



CYCLUS 3

ANALOG/DIGITAL SEQUENCER



Owner's Manual

Introduction

Dear valued customer,

Thank you for purchasing the Spectral Audio Cyclus 3. We hope that you will enjoy this product for a long time. The Cyclus 3 is developed by musicians for musicians, so we hope that you will find it easy to use. It is although a good idea to skim the entire manual, to get the most out of your Cyclus since it is not like the usual sequencers.

Please remove the protection foil of the display before use.

Cyclus 3 firmware

This Manual describe the Cyclus 3 from software version written in the MIDI implementation chart. Please download the latest firmware from www.spectralaudio.ch (chapter "Support") and send it to the Cyclus 3 by MIDI Sysex.

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How the Cyclus is organized.

The Cyclus is a midi-sequencer. This means, that it will playback midi sequences you have created by recording from an external midi device, by turning the Cyclus knobs, or by making a random note pattern.

It has 30 songs for automatic playback of patterns and track on/off switching.

It has 107 patterns with each 8 tracks.

Each track has 5 subtracks:

- Note (pitch)
- Length
- Velocity
- Extra note or midi controller value
- Note-off time or midi controller glide time

Each of these subtracks can have a maximum length of 16 steps. The length can be independently set for each of the subtracks (referred to as: "Last Step"). Each pattern has a last step as well (Lstp.). When a subtrack reaches its last step it will start over from step 1 (it will loop). On the Cyclus (unlike most other sequencers), note pitch, length and velocity value doesn't have to go along. It is possible to f.ex. make a note subtrack that is 7 steps long, a velocity subtrack that is 5 steps long and a length subtrack that is 11 steps long, which will make a sequence that will repeat itself after a lot more than 16 steps.

Since the Cyclus has both a length and a note-off time subtrack, you will only need to use 1 step for 1 note, no matter how long you want the note on/off times to be.

All of the 8 tracks has their own last step settings. If you f.ex. want to make a 3-step bass track, you don't have to record it 6 times, to make it fit to f.ex. a rhythm track. Just record it 1 time, and adjust the length values (if needed) to make it fit.

It is also possible to make 1 track modulate the basic pitch of another track. If we again have a 3-step bass track, and decides that after running maybe 6 times, we want it to transpose 2 notes up, we simply makes another track modulate the bass track, and adjust the source tracks length and pitch, so it fits (see chapter Basic pitch modulation).

Clear Cyclus 3 memory

By sending an empty RAM dump it is possible to clear the Cyclus 3 memory. The Empty RAM dump can be found on our homepage. Power cycle is recommended after sending.

Connect the Cyclus

Before you start working with the Cyclus, you will have to make some connections. If you want to record something you play on a keyboard, you will have to connect your midi keyboard to the Cyclus midi-in. If you are using a keyboard or synthesizer with onboard sounds, it is wise to set its local parameter to "off". You don't have to worry about if your keyboard/synthesizer can have different settings for midi in/out since the Cyclus will canalize every midi command it receives to the active tracks midi channel.

You will also have to connect your midi sound sources (synthesizers, samplers, drum machines, keyboards, modules) to the Cyclus midi-out.

Finally you will have to connect the net adapter between your wall power socket and the Cyclus power input.

When this is done, you can turn your Cyclus on.

Step record from a keyboard

(Additional information on page Func > Rec – Record).

1. Hit the pattern button, select the pattern you want to record and hit the pattern button again.
2. Hit the track button, select the track you want to record, and select the midi channel. You can always audition if its the right midi channel by playing the keyboard, and hear what instrument plays.
3. Turn the func knob (knob 8) and select "Rec".
4. Hit the track button.
5. Now, when you play a note on the keyboard, it will record this note and advance 1 step.
6. Hit the Track, Edit page or Pattern button, when you want to stop recording.

After recording

When you have recorded a track, you can of course play it back, by hitting the run/stop button, so it is lit. Adjust the tempo by hitting the pattern button, and turn the tempo knob (knob 8). Experiment with tweaking the knobs on the different edit pages (see page Edit page), to make your melodic line sound different – notice that you don't have to record a track before you can do that, just turn a track on, set the midi channel and tweak (exactly like on an analogue sequencer – just more advanced).

You can of course also record/tweak any of the other 8 tracks to make a complete pattern.

If you want to record another track from a keyboard, you will have to stop the Cyclus first.

