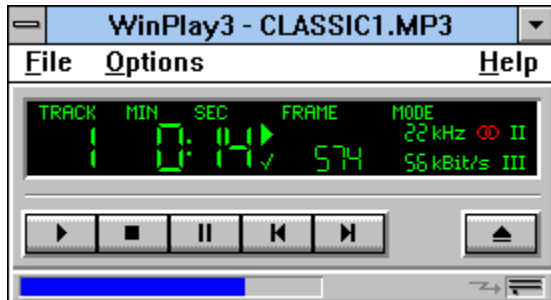




## Welcome to **WinPlay3** V1.3

The world's first *real-time* **ISO/MPEG Audio Layer 3 Player**  
for PCs running Microsoft® Windows™

Click any control to get more information.



### General

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## How to buy WinPlay3

For *registration details*, please contact:

**OPTICOM**

Dipl.-Ing. Michael Keyhl  
Am Weichselgarten 7  
D-91058 Erlangen  
Germany

Fax: +49-9131-691325

More information on ordering **WinPlay3** is given in *register.txt* which is part of the DEMO-package.

## System Requirements

### Processor:

For using **WinPlay3** you need at least a 80486 class CPU with a built-in floating-point-unit (although a *Pentium*<sup>™</sup> is recommended).

The following matrix shows the real-time performance of **WinPlay3** on INTEL machines:

	Pentium	486DX2-66	486DX-50	486DX-33
<b>MPEG-1 stereo</b>	yes	no	no	no
<b>MPEG-1 downmix*</b>	yes	yes	no	no
<b>MPEG-1 mono</b>	yes	yes	yes	no
<b>MPEG-2 stereo</b>	yes	yes	yes	no
<b>MPEG-2 downmix*</b>	yes	yes	yes	yes
<b>MPEG-2 mono</b>	yes	yes	yes	yes

\**downmix*: mono audio output generated from a stereo input

### Audio Output:

A 16-bit stereo *sound card* is recommended. The card's MCI driver should support sampling frequencies from 8 kHz to 48 kHz.

A 8-bit stereo *sound card* is also OK, but the sound quality lacks much.

### Graphics Card:

A standard VGA graphic card is necessary.

### Memory:

About 1 MB free physical memory must be available, because **WinPlay3** buffers up to 4 seconds of sound data due to limitations of the Microsoft® Windows<sup>™</sup> multitasking architecture.

### Operating System:

Microsoft® Windows<sup>™</sup> 3.1 or higher - running in 386 enhanced mode.

# About ISO/MPEG Audio Coding

## Basic scheme:

The **ISO/MPEG Audio Coding Standard** describes the compression of audio signals using *high performance* perceptual coding schemes. It specifies a family of three audio coding schemes, simply called *Layer 1*, *Layer 2* and *Layer 3*.

Compression gain (**Sound quality per bit**) and encoder complexity increase from *Layer 1* to *Layer 3*.

All *Layers* use the same basic structure. The coding scheme can be described as *perceptual noise shaping* or *perceptual subband/transform coding*.

The **encoder** analyses the spectral components of the audio signal by calculating a filterbank or transform and applies a psychoacoustic model to estimate the just noticeable noise-level. In its quantization and coding stage, the encoder tries to allocate the available number of data bits in a way to meet both the bitrate and masking requirements.

The **decoder** is much less complex. Its task is to synthesize an audio signal out of the encoded spectral components.

## Compression rates:

You can achieve a **compression rate** of

- 1:4 with *Layer 1* (or 192 kbps per audio channel),
- 1:6..8 with *Layer 2* (or 128..96 kbps per audio channel), and
- 1:10..12 with *Layer 3* (or 64..56 kbps per audio channel),

and the reconstructed audio signal will maintain a **CD-like sound quality**.

## Getting more Information:

For **more information** about **ISO/MPEG Audio Layer 3**, feel free to contact us:

**Fraunhofer-IIS**  
Weichselgarten 3  
D-91058 Erlangen  
Germany

Fax: +49-9131-776-399 (Harald Popp)  
Email: [layer3@iis.fhg.de](mailto:layer3@iis.fhg.de)  
WWW: <http://www.iis.fhg.de>  
ftp: <ftp://ftp.fhg.de/pub/layer3>

## Supported MPEG Audio Files

Currently, **WinPlay3** supports ISO/MPEG-1 (IS 11172-3) and ISO/MPEG-2 (IS 13818-3) Layer 3 audio files.

MPEG-2 multichannel extensions are not supported in this version of **WinPlay3**.

