What is a WAVE file (.wav) ?

Record, playback, & make your computer scream !

General information

A wave file is a digital representation of an analogue recording. It is called a 'wave' file because it turns analogues sound into a digital 'waveform'. Wave files (.wav) can be used for various applications such as the warning or alert sounds for Microsoft Windows, for recording of incoming voice mail, adding voice to your documents or for the recording of music.

But to record anything to your computer you must first have an Analogue-to-Digital Converter (sometimes referred to as A/D Converters). These chips turn the analogue input sound in to digital information and store them as a wave file on your computer's hard disk. In reverse you will also require a D/A converter to turn the digital signal into an analogue sound which can be heard through your computer speakers, or LINE-OUT. All of the sound cards included in this MMCD have A/D and D/A converters.

And, all of the sound cards included in this MMCD are capable of recording analogue sound equivalent in quality to a regular music CD you would buy from your Record Store - This standard is 44.1KHz stereo, however some cards are capable of recording at even higher rates - up to 48KHz stereo.

This means that recording and storing wave files on your computer's hard disk can be used for applications ranging from ~ having some fun recording your own voice as an alert message, to using your computer as a first class home recording studio.

The **Willowpond** utility called **Wave Shaper** included in this MMCD together with some sample wave files will allow you to experiment with .wav files and technology.

Playback, Record & Edit. But, Be careful of tidal waves ...

Try out some tunes

We've included some BIG TIDAL WAVE size samples of wave files. These were the original music files used on MMCD Version 1.0, plus a few extras - (On this version of the MMCD we've switched to MIDI files for the background music, which are much smaller and quicker to load).

The wave files included were mostly recorded at 22.05KHz 16-Bit Stereo which equates to around 5.5MB per minute of recording.   So, as you can imagine this type of recording can be storage intensive.   If you record at 44.1KHz 16-Bit stereo you can basically double the amount of hard drive space required (around 11MB per minute of recording). (Note : terms such as "22.05Khz 16-bit Stereo" are called the 'sample rate')

Depending on exactly what you're recording and for what purpose will help you decide what 'sample rate' to use.   For example, if you are recording a short sound to use as one of your Windows alert sounds, then a sound recorded at a sample rate of 11.025KHz 8-Bit mono will suffice. This short sound (say around 2 seconds) would take up approximately 21.5KB - Nothing !

To try out the music wave files we've included you can click on the icons below which will play the wave files direct from this document.   Once you've listened to each wave then you may want to really play around with and edit them.   For this first ensure that you have installed the Willowpond Sound Utilities, found on the Willowpond page of this MMCD. Then run the application called **Wave Shaper** and go to File and then open. Locate the directory on this MMCD called wave and open whatever file appeals to you. Please note that because some of the samples are 10MB or more it may take some time to load them.

Here are some of the wave files included under the wave directory ..Simply click on the icon next to the style you want to hear.

