

FLAME FIRE

8 VOICE PERCUSSION SYNTHESIZER
EURO RACK MODULE

MANUAL
Version 1.00



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SHORT DESCRIPTION

Thank you for purchasing the FLAME FIRE eurorack module!

The module is a full 8-way polyphonic drum and percussion synthesizer. It offers different digital synthesis algorithms, which can be distributed over 8 channels. The sound engine delivers digitally generated sounds that are created with virtual analog synthesis. Individual algorithms also make it possible to create simple monophonic bass or synthesizer voices.

During development, particular attention was paid to direct and simple usability with regard to live operation. The hardware essentially consists of two parts (which are delivered together). On the one hand there is the basic module with all controls, the display, connections for MIDI, 2x CV inputs and 5 audio outputs. There is also a separate XFIRE I/O extension with sockets for the 16 analog trigger/gate/CV inputs and 3 additional audio outputs. Both modules are connected via a 60cm long ribbon cable. In this way, the XFIRE module can be installed anywhere else in the rack. The base module is therefore only 22TE wide and can also work alone without the extension as a MIDI expander.

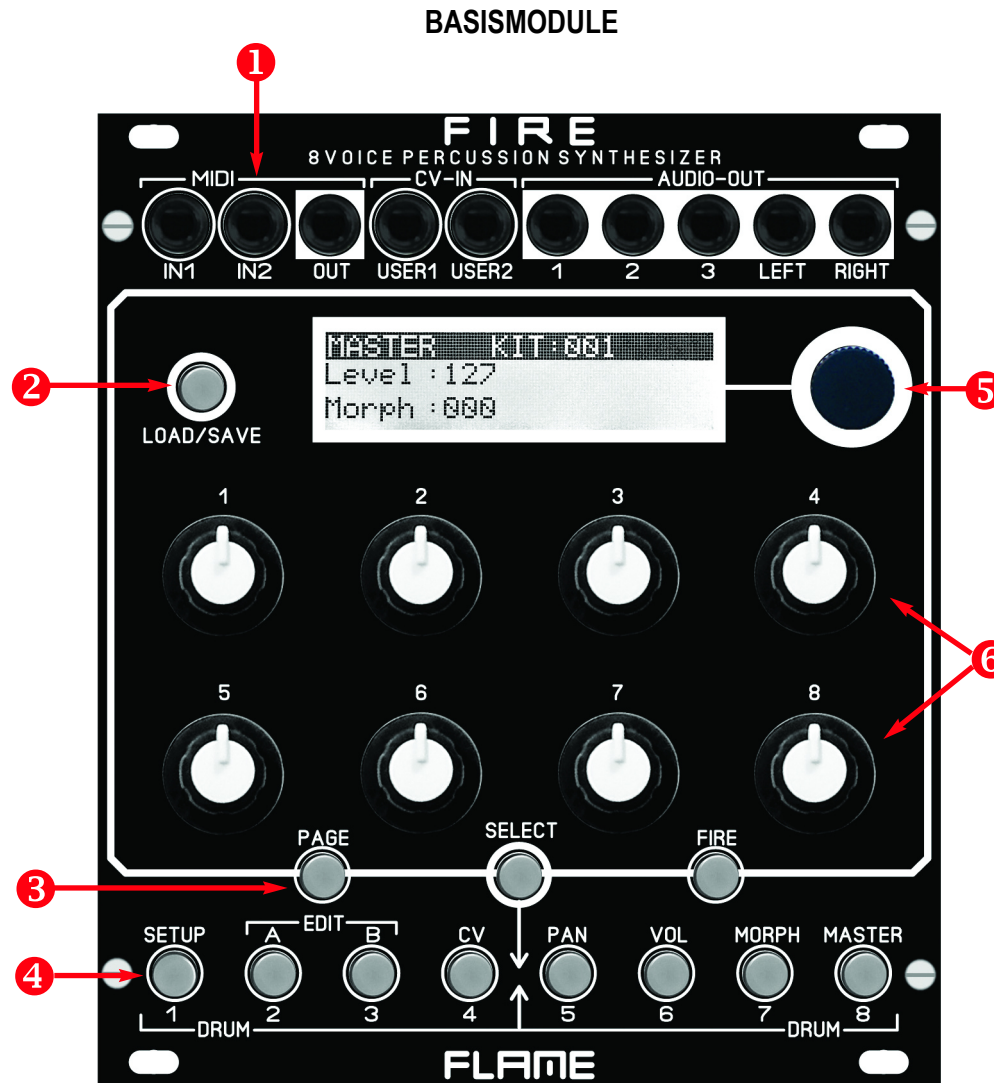
A maximum of 8 audio outputs are available. A stereo pair (outputs 7+8), plus 6 additional individual direct outputs. All outputs are freely configurable. Two pages with settings for panorama and volume are available for the stereo main out.

There is a gate/trigger input and a configurable CV input for each channel. Two additional programmable CV inputs can be used for further controls. Regardless of the analog connection, the module offers full MIDI functionality. Two MIDI inputs and a MIDI output allow integration into an external MIDI setup.

