OSIRISedit

mod bap.
MODULAR
BY BEATPPL

Modbap Modular by Beatppl : OSIRISedit

Contents

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About Us

MODBAP MODULAR BY BEATPPL

Modbap Modular is a line of eurorack modular synthesizers and electronic music instruments by Beatppl. Founded by Corry Banks (Bboytech), Modbap Modular was born of the Modbap Movement with a simple mission to dev tools for beat driven hiphop leaning modular artists. It is our goal to develop eurorack modules from the beatmaker's perspective while adding value for music makers of all genres.

It's almost impossible to explain Modbap Modular without answering the questions; "So, what is ModBap?" MODBAP is the fusion of modular synthesis and boom-bap (or any form of hiphop) music production. The term was created by BBoyTech as a denotation of his experiments with modular synthesis and boombap music production. From that point forward, a movement was born where like minded creatives built a community around idea of Modbap. Modbap Modular is in effect, the result of that movement in a space where we'd previously not existed.

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www.modbap.com

Modbap Modular by Beatppl : OSIRISedit

Overview

OSIRISedit & WavPaks

Osiris is a wave select oscillator eurorack module. The default factory WavPak Wavetables are build into the module. Additional user or expansion WavPak Wavetables can be loaded to a removable Micro SD card used with Osiris.

To help create and edit wavetables compatible with Osiris an editor it is recommended to use OSIRISedit. This application is based on the Synthtech WaveEdit open source application and has been refined and developed to match up to the Osiris format for wavetables. For more information, visit https://synthtech.com/waveedit. OSIRISedit is available from the Modbap Modular site along with additional resources for OSIRIS.

The basic principle is to create or import wavetables and assemble firstly into wavetables and then convert to Osiris WavPak banks, formatted to be compatible with the eurorack device. Wavetables can be imported or 'drawn in' using the editing tools and effects applied to shape the sound. More precise editing features are available within the OSIRISedit pages offering a different view for editing the wavetables.

INSTALLATION

Follow the installation instructions carefully.

1. Download the OSIRISedit installer .dmg image file from Modbap Modular

2. Double click the .dmg file to install the application.

3. When the installer folder opens either drag the OsirisEdit application to the Applications folder or drag to another location of your choice i.e. desktop. This is the main location from which to access the application.

4. To run OsirisEdit, double click the app icon from the installed location.

5. If an apple registration opening error occurs, navigate to the host folder i.e. Applications and press CTRL + Click, then select 'Open' from the menu. The option to open then should be presented. This process step would only be required as a one off and the application should open ok from thereon.

DEFINITIONS

Some terms are interchangeable when using wavetable editors and devices. To help clarify the terminology used with Osiris and OSIRISedit when developing wavetables and banks the following summary will be useful.

Wavetable: In OSIRISedit a Wavetable consists of a number of sample waves combined together. Typically this is a combination of 16, 32 or 64 samples. These can be converted to WavPaks banks. These are structured and formatted for the Osiris eurorack module, and labelled A, B, C and D on the SD card.

Convert: In OSIRISedit, the convert function exports the combined wavetables into the desired format and structure that can be easily applied and used by the Osiris eurorack module.

Effects. These are effects that can be applied to the wavetable to alter the sound. These can be applied after the waveform is generated but can also be hard baked into the waveform within OSIRISedit.

Harmonics: The frequency profile across a wavetable and based on its fundamental frequency.

Interpolate: The theory applied to the timing of samples and how they are aligned together across the wavetable affecting the sound quality of the wavetable and 'smoothness' when moving across wavetables.

Morph: The process applied to navigating the between wavetables and the transition from the audio of one to another in an audibly desirable manner.

Waveform: A combination of 256 samples in a single wav that when combined with others creates a wavetable. Wavetables can be created, imported and edited within OSIRISedit.

WavPak: These are used In the Osiris eurorack module organised in folders A, B, C and D on the SD card and formatted as 32 sets of 32 wavetables in each Osiris bank.

XY Mode: Navigation of wavetables can be applied across two horizontal and vertical dimensions of the wavetables wrapping across a grid formation.

Z Mode: Navigation of wavetables is applied in a linear direction. Think of this as moving up and down through a list of wavetables.

MAIN MENU OPTIONS

The following options are available in the top bar menu. These are available from all editor and view pages.

