Awave

v. 2.7

Audio & Wavetable Instrument Converter, Editor & Player

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*Note! This software is **S**hareware*

Check out my Internet WWW-site: ***http://www.nada.kth.se/~f93-maj/fmjsoft.html***

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The following files must always be supplied:

FILE_ID.DIZ	*BBS info file.*
AWAVE.EXE	*Program executable.*
AWAVE.HLP	*Program documentation in WinHelp hypertext format.*
AW2WF16.EXE	*Awave to TB WaveFront 16bit drivers middle layer.*
AWAVEFAQ.TXT	*Frequently Asked Questions and Troubleshooting text.*
README.TXT	*Installation instructions.*

REGISTER.TXT *Registration form.*

Step-by-Step Instructions

Installation and Configuration:

P*lease* read the 'README.TXT' file; then run the program file, AWAVE.EXE.

Choose Program... from the Options menu.
Select the AudioPlayer tab.Under Primary dev:, select the digital audio device to be used when saving to the AUDIOPLAYER virtual export format as well as in Audio Player mode (whenever this primary device is busy playing something else, ***Awave*** will automatically search for, and use, any secondary device(s) you may have installed).
See Auditioning for details on setting up and using the auditioning feature in the Auditioning tab.

Loading and inspecting a file:

Press the right mouse button, select *Open new file* and select a file using the standard dialog box. ***Awave*** will try to recognize the correct import format of a file even though it may have no or even an incorrect extension.

A treeview list with a Bank->Instrument->Waveform hierarchy will be constructed from the file loaded and shown. A special 'folder' with a list of all waveforms contained in the loaded file may sometimes also be appended at the bottom of the list (depending on if ***Awave*** decides it makes any sense to have such a folder).

Select an instrument or a waveform from the list by clicking on it with the mouse.
You may now be able to play it on your midi keyboard (or computer keyboard if you have enabled the virtual keyboard feature), provided that you have a supported wavetable synth and have setup auditioning properly. You can quickly turn on and off the auditioning feature by toggling the Auditioning checkmark on the Options menu. See Auditioning for details.
If you do not have one of the supported wavetable synths, but you do have an audio card capable of digital audio, press the right mouse button and choose the *Play audio...* menu item to play the sound.

Editing and saving:

To edit the name of an item, do a 'slow double click' on the name or press F2 and edit the name as in a standard text edit control (same as when editing filenames in the Windows 95 shell). Note also that a 'fast double click' executes the default action of the right mouse button menu.

For all other parameters, select Properties in the right mouse button menu to bring up the currently selected items property sheet. Try this for allt the various item types (banks, instruments, waveforms) and explore all the tabs! You will find, among other things, a visual loop point editor, a waveform display, and an instrument keymap editor. To get help on anything, select the ? button (Win95 only) and press the question cursor on the control in question. Note! When auditioning is enabled, click the Apply button to download (and hear!) the changes.

To save an item, press the right mouse button and select *Save as...*.

A standard dialog box will appear and prompt you for the file name to save to.
Choose your export format in the Save as type: box.
Enter a filename (no extension needed) and press OK.

Note! Many of the export formats only support saving Waveforms and not Banks or Instruments.

Note! To achieve the highest quallity instruments for your wavetable synth, youll probably want to use an instrument editor to manually improve the output from ***Awave*** by editing amplitude envelopes and other synthesizer specific parameters.

Commands:

Left mouse button:

Single click,	selects an item,
Doubleclick,	Execute default action on item,
Slow doubleclick,	Edit name field of item.

Right mouse button:

Save as...,	saves the currently selected item,
Open file...,	clears the instrument list and prompts you for a new file,
Play audio...,	launches the integrated ***Awave*** Audio Player with the selected item,
Properties...,	will pop up a property sheet information and editors for the selected item,
Help,	brings up the contents page of this file.

Keyboard:

Delete,	deletes selected item,
F2,	edit name of selected item.

Item menu:

Save as...,	saves it,
Properties...,	will pop up a property sheet information and editors,
Play audio,	launches the integrated ***Awave*** audio player,
Copy to clipboard,	puts a copy on the Windows clipboard,
Midi SDS dump,	to launch theMidi SDS transfer dialog,
Delete,	deletes it from memory,

File menu:

Open...,	clears the instrument list and prompts you for a new file,
Insert...	inserts or merges the contents of another file with the current bank,
New instrument...	insterts a new, empty, instrument in current bank,
Save all as...,	saves all instruments or waveforms depending on output format,
Exit,	closes the program.

Options menu:

Program...,	is the program property sheet.
Auditioning,	a fast switch for toggling auditioning on/off.

Help menu:

…,	brings up various help sections.
*About **Awave***,	brings up some program info.

Instrument Editors

For the UltraSound there is the Patch Maker software.
For the Turtle Beach products there is the WavePatch software.
For the SB AWE32 there is the Vienna SF Studio software.

Theese softwares should be bundled with the latest revisions of the respective soundcards. New software versions are continuously made available from the respective manufacturers.

File Formats

import formats *export formats*

When opening files, ***Awave*** tries to determine the file type, not only by looking at the filename extension, but also by looking inside the file. Thus, even if it has an incorrect or no extension, it can, for file types marked with , be correctly identified. For formats that are not possible to detect in this way you will have to pay attention to using correct file extensions. If a file is not of a recognized format, it is treated as raw audio data and the waveform properties Advanced tab pops up querying the user for additional info.

Awave ***recognizes the following import file formats:***

669	669 tracker modules.
AIFC	Compressed Audio Interchange File Format.
AIFF	Audio Interchange File Format.
AU	Sun/NeXT/DEC Audio files.
AVI	MS Audio Video Interleave files.
AVR	Audio Visual Research sound files.
CDR	Raw Audio-CD data.
DEWF	Machintosh SoundCap/SoundEdit recorded instrument format
DIG	Sound Designer I audio file.
DMF	Delusion/XTracker Digital Music Fileformat.
DSF	Delusion/XTracker Digital Sample Fileformat.
DSM	Digital Sound Module tracker format.
EFE	Ensoniq EPS family intrument files.
ESPS	ESPS audio files.
EUI	Ensoniq EPS family compacted disk images.
F2R	Farandoyle linear module format.
F3R	Farandoyle blocked linear module format.
FAR	Farandoyle tracker modules.
FSM	Farandoyle Sample format.
GKH	Ensoniq EPS family disk image files.
GSM	GSM 6.10 audio streams.
HCOM	Sound Tools HCOM format.
IFF	Interchange file format.
INI	MWave DSP synths mwsynth.ini GM-setup file.
INI	Gravis UltraSound bank setup file.
INRS	INRS-Telecommunications audio file.

