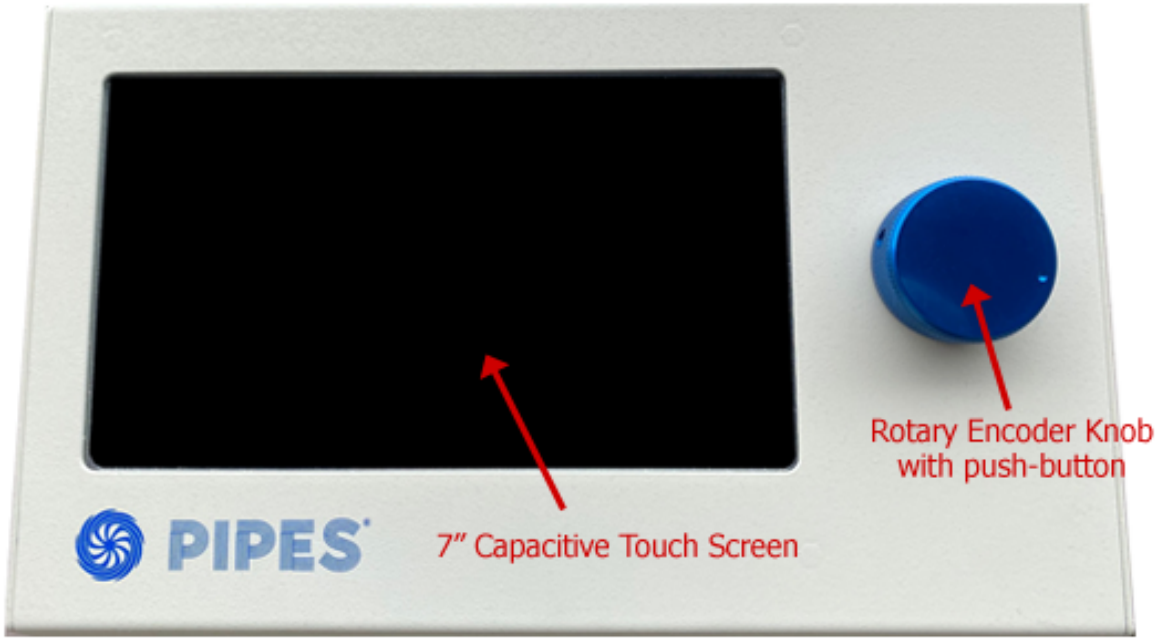
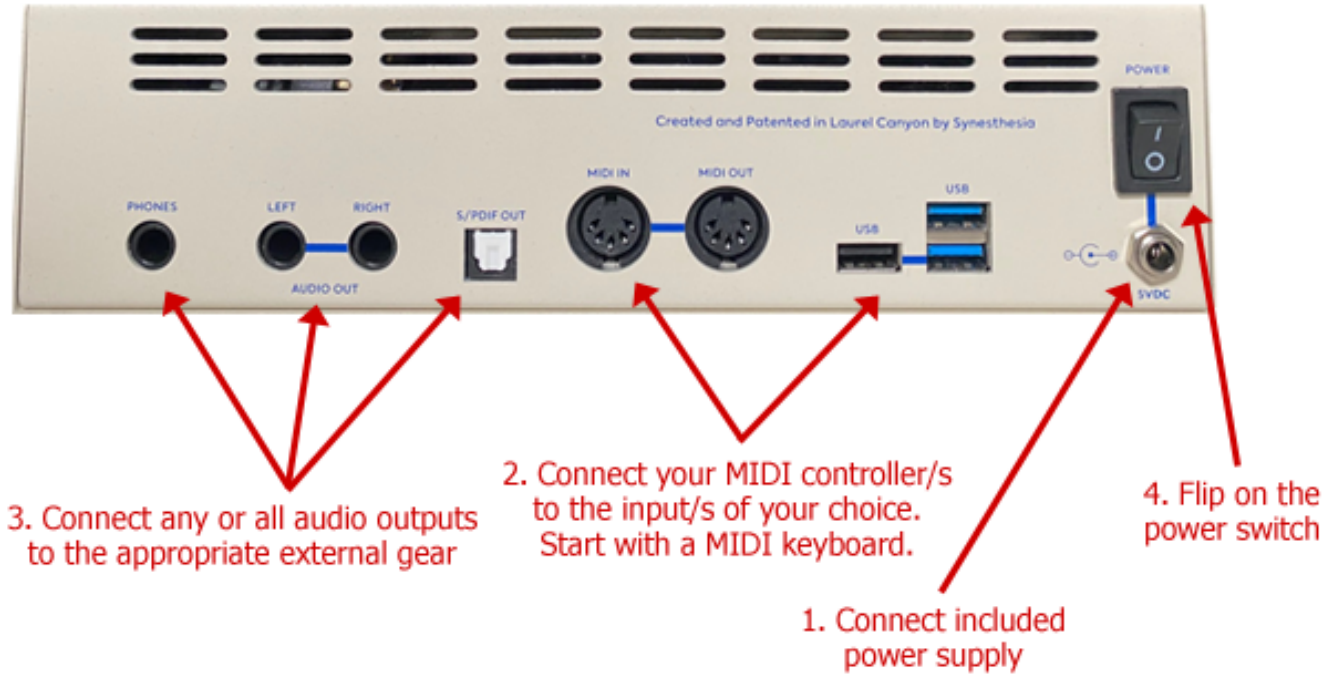
PIPES® Quickstart Guide

Questions? techsupport@synesthesiacorp.com
Group: https://facebook.com/groups/pipesaudio.com

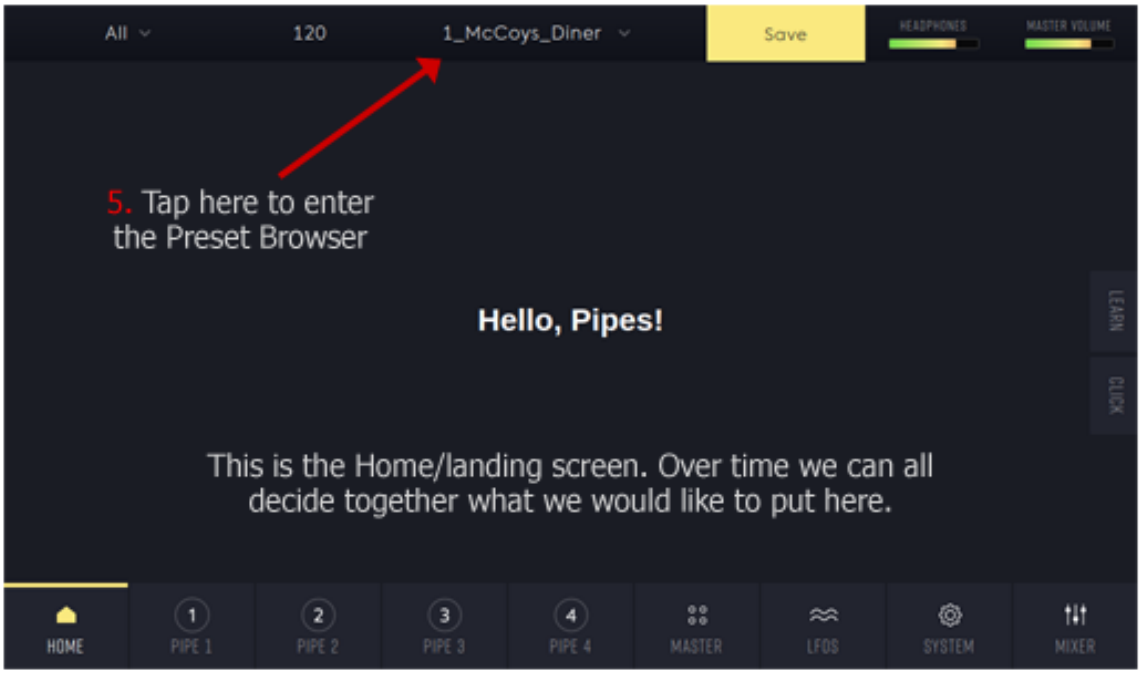
Top Surface



Connections and Power Up



Home Screen & Preset Browser



** We highly recommend loading each preset (over 150 included) one-by-one and playing away as the best way to initially familiarize yourself with the sonic and musical capabilities of Pipes

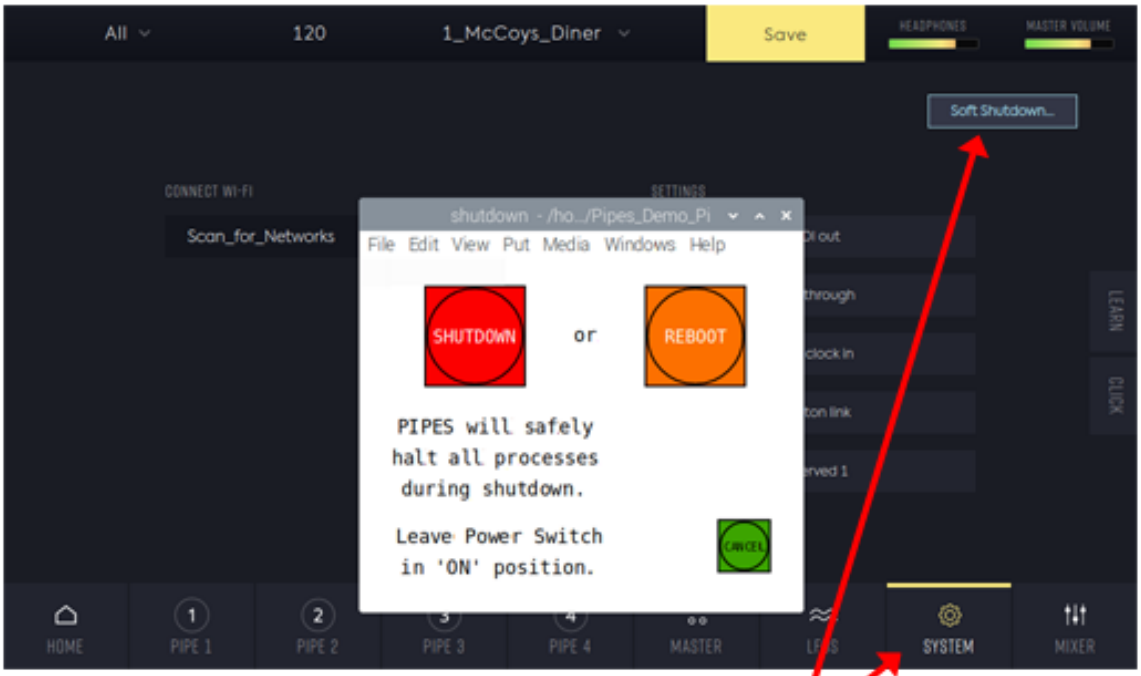
Volume Control

Tap MASTER VOLUME or HEADPHONES in the persistent header at any time to adjust volume

Or tap the MIXER tab and adjust the Master fader by sliding it or tapping it and spinning the big blue encoder knob

* MASTER VOLUME level automatically saves to Pipes internal memory

Shutdown or Reboot



*** LEAVE PIPES POWER SWITCH IN 'ON' POSITION FOR 10 SECONDS FOLLOWING A SOFT SHUTDOWN ***

*** NEVER TOGGLE PIPES POWER SWITCH ON AND OFF QUICKLY OR REPEATEDLY ***

Tap the SYSTEM tab then tap Soft Shutdown... to safely power-off or reboot Pipes. Please refrain from powering off Pipes by flipping its physical power switch unless absolutely necessary.

