

# Wiard Synthesizer Company

## Mixolator Module

### Preliminary Manual (v 0.2.0)

By Darwin Grosse and Grant Richter

Please see block diagram at end for additional information

While the most "difficult" to understand of the Wiard modules, the Mixolator provides a variety of important functions from mixing and panning to ring modulation.

### LED Series

The LED bank at the top of the module is split into two sections, where each 4-lamp section shows the current output value (in dB) of its respective output stage.

### Front Panel Controls

#### X1:

"X" signal mixer input attenuator for channel 1. This is mixed with X2 to provide the X signal.

#### X2:

"X" signal mixer input attenuator for channel 2. This is mixed with X1 to provide the X signal.

#### Y:

An input attenuator for the "Y" input signal.



## Z:

The control for crossfade and VCA functions. When Z is at its leftmost position, the X signal is sent to the Y output, and the Y signal is sent to the X output. As the value of Z is increased, the X and Y signals are "segued" into opposing outputs. When Z is at its highest position, the X and Y signals are sent to their named outputs. Therefore, you can get single channel fading and crossfading (by removing the Y signal, the X output will be the fade output based on the position of Z, and the combination of X and Y outputs will be a panned stereo output), as well as dual, simultaneous crossfading (by connecting both X and Y inputs).

## Z Mod (lin/log):

Will fade between linear and logarithmic Z functionality.

# Front Panel Switches and Buttons

## VCA/Ring Switch

When set to "VCA", the Mixolator behaves as a mixer/panner/crossfader. When set to "Ring", a phase inverted version of the input is sent to the output, providing ring modulation functions.

To properly set up the Mixolator for ring modulation, use the following steps:

- Set the X and Z controls to "fully open". Set the Y control "fully closed".
- Set the Zmod control to "linear".
- Place the signal to be used as a carrier into the ZMod input.
- Place the signal to be used as the modulator into the X input.
- The X+ output is the ring modulated output.

Each Mixolator section is individually switched.

## Patchbay Jacks

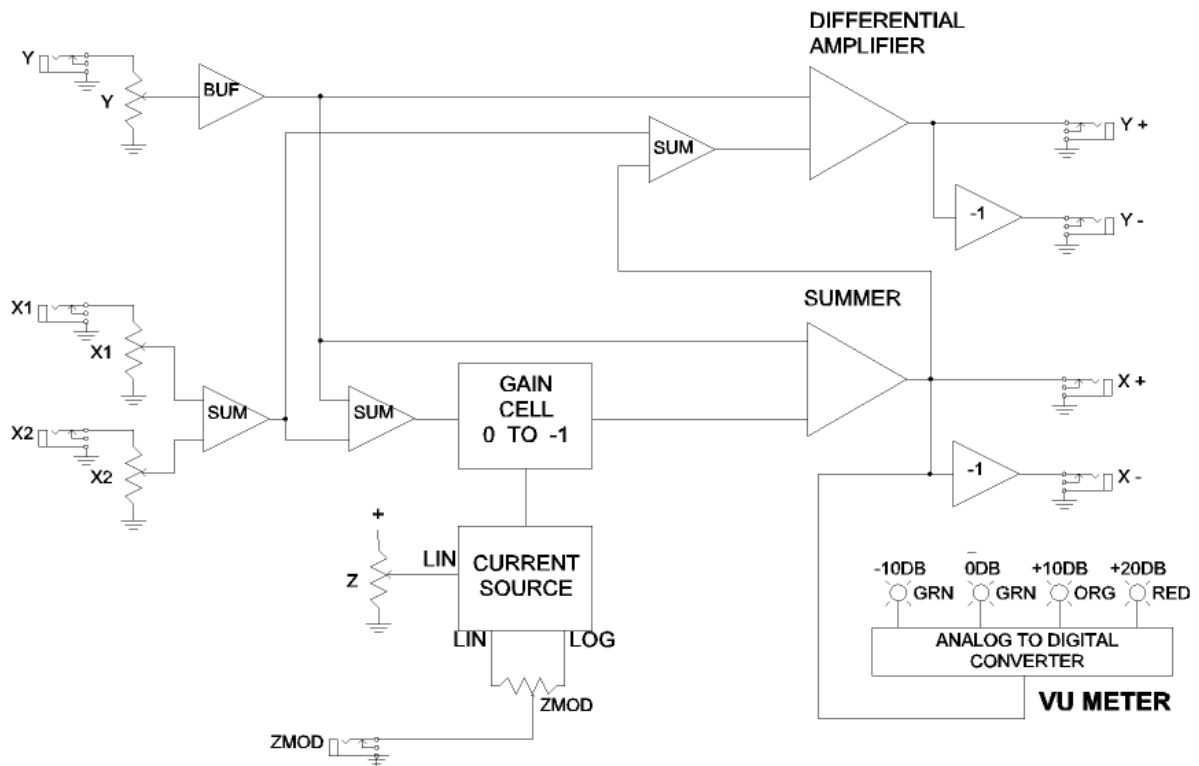
(listed top-to-bottom, from left to right)

Jack Label	In/Out	Use
X1 (x2)	Input	Input 1 of the mixed X channel signal.
X2 (x2)	Input	Input 2 of the mixed X channel signal.
Y (x2)	Input	Input for the Y channel signal.
Z Mod (x2)	Input	The input for Z function modulation.
X+	Output	The X channel output.
X-	Output	A phase inverted (negative) version of the X output.

