

The ConvertWithMoss Manual

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1 Introduction & Installation

This tool converts multisamples in a specific source format to a different destination format. Furthermore, it can create multisample files from plain sample files like AIFF and WAV.

Additionally, the conversion process reads and writes metadata (name, category, creator, description and keywords) as well as envelopes and filter settings, if supported by the format. If the source format does not support metadata a guessing algorithm is applied based on the samples names.

Details about the specific converted parameters can be found in a spreadsheet.

1.1 Reporting bugs and asking questions

If you run into an error or you are stuck somewhere, feel free to get in touch. But make sure that you have read this manual and also have a look at the tutorial videos on my Youtube channel. To report bugs and/or ask questions write either to the ConvertWithMoss thread on KVR or create an issue in the ConvertWithMoss GitHub projects. All links can be found on the ConvertWithMoss Download page.

1.2 Installation

Download and run the matching installer for your operating system. After that you can start the application ConvertWithMoss.

1.2.1 macOS issues

Since the build depends on the GitHub build infrastructure, you need a recent macOS version. This is currently macOS 13 for Intel and macOS 14 for ARM based Macs. It might work down to macOS 11 but I cannot test that.

After installation macOS will complain about different things when you try to run the application, which vary depending on your macOS version:

1. The application is unsafe to run since it is downloaded from the internet.
2. The application is unsafe to run since it is not signed by Apple.
3. The application files are corrupted.

To fix this, do the following:

- Run the application again and click away the error.
- Open the system settings and go to *Privacy & Security Settings*.
- Scroll to the very end, there should now be a message saying something like ‘publisher of ConvertWithMoss could not be identified’.
- Click on the allow anyway button
- When you start ConvertWithMoss again you need to confirm again that you want to run the application.

If this did not work for any reason, try this:

Open the Terminal app and enter the application folder:

```
cd /Applications/ConvertWithMoss.app
```

Then remove the evil flag (Requires your administrator password):

```
sudo xattr -rc .
```

Since this seems not to work for everybody, there is another solution:

Temporarily, disable the Gatekeeper with

```
sudo spctl --master-disable
```

Open the application (should work now). Close it and enable Gatekeeper again to feel safe...

```
sudo spctl --master-enable
```

The application should now run also with Gatekeeper enabled.

Finally, have fun.

1.3 Build from sources

Ensure to have the required JVM, JRE, JavaFX and Maven dependencies preinstalled and set the `JAVA_HOME` environment variable to specify which Java version to use; the minimum required version is 24. Then use `mvn install` command to start the build.

See also the various build scripts in this directory as references on how to build the documentation and/or the application source files.

For Linux (BSD not tested) there is also a `Makefile` for build and install with the usual `make` and `make install` commands.

2 Usage via the user interface

1. Select the source format on the left.
2. Select the source folder, which contains one or more multisamples in the selected source format. The files can also be located in sub-folders.
3. Select the destination format on the right.
4. Select the output folder where you want to create the multisamples. You can add a non-existing folder to the name, which then is automatically created. E.g. you could select the Desktop and then add a folder *Conversions*.
5. Choose the type of the created output format: either single presets, a preset library which contains all found source files, a performance which contains several presets with settings or finally a library of performances. Only some destination formats support libraries and performances, all others are greyed out.
6. Press the *Convert* button to start the conversion. The progress is shown with notification messages in the log area, which you should check for potential errors like defect source files, skipped folder, etc. This log is also written to a file in the output folder.

Alternatively, press *Analyse* to analyse all potential source file but not to write any files. Use this to check for errors before finally running the conversion.

2.1 Options

- **Create folder structure:** If enabled, sub-folders from the source folder are created as well in the output folder. For example, if I select my whole “Sounds” folder, there are sub-folders like `Sounds/07 Synth/Lead/01W Emerson'70 Samples`. In that case the output folder would contain e.g. `07 Synth/Lead/01W Emerson'70.multisample` if Bitwig multisample is selected as the destination format.
- **Add new files:** Starts the conversion even if the output folder is not empty. Duplicates will get unique names by adding numbers.
- **Dark Mode:** Toggles the user interface between a light and dark layout.

3 Usage via the command line interface (CLI)

Locate the `ConvertWithMoss` executable on your system. On **Windows** use the application `ConvertWithMossCLI.exe` which is in the same folder as `ConvertWithMoss.exe`. Open a console window. As soon as you add attributes after the application it will run in CLI mode instead of opening the `ConvertWithMoss` application window.

First display all of the available attributes by typing:

```
./ConvertWithMoss -h
```

The following output is displayed (the processing parameters are omitted):

```
Usage: ConvertWithMoss [-afhV] -d=DESTINATION [-l=LIBRARY]
      -s=SOURCE [-t=TYPE] [-p[=KEY=VALUE...]]... SOURCE_FOLDER
      DESTINATION_FOLDER
      SOURCE_FOLDER      The source folder to process.
      DESTINATION_FOLDER The destination folder to write to.
-a, --analyze           If present, only analyzes the potential source files.
-d, --destination=DESTINATION
                        The destination format.
-f, --flat              If present, the folder structure is not recreated in
                        the output folder.
-h, --help              Show this help message and exit.
-l, --library=LIBRARY  Name for the library. Set to create a library.
-p=[KEY=VALUE...]     Key-value pairs in the form -pkey1=value1,
                        key2=value2,...
-s, --source=SOURCE    The source format.
-t, --type=TYPE        Set to either 'preset' (the default if absent) or
                        'performance' (without the quotes).
-V, --version           Print version information and exit.
```

The parameters should be easy to understand since they are identical to what you can do with the user interface. Here is an example for a conversion from Kontakt NKI files to 1010music format:

```
./ConvertWithMoss -s nki -d 1010music D:\MySampler\Kontakt C:\ConversionOutput
```

To get a list of the available detectors simply set a non-existing one like this (same for the creators):

```
./ConvertWithMoss -s whatever -d 1010music D:\MySampler\Kontakt C:\ConversionOutput
```

All configuration settings for the detector and the creator are available as well. These settings are can be applied with the -p attribute and then adding a list of key/value pairs. To get a list of the available settings for the selected detector and creator simply add an illegal one like this:

```
./ConvertWithMoss -s nki -d 1010music -pKey=Value D:\MySampler\Kontakt C:\ConversionOutput
```

You will get the following output:

```
Unknown parameter: 'key'.
```

```
Accepted source parameters: [NkiPreferFolderName, NkiDefaultCreator, NkiCreators]
```

```
Accepted destination parameters: [1010musicWriteBroadcastAudioChunk, 1010musicWriteInstrumentChunk, 1010musicWriteSampleChunk]
```

The names of the parameters should be easy to match when looking at the ConvertWithMoss user interface. Checkboxes are boolean value which can be set with 0 and 1, for example:

```
./ConvertWithMoss -s nki -d 1010music -p1010musicResampleTo2448=1 D:\MySampler\Kontakt
C:\ConversionOutput
```

Multiple settings are concatenated by using a comma:

```
./ConvertWithMoss -s nki -d 1010music -pNkiDefaultCreator="Klaus Meier",1010musicResampleTo2448=1
D:\MySampler\Kontakt C:\ConversionOutput
```

Finally, an example for creating a library of performances:

```
./ConvertWithMoss -s nki -d ysfc -l Pads -t performance D:\MySampler\Kontakt C:\ConversionOutput
```

Additionally, there are several parameters for processing the samples as well. They use 2 letters and always start with a 'Z'. Note that processing needs to be enabled by adding '-Ze'.

4 Common options

The following settings are available in several source and destination formats and only explained once.

4.1 Common Source Options

4.1.1 Sample File Search

- Go this number of directories upwards to start file search: If a referenced sample (or other required file types of the format) cannot be found, this option configures how many folders upwards the search should be started. 0 means to start from the current directory where the source file is located and search downwards in the sub-folders as well.

4.1.2 Automatic Metadata detection

If there are no metadata fields (category, creator, etc.) specified in the format, information is retrieved from Broadcast Audio Extension chunks in the WAV files. If no such chunks are present, ConvertWithMoss can detect from the name and path of the file. The following settings can be used to tweak the detection process:

- Prefer folder name: If enabled the name of the multi-sample will be extracted from the folder instead of the sample names.
- Default creator: The name which is set as the creator of the multi-samples, if no creator tag could be found.
- Creator tag(s): Here you can set a number of creator names, which need to be separated by comma. You can also use this to look up other things. For example, I set the names of the synthesizers which I sampled. My string looks like: "01W,FM8,Pro-53,Virus B,XV" (without the quotes).

4.2 Common Destination Options

4.2.1 WAV Chunk Information

If the format uses WAV files to store the samples, the following options to additionally write metadata information to the respective chunks are available:

- Broadcast Audio Metadata: This can contain a description text, the creator of the sample and the creation date and time.
- Instrument: Contains the root note, fine tuning, gain, the key range and the velocity range.
- Sample: Contains the root note, fine tuning and loop points.
- Remove JUNK, junk, FLLR and MD5 chunks: Enable this option to drop these chunks. Junk and filler chunks are only for aligning the following chunks to certain data positions. The MD5 chunk contains a checksum which is currently not updated and therefore should be dropped.

5 Supported Formats

The following multi-sample formats are supported:

- 1010music bento
- 1010music blackbox, tangerine, bitbox
- Ableton Sampler
- Akai AKP/AKM (S5000/S6000/Z4/Z8/MPC4000) - read only
- Akai MESA - read only
- Akai MPC Modern
- Akai MPC60 - read only
- Akai MPC500/MPC1000/MPC2500 - read only
- Akai MPC2000/MPC2000XL/MPC3000 - read only
- Akai S900/S950 image - read only
- Akai S1000/S3000 image - read only

- Bitwig Multisample
- CWITEC TX16Wx
- DecentSampler
- discoDSP Bliss
- Elektron Tonverk
- Ensoniq EPS/EPS16+/ASR-10 - read only
- Ensoniq Mirage - read only
- Expert Sleepers disting EX
- ISO/IMG Files
- Kontakt NKI/NKM
- Korg KSC/KMP/KSF
- Korg wavestate/modwave
- Logic EXS24
- Native Instruments Maschine
- Propellerhead Reason NN-XT
- Roland S-50 Series - read only
- Roland S-770 Series - read only
- Sample files (AIFF, FLAC, NCW, OGG, WAV)
- SFZ
- SoundFont 2
- Spectrasonics Omnisphere 3
- TAL Sampler
- Waldorf Quantum MkI, MkII / Iridium / Iridium Core
- Yamaha YSFC

5.1 1010music bento

This format can contain either a single *patch* (1 track) or all 8 tracks of a *project*. Each track contains an instrument engine. ConvertWithMoss only supports the multi-sample engine. All user patches need to be placed in the *UserPatches/SampInst* folder on the SD-card. The factory patches reside in *Patches/SampInst*. The main information of a preset is stored in a file which is always called *patch.xml* or *project.xml* for a project file. This file is located in a folder with the name of the preset/project.

The related samples need to be in the same folder as the patch.xml file.

If the format is selected as the source, there are two things to consider:

- One or multiple tracks contain a multi-sample: for each of the multi-samples a file in the destination format is created.

5.1.1 Destination Options

- Option to set the *Interpolation Quality*. Setting it to *High* requires a bit more processing power on the 1010music devices.
- Option to trim sample to range of zone start to end. Since the format does not support a sample start attribute for multi-sample, this fixes the issue.

