

# FLAME

## PANMIX - Dual Panning Recorder



# MANUAL

Version 1.00

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# 1. Short description

The FLAME "PANMIX" module includes two independent panning mixers with one input on two left / right outputs and is designed for audio or CV sources in the voltage range of + -5v (audio modular level). In addition, the 2 inputs A and B can be separately switched to + 6db audio via the rear slide switch (for external audio line level sources).

The movements of the two mix controls can be recorded. The recording time per channel is over two minutes. The playback speed is adjustable in the playback. The recorded track is played by pressing the Play button once (one shot) or by a longer press in the loop. The track data remains permanently stored (battery-backed memory).

Both panning channels have a separate reset input and a separate CV input (+ -5V) for controlling the mix e.g. by an LFO. In addition, there are three other audio / CV signal inputs (one mono and stereo left + right), which are routed directly to the output and mixed together with the two PAN channels. So you can directly mix other sources and e.g. connect two or more "PANMIX" modules together.

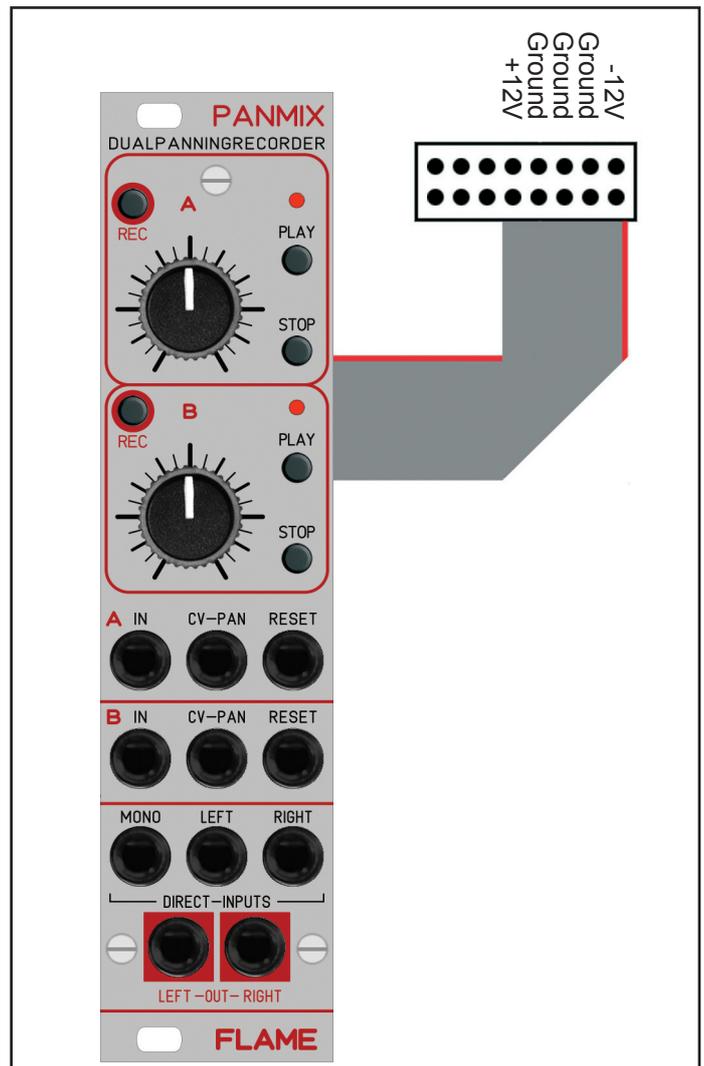
# 2. Hardware / Connections

## 2.1 Connection to the modular system (Doepfer bus)

The module is delivered with a connected ribbon cable for the Doepfer bus. The red lead marks -12 volt. Connecting the module please note the right polarity!

If the module is poled accidentally wrong safety diodes avoid the immediate destruction of the module but further damages cannot be expected.

So please pay attention: Check the connection various times before switching on!



