

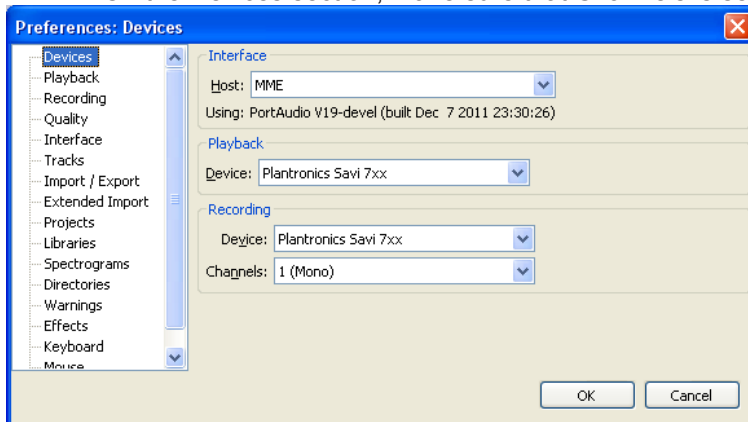
Overview

Digital Acoustics' IP Endpoints play wav files with a format of mono, 16-bit uLaw, with a sample rate of 8000. Any audio editing program that can create or convert audio files to this format can be used. This application note uses Audacity V1.3.14 (Open source - downloadable) to demonstrate how to create a new voice recording and guidelines for converting an existing audio file to the proper format.

Audacity Setup

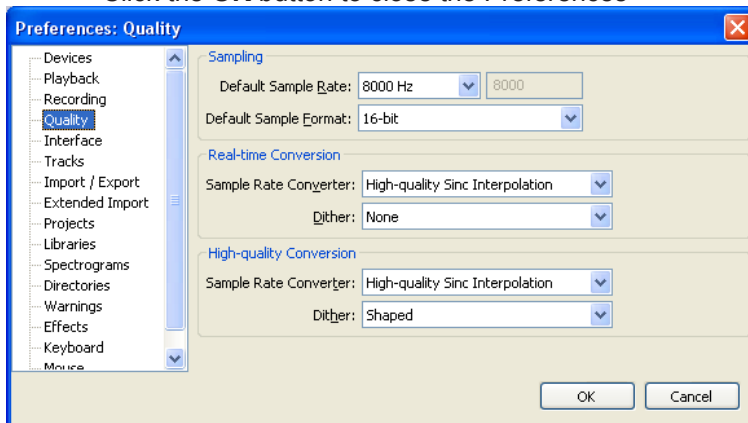
Set the preferences by selecting menu option **Edit - Preferences**

- On the Devices section, make sure that Channels is set to 1 (Mono)



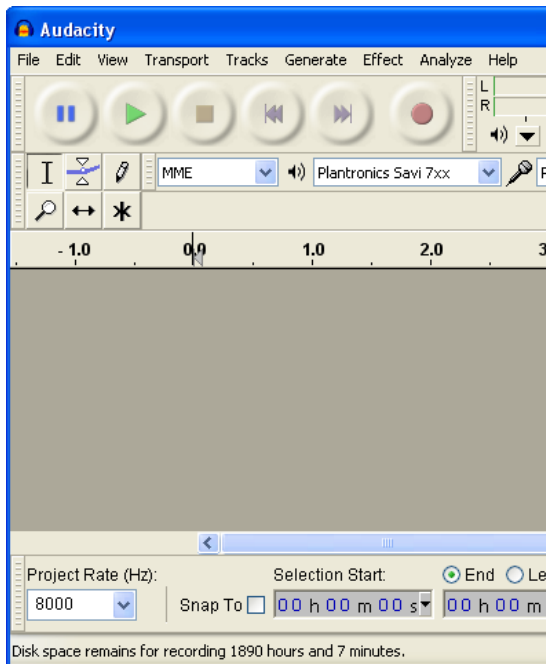
On the **Quality** section,

- Set the **Default Sample Rate** to 8000Hz
- Set the **Default Sample Format** to 16-bit
- Click the **OK** button to close the Preferences

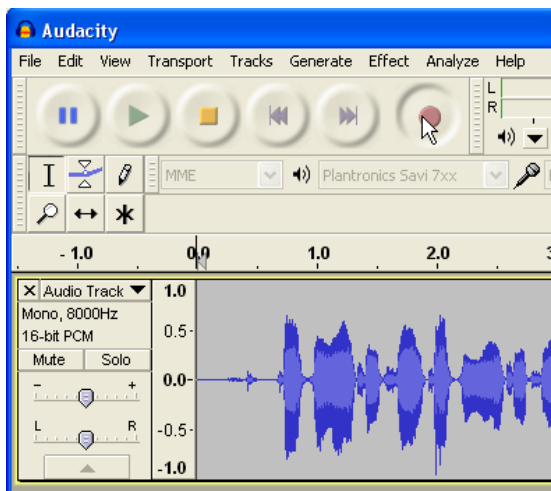


Creating Audio Files

Audacity is now set to record audio.

