpensive. Typically, 2 to 3 – 500Gb, 7200rpm SATA hard drives will be adequate for most configurations.

### ***Dual Screens***

Multi-video card support is built in to Windows XP®, Windows Vista® and Windows® 7. SeisWare International Inc. has tested both the ATI® and NVidia® line of video cards for multi-screen support. Both are fully supported by Windows XP® in dual video mode with no need for special video drivers. Check with the card manufactures for support for Windows Vista®, Windows® 7.

The majority of video cards now support multiple screens with a single video card. Be sure to check with the user on the desired screen resolution and refresh rates and then check the specification of the video card to make sure it can run at that resolution and refresh rate. Also check to make sure the card manufacturer supports the operating system you plan to install. We

have found that most interpreters work in a 1280x1024 screen resolution or greater, with 60Hz refresh for LCD Flat Panel Monitors. The larger monitors (e.g. 20" to 30") can be used at higher screen resolutions, such as 1600x1200 or more. The larger monitors and the increased dot resolution will allow interpreters to display greater amounts of seismic data on the desktop.

### ***Multiple CPUs***

SeisWare Interpretation Software is a multi-component multi-threaded application. In short, this means that more than one CPU will improve performance significantly. Most CPUs on the market today are Dual or Quad Core which simply means a single Dual Core CPU acts like two separate CPUs and a Quad Core CPU will act like 4 separate CPUs. SeisWare Interpretation Software will take advantage of the multiple cores (Dual and Quad Core CPUs). Monolithic applications would have only minor performance improvements. If you do run multiple CPUs, it is suggested that you have more than one hard disk [one for the operating system, one for your data, one for virtual memory, and perhaps one for your applications].

### ***Virtual memory***

Windows XP®, Windows Vista®, and Windows® 7 do not configure large amounts of virtual memory by default. If you are running out of memory quickly, or are working with large projects, be sure to increase the size of the virtual memory. Check under **CONTROL PANEL | SYSTEM** to configure this. Ensure that the minimum and maximum page file sizes are the same [this is NOT the default], otherwise there will be increased disk access once virtual memory is used. We suggest that the page file be set to be double the amount of memory you have. In any case, the page file should not be more than triple the amount of memory. Placing virtual memory on the quickest hard drive can improve the performance for SATA and SCSI systems.

### ***SCSI vs. SATA vs. IDE***

Simply put, IDE is dead. The likelihood of you purchasing a new system that has IDE is pretty much zero. If you do come across an IDE system, don't buy it.

From a bandwidth point of view, both SCSI and SATA are capable of 300 mb/s. Thus, the real difference between SCSI and SATA lies not in the disk read and write speeds, but in the support for RAID. SCSI still has the advantage for multi-tasking and command queuing. However, that comes at a significant price. Thus, unless you do not have a good back up system and need the fault tolerance while still keeping the performance, SeisWare International Inc. feels that SATA is the preferred cost effective solution. Keep in mind that you can get RAID support for SATA systems. They provide the fault tolerance of SCSI, but not the multi-tasking command queuing capability. As a result, they tend to be slower than SCSI. But not by a whole lot!

***Note: CPU Speed vs. RAM***

You will note that the typical high-end system that we have configured does not contain the latest and fastest CPU currently available. The reason for this is simply that we feel the price versus performance trade-off for the latest CPU is not justified. Typically, the latest CPU will be approximately double the price of the next fastest CPU. The performance boost from this newer CPU is only 5 to 15%. When the savings are spent on more RAM (maximizing RAM to 4 GB or more for 64bit systems), the overall performance for a seismic workstation increases dramatically by reducing the amount of virtual memory used, especially in larger projects.

***Note: 64-Bit CPUs***

SeisWare Software has full 64bit support. If you have a 64bit system running a 64bit version of Windows you will be able to install both SeisWare Software 32bit and SeisWare Software 64bit.

