

FANTASY SYNTH



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Quick Tips:

The looper is always active, in song mode you can use the middle 2 knobs to change the start and loop point for the song. A blank song is a 32 bar loop.

With the loop, you can focus on a section, it's also great for music that loops and has an intro. The stop button can jump to the start point of a loop.

If there is latency it might be induced by some settings on your device, Refer to Youtube videos on the topic for reducing Inout latency, Usually disabling Low power mode on your device helps a lot. Bluetooth audio latency is also a major thing. Please use Wired Connections like Speakers and Headphones.

Oversample in song setup is per instrument, If you want to reduce aliasing increasing Oversample will help a lot at the cost of performance. Reduce it if your hearing artifacts

Unlike simpler FM synths, Operators are not converted to sinewaves if they are modulators (unless using the additive waveform). Gives creative power but going crazy with pulsewaves with FM can introduce artifacts and aliasing

If FantasySynth is not showing up in your steam library, Steam might be filtering out Software. A quick fix is to favorite it. Favorited Software will show up with games.

Using FantasySynth like its Headless with a midi controller is super Great and was its original purpose. Once set up with Midi bindings, you can pretty much do anything from just a controller.

When using the Save Button, the Sequencer Buttons can be used to name your save. A Second Click on the save button will save.

All your DrumKits, Presets, ColorThemes, Songs, and background videos are found at

Windows, Mac, and Android:
My Documents/FantasySynth

Feel free to contact me at:
FantasySynth@gmail.com

Controls:

Gamepad:

- (Standard Controller Layout)
- A button: Confirm
- B button: Back
- X button: Preview Editing Note (and other notes in Step)
- Y button: Play/Pause

- Left Stick: Navigation
- Dpad: Navigation
- Right Stick: Visual 3d FX

Shoulder Buttons: Change Step

Trigger Buttons: Change Bar

Keyboard:

- {A - ‘}; White Keys
- {Q - P}: Black Keys
- 1: Toggle Track A
- 2: Toggle Track B
- 3: Toggle Track C
- 4: Toggle Track D
- C: Octave Down
- V: Octave Up
- Z: Rewind 1 Bar
- X: Forward 1 Bar

Space: Play/Pause

- WASD: Navigation
- ESC: Back

Midi:

Midi controllers are detected the same as a Game Controller. Should be plug and play. No Midi routing needed. BLE midi works on STEAMOS



To bind CC messages, On the left Top side of the screen there is a 3 bar Menu icon, from there you can go into settings, and turn on MIDI BINDING MODE.

When Midi rebinding mode is enabled, Hold a control surface, and wiggle the Midi control til it is bound. (be careful to only wiggle the CC you wish to bind and not to play any notes)

Hold a control surface and release to unbind CC

Remember to Turn off Midi binding mode once done

The midi Bindings change by controller, using multiple controllers should only need to be set up once!

If your midi controller uses endless (relative) encoders instead of absolute (0-127). Use relative #2 (binary offset, wide values like 1 - 100) and it will be auto Detected

Mode Selection Buttons:



There are 3 modes. Song, Instrument and FM.

Song Mode:

Used for Selecting and arranging Songs, Setting Global Loop, Assigning and creating patterns, Saving Song,

Instrument Mode:

Selecting Presets, Adjusting Preset FX

The song also saves in this mode. (Song Saves Include Adjusted Presets)

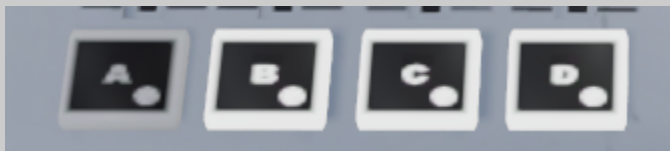
FM Mode:

Create Presets, Adjust 4 operator FM Level, Detune, Ratio, Feedback, ADSR, Feedback ADSR, Waveform, and Algorithm (Presets are saved here)



The Tape button: will erase over notes instead of adding to them (use as eraser, like clearing a tape)
Will Stop Playback on loop

The 4 Track Buttons:



Song and Instrument Mode: Changes Tracks

FM Mode: change the editing Operator.

