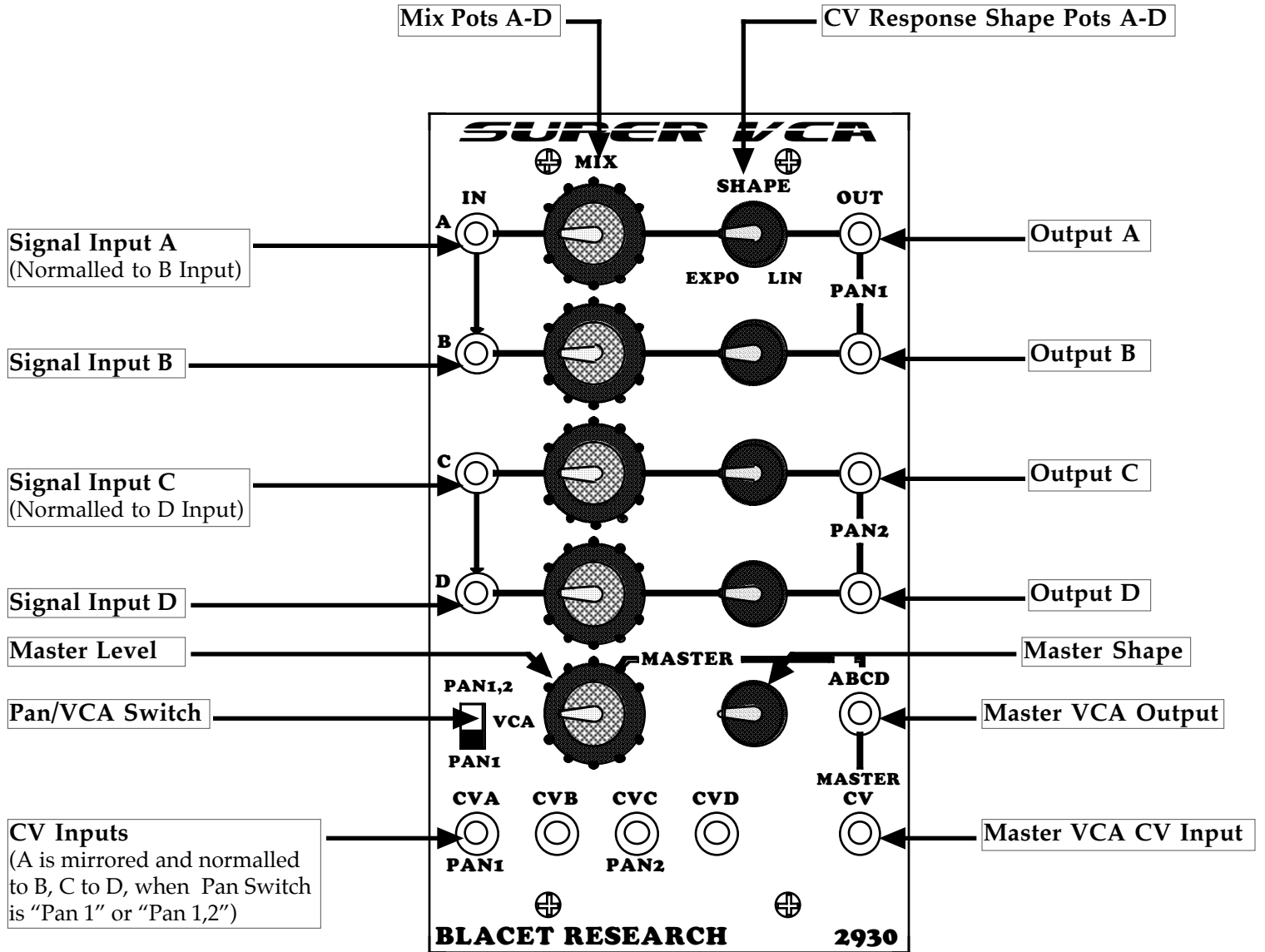


## Introduction

The Blacet VCA2930 is a Quad Mixer/VCA with a Master VCA. Audio or control voltage signals may be processed. Each of the four VCA channels may be used independently, as a mixing element into the Master VCA or as part of one of two panning circuits.

A unique feature is that the control voltage response for each channel is continuously variable between exponential and linear, allowing precise control over a complex mix.

Normalizing and a built in control voltage mirror allows panning type use with no external mixer and only one external CV. Other applications of the module include: splitter (one signal to two outputs), fader (two signals fade between two outputs) and swapper (two signals alternately appear at one output).