If ‘Performance’ is selected as the destination type, some workarounds are applied:

- MIDI channel: There is no OMNI setting. They are currently set to Off.
- Key ranges: The 1010music devices do not support key-ranges which means a multi-sample is always sounding across the full note range. As a workaround a silent sample (a totally empty one-shot sample is used) is applied to the lower and upper range which should not sound.

5.2 1010music blackbox, tangerine, bitbox

This format is simply called a *preset*. A preset contains 16 slots and each slot can either contain a simple sample or a complex multi-sample. All presets need to be placed in the *Presets* folder on the SD-card. The main information of a preset is stored in a file which is always called *preset.xml*. This file is located in a folder with the name of the preset (eg. /Presets/MyLovelyPiano/preset.xml).

The related samples can be anywhere on the SD-card, if referenced accordingly in the preset.xml file. But to make the handling easier, the output of this tool puts all sample files in the same folder as the preset.xml file. Therefore, only one folder needs to be copied to the Presets folder on the SD-card.

If the format is selected as the source, there are two things to consider:

- One or multiple slots contain a multi-sample: for each of the multi-samples a file in the destination format is created.
- All slots contain only single samples: one file in the destination format is created which combines all 16 slots. The notes are from 36 upwards if not configured differently in the preset.

5.2.1 Destination Options

- Option to set the *Interpolation Quality*. Setting it to *High* requires a bit more processing power on the 1010music devices.
- Option to trim sample to range of zone start to end. Since the format does not support a sample start attribute for multi-sample, this fixes the issue.

If ‘Performance’ is selected as the destination type, some workarounds are applied:

- MIDI channel: There is no explicit OMNI setting. Instead, if MIDI channel 1 is selected on the device it acts as the OMNI channel, which means it is always sounding and renders MIDI channel 1 to be unusable. As a solution all MIDI channels are increased by 1 (channel 1 is 2, channel 2 is 3, ...) and channel 16 is set to Off. All instruments which have OMNI configured are set to channel 1.
- Key ranges: The 1010music devices do not support key-ranges which means a multi-sample is always sounding across the full note range. As a workaround a silent sample (a totally empty one-shot sample is used) is applied to the lower and upper range which should not sound.

5.3 Ableton Sampler

Ableton uses a generic preset format (*.adv*) for all of their devices. For combined rack presets another format (*.adg*) is used. All their formats are XML documents which are compressed with the open GZIP algorithm.

ConvertWithMoss can extract Sampler and Simpler presets from ADV files as well as all instances of Sampler or Simpler in ADG files when selected as a source. The presets from the Ableton libraries cannot be extracted since their AIFF files use a proprietary encryption algorithm. It writes ADV files as the destination.

ADV files and their samples need to be placed in the Ableton user library in the correct folders to allow Ableton to open it. Therefore, ConvertWithMoss creates the necessary folder structure which can be simply copied to the user library. If the source has sub-folders the global option *Create folder structure* should be deactivated otherwise it can be quite tedious to collect all the results files with their additional Ableton sub-folder structure.

5.3.1 Destination Options

- Option to set the *Ableton Version*. Setting it to *12* will add additional Round-Robin information (but cannot be loaded in Ableton 11).

5.4 Akai AKP/AKM (S5000/S6000/Z4/Z8/MPC4000)

This format uses a chunk based binary format with the ending AKP. It supports up to 99 key-groups. A key-group covers a note range with up to 4 velocity layers. AKM files are a multi configuration of up to

32 AKP preset files. The AKP files are only referenced from the AKM. Available parameters are the MIDI channel, panning, volume and key-range. AKP files are used if destination is Preset or Preset Library. AKM files are used if destination is Performance or Performance Library. Only reading of the AKP/AKM formats is supported.

5.5 Akai S900/S950 series disk image

The Akai S900 is a 12-bit sampler, with a variable sample rate from 7.5 kHz through to 40 kHz. Up to 32 samples can be created and stored to disk along with any edit settings. An expanded version, the Akai S950, was released in 1988 alongside the higher end S1000. The S950 soon followed the S900 and offered increased memory and sampling rates. The sample rate was now variable from 7.5 to 48kHz and it could hold up to 99 samples in memory. Memory could be expanded from 750KB to 2.25MB. Unlike the S1000 series, the S900 series allows a sample to loop alternating forwards and backwards.

Help needed: * I am missing the info about the different velocity modulation settings. If you own one of these machines it would be great if you could provide me some examples with different velocity settings (keeping all other parameters identical). * Furthermore, if you have a HFE file with valid data I would like to take a look.

5.6 Akai S1000/S3000 series disk image

The Akai S1000 and S3000 series are landmark professional digital samplers first introduced by Akai in the late 1980s and early 1990s. The S1000 became widely adopted in studios and electronic music production for its 16-bit PCM sampling, extensive on-board editing, and reliable MIDI integration. The S3000 series built on that legacy with expanded memory, improved filtering, and more advanced modulation and layering capabilities, offering deeper sound design flexibility.

The CD format used with the S1000/S3000 series was a proprietary Akai CD-ROM structure built on standard ISO-9660 physical media but organized according to Akai's own disk architecture. Data was stored as 16-bit linear PCM sample files along with separate program and keygroup parameter data, arranged in volumes that the sampler's operating system could index via SCSI. Unlike generic audio CDs (Red Book), these discs were data CDs containing structured directories and allocation tables specific to Akai's file system, enabling direct loading of samples, programs, and partitions into memory. While ConvertWithMoss cannot directly read the CDs, it can read images created from them with other tools (normally named *.iso). There is no write support.

5.7 Akai MESA

The Akai MESA S3P format is a computer-side representation of Akai S-series program data used by the original MESA (Mac/PC Multi-Editor and Sample Accelerator) librarian/editor software for the S-3000 family. In practice the .S3P extension contains a classic S3000-style Program (instrument) encoded in a format akin to MIDI SysEx dumps, with the sample waveforms stored externally as accompanying WAV files on a computer. Internally the Program's structure—keygroups, sample references, mapping, filters and loop parameters—is essentially the same as an Akai S-series Program on disk; MESA simply encapsulates the Akai program data in its own file container for editing and transfer.

5.8 Akai MPC Modern

5.8.1 Keygroups / Drum

A MPC Keygroup or MPC Drum setup is stored in a folder. It contains a description file (.xpm) and the sample files (.WAV). Both keygroup and drum types are supported.

5.8.2 Akai MPC Project/Track - read only

A track file (*.xty) is a MPC v3 specific file that saves all settings, samples, macros, FX and MIDI data associated with a track. A track consists of two elements; the track file itself and a trackData folder containing

the samples used within the track (ending with '_[TrackData]'). If the track contains a keygroup it is extracted as a multi-sample source. A project file (*.xproj) contains all track and project settings. All tracks which contain a keygroup are extracted as a multi-sample source.

5.8.3 Source Options

- Ignore Loops: There are XPM files which do not contain loops but the related WAV files do (seems to happen with the MPC Autosampler). ConvertWithMoss uses the loops from the WAV files in that case. This might not be what you intended if a multi-sample should be one-shot. Enable this option to ignore the loops.

5.8.4 Destination Options

- Limit layers to: MPC Firmware 3.4 increased the number of possible layers in a keygroup to 8. This option allows you to choose between 4 (for older firmware revisions) or 8.

5.8.5 Destination Restrictions

- A round robin keygroup can only contain up to 4/8 layers (groups). An error is displayed in this case but the file is converted anyway.
- Only 128 keygroups are allowed. An error is displayed in this case but the file is written anyway but might not be loadable.

5.9 Akai MPC60

Reads Akai MPC60 Set files (*.SET). Such files are monoliths containing the samples as well. This format stores 32 'pads'. Each pad is assigned to 1 MIDI note but they must not and the default is that they are off. Therefore, the pads are simply mapped to MIDI keys in ascending order starting with MIDI note 36. A pad can reference another pad for a velocity split.

The sampling rate is fixed to 40kHz which is quite uncommon and some programs might not be able to play it back.

Floppy disk backups (ending with *.IMG* or *.HFE*) in MPC60 format can be read as well.

Several parameters are still unknown. Currently, mainly the samples and names are converted. Please get in touch if you have a MPC60 and can spend some time in analysis by storing different parameter settings.

5.10 Akai MPC500/MPC1000/MPC2500

Reads Akai MPC500/MPC1000/MPC2500 programs (*.PGM) which reference WAV files. This format stores 64 'pads'. Each pad is assigned to 1 MIDI note and can contain up to four samples with different velocity settings.

I am missing the info about the filter envelope. If you own one of these machines it would be great if you could provide me some examples with different filter envelope settings (keeping all other parameters identical).

5.11 Akai MPC2000/MPC2000XL/MPC3000

Reads Akai MPC2000/MPC2000XL/MPC3000 programs (*.PGM). This format stores 64 'pads'. Each pad is assigned to 1 MIDI note and can contain up to three samples with 2 velocity splits. All PGM files can only reference SND's in the same folder as the PGM.

CD-Rom/Harddisk backups (ending with *.ISO*, *.IMG* or **.HFE*) in MPC2000 and MPC2000XL format can be read as well.

5.12 Bitwig Multisample

This open format is currently supported by the stock sampler in Bitwig Studio and Presonus Studio One. A multisample file is a zip archive which contains all samples in WAV format and a metadata file in XML format. It supports multiple groups, key and velocity crossfades as well as several metadata information: creator, sound category and keywords.

The parser supports all information from the format except the group color and select parameters 1 to 3, which are not mappable.

This converter supports (split) stereo uncompressed and IEEE float 32 bit formats for the WAV files.

5.13 CWITEC TX16Wx

TX16Wx is a free sampler plug-in available for Windows and MacOS. TX16Wx Professional is the commercial expansion of TX16Wx. It adds some advanced features like effects, signal routing or trigger switching. But the free version is already very powerful and covers all of the features that ConvertWithMoss supports.

The format uses a XML format and keeps the samples separate.

5.14 DecentSampler

The Decent Sampler plugin is a free (but closed source) sample player plugin that allows you to play sample libraries in the DecentSampler format (files with extensions: dspreset and dslibrary). See <https://www.decentsamples.com/product/decent-sampler-plugin/> The format specification is available here: <https://www.decentsamples.com/wp-content/uploads/2020/06/format-documentation.html#the-sample-element>

A dspreset file contains a single preset and the description of the multi-sample. The related samples are normally kept in a separate folder. WAV and FLAC files are supported. A dslibrary file contains several dspreset files including the samples compressed in ZIP format. A dsbundle is similar but uncompressed.

There are no metadata fields (category, creator, etc.) specified in the format. Therefore, information is stored and retrieved from Broadcast Audio Extension chunks in the WAV files. If no such chunks are present an automatic detection is applied.

5.14.1 Source Options

- Log unused XML elements and attributes: If enabled the XML elements and attributes which are not used in the translation process are logged.

5.14.2 Destination Options

- Output Format - Create Bundle: Choose to create a bundle (instead of single presets or a library).
- Make monophonic: Restricts the sound to 1 note, use e.g. for lead sounds.
- Add low-pass filter to all groups if none is present: This always adds a low-pass filter on a group level, if no filter is present yet in the source material. Enable it if you want to have controls for a filter envelope in your template.
- Template and resources folder: Allows to modify the UI and effects section of the presets (see below).
- Options to write/update WAV Chunk Information.