**WinPlay3** decodes Layer 3 bitstreams in *full quality and real-time*.

## About the Authors



# Fraunhofer Institut Integrierte Schaltungen

WinPlay3 was developed by

***Fraunhofer Gesellschaft - Institut für Integrierte Schaltungen  
Department Audio/Multimedia***

in Germany.

### Getting more Information:

Visit our **WebSide** for information about our research activities.

<http://www.iis.fhg.de/>

For **more information** about **WinPlay3**, feel free to contact us:

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WWW: <http://www.iis.fhg.de/>  
ftp: <ftp://ftp.fhg.de/pub/layer3>

## Free Demo ISO/MPEG Layer 3 Files

Check out

***<http://www.iis.fhg.de/departs/amm/layer3/winplay3/>***

for *free* demo files

Select *Save only* and check the *Play after* box in the [URL Options Dialog](#) if you have a *slow* connection to the Internet.

## Technical Support

If you are a **registered** owner of **WinPlay3**, you may get **technical support** by:

**OPTICOM**

Dipl.-Ing. Michael Keyhl  
Am Weichselgarten 7  
D-91058 Erlangen  
Germany

Fax: +49-9131-691325



## File Menu

Play <u>F</u> ile...	
Play <u>L</u> ocation...	
<u>E</u> xit	Alt+F4

### - Play File

Play an *ISO/MPEG Layer 3* File from **local drives**.

### - Play Location

Play an *ISO/MPEG Layer 3* File from a **WorldWideWeb**-Server.

### - Exit

Exit **WinPlay3**.

## Options Menu

<u>O</u> utput... P <u>l</u> ay...
<u>P</u> roxy... <u>U</u> rl...
<u>R</u> egister...

### - Output

Select **WinPlay3**'s output parameters to match your PC hardware capabilities.

### - Play

Select *Repeat* or *Shuffle* mode.

### - Proxy

Let's you select a **Proxy** in case you are *behind* a firewall.  
If you are not sure whether you need a Proxy or not - look at the settings of your **WorldWideWeb**-Browser or ask your *system-administrator*  
(You won't need a **Proxy**, if you are directly connected to the *Internet*).

### - Url

Select the mode in which **WorldWideWeb**-connections are handled.

### - Register

*Register* your copy of **WinPlay3** to get its *full* capabilities by entering your name and registration-code.

## Help Menu

<u>I</u> ndex...      F1
H <u>o</u> w to buy...
<u>U</u> sing Help...
<u>A</u> bout...

- Index

Open *this* Helpfile.

- [How to Buy](#)

Get Information on how to get your *personal registration-code*

- Using Help

Open the Microsoft® Windows™ "Help on Help".

- [About](#)

Display **WinPlay3**'s *version* and *copyright* information.

## Known Problems

### WinSock.DLL

WinPlay3 won't start if there is no WinSock.DLL on your system (normally in the windows directory).

A *pseudo* WinSock.DLL w/o TCP/IP support is *freely* available on the Web (look for mozock.zip) - of course [Play Location](#) is not possible with this WinSock emulation.

### Video adapter & Sound cards

Some video adapters influence the DMA transfer to the sound card.

There will be drop-outs - most likely when you move or scroll windows - even if you *have* a fast CPU.

This is not a bug in **WinPlay3** - it will happen as well if you use the *Windows Media Player*.

### Incompatible Layer3 files

Some first-generation layer3 encoder produce layer3 files which are not compliant with the ISO/MPEG standard. A message box will pop-up to indicate such files.

## DOS Boxes

DOS boxes influence significantly the multitasking behaviour of Microsoft Windows. Since **WinPlay3** requires cooperative multitasking, the use of DOS boxes may cause drops of audio data during a play process, especially on slow machines.

**Titlebar**

Displays the name of the current track.

**Track**

Displays the current track number.

**Time**

Displays the current playing time.



## Status

Displays wether **WinPlay3** is *playing* or *paused*.

## **Synchronization Status**

Displays the *Synchronization Status*.

## **Frame Counter**

Displays the number of decoded Frames.

**Sample Rate**

Displays the sample rate of the current track.

**Stereo**

If current track is stereo recorded, this indicator is lit.

**ISO/MPEG Version**

Displays the current ISO/MPEG Version  
(ISO/MPEG-1 or ISO/MPEG-2).

**Bitrate**

Displays the Bitrate of the current track.

## **ISO/MPEG Layer**

Displays the ISO/MPEG Layer of the current track  
(Always "III" in **WinPlay3**).



