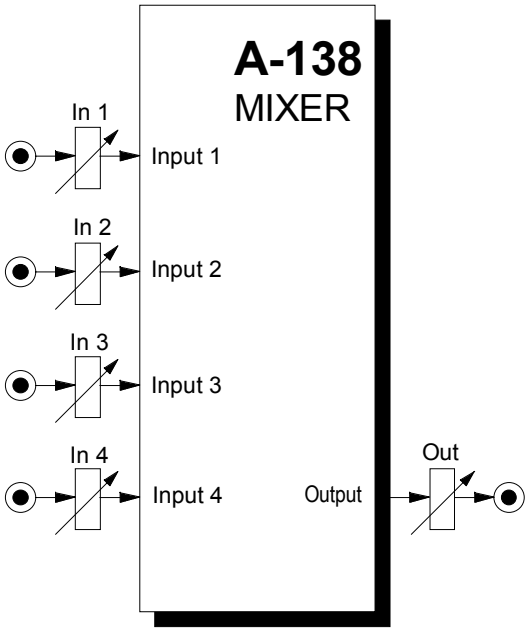



# 1. Introduction

Module **A-138 (MIXER)** is a **four channel mixer,** which can be used with either control voltages or audio signals.

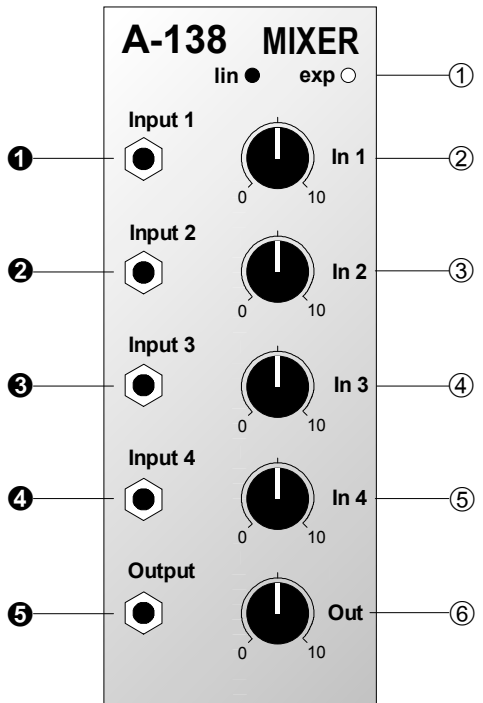
Each of the four inputs has an attenuator, and there's a master attenuator, so that the mixer can be used at the end of the audio chain - ie. it can be used to interface directly with an external mixer, amplifier, etc..

The module can be supplied in two versions:

- **A-138 a**: potentiometers with linear response, so especially suitable for control voltage mixing.
- **A-138 b**: potentiometers with logarithmic response, so especially suitable for audio signal mixing.

*From about middle of 2004 the module is equipped with an additional offset function for input 1. An internal jumper is used to decide if control input 1 works as a positive or negative DC offset generator provided that no plug is inserted into input 1.*

## 2. MIXER - Overview




### Controls and markings:

① **lin. / exp.**: indication of type of mixer:

**A-138 a**: **linear** potentiometers
**A-138 b**: **logarithmic** potentiometers

② **In 1**: Attenuator for input ❶

③ **In 2**: Attenuator for input ❷

④ **In 3**: Attenuator for input ❸

⑤ **In 4**: Attenuator for input ❹

⑥ **Out**: Output attenuator

### In / Outputs:

❶ **Input 1**

❷ **Input 2**

❸ **Input 3**

❹ **Input 4**

❺ **Output**

# 3. Controls and markings

### ① lin. / exp.

Check which little circle is filled in, to see which version, linear or exponential (logarithmic), the VCA is.

### ② In 1 ... ⑤ In 4

Attenuators ① to ④ control the level for inputs ❶ to ❹.

### ⑥ Out

The **output level of the mixer** is controlled by attenuator ⑤. Unlike on most A-100 modules, the output has an attenuator, so that it can act as the end of the audio chain, and interface directly with a mixing desk, amplifier, etc.

*From about middle of 2004 the module is equipped with an additional offset function for input 1. The pin header labelled JP4 (located behind input 1 on the pc board) is used for this option. With no jumper on JP4 the offset option is disabled. If a jumper is put to JP4 in the right position (near the edge of the pc board) a positive offset voltage (~ 0...+5V) is generated by control 1 provided that no plug is inserted into socket 1. If a jumper is put to JP4 in the left position (direction to the front panel) a negative offset voltage (~ 0...-5V) is generated.*

# 4. In / Outputs

### ❶ Input 1 ... ❹ Input 4

Sockets ❶ to ❹ are the mixer's **inputs**. Patch in what you want to mix via these sockets.

☞ You can use the mixer for either control voltages or audio signals (see chapter 5, user examples)

### ❺ OUT

The mixed signal is available at the **output.**

# 5. User examples

## Mixing audio signals

- ❒ Use **A-138 b,** and patch the audio signals to be mixed into sockets ❶ to ❹.
- ❒ Adjust the relative amount of each signal with controls ① to ④, and the volume of the whole mix with control ⑤.
- ❒ The whole mix is output at socket ❺.

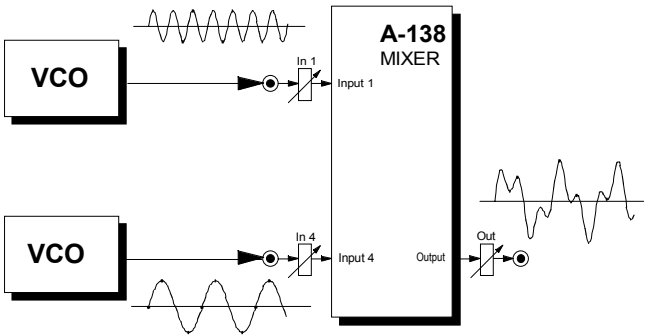



**Fig. 1**: Mixing audio signals with an A-138 b

## Mixing control voltages

You may sometimes need more CV inputs than a particular module has - for instance if you want to control VCF 1 with an **ADSR, LFO, aftertouch,** and **keyboard tracking**.

In that case, you'll need to use an **A-138a VCA** to mix at least two of the CVs, and send the output to one of the VCF's free inputs (see Fig. 2).

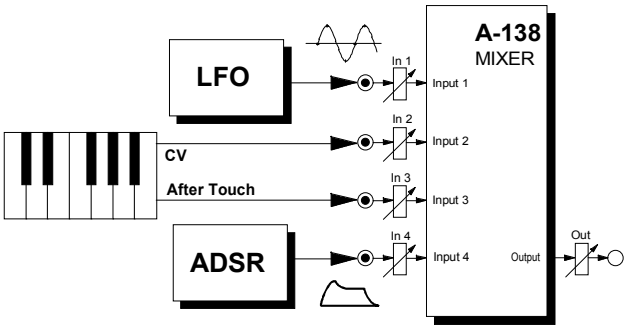



**Fig. 2**: Mixing control voltages with an A-138 a