

TOTAL RECORDER

Version 2.2

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WHAT'S NEW?

Version 2.2

In addition to maintenance, Version 2.2 adds the following features:

- Support for Windows NT 4.0 and Windows 2000.
- The ability to resample a recording (i.e. change sound stream parameters). Resampling can be done either during the recording process or when you save a recording.
- The maximum recording size is no longer limited to 2GB. It is now possible to record up to 49 continuous days. However, since an individual .wav file has a limit of 4GB, a long recording must be broken into pieces in order for it to be saved.
- A save progress indicator.
- The ability to increase the priority of the Total Recorder program and provide cleaner recordings.
- The ability to normalize the volume of a recording.

Version 2.1

In addition to maintenance, Version 2.1 adds the following features:

- Accelerated recording/converting. This allows you to convert a sound file to standard wave format without listening to it. This operation normally takes a fraction of the time it would require to play the file.
- Markers. These allow you to select and save only part of a recording or part of an existing wave file.
- The ability to continue recording to the same file after it was stopped.
- A level indicator reflects the amplitude of a signal during recording and playback.
- The ability to have more than one open copy of Total Recorder (like in version 1.0).

Version 2.0

Version 2.0 adds many new features, including the following:

- Capturing and recording of sound streams that programs request from a sound card. This allows full duplex recording of Internet phone conversations when using programs such as NetMeeting and VoxPhone.
- Recording from CD, microphone and other input lines.
- Built-in scheduler that allows you to program jobs (record or playback) to start at a given time, similar to programming a VCR.
- Command line parameters that allow you to use an external scheduler such as Microsoft Task Scheduler to schedule a recording or playback.
- Automatic installation and uninstallation of the virtual device driver.

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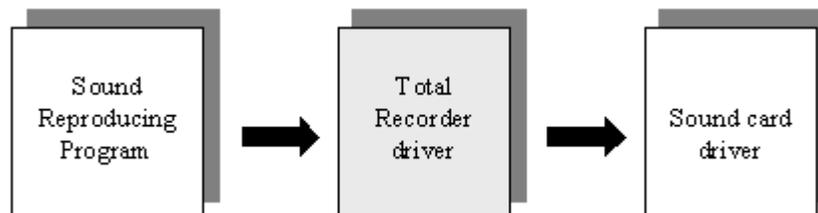
OVERVIEW

Total Recorder is a sound recording and playing program. It records analog sound digitized by a sound card, as well as sound generated, or requested, by other computer programs, such as RealPlayer, Windows Media Player, Quick Time, WinAmp, and many others. Recorded sound is saved in wave-file format.

For example, you can use Total Recorder to record:

- audio from the Internet, either audio files or live streams
- music from a game program
- a conversation, if you use an Internet telephony program.

Total Recorder uses a virtual sound driver to capture the sound output from another program. By installing this driver, and setting this device as the default, different sound reproducing programs send their output stream to Total Recorder's driver and not to the driver of a real device. Total Recorder then passes the information to the sound card driver.



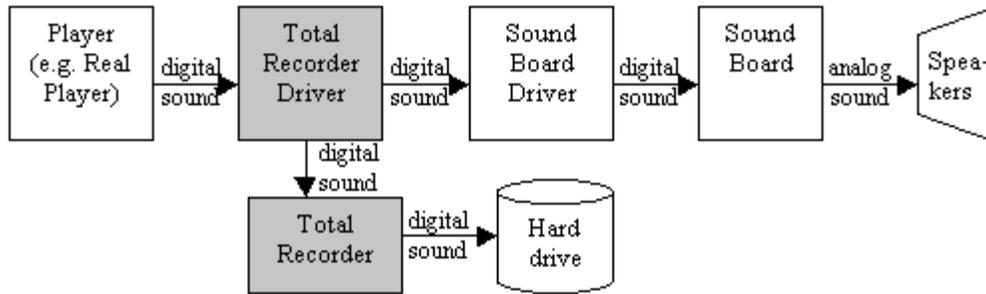
Total Recorder has a built-in scheduler. This allows you to automatically record a show at a given time for later playback or you can use the scheduler as an alarm. Note that this latter function does not require registration.

How Total Recorder Works with Different Sources

The following diagrams illustrate, in more detail, how Total Recorder works with different sources of input.

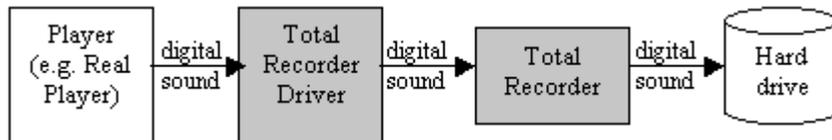
Software Recording

You can capture and record sound played back or requested by other computer programs.



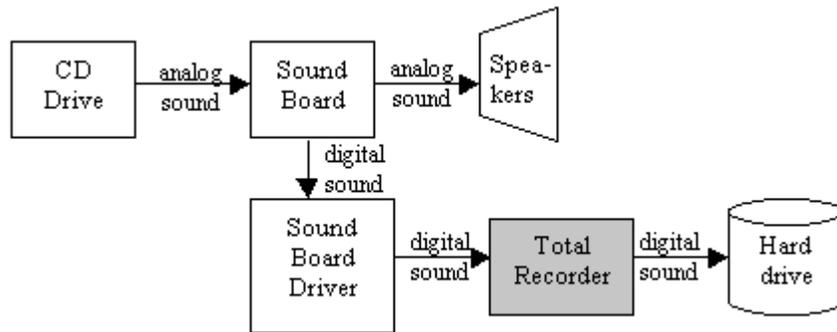
Software Accelerated Recording/Converting

You can speed up (or down) capturing and recording sound played back other computer programs. In this mode you could not hear a sound when a recording is in process.



Board Recording

You can record sound digitized by a sound card. This includes a microphone, CD or other input lines.



System Requirements

To use Total Recorder, you need the following:

- ✓ an IBM compatible computer
- ✓ a sound card
- ✓ Microsoft Windows 95, 98, or 2000, or Windows NT 4.0.

Program Restrictions

Total Recorder records wave-type sound streams only. It cannot record any of the following:

- Sound reproduced by means of MIDI-output, unless your sound card has a special MIDI synthesis line (most sound cards have this feature).
- Sound reproduced by programs developed for systems other than Windows 95/98/2000 or NT (e.g. DOS programs executing in DOS sessions).

Total Recorder can record only one output and one input sound stream at a time. If a sound card allows simultaneous output of several wave-streams and can mix these streams itself, then Total Recorder can only record one of these streams.

INSTALLATION AND CONFIGURATION

Total Recorder is shipped via the Internet, as a self-extracting or regular archive, and consists of the files listed below. The following table indicates each file name, a description, and the environments in which each file is required.

File	Description	Required on Windows 95/98	Required on Windows 2000/NT 4
TotalRecorder.exe	Total Recorder program	Yes	Yes
DrvTR95M.drv	device driver	Yes	No
DrvTRNTM.dll	device driver	No	Yes
DrvTR95L.dll	device driver library	Yes	No
DrvTRNTL.dll	device driver library	No	Yes
DrvTR95.vxd	virtual device driver	Yes	No
DrvTR95.inf	driver installation file	Yes	No
OEMSETUP.inf	driver installation file	No	Yes
TotalRecorder.hlp	help file	Yes	Yes
TotalRecorder.cnt	help content file	Yes	Yes
TRInst.exe	install/uninstall program	Yes	Yes

File	Description	Required on Windows 95/98	Required on Windows 2000/NT 4
DrInst.exe	driver install/uninstall program	Yes	No
License.txt	license agreement file	Yes	Yes
Readme.txt	read-me first file	Yes	Yes
TotalRecorder.doc	documentation	Yes	Yes
Registration.txt	registration form	Yes	Yes

Installing Total Recorder

Specific Information for Windows NT

To install Total Recorder on Windows NT, you need the “Load and Unload Device Drivers” user right. Normally, only administrative users have this right.

To use the Total Recorder program, you do not need any special rights. However, the Total Recorder setup program changes settings only for the user who installed the program. Any other user must manually set the Total Recorder driver as a preferred device (see "Installing/Uninstalling the Total Recorder Driver Manually").

Specific Information for Windows 2000

Windows 2000 is a member of the Windows NT product family. All of the information in the previous section (“Installing Total Recorder in a Windows NT Environment”) applies to Windows 2000.

If you are planning to upgrade your Windows 95/98 system to Windows 2000, you must take the following steps:

1. Before upgrading your Windows environment, uninstall Total Recorder.
2. After the upgrade is complete, reinstall Total Recorder.
3. Re-register Total Recorder. Have your registration information available.

Note: Total Recorder will not work if you simply upgrade your Windows environment to Windows 2000 without taking the steps described above.

Installation Steps

Take the following steps to install Total Recorder on your PC:

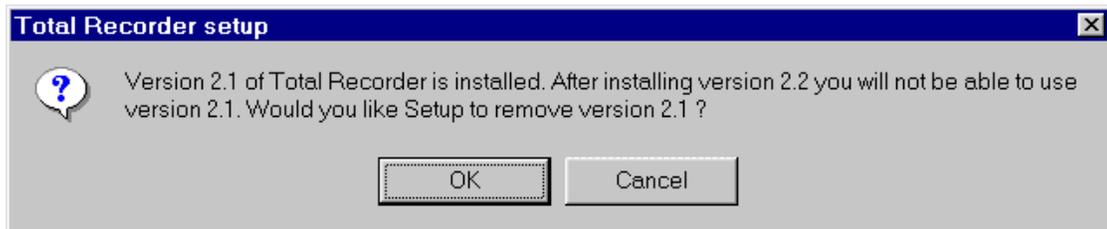
1. Download the self-extracting archive `totrec22.exe` (<http://www.highcriteria.com/download/totrec22.exe>) and run it.

OR

Download the archive `totrec22.zip` (<http://www.highcriteria.com/download/totrec22.zip>). Unzip it and run `TRInst.exe`. Note that you must unzip the entire archive not just `TRInst.exe`.

The installation program creates a directory for Total Recorder, copies all of the files to that directory, creates a Program Group called Total Recorder, installs a driver, and sets it as the default device for both playback and recording.

2. Version 2.2 cannot coexist on the same machine with any previous version (1.0, 2.0, or 2.1). If you have a previous version installed, you are prompted to uninstall it, as shown below.



Press “OK” to continue with the installation. Press “Cancel” if you want to exit the installation program without installing the software.