The Selector Knob:

Song Mode:

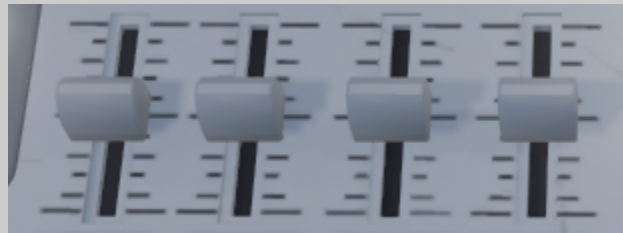
changes between Saved Songs
(Be careful can lose progress)



Instrument Mode: Changes Between Presets

FM Mode: Changes Between FM Algorithms

The 4 Sliders:



Song and Instrument Mode:

Changes Track Volume

FM Mode:

Changes ADSR of current Operator

If Feedback is adjusted, They adjust the Feedbacks ADSR until something else is adjusted

The horizontal Sliders (above the volume Sliders):



Adjusts track pan, In FM Mode, they will change Operator Detune

The Long Display:



Both the knobs adjust the values displayed.

The long display will change what it displays based on the current Mode:

Song Mode:

Will display 8 bars and the currently assigned Pattern to each of them. (this is the only mode where the knobs above do not change what the Long Display Says, They will change what the main display says)

Instrument Mode:

Displays the 4 Assigned values to the 4 knobs. Each preset can be assigned different parameters that the knobs adjust

Drum Mode:

When you press a key, it will display the keys values, Assigned preset, Gain, Detune, and Pan

FM Mode:

Displays Operator Level, Ratio, Waveform, and Feedback

The 4 Knobs:



Song Mode:

(in song mode, these become Endless Encoders but can still be used with normal Midi Knobs)

Knob 1: Moves the playhead by bar, use this to quickly navigate a song

Knob 2: Changes the Loop Start Point

Knob 3: Changes the Loop End Point

Knob 4: adjust BPM

Instrument, Drum and FM Mode:

Changes given Value shown below on the Long Display

Save Button: Saves song.on first click, the sequencer buttons are used to name the song, a second click to the save button saves the song with the given name, overwriting the last song with the same name, or naming SONG 001 if the name is blank.

FM Mode (for advanced Users Such as yourself):

Selector Knob: Changes between FM Algorithm

The 4 track buttons.

Switches between Operators A B C and D

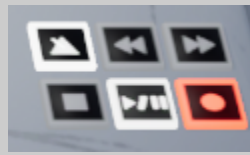
The 4 Knobs: Adjusts the active operators param displayed underneath (FM Level, Ratio, Waveform, Feedback)

Use the Sequencer Buttons to fine tune

Sliders: Changes the active Operators ADSR. (when you adjust the Operators Feedback, the sliders now adjusts the Feedback's ADSR, to go back just select the active operator button again)

Save Button: Saves Preset (this will also save the instrument parameters that are set in the instrument mode to the preset)

Transport Controls:



(If your midi controller wont bind transport buttons, try switching Daw modes on your controller)

Metronome: Toggles Metronome

Rewind: Rewinds One Bar

Forward: Forward One Bar

Stop: Stops playback, Press again to go to start of song

Play/Pause: Toggles play and pause

Record: Toggle recording, If not playing, it will start playing once you press a note

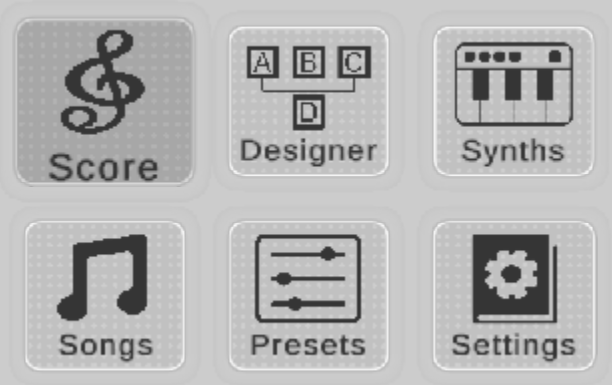
UI and Menu:

The top left Button (3 bars) :



opens the menu, once the menu is open. It acts as the back button.

