ALMØ35 'ASQ-I' Operation Manual

Version 0.31 - Firmware 007

July 5, 2023

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1   INTRODUCTION

The ASQ-1 is a multi mode Eurorack sequencer. It can simultaneously sequence two CV/GATE and four trigger patterns, as well as perform synchronised quantisation of an external CV signal. Programming of all patterns is performed using familiar classic paradigms – SH101 style step-time note entry and classic drum machine pattern editing – with satisfying mechanical computer style keys.

Pattern position, step info, length and clock division settings are communicated via the keys and LEDs. Through simple key combinations, global and performance oriented features such as mutes, transposition and saving / loading patterns are available.

ASQ-1 is designed to be a simple, immediate sequencer ideally suited to quickly jamming out ideas, having happy accidents and performing live. It is intended to be a fun and hands on alternative to the many increasingly complex hardware sequencers out there.
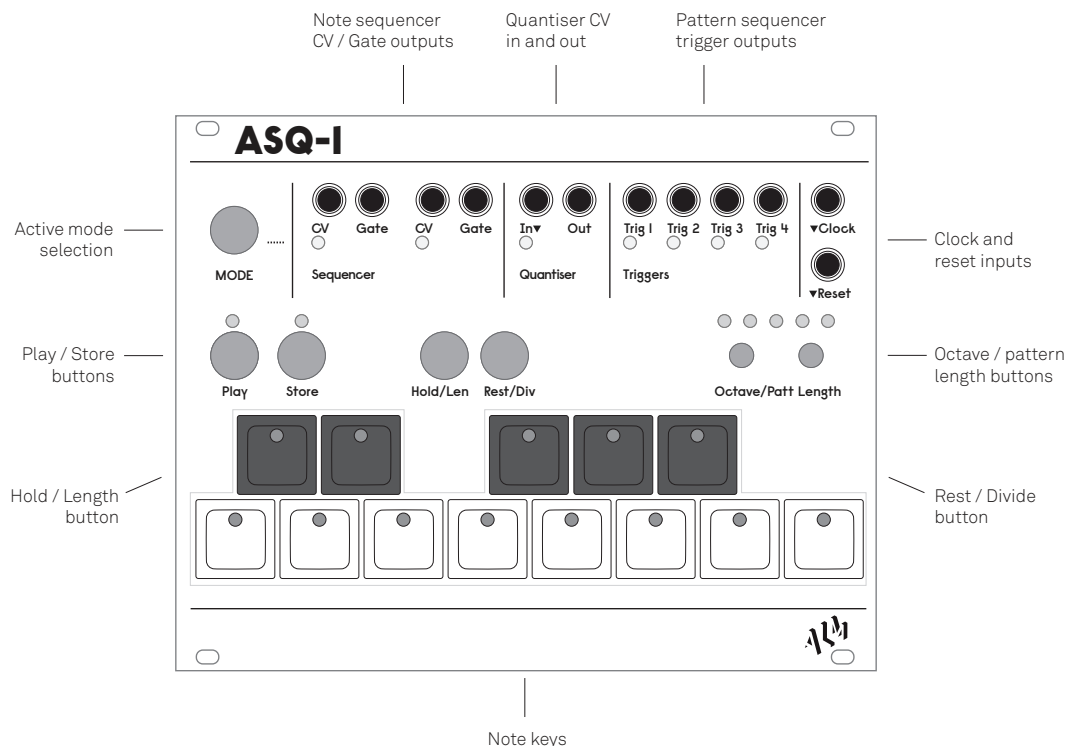
2   FEATURES

- 2x 'step time' CV / Gate sequencers.

- 4x trigger sequencers.

- External CV quantiser.

- Internal and external clocking.

- Pattern saving and loading.

- Spacious, performance oriented interface.

- All settings remain between power cycles.

- USB-C for quick and easy 'drag and drop' firmware updates via computer.

- Skiff friendly with reverse power protection.

- Made in England.