3. After installing Version 2.2 over a previous version you must restart Windows. Under Windows NT or Windows 2000 you must reboot your PC, even after the initial installation. In all cases you will receive a prompt.

Tip:

Create a shortcut to Total Recorder and place it on your desktop. This gives you single-click access to Total Recorder.

Installing/Uninstalling the Total Recorder Driver Manually

If you experience problems with the automatic installation or uninstallation of the Total Recorder driver, you can install/uninstall this driver manually as described below. Otherwise, skip to the section “Configuring Total Recorder”.

Installing the Driver Manually

You need to install a virtual driver so that Total Recorder is able to record as well as play. This process is similar to that used for installing a sound card driver. The procedure you use depends on the version of Windows you are running.

Use the following procedure for Windows 95 or Windows 98:

1. Select “Start”-“Settings”-“Control Panel”.
2. Click on “Add New Hardware”.
3. **For Windows 95:** Answer “No” to the question “Do you want Windows to search for your new hardware?”

For Windows 98: Select “No - I want to select the hardware from a list” to the prompt “Windows can search for hardware that is not Plug and Play compatible or select from a list”.

4. Select “Sound, video and game controllers” from the list of Hardware types.
5. Click on “Have disk” instead of choosing from the list of manufacturers and models.
6. Point to the directory you selected during the installation of Total Recorder (where DrvTR95.inf resides).
7. There will only be one driver entry in this .inf file - Wave sound driver for the Total Recorder, and it will be selected by default. Click "OK" or press Enter.
8. After clicking the “Finish” button, wait patiently for a wizard dialog window to disappear. It may take about one minute.

Use the following procedure for **Windows NT 4.0:**

1. Select “Start”-“Settings”-“Control Panel”.
2. Click on “Multimedia”.
3. Select the “Devices” tab.
4. Click “Add”.
5. Click on “Unlisted or Updated driver” from the list of manufacturers and models.

6. Point to the directory you selected during the installation of Total Recorder (where oemsetup.inf resides).
7. There will only be one driver entry in this directory - Wave sound driver for the Total Recorder, and it will be selected by default. Click "OK" or press Enter.
8. After the installation is complete, reboot your computer.

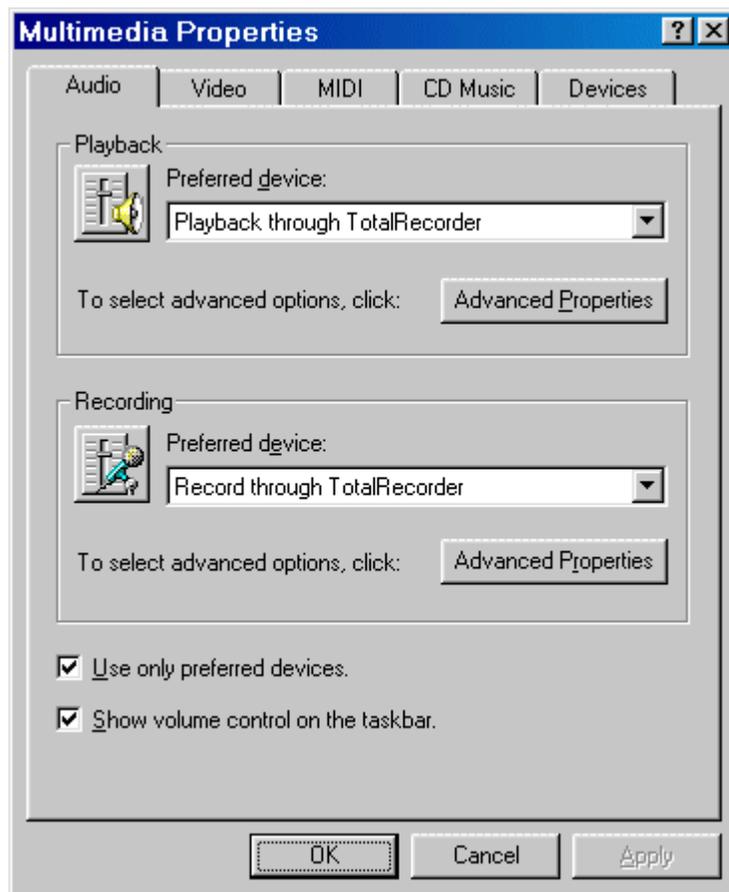
Use the following procedure for **Windows 2000**:

1. Select "Start"->"Settings"->"Control Panel".
2. Click on "Add/Remove Hardware".
3. Click "Next" to continue.
4. Select "Add/Troubleshoot a device" and click "Next".
5. Select "Add a new device" and click "Next".
6. Select "No, I want to select the hardware from a list" and click "Next".
7. Select "Sound, video and game controllers" and click "Next".
8. Click on "Have disk" instead of choosing from the list of manufacturers and models.
9. Point to the directory you selected during the installation of Total Recorder (where oemsetup.inf resides).
10. There will only be one driver entry in this directory - Wave sound driver for the Total Recorder, and it will be selected by default. Click "Next".
11. Click "Next" again. A "Digital Signature Not Found" dialog appears.
12. Click "Yes". A "Files Needed" dialog appears.
13. Enter the same name as in step 9.
14. Click "Finish".
15. Close all applications and reboot your computer.

Setting preferred devices

After installing the virtual device driver manually, you must set this device as your default.

1. Select “Start”-“Settings”-“Control Panel”.
2. Select “Multimedia” (for Windows 2000 - "Sounds and Multimedia") and click on the “Audio” tab.
3. Review the “Preferred device” list in the “Playback” section. Write down the name of the default device and then proceed to the next step. **Important:** This information is required if you uninstall Total Recorder.
4. Select the “Playback through Total Recorder” entry.
5. Review the “Preferred device” list in the “Recording” section. Write down the name of the default device and then proceed to the next step. **Important:** This information is required if you uninstall Total Recorder.
6. Select the “Record through Total Recorder” entry.



7. You should also check the “Use only preferred devices” box.

Uninstalling the Driver Manually

If you need to uninstall the Total Recorder driver manually, take the following steps for **Windows 95/98**:

1. Select "Start"-**"Settings"**-**"Control Panel"**.
2. Select **"System"** and click on the **"Device Manager"** tab.
3. Select **"Sound, video and game controllers"**.
4. Highlight **"Wave sound driver for the Total Recorder"**.
5. Click on **"Remove"**.
6. Close all applications and reboot your computer.
7. Verify that your preferred playback and recording devices are set correctly. You can use the Windows system dialog (**"Start"**, **"Settings"**, **"Control Panel"**, **"Multimedia"**, **"Audio tab"**), or use the Total Recorder menu items (**"Options"**, **"System settings"**), and select the devices that were set before the installation of Total Recorder.

Take the following steps for **Windows NT**:

1. Select **"Start"**-**"Settings"**-**"Control Panel"**.
2. Click on **"Multimedia"**.
3. Select the **"Devices"** tab.
4. Select **"Audio Devices"**.
5. Highlight **"Audio for Wave sound driver for the Total Recorder"**.
6. Click on **"Remove"**.
7. Close all applications and reboot your computer.
8. Verify that your preferred playback and recording devices are set correctly. You can use the Windows system dialog (**"Start"**, **"Settings"**, **"Control Panel"**, **"Multimedia"**, **"Audio"** tab), or use the Total Recorder menu items (**"Options"**, **"System settings"**), and select the devices that were set before the installation of Total Recorder.

Take the following steps for **Windows 2000**:

1. Select "Start"->"Settings"->"Control Panel".
2. Click on "Add/Remove Hardware".
3. Click "Next" to continue.
4. Select "Uninstall/Unplug a device" and click "Next".
5. Select "Uninstall a device" and click "Next".
6. Select "Wave sound driver for the Total Recorder" and click "Next".
7. Select "Yes, I want to uninstall this device" and click "Next".
8. Click "Finish".
9. Close all applications and reboot your computer.
10. Verify that your preferred playback and recording devices are set correctly. You can use the Windows system dialog ("Start", "Settings", "Control Panel", "Sounds and Multimedia", "Audio" tab), or use the Total Recorder menu items ("Options", "System settings"), and select the devices that were set before the installation of Total Recorder.

Configuring Total Recorder

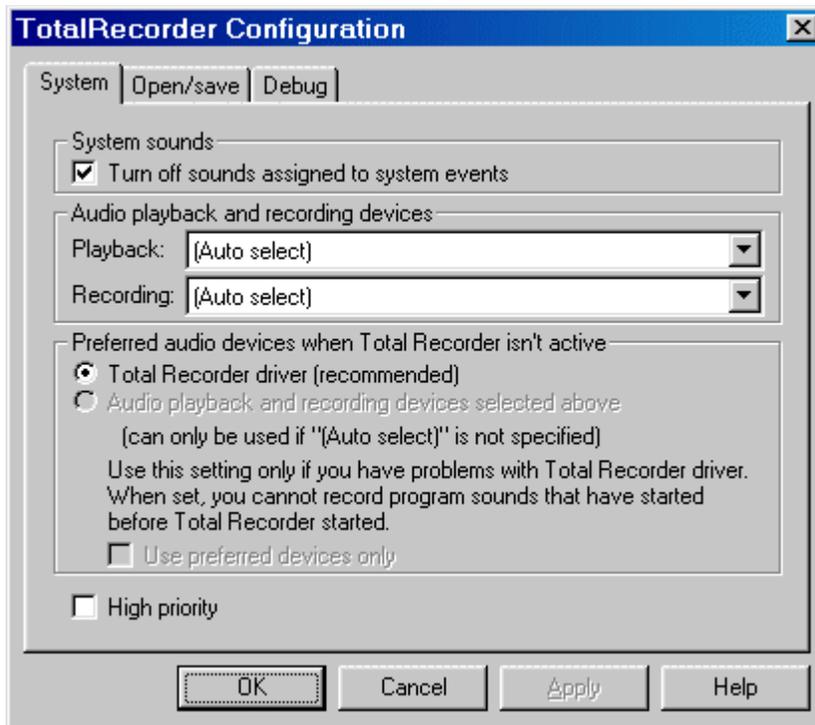
The configuration program allows you to set the following:

- suppression of system sounds
- preferred playback and recording devices
- priority of Total Recorder program
- directory for temporary files
- default directory
- actions when a recording is about to be overwritten
- ability to keep different sound streams as a part of one stereo wave file
- debug mode for driver.

To configure Total Recorder, start the program and select “Options” – “Settings”. You are presented with a property sheet with the tabs: "System", "Open/save", and "Debug".