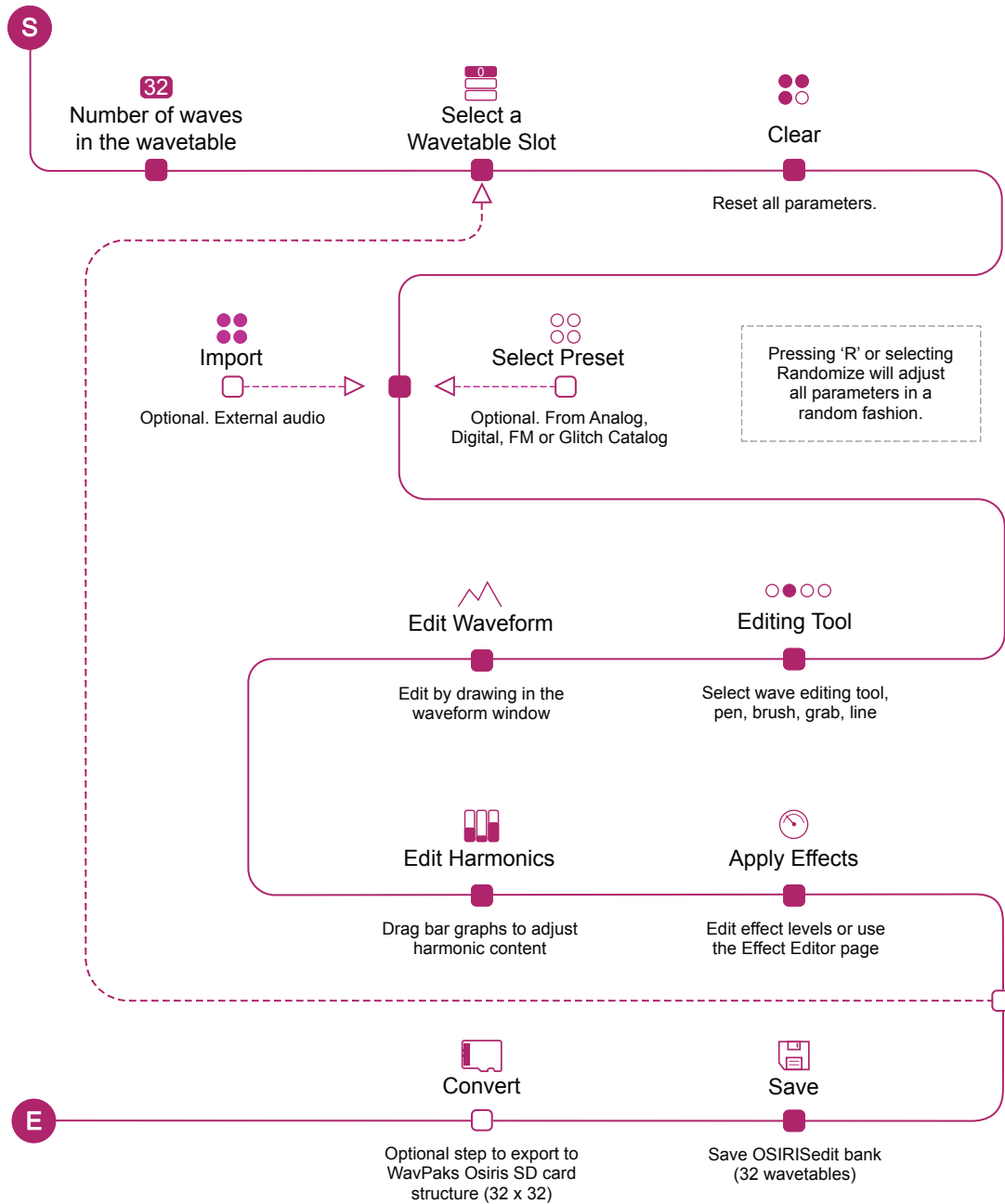| Menu Header	Function	Description
File	New Wavetable	Creates a blank, new wavetable and clears any existing waves from the wavetable.
File	Open Wavetable	Open a previously saved wavetable. This will be loaded into the available wave slots selected.
File	Save Wavetable*	Save the active wavetable containing the selected number of waves. This will output a single wavetable file.
File	Save Wavetable As*	Save the active wavetable containing the selected number of waves with an option to set name and location. This will output a single wavetable file.
File	Save Waves to Folder	Save the individual wav files for each of the wavetables with an option to set name and location. This will output a wav file for each.
File	Convert	Opens the convert application enabling a set of wavetables created in OSIRISedit to be exported from a source location to a destination location formatted and structured as WavPaks for loading to the Osiris SD Card.
Edit	Undo	Undo and revert from the last command actioned.
Edit	Redo	Redo and revert to the last command actioned.
Edit	Select All	Select all available waves. The waves currently selected are shown in the menu.
Edit	Paste All	Paste all available waves currently into the bank from the selected location.
Edit	Clear	Clears the currently selected wavetable slot(s)
Edit	Randomize	Randomize the parameters for the currently selected wave. This includes waveform, harmonics and effects.
Edit	Copy	Copies the currently selected wave(s)
Edit	Cut	Cuts (copies and clears) the selected wave(s) from the selected location
Edit	Paste	Pastes the currently selected wave to the current location.
Edit	Open Wave	Opens a wav file into the selected wavetable slot.
Edit	Save Wave As	Saves the selected wave as an individual wav file by defining the location and name.
Audio Output	Audio Device	Will present the available sound card options to direct the audio output when previewing the wavetables
Colors	Dark, Light	Select one of the two GUI color schemes
Help	Webpage	Link to the Modbap Modular website
Help	Github	Link to the github website. More information on the original WaveEdit application.

QUICK REFERENCE SHORTCUTS

The following keystroke shortcuts can be used within OSIRISedit to action the specified commands as an alternative to the menus and GUI buttons.