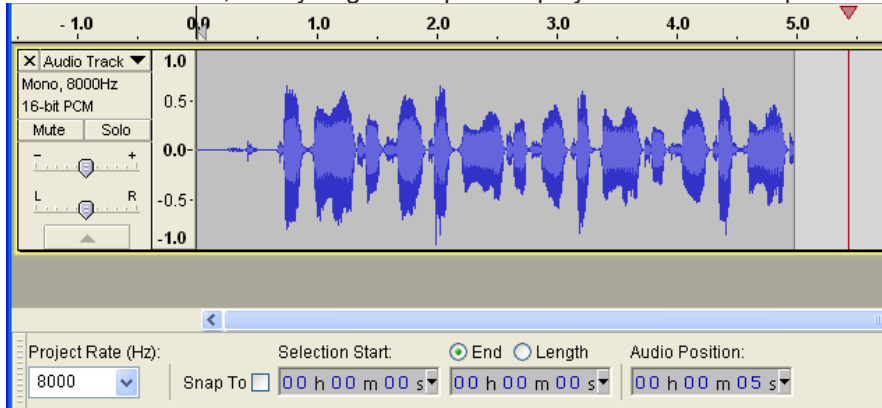


- Make sure the **Project Rate (Hz)**: in the lower left hand corner of the screen is set to 8000
- Press the Record button and begin speaking into the microphone on the PC
- The recorded wav file starts appearing on the screen. Press the Stop button when finished recording



Please note the following:

- Look to the left of the recording to verify the type - Mono, 8000Hz, 16-bit
- The audio should be concentrated between .75 and -.75 on the left hand scale
- It is OK if some peaks go above or below these values, but the closer the audio gets to 1.0 or -1.0, it may begin to clip when played on the IP Endpoint



To save the recorded file,

- Select menu option **File → Export...**
- Enter a **File name**
- In the **Save as type** drop down box, select **Other uncompressed files**

The screenshot shows a 'Save As' dialog box. It has a 'File name:' label followed by a text input field and a dropdown arrow. Below it is a 'Save as type:' label followed by a dropdown menu currently showing 'Other uncompressed files'. To the right of these fields are three buttons: 'Save', 'Cancel', and 'Options...'.

Press the **Options** button

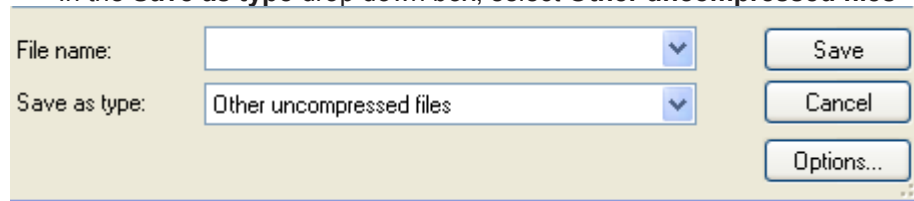
- For the **Header** drop down box, select Wav(Microsoft)
- For the **Encoding** drop down box, select U-law
- Click the **OK** button

The screenshot shows a 'Specify Uncompressed Options' dialog box. It has a title bar with a close button. Inside, there's a section titled 'Uncompressed Export Setup'. It contains two dropdown menus: 'Header' set to 'WAV (Microsoft)' and 'Encoding' set to 'U-Law'. Below these is a note: '(Not all combinations of headers and encodings are possible.)'. At the bottom are 'OK' and 'Cancel' buttons.

Converting Existing Audio Files

If existing files need to be converted into the proper format, keep the following in mind:

- For stereo recordings, use the menu option **Tracks → Stereo Track to Mono**
- For files with a higher sample rate, use the menu option **Tracks → Resample...** and set the **New sample rate (Hz):** to 8000
- To set the audio to the correct volume level, use menu option **Effect → Amplify...** and increase or decrease the volume level by specifying a positive or negative value for **Amplification (dB):**
- If the wave forms have peaks are very close to 1.0 or -1.0, use menu option **Effect → Normalize...** with a value of -1.0 dB to eliminate any clipping
- Make sure the **Project Rate (Hz):** in the lower left hand corner of the screen is set to 8000
- To save the file,
 - Select menu option **File → Export...**
 - Enter a **File name**
 - In the **Save as type** drop down box, select **Other uncompressed files**



Press the **Options** button

- For the **Header** drop down box, select Wav(Microsoft)
- For the **Encoding** drop down box, select U-law
- Click the **OK** button