Using the System Tab

The dialog looks like this:



Each of the configuration options is described below.

System sounds

To prevent system sounds from interrupting your recording, check “Turn off sounds assigned to system events”. This is the default and the recommended setting. Your system sounds will return when you close Total Recorder.

Audio playback and recording devices

These devices are the names of the real drivers used for playback and recording. This is where Total Recorder redirects its input and output sound streams. The installation program automatically sets these values according to your current system settings and usually you do not need to change them.

Preferred audio devices when Total Recorder isn't active

This identifies the use of the Total Recorder driver. You can choose from the following:

Total Recorder driver (recommended) - does not change the preferred devices for playback and recording. The Total Recorder installation program sets the Total Recorder driver as the preferred device (i.e. "Playback through TotalRecorder" and "Record through TotalRecorder"). This driver works all the time and passes sound through it regardless of Total Recorder being active. This is normally transparent to the user.

Audio playback and recording devices selected above – this is recommended if the Total Recorder driver conflicts with some other programs and the conflict cannot be resolved by reconfiguring those programs. For more information, refer to the "Troubleshooting" section of this document. In this mode, Total Recorder sets its driver as a preferred device when it starts and your specified real drivers (not Auto Select) when you exit.

In this mode Total Recorder cannot record sound which starts before it was started. You must start Total Recorder before your playback program.

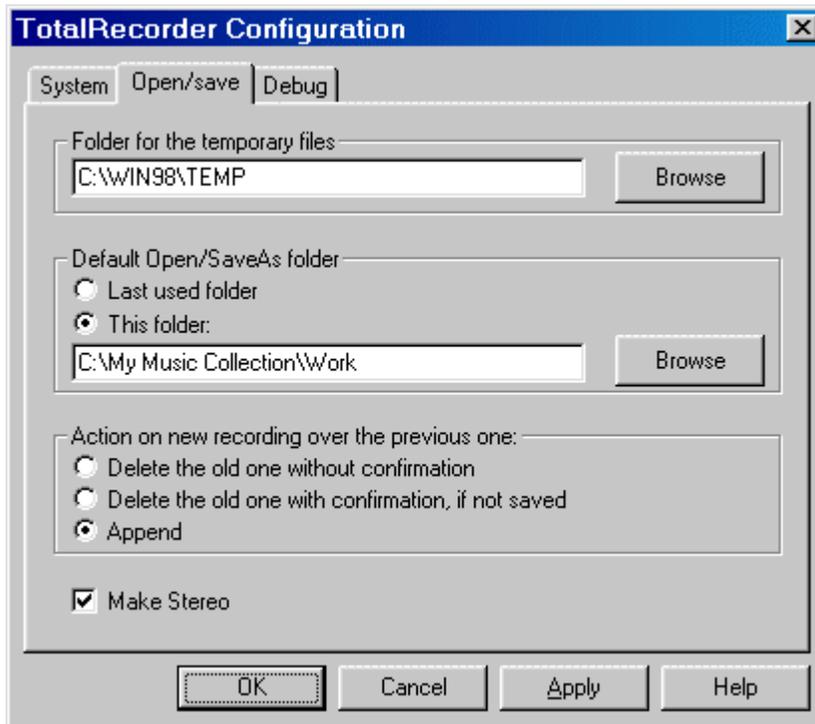
Use preferred devices only - this flag has sense only if you select "Audio playback and recording devices selected above" option above. In this mode you can also choose "Use preferred devices only". Select the value that will be set when Total Recorder exits. It is always on when Total Recorder is active.

High priority

Selecting this option raises the priority of the Total Recorder program. Because sound recording is a real-time process, any interruption can lead to skips, clicks, gaps, etc. This setting helps eliminate these problems and provides cleaner recordings.

Using the Open/Save Tab

The dialog looks like this:



Each of the configuration options is described below.

Folder for the temporary files

The size of recording files can be quite large. Because of this, Total Recorder saves recorded information, not in memory, but in a temporary file. You can specify the directory for this file, if you wish.

When you first start the Total Recorder program, it sets the directory for temporary files based on the following:

- If the system environment variable `TMP` exists, it uses its value.
- Else, if the `TEMP` system environment variable exists, it uses its value.
- Otherwise, it uses the directory where the program is installed.

Default Open/SaveAs folder

When you first start Total Recorder, the default directory for opening and saving files is the directory from which the Total Recorder program was started. Subsequently, Total Recorder can use the previously used directory as the default (select “Last used folder”) or you can specify the default directory yourself (select “This folder” and specify the location).

Action on new recording over the previous one

You can select one of the following options during the attempt to record over an existing recording:

Delete the old one without confirmation – Pushing the “Record” button overwrites (and irreversibly destroys) the previous recording unless it has not yet been saved (in full) to a file. In versions prior to 2.1, this was the only possible behavior.

Delete the old one with confirmation, if not saved – similar to the above but if the recording has not been saved (in full) at least once, you must confirm the action. Recording does not start until you respond.

Append – a new recording is appended to an existing one regardless of it being saved. If you want to create a new file in this mode, you must explicitly select “New” from the “File” menu. Appending is only possible to the previous recording made by Total Recorder. It is not possible to open a wave file and append to it. Sound parameters (i.e. sample rate, mono/stereo, 8bit/16bit) are always inherited from the recording. Even if different parameters are set in “Recording source and parameters” dialog they will not be in effect unless you start a new recording.

A recording is not considered saved unless it was saved in full; partial recordings are not considered saved files.

Make Stereo

This flag sets a special recording mode that only applies when participants' voices are put to different channels (i.e. left and right) during an Internet telephone conversation. If the entire recording was made from the same source (i.e. software output, software input, or sound board), the "Make Stereo" setting is ignored. For the vast majority of cases, the setting of "Make Stereo" does not make a difference.

When "Make Stereo" is set:

- The resulting wave file will have a STEREO attribute - one channel contains an input stream and the other channel contains an output stream.

- The resulting file will normally be twice as big as without this mode.
- In the rare situation where the streams themselves are stereo, each of them will be converted to mono by mixing two channels and the resulting file will be the same size as without this mode.

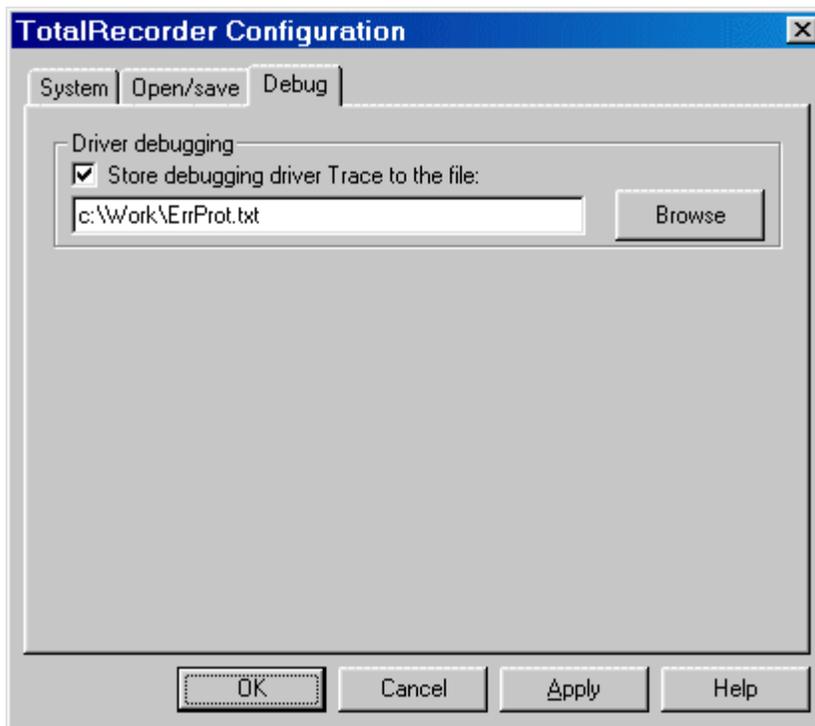
If **Make Stereo** is not set, input and output streams are put to the same channel and are mixed as simultaneous sound.

Changing the "Make Stereo" Mode

Unlike settings controlled by the "Recording source and parameters" dialog, you can change the "Make Stereo" mode after an actual recording. This means you can make a recording first, listen to it in both modes, select the most suitable, set the mode you want, and then save as a file. You can even save the recording twice, with and without "Make Stereo".

Using the Debug Tab

The dialog looks like this:



Driver debugging

Use this option only when advised by Technical Support. Selecting this option will result in additional overhead on your system.

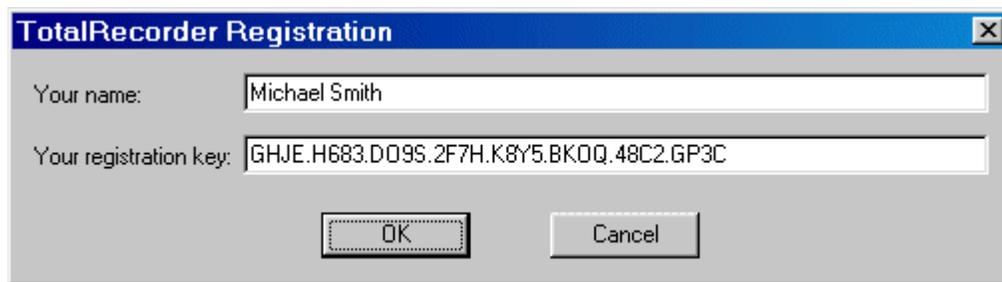
Registering Total Recorder

After installing and verifying the program works properly, you should obtain a registration key from High Criteria. If the program is unregistered then your recordings are limited to 40 seconds each and you can use the scheduler only as an alarm.

Note: You cannot use your Version 1.0 registration key with Version 2.2. However, you can use your Version 2.0 or 2.1 registration key.

To receive the registration key:

1. Follow the instructions given on High Criteria Inc.'s web site at the following address: <http://www.highcriteria.com/products.htm>.
2. Select “Help” - “Registration”. Type in the same name you used to obtain the registration key and your registration key. Note that after registration this menu item is not accessible.



