

# Codonics SLS 500i Sound File Recording

### Overview

This document describes the process of recording and adding new drug sound files to the Codonics Safe Label System™ SLS 500i Administration Tool for incorporation into the SLS formulary.

The sound files used by SLS are in Microsoft WAV signed 16-bit PCM format. There are many software packages and microphones available that can record high-quality sound files in this format. The information in this Technical Brief describes one method that produces good results using commonly available software and hardware.

The SLS allows sound files for new drugs to be added to the Administration Tool's custom folder in the sounds/drug names folder of the active localization pack.

The custom drug name folder is located in the AdminTool-Data area of the Administration Tool:

```
[AdminTool-Data]/locales/[locale-package]
/sounds/drug names/custom
```

where:

- ◆ [AdminTool-Data] is the location of the main Administration Tool data folder on your computer.
- ◆ [locale-package] is the localization pack you are using (for example, us-EN-1 or fr-FR-121)

**NOTE:** Any drug sound files that you add should be stored in the sounds/drug names/custom folder. The SLS will always check the custom folder first for a sound file, so any files added to that folder take precedence over files in the sounds/drug names folder.

**CAUTION:** Do not change any sound files in the sounds/drug names, sounds/commands, sounds/numbers, or sounds/units folders.

### Requirements

The following are required to record drug sound files:

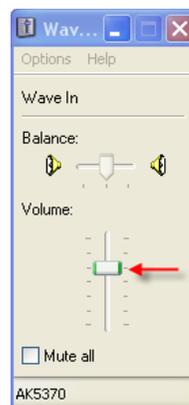
- ◆ Logitech® USB Desktop Microphone (recommended hardware).
- ◆ PC running Windows® 7, Vista, or XP with speakers and an available USB port.
- ◆ Oracle® Java® 6 (also referred to as version 1.6), update 23 or higher, 32-bit only.
- ◆ Audacity®, a free audio recorder and editor application, v1.3.x or higher (recommended software).

### Installing the Microphone

1. Connect the microphone to a USB port on your PC.
2. Navigate to the Audio Devices tab in the Control Panel:
  - ◆ In Windows 7, open the Control Panel, click Hardware and Sound, then click Manage Audio Devices.
  - ◆ In Windows Vista or XP, open the Control Panel and then open Sounds and Audio Devices.
3. Verify that the Logitech microphone (device name AK5370) appears:
  - ◆ In Windows 7, go to the Recording tab and verify that a USB audio device is connected.
  - ◆ In Windows Vista or XP, go to the Audio tab. In the Sound Recording list, select the Logitech USB audio device (AK5370).

**NOTE:** The microphone device name AK5370 might change with different revisions of the Logitech Microphone.

4. Set the sound volume level to the fourth or fifth setting (that is, 50–60%).



### Installing Audacity

Verify that Java is installed on your PC before installing Audacity. If you need to install Java, you can download the Java installation file, which is available on the java website, [www.java.com](http://www.java.com).

To install Audacity:

1. Go to the Audacity download page, [audacity.sourceforge.net/download](http://audacity.sourceforge.net/download).

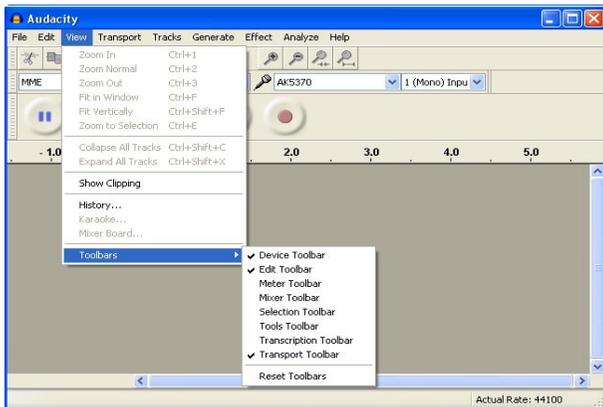
2. Locate version v1.3.x or higher on the Download page.
3. Select the latest version of Audacity for your Windows operating system.
4. Follow the directions on the installer to install Audacity.

## Configuring Audacity

1. Run the Audacity Sound Editor.
2. On the Edit menu, click Preferences.  
The Audacity Preferences dialog box displays.
3. On the Recording tab, make sure that the Overdub option is cleared.



4. Click OK to close the Recording tab.
5. On the View menu, click Toolbars.
6. Clear all of the toolbar options except Device, Edit, and Transport.



## Recording Sound Files

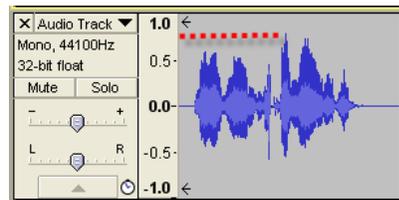
1. Select a quiet area away from office sounds, computer fans, and so on.

