INSTRUŌ | SPECIALIST SYNTHESIZERS

# arbhar (Firmware 2.0)
# Sample Pack Management

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# Introduction

The arbhar V2 firmware is now capable of storing and importing samples via the rear **USB Port** or the **USB Expander**. The arbhar **V2 Sample Pack Expansion** comes with a 4GB USB drive pre-loaded with 216 original, royalty-free samples, designed to highlight the new features with a range of sonic material.

All samples are recorded at 48khz, 24-bit sample rates. arbhar V2 firmware is optimised for this format but will accept and convert other sample rates.

**Note:** It may take longer to load files in other sample rates due to a sample rate conversion process.

Individual samples can be loaded into a chosen **Layer** from the **_arbhar_library** directory.

Alternatively, collections of up to 6 samples can be loaded as a **Scene** from the **_arbhar_scenes** directory. **Scenes** also include a **preset.txt** configuration file which can be edited to fine-tune some parameters which are not accessible from the arbhar's interface directly.

A directory of the sample names and their folder locations can be found below:

# Scene Directory

| Scene | Samples | Preset | Description | Performer |
|---|---|---|---|---|
| 1_1_<br>1_2_<br>1_3_ | Prepared Electric Guitar | arbharClassic.txt | Electric Guitar played with various metal beaters and pedals, both the amplifier and the guitar body were mic'd up. | Mike Parr-Burman |
| 1_4_<br>1_5_<br>1_6_ | Prepared Rhodes | | Fender Rhodes MKI, bowed, plucked and amplified through a Fender Twin amplifier. | Jimi Maffei |
| 2_1_ | Percussion - Cymbals | | Scrapes, crashes and cymbal stacks. | |
| 2_2_ | Percussion - XY Cymbal Washes | | Mallet washes with a pair of mics arranged in XY over the lip of the cymbal. | |
| 2_3_ | Percussion - Snare LRØ | MidSide.txt | Identical snare pattern, played on the same snare with the same microphone distances, in different rooms. The centre channel is the close mic, the sides are derived from the room mic. | |
| 2_4_ | Percussion - Binaural 360° Toms | | Assortment of toms arranged in a circle around a homemade binaural microphone. | |
| 2_5_ | Percussion - Binaural 360° Toms (Quantised) | | | |
| 2_6_ | Percussion - Modular Drums | arbharClassic.txt | Various modular drum patches. | Aimo Scampa |
| 3_1_ | Modal Modular - Mode I | Intervals.txt | Various modular patches utilising numerous pitch quantisers to generate random chords and voicings within the given mode. Each Layer is derived from 6 samples from the same patch, the 6 patches are curated to give a wide timbral pallette.<br><br>**Note:** Mode II has been omitted due to its relative similarity to Mode III | Noé Heuclin / Jimi Maffei |
| 3_2_ | Modal Modular - Mode III | | | |
| 3_3_ | Modal Modular - Mode IV | | | |
| 3_4_ | Modal Modular - Mode V | | | |
| 3_5_ | Modal Modular - Mode VI | | | |
| 3_6_ | Modal Modular - Mode VII | | | Adam McCaffrey |
| 4_1_ | Guitars LRØ | MidSide.txt | A collection 2-chord cadences with electric and acoustic guitar combinations. Each layer uses a distorted guitar as the centre channel and complimentary acoustic arpeggios in the sides. | Jimi Maffei |
| 4_2_ | Keys LRØ | | A collection of 2-chord cadences with Rhodes and reed organ combinations. Each layer uses a distorted Rhodes as the centre channel and complimentary organ pads in the sides. | Sophie Barcan |
| 4_3_ | Drum Machines and Synths LRØ | | Glitchy, percussive modular drum patches as the centre channel with Roland JX-08 atmospheres in the sides. | Jimi Maffei |
| 4_4_ | Male Choir LRØ | | Layers 1-5 use choral-style vocal chords based on the same chord throughout. The centre channel is a perfect 5th, and the added intervals in the sides. These notes are built-up throughout the duration of the buffer, allowing you to dial in the density of the chord.<br><br>Layers 6 are based on the same chord and M/S format, but fade different chord voicing in and out throughout the buffer, offering different voicing and an element of randomness compared to the previous layers. | |
| 4_5_ | Female Choir LRØ | | | Tash Hines |
| 4_6_ | Mixed Choir LRØ | | | Jimi Maffei / Tash Hines |
| 5_1_ | Piano+ - Phrases | arbharClassic.txt | A collection of prepared piano samples, taken from the original PIANO+ project from which the arbhar's code was originally developed. | Sebastian Lexer |
| 5_2_ | Piano+ - Resonances | | | |
| 5_3_ | Piano+ - Percussive | | | |
| 5_4_ | Found Sounds - Water/Breath | | Real-world sounds, taken from various scenarios and situations. | Kian McEvoy |
| 5_5_ | Found Sounds - Organic Materials | | | |
| 5_6_ | Found Sounds - Ambiences | Stereo.txt | | Kian McEvoy / Jimi Maffei |
| 6_1_ | Electronics | arbharClassic.txt | A collection of glitches, bass drops, crackles, bleeps, bloops and much more. | Ben Jones / Jason Lim |
| 6_2_ | | | | Jason Lim |
| 6_3_ | | | | |
| 6_4_<br>6_5_<br>6_6_ | Arcade | Stereo.txt | Samples taken from many classic arcade games, some more recognisable than others. | Jimi Maffei |

