Sea Scan® PC – Technical Note

Sea Scan® PC Review Operating System Compatibility

Sea Scan PC was released for the first time over 20 years ago. Technology has come a long way since then and some software has become difficult or impossible to use on new computer systems. This technical note offers two solutions for running Sea Scan PC on newer Windows™ operating systems.

Determine If The Computer Can Run Sea Scan PC Review

Sea Scan PC Review Computer Requirements:

- 256 Color Mode
- 32 bit Windows

If the computer meets the above requirements then Sea Scan PC Review will very likely be able to be installed and run successfully. To check for the above requirements do the following (Windows 7 other Windows versions may vary slightly):

To check the Windows Version:
1) Click the Start button.
2) Right click Computer. This will show a popup context menu.
3) Click on the Properties option in the popup menu.
4) Under the System section the System Type: will be shown. For most systems this will be either 64-bit or 32-bit.

To check the available Color Modes:
1) Right click on the computer's desktop. This will show a popup context menu.
2) Select the Screen Resolution option in the popup menu.
3) Click on Advanced Settings. This will show the graphics card's properties window.
4) Under the Adapter tab click on the List All Modes button. This will show the List All Modes window.
5) Verify that 256 Colors is listed in the Color Mode column

If the computer does not meet one or both of the above requirements then further action will have to be taken in order to run Sea Scan PC Review on the computer. We have outlined two methods in this document: Using Sea Scan Survey to Review MST Data Files and Using Sea Scan PC Review in a Virtual Machine. These methods are explained in detail below.

Using Sea Scan Survey to Review MST Data Files

The easiest method of reviewing MST files is to convert them to our new SDS file format in order to review them with Sea Scan Survey. Sea Scan Survey is compatible with the newest Windows 64-bit operating systems including Windows 7, 8, and 8.1.

1. Download and install the MST2SDS software[1]. See the resources section at the end of this document for a download link.
2. Download and install the Sea Scan Survey software[2]. See the resources section at the end of this document for a download link.

Converting MST Files to SDS Files

In order to review the MST files in Sea Scan Survey they will need to be converted to SDS files first. This procedure and the MST2SDS software is covered in much more detail in the MST2SDS software manual[3]. Below is a short step by step set of instructions:

The first step is to choose the source folder that the MST files reside in. Do this by clicking the Browse button under the File List section. This will show the Select a Folder or File(s) window. This window is fairly standard and operates as it does in thousands of other software applications that run on the Windows operating system.

Using the Select a Folder window will allow you to select a folder that contains the source .MST files. Multiple files can be selected by clicking on individual files while holding the Ctrl or Shift key. If no files are selected then clicking the Open button will cause this window close and the current folder will become the source path (folder). This will cause any .MST files to be listed in the Files List box. If at least one file is selected then clicking the Open button will cause the window to close and the selected file(s) will be shown in the Files List box.

