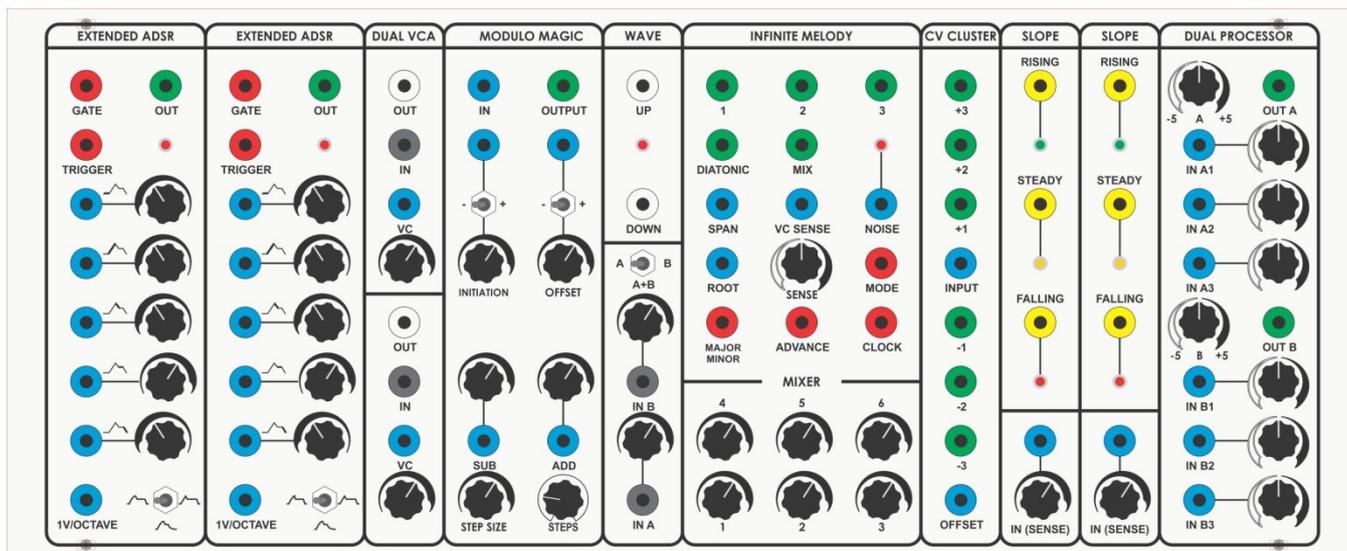




**MARSH - The Bizarre Panel**

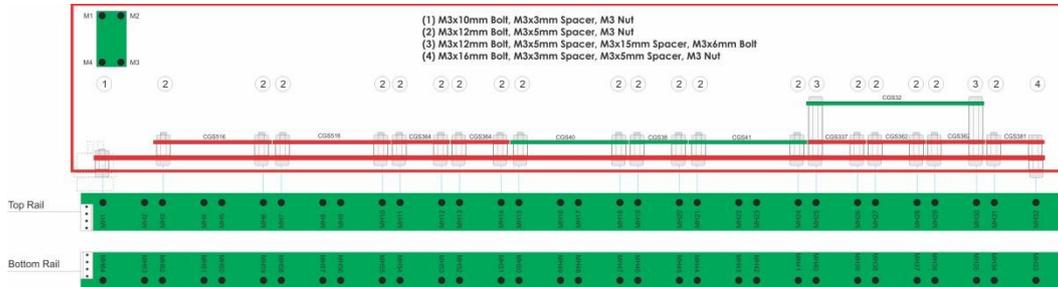


MARSH = Mutilated Active Research System Hold

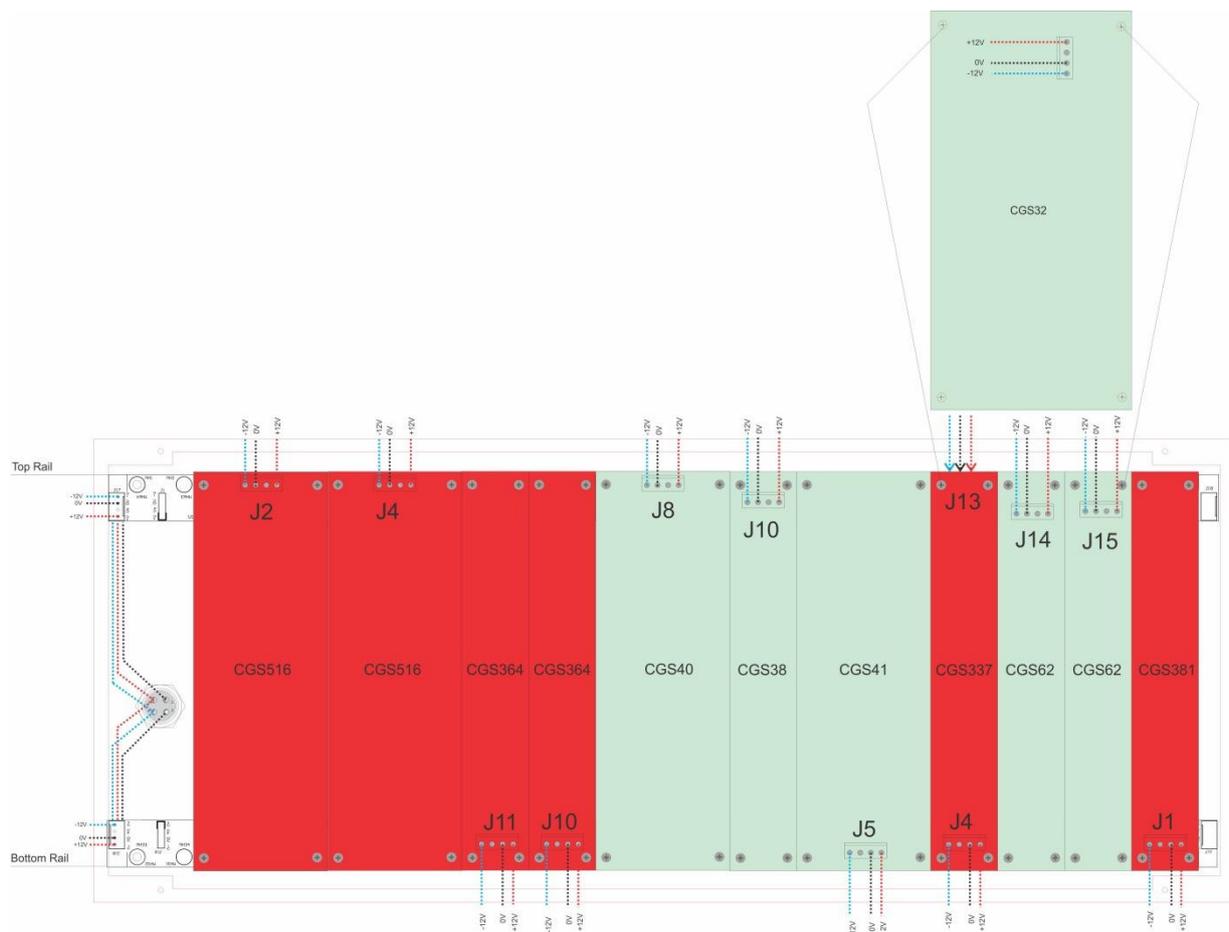
- 1x [CGS32 - Infinite Melody](#)
- 1x [CGS337 - CV Cluster](#)
- 1x [CGS38 - Saw Pitch Shifter/Wave Multiplier](#)
- 1x [CGS40 - Modulo Magic](#)
- 1x [CGS41 - Diatonic Converter](#)
- 2x [CGS62 - Slope Detector](#)
- 2x [CGS364 - VCA](#)
- 1x [CGS381 - Dual Voltage Processor](#)
- 2x [CGS516 - Extended ADSR](#)