INS	Ensoniq EPS family intrument files.
KRZ	Kurzweil 2000 sample files (also split files: KR1, KR2).
MAT	Matlab variables binary files.
MAUD	MAUD sample format.
MDL	Digitrakker Module File.
MOD	Amiga and PC tracker modules.
MP2	MPEG audio stream, layer I, II or III
MPA	MPEG audio stream, layer I, II or III
MTM	MultiTracker Modules.
ALAW	European telephony format audio.
MUS10	Mus10 audio file.
NIST	NIST SPHERE file.
OKT	Oktalyzer tracker modules.
PAC	SB Studio II package file.
PAT	Advanced Gravis Ultrasound / Forte tech. Patch files.
PSION	PSION alaw files.
PSM	Protracker Studio Module Format.
RAW	Raw signed PCM data.
SAM	Signed 8bit Sample data.
SB	Raw Signed Byte (8bit) data.
SBK	Emu SoundFont v1.x Bank files / Creative Labs SB AWE 32.
SD1	Sound Designer I audio file.
SDK	Roland S-550, S-50, S-330 disk images.
SDS	Raw Midi Sample Dump Standard files.
SDX	Midi Sample Dump Standard files as compacted by SDX.
SDW	Raw Signed DWord (32bit) data.
SF	IRCAM SoundFile format.
SF2	Emu SoundFont v2.0 files.
SFD	SoundStage Sound File Data files.
SFI	SoundStage Sound File Info files.
SFR	Sonic Foundry Sample Resource files.
SMP	Samplevision files.
SMP	Ad Lib Gold Sample files.
SND	Raw unsigned PCM data.
SND	AKAI MPC3000 sample files.
SNDR	Sounder sound file.
SNDT	Sndtool sound file.

SOU	SB Studio II sound file.
SPL	Digitrakker Sample File.
SPPACK	SPPack sound sample file.
STM	Scream tracker v2 modules.
S3I	Scream tracker v3 instruments.
S3M	Scream tracker v3 modules.
SVX	Interchange file format, 8SVX/16SV.
SW	Raw Signed Word (16bit) data.
SYW	Yamaha SY-series wave files (really named W??).
TXT	Ascii Text formatted audio data.
TXW	Yamaha TX16W wave files (really named .W??).
UB	Raw Unsigned Byte (8bit) data.
UDW	Raw Unsigned DWord (32bit) data.
ULAW	US telephony format audio.
ULT	UltraTracker modules.
UNI	MikMod 'UniMod' format.
UW	Raw Unsigned Word (16bit) data.
UWF	UltraTracker Wave Files.
V8	Covox 8bit files.
VAP	Annotated speech files.
VOC	Creative labs sound files.
W??	Yamaha waveform files.
WAV	Ms Windows PCM wave files.
WFB	Turtle Beach WavePatch Bank files (Maui/Rio/Monterey).
WFD	Turtle Beach WavePatch Drum set files (Maui/Rio/Monterey).
WFP	Turtle Beach WavePatch Program files (Maui/Rio/Monterey).
XM	Fast Tracker 2 extended modules.
XI	Fast Tracker 2 instrument files.
*****	Unrecognized formats prompts user to supply basic info. ( )

File Formats

import formats   *export formats*

When saving files, select the desired File Type in the appopriate list in the Save As dialog, or just type in a file name with an extension matching one of the supported export types. Note that most of the formats can only handle a subset of the item types as denoted by the symbols below.

★**ave** ***can export to the following formats:***

AU	Sun Audio format, linear, µ-law or A-law (∿).
AIF	Audio Interchange File Format (∿).
ALAW	Raw A-law data (∿).
DES	Ascii text parameter description (bankfile, ▤, ∿).
EFE	Ensoniq EPS family intrument files (▤, ∿).
IFF	Interchange file format (∿).
INI	Gravis UlraSound bank setup extract plus patch files (★).
MAT	Matlab variables binary file (★, ▤, ∿).
MWS	MWave DSP synths instrument extract (▤, ∿).
PAT	Advanced GravisUltrasound / Forte tech. patch files (▤, ∿).
RAW	Raw signed PCM data (∿).
SBK	Emu SoundFont Bank v1.x files / SB AWE 32 (★, ▤, ∿).
SF2	Emu SoundFont Bank v2.0 files (★, ▤, ∿).
SB	Raw Signed PCM Byte (8bit) data (∿).
SDS	Midi Sample dump standard files (∿).
SW	Raw Signed PCM Word (16bit) data (

∿).

TXT Ascii Text formatted audio data (∿).

UB Raw Unsigned PCM Byte (8bit) data (∿).

ULAW Raw µ-law data (∿).

UW Raw Unsigned PCM Word (16bit) data (∿).

VOC Creative labs sound files (∿).

WAV Ms Windows PCM wave files, linear PCM, µ-law or A-law (∿).

WFP Turtle Beach WavePatch Program files (★, ▤, ∿).

Clipboard Copies audio data to the Windows clipboard (∿).

AudioPlayer Playback on any digital audio device. (★, ▤, ∿).

MidiSDSDump Midi SDS tranfer of waveforms (★, ▤, ∿).

∿ *indicates that the format supports saving waveforms.*

▤ *indicates that the format supports saving instruments.*

★ *indicates that the format supports saving banks.*

**: Unrecognized file types*

If.a file cant be determined to be one of the, by this program, supported file types, then the waveform properties box will appear. Select the Advanced tab and supply information on the files data type. Note! if you get it wrong, you can always use the waveform properties dialog again and try some other settings.

Features:

8 / 16 bits / µ-Law / A-Law, mono / stereo.

.669: 669 tracker modules (PC)

Features:

8 bits, mono, loop, name.

.AIF/.AIFF/.AIFC: Audio Interchange File Format (Amiga, Atari, SGI,Mac)

AIFC is an extension of the original AIFF format also supporting compressed sample data.

Features:

1..32bits / IMA compression / µ-law encoding., loop, keyrange, mono / stereo, name.

Unsupported features:

Apple MACE and ACE compressions can not be supported for patent reasons.

Internet source of samples:

ftp://ftp.reed.edu/eps/samples/aiff.

.ALAW: European Telephone format audio

Features:

A-Law, mono, 8kHz.

.AU: Audio files (Sun/NeXT/DEC)

Features:

8,16,24,32 bits / µ-law / A-law / CCITT G.721 (4bits) & G.723 (3,5bits) ADPCM / IEEE FP (32, 64bits) FP encodings and compressions, mono / stereo.

Unsupported features:

> 2 channel files.
Other compression schemes.

Internet source of samples:

UNIX places, do an ARCHIE search for .au.

.AVI: MS Audio Video Interleave files (PC)

Features:

Same as for .WAV files

Unsupported features:

Of course, only the digital audio streams are read, not video or such...

.AVR: Audio Visual Research sound files (Machintosh)

Features:

8,16bit, mono / stereo, name, loop.

.CDR: Raw Audio-CD format data files

This is raw CD-*format* audio, and not raw CD-*data* wich also contains a lot of error correction and formatting information, i.e. you can not read directly from an audio CD but if you have made a raw sound data dump with another program, you can give it an .CDR extension and Awave will read it properly.

Features:

16 bits, stereo.

.DEWF: SoundCap / SoundEdit recorded instrument format (Machintosh)

Features:

8bit, mono, loop.

.DMF/.DSF: Delusion/XTracker Digital Music/Sample Fileformat (PC)

Features:

8,16bits, mono, looping, name, multisamples.

Unsupported features:

Packed samples..

.DES: Ascii text parameter Description files

Contains human readable information about items at bank, instrument or waveform levels. Usefull if ***Awave*** can't export directly to your destination format and you'll have to piece together instruments from, say, .WAV files.

Features:

Human readable information, no sample data.

.DSM: Digital Sound Module tracker format

Features:

8 bits, mono, name, looping.

.ESPS: ESPS audio files

Features:

8,16,32bit / 32,64bit FP, mono.

.FAR,.FSM,.F2R,.F3R:Farandoyle tracker formats (PC)

Features:

8,16 bits, mono, loop, name.