If no 'Template and resources folder' is configured the default template is used which creates several controls for an amp envelope, a lowpass filter with envelope, a delay and reverb as well as pitch-modulation via mod-wheel. To modify this template, first create an empty folder somewhere on your disc. Select this folder in the 'Template and resources folder' field. Then click on the button 'Create template in the selected folder'. This copies the template 'ui.xml' into this folder. You can copy additional images and documentation files to the folder. These resource files will be added to the output as well. This template will be applied to all created dspresets. But note that you can have multiple templates if you use several template folders which can then be switched for each conversion run.

The template can contain 1 effects, modulators, midi and ui tag. The content of the modulators-tag will be added to the existing modulators-tag which gets created by ConvertWithMoss. Make sure to use the correct indices!

There are two issues with amplitude envelopes:

1. If an envelope is applied to a certain level (sample, group or instrument) it does not work to change the values with a knob on a different level. Therefore, ConvertWithMoss tries to set the envelope on the highest possible level (the instrument) if all of the sample envelopes are identical.
2. If controls are assigned to an envelope value to change it, it will not pick up this value but will use the value set for the control-element instead. To work around this issue the following variables can be used in the template and will be replaced with the instrument amplitude values:
 - %ENV_ATTACK_VALUE%
 - %ENV_DECAY_VALUE%
 - %ENV_SUSTAIN_VALUE%
 - %ENV_RELEASE_VALUE%
 - %ENV_VELOCITY_SENSITIVITY%

5.15 discoDSP Bliss

Bliss is a multi-platform (Windows, MacOS & Linux) sampler by discoDSP (<https://www.discodsp.com/bliss/>). It provides support for multi-samples and a bank system (containing up to 128 patches). Both the program (.zbp) as well as the bank (.zbb) are stored as monoliths (zipped) with a XML description file and all samples. The samples are stored in FLAC format (16/24 bit). The full format specification is available here: <https://github.com/reales/bliss-format>.

5.16 Elektron Tonverk

The Elektron Tonverk is a dedicated hardware sampler that marks an important milestone for Elektron as its first instrument to support multi-samples. This allows users to map multiple sampled sounds across keys or velocity ranges, creating more expressive and realistic instruments than single-sample playback alone. Sadly, the elmulti format is very basic and limited. It only supports the basic multi-sample layout does not contain any synthesizer parameters like envelopes or filter settings. Furthermore, even this basic setup has some limitations:

- There are no key ranges, the Tonverk always plays the sample with the closest root note. This can lead to different key-ranges than in the source multi-sample.
- Velocity layers are fixed to the key-ranges (like on the modern Akai MPCs).
- Duplicated velocity layers always result in round-robin of these samples (they do not sound at the same time).
- Only 1 Pitch per key zone can be set which means you cannot tune individual samples.

5.16.1 Destination Options

- Re-sample to 24bit/48kHz: If enabled, samples will be resampled to 24bit and 48kHz. While the device can play other resolutions as well, there are reports of issues when you do so.

5.17 Ensoniq EPS/EPS16+/ASR-10

The Ensoniq EPS, Ensoniq EPS16+, and Ensoniq ASR-10 were influential hardware samplers from the late 1980s and 1990s, known for their distinctive sound, practical workflow, and integrated sequencing features. The EPS made professional sampling more accessible, while the EPS16+ added effects processing and stereo audio routing. The ASR-10 extended the series with greater processing power, improved editing, and expanded performance capabilities.

The file format is more or less identical on the 3 models with the additions of the added parameters of the later models (all files can be exchanged between the models). However, there are plenty of different storage formats which contain the actual instrument files:

- HFE, GKH, EDE, EDA: These formats contain the data of a full diskette with some additional metadata.
- IMG: The raw data of a diskette without any addition information.
- ISO: FAT file system which can contain many EPS/ASR files.
- EFE: This format contains exactly 1 EPS/ASR file with additional metadata.

ConvertWithMoss can read them all but writing is not supported.

5.18 Ensoniq Mirage

The Ensoniq Mirage, introduced in 1984, was a groundbreaking 8-bit digital sampler that democratized sampling technology for musicians. Priced at around \$1,695, it was one of the first affordable samplers on the market—a fraction of the cost of competitors like the Fairlight CMI or E-mu Emulator. The Mirage featured 8-voice polyphony, a small 2-digit LED display, and used 3.5" floppy disks for storing samples and sounds. Despite its limited memory (just 128KB) and lo-fi character, it became hugely popular in the mid-1980s and found its way onto countless recordings across pop, hip-hop, and electronic music. The Mirage was available in both keyboard (DSK-1, DSK-8) and rack-mount (DSM-1) versions.

Its open architecture was fairly unusual for hardware of that era and gave the Mirage an active user community of developers and enthusiasts who continued to push the instrument's boundaries well beyond what Ensoniq originally intended which led to several alternative operating systems. One of them is Triton Soundprocess, it uses its own filesystem which is not supported (if someone has any knowledge about it, please get in touch).

This disk format is proprietary with a complex layout. Each disk contains 3 sounds. Each sound consists of a lower and upper layer. Each layer can have up to 8 samples. Each layer has 4 programs with different parameter settings. The programs of the lower and upper layer can be selected differently which gives $4 \times 4 = 16$ different configurations! To make things confusing these sounds are interleaved with OS and sequence data on the disk. ConvertWithMoss can read such disk files (*.hfe*, *.img* or **.edm*).

5.18.1 Issues and Workarounds

1. Since the format does not provide any naming, the name of the files are used. If a file contains exactly 2 dashes the name is split into 3 parts and they are used for the 3 sounds. E.g. label a file like 'Name1-Name2-Name3.img' to get a proper names for the multi-samples.
2. To keep things manageable only the matching programs are exported (e.g. Program 1 from the lower layer with Program 1 from the upper layer). This means each disk will result to $3 \times 4 = 12$ multi-samples.
3. Another issue is that the format does not store the root note of the samples. The pitch is only determined by the sample-rate and the tuning. The current sample-rate is extracted from the disk as well but in theory it could be totally wrong.
4. The filter cutoff value is not fully understood. Therefore, settings which produce no sound are ignored and noi filter is set in such a case.
5. There can be some very short loop lengths (like 256 samples) which might cause a playback issue with some multi-sample players.
6. It uses quite uncommon sample rate which might cause a playback issue with some multi-sample players.

5.19 Expert Sleepers disting EX

The disting EX is a multi-function Eurorack module which provides many different algorithms. On of them is the SD Multisample algorithm which is an eight voice polyphonic, three part multi-timbral, sample playback instrument, playing WAV files from the MicroSD card. It can have up to 3 input CV/gate pairs, or can be played via MIDI or I2C. It supports both velocity switches and round robins per sample. The basic multi-sample setup is encoded in the file-names of the samples. Further information like the amplitude envelope are stored in a preset (**.dexpreset*). The preset references only the name of the folder which contains the related samples. All samples in the folder considered to be belonging to the multi-sample.

5.19.1 Destination Options

- Re-sample to 16bit/44.1kHz: If enabled, samples will be resampled to 16bit and 44.1kHz. While the device can play higher resolutions as well it decrease the number of voices it can play.
- Trim sample to range of zone start to end: Since the format does not support a sample start attribute, this fixes the issue.

5.20 ISO/IMG Files

Searches for files ending with *.ISO* or *.IMG*. Currently, the following formats can be handled:

- Akai S1000/3000
- Akai MPC2000/MPC2000XL
- Ensoniq EPS/ASR (only *.ISO)
- Roland S-50 series
- Roland S-770 series

5.21 Kontakt NKI/NKM

Kontakt is a sampler from Native Instruments which uses a plethora of file formats which all are sadly proprietary and therefore no documentation is publicly available. Nevertheless, several people analyzed the format and by now sufficient information is available to provide the support as the source.

However, the format changed many times across the different Kontakt versions. So far, the following formats are known and supported as a source:

Kontakt Version
1
1.5
2 - 4.1.x
4.2.2+
5 - 7

A NKI file contains one instrument which is a multi-sample with many parameters. Currently, the usual multi-sample parameters are supported incl. loops. Furthermore, metadata information, the amplitude, pitch and filter cutoff envelope, filter parameters as well as pitchbend. (Most) NCW encoded sample files can be read as well. A NKM file contains up to 64 instruments and is supported as well as a source.

Encrypted files are not supported.

If selected as a destination, a NKI file is written and all samples are placed in a sub-folder with the same name.

If selected as a source and ‘Performance’ is selected as the destination type, only NKM files are used as sources.

5.21.1 Destination Options

- Output Format: Currently, only the Kontakt 1 format is supported which sadly does not contain any metadata information.

5.22 Korg KSC/KMP/KSF

The KSC/KMP/KSF format (*.KSC*, *.KMP*, **.KSF*) was first introduced in the Korg Trinity workstation (1995) and since then supported in many Korg workstations and entertainment keyboards up to the latest Korg Nautilus (2020). The following devices are known to support the format:

- Trinity
- Triton
- OASYS
- M3
- Kronos
- KROSS (only for pads)
- PA1X/PA800/PA2X/PA3X/PA4X
- Nautilus

The format is documented in detail (more or less) in the appendix of the respective parameter guides. A multi-sample is distributed across 4 types of files which makes the handling a bit tricky:

- KSF: One KSF file contains one single mono sample. Even if the KSF files can store stereo files, they do not work. Therefore, they need to be split into 2 KSF files. The format only supports uncompressed 8 or 16 bit samples up to 48kHz. Files in other formats are automatically converted.
- KMP: The KMP format contains 1 layer of a multi-sample, which means there are only key splits but no groups and no velocity settings. The file references several KSF files which contain the sample data for each key region.
- KSC: A KSC contains a list of KMP files (and sometimes other files) which allows to load them in one go. It contains no other additional information.
- PCG: This contains a full program which combines several KMPs into a complete multi-sample (stereo positioning and velocity layers). Since these are different for each workstation and not publicly documented, they are currently not supported.

5.22.1 Source Options

- Use KSC files as the input: By default ConvertWithMoss searches for KPM files. If enabled, KSC files are searched and the KMP files referenced in a KSC file are loaded (if found). Furthermore, it tries to combine stereo-split files into stereo files by the prefixes of the KMP names and the long names stored in the KSF files (they normally end with -L for the left and -R for the right channel).

5.22.2 Destination Options

- Enable the +12dB option: Increases the volume of each sample by +12dB. Use for low volume samples.
- Set sample volume to +99: If enabled, sets all sample volumes to +99. Use for very low volume samples.

5.23 Korg wavestate/modwave

The korgmultisample format is currently used by the Korg wavestate and modwave keyboards as well as their VST plugin siblings. Files in that format (*.korgmultisample) can be opened with the Korg Sample Builder software and transferred to the keyboard.

Since the format is pretty simple all data stored in the file is available for the conversion.

Since the format supports only one group of a multi-sample, multiple destination files are created for each group available in the source. If there is more than one group in the source the name of the created file has the velocity range of the group added. Using that information a multi-sample with up to 4 groups can be created as a Performance in the device.

5.24 Logic EXS24

The Logic EXS24 format is a proprietary sample format used by Logic Pro, a digital audio workstation. It is primarily used for storing and playback of sampled instruments and sounds within Logic Pro. The format allows for comprehensive mapping and editing of samples, as well as providing various modulation and performance options.

The format only stores absolute paths to the sample files. Therefore, the easiest way to make the converter find the sample files is to place them in the same folder as the EXS file. If it cannot be found in this folder

the sample file is searched recursively starting from a number of levels up from the source folder of the EXS. *The number of folders can be configured.*

5.25 Native Instruments Maschine

5.25.1 MSND

MSND is a binary format for Maschine 1. It got dropped completely in later versions and it cannot even be opened in Maschine 2/3. You can use `ConvertWithMoss` to convert it e.g. into Maschine 2 or 3 format (MXSND).

