Multimedia Sound Studio Setup notes

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Requirements and recommendations

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Hard disk space and the TEMP area

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Minimum: Multimedia Sound Studio program files occupy approxomately 2MB of space on your hard disk drive. Above that, the only disk space requirement is an amount that exceeds the byte size of the largest Wave file you are currently editing. If, for example, you intend to reformat an 8-bit 300K mono Wave file to 16-bit stereo, you must first make certain that you have

For best results: Ensure that your "Temp" directory is assigned to the hard disk drive partition that has the most available disk space.

What to look for: The Temp directory is an area of your hard disk that Windows and Windows applications such as this one use as a "storage bin" for temporary files. To find out if you have a Temp directory explicitly assigned, use an ASCII text viewer to check your AUTOEXEC.BAT file (it's on the root directory of your startup drive) or drop to DOS and type SET at a DOS command line. Look for the word TEMP among the displayed variables. If present, the assignment points to a hard disk directory (common reading: "TEMP=C:\WINDOWS\TEMP"). If no TEMP directory is assigned in AUTOEXEC.BAT, Windows takes care of the assignment itself, directing all temporary files generated by the environment and its applications into the main Windows directory.

It doesn't matter whether the directory is assigned explicitly or if Windows takes charge of it; the important thing is to ensure that the drive that receives temporary files has plenty of free disk space available. You can check drive disk space (actual free disk space, not "Free Memory") using File Manager or a number of other Windows utilities. You can also drop to DOS and run a DIR listing on each of your drive partitions (warning: do not use CHKDSK to check disk space while Windows is running). Whichever drive has the most free disk space (and is likely to keep that space open) is the best candidate for your Temp directory.

To change the Temp directory assignment, close Windows and back up your AUTOEXEC.BAT file by copying it to a new file name (i.e., COPY AUTOEXEC.BAT AUTOEXEC.BA1). Then open AUTOEXEC.BAT with a text editor and, at or near the bottom of the batch file, insert the line SET TEMP=X:\TEMP, where X is the letter of the drive you select for your Temp directory and Y is the name of the directory. If you choose Temp as the directory name, create the directory by typing MD X:\TEMP. Then reboot your machine.

Why: Temporary files are created by applications, including Multimedia Sound Studio, while performing certain disk-based operations. When they're no longer required by the program that issued them or when you exit the program normally, temporary files are erased.

Though they may do it for only a short period of time, these "invisible" files occupy hard disk space like any other file. And they can be large, particularly when conducting operations on *.WAV files. For that reason the rule of thumb is to keep at least twice as much disk space open as the size of the largest *.WAV file you're working on. For even greater comfort, work with a four-fold margin.

Warning: Since programs routinely "clean up" the Temp directory after using it, the directory can appear to be empty. It may still, however, contain hidden files that are being used by a running application. Deleting a temporary file while a program is using it is a potentially disastrous mistake. To be on the safe side, do **not** delete the Temp directory or any files in the Temp directory while working in Windows. Temporary files can get "stuck" in the Temp directory after a system crash or other anomoly, but the safest time to clean out any such "leftovers" is after you exit Windows.

Related topics
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RAM/Virtual memory recommendations

>> Related topics

For Best Results:

- 16MB or more of virtual memory, which should include:
  - 8MB or more of RAM;
  - A permanent swap file; and
  - 32-bit disk access.

Though Multimedia Sound Studio will run with as little as 4MB of RAM, performance may be sluggish when working with large Wave files and the maximum size of Wave files that you can record or play in any single edit session will be restricted to an amount less than the environment's allowable maximum.

Components of virtual memory

RAM and free disk space are the main ingredients of virtual memory--Windows' way of allowing you to run more programs and access more data than would be possible using physical memory alone. Windows creates virtual memory by finding the largest contiguous block of space on your hard disk drive. It reserves that space by installing a swap file--a hidden file that is used to swap data to and from the disk as needed.

A large virtual memory swap file gives Windows more "elbow room" in which to work with large files. More RAM lets Windows build a larger swap file and lets virtual memory work faster.

You can keep tabs on the amount of virtual memory currently available by using any resource monitoring utility or by checking Program Manager's About box.