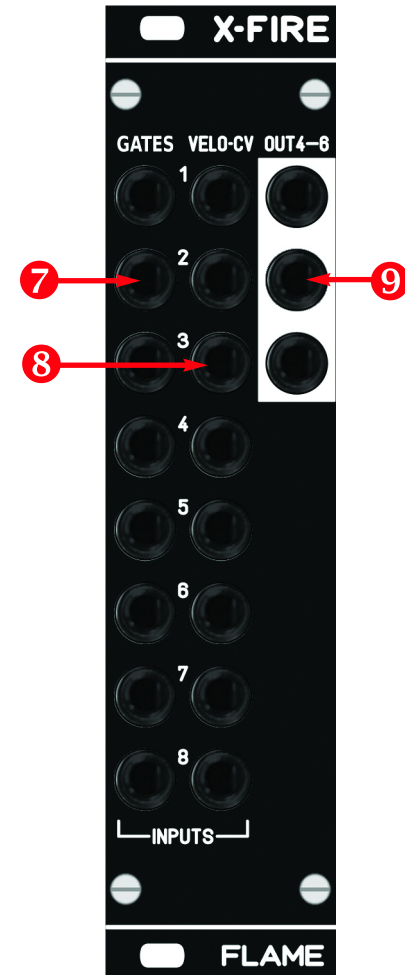
The firmware can be updated via MIDI Sysex. The created KIT and INSTRUMENT data can also be saved or exchanged.

MODUL OVERVIEW

- 1 I/O-JACKS:
2x MIDI-In, 1x MIDI-out (type: TRS-B)
2x CV-In, 5x AUDIO-out
- 2 KEY: LOAD/SAVE
- 3 KEYS: PAGE, SELECT, FIRE
- 4 KEYS MENU / INSTRUMENT
- 5 DISPLAY / PUSH ENCODER
- 6 8 POTENTIOMETER
- 7 8x GATE / TRIGGER inputs
- 8 8x CV inputs
- 9 3x AUDIO-outputs



I/O XPANDER



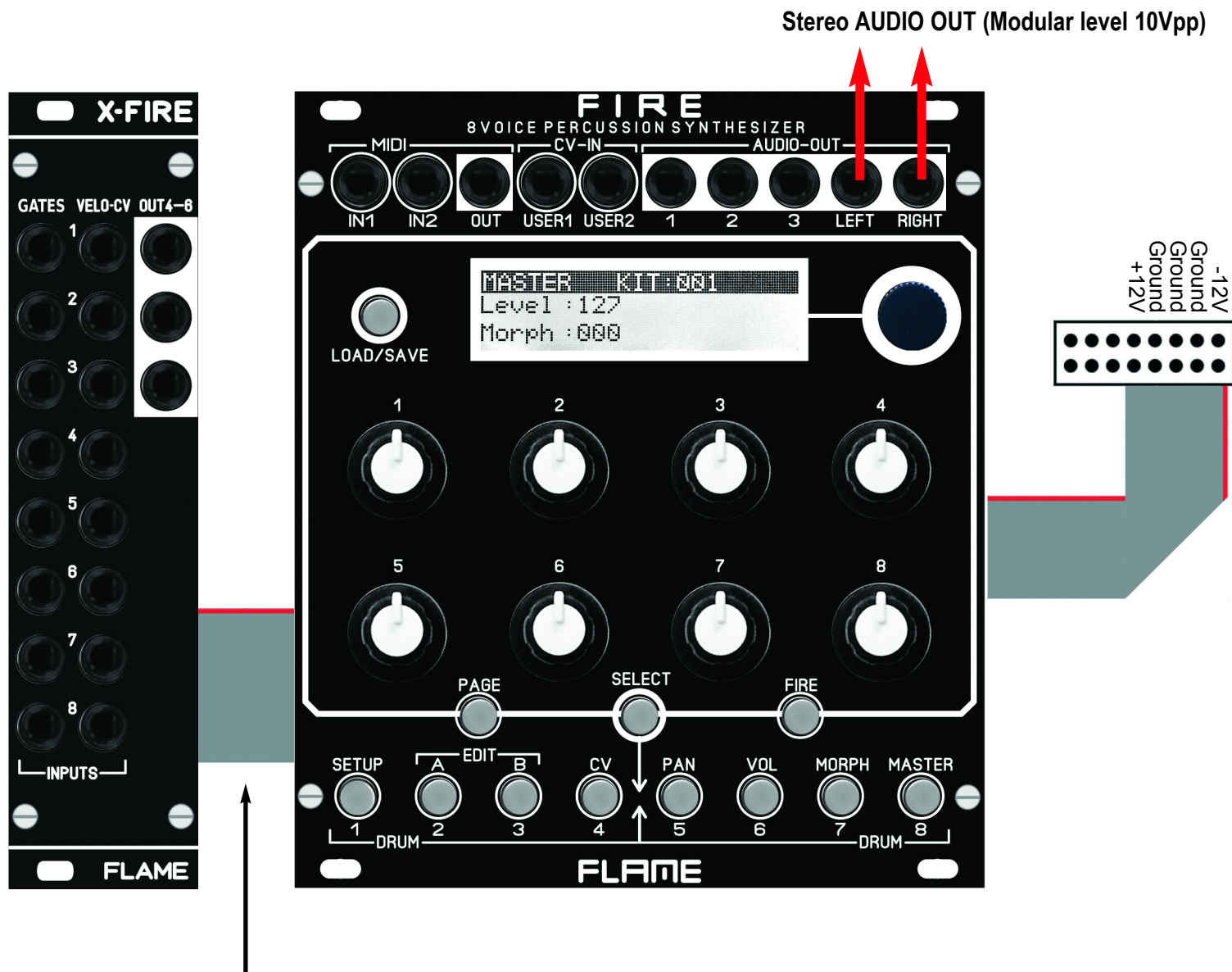
CONNECTION TO THE MODULAR SYSTEM

The base module FIRE is delivered with a connected ribbon cable for the Doepfer bus. The wire marked red or blue is -12 volts.