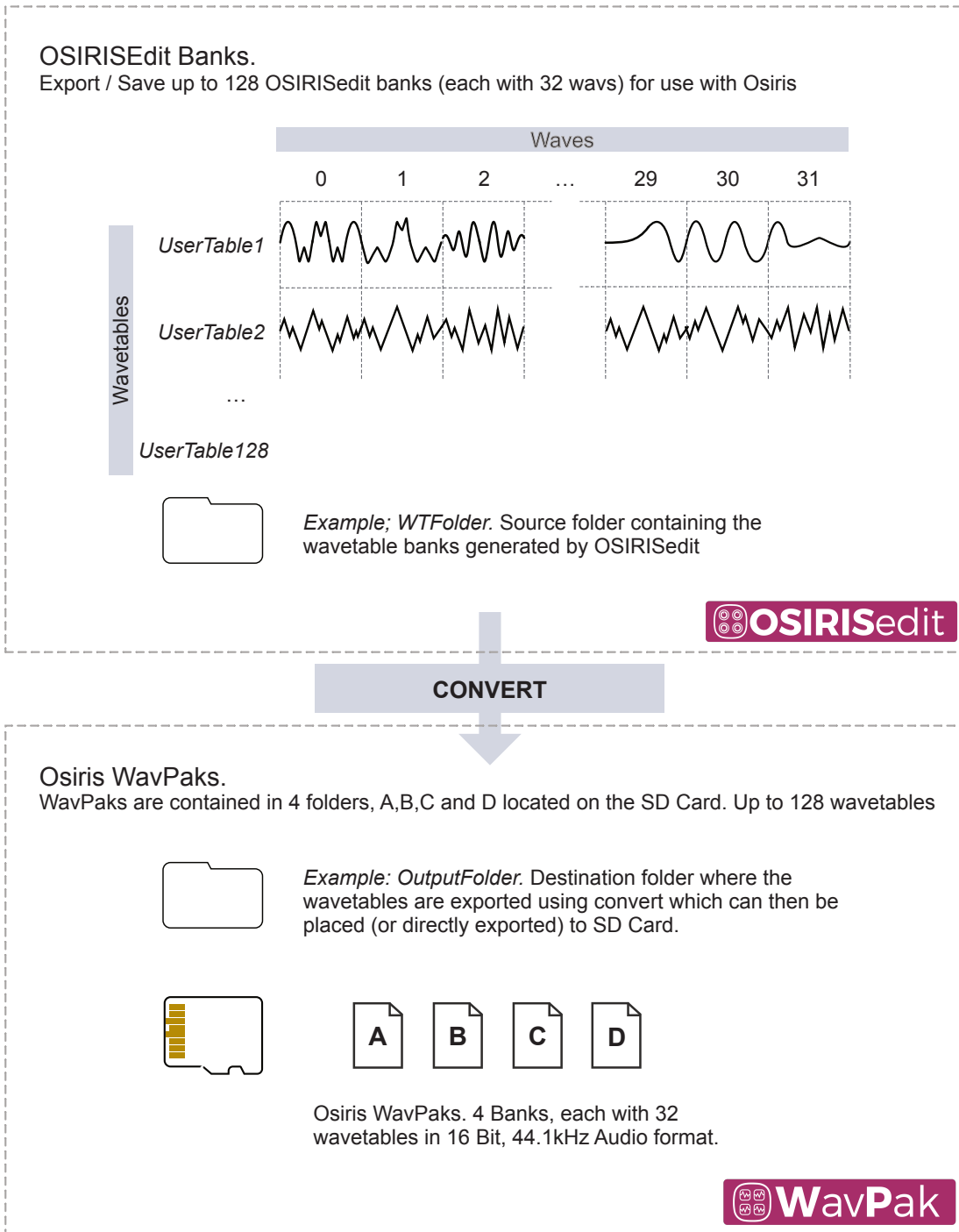| Mac Command	Description
CMD + N	New Wavetable
CMD + O	Open Wavetable
CMD + S	Save Wavetable
CMD + SHIFT + S	Save Wavetable As
CMD + Q	Quit
CMD + Z	Undo
CMD + SHIFT + Z	Redo
CMD + A	Select all Waves
CMD + C	Copy Wave
CMD + X	Cut Wave
CMD + V	Paste Wave
DEL / BACKSPACE	Clear Wave
R	Randomize Effects
SPACE	Toggle Preview Audio on or off
UP / DOWN / LEFT / RIGHT	Navigate Bank / Grid
1	Waveform Editor Page
2	Effect Editor Page
3	Grid XY View Page
4	Waterfall View Page
5	Import Page

Overview

CREATING WAVETABLES

The general workflow of creating wavetables is shown here. The starting point should begin with the waveform editor page. The workflow illustrated is based on the design of wavetables using parameter setting for Osiris.

S

32
Number of waves
in the wavetable

Select a
Wavetable Slot

Clear

Reset all parameters.

Import

Select Preset

Pressing 'R' or selecting
Randomize will adjust
all parameters in a
random fashion.

Optional. External audio

Optional. From Analog,
Digital, FM or Glitch Catalog

Edit Waveform

Editing Tool

Edit by drawing in the
waveform window

Select wave editing tool,
pen, brush, grab, line

Edit Harmonics

Apply Effects

Drag bar graphs to adjust
harmonic content

Edit effect levels or use
the Effect Editor page

Convert

Save

E

Optional step to export to
WavPaks Osiris SD card
structure (32 x 32)

Save OSIRISedit bank
(32 wavetables)

8   Modbap Modular by Beatppl : OSIRISedit   Contents

OSIRIS WAVETABLES & WAVPAK OVERVIEW

OSIRISedit generates wavetables based on the number of waves selected. Osiris uses wavetable lengths of 32 waves. Wavetable banks of 32 waves can be saved from OSIRISedit. The Convert function can then be used to convert wavetable banks to WavPaks which organise the wavetables into the format and structure compatible with Osiris module.

OSIRISEdit Banks.
Export / Save up to 128 OSIRISedit banks (each with 32 wavs) for use with Osiris

Waves

0   1   2   …   29   30   31

Wavetables

UserTable1

UserTable2

…

UserTable128

Example; WTFolder. Source folder containing the wavetable banks generated by OSIRISedit

OSIRISedit

CONVERT

Osiris WavPaks.
WavPaks are contained in 4 folders, A,B,C and D located on the SD Card. Up to 128 wavetables

Example: OutputFolder. Destination folder where the wavetables are exported using convert which can then be placed (or directly exported) to SD Card.

A   B   C   D

Osiris WavPaks. 4 Banks, each with 32 wavetables in 16 Bit, 44.1kHz Audio format.

WavPak

CREATING WAVPAKS

The WavPak format is simply the organisation of wavetable banks into the structure and format used by the Osiris Eurorack module. The audio format is 16 bit, 44.1kHz and the wavetables are organised in folders A,B,C,D. The OSIRISedit convert function automatically converts saved banks into this format to make the process easy and simple.

To convert to WavPaks;

1. Create a set of 32 wav, wavetables in OSIRISedit. For a full WavPak create or identify 128 wavetables. Take note of the save location of the wavetables.

2. In the OSIRISedit menu, select; FILE > CONVERT. The application page will be displayed and options presented.

3. Browse to select the source wavetables created in OSIRISedit noted from step 1.

4. Parameters in the wave configuration should be set as per the illustration below.

5. Browse to a destination. This can be the SD Card or a Mac location and then copied to the SD card later.

6. Ensure 'separate into WavPak banks A-D' is checked. This will organise the wavetables into the structure for Osiris.

7. Press 'Convert' to create the WavPak or 'Cancel' to exit without converting.

```
SOURCE
─────────────────────────────────────────────────────────
Source:  [                                              ] [Browse..]

WAVE CONFIGURATION
─────────────────────────────────────────────────────────
Sample Rate: [ 44100                                    ▼]
Bit Depth:   [ 16                                       ▼]
Bank Length: [ 32                                       ▼]
Wave Length: [ 256                                      ▼]

DESTINATION
─────────────────────────────────────────────────────────
Directory: [                                            ] [Browse..]

CREATE BANKS
─────────────────────────────────────────────────────────
Separate Into WavPak Banks A-D: [■]

[Convert] [Cancel]
```

Osiris Module by default will read the in-built factory WavPak. If WavPaks are detected on an installed SD Card then these will be used. These should therefore be set to the correct A,B,C,D formats on the SD Card. It is good practice to keep other user, factory or signature WavPaks also on the SD card. These can be stored in a library folder and then moved to the A,B,C and D locations when needed. It is also advised to keep a backup of your SD card for security purposes.

