aFrame

electrorganic percussion

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Reference Guide
Ver 2.01

Version 1.20 Revision

- The system edit menus were changed and added.

  Changed: SYS: Save Project, SYS: Export TONE, SYS: Audio Output

  Added: SYS: Del Project, SYS: Delete TONE
- GroupKeyLock function was added.
- [INST] Xtra Type parameter functions were expanded.
- [INST] Tune parameter function was added.
- [INST] DFM, PFM, PSC, Mute, and XtraD.Tap parameter functions were added.
- [EFFECT] algorithm Multi-Tap Delay was added.
- [EFFECT] DelayTime of DLY and Multi-Tap DLY can now sync to a set BPM.
- In total 40 new kinds of tone (factory presets A' to D') were added.

Version 2.00 Revision

- The system edit menu was added.

  SYS: Load LdP2B, SYS: TnDest.
- [INST/EFFECT] The function to selectdata was added.
- [INST] SC parameter function was expanded (5th, Octave, Chrmtic).
- [INST] pressure control was added.
- [INST] Mixer section MASTER MIX BUS SW was added.
- [EFFECT] Compressor effect was added.
- [EFFECT] Ambience, SpaceR/SpaceZ effects were added.
- [EFFECT] FxMtrx function was added.
- [INST/EFFECT] A randomizing function for parameter values was added.
- In total 80 new kinds of tone (factory presets A to D') were added to INT.Memory2.

Instrument and effect parameters

Editing the parameters

Here's how to edit the parameters of the currently selected instrument or effect.

1. Simultaneously press the following buttons to enter the edit screen.

EDIT	BUTTON
Instrument	[1 PITCH] button and [2 DECAY] button
Effect	[3 BEND] button and [4 VOLUME] button

2. Press the [1 PITCH] button or [2 DECAY] button to select the parameter that you want to edit.

   To view the list of editable instrument parameters, please refer to the Instrument edit parameters tables (p.69-75)
   To view the list of editable effect parameters, please refer to the Effect edit parameters tables (p.76-85)

Memo

- Use the [3 BEND] button or [4 VOLUME] button to move between chapters (the first item in each chapter) of parameters.
- To fast-forward through parameters, hold down a [1 PITCH] - [4 VOLUME] button.

3. Turn the encoder to edit the value of the parameter.
   When you edit a parameter, the ":" (colon) following the instrument or effect number changes to an "*" (asterisk), and the FNC button lights.

   If you turn the encoder while pressing it, the value changes as follows.
   Frequency parameters: 1 Hz steps
   Other parameters: Values up to 100: 10x units
   Values above 100: 1/100 units

Renaming

Here's how to rename an instrument or effect.

1. Hold down the [1 PITCH] button or [2 DECAY] button until the following display appears.

2. Use the ◀/▶ buttons to move the cursor to the character that you want to edit.

   Turn the encoder to change the character.
   To insert a character, press the [3 BEND] button; to delete a character, press the [4 VOLUME] button.
   Characters are shown up to the " " character. If you enter a " " character, that character and subsequent characters are not shown.

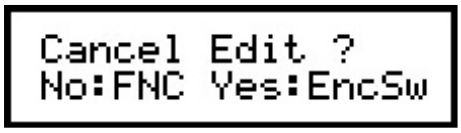
   When you've finished editing the name, press the [1 PITCH] button or [2 DECAY] to return to the parameter select screen.

Comparing with the unedited sound

Here's how to compare the edited sound with the unedited sound.

1. Edit an instrument or effect.
   Once you edit a parameter, the FNC button lights.

2. Press the FNC button.
   The FNC button and the encoder blink; your edits are temporarily cancelled, and you can hear the unedited sound.
   During this time, the display shows the following.



3. If you want to continue editing, press the FNC button, you'll return to the sound as it was before you pressed the FNC button in step 2.
   If you want to cancel editing and return to the unedited sound, press the encoder.

Auditioning the sound of each timbre (instruments only)

Here's how you can listen to the individual timbres within an instrument.

An instrument consists of four components called "timbres."
One timbre is assigned to each of the [A] - [D] buttons.

Button	Timbre
A	Main timbre
B	Sub timbre
C	Extra timbre
D	Dry timbre

While in Instrument edit mode, each time you press one of the [A] - [D] buttons, the corresponding timbre turns on (lit green; the timbre is heard) or off (lit red; the timbre is not heard).
This lets you hear the sound of each timbre individually, or mute only the sound of specific timbres.

These on/off settings are ignored in Play mode. In Play mode, all timbres are always on.

Saving an edited sound

Here's how to save the parameters you've edited.

1. Press the [5 EFFECT] button. The encoder blinks red.

2. Use the ◀/▶ buttons to select the save-destination number.

3. Press the encoder. The changes are saved to the number that you selected in step 2, and you return to Play mode.

If you want to continue editing :
In step 3, hold down the [5 EFFECT] button and press the encoder; you'll return to the parameter edit screen instead of returning to Play mode. This is convenient when you want to continue editing.

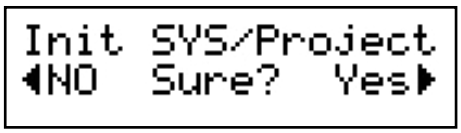
Cancelling your edits

If you decide to stop editing without saving your changes, long-press the [5 EFFECT] button.
The sound returns to the unedited state, and you'll be back in Play mode.

Initializing system settings and factory presets

The following procedure assumes that you have already updated your aFrame with firmware version 2.0.

With the aFrame powered down, long-press the power button with the encoder pressed. The display will read:



Press the button to the right of the display [Yes] to execute system initialization. A progress indicator will display and when the system has been initialized, the message
'Init Sys/Project Done!' will briefly display. The system will then boot into play mode as normal.

Initializing the system loads two sets of factory presets into the aFrame's two internal memory locations:

INT. Memory 1: Factory Presets 1 (version. 1.20 firmware)
INT. Memory 2: Factory Presets 2 (version 2.0 firmware)

By default, Factory Presets 1 is loaded into working memory. These include the 40 new tones created for version 1.20.

To load Factory Presets 2, use the system menu function 'SYS:Load Project'. Select INT.Memory 2 as the source. 80 new tones created for version 2.0 will be loaded into working memory.

Assuming that you do not overwrite the data stored in INT.Memory 1/2 with your own project data, you can reload Factory Presets 1/2 by using the 'SYS:Load Project function and selecting INT.Memory 1/2 as the source.

It is recommended that you create and save a backup project for both sets of factory presets and store these on your SD card.

[INST] Xtra Type

With firmware version 1.20, the number of generative processing algorithms for the Extra timbre was expanded. The parameter XtraType is used to select between the different processing algorithms.

Depending on the processing algorithm selected, different parameter sets are activated and can be adjusted.

There are four different categories of algorithm. Each category has several type variations.

Algorithm	Variations/Types
Noise	4
Jingle	3
Click	4
JingleX	9

Please refer to the Extra Type list on p.12 and the Extra timbre OSC Algorithm signal flowchart on p.73. The signal flowchart shows how the different algorithms generate the sound as well as which parameters are activated when you select a particular algorithm.

In firmware release 1.20, two new versions of XtraType 'Click' were added. Click 3 generates a wooden attack sound. Click 4 generates a metallic attack sound.
If Click* was selected,XtraFltQ was set by DecayTime atutomatically, so FilterQ cannot be controlled directly(Just like Main/Sub's FilterQ).

JingleX

JingleX implements a 2DCO (Digitally controlled oscillator) X-FM / Ring Modulation synthesis algorithm.

When one of the nine variations of JingleX is selected (Jx***) in XtraType, additional parameters used to control the synthesis algorithm are activated. These parameters are shown in the table below. Please refer to the Extra Parameter table (p.70) for brief descriptions of these parameters.

XtraType:	Activated Parameters
Jx***	XtraJxF.Type, XtraJxFR, XtraJxMR, XtraJxXFMod, XtraJxCarLev, XtraJxModLev, XtraJxRingLv

The XFM synthesis processing includes a controllable filter to help shape the generated sound.

The parameter XtraJxF.Type enables you to select between three different kinds of filter: LPF (Low pass filter), HPF (High pass filter) and BPF (Band pass filter).

The parameter XtraJxFR determines the frequency of the selected filter type. This parameter can adjusted as a frequency value in Hz, or as a ratio of the Carrier Oscillator frequency (set by XtraTune). To switch between the frequency value and ratio value modes, press the left ◀ and right ▶ buttons either side of the display. To change the input value, turn the encoder wheel as normal.

The parameter XtraJxXFMod controls the depth of modulation, or the level of frequency modulation that is applied to the Carrier Oscillator signal. This is a key timbre control parameter as it directly affects the generation of audible sidebands. In general, higher values (+ or -) will increase the number of sideband frequencies, thus generating a fuller and often noisy sounding timbre.

When XtraJxXFMod is adjusted in the positive range (0 to 100) the XFM synthesis algorithm targets the signal after envelope processing. The result of this is that the modulation depth level is dependent on your playing dynamics – or how hard you strike. This is an interesting way to expressively and dynamically control the timbre. The harder you hit the more audible sideband frequencies are generated.

When XtraJxXFMod is adjusted in the negative range (0 to -100) the XFM synthesis algorithm targets the signal before envelope processing. In this case, there is no dynamic change in the output timbre in terms of the audible sidebands generated.

The parameter XtraJxCarLev is used to adjust the signal level of the Carrier Oscillator. The parameter XtraJxModLeV is used to adjust the signal level of the Modulator Oscillator. Adjusting both of these parameters will also affect the generation of sidebands and the timbre of the synthesized sound.

In addition to XFM synthesis processing, JingleX also runs a parallel ring modulation process between the Carrier Oscillator and Modulator Oscillator. The parameter XtraJxRingLv can be adjusted to mix in the signal output of the ring modulation synthesis process. This is particularly effective when you wish to add more inharmonic sidebands and color to the timbre.

Sound Design Tip:

With XFM synthesis, making small changes to the depth of modulation can result in significant differences in output timbre. This is because the strength of carrier signal frequency modulation determines the generation of audible sidebands. To explore the sound design possibilities for creating timbres using XFM synthesis, you could try out the following experiment.

Choose any tone that uses the Extra layer. In edit mode, turn off all other instrument layers, so you can just hear the Extra Layer.
Adjust the parameter values to the settings listed:

Parameter	Value
XtraType	Jx RxS
XtraTune	C2 /+00
XtraDcay	3000ms
XtraHold	500ms
XtraFltQ	0.5
Xtra DQM	0
Xtra DFM	0
Xtra PFM	0
Xtra Mute	OFF
Xtra Delay	0
XtraD.Tap	0
XtraJxF.Type	HPF
XtraJxFR	0.10
XtraJxMR	4.00
XtraJxXFMod	0
XtraJxCarLev	100
XtraJxModLev	100
XtraJxRingLv	0
XtraSC	OFF
XtraBoost	0

Starting with these settings you will hear a typical synth bass tone with a long sustain. The timbre has a low fundamental frequency (C2) with some higher harmonic sidebands.

Now select XtraJxXFMod and slowly increase the value from 0 to +100 as you play. As you increase the value you should be able to hear the timbre change as more audible sidebands are generated. Next try changing the value in the negative range, 0 to -100 and the resulting timbres sound different, particularly in the upper value ranges.

This experiment, although not particularly musical, does show the sound design possibilities for generating timbre variations using XFM. Once you have a setting you like the sound of, try experimenting further by switching between the different variations of JingleX. Also use the filter parameters (XtraJxF.Type, XtraJxFR) to shape the generated tone and attenuate sideband frequencies. Using the filter will help to soften the sound and reduce the inharmonic frequency content.

With a little practice you will quickly start designing some very interesting sounding electronic tones to mix with the Main, Sub and Dry timbre layers.

Extra Layer Variable Envelope Generators for Tap Delay

The Extra layer implements two types of envelope generators to give you sophisticated control over the onset of the sound and tap delay effects. Please refer to the diagrams on the page titled 'aFrame Extra Timbre Envelope Generator' (p.13)

The first type, Envelope Generator 1 is activated when the parameter XtraD.Tap is set between the values +0 and +8.
As the diagrams show, the parameters XtraDcay and XtraHold function in a standard way to change the envelope of the sound. When relating this to standard ADSR envelope terminology, we might describe XtraHold as the sustain part of the envelope, and XtraDcay as the release part.

The parameters XtraDelay and XtraD.Tap produce some interesting rhythmic delay effects when adjusted in combination. To hear these effects clearly, start with the following settings:

Parameter	Value
XtraType	500ms
XtraHold	250ms
XtraDelay	200ms
XtraD.Tap	+0

Striking the drum you will hear one sound at the instant you strike. With these settings you should be able to hear the longer hold and decay of the sound's envelope. Now increase XtraD.Tap to +1 and there will be a 200ms delay after the strike before you hear the sound. This delay of the onset of the generated sound can add an interesting rhythmical effect when combined with other instrument timbre layers.

Increase the value of XtraD.Tap to +2 and you will hear two distinct sounds. The first occurs at the instant you strike. The second tap sound is longer in duration because the XtraDcay and XtraHold envelope values are applied to the second tap sound. Keep increasing the value of XtraD.Tap up to +8 and you will hear the increased number of taps and also a rhythmic pattern change. In each case, the last tap sound has the envelope set by XtraDcay and XtraHold.

The second envelope type, Envelope Generator 2, is activated when the value of XtraD.Tap is adjusted in the range -1 to -3000
This also activates additional parameters used to control this envelope type.

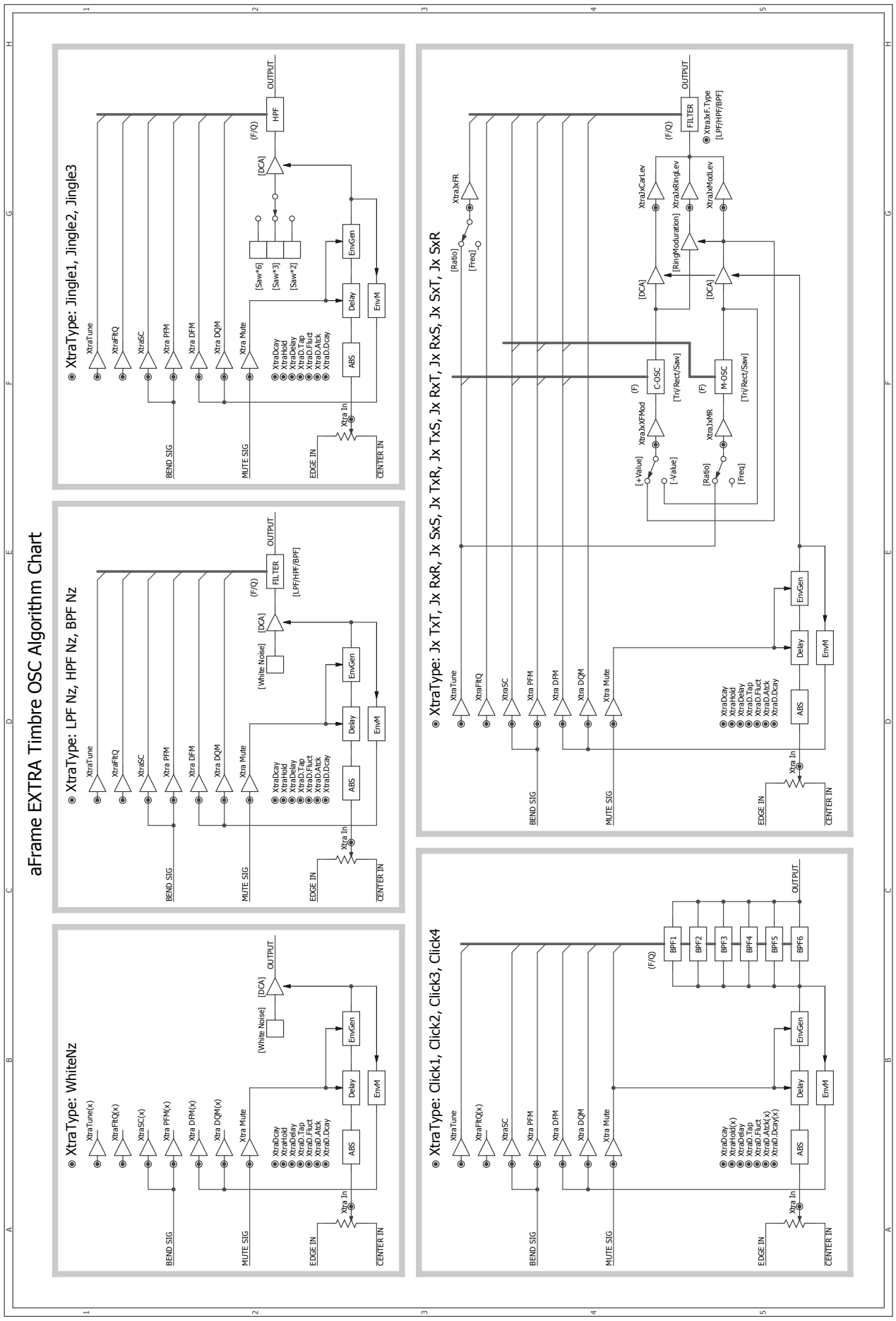
Activated when XtraD.Tap is adjusted to minus values	Parameter name
	XtraD.Fluct,XtraD.Atck,XtraD.Dcay

Referring to the diagrams on p.13, you can see that with Envelope Generator 2, the parameter XtraHold in combination with the additional parameters XtraD.Atck and XtraD.Dcay, give full envelope control over each tap sound in the tap sequence. In this case, the parameter XtraDcay shapes the envelope at the end of the tap sequence. Depending on the setting for XtraDcay, you will continue to hear taps decreasing in volume over the time period set for XtraDcay.

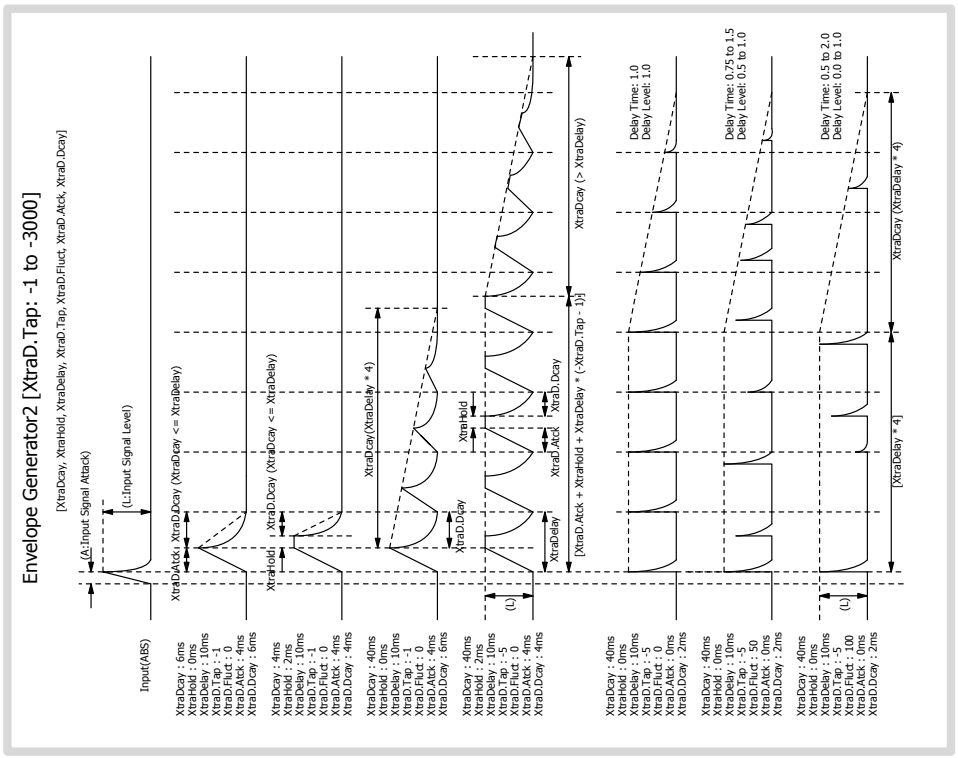
The parameter XtraD.Fluct adds fluctuations that affect the rhythmic pattern and overall amplitude (volume level) of taps in the sequence. As you increase the value of XtraD.Fluct the audible results start to sound more random, with breaks in the tap pattern.