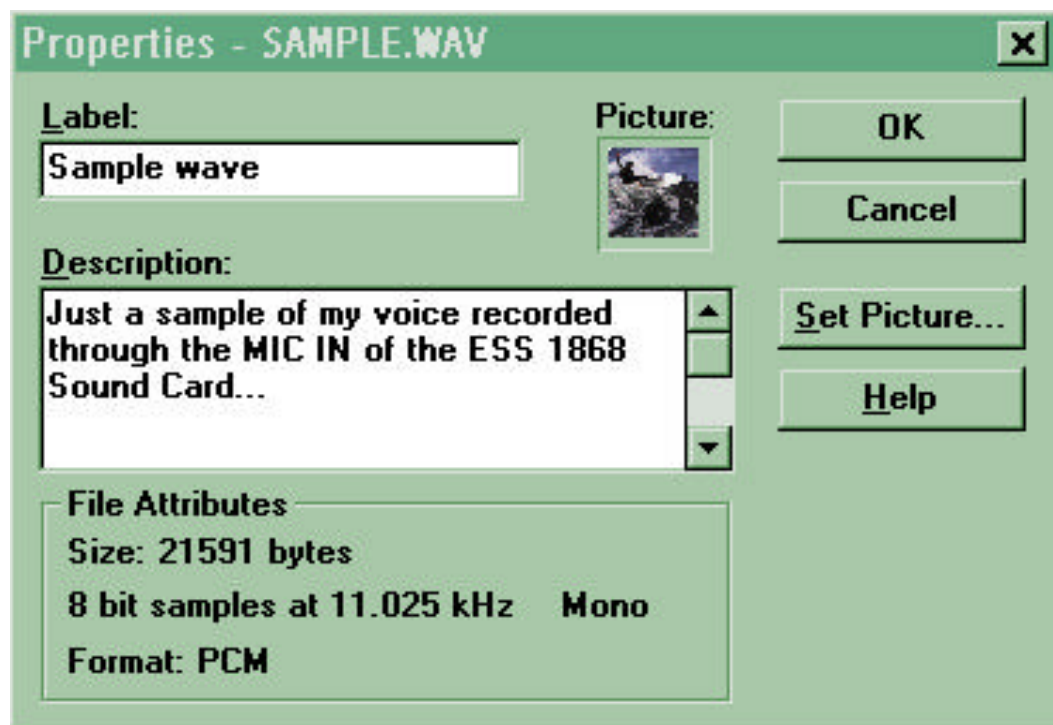**Eastern / Oriental tune**

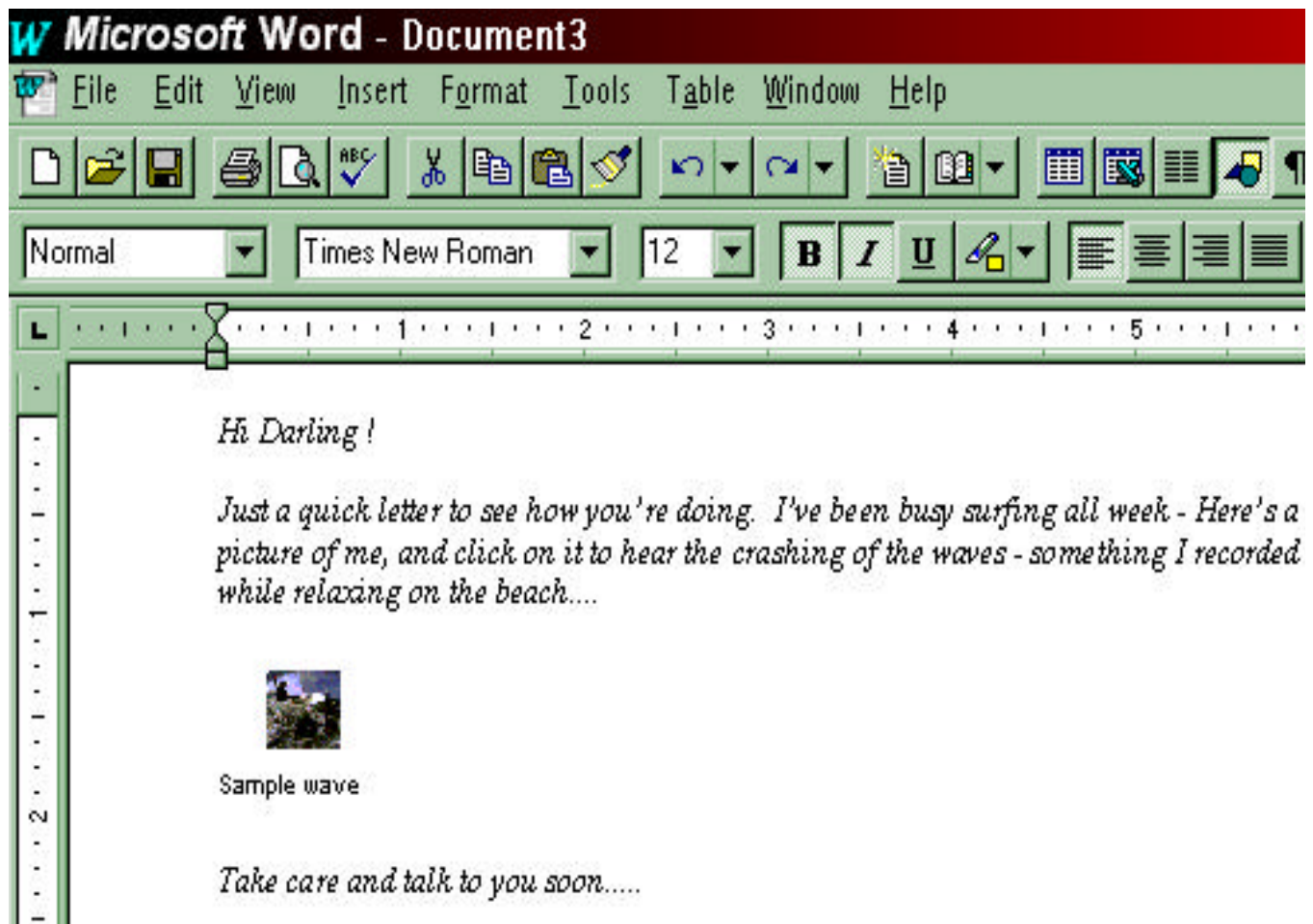**Jazz tune**

Some c o o l   reggae !

Dancing Hip Hop

Once the file has loaded you will see the recording in its digital waveform format. The thicker the shading of the wave represents the amount of date and velocity (or volume) of the input signal. If you go to File and then Properties this will show you all of the information about the waveform in terms of size and sample rate.

Using the **Wave Shaper** utility you can attribute each file (sample/wave) information such as a label, the contents description, and even set a picture (bitmap) to it. This feature is especially useful when you use one of the great features of Wave Shaper whereby you can embed a wave file in to a document. Therefore this document can become a true multimedia or 'living' file, as per the following example....

Normal ▼   Times New Roman ▼   12 ▼   **B** *I* U

Hi Darling !

Just a quick letter to see how you're doing. I've been busy surfing all week - Here's a picture of me, and click on it to hear the crashing of the waves - something I recorded while relaxing on the beach....

Sample wave

Take care and talk to you soon.....

So, all-in-all wave files can be fun as well as practical. Whether you're using it for home or business getting to know wave files and how they work is a fun experience.

Happy surfing....!