

1. Introduction

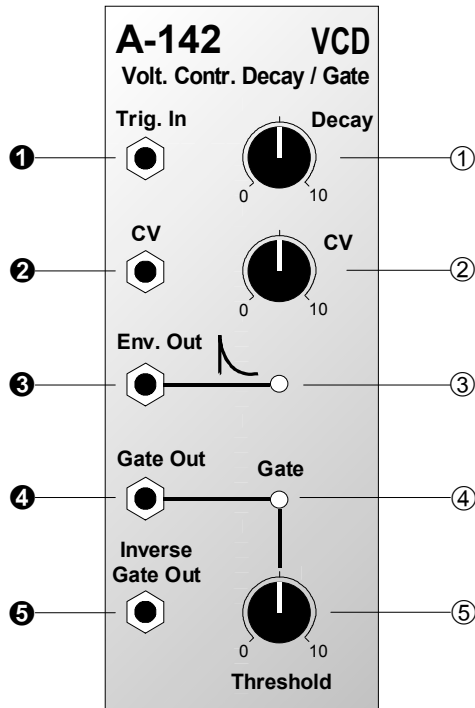
Module **A-142 (VCD)** is a dedicated **envelope generator** with just one parameter, **decay time**. This decay time is either controlled manually or by **voltage control**.

Whenever a trigger arrives at the VCD's trigger input, an envelope is generated. This can then be used to control VCO, VCF and VCA modules, or any other module, come to that.

In addition to this, the module produces a gate signal of adjustable length, which can be output in inverted as well as normal polarity.

Two **LEDs** act as indicators of the envelope and gate signals.

2. Overview



Indicators and controls:

- ① **Decay** : Manual control for altering the decay time.
- ② **CV** : Attenuator for control voltages at CV input ②
- ③ **LED** : Indicator for the envelope at output ③
- ④ **LED** : Indicator for the gate signal at output ④
- ⑤ **Threshold** : Control to set the trigger threshold, and thus the length of gate signal output.

In- / Outputs:

- ① **Trig. In** : Input for the trigger signal
- ② **CV** : Control voltage input
- ③ **Env. Out** : Envelope output
- ④ **Gate Out** : Output for the gate signal generated
- ⑤ **Inv. Gate Out**: ditto, except inverted

3. Controls and indicators

① Decay

This is used for manual control of the **decay time** t_D of the envelope generated. After an extremely short attack phase, the envelope runs from maximum to zero in the time that has been set by this control (see fig. 1).

② CV

Attenuator ② is used to set the **level of the control voltage** present at CV input ②, which in turn controls the length of the decay.

③ LED

LED ③ shows the **voltage level of the envelope** being sent to output ③.

④ LED

LED ④ is the **indicator for the gate signal** at output ④.

⑤ Threshold

Control ⑤ is used for setting the **threshold** which determines the **length of the gate signal** produced. It works like this: the gate signal t_G at output ④ starts when a trigger is sensed, and stops whenever the envelope voltage falls below the threshold level, which you set with control ⑤ (see fig 1).

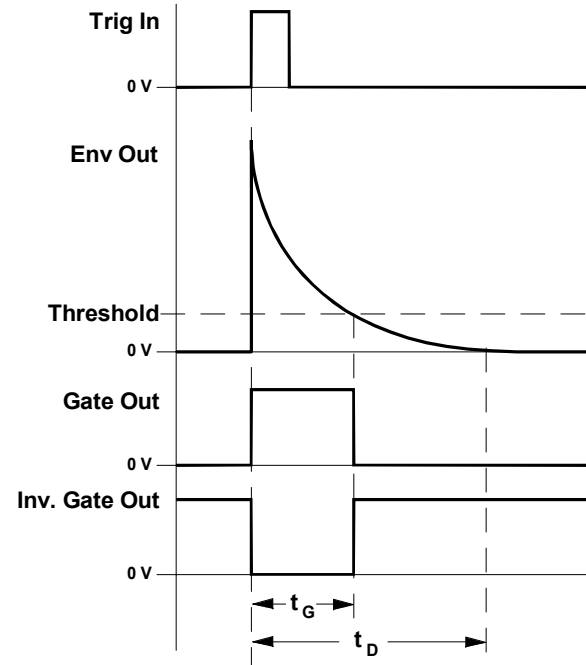


fig. 1: How the A-142 responds to a trigger

Simultaneously, at output ⑤, an **inverted gate signal** is available.

