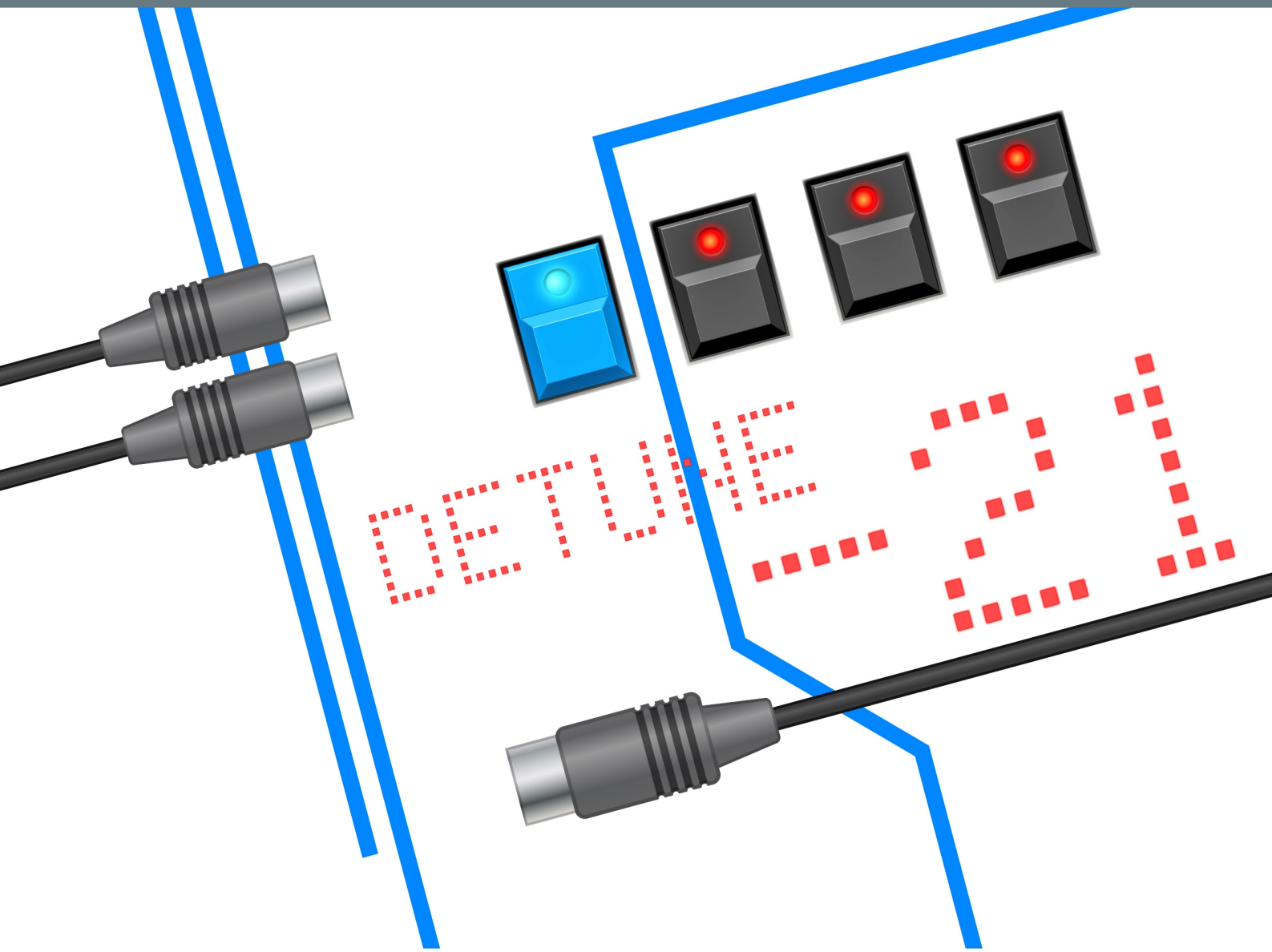
STEREOPING

SYNTH PROGRAMMER

FOR ROLAND® MKS-80



OWNER´S HANDBOOK

General features of the Synth Programmer

The Stereoping Programmer offers 45 control dials, 4 endless encoders and a 16x2 characters OLED display to for convenient and intuitive sound shaping of your Roland MKS-80. At the moment you turn a knob, the programmer sends the suitable command into your synthesizer which immediately changes it's sound.