It is important to pay attention to the correct polarity when connecting. If the module has accidentally been polarized incorrectly, protective diodes prevent the module from being destroyed immediately (however, it cannot be ruled out that damage will still occur).

Therefore caution: Check the connection several times before switching on for the first time!

The current consumption of the module is +210mA / - 70mA on average, but can reach peaks of up to +230mA / -70mA!



The XFIRE add-on module is connected to the basic module using the approx. 60cm long ribbon cable supplied. This additional module does not require an extra power supply.

VERSION since V1.00

MASTER Menu

After switching on, the MASTER menu is active (MASTER button lights up) and the Autoload-KIT has been loaded automatically. The number of this KIT can be set in the SETUP menu on the "KIT AUTO LOAD" page. The value is automatically saved when exiting the SETUP menu.

There are currently only two values in the MASTER menu: "Level" for the overall volume of the L-R MAIN output and "Morph" for morphing the entire KIT between the A and B settings of the instruments. The values are part of the drum KIT data and are stored together in the KIT.

MENU structure

Above the bottom row of buttons are the names of the 8 main menus. Select the menu directly with the buttons (FIRE must be switched off).

Menu 1 for global settings/functions (eg. MIDI)

Menus 2-4 for editing the instruments of the drum KIT

Menus 5-8 for live jamming and audio settings.

In the first four menus, the basic settings of the device (setup) and the KIT data (editing of the 8 instruments) are programmed (A,B,CV). The 4 right-hand menus 5-8 contain the panorama and level settings for the stereo output, the instrument morph page and the master menu. You can also switch between all menus while playing.

PAGE (select submenu)

The main menus can have further sub-menus (pages), which you can step through with the PAGE key. For example, in the VOLUME menu on the second page there is a submenu "OUTP ASSIGN" for assigning the instrument's audio output. With the PAGE button you switch between two or more pages of the menu.

FIRE (Manually trigger instruments)

In menus 1 and 5-8 the 8 keys can be used to play the instruments of the 8 channels directly with the keys. Press the FIRE button once (button flashes), now use the 8 lower buttons to trigger the instruments of the loaded KIT. To exit, press the FIRE button again (the button goes out).

In the edit menus A, B and CV you can manually trigger the currently selected instrument directly with the FIRE button to hear changes in the sound (or if there is no external sequencer for triggering).

SELECT (select instrument channel)

The instrument of the track is programmed in the edit menus A,B and CV. To change the track, proceed as follows: Briefly press the SELECT button (button flashes). Then press the channel button (bottom row 1-8) that you want to edit. The SELECT button then goes out again and is in the same position of the previous menu, but in the newly selected channel.

You can also switch on the SELECT function permanently, for example to check the values of all channels more easily in the CV menu: Press the SELECT button until it lights up continuously. Now you can go through the channels one after the other with the keys 1-8. Only pressing the SELECT button again terminates the function.

EDIT MENUS A,B,CV

The module has 8 channels, each with an instrument (algorithm). The settings for the respectively selected channel are made in the menus A, B and CV. The sound of the selected channel can be triggered directly with the FIRE button. For each channel, there are memory locations A and B for two different (or identical) variants of the same instrument, between which you can then control fluently in the MASTER or MORPH menu (Morph function). So only one common algorithm can be chosen for memory locations A and B, but with different values in memory locations A and B.

First program a variation in memory location A. Then copy it to memory location B and then change the variation in memory location B.

How to copy:

Copy A to B: while holding down the A-button, press and release the B-button

Copy B to A: while holding down the B button, press and release the A button

Advice: After copying, the target remains selected!

INSTRUMENT (select algorithm of the channel)

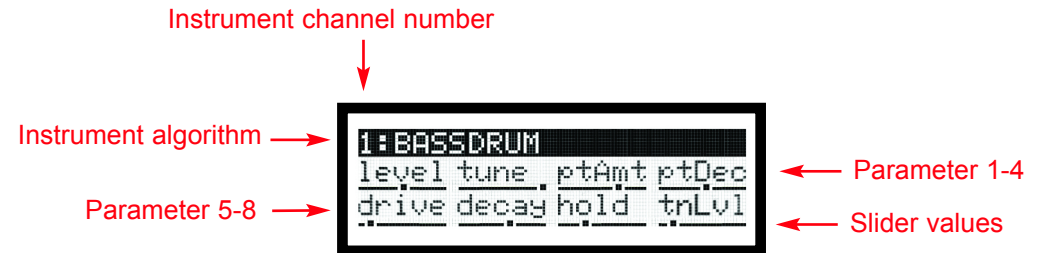
Turn the DATA knob to select the channel's algorithm (select channel with SELECT and then buttons 1-8). There are currently the following 9 algorithms:

SNAREDRUM
HIHAT
FM-DRUM
BASSDRUM
T-BRIDGE
RIMSHOT
CLAP
TOM
UNIVERSAL

There are 3 pages for each algorithm (with up to a maximum of 17 parameters).

DISPLAY - VALUES - POTS

The EDIT menus are structured in such a way that the names and values of the 8 controllers are shown in the display accordingly. The first line with a black background shows the channel number and the selected algorithm. In line 2 the parameters for Poti 1-4 and in line 3 the parameters for Poti 5-8. The value is indicated by a slider under the parameter name.



LEVEL (set individual level of A and of B)

You can set separate volume levels for both sound variants A and B in order to compensate for excessive volume differences, or to fade the instrument in or out with the morph control. LEVEL is the first parameter for Pot 1 in each Instrument Page. In contrast, the overall volume is set in the main menu LEVEL. The volume ratio between A and B is retained there.