To find the size and type of swap file that your system is using, you'll have to go to the place where the swap file is built--the 386 Enhanced section of the Control Panel. The information you need is provided by clicking the section's Virtual Memory button, then the Change button.

Here's the way it should read:

- The swap file should be configured as Permanent (Windows offers a Temporary option as well, but for the sake of stability, keep it Permanent).
- The 32-bit disk access box should be checked.
- The swap file should be set to the Recommended Size.

The Recommended Size will be less than the Maximum Size, but don't bother setting the file to maximum--Windows won't use more than the Recommended amount.

The Maximum figure can be used to determine the amount of fragmentation on the selected disk drive. If the Maximum Size is significantly less than the number shown in the Space Available box, your disk is probably fragmented.

As mentioned earlier, the Windows swap file occupies the largest contiguous block of space it can find on a selected drive. If disk data is fragmented, that contiguous block won't be of optimal size.

To create a larger swap file, and thus increase your virtual memory, change the swap file type from permanent to "none," exit Windows, and use a disk optimization utility to defragment your disk. Then return to Control Panel and configure your swap file to the new Recommended size.

The Windows Swap file

The Windows swap file

>> Related topics

The swap file is one of the two primary components of virtual memory. The other component is Random Access Memory (RAM).

The swap file can be created, checked or reconfigured using the Control Panel's 386 Enhanced/Virtual Memory utility.

If you don't have one already, create a permanent swap file on your hard disk drive, and set it at the maximum amount recommended by Windows.

If you have a Temporary swap file, we recommend that you reconfigure it as Permanent.

For instructions on creating or reconfiguring the swap file, see your Windows User's Guide.

Related topics
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RAM/virtual memory recommendations

CPU

>> Related topics

Requirement: Multimedia Sound Studio requires that your computer be equipped with at least an 80386 processor.

For best results: A 486-based computer is highly recommended for recording and playing back Wave files formatted at 44kHz or higher.

Many 386-based machines appear to have problems recording or playing back Wave files formatted at 44kHz or greater. You may still be able to *produce* 44kHz files, but you probably won't be able to hear the results at peak quality unless you play back the same file on a 486 computer with a fast hard disk drive and a sound card capable of generating 44kHz output (some cards are limited to 22kHz).

The fundamental problem is that at 44kHz, data moves faster than an average 386 system can store it. This limitation is more pronounced when dealing with 44kHz files formatted in stereo. When such files are played on a 386-based system you may get erratic, interrupted output; at worst, the system could lock up.

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DOS version recommendation

>> Related topics

Requirement: Either MS-DOS or PC-DOS 3.3 can handle the demands of Windows 3.1 in 386 enhanced mode, but DOS 5.0 is a more capable and efficient operating system than its predecessors.

For Best Results: We recommend DOS 5.0 or later (or its technical equivalent) as the operating system for this version of Multimedia Sound Studio.

Related topics
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Windows 3.1/enhanced mode

>> Related topics

Requirement: Multimedia Sound Studio requires Windows version 3.1 or later. It will not run on earlier versions.

Multimedia Sound Studio also requires that Windows be run in 386 enhanced mode (as opposed to standard mode). If you're not already running in 386 enhanced or you're unsure of your current operating mode, consult your Windows User's Guide for instructions on how to determine the mode and, if necessary, reconfigure Windows for 386 enhanced.

Related topics
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TrueType

>> Related topics

Requirement: For correct display of some text elements, Multimedia Sound Studio requires that TrueType be enabled.

If during Setup the status report list indicates that TrueType is not enabled, you should switch TrueType on after installing Multimedia Sound Studio. Instructions are contained in the Arial TrueType font topic.

If the Status report includes the line, "TrueType enable switch not present", then Setup was unabled to determine whether or not TrueType is enabled. In this case, you should, after installation is complete, check the Control Panel/Fonts/TrueType dialog to make sure TrueType is actually enabled before using Multimedia Sound Studio. For instructions on how to check TrueType's current status, see the Arial TrueType font topic.

Related topics
Tech Note Contents
Arial TrueType font

Arial TrueType font

>> Related topics

Requirement: For correct display of some text elements, Multimedia Sound Studio requires that the Arial TrueType font be present and on your Windows fonts list.