It is recommended that you follow the construction process outlined below:-

Please refer to the following diagrams for the suggested arrangement of PCBs and power connections:-



### MARSH PCB Mounting Guide



### MARSH PCB Arrangement Guide and Power Wiring

## Assemble 12x Module Power cables

Cut 3x 8cm lengths of wire for each of 11 connectors and 3x 11cm for one connector. We recommend using the following colour code:

- +12V = Red
- 0V = Black
- -12V = Blue

Strip approximately 3mm from one end and attach an MTA crimp

Insert the crimped wires into their respective slot in the MTA socket as follows:-

- Pin 1 = +12V = Red/White
- Pin 2 = 0V = Black/White
- Pin 3 = UNUSED
- Pin 4 = -12V = Blue/Grey

Following the [MARSH PCB Arrangement](#) solder the Power Module cables in to the indicated points on the CGS391 Mounting Rails. You will observe that the installation has 2x CGS391 which are assigned as being 'Top Rail' and 'Bottom Rail' and that some PCBs are connected to the 'Top Rail' while others are connected to the 'Bottom Rail'. This segregation allows 'dirty modules' to be separated from 'clean modules' which can help minimise noise pollution or inter-module interference.

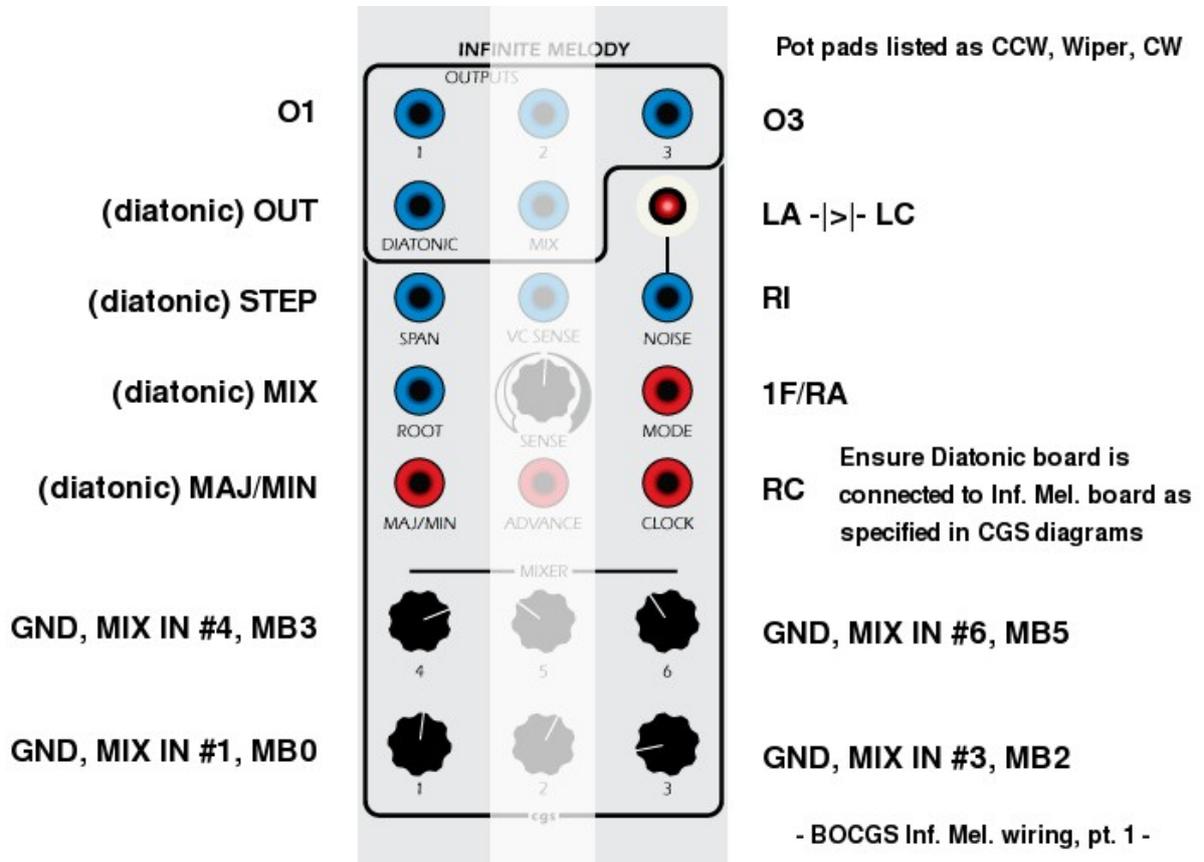
With all Module Power Cables fitted, follow the MARSH PCB Mounting Guide and install all the PCB mounting hardware excluding the M3 nuts and the extra spacers required for CGS32