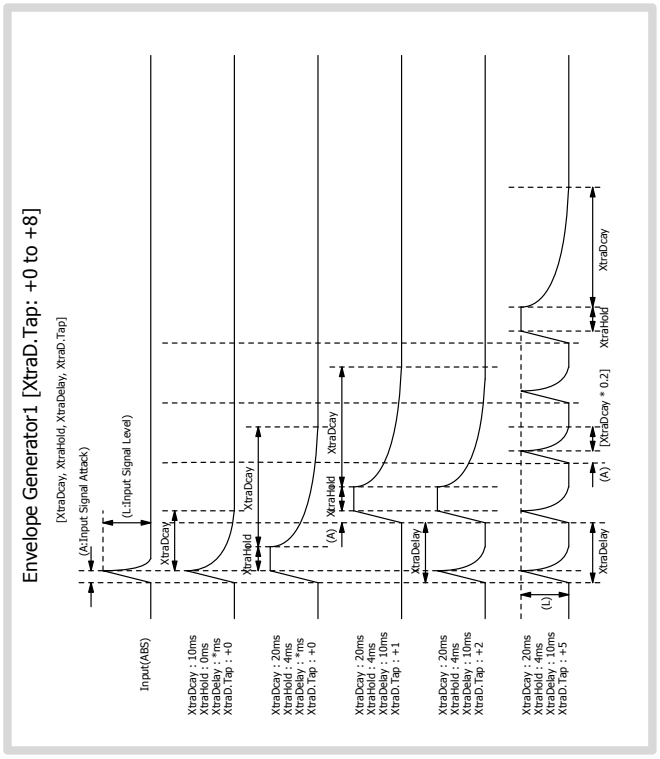
Sound Design Tip:

Envelope Generator 2 can be used to create to some very interesting effects, including long drone-like sounds and interesting tap sequences with fluctuations. It is possible to create almost endless sequences because the number of taps can be adjusted to a maximum value of 3000! To create some interesting analog sequencer style sounds, try different settings of Envelope Generator 2 with higher tap values (e.g. -20) in combination with different pressure scale control settings (see p.19).


aFrame EXTRA Timbre OSC Algorithm Chart
XtraType: WhiteNz
XtraType: LPF Nz, HPF Nz, BPF Nz
XtraType: Jingle1, Jingle2, Jingle3
XtraType: Jx TxT, Jx RxR, Jx SxS, Jx TxR, Jx TxS, Jx RxT, Jx RxS, Jx SxT, Jx SxR
XtraType: Click1, Click2, Click3, Click4
BEND SIG
MUTE SIG
EDGE IN
CENTER IN
Xtra In
OUTPUT
Delay
EnvM
EnvGen
ABS
[DCA]
[White Noise]
FILTER
HPF
[LPF/HPF/BPF]
[Saw*6]
[Saw*3]
[Saw*2]
C-OSC
M-OSC
[Tri/Rect/Saw]
[RingModuration]
[Ratio]
[Freq]
[+Value]
[-Value]
BPF1
BPF2
BPF3
BPF4
BPF5
BPF6

aFrame EXTRA Timbre Envelope Generator





[INST] Tune parameter

In firmware version 1.20, the minimum frequency value for the Main/Sub/Xtra timbre layers was changed from 20Hz to 16Hz (C0), and the maximum frequency value was changed from 10,000Hz to 12,544Hz (G9). These instruments also now conform to a Note-Pitch/Cent display, where one semitone interval = 100 cents.

When editing the instrument tuning parameters for the Main (MainTune), Sub (SubTune) and Extra (XtraTune) timbre layers, it is possible switch the parameter display between frequency and Note-Pitch/Cent modes by pressing the left ◀ and right ▶ buttons either side of the LCD display.

When frequency values (Hz) are displayed during editing, the frequency value can be adjusted in semitone intervals by rotating the encoder wheel. Fine adjustments in 1 Hz steps can be made by simultaneously pushing in and rotating the encoder wheel.

When either the minimum frequency value of 16Hz or maximum value of 12,544Hz is reached when rotating the encoder wheel, the adjustment then continues by passing through octaves of the note A (…220Hz, 440Hz, 880Hz…).

When a particular frequency value is not desired, please adjust the value in 1Hz steps to obtain the desired frequency value.

When Note-Pitch/Cent values are displayed during editing, the Note-Pitch is adjusted in semitone steps by rotating the encoder, whereas the Cent value (/+00) is adjusted in 1 Cent steps by simultaneously pushing in and rotating the encoder. The range of cent values is from -50 to +49. The table below shows the cent value ranges for the musical note A4, the note G#4 a semitone below, and the note A#4 a semitone above.

G#4					A4					A#4				
-50	...	+00	...	+49	-50	...	+00	...	+49	-50	...	+00	...	+49

Please note that the conversion from Hz to Note-Pitch/Cent is exact but the conversion from Note-Pitch/Cent to Hz is not always exact because of value rounding.

For example, in the system the note C4 [C4/+00] is accurately calculated to be 261.625563Hz. However, when converting from Note-Pitch/Cent mode to frequency mode, this value is rounded down to 262Hz. This corresponds to a +2 cent tolerance for the note C4.

In earlier firmware versions, it was only possible to adjust the tuning in Note-Pitch values for the Main timbre layer (MainTune). Following the release of firmware version 1.20, it became possible to adjust the tuning of the Main, Sub and Extra timbre layers (MainTune, SubTune, XtraTune) using Note-Pitch/Cent values in semitone steps (100 cents). When editing, If there are timbre layers that you do not wish to change, it is advised that you use the frequency (Hz) mode for tuning.

To ensure compatibility, please consider the following point about adjusting a selected tone's tuning using the [PITCH] control button and encoder wheel. When the tuning values of MainTune:/SubTune:/XtraTune are displayed in Hz (frequency mode tuning), only the MainTune value in Hz will be displayed and adjusted. The table below indicates the usual displays that are shown when adjusting tuning using [PITCH] control and the encoder wheel.

[NotePitch/cent] mode select	Before edit	After edit
N/A	Pitch(F): 440Hz	Pitch(F): 466Hz
Main	P.TN:A4 /--- /---	P.TN:A#4 /--- /---
Main + Sub	P.TN:A4 /C4/---	P.TN:A#4 /C#4 /---
Main + Sub + Xtra	P.TN:A4 /C4 / G4	P.TN:A#4 /C#4 /G#4

[INST] DFM, PFM, SC, Mute, XtraD.Tap parameters

With firmware version 1.20, the value ranges of certain Main, Sub, and Xtra layer parameters were expanded to include negative values.
With version 2.00, the PSC (pressure scale control) parameter for the Main, Sub and Xtra layers was simply renamed to SC (scale control). The range of SC settings were also expanded, from OFF through the various scale types (MTriad - Chrmtic).

The table below indicates the parameters that were changed and their new value ranges.

Parameter name	range
Main[Sub, Xtra] DFM	-100 -- 0 -- +100
Main[Sub, Xtra] PFM	-100 -- 0 -- +100
Main[Sub, Xtra] SC	OFF, MTriad -- Chrmtic
Main[Sub, Xtra] Mute	nnn: value of Mute Sens
XtraD.Tap	-3000 -- 0 -- 8

Mute Functions

Main[Sub, Xtra] Mute: when set to OFF, mute is disabled.

Main[Sub, Xtra] Mute: when set to ON(**), the value of ** reflects the value of Mute Sens, a general ‘Pressure Parameter’ controlling mute sensitivity (see p.69-70). In this case, the general mute sensitivity setting (Mute Sens) controls the mute sensitivity for the timbre layer. When Mute Sens is adjusted to a higher value, the mute sensitivity for the layer also increases, which enables easier muting (as with previous firmware versions).

Main[Sub, Xtra] Mute: When the value of either Main Mute, Sub Mute or Xtra Mute is adjusted in the positive range +1 to +100, the mute sensitivity value is set for the selected timbre layer. In this way it is possible to adjust the mute sensitivity of each timbre independently.
Consistent with the functionality of the general ‘Pressure Parameter’ Mute Sens, when you independently adjust the mute sensitivity of a selected timbre layer, a higher value will make it easier to mute the sound (less pressure will be required to engage mute).

Main[Sub, Xtra] Mute: When a positive value has been entered, the fine adjustment of mute behavior depends on the general Pressure Parameters Mute Dcay and Mute Mask (see table on p.71).

If Mute Dcay(this is common parameter for theree timbre) was raising to higher, Main[Sub,Etra]Dcay were not effect when the value was small.

The parameter Mute Mask is used to control the time from the instant you apply pressure to the striking surface, to the start of the mute process. This is effectively a way to offset the start of the mute, so it does not begin at the same instant you apply pressure to the surface.

Main[Sub, Xtra] Mute: When the value of either Main Mute, Sub Mute or Xtra Mute is adjusted in the negative range -1 to -100, the maximum level of mute is activated when the hand is released from the striking surface, whereas the mute is released when the hand is placed in contact with the striking surface. The more you increase the negative value across its range (higher absolute value), the longer the decay sound of the selected timbre layer (Main Dcay, Sub Dcay, Xtra Dcay) – thereby giving a higher sensitivity to the mute release.

Negative values of mute [Main, Sub, Xtra]:

When the value is in the range -1 to -50, the typical mute effect is reversed. When pressing the surface the mute is off, and when pressure is released the mute is on and affects the sound at the level set. A different mute action has been implemented for negative values in the range -51 to -100. In this case, when pressing the surface the mute is off, but when pressure is released the mute stays off. In effect this is a constant mute. This produces a different effect, similar to a slap effect, which gives a natural acoustic response and feeling when playing fast patterns.These programmable differences in mute action can be useful for different musical situations and styles of playing.

Note that when the value of Main Mute, Sub Mute, and Xtra Mute is negative, the level of mute sensitivity does not affect the general pressure parameters Mute Dcay and Mute Mask.

When the value of XtraD.Tap is set to a negative value, it is possible to generate a complicated envelope. For more information, refer to the previous section on the multi-tap delay parameters for the Xtra timbre layer (p.10) as well as the diagrams representing the EXTRA Timbre Envelope Generator algorithms (p.13).

[INST] Expanding the maximum value of DQM parameter

For all timbre layers (Main, Sub, Extra), the value range of DQM (Dynamic Q Modulation) has been extended (0 – 200). Prior to this, it was noted that the audible effects of DQM, even with higher values was not pronounced enough to be considered an expressive dynamic effect. In order to maintain compatibility and consistency for tones created with earlier firmware versions, DQM values set in the range 0 to 100 will produce the same effect as before. However, the extension of the range from 101 to 200 raises the sensitivity of the DQM processing, which produces a stronger audible result that sounds natural. One noticeable effect is that the decay of the sound will significantly increase when you play loudly and with force.

[INST] Adding XtraBoost

The output signal of the Extra timbre layer varies significantly depending on the algorithm setting for XtraType and the filter settings. For this reason, the output signal is compressed to prevent distortion. In order to compensate for the signal attenuation, a new function XtraBoost has been added. XtraBoost can be used to increase the gain of the output signal, from no gain at a setting of zero, to a maximum signal gain equivalent to 20.0 dB.
The same increase in gain effect can be achieved by increasing the value of the 'Overdrive' effect parameter enabled for the Main and Sub layers (Main OD, Sub OD). However, in the case of the Xtra layer, the gain process is not designed to add audible distortion. If distortion does occur, this will be due to the signal clipping. In this case, reduce the level of XtraBoost.

Please note that the XtraBoost parameter is excluded from randomization processing, and will not be changed when the randomize function is used to change timbre layer parameter values.

XtraBoost is implemented as a gain control regardless of XtraType, The gain will rise at 0.2dB step at 1 to 100.
(MAX: 20dB)
When XtraType is Click 1, Click 2, Click 3, or Click 4, in addition to the gain, EQ sensitivity will rise.The EQ sensitivity reaches the maximum sensitivity at 15, and in the range from 16 to 100, only the gain increases.

[INST] Expansion of pressure control functions

With firmware version 2.00, we have significantly expanded the possibilities for pressure sensitive musical expression.

Scale Control by Pressure

When selecting a musical scale for a timbre layer via the parameters MainSC, SubSC or XtraSC, it is now possible to also select one of 13 different scale control modes. These scale control modes affect the sequencing of notes generated for the selected scale.

As the table on p.20 shows, each scale control mode is represented by a code reference. The reference code for the scale control mode is displayed to the right of the field for the selected musical scale.
For example:

MainSC:MScale 

You can switch between the different scale control modes using the ◀ and ▶ buttons either side of the LCD display.

MainSC/SubSC/XtraSC (Scale control by Pressure)

Mode	Function	Description
	Pressure Scale Control Up	In response to the level of pressure applied, the note sequence ascends in scalewise steps for the selected scale.
	Pressure Scale Control Down	In response to the level of pressure applied, the note sequence descends in scalewise steps for the selected scale.
	Random, Note Up	With pressure applied, every hit generates a random note from the scale within a one-octave range above the root.
	Random, Note Down	With pressure applied, every hit generates a random note from the scale within a one-octave range below the root.
	Random, Note Up Down	With pressure applied, every hit generates a random note from the scale within a one-octave range above and below the root. Therefore the random note selection range is across two octaves of the scale.
	Sequence Up	With pressure applied, every hit generates a note ascending in scalewise steps, starting from the root across a range of one octave. When the highest (octave) note is reached, the sequence repeats from the root.
	Sequence Down	With pressure applied, every hit generates a note descending in scalewise steps, starting from the root across a range of one octave. When the bottom (octave) note is reached, the sequence repeats from the root.
	Sequence Up Down	With pressure applied, every hit generates a note from a long sequence of scale tones that first ascend and then descend in scalewise steps. Starting at the root, the sequence first ascends one octave, then descends two octaves, and finally ascends one octave back to the root. The entire two-octave sequence then repeats.
	Sequence Down Up	With pressure applied, every hit generates a note from a long sequence of scale tones that first descend and then ascend in scalewise steps. Starting at the root, the sequence first descends one octave, then ascends two octaves, and finally descends one octave back to the root. The entire two-octave sequence then repeats.
	Skip Up	With pressure applied, every hit generates an ascending note from the root that 'skips' one step in the scalewise pattern. When the upper octave note is reached, the sequence repeats from the root. (Note) When using the major scale, the sequence pattern ascends in thirds intervals to produce two four-note arpeggios.
	Skip Down	With pressure applied, every hit generates a descending note from the root that 'skips' one step in the scalewise pattern. When the lower octave note is reached, the sequence repeats from the root.
	Skip Up Down	With pressure applied, every hit generates a note that 'skips' one step in the scalewise pattern, first ascending and then descending. Starting from the root, the skip note sequence first ascends one octave, then descends two octaves, and finally ascends one octave back to the root. The entire two-octave sequence then repeats.
	Skip Down Up	With pressure applied, every hit generates a note that 'skips' one step in the scalewise pattern, first descending and then ascending. Starting from the root, the skip note sequence first descends one octave, then ascends two octaves, and finally descends one octave back to the root. The entire two-octave sequence then repeats.

Controlling Pan Position by Pressure

With firmware version 2.00, It is now possible to use pressure control to expressively vary the pan position of a timbre layer. 12 different modes for pressure control of pan position can now be selected as an option parameter. Each pressure pan mode has a unique reference code, as shown in the table on p.22. The pressure pan mode setting can be accessed when setting the default pan position for each timbre layer using the mixer parameters Mix Main Pan, Mix Sub Pan and Mix Xtra Pan.
For example:

MixMainPan:C00--

In this case, the setting '--' indicates that no pressure pan mode is engaged (OFF). Using the ◀ and ▶ buttons either side of the LCD display, you can switch between and select the different pressure pan modes. For example, let's consider the following setting:

MixMainPan:C00+R

With this setting, the code '+R' engages a pressure pan mode that will pan the sound to the right of the center position, up to a maximum value of 127 positions. If you apply increasing pressure as you continuously strike, you can hear the sound progressively pan from the center position to the maximum right position.

To hear the full range of this pan mode effect, use the encoder wheel to change the default pan position for the main timbre layer as follows:

MixMainPan:L63+R

With no pressure applied, you will clearly hear the sound pan positioned to the maximum left of the stereo field. Now, as you strike, steadily apply increasing pressure and you will hear the sound pan from the maximum left position to the maximum right position of the stereo field, effectively moving through 127 pan positions from the point of origin.

Sound Design Tip: Explore Mode Combinations

By combining different scale control modes and pressure pan control modes, it is possible to program complex musical and spatial motion behavior for each timbre layer. There are 300 possible mode combinations to experiment with!

MixMainPan, MixSub Pan, MixXtra Pan

Mode	Function	Description
--	Control Off	Pressure pan control is not activated.
+R	Pressure +127	In response to the level of pressure applied to the surface, the sound will be panned right from the default position up to a maximum range of (+)127 pan positions. Tip: With this setting, it is very easy to articulate pressure to pan a sound to the maximum right position of the stereo field.
+L	Pressure -127	In response to the level of pressure applied to the surface, the sound will be panned left from the default position up to a maximum range of (-)127 pan positions. Tip: With this setting, it is very easy to articulate pressure control to pan a sound to the maximum left position of the stereo field.
+r	Pressure +63	In response to the level of pressure applied to the surface, the sound will be panned right from the default position up to a maximum range of (+)63 pan positions. Tip: This setting is useful when you wish to articulate pressure to move a sound from the maximum left pan position to the center of the stereo field.
+l	Pressure -63	In response to the level of pressure applied to the surface, the sound will be panned left from the default position up to a maximum range of (-) 63 pan positions. Tip: This setting is useful when you wish to articulate pressure to move a sound from the maximum right pan position to the center of the stereo field.
Lr	Ping Pong L->R	When pressure is applied, each strike will result in an alternating pan effect, starting on the left of the default pan position and then switching to the right. Tip: With the default pan position set to C00 (Center), applying maximum pressure will result in a wide 'left-right' ping-pong panning effect.
Rl	Ping Pong R->L	When pressure is applied, each strike will result in an alternating pan effect, starting on the left of the default pan position and then switching to the right. Tip: With the default pan position set to C00 (Center), applying maximum pressure will result in a wide 'left-right' ping-pong panning effect.
?r	Random +63	When pressure is applied, each strike will result in a random pan position to the right of the default pan position. At maximum pressure, the value range for random pan positions is (+)63. Tip: With the default pan position set to C00 (Center), a small level of pressure correlates to small range of random values for pan positions to the right. With full pressure applied, the value range is maximized, and the random pan position value could be any value in the range R01 – R63. The effect of varying the pressure level to control the range of values for random pan positioning is subtle but useful in certain situations.
?l	Random -63	When pressure is applied, each strike will result in a random pan position to the left of the default pan position. At maximum pressure, the value range for random pan positions is (-)63. Tip: With the default pan position set to C00 (Center), a small level of pressure correlates to small range of random values for pan positions to the left. With full pressure applied, the value range is maximized, and the random pan position value could be any value in the range L01 – L63.

Mode	Function	Description
	Random +-63	When pressure is applied, each strike will result in a random pan position that can be either to the left or right of the default pan position. At maximum pressure, the value range for random pan positions is (-)63 to the left and +(63) to the right. Tip: With the default pan position set to C00 (Center), a small level of pressure correlates to small range of random values for pan positions to the left or the right. With full pressure applied, the value range is maximized, and the random pan position value could be randomly selected as any value in the range L63 to R63.
	Pitch Up R Down L	When pressure is applied, the panning effect is mapped to the pitch of scale tones. In this mode lower pitch tones in the scale will be panned to the left and higher pitch tones to the right. Tip: To experience this effect, combine this pressure pan control mode with the 'S^' scale control mode, which generates an ascending and descending sequence of notes. With pressure applied, each time you strike you can clearly hear how the sound pans progressively from left to right as the notes ascend the scale, and then pans progressively from right to left as the notes descend in pitch.
	Pitch Up L Down R	When pressure is applied, the panning effect is mapped to the pitch of scale tones. In this mode lower pitch tones in the scale will be panned to the right and higher pitch tones to the left. Tip: To experience this effect, combine this pressure pan control mode with the 'S^' scale control mode, which generates an ascending and descending sequence of notes. With pressure applied, each time you strike you can clearly hear how the sound pans progressively from right to left as the notes ascend the scale, and then pans progressively from left to right as the notes descend in pitch.

Pressure Control of Layer Volume

With firmware version 2.00, it is now possible to use pressure control to expressively control the volume level of a timbre layer. 3 different modes—including 'off'—for pressure volume control can now be selected as an option parameter. Each pressure volume control mode has a unique reference code as shown in the table below. The pressure volume control mode setting can be accessed when setting the volume levels of the Main, Sub and Extra timbre layers using the mixer parameters Mix Main Lev, Mix Sub Lev and Mix Xtra Lev.
For example:

MixMainLev:100--

In this case, the setting '--' indicates 'Control Off', meaning that pressure control is not mapped to control volume level. Using the ◀ and ▶ buttons either side of the LCD display, you can switch between and select the different pressure volume control modes. For example, let's consider the following setting:

MixMainLev:100P+

With this setting, the code 'P+' engages a pressure volume control mode, and the volume level of the sound is mapped to pressure control. Until pressure is applied you will not hear any sound. As you increase the level of pressure the volume level of the sound increases. Maximum pressure equates to the maximum volume level that is set for the timbre layer, in this example, 100.

