Analog Rytm OS 1.45B Release Information

Elektron Music Machines

September 14, 2018

How to upgrade:

Upgrading from within the OS

- Select SYSTEM in the GLOBAL MENU, and then select OS UPGRADE.
- Send the SysEx firmware file to the Analog Rytm either using the MIDI In Port or the USB MIDI In Port.

When the update is done the unit will restart by itself.

After some upgrades the bootstrap is also upgraded, this upgrade is performed right after restarting the Analog Rytm, *do not turn the power off during the upgrade.*

Upgrading from the Early Startup Menu

- Hold down the **[FUNCTION]** MKI / **[FUNC]** MKII key while powering on. This should take you to the Analog Rytm boot menu.
- Enter the OS UPGRADE mode by pressing the **[TRIG 4]** key.
- Send the SysEx firmware file to the Analog Rytm.

During the transfer a bar in the display shows the progress.

After the transfer the trig LED's light up showing flash reprogramming progress and when the update is done the unit restarts itself, booting the new OS.

After some upgrades the bootstrap is also upgraded, this upgrade is performed right after the first restart of the Analog Rytm, *do not turn the power off during the upgrade.*

To transfer the SysEx file we recommend using C6 - SysEx Tool by Elektron.

Downgrading is generally not recommended as user data may be lost and SysEx backups may not be compatible.

Please report any bugs you may find using support found at
http://www.elektron.se/support-and-downloads

Enjoy!

The Elektron development team

List of changes from OS 1.45A to 1.45B

Bug fixes

Sample playback did not work properly (1.45A regression).

[MKI] OS upgrade menu could not be opened (1.45A regression). The OS would have to be upgraded using the early startup menu.

Copying sounds between +drive and sound pool would overwrite already occupied slots (1.45A regression).

List of changes from OS 1.45 to 1.45A

Bug fixes

USB connectivity problems could occur on some computer systems after unplugging and re-plugging the USB cable.

A regression caused pattern change behavior to malfunction.

When performing page paste/clear operations, if the key press combinations were pressed and held, the device started to cycle between paste/clear and undo.

When pressing and holding **[FUNC]** + **[SONG MODE]**, Song edit menu opened, exited and re-opened continuously.

Accent value could not be changed correctly when using the **[ARROW]** keys.

Certain key press combinations caused trig keys to latch in Grid Recording mode.

Track assignment indication had disappeared from Control input setup pages.

[MKI] Pressing **[FUNCTION]** + any Parameter encoder on the SAMPLE parameter page locked any further changes of that parameter until you selected a different parameter page.

The free LFO multipliers were displayed with an "x" and not a "." (dot) for the LFO multiplier parameter values.

List of changes from OS 1.40D to 1.45

Improvements

[MKII] Overbridge support added.

Dual VCO machine added.

[MKII] Screensaver added.

[MKII] Memory used on the +Drive and RAM can now be shown.

The device now displays a warning that the sample memory is full when a user tries to load a sample into project RAM and the remaining RAM memory is smaller than the sample.

[MKII] Long machine names are now used for enhanced clarity. For example "BDCL" are now "BD CLASSIC".

Increased the number of LFO speed snap values.

Bug fixes

If a user tried to load a sample greater than remaining project RAM, it was incorrectly indicated in the +Drive view that it had been loaded successfully.

[MKII] A sample slot change could not be assigned to a Scene.

In the display, lists such as the modulation destination list or the sample select list were flickering when turning multiple encoders.

Reloading a track only reloaded the trigs, not the locks.

[MKII] A recorded sample was previewed through the active tracks current settings. Now it is previewed through a tracks init settings.

STA and END parameter graphics were not graphically centered at a value of 60.

[MKII] Ext sync lock symbol was not displayed correctly.

Samples loaded to RAM could not be previewed in SAMPLE MANAGER.

The device could not connect to Transfer when auto channel was set to 1.

The sequencer switched to the new pattern when the user aborted the pattern paste/clear operation.

Left and right channels were swapped in the post FX return.

List of changes from OS 1.40C to 1.40D

Bug fixes

[MKII] When sufficiently warm, some units would exhibit random user interface related errors, such as phantom key strokes, when the pads were played.

List of changes from OS 1.40B to 1.40C

Bug fixes

[MKII] Units would sometimes freeze during the startup sequence.

[MKII] Units would sometimes, at startup, incorrectly report the UI as not having been tested.

List of changes from OS 1.40 to 1.40B

Changes

Default sample level changed from 0 to 100 for new sounds.