Creating a song

When you have created one or more patterns, you might want to organize them for automatic playback and automatic track on/off switching. This can be done in a song. Notice that the Cyclus has no tempo adjustment for a song. Every pattern is played back in their own original tempo. This makes it easy, to make different parts of a song run in different tempos.

For details on how to record a song see page SONG EDIT. In chapter “Comparison to software sequencers” you can find a step by step example how to program the Cyclus 3.

Where to find...

Please note that the following Edit pages refer to the Current Edit Track and Current Edit Pattern. If you edit a song, it refers to the Current Song. Below is a short reference where to find them:

Current Edit Track

Press Track button and turn the left knob in the bottom row.

Current Edit Pattern

Press the Pattern button and turn the left knob in the bottom row.

Current Song

Press the Edit Page button and navigate to “SONG”. Press the Edit Page button again and turn the left knob in the bottom row.

A word about...

Pattern change

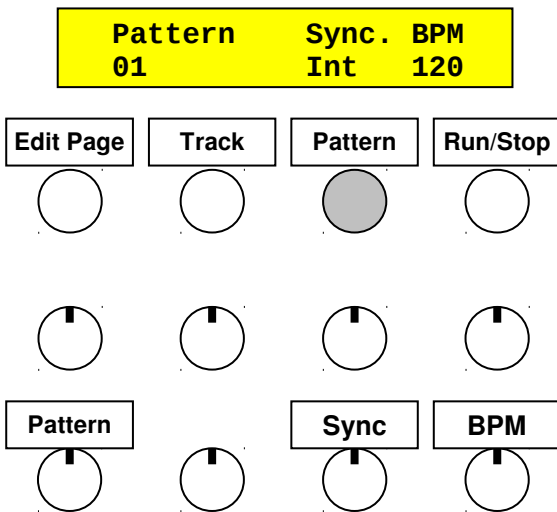
Master for the change or loop of a pattern is always the common last step of Track 1. If the Cyclus 3 reaches this step, it will wait for all notes off of the current pattern and change the pattern if it is in song mode and reached the quantity of loops. It will repeat the pattern if it didn't reach the quantity of loops yet.

Notation

The Cyclus 3 uses the American notation where C3 is MIDI note 60.

PATTERN PAGE

To enter the pattern page, hit the pattern button once, so the led is lit.



Pattern number- With this knob you selects the pattern you want to **create**/edit/playback.

Sync

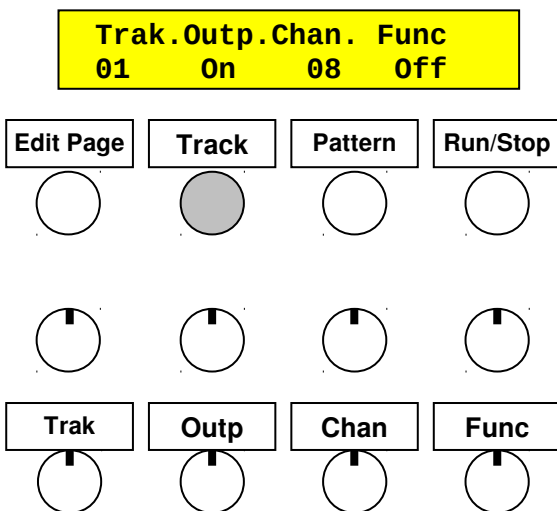
Int: The Cyclus runs in the tempo selected with the BPM parameter and transmits midi clocks and the real time commands continue and stop. The Cyclus 3 starts and stops also when realtime commands are received.

Ext: The Cyclus receives midi-clock (F8), and runs in sync with the connected external device. The Cyclus 3 starts and stops also when realtime commands are received.

BPM- Adjust the tempo of the pattern (if sync is set to "Int"). This setting is remembered within each pattern. In song mode the patterns are also played back in their own original tempo's - no destructive song tempo setting!

TRACK PAGE

To enter the track page, hit the track button once, so it is lit.



Track - Select the track you want to edit/record and monitor on the LEDS.

Outp - The selected track on/off.