When the setting 'P-' is made, the pressure-volume mapping is reversed. With no pressure applied, the sound is heard at its maximum set volume level. As pressure is progressively applied, the volume of the sound decreases. At maximum pressure, in theory at least, you should not hear any sound (volume level = 0), although to control this in practice is quite difficult.

XMixMainLev, MixSub Lev, MixXtra Lev

Mode	Function	Description
--	Control Off	Pressure volume control mode is 'off' (not activated).
P+	Pressure Control Volume Up	The volume level of the sound increases as the level of applied pressure increases.
P-	Pressure Control Volume Down	The volume level of the sound decreases as the level of applied pressure increases.

(Note) Pressure volume control has no effect when the timbre layer's volume level is set at zero (e.g. XMixMainLev:0).

[INST] Addition of Mixer selection MASTER MIX BUS SW

With the release of firmware version. 2.00, we have added an On/Off Master Bus Switch (MBUS) to the mixer section parameters to control effects processing.

MixMainSnd, MixSubSnd, MixXtraSnd, MixDryCSnd, MixDryESnd (MASTER MIX BUS Control)

Mode	Function	Description
M+	Master Bus Switch On	Send to Master Mix Bus (On). - The timbre layer's effect level send is directly routed to an insert effect on the Master Mix bus.
M-	Master Bus Switch Off	Send to Master Mix Bus (Off).

Certain effects such as Wah, Space R and Space Z, do not work as well as Master Bus Insert effects. To compensate for this, an alternative Send-Return effects bus has been implemented.

Using this switch function enables a send to the SEND BUS (SBUS), but cuts the send to the MASTER MIX (MBUS). This function is to be used when a send-return effect is preferred for a particular timbre.

The Master Bus Switch On (M+) and Off (M-) is an option parameter than can be accessed when you select and adjust the following effect send level parameters: MixMainSnd, MixSubSnd, MixXtraSnd, MixDryCSnd, MixDryESnd.
So for example, the setting below indicates that the Main layer's effect send level is 100, and the Master Bus Switch is 'On' for this layer.

MixMainSnD:100M+

Using the ◀ and ▶ buttons either side of the LCD display, you can switch between the 'On' (M+) and 'Off' (M-) settings.

*The Wah effect was only available as a Master Bus Insert effect for firmware versions prior to 2.00.

The general effect parameter FxMtrx has two settings that determine whether the effect is enabled as a Send-Return effect (Snd/Rtn) or Master Insert effect (Master Ins).

[EFFECT] Supports BPM display of Delay Time

Following the release of firmware version 1.20, the delay time for delay effects can be displayed and adjusted as a BPM value.
When editing the delay time parameter, use the ◀ and ▶ buttons either side of the LCD display, to switch between time values in milliseconds (ms) or BPM.

When BPM mode for delay time is selected, the tempo value is adjusted by rotating the encoder. The note value is selected and adjusted by simultaneously pushing in and rotating the encoder.

Display mode	Display example
ms mode	Time L : 500ms
BPM mode	Time L : 4/120

The range of BPM values is from 60 to 240, and the range of note values is from quarter notes to triplet sixteenth notes.

	TEMPO	60	120	240
note	4	1000.0ms	500.0ms	250.0ms
	.8	750.0ms	375.0ms	187.5ms
	8	500.0ms	250.0ms	125.0ms
	.16	375.0ms	187.5ms	93.7ms
	16	250.0ms	125.0ms	62.5ms
	T4	666.6ms	333.3ms	166.6ms
	T8	333.3ms	166.6ms	83.3ms
	T16	166.6ms	83.3ms	41.6ms

The table below shows the conversion of delay time values from milliseconds (ms) to BPM.

Delay Time	Note	BPM
over 1000.0ms	quarter note	4/60
250.0ms -- 1000.0ms	quarter note	4/***
125.0ms -- 249.9ms	eighth note	8/***
62.5ms -- 124.9ms	sixteenth note	16/***
41.6ms -- 62.4ms	triple sixteenth note	T16/***
less than 41.6ms	triple sixteenth note	T16/240

[EFFECT] algorithm Compressor

In firmware version 2.00, a general compressor effect algorithm has been implemented. In terms of output signal, the aFrame has a large dynamic range, so the use of a compressor can be effective at preventing distortion and clipping when connecting the aFrame to mixers, amplifiers, external effects processors, and audio interfaces.

The compressor parameters can be accessed and adjusted in the effects editing mode. The first parameter Comp SW, switches the compressor algorithm ON or OFF.

The default settings for the compressor's threshold value, CompThrs is -12dB, and the ratio CompRatio is 2:1. At these settings, maximum gain reduction will be -6dB (when the input signal is 0dB).

Keeping the threshold setting at -12dB, a higher ratio setting will result in a greater degree of compression (gain reduction) being applied to the same input signal. For example, a higher ratio of 4:1 will result in a maximum of -9dB of gain reduction. In practice is important to balance the settings for threshold and ratio to obtain the right level of compression for the input signal.

When editing the compression settings, the top line of the LCD displays a signal level indicator that shows the level of gain reduction being applied to the input signal. This visual reference can be useful tool to help you find the right compression settings for the aFrame tone you are working with.

The attack time (ms) of the compressor – CompAtck, and release time (ms) – CompRele, can also be adjusted. The attack time determines how quickly the compression algorithm responds once an input signal has exceeded the threshold, whereas the release time determines the time for the gain to return to normal once the input signal has dropped below the threshold. If you sense that the compressor's signal output has a weak attack when you strike, increase the attack time so that less compression gain is applied to the initial transient.

At a 1:1 ratio no gain reduction is applied at any threshold setting, so that input and output levels are effectively the same. As we increase the ratio, the output level drops.

When the compression ratio setting is at infinity:1 (INF:1) the compressor effectively functions as a hard 'brick wall' limiter, and the output signal does not exceed the threshold level. The action of a compressor can be further modified by a value called 'knee', often termed 'soft knee compression'. In normal, (hard knee) compression, when the input signal reaches the threshold, the compression starts working immediately at the set ratio. In some situations, particularly with higher ratio settings, the action of the compressor becomes audible.

The solution to create more musical and subtle compression effects is called soft knee compression. This works by having the compressor start to work at a lower ratio and then gradually increase to the full set ratio. This is effectively controlling the onset of full compression.

The aFrame's compressor has three CompKnee settings. These are HARD, SOFT1 and SOFT2. For SOFT1, the onset of compression starts at -3dB below the threshold, and for SOFT2 at -6dB below the threshold.
When the ratio is set under 2:1, the effect of knee settings will have no audible effect on compression.

The parameter CompGain (dB) allows you to apply gain to the compressor's output, in order to increase the overall volume level of the compressed signal.

[EFFECT] algorithm Ambience, SpaceR/SpaceZ

In firmware version 2.00, three new effects algorithms have been added. These are the Ambience, SpaceR and SpaceZ effects.

Ambience

With the exception of the Reverb (Rev), SpaceR and SpaceZ effects, an optional ambience effect has been added to all existing effects (see effect edit parameters p.61-70). The ambience effect implements a short reverb effect, in order to add a spatial quality to the sound and define the presence of the sound field. There are five types of ambience to select from [A, B, C, D, E] in addition to the 'OFF' setting. The ambience type is set using the effects parameter AmbienceType, and the level of ambience is adjusted using the parameter Ambience Lev (0 – 100).

Space R & Space Z: Binaural Spatial-Delay Effects

Space R and Space Z are two new effects algorithms that have been designed to produce an immersive 'Binaural' sound field experience. Binaural recordings reproduce how we perceive sound in the real world, capturing a 360° sound field around the listener's position. However, in our implementation, the binaural sound positioning is limited to a 2D horizontal plane with no vertical (elevation) dimension.

With binaural processing, the positioning of sounds is handled differently than with typical stereo panning. Sound positioning is controlled by the parameter 'Azimuth' (in degrees), and is adjusted to rotate the sound around the listening position - as if it were moving along a circumference of a virtual circle. Variation of azimuth values pan-rotate the sound 360° around the listening position, creating distinct sound localization perceptions that are not possible with conventional stereo.

With both the Space Z and Space R effects, the parameter setting for Phones (On/Off) should be used depending on whether you playing with headphones on or not (i.e. playback over speakers). This is important, because the binaural sound processing is different depending on whether headphones or speakers are being used to monitor the sound.

Space R (Space R Parameters)

The SpaceR effect allows you to revolve monaural signals from an azimuth position around the binaural sound field. By adjusting the parameters of this particular effect (see p.84), the rate of revolution can be adjusted.The revolution effect can be set manually, automatically or mapped to expressive pressure control.

A simple delay effect (mono in – mono out) has also been implemented for SpaceR. This enables you to program interesting revolution effects for the delayed signals.

SPACEZ (Space Z parameter)

The SpaceZ effect has a different implementation that can produce more complex stereo delay effects. In this case it is not possible to rotate or revolve sounds in the sound field. Instead, the delay effect parameters for SpaceZ (see p.85) allow you to set timing offsets for the delayed signals that are panned left and panned right. The sound field perception of these stereo delay effects is greatly enhanced because of the binaural processing.

Pressure control is not directly implemented as a parameter for the Space Z effect, but instrument pan positioning effects controlled by pressure (see pressure pan control modes p.22) do work with Space Z. By the adjusting the various delay parameters of Space Z, it is possible to create complex binaurally enhanced stereo delay effects.

Tip: To hear one possible variation of the Space Z effect that shows its great potential for producing complex stereo delay effects, focus on one timbre layer and try the following settings (wearing headphones):

Parameter	Value
Spread	10
DlySw	ON
DTime L	500ms
DTime R	750ms
DTimeFB	500ms
DlyFeedback	80
DlyWetLev	100
DlyDryLev	50
Phones	ON
SpaceZ Sw	On

When you strike the drum, you will hear the initial dry sound, then 500ms later a tap on the left (DTime L) and 750ms later, a tap on the right (DTime R). Both tap sequences then continue with subsequent taps at 500 ms intervals (set by DTimeFB). You can vary the length of the tap sequences by adjusting the parameter DlyFeedback. As you can hear, the delay effect is more complex and immersive sounding than a conventional ping-pong stereo delay. Variation of these parameters can produce even more complex delay effects. Try combining the Space R effect with different pressure pan control modes and scale control modes.

Selecting [INST/EFFECT] data

In firmware version 2.00 new functions to enable the selection of factory library Instruments and Effects have been added.

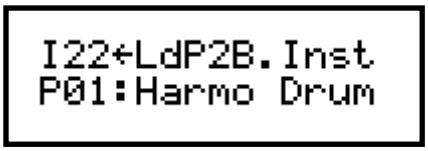
In Instrument edit mode, press either the [1 PITCH]or [2 DECAY] button repeatedly until the top line of the LCD display shows:

IXX <- LdP2B.Inst

Follow the same procedure in Effect edit mode until the top line of the LCD display shows:

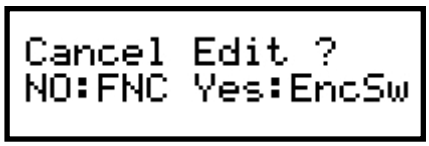
EXX <- LdP2B.Fx

Example procedures for selecting I22 (Instrument 22) and E22 (Effect 22) are described below:



You can select and change either an Instrument (P01: Harmo Drum) or Effect (P01: Harmo D.Rev) displayed on the lower line of the LCD (original) by rotating the encoder clockwise. This selects and loads the instrument or effect into a temporary buffer. If you rotate the encode counter clockwise you access the Factory library presets and can select from the range of factory instruments or factory effects.

After making your Instrument (I22) or Effect (E22) selection, pushing in the encoder wheel will copy the Instrument or Effect into a temporary memory location and the sound will change. This is an effective way to try out different combinations of Instruments and Effects. In keeping with other parameter editing operations, after pressing in the encoder wheel to make a selection, the FNC button will light up. If you press the FNC button, the display prompts with:



Both the encoder wheel and FNC button will flash. Press the FNC button if you do not wish to cancel the edit, or press the encoder wheel to cancel the edit and return to the initial state.

The table lists the Instrument factory library data and Effect factory library data that are available for selection.

Factory Libray

INST data	EFFECT data
F01:Snare Drum	F01:Reverb
F02:Bass Drum	F02:Delay
F03:X-WoodAttack	F03:Chorus
F04:XMetalAttack	F04:Flanger
F05:X-TR CLAP	F05:Phaser
F06:X-TR COWBEL	F06:Wah
F07:X-TR CLAVES	F07:M.Tap Delay
F08:X-TR HIHAT	F08:SpaceR
F09:X-VibraSlap	F09:SpaceZ
F10:X-Applause	F10:Natural Rev
F11:X-ThunderS.	F11:Short Reverb
F12:X-JX Jingle1	F12:Mid Reverb
F13:X-JX Jingle2	F13:Long Reverb
F14:X-Am Vibrato	F14:Long Rev HDF
F15:X-C Tremolo	F15:Infinite Rev
F16:X-RingMod	F16:Cave Reverb
F17:X-Bell	F17:Er Ambience1
F18:X-Car horn	F18:Er Ambience2
F19:X-CrossAlarm	F19:SpaceRevoDly
F20:Dry	F20:SpaceZPanDly

[INST/EFFECT] Randomize parameters function

In firmware version 2.00, a randomize parameter function for Instrument layers and effects has been implemented. There are various settings that control the randomization algorithm.

To access the randomize function settings, you must first enter either instrument edit mode (push 1 PITCH and 2 DECAY simultaneously) or the effect edit mode (push 3 BEND and 4 VOLUME simultaneously). In either edit mode, press the 2 DECAY button three times and the settings screen for randomize parameters will display..

In Instrument edit mode, the lower line of the LCD will display:

Rnd:MainPrm 50%

In Effect edit mode, the lower line of the LCD will display:

Rnd:Reg.Prm 50%

The setting for 'Rnd:' indicates the parameter set that the randomization algorithm will target, whereas the % value indicates the strength of randomization.

For Instruments, there are four different settings that correspond to timbre layer parameter sets that the randomization algorithm will target:
Main parameters (MainPrm), Sub parameters (SubPrm), Extra Parameters (XtraPrm), and Main+Sub+Extra layer parameters (M+S+X).

For Effects, one target setting Reg.Prm works to randomize parameter sets for eight different kinds of effects (Reverb, Delay, Chorus, Flanger, Phaser, Wah, Space R, Space Z).

For the Multi-Tap Delay effect, there are six different target settings for parameter randomization:
Time parameters (Time Prm), Level parameters (Lev Prm), Pan parameters (Pan Prm), Time-and-Pan parameters (Time Pan), Time-and-Level parameter (T+L+P) and, Feedback level-and-High frequency Damping (FB/HFD).

The table below summarizes the Instrument edit and Effect edit settings that determine the parameter sets targets for randomization.

Edit	**Randomizing type**
INST Edit	MainPrm, Sub Prm, XtraPrm, M+S+X
EFFECT Edit (Reverb, Delay, Chorus, Flanger, Phaser, Wah, SpaceR, SpaceZ)	Reg.Prm
EFFECT Edit (Multi-Tap delay)	TimePrm, Lev Prm, Pan Prm, TimePan, T+L+P, FB/HFD

To select between the randomization settings (parameter sets target), use the ◀ and ▶ buttons either side of the LCD display. The level of randomization (%) can be adjusted up or down by turning the encoder. To execute the randomization function for the selected parameters, push the encoder.

The level of randomization of targeted parameter values can be varied between 0% and 100%. The closer the value is to 100%, the stronger the randomizing effect on the parameter values. At lower percentage levels, randomization is less pronounced and this can be useful if you wish to create a minor variation or permutation of a particular instrument or effect.

So in summary, If randomization is set to 100%, the parameter value is changed to a value that is not related to the original parameter value. If the level is set to 0%, the parameter values are not changed.

The percentage rate for randomization expresses the proportional relationship between the value before randomizing and the one after randomization. Therefore, the timbre varies according to the rate after the randomization level value is set.

The following type-series parameters ***(Type) such as xxxxOvt and xxxxSC stay at their the original values when the randomization level is set at 0%, but change to new values when the randomization level is set in the range 1-100%.

The following instrument parameters are fixed at these initial values regardless of the randomization level that is set.

Parameter	Value
Main In	C50/E50
Sub In	C50/E50
Xtra In	C50/E50
Main OD	0
Sub OD	0
MainMute	OFF
Sub Mute	OFF
XtraMute	OFF
XtraJxCarLev	100

In general, when randomization is applied, the Instrument-mixer parameters do not change. When the original timbre layer volume is set at zero, the value is changed to 70 following randomization in order to give the user the option to check the new sound timbre.

When any other value except zero is set for a timbre layer's volume level, the value does not change following randomization. This maintains the original mix balance between the timbre layers – as set by the parameters MixMainLev, MixSubLev, and MixXtraLev.

The following parameters are excluded from randomization and do not change: PressMode, PressSens, PressAtck, PressRele, FxMtrx. Ambience effect parameters and Compression effect parameters are also unchanged by randomization.

In order to optimize the effectiveness of the randomization algorithm, some parameters are fixed or excluded from the processing.

The tables on the following pages show the parameter ranges of instrument/effect parameters and their randomization settings.

The code '***' generally indicates the parameter will be changed according to the level of randomization.

The code '---' generally indicates that a parameter is excluded from the randomization processing.

[INST EDIT]

MainPrm * * * %	
Main In	C50/E50(Fix)
MainOvt	* * * (Type)
MainHrmNo	* * *
MainTune	* * *
MainDcay	* * *
Main HFD	* * *
Main DQM	* * *
Main DFM	* * *
Main PFM	* * *
MainSC	* * * (Type)
MainMute	OFF(Fix)
Main OD	0(Fix)
MixMainLev	70 when MixMainLev is 0, the set value when other values.

SubPrm * * * %	
Sub In	C50/E50(Fix)
Sub Ovt	* * * (Type)
SubHrmNo	* * *
Sub Tune	* * *
Sub Dcay	* * *
Sub HFD	* * *
Sub DQM	* * *
Sub DFM	* * *
Sub PFM	* * *
Sub SC	* * * (Type)
Sub Mute	OFF(Fix)
Sub OD	0(Fix)
Sub Delay	* * *
Sub D.Tap	0 -- 8 when Sub Delay is not 0.
MixSub Lev	70 when MixSubLev is 0, the set value when other values.

XtraPrm * * * %	
Xtra In	C50/E50(Fix)
XtraType	* * * (Type)
XtraTune	* * *
XtraDcay	* * *
XtraHold	* * *
XtraFltQ	* * *
Xtra DQM	* * *
Xtra DFM	* * *
Xtra PFM	* * *
XtarMute	OFF(Fix)
XtraDelay	* * *
XtraD.Tap	0 -- 8 when XtraDelay is not 0.
XtraD.Fluct	* * *
XtraD.Atck	* * *
XtraD.Dcay	* * *
XtraJxF.Type	* * * (Type)
XtraJxFR	* * *
XtraJxMR	* * *
XtraJxXFMod	* * *
XtraJxCarLev	100(Fix)
XtraJxModLev	* * *
XtraJxRingLv	* * *
XtraSC	* * * (Type)
MixXtraLev	70 when MixXtraLev is 0, the set value when other values.

(Note) If the randomization setting is "M+S+X", then all three sets of timbre layers parameters shown above are targets for randomization.