Main Menu:



Score:
Song Setup and Arranger

Preset Designer:
Every Preset and FM Setting in there

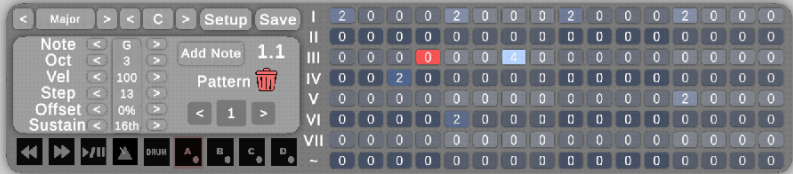
Synths:
Swaps Between Synths

Songs:
Can select Songs

Presets:
Selects Preset

Settings:
Settings

Arranger:



Displays Current Pattern. Sorted by Degree in current Scale.
Changing Key will just change how they are displayed and edited

Save is a quick save, if the song has not been named it will save like Song004.

Setup:
Song Settings

Note editor section:

Note: Changes Note
Oct: Octave,
Vel: velocity (velocity 0 is an off note).
Step: the step to add the note,
Offset: subdivision (50% is a 32 note)
Sustain: time before adding an off note
(you can set it to NOEND if you don't want to add an off note)

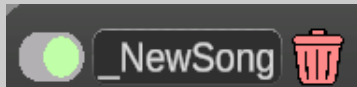
Tip: Hold X button on controller to preview the note

Buttons below Note editor Section:
Rewind, Forward, Play/Pause, Metronome, Drum, Tracks A - D

The mini Synth:



There are no sliders on this synth. Use the buttons underneath to switch between what those knobs do. (pan, Sliders, Knobs (Normal))
there is no Mod and Pitch bend wheel on mini synth



Songs Menu:

Each Song has a toggle (the selector knob will Skip the untoggled song) a button with the song name to select and load a song. The delete button is instant (Be careful lol, no “are you sure?” pop up yet) If you delete a demo song, you can restore it in the settings menu

Presets Menu: Same as Song menu but with Presets. Factory Presets cannot be deleted only untoggled and loaded

Settings Menu:

Colors:

Can cycle between saved themes, Click the name of the theme to name it, once named it is saved. They can be used across all synths.

To enter a Color, you can either type in HEX values , or by name (140+ named colors)

Advanced Midi Channel Mode: for users that utilize midi channels to switch instruments

Midi Channel 10 = Drums.

Channels 1,2,3,4 = Tracks 1 2 3 4.

Restore Demo restores deleted demo songs.

The table swap changes between backgrounds

Getting some from the Steam Workshop is a great way to customize quickly and get back to the music

to add your own:

Windows, Android, and Mac:

Documents/FantasySynth/CustomBackgrounds

(or from Steam Workshop)

Video must be

.webm

Its an open sourced format and better then .mp4

This ensures Support for linux devices like the Steam Deck!

If you have GIFs, you can convert them to .webm with many video editing tools (far better performance, File Size, and look)

FM Ratios:
The FM Ratios are in numerical order on the synth, this grouping is for easier understanding

0.25x, 0.5x, 0.75x,
1x,
1.25x, 1.5x, 1.75x,
2x, 2.5x, 3x, 3.5x, 4x, 5x, 6x, 7x, 8x,
9x, 10x, 12x, 14x, 16x, 18x, 20x, 24x, 32x, common ratios

1.059x, m2
1.122x, M2
1.189x, m3
1.26x, M3
1.335x, P4
1.414x, tritone
1.498x, P5
1.587x, m6
1.682x, M6
1.782x, m7
1.888x, M7
2x,

Same thing but an octave higher
2.118x, 2.244x, 2.378x, 2.52f, 2.67f, 2.828f,
2.996x, 3.174x, 3.364x, 3.564f, 3.776f,

