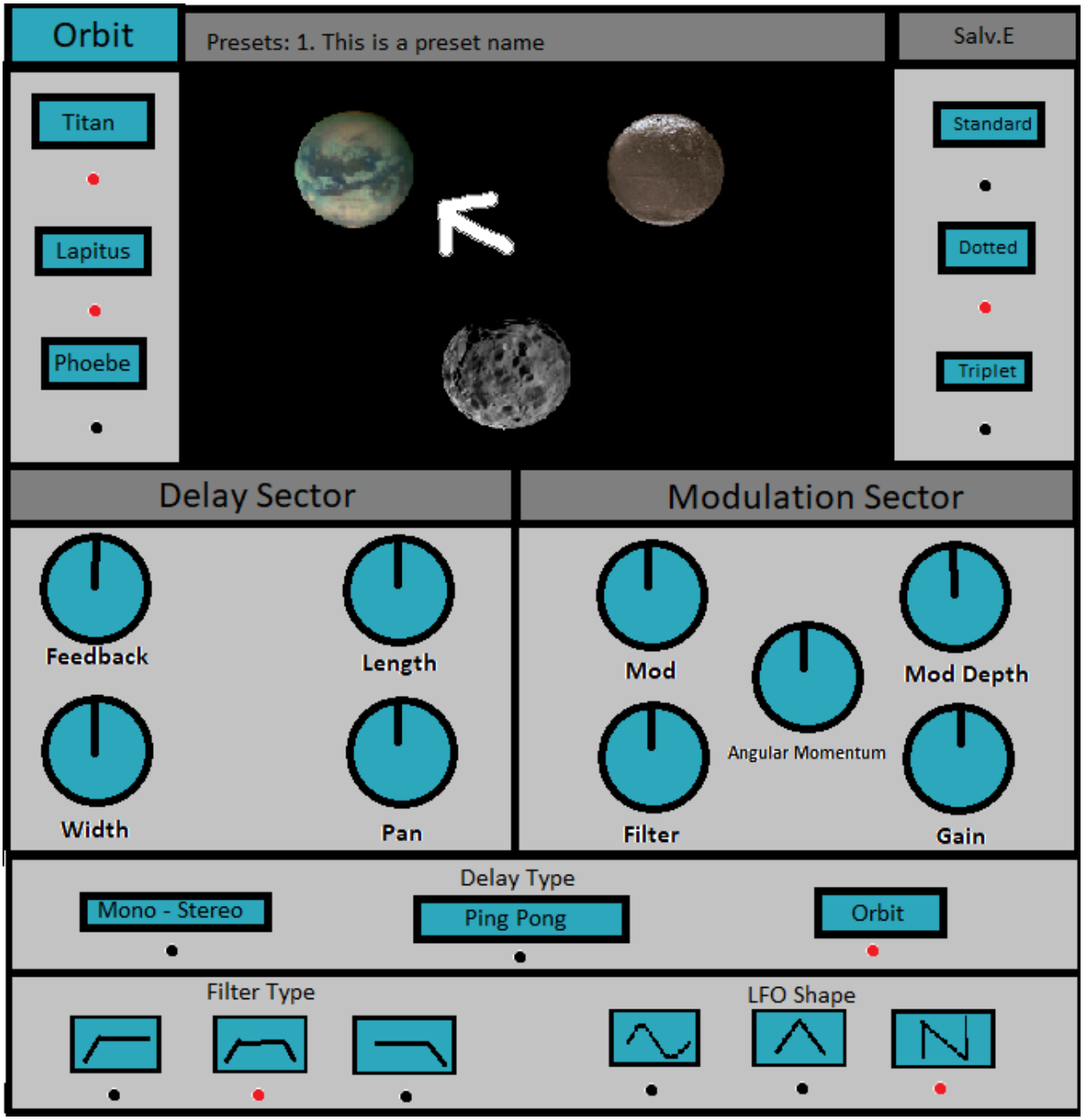
**Orbit Design Document**
**8/26/22**



**Graphics Explained:**

Buttons are indicated by a rectangle (The exceptions are titles including: Presets, Delay Sector, Modulation Sector). These are contained in rectangles for aesthetic reasons. This could be changed to be more consistent or just to look better if necessary.

Sliders are indicated by a circle with a line, like a knob on a toaster (lol idk what else right now). These are rotated, but can be made as a static image and rotated digitally.