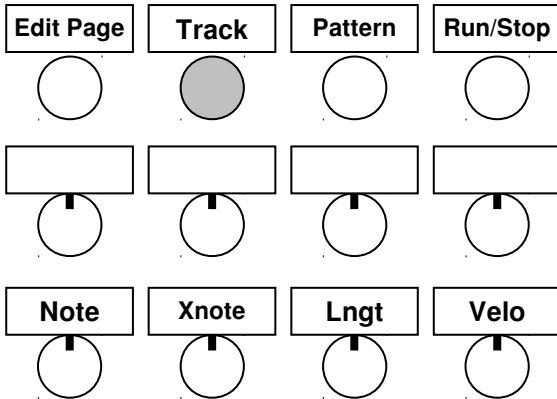
Chan - The selected tracks midi-channel. Note that all tracks can have the same midi-channel, this way accords can be done.

Func – special functions.

How to enter: Select the function you want, with the func knob, and hit the track button (still lid). If you don't want to enter any functions, select "Off", and hit the track button 1 time (so its no longer lid), and you will be back on the edit page you left, when you entered the track page.

Func > Rndm – Randomizer

Note . Xnot . Lngt . Velo
Off Off Off Off



Creates a random sequence.

Select subtracks Note, Ctrl/Xnote (depends on the selected xnt/ctr mode on edit page 3) and velo on/off, and length off/maxlength with the knobs.

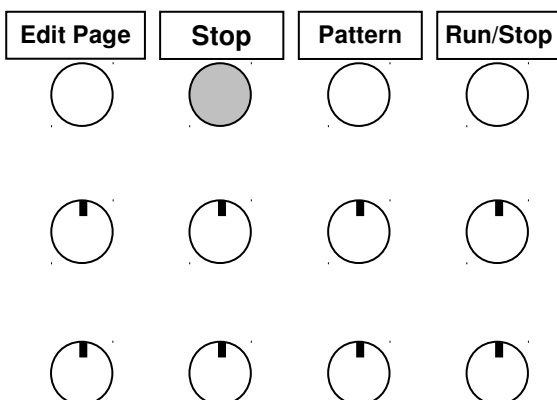
Subtracks that is set to "off" will not be randomized.

Hit the Track knob, so it is no longer lit.

You will now be back in the edit mode, and the subtracks which were not set to "off" are randomized.

Func > Rec – Record

Track Pattern
04 01



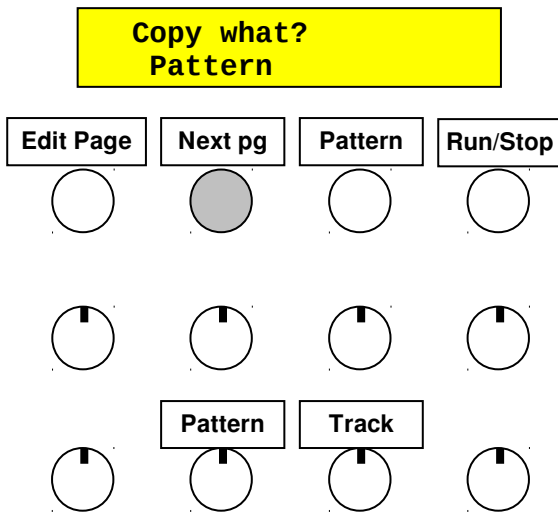
Step record a track from an external midi device.
Can only be selected if the Cyclus is stopped.

It step records and advance 1 step every time it receives a note-on.

Will record Note and Velocity on current Track and current Pattern.

Press Edit Page, Track or Pattern to leave the Record mode.

Func > Copy

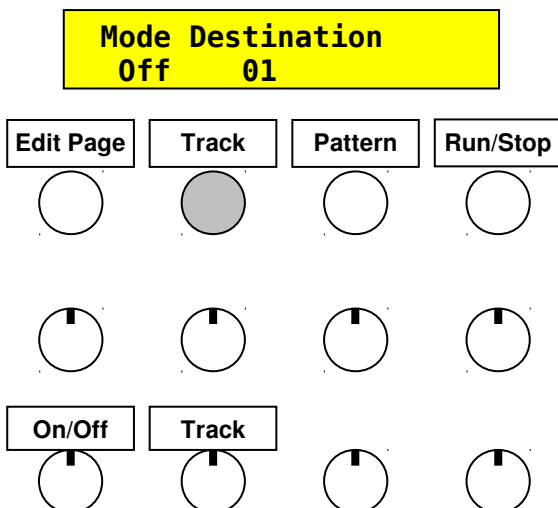


Copy a pattern or track to another pattern or track.

Select first with knob 6 if you like to copy a hole Pattern or a Track. Select in next steps source and destination.