Osiris WavPaks. If detected by Osiris, the SD wavetables from A,B,C & D are used instead of the inbuilt default factory WavPak.

Default Module   **A**   **B**   **C**   **D**

Option   **A**   **B**   **C**   **D**
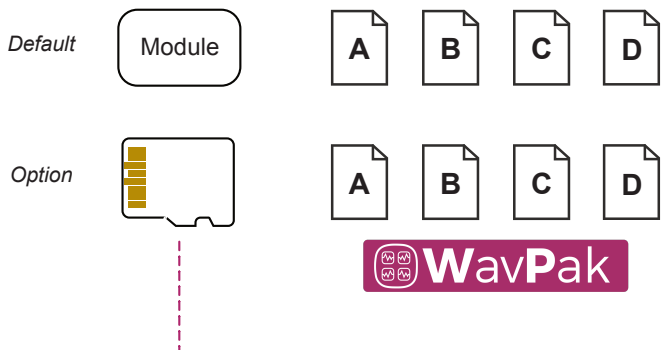
WavPak

Backup and storage folders named for reference. WavPaks can be relocated on the SD card using a PC/Mac to the default A,B,C,D positions when they are required to be used.
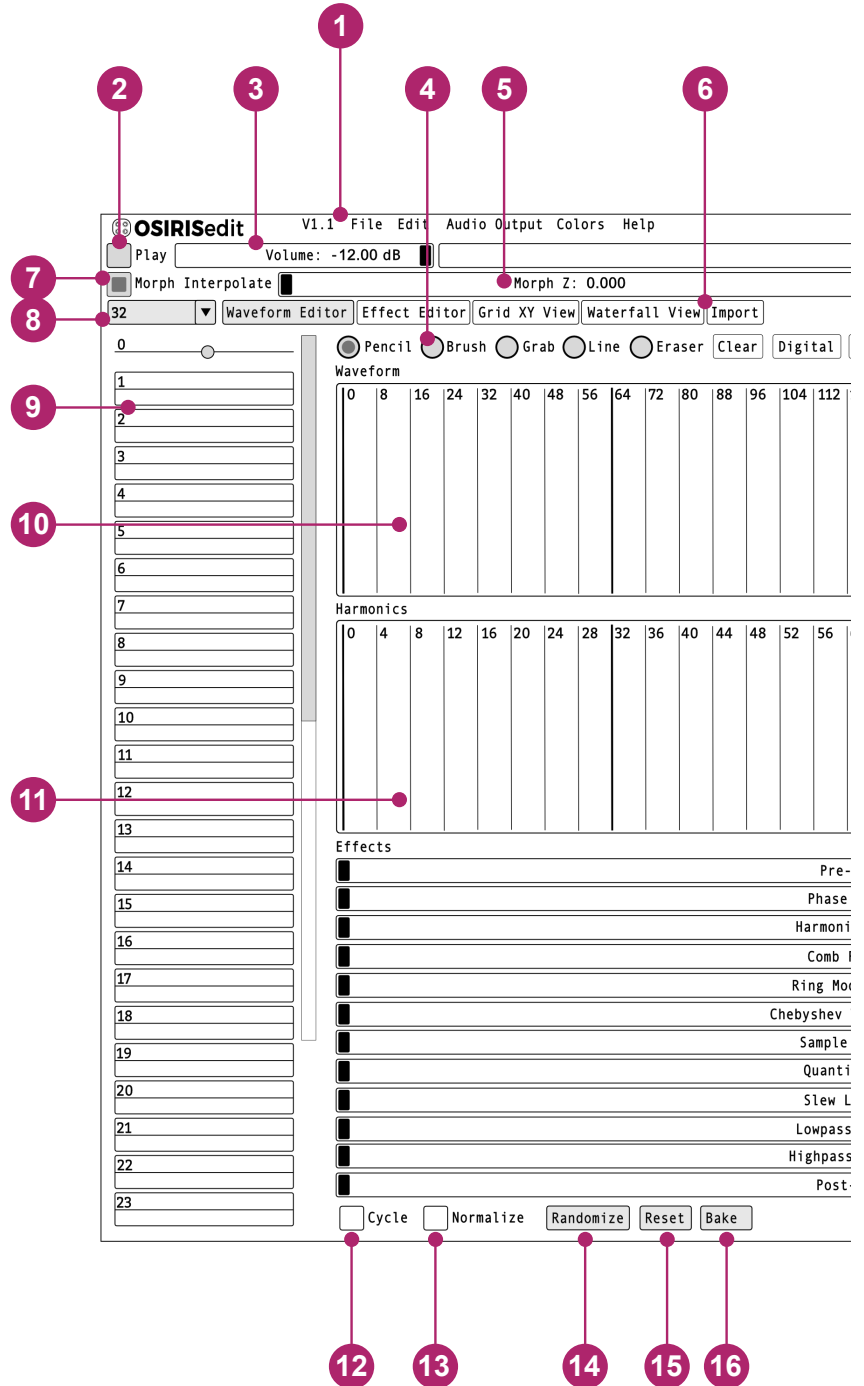
OriginalBackup1:

    A   **B**   **C**   **D**

SignaturePak2:

    A   **B**   **C**   **D**

SpecialEdPak3:

    A   **B**   **C**   **D**
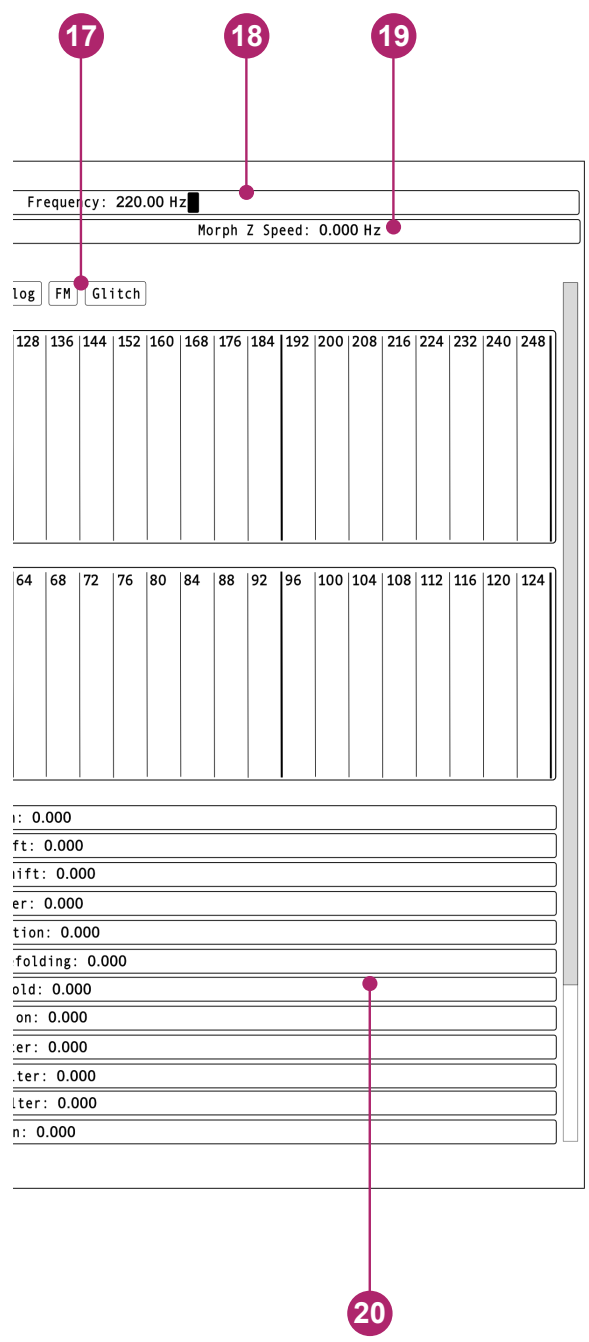
Modbap Modular by Beatppl : OSIRISedit
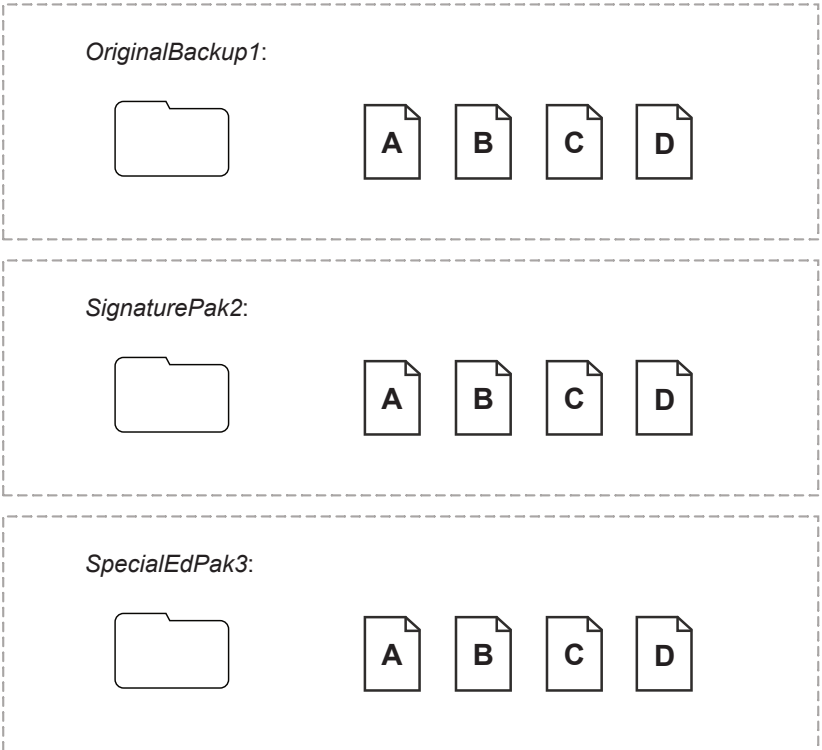
Waveform Editor

The OSIRISedit waveform editor page is the default page and is the place where the majority of functions can be general applied. The page displays the wavetable as a list of waves on the left with a scrollable view. Drag the dot up and down the table with the audio preview on to hear the sound morphing across the wavetables. Options to adjust the waveform editor, harmonic editor and effects, are all in the middle of the page also with a scrollable view. The page is headlined by a drop down series of menu options, these are available within all other pages. Most of the general features will be covered in this section and the basic process of building a wavetable will be explained as well as a summary of exporting wavetables and wav outputs.

WAVEFORM EDITOR

1. Main drop down menu.

2. Audio preview on/off.

3. Volume: Overall audio level.

4. Wave drawing tool selection.

5. Morph Z. Move play head through waveforms.

6. Editor page / view selection.

7. Smooth (on) or stepped (off) Interpolation between wavetables.

8. Number of wavetables in the OSIRISedit bank.

9. Wavetable with individual waves contained in the OSIRISedit editor.

10. Selected wave in the waveform sample editor.

11. Wavetable harmonic editor.

12. Cycle: Smooth transition between waveform start/end when looped.

13. Normalize: Automatic adjustment of max / min gain and DC offset.

14. Randomize: Automatically sets a random values on the effects.

15. Reset: Sets all effects to zero. Waveform is unaffected.

16. Bake: Applies the current effects processing into the waveform

Frequency: 220.00 Hz

Morph Z Speed: 0.000 Hz

log FM Glitch

| 128 | 136 | 144 | 152 | 160 | 168 | 176 | 184 | 192 | 200 | 208 | 216 | 224 | 232 | 240 | 248 |

| 64 | 68 | 72 | 76 | 80 | 84 | 88 | 92 | 96 | 100 | 104 | 108 | 112 | 116 | 120 | 124 |

: 0.000
ft: 0.000
ift: 0.000
er: 0.000
tion: 0.000
folding: 0.000
old: 0.000
on: 0.000
er: 0.000
ter: 0.000
lter: 0.000
n: 0.000

17 Waveform catalog to generate a starting wave shape to edit

Clear: Resets waveform

Digital: Range of digital waveform presets.