## **Play**

**Play** a Layer 3 audio track or continue playing if [Pause](#) was pressed.

**Replay** the current track by a double-click.

**Stop**

Stop playing a Layer 3 audio track.

**Pause**

Pause playing a Layer 3 audio track.

**Last track**

Seek to the last Layer 3 audio track of the playlist.

**Next track**

Seek to the next Layer 3 audio track of the playlist.

## Eject

Open the [Play dialog](#).

## **Progress Status**

Displays the *Progress Status*.

## HTTP Indicator

This indicator gets highlighted if you play *directly* from a **WorldWideWeb**-Server.

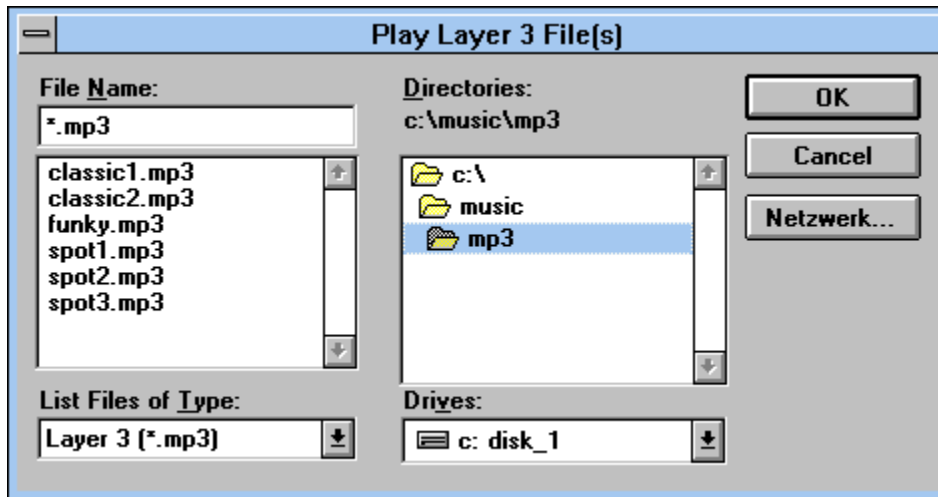


## **File Indicator**

This indicator gets highlighted if you play a file from one of your **local drives**.

## Play File Dialog

Click any control to get more information.



## Select File

Specify ISO/MPEG Layer 3 audio files to play.

You can use the **CTRL** and the **SHIFT** key to select multiple files.

**Select directory**

Selects the current directory.

**Select filter**

Selects the current file extension filter.

**Select drive**

Selects the current drive.

**OK**

Confirm and save your selection.

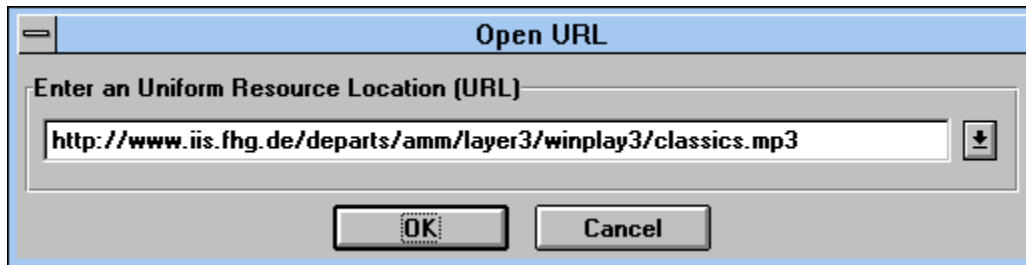
**Cancel**

Discard your selection.



## Play Location Dialog

Click any control to get more information.



**Url Location**

Enter a **URL** (*Uniform Resource Locator*) here.

## Popup

Press this button to get a list of last recently selected **URLs**.

**OK**

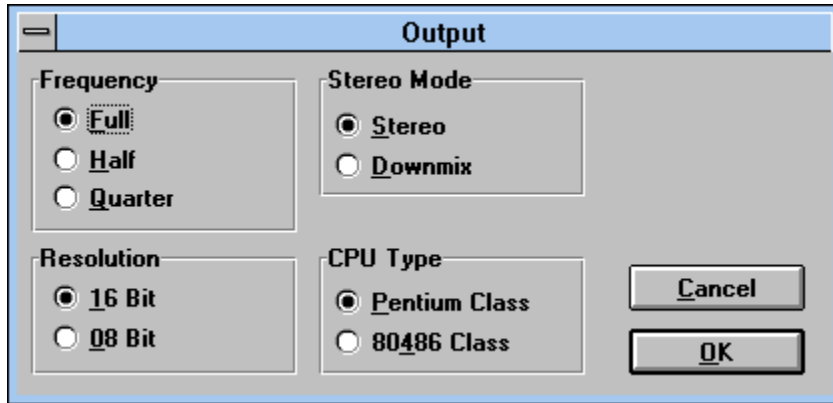
Confirm and save your selection.

