

# DUAL VCS3 (mk2) DK1/2 CV INTERFACE

Synthi 1



Synthi 2



DK1/2 Keyboard

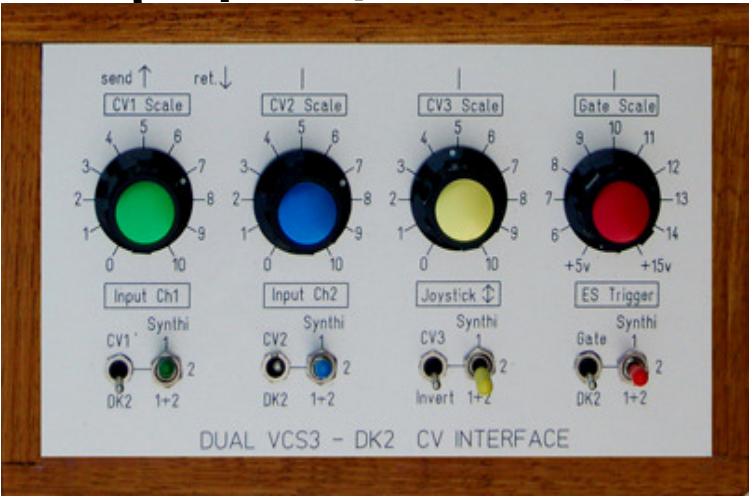
External CV2 control voltage input

External CV3 control voltage input

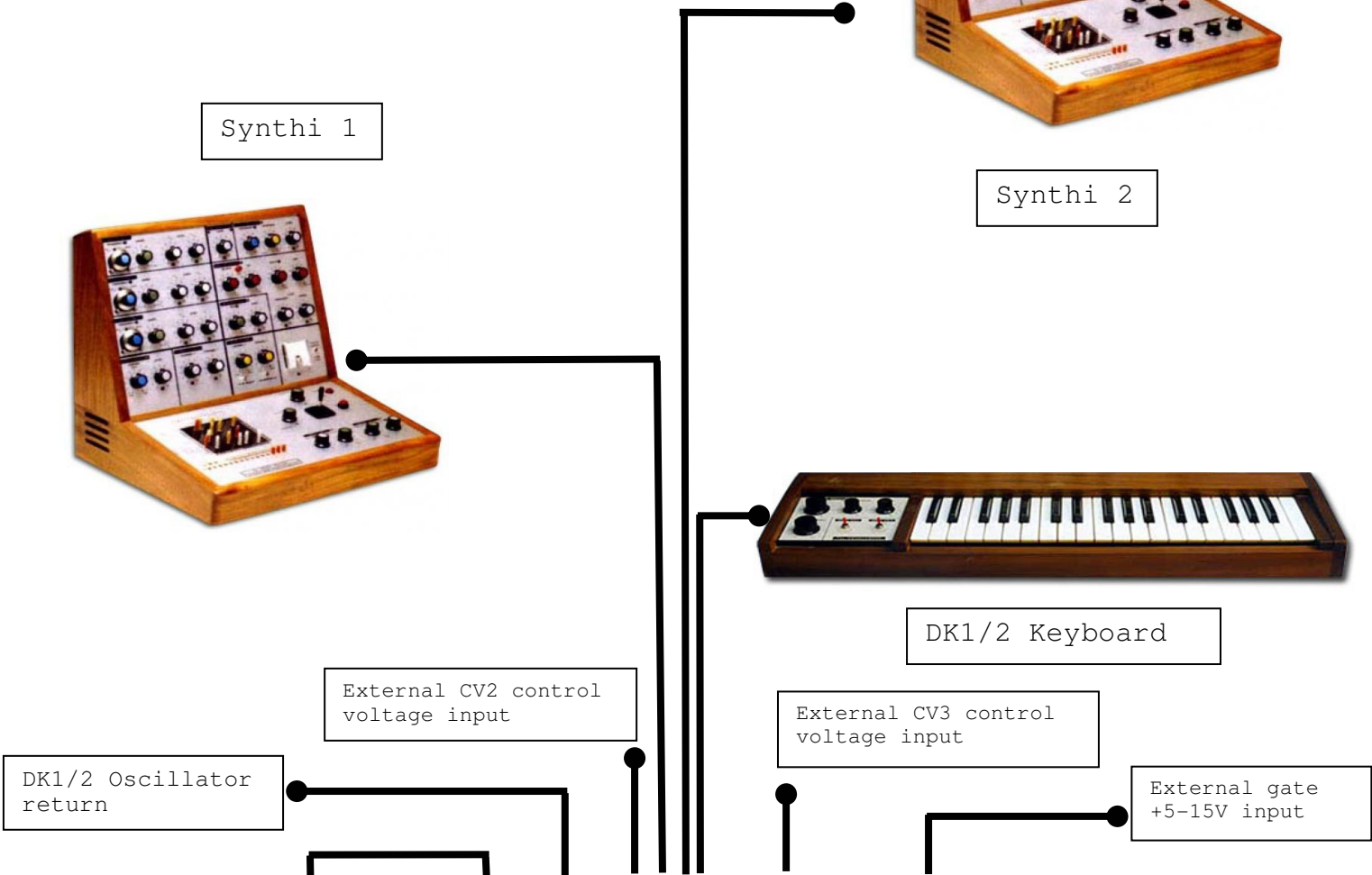
DK1/2 Oscillator return

External gate +5-15V input

External CV1 control input/DK2 Oscillator send



DUAL VCS3 DK2 CV Interface



## Instructions on using the Dual VCS3 DK1/2 CV Interface

Use of this unit is pretty straightforward and is very much like the single VCS3 CV unit (see instruction manual for this unit elsewhere) but with the additional feature of being able to control 2 Synthi Units, either 2 VCS3's, a VCS3 + Synthi AKS etc.

There are 3 cables connected to the unit, marked DK2, Synthi 1 and Synthi 2. The Dk2 cable plugs into a DK2 keyboard (or Dk1) and the Synthi 1 plugs to a VCS3(mk2). The power for the unit is drawn from this Synthi 1 unit and as usual this also powers the DK2 keyboard. Synthi 2 is a secondary unit to which CV or DK2 signals are sent. No power is taken from this only a ground connection and the input channels (input ch1, input ch2 and Matrix row 16).

The main difference between this unit and the single VCS3 CV unit is the inclusion of 4 3-way toggle switches on all the output channels. The three way switches allow signals (CV or DK2 control) to be routed to either Synthi 1 only, Synthi 2 only or Synthi 1+ Synthi 2 simultaneously.

There are 4 2-way toggle switches on the unit allow switching of the CV inputs CV1-CV3 or the standard DK2 signals. The 4<sup>th</sup> toggle simply switches between external gate triggering or DK2 triggering of the ES.

CV1-CV3 are all scalable via the units potentiometers. Synthi Oscillators 1 and 2 are scaled to 0.32V/Oct. Most external sequencers produce 1v/Oct scaling although some of the fancier units from Kenton allow the user to adjust this scaling. In any case the scaling pots allow a rough adjustment of the 1V/Oct external pitch CV to 0.32V/Oct required by the Synthi. Once this has been achieved, precise scaling can be obtained by adjusting Input Ch1 or Ch2 level potentiometers (whichever is used for pitch CV input) on the VCS3. Use of two potentiometers this way, allows for accurate pitch scaling not obtainable with a single potentiometer alone.