MENU CV (set velocity/CV function of analog CV inputs)

In this menu, the velocity or CV sensitivity of each parameter can be adjusted. The Velocity/CV input of the channel is set to either Velocity (unipolar 0..+5v) or CV (bipolar -5v..+5v) with the DATA control. With Velocity, the input voltage is only effective when the instrument is triggered (Sample&Hold). With CV, the input voltage acts continuously (in the KHz range). When the slider is in the middle position, the parameter is not affected. Higher values amplify, lower values decrease the parameter by the input voltage. In Page 3 you can adjust the CV/Velocity control for MORPH between A and B.

SETUP MENU

PAGE 1 (SETUP FIRE FIRMWARE VERSION)

LCDCt: 01..32 LCD contrast
Param: pick/jump Parameter change pick or jump

PAGE 2 (MIDI NOTE NUMBERS)

Note numbers can be set for all 8 instrument channels: 000..126, all
000..126 = one instrument note number on MIDI channel 10
all = all note numbers, instrument channel = MIDI channel (1-8)

PAGE 3 (MIDI DUMP KITS)

Load or save KITS via SYSEX file.
Poti 5 = set Send/Load
Poti 6 = set KIT number: all, 1-128

PAGE 4 (MIDI DUMP INSTRUMENTS)

Load or save INSTRUMENTSs via SYSEX file.
Poti 5 = set Send/Load
Poti 6 = set Instrument number: all, 1-9 Instrument name

PAGE 5 (MIDI PROG. CHANGE)

Load a KIT via MIDI program change command.
Poti 6 = set Receive MIDI channel for program change commands: 1-16,off

PAGE 6 (KIT AUTO LOAD)

Poti 5 = set KIT number 001..128

OUTPUT ASSIGN - Menu VOLUME - Page 2

Determination on which audio output the drum instrument is routed:
1-6: Direct outputs AUDIO 1-6
M: Stereo Main-Output

USER CV ASSIGN MORPH - Menu MORPH - Page 2

Defining the parameter control with the USER1/2 CV inputs.
Poti 2 = USER1 Morph 1-8, Main
Poti 6 = USER2 Morph 1-8, Main

KIT LOAD/SAVE

Load KIT:

Briefly pressing the LOAD/SAVE button calls up the LOAD menu. Use the DATA knob to select the KIT number (001-128), press the DATA knob to load.

Save KIT:

A long press on the LOAD/SAVE button calls up the SAVE menu. Use the DATA knob to select the memory location (001-128), press the DATA knob to save.

ADVICE: The menu cannot be called up in EDIT menus A and B. Leave the menu prematurely (cancel function) by pressing the LOAD button again.

INSTRUMENT LOAD/SAVE

Load INSTRUMENT:

Briefly pressing the LOAD/SAVE button calls up the LOAD menu. Use the DATA knob to select the instrument (1-32), press the DATA knob to load. Hear beforehand by pressing the FIRE button.

Save INSTRUMENT:

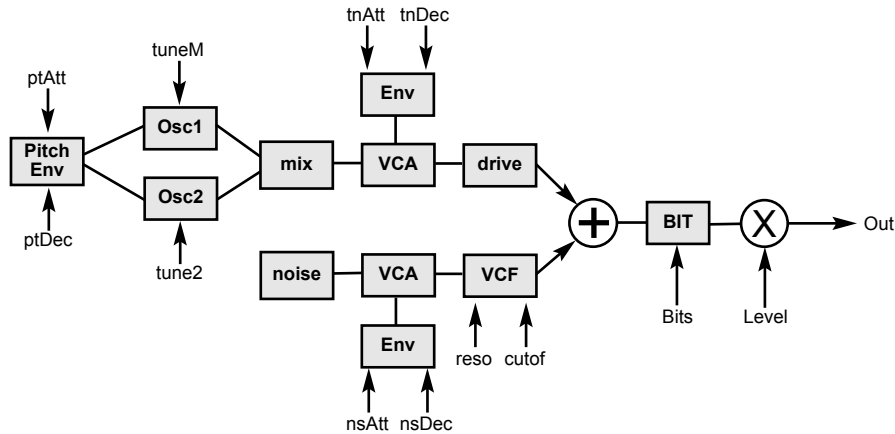
A long press on the LOAD/SAVE button calls up the SAVE menu. Use the DATA knob to select the memory location (1-32), press the DATA knob to save.

ADVICE: The menu can only be called up in EDIT menus A and B. Leave the menu prematurely (cancel function) by pressing the LOAD button again.

INSTRUMENT ALGORITHM

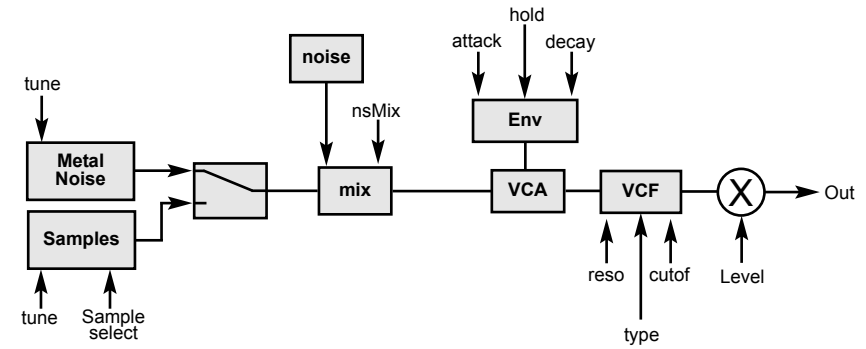
SD: SNAREDRUM

This algorithm is mainly used for different snare drum sounds. But noisy, filtered sounds or dry, dark to light drum sounds can also be produced.



