

# **SoundDT v41.8 Guide**

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# Contents

<b>1</b>	<b>SoundDT v41.8 Guide</b>	<b>1</b>
1.1	SoundDT v41.8 Documentation . . . . .	1
1.2	SoundDT v41.8 - Introduction . . . . .	2
1.3	SoundDT v41.8 - Requirements . . . . .	2
1.4	SoundDT v41.8 - Installation & Use . . . . .	2
1.5	License, Distribution, Disclaimer . . . . .	4
1.6	SoundDT v41.8 - Credits . . . . .	4
1.7	SoundDT v41.8 - Known Bugs . . . . .	4
1.8	SoundDT v41.8 - Future . . . . .	5
1.9	SoundDT v41.8 - Author . . . . .	6
1.10	SoundDT v41.8 - History of Changes . . . . .	6

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# Chapter 1

## SoundDT v41.8 Guide

### 1.1 SoundDT v41.8 Documentation

=====	SoundDT v41	
.		
Introduction		Why a soundclass replacement?
.		
Requierements		What it needs for living.
.		
Installation & Use		Installing and using the software ↔
.		
Legal Issues		License, distribution, disclaimer ↔
.		
Credits due.		Thanks and credit where credit is ↔
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Problems		Known bugs/problems
.		
History		History of changes.
.		
Future		Plans for future versions.
.		
Author		Who wrote it
Appendix		
.	sound_dtc	Developer information
.	svx_dtc	Developer information

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- svx.datatype About svx.datatype

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Some parts of this documentation have been taken from SoundDT.guide by Jonathan Gapen (without permission. He left Amiga® so I think he doesn't bother).

## 1.2 SoundDT v41.8 - Introduction

Why a new DataTypes soundclass?  
=====

Short: someone asks me for it.

Long : The original sound.datatype provided by AmigaOS3.x lacks of several features:

- samples longer than the hardware limit of 128k can't be played completely.
- no support for stereo samples, channel selection and 16bit samples.
- ugly static icon.
- once a sound has been started there's no way to stop playback.
- doesn't support sound cards.
- samples have to be in chip memory (v39 only).

My sound.datatype fixes all these problems.

## 1.3 SoundDT v41.8 - Requirements

What it needs for living  
=====

- Any AMIGA® (compatible) computer with at least OS3.0.
- 68020 cpu or better.
- gadgets/tapedeck.gadget for the controls (optional).
- gtlayout.library by Olaf Barthel for SoundDT41 the prefsed.

## 1.4 SoundDT v41.8 - Installation & Use

Installation  
=====

Simply start the provided Installer script.

Use  
===

There's no difference in using the C= sounddt and my one. You can abort a playing sound by pressing the waveform image twice. Certain aspects of the

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datatype can be controlled by using the global environment variable 'datatypes/sounddt41.prefs'. Currently the following options are recognized (you must put all options of your choice into a `_single_` line):