2. Position the microphone so it is about 6–8 in. (15–20 cm) from your mouth and about 3–4 in (7–10 cm) to the left or right side so that you are not speaking directly into the microphone.

**NOTE:** If the microphone is directly in front of your mouth while you are speaking, it can pick up air sounds from the mouth that sound like popping noises in the recording.

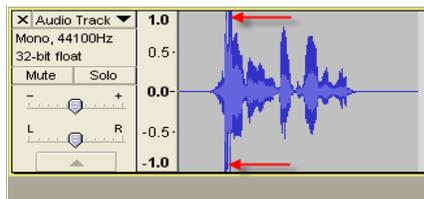
3. Verify that the microphone is turned on by the green light on the pedestal button.
4. Run the Audacity Sound Editor.
5. To start recording, click on the record button .
6. Speak the name of the drug into the microphone clearly and at a normal or slightly louder-than-normal volume.
7. When you are done recording, click the stop button .
8. To play your audio file, click the play button .

A good sound file will have a waveform with peak sound levels between 0.8 and  $-0.8$ , as shown below:

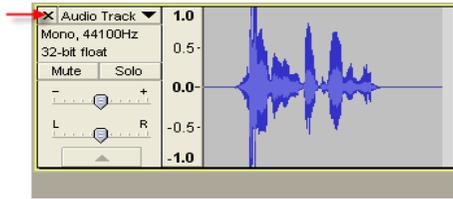


A sound file with a peak sound level lower than 0.5 and  $-0.5$  will playback at lower volume than other sound files on SLS. If you cannot achieve a loud enough recording with good sound quality, refer to “Changing Sound File Volume” later in this Technical Brief for how to increase the volume after the recording is made.

A sound file that is distorted will usually have a waveform that extends to the maximum 1.0 and  $-1.0$  ranges:



- If you are not satisfied with the recording, click the X button on the left side of the audio track that was just recorded delete the audio.

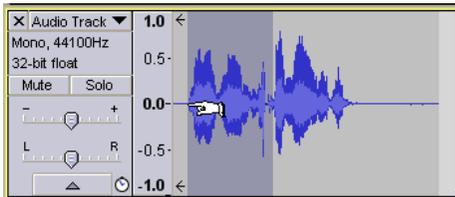


- Repeat steps 5–10 until you have an acceptable recording.

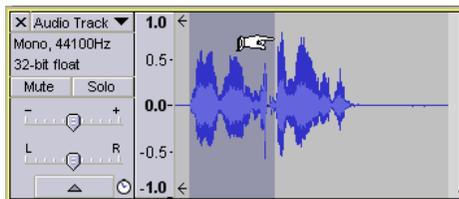
## Trimming Sound Files

Sound files should be trimmed to remove any pause (silence) before or after the drug name.

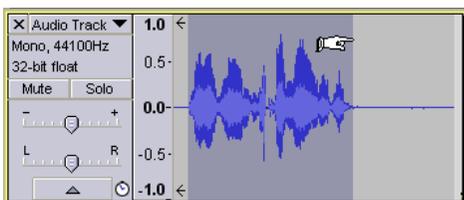
- Move the cursor to the center of the waveform that you want to keep and then hold down the left mouse button while moving the cursor to the left. Stop at the beginning of the waveform and release the mouse button.



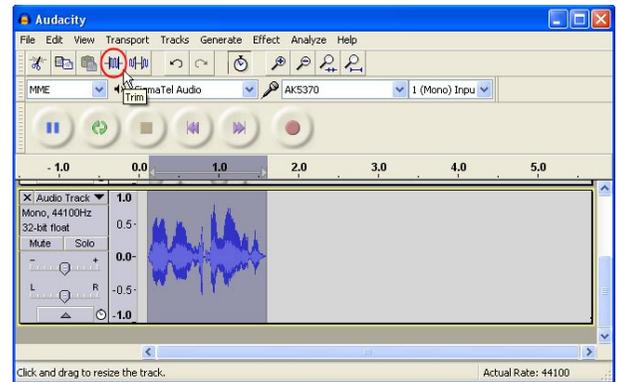
- Now, move the cursor back towards the center until the cursor changes to a right pointing finger.



- Press and hold the left mouse button while moving the cursor to the right. Stop at the end of the waveform you want to save and release the mouse button.



- Click the trim button to remove the unwanted silence and save the highlighted area of the recording.