5.25.2 MXSND

The MXSND format is a proprietary binary format used by Maschine 2 and 3. MXSND uses the same container wrapper format as Kontakt 5+. Maschine 1 used a different format with the ending MSND which is currently not supported.

Only MXSND files which contain an instance of a Maschine Sampler can be read. The Maschine Sampler supports basic features but has e.g. no groups or release layers (see the detailed parameter documentation).

Note that Maschine contains an auto-sampler with which you can sample plugins or external synths and writes MXSND as the output. This means that you can then convert it to other formats with `ConvertWithMoss`.

5.25.3 Source Options

- Scan for Maschine 1 MSND files: Scans the source folder for files ending with `*.msnd` (Maschine 1 format) as well. If the source is a library which contains both version, deactivate this option to prevent duplicates.

5.25.4 Destination Options

- Output Format: Select the Maschine output format. Selecting **Maschine 1** will create a MSND file, otherwise a MXSND file is created.

5.26 Propellerhead Reason NN-XT

The Propellerhead Reason NN-XT is a software sampler that is included in the Reason software package. Reason is a digital audio workstation (DAW) software developed by Propellerhead Software. It allows users to load and play back sampled sounds, such as instruments or drum hits. The file ending is *sxt*.

There are metadata fields for creator and a creator URL.

5.27 Roland S-50 Series

The Roland S-50 series (S-50, S-330, S-550, W-30), introduced in the mid-1980s, represented a significant development in digital sampling technology. Based on 12-bit pulse-code modulation (PCM) sampling, the system combined waveform acquisition, editing, and keyboard performance capabilities within a single instrument. The series was notable for its integration of video-based graphical editing, enabling detailed visualization and manipulation of sampled waveforms.

The format of the S-50 is slightly different to the one used on the other models. All of them store 12-bit samples with 15/30kHz sample rate. It is a good idea to up-sample them (with the Processing feature) to e.g. 16-bit/44.1kHz to prevent compatibility issues. Only reading is supported.

5.28 Roland S-770 Series

The Roland S-770 series comprises a family of digital PCM samplers introduced between 1989 and 1995, including the S-750, S-770, S-760, DJ-70, DJ-70 MkII, and SP-700. These instruments share a common

sampling architecture based on high-resolution PCM playback, digital resonant Time Variant Filters (TVFs), and sophisticated modulation and envelope generators. The flagship S-770 expanded the platform with advanced multisampling capabilities, internal digital signal processing, and video-based graphical editing, while the later S-760 provided similar functionality in a more compact and cost-effective form. The DJ-70 and SP-700 adapted the technology for performance-oriented and phrase-sampling applications.

Only reading is supported. But it supports both HD/CD-Rom and diskette image files. Also files that span multiple diskettes are supported (all disk files need to be in the same folder).

5.29 Sample files (AIFF, FLAC, NCW, OGG, WAV)

This powerful algorithm allows to create multi-samples from single sample files incl. detection of metadata.

All files of the same type located in the same folder are considered as a part of one multi-sample. You can also select a top folder. If you do so, all sub-folders are checked for potential multi-sample folders.

WAV files can already contain metadata to configure a complete multi-sample (but sadly rarely used). Therefore, all WAV files of a folder are checked if they contain instrument chunks. If this is the case they are used to create the layout of the multi-sample (range and velocity splits as well as gain and pitch settings). If no such information is available the same algorithm is applied as for the other supported formats: it tries to detect the necessary key range and velocity information from the names of the WAV files as well as metadata:

- Notes are first detected from the files metadata (if supported by the format). If none is present, different parser settings are applied on the file name to detect a note name (or MIDI note value).
- A category is extracted from the file name as well based on a list of several synonyms and abbreviations (e.g. Solo as a synonym for Lead). If this fails the same logic is applied to the folder names (e.g. you might have sorted your lead sounds in a folder called *Lead*).
- Characterizations like *hard* are extracted as well with a similar algorithm as for the category.

As a destination only WAV files are supported.

5.29.1 Source Options - Groups

Detected groups will be equally distributed across the velocity range. E.g. if 2 groups are detected the first will be mapped to the velocity range of 0-63 and the second to 64-127.

- Detection pattern: Comma separated list of patterns to detect groups. The pattern must contain a star character (“*“), which indicates the position which contains the group number.
- Order of group numbering: Enable to map groups inversed. This means that the highest number will be mapped to the lowest velocity range.

5.29.2 Source Options - Mono Splits

WAV file can contain different sample formats. This converter supports (split) stereo uncompressed and IEEE float 32 bit formats. Only WAV files in Mono or Stereo are supported. Stereo samples might be split up into 2 mono files (the left and right channel). This tool will combine them into a stereo file.

- Left channel detection pattern: Comma separated list of patterns to detect the left channel from the filename. E.g. “_L”.

5.29.3 Source Options

- Crossfade notes: You can automatically create crossfades between the different note ranges. This makes especially sense if you only sampled a couple of notes. Set the number of notes, which should be cross-faded between two samples (0-127). If you set a too high number the crossfade is automatically limited to the maximum number of notes between the two neighboring samples.
- Crossfade velocities: You can automatically create crossfades between the different groups. This makes especially sense if you sampled several sample groups with different velocity values. Set the number of velocity steps (0-127), which should be crossfaded between two samples. If you set a too high

number the crossfade is automatically limited to the maximum number of velocity steps between the two neighbouring samples.

- Post-fix text to remove: The algorithm automatically removes the note information to extract the name of the multi-sample but there might be further text at the end of the name, which you might want to remove. For example the multi-samples I created with SampleRobot have a group information like “_ms0_0”. You can set a comma separated list of such post-fix texts in that field.
- Ignore loops: Sometimes the source files contain wrong loops. Especially helpful for one-shot samples.

5.30 SFZ

“The SFZ format is a file format to define how a collection of samples are arranged for performance. The goal behind the SFZ format is to provide a free, simple, minimalistic and expandable format to arrange, distribute and use audio samples with the highest possible quality and the highest possible performance flexibility” (cited from <https://sfzformat.com/>).

The SFZ file contains only the description of the multi-sample. The related samples are normally kept in a separate folder. The converter supports samples in WAV, OGG and FLAC format.

5.30.1 Source Options

- Log unsupported SFZ opcodes: If enabled, opcodes which are found in the source but are not used (not supported) as input for the conversion are logged.

5.30.2 Destination Options

- Convert to FLAC format: If enabled, the sample files are converted to FLAC.

5.31 SoundFont 2

The original SoundFont file format was developed in the early 1990s by E-mu Systems and Creative Labs. It was first used on the Sound Blaster AWE32 sound card for its General MIDI support.

A SoundFont can contain several presets grouped into banks. Presets refer to one or more instruments which are distributed over a keyboard by key and velocity ranges. The sample data contained in the file is in mono or split stereo with 16 or 24 bit.

The conversion process creates one destination file for each preset found in a SoundFont file. The mono files are combined into stereo files. If the left and right channel mono samples contain different loops, the loop of the left channel is used.

There are metadata fields for creator and some description specified in the format. However, additional information like a category is retrieved from Broadcast Audio Extension chunks in the WAV files. If no such chunks are present an automatic detection is applied.

5.31.1 Source Options

- Log unused SF2 generators: If enabled, generators which are found in the source but are not used (not supported) as input for the conversion are logged.
- Prefix with file name: If enabled, the name of the Soundfont file is added to all resulting destination files.
- Prefix with program number: If enabled, the preset number of the preset is added to the resulting destination file.

5.31.2 Destination Options

- Re-sample 24-bit to 16-bit: If enabled, 24-bit source samples are converted to 16-bit files. Use this prevent issues with certain software which can only handle 16-bit samples.

5.32 Spectrasonics Omnisphere 3

Spectrasonics Omnisphere 3 is a software synthesizer designed for music production, sound design, and film scoring. It combines sample-based sounds with multiple synthesis methods and includes a large library of presets, effects, and modulation tools. Its user interface supports the import of single samples but not multi-samples. But `ConvertWithMoss` can create multi-samples as well. Factory files have a slightly different format and are not supported.

Several file types are relevant:

- `.db`: these files contain one or more samples.
- `.zmap`: these files contain the basic multi-sample layout and reference one or more db files.
- `.prt_omn`: these files represent one preset which reference one to four zmap files.

The db files need to be in the same folder as the zmap file. The presets need to be in the Omnisphere patches folder under User.

First locate the Omnisphere STEAM folder on your computer. On Windows it is normally:

```
C:\ProgramData\Spectrasonics\STEAM
```

The db and zmap files are stored in:

```
<STEAM_FOLDER>\Omnisphere\Settings Library\Patches\User
```

The preset files are stored in:

```
<STEAM_FOLDER>\Omnisphere\Soundsources\User
```

You can create sub-folders in these folders as well.

5.32.1 Reading preset files

When reading preset files the related db and zmap files must be in the sub-folder `Soundsources\User` which is either in the same directory as the zmap file or in an up-wards directory.

5.32.2 Writing preset files

`ConvertWithMoss` creates a sub-folder for each source multi-sample. This folder contains all db files as well as the zmap and `prt_omn` files. Copy the whole folder to

```
<STEAM_FOLDER>\Omnisphere\Soundsources\User
```

then move the `prt_omn` file to

```
<STEAM_FOLDER>\Omnisphere\Settings Library\Patches\User
```

Note 1: You can create a sub-folder with the name of a category, e.g. “Vox Humana” and put it there. **Note 2:** When opening Omnisphere both the presets and soundsources need to be rescanned! If only the presets are scanned an error shows up that the soundsource cannot be located!

5.33 TAL Sampler

TAL-Sampler is an analog modeled synthesizer with a sampler engine as the sound source, including a modulation matrix and self-oscillating filters. Most of the presets in it’s library store the sample files in an encrypted format (`*.wavsmpl`), this format is not supported. Only presets using plain WAV or AIFF files are supported.

Choosing TAL Sampler as the destination format, creates a `talsmpl` file and stores all samples in a sub-folder by the same name. The samples of the source groups are distributed across the 4 layers of TAL Sampler in such a way that the key and velocity splits do not overlap. This is a workaround for the fact that TAL Sampler does not support overlapping samples. Since groups have only the name and trigger type as attributes, which

are not supported in TAL Sampler anyway, this should work in most cases. If there are still overlapping samples a warning is displayed.

5.34 Waldorf Quantum MkI, MkII / Iridium / Iridium Core

This family of Waldorf synthesizers supports the playback of multi-samples. One preset can contain 2 layers. A layer is a complete preset in itself and simply concatenates 2 single presets. Each preset can have up to 3 oscillators of which each oscillator can contain its own multi-sample. If this format is used as the source it produces 1 or 2 output presets, one for each layer. If used as the destination format, each group of the source multi-sample is applied to one of the 3 oscillators. If the source contains more than 3 groups, all zones of the additional groups are added to the multi-sample of the 3rd oscillator.

5.34.1 Destination Options

- Re-sample to 16bit/44.1kHz: If enabled, samples will be resampled to 16bit and 44.1kHz. While the device can play higher resolutions as well it might impact the performance.
- Options to write/update WAV Chunk Information

5.35 Yamaha YSFC

This format is used in many Yamaha Workstation. While the format is the same, the content is different.