There is an invert CV3 option on the unit. This simply inverts CV3 before it sent to Matrix row 16. The reason this was added is because Input Ch1 and Ch2 amplifiers on all Synthi's are **inverting**. This means that the sign of voltages sent to them is reversed. A positive CV is made negative. The freq control on Osc1-Osc3 is designed to **increase** the frequency of the oscillator the more negative the CV. Thus if you try and control Osc1/2/3 freq via CV3 and Matrix row 16 since pitch CV from sequencers is **positive** the pitch will work 'backwards' ie the larger the CV the **lower** the pitch! Switching the toggle switch to CV3 invert will thus allow CV3 used as pitch CV to produce normal note pitches (i.e. lower positive CV produces lower pitches, higher positive CV produces higher pitched notes).

The Synthi's are designed so that the ES is triggered by a positive voltage around 4-5v. The Gate scale pot allows larger voltages to trigger the ES safely up to a maximum of +15v. Many hardware external sequencers produce various trigger voltages so the gate scaling pot can be adjusted to accommodate any gate range between +5 to +15v. By adjusting this pot you can also get different gate times eg if your gate voltage is +5v, adjusting the pot to higher values will result in shorter and shorter gate times until finally the ES will not trigger.

Finally there is a nice feature of the unit that allows the internal Oscillator in the DK1/2 keyboard to be sent through external effects, filters etc before re-entering the unit. Two cables are inserted into the sockets marked 'send' and 'ret' (send/return). With the toggle switch in the DK2 position the keyboard Oscillator will be sent to any external effect and returned to the unit and hence to Input ch1 of the Matrix.