| Location | _arbhar_library | _arbhar_library_2 |
|---|---|---|
| 1_1_ | 1_BellDeath.wav | 1_Hats.wav |
| 1_2_ | 2_Buzzfade.wav | 2_Scrape1.wav |
| 1_3_ | 3_ClangerBattleground.wav | 3_Scrape2.wav |
| 1_4_ | 4_ClangerBossDeath.wav | 4_ScrapeAndPlunge.wav |
| 1_5_ | 5_FallFromTree.wav | 5_ScrapeAndTinkle.wav |
| 1_6_ | 6_Friction.wav | 6_Stack.wav |
| 2_1_ | 1_PluckyDialup.wav | 1_WashXY1.wav |
| 2_2_ | 2_PrisonBreak.wav | 2_WashXY2.wav |
| 2_3_ | 3_RoboZither.wav | 3_WashXY3.wav |
| 2_4_ | 4_RopeTension.wav | 4_WashXY4.wav |
| 2_5_ | 5_UnderwaterPicnic.wav | 5_WashXY5.wav |
| 2_6_ | 6_HangdrumSad.wav | 6_WashXY6.wav |
| 3_1_ | 1_ClangerArmy.wav | 1_SNR_LRØ_DryDry.wav |
| 3_2_ | 2_GiantsSteps.wav | 2_SNR_LRØ_Dry.wav |
| 3_3_ | 3_GlassBandsaw.wav | 3_SNR_LR_MedDryØ.wav |
| 3_4_ | 4_ScratchBump.wav | 4_SNR_LRØ_MedWet.wav |
| 3_5_ | 5_ScratchBumpPluck.wav | 5_SNR_LRØ_Wet.wav |
| 3_6_ | 6_UnderwaterWine.wav | 6_SNR_LRØ_WetWet.wav |
| 4_1_ | 1_Hello.wav | 1_Roundabout.wav |
| 4_2_ | 2_Halt.wav | 2_FallingUp.wav |
| 4_3_ | 3_Question.wav | 3_Rushes.wav |
| 4_4_ | 4_MagicWell.wav | 4_SnakeInTheGrass.wav |
| 4_5_ | 5_SebulbasRegret.wav | 5_LoFoundation.wav |
| 4_6_ | 6_SebulbasPlea.wav | 6_ToySoldiers.wav |
| 5_1_ | 1_ChangeOfHeart.wav | 1_BinauralBeat_90a.wav |
| 5_2_ | 2_Crypt.wav | 2_BinauralBeat_90b.wav |
| 5_3_ | 3_GrantedWish.wav | 3_BinauralBeat_100.wav |
| 5_4_ | 4_Mineshaft.wav | 4_BinauralBeat_110a.wav |
| 5_5_ | 5_SadSwing.wav | 5_BinauralBeat_110b.wav |
| 5_6_ | 6_Rust.wav | 6_BinauralBeat_140.wav |
| 6_1_ | 1_Honker.wav | 1_HIMO.wav |
| 6_2_ | 2_SloMoCrash.wav | 2_HIMO.wav |
| 6_3_ | 3_Stalker.wav | 3_HIMO.wav |
| 6_4_ | 4_UFOLanding.wav | 4_HIMO.wav |
| 6_5_ | 5_UFOStun.wav | 5_HIMO.wav |
| 6_6_ | 6_UFOProbe.wav | 6_HIMO.wav |

| Location | _arbhar_library_3 | _arbhar_library_4 |
|---|---|---|
| 1_1_ | 1_Mode_I_i.wav | 1_Gtr_LRØ_G-C7.wav |
| 1_2_ | 2_Mode_I_ii.wav | 2_Gtr_LRØ_Em-F.wav |
| 1_3_ | 3_Mode_I_iii.wav | 3_Gtr_LRØ_Fm7-Am9.wav |
| 1_4_ | 4_Mode_I_iv.wav | 4_Gtr_LRØ_C#m9-B7.wav |
| 1_5_ | 5_Mode_I_v.wav | 5_Gtr_LRØ_D9-G7.wav |
| 1_6_ | 6_Mode_I_vi.wav | 6_Gtr_LRØ_Dm7-C7.wav |
| 2_1_ | 1_Mode_III_i.wav | 1_Keys_LRØ_Ab-Fm.wav |
| 2_2_ | 2_Mode_III_ii.wav | 2_Keys_LRØ_Cm-Eb.wav |
| 2_3_ | 3_Mode_III_iii.wav | 3_Keys_LRØ_Db-Bb.wav |
| 2_4_ | 4_Mode_III_iv.wav | 4_Keys_LRØ_Dm-F.wav |
| 2_5_ | 5_Mode_III_v.wav | 5_Keys_LRØ_Eb-Cm.wav |
| 2_6_ | 6_Mode_III_vi.wav | 6_KeysLRØ_Gm-Bb.wav |
| 3_1_ | 1_Mode_IV_i.wav | 1_JXDrums_LRØ_1.wav |
| 3_2_ | 2_Mode_IV_ii.wav | 2_JXDrums_LRØ_2.wav |
| 3_3_ | 3_Mode_IV_iii.wav | 3_JXDrums_LRØ_3.wav |
| 3_4_ | 4_Mode_IV_iv.wav | 4_JXDrums_LRØ_4.wav |
| 3_5_ | 5_Mode_IV_v.wav | 5_JXDrums_LRØ_5.wav |
| 3_6_ | 6_Mode_IV_vi.wav | 6_JXDrums_LRØ_6.wav |
| 4_1_ | 1_Mode_IV_i.wav | 1_M_LRØ_MM.wav |
| 4_2_ | 2_Mode_IV_ii.wav | 2_M_LRØ_OO.wav |
| 4_3_ | 3_Mode_IV_iii.wav | 3_M_LRØ_AA.wav |
| 4_4_ | 4_Mode_IV_iv.wav | 4_M_LRØ_EE.wav |
| 4_5_ | 5_Mode_IV_v.wav | 5_M_LRØ_ALL.wav |
| 4_6_ | 6_Mode_IV_vi.wav | 6_M_LRØ_ALL_Faded.wav |
| 5_1_ | 1_Mode_V_i.wav | 1_F_LRØ_MM.wav |
| 5_2_ | 2_Mode_V_ii.wav | 2_F_LRØ_OO.wav |
| 5_3_ | 3_Mode_V_iii.wav | 3_F_LRØ_AA.wav |
| 5_4_ | 4_Mode_V_iv.wav | 4_F_LRØ_EE.wav |
| 5_5_ | 5_Mode_V_v.wav | 5_F_LRØ_ALL.wav |
| 5_6_ | 6_Mode_V_vi.wav | 6_F_LRØ_ALL_Faded.wav |
| 6_1_ | 1_Mode_VII_i.wav | 1_MF_LRØ_MM.wav |
| 6_2_ | 2_Mode_VII_ii.wav | 2_MF_LRØ_OO.wav |
| 6_3_ | 3_Mode_VII_iii.wav | 3_MF_LRØ_AA.wav |
| 6_4_ | 4_Mode_VII_iv.wav | 4_MF_LRØ_EE.wav |
| 6_5_ | 5_Mode_VII_v.wav | 5_MF_LRØ_ALL.wav |
| 6_6_ | 6_Mode_VII_vi.wav | 6_MF_LRØ_ALL_Faded.wav |