3   TECHNICAL SPECIFICATIONS

- Size: 32HP

- Power: +12v 50ma / -12v 10ma

- Depth: 32mm (approx)

- 0-5V 16 bit DAC outputs

4   OPERATION

4.1   Panel Layout

Note sequencer
CV / Gate outputs

Quantiser CV
in and out

Pattern sequencer
trigger outputs

ASQ-1

CV Gate   CV Gate

In▾ Out

Trig 1 Trig 2 Trig 3 Trig 4

▾Clock

MODE   Sequencer   Quantiser   Triggers   ▾Reset

Active mode
selection

Clock and
reset inputs

Play   Store   Hold/Len   Rest/Div   Octave/Patt Length

Play / Store
buttons

Octave / pattern
length buttons

Hold / Length
button

Rest / Divide
button

Note keys

4.2   Usage Overview

ASQ-1 offers 2x step time (aka 'SH-101') style sequencers, a quantiser and 4 drum machine style trigger pattern sequencers.

Pressing the *Mode* button cycles through each of the Sequencer 'modes' with the associated LED indicating which mode is currently active. When active, a mode can be interacted with - i.e sequence event editing, saving, loading, etc.

Pressing the *Play* button toggles playback of all the sequence modes.

4.3   Clocking

ASQ-1 features an internal clock which will be used if no external clock is patched. You can change the speed of the internal clock whilst holding *Play* and clicking the *octave up & down* buttons to change the playback tempo by +/- BPM. Pressing Play will reset all sequences back to the beginning.

It is however **STRONGLY** recommended an external clock is used. This will give finer control and the ability to 'pause' the clock. NOTE: With an external clock patched, the clock needs to be running for 'Play' to advance steps.

If you're using Pamela's NEW Workout, Patch a channel's clock output into clock and the 'trig-

ger on stop' output into reset. With this patched, stopping Pam will automatically reset the ASQ-1 to the beginning of the sequence (otherwise you'd need to press play twice to manually reset).

Syncing to external Din Sync like clocks is also supported (24 PPQN clock into clock and 'run' gate into Reset - also see ALM-UT001). To enable this feature, hold *Play* and *Hold* whilst powering the unit. Repeat to disable. **NOTE: When DIN Sync support is enabled internal clocking will be disabled**

4.4   Sequence Mode

The sequencer modes work primarily as 'step time' sequencers where each sequencer step (or clock tick) advances automatically as note, rest or hold information is input. Sequences can be any length (up to 128 steps).

To begin inputing a sequence, first make sure playback is inactive (LED not lit, if so deactivate by clicking *Play*), then press the *Store* button. This will clear any current sequence and prepare the sequencer for step input (only for the selected mode).

Each note step is entered via the mechanical note keys. The octave buttons can be used to set the octave offset of the keyboard. Pressing the Hold or Rest buttons will add a hold (extends the last entered note to the next) or rest step. Holding down a note key whilst pressing another will add a slide between the notes.

A red LED on the bottom row of 8 white note keys will indicate the current length of the inputted sequence.
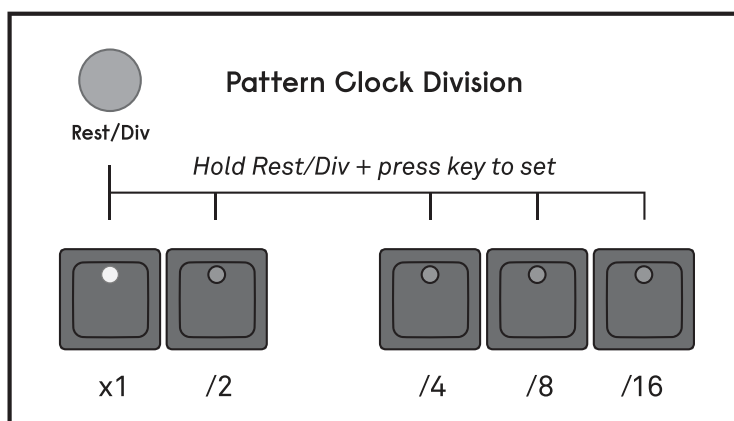
Once the sequence is input, press the *Store* button again to end input. Pressing *Play* will now start playback of the input sequence (note if you have an external clock patched make sure it is running!)