Bug fixes

[MKII] FM range corrections for affected models.

[MKII] Filter resonance range correction.

[MKII] Quick-performance selection and mute state would not be reloaded at startup.

[MKII] Old kits would not have their control input modulation settings cleared to default.

[MKII] Control input modulation settings would not be reloaded at startup.

List of changes from OS 1.31B to 1.40

This OS version follows with the release of the MKII hardware. Any topics which are specific to a particular hardware version are now prefixed by [MKI] or [MKII].

New features

[MKII] *Quick Performance* knob and key. This knob controls one of the ten performance macros. To select which macro is controlled, press **[QPER]** + **[1]**...**[10]**. This selection is stored with the kit. Pressing **[FUNC]**+**[QPER]** mutes/unmutes the effect of *all* performance macros.

[MKII] A dedicated fill key has been added. Fill mode is enabled for as long as the **[FILL]** is being pressed. To enable fill mode for only one (following) pattern iteration, press **[FUNC]** + **[FILL]**.

[MKII] Modulation using control input. The control input sources are configured in the GLOBAL SETTINGS menu. They can be individually configured as *Expression pedal* or *Control Voltage (CV)*. The modulation itself is configured in from the KIT menu. Each input has up to five destinations. The destinations can be selected from any track, and have any amount of modulation.

[MKII] Temporary pattern jump. When temporary pattern jump is armed, a subsequent pattern change will make the sequencer immediately jump into the new pattern. The new pattern will not be played from its beginning, but instead from the active sequencer position. The pattern change is not applied to the active chain, so when the new pattern has played to its end, the sequencer will continue, as if the pattern change had never occured. Temporary pattern jump is armed by pressing **[FUNC]**+**[D]**.

[MKII] On-screen GUI has been updated to fit a resolution of 128x64 pixels.

[MKII] Sampler functionality has been added. Please consult the manual for details.

List of changes from OS 1.31 to 1.31B

Bug fixes

Turbo MIDI negotiation at 10x didn't work on the physical MIDI ports. This was a regression introduced in OS 1.31. Fixed.

High resolution parameter locks were permanently lost when loading projects or receiving SysEx pattern dumps. Fixed.

List of changes from OS 1.30D to 1.31

Changes

The lowest required Overbridge Software Suite version is now 1.15.0. Should you want to keep support for Overbridge 1.10.x, you must stay on OS 1.30D.

The unit will no longer react to MIDI transport (or MIDI clock) when synced via the Overbridge plugin. The old behavior was confusing to many users and didn't work well with certain DAWs.

Bug fixes

Minor USB stability improvements.

Turbo MIDI sometimes didn't work on USB-MIDI.

Overbridge was not always notified about changes in sound pool and/or sound library, causing sound listings in Overbridge plugins to become outdated.

Setting the LFO retrig flag on a trig when using the random LFO waveform would cause the LFO to run at maximum frequency. Fixed.

List of changes from OS 1.30C to 1.30D

Changes

The bootstrap will update, no functionality has changed, *do not turn the power off during the upgrade.*

Bug fixes

Change of the **CHGN** parameter in SCALE SETUP could be lost after a restart. Fixed.

Direct Jump regressions when using infinite length patterns fixed.

Glitches when naming sounds and directories containing the space character fixed.

List of changes from OS 1.30B to 1.30C

Resolved issue with units which had never been calibrated with OS 1.22 or prior. They would not properly play the following models: BDCL, BDHD, BDFM, SDCL, SDHD, SDFM, RSCL, RSHD. This does not affect units produced before the introduction of OS 1.30.

List of changes from OS 1.30 to 1.30B

Resolved issue with direct pattern changes sometimes resulting in out-of-sync playback or unintentional retriggering of notes.

List of changes from OS 1.22B to 1.30

New synthesis models

Basic Hi-Hat

Hi-Hat synthesis with a tinny electronic sound. Set the tone and decay of the transient to get as deep, or shrill, an impact as you want. The oscillators can be set to reset at the start, in order to get a more consistent sound between hits. Loads to CH and OH tracks.

- TUN (Tune) sets the pitch of the oscillators that combine to make the basic hi-hat sound. Range (-64-+63).
- TON (Tone) sets the tone of the sound. Positive values produce an increasingly shrill tone, while negative values result in a deeper tone. Range (-64-+63).
- TRD (Transient Decay) sets the early decay rate of the sound. Shorter settings emphasize the transient. Range (0-127).
- DEC (Decay) sets the length of the hi-hat sound. Range (0-127).
- RST (Osc Reset) activate in order to reset the oscillators for each triggering of the sound, or deactivate to let the oscillators run free. Range (0, 1).
- LEV (Level) sets the synth volume. Range (0-127).

