Fury-800

Polyphonic Synthesizer

Version 2.3

© 2020-2021 by Björn Arlt www.fullbucket.de/music

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Introduction

The *Fury-800* is a software synthesizer plug-in for Microsoft Windows (VST) and Apple macOS (VST/AU) simulating the KORG® *Poly-800 Polyphonic Synthesizer* from 1983. It is written in native C++ code for high performance and low CPU consumption. The main features are:

- Two band-limited DCOs with individual envelope generators (DEG)
- Single (paraphonic) lowpass VCF and Noise
- On-board sequencer and Chord Memory
- Pseudo-stereo Chorus effect
- SysEx (import & export) and tape dump (import only)
- Resizable user interface (not "N" version)
- Tweaks:
    - Up to 64 voices polyphony with Velocity
    - "God Mode" for real polyphony
    - Continuous parameter values and direct access
- MTS-ESP (https://oddsound.com/) dynamic micro-tuning support
- All parameters can be controlled by MIDI controllers
- Plug-in supports Windows and macOS (32 bit and 64 bit)

The *Fury-800* is based on the new **iPlug2** framework maintained by **Oli Larkin and the iPlug2 team**. Big thanks, guys!!! Without your work it would not have been possible to create a resizable *Fury-800* user interface.

To resize the plug-in you just grab the yellow triangle at the bottom right of the *Fury-800* window and drag it. You can save the current window size using the menu entry "Save Window Size" in the *Options Menu*.

From The *Poly-800*...

Once upon a time I promised myself not to create a simulation of an existing piece of hardware that I do not own by myself. Anyway, after receiving so many mails about "Why not recreating the *Poly-800*?" I thought "Why not?". After all, this could have been the first polyphonic synthesizer I'd ever had bought – if it were not for the mighty *Bit One* *cough, cough*...

In the mid 80's, it was time for weird and futuristic designs. It was also time for transition (from analog to digital…) and for relentless cost reduction – how else could one explain the advent of music machines with zillions of parameters but only two buttons to edit them? The Yamaha *DX7* became an icon of its time (plus beyond), and other manufacturers gave their new machines a similar look: Parameter numbers and ranges were printed on the face plate, knobs/sliders disappeared, pseudo-technical diagrams and LED displays were ubiquitous.

Enter, stage right: The KORG *Poly-800* from 1983. It had the look! It was polyphonic! It was programmable! It was cheap (and inexpensive)! It was sexy! Put on a strap and you could pose like a guitar player! It had only one filter for all voices? Ouch…

But it also had some outstanding features that are worth mentioning: Two DCOs, each with their own digital ADBSSR envelope generators (DEG) and a funky way of additive waveform generation, a VCF with its own ADBSSR DEG, a Chord Memory and on-board sequencer.

... To The *Fury-800*

Well, I added some enhancements to my *Fury-800* simulation:

- The *Fury-800* can be 64 voice polyphonic – the *Poly-800* only offered 8 voices (just 4 in *DOUBLE* mode).

- *Velocity* is – optionally – available.

- Due to technical reasons the *Poly-800* was paraphonic with respect to the VCF (the special chip used for the eight DCOs did not output the individual DCO signals but a mixture of their *octave signals*; thus the signal of the DCOs could only be filtered in their sum). But the God Mode will turn the *Fury-800* into a "true" polyphonic synthesizer.

- Where ever useful I turned step-like parameters into their continuous equivalents. For example you can adjust the *level* of the 8' DCO wave instead of just turning it on or off.

- The sequencer in the *Poly-800* offered 256 "steps" – but the correct description would have been that it offered 256 *events* (for example a chord of three notes eats three "steps" and not just one). The sequencer of the *Fury-800* is different and features 1000 "real" steps. In theory you can have sequences of 1000 steps where each step stores a chord of 64 notes. ☺

- Editing the *Poly-800* is no fun because you have to dial each parameter using the numeric keyboard, and there is no slider to change the parameter's value (just two buttons). The *Fury-800* has the option to show and edit all parameters at the same time.

- The Chorus effect of the *Poly-800* was said to be a *stereo* chorus. Well, I don't want to split hairs here, but in fact it was a *mono* chorus where the *inverted* signal was mixed to the right channel of the *Poly-800*'s output (quite a common pattern in these days). The chorus in the *Fury-800* also is a mono effect, but here you can select if the chorus signal shall be inverted when mixed to the right channel or not.

What's New With Version 2?

After the release of version 1.0, I received lots of mails with appraisals, critics and suggestions. Two were of utter significance: The mails from **Steve Henshaw** and **Felix Homann** who sent me samples of their original *Poly-800* machines. During the development of the *Fury-800* v2.0, Steve even became my all-day sparring partner and compared v2 against the real thing! Needless to say that meanwhile **kraftraum** also Beta-tested the plug-in. All in all this was a labor-intensive but also very amazing experience!

