FLAME

XPANMIX RECORDER

MANUAL

Version 1.00

Contents

1. Short description

The "XPANMIX" module is a combination of an XFADER and a PANNING mixer recorder. In the upper part of the module is the XFADER with two inputs to one output. In the lower part of the module is the PANNING mixer with one input to two left/right outputs. The inputs are designed for audio or CV sources in the voltage range of +-5v (audio modular level). In addition, the inputs can be switched separately to +6db audio (for external audio line level) using the rear slide switch. The movements of the two mixer controls can be recorded for up to 2 minutes. The playback speed can be adjusted in the playback. The recorded track is played once (one shot) by briefly pressing the Play button or in a loop by pressing it a little longer.

Both mixers have a separate reset and CV input (+-5V) for controlling the mix, e.g. with an LFO. The track data is stored permanently (battery-buffered memory).

In addition, the XFADER output is routed to the input of the PANNING mixer if no cable is plugged into the PAN input. Both mixers are thus connected one after the other and PAN of the XFADER can also be used for mixing in the stereo image.
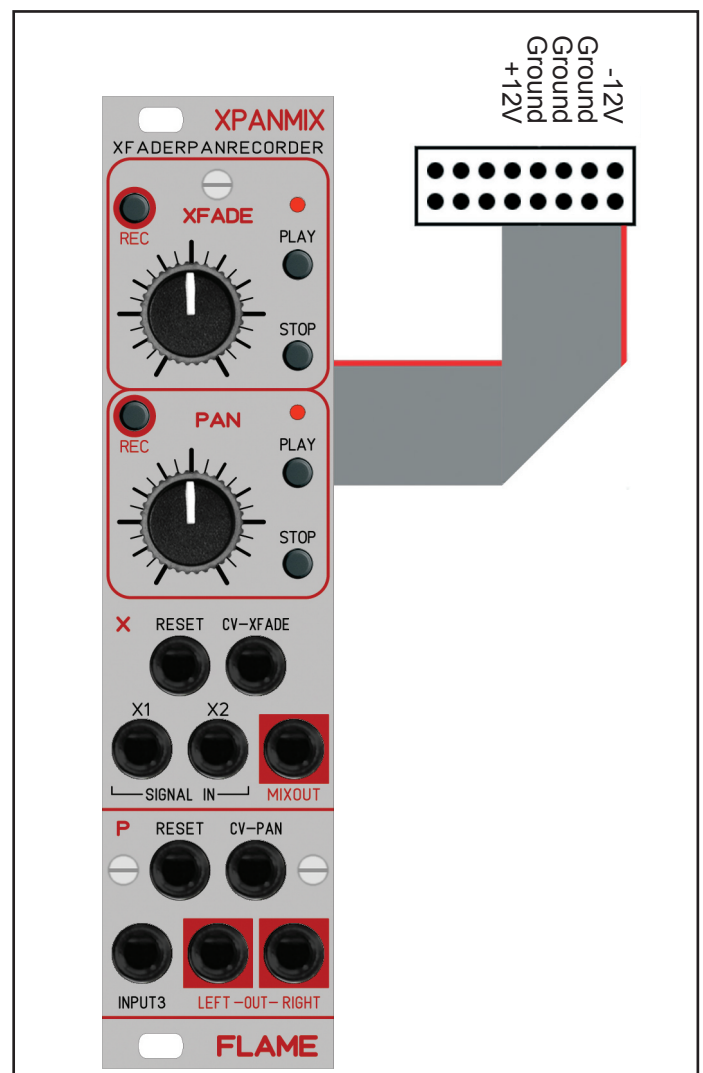
2. Hardware / Connections