Metallic Open Hi-Hat

Open Hi-Hat synthesis with a snappy metallic sound. A smattering of oscillators produces this particular brass-like alloy. Tune it to your musical needs. Loads to CH and OH tracks.

- TUN (Tune) sets the pitch of the interacting oscillators of the metal hi-hat. Range (-64-+63).
- DEC (Decay) sets the length of the decay phase. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Metallic Closed Hi-Hat

Closed Hi-Hat synthesis with a snappy metallic sound. A smattering of oscillators produces this particular brass-like alloy. Tune it to your musical needs. Loads to CH and OH tracks.

- TUN (Tune) sets the pitch of the interacting oscillators of the metal hi-hat. Range (-64-+63).
- DEC (Decay) sets the length of the decay phase. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Ride Cymbal

A multi-functional Cymbal with a variety of cymbal oscillator configurations. Type (A-D) selects different sets of fundamental oscillator frequencies, as well as different inter-oscillator logical interaction. The sound is composed of three different components - each with a different color. The contribution of each can be set individually. Perfect for ride-cymbal type sounds as well as a host of other types of cymbal sounds. Loads to CY and CB tracks.

- TUN (Tune) sets the pitch of the interacting oscillators that make up the ride cymbal model. Range (-64-+63).
- TYP (Cymbal Type) sets the type of oscillator interaction. Each type has a distinctive set of logical operations between the three components C1, C2 and C3. Range (A-D).
- HIT (Hit Decay) sets the top decay. Range (0-127).
- DEC (Tail Decay) sets the tail decay. Range (0-127).
- C1, C2, C3 (Component 1, 2, 3) sets the level of each component. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Metallic Cymbal

Cymbal synthesis with a snappy metallic sound. A handful of interacting oscillators combine to give this cymbal model a distinctively cool chime. The ability to set the tone of the transient as well as

the body of the cymbal sound lets you temper this model to suit your composition with ease. Loads to CY and CB tracks.

- TUN (Tune) sets the pitch of the interacting oscillators of the metallic cymbal. Range (-64-+63).
- TON (Tone) sets the tone of the metallic transient. Range (-64-+63).
- TRD (Transient Decay) sets the length of the transient decay phase. Range (0-127).
- DEC (Decay) sets the length of the decay phase of the oscillators. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Metallic Cowbell

Two-oscillator Cowbell synthesis with a snappy metallic sound. Like the classic cowbell model, the resonant cavity of this virtual jangler can be simulated using subtle or drastic detune interaction from a second oscillator. Set the pitch proper, set the detune offset, then go scare those electric sheep away with more cowbell. Loads to CY and CB tracks.

- TUN (Tune) sets the base pitch of the two oscillators. Range (-64-+63).
- DEC (Decay) sets the length of the decay phase of the metallic cowbell sound. Range (0-127).
- DET (Detune) sets the detune offset of the second oscillator. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Sharp Bass Drum

A modern, hard-impact Bass Drum model based on a single-VCO configuration. Sports a sharp transient and a choice of waveforms. There are five waveforms to choose from (Sine, Asymmetric Sine, Triangle, Sinetooth and Sawtooth), and there is a choice between letting the oscillator run freely (in order to get slight differences between hits), or have it reset each time the sound is trigged (wave graphics shown with an anchor point on the LCD). Loads to BD, SD, RS and CP tracks.

- TUN (Tune) sets the pitch of the oscillator. Range (-64-+63).
- SWT (Sweep Time) sets the pitch sweep time. Range (0-127).
- SWD (Sweep Depth) sets the depth of the pitch sweep. Range (0-127).

- DEC (Decay) sets the length of the decay phase. Range (0-127).
- HLD (Hold Time) sets the length of the hold phase. Range (0-127).
- TIC (Tick Level) sets the level of the transient tick. Range (0-127).
- WAV (Waveform) sets the waveform. There are five waveforms to choose from (Sine, Asymmetric Sine, Triangle, Sinetooth and Sawtooth), and there is a choice between letting the oscillator run freely, or have it reset each time the synth is triggered (wave graphics shown with an anchor point on the LCD).
- LEV (Level) sets the synth volume. Range (0-127).