To tell you the truth, the *Fury-800* v1.0 does differ from the original *Poly-800* – not so much sound-wise but *parameter-wise*. A *Fury-800* v1.0 program may sound totally different than a program with the same parameter settings on a *Poly-800*, but this is mainly due to the different parameter *ranges* on both machines! Furthermore, the shapes of the envelopes (DEG) are different: While the Fury-800 v1.0 uses exponentially shaped contours, the *Poly-800* envelopes are parabolic and linear.

Two Modes, Two Worlds

Now changing parameter ranges or other crucial features like envelope shapes etc. on an existing plug-in is something of a no-go. If such a plug-in is already used in a project and gets upgraded to a new version, it will obviously sound different than before – backwards compatibility is needed! Thus I decided to provide two modes of operation with the *Fury-800* v2.0:

- **BUCKET MODE**
  In this mode the *Fury-800* v2.0 will sound like the original v1.0. Furthermore, if you load a program saved with v1.0 it will automatically set the *BUCKET MODE*. This is the backwards compatible mode.
  Note that in *BUCKET MODE* the LED display will glow in a rather unfamiliar green.
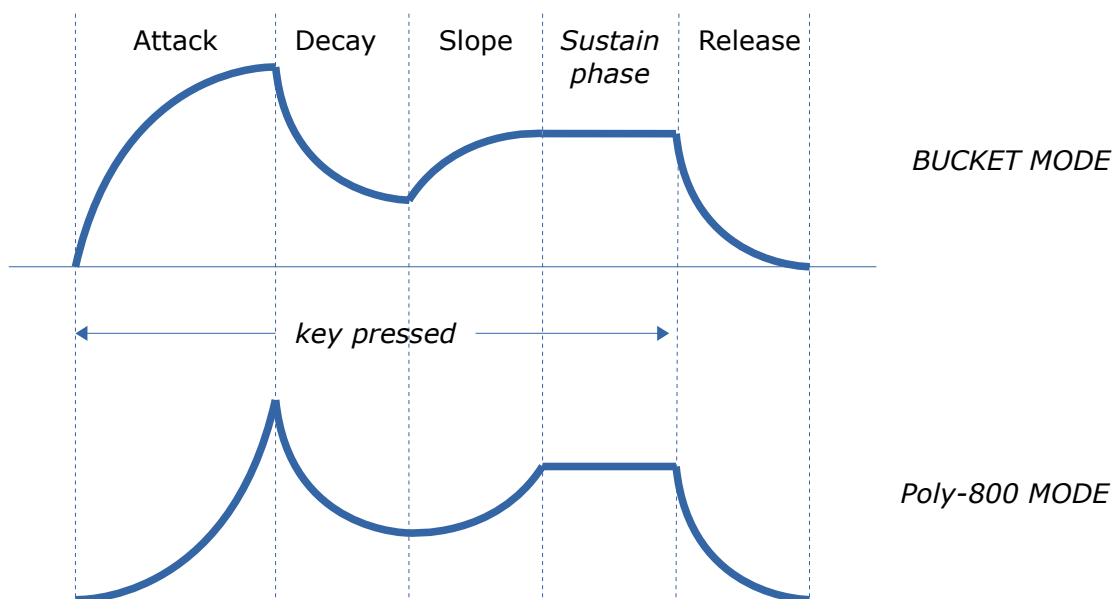
- **POLY-800 MODE**
  In this mode the *Fury-800* v2.0 will sound like the *Poly-800*: Parameter ranges and envelopes are adjusted to those of the original. If you import a program bank via SysEx, those programs will automatically be set to *POLY-800 MODE*; it's the new legacy mode. ☺
  Note that in *POLY-800 MODE* the LED display will glow in the familiar red.

You can flip between both modes by pressing the *Mode* button on the top right of the *Fury-800*. It is impressing to hear the differences.

Envelopes…

As stated above, the envelope shapes, timings and parameter ranges in *POLY-800 MODE* are analyzed from the samples that I received from Felix and Steve. This was some tough work. I also found that the DEGs of the *Poly-800* at very low parameter values (0 to 2) are very "sloppy" and thus decided to extrapolate them to some more neat behavior… please forgive my ignorance!

Envelope shapes in *BUCKET MODE* and *Poly-800 MODE*

More Adjustments

In *POLY-800 MODE*, the VCF parameter ranges are adapted to the those of the original machine; the same is true for the Chorus and the MG. Note that the maximum VCF Resonance level is a bit higher than in *BUCKET MODE*.

Another "feature" of the *Poly-800* is that its sound is a bit "thinner" than the original *Fury-800*. This is because the *Poly-800*'s internal circuitry shapes the sound by many components that act like high-pass filter elements. The *Fury-800* simulates this effect using a *BRIGHT* function that can optionally be switched on or off. At the same time I also added a *+6dB* switch.