During playback, the current playback position (within current 8 steps) is shown via a white key's red LED. A note key with the green led lit shows the currently playing note.

Whilst playback is happening, the sequence can be transposed by pressing any note key. Pressing the lowest C will remove (i.e rest) any transposition. Holidng either Octave button whilst pressing the note key will transpose up/down by an extra octave.

Transposition mode can be toggled by holding *Play* and clicking *Hold*. When disabled you can jam over the top of patterns without recording, useful for autioning overdubs. Note the setting is not saved across power cycles. Note also Transpostion with be disabled automatically if the sequence length is 0.

The playback speed of each sequence can be divided down by holding *Rest* and pressing any black note key with C# being x1, D# /2, etc. (see below for divisions).
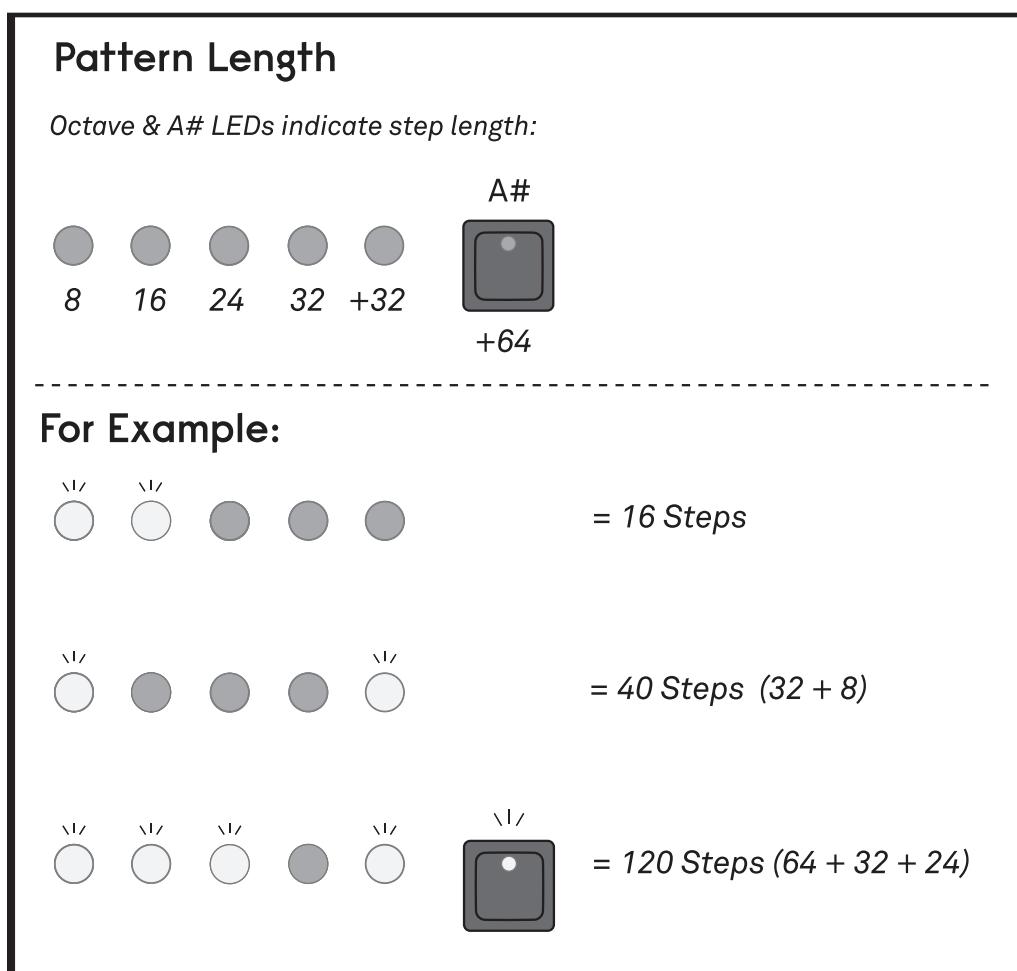
The length of the pattern can be changed by holding *Hold* and using the octave buttons to increase the number steps by increments of 8. The octave LEDs show the total length with each octave LED representing 8 steps.