Silky Bass Drum

A silky-smooth Bass Drum with a sizeable sweet spot and a gentle VCO-click for shaping the transient. Check out the dust parameter, which lets the drum be buried in subtle (or pronounced) tape-like static. Loads to BD, SD, RS and CP tracks.

- TUN (Tune) sets the pitch of the oscillator. Range (-64-+63).
- SWT (Sweep Time) sets the pitch sweep time. Range (0-127).
- SWD (Sweep Depth) sets the depth of the pitch sweep. Range (0-127).
- DEC (Decay) sets the length of the decay phase. Range (0-127).
- HLD (Hold) sets the length of the hold phase. Range (0-127).
- DUS (Dust Level) sets the level of subtle tape-like static. Range (0-127).
- CLK (VCO Click) sets the soft, oscillator-generated click level. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Plastic Bass Drum

A Bass Drum model that gives you a choice of either linear Frequency Modulation, or a combination of FM and ring modulation interaction between two VCOs to achieve distinct harmonics with a high degree of interesting movement. Both types of modulation produce distinctive harmonics, as well as the plastic buoyancy for which this drum model is so aptly named. Loads to BD, SD, RS and CP tracks.

- TUN (Tune) sets the pitch of the two interacting oscillators. Range (0-127).
- SWT (Sweep Time) sets the pitch sweep time of the two interacting oscillators. Range (0-127).

- SWD (Sweep Depth) sets the depth of the pitch sweep. Range (0-127).
- DEC (Decay) sets the length of the decay phase. Range (0-127).
- TYP (Modulation Type) The first (A) gives FM between the oscillators. The second (B) is FM combined with ring modulation.
- MOD (Modulation Level) sets the modulation depth. Range (0-127).
- TIC (Tick Level) sets the level of the transient tick. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Natural Snare Drum

A familiar and natural-sounding snare based on a single-VCO configuration. User-configurable noise color makes this snare highly useful for both acoustic-type snares and subtle, electronic mini-snares. Loads to BD, SD, RS and CP tracks.

- TUN (Tune) sets the pitch of the first oscillator. Range (-64-+63).
- DEC (Noise Decay) sets the length of the noise decay phase. Range (0-127).
- BAL (Noise Balance) sets the balance between noise and oscillator. Range (0-127).
- BDY (Body Decay) sets the length of the decay phase of the oscillator. Range (0-127).
- HPF (Noise HPF) sets the highpass filtering cutoff frequency for the noise. Range (0-127).
- LPF (Noise LPF) sets the lowpass filtering cutoff frequency for the noise. Range (0-127).
- RES (Noise Resonance) adds a resonant peak to the Noise LPF. Range (0-127).
- LEV (Level) sets the synth volume. Range (0-127).

Noise Generator

A white noise generator complete with a resonant low-pass filter and a high pass filter. There is also an amplitude envelope that controls the volume over time, and controls for automatically sweeping the low pass frequency. Loads to any track.

- LPF (LP Filter) sets the lowpass filtering cutoff frequency. Range (0-127).
- LPQ (LP Resonance) sets the amount of resonance around the cutoff frequency of the LP Filter. Zero value quenches resonance altogether. Range (0-127).
- ATK (Attack) sets the length of the attack phase. Range (0-127).

- DEC (Decay) sets the length of the decay phase. Range (0-INF).
- HPF (HP Filter) sets the highpass filtering cutoff frequency. Range (0-127).
- SWD (Sweep Depth) sets the depth of the LP Filter sweep. Negative values for below, positive values for above the threshold. Range (-64-+63).
- SWT (Sweep Time) sets the time it takes for the sweep to complete, from the depth set by SWD. Low values result in snappy sweeps, while high values result in longer sweeps. Range (0-127).
- LEV (Level) sets the volume of noise. Range (0-127).

Impulse Generator

Generates a short pulse with controllable attack, decay and polarity. This model is useful for triggering external devices or the internal filter. Loads to any track.

- ATK (Attack) sets the length of the attack phase. Range (0-127).
- DEC (Decay) sets the length of the decay phase. Range (0-127).
- POL (Polarity) sets the polarity, positive or negative (POS, NEG).
- LEV (Level) sets the volume of the impulse. Range (0-127).

Changes

Overbridge 1.10 support added. Older versions versions of Overbridge are not compatible.

Added option to completely disable synthesis for a track by selecting *DISABLE* in the synthesis models list. When this is selected, there will be no parameters on the synth page and the Sound is made accessible, for loading and Sound Locking, on any of the individual voices of the RYTM, regardless of their particular oscillator configuration.