SysEx And Tape Dump Import

This was a major request by many *Poly-800* and *EX-800* owners. It would have made no sense to do an import of the sound data if the *Fury-800* parameters were not adjusted to those of the *Poly-800* but now they are.

Note that the *Poly-800* Mark I does not support MIDI System Exclusive export. However, the rack expander *EX-800* as well as the *Poly-800* Mark II do, and there are many SysEx sources on the Internet, too.

All the hardware *800*'s feature the tape dump option i.e. to write their sound & sequence data to an audio stream which can be recorded (not necessarily only) by a tape recorder. Since version 2.1 of the *Fury-800* it is now possible to import this data (provided it is stored as a WAV file). However, the success of this operation heavily relies on the quality of the dump – if you try to import a dump recorded long time ago on cassette etc. the import may fail.

SysEx Export And MTS-ESP Micro Tuning Support

Fury-800 now features the export of MIDI System Exclusive data for *EX-800*, *Poly-800* Mark II and the *MIDI Dump Kit* (MDK) extension.

Furthermore the *Fury-800* now supports dynamic micro tuning provided by ODDSounds's MTS-ESP (https://oddsound.com/). A tool tip of the TUNE will show the name of the current scale if MTS-ESP micro tuning is active.

The Fury-800 "N" Version

Many users with older operating systems (Windows 7, macOS 10.10 or below) and/or incompatible graphic cards/drivers had problems with the resizable user interface of version 1.0. Thus, I decided to provide a non-resizable version of the *Fury-800* based on the old iPlug framework – this is called the "N" version. It should work on almost all machines (even on 32 bit Macs).

Acknowledgments

kraftraum (https://soundcloud.com/kraftraum) has designed some of the version 1.0 default patches (starting with 57), but even more I was able to win him for Beta testing – thank you!!!

Oli Larkin and the iPlug/iPlug2 team.

Steve Henshaw for samples of his *Poly-800*, Beta testing, suggestions and sparring.

Felix Hohmann for samples of his *Poly-800* and comparison.

Paul Palmer for providing valuable data of the *Poly-800*.

Laurent Bergman for translating the *Full Bucket* manuals to French.

And at this point I would also like to say **Thank you!** to all the people who share their information about the *Poly-800* via the Internet. Last not least another THANK YOU! to the KVR Audio community and to the KORG engineers.

No, I am not affiliated with KORG in what relation ever except that I always find myself entangled with their instruments. ☺

General Operation

POLY-800 MODE vs. *BUCKET MODE*

Version 2.0 of the *Fury-800* introduces a new selector for the mode
of operation (see section *Two Modes, Two Worlds* above):

- In *POLY-800 MODE* all parameter ranges, envelopes etc. are
  set to match the original *Poly-800*. This is important if you
  want to recreate classic patches or read SysEx data of the *EX-
  800* or the *Poly-800* Mark II.

- In *BUCKET MODE* the *Fury-800* behaves just the same as in version 1.0 – it is
  the backwards compatible mode. Personally, I still prefer it over the *POLY-800
  MODE* – somehow natural because I designed it in the first place! Anyway, it is
  a matter of taste.
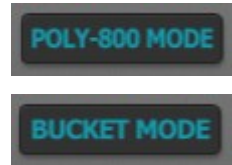
Note that in *BUCKET MODE* the LED display will glow green while in *Poly-800 MODE* it
will be red.

Volume And More

The main volume of the *Fury-800* can be controlled by the big
knob at the top left of the panel. Version 2.0 adds two more
controls: A *+6dB* and a *BRIGHT* switch. The first amplifies the
total output level by 6dB while the latter simulates the sound of
the *Poly-800* by thinning it out a bit ("THIN" is a bad name for a
function – I'd better called it "BRIGHT").