[EFFECT EDIT:Reverb]

RegPrm * * * %	
Time	* * *
Pre Delay	* * *
ER Dens	* * *
Rev Dens	* * *
HF Damp	* * *
Pan Spread	100(Fix)
ER Level	* * *
Rev Level	* * *
Wet Level	70(Fix)
Dry Level	100(Fix)
PressMode	---
PressSens	---
PressAtck	---
PressRele	---
Reverb Sw	ON(Fix)
FxMtrx	---

[EFFECT EDIT:Delay]

RegPrm * * * %	
Type	* * * (Type)
Time L	* * * (Note) In the case of "BPM" display, It does not change.
Time R	* * * (Note) In the case of "BPM" display, It does not change.
Feedback	* * *
HF Damp	* * *
Pan Spread	100(Fix)
Wet Level	70(Fix)
Dry Level	100(Fix)
Mod Rate	* * *
Mod Depth	* * *
Mod Phase	* * *
PressMode	---
PressSens	---
PressAtck	---
PressRele	---
Delay Sw	ON(Fix)
FxMtrx	---

[EFFECT EDIT:Chorus]

RegPrm * * * %	
Type	* * * (Type)
Mod Rate	* * *
Mod Depth	* * *
Mod Phase	* * *
Wet HPF	* * *
Wet LPF	* * *
Wet Level	100(Fix)
Dry Level	100(Fix)
Chorus Sw	ON(Fix)
FxMtrx	---

[EFFECT EDIT:Flanger]

RegPrm * * * %	
RATE	* * *
DEPTH	* * *
MANUAL	* * *
RESO	* * *
XFB	* * *
MOD PH	* * *
PressMode	---
PressSens	---
PressAtck	---
PressRele	---
Flanger Sw	ON(Fix)
FxMtrx	---

[EFFECT EDIT:Phaser]

RegPrm * * * %	
RATE	* * *
DEPTH	* * *
MANUAL	* * *
RESO	* * *
XFB	* * *
MOD PH	* * *
STAGE	* * *
PressMode	---
PressSens	---
PressAtck	---
PressRele	---
Flanger Sw	ON(Fix)
FxMtrx	---

[EFFECT EDIT:Wah]

RegPrm * * * %	
Type	* * * (Type)
Manual Freq	* * *
Freq Min	* * *
Freq Max	* * *
Filter Q	* * *
PressSw	---
PressSens	---
PressAtck	---
PressRele	---
Wah Sw	ON(Fix)
FxMtrx	---

[EFFECT EDIT:Multi-Tap Delay]

TimePrm * * * %	
Tiime 1	* * * (Note) In the case of value is 0 or "BPM" display, it does not change.
:	
Time 10	* * * (Note) In the case of value is 0 or "BPM" display, it does not change.
Time FB	* * * (Note) In the case of value is 0 or "BPM" display, it does not change.
Pan Spread	100(Fix)
Wet Level	70(Fix)
Dry Level	100(Fix)
Delay Sw	ON(Fix)
Lev Prm * * * %	
Lev 1	* * *
:	
Pan 10	* * *
Pan Spread	100(Fix)
Wet Level	70(Fix)
Dry Level	100(Fix)
Delay Sw	ON(Fix)
Pan Prm * * * %	
Pan 1	* * *
:	
Pan 10	* * *
Pan Spread	100(Fix)
Wet Level	70(Fix)
Dry Level	100(Fix)
Delay Sw	ON(Fix)

FB/HFD * * * %	
Feedback	* * *
HF Damp	* * *
Pan Spread	100(Fix)
Wet Level	70(Fix)
Dry Level	100(Fix)
PressMode	---
PressSens	---
PressAtck	---
PressRele	---
Delay Sw	ON(Fix)
FxMtrx	---

(Note) If the randomization setting is "TimePan", then the parameter sets TimePrm and PanPrm are targets for randomization. If the randomization setting is "(T+L+P)", then the parameter sets TimePrm, LevPrm, and PanPrm are targets for randomization.

[EFFECT EDIT:SpaceR]

RegPrm * * * %	
Azimuth	* * *
AutoRevo	* * * (Type)
RevoSpeed	* * *
DlySw	ON(Fix)
DlyTime	* * * (Note)In the case of value is 0 or "BPM" display, it does not change.
DlyFeedback	* * *
DlyWetLev	100(Fix)
DlyDryLev	100(Fix)
PressMode	---
PressSens	---
PressAtck	---
PressRele	---
Phones	---
SpaceR Sw	ON(Fix)
FxMtrx	---

[EFFECT EDIT:SpaceZ]

RegPrm * * * %	
Spread	* * *
DlySw	ON(Fix)
DTime L	* * * (Note) In the case of value is 0 or "BPM" display, it does not change.
DTime R	* * * (Note) In the case of value is 0 or "BPM" display, it does not change.
DTimeFB	* * * (Note) In the case of value is 0 or "BPM" display, it does not change.
DlyFeedback	* * *
DlyWetLev	100(Fix)
DlyDryLev	100(Fix)
Phones	---
SpaceZ Sw	ON(Fix)
FxMtrx	---

Group parameters

Changing the tone (the combination of instrument and effect)

Here's how to change the combination of instrument and effect.

1. Press the [2 DECAY] button and [3 BEND] button simultaneously. You'll enter the edit screen; the upper line of the display shows the instrument, and the lower line shows the effect number and name.

2. Use the [1 PITCH] or [2 DECAY] button to select the instrument, and the [3 BEND] or [4 VOLUME] button to select the effect.

Saving your edits

Here's how to save the tone you've edited.

1. Press the [5 EFFECT] button. The encoder and the [3 BEND] and [4 VOLUME] buttons blink red, and the display shows a screen where you can select the save-destination.

3. Select the save-destination.
   Use the [A] - [D] buttons and the FNC button to select the group, and use the ◀/▶ buttons to select the tone number. To change the maximum number of tones for a group, turn the encoder.

3. Press the encoder. The tone is saved in the number that you selected in step 2.
   To insert a tone, press the [3 BEND] button; to delete a tone, press the [4 VOLUME] button.

Memo

- While the encoder is blinking red, you can press the [5 EFFECT] button to audition the selected instrument and effect.
- If you want to continue editing, hold down the [5 EFFECT] button in step 3 and press the encoder. The tone is saved, and instead of returning to Play mode, you return to the screen where you can select the instrument and effect. At this time, the tone number automatically increments by 1.

Cancelling your edits

If you decide to stop editing without saving your changes, long-press the [5 EFFECT] button.
The sound returns to the unedited state, and you return to Play mode.

Level meter

Displaying the level meters

1. When you press the following buttons simultaneously, a level meter appears in the display.

   Even while the level meter is displayed, you can switch between the input level meter and the output level meter.

Display	Buttons
Input level meter	[1 PITCH] button and [3 BEND] button
Output level meter	[2 DECAY] button and [4 VOLUME] button

2. To return to Play mode, press the [5 EFFECT] button.

Adding GroupKeyLock function

In Play mode, when you push either the A, B, C, or D button for more than 2 seconds, the button blinks red and the function to select different tone groups using A to D buttons is locked.

When you long-push the button used to lock groups for about 2 seconds, the lock is released and then the color of button returns to the original color.

The color of the FNC button does not change, so you can identify which tone bank is currently selected.

Engaging this lock function during performance can help to prevent accidental tone selections, which could happen when you are standing up to play and the aFrame is in contact with your body.

System parameter

System edit

In firmware version 1.20, the functions SYS: Save Project, SYS: Export TONE, SYS: Audio Output were changed, and the functions SYS: Del Project and SYS:Delete TONE were added.

In firmware version 2.00, the functions SYS: Load LdP2B, SYS: Tn Dest, and the extensions (SYS: Get Time, SYS: Set Time, SYS: Rec PlayLog) were added.

To engage system editing mode and access the different system settings,

1. Simultaneously press the [1 PITCH] button and [4 VOLUME] button.
   The system edit page appears.

2. Use the [1 PITCH] button and [2 DECAY] button to select the parameter that you want to edit.

(Note) It is possible to include uppercase and lowercase letters in file names, but they are recognized as the same character.For example, renaming aFrame to AFrame will be treated as the same name file and aFrame will be overwritten.

SYS:Save Project

Here's how to save an aFrame project.
A project is a data set containing the instrument and effect parameters, group and tone numbers, and the combinations of instruments and effects.

1. Turn the encoder wheel to select the save-destination. If the SD card is selected, then the stored project files are listed.

Indication of Display	Description
INT:Memory1	aFrame internal memory.
INT:Memory2	aFrame internal memory.
SDC: any file name *If no project file is in a SD card, its initial name is indicated as “aFramePD001”.	SD Card. Up to 256 projects can be saved.

If a SD card is not inserted into aFrame, the SD card cannot be selected as a destination to save.

2. When you select a project file by turning the encoder, the project name edit screen is displayed. Here you can select a character line by turning the encoder, and determine the character’s position by pushing the ◀/▶ button either side of the display.

Use the [3 BEND] button to insert a character, and the [4 VOLUME] button to delete a character

(Note) The characters available for file names are limited [_, 0-9, a-z, A-Z]. All other characters are converted to “_”.

3. After renaming the project file, pushing the encoder button will save the project to the SD card. When you push the encoder button without changing the file name, a message will display that prompts you to verify your intention to overwrite the project data stored in the file. Pressing the ▶ button overwrites the data stored in the project file. Pressing the ◀ button returns to the project name edit screen (2) without saving.

SYS:Load Project

Here's how to load an aFrame project.

1. Turn the encoder to select either an internal memory source or SD card source that you want to load the project file from.

Indication of display	Description
INT:Memory1	aFrame internal memory.
INT:Memory2	aFrame internal memory.
SDC:aFramePD***	SD card

*** indicates a three-digit number.
If no SD card is inserted in the aFrame, you cannot select the SD card as the load source.

2. Push the encoder. The project is loaded.

SYS:Del Project

Here's how to delete a selected project.

1. Select a project file (.prj) on the SD card by turning the encoder.

2. Press the encoder to delete the project.

SYS: Init Prj FP1

Push the encoder wheel to initialize a project loaded with Factory Presets 1 (version 1.20).
The auto save memory location (AutoSaveLoc.) is changed to INT.Memory 1 (see SYS: AutoSaveLoc. in detail).

SYS: Init Prj FP2

Push the encoder wheel to initialize a project loaded with Factory Presets 2 (version 2.00).
The auto save memory location (AutoSaveLoc.) is changed to INT.Memory 2 (see SYS: AutoSaveLoc. in detail).

SYS: AutoSaveLoc.

Use this system setting to select an internal memory location to automatically save the active project to when you turn off the aFrame (power down).
When you next turn on the aFrame, the project data will be loaded from the selected internal memory.

(Note)When you select INT. Memory 1 as the source for SYS: Load Project, the auto save location (AutoSaveLoc.) is set to INT.Memory 1, and when INT. Memory 2 is selected, the auto save location is set to INT.Memory 2.

When you perform SYS: Init Prj FP1, AutoSaveLoc. is set to INT.Memory 1, and when you perform SYS: Init Prj FP2, AutoSaveLoc is set to INT.Memory 2.

SYS: Export TONE

This operation exports the tone data (the combination of an instrument and an effect) of the currently selected tone to the SD card. The name of the tone with the prefix 'SDC.' is displayed, for example:

SDC.LogPrimitive

Pushing the encoder wheel displays the tone name edit screen. The name of the tone can be edited and changed using the same controls as when renaming and saving a project. Pushing the encoder again will export and save the tone file (.prm) to the SD card. An unnamed tone will be automatically saved as '_.prm'.

SYS: Import TONE

This operation imports tone data from an SD card, overwriting the currently selected tone.

1. Insert an SD card that contains aFrame tone data into the aFrame.

Indication of display	Description
SDC.aFrameIE***	Name of tone on the SD card.
No File Exist	No tone data is saved on the SD card.
No Mount SDCard!	SD card is not inserted. Insert it.
Not Open SDCard!	The SD card is locked. Unlock it.

*** indicates a three-digit number.

2. Turn the encoder to select the tone that you want to import.

3. Press the encoder to import the tone data.
The data is imported, and the aFrame returns to play mode.

Important

If the same tone (combination of instrument and effect) exists in the aFrame, the instrument and effect parameters of that tone are also overwritten by the imported data.

SYS: Delete TONE

Here's how to delete a selected tone.

1. Select a tone file (.prm) on the SD card by turning the encoder.

2. Press the encoder to delete the tone file.

SYS: Load LdP2B

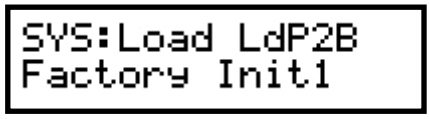
LdP2B refers to 'Load Project to Buffer'.

This function allows you copy tone data from different source locations (Internal Memory 1/2, Factory Presets 1/2, SD card projects) to a temporary buffer. From this temporary working memory the selected tone data can be copied to a specified tone destination (TNDest), which corresponds to a group and tone number in the working project that is currently loaded. This function can be particularly useful when you want to copy tones from different projects to specific banks in a project you are working on.

When you execute SYS:LdP2B, the project source is displayed on the lower line of the LCD display and you can scroll through the available projects by the turning the encoder. After making the selection, push the encoder to copy the project data into the temporary buffer (working memory). The next screen that displays will prompt you to select a bank and tone number destination for the copy. Use the ◀/▶ buttons either side of the display to set the tone destination. The second line of the display shows the source tone for the copy. To change the source tone that you wish to copy, turn the encoder.

Ex. Selecting MyPrj2018 in a SD card

Ex. Selecting Factory Init



SYS: TnDest

The figures above refer to an example case when the tone source for SYS:Load LdP2B is Factory Init 1 (Factory Presets 1 / Version 1.20). To execute this load to buffer step of the process, press the encoder. A load progress graphic and message will be briefly displayed to confirm that Factory Presets 1 has been loaded to the temporary buffer.

The next screen that displays is for the SYS:TnDest step of the process. The group/tone A'01 blinks indicating that it is currently selected as copy destination. You can select 'Harmo Drum' as the source tone from Factory Preset 1 by turning the encoder. When you push the encoder, the group/tone value stops blinking indicating that the source tone has been copied to the destination tone.

If during this process you change the group/tone number for the tone destination, or if you change the tone source, the group/tone number on the upper line of the LCD display starts blinking again. This enables to you to continue the selection operations.
Pressing the [1 PITCH] button returns to the previous screen and the SYS: Load LdP2B step in the process. As described above, you can change the source project by turning the encoder and load it into the temporary buffer by pressing the encoder. Executing this moves forward to the SYS:TnDest step of the process again. This flexibility enables you to quickly select and copy tones from different project sources (Internal Memory, Factory Presets, SD card) into different group/tone number destinations in the working project. To return to play mode at any time, press the [5 EFFECT] button.

SYS : SDCardFormat

This operation formats (initializes) the SD card.

1. Insert an SD card into the aFrame that you want to format.

Display indication	Explanation
1 Files Exist	aFrame data files exist on the card. Check whether you really want to delete them.
No Mount SDCard!	No SD card is inserted. Insert an SD card.
Not Open SDCard!	The SD card is locked. Unlock it.

Note that the message 'No Mount SDCard!' may still display even when an unlocked SD/SDHC card is inserted. In this case, press the encoder wheel once to proceed to step 2.

2. A confirmation message appears in the display.
If you want to format the card, press ▶ (Yes). If you decide not to format the card, press ◀ (No).

SYS : AutoPowerOFF

This setting specifies the time after which the aFrame automatically powers-off.

1. Turn the encoder to specify the time after which the power turns off automatically.
The choices are 30 mins, 1hour, 2hours, 4hours, and DISABLE.
If you choose DISABLE, auto power-off is disabled; the power won't turn off automatically.

2. Press the [5 EFFECT] button to return to Play mode.

SYS : LCD Contrast

This setting adjusts the contrast of the display.

1. Turn the encoder to adjust the value.
The range is 0 - 255. The brightest setting is 255, and the darkest is 0.

2. Press the [5 EFFECT] button to return to Play mode.

SYS: Audio Output

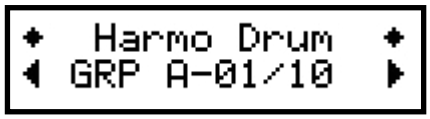
This setting switches the audio output between stereo and monaural. This setting applies to both the line output and headphone output signals.
As the figures below show, depending on the setting, the symbol displayed on either side of the tone name changes.

Stereo output: the symbol is a solid white diamond.

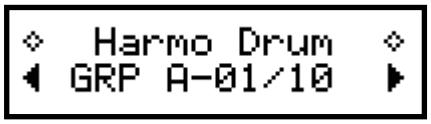
Monaural output: The symbol is a diamond border.

1. Turn the encoder to select STEREO or MONO. Use the MONO setting if you need mono output for a connected wireless device.

2. Press the [5 EFFECT] button to return to play mode.



[In the case of Mono output: the color of the symbol on both sides of an instrument name is changed to white]



SYS:SWAP SW L/R

This setting exchanges the functions of the buttons on the left and right of the aFrame.

1. Turn the encoder.

Value	Function
0	The left side is Tone Edit, and the right side is Group Select. This is the same configuration as printed on the aFrame.
1	The left side is Group Select, and the right side is Tone Edit. This is the opposite configuration from what is printed on the aFrame.

2. Press the [5 EFFECT] button to return to Play mode.

SYS : APP info

Here you can view information about the aFrame.

1. Turn the encoder. Information is displayed.

Display indication	Explanation
VER.1.00-BLD.001	aFrame firmware version
2017/01/01 12:34	Date on which the aFrame firmware was updated
POT:0d 12:34:56	Power On Time (time since the power was turned on)
POC:14times	Power On Count (number of times that the power was turned on)
CHC:123456times	Center Hitting Count (number of times that the center was struck more strongly than the prescribed level)
EHC:133333times	Edge Hitting Count (number of times that the edge was struck more strongly than the prescribed level)
PST:0d 00:02:50	Pressure Sens Time (cumulative time that the pressure sensor was pressed more strongly than the prescribed level)

*The values in the above table are examples. The values actually displayed will differ depending on the conditions of use.

Items other than the firmware version are saved when the aFrame is correctly shut down.

2. Press the [5 EFFECT] button to return to Play mode.

SYS:Get Time (Extension)

When this system edit function is executed, an aFrame with an RTC (Real Time Clock) circuit installed displays the time that is set using the system edit function SYS: Set Time.

(Note) The RTC circuit is not installed in the standard version of the aFrame.

Example display with RTC circuit:

The standard version of the aFrame without an RTC circuit displays the time elapsed since the last firmware update. When the aFrame is turned off, the time returns to the original time of the update.

Example display without RTC circuit:

SYS:Set Time (Extension)

To switch between the date (YYYY/ MM/DD), and time (HH:MM) values, use the ◀/▶ buttons either side of the display. Adjust the value by turning the encoder wheel. Push the encoder wheel to set the date and time. The menu then changes to the SYS:Get Time screen and the clock starts from 0 seconds (the day of the week is automatically set).

(Note) If the aFrame does not have an RTC circuit installed, then the date and time settings will be reset to the firmware update time and date when you turn off the aFrame.

SYS:Rec PlayLog (Extension)

This system setting activates a play log recording function.
Turn the encoder wheel to 'ON' or 'OFF' to activate or disengage play log recording.

(Note) In order for this function to work correctly, an RTC circuit should be installed and the date/time should be set. This is accurate dates and times can be recorded in the play log.

SYS:Test LED (for servicing)

This operation tests the LEDs.

1. Press the encoder. The test begins.

2. Press the [5 EFFECT] button to return to play mode.

SYS : Test EEPROM (for servicing)

This operation tests the EEPROM.

1. Push the encoder.
   The test starts.

2. Return to PLAY MODE by pushing the [5 EFFECT] button.

SYS:Test INTRAM (for service)

1. Push the encoder.
   The test starts.

2. Return to PLAY MODE by pushing the [5 EFFECT] button.

SYS:Adj Cnt.Sens (Freq, Gain, Q)

This setting adjusts the sensitivity of the center sensor.
The frequency (Freq), gain (Gain) and Q value (Q) can each be adjusted.

1. Turn the encoder to adjust the value.

2. Press the [5 EFFECT] button to return to play mode.

SYS : Adj EdgeSens (Freq, Gain, Q)

This setting adjusts the sensitivity of the edge sensor.
The frequency (Freq), gain (Gain) and Q value (Q) can each be adjusted.

1. Turn the encoder to adjust the value.

2. Press the [5 EFFECT] button to return to play mode.

SYS:Set PressMax

This setting adjusts the maximum value of the pressure sensor.

1. While watching the right-most value shown in the display, press the pressure sensor.

2. While continuing to press the pressure sensor, press the encoder

3. Press the [5 EFFECT] button to return to play mode.

SYS:Chk Pressure (for service)

This is the hardware adjustment screen to check the pressure sensor's minimum value.