For this example we would like to select all of the files in the Source Path to convert. We do this by clicking the Select All button in the File List section. All of the files will be selected as shown above.
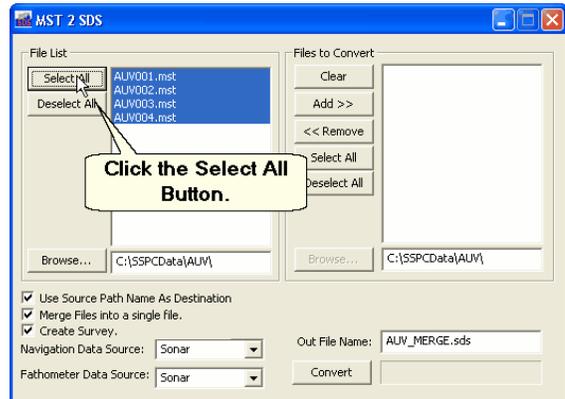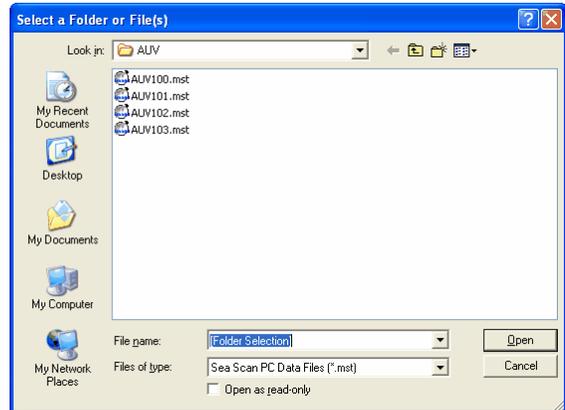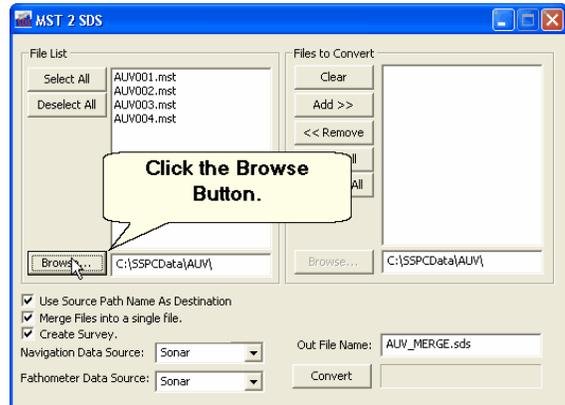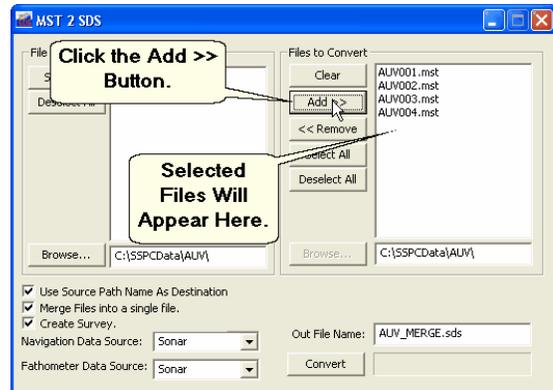
The next step in the conversion process is to transfer all of the files from the File List to the Files to Convert list box. Since we have selected all of the files we simply need to click on the Add >> button.

Once the files are transferred to the File to Convert list box, we simply need to make sure all of the File Conversion Options are set correctly for our conversion. We recommend the following options be checked:

- ✓ Use Source Path Name as Destination
- ✓ Create Survey

This will create a survey file (.XVY) so that the entire data set can be loaded into Sea Scan Survey as one continuous data set. Each MST file will be converted to a corresponding SDS file.
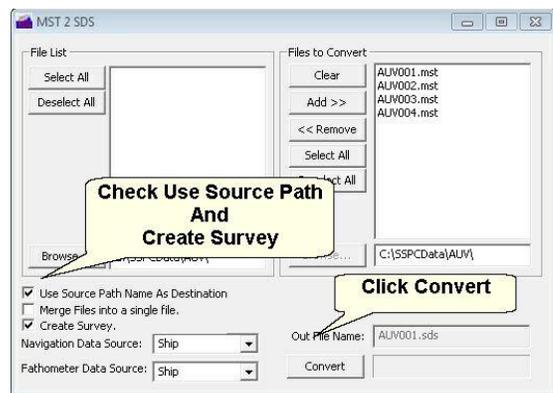
Click the Convert button. Once the conversion has completed a window will pop up and show the results of the conversion process.

The results window shows that there were 4 files total to process and that all 4 files were read correctly. It also shows that there were 4 files to be converted and that they were converted successfully. To close the results window click the OK button.
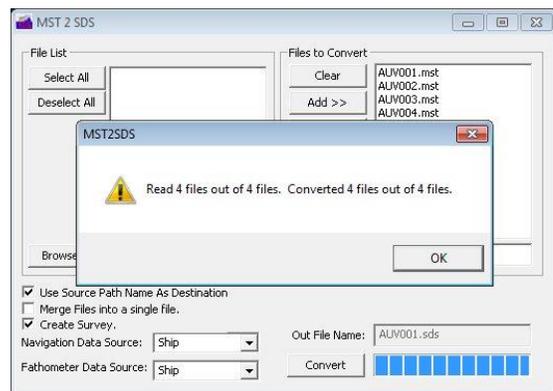
Reviewing Data in Sea Scan Survey

After converting your Sea Scan PC side scan sonar data to a SDS survey data set the data can be opened in Sea Scan Survey.