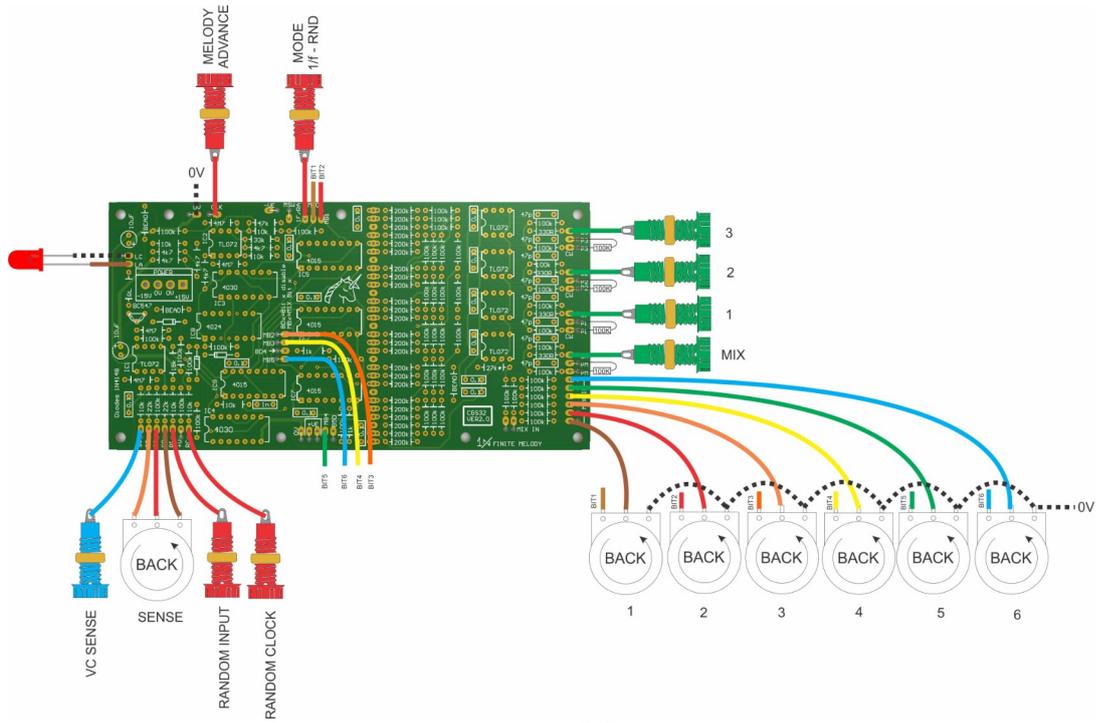
Assemble all PCBs as per the relevant product build notes and Bills Of Material (BOM). It should be noted that the BOMs refer to a full PCB assembly but some of the PCBs may not actually use all parts. If the user is aware of these unused parts they may decide to not fit them. Future BOMs will be released that are specific to the build in each boat and will indicate which parts need not be fitted.