Added an option to control whether or not the filter envelope is reset when notes are triggered. This option is accessed from the SOUND SETTINGS menu.

Added possibility to maintain kit association also for empty patterns. The association will become persistent once a kit has been loaded or saved, or if the pattern is edited. To remove the association, the pattern must be cleared.

When selecting a new pattern, if not in song nor chain mode, the new pattern will no longer replace the old. Instead the new pattern will be placed alone in the work chain, and playback will continue there.

Added possibility to select ‘‘DISABLED’’ instead of a synthesis model for any track. This is convenient for sample based sounds that do not make use of any synthesis.

Bug fixes

Retrig ‘‘always on’’ settings not saved correctly. Fixed.

Incorrect retrig menu displayed in chromatic mode. Fixed.

LFO destination reverted to NULL if not confirmed. Fixed.

Opening SOUND MANAGER could result in a crash. Fixed.

Sample playback would sometimes begin with an undesired click/pop sound if there was already a sample playing on the same voice. Fixed.

Audio output to Overbridge was phase inverted. Fixed.

Trig condition states were not reset when stopping the sequencer from Overbridge. Fixed.

Synth page NRPN message were not received. Fixed.

Trig page CC/NRPN messages were incorrectly received. Fixed.

List of changes from OS 1.22 to 1.22B

External MIDI input notes were always played with retrig enabled. This has been corrected.

List of changes from OS 1.21C to 1.22

Changes

New LFO synchronization mode

New options have been added to the LFO multiplier parameter, which now has 24 different settings.

The first twelve settings (denoted with a × *cross* multiplication symbol) are the same as before, selecting a multiplier of the current sequencer tempo setting.

The following twelve (denoted with a · *dot* multiplication symbol) synchronizes the LFO to 120 BPM, irrespective of the sequencer tempo setting. This means that you can more easily do sound design with the LFO, as the modulation rate wont change with the sequencer tempo.

Sequencer note conditions

A Trig page parameter called **TRIG CONDITION (TRC)** has been added. It is only available for parameter locking, and has 64 different settings. Each setting is a condition, which will decide whether or not the sequencer note should be triggered.

- X % is a random probability condition. There is an *X* percent chance of it being true.
- A:B will be true on the *A*'th pattern iteration, then true again after *B* iterations, repeating indefinitely. You can use this setting to program periodically recurring notes, where the period can be longer than the actual pattern. If you for instance set it to N:4, the note will be triggered every fourth loop of the pattern.
- FILL is true when the sequencer is in fill mode. Fill mode is activated for one pattern iteration by pressing **[YES]** + **[SCALE]**. It will activate when the pattern loops and remain active until it loops again. It is also possible to momentarily activate fill mode by pressing the **[SCALE]** key when not in grid recording mode. The fill mode will then be active for as long as the key is being held down.
- $\overline{\text{FILL}}$ is true when FILL is not. You can use FILL to program pattern variations. The notes which should played only in the variation should be set to FILL, and notes which should be excluded from the variation to $\overline{\text{FILL}}$. The variation is then easily accessible from the **[SCALE]** key.
- PRE is true if the most recently evaluated note condition on the same track was true.
- $\overline{\text{PRE}}$ is true when PRE is not. If you program a pattern variation using PRE and/or $\overline{\text{PRE}}$, but set the first note of the variation to use a probability condition, then the whole variation will depend on whether or not the first note triggered.
- NEI is true if the most recently evaluated note condition on the neighbour track was true.
- $\overline{\text{NEI}}$ is true when NEI is not. If you program a pattern variation using NEI and/or $\overline{\text{NEI}}$ on track 3, and have a probability trig before the variation on track 2, then the whole variation will depend on whether or not the note on track 2 triggered.
- 1ST is true the first pattern iteration (ie. until the pattern has looped). You could use this setting for instance to program a one-shot percussive hit in your pattern. Or just any note that you do not wish to have repeated.
- $\overline{\text{1ST}}$ is true when 1ST is not.

Effect send levels

Improved calculation of effect send levels (with respect to **TRACK LEVEL**, **AMP VOLUME**, **ACCENT** and **VELOCITY**). There is an option to disable this behavior called LEGACY FX SEND in the the SOUND SETUP menu and this option will be selected by default for all sounds created up until now.

Live-recording improvements

Retrigs can now be live recorded by the sequencer. Trigless trigs are inserted to record pad pressure changes.

Micro timing and velocity is now updated when you replace a note using live recording.