The Survey (.XVY file) or Sonar Data (.SDS file) can be opened directly in Windows by double clicking on the file. Alternatively the files can be opened from Sea Scan Survey by using the File->Open menu option. This will show the file Open window. Select a survey file and click

the Open button. To open a Sonar Data file, select "Streaming Data File" from the File Type box, select the Sonar Data file, then click the Open button.

Once the file is open the Waterfall Toolbar can be used to navigate through the data. Below is a description of the Waterfall Toolbar:

1) **Elapsed Time Indicator:** The running clock at the top of the waterfall displays the amount of elapsed time from the start of the file to the current time. A green background indicates that the data is current; a red background indicates the opposite. The background will be white when reviewing data.

2) **Rewind Button:** This button decreases the waterfall view speed. The more this button is clicked, the faster the display will run backward. <Page Down> is the hot-key for this function.

3) **Stop Button**: This button halts the waterfall. <End> is the hot-key for this button.

4) **Fast-Forward Button:** This button increases the waterfall view speed. The more this button is clicked, the faster the display will run forward. <Page Up> is the hot-key for this button.

5) **Home Button:** This button immediately moves the waterfall to the most current data.

6) **Jump-To Button:** This button opens the Jump-To Window to select a time to "Jump To".

7) **Length Tool:** This button pauses the waterfall, allowing the user to measure the length between two points. First click to start the measurement, and then click at the end. The length will be displayed in the Measurement Readout on the Waterfall Toolbar.

8) **Area Tool:** This button pauses the waterfall, allowing the user to measure the area between a series of points. First click to start and then click around the object or area. Click the first point to close the area's polygon and calculate the area; double clicking will also create a closing line between the last point and the first point.

9) **Height Tool:** This button pauses the waterfall, allowing the user to measure the height of shadows off an object. First click the first bottom return, then click the end of the object that caused the shadow, then click the end of the shadow. The measurement will be calculated and shown in the Measurement Readout.

10) **Marker Tool:** This tool allows the user to double click on the waterfall to create Marker Events.

11) **Palette Control:** This tool displays the current palette color; the color can be changed in the Image Adjustments Window.

12) **Zoom Tool:** Select this tool to turn the mouse into a magnifying glass to zoom in on certain objects of the waterfall. The zoom strength can be changed by right clicking the waterfall and selecting Zoom Size and magnification power.

13) **Measurement Readout:** This number shows the last measurement taken with the Length, Height, and Area tools.

14) **Left Transducer Channel:** Select this to show only data from the left transducer on the waterfall.

15) **Both Transducer Channels:** Select this to show data from both transducers on the waterfall.

16) **Right Transducer Channel:** Select this to show only data from the right transducer on the waterfall.

Use the **Fast Forward (Page Up)**, **Stop (End)**, and **Rewind (Page Down)** buttons and/or the mouse scroll wheel to navigate through the data. Please refer to the Sea Scan Survey software manual for a detailed explanation of software features.

Using Sea Scan PC Review in a Virtual Machine

A virtual machine (VM) is a software implementation of a computer. Each VM runs its own operating system.

A copy of windows that supports Sea Scan PC Review will be need to be installed on the VM. We recommend Windows XP. Windows 95, 98, 98SE, and ME can also be used. It must be a full version of the Windows software that is currently not being used on another PC.

The next thing to consider is the VM software. We currently recommend two. Microsoft has a free VM named Virtual PC. It can downloaded from [Microsoft's Virtual PC website](#)[4]. [VirtualBox](#)[6] from Sun Microsystems is a viable alternative to Virtual PC.

This guide is written using [Microsoft Virtual PC 2007](#)[5].