HH: HIHAT

This algorithm is mainly used for different hi-hat or cymbal sounds. Noisy, filtered and metallic sounds with different envelopes can be created. With HOLD=0 the sound can be held with the gate length (pressing a button).



PARAMETER

PAGE 1

level Volume
tuneM Tune Main Oszillator
tune2 Tune Oszillator2
mix Oszillator Mix

ptAtt Attack Pitch Envelope
ptDec Decay Pitch Envelope
tnAtt Attack Tone
tnDec Decay Tone

PAGE 2

noise Noise Level
reso Resonance
cutof Filter Cutoff Frequency
nsAtt Attack Noise

nsDec Decay Noise
drive Overdrive
bits Audio Bit Reducer

PARAMETER

PAGE 1

level Volume
tune Tune Metal/Samples
metal metal + 4 samples
nsMix Noise Level

attack Volume Attack
decay Volume Decay
hold 0= AR >0= AD Envelope
cutof Filter Cutoff Frequency

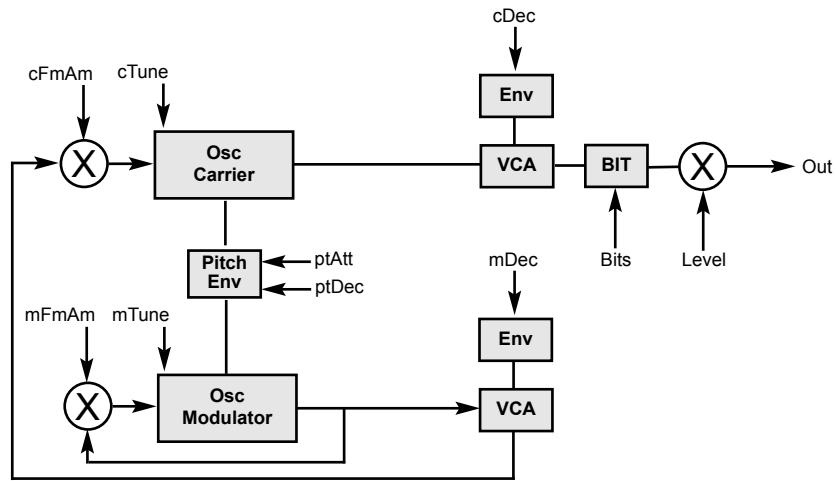
PAGE 2

LP Filter Type (LP, BP, HP, Notch)
reso Filter Resonance
noMtG Mute Group

INSTRUMENT ALGORITHM

FM: FM-DRUM

This algorithm is mainly used for different FM drum or synth sounds. This instrument has the ability to be played tonally over all notes via MIDI (like a monophonic synth voice).



PARAMETER

PAGE 1

level Volume
cTune carrier-Osc Tune
cFmAm carrier-Osc FM Amount
cDec carrier-Osc Decay

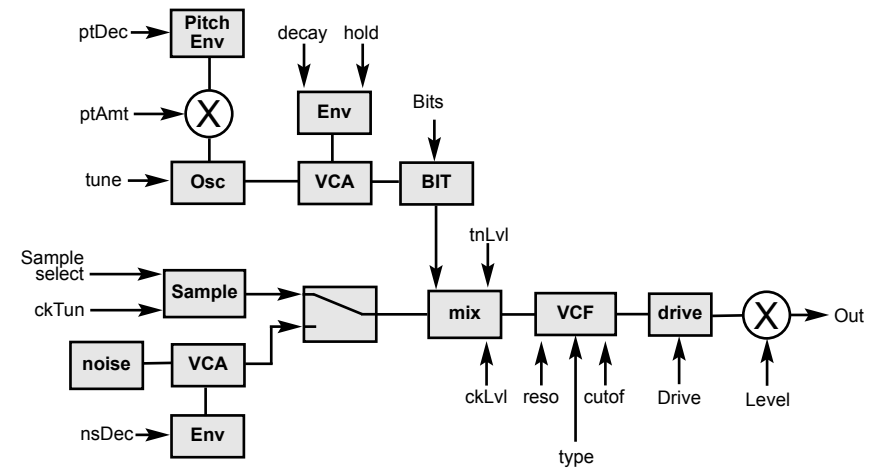
mTune modulator-Osc Tune
mFmAm modulator-Osc FM Amount
mDec modulator-Osc Decay
ptAtt pitch Attack

PAGE 2

ptDec pitch Decay
ptAmt pitch Amount
bits Audio Bit Reducer

BD: BASSDRUM

This algorithm is mainly used for different kickdrum sounds. With HOLD=0 the sound can be held with the gate length (pressing a button). This instrument has the ability to be played tonally over all notes via MIDI (like a monophonic synth voice).