5.35.1 Using it as the source format

The following file formats are supported as a source:

- Motif XS: X0A, X0W
- Motif XF: X3A, X3W
- MOXF: X6A, X6W
- Montage: X7A, X7L, X7U
- MODX/MODX+: X8A, X8L, X8U
- Montage M: Y2U, Y2L

The wave files in professional Yamaha libraries are often compressed. Such files are not supported. Furthermore, only self-contained libraries (= libraries which do not reference samples in other libraries) are supported.

So far, reading of Performances is only supported for some formats. This means that for all other formats only the basic multi-sample data is converted (no filter and envelopes data is converted).

Format	Performance Data
Motif XS: X0A, X0W	
Motif XF: X3A, X3W	
MOXF: X6A, X6W	
Montage: X7A, X7L, X7U with Performance Data	Yes
MODX/MODX+: X8A, X8L, X8U with Performance Data	Yes
Montage M: Y2U, Y2L	

5.35.2 Source Options

- Create multi-samples for:
 - Waveforms: this reads only the raw-multi-sample(s) without additional Performance information. Use this option if the Performances do not reference all multi-samples in the library/user-bank.
 - Performances: Only supported for Montage and MODX/MODX+ files and when Performance data is present in the file. This will create one multi-sample source for each Performance.

5.35.3 Using it as the destination format

Currently, the user and library formats of the Montage (not Montage M!) and MODX/MODX+ are available as the destination format. The backup formats X7A and X8A are supported only as a source. The structure is as follows (bottom-up):

- A key-group references several samples which form a multi-sample setup (key-/velocity ranges)
- An element references 1 key-group (adds synthesis parameters)
- A part can contain up to 8 elements (this forms already a complex setup with layers and ranges)
- A performance can contain up to 16 parts (e.g. to perform a song by muting, soloing parts via scenes)
- A library contains several performances

Destination Type: Preset or Preset Library

When creating presets or libraries as the destination type, each multi-sample source creates one performance with one active part. Each group of the the multi-sample source is assigned to 1 element for which 1 key-group is created as well which contains the samples. If there are more groups than elements, the remaining groups are all added to the last element. If there are no groups all samples will be assigned to key-group/element one.

Note: There are no checks that the created libraries stay in the boundaries of the workstation specifications (e.g. the number of the maximum allowed samples or the required memory size)!

Destination Type: Performance or Performance Library

When creating (ConvertWithMoss) performances as the destination type, each performance source creates one (Yamaha) performance with one active part for each multi-sample (instrument) of the source. Since the parts 9-16 can only be addressed externally and even worse they have a fixed MIDI channel only the parts 1-8 are used. MIDI channels of the instrument sources are mapped to scenes. Scene 1 represents first MIDI channel of the instrument sources, Scene 2 the second and so on until Scene 8. Each instrument source is assigned to 1 part. The keyboard is enabled for the scene with the respective MIDI channel. If the MIDI channel is set to OMNI it is active for all scenes.

If there are more than 8 instruments sources the following strategy is applied to reduce them to a maximum of 8:

1. All instrument sources are grouped by their MIDI channel. If there are more than 8 different MIDI channels, the highest of them are removed since they couldn't be mapped to scenes anyway.
2. If there are still more than 8 instrument sources, 2 instrument sources with the same MIDI channel and (if possible) the same key-range are aggregated into 1 instrument. Such aggregations are repeated until there are no more than 8 instrument sources.
3. Each of the up to 8 instrument sources is finally mapped to 1 performance part.

Other mappings are identical to creating presets/libraries.

5.35.4 Destination Options

- File Format: Chooses the output format which is created.
- Create only Waveforms: No Performances will be written. Only Waveform data.

6 Changes

6.1 18.1.0

- New: Added CLI parameters ProcessAlwaysResample and ProcessLoopCrossfade.
- New: Added processing option to set a fixed loop cross-fade.
- New: Redesign of processing dialog.
- Elektron Tonverk (thanks to Douglas Carmichael)

- New: Sample chunks are only written when a loop is present and instrument/broadcast audio chunks are off by default since the Tonverk WAV parser is strict (factory files only contain ‘fmt’, ‘data’ and ‘smp1’ chunks).
- Fixed: The preset file is now written with the correct ‘elmulti’ extension (was ‘emulti’) which the Tonverk requires.
- Fixed: Samples are now physically trimmed to the zone start/end instead of writing ‘trim-start’/‘trim-end’ which the Tonverk only supports for single-file multi-samples and rejected the preset otherwise.
- Fixed: Loop positions written to the preset file were not updated for re-sampling and trimming. Loops are also clamped into the sample boundaries and short single-cycle loops keep their exact length when re-sampling to prevent pitch drift.
- Fixed: A velocity layer with velocity 0.0 made the Tonverk reject the whole preset and import the WAV files as loose samples. The factory default velocity is used instead.
- Fixed: The key-center was written with an inverted tuning direction.
- Fixed: Sample file references in the preset file could differ from the written WAV file names if a zone name contained characters which needed to be replaced. Samples are now named following the Elektron factory convention ‘Name-VVV-NNN-note.wav’.
- Fixed: ‘keep-looping-on-release’ is now written for looped samples (the Tonverk otherwise stops looping on key release).
- Fixed: Preset names containing a single quote produced an invalid preset file.
- Ensoniq EPS/EPS16+/ASR-10
 - New: Added a ‘P’ in front of the Patch-number for better readability.
 - Fixed: EFE files which use “Instrument” instead of “Instr” as the file type identifier could not be loaded.
- Omnisphere 3
 - Fixed: Samples with a delayed play-back start were not written (empty db-file).

6.2 18.0.0

- Added support for Elektron Tonverk elmulti.
- Added support for Omnisphere 3.
- Added support for reading Roland S-50, S-330, S-550, W-30.
- Added support for reading Roland S-750, S-770, S-760, DJ-70, DJ-70 MkII, and SP-700.
- Added support for loop tuning: Ableton ADV/ADG, EXS24, Korgmultisample, Kontakt, SFZ, YSFC (partially).
- New: Processing can now up-sample as well (option: ‘Always re-sample’).
- New: Removed renaming feature.
- New: Made settings and processing dialogs non-resizable.
- Fixed: Processing did not work when Normalize was not enabled.
- Fixed: Processing did not work for 12-bit samples.
- 1010music samplers
 - New: If there are overlapping sample zones which so far cannot be handled by the 1010music samplers, the overlapping ones are removed to create limited but working output files.
- Akai MPC
 - New: Combined “Akai MPC Keygroup” and “Akai MPC Project/Track” detectors to “Akai MPC Modern”.
 - New: Added support to read JSON based .xpm files.
- Akai S1000/S3000
 - Fixed: Loops were not imported.
- ISO File
 - New: Added detection of Ensoniq EPS/ASR ISOs.
 - New: Added detection of Roland images.
- Kontakt 4
 - Fixed: Added some workarounds for malformed umlauts in author field.

- Korgmultisample
 - Fixed: Sample files are now already checked for existence during scanning the sources. If the sample file is not found, it is searched in the same folder as the korgmultisample file.
- NI
 - New: Renamed “Kontakt NKI” to “NI Kontakt”.
 - New: Renamed “Maschine Sound” to “NI Maschine”.
- SFZ
 - New: Improved layout of metadata header with long description texts.
- WAV
 - Fixed: When writing WAV files the padding byte was counted as content.
 - Fixed: When writing WAV files preserve the chunks ‘meta’, ‘atem’ and ‘ID3’.
 - Fixed: Don’t overwrite WAV samples multiple times if they already exist
 - Fixed: Failed resolution conversions are now logged properly.
 - Fixed: Conversion from 32-bit float to 16-bit PCM did not always work.

6.3 17.1.0

- Added support for reading Ensoniq Mirage disks (*.hfe*, *.img*, **.edm*).
- Added support for reading Ensoniq EPS/EPS16+/ASR-10 disks (*.hfe*, *.img*, *.gkh*, *.ede*, *.eda*, *.efe*).
- Ableton Sampler
 - New: Read/write of round-robin setting (requires Ableton 12).
 - New: Add a creator option to either write files for Ableton 11 or Ableton 12.
 - New: Constant Power XF is set now to true (instead of linear crossfade).
 - Fixed: Transposition was off by 1 octave when writing.
- EXS24
 - Fixed: Group volume was not decoded correctly.
- Yamaha YSFC
 - Fixed: Samples need to be fixed to 44.1kHz (includes up-sampling).

6.4 17.0.0

- Added support for reading Akai MPC60 programs.
- Added support for reading Akai MPC500/MPC1000/MPC2500 programs.
- Added support for reading Akai MPC2000/MPC2000XL/MPC3000 programs.
- Added support for reading Akai S900/S950 programs.
- Added specific entry for Akai S1000/S3000 (and not only generic ISO). Searches for IMG files as well.
- New: Source formats show their file endings with a tooltip.
- ISO File
 - New: Added support for MPC2000 format.
 - New: Shows an info text if it is a plain ISO 9660 file which can be accessed with OS functionality.
- Korg KMP
 - Fixed: Velocity layers need to be stored in separate KMP files.
- Yamaha YSFC
 - Fixed: Libraries are now limited to a max. of 128 performances.
 - Fixed: The performance names are now limited to 20 characters.

6.5 16.5.1

- Fixed: Processing: Sample reduction did not always work and improved logging.

6.6 16.5.0

- Added support for discoDSP Bliss.
- Added option to maximize samples.

- Added several options to minimize the size of a multi-sample.
- New: Improved sample writing progress logging output.
- Fixed: Don't report WAV files with padded zeros at the end as broken.
- 1010music Samplers
 - New: If the source material contains layered samples, a warning will be displayed.
- DecentSampler
 - New: Write seqLength attribute for group as well.
- Kontakt 5+
 - Fixed: Envelope hold and decay times were reversed.

6.7 16.2.0

- Added support for reading Akai MESA (*.s3p).
- Added support for reading Akai S1000/S3000 series images (*.iso).
- Fixed: Gain could not be set below +0.125dB.
- Fixed: Reading broken WAV files could make ConvertWithMoss hang.
- Ableton ADV, Sf2, TX16W, Yamaha YSFC
 - Fixed: Negative fine tuning values could be off by 1 when written.
- Akai AKP, MPC XPJ/XTY, TAL Sampler, TX16W
 - Fixed: Reading: Pitch-bend down was inverted (pitching up instead of down).
- DecentSampler
 - Fixed: Creating presets did miss adding seqMode attribute for round_robin groups.
- EXS24
 - Fixed: Writing: Coarse and fine tuning was always set to 0.
- Sf2
 - Fixed: 24-bit samples were not extracted correctly when read.

6.8 16.1.1

- Fixed: Application could not be closed if it was installed for the first time.
- Kontakt
 - Fixed: Prevent a crash when InternalModulator cannot be read.

6.9 16.1.0

- Added support for reading Akai MPC XPJ and XTY files.
- Akai AKP/AKM
 - New: Renamed “Akai S5000/S6000” to “Akai AKP/AKM”.
 - New: Added reading support for Akai Z4/Z8/MPC4000 AKP/AKM format.
 - New: Added version information to the log file.
 - New: Improved conversion of filter resonance.
 - New: The root note is now modified instead re-pitching it via tuning parameter.
- Akai XPM
 - Fixed: Never read loops from WAV files.
- SFZ
 - Fixed: Prevent creation of filter type with poles not supported by SFZ (2 poles will be set in such a case).

6.10 16.0.0

- Added reading support for Akai S5000/S6000 AKP/AKM format.
- User Interface
 - Moved several setting to a specific Settings dialog.
 - Updated button icons.
- Fixed: Tuning value was set for panning.