1. Press the pressure sensor. You'll see the pressure value at that moment.

2. Press the [5 EFFECT] button to return to play mode.

Parameters List

Tone list (INT.Memory 1)

Tone group number	Instrument	Effect (algorithm)
GRP A-01/10	I01:Harmo Drum	E01:Harmo D.Rev (REV)
GRP A-02/10	I02:Hyper Pot	E02:Hyper P.Rev (REV)
GRP A-03/10	I03:Psyco Skin	E03:Psyco S.Rev (REV)
GRP A-04/10	I04:Spanky	E04:Spanky.Rev (REV)
GRP A-05/10	I05:Bessel Clone	E05:Bess.DlyP.S (DLY)
GRP A-06/10	I06:Stereo Skin	E06:S.Skin.Ambie (REV)
GRP A-07/10	I07:Incantation	E07:Incant.PhsPM (PHS)
GRP A-08/10	I08:BassOnBoard	E08:BassOnB.Rev (REV)
GRP A-09/10	I09:BalaPhonic	E09:BalaPh.DlyPM (DLY)
GRP A-10/10	I10:HarmoVoice	E10:HarmoV.Rev (REV)
GRP B-01/10	11:Quajon	E11:Quajon Rev (REV)
GRP B-02/10	I12:Taikology	E12:TaikologyRev (REV)
GRP B-03/10	I13:Bamboo Drum	E13:Bamboo Rev (REV)
GRP B-04/10	I14:Tunnel Drum	E14:Tunnel Rev (REV)
GRP B-05/10	I15:Framey	E15:Framey Rev (REV)
GRP B-06/10	I16:Goblet Drum	E16:GobletD.Rev (REV)
GRP B-07/10	I17:Candeiro	E17:Candeiro.Rev (REV)
GRP B-08/10	I18:Snappin'Kit	E18:Snappy Rev (REV)
GRP B-09/10	I19:MetalSurface	E19:MetalS.Rev (REV)
GRP B-10/10	I20:Paper Drum	E20:Paper D.Rev (REV)
GRP C-01/10	I21:NeoHarmoDrum	E21:NeoHarmD.Rev (REV)
GRP C-02/10	I22:DwarfOnGiant	E22:Dwarf.DlyP.S (DLY)
GRP C-03/10	I23:ParticleDrum	E23:ParD.PresRev (REV)
GRP C-04/10	I24:DrumDroid	E24:DrmDroid.Cho (CHO)
GRP C-05/10	I25:CrazyMetal	E25:CrazyM.Rev (REV)
GRP C-06/10	I26:Fragile	E26:Frgi.DlyP.S (DLY)
GRP C-07/10	I27:OverDriven	E27:OverDriveRev (REV)
GRP C-08/10	I28:SpankEchoDrm	E28:SpED.PresRev (REV)
GRP C-09/10	I29:Micro Chat	E29:MiC.PresFlg (FLG)
GRP C-10/10	I30:WowWah!	E30:WohWah!Wah (WAH)
GRP D-01/10	I31:CtrlRev-/SD	E31:CtrlRevLevl- (REV)
GRP D-02/10	I32:CtrlRev+/BD	E32:CtrlRevLevl+ (REV)
GRP D-03/10	I33:CtrlDlyS/SD	E33:CtrlDlySend+ (DLY)
GRP D-04/10	I34:CtrlDly-/SD	E34:CtrlDlyTime- (DLY)
GRP D-05/10	I35:CtrlDly+/SD	E35:CtrlDlyTime+ (DLY)
GRP D-06/10	I36:CtrlPhsM/SD	E36:CtrlPhsManu+ (PHS)
GRP D-07/10	I37:CtrlFlgM/SD	E37:CtrlFlgManu+ (FLG)
GRP D-08/10	I38:CtrlWah/SD	E38:CtrlWah (WAH)
GRP D-09/10	I39:Chorus/Vib	E39:Chorus (CHO)
GRP D-10/10	I40:Naked	E40:Delay Zero (DLY)

Tone group number	Instrument	Effect (algorithm)
GRP A'01/10	I41:GlassyFrame	E41:GlassyFr.Rev (REV)
GRP A'02/10	I42:BurstingPot	E42:BurstPotPRev (REV)
GRP A'03/10	I43:DimensionDrm	E43:DmsnDr.Ambie (REV)
GRP A'04/10	I44:ElephantDrum	E44:ElephDrm.Rev (REV)
GRP A'05/10	I45:MosquitoDanz	E45:MosquitoDLY (DLY)
GRP A'06/10	I46:MarsOceanDrm	E46:MarsOceanCho (CHO)
GRP A'07/10	I47:NomadExpress	E47:NomdExpRev (REV)
GRP A'08/10	I48:MetaKendang	E48:MetKnd.Rev (REV)
GRP A'09/10	I49:CosmicTampra	E49:CosTampRev (REV)
GRP A'10/10	I50:Sanctuary	E50:SanctuaryRev (REV)
GRP B'01/10	I51:Shekerekka	E51:Shkrkk.Rev (REV)
GRP B'02/10	I52:MonsterTom	E52:MonsterTRev (REV)
GRP B'03/10	I53:YosackDance	E53:YosackRev (REV)
GRP B'04/10	I54:BendirQuaked	E54:BendirQ_.Cho (CHO)
GRP B'05/10	I55:Framey2	E55:Framey2Rev. (REV)
GRP B'06/10	I56:Kanjirretta	E56:Kanjirtt_REV (REV)
GRP B'07/10	I57:BangBourin	E57:BangBour.Rev (REV)
GRP B'08/10	I58:GlassyTab1a	E58:GlassTabRev (REV)
GRP B'09/10	I59:Kengerhythm	E59:Kengari._REV (REV)
GRP B'10/10	I60:AsianFesta	E60:AsianFesRev (REV)
GRP C'01/10	I61:Enchanted	E61:Enchnt.Ambie (REV)
GRP C'02/10	I62:CaveExplorer	E62:CavExPresRev (REV)
GRP C'03/10	I63:PrayingGong	E63:PryGgPresRev (REV)
GRP C'04/10	I64:PunkyDroid	E64:PunkyDrd_DLY (DLY)
GRP C'05/10	I65:Alien'sCuica	E65:AlienCuiTDLY (MDLY)
GRP C'06/10	I66:VolcanoDance	E66:VolcanD.Rev (REV)
GRP C'07/10	I67:Harmo-Flare	E67:HrmFlrPdlyPS (DLY)
GRP C'08/10	I68:CritterYodel	E68:CrittPresRev (REV)
GRP C'09/10	I69:SlimyStroke	E69:SlmyPresFlg (FLG)
GRP C'10/10	I70:Drum Whippy	E70:DrmWhip/Wah (WAH)
GRP D'01/10	I71:Flex-Ambient	E71:FlxAmbRvLev- (REV)
GRP D'02/10	I72:Underground	E72:UdGrdRevLev+ (REV)
GRP D'03/10	I73:ClockwiseDrm	E73:Cloc.DlyP.S (DLY)
GRP D'04/10	I74:Tablatron	E74:TblTroDlyTm- (DLY)
GRP D'05/10	I75:FaintInCoils	E75:FaintDlyT+ (DLY)
GRP D'06/10	I76:ThirdEarDrum	E76:3rdEarPhsMn+ (PHS)
GRP D'07/10	I77:VeggieDrum	E77:MTDlyVegiDrm (MDLY)
GRP D'08/10	I78:ThunderStorm	E78:MTDlyThunder (MDLY)
GRP D'09/10	I79:Li'lEmperor	E79:ChorusEmpero (CHO)
GRP D'10/10	I80:TribeTriplet	E80:Tribe_DlyP.S (DLY)

Tone list (INT.Memory 2)

Tone group number	Instrument	Effect (algorithm)	
GRP A-01/10	I01:SnappyFramey	E01:SnapFrameRev	(REV)
GRP A-02/10	I02:GrowlingPot	E02:GrowlPotRev	(REV)
GRP A-03/10	I03:3D MadTemple	E03:SpaceZMadTem	(SPACEZ)
GRP A-04/10	I04:SpankBass	E04:SpankB.Rev	(REV)
GRP A-05/10	I05:DeepSeaGong	E05:DeepSebGgRev	(REV)
GRP A-06/10	I06:WonderBell	E06:WonderBelRev	(REV)
GRP A-07/10	I07:TutTutDrum	E07:TuTuDrmDly	(DLY)
GRP A-08/10	I08:MetaGamelan	E08:MetaGamelDly	(DLY)
GRP A-09/10	I09:AquaForest	E09:AquaFrstTDLY	(MDLY)
GRP A-10/10	I10:VentD'Orient	E10:Ventor.Rev	(REV)
GRP B-01/10	I11:LogPrimitive	E11:LogPrimtvRev	(REV)
GRP B-02/10	I12:TaikoTribe	E12:TaikoTribRev	(REV)
GRP B-03/10	I13:DrumNative	E13:DrumNativRev	(REV)
GRP B-04/10	I14:DrumInfinity	E14:DrumInfiRev	(REV)
GRP B-05/10	I15:Framey3D	E15:SpaceZFramey	(SPACEZ)
GRP B-06/10	I16:Goblet Drum2	E16:GobletD2Rev	(REV)
GRP B-07/10	I17:HyperKanjira	E17:HypKanjr_REV	(REV)
GRP B-08/10	I18:ScatterDrums	E18:ScatterDrRev	(REV)
GRP B-09/10	I19:PuppyBell	E19:PuppyB.Rev	(REV)
GRP B-10/10	I20:StompBlues	E20:StompRev	(REV)
GRP C-01/10	I21:HocusPocus	E21:HocusP.Rev	(REV)
GRP C-02/10	I22:Sequentials	E22:SequentialPh	(PHS)
GRP C-03/10	I23:ElectroDrive	E23:ElecDrivRev	(REV)
GRP C-04/10	I24:SynapseDance	E24:Synapse.Rev	(REV)
GRP C-05/10	I25:LimeGrotto	E25:LimeGrt.Rev	(REV)
GRP C-06/10	I26:RockGalaxy	E26:RockGlxyDlyP	(DLY)
GRP C-07/10	I27:HellContinuo	E27:HellContRev	(REV)
GRP C-08/10	I28:WormSwarm	E28:WormSwormFlg	(FLG)
GRP C-09/10	I29:DrumnCartoon	E29:DrmCartnFlg	(FLG)
GRP C-10/10	I30:GummyWahWah	E30:GummyWh/Wah	(WAH)
GRP D-01/10	I31:BeastCave	E31:BeastCaveRv-	(REV)
GRP D-02/10	I32:BlackSahara	E32:BlackRevLev+	(REV)
GRP D-03/10	I33:TwinklingDrm	E33:TwinkleDly.	(DLY)
GRP D-04/10	I34:SingingBug	E34:SingBgDlyP.S	(DLY)
GRP D-05/10	I35:RubberDrum	E35:RubbDlyTime+	(DLY)
GRP D-06/10	I36:CelluloiDrum	E36:CelluloidWah	(WAH)
GRP D-07/10	I37:MatrixAsia	E37:MatrixTapDly	(MDLY)
GRP D-08/10	I38:aMaze!	E38:aMaze.Rev	(REV)
GRP D-09/10	I39:Canterbury5	E39:CanterbryCho	(CHO)
GRP D-10/10	I40:Sample&Mold	E40:S&MoldDelay	(DLY)

Tone group number	Instrument	Effect (algorithm)	
GRP A'01/10	I41:SlappinFrame	E41:SlapFram.Rev	(REV)
GRP A'02/10	I42:RetroFuture	E42:Retro.Rev	(REV)
GRP A'03/10	I43:LiquidBowl	E43:LiquidChorus	(CHO)
GRP A'04/10	I44:BassOnIce	E44:BassOnI.Rev	(REV)
GRP A'05/10	I45:CosmicSamba	E45:CosmSambPRev	(REV)
GRP A'06/10	I46:DizzyBells	E46:DizzyB.Rev	(REV)
GRP A'07/10	I47:SledgeHammer	E47:SpaceZSlgHmr	(SPACEZ)
GRP A'08/10	I48:TechAncient	E48:TebhAnct_DLY	(DLY)
GRP A'09/10	I49:CastingSpell	E49:CstSpPresRev	(REV)
GRP A'10/10	I50:Magic Lamp	E50:MagicPhsMn+	(PHS)
GRP B'01/10	I51:CaPhone	E51:CaphoneRev	(REV)
GRP B'02/10	I52:TwitterSamba	E52:TweetSambaRv	(REV)
GRP B'03/10	I53:JungleCall	E53:JungleCallRv	(REV)
GRP B'04/10	I54:DevilDrum	E54:DevilDrm.Cho	(CHO)
GRP B'05/10	I55:SnowFrame	E55:SnowFrameRev	(REV)
GRP B'06/10	I56:BuzzBukaDrum	E56:BuzzBukD.Rev	(REV)
GRP B'07/10	I57:Bamboorin	E57:Bamboorn.Rev	(REV)
GRP B'08/10	I58:Rock'n'Roar	E58:RockRoarRev	(REV)
GRP B'09/10	I59:ClusterGong	E59:ClustGng_REV	(REV)
GRP B'10/10	I60:HystericDrum	E60:Hysteric.Cho	(CHO)
GRP C'01/10	I61:HyperAsia 3D	E61:SpaceRHypAsa	(SPACER)
GRP C'02/10	I62:Basstronics	E62:BasstrPhaser	(PHS)
GRP C'03/10	I63:AsianDelight	E63:AsiaDelDly	(DLY)
GRP C'04/10	I64:WickedStairs	E64:Wicked.Rev	(REV)
GRP C'05/10	I65:Circuit Cave	E65:CircCavePRev	(REV)
GRP C'06/10	I66:Warping Gong	E66:WarpGongPhsP	(PHS)
GRP C'07/10	I67:ElectroSnake	E67:SpaceRElecSn	(SPACER)
GRP C'08/10	I68:3D Labyrinth	E68:SpaceRLabyrn	(SPACER)
GRP C'09/10	I69:BubbleDrummy	E69:BubbleDrmFlg	(FLG)
GRP C'10/10	I70:FrogSingers	E70:FrogSingWah	(WAH)
GRP D'01/10	I71:Blast Cell	E71:BlastCellRev	(REV)
GRP D'02/10	I72:ExplodeCajon	E72:ExpCj.PresRv	(REV)
GRP D'03/10	I73:ShamiTechno	E73:ShamiTechDLY	(DLY)
GRP D'04/10	I74:X-Capoeira	E74:XCapoDlyT+	(DLY)
GRP D'05/10	I75:RewindIt	E75:RewiDlyTime+	(DLY)
GRP D'06/10	I76:WeirdJawHarp	E76:WrdJPhsManu+	(PHS)
GRP D'07/10	I77:Bugs&Birds	E77:BugBird.PRev	(REV)
GRP D'08/10	I78:PsychicDrum	E78:PsychoChorus	(CHO)
GRP D'09/10	I79:GetFiltered	E79:FilteredWah	(WAH)
GRP D'10/10	I80:HurtlingDrum	E80:HurtlngDelay	(DLY)

Instrument List

A Neo-acoustic	Sounds that illustrate the electrorganic character of the aFrame
Harmo Drum	This tone is created by stacking the natural overtones of a single timbre. This is the basic sound of the aFrame. A wide variety of tones can be created using this sound as a starting point.
Hyper Pot	This tone utilizes a timbre balance that responds to both the center and edge sensor, providing different characters depending on the location of the strike. With these settings, pressure mutes only the low-frequency sound.
Psycho Skin	While this is a sound that does not exist in the acoustic world, you can obtain a nuanced performance by scratching and pressing the instrument. Although it only uses two timbres, it has a good deal of variation.
Spanky	This tone is based mainly on the third extra timbre, which generates special sounds such as noise. Further sound-design potential is available by editing the main and sub-timbre parameters.
Bessel Clone	This tone was created using an overtone structure that reproduces the tonal quality of a Japanese drum. This tone is a great one to use as a starting point for creating new sounds. Since pressure triggers a one-second delay, it's perfect to use for creating loops.
Stereo Skin	Here, two timbres are deliberately set to very similar sounds and are stereo-panned to left and right, creating a unique chorus effect.
Incantation	With this tone, pressure controls the pitch and the phaser depth separately for each timbre, producing an effect reminiscent of a jaw harp.
BassOnBoard	This is a bass sound in which pressure bends the octave up. The sub-timbre is used to produce a subtle attack. Its simple parameter settings leave room to create more complex sounds.
BalaPhonic	This is a variation of a xylophone-like sound. In addition to two stacked pitches, it uses a noise component to add an ethnic feel. Pressure changes the pitch in stair-step fashion by second, fourth, fifth, and octave intervals.
HarmoVoice	This is an Asian-type effect sound. Pressure changes the pitch through a minor scale, and an interesting worldview opens up when you simply stroke the instrument while varying the pressure.

B Acoustic	Sounds that simulate the characteristics of various acoustic sounds
Quajon	Three timbres are used to create the low-pitch, attack, and snare components of this tone. You can also create a wide variety of sounds by using this as the starting point for editing. This is a very acoustic sounding instrument.
Taikology	This sound envisions a Japanese drum, with the combination of low sound together with the high sound of the frame. Ambience adds body resonance and a sense of presence.
Bamboo Drum	This Japanese-type sound is inspired by the aFrame's bamboo frame. It is distinctive because a slight change in pitch occurs with different strike strengths. Since it consists of only a single timbre, you can create original tones by adding other timbre layers.
Tunnel Drum	This tone is based on the contrast of an ultra-low sound and a high-pitched woody sound, with spatial depth added by a high-quality, ultra-long reverb. This tone's sound is produced by a powerful combination of instrument and effect.
Framey	This tone's sound simulates the vibration pattern of a simple frame drum. Pressure provides muting and subtle pitch change, giving a realistic performance feel.
Goblet Drum	This tone evokes images of a vase-shaped drum of the middle east. Its features are the contrast between the low sound of the center, the high sound of the edge, and the subtle timbral changes produced by pressure on the playing surface.
Candeiro	This sound has the qualities of a tambourine. The extra timbre creates the jingles and their complex overtones. The extra timbre is ideal for spicing-up a sound.
Snappin'Kit	This adds the sound of a kick to a snare drum. When pressure is applied, the sound of the kick is muted, letting you combine a brush snare with a kick.
MetalSurface	This simulates a metallic sound. Subtle touches and scrapes will give you the same feel as actual metal. Since this sound consists of just a single timbre, you can create even more complex sounds.
PaperDrum	This snare rattle sound subtly changes in response to the strike location and strength of your strikes. The sound design relies heavily on the extra timbre.

Instrument List

C Electronic	Sounds that, while electronic, provide the same performance experience as an acoustic instrument
NeoHarmoDrum	Based on the most basic HarmDrum, this is an electronic sound that expands the expressive potential by using multiple timbres, as well as muting and pitch controlled by pressure.
DwarfOnGiant	Overdrive adds expression to the low sound of the main timbre, while the extreme high sound changes dramatically in response to dynamics and pressure. Delay effect is applied only to the high sound.
ParticleDrum	A low sound with a distinctively metallic overtone structure is assigned to the main timbre, and pressure controls the reverb send level for only the high sound. While playing this instrument, you can selectively apply the reverb.
DrumDroid	This is a unique tone based on the extra timbre, producing an electronic sound that's like nothing you've ever heard. It has limitless sound-design potential.
CrazyMetal	This consists only of a metallic overtone structure, with an extremely high Q value that's just short of oscillation. It's a richly expressive sound that uses pressure to vary the timbre and pitch.
Fragile	This assigns similar sounds to two timbres and pans them to the left and right to create a chorus effect. For even more expression, use pressure to expand the stereo position of the panning delay.
OverDriven	In addition to an ultra-low sound with overdrive applied by dynamics, a clap sound is assigned to the edge, giving you a powerful EDM sound. You'll enjoy this new type of performance feel.
SpankEchoDrm	With a low sound assigned to the center and a noise-type sound assigned to the rim, you can use pressure to apply a reverb effect only to the noise-type sound. This enables expressive possibilities that were until now unavailable.
Micro Chat	By using pressure to control the manual parameter of the phaser, you can transform a normal Japanese drum sound into an enjoyable, expressive, and humorus "talking" sound.
WowWah!	Pressure applies a touch-wah effect to an electric guitar-like interval of a fifth. This is an extremely sensitive sound that changes dynamically when you scrape the instrument.

D Effect	Sample-type sounds where pressure controls the effect
CtrlRev-/SD	Pressure controls the level of the infinite reverb. You can mute the reverb by pressing. Try exchanging the snare sound of the instrument with another instrument to create new sounds.
CtrlRev+/BD	Pressure controls the reverb level. Since this sound applies reverb only while you are pressing, you can also control it like gated reverb or reverse reverb.
CtrlDlyS/SD	Pressure controls the delay level. Delay is applied only while you press the striking surface. It is possible to perform complex rhythms by controlling the delay.
CtrlDly-/SD	Pressure controls the delay time. Pressing the striking surface makes the delay time slower. You can produce a variety of effects by pressing after you strike, or by pressing, then striking and releasing.
CtrlDly+/SD	Pressure controls the delay time. Pressing the striking surface makes the delay time shorter. Delay settings can help create some unique sounds.
CtrlPhsM/SD	Pressure controls the manual parameter of the phaser. By using this to add expression to phrases, you can enjoy an even wider range of sound-shaping potential. This can be applied to a variety of instruments.
CtrlFlgM/SD	Pressure controls the manual parameter of the flanger. This adds expressiveness to phrases, expanding the sound-shaping potential. This can be applied to a variety of instruments.
CtrlWah/SD	Pressure produces a touch-wah effect. Wah played as a percussion instrument has distinctive expressive power, and allows an extremely dynamic performance.
Chorus/Vib	Several types of extremely high-quality chorus are built-in, expanding the sound-creation possibilities. Although this is a vibe-type sound, try it with a variety of instruments.
Naked	This is the sound of the striking surface itself. All sounds are created from here. By using EQ and skillful mixing, you can create even more rawness.