Pressing Edit Page or Pattern will leave the Copy mode without coping.

Func > Mod – Basic pitch modulation



Select modulation On/Off for the active track, and what track you want as the modulation destination with the knobs. When the source track plays an "C3", the destination track will play back in its original pitch. When the source track plays back notes above or below "C3", the destination track's transpose note will be modified.

This way more then one sources can modulate the same destination track.

Func > Name – Song name

SongName

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>
1. char	2. char	3. char	4. char
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
5. char	6. char	7. char	8. char
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Name your current song. Turn knob 1-8 to select character 1-8.

Func > Sprd – Spread transform

Trpn Spread factor
C 3 2

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Transpose	Spread		
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

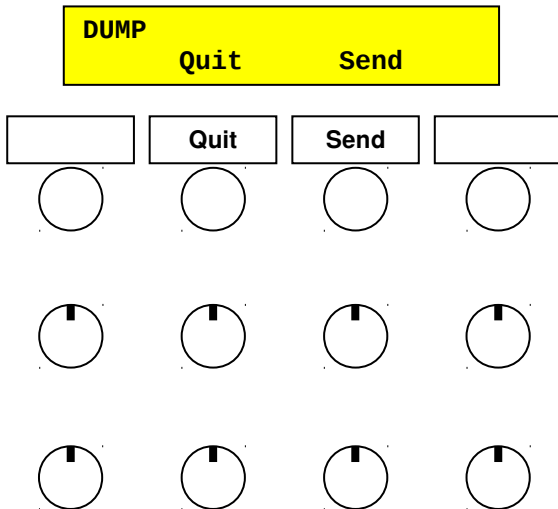
Spread up the notes automatically.

When you hit the track button, Cyclus recalculates all the notes of the current edit track with the new spread value, based on the transpose note (value) exactly in the middle, and then returns to edit mode.

If you f.ex. have created a great melodic line C3, D3, E3 and spread them with Trpn C3 and factor 2, you will get C3, E3, G#3.

Pressing Edit Page or Pattern will leave the Spread mode without change.

Func > Dump – Sysex dump.



Sysex dump of all pattern and song data to/from an external device (midi-sequencer or pc/mac with midi-interface and sequencer or sysex-dump software) for external storage.

How to transmit:

The Cyclus will transmit about 260 kilobyte of data, so if you want to make the dump to a hardware sequencer, it would be a good idea to first have a look in that sequencers manual to check out if it is possible to dump that amount of sysex-data to it. If you want to dump to a pc, it will be a good idea to use a dedicated midi-interface. Many of the sound card joystick port midi-interfaces are not able to handle that amount of data in one piece. If you are using Mac, there should be no problems.

When you are sure that the above mentioned is OK, connect the Cyclus midi-out to the receiving device midi-in. Make sure that the receiving device will not filter out sysex events.

Put the receiving device in record mode, and start recording. Hit the send button on the Cyclus.

The Cyclus now transmits all its data. It will take about 1 and a half minutes. When finished, the Cyclus will return to the last edit page.

Now, stop the receiving device, and save the sysex data bank. There is a Windows Tool available from Spectral Audio to visualize the data graphically (Visual.exe)

How to receive:

Connect the transmitting device midi-out to the Cyclus midi-in.

Load a Cyclus sysex data bank into the transmitting device.

Start the transmitting device.

How to exit without sending a dump:

Hit the quit (track) button.

Dump Format

RAM Dump (recognized and sent)

F0 Sysex start
00
20
6A ID of Spectral Audio
02 Model no.
00 Kind of Dump
(Bytes of Data)
F7 Sysex end

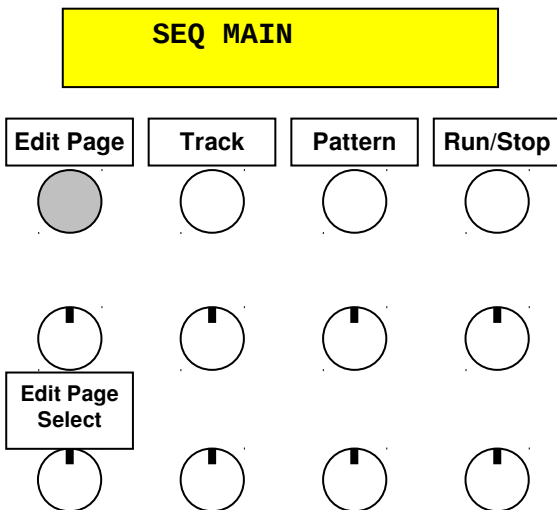
Flash Dump (recognized)

F0 Sysex start
00
20
6A ID of Spectral Audio
02 Model no.
01 Kind of Dump
(Bytes of Data)
F7 Sysex end

Edit pages

The Cyclus 3 is always in edit mode, even when it runs. When there are no light above the edit page, track and pattern push buttons, the display shows an edit page.