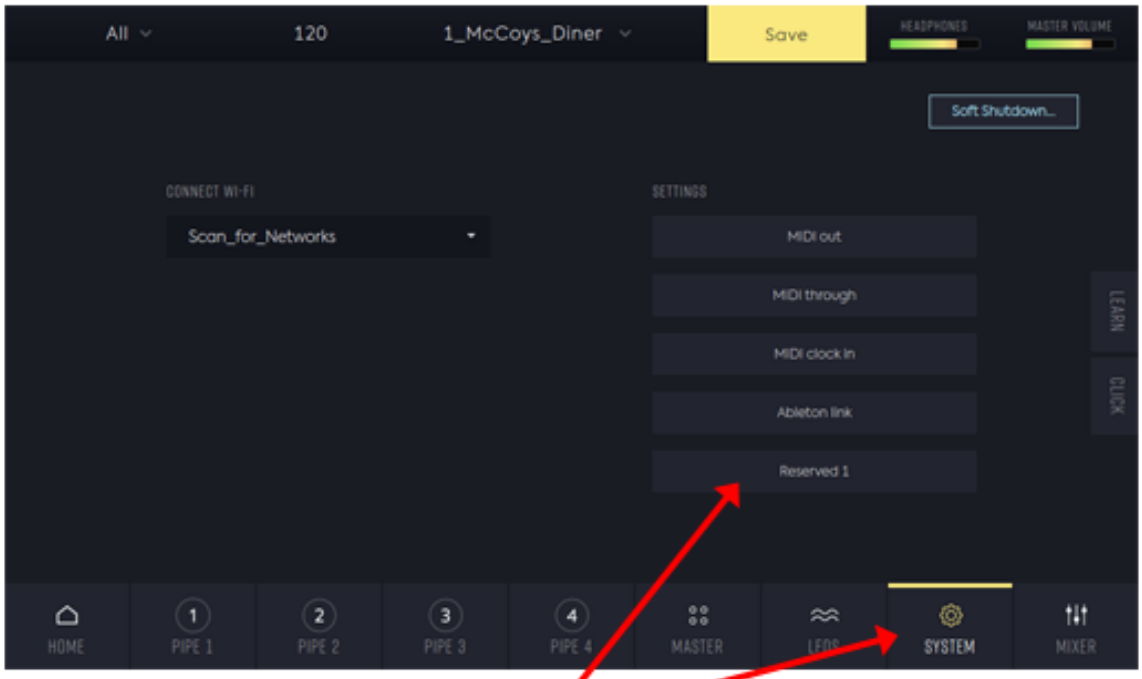
Pipes includes some safety mechanisms in case you find yourself in a fix during your explorations and testing:

- Double-Click the blue encoder knob for a MIDI Panic. This will send all notes off and kill all sounding voices immediately. **It will also scan USB and re-register all currently connected USB MIDI Controllers.**

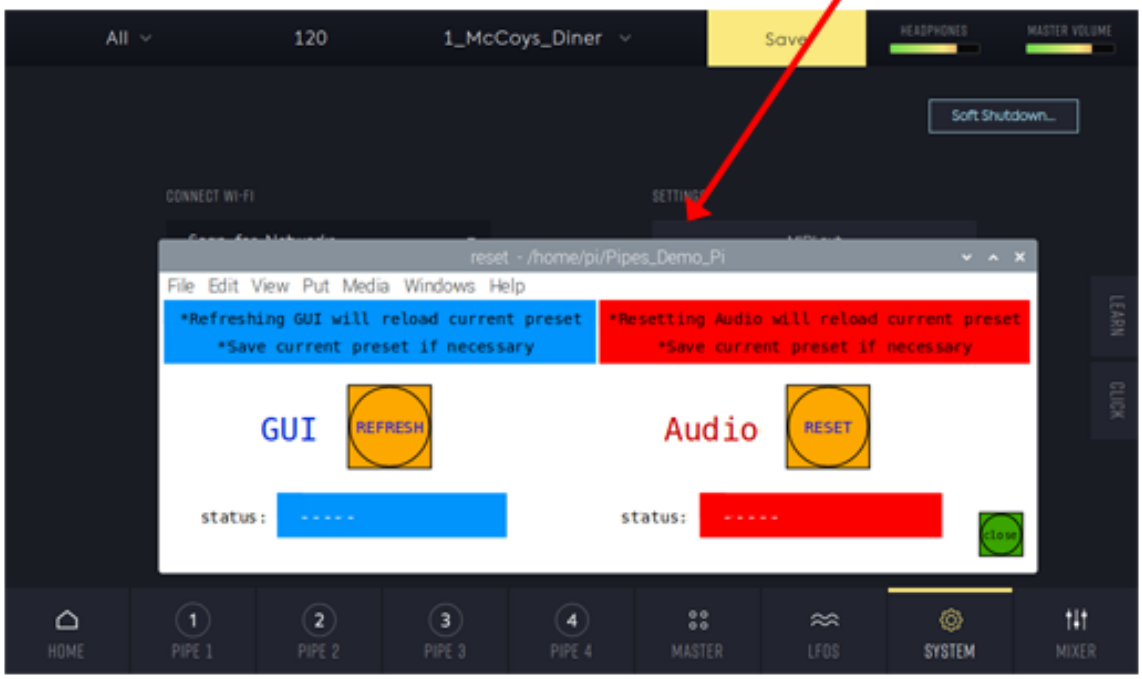
- Triple-Click the blue encoder knob for MIDI Panic + instant setting of Master Volume to 0. Restore Volume to your desired level after that.

- You've also always got the option to reboot Pipes but first please try loading a different preset or if necessary you can always try the following Reset options...

GUI and Audio Reset

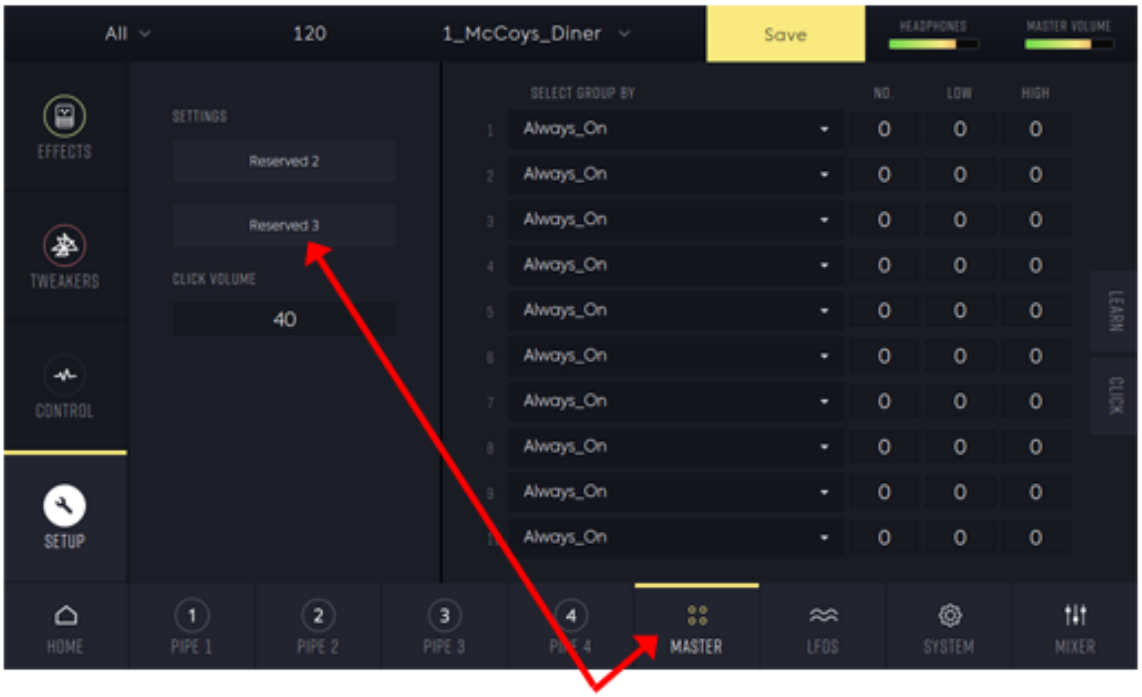


Tap the SYSTEM tab then tap 'Reserved 1' to bring up Reset Options.
After all, we are group beta testing a new technology here!



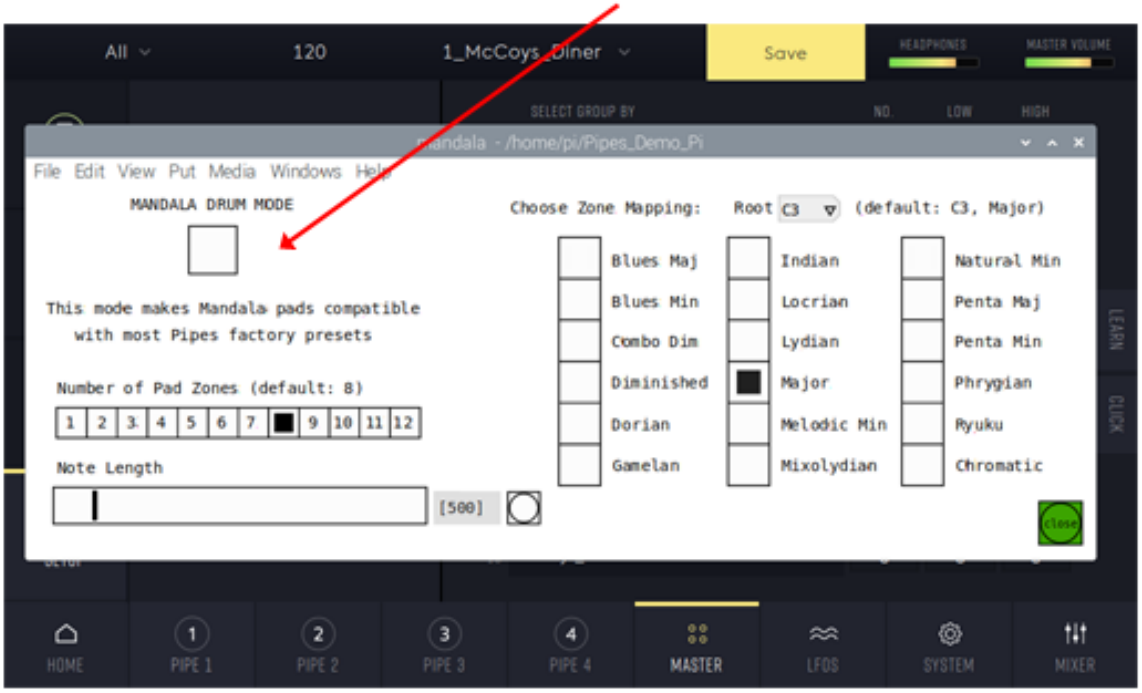
For Mandala Drum Players

We recommend initially familiarizing yourself with Pipes by way of a keyboard controller, and then going for it with a Mandala after that. To make almost all the presets compatible with a Mandala we've included a Mandala Drum Mode:



Tap the MASTER tab then tap 'Reserved 3' to bring up Mandala Drum Mode screen

Turn it on and load presets and drum away. Settings save automatically.