A bug has been fixed, which would make notes on the active track be deleted when notes on a different track are live recorded.

Overbridge

Overbridge Protocol Version is now 1.06, meaning this OS requires at least Overbridge Software Suite Version 1.10.

General improvements to DAW sequencer synchronization.

Added support for *Total Recall*. Please refer to the Overbridge documentation for details about this feature.

Notes played from Overbridge are no longer affected by track mute/solo.

List of changes from OS 1.21B to 1.21C

Bug Fixes

Device would crash with exception error when placing two notes with parameter slide on the exact same time in the sequencer (using micro timing).

Pattern master length settings equal to or greater than 256 would not be loaded properly (losing its most significant byte).

Device would crash with exception error on pressing double stop (or loading project) after reboot when master pattern length was set to a multiple of 256.

List of changes from OS 1.21 to 1.21B

Changes

The Factory Reset Presets project has been updated so that it starts with a song containing all the preset patterns in order.

Bug Fixes

Tempo nudge would not work properly if the tempo screen was opened while another menu was open. Fixed.

The sequencer would go out of sync when using the DIRECT JUMP mode to change patterns when externally synced for certain scale settings. Fixed.

When changing patterns with DIRECT START or DIRECT JUMP, when the sequencer was close to the end of the current pattern, the pattern change would sometimes not occur until one bar later. Fixed.

Trigless locks would alter the tracks note value, despite not triggering a note. Fixed.

The delay level became 6 dB too low in OS 1.20. Fixed.

List of changes from OS 1.20 to 1.21

Changes

Added midi output configuration EXT for the pads. This means you can play the pads and send only midi, without triggering the internal sounds.

Overbridge

Overbridge Protocol Version is now 1.02, meaning this OS requires at least Overbridge Software Suite Version 1.0.0.0.

Bug Fixes

Overbridge plugin did not always reflect the latest kit when changing between kits. Fixed.

List of changes from OS 1.02 to 1.20

Changes

In menus TRIG MUTE, ACCENT, NOTE SLIDE, and PARAMETER SLIDE, you can now edit the step property of all tracks simoultaneously by holding **[FUNCTION]** while pressing the grid keys.

Sound copy/paste now works between different track types. Synth page parameters are excluded if the tracks are incompatible.

It’s now possible to reliably transfer samples over USB MIDI to the unit without the need to enable SDS handshake.

Overbridge Support

Beta status support for Elektron Overbridge technology. This includes USB Audio streaming, with driver support for Steinberg ASIO, Microsoft WDM and Apple Core Audio interfaces on the computer side. This OS requires Elektron Overbridge software suite beta version 0.9.5.0.

In order to enable the Overbridge functionality, you have to enable Overbridge in the new USB CONFIG menu, located inside GLOBAL ▸ SYSTEM.

Bug Fixes

The metronome tick was very silent. Fixed.

In menus SOUND MANAGER and SOUND BROWSER, sounds are now previewed with the correct sample.

Song mute LEDs are properly updated when in the SONG EDIT menu.

The Bass Tom would self-resonate on high notes. Fixed.

The Cymbal tone control was broken. Fixed.

Midi aftertouch would always be sent per pad on midi notes 0-11. Fixed so that they correspond to note on/off commands when playing a track chromatically.

Midi notes were sent two octaves higher than received. Resolved by lowering midi note output by two octaves.

When holding down several trigs to view their parameter locks, some of the trigs could incorrectly get erased upon key release. Fixed.

List of changes from OS 1.02C to 1.02D

Bug Fixes

When running on external sync, some delay modulation artifacts could sometimes be heard when changing page or track. Regression in 1.02. Fixed.

Some SDS sample transfer bugs have been fixed.

Certain Global Settings (like Track Routing) were not properly restored after boot. Fixed

Song mutes did not affect the last sequencer step correctly. Fixed.

Certain Grid Record functions (like held down steps and held down notes) could get stuck when changing to menus where GRID RECORD mode is not available (like Scale Setup or Sound Browser). Fixed.

If RECORD mode was changed inside the SOUND BROWSER, the Sound Preview would stop working until a new sound had been selected. Fixed.

List of changes from OS 1.02B to 1.02C

Bug Fixes

MIDI note reception would only work for the first track with a configured track MIDI channel. Regression in 1.02B. Fixed.

List of changes from OS 1.02 to 1.02B

Changes

Pad pressure (aftertouch) modulation can now be applied also from the CHROMATIC pad page.