Uninstalling Total Recorder

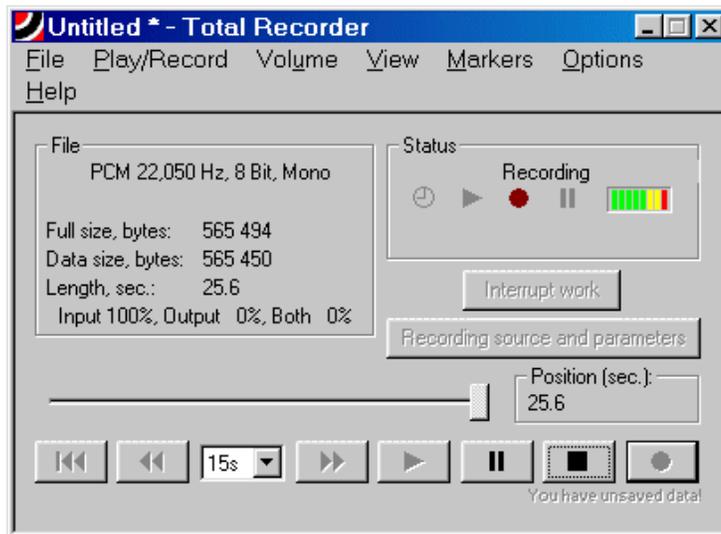
To uninstall Total Recorder, use “Start”, “Settings”, “Control Panel”, “Add/Remove Programs”. The Total Recorder driver remains in memory until you reboot.

USING TOTAL RECORDER

Total Recorder works as a standard Windows multimedia program. You can use standard buttons, menu options, and keyboard shortcuts for recording and playback.

The Total Recorder Dialog

The Total Recorder dialog is made up of different parts, as shown below:



File

This part of the dialog displays information about the current file being played or recorded.

xxx nn.nnn kHz; 8 | 16 bit; Mono | Stereo –indicates the characteristics of the sound file. These characteristics vary depending on the following criteria:

- If an existing file was opened, it shows the characteristics of this file.
- If a user specified a particular format, it shows the characteristics chosen.
- If the recording source is “Software” or “Software Accelerated” and the format was not specified, it shows the characteristics of the source sound stream.
- If more than one sound stream with different characteristics is present, it shows the characteristics of the longest fragment. All other fragments will be converted to have these characteristics when saved.

Full size (bytes) – size of the recording/playing file. This includes recorded data plus 44 bytes for the file header. It is possible that headers of some sound files contain additional information and are longer.

Data size (bytes) – size of recorded data in the recording/playing file.

Length (sec.) - full playback time of saved sound in seconds.

Input xx%, Output xx%, Both xx% - this information appears only when you record. The display varies depending on the recording activity.

Recording Activity	Display
Sound being played back	Output 100%
Internet telephone conversation in full-duplex mode	Both 100%, since sound is transmitted back and forth simultaneously
Internet telephone conversation in half-duplex mode	Input - % of time the user of the given computer talked Output - % of time the remote partner talked
From microphone, CD or other input line	Input 100%

Status

This part of the dialog displays the current status of Total Recorder. The possible values are: “Playing”, “Paused Playing”, “Recording”, “Paused Recording”, “Auto playing until hh:mm:ss”, “Auto recording until hh:mm:ss”, "Converting...", "Normalizing: xxx byte(s) left", and "Saving: xxx byte(s) left". Some further explanations follow.

“Auto” - recording or playback was started by the scheduler or from the command line. The time (hh:mm:ss) is the time that the job will complete. You cannot control the job other than cancel it by clicking on the “Interrupt work” button on the main program window or selecting “Interrupt work” from the “Play/Record” menu. Other controls, such as “Pause” are disabled.

“Converting...” - “on the fly” resampling could not finish by the time the recording ended and the conversion continues. This may happen on a slow computer or when running many tasks simultaneously. Until the conversion ends, it is not possible to play the recording or interrupt a job launched by an internal or external scheduler. However, you can initiate all other actions. The behaviour of Total Recorder depends on the action being launched. Some examples are:

- It can abort the conversion, if you exit without saving, or if you start a new recording.
- The conversion may continue, for example, in the case of appending.

- The new action will be done after the conversion is finished, for example, in the case of saving. However, if you select “save” before the conversion is finished, the save process cannot be interrupted.

“Normalizing” - Total Recorder is calculating some characteristics of the recording that requires reading the entire file. It cannot be interrupted.

“Saving” - a file is being written to your hard disk. It cannot be interrupted.

Clock icon - indicates that a scheduled job is currently in progress. It does not relate to the fact that some jobs are scheduled.

Level indicator - reflects the amplitude of a signal during recording and playback. When recording from “Software” the “reactivity” depends on the size of the playback program's internal buffer. For some programs this can be changed once per second or even more often.

“Interrupt work” button

This button allows you to cancel a scheduled job that is in progress. Already recorded information is put to a file and an error message “Job interrupted by user” is written to the Total Recorder Log.

“Recording source and parameters” button

This button displays a dialog for the recording source and parameters. For more information on this dialog, refer to the section “Setting Recording Parameters” later in this document.

This dialog is disabled during recording since you must set recording parameters in advance.

Slider

In playing mode, the slider reflects which part of the sound file has been played back. You can move the slider backwards or forwards.

In recording mode, the slider is initially at the leftmost position. It moves immediately to the rightmost position once real recording starts.

Position (sec.)

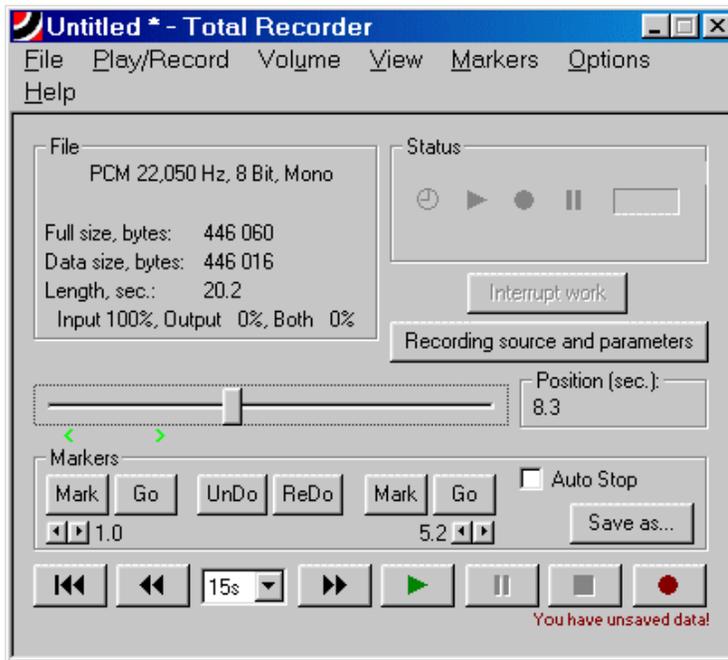
This part of the dialog displays the real recording time (in seconds) when Total Recorder is in recording mode, or the reproducing time (in seconds) when Total Recorder is in playing mode.

Markers

Markers -   - let you select and save a fragment of a recording, or other sound file, to a file. The current position of each marker is controlled by a separate group of buttons. You can position markers with 0.1-second accuracy.

Markers below the slider are not visible by default. Select "View", "Show selection" from the menu to see them.

Here is the main page with markers displayed:



The following are some characteristics of markers:

- The buttons that control each marker show the position in seconds.
- If the left marker () moves to the right of the right marker () , they automatically switch positions.
- Initially the right marker () points to the end of the recording (file).

Marker Control Buttons

The control buttons for each marker are:

Button	Description
Mark	Mark the current position of the main slider. The marker moves; the main slider's position does not change.

Button	Description
Go	Go to the marker. The main slider moves; the marker's position does not change.
	Precise marker positioning. The marker moves 0.1 second left and right. The main slider's position does not change.

General Marker Control Buttons

The general control buttons for markers are:

Button	Description
UnDo	Undo the previous marker move. It does not affect the main slider. Up to 1000 operations can be undone.
ReDo	Redo move.
Save As...	Save the part of the recording between the markers.

Auto Stop flag

If set, the "Auto Stop" flag causes the playback to stop at the right marker. This ensures the selection ends at the correct place.

Buttons

You can use the following buttons:

Button	Description
	Rewind to the beginning
	Left (one step)
	Right (one step)
	Play
	Pause/continue
	Stop
	Record

Between the "◀◀" and "▶▶" buttons is a list for selecting the step these buttons use to position your recording. The step is specified in units of time, ranging from 1/10 of a second (0.1s) to 15 minutes (15m).

Recording

In order to record all of the sound generated from a software program, you should start the recording before starting the playback's program. Every playback program sends information to a driver with some delay, usually several seconds. If you start recording when sound has already played back, it will look as if nothing happens for several seconds and then the indicators will show the real beginning of the recording.

For information on using the built-in scheduler or command line to schedule a recording, refer to the section "Using a Scheduler" later in this document.

For information on recording using "Software accelerated recording/converting", refer to the section "Accelerated Recording" later in this document.

Starting Recording

Before you begin recording, set your recording source and other parameters if these have not been set as you require. Click on the "Recording source and parameters" button or select "Recording source and parameters" from the "Options" menu. Refer to "Setting Recording Parameters" later in this document for more information.

To start recording, either click on the "Record" button (), select Record from the "Play/Record" menu, or press Ctrl-R.

As soon as your recording starts, the message "You have unsaved data!" appears under the "Record" button. This is to remind you that data is being written to a temporary file. If you want to store the output permanently, you must save the data once your recording is complete.

If you try to make a new recording before saving the previous one, the result depends on the setting "Action on new recording over the previous one". For more information, refer to the "Using the Open/Save Tab" described earlier in this document.

If "Software" or "Software accelerated recording/converting" is selected as a source, a sound is recorded only when some program reproduces or requests it. After starting the "Record" feature, the corresponding indicator on the "Status" panel becomes highlighted. This indicates Total Recorder is ready to record but the real recording process does not start until Total Recorder receives some sound from another program. If the level indicator does not become green, there is no data to record.

Resampling a Recording

Sound quality parameters determine the quality of recorded sound. These parameters are sample rate, sample size and number of channels. If "Software" or "Software accelerated recording/converting" is selected as a source, you can resample your recording to a specified format. Note that resampling may slightly alter the sound but it cannot increase the actual quality.

You can resample a recording while it is being made, or while saving it, by taking one of the following steps:

- To resample a recording while it is being made (i.e. “on the fly”): use the “Recording Source and Parameters” window to choose your sound quality parameters, then select “Convert "on the fly" to the specified quality”, prior to starting the recording. Your recording will be made in the specified format
- To resample a recording after it has been made: use the “Change” button in the “Save As” dialog and select the new sound quality characteristics. Although you can save your recording in a format different from the original, it may take a significant amount of time.