The Play Modes

The *Fury-800* has three play modes: *POLY*, *CHORD*, and *SEQUENCER*. To select *POLY*
or *CHORD* mode you have to press the respective button. To enter *SEQUENCER* mode
(and therefore to start the sequencer), press the *START/STOP* button. The *HOLD*
button does the obvious thing and played makes notes sound indefinitely.
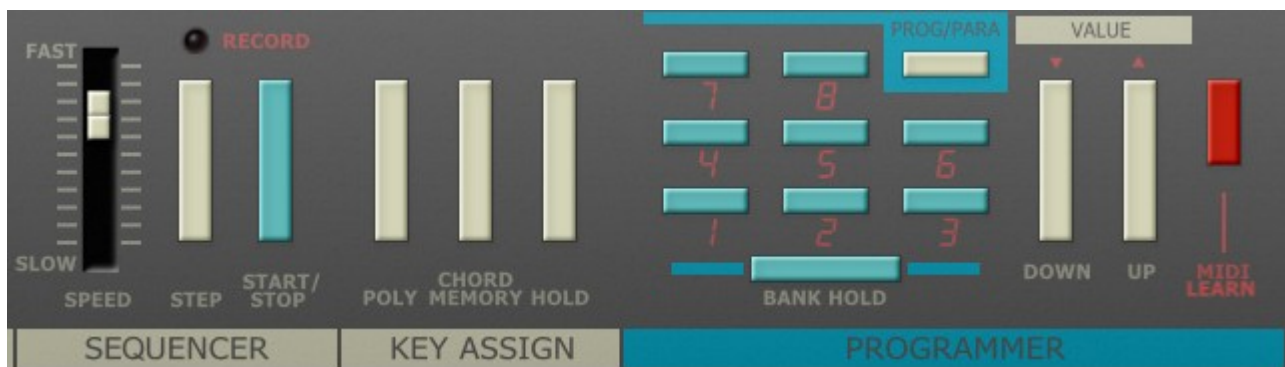
Selecting a Program

The Fury-800 has 64 programs numbered in a weird fashion from 1-1 to 8-8. The first digit is called the *bank*; there are 8 banks (1 to 8) having 8 programs (1 to 8). To select a program from the *Fury-800* front plate you have to be in *POLY* or *CHORD* mode (the LED display of the *Fury-800* will show P or C at *PARAMETER NO.*).

Now you can dial in a new program number using the number pad. When you have pressed the first button (the bank number) the display will show something like 4- at *PROGRAM NO.* with a dash indicating that you have to press another number button for the program. Using the *BANK HOLD* function you can "fix" the bank: Pressing a number button will then immediately select the respective program of that bank. Note that in *BANK HOLD* mode the dot at *PROGRAM NO.* will be lit, for example like 4.3 instead of 43.

You can also change the program by using the *DOWN* and *UP* buttons. The *Fury-800* will then step downwards or upwards through the programs.

Editing Parameters

Clicking the *PROG/PARAM* button switches into *PARAMETER* mode where you can edit the individual parameters of a program. Each parameter has a number similar to the program numbers which can be determined by looking at the lower part of the front plate (for example *VCF Cutoff Resonance* has the number 42). The display will show the number at *PARAM NO.* and its value at *VALUE*.

To change the value of a parameter you have to use the *DOWN* and *UP* buttons. If the value of the parameter has changed, the display will show a dot at *VALUE*. Note that this only applies as long as you do not select a different parameter or program (this is a funny feature of the original *Poly-800* transported into the 21st century).

This is a rather tedious procedure when creating new sounds (note that the Apollo astronauts used a similar procedure to program their computer for landing on the moon!). Now, with the *Fury-800* you can directly select and edit a parameter by clicking into the parameter list at the front plate. This will show up a value slider that can be moved up and down using the mouse. There is also an option to show and edit the value sliders for all parameters at once (see section *Fehler: Verweis nicht gefunden*).

Memorizing and Playing Chords

Enter *POLY* mode, press the *HOLD* button, play some notes and press *CHORD*. Now the display shows ⎡ at *PARAMETER NO.* and you can play the memorized chord over the keyboard. Of course the number of notes of the chord is limited by the current number of voices available (4 in *DOUBLE* mode, 8 in *WHOLE* mode, 64 in tweaked polyphony mode). Note that if you memorize only *one* note, the *CHORD* mode turns the *Fury-800* into a monophonic instrument.

MIDI Learn And The Config File "fury800.ini"

Every parameter of the *Fury-800* can be controlled by one MIDI controller. If you want to change the assignment of MIDI controller (CC; *MIDI Control Change*) to *Fury-800* parameter the *MIDI Learn* function comes in quite handy: Just click the *MIDI Learn* button on the Sound Manager panel (caption turns red) and wiggle both the MIDI controller and the parameter you want to assign (you can abort *MIDI Learn* by clicking the button again). If you want to unlearn the assignment, right-click the *MIDI Learn* button (the label now reads "UNLEARN") and activate it. Now wiggle the MIDI controller or the parameter that you want to unlearn. To save the controller assignments use "Save Configuration" in the *Options Menu* (see below); they are stored in the `fury800.ini` configuration file. The exact location of this file depends on your operating system and will be displayed when you click on "Reload" or "Save Configuration".

Importing SysEx And Tape Data

You can import a *Poly-800/EX-800/Poly-800* Mark II tape dump (WAV) or MIDI System Exclusive (SYX) data file by clicking "Load SysEx/Tape..." in the *Options Menu* (see below; be aware that the orginal *Poly-800* Mark I does not feature MIDI System Exclusive data export). You have following options:

- **Load SysEx Bank Data**
  Imports the whole bank of 64 programs from a SYX file. The programs will automatically be set to *Poly-800 MODE.*

- **Load SysEx Sequence**
  Import the sequence contained in the SYX file into the current program. Sound data is not affected.