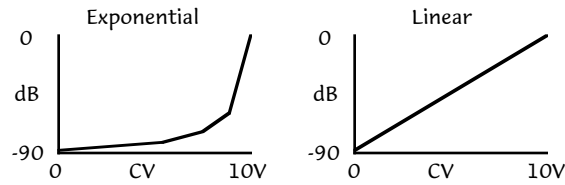
## Controls and Operation

Operation of the VCA2930 is fairly straight forward. There are four separate VCAs and a Master VCA. Any channel that does not have a plug in the OUT jack is automatically connected to the Master Channel and any signal will appear at the Master VCA Output (ABCD).

Connect a signal to any IN jack and connect the OUT jack to a mixer, amp or other module as required. Set the level with the MIX pot. Each VCA has it's CV input normalled to a bias source that keeps the VCA fully on. Make sure the Pan/VCA Switch is in the center position (VCA).

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You can use the CV input to dynamically control the VCA. Use the EG1, DAD, or LFO, for example. Use the SHAPE pot to control the VCA response from an exponential to a linear curve.



Exponential CVs usually sound “punchier” and linear CVs have more of a “sustain” quality. It is important to avoid using CVs in excess of 10V. This will send the VCA into a gain situation which will result in possible distortion and increased bleed thru. This precaution is especially true in the exponential mode as the gain will increase very rapidly due to the accelerating curve shown above. As little as 0.5V will cause 15 dB of gain (each 6 dB **doubles** the signal level).

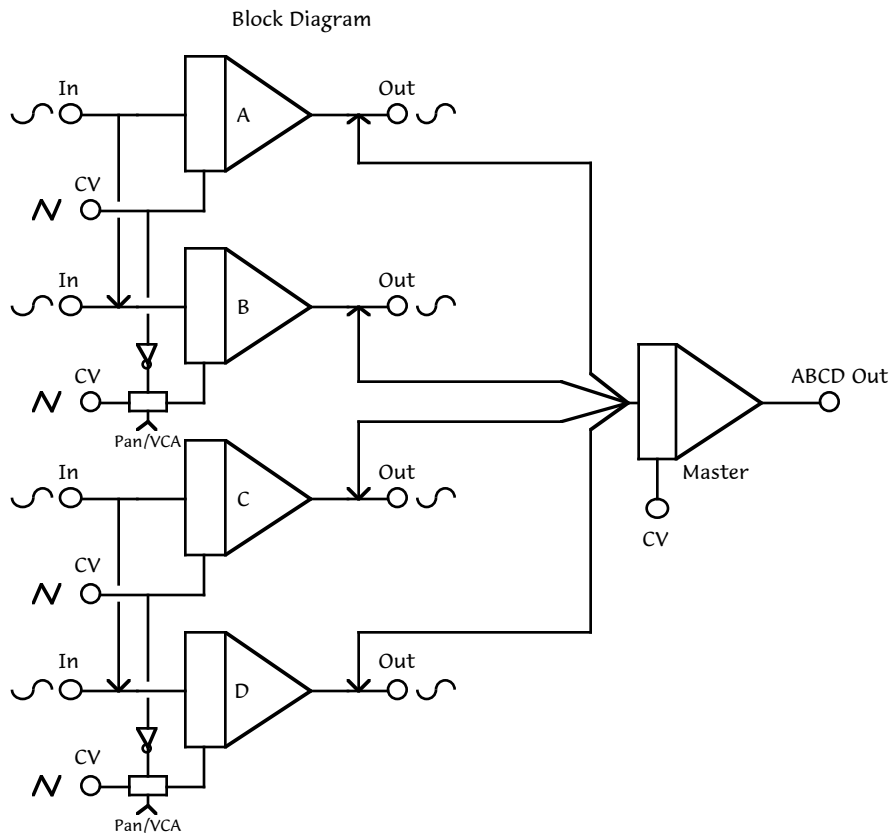
For special effects such as Panning, you can set the Pan/VCA Switch to Pan 1, which enables VCAs A and B or set the switch to Pan 1, 2 which sets up two panners, A,B and C,D. See the diagrams on the next page.

**Stereo Panning:** Input a signal into A and connect the A and B outputs to a stereo mixer. Typically, use a 0-10V triangle wave from an LFO into the A CV input. The input signal will pan between the stereo outputs. You can experiment with the A and B Shape pots to get different effects.