.GKH,EFE,INS,EUI: Ensoniq EPS family disk images/instrument files (MIDI)

The Ensoniq EPS (and family) files are usually encountered in form of .GKH disk image files (with an additional header) as well as in the slightly compacted .EUI disk image format.
Awave can only read contiguos subfiles in Ensoniq disk images. If ***Awave*** can't handle a certain file (because it's fragmented on the disk), you can exctract the individual instrument files to .INS or .EFE files with a utility called EPSDISK (not included with ***Awave***). INS files are the same as an EFE files except the latter may also contain EPS sequenced songs, bank info or such, instead of an instrument. Multilayered instruments will have each layer shown as a separate instrument (all have the same name though).

Features:

16 bits, mono, multisamples, loop, names, finetune.

Unsupported features:

A bunch of parameters et c.

Internet source of samples:

ftp://oak.oakland.edu/pub2/eps/samples
ftp://wozzeck.tfo.arizona.edu/pub/sampling/samples/eps

.GSM: GSM 6.10 audio streams

Note! Theese files cant be autodetected so be sure to use the .gsm extension.

Features:

16 bits, mono.

.HCOM: Sound Tools HCOM format (Machintosh)

Features:

Huffman compression, mono.

.IFF/.SVX: Interchange File Format: 8SVX or 16SV data (Amiga)

The 16SV flavour is rather uncommon and is, I think, only used by some PC trackers. Thus if you save 16 bit waveforms as .IFF files, dont expect them to be readable by most .IFF readers.

Features:

8,16 bits, looping, name, mono / stereo.

.INI: Gravis UltraSound.Ini bank setup (PC)

You can read the whole melodic bank 0 setup with all the associated patches from the UltraSnd.Ini file. You can also write extract .INI files for a complete bank that you can then paste into your UltraSnd.Ini file, this will also save all the patches referrenced in the bank to .PAT files (they will be automatically named based on the name of the .ini extract file).

Features:

Same as .PAT.

.INRS: INRS-Telecommunications audio file

Features:

16 bits mono.

.MAUD: MAUD sample format

Features:

8,16 bits / µ-Law / A-Law, mono / stereo, name.

.MPA/.MP2: MPEG audio streams, layer I, II or III

Note! Theese files cant be autodetected so be sure to use any of the above file extensions.
Note! The MPEG decoder is rather slow and the resulting files may eat up alot of memory…

Features:

16 bits, mono / stereo.

MWSYNTH.INI: *MWave DSP synthesizers GM bank setup (PC)*

The software synthesizer module for the MWave DSP uses this file to construct multisampled instruments from usual .WAV files.

Features:

8,16 bits, looping, name, multisamples.

Internet source of samples:

ftp://watson.mbb.sfu.ca/pub/mwave/ibm/audiovation, the windows install disks contains the patch set

.MWS: MWave DSP synthesizers MWSYNTH.INI instrument extracts (PC)

The software synthesizer module for the MWave DSP uses the MWSYNTH.INI file to construct multisampled instruments from usual .WAV files. When exporting to the MWS format, ***Awave*** outputs a bunch of .WAV files as well as a .MWS text file containing an instrument extract that can be manually pasted into the MWSYNTH.INI file.

Features:

8,16 bits, looping, name, multisamples.

.NIST: NIST SPHERE file

Features:

16 bits / µ-Law, mono / stereo.

.KRZ: Kurtzweil K2000 instrument files (MIDI)

The K2000 file format are considered proprietary by Kurzweil; so any resemblance with the .KRZ file format this program reads are purely accidental :-/
If one, against better knowing should try to use this program to read the former file type, one shall find that they match fairly closely :-D, of course, sometimes things may go a bit wrong here and there...

Features:

16 bits, mono, multisamples, loop, names, finetune.

Unsupported features:

Envelopes, stereo, et c.

Internet source of samples:

ftp://ftp.uwp.edu/pub/music/lists/kurzweil/sounds
ftp://bach.nevada.edu/pub/K2000/sounds

.MAT: Matlab variables binary file

Note! 8bit is saved as unsigned 0..255 and 16bit as signed -32768..32767, however Matlab may think it's too loud when using sound(var,sr) so you may need to divide the sound data vector it by 8 or something.
Note! When reading floats they are expected to be in the range [-1, 1]
Note! Stereo files are read/written as complex vectors.

Features:

8,16bits, floats, mono, stereo.

.MDL, .SPL: Digitrakker Module/Sample File (PC)

Features:

8,16bits, mono, loop, name, huffpacking.

.MED: OctaMED tracker modules:MMD0|MMD1|MMD2 (Amiga)

Note! The old MED tracker .MED format is not supported, if you have a description of this format, please send it to me.

Features:

8bit, loop, name.

.MOD: Module files (Amiga, PC)

Recognizes the following flavours:
M.K., M!K!, 4CHN, 6CHN, 8CHN, 10CH, 12CH, 14CH, 16CH, 24CH, 32CH, FLT4, FLT8, OCTA, CD81, EX08.

Features:

8 bits, mono, loop, name, finetune.

.MTM: Mtm tracker modules (PC)

Features:

8, 16 bits, mono, loop, name.

.MUS10: Mus10 audio file (PDP-10)

Features:

12,16,18,20bit, mono/stereo.

.OKT: Oktalyzer tracker modules (Amiga)

Features:

8 bits, mono, loop, name

.PAT: Advanced Gravis Ultrasound GF1 / Forte tech. patch files (PC)

Features:

8,16 bits, mono, multisamples, loop (incl fractional!), envelopes, pitch scaling, names.

Internet source of samples:

ftp://wuarchive.wustl.edu/systems/ibmpc/ultrasound
ftp://archive.epas.utoronto.ca/pub/pc/ultrasound

## *.PSM:	Protracker Studio Module Format*

Features:

8,16bit, mono, loop, name.

.PSION: PSION alaw files

Features:

A-ALaw, mono.

.SB, .SDW, .SND, .SW, RAW, .UB, .UDW, .UW: Raw PCM data format files

The file extension has the following meaning:

S	Signed data
U	Unsigned data
B	Byte (8bit) data
W	Word (16bit) data
DW	DWord (32bit) data

.SND is the same as :UB.
.RAW is the same as .SB.
Assumes 11khz mono, Intel byte order when reading. Use the waveform properties dialogs advanced tab to change any parameters that are not correct.

Features:

8,16,32 bits.

.SAM: Raw signed PCM sample files

Features:

8 bits, mono.

.SBK/.SF2: EMU Sound Font Bank v1.x / v2.x files / Creative Labs SB AWE 32 (PC)

Note! When saving a whole bank, all items in the bank will be saved, also unused waveforms.
When saving at the waveform level, there will automatically be created an instrument using that single waveform.
The new, improved and generic Sound Font v2.0 (.SF2) format (which just might become a more widely used standard) is supported in addition to v1.x (.SBK). CL sais they will support SF v2.0 during the 2nd quarter of 96 so in about a years time it will probably have replaced SF v1.0.

Features:

16 bits, pitch, loop, name, multisamples.

Unsupported features:

A bunch of parameters.

Internet source of samples:

ftp://ftp.cyberworks.net/pub/AWE32

.SD1, .DIG: *Sound Designer I audio file (Machintosh)*

Features:

8,16 bits, mono, name.

.SDK: Roland S-550, S-50, S-330 disk image files (MIDI)

They might go under another extension but SDK seems to be most common.

Features:

12 bits, mono, loop name, finetune.