Build Guides for the following modules currently do not exist so the following BOG diagrams for these modules (created by Diophantine - presented in the Best of CGS Build thread on Muff's Modules and more) have been included and show the PCB labels associated with each panel component. Constructors are advised to visit this thread for latest updates and advice from other BoCGS builders)

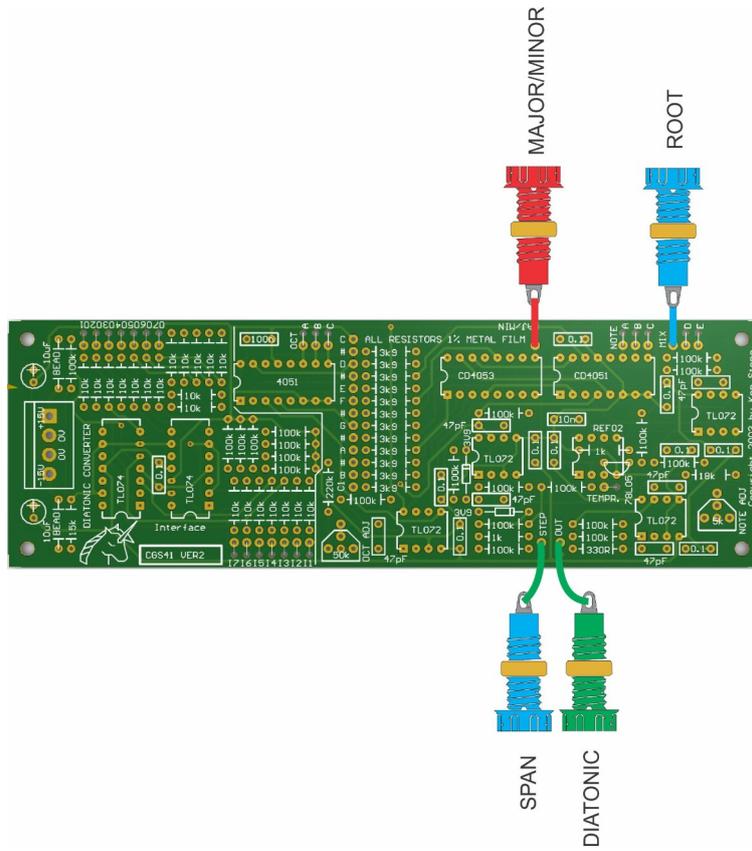
## CGS32/CGS41 – Infinite Melody

The INTERFACE section of the CGS41 is not used and can be omitted from the construction.