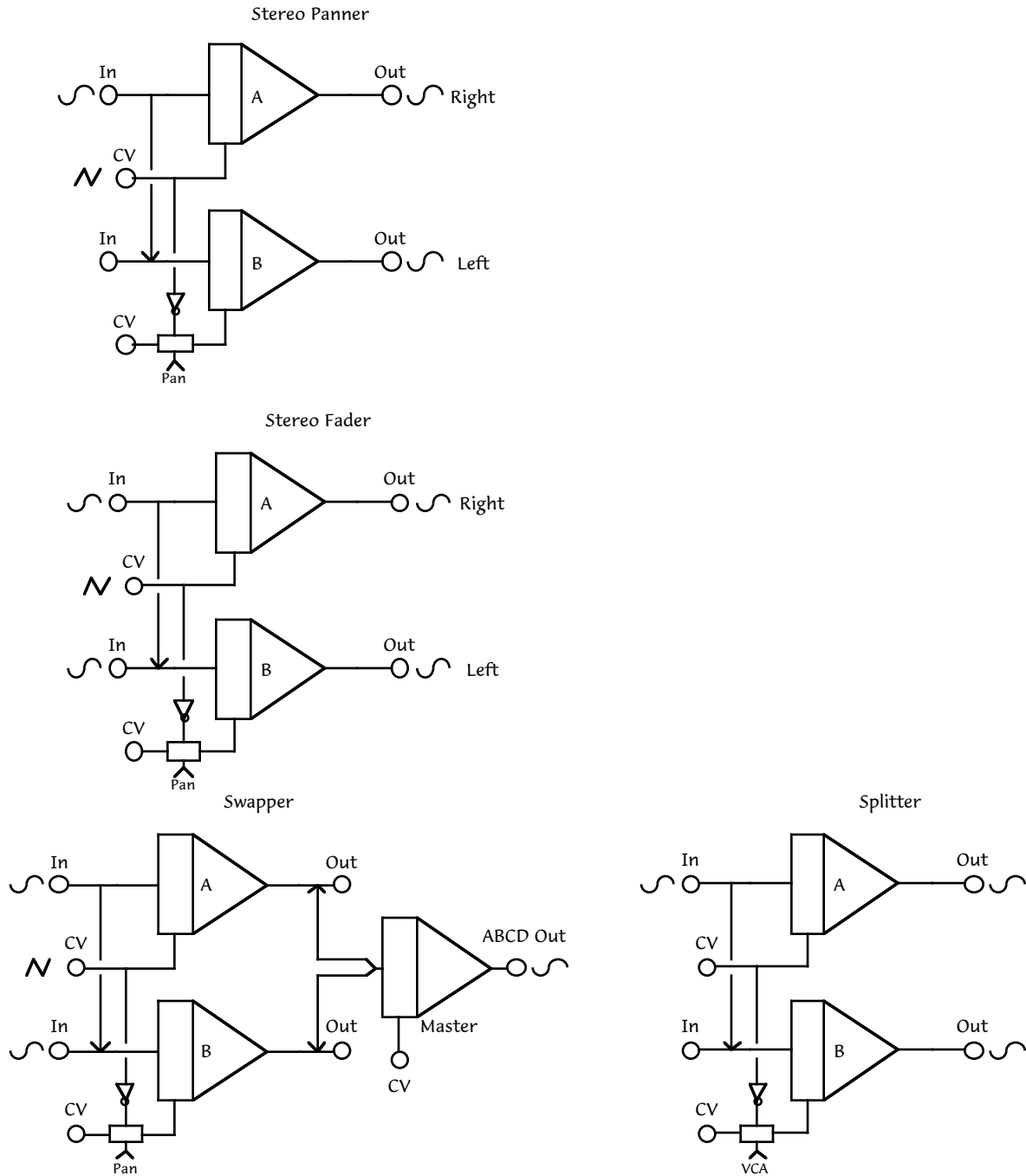
**Stereo Fader:** Input two different signals into A and B and connect the A and B outputs to a stereo mixer. Typically, use a 0-10V triangle wave from an LFO into the A CV input. The input signals will appear alternately at the stereo outputs. You can experiment with the A and B Shape pots to get different effects.

**Swapper:** Input two different signals into A and B and connect the Master ABCD output to a mixer. Typically, use a 0-10V triangle wave from an LFO into the A CV input. The input signals will appear alternately at the output. You can experiment with the A and B Shape pots to get different effects.

**Splitter:** For this application set the Pan/VCA Switch to VCA. Input a signal into A. This signal automatically normals to B. The input signal will appear at the A and B outputs. You can set the level of each output with the Mix pot and optionally use the A and B CV inputs to control each output.



# Applications



## Specifications

- Module Width: 3"
- Module Depth: 3.8"
- Maximum Attenuation: 90dB
- Maximum Control Voltage: 10V
- CV Control Curve: variable, exponential to linear
- Power Requirements: +15V @ 114 mA, -15 @110 mA