- Highly specialized hardware midicontroller for Roland MKS-80
- Convertable from 19“ rackmount to desktop usage – and back
- 45 dials, 4 encoders, 2x16 character oled display
- Firmwareupdate over SysEx-Dump
- Current draw 100 mA
- Weight 2.650g
- Size without rackmount brackets, incl. knobs and rubber feet ca. 430 x 130 x 85 mm

Special features of the Edition 80

- Visual design suitable to the MKS-80
- Coloured knob caps like on the MPG80 - e.g. blue ones for PATCH parameters
- Splitpoint can be set by incoming midinote
- 'Midi CC' to 'SysEx'-translator to automate your MKS-80 with ordinary CC-messages
- Patch-Randomizer
- 6 voice Chord Memory with 6 saveable Chord-Slots

Technical handling

The Synth Programmer was built to be used in a comfortable music studio environement. You can operate it under free skies of course. But please keep in mind, it uses electricity for proper operation and therefore is quite sensitive to water, drinks or other fluids. Excessive heat or exposition to sunlight is also not advised.

Your programmer has got a neat OLED display. The OLED technology is quite young. As none really can guarantee how long it will keep it's perfect function after displaying the same content for hours or even days, we integrated a screensaver to mutiply the lifetime of the display. If the programmer is not touched for longer than 23 minutes it will fall into screensaver mode and switch the OLED display off – the LEDs in the buttons above the display will start to blink slowly. The programmer awakes immediately if a knob is moved or notes are being sent through it.

Some 'No-need-to-worry' information: the datasheet of the display claims 50.000 hours until it has lost 50 % of it's brightness. If you would use your programmer 5 hours on each day of the year this will take over 27 years – even with deactivated screensaver.

1. Connections and integration into your setup

Power supply

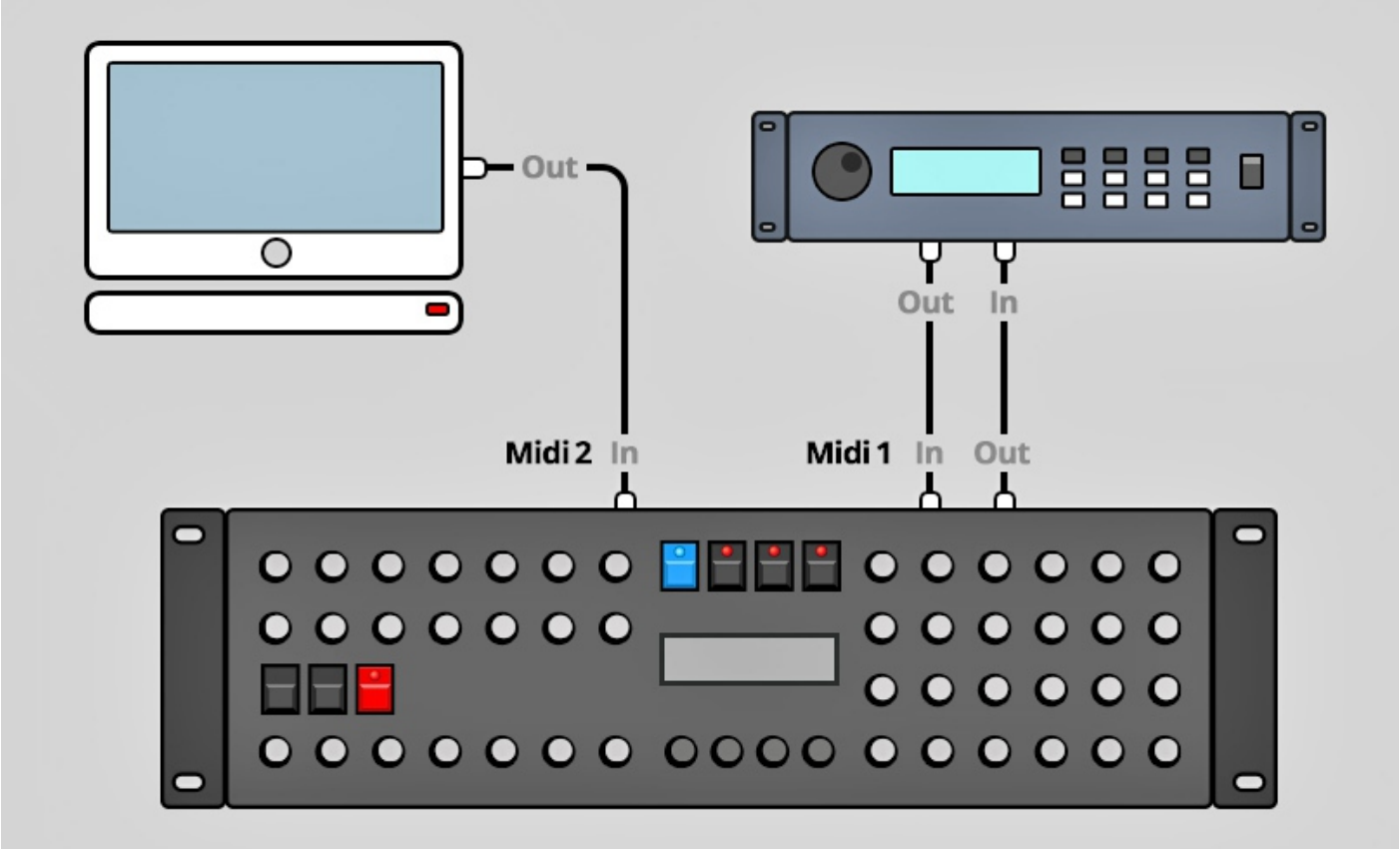
You can use any ordinary 9 Volt DC powersupply to operate your controller. The connector should have **Plus on it's center pin** and Ground - sometime labeled as 'Minus' - on the outside. The Synth Programmer has a protection diode for not doing any harm if the polarity of the power supply is wrong, it just won't work. The current of the PSU should at least offer about 200 mA (=0.2 A). If it supplies more current (e.g. 500mA) this is fine and won't cause problems.