All of the red dots indicate a certain parameter being active, black dots mean that it is not active. A parameter is made active by clicking on its respective button. For all cases of these settings only one of these settings for that section can be active at one time, the one exception to this is the different types of moons, anywhere from zero to all three moons can be active at once.

This entire interface will change when a moon is selected (Clicking physically on the moon takes you to that moon's settings for all the parameters). Each unique interface houses the same parameters, but they are all unique to that specifically selected moon at the current time. There would be an indicator (The arrow as of now) that shows which current moon is selected. There also needs to be an additional way to notify the user which moon is currently selected, maybe this is by the color of the sliders and buttons changing, or simply by a text box somewhere notable that tells you which one you're on.

Angular momentum is special in that it only shows when Orbit mode is activated. When the parameter is not currently active it will be hidden, this is to avoid confusion with the user.

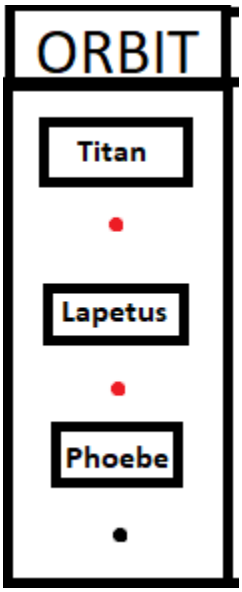
**Different Moons (Temporary names):**

Titan

Lapetus

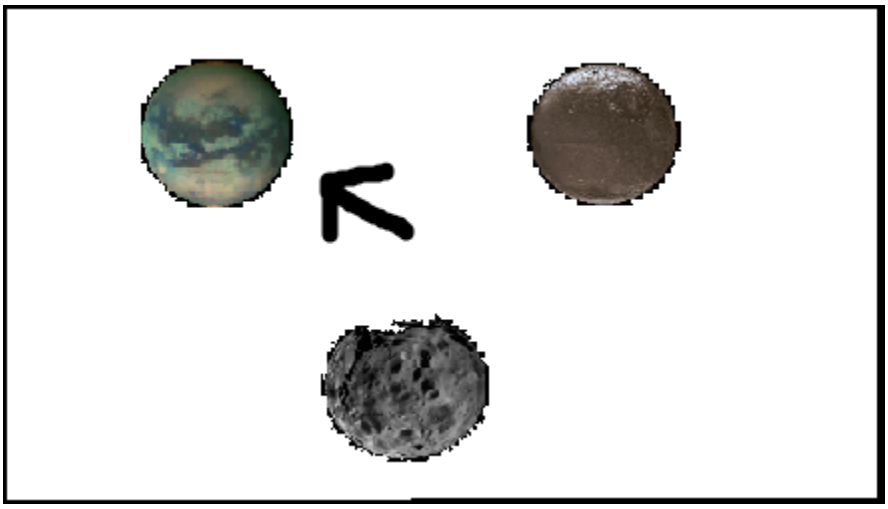
Phoebe

These are all different delay lines.



**Currently Selected Moons:**

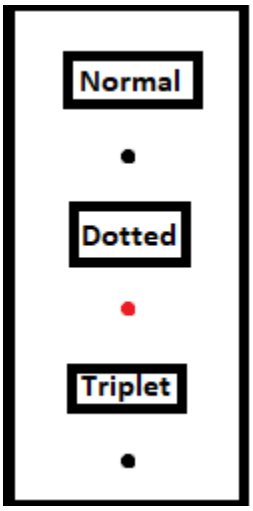
The arrow here is indicating which moon is currently having its parameters modified.



**Note Type:**

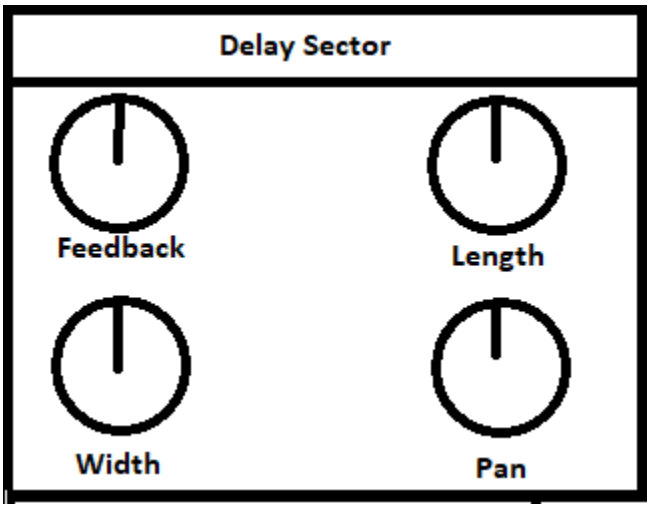
These buttons indicate what note type is currently selected, is there a better word than normal?