As the number of pages increases, the rightmost LED will light to represent +32 steps and the A# key will light to represent +64 steps.

If the desired step count is not a multiple of 8, continue holding *Hold* and select the last step with one of the white note keys. The pattern can be cleared by reducing the length down to 0 steps with the octave buttons.

Examples of different pattern lengths shown with the octave and A# LEDs:

Pattern Length

Octave & A# LEDs indicate step length:

A#

○   ○   ○   ○   ○   [■]

8   16   24   32   +32

+64

- -

For Example:

○   ○   ○   ○   ○   = *16 Steps*

○   ○   ○   ○   ○   = *40 Steps (32 + 8)*

○   ○   ○   ○   ○   [■]   = *120 Steps (64 + 32 + 24)*

If *Store* is pressed whilst playing, overdub mode will become active (both store and play LEDs lit). Anything played in live on the note keys will then be overdubbed onto the sequence. Press *Store* again to exit overdub mode. Pressing or holding *Rest* will delete notes from the sequence. Whilst in Overdub mode, double clicking *Store* will roll any overdubs back exit overdub mode to play.

An inputted pattern can be saved by holding *Store* and pressing any note key (to save the pattern to any of 13 slots). To recall, hold *Play* and press the relevant note key. The new sequence

will play when the current finishes. One set of 13 slots is shared between both step time sequencers.

Holding *Store* and pressing *Oct down* will reverse the order current sequence data. Holding *Store* and pressing *Oct up* will randomly shuffle the current sequence data. Note you can 'undo' a shuffle by performing the shuffle in overdub mode and then double tapping *Store* to undo.

4.5   Quantiser Mode

The built in quantiser maps any CV at the quantise input to the nearest selected musical note at the output. Use the note keys to set which notes to quanitise too (LEDs will light).

Quanitsation note changes happen on each clock pulse whilst the sequencer is playing. The LED of the currently quantised key/note will flash, with the octave LEDs displaying the note's octave.

The quantisation speed can be divided down by holding *Rest* and pressing a black note key, just like with the sequencer.

Quantisation setups can also be saved and loaded just like sequences by holding *Store/Play* and pressing one of the 13 note keys.

4.6   Pattern Mode

Pattern mode allows for clocked trigger type patterns to be created in a classic drum machine style. There are 4 trigger pattern sequencers.

Pattern steps are represented by the 8 white keys. A lit LED means an active step. Pressing a key will toggle a step's active state.

You can navigate across more than 8 steps with the octave buttons.

The length of the pattern can be set by holding *Hold* and pressing an octave button (for steps of 8) or by pressing a white key (for a non *8 length), just like the note sequencers. When /Hold* is held, The octave LEDs show the total pattern length, with each octave LED representing 8 steps and the end LED representing +32 steps. The maximum length of each trigger pattern is 64 steps.

Steps can be entered in real time with the sequence playing. By default, page changes follow playback. The octave LEDs change to represent the current page.

Pressing an octave button once whilst playing disables 'pattern follow' and you will then be able to manually navigate through the pattern pages via the octave buttons.

Pressing *Store* whilst playing activates tap rhythm mode. Tapping any key will then overdub active trigger steps into the currently playing pattern.

Holding *Store* and pressing *Oct down* will reverse the order current sequence data. Holding

Store and pressing *Oct up* will randomly shuffle the current sequence data.