PARAMETER

PAGE 1

level Volume
tune Osz Tune
ptAmt Pitch Amount
ptDec Pitch Decay
drive Overdrive
decay Osz(Tone) Decay
hold 0=AR >0=AD Envelope
tnLvl Osz(Tone) Level

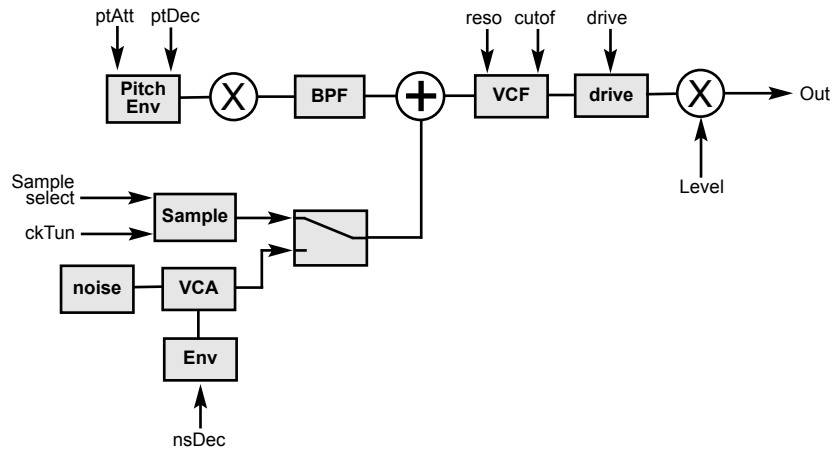
PAGE 2

ckLvl Click Level
ckTun Click Tune
smp01 16 Click samples/noise
cutof Filter Cutoff Frequency
reso Filter Resonance
LP Filter Type (LP, BP, HP ,Notch)
bits Audio Bit Reducer

INSTRUMENT ALGORITHM

TBR: T-BRIDGE

This algorithm is mainly used for different drum and percussion sounds.



PARAMETER

PAGE 1

level Volume
tune Osc Tune
ptAmt Pitch Amout
decay Osc Decay

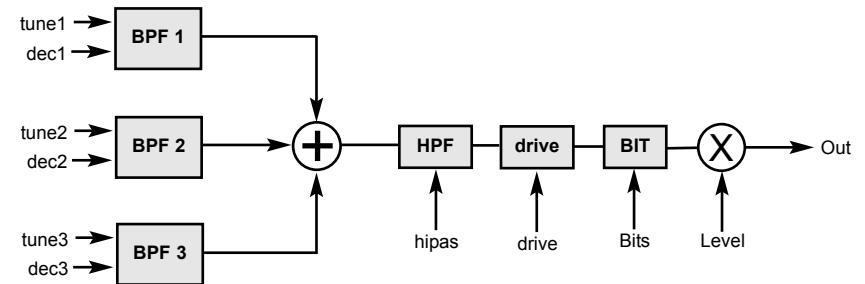
ptAtt Pitch Attack
ptDec Pitch Decay
drive Overdrive
cutof Filter Cutof Frequency

PAGE 2

reso Filter Resonance
ckLvl Click Level
smp01 16 Click samples/Noise
ckTun Click Tune

RIM: RIMSHOT

This algorithm is mainly used for different percussion sounds.



PARAMETER

PAGE 1

level Volume
tune1 Osc1 Tune
tune2 Osc2 Tune
tune3 Osc3 Tune

dec1 Osc1 Decay
dec2 Osc2 Decay
dec3 Osc3 Decay
hipas Cutof Hipass Filter

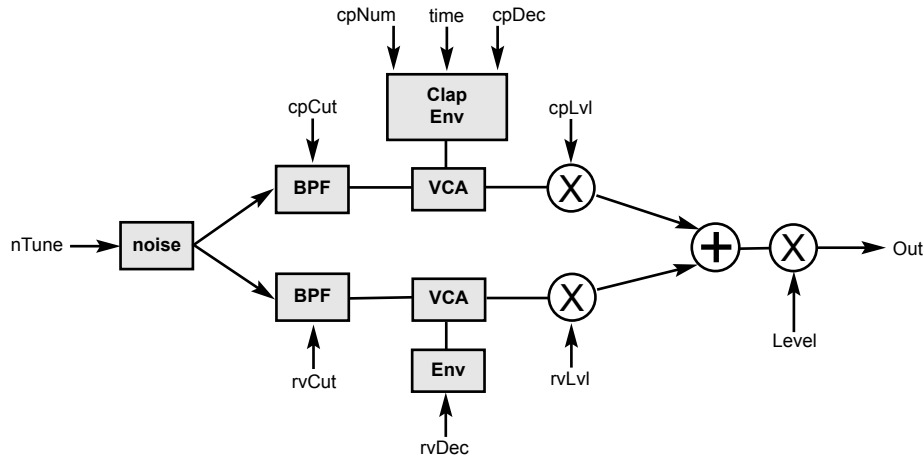
PAGE 2

drive Overdrive
bits Audio Bit Reducer

INSTRUMENT ALGORITHM

CP1: CLAP

This algorithm is mainly used for CLAP sounds.



PARAMETER

PAGE 1

level Volume
time Clap Time
cpNum Clap Numbers
rvDec Reverb(noise) Decay

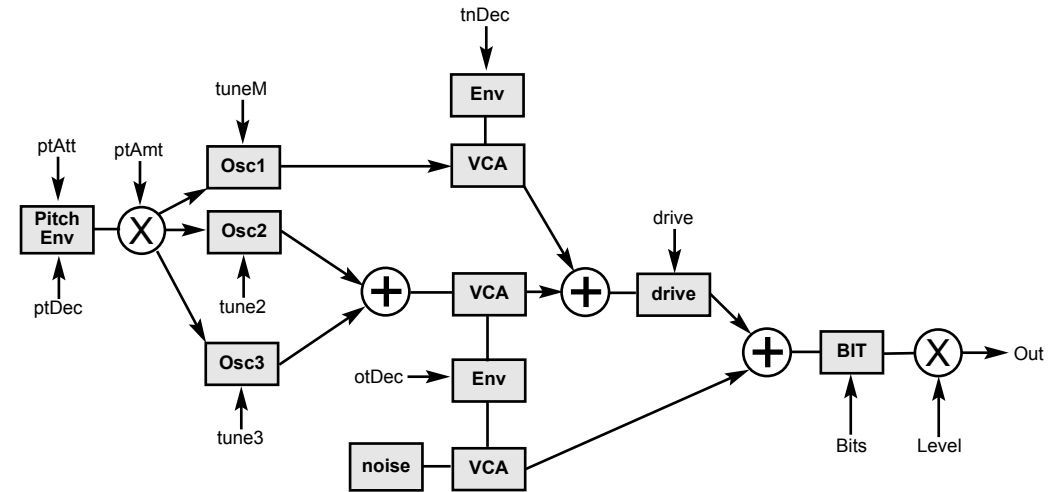
cpDec Clap Decay
cpCut Clap Cutoff (Bandpass)
rvCut Reverb(noise) Cutoff (Bandpass)
rvLvl Reverb(noise) Level