If during Setup the status report list indicates that the font is not present or is not on your font list, you should, after installation is complete, follow the instructions below to copy the font to your hard disk and place it on your font list.

If you're still in the Setup process, you can use the Edit/Copy menu item from the menu bar above to copy the instructions to the clipboard. When Setup is complete, copy the clipboard text into a Notepad file and follow the instructions to make the necessary changes. Note: The Windows clipboard can only hold one piece of information at a time. If you copy the instructions to the clipboard and then later find that the text has been replaced by some other item before you had a chance to copy it to a Notepad file, you can retrieve the instructions again from the main Multimedia Sound Studio Help file. Just open the Help file on its own (Multimedia Sound Studio doesn't have to be running), then search for the keyword Arial or TrueType.

Checking for Arial

The Arial font is part of the Windows 3.1 package but, like most fonts, it can be removed.

If you're not sure whether or not Arial is installed, open Windows' Control Panel and double-click the Fonts icon. A dialog box shows the fonts currently installed on your system.

If Arial is listed, you should then check that TrueType fonts are enabled. Click the TrueType button in the Fonts dialog and see if the Enable TrueType box is checked. If it isn't, click the box and restart Windows.

If TrueType is enabled but the Arial font isn't present, click the Add button in the Fonts dialog. Locate the directory in which your system fonts are kept (usually the main Windows directory or its System subdirectory). If Arial shows up among the available fonts, add it. You need only add Arial "regular"; its Bold and Italic styles aren't needed by Multimedia Sound Studio.

If Arial isn't on your hard disk, you must reinstall it from your Windows Setup Disks. The font files are stored in compressed form on the disks. Their compressed file names are ARIAL.TT_ and ARIAL.FO_ (TrueType fonts require two files each). They will be expanded to ARIAL.TTF and ARIAL.FOT.

To expand them you need a Windows utility called EXPAND.EXE. The utility should already be present in your main Windows directory (it was placed there when you installed Windows). If EXPAND.EXE has been removed, copy it to your hard disk from your Windows Setup Disk set. This file is not compressed.

To decompress and copy the Arial font files to your hard disk:

1. Drop to DOS and type the following at the DOS prompt:
   expand a:arial.fo_ c:\windows\system\arial.fon
2. Type the following at the next prompt:
   expand a:arial.tt_ c:\windows\system\arial.ttf
3. Return to Windows, activate Control Panel, and click the Fonts icon.
4. In the Fonts dialog box, click the Add button.
5. Choose Arial.
6. Close Control Panel and start Multimedia Sound Studio. All Multimedia Sound Studio text elements will now display correctly.

Related topics
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TrueType

Recommendation: 32-bit disk access

>> Related topics

For best results, make sure Windows' 32-bit access mode is enabled.

This feature is highly recommended to enhance the performance of Multimedia Sound Studio on most 80386- and 80486-based computers.

The only types of computers that may not benefit from 32-bit access capabilities are some models of battery-powered portables, and even then only when the machines' power-saving features are active.

The 32-bit access mode check box is available in the Virtual Memory section of the Control Panel's 386 Enhanced utility.

Related topics
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Requirements: Mouse

>> Related topics

Though some shortcut and access key combinations are available for waveform editing and other tasks, Multimedia Sound Studio requires a mouse for most functions.

If you don't have a mouse you can continue with Setup and install a mouse later.

Any Windows-compatible two- or three-button model will do.

Related topics
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Setting up: Wave audio drivers

>> Related topics

If the line "**Wave audio driver not detected**" appears on the system status list during Setup, you will probably need to reinstall your sound card's Wave audio software driver(s).

Multimedia Sound Studio will still appear, as you'll see if you choose to run the program at the end of Setup, but its functionality will be severely restricted (namely, the Play and Record functions will be unavailable on the Wave Recorder/Player).

This restriction will exist until you install the required driver. The drivers are normally installed through the Drivers utility in Windows Control Panel. Please consult your sound card manual or the Windows User's Guide for further assistance.

As an additional reminder, Setup will conceal the Wave Recorder/Editor from view the first time you start Multimedia Sound Studio. You can change this order for subsequent startups by checking the box labeled "Start the Wave Component" in the Title Panel's Preferences dialog box (remember to save any Preference changes).