Resampling is time consuming and doing it on the fly can save you time. You should use resampling “on the fly” if both of the following conditions are met:

- You clearly know what you are going to do with a recording.
- Whatever you are going to do with the recording requires certain sound parameters.

A good example is when you want to record to CD-R. Many CD mastering software requires a source .wav file to be 44.1KHz, 16bit, Stereo. Many Real Audio files don't have these parameters. To be able to record a Real Audio file to CD-R, you need to resample it. In this case it is much better to do it on the fly because it saves time.

However, if you plan on editing your recording, for example, it is better not to do “on the fly” resampling.

Interrupting a Recording

To temporarily interrupt recording, either use the “Pause/Continue” button (**||**), select “Pause” from the “Play/Record” menu, or use Ctrl-U. To continue a paused recording, either use the “Pause/Continue” button again, select “Continue” from the “Play/Record” menu, or use Ctrl-U.

If "Software" or "Software accelerated recording/converting" is selected as a source, all information during a pause will be written to a temporary file. This allows a recording to continue immediately after the pause is finished. Remaining in “pause” for a long time may take a lot of your hard disk space and is therefore not recommended.

Stopping a Recording

To stop recording, either use the “Stop” button (**■**), select “Stop” from the “Play/Record” menu, or use Ctrl-P.

Saving a Recording

To save a recorded sound stream to a file, use “Save” or “Save As” on the “File” menu, or press Ctrl-S. The file is saved as a `.wav` file.

A recording is not considered saved unless it was saved in full. This affects the actions taken when you are about to overwrite a recording.

Saving Part of a Recording

You can also select and save only part of a recording by taking the following steps:

1. Make the markers visible, if they are not visible already, by selecting "View", "Show selection" from the menu.
2. Select the left and right boundaries by moving the slider and placing markers. For more information, refer to the "Markers" section described earlier in this document. You can set markers during recording and then slightly reposition them.
3. Save your selection. Use the "Save as..." button in the Markers group or select "File", "Save selection as" from the menu.

Saving Multiple Recording Fragments

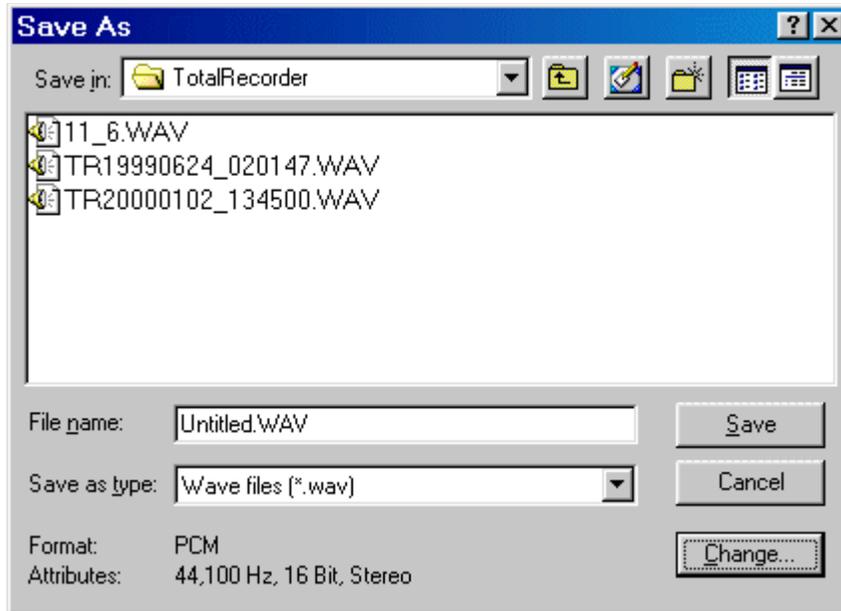
You can save multiple recording fragments as different files. The size of a `.wav` file cannot exceed 4GB. This is an internal limitation of the WAVE format. If the size of your recording is greater than 4GB, you can either divide it into smaller parts or convert it to a lower quality.

Saving a Recording in a Different Format

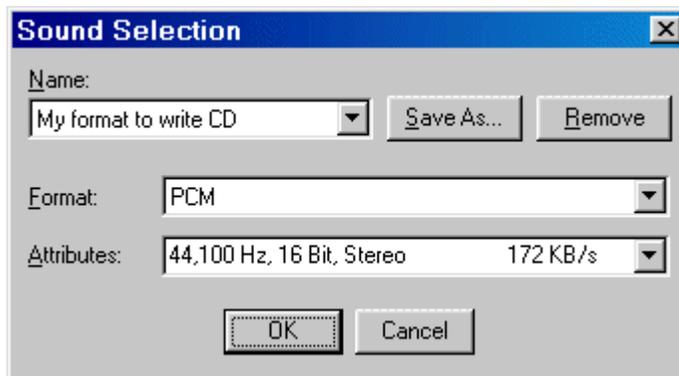
You can save your recording in a format different from the original, however it may take a significant amount of time. This is a type of resampling process.

To change the format, take the following steps:

1. Choose the “Save As” dialog.



2. Click on “Change”. You are presented with the following window:



3. Use the “Attributes” pull-down menu to select the new sound quality characteristics.
4. Enter the name of the new file, if you haven’t already done so, and click “OK”.
5. Click “Save” to save your recording.

Accelerated Recording

Software accelerated recording/converting lets you convert sound files of different formats to standard wave format. This is normally done at a fraction of the time required to play a file. Total Recorder suppresses playback, makes the sound stream go through the driver with an above normal speed, and records it.

The playback program switches to a different mode only when the new sound stream starts. When using accelerated mode you must switch on record first and then start playing the sound back.

When using accelerated mode you cannot hear any sound but the slider of the playback program moves faster than normal. Total Recorder also shows the recording moves by the following:

- the indicator of the current position moves faster than normal
- the level indicator changes from being empty to green.

Compatibility

Since the playback program has to work faster than was intended, some programs are not compatible with this mode. They will either work with normal speed or some error may occur (e.g. some fragments may be lost or repeated more than once, or some extra pauses or noises may be inserted). Different versions of the same program may behave differently.

This document does not provide a list of compatible and incompatible programs. The simpler the playback program the more likely it will work correctly in accelerated mode. Programs that synchronize sound with some other events such as games or video players will not likely work in accelerated mode.

The maximum possible speed may also vary. This usually depends on some internal parameters of a playback program, which are not documented and are not configurable, because normally they do not matter.

Through experimentation, you can determine both the compatibility of a particular program with accelerated mode and the optimal speed. Make your recording then listen to it. If there is no problem, or a problem that can be easily corrected with a selective save, you may use the accelerated mode. Otherwise, you can lower the speed. If this doesn't help you can either use regular recording or change your playback program.

If a program plays a sound from a hard disk or a local area network and it allows accelerated mode, it will probably allow maximum speed. However, there are some exceptions. If the program plays a sound from the Internet, it is usually impossible because the sound driver will request the information faster than the connection supplies. In this case, you can manually adjust the speed based on the available bandwidth. If the connection is either very slow or bad, try to set the speed below normal.

Warning: Under Windows NT or Windows 2000, accelerated mode recording may conflict with some programs that use Direct Sound. You should not run these programs when Total Recorder is in accelerated mode because they will hang and the sound driver will be blocked. If this does happen, logoff your system then logon again; a full reboot is not required.

Playing a Sound File

To play a sound file, either click on the “Play” button (▶), select “Play” from the “Play/Record” menu, or press Ctrl-Y. Total Recorder starts to play the recording from the current position or from the beginning if the current position is set to the end of the file.

For information on using the built-in scheduler or command line to schedule a playback, refer to the section “Using a Scheduler” later in this document.

Pausing the Playback

To interrupt the playing of a sound file, either click on the “Pause/Continue” button (⏸), select “Pause” from the “Play/Record” menu, or press Ctrl-U. To resume a paused playing, either click on the “Pause/Continue” button, select “Continue” from the “Play/Record” menu, or press Ctrl-U.

Moving Within a File

You can use the slider to move forward or backward in a sound file or you can use the rewind button (⏮) to go to the beginning. Additionally, you can move right or left with a fixed step using the ⏪ and ⏩ buttons or their keyboard equivalents (Ctrl-L - left, Ctrl-T - right). There is a drop-down list for selecting the step between the ⏪ and ⏩ buttons.

Stopping

To stop playing, either use the “Stop” button (■), select “Stop” from the “Play/Record” menu, or use Ctrl-P.

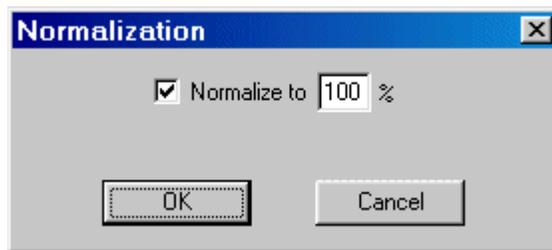
Normalizing a Sound File

Normalizing is a process of increasing the sound level (loudness) so that the amplitude of the loudest parts is close to the maximum allowed for a given sound format.

Because it also increases the level of noise, normalizing should only be used if there is no other way to adjust the volume. For example, you should not use normalizing with Sound Board mode recording because you can always adjust the level using a mixer.

To normalize a sound file, take the following steps:

1. Select “Volume”, “Normalize” from the main menu. The “Normalization” dialog appears, as shown below.



2. Select the level of normalization in percentage. The default is 100%. If you plan to later transform your sound file (to compress it, for example), it is recommended you set this value to 98-99% to avoid overflowing.
3. Click on “OK”. The “Status” indicator displays the current status of the normalization process.

The normalization process is fully reversible. You can set any value and go back to the original.

In rare cases you may need to set the normalization percentage greater than 100. For example, you can improve a recording if the average level is low but there are a couple of peaks (may even be noise).

If you append something to your recording after normalization, you should normalize the file again.

Using a Scheduler

Total Recorder lets you program jobs (recording or playback) to start at a given time, similar to programming your VCR. You can either use Total Recorder's built-in scheduler or use command line options with an external scheduler, such as Microsoft Task Scheduler. The preferred method is to use the built-in scheduler because it lets you set all the parameters using a GUI and you can set different parameters for each job.

To start the built-in scheduler:

Select “Schedule...” from the “Options” menu. You are presented with the “Record/Play Schedule” dialog box.

To use an external scheduler:

Put Total Recorder as one of the scheduled tasks using the appropriate command line parameters. These command line parameters are described later in the section “Using the Command Line”.