PAGE 2

cpLvl Clap Level
nTune Noise Tune

TOM: TOM

This algorithm is mainly used for different percussion sounds.



PARAMETER

PAGE 1

level Volume
tuneM Tune Main Oscillator
tune2 Tune Oscillator2
tune3 Tune Oscillator3

ptAmt Pitch Amount
ptAtt Pitch Attack
ptDec Pitch Decay
tnDec Ton Decay

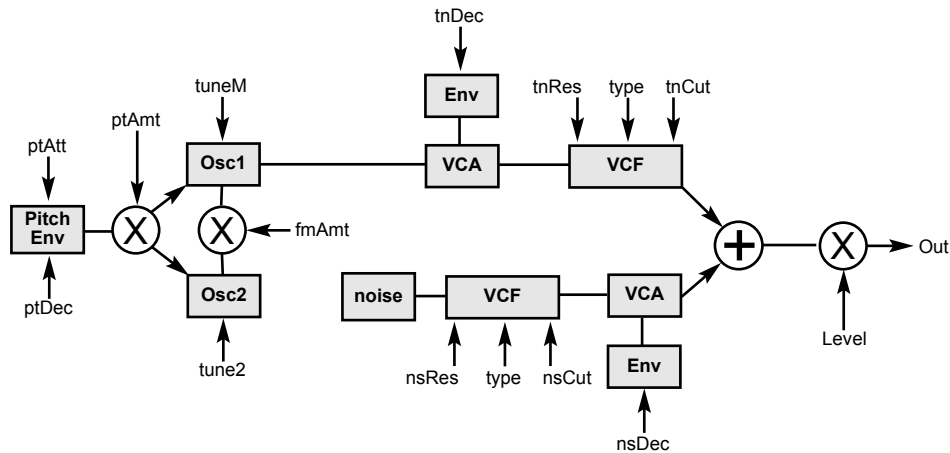
PAGE 2

otDec Overtone Decay
drive Overdrive
bits Audio Bit Reducer

INSTRUMENT ALGORITHM

UNI: UNIVERSAL

This algorithm is mainly used for different snare or kick drum sounds. But noisy, filtered sounds or dry, dark to light drum sounds can also be produced. With HOLD=0 the sound can be held with the gate length (pressing a button). This instrument has the ability to be played tonally over all notes via MIDI (like a monophonic synth voice).



PARAMETER

PAGE 1

level Volume
tuneM Tune Main Oscillator
tune2 Tune Oscillator 2
fmAmt FM Amount Oscillatoren

ptAtt Pitch Attack
ptDec Pitch Decay
ptAmt Pitch Amount
tnCut Tone Cutoff Frequency

PAGE 2

tnRes Ton Resonance
LP Ton Filtertype (LP/BP/HP/notch)
tnDec Ton Decay
hold 0=AR >0=AD Envelope

nsCut Noise Cutoff Frequency
nsRes Noise Filter Resonance
LP Noise Filtertype (LP/BP/HP/notch)
nsDec Noise Decay

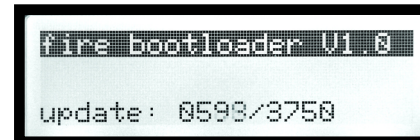
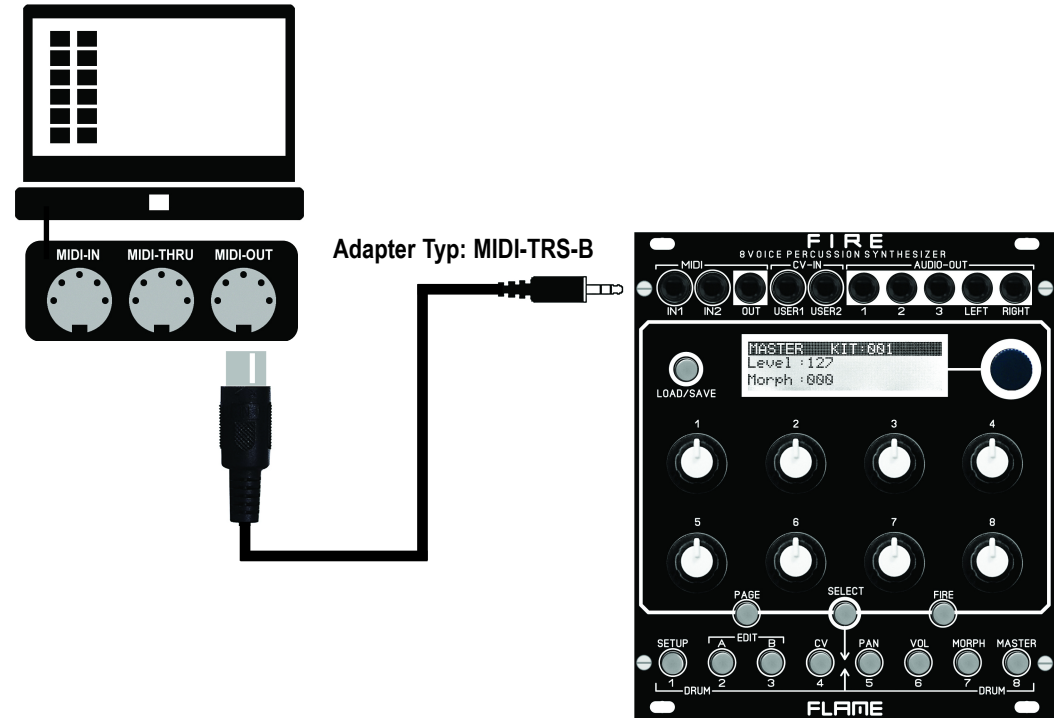
FIRMWARE UPDATE

