AudioRack Contents

The AudioRack allows you to take advantage of your computer's audio capabilities with the convenience of all the controls being in one place.   You can play audio CDs, wave files (in .WAV and .AUD formats), and MIDI files.   With the multi-source mixer, you can blend these sources with line-in and microphone sources in anyway you choose.   Then you can record these creations as wave files and edit them with the Audio Recorder.

The Command Center
The Digital Audio Player
The Compact Disc Player
The MIDI Player
The Mixer

The Command Center Introduction

The Command Center controls which parts of the AudioRack are displayed.   You can display or hide any part of the Audio Rack you choose; customizing its appearance to suit your needs or desires.   It also provides access to the On-line Help.

The Controls

displays or hides the Digital Audio Player

displays or hides the MIDI Player

displays or hides the Compact Disc Player

displays or hides the Mixer

accesses this On-line Help

closes the AudioRack window

The Digital Audio Player

TheDigital Audio Player enables you to play, record, and compress sound as .WAV or .AUD files.   The .WAV files use PCM, which is the Microsoft Windows audio file format.   The . AUD format uses ESPCM compression to produce an audio file.   Files are written directly to your hard disk as you record, leaving you free to record very large files.   Your only limitation is the amount of free space on your hard disk.   The voice activation feature makes the Digital Audio Player an ideal tool for recording meetings.   The Digital Audio Player provides a choice of linear PCM (8 or 16 bits) and ESPCM (4 bit) compression.   Note that you have additional options using the Audio Recorder under the Edit button.

System Requirements
Digital Audio Player Menu Options
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System Requirements

If you wish to use 16-bit stereo at 44KHz for recording or playback, we recommend that your computer have the following capabilities:

1. A 486DX processor with an internal clock speed of 50MHz or more
2. 8 megabytes of RAM
3. An average hard disk access time of 15 milliseconds or less

Computers without these capabilities may lose data if you attempt a 16-bit stereo recording at 44KHz.

Playing a File
Recording a File

The Digital Audio Player Display

The Level Meter displays the output from the left (top) and right (bottom) channels, when a wave file is played.

The Time Index shows how many hours, minutes, seconds, and tenths of seconds you are into a wave file.   It also has lights to show when Play, Pause, and Auto Repeat are active.

By clicking on the picture of the cassette deck, you can display the name, file size, and attributes of the currently loaded file.   Click on the display box again to return to the picture of the cassette deck.

Playing a File

1. Click on the Open button to bring up the Open window.

2. Choose the directory of the .WAV or .AUD file you wish to play and click OK.

3. Select the Read Only attribute if you don't intend to edit the file.   This attribute is only assigned temporarily in case you wish to edit or change the file later.

4. Play the file by clicking on the Play button.

Common Controls

Recording a File

1. Click on the New button to open the Sound Attributes window.

2. Make selections for each of the following:
    a. Choose the format from PCM 16-bit, PCM 8-bit, or ESPCM 4-bit compression.
    b. Choose the sampling rate from 5.5, 8, 11, 22, 44KHz.   Note that the format you choose determines the sampling rates available.
    c. Select the stereo option if you wish to record in stereo.   Be sure that your equipment supports stereo sound.   Stereo is not available if you use ESPCM 4-bit compression.

3. Check the Recording Control under the <u>Mixer</u> to see that the sources you want to record from are active.

4. If you wish to use the <u>Voice Activation</u> feature, select it now.

5. Click on the Record button to start recording.   Click on Stop or Pause to stop recording.

A Note About Recording

The way you choose your sound attributes has a tremendous affect on the amount of disk space a recording will require.   The higher the number of bits or the sampling rate, the more space that will be required.   On top of that, choosing stereo will double the size of a file.   Here is a simple formula for determining the amount of space that a file will require.

```
   x bits            byte           y samples
----------   *   ---------   *   -----------------   =   z
  sample         8 bits              second
```

X = the format, y = the sampling rate, and z = bytes required for one second of recording. Multiply z by two if you choose the stereo option.

Saving a File

1.   Click on the Save button to open the Save As window.

2.   Enter the file name under which you wish to save the file.

3.   Choose the directory and drive under which you want to save the file.

4.   Select the Read Only attribute if you wish to prevent any changes to the file should someone open the file in the future.

5.   The proper file type will be displayed to match the format you chose under Sound Attributes.   PCM is .WAV and ESPCM is .AUD.

6.   Click on OK.

Recording a File

Editing a File

1. Click on the Edit button to open the Audio Recorder window.

2. Refer to the Audio Recorder on-line help or the Audio Applications User Guide for more information.

The MIDI Player

The MIDI Player enables you to play .MID or MIDI files.   MIDI files can be produced by sequencer programs and then played back using the MIDI player.   They can then be mixed with other audio sources, or you can put together a compilation of MIDI files, called a playlist, and play them back in any order you choose.