Unsupported features:

A zillion different parameters, stereo?.

Internet source of samples:

ftp://lotus.uwaterloo.ca/pub/sgroup/samples

.SDS, .SDX: Midi Sample Dump Standard files (MIDI)

SDS is a raw midi data dump of an SDS (Sample Dump Standard) transfer and can be up to twice as large as the actual waveform. SDX is a 'compacted' form that the program SDX uses to save SDS samples in order to avoid this problem. It also contains a sample name wich SDS does not.

Features:

8..32 bits, mono, loop, (SDX only: name , note).

Internet source of samples:

ftp://sweaty.palm.cri.nz/sds/samples
ftp://alf.uib.no/pub/midi/sds/samples

.SF: IRCAM SoundFile format

Features:

16 bits, name, note, mono / stereo.

Unsupported features:

Other bits/sample.
SFISFI   SoundStage Sound File Info (.SFI) + Data (.SFD) files.

.SFI, .SFD: SoundStage Sound File Info + Data files.

Note! Theese files must always come in a .SFI + .SFD pair! You should only load the .SFI file.

Features:

16 bits, name, note, mono / stereo.

Unsupported features:

Other bits/sample.
SoundStage Sound File Info (.SFI) + Data (.SFD) files.

.SFR: Sonic Foundry Sample Resource files.

Features:

8,16 bits, mono, stereo.

.SMP: Samplevision files (PC)

Features:

16 bits, mono, loop, name, note.

Unsupported features:

Only the first of the 8 possible loop points are considered.

Internet source of samples:

ftp://ftp-ls7.informatik.uni-dortmund.de/pub/samplevision

.SMP: Ad Lib Gold Sample files (PC)

Features:

8,16 bits, mono, stereo.

Unsupported features:

Yamaha ADPCM compression.

.SND: AKAI MPC3000 sample files

The AKAI program (.PGM) files defining multisamples (and refering to various .SND waves) are currently not supported. Any info on this format would be welcome.

Features:

16 bits, mono, loop, name.

Internet source of samples:

ftp://ftp.mfi.com/pub/keyboard/AKAI/

.SNDR: Sounder sound files

Features:

8 bits, mono.

.SNDT: SndTools sound files

Features:

8 bits, mono.

.SOU,.PAC: SB Studio II sound/package files (PC)

Features:

8,16 bits, mono, loop, name.

.SPPACK: SPPack sound sample file

Features:

8,16 bits / µ-Law / A-Law, mono.

.STM: ScreamTracker module files (PC)

Features:

8 bits, mono, loop, name.

### *.S3M, .S3I:	ScreamTracker v3 modules / Digiplayer samples (PC)*

The .S3I files are usually named .SMP but they will be saved as .S3I in order to avoid confusion with Samplevision files..

Features:

8,16 bits, mono / stereo, loop, name, note.

.SYW/.W??: Yamaha SY-series wave files (MIDI)

The Yamaha 16-bit SY-series wave sample files are really named *.W??*. There's also *.T??* (All Data Files, often contains waves and are much more common than .W??; but aren't supported at the moment), *.J??* (Patch parameters?) and *.K??* (Sequenced songs). See also the 12bit format.

Features:

16 bits, mono, looping.

Internet source of samples:

ftp://louie.udel.edu/pub/midi/patches/SY99

.TXT: Ascii Text formatted audio data

Ascii text file with integer sample values in base 10. Samples are deliminated by either , (ascii no 44) or newline (ascii no 10). Comments and lines not containing sample values must begin with a ; or a %. For stereo files (with interleaved samples), you must manually set stereo in the waveforms properties box advanced tab.

Ex 1:

```
;signed 8bit, 3 samples
127   ; first sample
-3
15    ; last sample
```

Ex 2:

```
% This will be detected as unsigned 15bit, 5 samples
9,0,32767,1000,20001
```

Features:

1..32 bits, signed or unsigned (autodetect).

.TXW/.W??: *Yamaha TX16W wave files (MIDI)*

The Yamaha TX16W (and probably also the other Yamaha 12bit samplers) waveform files are really named *.W??* (where ?? is a number). There's also *.F??* (Filter), *.V??* (Voice to midi no asign?),*.U??* (Performance settings) and*.S??* (System setup?) files which are of no use to you. See also the 16bit format.

Features:

12 bits, mono, loop.

Internet source of samples:

ftp://ftp-ls7.informatik.uni-dortmund.de/pub/tx16w/samples

.ULAW: US Telephone format audio

This is also the format used by the MIME mail encoding standards audio/basic attachments..

Features:

μ-Law, mono, 8kHz.

.ULT, .UWF: UltraTracker module / wave files (PC)

Features:

8,16 bits, mono, loop, name.

.UNI: MikMod 'UniMod' tracker format (PC)

Features:

8,16bit, mono, name, loop, multisamples.

.V8: Covox 8bit files (PC)

Features:

8bit, mono.

.VAP: VAP annotated speech files

Features:

8bit, mono, name.

.VOC: Creative Labs sample files (PC)

Note! When exporting to the .VOC format, files will be written in a newer and much more capable subformat that may not be recognized by some old programs.

Features:

8,16 bits / µ-Law / A-Law, mono / stereo, name.

Unsupported features:

Other compression and packing schemes.

.WAV: Microsoft Wave files (PC, Windows, OS/2, NT)

Supports the Sample (smpl) chunk (used by Turtle Beach Wave SE, WavePatch, Gravis PatchMaker and others), the Instrument (inst) chunk (used by IBM?) as well as cue +labl chunks to support looping.
Also supports some info chunks (INAM, ICMT, ISFT).

Features:

1..32 bits PCM / µ-Law / A-Law, MS ADPCM (4bit) / Intel DVI/IMA ADPCM (2,3,4bit) / CCITT G.721 (4bit) & G.723 (3,5bit) ADPCM / GSM 6.10, MPEG audio encodings and compressions, mono / stereo, note, loop, rootkey, finetune.

Unsupported features:

Other compression schemes and formats.

Internet source of samples:

ftp://ftp.funet.fi/pub/sounds/wav/samples
ftp://doc.ntu.ac.uk/pub/sounds/samples

.WFB, .WFP, .WFD: Turtle Beach WaveFront synthesizers / WavePatch files (PC)

WaveFront based synthesizers are currently the Maui, Tropez, Rio and Monterey.
.WFB files contains a whole Midi Bank, .WFP a single Program and .WFD a complete drum set.
Instruments using ROM samples, of course, cant be converted.
If the files doesnt use embedded waveforms, but external .WAV files instead, you must have the .WAV files in either the exact path they where when the .WF? file was created, or, in the same directory as the WF? file.
Currently ***Awave*** only saves files with embedded waveforms.

Note! TB Rio users should only save .WFP files as the .WFB exported by this program are Maui style and may not be loadable on the Rio.

Note! When saving to .WFB bank files, waveforms not contained in an instrument will not be saved.

Features:

8,16 bits, name, note, multisamples, loop (incl fractional!).

Unsupported features:

Everything is read on patch level and not on Program/Drumkit level, i.e. multilayered instruments and drumkits appear as multiple instruments.
Pre v1.2 files.

Internet source of samples:

ftp://ftp.hawaii.edu/outgoing/Maui/

.XM, .XI: FastTracker 2 eXtende Module/Instrument (PC)

Features:

8,16 bits, mono, loop, name, multisamples, panning.

Unsupported features:

A bunch of ramping parameters (envelope, pan, vibrato...).