## 2.2 Modul overview

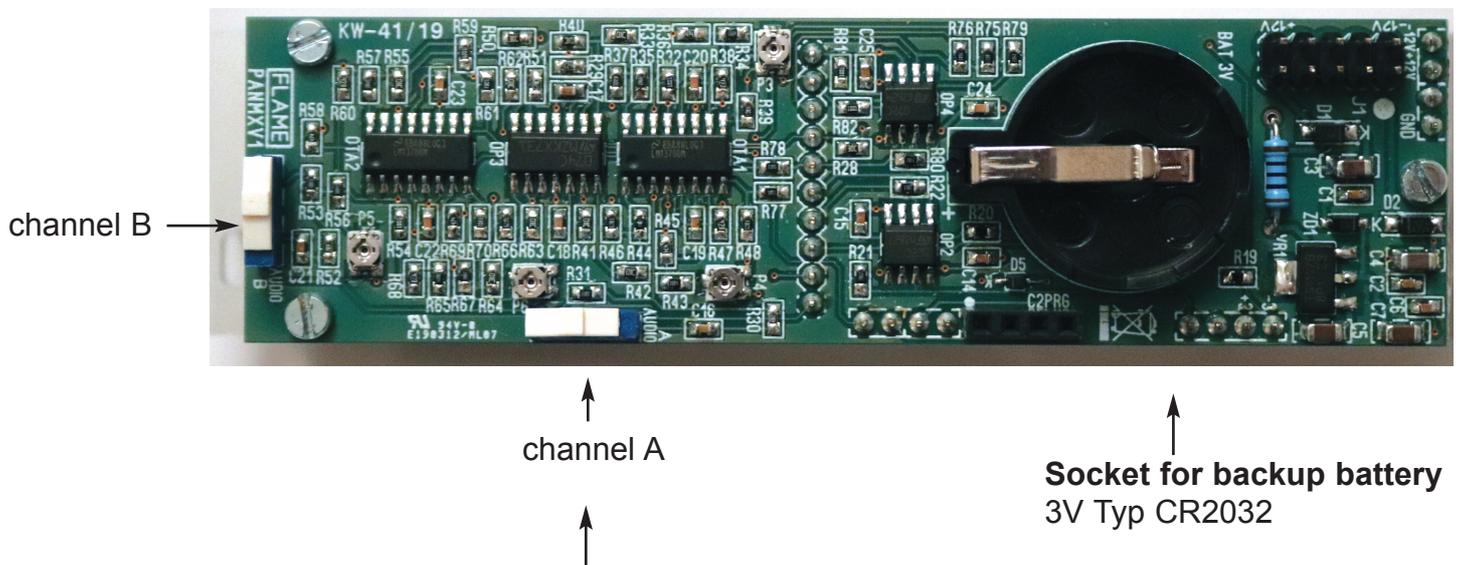
- 1 Key RECORD
- 2 Mode LED
- 3 Key PLAY
- 4 Key STOP
- 5 Panning Mix pot
- 6 RESET input (0/5v)
- 7 Channel Audio/Signal input (+/-5v)
- 8 CV Panning input (+/-5v)
- 9 Audio/Signal direct inputs (+/-5v)
- 10 Audio/Signal stereo output (+/-5v)



## 2.3 Module backside

At the bottom of the module there are two slide switches for setting the input level of the panning mixer inputs (A + B). The switch position AUDIO means that the input can be used as an audio input with + 6dB gain for external line level. In this case, the input can not be used as a CV input. In the other switch position, the module CV or Audio processes levels of +/- 5v (modular level).

In addition there are the socket for the backup battery of the memory. Please note the information below!



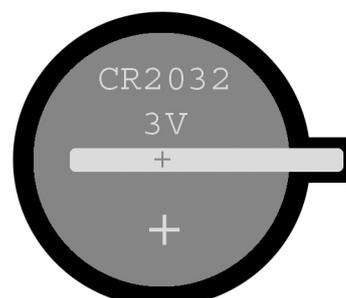
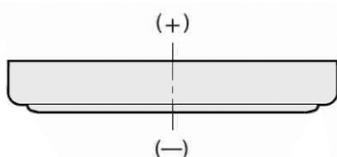
### Switches for input levels

- Modular level CV or Audio (default)
- Position AUDIO: +6db Audio line level (only audio!)

## Insert the backup battery before connecting the unit to your modular rack

The PANMIX module uses a standard 3v lithium backup battery, type CR2032. Insert the provided battery or a comparable battery into the battery compartment as shown below. The battery is needed to keep recordings and settings stored when the Eurorack case is turned off.

**Make sure the anode (+) points outwards ! Otherwise you destroy the SRAM !**



## 3. Handling

### 3.1 Manual mix mode (Stop)

After switching on, the module is in STOP mode. All LEDs are off. With the respective panning potentiometer of the track you can now control the applied signal of the channel between left and right of the stereo output. If the potentiometer is at left stop, the signal appears left, at right stop at output right.