PIPES USER MANUAL

(DRAFT)

7/9/22

CONTENTS

INTRO

Welcome to Pipes. We recommend that you load and play every preset one-by-one as a way to start your Pipes experience (See the Quickstart Guide above). Some presets like single notes, some like chords, some like a sustain pedal, some like having their PLAY button pushed, some have mod wheel functionality and some use aftertouch or maybe the touchpad tweaker.

Explore. Presets are a way for you to become familiar with Pipes features. Experiment by changing their parameters. They can also be a launch point for your own preset creations. There are no boundaries. Don't be shy. Maybe you'll find something new and interesting as you test the edges.

What is Pipes?
Pipes is a sound and music platform and a repository for your sound library. Pipes is a work in progress.

What is the first application for the Pipes platform?
Patented always-loaded sample playback technology with unique trigger mapping and audio routing as a vehicle for your sound library, with experimental aspects in place. At its core, the first Pipes application plays back up to 64 voices of 48kHz 24bit stereo samples directly from memory with **all samples loaded and ready at all times**. Play a key - trigger a sound. Hit a pad - trigger a sound. Where can you take it from there? A lot of places by applying instruments, effects, Tweakers, and routing combinations in unique patterns to create never before heard sound and music.

In this first application for Pipes, what is a "pipe"?
A "pipe" is an independent pipeline consisting of MIDI_CONTROLLER_INPUT to TWEAKERS to SOUNDS to PIPE_EFFECTS to MIXER to MASTER_EFFECTS to MASTER_VOLUME to AUDIO_OUTPUT. Pipes offers four "pipes" which can remain independent of each other or can be used together in any combination.

What are future applications for the Pipes platform?
The sky's the limit, but let's get familiar with, and refine, the initial offering together as a team.

What's with the big blue knob?
The knob performs multiple functions. Tap any onscreen component with your finger then spin the knob to change the component value. If you are using the knob to scroll through a Pipes browser (such as Presets, Sounds, Effects, or Tweakers) you can click the knob to 'Apply' the currently highlighted item.

** Double-click the knob (like a mouse) at any time to rescan USB when you plug in a USB MIDI controller. Double-clicking the knob also issues a MIDI Panic which kills all sounding notes and voices.*

** Triple-click the knob at any time to issue a MIDI Panic and also instantly set the Master Volume to 0.*

Will my Pipes touch screen develop 'burn-in' if I keep it on for too long?
No. You can leave Pipes turned on for as long as you'd like. We have tested units without turning them off for months at a time and the screen perfectly maintains its image quality and functionality. Occasional reboots are always good for overall Pipes performance however.

Will I find bugs?
We hope so! No product like Pipes can ever be considered officially 'done' so it's up to all of us to report bugs in the private Pipes group: https://facebook.com/groups/pipesaudio. All posts in the group should be labeled with one of the following four tags: #successes #general #wishlist #issues. We're going to keep a clear distinction between those four topics.

What's up with the Home Screen, and where's MPE?
Both of those are under development here at the lab but we'd like for you to first get familiar with Pipes before we consider all suggestions on how you'd like us to finalize implemention of things like the Home Page, MPE, and some others. Then we'll send them out in an update. Regarding MPE, your Pipes already has the basics of MPE/Multi-Timbrality in place. You can set the input channel of each individual pipe in Pipes by going to the Setup screen for each of the 4 pipes. You could even set those to be your 'Member Channels' for MPE and that way you're already into experimenting with MPE/Multi-timbral playing. Take a look here for great info: https://www.rogerlinndesign.com/support/support-linnstrument-what-is-mpe?

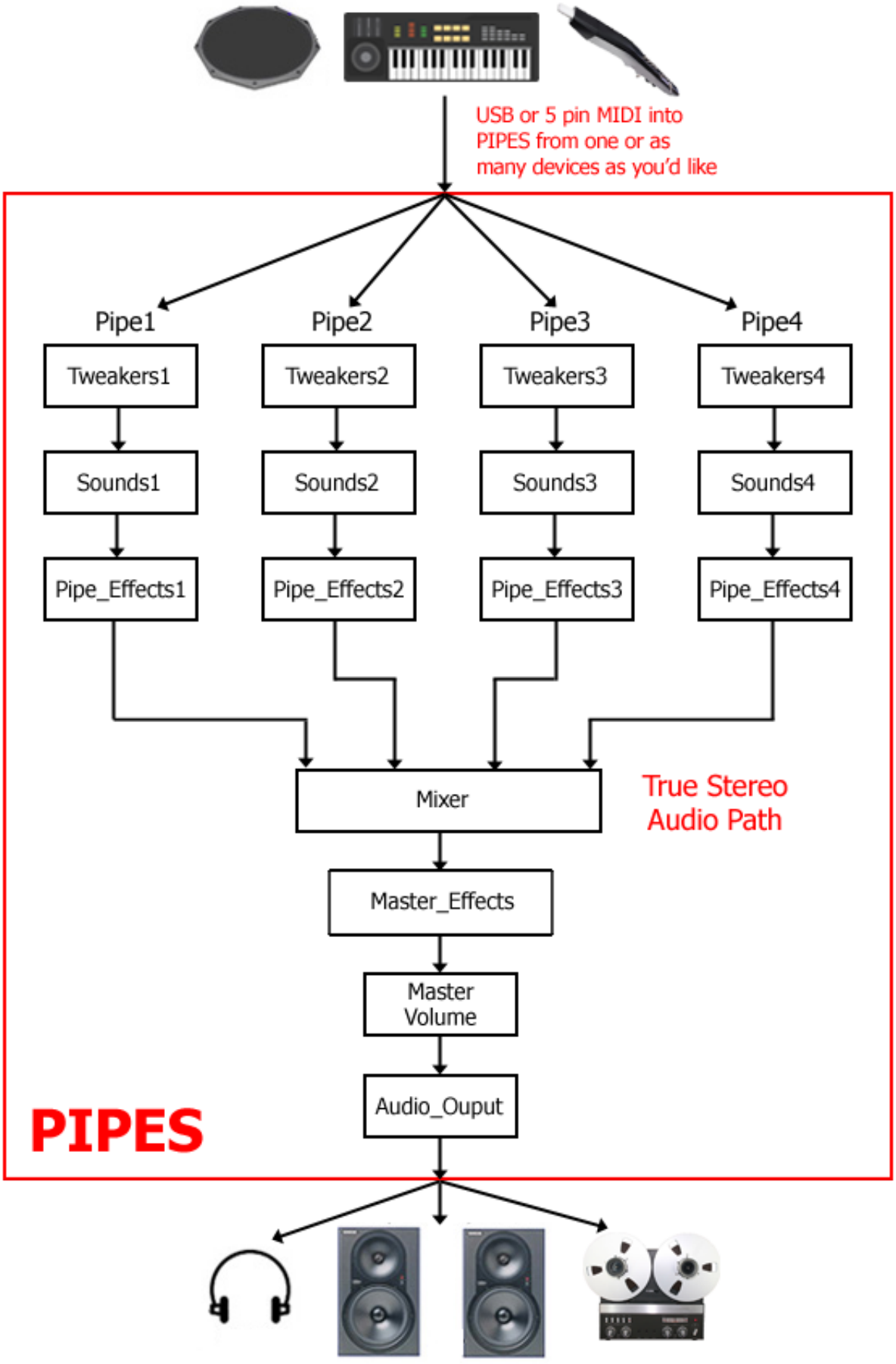
Can I patch myself into a corner?
Yes. We've left all the doors open, so if you accidentally end up in a corner there are several ways out. Reset-Audio or Reset-GUI (see Quickstart Guide above), double-click, triple-click, Soft Reboot, and the good ol' physical power switch.

How do I turn off Pipes?
Please tap the MASTER tab and then tap the 'Soft Shutdown…' button for shutdown options. This is the safest way to power down your Pipes. About 10-15 seconds after you shutdown Pipes it is then safe to turn off its physical power switch. Of course, when absolutely necessary you can just turn off Pipes with its physical power switch. Never quickly or repeatedly toggle Pipes power switch On and Off.

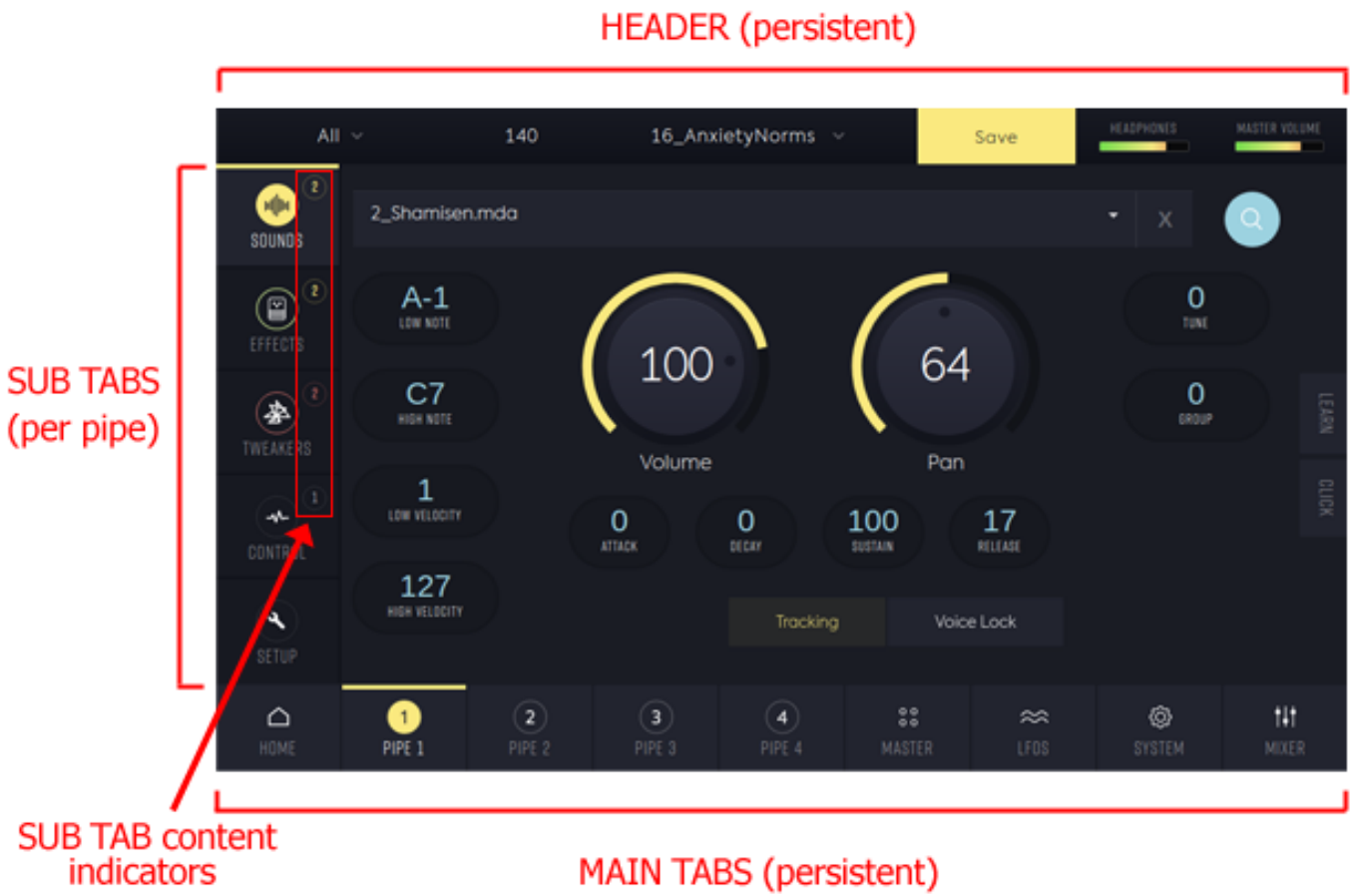
WAYS TO OPERATE PIPES

1. Direct interaction with the 7" capacitive touchscreen
2. Combination of touchscreen and rotary knob/button
3. Connected mouse/keyboard