- **Load Tape Bank Data**
  Imports the whole bank of 64 programs from a WAV file. The programs will automatically be set to *Poly-800 MODE.*

- **Load Tape Sequence**
  Imports the sequence contained in the WAV file into the current program. Sound data is not affected.

The imported programs will automatically be set to *Poly-800 MODE.* Note that if you chose a *Poly-800* Mark II SysEx of tape dump file, the Mark II specific settings for delay and equalizer will be ignored.

Warning: There is no guarantee that the tape dump import will be successful as it heavily depends on the quality of the recorded audio stream!

Exporting SysEx Data

You can export a *EX-800/Poly-800-MDK/Poly-800* Mark II MIDI System Exclusive (SYX) data file by clicking "Save SysEx…" in the *Options Menu*. You have following options:

- **Save SysEx Data (EX-800)**
  Exports the whole bank of 64 programs plus the sequence data of the current program to a *EX-800* SYX file.

- **Save SysEx Data (MIDI Dump Kit)**
  Exports the whole bank of 64 programs plus the sequence data of the current program to a *Poly-800 MIDI Dump Kit* SYX file. *MIDI Dump Kit* (MDK) is a hardware extension for the original *Poly-800* Mark I.

- **Save SysEx Data (Poly-800 II)**
  Exports the whole bank of 64 programs plus the sequence data of the current program to a *Poly-800* Mark II SYX file. Specific settings for delay and equalizer will not be set.

Note that sequence data may eventually be cut off due to the limited number of sequence steps.

Options Menu

When clicking on the *MENU* button, a context menu opens with the following options:

Copy Program	Copy current program to internal clipboard
Paste Program...	Paste internal clipboard to current program (either the full program, only the sound, or only the sequencer data)
Init Program	Initialize the current program
Load Program...	Load a program file containing a patch to the *Fury-800's* current program: Either the full program, only the sound, or only the sequencer data.
Save Program	Save the *Fury-800's* current program to a program file
Load Bank...	Load a bank containing 64 patches into the *Fury-800*: Either from a FXB file, the original *Poly-800* factory sounds, or the Fury-800 version 1.0 factory patches.
Save Bank	Save the *Fury-800's* 64 patches to a bank file
Load SysEx/Tape...	Load a bank or a sequence from a MIDI System Exclusive (SYX) or a tape data (WAV) file (see *Importing SysEx And Tape Data*)
Save SysEx...	Save a bank plus the sequence data of the current program to a MIDI System Exclusive (SYX) file (see *Exporting SysEx Data*)
Select Startup Bank	Select the bank file that should always be loaded when the *Fury-800* is started
Load Startup Bank	Load the Startup bank file; can also be used to check what the current Startup bank is
Unselect Startup Bank	Unselect the current Startup bank
MIDI Thru	Set globally if MIDI data sent to *Fury-800* should be sent through to its MIDI output (stored in configuration file)
Ignore Program Change	Set globally if MIDI Program Change data sent to the *Fury-800* should be ignored (stored in configuration file)
Reload Configuration	Reload the *Fury-800's* configuration file
Save Configuration	Save the *Fury-800's* configuration file
Show All Parameters	Show or hide all parameter sliders of the *Fury-800*
Window Size...	Change the window size of the *Fury-800*
Save Window Size	Stores the current window size to the configuration file so that it will be restored on the next loading of *Fury-800*
Check Online for Update	When connected to the Internet, this function will check if a newer version of the *Fury-800* is available at fullbucket.de
Visit fullbucket.de	Open fullbucket.de in your standard browser

Sequencer

The *Poly-800* had a polyphonic step sequencer which was a very impressive feature by that time, especially considering the price tag of this machine. However, one could store only *one* sequence at a time. In contrast, each program of the *Fury-800* has its own sequence.

Recording a Sequence

The sequencer of the *Fury-800* allows to record 1000 steps – in step mode only, there is no real-time recording option. In the sequencer section, click on the *RECORD* light to activate recording (the original *Poly-800* used a switch at the back of the casing instead). Press *START/STOP* to start recording (this will erase any existing sequence of the current program!). The display will display the program number followed by an "S" and the number of the current step (001) i.e. S001.

Now press one ore more keys – once you release the last key, the respective note(s) will be recorded for the current step, and the display shows the incremented step number (S002 and so forth). Here are some more commands:

- To enter a rest for the current step press the *STEP* button.
- To tie the notes of the current step to the next step, do not release the pressed keys but press the *STEP* button instead.
- To delete the last step press *START/STOP*.
- To finish recording click on the *RECORD* light again.
- After you have recorded the 1000th step, recording will stop automatically.