Sample filenames and directory names on the +DRIVE can now contain more than 16 characters. When renaming such objects inside the machine, the NAME menu will be able to scroll left or right to view the complete name. When highlighting a file or directory with a long name inside the SAMPLE BROWSER, the name will be scrolled back and forth to make the complete name readable.

The rename window now remembers previously inserted character, allowing for slightly faster writing.

When erasing parameter locks during live record, empty trigless locks are now removed from the pattern when no locks remain, to make it easier to erase recorded automation.

USB MIDI clock data is no longer sent in the middle of a USB MIDI sysex message, due to bad support in several Computer Operating systems. This should make sysex transfers more robust on certain configurations.

Bug Fixes

After previewing very short samples, it was not possible to delete them from the +DRIVE until next reboot of the machine. Fixed.

The metronome preroll did not work (regression in 1.02). Fixed.

The global track routing was not properly stored in the global slot. Fixed.

An empty pattern could sometimes contain advanced scale settings from a previous pattern on the same position. Fixed.

When changing active track from within the VELOCITY MOD and AFTERTOUCH menus, the menus did not reflect the modulation settings of the new track until re-opened. Fixed.

Attempting to paste or clear trigs outside the length of the current track would cause the sequencer to stop (due to the normal pause/stop functionality of the transport keys). Fixed.

The shortest available note length (0.125) could not be manually selected, and was also presented as ERROR rather than 0.125 when being live recorded. Fixed.

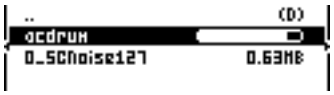
When sending MIDI Clock and Transport, the internal sequencer would sometimes start one MIDI tick too early, resulting in bad sync. Fixed.

When trigging the tracks via the lowest MIDI octave, the tracks would trigger regardless of which MIDI channel was used. It should only be possible on AUTO channel and on the TRK channels. Fixed.

List of changes from OS 1.01B to 1.02

Changes

Sample manager now shows the size of the sample files. While samples are being received, a progress bar is also shown to indicate how much of the file has been received.



When browsing samples on the +DRIVE, they can now be previewed by pressing **[FUNCTION]**+**[ENTER/YES]**. Only the beginning of the sample is previewed. The sample preview is played by the active track voice.

The machine can now receive samples larger than 2MB using SDS.

In the GLOBAL menu, the SYNTH CONFIG entry has been renamed to SYSTEM, and the entries OS UPGRADE and +DRIVE FORMAT have been moved into this submenu. This makes the GLOBAL menu less cluttered.

The metronome click is now toggled by a long press of **[FUNCTION]**+**[CLICK]**, instead of double tapping it.

New preset sounds are available, they are added when doing a Factory Reset. After reset the active project, +Drive project slot 1 and +Drive soundbank A will be overwritten.

Bug Fixes

The initial transient was missing when a sample was re-triggered. Fixed.

Velocity and Aftertouch modulation depths were not properly stored in kits and sounds. Fixed.

Synth page could be copied and pasted onto an incompatible track, potentially causing invalid machine type selections on the tracks. Fixed.

XT CLASSIC machine would make a faint sound even when level was set to zero. Fixed.

The chain cursor in main screen could sometimes be out of range when opening a new project or editing the song from the song editor. Fixed.

Some operations like trig removal and undo were difficult to use while running on external sync. Fixed.

Live record mode incorrectly accepted note and parameter input while sequencer was in pause or stop mode. Fixed.

List of changes from OS 1.01 to 1.01B

Bug Fixes

Chromatic sample playback could not be disabled. Fixed.

Intermittent sample replay problem on track RS/CP fixed.

General spurious sample triggering problem fixed.

List of changes from OS 1.00 to 1.01

Changes

General

Trigs can now be erased in live-record mode by pressing **[NO]**+**[PAD]**.

Copy/Clear/Paste of scenes can now be done by pressing **[FUNCTION]**+ **[COPY/CLEAR/PASTE]** inside SCENE EDIT mode.

Copy/Clear/Paste of performances can now be done by pressing **[FUNCTION]**+ **[COPY/CLEAR/PASTE]** inside PERFORMANCE EDIT mode.

Copy/Clear/Paste of the complete track sound of the active track can now be done with **[TRACK]**+**[COPY/CLEAR/PASTE]**. Note that copied sounds can only be pasted to tracks that are compatible with the sound.

The SOUND BROWSER now only shows sounds that are compatible with the active track, for more convenience when loading sounds. The SOUND MANAGER still shows all sounds, but marks with PAD LED colors which tracks can play the selected sound.