| Location | _arbhar_library_5 | _arbhar_library_6 |
|---|---|---|
| 1_1_ | 1_RisingPhrase.wav | 1_AlienTransmission1.wav |
| 1_2_ | 2_FallingPhrase.wav | 2_AlienTransmission2.wav |
| 1_3_ | 3_Key&BowCadence.wav | 3_AlienTransmission3.wav |
| 1_4_ | 4_PhraseWithCrash.wav | 4_CaveDweller.wav |
| 1_5_ | 5_EstrangedLine.wav | 5_Processing.wav |
| 1_6_ | 6_FutureHarpsichord.wav | 6_Debrief.wav |
| 2_1_ | 1_Tinnitus.wav | 1_Diagnostics.wav |
| 2_2_ | 2_Scrapes.wav | 2_Powerup.wav |
| 2_3_ | 3_BowedPianoLine.wav | 3_TitleScreen.wav |
| 2_4_ | 4_RingAndCup.wav | 4_CritterSwarm.wav |
| 2_5_ | 5_PanicBuild.wav | 5_Plasma.wav |
| 2_6_ | 6_BowedPianoDecresc.wav | 6_PreBossWorkout.wav |
| 3_1_ | 1_BellPluck.wav | 1_MaracasInSpace.wav |
| 3_2_ | 2_AmbientSlaps.wav | 2_BinLidBlackHole.wav |
| 3_3_ | 3_PercussiveBounces.wav | 3_GalacticDidgeridoo.wav |
| 3_4_ | 4_HarmonicBounces.wav | 4_Interference.wav |
| 3_5_ | 5_DungeonKeys.wav | 5_DistantStorm.wav |
| 3_6_ | 6_Resonances.wav | 6_Implosion.wav |
| 4_1_ | 1_Pond.wav | 1_Arcade_A.wav |
| 4_2_ | 2_Shore.wav | 2_Arcade_A.wav |
| 4_3_ | 3_River.wav | 3_Arcade_A.wav |
| 4_4_ | 4_Inhale.wav | 4_Arcade_A.wav |
| 4_5_ | 5_Exhale.wav | 5_Arcade_A.wav |
| 4_6_ | 6_WaterBreath.wav | 6_Arcade_A.wav |
| 5_1_ | 1_Leaves.wav | 1_Arcade_B.wav |
| 5_2_ | 2_Wood.wav | 2_Arcade_B.wav |
| 5_3_ | 3_Flotsam.wav | 3_Arcade_B.wav |
| 5_4_ | 4_Gravel.wav | 4_Arcade_B.wav |
| 5_5_ | 5_Pebbles.wav | 5_Arcade_B.wav |
| 5_6_ | 6_Rocks.wav | 6_Arcade_B.wav |
| 6_1_ | 1_MusemChains.wav | 1_Arcade_C.wav |
| 6_2_ | 2_FiddlerInTheRain.wav | 2_Arcade_C.wav |
| 6_3_ | 3_BalconyBreakfast.wav | 3_Arcade_C.wav |
| 6_4_ | 4_StormRoom.wav | 4_Arcade_C.wav |
| 6_5_ | 5_HarpWarmup.wav | 5_Arcade_C.wav |
| 6_6_ | 6_EnsembleWarmup.wav | 6_Arcade_C.wav |

## USB File Structure

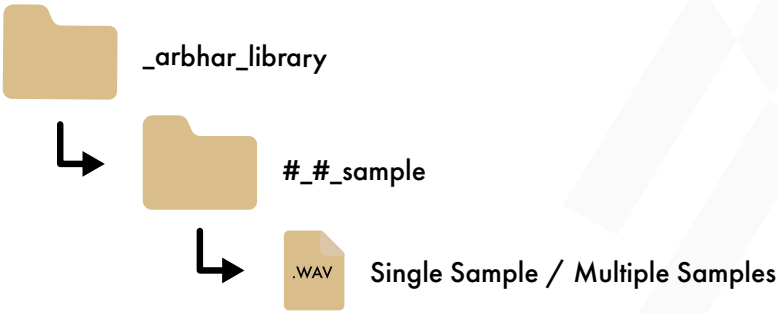
There are 8 folders loaded to the root directory of the USB flash drive. The samples are organised across 6 library folders. Samples can be moved, replaced, and swapped between folders but only **_arbhar_library** and **_arbhar_scenes** are accessable via the **Clone/Load/Save Menu**.

- _arbhar_library
- _arbhar_library_2
- _arbhar_library_3
- _arbhar_library_4
- _arbhar_library_5
- _arbhar_library_6
- _arbhar_scenes
- _updater

## _arbhar_library

This folder contains 36 subfolders, each containing an individual sample. These can be loaded into any of arbhar's layers via the **Clone/Load/Save Menu**.