The 64bit version of SeisWare Interpretation Software uses Microsoft SQL Server Express 2005 and is not compatible with Microsoft Access. You can also optionally configure the 32bit version of SeisWare Software to use SQL Server Express for the database. If you have existing projects that are using MS Access for the database and you want to use the 64bit version of SeisWare Interpretation Software you will have to convert these projects to use the SQL Server Express database. Please see SeisWare Help on the main launcher for details.

The main advantage of a 64bit system is the ability to access larger amounts of RAM memory which will enable the user to launch more basemaps and seismic views, each basemap can show more data (ie. Large raster image(s)) The main disadvantages for a 64bit system are: 1) SQL Server Express can be slower than MS Access; 2) Some 3<sup>rd</sup> party devices may or may not have 64bit support (check with the vendor).

UPDATE: We are in the process of performing testing comparing 64bit systems with large amounts of RAM (8 to 16Gb) vs 32bit systems with 4Gb RAM. While the tests are not complete the preliminary results are showing a noticeable performance increase for projects with large 3Ds. An example of the speed increase can be readily seen in the 3D Autopick

### ***Microsoft Windows 7, Vista™, and XP™***

Windows 7 is a new Operating System recently released by Microsoft and as such we do not have the same level of experience with it as with Vista and XP. SeisWare Interpretation Software is currently supported on Windows 7, Windows Vista, and Windows XP but as stated above the level of expertise is greater for SeisWare Interpretation Software running on Windows XP and Vista. All of the above operating systems come in both 32bit and 64bit editions depending on your hardware configuration.

- ◆ **Windows XP** is available in 2 major editions:

- 1) Home Edition

- 2) **Professional Edition**

The main differences between these are that the Home Edition only supports a single CPU, has limited networking ability, and security is limited. We do not recommend Windows XP Home Edition.

- ◆ **Windows Vista** is available in 4 major editions:

- 1) Basic

- 2) Home Premium

- 3) **Business**

- 4) Ultimate

The Basic version is very limited. The Home Premium and the Business versions differ mainly in the ability to use multimedia in the Home Premium Edition and the ability to remotely access your office in the Business Edition. **The Business Edition is the recommended version for an office setting.** If you were planning on using the system (laptop) at home and at work you may want to upgrade to the Ultimate Edition as it has multimedia capabilities.

For more details please go to <http://www.microsoft.com/windows/products/windowsvista/editions/choose.mspx>

- ◆ **Windows 7** is available in 3 major editions:

- 1) Home Premium

- 2) **Professional**

- 3) Ultimate

The Home Premium and the Professional versions differ mainly in the ability to remotely access your office and full-system Backup and Restore in the Professional Edition. **The Professional Edition is the recommended version for an office setting.** If you were planning on using the system (laptop) at home and at work you may want to upgrade to the Professional or Ultimate Edition.

For more details please go to <http://www.microsoft.com/Windows/windows-7/compare/default.aspx>

## ***Backups***

It is very important to backup your data in particular your project directories that will contain your interpretation. There are many 3<sup>rd</sup> party applications available that will do automated backups to various media including tape drives, disk drives, and USB disk drives to name a few. An example of an inexpensive and easy solution for a single desktop backup would be to purchase a couple of 1Tb USB disk drives, depending on the amount of disk you are backing up, that include backup software (Maxtor 1TB OneTouch III Turbo Edition Hard Drive).

## ***Internet***

SeisWare International Inc. can be contacted via the internet. You may email [sales@seisware.com](mailto:sales@seisware.com) for sales related questions, or [support@seisware.com](mailto:support@seisware.com) for support. Having an internet connection will allow SeisWare International Inc. developers to update your application more quickly. Since SeisWare Software Version 5.0, users have been able to update their applications and licensing information via the internet. It is possible to disable this feature to allow I.T. groups to manage the desktop applications to ensure stable package distributions.

### Notices:

Windows XP, Windows Vista, Microsoft, SQL Express, Access are all Trademarks of Microsoft Corporation

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