Filter control has been improved for better stability and range.

When any of the MUTE-, CHROMATIC-, SCENE-, or PERFORMANCE pad pages are active, the active track is now shown with Red color on the pads only while the **[TRACK]** button is held down, and for a short period after the button has been released. This makes it easier to clearly concentrate on the page-specific information such as mutes, scenes etc.

When parameter locking notes on the CHROMATIC pad page, the locked note value is highlighted with Red color, to make it easier to program melodies.

Sample Manager

The SAMPLE MANAGER menu now shows slot numbers when viewing RAM. It also shows a small circle indicating which RAM samples are unused inside the project. The right context-menu contains a new alternative for replacing the highlighted RAM sample (similar to pressing **[FUNCTION]**+**[YES]** from the small sample list on the sample page.

When viewing the +DRIVE, a RAM slot number is now also shown to the right on sample files that are already loaded inside the current project.

Audio

Two new machine types that use Linear FM[1] as synthesis method are now available for the BD/SD/RS/CP tracks.

BDFM (Bass Drum FM) uses two voltage-controlled oscillators with pitch sweep, and the second oscillator (the modulator) applies frequency modulation onto the first (the carrier). Only the first oscillator is heard.

The following parameters are available for BDFM.

- TUN (Tune) sets the pitch of the carrier oscillator. Range -64 .. 63.
- SWT (Sweep Time) sets the pitch sweep time of the carrier oscillator. Range 0 .. 127.
- FMD (FM Decay Time) sets the decay time of the modulating oscillator, and hence also the decay time of the FM effect. Range 0 .. 127.
- DEC (Decay Time) sets the decay time of the carrier oscillator, and hence also of the whole drum sound. Range 0 .. 127.
- FMT (FM Tune) sets the pitch of the modulating oscillator. Range -64 .. 63.
- FMS (FM Sweep Time) sets the pitch sweep time of the modulating oscillator. Range 0 .. 127.
- FMA (FM Amount) sets the amount of frequency modulation. Range 0 .. 127.
- LEV (Level) sets the overall volume level. Range 0 .. 127.

SDFM (Snare Drum FM) uses two voltage-controlled oscillators with static pitch, and the second oscillator applies frequency modulation onto the first. Only the first oscillator is heard, together with noise.

The following parameters are available for SDFM.

- TUN (Tune) sets the pitch of the carrier oscillator. Range -64 .. 63.

- FMT (FM Tune) sets the pitch of the carrier oscillator. Range -64 .. 63.
- FMD (FM Decay Time) sets the decay time of the modulating oscillator, and hence also the decay time of the FM effect. Range 0 .. 127.
- DEC (Decay Time) sets the decay time of the carrier oscillator, and hence also of the whole drum sound. Range 0 .. 127.
- FMA (FM Amount) sets the amount of frequency modulation. Range 0 .. 127.
- NOD (Noise Decay) sets the decay time of the noise. Range 0 .. 127.
- NOL (Noise Level) sets the noise level. Range 0 .. 127.
- LEV (Level) sets the overall volume level. Range 0 .. 127.

Bug Fixes

The velocity- and aftertouch screens did not refresh to reflect the latest applied velocity and pressure. Fixed.

Some MIDI NRPN messages (Machine Type, Track Mute/Solo, Scene Selection) didn't work. Fixed.

Fixed-velocity trigging with **[FUNCTION]**+**[PAD]** always used max velocity rather than the default velocity chosen on the TRIG page. Fixed.

The INIT NEW option inside Project Manager didn't initialize the sound parameters inside the new project properly. Fixed.

Filter didn't behave correctly when being modulated outside its range. Fixed.

Sound preview didn't work as intended. Only the active track should preview the sound selected for preview. Fixed.

Fixed several problems related to using the pads in grid editing mode.

Bass Tom *NOISE LEVEL* did not scale with *LEVEL* parameter. Fixed.

List of changes from OS 1.00 to 1.00E

Changes

General improvements of factory testing.

[1] Linear Frequency Modulation synthesis enriches the spectrum of a sound with new overtones. The result differs greatly from what we are used to from classic subtractive synthesis. It can be either harmonic or disharmonic, strictly electronic-sounding or with an acoustic or physical quality. Transient FM sounds often have inharmonic spectrums that resembles the ones from struck membranes of real acoustic drums. With Analog Rytm, powerful FM synthesis can be combined with subtractive multimode filtering - the best of two worlds.