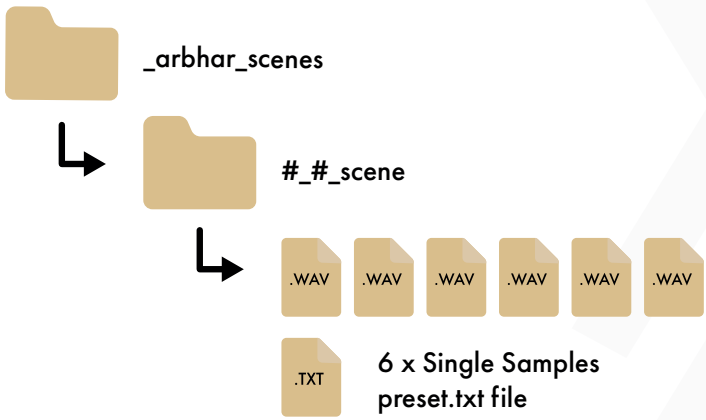
- A **#_#_sample** naming convention is used with the first number representing the bank and the second number represents the **Layer**.
- When loading is activated, the arbhar will load the first 13 seconds of the first audio file found in the selected folder. In the case of more than one shorter audio files being present, arbhar will continue to load these samples until the total length of the loaded audio has exceeded 10 seconds.



## _arbhar_scenes

This folder contains 36 subfolders that are used for storing up to 6 samples and a **preset.txt** configuration file.

- a **#_#_scene** naming convention is used with the first number representing the bank and the second number represents the **Scene**.
- When loading a **Scene**, the arbhar will load the first 6 audio files present in the folder into its 6 **Layers**, alongside any configurations defined by the **preset.txt** file.



## _updater

This folder is used for updating the firmware with a .gz updater file.

**arbhar firmware updater video:** https://youtu.be/wO4jlw4fYak

_updater

arbhar_updater_x

## preset.txt Files

The **Scenes** included with the **Sample Pack Expansion USB** contain custom **preset.txt** files that have been curated for specific use cases with the samples.

**Note:** By default, the **Load Configuration** option in the **preset.txt** files has been set to **Load Layers (2)**. This means only the audio samples will be loaded and any customisation of the **preset.txt** file will be ignored.

You must change the **Load Configuration** option to **Load Scene (3)** in order to engage the custom preset, otherwise the current configuration of your arbhar will be retained. This is achieved by typing the new numerical value and closing the **preset.txt** file.

```
    ------------------------------------------------------------------------------------------
    Load Configuration: Presets, Layers, and Scenes
    ------------------------------------------------------------------------------------------
    arbhar can load Presets, Layers, and Scenes.

    'Load Preset' will load all parameters defined in the configuration file and ignore any
    audio files that are present in the _arbhar_scene directory. The parameters will set arbhar
    to the defined configuration and may change the control behaviour of arbhar drastically, but
    all content in the layers will be preserved. This option is equal to only having a
    configuration file in the directory.

    'Load Layers' will load the first 6 audio files present in the _arbhar_scene directory,
    and ignore all the parameters defined in the configuration file. The control behaviour of the
    arbhar will remain the same, but the audio files in the layers will be replaced. This
    option is equal to having audio files in the directory, but no configuration file.

    'Load Scene' will load all parameters defined in this configuration file and
    the first 6 audio files present in the _arbhar_scene directory.

        0 - Load Nothing
        1 - Load Preset
        2 - Load Layers
        3 - Load Scene (Preset and Layers) (Default)
    */

PARAMETER: LoadConfiguration: 3
```

You can change the **preset.txt** files to any name you choose. The custom **preset.txt** files on the USB have been named as follows:

**arbharClassic.txt, MidSide.txt, Intervals.txt, Stereo.txt**

If viewing on MacOS these will also be flagged with a colour tag for easy identification.

## abharClassic.txt

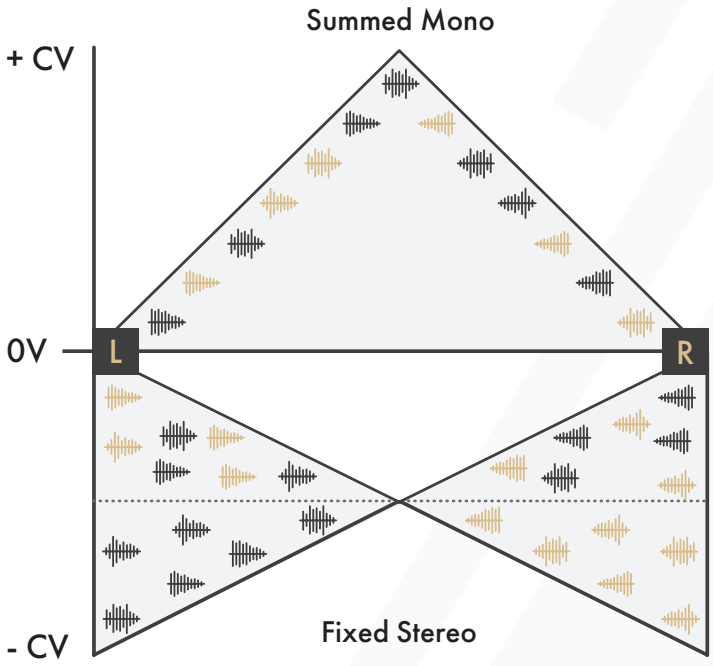
This configuration is designed to give the user as close an experience to classic arbhar V1 behaviour as possible.

For users new to the arbhar, this is a great starting point.

## MidSide.txt

This configuration is designed with the **MOD CV Input** set to **Stereo Panning Configuration**.