In this mode, the module behaves like an ordinary dual Panningmixer with one input per channel to a stereo output left / right.

Since the mixer is internally equipped with VCAs, the mix control per channel can be recorded separately for up to two minutes and played back later.

**Please note:**

The outputs invert the input signals, which must be taken into account when using CV.

### 3.2 Record

For beginning the record sequence please push the REC button (blinking LED). You can record the movements of the ruler until you push again the button REC or until up to the maximal record time. Now the record sequence stops and jumps automatically in the Play loop mode (LED on). The sample rate is about 250Hz.

From mode STOP or PLAY you can start a record sequence anytime.  
The maximum recording time per channel is about 2 minutes.

**Please note:** not the signal at the inputs is recorded, but only the volume control of the potentiometers!

### 3.3 Play back

After a record sequence the play back of the track starts automatically in loop (LED on). If you are in mode STOP (LED off) then you can start the play back with pushing the button PLAY. Please note the both versions of pushing (short or long):

**ONE SHOT** - Track plays once only: Push the button shortly (< 0,5sec)

**PLAY LOOP** - Track plays in loop: Push the button longer (> 0,5 sec)

**ATTENTION:**

Reset can start the track (or tracks) while Play mode is activated (LED on).

### 3.4 Play back function Speed

With the ruler you can change the speed of the play back. Turn the pot over the middle position to activate the speed function. In ruler position Zero you have the half speed and in ruler position maximal you have the fourth speed. The original record speed is about ruler middle position.

**Please note:**

After the end of the One shot sequence the function SPEED has no effect.

### 3.5 Reset

A high pulse at the reset input of the channel sets the track (Play Mode) to the beginning and starts it. If the track was previously in One Shot Mode, the sequence will also be played only once (until another reset pulse arrives).

**ADVICE:**

Reset has no effect while mode RECORD or STOP is activated.

### 3.6 Input CV-Pan

Use the CV-Pan input of the channel to control mixing with a control voltage (such as an LFO). The input can handle voltages in the range of +/- 5v. The pot serves as an attenuator. In order to use the full voltage range, you must therefore turn the potentiometer to the right stop. When using an LFO, the frequency should not be higher than 125Hz, because the sample rate of the recorder is about 250 Hz.

**ADVICE:**

If you use a modulated CV for recording the mix (eg from an LFO), then this also controls the SPEED during playback. You should then, if necessary, turn the potentiometer to zero, or pull out the cable.

### 3.7 DIRECT INPUTS

In addition, there are three other audio / CV signal inputs (one mono and left + right) routed directly to the output and mixed together with the two PAN channels. So you can directly mix other sources (only with modular level) and e.g. connect two or more "PANMIX" modules together.

**ADVICE:**

All 5 inputs (Pan A, Pan B and the three "Direct Inputs") share the maximum output gain. Only when all 5 channels have been maximally controlled, the output level is +/- 5 volts.

## 4. Appendix

### 4.1. Technical details

#### Connections:

Ribbon cable adapter for Doepfer bus +/-12Volt  
Inputs: 5x Audio/CV (+/-5v), 1/8th inch mono jacks  
2x Reset (0/+5v..10v), 1/8th inch mono jacks  
2x Panning mix CV (+/-5v), 1/8th inch mono jacks  
Outputs: 2x left and right (+/-5v), 1/8th inch mono jacks

#### Control elements:

6 push buttons  
2 knobs for mix and speed  
2 LED's

**Resolutions:** AD/DA converter: 12bit, Sample rate: 250Hz

**Current consumption:** max + 40mA / - 30mA

**Size:** Euro rack format 3U / 6HP 30x128,5x40 mm

### 4.2 Warranty

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](mailto:service@flame-instruments.de)

### 4.3 Terms of production

conformity: CE, RoHS, UL

### 4.4 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.

### 4.3 Support

Updated and additional informations, updates, downloads and more see:  
[www.flame-instruments.de](http://www.flame-instruments.de)

### 4.4 Acknowledgment

For help and assistance big thanks to: Alex4 and Schneiders Büro Berlin, Shawn Cleary (Analogue haven, Los Angeles), Thomas Wagner, Robert Junge, Anne-Kathrin Metzler, Lena Büniger and Felix Bergleiter.