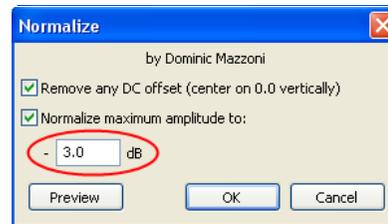


## Changing Sound File Volume

If a recorded sound file is not loud enough, the volume can be increased using the normalize function.

In the **Effect** menu, click **Normalize**.

The Normalize dialog box displays.



**NOTE:** A typical value for the normalize function is between  $-2.0$  and  $-4.0$ , although other values can be used. The value entered in the box is a positive number because the negative sign is shown to the left of the box.

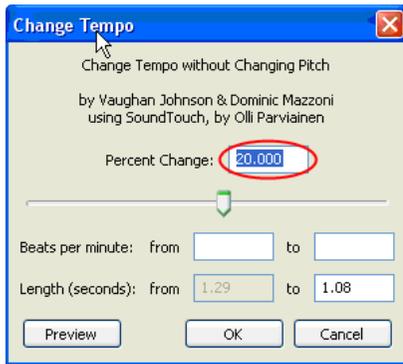
The Normalize dialog box above shows a starting value of  $-3.0$ . This will provide a moderate amount of increase in the volume of the recording. Changing the value to  $-2.0$  will increase the volume more than  $-3.0$ . Entering a value of  $-4.0$  will change the volume less than  $-3.0$ . You can choose intermediate values such as  $-2.5$  to fine tune the volume level. Adjust the recording so that the peak level of the waveform is between  $0.5$  and  $0.8$ . If you applied a normalize value and want to change it, just open the Normalize dialog box again and enter a new value. This will undo the old value and apply the new setting.

## Changing Sound File Playback Speed

If a sound file was recorded slowly to ensure proper pronunciation, you might want to increase the playback speed. The tempo function can be used to compress the sound file for faster playback without changing the pitch of the recorded voice.

To change the playback speed, on the **Effect** menu, click **Change Tempo**.

The Change Tempo dialog box displays.



In the example shown above, the **Percent Change** is shown at 20.000. This will make the sound file play back 20% faster without changing the pitch of the voice. The **Percent Change** range is from -99% to 400%, with values greater than 0 resulting in faster playback. The larger the value, the faster the playback. If the tempo is set too fast, some sound quality could be lost.

After entering a **Percent Change** value, click **OK** to close the dialog box and save the change.

**NOTE:** To undo a tempo change that you just made, on the **Edit** menu, click **Undo Change Tempo**. You can then enter a new tempo as described above. The **Undo** operation will only work if no other adjustments to the sound file were made after the tempo function was applied.

## Saving Custom Sound Files

1. On the **File** menu, click **Export**.

2. In the dialog box that displays, select the folder in which to save the sound file.
3. Enter the name of the custom drug whose sound file you are saving.

For drug sound file names:

- ◆ Do not use space characters in the drug name. Instead, you can use underscore (\_) characters (e.g., Sodium Chloride would have the file name sodium\_chloride.wav).
  - ◆ All the characters must be lower case.
4. Verify that the **WAV (Microsoft) signed 16 Bit PCM** format is selected in the **Save as type** field.
  5. Click the **Save** button
- You are prompted to enter metadata.
6. The metadata is not used by SLS, so just click **OK** to dismiss this prompt.
- If you do enter any metadata, it will be ignored by the SLS.
7. Copy the drug sound file to the custom sound folder in the localization pack of the SLS Administration Tool.

For more information about this folder and where it is located, refer to the "Overview" topic at the beginning of this Technical Brief. If the custom folder does not exist, then create it.

You can now select the drug name you just created in the Administration Tool.

**NOTE:** If the Administration Tool was open when the sound file was added to the custom folder, the Administration Tool has to be restarted to refresh the sound file list.

## Technical Support

If problems occur when using an SLS or the Administration Tool, contact Codonics Technical Support.

Phone: +1 (440) 243-1198  
Email: support@codonics.com  
Websites: www.codonics.com

*Get it all with just one call*  
**1-800-444-1198**

All registered and unregistered trademarks are the property of their respective owners. Specifications subject to change without notice. Patents pending.

Copyright © 2010–2011 Codonics, Inc. Printed in the U.S.A. Part No. 901-447-001.03.

 **CODONICS**<sup>®</sup>  
*We bring the future into focus*

17991 Englewood Drive  
Middleburg Heights, OH 44130 USA  
(440) 243-1198  
(440) 243-1334 Fax  
Email info@codonics.com  
www.codonics.com

Codonics Limited KK  
New Shibaura Bldg. F1  
1-3-11, Shibaura  
Minato-ku, Tokyo, 105-0023 JAPAN  
Phone: 81-3-5730-2297  
Fax: 81-3-5730-2295