



SeisWare™
Industrial Strength Interpretation

System Requirements for SeisWare™ Seismic Interpretation Software

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Prices are approximate and are current as of June 2011 and subject to change.

System Configurations				
	Minimum Requirements	Typical Workstation System	Typical Laptop System	64bit Workstation System
Price Point		\$3700 CAD	\$3800 CAD	\$7200
Operating System	Windows XP Professional®	Genuine Windows® 7 Professional, SP1, 64-bit	Genuine Windows® 7 Professional, SP1, 64-bit	Genuine Windows® 7 Professional, SP1, 64-bit
Monitor	17" flat panel monitor	2 x 22" Wide Monitor, VGA/DVI/DP	17.3" UltraSharp™ FHD(1920x1080) Wide View Anti-Glare LED-backlit	2 x 24" Wide Monitor, VGA/DVI/DP/HDMI
Memory	1 GB RAM	6GB, 1333MHz, DDR3 SDRAM, ECC (3 DIMMS)	8.0GB, DDR3-1600MHz SDRAM, 4 DIMMS	12GB, DDR3 RDIMM Memory, 1333MHz, ECC (6 DIMMS)
Processor	2.8 GHz Intel Pentium D	Quad Core Intel™ Xeon W3550 3.0GHz, 8M L3, 4.8GT/s, Turbo	Intel® Core™ i7-2820QM (Quad Core 2.30GHz 8M cache) with Turbo BoostTechnology 2.0	Dual Quad Core Intel® Xeon® Processor E5630, 2.53GHz, 12M L3, 5.86GT/s, turbo
Hard Disk	300 GB disk	2 x 1TB SATA 3.0Gb/s, 7200 RPM Hard Drive with 32MB DataBurst Cache™	2 x 500GB 7200rpm Hard Drive	2 x 1.5TB SATA 3.0Gb/s, 7200 RPM Hard Drive with 32MB DataBurst Cache™
CD Rom	16x DVD/CD burner	16XDVD AND 16XDVD+/-RW	8X DVD+/-RW	16XDVD AND 16XDVD+/-RW
Video	Video card supporting 1280x1024 resolution with 16,000 colors (high color), OpenGL compatible	1.0GB NVIDIA® Quadro® 2000, Dual MON, 2 DP & 1 DVI	NVIDIA® Quadro® 3000M with 2GB GDDR5	2GB NVIDIA® Quadro® 4000, DUAL MON, 2DP & 1DVI
Options			Dell E-Port Plus, Port Replicator ...or... Matrox® DualHead2Go® for dual external displays (optional – see below)	
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>SeisWare– 32bit</i>	✓	✓	✓	✓	✓	✓	✓	✓
<i>SeisWare – 64bit</i>		✓		✓		✓	✓	

Workstations

Video Cards / Dual Screens

SeisWare Interpretation Software should run on any graphics system that supports a complete implementation of OpenGL. SeisWare software should run on any version of the graphics driver, however driver bugs are not unusual and we recommend using the most recent certified version of the driver.

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®, Windows Vista® and Windows® 7 in dual video mode with no need for special video drivers.

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].

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 3rd party devices may or may not have 64bit support (check with the vendor).

64bit systems with large amounts of RAM (8 to 16 GB) show a noticeable performance increase for projects with large 3Ds. An example of the speed increase can be readily seen using the 3D Autopick.

Hard Drives

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 – 500 GB, 7200 rpm SATA hard drives will be adequate for most configurations.

SAS vs. SATA

SAS and SATA are currently the predominant disk interface technologies. Serial ATA (SATA) has been common technology in desktops and workstations for quite some time, while Serial Attached SCSI (SAS) has become the standard for server and storage arrays. From a bandwidth point of view, both SAS and SATA are capable of 300 mb/s. The main difference between SAS and SATA lies not in the disk read/write speeds, but in the support for RAID. SAS has the advantage for multi-tasking and command queuing, however, that comes at a significant price and is likely overkill for a desktop class system. 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 which can provide the fault tolerance of SAS, without the multi-tasking command queuing capability. As a result, they tend to be slower than SAS, but not by a whole lot!

One other performance consideration would be to go with a Solid State Drive (SSD). An SSD's primary storage medium is through semiconductors rather than the traditional magnetic media. While a traditional drive has drive motors to spin up the magnetic platters and the drive heads, all the storage on a solid state drive is handled by flash memory chips. This provides the distinct advantages of faster data access, less power usage, and higher reliability. However these advantages come at a significant price increase over traditional hard disk drives.

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, SAS and SCSI systems.

Microsoft® Windows 7®, Windows Vista®, and Windows XP® operating systems

SeisWare Interpretation Software is currently supported on Windows 7, Windows Vista, and Windows XP. Each of these operating systems comes in both 32bit and 64bit editions depending on your hardware configuration.

Windows XP Professional - Service Pack 3

- Although mainstream support for Windows XP has expired, Extended Support has been extended by Microsoft until April 8, 2014. For more details, please refer to the Microsoft Support Lifecycle page <http://support.microsoft.com/lifecycle/#tab1>

Windows Vista is available in 4 major editions: Basic, Home Premium, **Business**, 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.msp>

Windows 7 is available in 3 major editions: Home Premium, **Professional**, 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>

Laptops

If you plan to use your laptop with 2 or more **external monitors or projectors** then you will need to also purchase 3rd party hardware to accomplish this. We have tested the Dell E-Port Plus Port Replicator and 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 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 7 as the operating system. If you want a more easily configurable system then you may want to try Dell® (www.dell.ca), HP® (www.hp.ca) or other similar companies.

Backups

It is very important to backup your data in particular your project directories that will contain your interpretation. There are many 3rd 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.

Virtualization Platforms

SeisWare Interpretation Software is not certified to run on virtualization platforms such as VMware, Citrix or Microsoft Hyper-V at this time. SeisWare International Inc. does not run these virtualization platforms and therefore is unable to test problems that may be associated with these platforms. Clients are encouraged to run our software in supported environments. SeisWare International Inc. will attempt to replicate problems in standard supported environments.

It is recognized that clients may choose to run SeisWare Software in a virtualized environment. If a client chooses to run SeisWare Software in a virtualized environment they should be aware of the following:

- SeisWare hardware license keys will not run on virtual machines meaning the client will need to have a physical system running a supported Windows operating system as the License Server.
- SeisWare International Inc. will not provide support in assisting clients to install SeisWare Software in a virtualized environment.
- SeisWare International Inc. will not provide support for issues deemed to be related to virtualization.
- SeisWare International Inc. will provide our standard level of support for SeisWare Software to clients running in a virtualized environment for issues that are not related to the virtualization platform.
- If a problem encountered by a client who is running in a virtualized environment cannot be replicated by SeisWare International Inc., it may be requested that the client replicate the problem in a non virtualized environment.

Internet

SeisWare International Inc. can be contacted via the internet. You may email sales@seisware.com for sales related questions, or 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, Windows 7, Microsoft, SQL Express, Access and Hyper-V are all Trademarks of Microsoft Corporation

Intel is a trademark of Intel Corporation

Nvidia, Quadro, and GeForce are all trademarks of NVIDIA Corporation

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