- At 0V, arbhar distributes the grains in the default coin toss method.
- With inceasing the positive voltage the stereo spread is gradulally reduced, until it becomes a summed mono signal. This is addition to the coin-toss algorithm.
- With increasing negative voltage, the panning algorithm offers following stages:
    - In addition to the coin-toss distribution, an increasingly random deviation from the left and right extremes is introduced until a fully random, equal-power stereo distribution has been reached.
- From there the coin-toss distribution is switched off and a gradually reduced, random deviation leads eventually to a fixed stereo distribution.



**Scenes:** 2_3_scene, 4_1_scene, 4_2_scene, 4_3_scene, 4_4_scene, 4_5_scene and 4_6_scene are designed to use positive modulation with the **MOD CV Input** to modulate between stereo and summed mono playback.

- These samples all utilise a form of mid/side processing applied in the mixing stage, where the sides are a phase-inverted copy of one another (indicated with **LRØ** in the file name).
- When modulating from 0v to fully positive CV, the sides will sum and fully cancel each other out leaving only the mono centre audible and unchanged.

**Scenes:** 2_2_scene, 2_4_scene and 2_5_scene are designed to use fully negative modulation with the **MOD CV Input** to preserve the stereo imaging of the samples during granular playback. This is particularly useful when using binaural recordings, where the original sense of space is preserved.

## Intervals.txt

**Scenes:** 3_1_scene to 3_6_scene are modular patch samples designed around specific scales, known as **Modes of Limited Transposition [1]**.

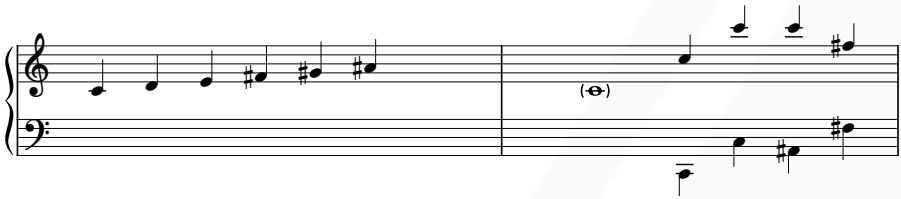
- To compliment each of the unique harmonic colours these modes offer, the **Intervallic Voltage Offsets** have been curated to produce notes within the specific mode.
- As the **Pitch Deviation Knob** is turned clockwise, pairs of intervals above and below the pitch centre will be introduced.
- The further you turn the **Pitch Deviation Knob**, the further from the pitch centre the intervals become. They also become more dissonant.
- The first 2 pitch deviation values are consistent throughout; 2 sets of octaves, doubled to give more frequency to these intervals when modulating via CV.

They are as follows:

12 / 0 /-12 (Octave up and down)
-12 / 0 / 12 (Octave down and up)

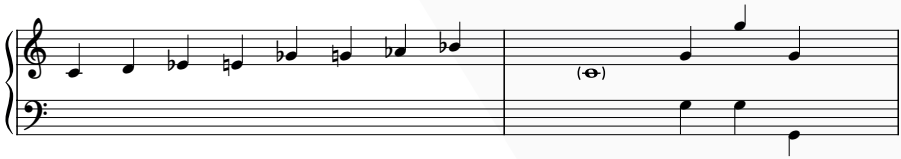
Additional Pitch Deviations:

**MODE I :** **PITCH DEVIATIONS:**



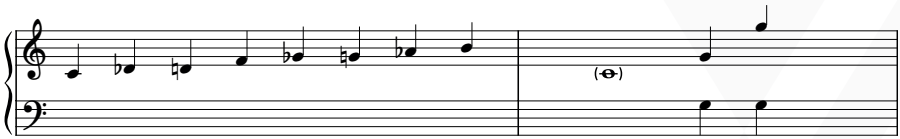
12 / 0 / -24 (Octave up, 2 Octaves down)
-12 / 0 / 24 (Octave down, 2 Octaves up)
24 / 0 / -26 (2 Octaves up, Augmented 6th 2 Octaves down)
18 / 0 / -18 (Augmented 4th an Octave up and down)

MODE III: PITCH DEVIATIONS:



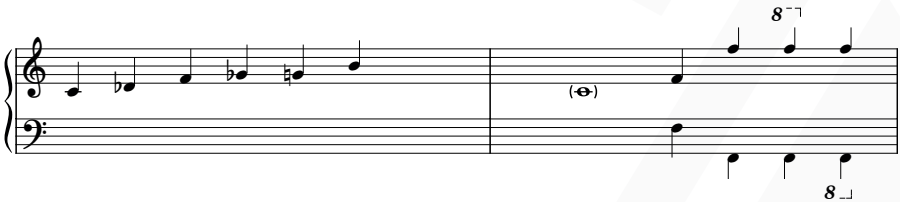
7 / 0 / -5 (Perfect 5th up and down)
-5 / 0 / 19 (Perfect 5th down and Perfect 5th up an Octave)
-17 / 0 / 19 (Perfect 5th up and down an Octave)

MODE IV: PITCH DEVIATIONS:



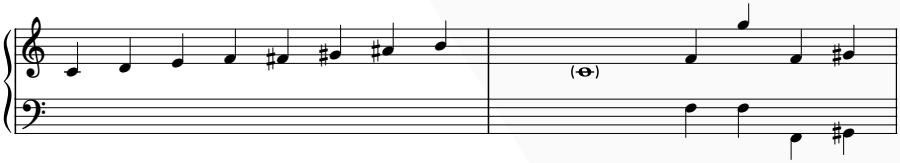
7 / 0 / -5 (Perfect 5th up and down)
-5 / 0 / 19 (Perfect 5th down, up an Octave)

MODE V: PITCH DEVIATIONS:



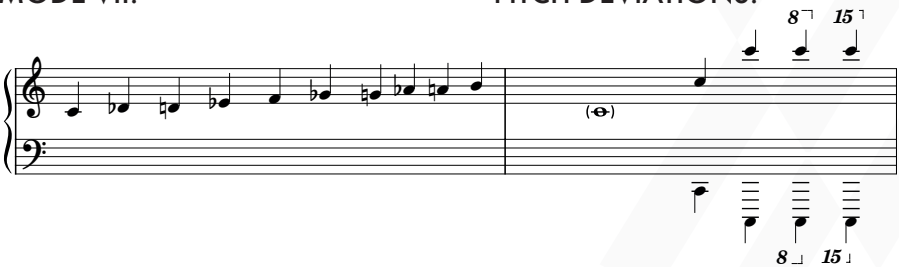
5 / 0 / -7 (Perfect 4th up and down)
17 / 0 / -19 (Perfect 4th an Octave up and down)
29 / 0 / -7 (Perfect 4th 2 Octaves up and an Octave down)
17 / 0 / -31 (Perfect 4th an Octave up and 2 Octaves down)

MODE VI: PITCH DEVIATIONS:



5 / 0 / -7 (Perfect 4th up and down)
17 / 0 / -7 (Perfect 4th an Octave up and Perfect 4th down)
5 / 0 / -19 (Perfect 4th up and Perfect 4th 2 Octaves down)
18 / 0 / -18 (Augmented 5th Octave up and down)

MODE VII: PITCH DEVIATIONS:




-24 / 0 / 12 (2 Octaves down, Octave up)
-24 / 0 / 24 (2 Octaves down and up)
36 / 0 / -36 (3 Octaves down and up)
48 / 0 / -48 (4 Octaves down and up)

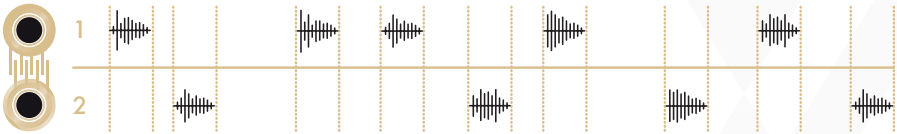
**Note:** Some higher-pitched material may sound harsh when pitched beyond 2 Octaves, these values are still useful when working with lower-pitched material.

## Stereo.txt

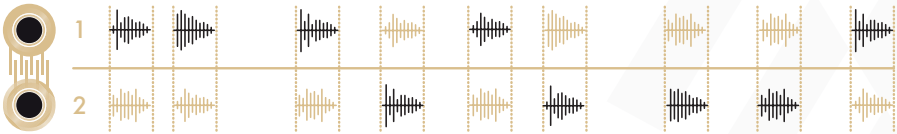
**Scenes:** 5_6_scene, 6_4_scene, 6_5_scene and 6_6_scene are designed simply to support samples that benefit from a stereo input. This will not retain the original stereo image, grains will still fire randomly from Left to Right and vice versa, but both channels will be granulated by the engine independently.

A comprehensive list of all of the preset.txt files capabilities can be found in the arbhar Manual (Firmware V2.0).

**Mono:** grains "coin-toss" between **Output 1** and **Output 2**

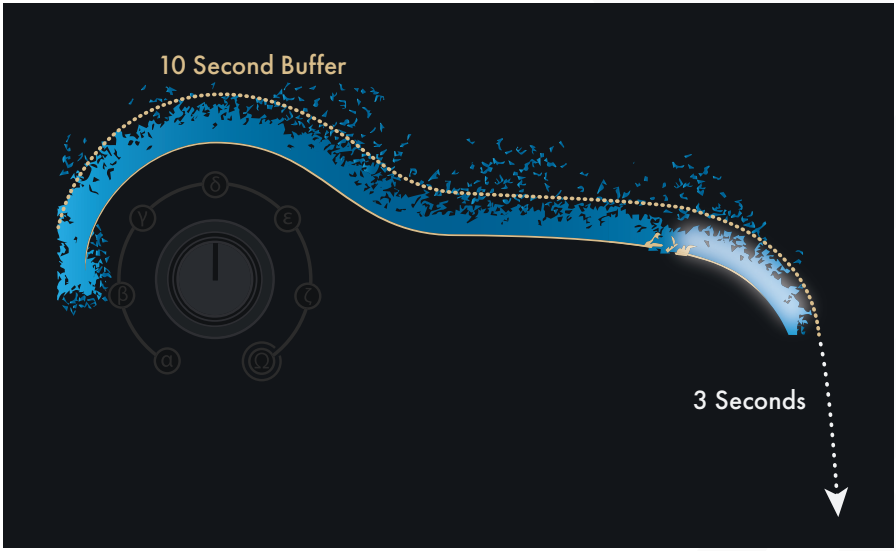



**Stereo:** grains coin toss **L/R** or **R/L**



## Clone / Load / Save

The accessible audio buffer, which is indicated by the **Granular Stream Display**, is controllable over 10 seconds, however, samples of up to 13 seconds are permissible. This is to allow the user to scan to the very end of the **Granular Stream Display**, and still generate the maximum grain length of 3 seconds.

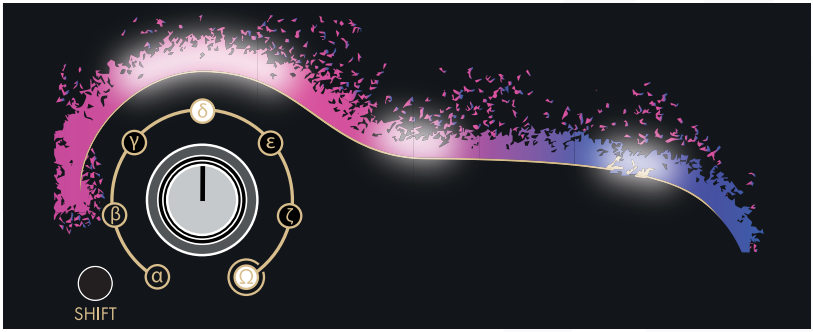



**Note:** Multiple samples can be loaded into a single **Layer** as long as the cumulative length does not exceed 13 seconds. Any number of samples can be loaded and will appear alphanumerically in the **Layer** when loaded from the **Library**. These can be arranged by loading multiple samples into a single **Library** location.

