

WinPlay3 v2.0

MPEG Audio Layer-3 Software Decoder für Windows™

Installation and Ordering

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1 License Agreement

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2 System requirements

Until recently, for the decoding of MPEG Audio Layer 3 files one needed at least a hardware board with a decoder chip or digital signal processors (DSP). WinPlay3 now allows for the decoding simply by software on any Pentium PC in real time. For the availability of supported modes please refer to the following performance matrix:

	Pentium™	486DX2-66	486DX-50	486DX-33	
MPEG-1 stereo		ok	-	-	-
MPEG-1 downmix*	ok	ok	-	-	-
MPEG-1 mono	ok	ok	ok	-	-
MPEG-2 stereo		ok	ok	ok	-
MPEG-2 downmix*	ok	ok	ok	ok	ok
MPEG-2 mono	ok	ok	ok	ok	ok

**downmix: Stereo signal will be played as mono signal*

Your PC will need a standard sound card, at least a 8-bit card. For full quality audio a 16-bit is recommended. Depending on the sampling frequencies supported by the sound card, WinPlay3 will run at any sampling frequency from 8kHz up to 44.1kHz (or 48kHz respectively). WinPlay3 runs with the following operating systems: Microsoft® Windows™ 3.1/3.11 (in extended 386 mode), Windows 95 und Windows NT (long file names not yet supported).

WinPlay3 supports file play back of *.mp3 files and direct play from an URL via HTTP. WinPlay3 can simply be integrated as a helper application in common browsers, for example Netscape or Mosaic, thus allowing for easy play back of audio images simply by clicking to it. For application specific integration of WinPlay3 future versions will support DDE. A developer's kit will be offered together with programming examples.

3 How to install WinPlay3

To start the installation process simply double click on **WPV200.EXE** in the file manager.

During installation you will first be asked for a temporary directory to unpack the files. For example you can enter **C:\TEMP** or simply accept the suggested default value. After that you may enter a directory for WinPlay3 or simply accept the default **C:\WINPLAY3**. WinPlay3 will then be installed on your computer and a program group will appear. To start the program simply click on the WinPlay3 icon.

4 What is MPEG Audio Layer-3?

Efficient coding techniques are today a must for the processing of audio and video data with computers. A lot of progress has been achieved in the recent years in this field. While there are several proprietary formats for audio coding the ISO/IEC standardization body has released an international standard recommended by the MPEG group (Moving Pictures Experts Group, ISO/IEC IS11172-3 and IS 13818-3).

Non-coded audio means data processed with 8 or 16 bit linear data words sampled with the sampling frequency (e.g. 44.1kHz for CDs). This means that you end up with 1.4Mbit for one

second of music in CD quality. By using MPEG compression you can shrink down that data by a factor of 12 and still gain CD-like quality. Factors of up to 24 and more still allow for a quality significantly better than just reducing linearly the sampling frequency and the number of bits. This is realized by "perceptual coding" techniques taking into account the limited resolution of the human ear.

Until recently because of the workload of these algorithms add-on DSP-hardware was necessary to do the coding/decoding in realtime. Now, with MacPlay3 and WinPlay3, two products have been launched that handle real-time decoding on a standard CPU just by software!

You will be able to achieve compression of

1:4 by Layer 1 (corresponds to 384kbit/s for a stereo signal)

1:6...1:8 by Layer 2 (corresponds to 256...192kbit/s for a stereo signal)

1:10...1:12 by Layer 3 (corresponds to 128...112kbit/s for a stereo signal)

and the sound quality will still be comparable to CD.

An acceptable sound quality at even lower bitrates can be achieved by exploitation of stereo effects ("joint-stereo mode") and by limiting the audio bandwidth in combination with lower sampling rates.

Layer-3 is the most powerful audio coding scheme in the MPEG family. For a given sound quality level, it requires the lowest bitrate - or for a given bitrate, it achieves the highest sound quality.

Some typical performance data of MPEG-1 Layer-3 (for 96 kbps total bitrate and more) and MPEG-2 Layer-3 (for 64 kbps total bitrate and below) are:

sound quality	bandwidth	mode	bitrate	reduction ratio
"telephone sound"	2.5 kHz	mono	8 kbps*	96:1
"better than shortwave"	4.5 kHz	mono	16 kbps	48:1
"better than AM radio"	7.5 kHz	mono	32 kbps	24:1
"FM radio"	11 kHz	stereo	56..64 kbps	26..24:1
"near-CD"	15 kHz	stereo	96 kbps	16:1
"CD"	> 15 kHz	stereo	112..128 kbps	14..12:1

**8 kbps: Fraunhofer is using a non-ISO extension of Layer-3 for enhanced performance*

Keeping in mind maximum data rates of 2 x 64kbit/s using ISDN and 14.4kbit/s or 28.8kbit/s with modems, Layer 3 is the clear choice for network applications.

5 Where to find MPEG Audio Layer-3 files?

For professional applications a PC board based on the DSP technology is available offering MPEG Layer 3 real time compression. It is manufactured and distributed by Dialog 4, Ludwigsburg. For further information, please refer to:

<http://win.bda.de/bda/int/proaudio/dialog4/powpack.html>

In addition the L3ENC/L3DEC software-codec is distributed as shareware for PC (DOS and LINUX), SUN, SGI and NeXTSTEP. A real time encoder kernel for Pentium™ systems will be available shortly. For more information, please check out:

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

More and more web servers offer full quality MPEG Layer 3 speech and music. You want to try? Why don't you simply install WinPlay3 on your computer and play some songs over the world wide web, for example:

<http://www.design.net.au/newworld/welcome.htm>

<http://eurosong.nrk.no/>

For more links, please refer to

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

as well.

6 How to order a registered version

If you want to order a full version of WinPlay3, please:

- (1) Select the most convenient method of payment (see below)
- (2) Fill out/print out the prepared registration form below
- (3) and send it in by

email: sales@opticom.de

or FAX: 09131 / 691-325 oder -111

or snail mail to: OPTICOM
Am Weichselgarten 7
91058 Erlangen

You will receive your registration details shortly.

7 Where to get support?

Registered users can get support by sending email to:

winplay3@iis.fhg.de

8 More Layer-3 Products?

For the availability of other Layer-3 developments and products, like our DOS Shareware, players for Apple PowerMac and other platforms, please check the latest update of our website:

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

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+-----+	
	HEREWITH I ORDER:
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	will add for additional shipping/handling: 20,- DM
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