4.7   Saving & Loading Patterns

There are 13 memory banks for each of the 2 pitch sequencers, 13 for quantiser scales, and another 13 for each of the 4 pattern sequencers. The banks correspond to the keyboard note keys.

To save the currently selected mode's pattern to a bank hold Store and press a note key. To load from a bank to the currently selected mode hold Play and press a key. The new pattern will begin playing after the currently playing pattern ends.

Patterns saved in the ASQ-1 memory can be easily copied to a computer for backing up or future use. See Appendix III for details.

The lasted loaded (or saved) bank will be indicated by the note key led flashing whilst *Play* is held.

5 GLOBAL OPERATIONS

5.1 Global Transpose

Both step time sequences and the quantiser can be transposed together by holding *Mode* and pressing any note key. Note this is independent of any local transpositions.

5.2 Global Load for both Sequences or all Triggers

Holding *Mode + Play* and pressing any Note key will queue load the both sequencers pattern (If a step sequencer active) or all 4 trigger patterns (If a trigger pattern active) for pressed Note key.

6 KEY REFERENCE

- '**Mode**' - activate next mode.

- '**Mode+Octave**' - prev/next mode.

- '**Mode+Note**' - 'Global' transpose of both sequencers and quanitser.

- '**Mode+Play+Note**' - 'Global' load of both sequencers or all patterns.

- '**Hold+Octave**' - change pattern length (in steps of 8). Length of zero clears.

- '**Hold+Note**' - change pattern length (non /8 lengths).

- '**Hold+Rest**' - toggles muting the output of the currently active mode.

- '**Rest+Black Key**' - change clock divider (black key LED shows currently set).

- '**Store+Note**' - save current pattern to selected note bank.

- '**Store+Oct Down**' - Reverse the playback of the current sequence step data.

- '**Store+Oct Up**' - Randomly shuffle the current sequences step data.

- '**Play+Note**' - load a pattern from selected note bank.

- '**Play+Hold**' - toggle transpose in sequence mode.

- '**Play+Octave**' - change tempo in BPM steps (with no external clock patched).

7 LIMITED WARRANTY

From the date of manufacture this device is guaranteed for a period of 2 years against any manufacturing or material defects. Any such defects will be repaired or replaced at the discretion of ALM. This does not apply to;

- Physical damage arising for mistreatment (i,e dropping, submerging etc).

- Damage caused by incorrect power connections.

- Overexposure to heat or direct sunlight.

- Damage caused by inappropriate or mis-use including physical 'modding'.

- Use of incorrect or non official firmware

No responsibility is implied or accepted for harm to person or apparatus caused through operation of this product. By using this product you agree to these terms.

8   SUPPORT

For the latest news, additional info, downloads and firmware updates please visit the ALM website at `http://busycircuits.com` and follow @busycircuits on twitter and instagram.

Questions? email help@busycircuits.com .

9 APPENDIX

9.1 I. Factory Reset

When powering, hold the mode key and wait for all octave LEDs to light. This will clear all saved sequences and any settings back to factory state.

9.2 II. Firmware Update and Sequence Backup

With the unit unpowered, connect a USB cable from the port at the left side of the PCB (near the Mode button) to a computer. The ASQ-1 will appear as a standard removable storage device. Copy a valid firmware file to the root directory to update. When complete, ASQ-1 will automatically eject once the update completed and is ready to use powered normally (any 'unmount' errors from the computer can be safely ignored).

To query the installed firmware version, Power on the ASQ1 with just the play button held. The white note key LEDs will light to indicate the installed firmware version number. The Store button LED will light if Din Sync mode is enabled.This feature is only available from version 007 onwards.

9.3 III. Sequence Backup

To back up saved sequences, connect the ASQ-1 to a computer(the same as performing a firmware update). Copy the 'ASQ1SEQ.BAK' file from the ASQ-1 root directory to the desired back up location on your drive. A previous backup may be copied back to the ASQ-1 to replace the existing sequences stored in the memory.