## Clone Layers

Recordings can be cloned from one layer to another.

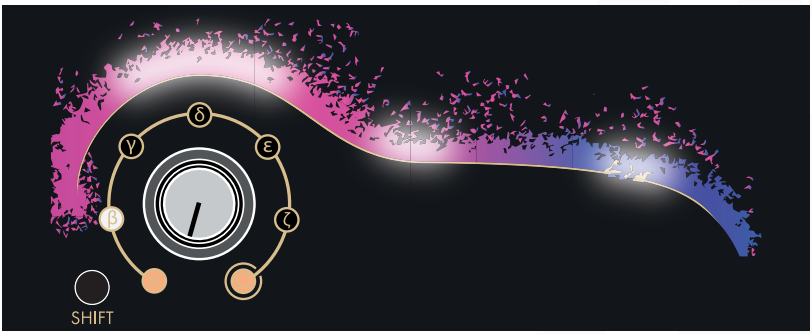
- Set the **Layer Knob** to the layer that will be cloned.
- Press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to enter the **Clone/Load/Save Menu**.
- Ensure that the **Granular Stream Display** is illuminated magenta and violet and that the **omega Layer Indicator** is illuminated white.
- If other colours are displayed, use the **Capture** and **Strike Buttons** to navigate to the correct page of the **Clone/Load/Save Menu**.
- Adjust the **Layer Knob** to set the destination of the cloned layer.
- Double tap the **Shift Button** to clone the layer.
    - This action does not exit the **Clone/Load/Save Menu** so that multiple clones can be made.
    - Visual feedback is given by a quick movement of the white LEDs from left to right in the **Granular Stream Display**.
- Press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to exit the **Clone/Load/Save Menu**.



## Load Layers

Audio files can be loaded into a layer from the **_arbhar_library** directory on the USB flash drive.

- Set the **Layer Knob** to the desired layer.
- Press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to enter the **Clone/Load/Save Menu**.
- Ensure that the **Granular Stream Display** is illuminated magenta and violet.
    - If other colours are displayed, use the **Capture** and **Strike Buttons** to navigate to the first page of the **Clone/Load/Save Menu**.
    - This is also indicated by a left sided pulsing white LED animation on the **Granular Stream Display**.
- Move the **Layer Knob** past the 6 clone layer indicators so that the **omega Layer Indicator** is illuminated amber to access 6 available banks containing 6 audio file locations (36 audio files in total).




- Each bank is indicated by amber-illuminated **Layer Indicators** and is accessible by adjusting the **Layer Knob**.
- Bank 1 is indicated by amber-illuminated **alpha** and **omega Layer Indicators**, Bank 2 is indicated by amber-illuminated **alpha**, **beta**, and **omega Layer Indicators**, etc.
- The selected **Sample** slot is illuminated white.

    - Banks and locations are only accessible when a valid USB flash drive is installed.

- Adjust the **Layer Knob** to the desired bank and location.
- Press and hold the **Shift Button** to preview the audio file.
- Double tap the Shift Button to load the layer.
    - An LED animation indicates the disk activity of the loading procedure until completed.
    - This action will exit the **Clone/Load/Save Menu** so that immediate interaction with the new audio files can be made.
- If no layer is selected and loaded, press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to exit the **Clone/Load/Save Menu**.

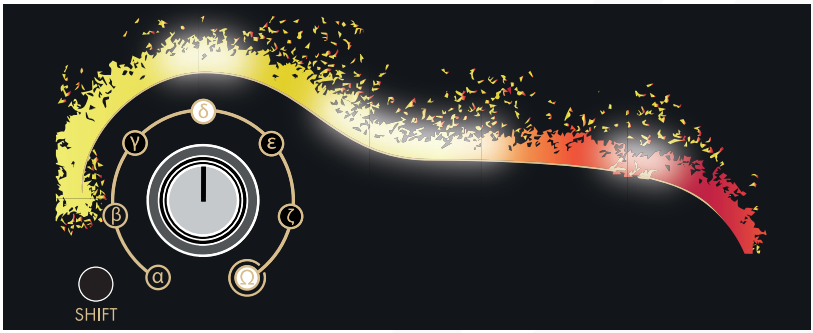
## Load Scenes

Scenes, which are combinations of **preset.txt** configuration files and up to 6 audio files, can be loaded from the USB flash drive. Without a valid USB flash drive present, there are 6 local scenes that are accessable for sample management. A valid USB flash drive will add a further 36 scene locations, bringing the total to 42.

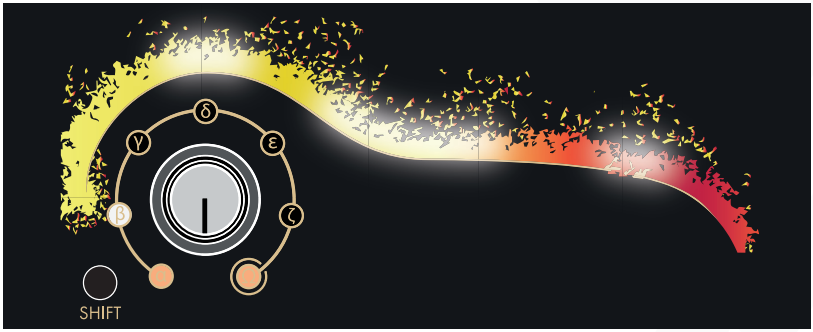
The **preset.txt** configuration file contains the **Load Configuration** parameter. This specifies whether the scene, the preset, or the audio file group is loaded.