PIPES BLOCK DIAGRAM



TABS and HEADER



HEADER

Collections | BPM | Presets | Save | Headphone Volume | Master Volume

MAIN TABS

Home | Pipe 1 | Pipe 2 | Pipe 3 | Pipe 4 | Master | LFOs | System

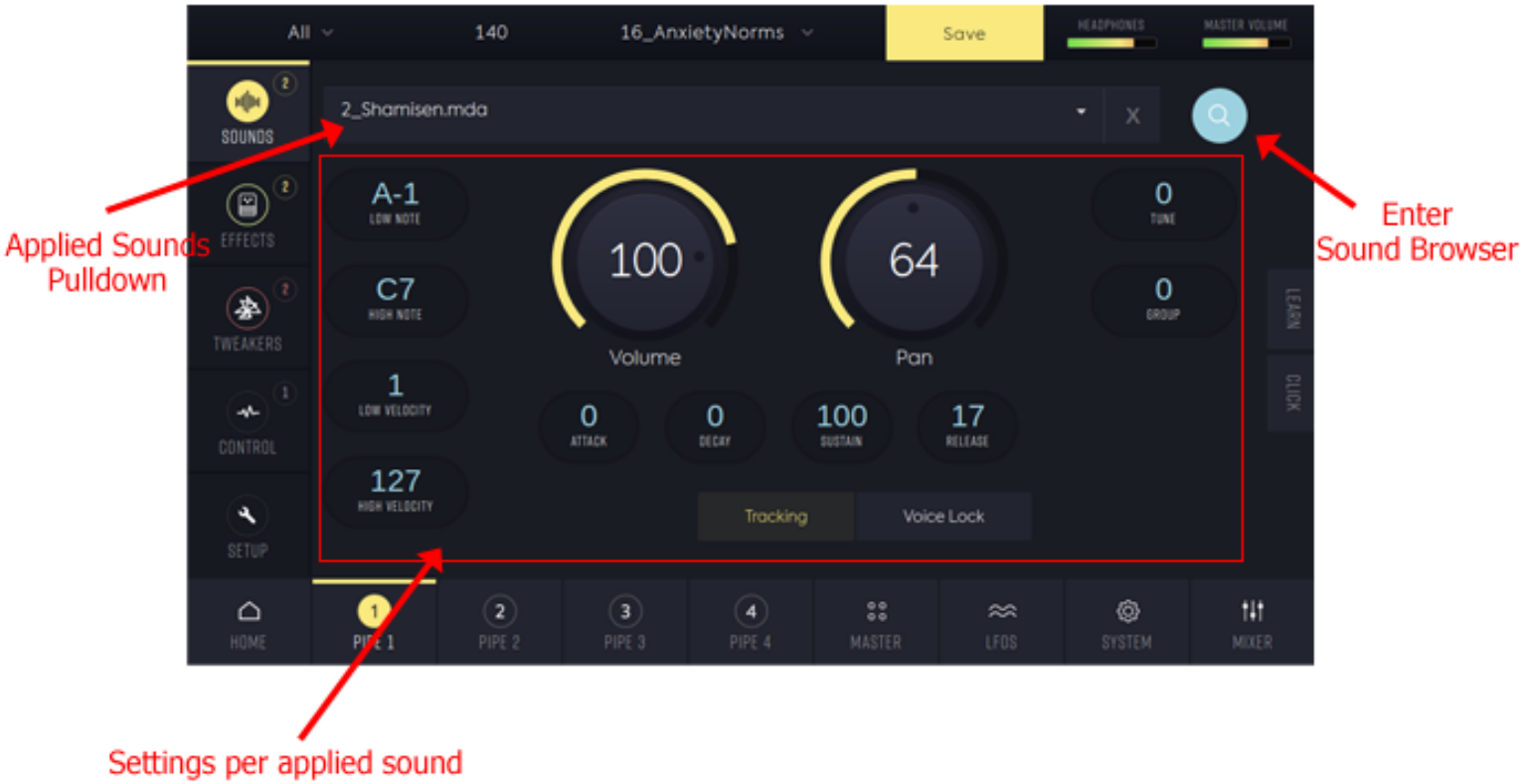
SUB TABS

Sounds | Effects | Tweakers | Control |Setup

SUB TAB Content Indicators

These numbers are a running count of how many Sounds, Effects, Tweakers, and Controls are currently loaded or applied per Sub Tab per pipe. This is a quick way of getting an overview of what's going on without having to jump to every Sub Tab to find out. If you see a * next to a number in the Tweaker Sub Tab Indicator that means some form of sequencer Tweaker is currently loaded on that pipe.

SOUNDS SCREEN (Pipe 1, 2, 3, 4)



The Sounds screen is where you apply audio files to a pipe and set the parameters for each of the applied files.

Magnifying Glass - Tap to enter the Sound Browser. Once in the Sound Browser you can instantly play and preview any instrument you highlight. No loading is necessary. Once you hear something you like, hit the 'Apply' button to apply it to the pipe. There is no limit to how many instruments/sounds you can apply to a pipe. Each applied instrument/sound will have its own set of parameters as seen below. Edit an item's parameters by selecting it in the Applied Sounds/Instruments pulldown and adjusting its associated parameters.

The 'Include mods, etc.' button in the Sound Browser will toggle on/off the instant application of all mod routings of the currently selected sound in the Applied Sounds pulldown to the sounds you are previewing in the Sound Browser. If the toggle is on when you hit 'Apply' then the newly applied sound will have all the same settings as the currently selected sound in the Applied Sounds pulldown.

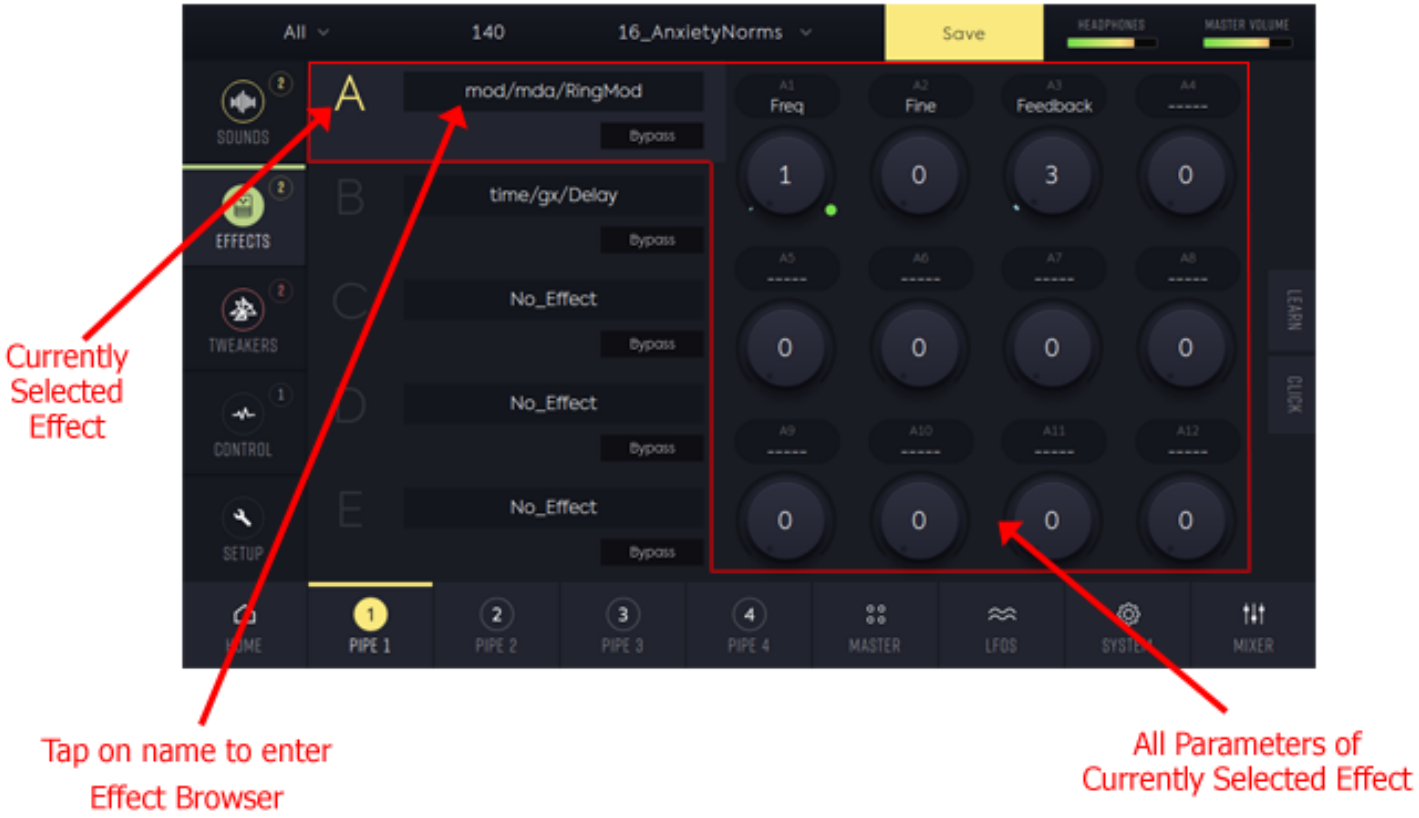
Applied Sounds/Instruments pulldown - Tap to see all currently applied sounds/instruments on the pipe and to choose one for parameter editing. Hit 'X' to remove the currently selected item from the Applied Sounds pulldown.

Settings per Applied Sound/Instrument – The following settings are available for every individual sound/instrument you apply to a pipe:

Volume - Set the loudness of the current item
Pan - Set a position in the stereo field for the current item

ADSR - Attack, Decay, Sustain, and Release settings to shape the amplitude of each voice when it is triggered
Low Note - Set the low limit of notes for triggering
High Note - Set the high limit of notes for triggering
Low Vel - Set the low limit of velocities for triggering
High Vel - Set the high limit of velocities for triggering
Tune - Adjust the tuning, in cents. 100 cents is one semitone
Root - For WAVEs and AIFFs only. Set the root note where the sample will play at its true pitch
Round Robin - For WAVEs and AIFFs only. Set a position for the sample in a round robin pattern
Group - Assign the current item to a group which can be turned on/off under conditions set on the Master>Setup screen

EFFECTS SCREEN (Pipe 1, 2, 3, 4, Master)



Pipes effects are a combination of over 150 open-source LV2 plugins, including Calf, Guitarix, SWH, Fomp, Invada, MDA, and ArtyFX.

