WaveWorks 1.1 by I.S.I.S

Welcome to WaveWorks 1.1, a high-performance shareware sound-editing tool for Microsoft Windows 3.1

WaveWorks is to sound files what text-editors are to text files.   It allows you to visualize the contents of a file, to play it, and to modify it using cut and paste operations.   WaveWorks can handle very large files, and many files per editing session.   The following list gives more details on how to use WaveWorks to edit your sound files.

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Menus

WaveWorks is a menu-driven multi-document application.   The menus are structured around operations and objects in the application, and they follow usual Windows interface conventions.

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File Menu

This menu is used to manipulate wave files in your directory structure.   You can open and close files, create an empty file, and save edited files, changing the name if desired.   This menu is also used to exit the application.   You will be prompted to save any files you have edited before WaveWorks exits.

New   Opens a new file and displays it in the <u>workspace.</u>   The file initially contains no data, and you cannot cut or copy data from it, nor can you play it.   You can paste data from other files into it, and its format will be modified to that of the first file which you paste into it.

Open   Opens an existing file in your directory structure.   It invokes a menu which you can use to switch between directories and disk drives.   As you select a file, the size of the file in <u>KB</u> is displayed

Close   Closes the currently <u>active </u>wave-file.   If the file has been modified you will be prompted to save it.

Save   Saves the currently active wave-file to disk, using the current name.   If you have pasted the file into other files in WaveWorks you should not save the file with the same name as it was opened, since this will have unpredictable side-effects on the files which contain pasted data.   These files will still be editable, but will refer to data in the new file rather than the original file.

Save As   Saves the file after allowing you to change the name of the file.   You will be informed if there is insufficient storage on the disk to complete the save operation.   You must then <u>delete </u>some other file in order to be able to complete the save

Exit WaveWorks Exits the application, prompting you to save modified files.

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Edit Menu

This menu is used to modify wave-files in a manner similar to that of most windows-based text editors.   The edit menu interacts with the clipboard to allow you to copy, cut, paste, delete and silence data in the file.   Editing operations do not modify the file stored on disk until a save operation is performed.

Cut
Removes sound from the select region of   the currently active file, and places it in the clipboard.   Placing sound in the clipboard enables the Edit|Paste option.

Copy
Similar to cut, except that sound is not removed from the active file's select region.   You can achieve the same action as cut using a copy followed by a delete.

Paste
Takes the sound in the clipboard (from a previous cut or copy operation) and inserts it into the active file at the start of the current select region.   You can control whether the select region of the destination file is deleted by a paste operation, or whether the sound in the destination file is moved, using the initialization file.

Delete
Removes sound from the current select region, without modifying the clipboard.   Once sound is deleted, it cannot be recovered.   Note however, that editing operations do not affect the file on disk until it is saved.

Silence
Silences the current select region, without modifying the clipboard.

Select All
Causes the entire file to be selected for operations with the editor.   Note that even if you are zoomed in, this option will select the entire file, not just the visible portion.

Empty Clipboard
Causes the clipboard to be emptied.   This can be useful if you are constantly opening, copying, and closing files, since memory will be freed when the clipboard is emptied.   If you see your system memory is reaching an unacceptably low level, you should close unneeded files, and empty the clipboard.

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Player Menu

This menu controls the built-in player in WaveWorks.   The player can play in normal mode, and can also be used for fast-forward cueing to rapidly scan large files for information.   The player operates in much the same way as CD and Cassette decks found in home stereo systems.   The buttons at the bottom of the workspace are attached to the player (and also to the position menu) and these can be used to play, pause, fast-forward and stop the player as well as the menu items below.

Play

Start the player sending sound out of the default wave-file device in the system.   Pressing play while playing causes the player to restart at the initial position.   Clicking in the sound-envelope window before playing sets the play position from which the player will start.   The player starts at the current play position indicated by the vertical bar in the wave window.   If a portion of the file is selected, then the player starts at the beginning of the select region.

Pause

Pauses the player, retaining control of the wave output device.   Use this when you wish to temporarily pause the playback, and intend to restart it.   Pressing pause again resumes playing in the same mode as before pause was activated.   You can pause in both Play and Fast-Forward modes.   You cannot play another file while one is paused, nor can you edit the paused file.

Fast-Forward

Rapidly advances through playback of the file, while retaining legibility of the sound.   The fast-forward speed can be controlled using the initialization-file WAVEWORK.INI

Stop

Halts playback and frees the soundcard for use by other windows or applications.   Stop also re-enables editing of a file.