Maybe so ¯_(ツ)_/¯



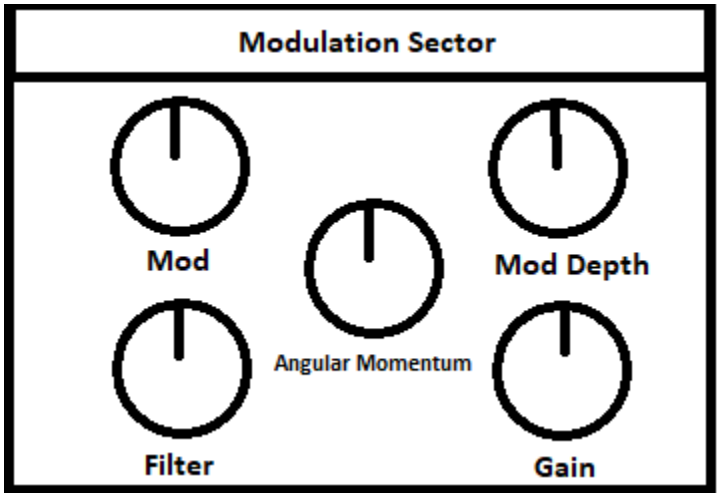
**Delay Parameter Section:**

| Parameter | Description | Values |
|---|---|---|
| Feedback | In a delay effect, a signal passes through the processor, is delayed and sent out as an echo of the original sound. If some of the delayed signal is tapped off and sent through the delay circuit again, a second repeat will result. By increasing the amount of signal sent back through (or fed back, or regenerated) the number of repeats is increased. | 0 to 0.5 |
| Length | Note length | 1/16, 1/8, 1/4 , 1/2, 1/1 |
| Width | The stereo width of the signal, at 0 it's mono | 0 to 240 |
| Pan | Stereo location of sound from left to right | -100 to 100 |



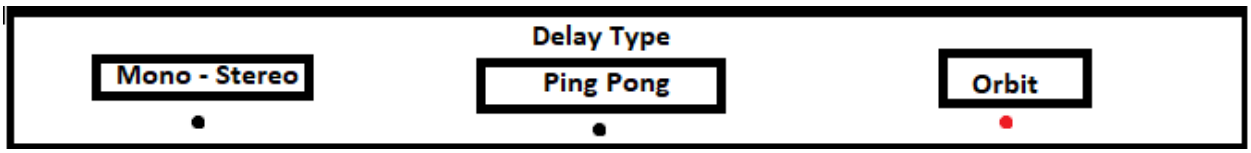
**Modulation Parameter Section:**

| Parameter | Description | Values |
|---|---|---|
| Mod | Modulation frequency in Hz. | 0.0 to 2.0 |
| Mod Depth | Amount of modulation. | 0 to 0.8 |
| Filter | Filter frequency cutoff | 80 Hz to 18,000 Hz |
| Gain | Amount of gain applied to delayed signal. | 0 to 3 |
| Angular Momentum | The velocity of circular movement in Hz. | 0.1 to 3 |



**Delay Type:**

| Parameter | Description |
|---|---|
| Mono - Stereo | In this mode, the width controls the stereo width of the delayed signal. If at zero it is mono, as the width knob is increased it becomes more stereo via the haas effect. |
| Ping Pong | Ping pong mode is essentially two separate mono delay lines, one is double the length of the current length. This allows for a “ping pong” effect going from one ear to the other. |
| Orbit | Orbit mode is a special mode unique to this plugin, it functions by moving the delayed signal in a circular motion in the stereo field. This movement’s velocity is determined by the angular momentum parameter. |



**Filter Type (left to right)**

| Parameter | Description |
|---|---|
| High Pass | High passes frequencies to current filter cutoff frequency. |
| Band Pass | Band passes frequencies to current cutoff frequency. |
| Low Pass | Low passes frequencies to current cutoff frequency. |

**LFO Shape (left to right)**

| Parameter | Description |
|---|---|
| Sine | Used for vibrato effects. |
| Triangle | Used for flanging effects. |
| Sawtooth | Used for intermodulation distortion effects. |