Instrument List

A' Neo-acoustic	Sounds that illustrate the electrorganic character of the aFrame
GlassyFrame	3 drum sound elements—low sound, high sound, and a strong attack—correspond to the mix of 3 timbres. The overall sound is metallic, but retains an organic skin-headed-drum character. The tone is both sensitive and expressive.
BurstingPot	A very unique tone, which combines a big bass sound in the center and a metallic noise at the edge. Press the surface to add a beautifully rich reverb. This tone showcases a new form of expressiveness.
DimensionDrum	This tone evokes the sound image of a huge, deformed metal plate. Excite rich overtones by gently scratching the surface. Pressure control adds new expressive qualities to the sound.
ElephantDrum	The dual oscillator XFM synthesis processing for the Extra timbre layer generates an expressive electronic sound. This tone demonstrates the powerful synthesis features and expanded parameters introduced in firmware 1.20.
MosquitoDanz	This tone features two contrasting timbre layers. When you strike the edge while pressing the surface, a 1 second continuous delay effect is triggered for the higher sound, but no delay is added to the bass sound. This emulates a looper pedal effect.
MarsOceanDrum	This tone simulates the character of an ocean drum, while tonally retaining a more electronic frame-drum sound. The sound is very responsive to both pressure and friction.
NomadExpress	This tone has a super low sound in the center, with a higher pitched sound playing a melodic scale under pressure control.In version 1.20 the number of scale types was expanded to 27 total. Also, each scale can be sequenced to ascend and descend in various ways with the introduction of scale control modes in version 2.00.
MetaKundang	Inspired by an Indonesian Gamelan double-headed drum, this sound applies the new short tap delay parameters to the Sub and Extra timbres to harness even more expressive possibilities.
CosmicTampura	The Main and Sub timbres have similar overtone orders and types, and are panned to the left and right respectively. The tone and stereo image change expressively in response to delicate playing.
Sanctuary	This tone is derived from the vibraphone overtone model. The pitch changes with pressure, using one of 27 scale types available. The new tone Note/Cent tuning parameter makes for easy key transposition.

B' Acoustic	Sounds that simulate the characteristics of various acoustic sounds
Shekerekka	This tone simulates a Shekere, but with a different expression. The response feels and sounds natural, and is comfortable to play with the hands and fingers, just like a hand drum.
MonsterTom	This aggressive tom-tom sound has pitch controlled by pressure. It is easy to edit the range of pitch-bend up and pitch-bend down, as well as decay time.
YosackDance	Simulates a Vibraslap using new parameters found in v1.2 firmware. New minus value parameters in mute and tap delay bring added possibilities to sound creation and playability.
BendirQuaked	Inspired by the Bendir, a North African frame drum. The sound changes depending on where the surface is hit and muting pressure. There is an enormous amount of sound color.
Framey2	A variation of the frame drum (A06) sound, but with more of a Central Asian influence. It has a realistic acoustic-like playing feel.
Kanjiretta	This tone blends characters of the South Indian Kanjira drum and an Asian cymbal. It extends the expressiveness of the acoustic instruments that inspired its creation.
BangBourine	Created while imagining a huge tambourine. With the new parameter mute minus value, you get one jingle sound while pressing the surface. This effect can be used as a snare sound.
GlassyTabla	Inspired by North Indian Tabla. It is very sensitive to the touch. Pitch control via pressure on the low drum sound responds well to any playing style.
Kengarhythm	Simulates a small Korean Kwenggari gong, which has a unique deep sound character. This dynamic and brilliant sound changes dramatically when played with finger tips, nails, or palm of the hand.
AsianFesta	This tone was created while imagining an East Asian folk festival. Melodic expression using pressure control allows you to play a pentatonic scale with a sound rich in overtones.

Instrument List

C' Electronic	Sounds that, while electronic, provide the same performance experience as an acoustic instrument
Enchanted	Even though this electronic sound has metallic + noise elements, the acoustic elements give it an organic feel. The high-quality reverb adds even more magic to the tone.
CaveExplorer	The aFrame has enormous potential for post-production work on sound effects, TV/Video/Film scores, and visual arts sound design. The tone's many parameters allow you to create a never-heard-before sonic palette.
PrayingGong	Expressiveness is a must for this type of gong sound. The aFrame can easily control this type of nuanced expression using dynamics and pressure.
PunkyDroid	This electronic tone has a mechanical quality that uses a short delay to create a funky groove.The aFrame's unique processing gives the sound much more expressiveness than other electronic instruments.
Alien'sCuica	To create this crazy Cuica sound, we used many of the new firmware 1.2 parameters, such as the dual oscillator XFM synthesis processing for the Extra Timbre, minus value settings for pressure pitch and mute control parameters, as well as the multi-tap delay effect.
VolcanoDance	This tone is perfect when creating soundscapes for visual productions. The super-low explosive sound and deep reverb can be muffled by pressure. Pressure reverb mute is a new expression experience.
Harmo-Flare	Firmware v1.2 enables simultaneous, bi-directional pitch and scale control. It is easy to create interesting and complex harmonic combinations using these new parameters.
CritterYodel	In this tone, each timbre uses the full range of overtones. This, coupled with the delay tap parameter, creates an eerie soundscape; imagine the haunting call of an unknown creature, emanating from an alien world.
SlimyStroke	aFrame built-in effects can be controlled by pressure. In this tone, pressure controls the manual value of the flanger effect. It can best be described as a comical percussive effect with amazing expressiveness.
DrumWhippy	It's fun to play this funky tone! Pressure controls the manual value of the Wow effect, bringing super-wide dynamics that respond your every touch.

D' Effect	Sounds that have pressure controlled effect
FlexAmbient	Pressure controlled reverb level is a new type of expressiveness. Muting the infinity reverb effect is an interesting expression.
Underground	This tone uses the pressure effect control - more pressure, more reverb. Depending on how hard you press, you will get the gated reverb or reverse reverb effect.
ClockwiseDrum	Panning delay level is controlled by pressure and only affects the high-pitched sound on the edge. It doesn't affect the bass tone in the center.
Tablatron	Pressure controls delay time, a new way to experience expression. Delay time speeds up with increased pressure.
FaintingCoils	Delay time slows with increased surface pressure. This unique effect is a new and different kind of expressiveness.
ThirdEarDrum	Manual value of the Phaser effect is controlled by pressure, acting like a filter control on white noise. Using pressure, the pitch of the bass follows an Arabic minor scale.
VeggieDrum	A typical Clap sound. It uses a mute tap delay (with 12 steps of editable time) and pan level. All of these can be gradually muted by increased pressure.
ThunderStorm	By using delay tap with a minus value and the fluctuation parameter in Extra timbre, you can create a complex decay and release effect.The multi-tap delay brings even more complexity.
LittleEmperor	The dual oscillator XFM synthesis processing for the Extra timbre creates a synthetic sound. The marimba sound of Main and Sub timbres is great for playing melodies. The high-quality, multi-layered chorus makes the tone alive with color.
TribeTriplet	Only the low noise sound triggers the pressure-controlled panning delay effect. The high-pitched woody sound is minimally effected. The delay creates polyrhythmic interaction.

Instrument List

A Neo-acoustic	Sounds that illustrate the electrorganic character of the aFrame
SnappyFrame	A frame drum-like tone with a snappy sound. It's easy to edit the pitch, and adjust the muting nuance to create a sound with a snappy decay.
GrowlingPot	Inspired by a pot drum, the bass sound seems to growls when you articulate changes in pressure. The high-pitched sound at the edge is sensitive to touch and rich in overtones. Adjusting the mute parameter range (-100 to +100) allows you to get variations In the touch feeling.
3DMadTemple	The same sound is set for the main and sub timbres, but the pitch changes in opposite directions in response to pressure, thus creating a phase shift effect. The new 3D spatial sound effect 'Space Z' is used to produce extreme panning effects that really expand the sense of space.
SpankBass	The tone combines a distorted bass sound and edgy rim sound. A rich dynamic range is produced by the rim sound when you articulate pressure control. This effect is controlled by the negative value setting for the mute parameter.
DeepSeaGong	A strange gong sound with pitch shifting controlled by pressure. The extra timbre's irregular delay tap effect enhances this unique sound.
WonderBell	A bell sound rich in overtones. The pitch and panning of each timbre changes differently with pressure control producing a strange soundscape.
TutTutDrum	A bass+noise tone with a short delay and added ambience. Combining these effects with the compressor, a powerful heavy bass sound is produced.
MetaGamelan	A Gamelan gong ensemble inspired this tone. The tone utilizes the new 'pressure scale control' feature, and the addition of a delay effect helps to build a complex gong soundscape.
AquaForest	A primitive sounding drum with deep ambience. A variety of tonal effects are created by articulating pressure to control a tap delay and the timbre layer's level.
VentD'Orient	This complex tone incorporates a main timbre bass drum sound and a sub timbre sound that adds a pressure-controlled melody. A two-voice harmony is created with the addition of the extra timbre that changes its pitch and panning position according to pressure. Melody, harmony and rhythm are all controllable with one playing surface!

B Acoustic	Sounds that simulate the characteristics of various acoustic sounds
LogPrimitive	A big log drum sound. The wooden character of the timbre changes in response to pressure, giving this tone a wide dynamic range that is emphasized by a beautiful natural-sounding reverb.
TaikoTribe	A classic Japanese Taiko sound. The natural resonance is reinforced by the dry timbre, and a subtle metallic resonance produced by the extra timbre is used to draw out the hidden essence of this drum.
DrumNative	This tone simulates the sound of a very simple and primitive one side-headed hand drum, replicating the natural feeling of its dynamic response, muting, and overtones. A natural ambience effect is added by pressure control.
DrumInfinity	This super low bass sound has a pronounced wooden tonality emphasized by crystal clear long reverb. This exciting tone creates a vast soundscape image.
Framey3D	This tone simulates the resonances of a simple frame drum. By adding a 3D spatialization effect, a vivid realistic sound image is produced.
GobletDrum2	Another kind of goblet drum that has a focused bass layer and a clear sounding high layer. This tone has a more wooden character than Goblet Drum 1.
HyperKanjira	This tone extends the sound character of South Indian frame drum - Kanjira style. The pitch and sound character dynamically change according to touch and pressure variations.
ScatterDrum	This tone is close to a Kick + Snare sound. However, the expression will surprise you when the surface is pressed, with a R to L panning snare and snappy sound being produced.
PuppyBell	Playing dynamics affect the pitch of each timbre and the articulation of pressure alters the mix combination of timbres to emulate the strange and complex character of bell sounds.
StompBlues	A huge frame drum sound combined with a pressure-controlled tone that generates melodic bluesy lines.

Instrument List

C Electronic	Sounds that, while electronic, provide the same performance experience as an acoustic instrument
HocusPocus	An exotic synthesized sound is mapped to an Arabic scale.Pressure scale control articulates expressive melodic cascades and also widens the stereo pan image of the sounds enriched with reverb.
Sequentials	A synthetic bass sound is processed with a phaser effect. This pressure controlled harmonic sound also features a percussive sound at the edge. You can expressively play with all these different tonal characters at the same time on the one surface.
ElectricDrive	An electric-mechanical sound. The new pressure control features allow you to control random pitches and pan positions for the musical scale you set. This combination offers a new expressive experience for percussionists.
SynapseDance	The sequence of tones for each timbre moves differently through the scale types you set. Expressive control of pressure creates a very complex set of melodic and harmonic interactions.
LimeGrotto	The tone has a very unique sound character with negative values for mute control and a rich reverb with long early reflections. Explore subtle changes in touch and pressure to discover how the sound character changes.
RockGalaxy	This tone combines 3 different synthetic sounds with delay effects. Amazing expression over pitch and pan position motion can be articulated by pressure control.
HellContinuo	An overdriven sound is combined with an XFM synthesized sound that uses a sawtooth waveform for both oscillators.This produces a 'dangerous' sound that is on the verge of generating feedback.
WormSwarm	A synthesized sound generated by the extra timbre is processed using a stereo flanger effect. Pressure control over the flanger produces a unique sonic effect.
Drum'n'Cartoon	This quirky aFrame tone showcases a powerful combination of instrument layers with an effect. In this case, the pressure-controlled flanger is a perfect fit for the instrument timbre.
GummyWahwah	With this tone, pressure control works like a wah pedal. The funky expressive sound is responsive to a range of strokes, dynamics and playing speed.

D Effect	Sounds that have pressure controlled effect
BeastCave	The level of the long reverb effect for this ambient tone is controllable by pressure. New forms of spatial expression are possible because the reverb effect can also be muted by pressure control.
BlackSahara	For this tone, the long reverb effect increases when you articulate pressure control. The volume level of extra timbre is also controlled by pressure, producing overall, a velocity-sensitive crossfade effect.
TwinklingDrum	Pressure control applied to just the edge sound produces panning delays and note pitch changes that follow the selected scale type. The produced effect emulates a 'sound on sound' style soundscape created using a looper pedal.
SingingBug	The higher pitched tone is processed using a panning delay, with the delay time mapped to changes in pressure. The pitch of the lower tone changes randomly with each strike when pressure is applied to the surface.
RubberDrum	The delay time of the effect increases depending on the amount of pressure that is applied to the surface. A pitch bend effect is also controlled by variations in pressure.
CelluloiDrum	This comical sounding tone is created using a pressure controlled wah effect. The panning of the sound is also controlled by pressure.
MatrixAsia	This tone showcases the expressive capabilities of the aFrame's multi tap delay effect. It is possible to independently set the delay time, level and pan for each of the 10 delay taps.
aMaze!	This tone showcases the many sound design possibilities for mapping pressure control to different parameters, such as pitch, pan, as well as the volume level for effects and the instrument timbre layers.
Canterbury5	Each timbre layer in this tone has a different harmonically related root pitch. This opens up limitless possibilities for harmony and melodic effects as each timbre's scale type and pressure scale control type can be set independently.
Sample&Mold	The combination of sub and extra timbres with different delay tap values and pressure scale control settings produces a really unique expressive tone.

Instrument List

A' Neo-acoustic	Sounds that illustrate the electrorganic character of the aFrame
Slappin'Frame	This tone emulates the percussive and funky sound of slap bass with the right attack sound at the edge.
RetroFuture	This tone combines a bass, marimba and a synthetic sound. While pressing the surface, the note-pitch sequences and panning move independently following scales, or are triggered randomly.
LiquidBowl	This abstract tone evokes the sound image of water sloshing around a bowl in the kitchen! The combination of pitch shifting and mute controlled by pressure produce an unusual effect.
BassOnIce	The pitch of a powerful bass sound is lowered by pressure control. Two other timbres create an icy metallic timbre. The level of reverb and the width of the stereo image increase with the level of pressure applied to the surface.
CosmicSamba	The mute, scale and effect parameters for each timbre are set independently to yield a complex expressive sound that is sensitive to touch pressure on the surface.
DizzyBell	This tone fuses three different metallic sounds. By combining the pressure control parameters applied to each timbre, a truly 'electrorganic' sound is produced.
SledgeHummer	A heavy distorted sound with a metallic edgy character. The stereo image widens and spreads 'outside' of the speakers due to the 3D spatialization processing of the Space Z effect.
TechAncient	This tone has an electronic, yet primitive sonic character with a triplet rhythm tap delay effect. This opens up possibilities for poly-rhythmic expression.
CastingSpell	This tone combines a primitive drum sound and a synthetic sound. Pressure scale control allows you to generate a melodic sequence while pressing the surface.
MagicLamp	An exotic sound is mapped to an Arabic scale and processed by a pressure sensitive phaser effect. This aFrame tone was inspired by the story of Aladdin and the Magic Lamp.

B' Acoustic	Sounds that simulate the characteristics of various acoustic sounds
CaPhone	A hybrid Cajon sound with a rich harmonic attack. This tone really showcases the unlimited sound design possibilities of timbre layer combinations.
TwitterSamba	This complex tone combines three distinct sounds – a bass drum, ago-go bells, and a whistle. Each layer is controlled differently by pressure. The overall soundscape impression is of a one-man Samba band!
JungleCall	This tone combines a sound with a wooden character and a birdcall sound processed with a rich, deep reverb. Pressure control articulates random panning effects.
DevilDrum	This simple, primitive drum sound has snappy, punchy quality. The setting of negative values for the mute controlling the extra timbre means that the noise sound gets a longer decay when you strike strongly.
SnowFrame	A frame drum sound with a deep reverb effect. The pan position and pitch of the extra timbre noise sound changes randomly while pressing the surface.
BuzzBukaDrum	This tone has a distorted buzzy bass sound at the center and a high-pitched sound at the edge. This tonal contrast between the center and edge is inspired by a Darabuka drum.
Bamboorine	A huge tambourine sound, but the pitch and pan position change randomly depending on the level of pressure applied to the surface. This tone is an interesting combination of an acoustic sound with electronic-sounding effects process.
Rock'n'Roar	This tone combines a bass drum sound with a mid-low tremolo drum sound processed by a tap delay effect. The overall effect sounds strange because the panning is controlled by pressure.
ClusterGong	A type of Korean gong called a "Kwenggari" inspires this tone. The trashy quality of the sound is highly sensitive and response over a wide dynamic range.
HystericDrum	A spring drum sound is blended with a synthetic sound to create a tone with unique character that is drawn out when pressing or scratching the surface.

Instrument List

C' Electronic	Sounds that, while electronic, provide the same performance experience as an acoustic instrument
HyperAsia 3D	Pressure control articulates melodies in an Asian pentatonic scale with a synthetic sound. The tone also features a cool 3D spatialization effect; the delayed sounds appear to revolve around the listener's head!
Basstronics	A powerful synth-Bass sound with a phaser effect that's perfect for electronica. Pressure control changes the pan position and note-pitch of the sound, allowing you to create interesting bass lines.
AsianDelight	This tone combines pressure control over scale tones as well as a panning delay effect, providing you with simultaneous harmonic and rhythmic expression.
WickedStairs	Each timbre is set to generate tones from a different scale when pressing the surface. The panning motion behavior of each timbre layer is also different. Depending on how you play, this tone can generate a really complex soundscape and spatial image.
CircuitCave	A tone with a distinct mechanical character. Pressure control increases the width of the stereo image and the level of reverb. This kind of panning and effect control by pressure is a unique feature of the aFrame.
WarpingGong	A very unique sounding synthetic gong sound that is processed by a phaser effect mapped to expressive pressure control. The random selection of pitches is also controlled by pressure.
ElectroSnake	A powerful lead synth sound is processed using a 3D spatialization effect that rotates the delayed sound around the space. The rotation speed is controlled by pressure.
3D Labyrinth	With pressure applied, this synth sound ascends and descends the scale while simultaneously rotating around the 3D sound field. Pressure control is also used to pan a different high-pitched sounds left to right.
BubbleDrummy	This tone gives you an amazing sense of control over the flanger effect. A completely new tone experience is produced when you touch and scratch the surface.
FrogSingers	Wah manual value, pitch and panning are controlled by pressure. Parameters in each timbre behaves differently to every touch.

D' Effect	Sounds that have pressure controlled effect
BlastCell	The pressure mute control is dramatically expressive. The pitch and panning of the sound change randomly with every stroke.
ExplodeCajon	A unique metallic cajon sound. A dense reverb effect is applied only when you press the surface. With this tone it is possible to produce interesting time & space effects like gated reverb or reverse reverb, depending on how you control pressure.
ShamiTechno	This tone is inspired by Japanese traditional folk music. Pressure control articulates different scales tones with a delay effect. With this tone you get a kind of one-man ensemble and a 'sound on sound' development of the soundscape.
X-Capoeira	The effect level can be set independently for each timbre to create interesting permutations on the tone. As a starting point for experimentation just one timbre is processed using a panning delay. The other timbres are unprocessed by the effect.
RewindIt	With this unusual sound effect tone, the pitch of one timbre pitch goes up in response to pressure control while and another goes down. This processing combined with pressure control over the delay speed, produces a "tape rewind" effect.
WeirdJawHarp	A jaw-harp like sound is processed by a pressure sensitive phaser effect. The whole tone scale type is set and the pitch-note sequence of each timbre goes up or down while pressing the surface.
Bugs&Birds	Three different sound effect layers are processed using a pressure sensitive reverb effect. The generated soundscape is very unique and unlike anything you've heard before!
PsychicDrum	This mysterious 'psychic' sound is processed by a six-phase chorus effect with additional ambience. The volume level, pitch and mute parameters of each timbre are pressure sensitive. The overall combination produces a very strange sound effect.
GetFiltered	The extra timbre synth sound is generated using ring modulation and a wah-effect low pass filter. The end product sounds like a powerful bass synthesizer.
HurtlingDrum	The unusual combination of a tap delay effect with negative value settings for mute control produces a kind of primitive drum machine effect that you trigger in real time.

