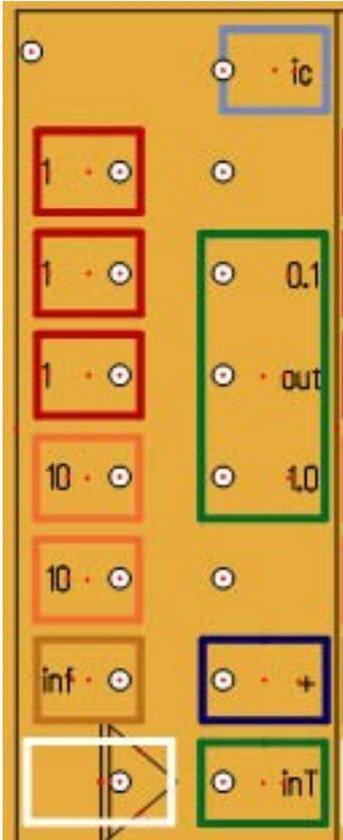


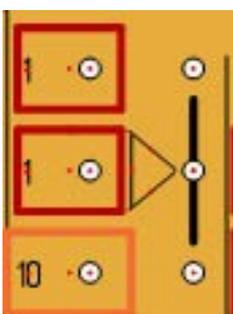
Colour codes, panel labels & functions

Integrators/Summers



COLOUR	PANEL LABEL	FUNCTION
Red	1	1X input
Orange	10	10X input
Brown	inf	Direct connection to pre-relay input
White	>	Op amp input for sum or integrate
Dark blue	+	Sum (connect to white socket)
Green	inT	Integrate (connect to white socket)
Green	0.1 Out 1.0	Connect out to a 0.1uF or 1.0uF capacitor for desired integration
Light blue	ic	Initial condition
Unmarked (black socket)		Out (2 for Int)(3 for Sum)

Summers (2)

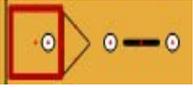


Red	1	1X input
Orange	10	10X input
black	>	Output (3)

Assuming inputs a , b , c and output d . The equation describing this module is:

$$d = -(a + b + 10c)$$

Inverters (4)

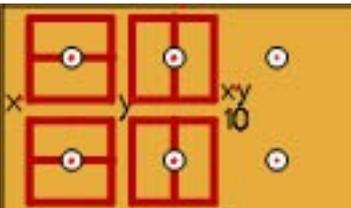


Red		1X input
black	>	output

Assuming input a and output b . The equation describing this module is:

$$b = -a$$

Multipliers (2)

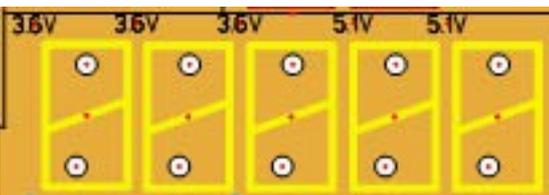


Red (horizontal bar)	x	Input
Red (vertical bar)	y	Input
Black (socket)	xy 10	output

Assuming inputs a , b and output c . The equation describing this module is:

$$c = \frac{ab}{10}$$

Free Zener Diodes (5)



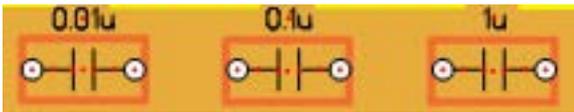
Three zener diodes are 3.6V, two are 5.1V. The red socket is the anode; the black socket is the cathode.

Free Signal Diodes (6)



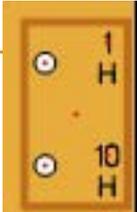
The red socket is the anode; the black socket is the cathode.

Free Capacitors (3)



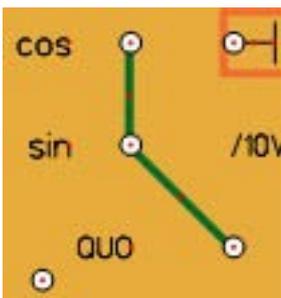
Three free capacitors to be connected as necessary. Values are 0.01uF, 0.1uF and 1.0uF.

Gyrators (2)



These are op amp based circuits designed to simulate an inductor with one terminal grounded. Usually these are not included in analogue computers but have been in this unit for studying Chua oscillators. The simulated inductance values are 1 Henry and 10 Henry.

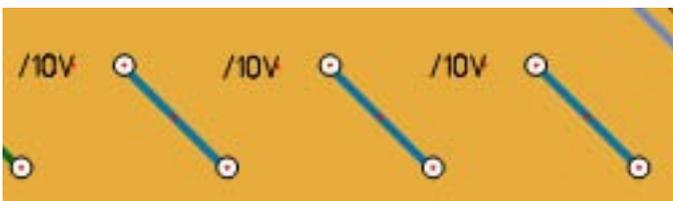
Quadrature Oscillator



This is a sine/cosine oscillator with a frequency range from less than 1 Hz to almost 10 kHz. The signal amplitude is approximately 6V p-p but varies slightly depending upon the operating frequency.

Yellow knob

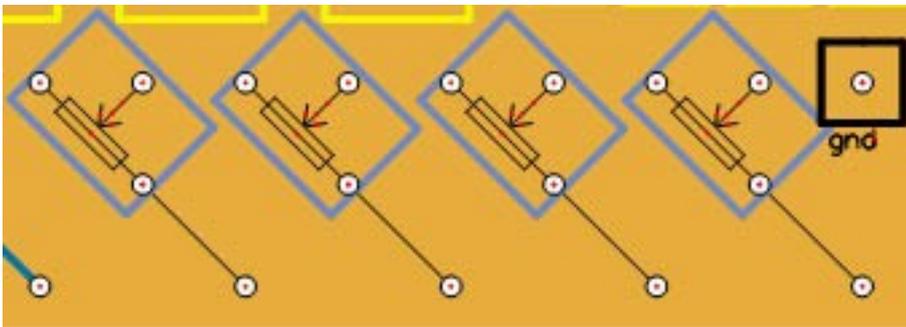
0-10V DC Voltage source (3)



These can be adjusted to supply a buffered DC voltage from 0-10V, If a negative voltage is required connect the output to an inverter.

Red knobs

Free Potentiometers (4)



These are four 100kOhm potentiometers to be connected as rheostats or dividers as necessary.

Green knobs