Select Driver

Allows selection of a wave-file driver installed into Windows.   If you have more than one soundcard (such as on the Pro-Audio Spectrum 16 soundcard, which has 16 bit hardware as well as an 8 bit soundblaster compatible hardware on a single card) then you can have different drivers for different windows.   Not all drivers can handle all kinds of files, and WaveWorks will warn you if you select an incompatible driver for your data format when you attempt to play the file.

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Recorder Menu

WaveWorks does not currently have a built-in recorder (it does have a built-in player). However, you can launch a sound-recording application of your choice using this menu.

Record   Starts a recorder.   The name of the recorder application defaults to PREC.EXE (the Media-Vision recording utility) but you can control the application using the initialization file.   Modify the "RecorderApplication" in the [WaveWork.TWaveWindow] section of the initialization file.

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Position Menu

The play position can be set to the beginning or end of the file using this menu.   The current play position is indicated by a vertical bar which marches across the wave sound-envelope while playing occurs.

Beginning   Sets the play position to the beginning of the file, or the start of the selected region if one is present.

End   Sets the play position to the end of the file, or the end of the select region if one is present.

Zoom Menu

You can perform high-precision editing by zooming in and out on the file.   You can zoom in as many times as you like, and zoom out will restore each previous view.

Zoom-in   Expands the current <u>select </u>region to fill the entire window.   If the select region is null, i.e. you click on the display but don't drag the mouse, then the display zooms in to show every sample in the file.   The display grows a horizontal scroll bar which you can use to move forward and backwards in the file. Scrolling is a memory intensive operation.   If you notice your computer slowing down then <u>Redisplaying</u> the window should release memory used   in previous scrolling activities.

Zoom-out   Restores the view to the scale it was before zooming in.   This is a very fast operation since WaveWorks caches the previous views when you zoom in.

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Display Menu

The display menu lets you control the look of the sound-envelope display in the wave-editor window.   The vertical scale is set by the Normal Scale and Scale to Fit options, and the display can be refreshed using Redisplay.   Note that a stereo file has two sound-envelopes, the left and right channels from top to bottom.

Normal Scale   Sets the vertical scale so that the loudest possible piece of sound in a particular format would touch the top and bottom of the display.   If a sound does reach the limit of its display this indicates clipping of the signal, which is an unpleasant kind of distortion.   You should attempt to record sound so that clipping does not occur.

Scale to Fit   Sets   the vertical scale so that the loudest sound in a window always touches the top and bottom of the display.   In stereo, the top of the left channel will touch the top of the display, and the bottom of the right channel will touch the bottom of the display.   Note that this does not indicate clipping.

Redisplay   Redraws the contents of the sound-envelope in case the display becomes corrupted during interactions with other windows.   Redisplay also frees memory used during scrolling.

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Window Menu

The Windows multi-document interface can arrange its windows within its workspace in a number of configurations.

Cascade
The windows will be arranged in a top-left to bottom-right pattern, with the most recently accessed window on top, and the others beneath it.

Tile Horizontal
Arranges the windows so that they don't overlap, and so that they are wide rather than tall.   This is known as "tiling".   You can see many wave files at a time in this arrangement.   There is an option in the initialization file which can keep the windows tiled ("KeepTiled") as new ones are opened, old ones closed, or the entire workspace resized.

Tile
Tiles the windows so that they are tall rather than wide.   The KeepTiled option also applies to this format.

Arrange Icons
If you have iconified some windows, this option will re-arrange the icons for the tiling or cascade mode that you are working in.

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Help Menu

You found it!

Index   Launches help and places you at the main index.   You can click on highlighted items to hyperlink to definitions, or to other index items.

About   Displays an identification screen for the WaveWorks application.

Help on Help   Starts the Microsoft "help on help" system, allowing you to get in-depth help on how to use help!

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Multi-media extensions

WaveWorks is implemented using the Microsoft multi-media extensions to Windows which were introduced in version 3.1.   These extensions allow large files such as wave-files to be read and written by applications, and for sound to be played and recorded in a device independent manner.

These extensions are not present in Windows 3.0, though it is possible to simulate them using special software.   If you have a need for Windows 3.0 support please contact I.S.I.S.

I.S.I.S.

I.S.I.S. is Innovative Solutions In Software, a <u>shareware</u> business established in 1992 to bring high quality shareware to the PC market place.   WaveWorks is our first product.