Select an edit page



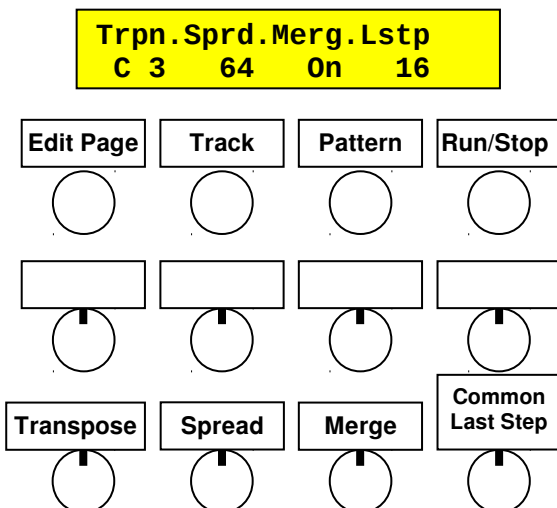
Hit the edit page button 1 time, so it is lit.

Use the Edit Page Select knob, to select the desired edit page.

Hit the edit page button again, so it is no longer lit.

Now the display shows the desired edit page.

Edit page 1 – SEQ MAIN



Trpn- Track transpose note & Sprd- Track note spread

With these 2 parameters you decide the note range for the selected track.

If f.ex. Trpn is set to C4 and Sprd is set to 16, the note range in Edit Page “NOTE” will be from: C4-8 notes (E3) to: C4+7notes (G4).

Transponde Trpn will also change in real-time when the Cyclus 3 is running.

Merg- Merge on/off. When on, data on the midi input are canalized to the midi channel of the current edit track and then merged with the Cyclus midi data to the midi output. This is a global setting.

Lstp- Common last step. This sets a common last step for the current edit track.

Edit page 2 – LAST STEP (Loop Points)

Note	Xnot	Lngt	Velo
16	09	05	14

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Note Last Step	Xnt/Ctr Last Step	Length Last Step	Velo Last Step
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

A Cyclus track is split up in 4 subtracks: 1 for step note (pitch) value, 1 after your choose on edit page XNOTE/CTRL, 1 for step length (gate time) and 1 for step velocity.

Here you can set the last step (loop point) for each of the subtracks. If you set the last steps to different values and lower than the Track Last Step, you will get a new and complex track.

Edit page 3 – XNOTE/CTRL

Mode	Outp	Ctrl	Tweak
Ctrl	On	01	86

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Mode	Output	Ctrl. No.	Tweak
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mode – Choose if you want a extra note track (xnt), or a MIDI-controller track (ctrl). The length and note-off time for each step are the same as with the note. If you choose Ctrl, you get the possibility to adjust the controller values, and the time it takes to glide from one controller value to another (for each step).

Outp – Xnote/ctrl track on/off. If the Xnote value (edit page 6 & 7) is set to 0, it won't be sent. With Xnotes, Transpose is the same applied as on the regular notes.

Ctrl – Controller number.

Tweak – Sends out controller (Ctrl) data with the range 0..127 in Controller mode.

Edit page 4 and 5 – NOTE 1-8 and NOTE 9-16

C 3	A 3	F 5	D -1
F 2	Bb-1	F -1	A 2

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 1	Step 2	Step 3	Step 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 5	Step 6	Step 7	Step 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On this edit-page, you can view and adjust the note values for step 1-8 of the selected track.

The range of the potentiometer depends on the Spread value on Edit Page 1 and the entry point refers to the middle of the range. This way multiple entering the page with the potentiometer full counter-clockwise allows to operate in a higher note range and vice versa.

The same with next Edit page with Notes 9-16.