Instrument edit parameters

Main Parameter		
Main In	C0/E100 -- C50/E50 -- C100/E0	Main Input Balance
MainOvt	Natural -- Organ (*1)	Main Overtone
MainHrmNo.	1 -- 32	Main Harmonics Number
MainTune	16 -- 12544Hz / C0/-50 -- G9/+49	Main Tuning
MainDcay	0.1 -- 10.0sec	Main Decay Time
Main HFD	-1.00 -- +1.00	Main High Frequency Damping
Main DQM	0 -- 200	Main Dynamics Q Modulation
Main DFM	-100 -- +100	Main Dynamics Frequency Modulation
Main PFM	-100 -- +100	Main Pressure Frequency Modulation
MainSC	OFF, MTriad -- Chrmtic(*3) P -- K (*4)	Main Pressure Pitch Scale Control
MainMute	-100 -- -1, OFF, ON(nnn), +1 -- +100	Main Pressure Mute Switch
Main OD	-100 -- +100	Main Over Drive

Sub Parameter		
Sub In	C0/E100 -- C50/E50 -- C100/E0	Sub Input Balance
Sub Ovt	Natural -- Organ (*1)	Sub Overtone
Sub HrmNo.	1 -- 32	Sub Harmonics Number
Sub Tune	16 -- 12544Hz / C0/-50 -- G9/+49	Sub Tuning
Sub Dcay	1 -- 3000ms	Sub Decay Time
Sub HFD	-1.00 -- +1.00	Sub High Frequency Damping
Sub DQM	0 -- 200	Sub Dynamics Q Modulation
Sub DFM	-100 -- 100	Sub Dynamics Frequency Modulation
Sub PFM	-100 -- 100	Sub Pressure Frequency Modulation
Sub SC	OFF, MTriad -- Chrmtic(*3) P -- K (*4)	Sub Pressure Pitch Scale Control
Sub Mute	-100 -- -1, OFF, ON(nnn), +1 -- +100	Sub Pressure Mute Switch
Sub OD	-100 -- +100	Sub Over Drive
Sub Delay	0 -- 200ms	Sub Delay Time
Sub D.Tap	0 -- 8	Sub Delay Tap Number

Extra Parameter		
Xtra In	C0/E100 -- C50/E50 -- C100/E0	Extra Input Balance
XtraType	WhiteNz -- Jx SxR (*2)	Extra Type
XtraTune	16 -- 12544Hz / C0/-50 -- G9/+49	Extra Tuning
XtraDcay	1 -- 3000ms	Extra Decay Time
XtraHold	0 -- 500ms	Extra Hold Time
XtraFltQ	0.5 -- 16.0	Extra Filter Q
Xtra DQM	0 -- 200	Extra Dynamics Q Modulation
Xtra DFM	-100 -- +100	Extra Dynamics Frequency Modulation
Xtra PFM	-100 -- +100	Extra Pressure Frequency Modulation
XtraMute	-100 -- -1, OFF, ON(nnn), +1 -- +100	Extra Pressure Mute Switch
XtraDelay	0 -- 200ms	Extra Decay Time
XtraD.Tap	-3000 -- 8	Extra Delay Tap Number
XtraD.Fluct	0 -- 100	Extra Delay Fluctuation (Time & Level)
XtraD.Atck	0 -- 200ms	Extra Delay Attack Time
XtraD.Dcay	1 -- 999ms	Extra Delay Decay Time
XtraJxF.Type	LPF, HPF, BPF	Extra JingleX Filter Type
XtraJxFR	16 -- 12544Hz / 0.10 -- 10.00	Extra JingleX Filter Frequency/Ratio
XtraJxMR	1 -- 12544Hz / 0.10 -- 10.00	Extra JingleX Modulator OSC Frequency/Ratio
XtraJxXFMod	-100 -- +100	Extra JingleX X-Frequency Modulation
XtraJxCarLev	0 -- 127(100: 0dB, 127: +6dB)	Extra JingleX Carriery Output Level
XtraJxModLev	0 -- 127(100: 0dB, 127: +6dB)	Extra JingleX Modulator Output Level
XtraJxRingLv	0 -- 127(100: 0dB, 127: +6dB)	Extra Jinglex Ring Modulation Output Level
XtraSC	OFF, MTriad -- Chrmtic(*3) P -- K (*4)	Extra Pressure Pitch Scale Control
XtraBoost	0 -- 100(0.0 dB -- 20.0 dB)	Extra Boost

Dry Signal Parameter		
DryC.EqF	20 -- 20000Hz	Dry Center Signal EQ Frequency
DryC.EqG	-18.0 -- +18.0	Dry Center Signal EQ Gain
DryC.EqQ	0.5 -- 16.0	Dry Center Signal EQ Q
DryE.EqF	20 -- 20000Hz	Dry Edge Signal EQ Frequency
DryE.EqG	-18.0 -- +18.0	Dry Edge Signal EQ Gain
DryE.EqQ	0.5 -- 16.0	Dry Edge Signal EQ Q
CentrLPF	20 -- 20000Hz	Center Input LPF Frequency
Edge HPF	20 -- 20000Hz	Edge Input HPF Frequency

Pressure Parameter		
Mute Sens	0 -- 100	Pressure Mute Sens
Mute Mask	0 -- 500ms	Pressure Mute Mask
Mute Dcay	0 -- 100	Pressure Mute Dcay
Bend Curve	A0 -- A8	Pressure Bend Curve

Mixer Parameter		
MixMain Pan	L63 -- C00 -- R63 --, +R -- ↘ (*5)	Mixer Main Pan Mixer Main Pan Pressure Control
MixSub Pan	L63 -- C00 -- R63 --, +R -- ↘ (*5)	Mixer Sub Pan Mixer Sub Pan Pressure Control
MixXtra Pan	L63 -- C00 -- R63 --, +R -- ↘ (*5)	Mixer Extra Pan Mixer Extra Pan Pressure Control
MixDryCPan	L63 -- C00 -- R63	Mixer Dry Center Pan
MixDryEPan	L63 -- C00 -- R63	Mixer Dry Edge Pan
MixMainLev	0 -- 127 (100:0dB, 127:+6dB) --, P+, P− (*6)	Mixer Main Level Mixer Main Level Pressure Control
MixSubLev	0 -- 127 (100:0dB, 127:+6dB) --, P+, P− (*6)	Mixer Sub Level Mixer Sub Level Pressure Control
MixXtraLev	0 -- 127 (100:0dB, 127:+6dB) --, P+, P− (*6)	Mixer Extra Level Mixer Extra Level Pressure Control
MixDryCLev	0 -- 127 (100:0dB, 127:+6dB)	Mixer Dry Center Level
MixDryELev	0 -- 127 (100:0dB, 127:+6dB)	Mixer Dry Edge Level
MixMainSnd	0 -- 127 (100:0dB, 127:+6dB) M+, M− (*7)	Mixer Main Effect Send Level Mixer Main Master Mix Bus Switch
MixSub Snd	0 -- 127 (100:0dB, 127:+6dB) M+, M− (*7)	Mixer Sub Effect Send Level Mixer Sub Master Mix Bus Switch
MixXtraSnd	0 -- 127 (100:0dB, 127:+6dB) M+, M− (*7)	Mixer Extra Effect Send Level Mixer Extra Master Mix Bus Switch
MixDryCSnd	0 -- 127 (100:0dB, 127:+6dB) M+, M− (*7)	Mixer Dry Center Effect Send Level
MixDryESnd	0 -- 127 (100:0dB, 127:+6dB) M+, M− (*7)	Mixer Dry Edge Effect Send Level
MixMasterLev	0 -- 127 (100:0dB, 127:+6dB)	Mixer Master Level
MixMasterBal	L63 -- C00 -- R63	Mixer Master Balance

*1 Overtone List

Tone	Description
Natural	Natural Number 1,2,3,4,5,,,,,
Odd No.	Odd Number 1,3,5,7,9,,,,,
PrimeNo.	Prime Number 1,3,5,7,11,13,,,,
BesselM0	Bessel Function Zero MODE(0)
BesselM1	Bessel Function Zero MODE(1)
BesselM2	Bessel Function Zero MODE(2)
BesselM3	Bessel Function Zero MODE(3)
BesselM4	Bessel Function Zero MODE(4)
BesselM5	Bessel Function Zero MODE(5)
BesselM6	Bessel Function Zero MODE(6)
BesselM7	Bessel Function Zero MODE(7)
Membran	Vibrations of Membranes Basic
MembrnH1	Vibrations of Membranes High1
MembrnH2	Vibrations of Membranes High2
MembrnH3	Vibrations of Membranes High3
MembrnH4	Vibrations of Membranes High4

Tone	Description
Taiko	Taiko(Japanese Drum)
KettleD	Kettle Drum
BassDrm	Bass Drum
Tom	Tom Tom
T.Head	Snare Drum Top Head
B.Head	Snare Drum Bottom Head
T+B Head	Snare Drum Top & Bottom Head
FryPan	Frypan
Cymbal	Cymbal
VibeLow	Vibraphone Low
VibeMid	Vibraphone Mid
VibeHigh	Vibraphone High
Glocken	Glockenspiel
Marimba	Marimba
Organ	Organ

*2 Extra Type

Type	Description
WhiteNz	White Noise
LPF Nz	White Noise with LPF
HPF Nz	White Noise with HPF
BPF Nz	White Noise with BPF
Jingle1	Jingle1 with BPF
Jingle2	Jingle2 with BPF
Jingle3	Jingle3 with BPF
Click1	Click1 Single Sine Wave
Click2	Click2 Dual Sine Wave(1 + 1.5)
Click3	Click3 4th Sine Wave (Wood)
Click4	Click4 6th Sine Wave (Metal)
Jx TxT	JingleX Dual Triangle Wave (Carrier & Modulator)
Jx RxR	JingleX Dual Rectangle Wave (Carrier & Modulator)
Jx SxS	JingleX Dual Saw Tooth Wave (Carrier & Modulator)
Jx TxR	JingleX Tri (Carrier) and Rect (Modulator)
Jx TxS	JingleX Tri (Carrier) and Saw (Modulator)
Jx RxT	JingleX Rect (Carrier) and Tri (Modulator)
Jx RxS	JingleX Rect (Carrier) and Saw (Modulator)
Jx SxT	JingleX Saw (Carrier) and Tri (Modulator)
Jx SxR	JingleX Saw (Carrier) and Rect (Modulator)

*3 Pressure Pitch Scale Control Parameter

Value	Description
OFF	OFF
MTriad	Major Triad
mTriad	minor Triad
MPenta	Major Penatatonic
mPenta	minor Penatatonic
MScale	Major Scale
mScale	minor Scale
Sus	Suspended
mHarmo	Harmonic minor Scale
mMelo	Melodic minor Scale
mBlues	minor Blues Scale
WholeT.	Wholetone Scale
Altered	Altered Scale
Lydian	Gregorian Mode Lydian
Dorian	Gregorian Mode Dorian
Phrygi.	Gregorian Mode Phrygian
Mxlydi.	Gregorian Mode Mixolydian
Arabic	Arabic Scale
MHungar	Major Hungarian Scale
mHungar	minor Hungarian Scale
Hindu	Hindu Scale
Ryukyu	Japanese Ryukyu Scale
Minnyou	Japanese Minnyou Scale
Miyako	Japanese Miyako Scale
Ritsu1	China Ritsu1 Scale
Ritsu2	China Ritsu2 Scale
Ryo	China Ryo Scale
5th	5th
Octave	Octave
Chrmtic	Chromatic Scale

*4 MainSC/SubSC/XtraSC Parameter

Value	Description
	Pressure Scale Control Up
	Pressure Scale Control Down
	Random, Note Up
	Random, Note Down
	Random, Note Down
	Sequence Up
	Sequence Down
	Sequence Up Down
	Sequence Down Up
	Skip Up
	Skip Down
	Skip Up Down
	Skip Down Up

*5 MixMainPan, MixSub Pan, MixXtraPan Parameter

Value	Description
	Control Off
	Pressure +127
	Pressure -127
	Pressure +63
	Pressure -63
	Ping Pong L->R
	Ping Pong R->L
	Random +63
	Random -63
	Random +-63
	Pitch Up R Down L
	Pitch Up L Down R

***6 XMixMainLev, MixSub Lev, MixXtraLev Parameter**

Value	Description
- -	Control Off
P+	Pressure Control Volume Up
P-	Pressure Control Volume Down

***7 Mixer Section MASTER MIX BUS SW Parameter**

Value	Description
M+	Master Bus Switch On
M-	Master Bus Switch Off

Effect edit parameters

REV (Reverb Parameter)

Parameter	Value	Description
Time	0.1 -- 100.0sec	Reverb Time
Pre Delay	0 -- 200ms	Pre Delay
ER Dens	0 -- 100	Early Reflection Density
Rev Dens	0 -- 100	Reverb Density
HF Damp	0.05 -- 1.00	High Frequency Damping
Pan Spread	0 -- 100	Pan Spread
ER Level	0 -- 100	Early Reflection Level
Rev Level	0 -- 100	Reverb Level
Wet Level	0 -- 100	Wet Level
Dry Level	0 -- 100	Dry Level
PressMode	OFF, MUTE, LEVEL, SEND, SPREAD	Pressure Control Mode
PressSens	0 -- 100	Pressure Sens
PressAtck	0 -- 1000ms	Pressure Attack Time
PressRele	0 -- 3000ms	Pressure Release Time
Reverb Sw	OFF, ON	Reverb Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1-- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

DLY (DelayParameter)

Parameter	Value	Description
Type	Stereo In, Mono In, Panning LR, PanningRL	Delay Type
Time L	0.1 -- 1000.0ms	Delay Time Lch
Time R	0.1 -- 1000.0ms	Delay Time Rch
Feedback	0 -- 100	Feedback Level
HF Damp	0.05 -- 1.00	High Frequency Damping
Pan Spread	0 -- 100	Pan Spread
Wet Level	0 -- 100	Wet Level
Dry Level	0 -- 100	Dry Level
Mod Rate	0.1 -- 10.0Hz	Modulation Rate
Mod Depth	0 -- 100	Modulation Depth
Mod Phase	0 -- 180deg	Modulation Phase
Press Mode	OFF, MUTE, LEVEL, SEND, SPREAD, TIME++, TIME--	Pressure Control Mode
Press Sens	0 -- 100	Pressure Sens
PressAtck	0 -- 1000ms	Pressure Attack Time
PressRele	0 -- 3000ms	Pressure Release Time
Delay Sw	OFF, ON	Delay Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
AmbienceType	OFF, A, B, C, D, E	Ambience Type
Ambience Lev	0 -- 100	Ambience Level
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

CHO (Chorus Parameter)

Parameter	Value	Description
Type	2PHASE NORM, 2PHASE XMIX, 3PHASE NORM, 3PHASE XMIX, 6PHASE NORM, 6PHASE XMIX	Chorus Type
Mod Rate	0.1 -- 10.0Hz	Modulation Rate
Mod Depth	0 -- 100	Modulation Depth
Mod Phase	0 -- 180deg	Modulation Phase
Wet HPF	20 -- 500Hz	Wet HPF Frequency
Wet LPF	1000 -- 20000Hz	Wet LPF Frequency
Wet Level	0 -- 100	Wet Level
Dry Level	0 -- 100	Dry Level
Chorus Sw	OFF, ON	Chorus Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
AmbienceType	OFF, A, B, C, D, E	Ambience Type
Ambience Lev	0 -- 100	Ambience Level
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

FLG (Flanger Parameter)

Parameter	Value	Description
RATE	0 -- 100	Modulation Rate
DEPTH	0 -- 100	Modulation Depth
MANUAL	0 -- 100	Manual
RESO	-100 -- +100	Resonance
XFB	-100 -- +100	Cross Feedback Level
MOD PH	0 -- 180deg	Modulation Phase
Press Mode	OFF, DEPTH, MANU++, MANU--, RATE++, RATE--	Pressure Control Mode
Press Sens	0 -- 100	Pressure Sens
PressAtck	0 -- 1000ms	Pressure Attack Time
PressRele	0 -- 3000ms	Pressure Release Time
Flanger Sw	OFF, ON	Flanger Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
AmbienceType	OFF, A, B, C, D, E	Ambience Type
Ambience Lev	0 -- 100	Ambience Level
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

PHS (Phaser Parameter)

Parameter	Value	Description
RATE	0 -- 100	Modulation Rate
DEPTH	0 -- 100	Modulation Depth
MANUAL	0 -- 100	Manual
RESO	-100 -- +100	Resonance
XFB	-100 -- +100	Cross Feedback Level
MOD PH	0 -- 180deg	Modulation Phase
SATGE	1 -- 32	Shift Stage Number
Press Mode	OFF, DEPTH, MANU++, MANU--, RATE++, RATE--	Pressure Control Mode
Press Sens	0 -- 100	Pressure Sens
PressAtck	0 -- 1000ms	Pressure Attack Time
PressRele	0 -- 3000ms	Pressure Release Time
Phaser Sw	OFF, ON	Phaser Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
AmbienceType	OFF, A, B, C, D, E	Ambience Type
Ambience Lev	0 -- 100	Ambience Level
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

WAH (Wah Parameter)

Parameter	Value	Description
Type	CRYBABY, BPF, LPF, HPF, PEAKING	Wah Type
Manual Freq	0 -- 100	Manual Frequency
Freq Min	100 -- 1000Hz	Frequency Minimum
Freq Max	1000 -- 5000Hz	Frequency Maximum
Filter Q	1.0 -- 30.0	Filter Q
PressSw	OFF, ON	Pressure Control Mode
PressSens	0 -- 100	Pressure Sens
PressAtck	0 -- 1000ms	Pressure Attack Time
PressRele	0 -- 3000ms	Pressure Release Time
Wah Sw	OFF, ON	Wah Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
AmbienceType	OFF, A, B, C, D, E	Ambience Type
Ambience Lev	0 -- 100	Ambience Level
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

Multi-Tap DLY (Multi-Tap Delay Parameter)

Parameter	Value	Description
Time1	0.0 -- 1200.0ms	Delay Time Tap1
Time2	0.0 -- 1200.0ms	Delay Time Tap2
Time3	0.0 -- 1200.0ms	Delay Time Tap3
Time4	0.0 -- 1200.0ms	Delay Time Tap4
Time5	0.0 -- 1200.0ms	Delay Time Tap5
Time6	0.0 -- 1200.0ms	Delay Time Tap6
Time7	0.0 -- 1200.0ms	Delay Time Tap7
Time8	0.0 -- 1200.0ms	Delay Time Tap8
Time9	0.0 -- 1200.0ms	Delay Time Tap9
Time10	0.0 -- 1200.0ms	Delay Time Tap10
Time FB	0.0 -- 1200.0ms	Delay Time Tap Feedback
Lev1	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap1
Lev2	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap2
Lev3	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap3
Lev4	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap4
Lev5	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap5
Lev6	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap6
Lev7	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap7
Lev8	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap8
Lev9	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap9
Lev10	0 -- 127 (100: 0dB, 127: +6dB)	Delay Level Tap10
Pan1	L63 -- C00 -- R63	Delay Pan Tap1
Pan2	L63 -- C00 -- R63	Delay Pan Tap2
Pan3	L63 -- C00 -- R63	Delay Pan Tap3
Pan4	L63 -- C00 -- R63	Delay Pan Tap4
Pan5	L63 -- C00 -- R63	Delay Pan Tap5
Pan6	L63 -- C00 -- R63	Delay Pan Tap6
Pan7	L63 -- C00 -- R63	Delay Pan Tap7
Pan8	L63 -- C00 -- R63	Delay Pan Tap8
Pan9	L63 -- C00 -- R63	Delay Pan Tap9
Pan10	L63 -- C00 -- R63	Delay Pan Tap10

Parameter	Value	Description
Feedback	0 -- 100	Feedback Level
HF Damp	0.05 -- 1.00	High Frequency Damping
Pan Spread	0 -- 100	Pan Spread
Wet Level	0 -- 100	Wet Level
Dry Level	0 -- 100	Dry Level
Press Mode	OFF, MUTE, LEVEL, SEND, SPREAD	Pressure Control Mode
Press Sens	0 -- 100	Pressure Sens
PressAtck	0 -- 1000ms	Pressure Attack Time
PressRele	0 -- 3000ms	Pressure Release Time
Delay Sw	OFF, ON	Delay Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
AmbienceType	OFF, A, B, C, D, E	Ambience Type
Ambience Lev	0 -- 100	Ambience Level
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