Subcategories of Pipes Effects are:
Modulation, Filter, Time, Reverb, Pitch, Dynamics, Distortion, Tools

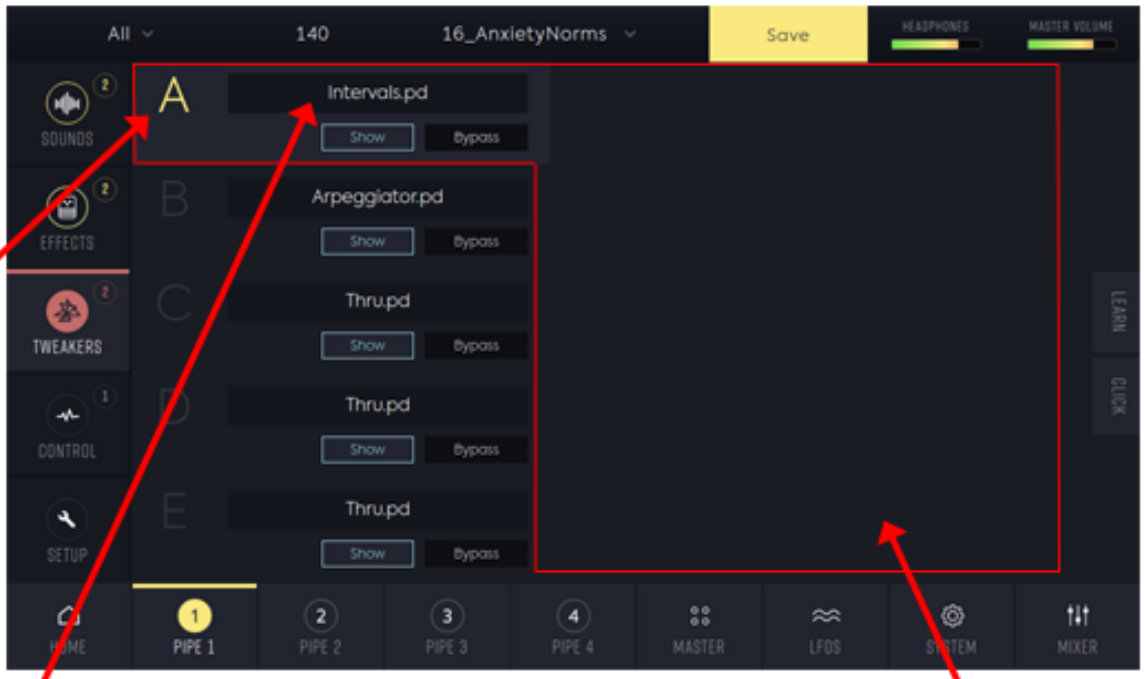
Load effects into up to five slots (A,B,C,D,E) per pipe, including Master pipe, by tapping the effect window in a slot and browsing and choosing an effect from the provided subcategories. Once loaded, an effect will show its parameters to the right. Highlight effect A-E to display each of their parameters. All effects are stereo

in/stereo out and are applied one after another (think guitar pedals lined up one after another) in order from A-E on each individual pipe. Master Effects enter the audio signal path after all Pipe Effects are summed by the mixer. Master Effects are the final processing step for all your audio on its way out of Pipes. They are followed only by Master Volume.

'No_Effect' is always the first option in the Effect Browser. It sends the signal straight through whatever effect slot (A,B,C,D,E) it is loaded into.

*** *The number of possible effects combinations and settings is endless. For that reason you may be able to dial up something pretty outrageous when it comes to sonic output, so with that amount of power and control in your hands please be careful to keep your volume at a safe level.***

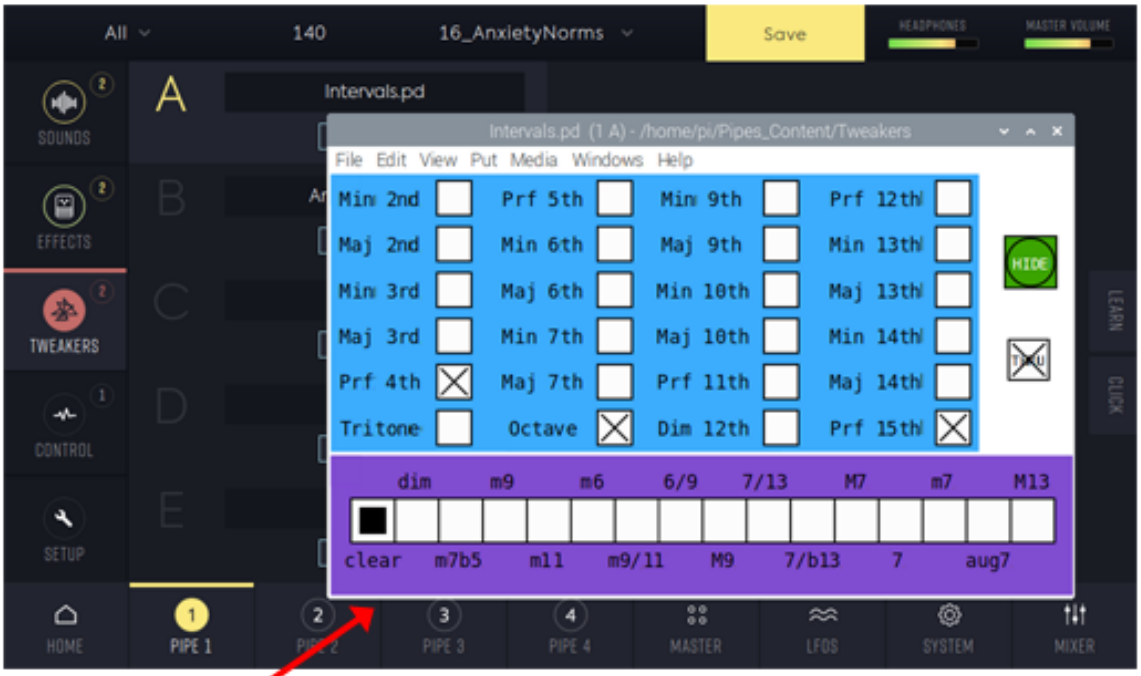
TWEAKERS SCREEN (Pipe 1, 2, 3, 4, Master)



Currently Selected Tweaker

Tap on name to enter Tweaker Browser

Tweakers will generally show up here when they are loaded or 'Shown'



Example of a loaded Tweaker called 'Intervals'. Notice the different look, because it is on a 'different layer' than the GUI.

Tweakers manipulate and implement many different aspects of Pipes functionality ranging from MIDI signals entering and exiting the device to user utlilites. They are

written in the open-source graphical data-flow programming environment called Purr Data and they exist on a sepratate layer of Pipes. Tweakers can also be a quick way for us (and you) to prototype new functionality in Pipes without getting into the core code of the device, but the easiest way to understand Tweakers is just to load them and listen to how they affect your sound and your playing.

You can load Tweakers into up to five slots (A,B,C,D,E) per pipe, including Master pipe, by tapping the Tweaker window in a slot and browsing and choosing a Tweaker from the list. Once loaded, a Tweaker will appear on a separate layer above the GUI. You can 'HIDE' or 'SHOW' any loaded Tweaker.

Pipe Tweakers (Pipe 1, 2, 3, 4) are mostly manipulators, such as Arpeggiator, Octaves, Scale Player, Scale Stepper, etc.

Master Tweakers (Master) are only available on the master pipe and are mostly utilities such as Audio File Import, Preset Export & Import, Envelope Station, Collection Manager, etc.

Pipe Tweakers

A Tweaker loaded on a pipe (1, 2, 3, 4) is a throughput/manipulator for MIDI notes that enter that pipe. The incoming notes and velocities are altered or embellished in unique ways by the Tweaker, just like audio effects alter or embellish audio signals. All Pipe Tweakers are applied one after another in order from A-E on each individual pipe. The output from A goes to the input of B and the output of B goes to the input of C, etc. The sequential buildup of MIDI manipulation from A-E then triggers the associated sounds you've got applied on that individual pipe.

'Thru' is always the first option in the pipe Tweaker Browser. It sends the incoming MIDI signal straight through whatever Tweaker slot (A,B,C,D,E) it is loaded into. Loading 'Thru' is essentially like not loading any Tweaker at all in a slot.

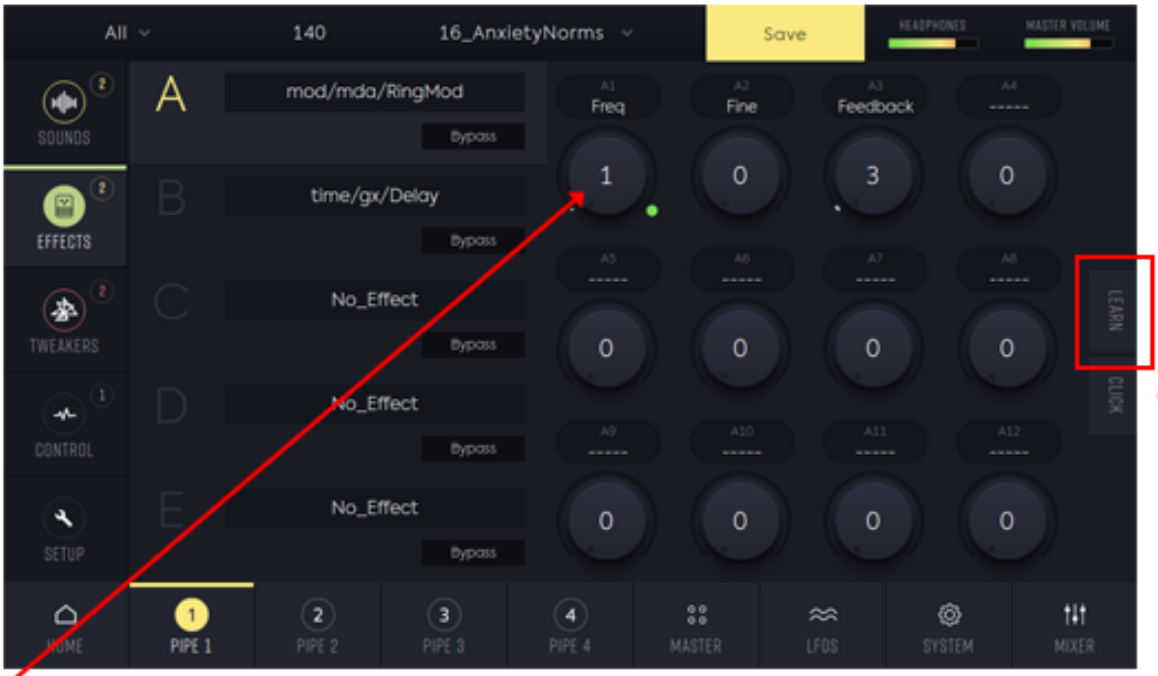
Master Tweakers

A Tweaker loaded on Master is for utility purposes. Master Tweakers are not a throughput/manipulator for MIDI notes but rather a means to alter an overall setting on your Pipes unit or to perform a system level function.

'Thru' is always the first option in the master Tweaker Browser. Loading 'Thru' is essentially like not loading any Tweaker at all in a slot.