Please do NEVER use a powersupply which has an 'AC'-Output. AC means alternate current. AC-PSUs have the letter combination AC/AC or a sinewave symbol besides the word 'output'.

Midi connections

The Stereoping Programmer has 3 Midi jacks which should be cabled like that:

- **MIDI 1 - OUT** -> MIDI IN of your MKS-80
- **MIDI 1 - IN** -> MIDI OUT of the MKS-80
- **MIDI 2 - IN** -> MIDI OUT of your Midi interface/sequencers/keyboards



Both jacks of Midi 1 connect the Programmer with your synth in a loop. This seems unconventional but it is necessary: the Synth Programmer must hold the same patch data in it's memory as your MKS-80. This data exchange runs through **MIDI 1 IN** / **OUT**.

A Synthesizer would not make any sense if it could not receive midinotes, modulation wheel changes etc. These are coming into the programmer over the **MIDI 2 IN** jack from your keyboard/DAW/sequencer. They will be merged with your parameter changes and sent together to the synthesizer.

2. Settings and workflow

Settings on the MKS-80

For the MKS to work properly with the Programmer two things have to be set:

- The switch labeled 'MIDI FUNCTION' of the MKS-80 must be pushed into position III, otherwize it refuses to listen to SysEx commands
- The MKS-80 and Synth Programmer have to be set on the same midichannel

Synchronisation

Directly after powerup the Programmer is 'empty', it should be feeded with the parameter data of the currently selected MKS-80 patch. As long as Programmer and Synthesizer are not synced Compare and Randomizer remain locked. In addition the Programmer's display shows questionmarks instead of the original values for parameters.

Syncing could not be easier: select any patch directly on the MKS-80. The MKS-80 sends the complete Patch & Tone-Data through it's MIDI OUT, the Programmer reads it and updates it memory. You will see a response message on the Programmer's display as shown to the right also supplying information about the KEYMODE and which Tones are used inside the Patch. Programmer and Synthesizer are in sync now and we can start.

The same thing happens when selecting another Tone inside a Patch. The MKS-80 automatically sends the data of the just selected Tone to the Programmer which prompts the recognized data with a positive response message on display.

Saving

Saving Patches and Tones must be accomplished on the MKS-80 itself, the Programmer does not offer any possibility to save your sound creation.

3. Overview

Let's take a quick look on the user interface first. Details to the different modes and buttons are following behind – if necessary at all.

The 45 turn dials are – you guess it already – for direct changing of the MKS-80 's parameters.

The 4 endless encoders are for finetuning values on features tweaked best in fine steps and with a display. There are 4 lines, each starting on an encoder and ending in a corner of the display. This should help finding the right encoder of the parameter you want to change.

The 7 buttons change main modes and select UPPER or LOWER parameters. The 4 buttons above the display sometimes have a secondary function:

Function keys

In modes like COMPARE, CHORD SETUP & RANDOMIZER the 4 buttons above the display act as function keys to execute different menu functions. A button acting as function key has it's LED shining and a command printed in capitals in the 1st line of the display.

Example: press RANDOM to enter RANDOMIZER. The LEDs of the buttons PEEK and RANDOM will light up. In the 1st line of the display you will read the commands DO and EXIT. Pressing RANDOM again will execute XIT, causing the Programmer to exit Randomizer again. Pressing PEEK (="DO") would create a random Patch and let the Programmer send it over to the MKS-80.

PLAY Mode

After powerup or if no other mode is selected you are directly in **PLAY MODE**. This is the main mode you will spend most time in: here you change the parameters of the MKS-80 with the knobs. Details to PLAY Mode follow in *Chapter 5. Play Mode*

Button 'PREFS'

Press **PREFS** to enter the Programmer's menu with the preferences. Any changes you make here will automatically be saved on exiting. The settings are also preserved after powering the Programmer down of course. Holding the PREFS button for longer than 2 secs. activates **MIDI BYPASS MODE**. Details on all PREFS parameters and the MIDI BYPASS MODE will follow in *Chapter 7. PREFS and MIDI BYPASS MODE*

Button 'COMP'

Use **COMPARE** to switch between your *original* patch of the MKS-80 and your *edited* patch. As long as compare is active and you hear the original patch, the turn dials are locked.

