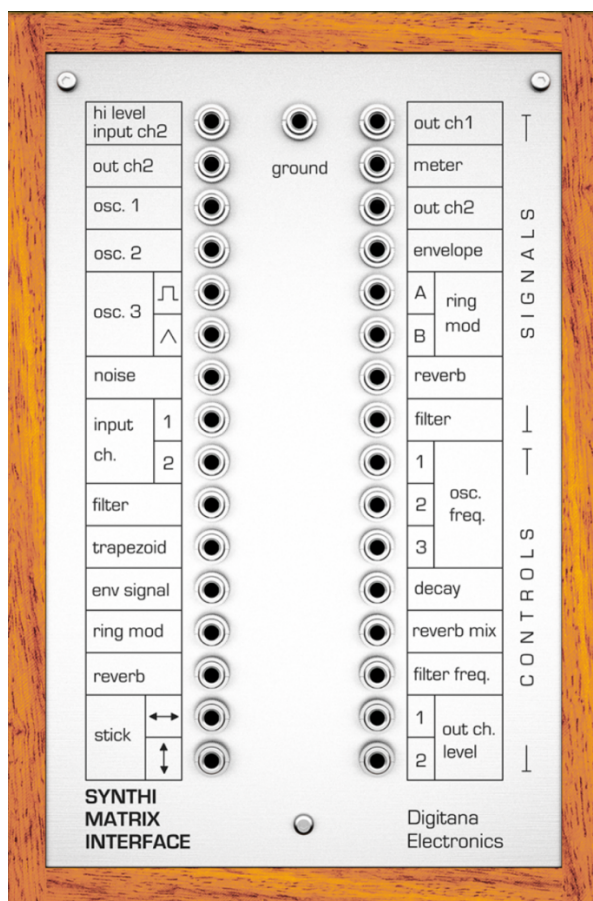# The Synthi VCS3 Matrix Interface


Using the VCS3 Matrix Interface

This unit is functionally identical to a similar unit designed for interfacing to the Synthi AKS. This one however is built into a cool looking polished afrormosia hardwood case. This is the same wood as used in the VCS3 case. The front panel layout shown above is for a 'mk2' matrix layout, but a similar unit is available for the new EMS(Cornwall) VCS3 which has the original 'Putney' matrix layout. This guide applies to either.

It's a complete interface unit for any VCS3 matrix if the VCS3 has a pretsopatch connector fitted. It is basically a 'breakout' box whereby the row/column signals of the matrix are taken out to 3.5mm jack sockets. This allows powerful interfacing options of the VCS3 with an external modular synthesizer e.g. Eurorack and/or external effects racks etc**.**

Note that vintage VCS3 Putney does not have a presto connector unless it has been added as a mod. Therefore, this unit is designed only for use with the later VCS3(mk2) with a prestopatch connector or the new VCS3 from EMS(Cornwall), if you asked for the addition of the pretoptach connector.

The front panel has faithful reproduction of all the various signals and inputs of the 16 rows and 16 columns of the VCS3 matrix. The lefthand column are all the 'sources' and 'treatments' from the matrix (oscillators, filter, envelope, trapezoid outputs etc) and the righthand column has all the various control/signal inputs of the VCS3. The ordering/labelling is the same as on the VCS3(mk2) matrix, the only difference is that instead of **Output Ch1** as labelling the first jack socket at the top left column of jacks, it is **High level Input ch2**. This allows an external input to be fed into the matrix other than the through the usual Input ch1 and Input ch2 1/4" sockets on the VCS3 itself. For the new EMS(Cornwall) VCS3 the panel layout has labelling identical to that found on the matrtix itself.

The module connects to the VCS3 via the presto-connector. Here is the pin numbering of the 32-way edge contact pcb that inserts into this socket (it's the same pin assignment as found on original EMS 'prestopatches')
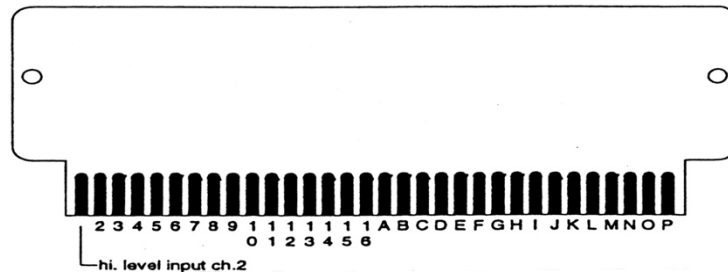
Make sure you insert the prestoplug with blue label facing up. If you insert it the other way around no damage will occur, its just the interface wont work.

Another crucial point is you must make a connection between the mini jack socket labelled 'ground' and VCS3 ground. This is because the matrix connections themseleves do not have any grounding point. Without this ground, there would be no common grounding between external equipment and the VCS3. The connection is simply made by using a standard 3.5mm mono jack to 1/4" mono jack audio cable and utilising any unused 1/4" socket on the rear of the VCS3. This establishes a common ground. The ground socket on the interface only has the ground sleeve internally connected not the 'tip' when a plug is inserted.

All the signal/control inputs (righthand column of jack sockets) have series resistors connected internally so taking signals in/out of the matrix using standard 3.5mm mono jack plug cables via this breakout box gives the similar attenuation as inserting standard matrix 2k7 resistor pins. The outputs (sources/treatments) in the left column also have series resistors fitted, as a precaution.

Connection to external synthesizers etc is via standard jackplug leads (i.e. with signal at the 'tip' of the plug) with 3.5mm mono jackplugs used to connect to the interface unit. These connections also join the ground of the external equipment to VCS3 ground which is important. Patches can be a combination of those created with patchpins in the usual way and jackleads from the unit to route Synthi signals out to external equipment and send external signals (such as waveforms, envelopes, filter out, effect etc) back into the matrix.

Note that it's not advisable to input external CV,signals etc into the Synthi that exceed the +12v to -9V range of its power rails. The interface unit has impedance limiting resistors on all the inputs and outputs of the VCS3.