



# ASM-1 Manual

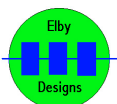
## Appendix C

### ASM-1 Enhancements

April 31st, 2003

Reprinted with permission from Gene Stopp and updated by Laurie Biddulph

Please note that this document is still currently under revision and we apologise for any errors or omissions. Readers should feel free to email any comments to me at the address given below.



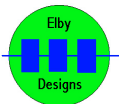
Laurie Biddulph  
9 Follan Close, Kariong, NSW 2250, Australia  
[elby\\_designs@ozemail.com.au](mailto:elby_designs@ozemail.com.au) [www.ozemail.com.au/~boobies](http://www.ozemail.com.au/~boobies)

## ASM-1 Manual – Appendix C

The following article covers a few of the enhancements and/or omissions to the ASM-1 which are worth considering when building your ASM-1.

All components required for these modifications are included in your kit.

All schematics already include these additional components which are indicated as 'offboard'.



# ASM-1 Manual – Appendix C

## ASM-1 Enhancements

### VCF

1K resistors should be added in series with the four filter outputs to make them compatible with the other modules in the system.

### ADSR

Usually a gate signal from a keyboard, which typically goes between ground and some positive voltage, is used to trigger the ADSR module. Sometimes, however, it is desired to drive the ADSR from something like, for example, an LFO. As the gate input cannot be a negative voltage (the LM358 input comparator is powered from +15 volts and ground, and it will provide erroneous gate signals if a negative signal comes in), a signal diode has been included in the kit to help protect this input, but will need to be fitted off-board.

A 10 ohm resistor is also recommended to be added in series with the ATTACK pot to +15 volts, to limit inrush current when the ATTACK pot is set to minimum and also to minimise voltage overshoot.

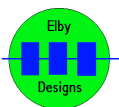
A 1K resistor should also be added in series with the output to ensure maximum compatibility with the other modules in the system.

### LFO

The square-wave output on the ASM-1 pcb has an amplitude of +/-15 volts. To make the output level conform with levels in the other modules, a 3K/1K5 resistor attenuator (R5 & R6) circuit should be added to the square-wave output.

### GLIDE

As built, the Glide module will provide exponential portamento (like on an Odyssey, 2600, Multimoog, etc.). It can be modified as shown in the drawings to provide linear portamento (like on a Minimoog, Pro Soloist, etc.).



# ASM-1 Manual – Appendix C

## ASM-1 additions

The following section outlines some additional modules that will be needed if the ASM-1 is to be used as a standalone unit.

**- components for the following circuits are NOT included in your kit -**

### Power Supply

To get your ASM-1 up and running you will need a suitable power supply. The requirements of the ASM-1 are quite low and the ASM-PSU1 design can be readily put together. It uses the popular 7815 and 7915 voltage regulators.

You will need to provide a transformer and you should be fully aware of the **dangers** of working with mains circuitry before taking on this module.

A more sophisticated design is available on our website and has an accompanying pcb for those wishing to build their own power supply.

With a power supply attached you can connect the output of your system, usually from the VCA, to an audio amplifier.

### MIDI-CV

To control the ASM-1 you will want to interface to some form of external controller. This could be a palmtop or PC computer running some suitable MIDI player or a MIDI musical instrument such as a keyboard. To connect this type of equipment to the ASM-1 you will require a MIDI-CV Interface unit which takes incoming MIDI signals from a MIDI controller and generates corresponding control voltages and triggers for each note detected.

An alternative to a MIDI keyboard would be a digital or analogue keyboard. A design for an analogue keyboard will be provided shortly. Construction of such a keyboard would allow the builder to construct a self-contained synthesiser in a custom cabinet of their own design and making.