The Total Recorder Log contains a list of all messages relating to jobs scheduled by the built-in scheduler or initiated through the command line. For information on this log, refer to the section “Using the Total Recorder Log” later in this document.

Launching Scheduled Jobs

Launching of a scheduled job starts one second before the scheduled time. The actual starting time depends on the speed of your computer but one second is usually more than enough to start a program. A scheduled job stops at exactly the scheduled time regardless of the time it was started.

For each scheduled job, a new copy of Total Recorder is launched regardless of another copy being present. This copy closes after the job is finished except in the following two cases:

- you started the job with command line parameters (either explicitly or implicitly) that indicate the copy should stay active
- you interrupted the job.

Actions You Can Take During a Scheduled Job

During performing a scheduled job or a job initiated from the command line, all buttons and menu items are disabled except:

- the “Interrupt work” button

- the “Interrupt work” item of the “Play/Record” menu
- the item “Exit” of the “File” menu.

Pushing the “Interrupt work” button or selecting the corresponding menu item stops the job. Already recorded information is put to a file, an error message “Job interrupted by user” is written to the Total Recorder Log, and Total Recorder stays active. When you use “Exit” from the “File” menu or close Total Recorder in any other way (e.g. Alt-F4), all of these actions are done after the program terminates.

Handling Errors and Other Problems

The Total Recorder sound driver is a component that checks the time and launches the Total Recorder program. If for some reason the driver is not installed, scheduled jobs will not be launched.

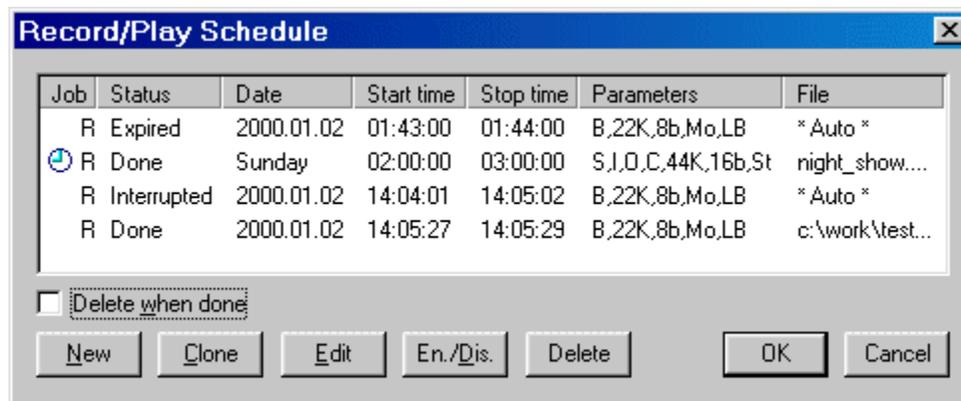
Error messages, such as “file does not exist”, do not go directly to a user since a user is not always present. These messages go to the Total Recorder Log.

If recording was active but nothing was actually recorded, the empty file is not saved and a message “Nothing was recorded” is written to the Total Recorder Log. This may happen if “Software” was set as a source but none of the programs played sound during the recording time. The job is considered to perform normally if it was not interrupted.

Displaying and Controlling Scheduled Jobs

The “Record/Play Schedule” dialog shows a list of scheduled jobs. From this dialog you can control scheduled jobs and create new ones.

Select “Schedule” from the “Options” menu and you are presented with the following dialog:



Job – scheduled job types, “Play” or “Record”. There is an icon to the left that reflects the job status:

Icon	Status
	job should be performed
	job is disabled
No icon	job should not be performed because the time has passed, regardless of whether the job was actually performed

Status – the result of the job. For a repeated job (e.g. daily), the last result is displayed. You can view detailed results in the “Schedule item” window, accessed with the “Edit” button. This window is described later.

The **Status** field may be one of the following:

Status	Explanation
Empty	never run
Done	job ran normally
Expired	job did not run and never will because the time has already passed. Your computer being switched off at the scheduled time for the job may have caused this. For repeated jobs, this will never be displayed.
Interrupted	job was interrupted by a user
Error	error during the job. The error message can be viewed in the “Schedule item” window.
Running	Currently the job has been performed by another running instance of Total Recorder. It is also possible that the job was started but there is no information of a normal or abnormal termination. Your computer being switched off during the job may have caused this.

The **Status** field contains information from the Total Recorder Log. If records were deleted from the Total Recorder Log, either automatically or manually, they will not appear here. If all records for a particular job were deleted, the job will appear as if it had never run.

Date – identifies when the job should run:

Date	Explanation
Daily	each day
Day of the week	each week on the given day
YYYY.MM.DD	the date when the job should run

Start time – the time the job should start (in 24-hour format, hh:mm:ss).

Stop time – the time the job should finish (in 24-hour format, hh:mm:ss). If the “Stop time” is less than the “Start time”, it is assumed that the “Stop time” belongs to the next day. For playing a file, you can omit the “Stop time” and the file will be played back once.

Parameters – recording source and parameters. This does not apply for playback. The following abbreviations are used, with parameters separated with a comma.

Abbreviation	Explanation
S	Software
I	Requested (Input)
O	Generated (Output)
SaM	Software accelerated recording/converting, max. speed
Sa<speed>	Software accelerated recording/converting, specified speed
C	Convert using specified parameters
B	Sound board.
8K	8.000 Hz
11K	11.025 Hz
22K	22.050 Hz
44K	44.100 Hz
8b	8 bit
16b	16 bit
Mo	Mono
St	Stereo
X	Use current mixer settings
LA...J	Use these lines of..., after L are the letters that correspond to the input lines needed

File – the name of the file being played or recorded. This is always a full path. When using automatic file name generation for recording it will show “* Auto *”.

Controls

You can use the following controls from this dialog:

“Delete when done” flag. If set, a job that finishes normally will automatically be deleted from the list.

“New” button. Open the “Schedule item” dialog for entering a new job.

“Clone” button. Build a new job by copying the current one and then open the “Schedule item” dialog for editing. This is useful, for example, if you need to schedule a job to run on certain days of the week but not daily.

“Edit” button. Open the “Schedule item” dialog for detailed viewing and editing of job parameters.

“En./Dis.” button. Current job switches between Enable and Disable status. An icon reflects the current status. A crossed icon means Disable and such jobs are kept in the list but are not started.

“Delete” button. Deletes current job, after confirmation.

“OK” button. Accept all changes.

“Cancel” button. Discard all changes. If any changes were made, confirmation is required.

Scheduling a Job

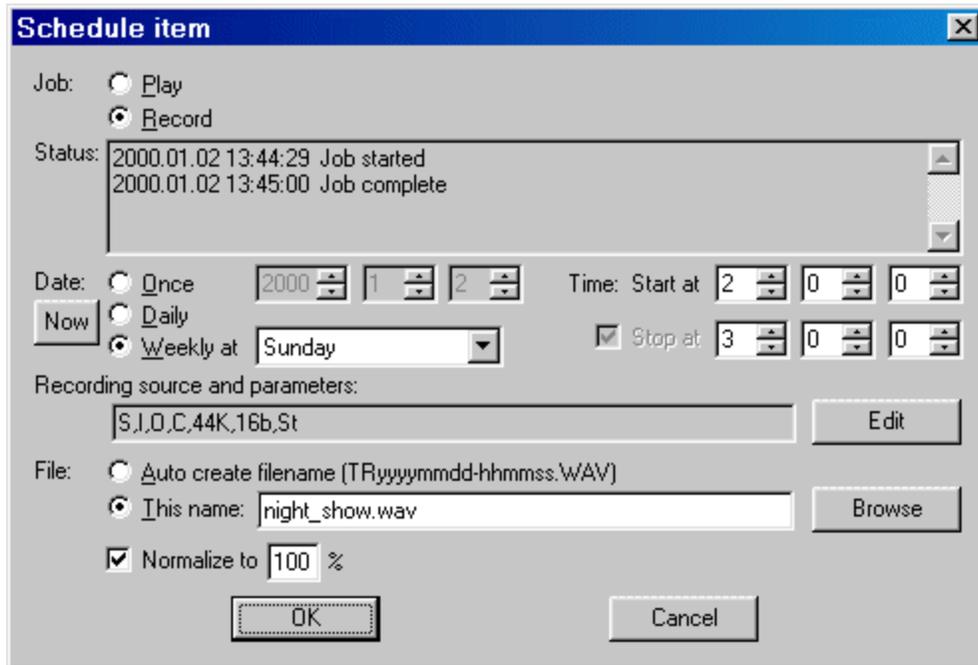
Use the “Schedule Item” dialog to schedule a job, either a recording or a playback.

1. Open the “Record/Play Schedule” dialog.
2. Use the “New” button to create a new job.

OR

Select a job and use the “Clone” button to copy the current job for editing. This is useful, for example, if you need to schedule a job to run on certain days of the week but not daily.

3. Use the following dialog to specify your requirements:



Job

You must specify the action, either “Play” or “Record”.

Status

Lists all of the Total Recorder Log messages, in chronological order, for the current job. If a job has not started, this field is empty.

The purpose of this field is to help you with scheduling. For example, if you edit an old job it can be useful to see if it has ever run and what the results were.

Date

You can schedule jobs with the following frequency:

Frequency	Explanation
Once	one time. Specify year, month and day (in that order) when the job should start.
Daily	each day
Weekly	each week. Specify (or select from the list) on which day of the week the job should be scheduled.

The “Now” button sets the current date and time as the moment when the job should start. The time when the job should stop is set as the current time plus one second. After that, you can modify these parameters manually.

Time

You can specify a starting time and a stopping time:

- **Start at** –time (hours, minutes, and seconds) when the job should start. The job will be launched one second before the scheduled time.
- **Stop at** – time (hours, minutes, and seconds) when the job should stop. This is required for recording and optional for playback. Zeros in this field means midnight and not the absence of a stop time. If the “Stop at” time is less than the “Start at” time, the activity (either play or record) will stop the next day.

If you want to specify a stopping time for playback, click on the “Stop at” flag to the left and enter your stop time. Without a stop time, the file will be played once. If the flag is on, a file will be played continuously from the “Start at” time until the “Stop at” time, regardless of the length of the file.

Recording source and parameters

These are the recording parameters for the scheduled job. Once the job completes the previous values are set. You can enter or edit parameters if a scheduled job is not playing by clicking on the “Edit” button.

File

This specifies the name of the file you want to create or play:

Auto create filename (TRyyyymmdd_hhmmss.WAV) – this may be used for recording only. A new file is created based on the current date and time when the job completes. The file will be placed in the Total Recorder current directory.