Edit page 6 and 7(xnt mode – chosen on edit page 3) – XNOTE 1-8 XNOTE 9-16

03	12	00	00
121	00	05	07

Edit Page	Track	Patter	Run/S top
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 1	Step 2	Step 3	Step 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 5	Step 6	Step 7	Step 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On these edit-pages, you can view and adjust the xtra-note values for step 1-16, if the selected track is in xnt mode. The values shown, are in half tones **above** the basic pitch Trpn. So if you lower Trpn, a minimum Value will be shown.

If the value is 00 or the minimum, no xtra-note will sound on that step. The Velocity of the Xnote is the same as on the regular note of the current step.

Edit page 8 and 9(xnt mode – chosen on edit page 3) – NOTE OFF 1-8 and NOTE OFF 9-16

03	12	00	00
62	00	05	07

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 1	Step 2	Step 3	Step 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 5	Step 6	Step 7	Step 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On these edit-pages, you can view and adjust the note-off times for step 1-16, if the selected track is in xnt mode.

Edit page 6 and 7(ctr mode) – CTRL VALUE 1-8 and CTRL VALUE 9-16

03	12	00	00
62	00	05	07

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 1	Step 2	Step 3	Step 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 5	Step 6	Step 7	Step 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On these edit-pages, you can view and adjust the controller-values of the selected tracks MIDI-controller, chosen on edit page 3, for step 1-16, if the selected track is in ctr mode.

Edit page 8 and 9(ctr mode) – CTRL GLIDE 1-8 and CTRL GLIDE 9-16

03	12	00	00
26	00	05	07

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 1	Step 2	Step 3	Step 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 5	Step 6	Step 7	Step 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On these edit-pages, you can view and adjust, how long time it shall take to glide from one ctrl value to the next, for step 1-16, if the selected track is in ctr mode.

When the value is 00, it will not glide at all, but shift immediately, when it reaches the next step.

When the value is at maximum, it will, at a low speed, glide to the next steps value, before it reaches the next step.

At the values in between, the glide effect will be high at low values, and slow at high values.

Edit page 10 and 11 – LENGTH 1-8 and LENGTH 9-16

03	12	02	02
62	02	05	07

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 1	Step 2	Step 3	Step 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 5	Step 6	Step 7	Step 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On these edit-pages, you can view and adjust the note-on times for step 1-16, of the selected track.

The values are shown in 1/32 steps.

Edit page 12 and 13 – VELO 1-8 and VELO 9-16

127	86	108	72
63	92	127	87

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 1	Step 2	Step 3	Step 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Step 5	Step 6	Step 7	Step 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On these edit-pages, you can view and adjust the velocity values for step 1-16, of the selected track. To rest a step choose "0".

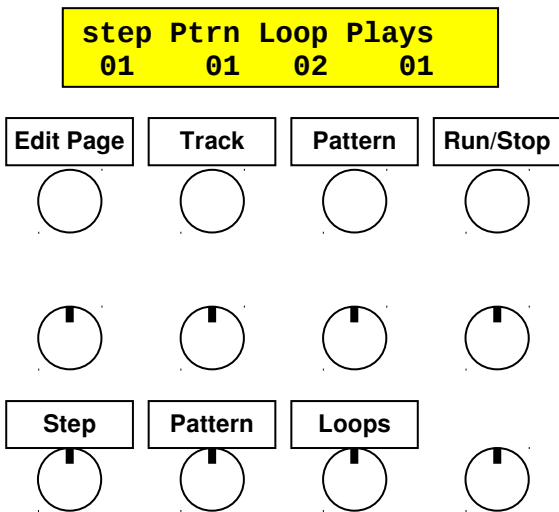
Edit page 14 – TRACK ON/OFF.

1 ■	2 ■	3 _	4 _
5 _	6 _	7 _	8 _

Edit Page	Track	Pattern	Run/Stop
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Track 1	Track 2	Track 3	Track 4
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Track 5	Track 6	Track 7	Track 8
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

On this edit-page, you can view and select, which tracks that are playing, and which tracks that are muted. A ■ shows that the track is playing, and a _ shows that the track is muted.

Edit page 15 – SONG EDIT.