Main CGS32 Wiring



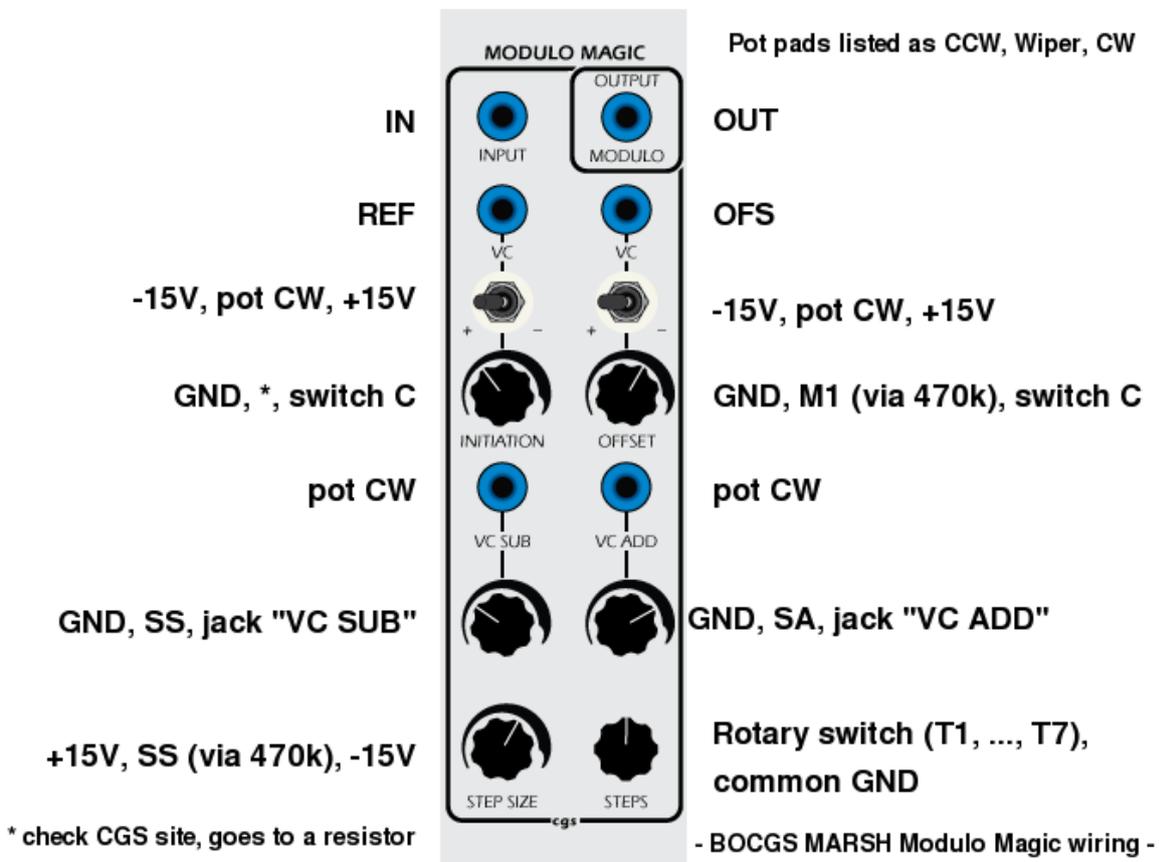
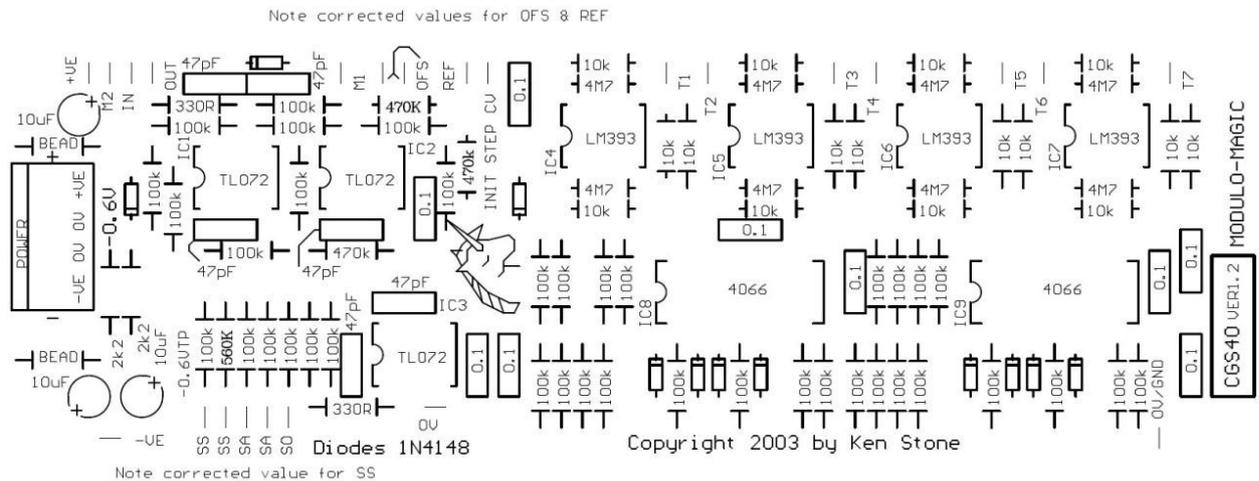
Main CGS41 Wiring