The local factory default scenes are set with preset.txt configuration '**Load Preset**' that will only load the preset configuration and preserve any existing audio files in the layers.

- Press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to enter the **Clone/Load/Save Menu**.
- Ensure that the **Granular Stream Display** is illuminated yellow and red.
    - If other colours are displayed, use the **Capture** and
    - **Strike Buttons** to navigate to the second page of the **Clone/Load/Save Menu**.
    - This is also indicated by a centre pulsing white LED animation on the **Granular Stream Display**.



- When the **omega Layer Indicator** is illuminated white, access to the first local 6 scene locations is available by turning the **Layer Knob** to a desired layer.
- Move the **Layer Knob** past the 6 local scenes indicators so that the **omega Layer Indicator** is illuminated amber to access 6 additional banks containing 6 scene locations (36 extra scene locations in total).



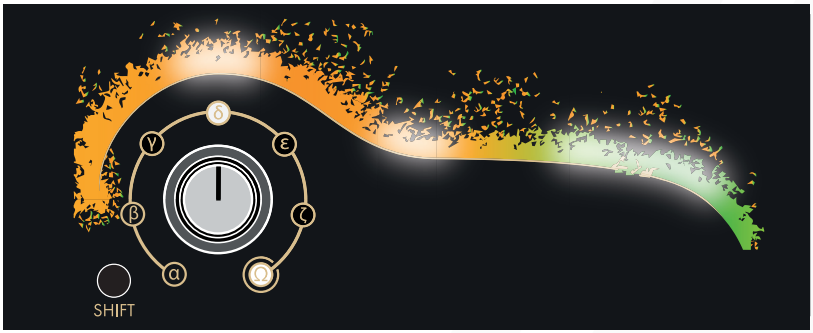

  - Each bank is indicated by amber-illuminated **Layer Indicators** and is accessible by adjusting the **Layer Knob**.
  - Bank 1 is indicated by amber-illuminated **alpha** and **omega Layer Indicators**, Bank 2 is indicated by amber-illuminated **alpha**, **beta**, and **omega Layer Indicators**, etc.
  - Banks and locations are only accessible when a valid USB flash drive is installed.
  - The selected **Scene** slot is illuminated white.
- Adjust the **Layer Knob** to the desired bank and location.
- Double tap the **Shift Button** to load the scene.
- An LED animation indicates the disk activity of the loading procedure until completed.
- This action will exit the **Clone/Load/Save Menu** so that immediate interaction with the new audio files and configuration can be made.
- If nothing is loaded, press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to exit the **Clone/Load/Save Menu**.

## Saving Scenes

Scenes, which are combinations of preset.txt configuration files and up to 6 audio files, can be saved to the USB flash drive. With a valid USB flash drive installed, there are 42 different scenes that can be saved to arbhar. Without a valid USB flash drive installed, there are 6 local factory default scenes that can be saved to arbhar.

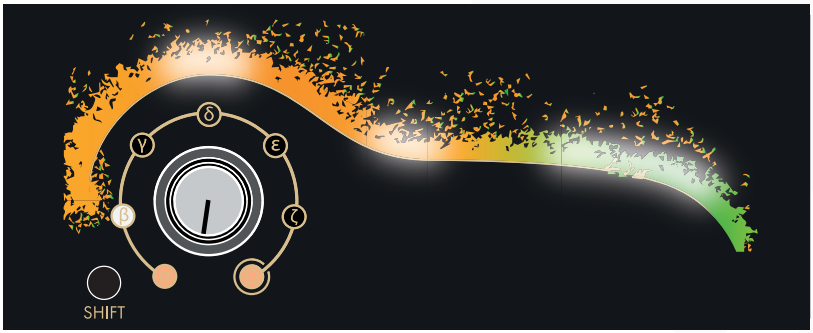
Any of the local factory default scenes can be overwritten with a customised scene. The arbhar will save all scenes with the configuration parameter set to '**Load Scene**' to ensure that the scene mirrors the current state of arbhar.
**Note:** arbhar will not delete any existing files but rename these files so that the saved files will appear alphabetically above.

- Press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to enter the **Clone/Load/Save Menu**.
- Ensure that the **Granular Stream Display** is illuminated orange and green.
    - If other colours displayed, use the **Capture** and **Strike Buttons** to navigate to the third page of the **Clone/Load/Save Menu**.
    - This is also indicated by a right sided pulsing white LED animation on the **Granular Stream Display**.




- When the **omega Layer Indicator** is illuminated white, access to the first six local scene locations is available by turning the **Layer Knob** to a desired layer.

- Move the **Layer Knob** past the 6 local factory default scenes indicators, so that the **omega Layer Indicator** is illuminated amber to access 6 additional banks containing 6 scene locations (36 extra scene locations in total).




  - Each bank is indicated by amber-illuminated **Layer Indicators** and is accessible by adjusting the **Layer Knob**.
  - Bank 1 is indicated by amber-illuminated **alpha** and **omega Layer Indicators**, Bank 2 is indicated by amber-illuminated **alpha**, **beta**, and **omega Layer Indicators**, etc.
  - The selected **Scene** slot is illuminated white.
  - Banks and locations are only accessible when a valid USB flash drive is installed and audio files are in the corresponding **_arbhar_scenes** folders.

- Adjust the **Layer Knob** to the desired bank and location.
- Double tap the **Shift Button** to save the scene.
  - An LED animation indicates the disk activity of the saving procedure until completed.
  - This action will exit the **Load/Save Menu** automatically at the end of the saving procedure.
  - Saving scenes is non-destructive.
- If nothing is saved, press and hold the **Shift**, **Capture**, and **Strike Buttons** in that order to exit the **Clone /Load/Save Menu**.