Playing a Sequence

Given that a sequence was recorded for the current program, pressing the *START/STOP* button will start the sequencer (or stop it if it is already playing) – the *SPEED* slider controls the speed. Parameters 86 to 88 offer the following options:

- Synchronizing start/stop and speed with the host DAW
- Start/stop on pressing a key
- Transposing the sequence with respect to the currently played note

Note that the latter two features were not available with the *Poly-800*.

Sound Creation

DCOs (Digital Controlled Oscillators)

The *Fury-800* has two DCOs per voice, and each DCO offers two wave forms, *Sawtooth* and *Square*. Furthermore, in addition to the *Octave* switch, there are four more parameters called *Harmonics* (16', 8', 4', and 2') that control the wave shape. In fact, a DCO produces four square wave signals at 16', 8', 4' and 2'. These can mixed by activating the *Harmonic* switches (sliders in case of the *Fury-800*).

The *Wave* parameter determines the *weighting* of the respective harmonics in the mix – this way it is possible to create a staircase-shaped "Sawtooth" wave. Below are some examples of possible wave forms.
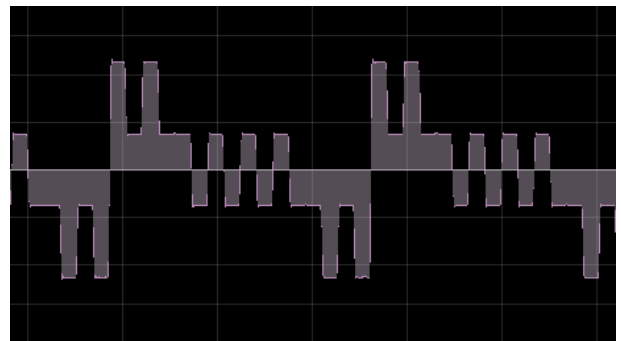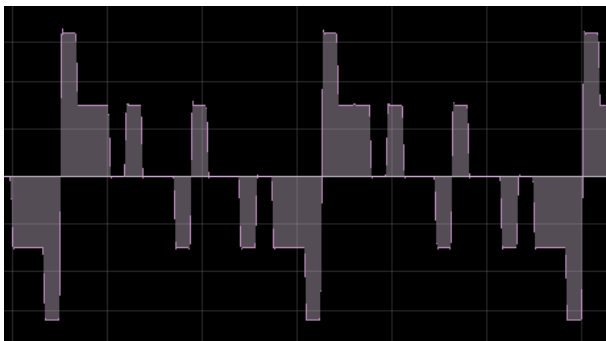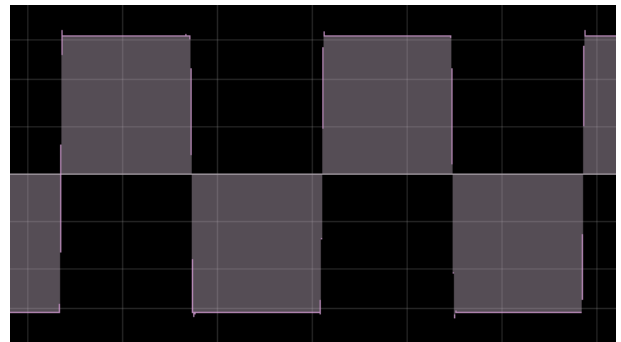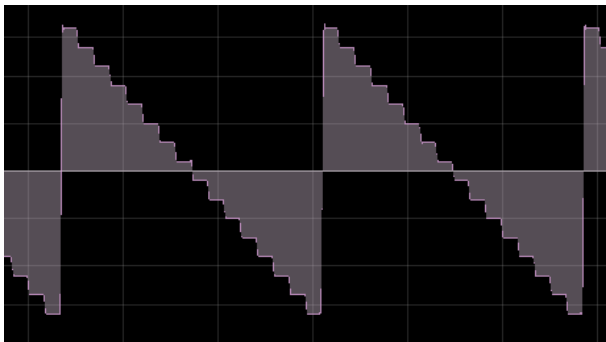
This kind of additive synthesis is known from the KORG *Delta* (and my *Nabla* simulation) and gave the *Poly-800* its "rough" sound character (at least that's what folks say). Note again that the *Harmonics* and the *Wave* parameters of the *Fury-800* are continuous and can have any value between 0 and 1.