LEARN

Would you like to automate one of the GUI settings within Pipes or possibly assign a MIDI controller mod wheel/fader/button, etc. to control a parameter? Then the 'LEARN' button is for you. It allows you to set up modualtion routings.



1. Tap Learn

2. Set Destination by tapping the parameter you want to control. Almost any parameter on any GUI screen is controllable (except Tweakers).

3. Set Source by moving/tapping any MIDI wheel, fader, knob, key, button.

(For other options see * below)

Almost every component in the Pipes GUI can be set to be controlled by a Source. To set up a modulation routing you must start by using the LEARN button to set a Destination.

Start by going to the screen that contains the parameter you want to control, then…

1. Tap the LEARN button on the right side of the screen. It will light up.

2. Tap the parameter you want to control. The LEARN button will blink.

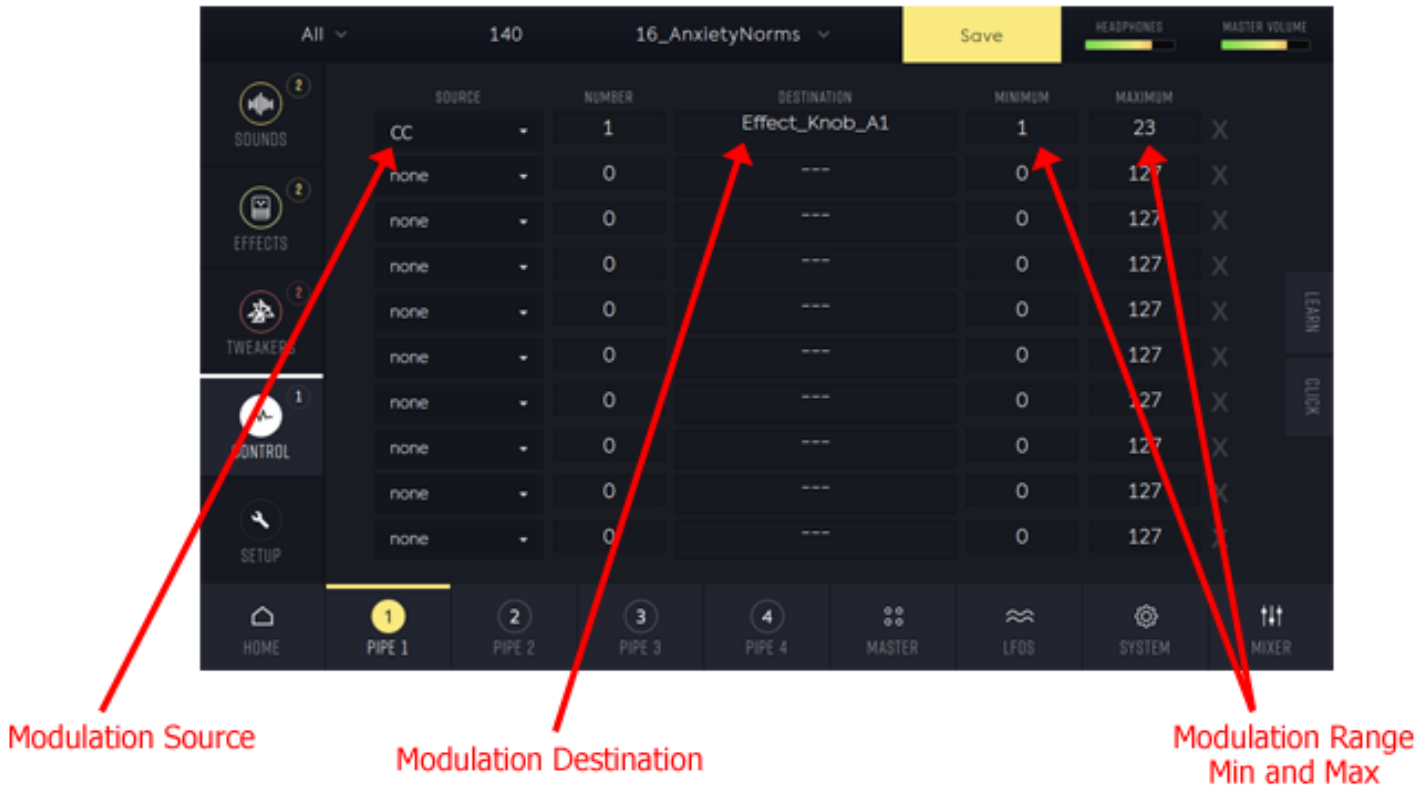
[If you don't tap a parameter during this step and instead press a note and then another note you will be setting the 'Low Note' and 'High Note' parameters of the currently selected Applied Sound in the Applied Sounds pulldown on the Sounds Screen] (see SOUNDS SCREEN above)

3. Now move the MIDI controller you would like to be the Source of control, such as the mod wheel, pitchbend wheel, a musical key, etc. The LEARN button will then turn off and you will now see the Destination parameter being controlled as you move the Source you just set.

* *To control a Pipes parameter from a Source other than a CC, Pitchbend or a Key Position, please tap the LEARN button after step 2 above. This will turn off the LEARN button, at which time you can proceed to the Control Screen and set Source to any setting you would like, such as Velocity, LFO, etc.*

Next, take a look at the CONTROl SCREEN for details and/or adjustments of your new modulation routing assignment.

CONTROL SCREEN (Pipe 1, 2, 3, 4, Master)



The Control Screen, also known as the Mod Matrix, is where you can review and adjust all current modulation routings you've made with the LEARN button. You can

assign up to 10 modulation routings per pipe and master. A modulation routing consists of a Source and a Destination.

Possible Destinations are:
Almost any parameter you see in the Pipes GUI (excluding Tweaker parameters)

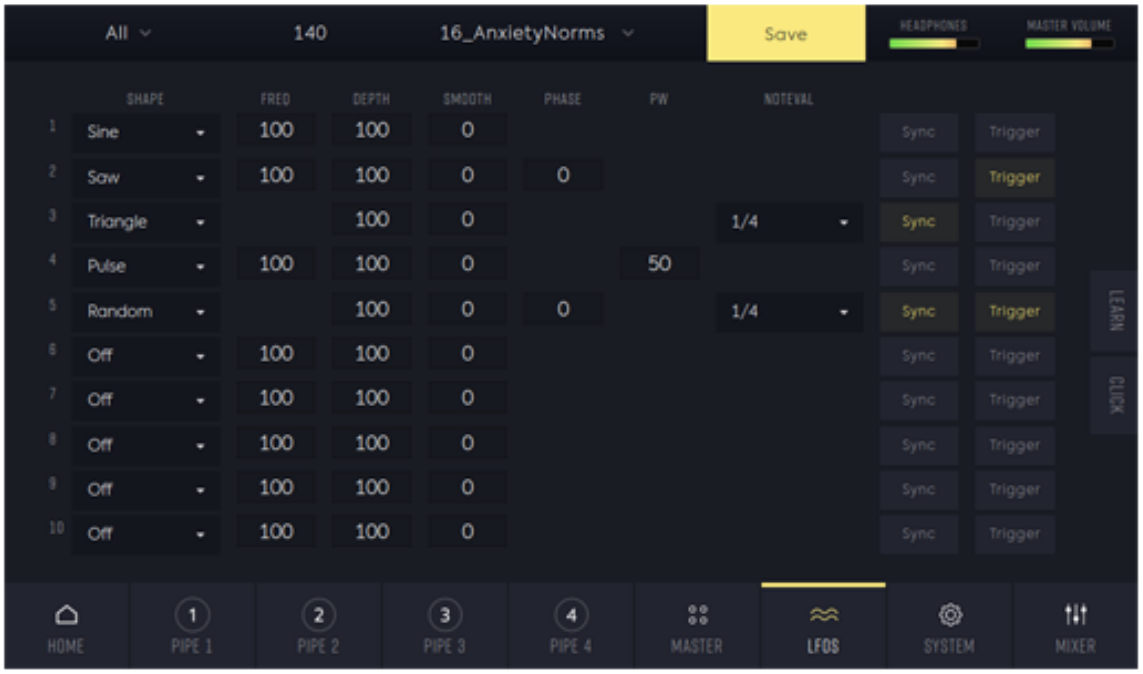
Possible Sources are:
None, CC (continuous controller), Note, LFO, Velocity, Key Position, Pitchbend, Aftertouch, Touch_X, Touch_Y, Touch_On, Envelope (using 'Touch' requires loading the Touchpad Tweaker)

In the example pictured above: 'CC 1' (a.k.a. mod wheel/continuous controller #1) is the Source, and its Destination is 'Effect_Knob_A1'. The range is set from Minimum=1 to Maximum=23 resulting in the mod wheel (CC#1) sending values from 1 to 23 to Effect Knob A1 as you turn the wheel.

* *All modulation routing settings are adjustable on the Control Screen except Destination. Destination can only be set by performing a 'LEARN'.*

Tap the 'X' next to any of the 10 rows on the Control Screen to delete a modulation routing.

LFOs



The LFOs Screen is where you activate and configure up to 10 Low Frequency Oscillators for use as modulation routing Sources. You can choose LFO 1-10 (and beyond if you are using a Tweaker called 'LFO Playground') as a SOURCE on the Control Screen.

Shape – Options are: Off, Sin, Saw, Triangle, Pulse, Random
Freq – Every 100 units equals 1 Hz. 1 Hz means the wave has a period of 1 second.
Depth – The amplitude of the waveform as a percentage up to 100%
Smooth – Edge sharpness of any angular LFO. 0 is the sharpest. 100 is rounded.
Phase – If LFO is set to 'Trigger' this is the cycle position where the LFO will start.
PW – If LFO Shape is set to 'Pulse' this will be the Pulse Width of the pulse
NoteVal – If LFO is set to 'Sync' this determines its frequency in relation to BPM
Sync – Set LFO frequency to be proprotional to BPM instead of a fixed value
Trigger – Set LFO waveform to always start from a set Phase position on note trigger

PLAYING and CREATING PRESETS

As mentioned in the Quickstart Guide it is preferable to spend time going through the factory presets of Pipes to familarize yourself with what the device offers.

Remember to try your controller's mod wheel and aftertouch because many factory presets are using those elements in interesting ways for you to discover as you play.

If a transport pops up when you load a factory preset (or if you see an asterisk in the Tweakers Sub Tab Indicator) it means there are one or more sequencer Tweakers in the current preset. You can still play the keys on many of those presets, but hit the PLAY button and see what happens.

As you play through the factory presets don't be shy about going into the Sound Browser on any active pipe and tapping on different instruments to instantly hear different sounds. No load time necessary. Instrument previewing is instant.

When you'd like to jump off and create your own presets you can either use a factory preset as your starting point or you can load the preset named 'Blank_Template' (always the first one in the list) which is just a completely blank preset ready to be built up.

Building a preset could consist of:

Choosing a pipe, Applying sounds, Applying Tweakers, Adding effects…rinse and repeat pipe-by-pipe until you've got yourself something to save. When you are ready tap the little yellow 'Save' button in the persistent header then type a name in the 'Save as…' box and hit the huge yellow 'Save' button and that's it.

If you are working on a preset you've already saved and you want to save it again there is no need to type in the whole name again. Just tap the little yellow 'Save' button then tap the huge yellow 'Save' button without typing anything in the 'Save as…' box.