- Kontakt
 - Fixed: Tuning was not written correctly.
- MPC Keygroups
 - New: Added an option to ignore loops

6.11 15.5.1

- Fixed: Split-stereo files were not combined into stereo files for formats which require it (e.g. Bento).

6.12 15.5.0

- Added support for 1010music Bento
- Fixed: The header of written FLAC files did not contain the sample length, which is valid but many readers rely on that value and crash otherwise.
- 1010music blackbox
 - Fixed: Empty sample trick for silent ranges was applied to single presets as well but the sample was not added.
- DecentSampler
 - Fixed: If the *Template and resources folder* was not set, the current folder was copied completely.
- Maschine 2/3
 - Fixed: Added workaround for presets which have set *Sampler* in the sound info as their name.
- MPC
 - New: The file version and source platform is now logged.
 - New: Improved check for valid loops. If none is present it is loaded from the WAV file if present.
- TAL Sampler
 - New: Conversion does not stop after first missing sample. All missing samples are logged.
 - Fixed: Could not read file when the program element had more than 200 attributes.
 - Fixed: Version 11 of the format has now a double to indicate if a layer is enabled or not which led to empty results.
- Yamaha YSFC
 - Fixed: End of loop was always set to the end of the sample.

6.13 15.1.0

- New: Added support for Maschine 1 MSND files.
- Fixed: Application icons show up again.
- Maschine MXSND
 - Fixed: Older Maschine 2 files were not converted correctly or did show exceptions.
- MPC Keygroups
 - Fixed: Don't read loops from WAV files which can cause unwanted full loops.

6.14 15.0.0

- New: Added support for Maschine MXSND files.
- Fixed: Restoration of main window on startup ensures that it is at least 25% visible on the screen.
- Fixed: CLI: Some parameters could be falsely rejected.
- 1010music
 - Fixed: Improved lookup of samples when reading presets.
- EXS
 - Fixed: Read loop cross-fade was not calculated correctly (integer instead of double).
 - Fixed: Loop cross-fade was written as samples not as milliseconds.
- SF2
 - New: Use all metadata fields for category detection if none could be extracted from the path.
- SFZ
 - Fixed: Read loop cross-fade was not calculated correctly (integer instead of double).

- Fixed: Writing loop cross-fade was not calculated correctly (was rounded to full seconds).

6.15 14.2.0

- Kontakt
 - Fixed: Reading: Fixed an issue reading internal modulators.
- Korg KSF
 - Fixed: Reading: The play-back end is now set to the length of the sample to prevent issues with output formats which require the end (e.g. Korg wavestate).
 - Fixed: The KSF loop end is exclusive and therefore was off by 1.
- Soundfont 2 (thanks @douglas-carmichael)
 - New: Added option to resample 24bit to 16bit.
 - Fixed: Always writes a global chunk.

6.16 14.1.0

- Logging: Improved logging output of missing samples. Added ConvertWithMoss version number and source/destination-format to log.
- Sample search: Added support for finding samples with wrong upper/lower case in the extension of the samples name.
- Improved processing cancellation.
- DecentSampler
 - New: The value for the amplitude velocity sensitivity is now initialized in the template via the new variable %ENV_VELOCITY_SENSITIVITY%.
 - New: The delay Mix default value is now set to zero in the template.
- Kontakt
 - Fixed: Reading of Soundinfo could fail in rare cases with file version 4.2.
 - Fixed: File lists of version 4.2.4 and 5.0.x were not always read correctly.
- Yamaha YSFC
 - Fixed: Montage files were not written correctly.

6.17 14.0.0

- The application can now be run without the user interface for batch processing via the command line interface (CLI). See the manual for details.
- The destination type has now a new option which allows to create performance libraries. Currently, only the Yamaha YSFC format is supported.
- 1010music
 - New: Can be a source format for performances.
 - New: Accept sample cells which are set to granular as well as a source.
 - Fixed: Filter cutoff frequency was not read correctly.
- Kontakt
 - New: Can be a source format for destination types library and performance.
 - Fixed: MIDI channels for Kontakt 4.2 multis were not read.
- Korgmultisample
 - Fixed: Potential crash when source file has no creation date set.
- TX16Wx
 - New: Can be a source and destination format for performances.
- Yamaha YSFC
 - New: Can be a source and destination format for Performances.
 - Fixed: Pitch Key Follow Sensitivity was not read/written.
 - Fixed: Filter types were not always mapped correctly.

6.18 13.1.0

- DecentSampler
 - New: Amplitude envelope settings are now aggregated to group or instrument level if they are identical.
 - New: The template effects.xml is now integrated into the ui.xml for simplicity reasons and brings new features (see the manual!).
 - New: Added an option to always add a low-pass filter on a group level. Enable it if you want to have controls for a filter envelope in your template.
 - New: Added a more fancy UI template with a volume envelope, filter incl. envelope, delay, reverb effect and pitch-modulation via mod-wheel.
- Korg KSC/KMP/KSF
 - New: KSC files get now a DOS-safe filename as well. Check for duplicated names is now separate for folders and normal files.
- Sample Files
 - New: Added option to ignore the loops in the source sample files.
- SFZ
 - New: Amplitude envelope settings are now aggregated to group or global level if they are identical.

6.19 13.0.0

- New: Rearranged the destination area of the user interface. There is now a new section which allows to switch between creating single patches, libraries containing multiple patches and performances which contain a certain configuration of patches (e.g. different MIDI channels). Output formats are filtered to the ones which support these options.
- New: Improved maximum size of RIFF files that can be written.
- Fixed: Envelope could be wrong if the input envelope uses the hold-time instead of decay-time and the output format does not support a hold-time.
- Fixed: The logging does now always scroll fully to the end when the conversion or analysis process has finished.
- 1010music format
 - New: Can be a destination format for Performances (see the manual for details).
 - New: Stereo-split samples are now combined (if possible) to stereo samples since the format does not support panning on a sample level.
- Kontakt
 - New: Kontakt can be an input format for Performances (see the manual for details).
 - New: Kontakt 4.2-7: Pitchmodulation by Pitchbend and Amplitudemodulation by Velocity are now read.
 - Fixed: Fixed crash with reading envelopes from NI-container.
- Decent Sampler
 - New: Write: There are now templates for the UI and effect sections which can be modified as well as further resources can be added automatically. See the manual for more info.
 - New: Read: Filter and pitch envelopes are now read as well.
 - Fixed: Read: Loops were not read from wave files when loop info was missing in DecentSampler file.
 - Fixed: Read: seqMode and seqPosition were falsely reported as not used.
 - Fixed: Write: Curve settings were not applied for filter and pitch envelopes.
 - Fixed: Write: Pitch envelopes do work now.
- Korg KSC/KMP/KSF - Read
 - New: Added option to load KSC files (instead of only KMP). Combines related mono files into stereo files.
 - New: The long name stored in the KMP is now set as the multi-samples name instead of the short filename.
- SF2
 - New: Added support to write as library (adds all found source-multi-samples into 1 sf2 file).

6.20 12.2.2

- Fixed: Checking for empty output folder ignores now the ConvertWithMoss log file.
- EXS
 - Fixed: The loop end was off by 1.
- SF2
 - Fixed: Added support for reading missing generators: startAddrOffset, endAddrOffset, start-loopAddrOffset and endloopAddrOffset.
- SFZ
 - Fixed: Loops were not read from wave files when loop info was missing in SFZ file.

6.21 12.2.1

- EXS24
 - Fixed: Creating EXS files was broken (0 > -24).
- Kontakt 2
 - New: Round-robin information is read.
- Reason NN-XT
 - Fixed: Sample indices were not written correctly (every group started again to count from zero).

6.22 12.2.0

- Fixed: Sample files with problematic characters in their name got updated accordingly but not the references to them.
- Ableton ADV
 - Fixed: Reading: Velocity range settings did overwrite the key range settings.
- Kontakt 1/2
 - Fixed: Improved detection of metadata like name, category and description.
- Kontakt 5-7
 - New: Reading amplitude and pitch envelopes is now supported.
 - New: Added automatically finding samples with wrong absolute or relative paths.
 - Fixed: Monolith NKIs which referenced a NCM file more than once could not be converted.
 - Fixed: AIFF files could be treated as WAV files.
- WAV - Read
 - Fixed: Split stereo files were not combined to stereo file instead only the left side was included.
 - Fixed: Samples could (still) have doubled file endings (.wav.wav).
- Waldorf QPat
 - Fixed: Split stereo files were not combined to a stereo file instead only the left side was included.
 - Fixed: Fine tune was applied in the wrong direction.

6.23 12.1.0

- Fixed: Most of the created files had two dots before the file extension.
- Fixed: Output folder was not checked for existence when only Analyze was executed but it is required now for the log file.
- Fixed: Crash when left/right WAV files should be combined to stereo.
- DecentSampler
 - Fixed: Added workaround for absolute sample paths in dslibrary files.
- Kontakt
 - New: Improved category detection, especially for Instruments in NKM files.
- Kontakt 1/2
 - Fixed: Improved lookup of sample files which are referenced by absolute paths.
 - Fixed: Added support for file paths which include encoded UTF-8 characters in the format of %xxxx.
- Kontakt 5+

- Fixed: File could not be read if a sound description was set.

6.24 12.0.0

- New: Implemented a new logging component. Much faster and does not crash anymore.
- Fixed: Sample files with illegal file system characters could not be created.
- Yamaha YSFC
 - New: Performances can be created in destination libraries for Montage and MODX/MODX+ (optional).
 - New: Performance data of Montage and MODX/MODX+ can now be read and applied.
 - New: Waveform data of Montage M (*.Y2U) can now be read as well.
 - New: Added progress logging when extracting samples from a library.
 - Fixed: Library files of pre-Montage models were not read correctly.
 - Fixed: Waveform panning was not always correct.

6.25 11.7.0

- New: Writing of samples can now be cancelled as well.
- Fixed: Logger text is now cleared regularly to prevent a crash. To have the log still available, all messages are now logged into a file ConvertWithMoss.log which is created in the output directory.
- Kontakt
 - Fixed: Regression: Reading Kontakt 5-7 file lists were broken.
 - Fixed: NCW files are now only read when needed for writing and the memory is freed up directly afterwards to support NKIs which reference a very large amounts of NCW files.
- Korg KMP
 - New: KSF files which reference another KSF file are now read properly.
 - New: Reading: Applied +12dB option.
 - New: KMP/KSF files which contain SKIPPEDSAMPLE as a filename are now ignored (conversion was canceled previously).
- Sample Files
 - New: Notify about the number of sample files found in a folder before the mapping starts.

6.26 11.6.0

- EXS24
 - New: Added support for round-robin. Files are larger now since this info is in an additional block.
 - Fixed: Reading: group indices were off by 1.
- SFZ
 - New: Added support for round-robin on group-level (not only zone-level).
- Kontakt
 - New: Added support reading for Kontakt 8
 - New: Added support for reading new file lists in 7.10+.
- Korgmultisample
 - Fixed: Files created with Sample Builder 1.2.7 could not be read.
 - Fixed: If a korgmultisample file was located in a subfolder, its samples could not be found.

6.27 11.5.0

- Added support for Waldorf Quantum MkI/MkII, Iridium, Iridium Core sample format.
- Checking if destination folder is empty ignores now OS thumbnail files like .DS_Store on MAC and Thumbs.db on Windows.
- Decent Sampler
 - New: Added logging of line/column numbers with the error if the dspreset file cannot be parsed.
- EXS24
 - Fixed: Parameters were not correctly read/written. Already created files should be created again.