4. In- / Outputs

① Trig. In

Socket ① is where the **trigger signal** is patched in.

② CV

Control voltages for the decay time are patched in here.

☞ The **actual decay time t_d** is determined by a combination of the level of the CVs themselves, and the positions of decay control ① and the CV attenuator ②.

③ Env. Out

Socket ③ is the output for the **envelope** that the A-142 produces.

④ Gate Out • ⑤ Inv. Gate Out

The sockets for the **gate output ④** and **inverted gate output ⑤** respectively.

5. User Examples

Since the A-142 is really a simple envelope, with just the one parameter to control, ideas for its use can include any of the occasions on which you might use the decay characteristics of an A-140 ADSR or A-141 VC-ADSR.

Random-Decay

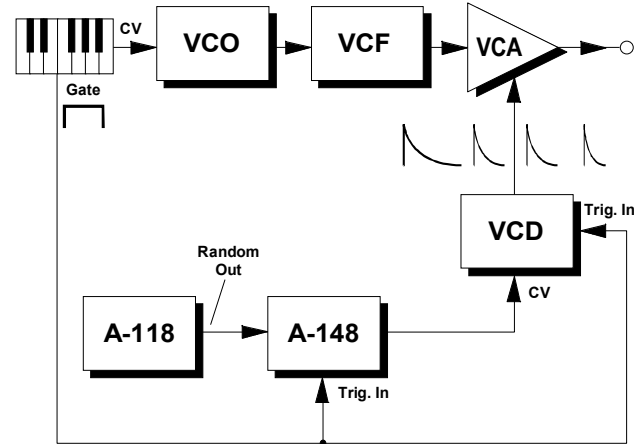


fig. 2: Random-Decay

The patch in fig. 2 produces a random decay effect, so that **each key played has a percussive envelope of**

random length. An interesting variation on this theme is to patch the output into a filter CV input, so that each new note has a different filter accent.

Bringing an analogue sequence alive

The same sort of principle is used in the patch in fig. 3, where a normal note sequence controlled by the A-155 is brought to life by having **different filter accents for each note.**

The upper sequencer row controls the pitch of the note, and the lower row controls the voltages sent to the VCD, and thus the different envelopes for each note.

Voltage-controlled Trigger Delay

In the patch in fig. 4, the gate function of two A-142s is put to good use. By connecting them in series, and using the inverted gate output on the first, you can get **voltage-controlled delays** of the trigger signal.

The inverted gate output on the first VCD is patched into the trigger input of the second. You use the trigger threshold control on the first VCD to determine the delay time t_p . The length t_r of the delayed trigger signal is controlled by setting the threshold control on the second VCD (see fig.5).