Line 2 of the display shows 'Original Patch' to make clear you actually are listening to the original patch as it was coming out of the MKS-80's memory. Line 1 displays the command 'KEEP?' and button No. 4. above the display is bright. If you desire to keep this original patch just press this function key. Your edited patch will be replaced by the original patch and the Programmer jumps back into PLAY mode. Or you simply press COMPARE again to revert to your edited patch.

Button 'CHORD'

This enables/disables **CHORD MEMORY**. Holding the button for 2 seconds jumps into the CHORD SETUP menu. All infos and details about this in *Chapter 9. Chord Memory.*

Buttons 'UPPER' and 'LOWER'

Most KEY ASSIGN MODEs use two sets of parameters to build the Patch, UPPER and LOWER parameters. These buttons select where your pot fiddling will be sent to. More on the Upper/Lower/Tone/Patch mess in *Chapter 4. Patches and Tones - Upper and Lower*.

Button 'RANDOM'

Press **RANDOM** to enter the **RANDOMIZER**. If you are addicted to chaos the Programmer offers the right tool here. Press RANDOM again to leave this mode and get back to PLAY mode. All about the Randomizer in *Chapter 6. Randomizer.*

Button 'PEEK'

Press **PEEK** to toggle **PEEK** mode on and off. While PEEK is active any knob fiddling brings the parameter to display without changing the value or sending anything to the MKS-80. Quite helpful to examine parameters without changing the Tone/Patch..

Hint: If you just need to PEEK one or two parameters and want to avoid clicking ON/OFF, ON/OFF, ON/OFF there is a shortcut: keep PEEK pressed. If you hold the PEEK button longer than ½ a second on activating, it will be immediately disabled again as soon as you lift it again. This saves half of the 'Klicks'. As long as PEEK is down you can peek as many parameters as you like of course.

4. Patches and Tones – Upper and Lower

Before diving into PLAY mode let's first take a look on the MKS-80's architecture of Upper and Lower Patches and Tones.

What is a Tone?

A Tone is the collection of 48 parameters for Oscillators, Filter, LFO and Envelopes – responsible for the timbre or 'sound'. You can not play a Tone separatly, there is no 'Tone Mode' on the MKS-80. A Tone is always part of a Patch.

The MKS-80's 'Tone' button is just for reaching the parameters associated with the Tone (and not the Patch). Which Tone(s) is (are) played is always determined by the Patch. The MKS-80 offers 8 banks each with 8 Tones.

What is a Patch?

A Patch is a collection of 30 parameters built up of 2 identical sets of 15 UPPER parameters and 15 for LOWER. One of these 15 Parameters holds the Tone number. The remaining 14 parameters determine HOW this Tone will be played: monophonic or polyphonic, Pitchbend depth, Split- or Layer, glidetime, balance between Upper and Lower Tone etc.

UPPER und LOWER share the first 3 patch parameters KEY MODE SELECT, SPLITPOINT and BALANCE. If one of these is changed in UPPER, LOWER will hold the same value and vice versa.

Patch parameters of the Programmer have blue knob caps (as on the original Roland MPG-80). The MKS-80 can save 8x8 Patches.

Upper and Lower?

UPPER or LOWER is synonym for a sound component, holding 15 Patch-parameters and 48 Tone-parameters.

The Programmer's UPPER and LOWER buttons have the same function as the UPPER/LOWER buttons on the MKS-80: they determine where your parameter changes will be sent to: UPPER or LOWER. The 'suitable' button on the MKS-80 will automatically light up as you change parameters in combination with UPPER / LOWER as the MKS-80 automatically recognizes if incoming commands are targeting UPPER or LOWER. If you tweak one of the blue Patch knobs, the MKS-80's PATCH-button will light up. Tweaking Tone knobs lets the MKS-80's Tone button light up.

There is one exception: Key Assign Mode WHOLE

If KEY ASSIGN MODE is set to WHOLE, the LOWER parameters will be ignored by the MKS-80, allowing to play the UPPER tone with 8 voices. Playing a WHOLE patch automatically lights up the Programers and MKS-80's UPPER and LOWER buttons all together. BALANCE has no effect at all in WHOLE mode.

One Tone used in several Patches?

Now there is one confusing issue: a patch can select any Tone from the pool of 64 Tones. A Tone logically can be used by several different Patches. If you change such a Tone and save it, all the Patches making use of it will sound different. This is a problem even the Programmer can not solve.

5. PLAY Mode

This is the active mode right after powerup. As long as the Programmer is not in sync yet, it just displays questionmarks for the original values of the program.

Remember: to get Programmer and MKS-80 in sync just select a Patch on the MKS-80.