6.28 11.4.0

- Decent Sampler
 - New: Added support dspresets using AIFF files.
 - New: Added option to (not) log unused XML elements and attributes. This is off by default since the warnings confused many users.
 - New: Tweaked envelope times a bit.
 - New: Removed groups which are disabled (since there is no way to translate the modulated activation to other formats).
 - New: Filters on group level are now read as well.
 - New: Improved mapping of round-robin
 - Fixed: Added support for note numbers with a prefixed 0 (e.g. '060').
 - Fixed: Global filter was not read.
- EXS24
 - New: Removed excessive logging when searching for a sample.
 - Fixed: Data chunk offset was mostly not correctly written to EXS.
- Sample Files
 - New: Implemented workaround for reading WAV files with a non-standard chunk at the end.
- Sf2
 - New: Added option to (not) log unused SF2 generators. This is off by default since the warnings confused many users.

6.29 11.3.0

- Ableton ADV
 - Fixed: Date of last sample change was in milli-seconds but needs to be seconds. Ableton 12 refused to load the file.
- EXS24
 - Fixed: Reading failed due to a not-removed log-output.
- MPC Keygroups
 - Fixed: The loop crossfade was not converted correctly in both directions.
- Sample Files
 - New: Implemented workaround for reading broken WAV files which have the wave data after the data chunk.
 - Fixed: Sample detection stopped already when no files were found for one sample format.
 - Fixed: Do not stop detection when no common name could be found among the input samples but use the name of the first sample.

6.30 11.2.0

- New: Source and destination path stores now the last 20 selections.
- New: Implemented loading of AIFF files since some crashed the Java Sound API.
- DecentSampler
 - New: Added option to create a dsbundle as output format.
 - New: Added option to combine all detected multi-sample sources into one library or bundle.
- Korg KMP
 - New: Proper support for stereo files. Turns out these workstations cannot play back real stereo files, therefore, a stereo file needs to be split into 2 KMP files.
 - New: Additionally, a KSC file is created to ease loading of stereo files.
 - New: Added 2 options to increase the volume.
 - New: Added option to split source groups into individual KMPs.
 - New: Increased sample rate limit to 48kHz (was 44.1kHz).
 - New: Improved creating unique folder names for KMP files.
 - Fixed: Zones needed to be ordered by their upper key-limit otherwise the file did not work and could even crash the workstation.

- Fixed: Reverse playback state was not read correctly.
- Fixed: Prevent several characters in file names which could crash the workstation.
- MPC Keygroups
 - New: Added option to create up to 8 layers which is now supported with MPC Firmware 3.4.
- SFZ
 - New: Added support for reading SFZ files which reference other SFZ files with `#include` statements.
 - New: Added option to (not) log unsupported SFZ opcodes. This is off by default since the warnings confused many users.
- Soundfont 2
 - New: Added options to add the filename and the preset number to the resulting destination file names.

6.31 11.1.0

- New: AIFF/WAV files are now lazy loaded which keeps the memory usage down.
- EXS24
 - New: Increased the directories upwards search option to 6.
- KMP
 - Fixed: Creation did crash.
- Sample Files
 - New: Aggregated AIFF and WAV sources into ‘Sample Files’ source. Added AIFF, FLAC, NCW and OGG files as well. All types can be selected and detected at once.
 - Fixed: Note detection from file names could be wrong when flat notes were part of it (e.g. Eb2 was detected as B2).
 - Fixed: Category detection on sample file names did not always work

6.32 11.0.0

- Added support for Yamaha YSFC format (read/write: Montage, MODX/MODX+, read: Motif XS, Motif XF, MOXF).
- Bitwig Writing
 - New: Support for RIFF chunk updates (fixes issues with certain MPC WAV files as source).

6.33 10.6.0

- All formats
 - New: If multi-samples with the same name are created during a conversion process, unique postfixes are now appended.
 - Fixed: Average bytes per second was not stored correctly in WAV files.
- Kontakt - Reading
 - New: Support for NCW files with 32-bit float samples.

6.34 10.5.0

- Several accessibility improvements and fixes:
 - Button mnemonics were partially broken.
 - Improved order of tabulator traversal.
 - Added more tooltip info
 - Set default button states, can be execute by pressing *Return*.
- Fixed: Switching off dark mode required a restart.
- All formats
 - Fixed: Fixed a crash when envelope was not set.
- AIFF/WAV
 - Fixed: Velocity layer information was removed from file names which lead to duplicate filenames.
- Reason NN-XT

- Fixed: Reading/Writing negative tunings was broken.

6.35 10.2.0

- Kontakt 1-4, MPC Keygroups, Soundfont 2, TAL Sampler, TX16Wx
 - New: Added support for amplitude and filter velocity modulation.
- Kontakt - Writing
 - New: Improved pitch envelope.
- Kontakt 4.2-7 - Reading
 - Fixed: Group volume, panning and key-tracking was not applied.
- EXS, SXT, TX16Wx - Reading
 - New: Speed up finding samples.
 - Fixed: If levels to search upwards was set to 0, it did not search downwards.
- WAV
 - Fixed: Reading/writing the pitch fraction field of the sample chunk was not always correct.

6.36 10.1.0

- All formats
 - Fixed: Increased the heap memory to 64GB to support larger source files.
 - Fixed: WAV files in 32-bit float can now be converted to 16-bit PCM (workaround for bug in Java AudioSystem).
- 1010music format - Writing
 - New: Added an option to trim samples with a delayed start.
- disting EX - Writing
 - New: Added an option to trim samples with a delayed start.
 - Fixed: The MIDI note for the switch (SW) was off by 1 octave (disting assumes C3 as MIDI note 48 instead of 60). This caused playback issues.
 - Fixed: Release trigger groups are now removed from the output since the distingEX does not support release triggers.
- SFZ
 - Fixed: Pitch bend was by factor 100 too small (semi-tones instead of cents).

6.37 10.0.0

- Added support for disting EX multi-sample preset format.
- All formats
 - New: Added support for amplitude and filter velocity modulation (1010music, Ableton ADV, SFZ). Only amplitude: DecentSampler, EXS24.
 - Fixed: Improved handling of missing root note information.
- 1010music format - Reading
 - Fixed: Samples could not always be found.
- EXS - Writing
 - Fixed: Filter cutoff was calculated incorrectly and could lead to silent patches.
 - Fixed: Envelope parts which were not set were handled incorrectly.
- SFZ - Reading
 - Fixed: Attributes of previous converted SFZ did leak into next conversion.
 - Fixed: Only create a filter when there is at least a cutoff or filter type attribute present.

6.38 9.5.0

- Added support to write Soundfont 2.
- All formats
 - Fixed: In rare cases key-ranges could be stored incorrectly if not fully present in the source file
- 1010music format - Writing

- New: Set samtrigtype to zero if one-shot.
- Fixed: Writing sample start, length and reverse were missing.
- DecentSampler - Read
 - Fixed: The sub-folder which contains the library/preset was added to the name which could cause issues in the destination format.
- Sf2 - Reading
 - Fixed: Pitch envelope was only set when a filter was present as well.
- TX16Wx - Read
 - Fixed: samples could sometimes not be found on MacOS/Linux
- WAV - Read
 - New: Metadata is now read from info sub-chunks and stored in the Comment metadata field.
- WAV - Write
 - Fixed: Update of Broadcast Audio chunk did fail if no date/time metadata was set.
 - Fixed: Destination file name could be empty if ‘prefer folder name’ was selected.

6.39 9.0.1

- Ableton - Read/Write
 - Fixed: The template contained an error and resulting ADV files could not be loaded in Ableton.
 - Fixed: Names from ADG files were not unique.

6.40 9.0.0

- New: Added support for Ableton ADV (read/write) and ADG (only read) files.
- New: Added support for creating multi-samples from AIFF files and the contained metadata.
- New: Envelope improvements
 - SFZ: Added attack, decay and release slope attributes to amplitude, filter and pitch envelopes.
- DecentSampler - Read
 - New: Read/write amplitude attackCurve, decayCurve and releaseCurve attributes.
 - Fixed: When processing a dslibrary file the name of the library file was always used as the destination preset name instead of the dspreset name. Therefore, only one preset from the library was created.
- Kontakt 1-2 - Read/Write
 - New: Added attack curve to amplitude, filter and pitch envelopes.
- MPC Keygroups - Read/Write
 - New: Added attack, decay and release slope attributes to amplitude, filter and pitch envelopes.
- TX16Wx Read/Write
 - New: Added attack, decay and release slope attributes to amplitude, filter and pitch envelopes. Added all envelope levels.
- WAV - Read
 - New: If the name ends with a dash it is removed.
 - Fixed: Samples could have doubled file endings (.wav.wav).
 - Fixed: If Instrument chunks were present in the files, the conversion did not work (there was an error shown that the MIDI note could not be detected which was misleading as well).

6.41 8.5.1

- Kontakt - Reading
 - Fixed: In Kontakt 4.2 to 7 the loop data was not read correctly. This could create loops of length 0 for One-Shots.
- Multisample - Write
 - Fixed: Bitwig could not process the ZIP compressed samples due to an added info field. Additional info is removed again.

6.42 8.5.0

- Added support for reading and writing CWITEC TX16Wx (*.txprog) files.
- Added support for reading and writing Propellerhead Reason NN-XT (*.sxt) files.
- All formats
 - New: Added chunk update settings to all output formats that reference WAV files.
 - Fixed: Fixed some issues with conversion of filter and pitch envelope modulation depth.
- Decent Sampler
 - New: Minimum version is now set to “1.11”.
 - New: Added support for new filter types: lowpass, lowpass_1pl, bandpass, highpass, peak and notch.
 - New: Added filter envelope.
 - New: Added support for panning.
 - New: Removed all knobs except reverb settings to be able to set these parameters on the samples level.
- Kontakt - Reading
 - New: Use category detection when category is set to ‘New’.
- SFZ - Writing
 - Fixed: The length of the loop crossfade was calculated incorrectly.
- MPC - Writing
 - New: Set filter on groups from 1st zone of the group instead of the 1st zone of the 1st group.

6.43 8.0.0

- Added support for reading and writing Logic EXS24 files.
- Fixed: Font color of logger in light mode was wrong.
- NKI - Read
 - Fixed: A proper error message will be output if a sample file is missing.

6.44 7.5.0

- All formats
 - New: Implemented workaround to accept AIFF files with an ending of ‘aiff’ (instead of only ‘aif’).
- 1010music format - Writing
 - New: Added option to convert samples to 24bit/48 kHz which saves a bit on processor power on the 1010music devices.
- Korg KMP - Writing
 - Fixed: Loop points were not correct when the source sample was not 44.1kHz.
- SFZ - Reading
 - New: Added support for SFZ files which use sample files in OGG or FLAC format.
- SFZ - Writing
 - New: Added option to create FLAC samples.
 - New: Added options to write instrument, sample and broadcast audio chunks.
- TAL Sampler - Reading
 - Fixed: Metadata configuration widgets were missing.

6.45 7.4.0

- Added support for 1010music format (blackbox, tangerine, bitbox).
- All formats
 - New: Support for creation date/time in formats which support it.
 - New: Unsupported WAV file metadata chunks are kept when read/written.
 - New: Samples in ZIP files get the modification date of the multi-sample source.
 - New: Added ‘Hammond’ as organ synonym and ‘Ambient’ and ‘Atmo’ as pad synonyms in category detector.