Analog: Range of analog style waveforms.

FM: Range of FM orientated waveforms.

Glitch: A number of glitch preset waveforms.

18 Frequency of the wave.

19 Morph Z Speed at which the Morph Z operates.

20 Effect Section.

Pre-Gain: Applies a gain amount before any effect processing is applied.

Phase Shift: Time-shift of waveform shown as a horizontal shift.

Harmonic Shift: Rotates each harmonic in the waveform equally.

Comb Filter: Copies and delays the signal with feedback.

Ring Modulation: Signal is multiplied with a sine wave.

Chebyshev Wavefolding: Increases level of small samples and soft clips large samples.

Sample & Hold: Stepped wavetable by holding the sample time.

Quantization: Bit rate reduction of the waveform.

Slew Limiter: Holds signal rate of change.

Lowpass Filter: Limits and cuts off harmonics higher than threshold.

Highpass Filter. Limits and cuts off harmonics lower than threshold.

Post-Gain: Applied a gain to the waveform after application of effects.

EDITOR TOOLS

The waveform window allows the editing of the wave shape. The starting point can be with a clear wave or from a preset in the wave catalog. Also waves can be imported. The waveform and harmonic shape can then be adjusted using the available tools by drawing in the waveform and harmonic windows.

Pencil: Allows editing of the waveform at sample level. The pencil will apply the sample position (or harmonic position) automatically during the drawing of the shape, Ideal for detailed shapes.
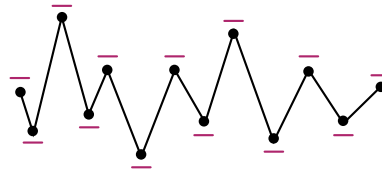
Shape is 'drawn' to shape individual sample points.

Brush: Allows editing across multiple samples and harmonics giving a smoother shape ideal for curved shape options.

Shape is 'drawn' to smooth multiple sample points.

Grab: Similar to pencil in that this option operates as an individual sample level. The difference being that grab holds onto the selected sample or harmonic to adjust it and does not apply samples by drawing.
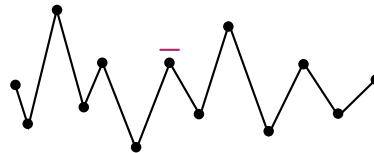
Shape is 'drawn' to only on individual sample points.

Line. Draws a straight line of multiple samples or harmonics between two points.

◯ Pencil ◯ Brush ◯ Grab ⦿ Line ◯ Eraser
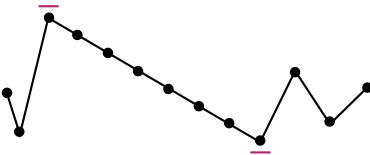
Shape is 'drawn' between two points.

Eraser. Draws a reset of all samples or harmonics to the zero position.

◯ Pencil ◯ Brush ◯ Grab ◯ Line ⦿ Eraser

Shape reset to zero where drawn.

Modbap Modular by Beatppl : OSIRISedit

Other Pages

Editor Options

Although the Waveform Editor page is the main editing option, more detailed access to parameters is also available as well as alternative views from the other pages. These include the XY Grid view and Waterfall View which both provide alternate viewing options. Effect Editor offers collective editing options for all wavetable effects and the Import options page allows importing and pre-import editing of external wav files. These can be selected using the page selection buttons on each page or the keyboard shortcuts 1, 2, 3, 4 or 5. These pages go a level deeper in the editing or viewing options and any page specific parameter is explained while common functions are explained in the wavetable editor page.

EFFECT EDITOR

The Effect Editor provides a single page for all effect adjustments to be made and can adjust the average of all or individual wavetable effect levels. The page has a scroll bar to navigate through the 12 effects.

1 Main drop down menu. This appears on all pages

2 Common options are described in the waveform editor section.

3 Effect Average. Adjusts the overall average level of the effect across <u>all</u> waves in the wavetable.

4 Effect level for each wave in the wavetable. Each individual wave is displayed as a bar graph that can be independently adjusted by dragging up or down.

5 Cycle All. Cycle adjusts the smoothness of the transition from the end of the sample to the start. While the option in the waveform editor applies this to the individual wave, here it's applied to all.

6 Cycle None. Cycle none removes all smoothing slopes which may be applied between sample start and end on all waves.

7 Normalize All. Applies an automatic gain and DC offset to generate the maximum / minimum positions to all waves. The waveform editor page applies this to individual waves only.

8 Normalize None. Removes any automatic gain and DC offset generated to all waves.

9 Randomize: Automatically sets a random values on the effects.

10 Reset: Sets all effects to zero. Waveform is unaffected.

11 Bake: Applies the current effects processing into the waves

12 Scroll bar to navigate the view to all of the 12 available effects.

1
2
3
4

OSIRISedit   V1.1 File Edit Audio Output Colors Help

Play   Volume: -12.00 dB   Frequency: 220.00 Hz
Morph Interpolate   Morph Z: 0.000   Morph Z Speed: 0.000 Hz
32 ▼ Waveform Editor Effect Editor Grid XY View Waterfall View Import
◉ Pencil ◯ Brush ◯ Grab ◯ Line ◯ Eraser

Pre-Gain
Average Pre-Gain: 0.310

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

Phase Shift
Average Phase Shift: 0.000

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

Harmonic Shift
Average Harmonic Shift: 0.325

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

Comb Filter
Average Comb Filter: 0.000

| 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 |

Cycle All   Cycle None   Normalize All   Normalize None   Randomize   Reset   Bake