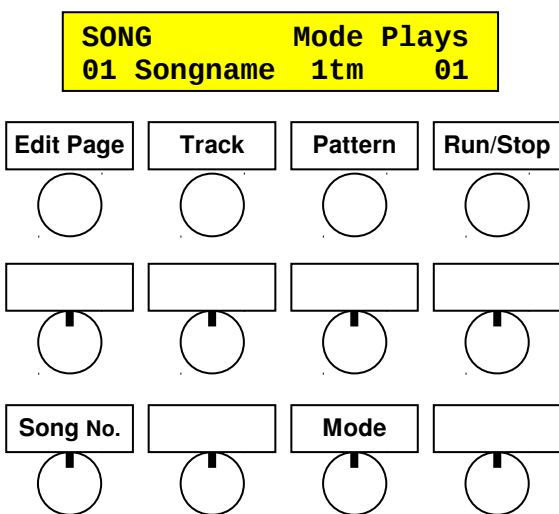
Step – Select song start step, and use it for song editing. When you selects a step, it shows the pattern number assigned to that step. If "end" is displayed, no pattern is assigned to the step. The song will stop playback or loop, when the first end mark arrives. Remember to set this to the step, where you want the song to start, when you have finished your editing.

Ptrn – The pattern number assigned to the selected step. Change and assign patterns with the pattern turning knob. When you change/assign a pattern, Cyclus 3 also saves the track on/off settings for the pattern at that moment. If you want a step to be the end step, turn the pattern knob all the way right, and the display will show "end".

Loop – Define how many times the chosen pattern shall repeat.

Plays – Shows what pattern it is currently playing.

Edit page 16 – SONG.



SONG/Songno. – Choose the song number, you want to play back / record. If the song is named (see "Func"), this name will show on the display.

Mode/Play

- Off: will repeat the current Pattern.
- 1tm: will play the song one time.
- Loop: will repeat the song until stop is pressed.

Plays – Shows what pattern it is currently playing.

Comparison to a software sequencer:

Track 1	1	Pattern 1	<i>Pattern 1</i>	Pattern 2	<i>Pattern 2</i>	<i>Pattern 2</i>	Pattern 3	Pattern 4	Pattern 5	<i>Pattern 5</i>	Pattern 6
Track 2	2	Pattern 1	<i>Pattern 1</i>	Pattern 2	<i>Pattern 2</i>	<i>Pattern 2</i>		Pattern 4	Pattern 5	<i>Pattern 5</i>	
Track 3	3								Pattern 5	<i>Pattern 5</i>	
Track 4	4										Pattern 6
Track 5	5	Pattern 1	<i>Pattern 1</i>	Pattern 2	<i>Pattern 2</i>	<i>Pattern 2</i>	Pattern 3	Pattern 4	Pattern 5	<i>Pattern 5</i>	
Track 6	6										
Track 7	10			Pattern 2	<i>Pattern 2</i>	<i>Pattern 2</i>	Pattern 3	Pattern 4	Pattern 5	<i>Pattern 5</i>	
Track 8	12						Pattern 3	Pattern 4	Pattern 5	<i>Pattern 5</i>	

The number after the track number indicates the MIDI channel (Cyclus 3: "Chan."). The patterns in italic indicates a repeat (loop).

To do this in the Cyclus 3 following steps are needed:

1. Hit the track button, make sure Track. shows "01". Turn it on by Outp "On". Assign Chan. 1. Make now sure it shows "02", turn it on by Outp. "On". Chan = 2. Make now sure it shows "05", turn it on and assign Chan = 5. Go back to Track "01".
2. Hit the pattern button, make sure it shows "01"
3. Hit the edit page button, go to NOTE 1-8, hit the button again and create your melody line, continue with NOTE 9-16 if needed
4. Determine LENGTH and NOTE OFF, VELO a.s.o.
5. Hit the track button, go now to Track. "02"
6. repeat steps 3 & 4
7. Do the same with Track "05"
8. In SEQ MAIN you can determine the last step of this pattern
9. Pattern 1 is now finished (can be edited later again of course). Hit the pattern button and go to "02", repeat step above, now also with Track 7.
10. Do the same with pattern 3 (Track 2 is here "Off"), 4, 5 and 6
11. Patterns are now done. Choose your song number by edit page SONG, i.e. 01. Create a song by edit page SONG EDIT:
 - step = 01, Ptrn = 01, Loop = 02
 - step = 02, Ptrn = 02, Loop = 03
 - step = 03, Ptrn = 03, Loop = 01
 - step = 04, Ptrn = 04, Loop = 01
 - step = 05, Ptrn = 05, Loop = 02
 - step = 06, Ptrn = 06, Loop = 01
 - step = 07, Ptrn = end, (Loop = 01)
12. Name your song by pressing track button, Func = Name and pressing track button again. Letters and numbers can now be chosen with the pots. Leave this mode by pressing edit page button.
13. Play the song by edit page SONG by choosing Mode 1tm or Loop

Btw. two or more tracks can have the same MIDI channel, so polyphony is possible.