'Clipboard' virtual export format: *Copy the audio data to the Windows clipboard.*

The data will be copied as a RIFF WaveFile, the standard clipboard audio format.

Features:

Same as for .WAV files.

'MidiSDSDump' virtual export format: Transfer waveforms over Midi using SDS.

Pops up a dialog box before transfering each waveform in the selected item using the Midi sample Dump Standard protocol. You must choose destination midi output device, midi channel, and sample slot in the dialog box.

Features:

8..32bits, mono, loops.

'AudioPlayer' virtual export format: Plays the sound on a digital (waveform) audio playback device.

If you have a basic soundcard capable of playing digital audio, you can use this 'export' format to play the sounds contained in a waveform, instrument or bank.
Set the output device to be used for playback in the Options->Properties dialog. If you have more than one digital audio card installed in your system, choose the most capable one; some cards can only playback at a few fixed sample rates (wich can cause waves to be played at a too high or too low pitch) while better cards can play at any rate.

Features:

8,16 bits, mono / stereo.

Other Features

The Audio Player:

If you start ***Awave*** with -AP as the first option on the command line and follows this with one or more filenames, the Audio Player mode will be entered. You can also launch the Audio Player at any time from the normal main window of the program with the Play audio command..
In this mode ***Awave*** acts as a digital audio player that can play all the import formats supported by ***Awave***.

Files will be consecutively loaded and all the sounds contained within them played before the program terminates. You must press the >>Next>> button to advance from one waveform to the next, closing the Audio Player after the last one (to immediately close it, skipping any remaining wavforms, click the standard close window button |X|). The play/stop button should be obvious. The off, wf, sp radio buttons determines the operational mode for the scope (off/hold, waveform oscilloscope, frequency spectrum analyzer).

The following command line switches are allowed, and must preceed the file names.:
-AP Specifies that the AudioPlayer mode shall be eneterd.
-ONCE Plays every item once and then closes the AudioPlayer
-DELETE Delete the input file(s) from disk after the AudioPlayer is closed.

With the Audio Player option, you can use ***Awave*** for example as a helper app to your favourite Web-browser!
The output device is the same as for the 'AudioPlayer' virtual export format.

Example: AWAVE -AP -ONCE QUADRA.AU POPCORN.MOD

Note! Some playback devices only support a few fixed playback rates. If then the waveform is sampled at any other rate, ***Awave*** tries to pick the closest supported rate, but it may still sound very out of tune. This a limitation of the audio card.
Note! Some buggy audio drivers report that they can playback at any playback rate, when, in fact, they can not. If this is the case, and youre having severe troubles with the AudioPlayer, try dechecking the Device can handle arbitrary playback rates box.

Using Auditioning:

If you have a:
- Gravis Ultrasound, or a
- Turtle Beach Maui or Tropez), or a
- Creative Labs SoundBlaster AWE32,

you can use the auditioning feature of ***Awave*** to directly hear and play instruments and waveforms by just selecting them in the main treeview list.

To enable auditioning, go to the Options->Program->Auditioning tab. Just click the Enable checkbox and choose appropriate MIDI-Input and WaveSynth devices. If you don't have a midi-in device select the <none> midi input device. If you check the Enable virtual keyboard box, you can use the computer keyboard as a midi keyboard as well. Click OK and everything should be go.

The virtual keyboard has the following layout:

```
 S D   G H J   2 3   5 6 7   9 0
Z X C V B N M Q W E R T Y U I O P
|             |             |
C-1           C0            C+1
shift/control keys     -    inc./dec. attack & release velocity
numeric plus/minus keys     shift keyb. range 1 octave up/down.
```

If you dont get any sound check this.

Awave should handle downloading instruments to the Advanced Gravis UltraSound Classic/Max/Ace soundcards without any problems.
Note however, that the GUS cant handle individual 16bit waveforms larger than 256KB and a total of 1MB in an instrument (for a card with a full 1MB of memory)

Awave should handle downloading instruments to the TB Maui or Tropez soundcards. If you have any other WaveFront based card you can save .WFP files and load them with WavePatch instead.

Note! ***Awave*** will remove any custom instruments that you may previously have loaded into wavetable RAM.

Awave should handle downloading instruments to the SB AWE32 family of soundcards without any problems.

Note! You will need the very latest drivers with 32bit application as well as .SF2 bank file support in order to be able to use auditioning with the AWE32 (theese drivers were only available in beta version when this was written). Also make sure that the AWEMAN32.DLL file is correctly installed in your windows directory.

Note! If you run out of memory on the card when trying to load an instrument, try removing any other user banks you may have previously loaded to card memory (by using the standard AWE32 control panel).

If you can't get midithru to work (in order to use the audition feature), check:
- Have you connected your midi in device properly?
- Are any other program using the input device?
- If you can't hear a specific instrument but it normally works, look at the instrument propery sheets keymap tab and see if there really are any waveforms assigned to the midi keys you are trying to play on.
- Do you really have a supported card?

MISC:

FMJ-Software!

If you enjoy this program, please support my efforts by registering it.

PGP:

Shows if the program is registered or unregistered.

Click button to locate your personal registration keycode and remove all imposed limitations of the unregistered version of ***Awave***.

Click button to uninstall this program.

This will clean up the registry entries for the program.

When saving stereo waveforms to formats only supporting mono data, you can here specify how the conversion should be handled.

Converts stereo data to mono data by calculating the arithmetic average of the channels.

Converts stereo data to mono data by using the left channel only.

Converts stereo data to mono data by using the right channel only.

PAP:

Check to enable auditioning.

Auditioning works by routing midi messages from a keyboard or other midi-in device to a wavetable synth, combined with automatic creation and loading of instruments and samples to the same wavetable synth.

Select the wavetable synth you want to use for the auditioning feature.

Currently the Advanced Gravis UltraSound / MAX / ACE, the Turtle Beach Maui / Tropez and the Creative Labs SoundBlaster AWE 32 are supported.

Select the midi input device you want to use for the auditioning feature.
Data from this device will be routed to your selected wavetable synth, and automatically translated to use the correct bank, program and channel.

Selecting the Dummy Device will let you use any on-screen virtual midi keyboard program if you do not have a midi keyboard. If you do, set it to output to channel 1 and program 1 on your wavetable synth. AWE32 users must also set bank no 127 (consult your sound card manual on how to change user bank).

Check to enable the virtual keyboard.

When enabled you can play on your computer keyboard instead of (or as a complement to) an external midi keyboard.

PPP:

Select the digital audio playback device you wish to use for the .AudioPlayer export format as well as for the ***Awave*** Audio Player.

Check this box if your audio playback card can handle non-standard playback rates. If the AudioPlayer screws up, try unchecking this box.

The AudioPlayer has a built in oscilloscope.

Select the scale of the Y-axis.

Selects that the scale of the Y-axis should be logarithmic..

Selects that the scale of the Y-axis should be linear.

Selects the refresh rate. Higher numbers gives smoother look but taxes the CPU more.
If your computer is up to the task, set it to the monitor refresh rate (usually about 70Hz) or else set it to half or even a forth of it.

BGP:

Source file (import type) description.

Source file name and path.

Info on the number of top level items in the bank and their total size.

The Midi GS Bank Change number intended for the bank.

BPP:

A list of what instruments have been assigned to what midi program numbers in the current bank.
You can change the program number for an instrument in the instruments property sheets general tab.