MIDI Player Display
Playing a File
Customizing a Playlist
Saving a Playlist
Opening a Playlist
Common Controls

The MIDI Player Display

The Time Index shows how many hours, minutes, seconds, and tenths of seconds you are into a MIDI file.   It also has indicator lights to show when Play, Pause, and Auto Repeat are active.

This readout shows which file is currently selected in the playlist.

To the left of the Time Index is a 16 channel level meter.   It shows the output level for each of the active MIDI channels when a file is being played.

Length: 0:02:01.3
Title: canyon.mid

By clicking on the picture of the floppy drive, you can display the name and the length of the current MIDI file in the playlist.   Click on it again to return to the picture of the   floppy drive.

When the ESFM light is lit, this means that the MIDI Player is using ESFM Synthesis.   ESFM generates superior-quality music synthesis over traditional FM synthesis, producing greater timbre and depth of instrument voices.   ESFM is invoked automatically under Windows when you have properly installed hardware equiped with ESFM synthesis; namely ES1688, ES1788, ES1888, and ES1868 chips.

Playing a File

1.   Click on the button marked Playlist to open the Set Playlist window.

2. Choose the directory containing the file or files you wish to play.

3.   Highlight the files you wish to play by clicking and dragging the cursor over them.

4.   Click on Add to copy them to the playlist.   Instead for steps 3 and 4 you may double click on a file you wish to copy to the playlist.

5.   Click on the OK button.

6. Finally, click on the Play button.

Common Controls

Customizing a Playlist

1. Click on the Playlist button to open the Set Playlist window.

2. Choose the directory and drive containing the files you wish to put on your playlist.

3. Highlight files you wish to add to the playlist then click on the Add button.   Alternately, you can just double click on files to add them to the playlist.   Clicking on the Add All button simply copies all of the displayed files over to the playlist.

4. Highlight files in the Playlist box that you wish to remove, then click on the Remove button.   Alternately, you can double click on a file to remove it from the playlist.   Clear   is a short-cut to remove all files from the Playlist box.

5. You can repeat steps 2, 3, and 4, adding and removing files, until you get the order you desire.

6. Click on OK when you are done.

Saving a Playlist
Opening a Playlist

The Compact Disc Player

If you have a CD-ROM drive, you can play audio CDs.   Check your hardware manual about hooking up CD audio.   Some setups require a cable to be attached from your CD-ROM drive to your sound card.   Also be sure to install the MCI Audio driver from Control Panel in Windows.

Compact Disc Player Display
Playing a Compact Disc
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The Compact Disc Player Display

The Time Index shows how many hours, minutes, seconds, and tenths of seconds you are into the current track.   It also has indicator lights to show when Play, Pause, and Auto Repeat are active.

This readout shows which track is currently selected in the playlist.

This light blinks when the CD-ROM is playing a CD.

Playing a Compact Disc

1. Insert the CD you wish to play into your CD-ROM drive.

2. Click on the Play button.

3. To remove the CD, first click on the Stop button, then click on the Eject button.

Common Controls

Customizing a Playlist

1. Click on the Playlist button to open the Set Playlist window.

2. From here you can click on the CD Title text box and enter the name of the CD.   You can also click on a track in the Tracklist box, then click on the Track Name text box   and enter in the name of that track.   Then click on Update Name or hit return to use the new names you have typed.

3. Highlight the track or tracks in the Tracklist box, then click on Add to copy them over to the Playlist box.   Alternately, you can double click on the tracks you wish to add.   Add All is a shortcut for copying all the tracks in the tracklist over to the playlist.

4. Highlight the track or tracks in the Playlist box, then click on Remove to delete the highlighted tracks from the playlist.   Alternately, you can double click on the tracks you wish to remove from the playlist.   Clear is a short cut for removing all the tracks from the playlist.

5. Repeat steps 2 and 3, adding and deleting, until you have the tracks in your playlist as you desire.

6. If you wish to have the tracks in your playlist played in a random order, choose the Shuffle option.

7. When you are done, click on OK.
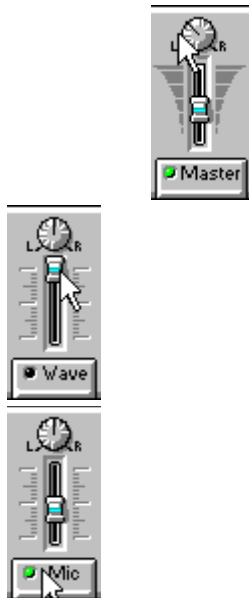
Saving a Playlist
Opening a Playlist

The Mixer

The Mixer is really two devices in one; Volume Control and Recording Control.   Volume Control controls the volume output and balance to your speakers.   Recording Control controls the volume input and balance to your wave recorder.   You can toggle between the Volume and Recording Controls by clicking on the Volume or Recording buttons on the left side of the Mixer.