Overview Func

Rndm	
Copy	
Mod	
Name	
Sprd	
Dump	Quit / Send

Overview Edit Pages

		Xnote	Contr.
1	Seq Main Track		
2	Last Step		
3	Xnote / Contr.		
4	Note 1-8		
5	Note 9-16		
6		Xnote 1-8	Contr. Value 1-8
7		Xnote 9-16	Contr. Value 9-16
8		Note Off 1-8	Contr. Glide 1-8
9		Note Off 9-16	Contr. Glide 9-16
10	Length 1-8		
11	Length 9-16		
12	Velo 1-8		
13	Velo 9-16		
14	Track on/off		
15	Song Edit		
16	Song		

Pattern Pages

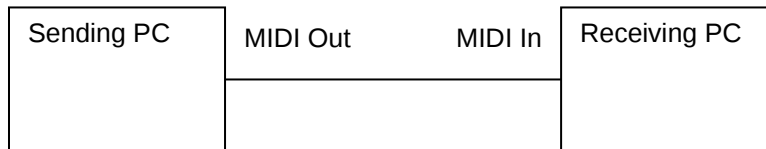
Flash (Firmware) Update

For this, just send the new firmware (it has sysex format) to the Cyclus 3. It does have 32775 Bytes. With some Sysex sending software it is needed to configure some delays between the sysex out buffers. It seems not all MIDI interface are able to handle that amount of data. However the Cyclus 3 does not need any delay.

If the quantity of received bytes are not 32775, the Cyclus 3 will write "Count of Char wrong" for about one second after receiving F7h. After successful reception of the data, it will write "Writing Flash". Writing of the Flash will take about 31 seconds.

Test setup of test for correct sending of 32775 Bytes of Sysex Data

Because some MIDI interfaces do have problems to send the correct amount of data, it is a good idea to test it in the following way:



With a MIDI utility software it is possible to count the receiving bytes.

Back-up battery

The Cyclus is fitted with an internal back-up battery. This means, that it will hold all the song and pattern data when you shut it off. It also means, that you will have to get the battery replaced after about 10 years. Please see chapter technical details for battery type. Replace battery when the Cyclus 3 is powered **on**. This way you won't lose memory.

Power supply unit

Please do only use the enclosed power supply unit. Using another one might damage the Cyclus 3. See chapter technical details if you are unsure about your power supply unit.

Technical details

Battery type:	CR2032
Power supply unit output:	6VAC..9VAC, 450mA..550mA or 7VDC..10VDC, 450mA..550mA
Size:	154mm x 132mm x 65mm
Weight w/o ears:	625g
Shipping weight w. box:	2.09kg

MIDI Implementation Chart

Model: **Spectral Audio Cyclus 3**

Date: 25.2.2016

Version: 1.11

Function		Transmitted	Recognized	Remarks
Basic	Channel	1-16	1-16	memorized
Default	Channel	1	1	
Mode	Default	x	x	no modes supported
	Messages	x	x	
	Altered	x	x	
Note	Number	0-127	0-127	
	True Voice	0-127	0-127	
Velocity	Note On	0-127	0-127	
	Note Off	0-127	0-127	
After Touch	Key's	x	x	
	Ch's	x	x	
Pitch Bender		0	0	
Control Change		0-127	0-127	
Prog Change		x	x	
	True #	x	x	
System Exclusive		0	0	262151 Bytes RAM dump 32775 Bytes Flash dump
System Common	: Song Pos	x	x	
	: Song Sel	x	x	
	: Tune	x	x	
System Real Time	: Clock	0	0	FAh, FBh, FCh recognized. F8h recognized and passed. FBh, FC, F8h sent.
	: Commands	0	0	
Aux Messages	: Local On/Off	x	x	
	: All Notes Off	x	0	
	: Active Sense	x	x	
	: Reset	x	0	
Notes		.I.	.I.	

Mode 1: Omni On, Poly

Mode 2: Omni On, Mono

o : Yes

Mode 3: Omni Off, Poly

Mode 4: Omni Off, Mono

x : No

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