IGP:

Info on the number of waveforms the instrument and their total size.

Place comment, copyright, or creator name here.

Relative volume setting.

Range is 0..127. (min. .. max.)

The Midi Program Change number intended for the instrument.

LKP:

The key assignment map for the instrument. Press down the mouse button and drag with the mouse over a range of keys to assign a new sample or to clear the range.

ASSIGN

CLEAR

CANCEL

WAVEFORMS

HIKEY

WGP:

Panning.

This specifies the positioning of the waveform in the stereo field.
Range: 0..127, 0 = far left, 127 = far right.

Enter the sampling frequency in Hz (number of recorded wavesamples per second)

Info on the waveform:
SourceBitsPerSample : ExpandedToBitsPerSample, NoOfWavesamples, Signformat, Channelformat

Relative volume setting.

Range is 0..127. (min. .. max.)

Root key.

This is the midi-key number at which the waveform is played back at its original sampling frequency.

Fine-tune.

Adjust the Root Key in steps of 1/1200th of an octave.
Range is -99..99 cents.

WFP:

Controls the position (offset) of the part of the waveform that is displayed.

Play the waveform with the Audio Player.

Cut away the selected part.

Trim away the non-selected parts.

Displays the waveform. Red is True RMS (Root of Mean of Squares) display, Light blue dots is maximums. Blue bars is loop points.

Controls the zoom in state of the waveform window.

Bring up the audio processing dialog.

Select the whole waveform.

WLP:

How the waveform look like when its looping! They dark parts are just before the waveform first enters resp. leaves the looping portion. The light part is the actual looping section with the loop point break in the middle (this should be much easier to understand by looking at the graph and trying moving the loop point sliders than trying to explain it in words)

Fine-tunes the position of the loop start point.

Fine-tunes the position of the loop end point.

Zooms the two loop split displays in the time domain.

Zooms the two loop split displays in the amplitude domain.

Loop start point.

Also called repeat from point. The loop start point is the first wavesample *in* the loop range.
Note that fractional loop points is supported. This is used by synthesizers that can interpolate between samples.
The point is expressed in number of wavesamples from the beginning of the waveform, starting at zero.

Loop end point.

Also called repeat point. The loop end point is the first wavesample *after* the loop range.
Note that fractional loop points is supported. This is used by synthesizers that can interpolate between samples.
The point is expressed in number of wavesamples from the beginning of the waveform, starting at zero. It may not be less than the loop start point.

Check to enable sampled release.

This means that the waveform loops while the key is pressed down, but stops looping and plays to the end of the sample (remember there may be sample data past the loop end point) when it is released. When this is not checked, it loops until it the amplitude envelope has faded it out upon key release.

Check to enable reverse looping.

This makes the loop go backwards instead of forwards.

Check to enable looping.

When looping is on, the waveform is looped between the loop start and loop end points, as long as the midi key is pressed.

Check to enable bi-directional looping.

Bi-directional looping means the loop direction alternates between forwards and backwards.

WAP:

Check if signed wavesamples.

Check if stereo wavesamples.

Check to perform a byte swap when reading 16bit data.

Check if 8 bit linear PCM wavesamples.

Check if 16 bit linear PCM wavesamples.

Check if μ-Law format wavesamples.

Check if A-Law format wavesamples.

File is some other type of data, compression and/or packing scheme.

Enter the size of the file header (the number of Bytes preceding the actual sample data)..

Enter waveform size (number of Bytes of sample data).

The value is automatically truncated if it extends beyond the file length.
If all data, after the (optional) file header, is sample data, then you need not change this.
Note that 16bit data is 2 Bytes/Sample/Channel.

PLAY:

Name of the waveform.

Info about the waveform.

The length in seconds of the waveform.

The current playing position.

Press to start or stop playing the waveform.

Go to the next waveform in a sequence. Closes the Audio Player if this is the last waveform.

Select to disable the oscilloscope.

Select to set waveform display mode.

Select to set spectrum analyzer mode.

An oscilloscope!

Name of the waveform to transmit.

The Midi output device to use for the transfer.

Which midi channel to transmit the waveform to.

Which sample slot to transmit the waveform to.

Starts the transfer of this waveform.

Skips (cancels) this waveform only.

Cancels all transfers.

FX:

Select audio processing algorithm to apply to selected data range..

Revision History

A big thanx should go to thoose people who have supported me with information and beta testing;
Honourable mentions must also go to Fred Warren, who donated a Maui card,
and to Ari Laakkonen. who donated a SB AWE32 card.

Revisions:

Future versions,

Things that are beeing considered for future versions of ***Awave*** are:
- More import and export formats (just send me any format descriptions you can find): Ex. Typhoon AIFC, EMAX, Roland S-7xx series…, Paste from clipboard, Midi SDS import, audio recorder, .XI export
- Waveform editing functions and effects,
- A generic waveform synthesizer…
- Multilayered instrument support...
- Amplitude envelope support and editor…
- WFP and SBK stereo by 'dual-layering',
- What else? Send me a note if you have any great idea!
Remember, the regsitration fee is the key to further development of this program!

version 2.7

Fixed the SB AWE32 auditioning to work with the new Win95 drivers. The AWE32 auditioning now uses the new .SF2 file format so in fact theese latest, .SF2 compatible, drivers are now required (for auditioning with the AWE32). Note! They had only been released in beta (altough public beta) versions at the time this was written.

Changed the loop editor to a nice 'dual layer' view.

Added an 'Audio Processor wizard' connected to the 'Process' button in the waveform properties box's waveform tab. Only 16->8bit, 8->16bit, mono->stereo and stereo->mono conversion algorithms are available for the moment.

Added spectrum analyzer option to the Audio Player (uses a Fast Hartley Transform (FHT) algorithm on 256 samples to compute a 128 band power spectrum, all in real time).

Added 'Virtual Keyboard' feature, i.e. when using the auditioning feature (with one of the supported wavetable cards) you can now play on the computer keyboard (if you do not have an external midi device).

Added a 'programs' tab to the bank property sheet where you can easily view (and edit) the instrument to midi program number assignments for the bank.

Can now save whole instruments to Ensoniq .EFE files in addition to single waveforms (i.e. more than one waveform/instrument are now supported).

Added .AVI import support (audio part only...)
Added ultrasound initialization file (ULTRASND.INI) melodic bank import as well as 'export' (.INI extract + bunch of .PAT files).
Added support for writing µ-law and A-law format .AU and .WAV files.
Added Matlab variables binary file (.MAT) import and export.
Added .VAP annotated speech files import.
Added .UB, .UW, .UDW, .SB, .SW, .SDW, .ULAW, .ALAW import formats and changed .RAW, .SND export formats into .UB, .UW, .SB, .SW, .ULAW, .ALAW. Here U means unsigned, S signed and B, W & DW means byte (8bit), word (16bit) & dword (32bit) respectively.
Added Covox 8 Bit File (.V8) import.
Added Ad Lib Gold Sample (.SMP) import
Added Sonic Foundry Sample Resource (.SFR) import

Fixed AudioPlayer scope bug that made it go faster than the sound on some soundcards (read Sound Blasters when playing 16bit and/or stereo data).
Whenever the selected WaveOut device is busy playing something else, the Audio Player will now look for, and use, any other waveout device(s) you may have installed.
Fixed SBK/SF2 bug that made it hang sometimes when saving.
Fixed MS ADPCM (.WAV) format decoder bug.
The mandatory small fixes and improvements.

version 2.5

Changed the name from 2PAT into the more appropriate ***Awave***. All registered users of 2PAT are, of course, also registered to ***Awave***.