Slight Detunes (great for Pads)
0.99x, 1.01x, 1.02x, 1.03x, around root
1.48x, 1.49x, 1.51x, 1.52x, around a Fifth
1.98x, 1.99x, 2.01x, 2.02x, around an octave

1.414x, sqrt(2)
1.732x, sqrt(3)
2.236x, sqrt(5)
2.414x,
2.732x,
3.141x, pi (almost)
3.618x,
4.669x, Chaos
6.283x, 2pi
7.123x,
9.869x, pi sq

Drums:

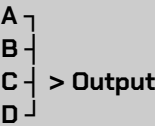
When using the Drum Track in Instrument and FM mode you can adjust the Drum Kit, and Save the drum kit

Each Key in an octave is assigned a Preset.

Once you press a Key you can change the given Keys Preset, Detune, Pan, and Volume.

FM Algos:

Algo1: Additive: A+B+C+D



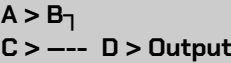
Algo2: Serial A>B>C>D

A > B > C >D Output

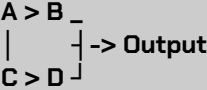
Algo3: Parallel: D modulated by A+B+C



Algo4: (A > B > D) + (C > D)



Algo5: A>B and C>D, sum outputs



Algo6: B>C, D mod by B>C, sum A

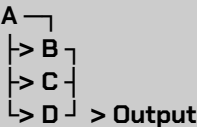
A + ((B > C) + (B > D) + (C > D))



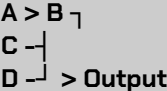
Algo7: A>B>C + A>D Diamond



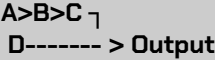
Algo8: B,C,D all modulated by A A>(B+C+D)



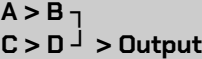
Algo9: B mod A, sum with C+D A>B+C+D



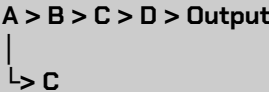
Algo10: A>B>C, sum D



Algo11: B mod A, D mod C, sum (cross mod and Seperate)



Algo12:A>B>C>D, branch from A to C
(A > B > C > D) + (A > C > D)



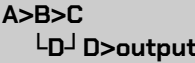
Algo13: B+D sum modulates D



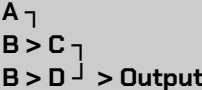
Algo14: (A + C) > B > D



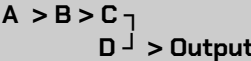
Algo15: B mod D, and indirectly C



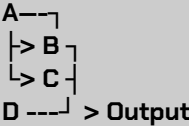
Algo16: A + (B > C) + (B > D)



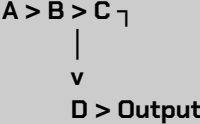
Algo17: (A > B > C) + (A > B > C > D)



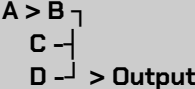
Algo18: B,C mod A, D output A > (B + C) D output



Algo19: B feeds C and D A



Algo20: B mod A, D receives B+C



Algo21:



End of Manual

Start of Yap:

I started making FantasySynth about 2 years ago because making music for my games was very very difficult. Studying sound design and theory over my 7 years of game development and I didn't have 1 complete song. Every Daw I used felt like an uninspiring Desk Job and they locked me into using Windows. So I looked into hardware, but they were too big, limiting, and clunky to use casually and anything I made on them would never leave it. I liked the idea of having a small groovebox and watched a ton of videos on all of them I could find. The M8 being the best of them, but powering the teensy 4.1 with the steam decks battery didn't feel wise and it didn't fit in the Steam Decks case, Also wanted more then 8 voices for chords. If only I could have the best of Hardware, Daws, the power to use a gamepad, the community sharing of beepbox and the m8, and the inspiring nature of Groovboxes and it runs on any platform. Then I would just have to carry my normal gaming handheld around to make music.

FantasySynth is very far from where I want it to be and will be improved much over the next few years. But I don't have any feedback and currently no testers so I am finding and fixing stuff everyday. If you find a bug I probably don't know about it, please email me at FantasySynth@gmail.com or write a review.