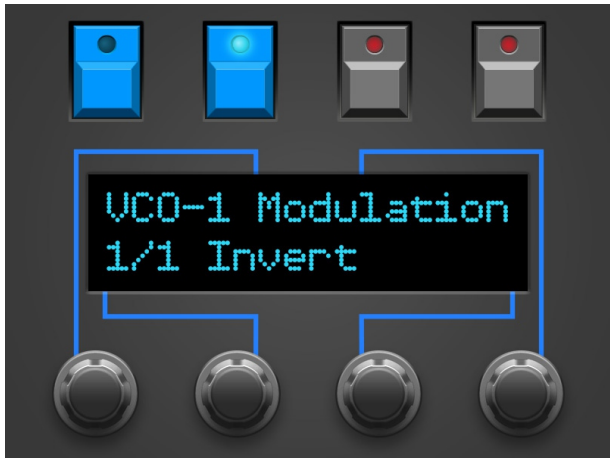
On turning a knob the display shows 4 informations:

- Upper left is the parameter group like 'LFO-1', 'VCF', 'VCO-1' ...
- Upper right the parameter name like e.g. 'Tune'
- Lower left you find the original value of the parameter displayed in brackets
- Lower right you see the current value of the parameter you are currently changing

You can finetune the value of the currently active parameter with encoder 3. (Why encoder 3? Because the line printed on the faceplate leads from encoder 3 to the lower right corner of the display)

Parameter groups

A complete Patch (including the associated Tones) of the Roland MKS-80 has got 126 parameters. The Programmer just offers 45 pots. Hmmm, where is the rest? First, the amount of paras can be halfed as they are identical for Lower and Upper which can be switched by dedicated buttons. The remaining 13 are grouped and accessible through subpages. They will be selected and changed with the encoders.



Following is a list of the parameter groups, in brackets you find the parameters:

- LFO-1 *(Waveform)*
- PWM *(PWM Mode Select)*
- KEY FOLLOW *(VCO Select)*
- VCF *(Env Select)*
- KEY MODE *(Splitpoint)*
- ASSIGN *(Hold)*
- BENDER *(VCO-1 Bend, VCO-2 Bend)*
- VCO-1 *(Modulation)*
- VCO-2 *(Modulation)*
- ENV-1 *(Reset)*
- ENV-2 *(Reset)*
- AFTERTOUCH *(Mode)*

Each time you move a pot, the upper left display position shows the associated parameter group. For example you turn the knob for 'VCO-2 Tune', the upper left of the display shows 'VCO2'. If the para group is printed in CAPITALS, there is at least one sub parameter. The para group „Xmod“ therefore does not offer a sub parameter. You reach sub parameters by moving encoder 1 or 4 one tick. Being in the sub group the enconders do the following:

- encoder 1 allows changing the para group (e.g. from VCO-2 to ENV-1 to ENV-2 etc.)
- encoder 2 changes the parameter for BENDER. The formatting „1/2“ makes clear you are on parameter 1 of 2. All other groups just offer 1 para.
- Encoder 3 changes value as usual
- Encoder 4 has no function at all

As soon as you turn a pot the Programmer jumps out of the sub menu.

Setting Splitpoint with the keyboard

Both modes of KEY ASSIGN Split-1 and Split2 allow to play Upper and Lower in separate halfs of the keyboard. The border-note between LOWER and UPPER Tone is set by the KEY ASSIGN sub-parameter SPLITPOINT. Get it on display by moving KEY MODE and turning encoder 1 or 2 just one Tick. Encoder 3 now allows shifting the Splitpoint.

Tip: There is an easier way for setting SPLITPOINT. As long as the display shows the SPLITPOINT page, you can hit a note on your keyboard. The Programmer will immediately set the incoming note as the new Splitpoint. The note has to be sent on the Programmer's midichannel set in the Prefs.

LFO-1 Waveform in submenu?

You migh ask why LFO-1 waveform was banned into a sub parameter whereas the (on the first sight) 'unimportant' LFO-1 delay got a dedicated button. Well, LFO-1 just got 4 waveforms which can be switched easy by encoders whereas a span from 0-100 is much more fun being adjusted with a potentiometer.

Changing values directly on the MKS-80

You can change any parameter value for Patches or Tones on the MKS-80 itself as well. The Programmer will recognize and display your changes – as long as PREFS parameter 3 'XtCC Display' is set to ON.

Side function for UPPER & LOWER Buttons

Additionally to switching between Upper and Lower these buttons got a secondary function: as long as you keep them pressed the currently selected TONE number is shown on the display.

6. RANDOMIZER

The Randomizer creates random patches as well as some typical preset sounds, to have a clean starting point for your own creations. It's aim is not to spill patch junk, needing 25 attempts until coming up with something valuable. The Randomizer follows some special rules. VCA MOD ENV 2 e.g. will only be changed in mode 4 - NOISE will not be selected as possible waveform below mode 2. On the other side you hardly can expect 50 attempts to create 50 breathtaking top patches.