Wi-Fi

Pipes Wi-Fi serves several purposes. With Pipes up and runing and connected to Wi-Fi by way of the System Screen you can do any of the following things:

Use Ableton Link to join other Link-enabled devices
- Tap Ableton-Link on the System Screen and if any other instruments are on the same network and have Link enabled your Pipes will instantly join the Link. Pipes will then be synced to the group BPM. Their BPM changes will change yours and yours will change theirs. Remote Start/Stop functionality can be set in the Pipes Master Tweaker called Sync_Settings.

Remotely control Pipes from any other device on the same network
- In a web browser on any connected device just go to http://pipes.local:9998 and the Pipes GUI will appear and reload the currently loaded preset, and from then on anything you do in the GUI on the connected device will be instantly mirrored on your Pipes screen, and vice-versa. (Tweakers will only be visible on the Pipes screen because they exist on a separate open-source Purr Data visual language layer)

Download updates and future apps
- We don't want Pipes to be one of those devices that's always forcing updates on you and causing mayhem by rearranging everything you're used to, but occasionally we will offer updates to enhance functionality and content and take care of bugs that pop up along the way. Also, once we all become comfortable with this first offering on the Pipes platform we will begin to offer new apps to download into the device!

* *When connecting to Wi-Fi, if your password consists of all digits you must type 'pi' before the digits, such as 'pi123456789'.*

** Pipes Wi-Fi autoconnect will not be enabled until all Pipes Kickstarter units are shipped around the world and the current Wi-Fi connetion routine is verified globally.*

TIPS, TRICKS, and NOTES

Master volume does not save with presets. It is a system level setting that will stay where you set it, even after rebooting.

No need to retype the name of a named preset that you're working on when it comes time to save it again. Just tap 'Save' without entering a name when the prompt comes up.

When loading a preset, the presence of the progress bar doesn't mean you can't play. It's mainly a progress indicator for the loading of the visual screen graphics. Audio is playable within about 2 seconds after choosing a preset.

Pipes will open to the most recently loaded Preset when the unit is turned on.

System tab settings for MIDI Out/MIDI Through/MIDI Clock In/Ableton Link, and Master Tweaker settings for 'Click_Divider' and 'Sync_Settings' will automatically save to Pipes internal memory.

We suggest getting familiar with Pipes by way of its features and factory library before syncing/importing your sounds to the device. There are many factory presets to explore before carving out your own territory.

You can always ‘reset’ Pipes to containing only the Factory Library of sounds by carrying out a ‘Library Reset’ in the ‘Import_Audio’ Master Tweaker.

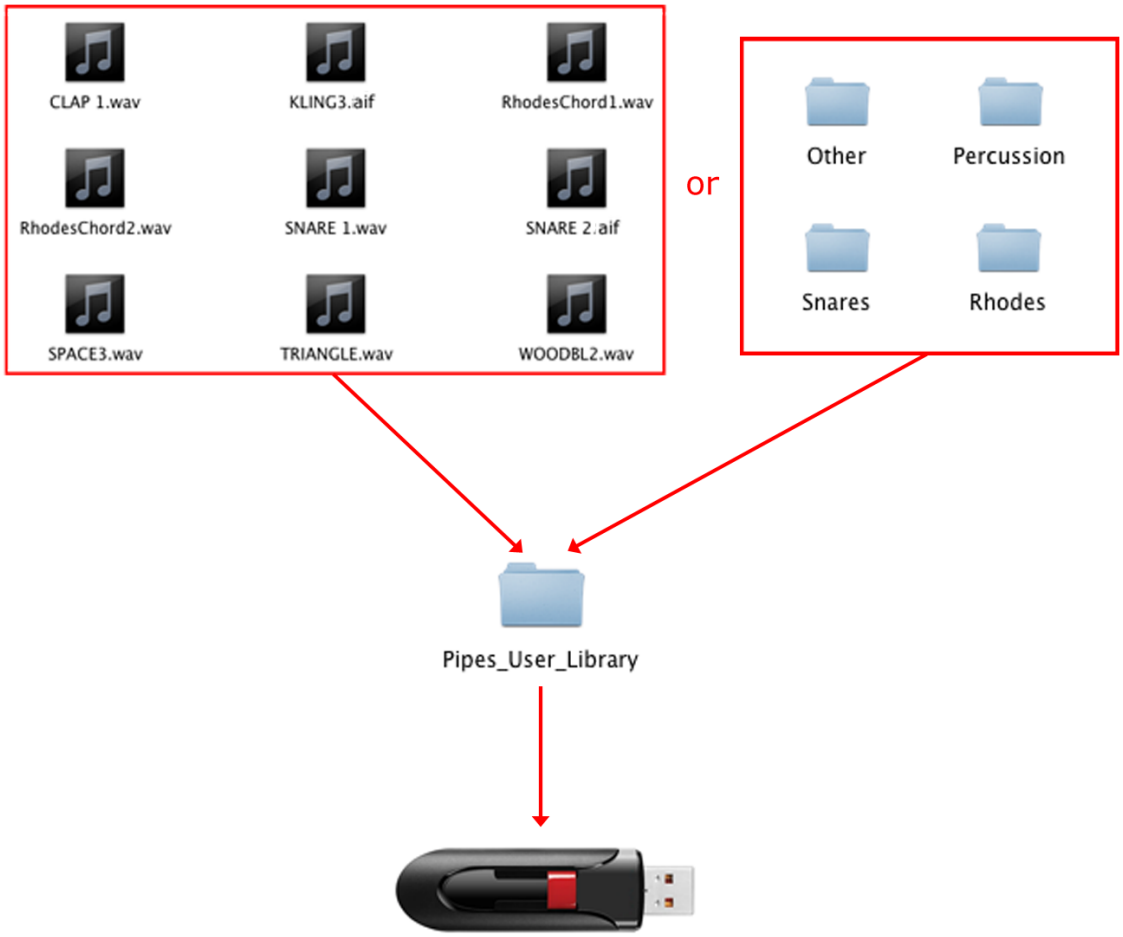
Always wait 10 seconds before turning off Pipes power switch after a Soft Shutdown

Never toggle Pipes power switch On and Off quickly or repeatedly for any reason.

IMPORTING SOUNDS

Before diving into the juicy details of the Pipes audio import program called Syncer v1.0 below, here is a quick How-To guide for the simplest case of adding sounds to Pipes. If you just want to add WAVE/AIFF files the following diagram illustrates the necessary steps:

Simple Sync Example – WAVE/AIFF



- On your computer, place your files into a folder you create called Pipes_User Library *(*or place your files one-level-deep into subfolders and place those subfolders into Pipes_User_Library).

- Move the Pipes_User_Library folder onto a thumb drive (formatted as FAT with 'Master Boot Record' scheme chosen on Mac/or formatted as FAT32 on Windows) and connect it to any USB port on Pipes and open: Master>Tweakers>Import_Audio_Files. Pipes will recognize your Pipes_User_Library folder at which time you can press the 'SYNC' button and carry out the process. **Pipes will 'SYNC' with the Pipes_User_Library folder, like an iPod 'SYNC's with a music collection.*

- After a few minutes Pipes will complete the process and you can then access your User Sounds in any Sound Browser on Pipes by scrolling down in the

main menu of the Sound Browser and choosing *USER_LIBRARY. **All sounds are playable instantly with no load time when highlighted in the Sound Browser.**

If there are any issues just carry out 'Library Reset' in the 'Import_Audio' Master Tweaker and Pipes will safely revert to its Factory Library of sounds only.

Now on to a full rundown of Syncer v1.0 capabilities:

Pipes Audio Import and Translation - SYNCER v1.0

Syncer is an application that updates your Pipes with a "library", called the Pipes_User_Library (PUL for short), that you maintain outside of Pipes. Syncer is the magic behind the routine that runs automatically when you hit the 'Sync' button in the Master Tweaker called Import_Audio_Files.

The term "syncer" comes from the fact that the application doesn't simply erase the current library and replace it, but does an intelligent "merge" where it leaves the sounds that are present within that Pipes that still exist in your off-site PUL, and erases the sounds that don't exist in your current off-site PUL. This dramatically speeds up the syncing operation, where if you have a a very large library but have made very few changes, Syncer will update your library within Pipes very quickly.

Remember this isn't a "merger" but a "syncer". Your off-site PUL will be, for all intents and purposes, EXACTLY what gets put into your Pipes unit. The omission of an object in the PUL DELETES it in Pipes, the existence in both places KEEPS it in Pipes, and the addition of an object ADDS it in Pipes.

Pipes is a streaming playback device and has a limit of roughly 20,000 onboard samples, including the 8165 factory samples.

CONVERSION

Syncer also has powerful conversion abilities so it can take keymaps that exist in several popular Instrument formats and lay them out in Pipes. Below is a current list of supported formats:

NI Kontakt (NKI)
Apple EXS24/Sampler (EXS)
Cakewalk SFZ (SFZ)
GigaStudio (GIG)
SoundFont (SF2)
Reason NNXT (SXT)

Currently only the important mapping and looping parameters are imported; below is a list:

LoKey, HiKey
LoVel, HiVel

RootKey, FineTune
Group Number (for exclusive playback such as choking)
Round Robin Number
Loop On/Off
LoopStart, LoopEnd ***LoopEnd must be beyond 8192 samples

Pipes only supports 24bit, 48K WAVE files, so Syncer converts incoming sample data into 24-bits and sets the listed sample rate as 48k, while compensating for the pitch differential by adjusting the internal RootKey and FineTune.

GUIDE FOR PIPES USER LIBRARY ORGANIZATION

Your off-site PUL must be set up in a specific way to merge into the library within Pipes. It's best to illustrate this with an example, which is below, but the main points are listed first.

- Your storage medium (thumb drive preferred) must be formatted as FAT with 'Master Boot Record' scheme chosen
- The main folder must be called 'Pipes_User_Library'
- Your files will exist within this folder. Those files can be WAVE/AIFF files, or the supported Instrument formats (NKI/EXS/SFZ/SXT/GIG/SF2). The WAVE/AIFF files will become 'Instruments' in Pipes after the merge, with a keyrange of 0-127 and the RootKey existing at Middle C.
- One level of folder nesting is permitted
- For organization purposes, we recommend all objects be within that one-level of nesting
- There is one specially-named folder, called Samples. This is where you put all the samples that your Kontakt, SFZ, EXS, or NNXT files reference. These can be nested to any depth, not just one. These samples DO NOT have to be linked properly within their NKI/EXS/SFZ/SXT files.
- As far as you can manage it, PLEASE AVOID ANY DUPLICATE NAMES!!!

Below is a textual example of a small PUL.

Pipes_User_Library
  My Waves
    Bog Barking.wav
    Night Pipe.wav
    Solid String.wav
  SoundFonts
    Brass Section.sf2
    GM Set.sf2
  My Custom Strings
    Violas.sxt
    Violins.nki
    Cellos.nki
    Basses.sxt

```
Inhouse SFZ
  Glassy Eyes.sfz
  Glassy Eyes 2.sfz
  Pearl Drums.sfz
  Church Piano.sfz
GigaStudio
  Super Pads.gig
  FX Collection.gig
Samples
  String Section Samples
    [all the samples for the My Custom Strings folder]
  SFZ Samples
    Glassy Eyes Samples
      [all the samples for Glassy Eyes.sfz and Glassy Eyes 2.sfz]
    Pearl Drums Samples
       [all the samples for Pearl Drums.sfz]
    Church Piano Samples
            [all the samples for the Church Piano.sfz]
```

Note the one-level nesting, and that there is no nesting limits within the Samples folder. Also of note: Pipes does not support spaces within file/folder names, but you can use spaces within your off-site PUL. Syncer handles the elimination of spaces (substitutes an underscore "_") during the syncing process. Referenced samples within the 'Samples' folder can be shared among the instrument files outside the 'Samples' folder, and they will also be shared once they are imported into your Pipes unit.