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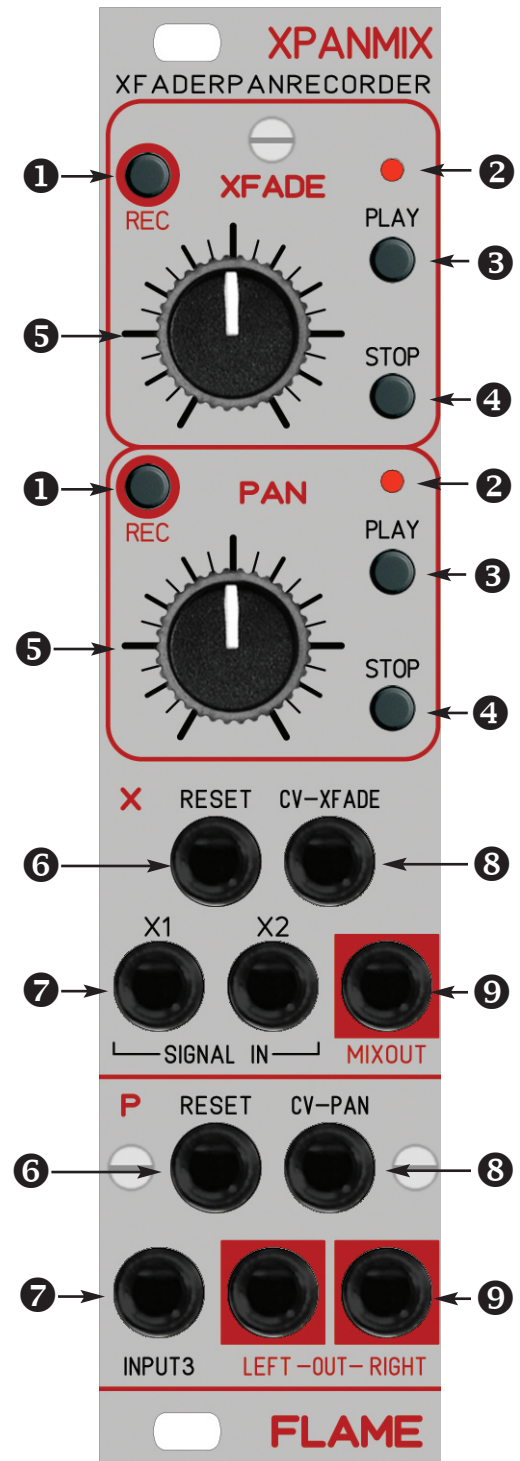
If the module is poled accidentally wrong safety diodes avoid the immediate destruction of the module but further damages cannot be excepted.

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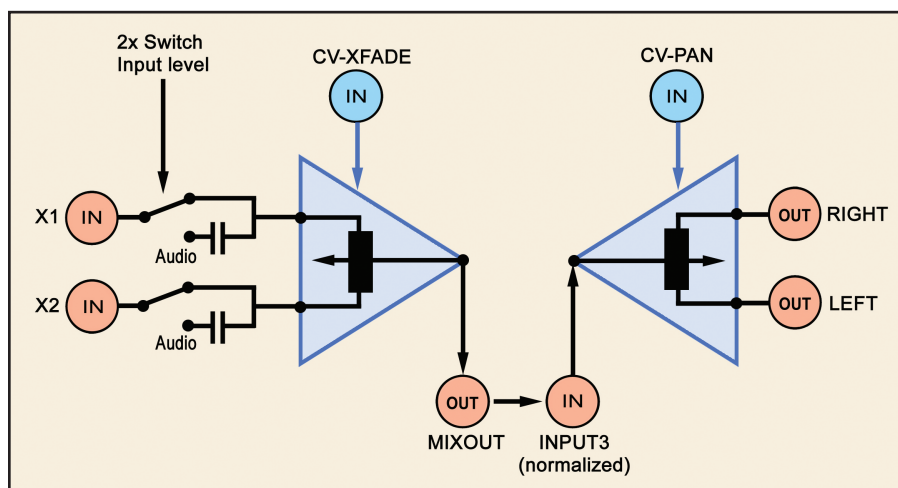
2.2 Modul overview

❶ Key RECORD

❷ Display Modi

❸ Key PLAY

❹ Key STOP

❺ Mix Ruler

❻ Inputs RESET (0/5V)

❼ Inputs Audio/CV (+/-5V)

❽ CV MIX inputs (+/-5V)

❾ Outputs Audio/CV (+/-5V)

XPANMIX

XFADERPANRECORDER

XFADE

PAN

X RESET CV-XFADE

X1 X2

SIGNAL IN MIXOUT

P RESET CV-PAN

INPUT3 LEFT—OUT—RIGHT

FLAME

2.3 Audio signal flow schemes

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2.4 Module backside

There are two slide switches on the underside of the module for setting the input sensitivity of the XFader inputs. The AUDIO switch position means that the input can be used as an audio input with +6dB amplification for external line levels. In this case the input cannot be used as a CV input. In the other switch position, the module processes CV or audio levels of +/-5v (modular level).

There is also a socket for the storage backup battery.
Please note the information below!