# CGS40 – Modulo Magic

Three resistors need changing:-

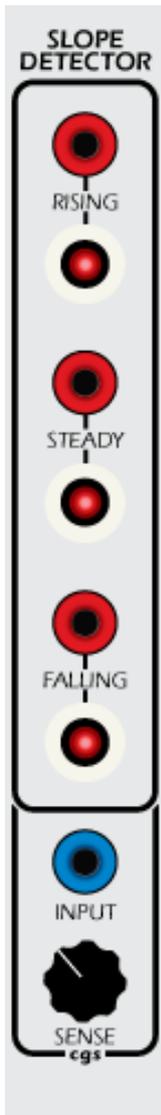
SS 100K -> 560K, OFS 100K -> 470K, REF 100K -> 470K







# CGS62 – Slope Detector



Pot pads listed as CCW, Wiper, CW

**RISING OUT**

**RISING LED A -|>|- K**

**STEADY OUT**

**STEADY LED A -|>|- K**

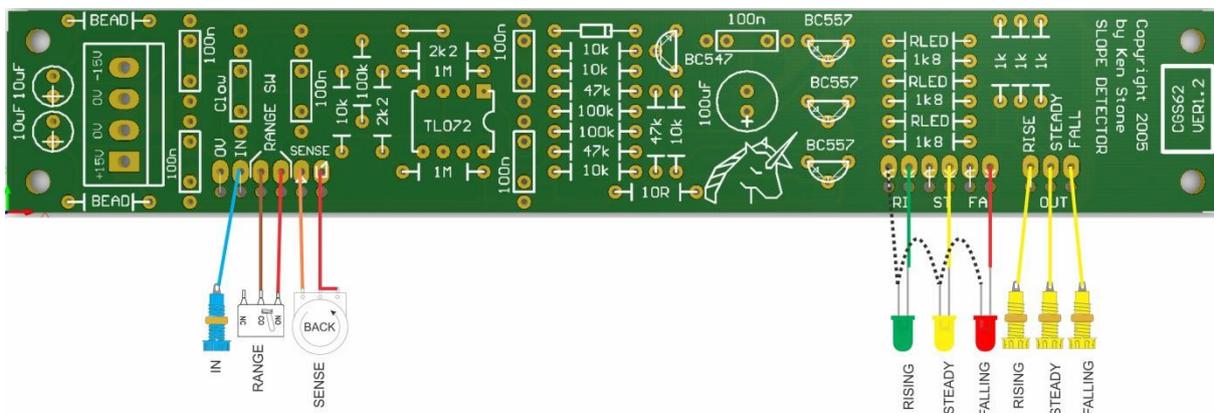
**FALLING OUT**

**FALLING LED A -|>|- K**

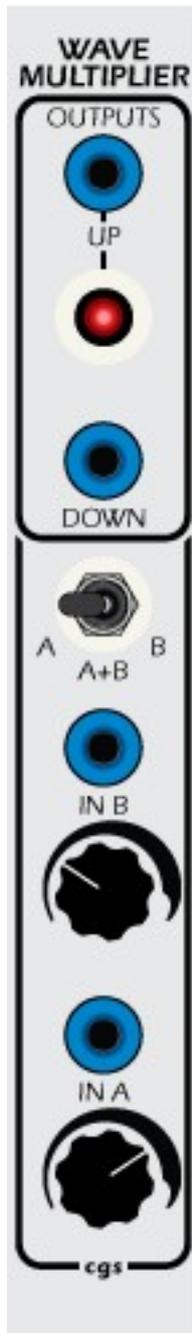
**CV IN**

**SENSE CCW, SENSE W, SENSE W**

- BOCGS MARSH Slope Detector wiring -



## CGS38 – Wave Multiplier



Pot pads listed as CCW, Wiper, CW

OUTU

LA -|>|- LK

OUTD

K2, GND, K1

pot "IN B" CW

GND, IN 2, jack "IN B"

pot "IN A" CW

GND, IN 1, jack "IN A"

- BOCGS MARSH Saw Wave Mult wiring -