There is nothing wrong with having files in the root of the PUL; just remember they'll exist in the root of your Pipes library as well.

CREATING YOUR PIPES USER LIBRARY

As long as you follow the structure listed above, creation of your PUL is just matter of moving files into your folder called 'Pipes_User_Library'.

Feel free to make any changes in your off-site PUL, like removing an instrument, or including a brand new folder of new custom instruments. Then run the Syncer and your internal Pipes library will be adjusted to match your off-site PUL.

With standalone WAVE files, and GigaStudio and SoundFonts, moving files in your PUL is all you have to do. With NKI/EXS/SFZ/SXT, though, not only do you have to move the NKI/EXS/SFZ/SXT in the PUL, but also you need to put the associated samples in the 'Samples' folder within the PUL. Again, as far as it depends on you, AVOID DUPLICATE NAMES! Remember that simply changing the sample's file name doesn't help with this, as that breaks the link between the control file and the sample file. Do it instead in the host sampler.

Feel free to move those associated samples freely into the 'Samples' folder, as the linkage (aside from the actual file name) no longer matters.

IMPORT NOTES

As mentioned above, Syncer can import the following formats into Pipes:

WAVE/AIFF files, any bitrate or sample rate (will convert to 24/48K/Stereo)
NKI - NI Kontakt instruments
EXS - Apple EXS24/Sampler instruments
SFZ - RGC Audio/Cakewalk/Roland instruments
SXT - Reason NNXT Programs
GIGA - Tascam GigaStudio files
SoundFont - Emu/Creative Labs soundcard format

Please email us (techsupport@synesthesiacorp.com) any file that is of a format listed below as supported by Syncer but is not importing successfully (email the file only - no samples necessary) and we'll adapt Syncer for it and upload an updated Syncer. There are many variations within each file format and eventually all the holes will be filled. Along the way more and more libraries will be compatible with Syncer.

Below are notes of the limitations of each format that you should watch out for. These notes cover most instances, however due to complexity and real-world situations, they may not cover all files you have or come across. Nevertheless, this will help you guide your expectations. The limitations are written in the negative; that is, the things that CANNOT be loaded. Otherwise, assume they can. The goal is to address some, or all, of the limitations in forthcoming versions of Syncer.

But first, we'll go over some particular sampler-specific features that are not supported in Pipes, and how Syncer adapts to them. This way we don't have to repeat them for samplers where they apply. Then we'll go over the formats themselves.

Rules

'Rules' are conditions where a sample plays or not. KeyRange and VelRange are rules, where the note and velocity have to be within a certain range if the sample plays. The Rules Pipes supports are Key, Vel, and RoundRobin. If a source format contains another Rule, such as Controller Switching or Key Switching, Syncer only takes the "onload" range and does not include the other references that would play if that non-onload condition would change. On that same line, Release Triggers are also a rule, and any sample that plays on NOTE OFF are not read. Rules that are not supported by Pipes are included in NKI, EXS, and GIGA.

Pan and Volume

Currently the realtime Pan and Volume are ignored from the source format for ALL formats. This may change in the future, either by Pipes programming or hardcoding into the new WAVE file written into Pipes.

Key Tracking

Key Tracking
Any Key Tracking parameters

Currently these are ignored.

Envelopes, LFO, and Modulators

Currently these are ignored.

Now, the formats:

NKI - Native Instruments Kontakt instruments

A NKI is a single Kontakt Instrument. NKI's are "versioned", meaning that the file contains information of what version of Kontakt wrote it (or what the lowest version of Kontakt it was meant for). NKI versions 4.2 and higher, and version 1.5 and lower, are not supported. There are also Kontakt files that are part of copy-protected libraries, and thus are encrypted and cannot be read; these are not supported. NKI's reference external sample files such as WAVE and AIFF, but they also reference NI Compressed Sample Files (NCW); those files are not supported although the NKI is. However, most NKI's that reference NCW's totally depend on NCW's, so thus those NKI's are not supported. (If you own Kontakt 5 or less, you can load these into Kontakt and save them out to WAVE files, solving the problem.) There are other Kontakt file types - NKB (Bank), NKM (Multi) - those are not supported. If you need to what version a certain NKI is you can use K-VER found here: www.chickensys.com/k6.html

NKI's are the most capable playback engine and thus the format has the greatest amount of options. NKI's often use Rules, and sometimes use Scripts to supplement those Rules, so Pipes playback may be different than the way these sound in Kontakt.

EXS - Apple EXS24/Sampler instruments

Even though with the new Logic X, and now called "Sampler", we still call it EXS, and the files still have this extension. It is a single Instrument. EXS24 files are never part of encrypted copy-protected libraries, but they do reference other sample files besides WAVE and AIFF. For instance, in recent Logic versions, often the factory EXS files reference just one CAF file, which holds all the samples. Or, older EXS files may reference Sound Designer format, or even System 7 files. Those references are not supported. Also, an EXS file can include Rules that exceed what Pipes can support.

SFZ - RGC Audio/Cakewalk/Roland multisamples

SFZ is a text format designed by Rene Caberelles for his own company, which soon was sold to Cakewalk and then Roland. The engine is quote powerful. It references WAVE files, or OGG files (not supported). It also supports Rules beyond what Pipes supports (keyswitch, controller switch, etc.). SFZ is not supposed to reference AiFF files, but some adoptive engines have ignored the limitation. SFZ is also used the Garritan instruments, and if they reference .AUDIO files, those are not supported.

GIGA - Tascam GigaStudio files

A Giga (*.gig) is a standalone "monolith" file that holds all the program information and the samples. It also can hold multiple Programs; these are represented in Pipes as .ggi. There are some (few) .gig files that were part of GVI (Giga Virtual Instrument) libraries; those are not supported. There are also .gig files that use slave files (.gx1, .gx2, etc.) to make them bigger than 2GB; those are not supported. There are also some .gig files that use "accelerated" files (e.g. compressed); These can be very early Giga v1 files, or 24-bit accelerated Giga 3 files. Both those are not supported.

SoundFont

A SoundFont (*.sf2) is a standalone "monolith" file that holds all the program information and the samples. It also can hold multiple Programs; these are represented in Pipes as .sfp. There are no encrypted or compressed SoundFont files. Pipes supports both 24-bit and 16-bit SoundFonts. SoundFonts also do not have Rules beyond what Pipes support.

SXT - Reason NNXT Programs

The Reason NNXT Sampler use .sxt files and are single Instruments. Reason NNXT files are never part of encrypted copy-protected libraries, they always use WAVE or AIFF. Some Reason NNXT files are saved into what Propellerhead called "Refills"; those are not supported. A Reason NNXT file coincidentally supports the same Rules Pipes supports: KeyRange, VelRange, and Round Robin.

Mandala Drum Mode

If you want to use Pipes mainly as a brain for Mandala Drum pads the following info about Mandala Drum Mode is for you.

Pipes Mandala Drum Mode pertains to Mandala Drum mk2.9 and v2.0 only. Mandala Drum v1.0 is entirely different because users can set its MIDI output however they'd like directly in the v1.0 standalone brain. Here is an explanation of Pipes Mandala Drum Mode:

Mandala Drum Mode conditions the MIDI signals coming from Mandala mk2.9 and v2.0. The conditioning makes Mandala MIDI note output more compatible with triggering Pipes and allows the user to set the number of concentric zones they want their Mandala surface to be made up of and essentially which MIDI notes those zones output. It also allows the user to set the length of the MIDI notes that the Mandala outputs. Without Mandala Drum Mode a Mandala mk2.9 or v2.0 would output a MIDI note which is only milliseconds in length when hit with a drumstick. That would cause the 'R' in Pipes ADSR to kick in after only milliseconds and you would therefore barely hear any audio, like tapping a musical keyboard key as fast as possible. Remember Pipes is for keys, wind controllers, pads, Mandalas, etc., and it not only can trigger individual samples but also can play full instruments, so you'll need to know how you'd like approach it before launching into creating presets for your Mandala/s. Do you want your Mandala/s to play music? Sound effects? Individual percussion sounds? Whatever you choose, it will always require knowledge of what MIDI data your Mandalas are sending. Mandala Drum Mode is currently a blanket setting on Pipes. When the Mode is turned on Pipes expects that only Mandala Drums are triggering Pipes and its settings apply to all connected mk2.9 or v2.0 pads.

Below are the available settings within Mandala Drum Mode. The defaults are what they are because that's what makes a single pad work well with most Pipes factory presets. When you want to experiment or start building your own presets any settings you change will automatically save to Pipes memory:

Number of Pad Zones (1 - 12): How many concentric MIDI note zones do you want your pad surface to be? 1 would make the whole surface just be a big single trigger. 2 would split the surface into a circular trigger in the center which is half the width of the surface with the remaining half being a separate trigger. 3 would split the surface into three equal sized concentric zones made up of a circular center zone, a middle ring zone, and an outer ring zone…and so on. Default is 8 zones.

Note Length (5 - 5000): Number of milliseconds every MIDI note trigger will last when you hit the pad. Default is half a second (500 ms).

Root (C-2 - G8): MIDI note assigned to center zone. Default is Middle C (C3 / note 60).

Zone Mapping (18 choices): MIDI note configuration of remainder of zones outside

of center. Default is 'Major', meaning your 8 default Zones from center to edge would output the following -> Zone1: C3(root), Zone2: D3, Zone3: E3, Zone4: F3, Zone5: G3, Zone6: A3, Zone7: B3, Zone8: C4.

Additional Info

Because Mandala mk2.9 and v2.0 differ in their inherent capabilities there are some pad settings to be aware of before setting up Mandala Drum Mode.

For mk2.9, open Master>Tweakers>Mandala_mk2.9_Calibrator and choose your Mandala in the pulldown window. Set the MIDI Channel you want the pad to transmit on (channel 1 will allow it to play all factory presets). If you have multiple mk2.9's and you are going to build your own presets you'll want to set each mk2.9 to its own MIDI channel or else all your pads will trigger the same thing. Next, remember your pad outputs a MIDI Continuous Controller with a range of 0(center) to 127(edge). It's called the Position Controller. Set the Position Controller number to whatever MIDI Continuous Controller number you want your mk2.9 to output from center to edge. If you set it to "1" your Position Controller will be like a Mod Wheel, etc.

For the v2.0, open Master>Tweakers>Mandala_v2.0_Calibrator and choose your Mandala in the pulldown menu and do the calibration routine. It will set your v2.0 to transmit on MIDI Channel 1, with a Position Controller of "1". At this time to set anything different on those settings on a v2.0 you will have to already be familiar with your v2.0 and use the old Control Burst or Control Burst EXP programs. Control Burst EXP is currently being ported to Pipes.