The 4 Buttons above the Display execute the following commands:

- **'KEEP'** – will appear below the UPPER button after having created a random sound. If you like to keep it, press this button. A safety requester will appear. On choosing YES, your old patch BEFORE entering Randomizer will be rejected and your random sound will become the current patch held in Programmer's memory. Choosing NO jumps back into Randomizer.
- **'EXIT'** – press this to exit Randomizer and return to PLAY mode. If you created a random patch it will be rejected and the Patch before entering Randomizer will be restored.
- **'DO'** – creates a random Patch based on the parameters explained below.

At the beginning of display line 1 you spot an abbreviation: the target where to send the random Patch to. If you are in WHOLE mode it sais 'WHL'. Similar to the knob dialing itself, the random Patch will be sent to UPPER then. In all other modes you can use encoder 1 to choose between 'UPR', 'U&L' and 'LWR'. You just want to randomize UPPER? ... set 'UPR' etc.

In the second display line you can take influence on fortune:

- encoder 2 selects the **Preset**: Init, Bass, Orgn, Perc or Pad.
- encoder 3 changes **'Mode'** between 0 and 4 to increase the amount of randomization. Mode 0 sends the preset without any randomization. If something different should happen on pressing 'DO' over and over again, 'Mode' should at least be 1.

Mode 0: Just uses the Preset without any random influence

Mode 1: based on the Preset values, some parameters are slightly randomized using the following rules:

- LFO1 DELAY always 0 and WAVEFORM always TRIANGLE
- VCO ENV 1 DEPTH always 0
- VCO KEYOLLOW always 100
- VCO RANGE always in octaves
- VCO2 WAVEFORM never NOISE
- HIGHPASS always 0
- XMOD, SYNC, Envelope and Modulationsource selections and polarities unused
- No changes on PATCH parameters

Mode 2: based on the Preset values but with more randomization using the following rules:

- LFO 1 changes WAVEFORM
- VCO2 RANGE in octaves and famous intervals
- VCO2 WAVEFORM NOISE allowed with 20% probability

Mode 3: full random range on all parameters without consideration of the Preset and using the following rules:

- VCO1 RANGE in octaves and famous intervals
- VCO MOD ENV1 DEPTH set to OFF with 60% probability
- VCF CUTOFF not below 30
- VCA ENV2 DEPTH set to 100 with 60% probability

- ATTACK for ENV2 always below 80

Mode 4: full chaos. If you can not hear any sound, the cause is most likely VCA ENV2 DEPTH or CUTOFF

Patch Parameters will be changes from Mode 2 on. The following Patch Parameters remain untouched by the Randomizer:

- KEY MODE
- SPLITPOINT
- TONE NUMBER
- HOLD

Hint: all dials are still fully functional in Randomizer. You can start twaeking your random Patch right away.

7. PREFS and MIDI BYPASS MODE

PREFS menu offers 4 pages. The currently selected will be displayed in the upper right corner in format '2/4' e.g. You can swap pages with encoder 1 and 4. Values can be changed with encoder 2 and 3.

- **'1/4 Midichannel'** – this is where to set the Programmer's Midichannel. It should fit the current midichannel of your MKS-80.
- **'2/4 Filter PgmChange'** – enables or disabled filtering of program change messages sent from your DAW/Sequencer. If set to ON, the filter is active and your MKS-80 does not see Program changes as the Programmer filters them out.
  Caution: unsaved edited patches can be lost by some unintendedly engaged program change from inside your DAW or keyboard.
- **'3/4 Displaysaver'** – YES means the display falls asleep after 23 Minuten inactivity. This can increase lifetime of OLED displays. As sson as you move a knob or some mididata is detected on the programmers Midi In the display wakes up.
- **4/4 Operate'**

  'Operate' determines the main operation mode of the whole Programmer. Chaning from one mode to the other lets the Programmer reboot after leaving the PREFS.

  - Native: this is the main operation mode to edit all the Synth's parameters as described in this manual
  - CC-Mode: this mode turns your Programmer into a universal Midicontroller for the so called „Midi Control Change“ commands (CC). Sending standard CC messages is quite handy for remoting VST plugins or hardware responding to CC. The CC-mode had a dedicated manual on it's own. You will find it on our website in the DOWNLADAS area of the Synth Programer.

You can leave this mode by pressing the PREFS button again. If you changed any of the values, your new settings are saved automatically.

Midi Bypass Mode

The PREFS button got a secondary function. By holding it for 2 seconds the Programmer jumps into **MIDI BYPASS MODE**. Being in MIDI BYPASS MODE most of the routines of the Programmer are skipped and any midi data coming in on **MIDI IN 2** will be forwarded unprocessed and unfiltered to your MKS-80 on **MIDI OUT 1** - as if your Programmer would not be in between at all. This mode is quite useful if you want to dump some soundbanks into the MKS-80. You can leave MIDI BYPASS MODE at any time pressing PREFS again.