AHI/S: tells the datatype to use `ahi.device` by Martin Blom for output.  
AHIMODEID/N/K: ahi mode id that is taken as reference to the audio hardware that should be used for playback (eg. `AHIMODEID=0x00020000` for paula audio).  
FAM=FORCEAHIMODE/S: tells the datatype to use the supplied AHI modeid (via `AHIMODEID` option) for playback instead of taking it as reference to the audio hardware used for playback.  
AMF=AHIMIXFREQ/N/K: ahi mixing frequency. If not defined the default frequency taken from ahi prefs is used.  
WIDTH/N/K: default width of the waveform image (default: 160).  
HEIGHT/N/K: default height of the waveform image (default: 100).  
BG=BACKGROUNDCOLOR/K: background color of the image as hex number (Format: `0x00rrggbb` - default: `0x00000000` = black).  
WF=WAVEFORMCOLOR/K: color of waveform (default: `0x0023cc17` = green).  
AIFF16/S: tells the datatype to save 16bit samples as AIFF (creates 16SV files by default).  
COMPRESS/S: When using this option, the datatype will only save compressed samples. NOTE: Compression is only supported for 8 bit samples (no compression method has been defined for 16sv files. To save compressed AIFC files you've to get a license from Apple [AFAIK]), for compression the well known fibonacci delta method is used. It's fast and guarantees a compression ratio of 50% at cost of some 'quantization' noise.  
BUFFERSIZE/N/K: Size of a single buffer when playing double-buffered (Range: 1024 - 131072). For stereo samples sounddt allocates 4 buffers of the given size otherwise 2. The default buffersize is 65536 bytes. Sounddt falls back to a smaller buffersize, if the requested amount of memory isn't available. Normally, you won't have to change it but it might help when your computer can't play a large sample without gaps. NOTE: This option is useless in conjunction with AHI.  
CP=CONTROL\_PANEL/T: Tells the datatype that you (don't) want a controlpanel. Default: NO. Currently the REWIND and FORWARD buttons aren't functional! NOTE TO AUDIO.DEVICE USERS: When using the PAUSE button you'll recognize that the sound won't restart at the same point you've stopped it. This is not a bug of sounddt! `audio.device` can't stop a playing sound, so it simply mutes the channels. You can work around this by specifying a smaller BUFFERSIZE. 2ND NOTE: The panel is only drawn when the gadget has at least a minimum size of 201x24 pixels. IMPORTANT: This option is a toggle, so it requires either YES or NO as argument!  
NOGTSLIDER/S: Don't draw the volume slider gadtools alike.  
VOLUME/N/K: Changes the default volume. This option is pretty useless because subclasses of sounddt set the volume (to 64), which means that your preferred level will be overridden.

more to come ...

Starting release v41.8a a preferences editor is available, too.

## 1.5 License, Distribution, Disclaimer

### License

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Under this license, you are granted use of the sound.datatype v41.8 ('the software') for any purpose, free of charge. Installation and use of the software implies your acceptance of the terms of this license.

### Distribution

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This software is freely distributable in the form of the compressed archive released by Stephan Rupprecht, and in this form only. You may not add or remove ← any files, but you may convert the archive into another format. All methods of distribution are allowed. However, no fees for the distribution of this software may be charged, beyond the cost of media and compilation.

### Disclaimer

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## 1.6 SoundDT v41.8 - Credits

Special thanks are due (in no special order:)

=====

- Martin Blom, for AHI and some useful suggestions.
- dan@amiga.demon.co.uk, for his bug report.
- Francis Labrie, for his suggestions and bugrepots.
- Luca "Hexaae" Longone, for his bug reports.
- Pascal Walers, for the idea.
- Raul Silva, for the bugreport concerning ptdt.
- Stefan Ruppert, for his help with the controlpanel.
- Daniel Wicke, for the bugreport.
- Brad Avery, for the bugreport.
- Andreas Homa, for the bugreport.
- Christoph AEon Loewe, for the bugreport.
- Andrea Vallinotto, for the bugreport.
- Gunther Nikl, for his suggestions.

and all other people who send me an eMail :)

## 1.7 SoundDT v41.8 - Known Bugs

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- The gadget image doesn't like Multiview with SysIHack!

Actually, Multiview itself doesn't like SysIHack; it assumes a fixed size for the system scrollbars. Therefore, it reports the wrong values for the inner dimensions of the window to the DataTypes object. I can't fix it without a bad hack, and it's only a cosmetic bug, so I leave it alone.

If it really bothers you, please feel free to write a new Multiview.

- Converting files from one format to another

A white noise file will be produced if you try to convert a stereo or 16bit sample using a v41 compatible datatype for loading and an older (not v41 ↔ compatible) one for saving. This shouldn't be a problem since there is hardly any subclass of sounddt that fully (= with a DTST\_RAM handle) supports saving. This is also true for DTConvert because this program isn't aware of the v41 API.

- The controlpanel might cause deadlocks

Adding a controlpanel to a datatypes object is a tricky stuff (especially when several tasks want to access it at the same time). If you encounter any deadlocks better turn off the panel. I am working on it ...