Install Microsoft Virtual PC and Create a Virtual Machine

1) Download and install Virtual PC 2007 from [Microsoft's Web Site](#)[5].
2) Run the Virtual PC installer from the host operating system's start menu.
3) Click on the New button in the Virtual PC Console. This will show the New Virtual Machine Wizard.
4) Click the Next Button.
5) Select "Create a virtual machine". Click the Next button.
6) Type a name for the VM and choose a location to store it by clicking the Browse button. Click the Next button.
7) Choose the operating system that will be installed.   We are using Windows XP in this example. This will setup the minimum hardware specifications. Click the Next button.
8) Select Adjusting the RAM and slide the slider until the RAM size is at least 256 MB. We recommend adjusting the size of the RAM to 512 MB. This will be enough to run Windows XP and Sea Scan PC Review comfortably. Click the Next button.
9) Select "A new virtual hard disk" and click the Next button.
10) Type a name for the Virtual Hard Disk (VHD) and choose the same location as your virtual machine to store it. Click the Next button.
11) Specify the initial size of the VHD. Windows XP and Sea Scan PC Review will take about 2 GB (2,000 MB).   Please allow space to store sonar data files. We recommend creating a VHD of around 5GB or larger. Click the Next button.
12) Click the Finish button.

Install Windows XP on the Virtual Machine

1) Run Virtual PC. Please note that the right Alt key on the host computer's keyboard will release the mouse and keyboard from the Virtual machine.
2) Select the new virtual machine that was just created.
3) Click the Start button (or double click on the virtual machine's name). This will start the Virtual Machine.
4) Insert the Windows XP CD into the host machine's CD drive.
5) From the VM's window CD menu click on "Use Physical Drive D:", then from the Action menu click on Reset. This will cause the VM to reboot and read the Windows XP CD.

6) Follow the instructions given by the Windows XP Setup. Installation should go normally with all of the default choices.
7) After Windows XP is installed and the Windows Desktop is showing we need to install the Virtual Machine Additions. This will allow the use of shared folders as well as tighter mouse integration which will make working with the VM easier.
8) From the VM's window Action menu click on "Install or Update Virtual Machine Additions" and follow the instructions given by the Virtual Machine Additions installer.
9) This completes installing Windows XP.

Setup Shared Folders on the Virtual Machine

1) Create a folder on the host computer to use as the VM's shared folder.
2) From the VM's window Edit menu click on "Settings". This will show the VM's settings window.
3) Select Shared Folders from the Settings column.
4) Click on the Share Folder... button.
5) Browse to the shared folder on the host computer created in step 1.
6) Choose the Drive Letter that will be used to represent the shared folder on the VM (typically Z).
7) Check the "Share every time" check box.
8) Click the OK button to share the folder.
9) Access the shared folder from My Computer or Windows Explorer using the drive letter that was selected in step 6.

Installing and Running Sea Scan PC Review In A Virtual Machine

1) Obtain the Sea Scan PC Review installer. This can be found on Marine Sonic's web site on the Sea Scan PC Software Downloads[1] page or on the Sea Scan PC software CD that was shipped with a Sea Scan PC system.
2) Copy the Sea Scan PC Review installer to the shared folder on the host machine or drag it from the host machine and drop it onto the VM's desktop using the mouse.
3) Run the Sea Scan PC Review installer and follow the instructions. The default choices should work well.
4) The Sea Scan PC Review shortcut should appear on the VM's desktop.

Files can be transferred to the VM either by dragging them from the host computer and dropping them into the VM's SSPCData folder or by copy and pasting them from the VM Shared Folder.

When finished with using the VM shutting down Windows normally will close the Virtual Machine.

Other Resources:

1 - MST2SDS Software - http://www.marinesonic.com/products/SSPC/sspc_software.html
2 - Sea Scan Survey Software - http://www.marinesonic.com/products/HDS/sshds_software.php
3 - MST2SDS Software Manual (pdf format) - http://www.marinesonic.us/free_software/MST2SDS.pdf
4 - Microsoft Virtual PC 2007 Download - http://www.microsoft.com/en-us/download/confirmation.aspx?id=4580
5 - Microsoft Virtual PC 2007 - http://windows.microsoft.com/en-US/windows-vista/Virtual-PC-2007-Run-multiple-operating-systems-without-multibooting
6 - Virtual Box - https://www.virtualbox.org/

Please feel free to contact us for more information.