8. CHORD MEMORY

The CHORD Button simply switches CHORD MEMORY on and off. A Chord Memory allows to play a previously learnt chord chromatically by just pressing one key. The lowest note of the chord is the base note, all remaining notes will be shifted in their learnt interval above the base note.

The Chord Memory of the Synth Programmers offers six 'Chord Slots' which can be quickly selected by pressing notes on the keyboard! Your 6 chords keep saved in Programmer's memory even after switching it off.

Triggernotes

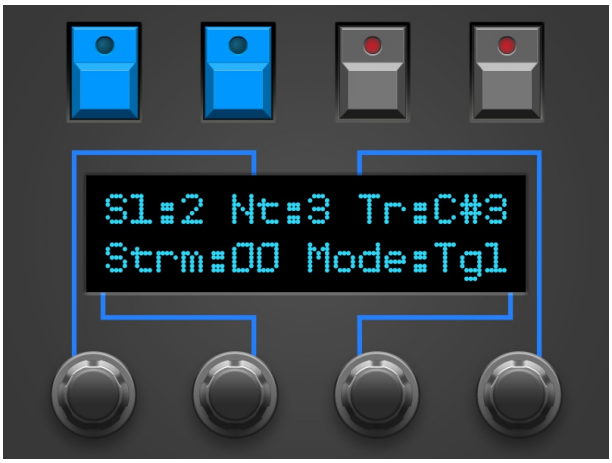
The 6 chord memos will be selected each by it's own keyboard note, the triggernote. It allows switching chords over midi to be automated easily in a song. The triggernotes are also used in Chord Setup to learn the chord. You can program and use the chord memory completely from the keyboard without switching between Programmer and keyboard.

To avoid collision of triggernotes and normal play notes, setup also offers changing the position of the triggernotes. But they always are placed on succeeding keys, e.g. C2, C#2, D2,D#2 etc.

On activating or changing chord slots, the display shortly shows the currently selected Chord Slot and the triggernote, e.g. „Sl: 2 Nt:2 Tr:C “ (Slot 2, using 2 notes in total, triggernote C1)

Chord Setup

To enter CHORD SETUP keep the CHORD key pressed for 2 seconds. This is the mode to learn new chords, set Strum or shift the triggernotes.



The display shows the following:

Sl:2 – You are currently working on slot 2. Change the slot with enocder 1 or using the triggernotes

Nt:3 – The current chord slot uses 3 notes. This will be updated automatically on learning a chord

Tr:C3# – The triggernote for this slot is C3#. Shift all triggernotes using encoder 4. Remember: the triggernotes for all 6 slots are succeeding. Changes on one slot alters all others as well.

Strm:00 – the Strum-time is a short delay before triggering the next note of the current chord. Possible values range from 0 to 99. Change strum time using encoder 2.

Mode:Tgl/Hld – The Chord learn mode, use encoder 3 to toggle between 'Toggle' and 'Hold'.

Being in Chord-Setup you can play your chords and swap slots as outside the Setup. The big difference in Setup: **while holding a triggernote you learn the new chord**. Display shows 'LEARN!' instead of the triggernote. The first incoming note will erase the old chord in memory. As soon as you do not SAVE on exit, nothing is lost.

Learning modes 'Toggle' and 'Hold'

In learning mode 'Hold' you just hold your chord until you lift the triggernote. In 'Toggle' mode you do not need to hold the desired keys, making things easier on chords with widely spread notes. Press a note to add it to the chord. Press it again to remove it from the stack.

Lifting the triggernote saves your new chord in the current slot and you can start testing your chord on the keyboard.

You can leave Chord-Setup by pressing CHORD again. On leaving you will be asked whether to save or reject your changes. The buttons above the display offer 3 options:

- SAVE – all changes in the chord slots will be saved
- BACK – leads back into the Chord Setup
- XIT – Chord Setup will be left without making any changes

9. CC to SysEx translator

Maybe you like to automate cutoff, envelope times or other parameter in your song? This is where the CC-translator comes into play, it converts ordinary Midi Control Change messages into the complex SysEx-Strings your MKS-80 needs to see for parameter changes.

Setup a 'mixermap' or 'Dashboard' (or whatever it is called) in your DAW with sliders or turn dials sending Midi-Controller-Change messages (CC). You just need to assign the CC number associated to your desired parameter to such a control (according to the table). By moving or automating this control inside your DAW or sequencer the Programmer translates the DAW's CC-output into SysEx-commands and sends them to the MKS-80 which immediately changes it's sound.

For avoiding intersecting with Standard-CCs like Volume (#7) or panning (#10) some CC-numbers are left out. The CC data must be sent on the same midichannel as your Programmer and MKS-80 is set to.