After installing your Wave audio driver, you can check the result either by running Setup again (which will automatically restore the startup configuration to its defaults) or by checking Wave audio output with Multimedia Sound Studio or through your sound card's testing software.

Related topics
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Setting up: CD-ROM drivers

>> Related topics

If the line "**CD-ROM driver not detected**" appears on the system status list during Setup and you have a CD-ROM drive installed, you will probably need to reinstall one or more of the unit's software driver(s).

Windows requires the installation of three separate drivers in order to access a CD-ROM drive.

Two of these--the sound card system driver and the Microsoft CD-ROM driver--are installed at DOS level. The third, MCICDA.DRV, is installed through Windows Control Panel. The warning above is issued when Setup fails to find the latter driver in its proper location.

If you know you have the first two drivers correctly installed (you can test these at DOS level with your sound card testing software), you will need to install MCICDA.DRV. Please consult your sound card manual or the Windows User's Guide for further assistance.

NOTE: Some sound cards **cannot** support a CD-ROM drive. Check your sound card documentation to find out if your card does in fact support CD-ROM. You can also check the Multimedia Sound Studio Hardware Reference Guide for a list of cards known to lack such support.

If you don't have a CD-ROM drive or if your sound card is unable to use a CD-ROM drive, you can ignore the status report warning.

If you do have a CD-ROM drive and your card is designed to support it, you will be reminded of the absence of the correct CD-ROM driver(s) by the absence of the CD Player on startup. You can change this order for subsequent startups by checking the box labeled "Start the CD Component" in the Title Panel's Preferences dialog box (remember to save any Preference changes).

After installing the correct CD-ROM software drivers, you can check the result either by running Setup again (which will automatically restore the startup configuration to its defaults) or by checking CD-ROM output with Multimedia Sound Studio or through your sound card's Windows testing software.

Related topics
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Setting up: MIDI drivers

>> Related topics

If the line "**MIDI driver not detected**" appears on the system status list during Setup and your sound card supports MIDI sequencing, you will probably need to reinstall one or more of your sound card's MIDI drivers.

NOTE: Some sound cards **cannot** support MIDI sequencing. Check your sound card documentation to find out if your card is one of these. You can also check the Multimedia Sound Studio Hardware Reference Guide for a list of cards known to lack such support.

If your sound card is unable to perform MIDI sequencing, you can ignore the status report warning.

If your sound card does support MIDI sequencing, Windows requires the installation of two separate software drivers in order to access such services. Both must be installed through Windows Control Panel. The warning above is issued when Setup fails to find one of these drivers in its proper location.

The sound card driver installation process should also install the correct MIDIMAP.CFG (which should also be supplied with your sound card) Please consult your sound card manual or the Windows User's Guide for driver installation assistance. If the existing MIDIMAP.CFG does not match your sound card's MIDI driver, you may be prevented from playing MIDI sequences in Multimedia Sound Studio (or in any other MIDI-capable Windows application).

As an a reminder of the lack of MIDI sequencing capability, Setup will conceal the MIDI Player from view the first time you start Multimedia Sound Studio. You can change this order for subsequent startups by checking the box labeled "Start the MIDI Component" in the Title Panel's Preferences dialog box (remember to save any Preference changes).

After installing the correct MIDI driver(s) and MIDIMAP.CFG, you can check the result either by running Setup again (which will automatically restore the startup configuration to its defaults) or by checking MIDI output with Multimedia Sound Studio or through your sound card's Windows testing software.

Related topics
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Setting up: Multimedia Timer driver

>> Related topics

If the line "**Multimedia Timer not detected**" appears on the system status list during Setup, you may need to reinstall Windows' TIMER.DRV through the Windows Control Panel.

This driver, normally installed by Windows 3.1 during its own setup, controls the timing functions of Windows multimedia devices. If it is not present and installed, you'll experience difficulties when attempting to run two or more multimedia devices simultaneously.

If the "Timer" item is listed among your drivers in the Control Panel's Drivers utility, the driver is probably installed and you may ignore the warning.

For instructions on installing the Multimedia Timer and other multimedia drivers, check your Windows User's Guide.

Related topics
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Windows 3.1/enhanced mode

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