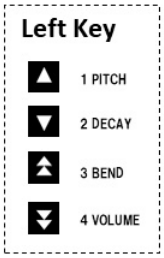
SPACER (SpaceR Parameter)

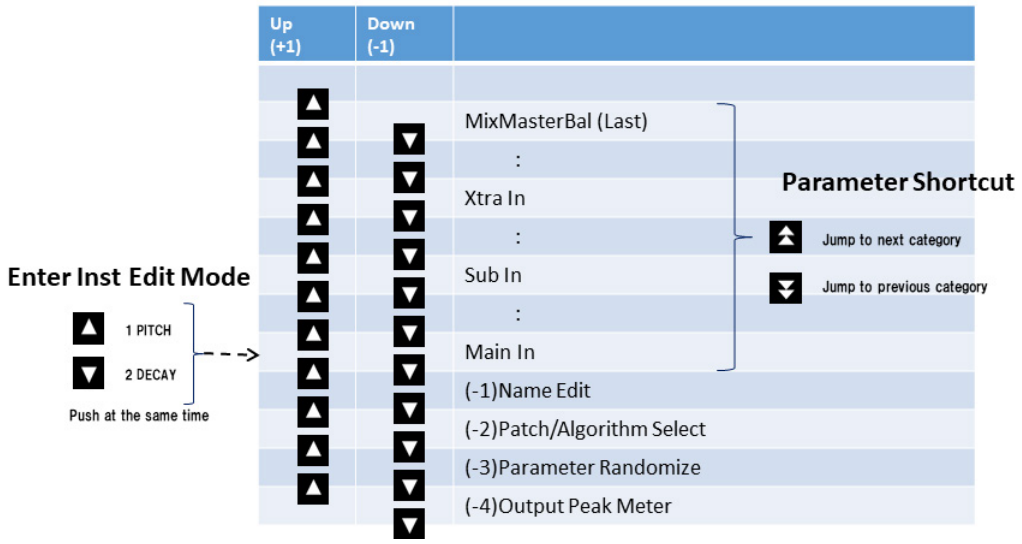
Parameter	Value	Description
Azimuth	-174 --+180deg	Azimuth
AutoRevo	OFF, RIGHT, LEFT	Auto Revolution
RevoSpeed	1 -- 600rpm	Revolution Speed
DlySw	OFF, ON	Delay Switch
DlyTime	0.0 -- 1200.0ms	Delay Time
DlyFeedback	0 -- 100	Delay Feedback
DlyWetLev	0 -- 100	Delay Wet Level
DlyDryLev	0 -- 100	Delay Dry Level
PressMode	OFF, Turn R, Turn L, Revo++, Revo--	Pressure Control Mode
PressSens	0 -- 100	Pressure Sens
PressAtck	0 -- 1000ms	Pressure Attack Time
PressRele	0 -- 3000ms	Pressure Release Time
Phones	OFF, ON	Phones
SpaceR Sw	OFF, ON	SpaceR Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

SPACEZ (SpaceZ Parameter)

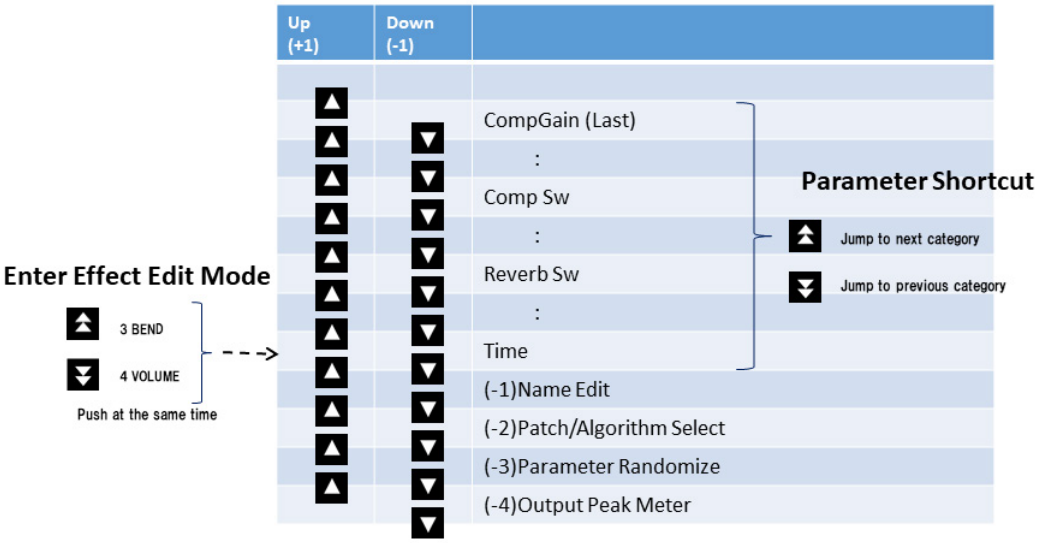
Parameter	Value	Description
Spread	1 -- 10	Spread
DlySw	OFF, ON	Delay Switch
DTime L	0.0 -- 1200.0ms	Delay Time L
DTime R	0.0 -- 1200.0ms	Delay Time R
DTimeFB	0.0 -- 1200.0ms	Delay Time Feedback
DlyFeedback	0 -- 100	Delay Feedback
DlyWetLev	0 -- 100	Delay Wet Level
DlyDryLev	0 -- 100	Delay Dry Level
Phones	OFF, ON	Phones
SpaceZ Sw	OFF, ON	SpaceZ Effect Switch
FxMtrx	Snd/Rtn, MasterIns	Effect Matrix
Comp Sw	OFF, ON	Compressor Effect Switch
CompThrs	-48.0 -- 0.0dB	Compressor Threshold
CompRatio	1.0:1, 1.1:1 -- 1.9:1, 2:1, 3:1 -- 10:1, 20:1, INF:1	Compressor Ratio
CompKnee	HARD, SOFT1, SOFT2	Compressor Knee
CompAtck	0.0 -- 300.0ms	Compressor Attack
CompRele	0 -- 10000ms	Compressor Release
CompGain	-24.0 -- +24.0dB	Compressor Gain

In edit mode, the aFrame's screen display of parameters, the structure of parameters, and their respective key operations are as follows:





ex. Reverb



INST Parameter category

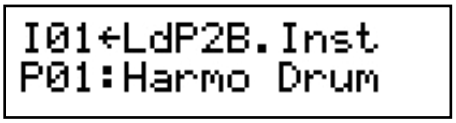
Type	Category	Parameter
INST	Main Parameter	Main In
	Sub Parameter	Sub In
	Extra Parameter	Xtra In
	Dry Signal Parameter	DryC.EqF
	Pressure Parameter	Mute Sens
	Mixer Parameter	MixMainPan
		MixMainLev
		MixMainSnd
		MixMasterLev

EFFECT Parameter category

Type	Parameter
EFFECT (REV)	Time
	PressMode
	Reverb Sw
	Comp Sw
EFFECT (DLY)	Type
	Mod Rate
	PressMode
	Delay Sw
	AmbienceType
	Comp Sw
EFFECT (CHO)	Type
	Chorus Sw
	AmbienceType
	Comp Sw
EFFECT (FLG)	RATE
	Flanger Sw
	AmbienceType
	Comp Sw

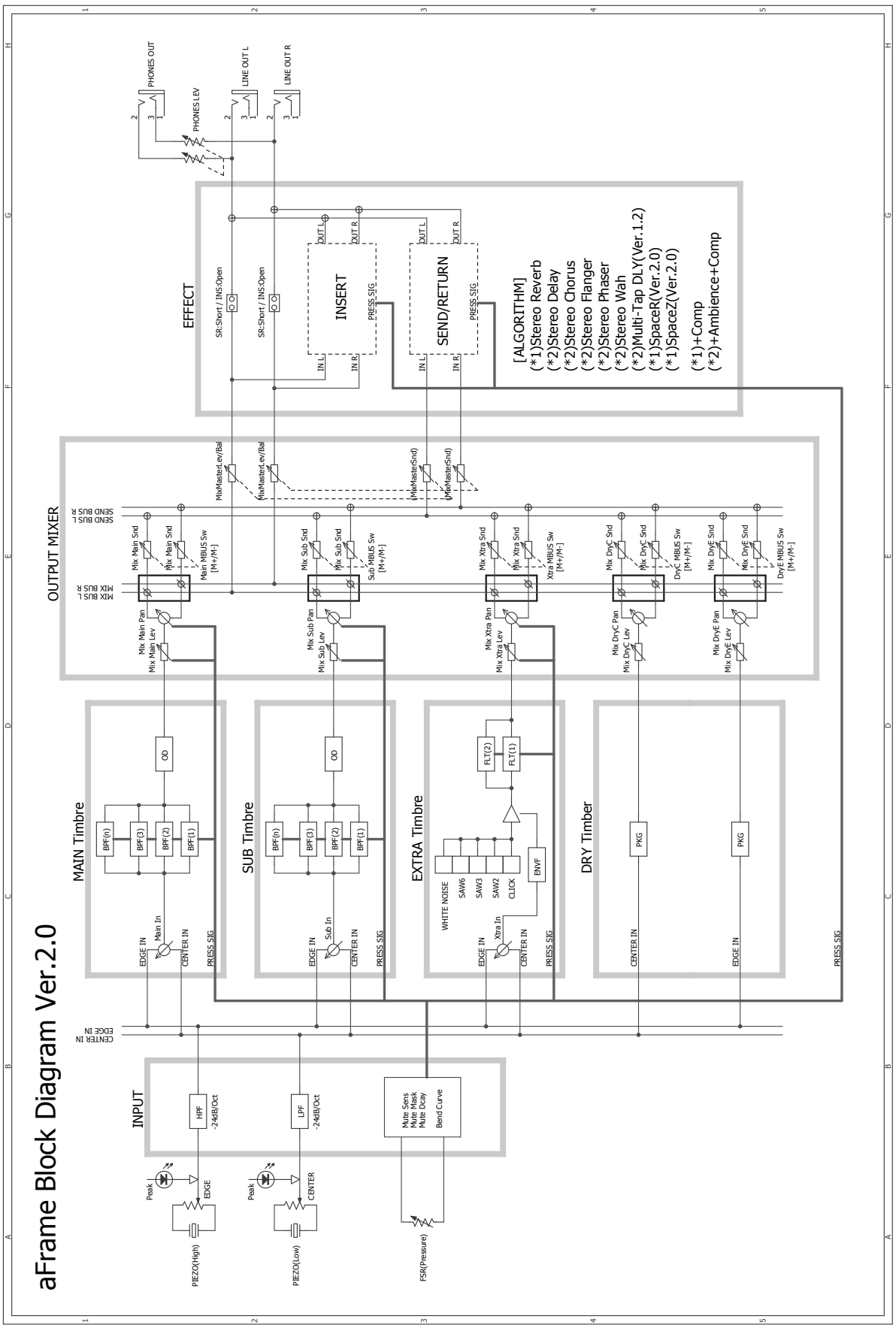
Type	Parameter
EFFECT (PHS)	RATE
	Phaser Sw
	AmbienceType
	Comp Sw
EFFECT (WAH)	TYPE
	Wah Sw
	AmbienceType
	Comp Sw

Type	Parameter
EFFECT (Multi-Tap DLY)	Time 1
	Lev 1
	Pan1
	Feedback
	PressMode
	Delay Sw
	AmbienceType
	Comp Sw
EFFECT (SPACER)	Azimuth
	DlySw
	PressMode
	Phones
	Comp Sw
EFFECT (SPACEZ)	Spread
	DlySw
	Phones
	Comp Sw

State	LCD Display
Editing Parameter	 ◀ ▶ : Sub Parameter change ▲ ▼ : Parameter shortcut Encoder rotate: Parameter change with Encoder push: Parameter * 10 or 1step
Name Edit	 ◀ ▶ : Name Char MOVE cursor ▲ ▼ : Name Char INS/DEL Encoder rotate: Name Char change with Encoder push: Name Char skip
Patch/Algorithm Select	 ▲ ▼ : Return to Parameter EDIT(Parameter #1) Encoder rotate: Patch/Algorithm select with Encoder push: Patch/Algorithm set

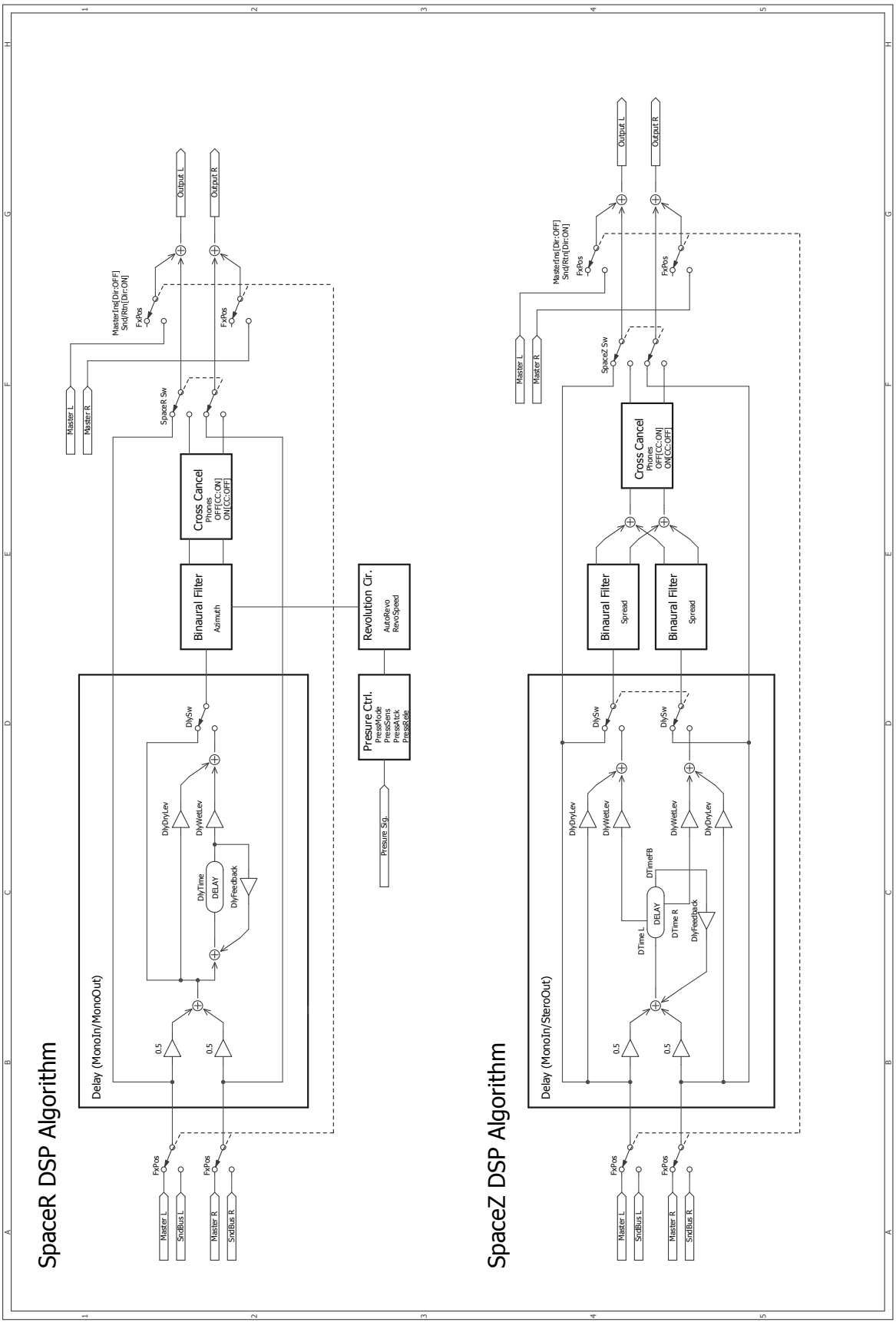
Offset from Edit start point	LCD Display
Parameter Randomize	 ◀ ▶ : Randomize TYPE change ⏫ : Return to Parameter EDIT(Parameter #1) ⏬ : Return to Parameter EDIT(Parameter Type Top)(*) Encoder rotate: Randomize RATE change Encoder push: Execute randomize process with Encoder push: RATE * 10 (*) << INST EDIT >> In the case of INST EDIT, if Randomize Type is "MainPrm" or "SubPrm" or "XtraPrm", editing returns back to each category's top parameter by pushing ⏬ . (*) << EFFECT EDIT: M.Tap Delay >> In the case of EFFECT EDIT and algorithm is Multi-Tap Delay, if Randomize Type is "TimePrm" or "Lev Prm" or "Pan Prm" or "FB/HFD", edit returns back to each top parameter of related parameters by pushing ⏬ . **Memo** This is a useful method for checking values after they have been randomized. In others cases where a different Randomize Type (other than those shown above) is selected, edit returns back to INST or EFFECT top parameter by pushing ⏬ .
Output Peak Meter	 ◀ ▶ : Return to Parameter EDIT (Parameter #1)

Block Diagram



	PRESS								
SC	0	1	2	3	4	5	6	7	Scale Name
MTriad	C	C	E	E	G	G	C2	C2	Major Triad
mTriad	C	C	Eb	Eb	G	G	C2	C2	minor Triad
MPenta	C	C	D	D	E	G	A	C2	Major Penatatonic
mPenta	C	C	Eb	Eb	F	G	Bb	C2	minor Penatatonic
MScale	C	D	E	F	G	A	B	C2	Major Scale
mScale	C	D	Eb	F	G	Ab	Bb	C2	minor Scale
Sus	C	D	D	F	F	G	G	C2	Suspended
mHarmo	C	D	Eb	F	G	Ab	B	C2	Harmonic minor Scale
mMelo	C	D	Eb	F	G	A	B	C2	Melodic minor Scale
mBlues	C	C	Eb	F	Gb	G	Bb	C2	minor Blues Scale
WholeT.	C	C	D	E	F#	G#	A#	C2	Wholetone Scale
Altered	C	C#	D#	E	F#	G#	A#	C2	Altered Scale
Lydian	C	D	E	F#	G	A	B	C2	Gregorian Mode Lydian
Dorian	C	D	Eb	F	G	A	Bb	C2	Gregorian Mode Dorian
Phrygi.	C	Db	Eb	F	G	Ab	Bb	C2	Gregorian Mode Phrygian
Mxlydi.	C	D	E	F	G	A	Bb	C2	Gregorian Mode Mixolydian
Arabic	C	C#	E	F	G	G#	B	C2	Arabic Scale
MHungar	C	D#	E	F#	G	A	A#	C2	Major Hungarian Scale
mHungar	C	D	Eb	F#	G	Ab	B	C2	minor Hungarian Scale
Hindu	C	D	E	F	G	G#	A#	C2	Hindu Scale
Ryukyu	C	C	E	E	F	G	B	C2	Japanese Ryukyu Scale
Minnyou	C	C	Eb	Eb	F	G	Bb	C2	Japanese Minnyou Scale
Miyako	C	C	D	Eb	Eb	G	Ab	C2	Japanese Miyako Scale
Ritsu1	C	C	D	D	F	G	Bb	C2	China Ritsu1 Scale
Ritsu2	C	C	D	D	F	G	A	C2	China Ritsu2 Scale
Ryo	C	C	D	D	E	G	A	C2	China Ryo Scale
5th	C	C	C	G	G	C2	C2	C2	5th
Octave	C	C	C	C	C2	C2	C2	C2	Octave

SC	0	1	2	3	4	5	6	7	8	9	1 0	1 1	1 2	1 3	1 4	15	Scale Name
Chrmtic	C	C	C	C#	D	D#	E	F	F#	G	G#	A	A#	B	C2	C2	Chromatic Scale


SpaceR DSP Algorithm
Delay (MonoIn/MonoOut)
Master L
Master R
SndBus L
SndBus R
FxPos
Output L
Output R
Master Ins[Dir:OFF]
Snd/Rtn[Dir:ON]
SpaceR Sw
Cross Cancel
Phones
OFF[CC:ON]
ON[CC:OFF]
Binaural Filter
Azimuth
Revolution Cir.
AutoRevo
RevoSpeed
Presure Ctrl.
PressMode
PressSens
PressAtck
PressRele
Presure Sig.
DlySw
DlyDryLev
DlyWetLev
DlyTime
DELAY
DlyFeedback
0.5
SpaceZ DSP Algorithm
Delay (MonoIn/SteroOut)
SpaceZ Sw
Spread
DTimeFB
DTime L
DTime R

Music and Video RE-IMAGINED

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