- Sounddt and datatypes.library v40

One users reported me that dtlib v40 crashes in conjunction with my sounddt. I couldn't find any bug in sounddt and since v45 of dtlib works fine, I think this could be a bug of the v40 code.

- There are clicks and gaps when playing an animation with sound

Animations.datatypes feed sounddt with a continuous stream of very small samples (<1024bytes), which forces the datatype to update its buffers very often within a second. If your machine is too slow, you'll hear clicks and gaps. For AHI you can try to reduce these noises by lowering the mixing frequency.

- Playing samples over 28khz with audio.device

In order to play samples over 28khz correctly (using audio.device), you must have an ECS or AGA computer running a dblscan/vga screenmode.

## 1.8 SoundDT v41.8 - Future

Plans for the future

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- cursor animation.
- xpk support.
- your suggestions ...



## 1.9 SoundDT v41.8 - Author

How to contact the author

=====

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## 1.10 SoundDT v41.8 - History of Changes

v41.0

- ~first public release.

v41.1

- implemented ahi support.
- supports 16bit samples now.
- STM\_STOP crashed.
- a doubleclick on the image will stop the sound now.
- always tries to allocate two stereo channels, on failure a stereo sample will be played on a single channel.
- now aborts a playing sound and restarts it when the image is pressed while playing.
- developer information are now available
- the waveform image is now drawn faster and doesn't require any memory for rendering.
- some changes I can't remember ;)

v41.2

- finally, MAUD.datatype (and older versions of aiffdt) work.
- now it's possible to mark a part of the sample in order to save it to the clipboard (DTM\_SELECT).
- disabled panning for stereo samples.
- new option FAM=FORCEAHIMODE/S.

v41.3

- fixed some small bugs (nothing serious).
- works with protracker.datatype now.
- fixed display problem when using sounddt in conjunction with embed.datatype.
- added some security checks and semaphore protection.
- optionally displays a control panel now.
- two new prefs options (BUFFERSIZE, CONTROLPANEL).

v41.4 INTERNAL RELEASE (due to aminet related problems;)

- implemented SDTA\_Continuous (now works correctly with animation.datatype).
- fixed a bug of the AHI player routine where a pointer wasn't correctly initialized.
- new option AHIMIXFREQ.
- again fixed some small bugs.
- tracked down and fixed a bug that were produced by the compiler and caused a lot of enforcer hits (MaxonC compiled the program correctly,

- GNUC didn't [public releases are compiled with GNUC]).
- prefs system didn't work correctly.

## v41.5

- waveform drawing routine didn't draw the 2nd channel of 16bit samples correctly.
- 16sv stereo saving routine produced trash.
- implemented DTM\_DRAW.
- updated developer docs a bit.
- volume slider looks like a gadtools one now (can be turned off by NOGTSLIDER).

## v41.6

- updated revision number (41.5 wasn't v41.5 but v41.4 ;)
- saving of IFF files (DTWM\_IFF) crashed, funny that I didn't recognize that before (GMultiview 'Project/Save as IFF ...').

## v41.7

- some small changes.
- added some macros to the .h file.
- the v41.7 release actually replaces the "update" archives available.

## v41.8

- implemented DTA\_Repeat and DTA\_Immediate (GMultiview IMMEDIATE, REPEAT).
- fixed bug of audio.device player (samples weren't correctly repeated).
- changed volume slider to make it work properly with VisualPrefs.
- fixed and optimized library module.
- added workaround for a bug (?) of gmultiview 45.8, after changing the objects' DTA\_ControlPanel attribute, GM\_LAYOUT (AddDTObject) is called but not GM\_RENDER (RefreshDTObject should follow AddDTObject).
- drawing pens are allocated during GM\_LAYOUT now and released at DTM\_REMOVEDTOBJECT. This avoids "color changes" when a "MagicMenu" popup.

## v41.8a

- added prefs editor to the archive (requires gtlayout.library!), not localized yet.
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