**Cancel**

Discard your selection.

## Options Output Dialog

Click any control to get more information.



The image shows a screenshot of a software dialog box titled "Output". The dialog box has a light blue title bar with a minus sign icon on the left. The main area is light gray and contains four groups of radio button options:

- Frequency:** Three radio buttons labeled "Full", "Half", and "Quarter". "Full" is selected.
- Stereo Mode:** Two radio buttons labeled "Stereo" and "Downmix". "Stereo" is selected.
- Resolution:** Two radio buttons labeled "16 Bit" and "08 Bit". "16 Bit" is selected.
- CPU Type:** Two radio buttons labeled "Pentium Class" and "80486 Class". "Pentium Class" is selected.

At the bottom right of the dialog box, there are two buttons: "Cancel" and "OK".

## Output Frequency

If you have an audio device that does not support the sample rates of the MPEG audio files (32 kHz, 44.1 kHz or 48 kHz), or your CPU is 486 class, select **Half** or **Quarter**.  
User of Pentium CPUs should select **Full**.  
(Default setting when you start **WinPlay3** the first time)

## **Output Resolution**

Select **8 bit** if you only have an 8 bit audio board.

Otherwise, select **16 bit**.

(Default setting when you start **WinPlay3** the first time)

Note: Only 16 bit audio boards guarantee full listening satisfaction.



## **Output Stereo Mode**

If you only have a mono output device, or you want to speed up the decoding process, select **Downmix**. This is especially necessary on the 486 machines with stereo bitstreams.

## **CPU Type**

Select the **CPU Type** of your PC.

**OK**

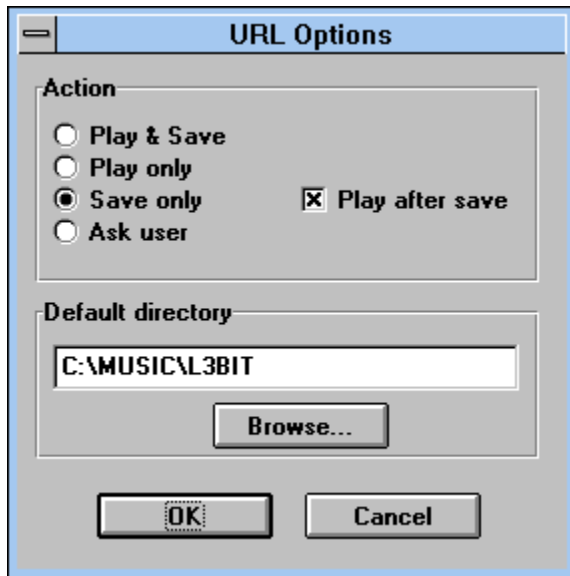
Confirm and save your output settings.

**Cancel**

Discard your output settings.

## Options URL Dialog

Click any control to get more information.



## **Play & Save**

**WinPlay3** will prompt for a filename before playing a file from a **WorldWideWeb**-Server.

**Play only**

**WinPlay3** will play files from a **WorldWideWeb**-Server *without* saving to disk.

**Save only**

**WinPlay3** will save files from a **WorldWideWeb**-Server without playing them.



## Ask user

Let **WinPlay3** popup a [dialog](#) every time you play a file from a **WorldWideWeb**-Server.

**Play after save**

**WinPlay3** will play a file *after* downloading it from a **WorldWideWeb**-Server.

## Default Directory

Enter the default directory in which you want to store files downloaded from a **WorldWideWeb**-Server.

**Browse**

Click here to *point & select* the default directory.

**OK**

Confirm and save your URL settings.

**Cancel**

Discard your URL settings.

## Ask User Dialog

Click any control to get more information.



## **Play & Save**

**WinPlay3** will prompt for a filename before playing the file from a **WorldWideWeb**-Server.



**Play only**

**WinPlay3** will play the file from a **WorldWideWeb**-Server *without* saving to disk.

**Save only**

**WinPlay3** will save the file from a **WorldWideWeb**-Server without playing it.

**Play after save**

**WinPlay3** will play the file *after* downloading it from a **WorldWideWeb**-Server.

## **Cancel Request**

Cancel a request for playing a file form a **WorldWideWeb**-Server.