5   6   7   8   9   10 11   12

XY GRID VIEW

The XY Grid page offers up all wavetables in a horizontal and vertical grid. The playhead cursor indicated in the grid by a dot can be dragged through the grid. This navigates the same way as adjusting both Morph Z and Morph Y parameters. XY Grid view does not allow wavetable editing but it does provide an alternative navigation to the waveform editor which shows the wavetable layout in linear form.
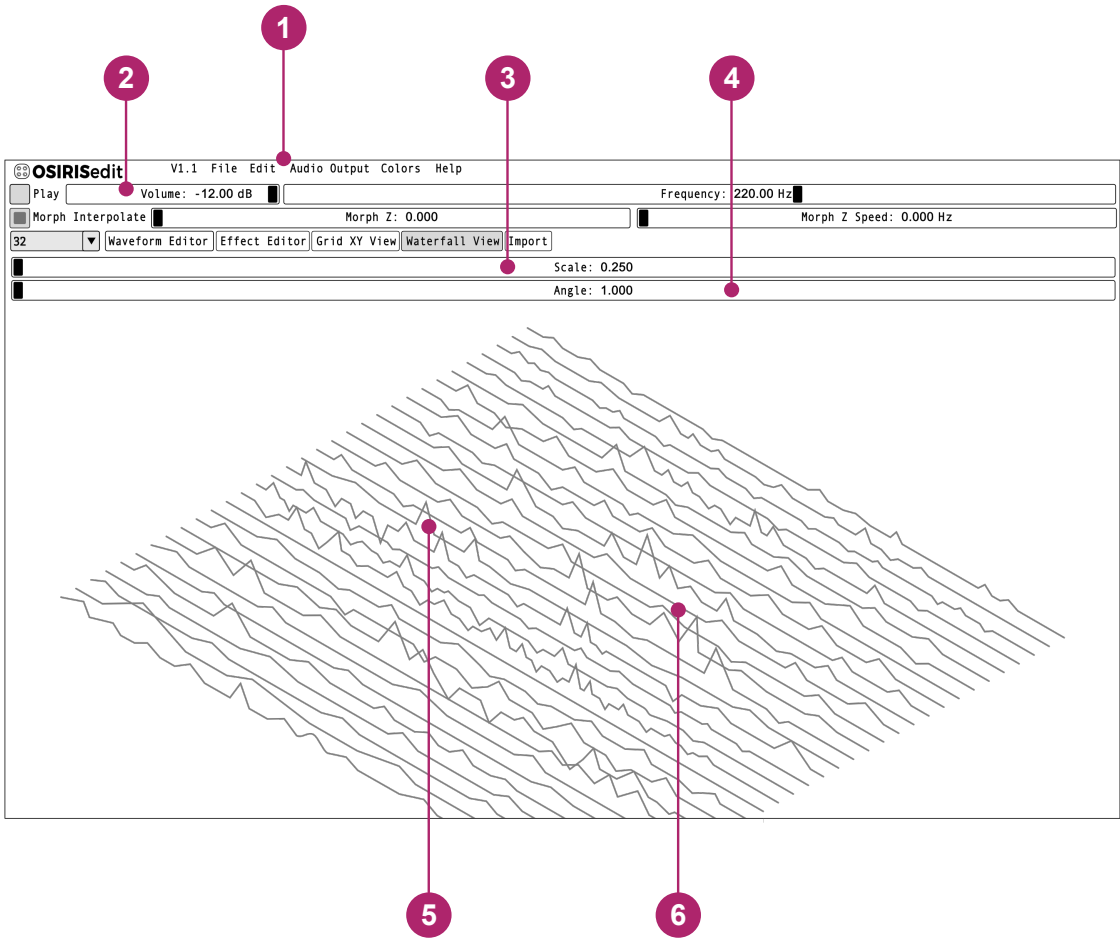
1   Main drop down menu. This appears on all pages

2   Common options are described in the waveform editor section.

3   X-Y. Navigation parameters for the X - Horizontal and Y - Vertical playhead position.

4   Wavetable Grid. All waves in the wavetable arranged in a 2 dimensional X-Y Grid for navigation.

5   Navigation cursor. Acts as a playhead. If 'Play' is on this will audition the audio dragged over.

WATERFALL VIEW

The waterfall page visualises the wavetable in a 3D isometric orientation and is an alternative view to the waveform editor. The selected wave is shown bold in the graphic and will audition the audio. This navigates the same way as adjusting both Morph Z and Morph Z Speed parameters.