DOUBLE Mode

In *WHOLE* mode, the *Poly-800* was 8-voice polyphonic and DCO2 was deactivated. Switching to *DOUBLE* mode activated DCO2, but reduced polyphony to 4 voices. However, this allows for much richer and more interesting sounds, last not least because DCO2 features two additional parameters, namely *Interval* (0 to 12 notes) and *Detune*.
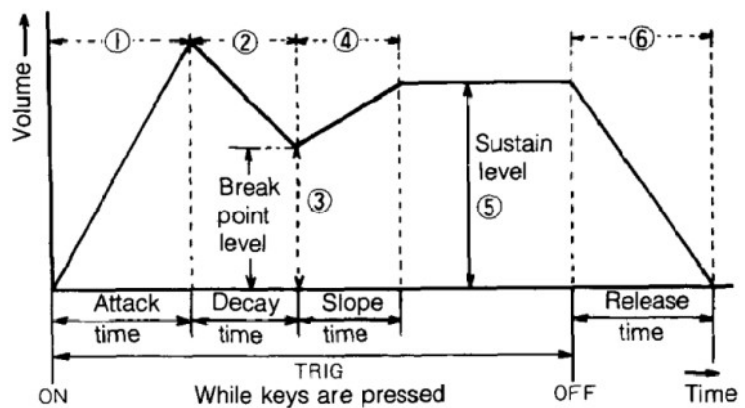
If *DOUBLE* mode is set for the current program, the display will show a dot at *PARAMETER NO*.

DEG (Digital Envelope Generator)

A very cool feature is that each DCO has its own envelope generator (DEG). Even more, these DEGs are of an advanced ADSR type with two extra parameters called *Break Point* and *Slope*.

ADBSSR envelope – the diagram right is ripped from the original *Poly-800* Owner's Manual.

Break Point is the level to which the envelope output will drop in *Decay* time after the *Attack* phase has completed. *Slope* is the time until the envelope rises or falls from *Break Point* to *Sustain* level.

VCF (Voltage Controlled Filter)

As stated earlier, the *Poly-800* had only one filter, a 24 dB lowpass VCF, for all voices. Technically this means that the *Poly-800* is a paraphonic instrument with respect to the filter (the *Fury-800* can be set into God Mode to make it a "true" polyphonic machine).

The VCF has its own DEG and offers positive or negative envelope modulation. Triggering modes of the envelope are *SINGLE* (the DEG is only triggered if a key is pressed and no other key was pressed) or *MULTI* (the envelope is triggered for each key pressed). Note that in God Mode this setting has no effect. Also note that the filter will not self-oscillate even if resonance is set to maximum.

Noise

The white noise generator is controlled by its own *LEVEL* parameter and the VCF envelope. No surprises here.

MG (Modulation Generator)

Traditionally, the LFOs of KORG instruments were called "Modulation Generators", and there is one in the *Poly/Fury-800*. It creates a sine wave, can be delayed and has parameters for DCO and VCF modulation intensity.

Chorus

Although claimed to be stereo, the chorus was a mono effect where the inverted effect signal has been mixed with the right output of the synthesizer. Besides a somehow uncomfortable listening experience (especially under headphones) this becomes audible when the left and right output are mixed to a mono sum – then the chorus signal will be canceled out completely. Thus, the *Fury-800* features an additional switch to (de)activate this "stereo" option.

Note that the speed of the chorus effect was fixed on the *Poly-800*. The *Fury-800* adds a hidden parameter (#61) to change the speed.

Modulation Wheel

For real-time modulation purposes, the *Poly-800* like many of its relatives featured the cool KORG joystick. As with all my other KORG simulations I added some controls that "emulate" the joystick using the ubiquitous modulation wheel. Therefore the *Fury-800* has sliders for controlling each the MG-to-DCO and MG-to-VCF intensities controlled by the modulation wheel.

Velocity

The *Poly-800* did not react to velocity information but the *Fury-800* does. The intensity can be controlled by the *VELOCITY* slider.

Parameters

DCO1

parameter	ID	number	description
OCTAVE	5	II	Octave
WAVE	6	I2	Wave form (*Sawtooth* or *Square*)
16'	7	I3	16' harmonic level
8'	8	I4	8' harmonic level
4'	9	I5	4' harmonic level
2'	10	I6	2' harmonic level
LEVEL	11	I7	Total level

DCO Mode

parameter	ID	number	description
MODE	12	I8	DCO mode (*WHOLE* or *DOUBLE*)

DCO2

parameter	ID	number	description
OCTAVE	13	2I	Octave
WAVE	14	22	Wave form (*Sawtooth* or *Square*)
16'	15	23	16' harmonic level
8'	16	24	8' harmonic level
4'	17	25	4' harmonic level
2'	18	26	2' harmonic level
LEVEL	19	27	Total level
INTERVAL	20	3I	Interval in notes
DETUNE	21	32	Detuning

Noise

parameter	ID	number	description
LEVEL	22	33	Noise level

VCF

parameter	ID	number	description
CUTOFF	23	4I	Cutoff frequency
RESONANCE	24	42	Resonance

parameter	ID	number	description
KBD TRACK	25	43	Keyboard tracking
POLARITY	26	44	Polarity of DEG modulation
EG INTENSITY	27	45	Intensity of DEG modulation
TRIGGER	28	46	Trigger mode (*SINGLE* or *MULTI*)