A computer with a MIDI interface and a SYSEX program is required for a firmware update. For PC we recommend the freeware software MIDI-OX, for MAC the software "SYSEX LIBRARIAN".

Proceed as follows:

- 1 Load the firmware file (e.g. FlameFireV1_0a.syx) onto the computer.
- 2 Only connect the MIDI input 1 of the module directly to the MIDI out of your computer using a MIDI-TRS-B adapter (avoid detours, e.g. via USB hubs).
Advice: A MIDI-TRS-B adapter is required for the MIDI connection!
- 3 Turn on the module while holding buttons 1 (SETUP) and 8 (MASTER). The module now starts in the bootloader menu and waits for the Sysex file.
- 4 Send the firmware file from the sysex program to the module. The receipt of the data should now be shown on the display of the module (counter counts up). If nothing is shown on the display when sending the file, the MIDI connection is not correct (please check the cables, settings of the MIDI interface and SYX program settings).

If the upload was successful, the module saves the data and then starts automatically with the new firmware.



TROUBLESHOOTING

I want to exit FIRE mode (the one where I can play all 8 instruments directly):

You can only exit FIRE mode by pressing FIRE again.

The FIRE button does not respond:

Very much likely the EDIT buttons A/B/CV are lit - in this menu the FIRE button does not work. Exit via pressing the MASTER button.

I want to load or save a KIT, but the display always shows INSTRUMENT and vice versa:

When EDIT A/B/CV is active (lit!) you're in EDIT mode and in this mode you always load or save instruments. KITS are saved or loaded while you're in the MASTER menu (A/B/CV is unlit!).

I can't hear my sound:

Make sure that level (top left) isn't set to zero. Also check the morph settings in the morph menu and in the master menu (both set to 0!). If you still can't hear anything go to the volume menu, go to the second page and check if M (the Master Out) is selected. In case you still hear nothing, check the Decay settings.

If you're triggering the channel in the meantime you could also just press LOAD (while in the EDIT menu) and scroll through the instruments with the main dial and listen to them directly. If you hear something now, it is probably due to your parameter settings. Either load that instrument or go back and search again for the incorrectly set parameter.

Updating the firmware or midi dump doesn't work:

Make sure you're using midi input 1 and nothing else is connected.

Check your midi cables (use ours or a TYPE B adapter) and also make sure you're going into TAKT directly and not via a USB-hub or such. A further source of error often is the sysex application - make sure that the correct midi output is selected.

If you use the "SYSEX LIBRARIAN" program as a Mac user, you always receive the SYSEX data via the "Record Many" button (top right).

If it still doesn't work try a different (older) interface: many new and especially cheaper ones have different impedance and stuff and therefore limited functionality.

APPENDIX & TECHNICAL DETAILS

Technical details

Connections:

Ribbon cable adapter for Doepfer bus +/-12Volt

Inputs: 2x MIDI-TRS-B, 10x CV, 8x Trigger/Gate, 3,5mm mono/stereo jacks

Outputs: 1x MIDI-TRS-B, 8x audio, 3,5mm mono/stereo jacks

Controls:

12 buttons

8 Potentiometer, 1 encoder

1 LCD-graphic display

Resolution: DAC: 16Bit, Audio output: +/-5V

Current consumption: +210mA / -70mA

Size: Euro format 3U / 22HP 110x128,5x33mm, installation depth: 30mm

Expander: 3U / 6HP 110x30x20mm, installation depth: 25mm

Warrenty

Beginning from the date of purchase a 2-year warranty is guaranteed for this device in case of any manufacturing errors or other functional deficiencies during runtime.

The warranty does not apply in case of:

- damage caused by misuse
- mechanical damage arising from careless treatment (dropping, vigorous shaking, mishandling, etc)
- damage caused by liquids penetrating the device
- heat damage caused by overexposure to sunlight or heating
- electric damage caused by improper connecting (wrong power supply/ jacks/ MIDI connections/ voltage problems).

If you have any complaints please contact your dealer or send an e-mail to:

service@flame-instruments.de

Terms of production

conformity: CE, RoHS, UL

Disposal

The device is produced with RoHS-conformity (subject to the regulations of the European Union) and is free of hazardous substances (like mercury, plumb, cadmium and hexavalent chrome). But electronical scrap is hazardous waste. Please don't add this to consumer waste. For an environment friendly disposal of waste please contact your distributor or specialist dealer.

Support

Updated and additional informations, updates, downloads and more see:

<http://flame.fortschritt-musik.de>

Acknowledgment

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