CC#	LOWER
33	LFO-1 Rate
34	LFO-1 Waveform
35	VCO Mod LFO-1
36	VCO Mod ENV-1
37	PW
38	PWM
39	XMOD Manual Depth
40	XMOD ENV-1 Depth
41	VCO-1 Range
42	VCO-1 Waveform
43	VCO-2 Range
44	VCO-2 Finetune
45	VCO-2 Waveform
46	Mixer
47	HP Cutoff
48	VCF Cutoff
49	VCF Reso
50	VCF Mod Env Depth
51	VCF Mod LFO-1 Depth
52	VCF Keyfollow
53	ENV-1 Attack
54	ENV-1 Decay
55	ENV-1 Sustain
56	ENV-1 Release
57	ENV-2 Attack
58	ENV-2 Decay
59	ENV-2 Sustain
60	ENV-2 Release
61	Unison Detune
62	Glide

CC#	UPPER
73	LFO-1 Rate
74	LFO-1 Waveform
75	VCO Mod LFO-1
76	VCO Mod ENV-1
77	PW
78	PWM
79	XMOD Manual Depth
80	XMOD ENV-1 Depth
81	VCO-1 Range
82	VCO-1 Waveform
83	VCO-2 Range
84	VCO-2 Finetune
85	VCO-2 Waveform
86	Mixer
87	HP Cutoff
88	VCF Cutoff
89	VCF Reso
90	VCF Mod Env Depth
91	VCF Mod LFO-1 Depth
92	VCF Keyfollow
93	ENV-1 Attack
94	ENV-1 Decay
95	ENV-1 Sustain
96	ENV-1 Release
97	ENV-2 Attack
98	ENV-2 Decay
99	ENV-2 Sustain
100	ENV-2 Release
101	Unison Detune
102	Glide

10. Updating Firmware

The day may come you want to update your edition or try out another. Your Synth Programmer offers a firmware update mode for this. After entering this mode you just send a firmware-file into the controllers Midi IN 2 jack. The firmwares in SysEx-format are all compatible with your Programmer and freely available on our website. You can dump them with any standard SysEx dump tool of which several are available as freeware for different operating systems. An exmaple for PC is 'MidiOX', for the Mac you could use 'SysEx Librarian'.

The technical part:

- Switch off the Stereoping Programmer
- Connect **MIDI OUT** of your Midi-Interface directly to the jack **MIDI 2 IN** of the Programmers using a short cable of good quality
- There are some preferences in most SysEx-Dump Programs like 'Delay between Buffers' or 'Delay after F7'. Please choose something around 100mS (Milliseconds) here.
- Hold LOWER and power up your Programmer. The Display should read 'BOOTLOADER'
- Load the new Firmware into your SysEx-Dump Program and send it out
- In rare cases there is a data-chunk stuck somewhere and you will see the message „Wrong file“ right at the beginning. Stop the firmware transmission, simply press LOWER again and restart the firmware transmissing. It should work now.
- The display shows OS-Version and progresst. After about 2 minutes the Programmer restarts
- If you will get an error on the screen please try another cable or increase the delay mentioned above.

The firmware update erases all PREFS settings.
All 6 Chord Memory slots will be reset to factory settings

11. Imprint

Stereoping is a registered trademark of Gregor Zoll, Germany.

Adresse Gregor Zoll Musikelektronik
Hermann-Voss-Str. 21
59872 Meschede
Germany

E-Mail hello@stereoping.com

Homepage http://www.stereoping.com

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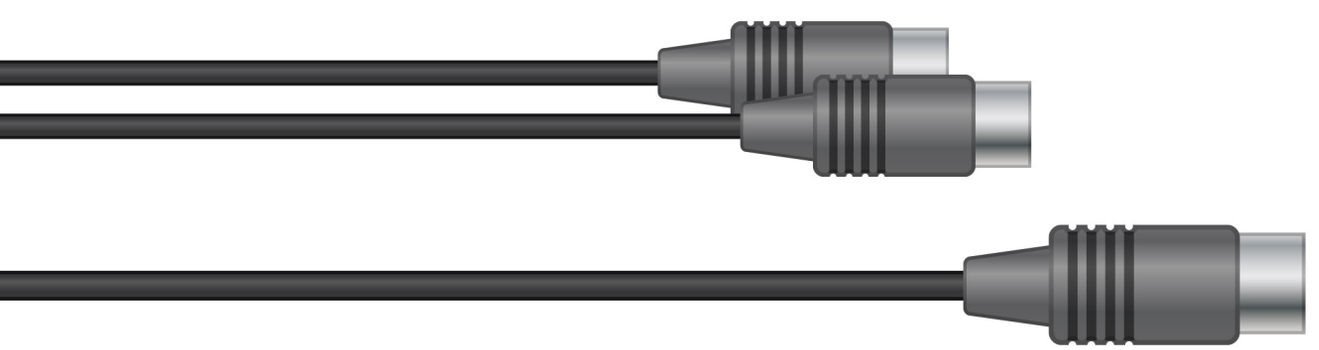

SYNTH PROGRAMMER