This name – a file name for recording or playback. You can enter it manually or use the “Browse” button.

Normalize to – normalize the recording, using the percentage indicated, before saving. This only applies when recording.

When saving an automatically recorded file, Total Recorder overwrites an existing file with the same name and no message is written to the Total Recorder Log. If a file with a given name cannot be created (e.g. the directory does not exist) a message is put to the Total Recorder Log and all recorded information is lost. It is recommended you use automatic file name generation to decrease the risk of these errors.

Using the Command Line

Performing a job specified in the command line is similar to performing a job started by the built-in scheduler. From the command line, you can play or record a file.

General Command Line Syntax

The syntax of Total Recorder's command line is:

```
TotalRecorder [Filename] [/Play/Record] [/Time:[[hh:]mm:]ss]  
[/Normalize:percent]] [/Noclose]
```

A file name, if specified, must be the first parameter. Other parameters can be in any order.

Filename Parameter

The name of the file you want to load, play or record. If the name contains spaces, enclose it within double quotes (e.g. "My Recordings").

/Play Parameter

Play a file. The filename is mandatory.

You can use the abbreviation - **/P**.

/Record Parameter

Perform recording. The current source and recording parameters will be used. If a file name is specified the result will be saved with this name. Otherwise, a name in the form of **TRyyyymmdd_hhmmss.WAV** will be generated based on the current date and time. The file will be placed in the Total Recorder current directory.

For recording, duration must be specified using the /Time parameter.

You can use the abbreviation - **/R**.

/Time Parameter

Specifies the duration of recording or playing. This is required for recording.

If you omit this parameter for playing, the entire file will be played once. If you specify this parameter for playing, a part of a file may be played or the playing may be repeated as necessary. For example, if you schedule a 4-minute file to play for 10 minutes, it will play 2 1/2 times. Or if you schedule a 10-minute file to play for 4 minutes, only the first 4 minutes of the file will play.

You can use the abbreviation - **/T**.

There are three different ways to specify duration. The following examples each specify the same duration (1 hour, 1 minute, and 1 second):

- **/T:hh:mm:ss**, for example: /T:1:01:01 or /T:1:1:1
- **/T:mm:ss**, for example: /T:61:01 or /T:61:1
- **/T:ss**, for example: /T:3661

The following are not correct:

- **Incorrect:** /T:1:61:01 - since *mm* cannot exceed 59
- **Incorrect:** /T:2:60 - since *ss* cannot exceed 59

/Normalize Parameter

This parameter causes Total Recorder to normalize the file to a given percentage after it is recorded. You can specify a value from 1 to 999. The default is 100%. For example: /Normalize:95 .

You can use the abbreviation - **/Norm**.

/Noclose Parameter

This parameter causes Total Recorder to stay active after the job is done. If not specified, Total Recorder will close except in the case where neither /Play nor /Record were specified.

You can use one of the abbreviations - **/NC** or **/N**.

Examples

Perform recording for five minutes, save the result in a file with an automatically generated name and do not close the program:

```
TotalRecorder /R /T:5:00 /NC
```

Play a sound file and close the program:

```
TotalRecorder C:\MyFolder\MySoundFile.WAV /P
```

Play a bell (Ring.WAV) continuously for one minute:

```
TotalRecorder C:\MySoundDir\Ring.WAV /P /T:60
```

Start Total Recorder and load a sound file. You can then use the “Play” button to play the file:

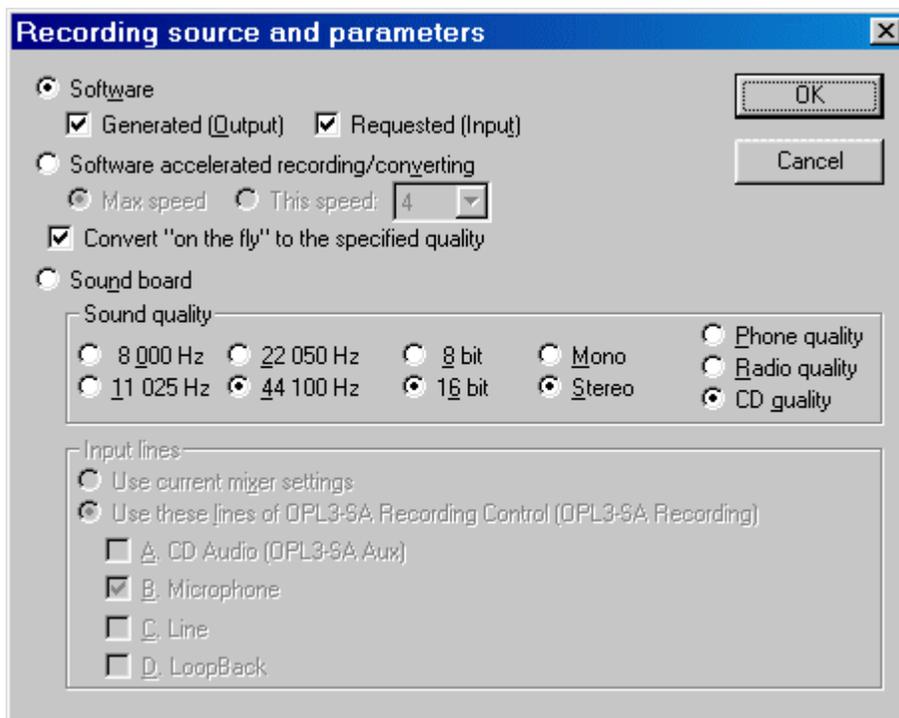
TotalRecorder “C:\My folder\My sound file.WAV”

Setting Recording Parameters

Before you begin recording, use the “Recording source and parameters” dialog to set your recording parameters. These parameters are saved for subsequent use. Changing parameters after a recording is finished affects only subsequent recordings; Total Recorder can convert already recorded sound during saving only.

When you schedule recordings using Total Recorder's built in scheduler, you can use different parameters for each job using the “Schedule Item” dialog.

Click on the “Recording source and parameters” button or select “Recording source and parameters” from the “Options” menu. You are presented with the following dialog:



Recording source

Select one of the following (mutually exclusive) sound sources:

- **Software** – capture and record sound played back or requested by other computer programs. This feature is unique to Total Recorder and is not available from the vast majority of other sound recording programs.
- **Software accelerated recording/converting** – special mode for capturing and recording sound generated by other programs. The Total Recorder driver makes the playback program generate sound with a faster speed and suppresses the actual sound. Not all playback programs are compatible with this mode. For more information, refer to the "Accelerated Recording" section, described earlier in this document.
- **Sound board** – record sound digitized by a sound card. This includes a microphone, CD or other input lines.

Depending on the source you can set different recording parameters.

Recording parameters for source “Software”

If you select “Software”, you can specify the following:

- **Generated (Output)** – output sound streams generated by programs and sent to the soundboard driver are captured and recorded.
- **Requested (Input)** – input sound streams requested by programs from the soundboard driver are captured and recorded.

You should specify at least one type of sound stream. Both are set by default and it is not usually necessary to change this.

With source “Software”, you can also select the following:

- **Convert "on the fly" to the specified quality** – convert to specified “Sound quality” parameters as the recording is being made. This is a type of resampling process. If you do not select this option, your recording will inherit sound quality parameters from the source and ignore the parameters you specify in the “Sound quality” group. For more information, refer to the section “Resampling a Recording” earlier in this document.

Recording parameters for source "Software accelerated recording/converting"

If you select "Software accelerated recording/converting", you can specify the following:

- **Max speed** – Total Recorder tries to make the playback program play at maximum speed. This is recommended for converting a sound file from a non-standard to a standard format.

- **This speed** – set at a particular speed. Total Recorder tries to make the playback program play a specified number of times faster than normal. For example, you can set this speed to "4" to cause the playback program to play 4 times as fast as normal. Setting "This speed" is recommended if the maximum speed is not possible (e.g. when recording from the Internet).

With source "Software accelerated recording/converting", you can also select the following:

- **Convert "on the fly" to the specified quality** – convert to specified "Sound quality" parameters as the recording is being made. This is a type of resampling process. If you do not select this option, your recording will inherit sound quality parameters from the source and ignore the parameters you specify in the "Sound quality" group. For more information, refer to the section "Resampling a Recording" earlier in this document.

Recording parameters for source "Sound board"

If you select "Sound board", you can specify the following:

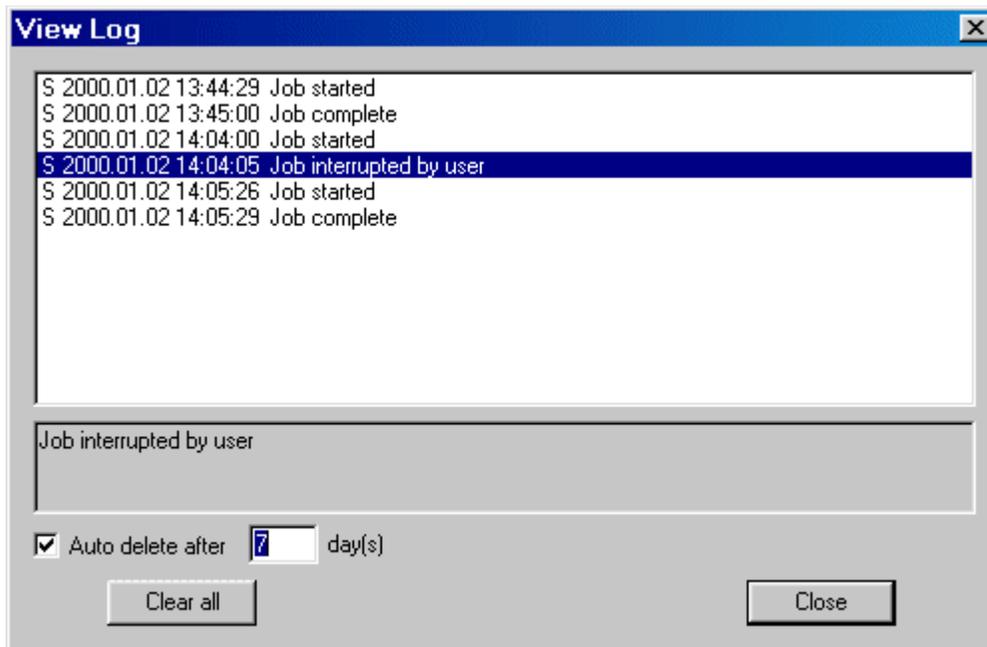
- **Sound quality** – these parameters determine the quality of recorded sound. They are sample rate, sample size and number of channels. You can either set each parameter separately or select one of the standard sets of parameters (Phone, Radio or CD quality).
- **Input lines** – input lines of the sound board from which sound is recorded. You can select from the following:
 - Use current mixer settings – use current system settings. Normally, they can be viewed or changed from the standard mixer by double clicking on the "Volume Control" icon in the system tray.
 - Use these lines of ... (the full name of this flag depends on the sound driver of the sound board) – points explicitly to lines that are switched on during recording. At least one line has to be specified. After a recording is finished, the original mixer settings are restored.