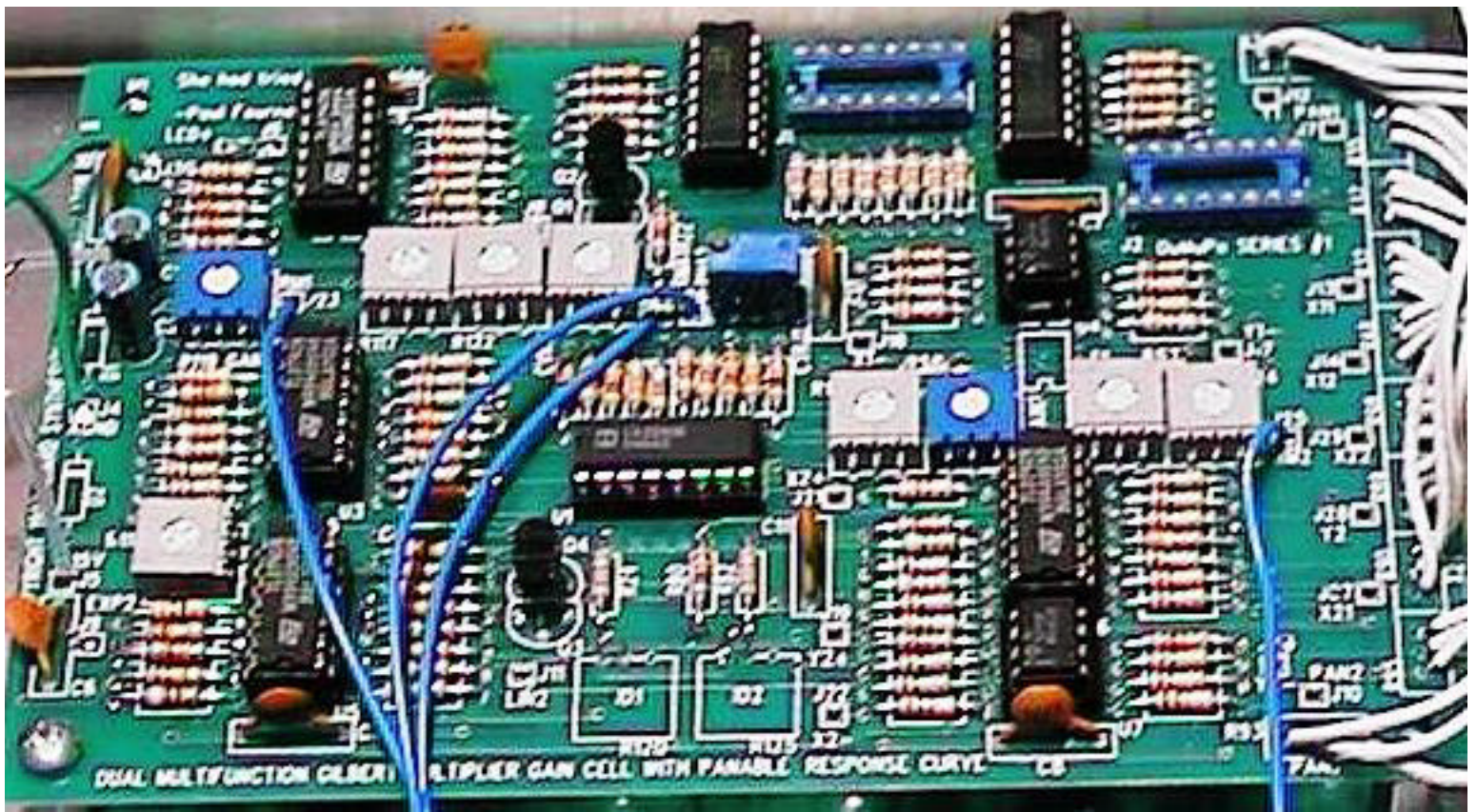
Y+	Output	The Y channel output.
Y-	Output	A phase inverted (negative) version of the Y output.
Multiple	Either	Any signal can be multiplied (that is, duplicated) by placing a signal into any of these jacks, and using the remaining three jacks as duplicate outputs.

NOTE: All outputs are DC-coupled, allowing this module to work identically for both audio and control voltage signals.

## WIARD MIXOLATOR BLOCK DIAGRAM ONE OF TWO IN MODULE



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Printed circuit board silkscreen