Fade channel X2

Fade channel X1

Socket for backup battery
3V Typ CR2032
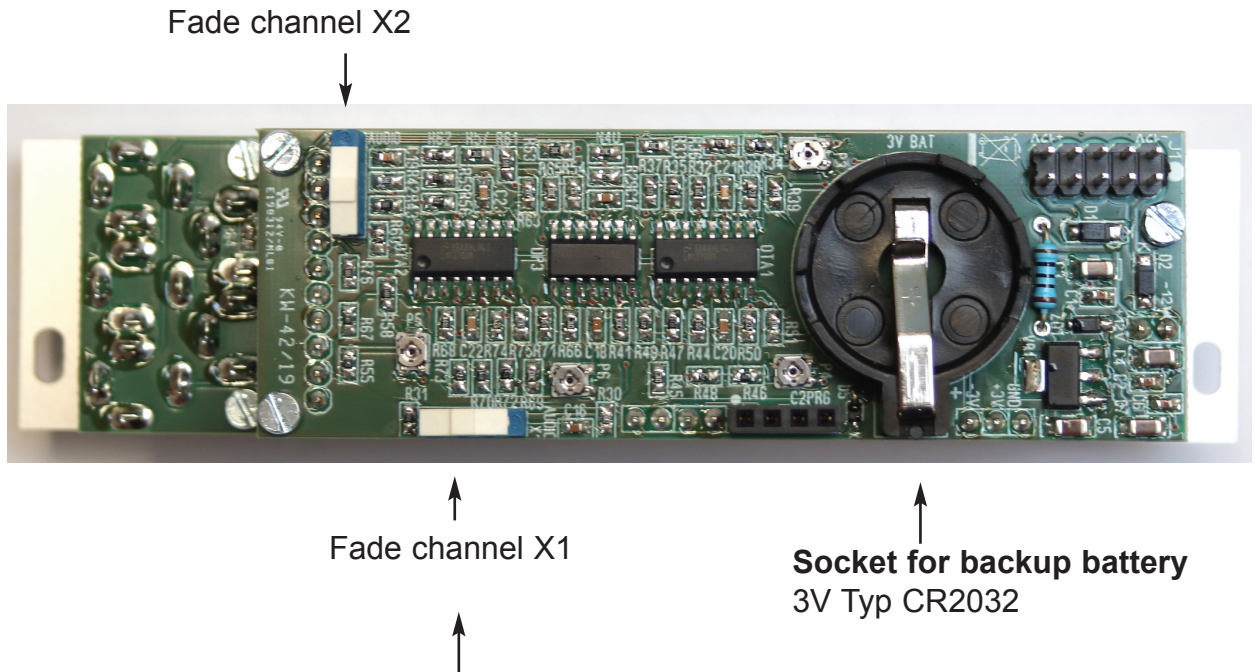
Switches for input levels
- Modular level CV or Audio (default)
- Position AUDIO: +6db Audio line level (only audio!)

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

The 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 !

(+)

(−)

CR2032
3V
+

+
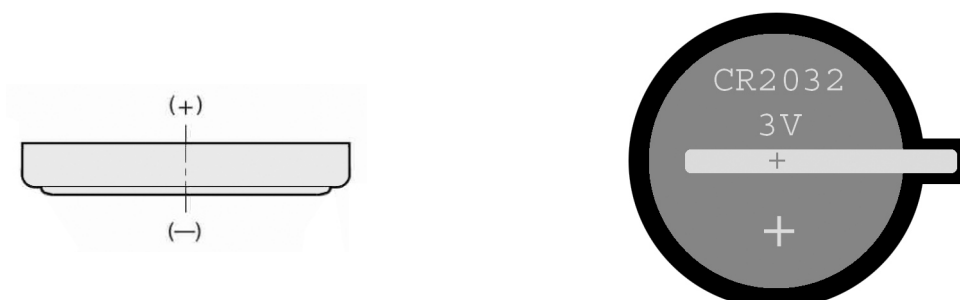
3. Handling

3.1 Manual mix mode (Stop)

After switching on, the module is in STOP mode. All LEDs are off. You can mix the signals manually with the respective control XFADE or PAN. If XFADE is fully left, the signal from input X1 appears at the MIXOUT output; if it is fully clockwise, the signal from input X2 appears. Both signals are mixed in the middle.

With PAN you can now adjust the MIXOUT signal (or the signal from input 3) between left and right of the stereo output. If the potentiometer is fully left, the left signal appears, if it is fully clokkwise, the output is right. If a cable is plugged into input 3, only the signal from input 3 is routed to PAN.

Since the mixers are internally equipped with VCAs, the controls can be recorded separately for up to about two minutes and played back later.

Please note: The input signals X1 and X2 are inverted at MIXOUT (not at LEFT and RIGHT), this 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 CV MIX input

Use the CV inputs CV-XFADE and CV-PAN to control mixing with a control voltage (such as an LFO). The inputs can handle voltages in the range of +/- 5v. The poti 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.

4. Appendix

4.1. Technical details

Connections:
  Ribbon cable adapter for Doepfer bus +/-12Volt
  Inputs: 3x Audio/CV (+/-5v), 1/8th inch mono jacks
      2x Reset (0/+5v..10v), 1/8th inch mono jacks
      2x Mix CV (+/-5v), 1/8th inch mono jacks
  Outputs: 3x MIX (+/-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 / - 10mA
Size: Euro rack format 3U / 6HP 30x128,5x40 mm

4.2 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

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

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 Bünger and Felix Bergleiter.