The number of sources available to the Volume Control and Recording Control may vary depending on the hardware setup of your computer.   For instance, unless your hardware supports full duplex you won't have a wave source available on your Recording Control. Common sources are: Line, Wave, Mic, CD, Synth, and Master.

Mixer Controls

The Controls

Each source has a balance knob.   Needless to say, if your hardware doesn't support stereo, you won't be able to control the balance.   Click to either side of the knob and the balance will turn one step towards the side you clicked on.   For larger changes in the balance, click and hold, and the knob will turn until you release the mouse button.   As you turn the knob to one side, the sound output will be shifted to the channel on that side; left or right. Selecting a balance knob and using the left and right arrow keys on your keyboard will allow you to change the balance as well.

Each sound source also has a volume slider.   Slide the slider up to increase the volume. Slide it down to decrease the volume.

Finally, each source has a mute button with the name of the source on it.   Click on the button with the mouse to toggle the mute on and off.   When the red light is off, all sound from that source will be silenced.   It is a good idea to check your mute buttons if you aren't getting the sound you expect.

Because your Volume and Recording Control settings can be different, it can be useful to click on Record Monitor while you are recording.   This will allow you to hear what your recording will sound like as you record it.   Remember the Record Monitor button will be disabled while the Volume Control is selected.

The Controls

⏺ starts recording to your hard disk.

▶ plays the file or track currently loaded.

⏸ activates or deactivates the pause.

⏹ stops the file or track currently playing.

◀◀ goes back one second in the MIDI or wave file or five seconds on the CD track.

▶▶ goes forward one second in the MIDI or wave file or five seconds on the CD track.

⏮ goes to the beginning of the wave file or back one in the playlist.

⏭ goes to the end of the wave file or forward one in the playlist.

⟳ enables the Auto Repeat.

Edit opens the Audio Recorder window.

Playlist opens the Set Playlist window.

⏏ ejects the CD from the CD-ROM drive.

New makes a new audio file.

Open opens an audio file.

Save saves an audio file.

TheDigital Audio Player
The MIDI Player

The Compact Disc Player

Pulse Code Modulation

Musical Instrument Digital Interface

Sound from an audio device outside your computer, hooked up to the Line-in jack.

Sound from the Digital Audio Player.

Sound from a microphone, hooked up to the Mic jack.

CD audio sound from the Compact Disc Player.

Sound from the MIDI Player.

Not a sound source per se.   Controls the volume of all the channels mixed together, before it goes to your speakers or the Audio Recorder.

Digital Audio Player Menu Options

By selecting the Digital Audio Player from the pull-down menu under Menu, three options become available under Options;   Auto Repeat, Temp. File Directory, and Voice Activation.

Auto Repeat allows the Digital Audio Player to play an audio file endlessly when play is pushed.

Temp. File Directory enables you to set the directory location for the temporary file that the Digital Audio Player creates while recording.   When you save an audio file, this temporary file is copied to the name and location you specify.

Voice Activation will display a dialog box when selected.   To turn voice activation on, click the Pause Recording After check box, then set the Seconds of Silence field with a number from one to nine.   The recording will be paused only after the number of seconds silence entered into the Seconds of Silence box.   Recording will resume when input from the recording source resumes.

Playing a File
Recording a File
Saving a File

Saving a MIDI Playlist

Once you have customized a playlist of MIDI files, you can save it.

1. Click on Save from the Set Playlist window to open the Save As window.

2. Choose a drive and a directory where you want to save your playlist.

3. Enter a name with a .MDL extension under which you wish to save your playlist.

4. Click on OK to return to the Set Playlist window.

Customizing a Playlist
Opening a Playlist

Saving a Compact Disc Playlist

Once you have customized a playlist of compact disc tracks, you can save it.

1. Click on Save from the Set Playlist window to open the Save As window.

2. Choose a drive and a directory where you want to save your playlist.

3. Enter a name with a .CDL extension under which you wish to save your playlist.

4. Click on OK to return to the Set Playlist window.

Customizing a Playlist
Opening a Playlist

Opening a MIDI Playlist

1.   Click on Open from the Set Playlist window to bring up the Open window.

2.   Choose the drive and directory under which the playlist file is saved.

3.   Select playlist file (they have a   .MDL extension) by either entering the name in the File Name box or by clicking on a file listed below the File Name box.

4.   Click on OK and you will return to the Set Playlist window.

Playing a File
Customizing a Playlist
Saving a Playlist

Opening a Compact Disc Playlist

1. Click on Open from the Set Playlist window to bring up the Open window.

2. Choose the drive and directory under which the playlist file is saved.

3. Select playlist file (they have a   .CDL extension) by either entering the name in the File Name box or by clicking on a file listed below the File Name box.

4. Click on OK and you will return to the Set Playlist window.

Playing a Compact Disc
Customizing a Playlist
Saving a Playlist