Using the Total Recorder Log

The Total Recorder Log contains a list of all messages relating to jobs scheduled by the built-in scheduler or initiated through the command line. This log sits in the registry and unlimited expansion is not desirable. By default, all records older than one week will be automatically deleted.

Some errors cannot be written to the Total Recorder Log, for example, errors when writing to the registry and syntax errors in command line parameters. These errors will not occur when working with the built-in scheduler.

To review or control information in the Total Recorder Log, select “View Log” from the “File” menu. You are presented with the following dialog:



Message list

The list contains all messages, in chronological order, relating to jobs scheduled by the built-in scheduler or initiated through the command line. For each job it includes the starting time, ending time, and all error messages. Scheduler messages are marked with the letter “S” and command line messages are marked with the letter “P”. The current message is displayed below the list.

Controls

You can use the following controls from this dialog:

- **Auto delete after** – controls the automatic deletion of obsolete records. This is the default mode. Switching it off is not recommended because it will cause the registry to grow and decrease system performance.
- **Day(s)** – records will be deleted after this number of full days. Records are deleted at midnight on the expiry date or the next time your computer is on after this date. For example, “0” means that only records from the current day are accessible, “1” means that records will be kept for one full day and deleted at midnight the following day, and so on.

- **Clear all** – delete all records. Confirmation is required.
- **Close** – close the dialog. All changes are immediately made.

KEYBOARD SHORTCUTS

Most control elements have keyboard shortcuts:

Button	Shortcut	Menu Item
Interrupt work		Play/Record - Interrupt work
Recording source and parameters		Options - Recording source and parameters...
Mark (left)	Shift-L	Markers - Set left mark
Go (left)	L	Markers - Go to Left mark
 (left)	Shift-M	Markers - Shift left mark left by 0.1s
 (left)	Shift-N	Markers - Shift left mark right by 0.1s
UnDo	Shift-U	Markers - UnDo markers settings
ReDo	Shift-D	Markers - ReDo markers settings
Mark (right)	Shift-R	Markers - Set right mark
Go (right)	R	Markers - Go to Right mark
 (right)	Shift-S	Markers - Shift right mark left by 0.1s
 (right)	Shift-T	Markers - Shift right mark right by 0.1s
Auto Stop	P	Markers - Stop playing at the right marker
Save as...		File - Save selection as...
	Ctrl-A	Play/Record - To Start
	Ctrl-L	Play/Record - Left by <i>step</i>
	Ctrl-T	Play/Record - Right by <i>step</i>
	Ctrl-Y	Play/Record – Play
	Ctrl-U	Play/Record – Pause
	Ctrl-U	Play/Record – Continue
	Ctrl-P	Play/Record – Stop
	Ctrl-R	Play/Record – Record

TROUBLESHOOTING

This section describes problems that may occur and some techniques for diagnosing problems.

Symptom - Unable to Play Simultaneous Sound Streams

After the installation of Total Recorder your computer lost the ability to play several sound streams simultaneously. This applies only to some very advanced sound cards that are capable of playing multiple streams or if your computer has more than one sound card.

Possible Cause #1

During the Total Recorder installation, its driver is set as a preferred device and the flag "Use preferred devices only" is set. This flag disables playing multiple sound streams. Some programs (e.g. Windows Media Player) need this flag to be set in order to work correctly with Total Recorder (see next symptom, Possible Cause # 3).

Action #1

Select "Start"->"Settings"->"Control Panel"->"Multimedia" (or from the Total Recorder menu, select "Options"->"System settings"), tab "Audio", and uncheck the box "Use preferred devices only". If this causes a problem after recording a program, you will need to turn it on during recording and then turn it off when you are done. Or you can set mode to turn on the Total Recorder driver only when Total Recorder is running. For more information, refer to the "Configuring Total Recorder" - "Using the System Tab" section of this document. In this case you should uncheck the "Use preferred devices only" flag, in order to turn it off automatically when Total Recorder finishes.

Symptom - No sound recorded

Sound is reproduced but Total Recorder does not record it. The slider remains at the left edge and the "Length (sec.)" counter does not change.

Possible Cause #1

Some playback programs do not perform a system inquiry for the default sound driver; they explicitly indicate the driver they need. These programs may be older, obsolete programs or may use special functions of specific devices. It is not possible to set the system to ignore these direct requests and sounds reproduced by such programs will not be recorded.

Action #1

Change the playback program where possible.

Possible Cause #2

Some programs (e.g. Internet telephony) have the ability to select the necessary audio driver manually and ignore system settings.

Action #2

Read the program manual and set the Total Recorder driver as both the driver for playing and recording.

Possible Cause #3

Total Recorder's driver perceives a sound stream in main wave-format (PCM, pulse-coded modulation) only. If the reproducing program sends a sound stream in any other format (e.g. compressed), Windows usually calls the decoding drivers itself to perform all of the required translation. However, if your sound card can make some translation at the hardware level, then Windows can direct the sound stream to the driver of such a sound card immediately, and bypass Total Recorder's driver. As a result, sound cannot be recorded.

Action #3

Select "Start"->"Settings"->"Control Panel"->"Multimedia" (or from the Total Recorder menu, select "Options"->"System settings"), tab "Audio", and check the box "Use preferred devices only". This eliminates the use of any device other than the default one.

Possible Cause #4

The mode "Preferred audio devices when Total Recorder isn't active" - "Audio playback and recording devices selected above" is turned on. In this case, if the playing back of the sound you are attempting to record was started before Total Recorder was started, the playback program does not use the Total Recorder driver. You have changed playback or recording preferred device either manually or it has been done after the play back was started.

Action #4

Without closing Total Recorder, close the playback program and restart it. Try to make your recording again. Remember if the mode of automatic driver switching is turned on, you should start Total Recorder first and only after that should you start the playback program from which you are going to record sound.

Symptom - Sound recorded with gaps

Sound is recorded with gaps. The "sec. lost" counter on the "Status" panel has a value other than 0.

Possible Cause #1

Total Recorder does not have enough time to record sound. This can happen on slow computers or when a slow device (e.g. a diskette) is used as a destination device for the temporary recording file.

Action #1

Use a faster device for storing temporary files.

Possible Cause #2

The Playback program's buffer is bigger than Total Recorder's driver buffer. In this case all sound will be omitted. The "sec. lost" counter will grow while the "Position (sec.)" counter will remain at 0. This situation is extremely unlikely since Total Recorder's buffer should be big enough.

Action #2

Go to the URL: <http://www.highcriteria.com/support.htm>.

Possible Cause #3

Your computer is overloaded with other jobs.

Action #3

Select "Options", "Settings", "System" tab and enable the "High priority" setting.

Symptom - Sound system or playback programs not working properly

After installing Total Recorder, the sound system or some playback programs are not working properly, even when Total Recorder is not active.

Possible Cause #1

There is an incompatibility with Direct Sound. When a playback program uses Direct Sound, the sound can sometimes be garbled.

Action #1

Many modern programs can be set up to optionally use Direct Sound. Read the program's help to determine the required settings.

Possible Cause #2

The Total Recorder driver is not compatible with other installed programs.

Action #2

Describe your system configuration and the nature of your problem via E-mail to High Criteria Inc. This will help eliminate the problem in future releases.

You cannot record from a conflicting playback program. However, you can eliminate the conflict when Total Recorder is not active by using the Total Recorder driver as a preferred device only when necessary. This can either be done automatically, each Total Recorder starts up and shuts down, or manually. Automatic switching is simpler.

To automatically switch preferred devices:

Use the "Options"- "Settings", "System" tab, and set "Preferred audio devices when Total Recorder isn't active" as "Audio playback and recording devices selected above". For more information, refer to the "Using the System Tab" section of this manual.

To manually switch preferred devices:

1. Leave the default setting for "Preferred audio devices when Total Recorder isn't active" as "Total Recorder driver (recommended)". Total Recorder will not switch devices and will not check the settings until it needs some service from its driver (i.e. during a recording from either source "Software" or source "Software accelerated recording/converting").
2. Use the Windows system dialog ("Start", "Settings", "Control Panel", "Multimedia", "Audio tab"), or use the Total Recorder menu items ("Options", "System settings"), and select the devices that were set before the installation of Total Recorder. If you are unsure what to select, review the Total Recorder settings: "Options", "Settings", "System" tab, "Audio playback and recording devices".
3. For recording sources other than "Sound board", you must make either one or two of the Total Recorder virtual devices (i.e. playback and recording) your preferred devices before you start the playback program you would like to record.
 - If you record from "Software" and "Generated (Output)" is checked, or you record from "Software accelerated recording/converting", the device "Playback through Total Recorder" must be your preferred playback device.
 - If the source is "Software" and "Requested (Input)" is checked, the device "Record through Total Recorder" must be your preferred recording device. Normally the "Input" flag is off; it is only needed for recording Internet telephony. If you uncheck "Requested (Input)", the preferred recording device does not matter.
4. If Total Recorder needs a device that is not set as a preferred device when you start a recording, the recording does not begin and the system dialog pops up.

5. After your recording is finished, you can return the original preferred devices so that Total Recorder will not interfere with any other software.

Diagnosing Problems

If you experience problems with Total Recorder that you cannot resolve yourself, visit support area at <http://www.highcriteria.com/support.htm>. Also read **Frequently Asked Questions** at http://www.highcriteria.com/faq_tr.htm before sending a letter to support.

Technical Support may ask you to set the Total Recorder program in debug mode and send them a debug file. When advised by Technical Support, take the following steps:

1. Use the configuration menu to select “Driver debugging” and specify the name of the debug file you want to use. Total Recorder will write diagnostic information, in ASCII format, to this file.
2. Try to reproduce the problem.
3. As soon as you have reproduced the problem, turn off the debugging option. Running in debug mode slows down the operation of the software and takes up additional hard drive space.
4. Send the debug file and a description of the problem to High Criteria.