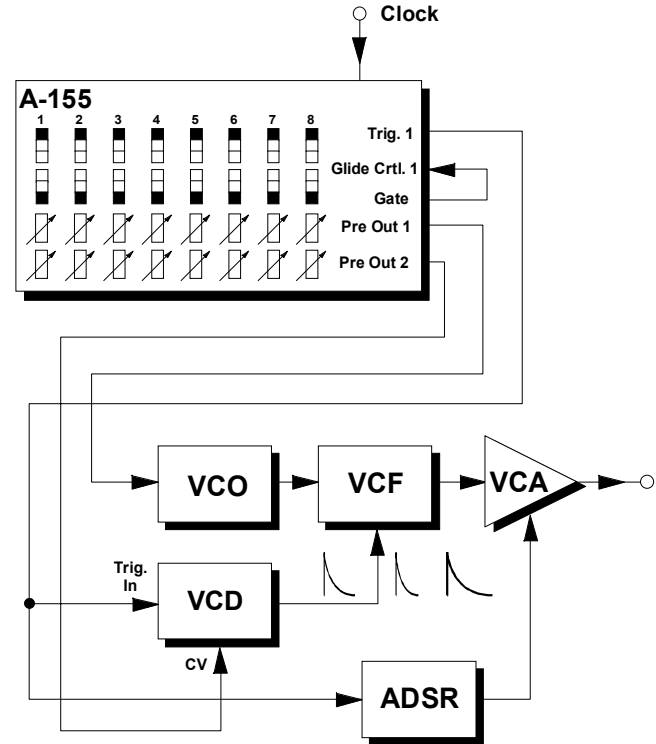


fig. 3: "injecting some life into a sequence"

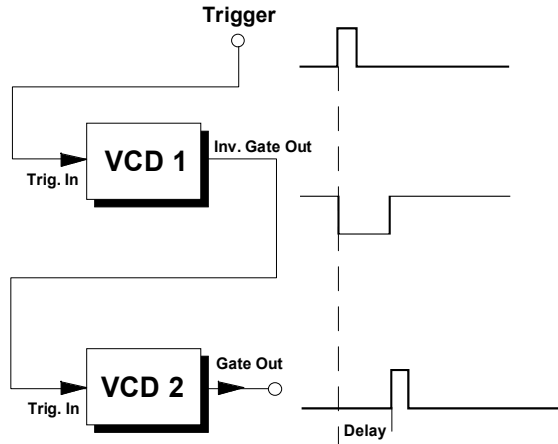


fig. 4: voltage-controlled trigger delay

This sort of patch for delaying a trigger signal is very useful, for example, in producing **delayed vibrato** or other modulation. For more suggestions of uses, look at the user examples in the A-162 (Trigger Delay) manual.

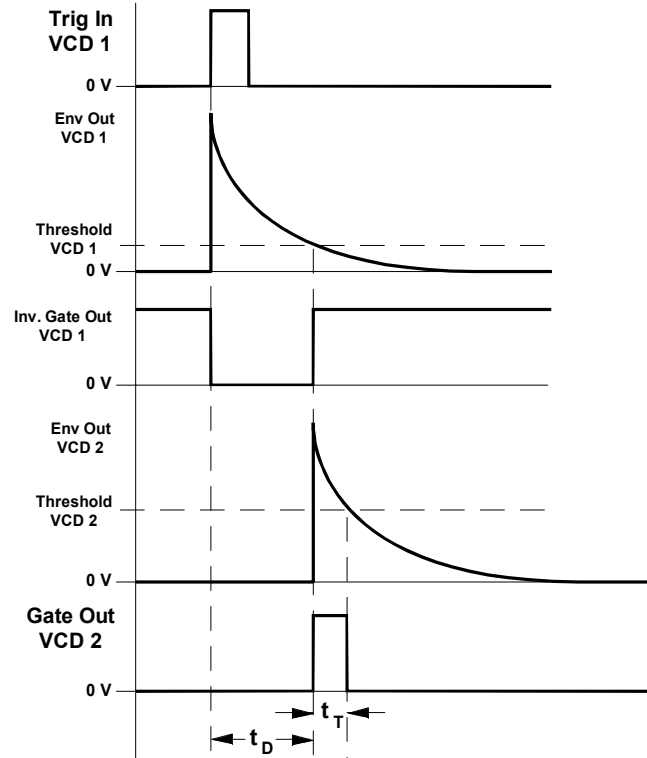


fig. 5: Signals for the voltage-controlled trigger delay

6. Patch-Sheet

The following diagrams of the module can help you recall your own **Patches**. They're designed so that a complete 19" rack of modules will fit onto an A4 sheet of paper.

Photocopy this page, and cut out the pictures of this and your other modules. You can then stick them onto another piece of paper, and create a diagram of your own system.

Make multiple copies of your composite diagram, and use them for remembering good patches and set-ups.



- Draw in patchleads with colored pens.
- Draw or write control settings in the little white circles.