Waveforms are now cached in memory. This eats memory but is necessary for some of the new as well as for future editing functions. It also makes auditioning more responsive.

A visual loop point editor page has been added to the waveform property sheet.

A waveform display page has been added to the waveform property sheet (true RMS display, plus peak indication)

Auditioning feedback is now available when editing stuff in the property sheets (i.e. if you have one of the supported wavetable synthesizers). Just hit the Apply button to download the changes to the synth.

An oscilloscope display has been added to the AudioPlayer.

Added option to force the AudioPlayer to use only standard sample playback rates (some buggy drivers says they can play things that they cant!).

Added -ONCE (closes the AudioPlayer when finished playing a waveform) and -DELETE (deletes the sourcefile when finished) command line options in addition to the old -AP (launches in AudioPlayer mode) switch.

Auditioning with the SB AWE32 no longer uses a stand alone program, but now requires the latest drivers with 32bit application support, more specifically, with the AWEMAN32.DLL file.

Added an Insert File command that lets you merge several files.
Added a Save All As command to allow you to easily save all instruments or waveforms.

Added MidiSDSDump virtual export format to allow Midi transfers of waveforms to external synthesizers.
Added Ensoniq EPS instruments, .EFE, export (for single waveforms only).
Added Sound Font v2.0 (.SF2 files) export. CL sais they will support SF v2.0 during the 2nd quarter of 96 so in about a years time it will probably have repleced SF v1.0 and .SBK export support will then be dropped from this program.
Added .VOC export format (note! files are written using the new and much more capable type 9 subformat (well its not that new, but theres still a few programs that do not support it)).
Added .S3I, Digiplayer/ST3 samplefileformat export
Added text formatted audio, .TXT export (the old text description format renamed to .DES)
Added MWave DSPs software synthesizers MWSYNTH.INI bank read support as well as .MWS text file export, containing an instrument extract that can be manually pasted into mwsynth.ini.

Added MPEG audio layer I, I and III import, .MP2, .MPA (very slow and memory hungry though).
Added GSM 6.10 audio stream import (.GSM)
Added SoundStage .SFI/.SFD import.
Added Farandole .F3R blocked linear module format (1.0).
Added SBStudio II, .SOU, .PAC sound & package files import.
Added .EPSP audio file import.
Added .NIST SPHERE import.
Added .SPPack sound sample file import.
Added .INRS Telecommunications audio file import.
Added: MAUD sample format import.
Added .SD1 Sound Designer I file import.
Added PSION alaw file import
Added Mus10 audio file import

Added Sound Tools HCOM format import.
Added µ-law and IMA compression support for .AIFC files.
Added CCITT G.721 & G.723 ADPCM as well as IEEE 32bit and 64bit floating point support for .AU.
Added CCITT G.721 & G.723 ADPCM, GSM 6.10 and MPEG audio support for .WAV.
Added support for the new type 9 .VOC blocks as well a µ-law and A-law compression.

Some corrections/bugfixes for loop points of .KRZ and a few other file types.
Fixed bug with many .GKH files appearing empty.Now also automatically removes the duplicate but noisy wavesamples that appeared from multilayered instruments..

Added fast auditioning on/off switch to the Options menu.

Much more transparent file type associating behaviour. No longer will you be prompted if you want to for replace types that have already been associated with other programs. You'll have to do that yourself if you want to. Registers 'convert' and 'play' command verbs in the new Windows 95 shell extension fashion (so multiple programs can cooperatively assign different commands for a given type). This doesnt work very well under Window 3.1 so this feature has been disabled when running under Windows 3.1. You can of course still manually associate file types using the File Manager.

And, as always, a whole bunch of bug fixes and minor enhancements .

version 2.0

User interface enhanced based on the Windows 95 UI guidelines. Runs under Windows 95, Windows NT 3.51 or Windows 3.1 + Win32s v1.3.

The really stupid couldn't register app class bug fixed (occured on many Win32s systems).

Now writes converted stuff to disk first when you actually saves or auditions anything, instead of doing everything in one sweep when opening a file, as was done in previous versions. This change has made possible a number of the enhancements below.

Tree list view with nodes and leaves for bank file, instrument and wavesample levels. You can now save stuff from any of the 'levels' (Note only a few of the export formats support all levels). There's also Property sheets for the items of the various levels. Most stuff is editable!

You no longer have to decide on export format before you load a file. Just select from a list in the Save dialog.

Auditioning now works regardless of what youre going to export to.

SoundBlaster AWE32 auditioning support added.

A virtual '.DAC' export format added. Saving to this format will simply play the item on a digital audio output device. So users that doesn't have a GUS, Maui or AWE32 can now play sounds as well, provided you have some sort of basic audio card. An 'Audio Player' item in the right mouse button menu acts as a shortcut for saving to this format.
Audio Player mode and -AP command line switch added. Lets 2PAT be used as a multiformat digital audio player. Great as a helper app for your favourite Web-browser.

A virtual '.CLIP' export format added. Saving to this format will simply copy a wavesample to the Windows clipboard.

.AU export format added.
.IFF export format added.
.SBK export format added as well as improved import support..

Smart file format recognition, Tries to recognize the format of a file correctly, even if it has no, or even an incorrect, file type extension.

FastTracker 2 .XM (module) and .XI (instrument) files read supported.
Farandoyle .FAR tracker modules read support.
Oktalyzer .OKT tracker module read support.
Sndtool sound file, .SNDT read support.
Sounder sound file, .SNDR read support.
IRCAM SoundFile format, .SF read support.
Raw Audio-CD format data, .CDR read support
MikMod 'UniMod' format, .UNI read support
Digital Sound Module tracker format, .DSM read support
Text formatted audio data, .TXT read support
Delusion/XTracker Digital Music/Sample Fileformat, .DMF, .DSF read support
Digitrakker Module/Sample File, .MDL, .SPL read support.
Signed 8bit Sample data,.SAM read support.
Farandoyle Linear module (2.0) format, .F2R read support.
Machintosh SoundCap/SoundEdit recorded instrument format, .DEWF read support.
Protracker Studio Module Format, -PSM read support.
OctaMED tracker modules (MMD0|MMD1|MMD2), .MED read support.
Machintosh Audio Visual Research sound files, .AVR read support.
Ensoniq, .EUI disk images read support, somewhat like .GKH, wich now also reads subdirectories.
US telephony audio format, .UL read support.
AKAI MPC3000 sample files, .SND, read support

Stereo support for a number of formats (WAV,SND,RAW,S3M,S3I,IFF,AU,AIFF)
A-law and µ-law encoded .AU files now supported.
A-law, µ-law, MS ADPCM and DVI/IMA ADPCM encoded .WAV files now supported (read).
16bit 'SV16' flavour of IFF files now supported (read/write).
A bunch of additional .MOD flavours now recognized.
Added cue-points support for looping in .WAV files (read/write).
Fixed ugly bug with .SDS import and export.
Reads and writes 'inst' chunks in .WAV files.

A 'Dummy' midi in device now added so people without a midi-keyboard can use the audition feature of 2PAT by using any onscreen keyboard program.

Added 'Unistall' button to the program properties box that can be used to clean up the registry.