<u>Contacting I.S.I.S</u>
<u>Registering WaveWorks</u>

Performance Issues

WaveWorks was implemented using high-performance file management techniques which allow large sound files to be manipulated without using up available memory or disk storage.

Object-Orientation

WaveWorks is an object-oriented application.   Object-oriented programming focuses on the "things" that you want to manipulate, and "what" you want to do to them.

The top-level WaveWorks menus refer either to objects (File, Player, Recorder, Display, Window) or operations (Edit, Position, Zoom).   In either case the options are operations which apply to the hightlighted window in the multi-document interface, and to no other window.

Of KB and MB

KB stands for Kilo-Bytes, a figure which represents 1024 discrete units of storage on your hard disk.   1024 KB equals 1 MB (mega-byte).   Sound files are usually many KB in size, and disk storage is a constant problem when working with high quality sound such as CD music, at 44.1 KHz, 16 bits, Stereo format, since this format takes up approximately 10 MB per minute of sound!

The Active File

The "active" wave-file is the file in the workspace whose window is highlighed.   All <u>menu</u> operations apply to the currently active wave file.   If the files are cascaded, then the active file is the top-most window in the workspace.

The Workspace

The Workspace in a multiple-document interface is the window which first appears when you start the application.   All of the files opened by the application live within the bounds of this workspace.   The workspace will "grow" scroll-bars if you have windows which lie outside the workspace

Deleting Files

Deletion of wave-files using the File|Save or File|Save_As menu can cause problems if you are editing the file in WaveWorks, or if you have pasted the file into WaveWorks and you then close the file.   If you do delete a file, then the file in the workspace   will become unreadable, and you will have to close it, losing all edits that you have made.

The safest thing is not to delete wave files if you are editing them in your current editing session.

Select Region

The Select Region of a file is the highlighted (black) part of the file which you have indicated by clicking and dragging with the mouse in the display area of the window associated with that file.

The start and end times and samples of the select region of the currently active file are displayed in the status window at the bottom of the workspace.

Status Window

The Status Window is the window at the bottom of the workspace which indicates <u>Samples</u>, Times, Size and contains the panel which controls the player.   Samples are the number of samples in the select region.   If the select region is empty, then the right window of the Samples is blank, and the left window indicates the current play position.   This position is updated as the file is played.   Times are the times in seconds of the select region.

Samples

Sound is stored on a computer as samples.   When the sound is recorded, it is converted into a stream of numbers, each of which is a sample of the sound.   WaveWorks can handle sampling rates of 11.025, 22.05 and 44.1 thousand times per second (or Kilo-Hertz, KHz).

Mailing Address

You can write to us at:

> Innovative Solutions In Software
> 2530 Berryessa Road #333
> San Jose, CA 95132, USA.

or send e-mail to:

> Compuserve: [71672, 3067]
> Internet: simon@rahul.net

The Clipboard

The clipboard is a Windows feature which is used to transfer data between files, and between applications.   WaveWorks currently uses a private data-format which is not valid outside the application.   Consequently, you cannot cut sound in another application (such as a recorder) and paste it into WaveWorks.   You can, however, save the contents of the recorded file in a ".wav" file, and load it into WaveWorks.   This problem will be addressed in a future release.

What is Shareware?

Shareware is a distribution method, not a type of software. You should find software that suits your needs and pocketbook, whether it's commercial or Shareware. The Shareware system makes fitting your needs easier, because you can try before you buy. And because the overhead is low, prices are low also. Shareware has the ultimate money-back guarantee -- if you don't use the product, you don't pay for it.

WaveWorks is a "shareware program" and is provided at no charge to you for evaluation.   Feel free to share it with your friends, but please do not give it away altered or as part of another system.   The essence of "user-supported" software is to provide personal computer users with quality software without high prices, and yet to provide incentive for programmers to continue to develop new products.   If you find this program useful and find that you are using WaveWorks and continue to use WaveWorks after a 30 day trial period, you must make a registration payment to I.S.I.S.   The registration fee will license one copy for use on any one computer at any one time.   Site licenses are also available.

The Initialization File

In the WINDOWS directory there should be a file named WAVEWORK.INI.   This self-documenting file allows control over a multitude of characteristics in WaveWorks, including the fast-forwarding rate, the color of the displays, the width of the play position indicator, and the sizes of buffers used to manipulate data in the application.

Care should be exercised in setting values in the initialization file, since if WaveWorks cannot understand an entry it will use a suitable default value.   The range of values in the initialization file and their defaults is indicated in the accompanying comments.