Chorus

parameter	ID	number	description
CHORUS	29	48	Chorus on or off

DEG1 (for DCO1)

parameter	ID	number	description
ATTACK	30	51	Attack time
DECAY	31	52	Decay time
BREAK POINT	32	53	Break Point level
SLOPE	33	54	Slope time
SUSTAIN	34	55	Sustain level
RELEASE	35	56	Release time

DEG2 (for DCO2)

parameter	ID	number	description
ATTACK	36	61	Attack time
DECAY	37	62	Decay time
BREAK POINT	38	63	Break Point level
SLOPE	39	64	Slope time
SUSTAIN	40	65	Sustain level
RELEASE	41	66	Release time

DEG3 (for VCF and Noise)

parameter	ID	number	description
ATTACK	42	71	Attack time
DECAY	43	72	Decay time
BREAK POINT	44	73	Break Point level
SLOPE	45	74	Slope time
SUSTAIN	46	75	Sustain level
RELEASE	47	76	Release time

MG

parameter	ID	number	description
FREQUENCY	48	81	MG speed
DELAY	49	82	Delay time
DCO	50	83	DCO modulation level
VCF	51	84	VCF modulation level

Sequencer

parameter	ID	number	description
SEQ. CLOCK	52	86	Sync to host DAW
PLAY ON NOTE	53	87	Start/Stop on key pressed
TRANSPOSE	54	88	Transpose sequence on played note

Other Parameters

parameter	ID	description
VOLUME	0	Total volume
TUNE	1	Master tune
BEND	2	Amount of pitch bending
SEQ. SPEED	3	Sequencer speed
KEY ASSIGN	4	Keyboard mode (*POLY* or *CHORD*)
VOICES	55	Number of voices (8/4 or 64)
GOD MODE	56	God Mode on or off
"STEREO" CHORUS	57	"Stereo" chorus effect on or off
WHEEL TO DCO	58	Intensity of Mod Wheel to DCO modulation
WHEEL TO VCF	59	Intensity of Mod Wheel to VCF modulation
VELOCITY	60	Intensity of velocity
CHORUS RATE	61	Chorus speed (hidden parameter)
MODE OF OPERATION	62	*POLY-800 MODE* or *BUCKET MODE*
+6dB	63	+6dB gain boost off or on
BRIGHT	64	Bright function off or on

Frequently Asked Questions

How do I install the Fury-800 (Windows 32 bit version)?

Just copy the files `fury800.dll` from the ZIP archive you have downloaded to your system's or favorite DAW's VST plug-in folder. Your DAW should automatically register the *Fury-800* VST plug-in the next time you start it.

How do I install the Fury-800 (Windows 64 bit version)?

Just copy the file `fury80064.dll` from the ZIP archive you have downloaded to your system's or favorite DAW's VST plug-in folder. Your DAW should automatically register the *Fury-800* VST plug-in the next time you start it.

Note: You may have to remove any existing (32 bit) `fury800.dll` from your VST plug-in folder or else your DAW may screw the versions up...

How do I install the Fury-800 (Mac VST/AU 64 bit)?

Locate the downloaded PKG package file `fury800_2_3_0_mac.pkg` in Finder (!) and do a right- or control-click on it. In the context menu, click on "Open". You will be asked if you really want to install the package because it comes from an "unidentified developer" (me ☺). Click "OK" and follow the installation instructions.

What is the "N" version of the Fury-800?

The "N" version is the non-resizable version of the Fury-800 that should run on almost any older Windows or Mac machine. So if you have problems with the standard *Fury-800* version, this is the one to go for.

What is the plug-in ID of the Fury-800?

The ID is **f 8 0 0** .

Why is there a BUCKET MODE and Poly-800 MODE?

This was the best way to remain backwards compatible to the *Fury-800* version 1.0 (see sections *Two Modes, Two Worlds* and *POLY-800 MODE vs. BUCKET MODE).*

How do I know if a new version of the Fury-800 is available?

When connected to the Internet, open the File menu (see section *Fehler: Verweis nicht gefunden*) by clicking the disk icon and select the entry "Check Online for Updates". If a new version of the *Fury-800* is available on fullbucket.de the respective information will be shown in a message box.

How do I resize the Fury-800 window?

Just grab the yellow triangle at the bottom right of the *Fury-800* window and drag it. You can save the current window size using the menu entry "Save Window Size" in the *Fehler: Verweis nicht gefunden*.

Can I load/paste only the sound or sequencer data of a program?

Yes you can! Please see section *Fehler: Verweis nicht gefunden.*