Imposed a somewhat annoying save times limit. Registered users receive a personal keycode that removes this.

version 1.5

Reworked user interface for Windows 95. 'Right mouse button' based, uses the registry, associates file types, uses long filenames, new icons, resizable window frame et c. No longer uses CTL3D32.DLL since thats no longer necessary for the 3D look. Will still run under Windows 3.11 with Win32s v1.1 and up but will probably not look very good; Win32s v1.3 will probably fix that when its out.

Instrument info box with info corresponding to a .DES file.

Improved Kurzweil *KRZ* support; fixed the sample rate and a few other things. Now creates instruments from both the sample and the keymap level, since the keymap, i.e. instrument, level doesnt always work....

Added *AIF* as export format.
Added *SND* as export format.
Added *RAW* as export format.

Fixed problem with not beeing able to launch WinHelp from arbitrary directories.
Assignes unique names for 'unnamed' samples and instruments (fixes problem with WaveFront based cards).
Fixed problem with unnamed instruments in .PAT files.

version 1.4

Improved support for Turtle Beach WaveFront based cards! (Maui / Rio / Monterey);
Reads .WavePatchs.WFB, WFP and WFP files (v1.2 or later only).
Exports .WFP files.
Supports downloading instruments to the Maui card, using the WF GateKeeper (WFGATE.DLL).

Reads ScreamTracker 3 instruments (S3I).

version 1.3

Now a Win32s (v1.1 or later) program.
CTL3D32.DLL replaces CTL3DV2.DLL.
FMJMTHRU.DLL no longer needed.
Saves config in the Win32 registry instead of in an .INI file.

Now reads the GKH disk image files in addition to INS/EFE for Ensoniq EPS.

Barebone .SBK import support (EMU SoundFonts Banks / SB AWE32); at wavesample level.

version 1.2

Restructured for multiple export formats, currently:
- Ultrasound patches (.PAT)
- Turtle Beach Maui (.WAV+.WFS+.DES)
- Ms Windows wave files (.WAV+-DES)
- Midi Sample Dump Standard files (.SDS+.DES)

Config dialog window where you can choose export type and midi in device.
Saves config in 2PAT.INI.

You can start 2PAT with a filename on the command line and that file will be loaded at once; so now you can associate various file extensions with 2PAT in the File Manager and launch 2PAT by double clicking on a file.

Reads and writes .WAV files with the (new Ms standard) smpl (root key, finetune, loop points) and ICMT (name) chunks.

version 1.1

Uses Microsofts 3D controls extensions, CTL3DV2.DLL instead of Borlands BWCC.DLL as earlier.

Improved Ensoniq EPS support (.INS, .EFE, .GKH).
Now treats the sample rate correctly as well a doing a coarse decay rate conversion.

Now supports finetune for a few formats.

Better at cleaning up temporary files after itself...

version 1.0

Now also able to write WAV files in addition to PATches. Typing in an extension of '.wav' instead of '.pat' in the Save dialog box, will save a .DES text file with into about loop points and such, as well as .WAV files with the samples in the patch.

Converted the manual into WinHelp Hypertext format.

Reads INS and EFE files (Ensoniq EPS instrument files). These can extracted from GKH files with a utility called EPSDISK.

Reads SDS files (raw Midi Sample Dump Standard files).

Reads SDX files ('compacted' Sds file + sample name, as saved by the program SDX).

Reads TXW (Yamaha TX16W wave files). Really named .W??.

Reads SYW (Yamaha SY-series wave files). Really named .W??.
Has not been tested (Please send me some files!)
Note! The much more common all-data format, .T?? are not supported (yet).

Reads SDK (Roland S-550, S-50, S-330 disk images).

Reads AIF files (Audio Interchange File Format).

Reads IFF: 8SVX files (Interchange File Format).

Reads UWF files (UltraTracker Wave files).

Reads PAT files (Ultrasound patch files).

Reads SMP files (Samplevision).

Reads VOC (Creative labs) files.

Reads AU files (Sun/NeXT); only uncompressed mono files supported.

Reads RAW signed data files; assumed 8bit, 11khz.

KRZ files now get their loop point. Now also supports split files (KR1 + KR2). No longer throws out samples if the instrument is too big but rather lets you do it yourself in the patch editor of your choice.

Correctly reads 16bit WAV files now.

Correctly reads ULT's with 16bit samples now.

Looped samples with the end loop point at or near the sample end now get the sample at the loop start point duplicated at the loop end point + 1, in order to keep the GUS interpolation happy (can cause clicks otherwise).

The envelopes now corresponds to the ones Patchmaker use for looped and unlooped waves, except that looped samples have a quite long decay but not at all as long as the long decay setting in Patchmaker.

Now using FMJULTRA.DLL to provide ULTRASND.INI manipulation for loading custom patches; email me if you'd like to use it in your own programs and I'll send you FMJULTRA.H.

Renamed MIDITHRU.DLL into FMJMTHRU.DLL. In order to avoid possible conflicts with other programs.

Various minor changes and improvements.

version 0.9ß

Changed program name to 2PAT (from MOD2PAT, after all it reads a lot more stuff than just MOD files).

Reads Kurzweil K2000 sample files (.KRZ); multisampled supported. Since the spec. is 'secret' I have only been able to find out where the actual samples are stored, how long they are, what pitch and what keys they are assigned to and names and such, but haven't been able to determine loop points, envelopes et c.

Reads .SND, raw unsigned data files. Assumes they are 11KHz, 8bit.

Hopefully the problem with samples > 64KB is fixed.

Saves temporary patch-files in the directory specified by the TEMP= environment variable or, if not avaiable, in the program directory.

Faster updating of ULTRASND.INI.

Nicer look with BWCC.

version 0.8ß

Now a Windows hosted program (Win16).
The user interface is naturally quite different in this incarnation...

The .INI extract feature is no longer implemented, nor is reading raw files.

Patch play feature.If you've got an Ultrasound card (and you have, haven't you?) and a midi in device, you can play the patches from within mod2pat.

version 0.7ß

Removed the signed to unsigned conversion; Since we've now got Patch Maker Lite, wich hasn't got the bug of the old PATCH.EXE.

The .INI extract now looks a bit differently.

I've introduced the concept of "BankName=Whatever" to give the banks names; it will be set to the songname.

Added my bird logo to the text font.

version 0.6ß

Fixed another embarrasing bug, when converting from signed to unsigned data I now add 80h and not 7Fh as previously (got a little noise...).

version 0.5ß

Yes, now you can 'hear-out' the samples before you decide wether to save them. Of course, an ultrasound card is required for that!

Fixed a rather embarrasing bug with MOD loop points.

version 0.4ß

Reads 669, STM and S3M.

Always saves as unsigned, 'this because Gravis PATCH.EXE always uses unsigned data and it's convert command doesn't convert the last byte...

Converted source code into C.

version 0.3ß

Reads MTM, ULT, WAV, FSM and raw files.

Ability to edit internal patch names (Use TAB to toggle between DOS-name and Patch-name edit).

Added GUSPATCH.TXT; Ultrasound patch format description.

Any MOD that isn't a M.K., 4CHN, 6CHN, 8CHN, FLT4 or FLT8 are now treated as beeing of the older 15 (versus 31) sample format.

version 0.2ß

Reads 4,6,8 ch MOD's 'M.K.', '4CHN', '8CHN'.

Basic user interface.

Smart 'auto filename'.

version 0.1ß

Nothing fancy, reads 4ch MOD's, writes PAT's, ULTRASND.INI extract.