Hyperlinks

Hyperlinks allow you to traverse a document in a nonlinear fashion.   You click on them to pop up definitions such as this one, or to get to other index points in the help guide, such as this: <u>contacting I.S.I.S.</u>

0700 Number

You can call I.S.I.S. on our 0-700 number 0-700-FOR-ISIS.   Please note that this is not a toll-free number, but that the long-distance charges are approximately 25 cents per minute (as of October 1993).   The main reason for having an 0-700 number is that this number will remain in service for many years to come, even if we relocate our business

After 1993

Please note that this shareware was created and uploaded   in October 1993.   A new release (1.2) is scheduled for release in December 1993, and pricing may change on December 15 to reflect increased functionality.   If you are reading this message after this date, please contact us for current pricing information, or search the "net" for a more up-to-date version.

Features

WaveWorks 1.1 is primarily a bug-fix release, aproximately 94 problems have been isolated and fixed since version 1.0.   Some of these bug-fixes introduced new features.

Bug Fixes
New Features
Remaining Problems

Bug Fixes

Over 90 problems were identified and corrected between version 1.0 and 1.1.   The bug-fixing corrected problems with the scroll-caching algorithms to release memory as soon as it was no longer needed, problems associated with closing files and then pasting data previously copied or cut from that file, and other problems associated with error handling and recovery.   Other problems relating to cut and paste operations were eliminated, and the tendency of the player to hang during playback was corrected.

Testing was performed using regression testing methods and also self-testing algorithms were built into critical software to ensure that the data-structures remain consistent as they are modified.

Despite our best efforts, there will still be problems in WaveWorks 1.1.   As you find errors which lead to a diagnostic message indicating that "if you can reproduce the problem you should contact I.S.I.S.", please attempt to capture the sequence of events which led to the problem, using the Windows Recorder if necessary so that you can replay a session, and give us a call on our 700 number.

If you manage to "crash" WaveWorks, please start "Dr. Watson" and try to repeat the crash.   If you succeed, please send us a copy of the crash log so that we can trace the problem for you. Bug fixes will be applied and mailed to you, and incorporated in the next release of the product.

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NewFeatures

Some new features were introduced in version 1.1 to correct bugs found in version 1.0.   These include:

o   The ability to select a sound-driver so that you can use multiple soundcards

o   Delete and Rename buttons, with file size display and free-size displays, in the File-Open and FIle-Save menus.

o   A Position|End menu option and button

o   The ability to select the entire file from a menu

o   KeepTiled, and many other customizable options

o An indicator of playing in fast-forward mode

Version 1.2 will have many new features to allow you to mix sound, compress files, and translate between formats.   Stay tuned!

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Remaining Problems

o   You cannot cut or copy sound in one application, and then paste it into a WaveWorks file. Nor can you cut or copy sound in WaveWorks and paste it into other applications.

o   The play position indicator (a vertical bar in the sound-envelope window of a wave-file) is sometimes not visible at the end of the display.

o You cannot cut and paste data between files with different sound formats in a reliable and predictable manner.

o When zoomed in at high resolution the select region can behave unpredictably if you try to select large segments of the file.   Zoom out to the overview in order to select large segments.

These problems will be corrected in version 1.2.

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Contacting I.S.I.S.

In order of preference:

(1)   Send E-mail to Compuserve [71672, 3067]

(2)   Send Internet E-mail to simon@rahul.net

(2)   Phone us at 0-700-FOR-ISIS or 0-700-367-4747

(3)   Write to us at:

Innovative Solutions In Software
2530 Berryessa Road #333
San Jose, CA 95132, USA.

Registering WaveWorks

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Registering WaveWorks

Thank you for your interest in becoming a registered user of WaveWorks.   As you know it is only with the support of users like you that products like WaveWorks can be developed and become cost-effective solutions to your Multi-Media authoring problems.

By registering WaveWorks you will be affirming the principles of Shareware, whereby high quality, low-price products are brought to you without the restrictions usually associated with commercial software, and you can try out the software before you buy it.

When you register WaveWorks you will receive a registered version of the most up-to-date release, a printed manual, and free upgrades up to (but not including) version 2.0.

There are basically three ways to register WaveWorks. Please note that the following prices are valid until December 15, 1993.   Please contact I.S.I.S. for pricing information after this date. The price depends on how you want us to mail your registered product.   Please include your Name, Address, and Organization and e-mail address (if you have one) with your registration so that we can issue a cutomized rgistered version to you.