- Fixed: Tab labels were not visible on Linux.
- WAV - Reading
 - New: Reads metadata (originator, description, creation date/time) from the broadcast audio chunk (if present) of the 1st WAV file.
- WAV - Writing
 - New: Added options to write instrument, sample and broadcast audio chunks.
 - Fixed: WAV file chunks were not aligned to multiples of 2.
- SFZ, DecentSampler, MPC Keygroup, TAL Sampler - Reading
 - New: Reads metadata (originator, description, creation date/time) from the broadcast audio chunk (if present) of the 1st WAV file.
- SFZ, DecentSampler, MPC Keygroup, TAL Sampler - Writing
 - New: Writes metadata (originator, description, creation date/time) to the broadcast audio chunk of all WAV files.
- MPC - Writing
 - Fixed: The sample chunk of a MPC destination WAV file was missing the number of loops value.

6.46 7.3.0

- Added support for TAL Sampler format (reading + writing).
- Improved user interface.
- Sf2 - Reading
 - Fixed: 24 and 16 bit detection were flipped and produces an exception.
- SFZ - Reading
 - New: AIFF files can be used as input.
- Kontakt - Reading
 - Fixed: Zone tuning was not set correctly.
 - Fixed: If a file was referenced more than once in a monolith, all of them had the same zone settings.
- Korg KMP - Reading
 - Fixed: Pitch tracking was inverted.

6.47 7.2.1

- DecentSampler - Writing
 - Fixed: Tuning was not set correctly
- Kontakt - Reading
 - New: Support for Kontakt 7.6.
 - Fixed: Kontakt 5-7: Sample zones from monolith files did miss all settings.
 - Fixed: Kontakt 5-7: Pitch was not handled correctly.

6.48 7.2.0

- Kontakt - Reading
 - New: Support for Kontakt 4.2 and 5-7 NKMs.
 - Improved: Detection of encryption.
 - Fixed: Improved Kontakt 5-7 file path reading and handling.

6.49 7.1.1

- Kontakt - Reading
 - Fixed: Regression from 7.1.0 - Kontakt 5-7 files could not be read at all.
 - Fixed: Kontakt 5-7 relative paths can contain redirections to parent directories which were not added.
 - Fixed: Support for Kontakt 2 files which contain an XML document with a leading UTF-BOM.

6.50 7.1.0

- Fixed: Loops could be incorrect if sample rate was not 44.1kHz and audio file metadata could be wrong as well in that case.
- Korg KMP/KSF
 - New: Convert source samples to support bit resolutions (8, 16) and maximum sample rate of 48kHz.
 - Fixed: Improved check for duplicated DOS file names and unique ones are now created.
- Kontakt - Reading
 - New: Kontakt 2-4 monoliths in big-endian encoding are now supported.
 - New: Added support for alternative Kontakt 1 file-ex sample path reference.
 - New: Added support for Kontakt 1.5 files.
 - Improved: Finding samples when absolute sample file paths are used.
 - Fixed: Fixed several issues with Kontakt 2-4 monoliths.
 - Fixed: NCW files with mid/side encoding were not handled correctly.

6.51 7.0.0

- ‘(Velocity) Layers’ have been renamed to ‘Groups’ in the user interface.
- Fixed: Some issues with reading WAV files.
- MPC keygroups
 - Improved: Loop information is written to the WAV file which seems to be used by the MPC.
- Native Instruments NKI files - Reading
 - New: Conversion of Kontakt 4.2 - 7 files: metadata, zones, loops, NCW and monoliths files work but no support for envelopes and filters.
- Native Instruments NKI files - Writing
 - Fixed: Created Kontakt 1 files could be opened with Kontakt but not saved again due to the use of forward slashes for sample paths. Backward slashes are used now.
- Sf2 - Reading
 - New: Use filename (without ending) for instruments named ‘NewInstr’.
 - Fixed: Panning setting was not corrected when mono files were combined to stereo.
 - Fixed: If left and right sample had different lengths, the shorter sample had data from the following sample added.

6.52 6.3.0

- Default volume envelopes are applied based on the detected category if none is present.
- Decent Sampler
 - Fixed: Read: Wrong velocity range (0-0) when velocity settings were missing.
- MPC keygroups
 - Fixed: Read/Write: Improved mapping of envelopes.
 - Fixed: Write: Pitch was not correct.
- SFZ
 - Fixed: Increased allowed range of pitch values.
 - Fixed: Panning was not read / written.

6.53 6.2.1

- Decent Sampler - Reading
 - New: Implemented workaround for invalid XML document (contains comments before XML header).
 - New: Added support for notes which are formatted as text instead of MIDI numbers.
 - Fixed: Groups were not detected.

6.54 6.2.0

- Added support for reading Native Instruments NKM files (Kontakt Multis) in Kontakt version 1-4.
- Native Instruments NKI files - Reading
 - For Kontakt 5+ NKI files the exact version number is displayed (but reading is still not supported).
- Native Instruments NKI files - Writing
 - New: Intensity of default envelopes is now set to 1 (was 0).
 - New: The default pitch envelope has now 0 for all parameters.
 - Fixed: Envelope hold and decay were flipped.

6.55 6.1.0

- Tabs are now ordered alphabetically.
- Bitwig Multisample
 - Fixed: If a loop was set to Off it was still applied.
- Native Instruments NKI files
 - New: Added support to write NKI files in Kontakt 1 format.
 - New: Added support for AIFF files (will be converted to WAV).
 - New: Added support for reading Kontakt NKI files stored in big-endian format. But could not test with any monolith file, therefore an error is shown.
 - New: Added support for pitch envelopes.
 - New: Added support for filter settings and cutoff envelope.
 - Fixed: High velocity crossover value did overwrite low velocity crossover.
- Korg KMP
 - Fixed: Extracting groups into single KMP files did overwrite the KSF sample files.

6.56 6.0.0

- New: Added option to rename multi-samples (thanks to Philip Stolz).
- New: Improved mapping of envelopes to MPC keygroups (thanks to Philip Stolz).
- New: Added support for reading Kontakt NKI files (only the format of the versions before Kontakt 4.2 are supported, thanks to Philip Stolz).
- Fixed: Added missing reading of panning value.

6.57 5.2.1

- Fixed: Bitwig Multisample files with old layer formatting had duplicated layers as output.
- Fixed: Missing trigger types in Decent Sampler files did show an unnecessary error.

6.58 5.2

- New: Added support for trigger type (attack, release, first, legato) for SFZ, Decent Sampler, MPC Keygroups (only attack, release on instrument).

6.59 5.1

- New: WAV files are added as destination format e.g. in case you only want to extract WAV files from SF2 files.
- New: Store WAV ending in lower-case when converted from MPC Keygroups.
- Fixed: (Bitwig) Multisample files must not be compressed for faster access. Bitwig can also handle compressed files but other hosts supporting the format might fail. If you created Multisample files with this converter, simply run a new conversion on them with Multisample as source and destination to fix the issue.
- Fixed: Created (Bitwig) Multisample metadata file contained wrong group indices (off by 1).

6.60 5.0

- New: Added reading/writing of Korg KMP/KSF files.
- New: Added icons to the buttons.

6.61 4.7.1

- Fixed: Name detection was broken (if ‘Prefer folder name’ was off).
- Fixed: Akai XPM: Velocity range was not read correctly.

6.62 4.7

- New: WAV: Layer detection pattern fields are now checked to contain a ‘*’.
- Fixed: WAV: Having the layer detection pattern field empty led to undetectable MIDI notes.
- Fixed: WAV: The order of potential note names in file names could have been wrong and therefore a detection could fail.

6.63 4.6

- New: SF2, SFZ, MPC: Support for Pitch bend range settings.
- New: SF2, SFZ, Decent Sampler, MPC: Support for filter settings (incl. filter envelope).
- New: SF2, SFZ, MPC: Support for Pitch envelope settings.
- Fixed: SFZ: Logging of unsupported opcodes did add up.
- Fixed: SFZ: Sample paths in metadata now always use forward slash.
- Fixed: Decent Sampler: Sample files from dslibrary could not be written.
- Fixed: Decent Sampler: Tuning was not read correctly (off by factor 100).
- Fixed: Decent Sampler: Round-robin was not read and not written correctly.

6.64 4.5

- New: Support for amplitude envelope: Decent Sampler, MPC Keygroups, SFZ: read/write; SF2: read
- New: Decent Sampler: Support ‘tuning’ and ‘groupTuning’ on group tags as well as ‘globalTuning’ on the groups tag.
- New: SF2: Support initialAttenuation generator.
- Fixed: SF2: Sample files extracted from Sf2 were always set as 44.1kHz.
- Fixed: SFZ: Presets with illegal characters were corrected for the sample folder name but not in the SFZ file reference.
- Fixed: SFZ: Loop attributes were not read when loop_type was missing.
- Fixed: SFZ: Loop attribute alternative names loopstart, loopend were not read.
- Fixed: SFZ: Loop was not set to off when no loop was present.
- Fixed: MPC Keygroups: Loop end was not set correctly if different from sample end.
- Fixed: Decent Sampler: group name was wrongly reported as not supported.
- Fixed: WAV: Check of sample chunks when combining mono to stereo does now only require to have the same pitch.
- Fixed: Error message for left/right mono samples with different pitch was missing.

6.65 4.0

- New: Added reading/writing of Korg Wavestate (.korgmultisample) files.
- New: Added reading of Akai MPC Keygroup files.
- New: Added the WAV creator detector parameters to SFZ, Decent Sampler and MPC Keygroups as well.
- New: Added a dark mode.
- Fixed: WAV: Detection of root note from sample names could be wrong when multiple options apply and the last one was wrong.

- Fixed: SFZ: Ignore illegal characters in SFZ files.
- Fixed: Bitwig multisample: Key tune parameter was not stored correctly.

6.66 3.2

- New: Support WAV files in extensible format.
- New: SFZ: Create names for groups without a name.
- New: SFZ: Check for trigger opcode but only 'attack' is supported.
- Fixed: SFZ: Key values which did not use MIDI note numbers were not read (e.g. c#3).
- Fixed: Improved handling of large chunks in WAV files.
- Fixed: Fixed issues with sample paths created on different OS.
- Fixed: Fixed some issues with error message formatting.
- Fixed: Do not create the top source folder in the output folder (only the sub-folders).

6.67 3.1

- New: Akai MPC Keygroup - round-robin groups are now converted (up to 4).
- New: Akai MPC Keygroup - more than 4 groups can now be converted; this creates multiple keygroups.
- Fixed: Akai MPC Keygroup - root notes of samples were off by 1.

6.68 3.0

- New: Added writing of Akai MPC Keygroup files.

6.69 2.2.0

- New: DecentSampler creator got some options to choose which controls to create and to make the sound monophonic.
- Fixed: WAV detector: Upper group was not always 127.

6.70 2.1.1

- Fixed: WAV detector did not read loops from WAV files.

6.71 2.1

- Fixed: WAV detector did also deliver results for empty folders.
- Fixed: Setup for created DecentSampler Filter and Reverb is working now.

6.72 2.0

- New: Added reading and writing of DecentSampler preset and library files.
- New: Improved note detection from file names.
- Fixed: SFZ detector - global_label was not read.
- Fixed: SFZ parser - Comments at line end were not removed which conflicted with attribute values.
- Fixed: WAV detector - Crash if left and right mono sample had different lengths.
- Fixed: Creating folders for SFZ could raise an exception.
- Fixed: Source and destination tabs could be removed.