1 Main drop down menu. This appears on all pages

2 Common options are described in the waveform editor section.

3 Scale. Adjusts the scale of the waterfall image to zoom in and out.

4 Angle. Rotates the waterfall image to change viewing angles.

5 Waterfall image. Wavetables illustrated and presented as a 3D waterfall.

6 Navigation. Select across waves to audition the audio that it is dragged over.
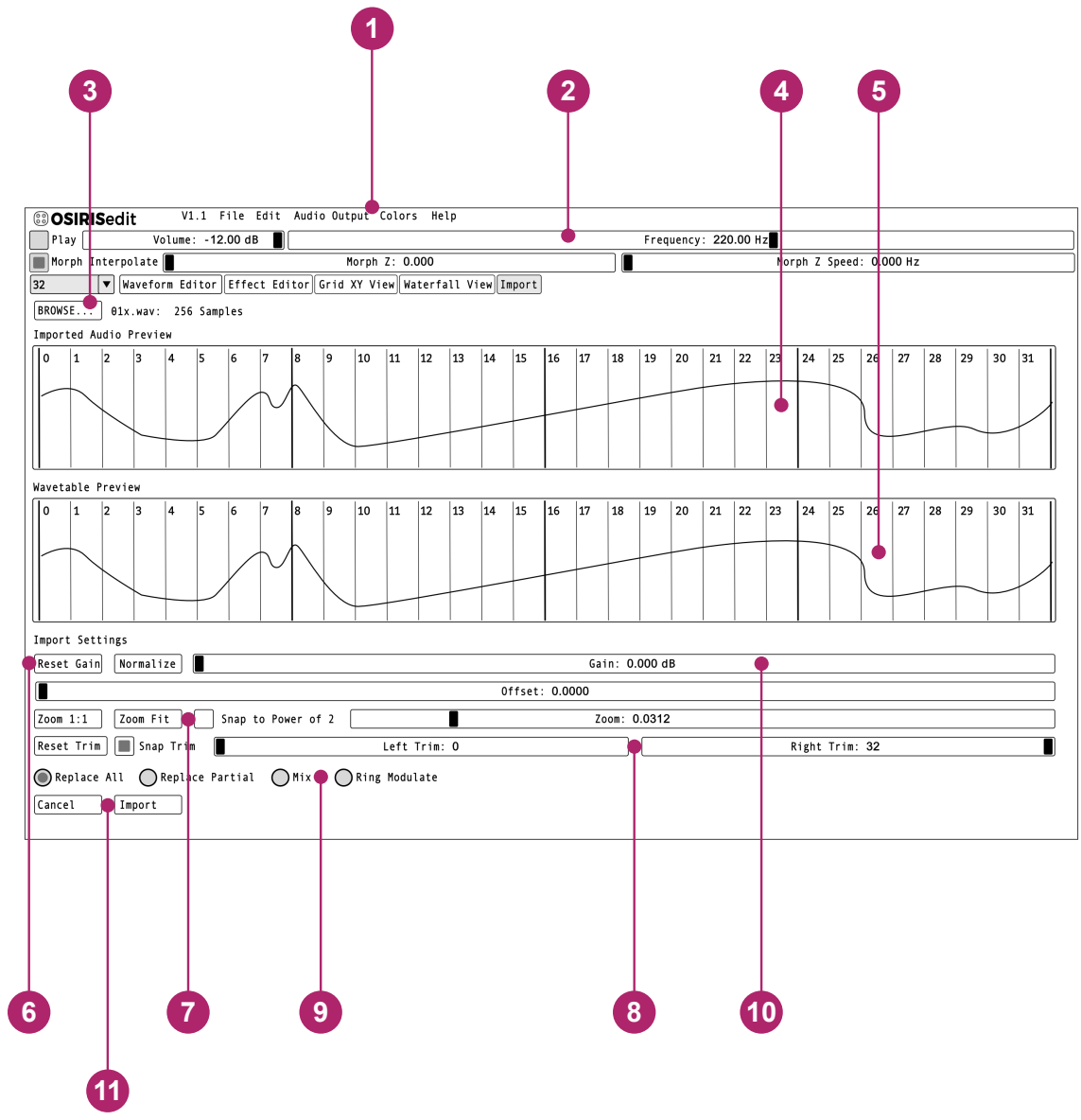
IMPORT PAGE

The Import page provides options for importing user and external wav files into a wavetable. Files must contain between 32 samples and 16M samples. Features allow importing fully or in part with advanced options to edit the wav before transferring into the wavetable where additional editing is possible in the waveform editor.
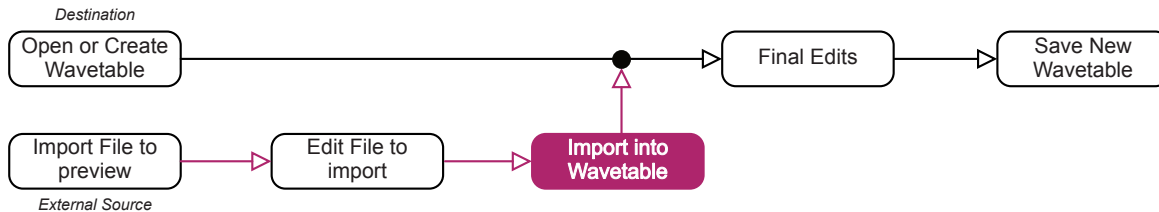
1 Main drop down menu. This appears on all pages.

2 Common options are described in the waveform editor section.

3 Browse. Open browser to select a folder and wav file from which to import. Name and sample side of the active preview import will be shown.

4 Import Audio Preview. Displays the file that has been opened before it is imported into the wavetable bank. This allows editing and alignment settings prior to importing.

5 Wavetable preview. Displays the current wavetable where the wav file will be imported and can aligned visually to the import window.

6 Gain Section. Adjust gain with slider, reset to original gain and normalize. All applied to the audio before importing into the wavetable.

7 Zoom section. Zoom slows/speeds up the file while Zoom 1:1 reverts to 100% match between import and wavetable samples. Zoom to fit matches the audio to fit the wavetable. Snap to Power of 2 locks zoom in increments 12.5%,24%,50%, 100%, 200%, 400%, 800% etc. All are applied before importing to the wavetable.

8 Trim section. Cuts audio to set ranges to specific wavetables. This can be locked to increments with snap trim or free adjustments. Reset trim will restore the original settings. This is applied to prior to importing to set the location to import into the wavetable.

9 Mix Section: Sets how the imported audio will be 'mixed' into the wavetable. Replace All will clear the wavetable before importing, Replace Partial clears only the portion that will be overwritten by the imported audio, Mix will sum the imported audio with the wavetable and Ring Modulate multiplies the wavetable by the imported audio while clearing outside of range.

10 Offset: Adjusts an offset horizontal start position before importing to the wavetable.

11 Import: Applies the edited import to the selected wavetable. Other edits then can be made in the other OSIRISedit pages. Clear will unload the import audio and restart the process.

OSIRISedit   V1.1 File Edit Audio Output Colors Help

Play   Volume: -12.00 dB   Frequency: 220.00 Hz

Morph Interpolate   Morph Z: 0.000   Morph Z Speed: 0.000 Hz

32 ▼ Waveform Editor Effect Editor Grid XY View Waterfall View Import

BROWSE... 01x.wav: 256 Samples

Imported Audio Preview

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Wavetable Preview

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31

Import Settings

Reset Gain Normalize   Gain: 0.000 dB

Offset: 0.0000

Zoom 1:1 Zoom Fit   Snap to Power of 2   Zoom: 0.0312

Reset Trim Snap Trim   Left Trim: 0   Right Trim: 32

Replace All Replace Partial Mix Ring Modulate

Cancel Import

Limited Warranty

Modbap Modular warrants all products to be free of manufacturing defects related to materials and/or construction for a period of one (1) year following the product's purchase date by the original owner as certified by proof of purchase (i.e. receipt or invoice).
This non-transferrable warranty does not cover any damage caused by misuse of the product, or any unauthorized modification of the product's hardware or firmware.
Modbap Modular reserves the right to determine what qualifies as misuse at their discretion and may include but is not limited to damage to the product caused by 3rd party related issues, negligence, modifications, improper handling, exposure to extreme temperatures, moisture, and excessive force.

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Manual designed by Synthdawg

www.synthdawg.com

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