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Send a Check

The amount you should send depends on where you live, and how you want us to mail your registered product.   Please include your Name, Address, and Organization and e-mail address (if you have one).

United States and Canada

Please send a check or money order in the amount of $35.00.   Shipping (via the normal U.S.Mail) and Taxes are included.   Please make the check payable to "Innovative Solutions in Software" and send it to our mailing address.

If you wish to have the package shipped by U.P.S. or Federal Express please call us, since you will need to arrange payment for the delivery.

The Rest of the World...

Please send a check negotiable with an International Bank.   Please add a $10.00 processing fee for checks drawn on non United States of America Banks.   Any monies remaining from this processing fee will be applied toward your account with us and may be applied towards future product purchases.

Shipping will be via surface mail (very slow....) if you wish us to ship via air mail please add $5.00 to your payment.

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Online Registration

You can register on-line on Compuserve using the "go swreg" software registration service. Please use the following information to fill out your order form.

Author:	P. Simon Tuffs
CompuServe ID:	[71672,3067]
Program Title:	WAVEWORKS 1.1
Registration ID:	1140
Fee (USD):	35.00

Please add $5.00 for air-mail shipment to non US/Canadian destinations.

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Credit Card Orders from PsL

You can order by credit card from the Public Software Library for $35.00 (add $5.00 for air-mail shipments to non US/Canadian locations as follows:

CREDIT CARD ORDERS ONLY

You can order with MC, Visa, Amex, or Discover from Public (software) Library by calling 800-2424-PsL or 713-524-6394 or by FAX to 713-524-6398 or by CIS Email to 71355,470. You can also mail credit card orders to PsL at P.O.Box 35705, Houston, TX 77235-5705.

THE ABOVE NUMBERS ARE FOR ORDERS ONLY

Any questions about the status of the shipment of the order, refunds, registration options, product details, technical support, volume discounts, dealer pricing, site licenses, etc, must be directed to I.S.I.S.

To insure that you get the latest version, PsL will notify us the day of your order and we will ship the product directly to you.

Ideas for using WaveWorks

WaveWorks can be used to make your Windows sounds more interesting than the built in ones that come with your system.   Try recording some music from a CD or radio source attached to the "line-in" of your soundcard, and then cut and paste to make interesting combinations and sounds.

WaveWorks is ideal for producing voice annotations for multi-media mail documents.   You can record what you want to say, and then edit bits that don't sound right and replace them with new recordings.

If you have any other interesting applications for WaveWorks, please let us know!.

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Copying and Distributing WaveWorks

Anyone distributing WaveWorks for any kind of remuneration must first contact I.S.I.S. in writing at our <u>mailing address</u> for authorization. This authorization will be automatically granted to distributors recognized by the Association of Shareware Professionals (ASP) as adhering to its guidelines for shareware distributors, and such distributors may begin offering WaveWorks immediately (However <u>I.S.I.S.</u> must still be advised so that the distributor can be kept up-to-date with the latest version of WaveWorks.).

You are encouraged to pass a copy of WaveWorks along to your friends for evaluation.   Please encourage them to <u>register </u>their copy if they find that they can use it.   All registered users will receive a copy of the latest version of WaveWorks.

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Warranty and Disclaimer

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Site Licenses

If you would like to obtain a site or corporate license for WaveWorks please <u>contact I.S.I.S.</u> for pricing information.   Site license costs are based on a sliding scale, and become beneficial for as few as two registered copies.

If you are interested in having us customize WaveWorks for your corporate needs, please <u>click here.</u>

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Customization Offers

If you like WaveWorks and would like us to customize it to your needs, or to integrate it with your own product, please contact I.S.I.S. for more information.   The product is written in Borland C++, and we have plans to produce a class library implementing the basic functionality as both a DLL and as a source-code library.   The design is based on advanced object-oriented methods, and uses multiple-inheritance with polymorphism to simplify the implementation.

If you have a Resource Workshop utility and are a Non-English speaking user, and you take the time to translate the Menus, Error-strings and this Help file into your native language then please contact I.S.I.S. and we would be happy to register you, and two of your friends, free of charge, provided that you are the first user from that language-group to respond, and that you provide I.S.I.S. with the new resource files and help files so that we can integrate them with our product in future releases.

(You should also be willing to perform this translation for future releases of the product!)

Call I.S.I.S   for more information.

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