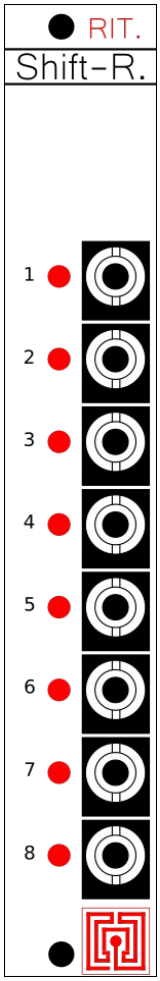
LARIX ELEKTRO

RITOURNELLE SHIFT-R

WHAT'S THAT THING ?

Extension for Ritournelle **CV Generator** modules (and more in the future).
The Shift-R **adds 8 Triggers outputs**.



JACKS:
8 Trigger Outputs.

And that's it !

Technical specifications:

+12V : 42mA max. (depend on LED)
-12V : 15mA
(5V is not used)
4HP, 35mm deep (Approx.) with PSU connector

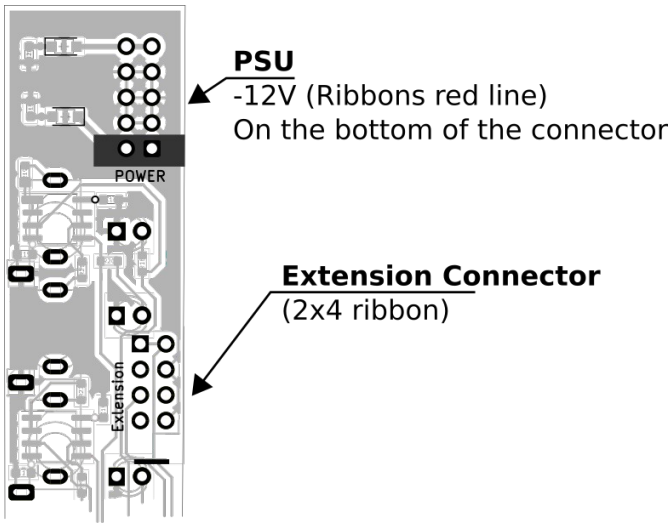
Installation:

At first, ensure that there is enough power to supply the module.
Beware of the orientation: the red strip on the ribbon cable should match the white line on the module, and on the PSU board (-12V).

Connect the PSU ribbon into the PSU connector, the small connector (2x5 pin) into the module, and the large one (2x8 pin) into the PSU Board.

It is better to have a **well-insulated box** because parasites can be added to the signal of the modules. If you are not familiar with electronics, prefer commercial boxes. This is especially true for power supplies: a poorly designed power supply can damage the modules.

To avoid various problems, electromagnetic, but not only, **complete the empty spaces with blind front panels** (Blank panels).For more informations about the use of the TRIG Extension Connector, and the CV Extension Connector: see below.



TRIG Extension Connector(2x4 ribbon):

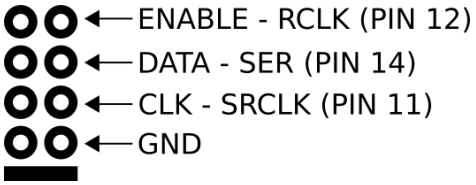
Connect here the **SHIFT-R** module to the same connector on the **CV Generator** you want to extend.
Insert the cable with the RED line on the bottom on both connectors (CV and Shift-R).
Only one column was soldered, to avoid confusion with PSU connector.
The ribbon has 2 rows, you can insert any of the row.

! WARNING: DO NOT CONNECT PSU CABLE HERE !
Even if the connector is protected, it can damage the module.

Technical notes, for DIYers:

The heart of this module is a **Shift Register** . A shift Register can be used in various way, but here, it's used to convert signal data into a parallele "word" of 8 bits.
For more detailed information, you can check the datasheet of the **74HC595** : This is the main IC of this module.

The extension connector provides 3 signals:
- CLOCK signal
- DATA signal
- ENABLE signal



Here the extension connector. With name of each line, the corresponding name of the IC, with the PIN number.

The idea :

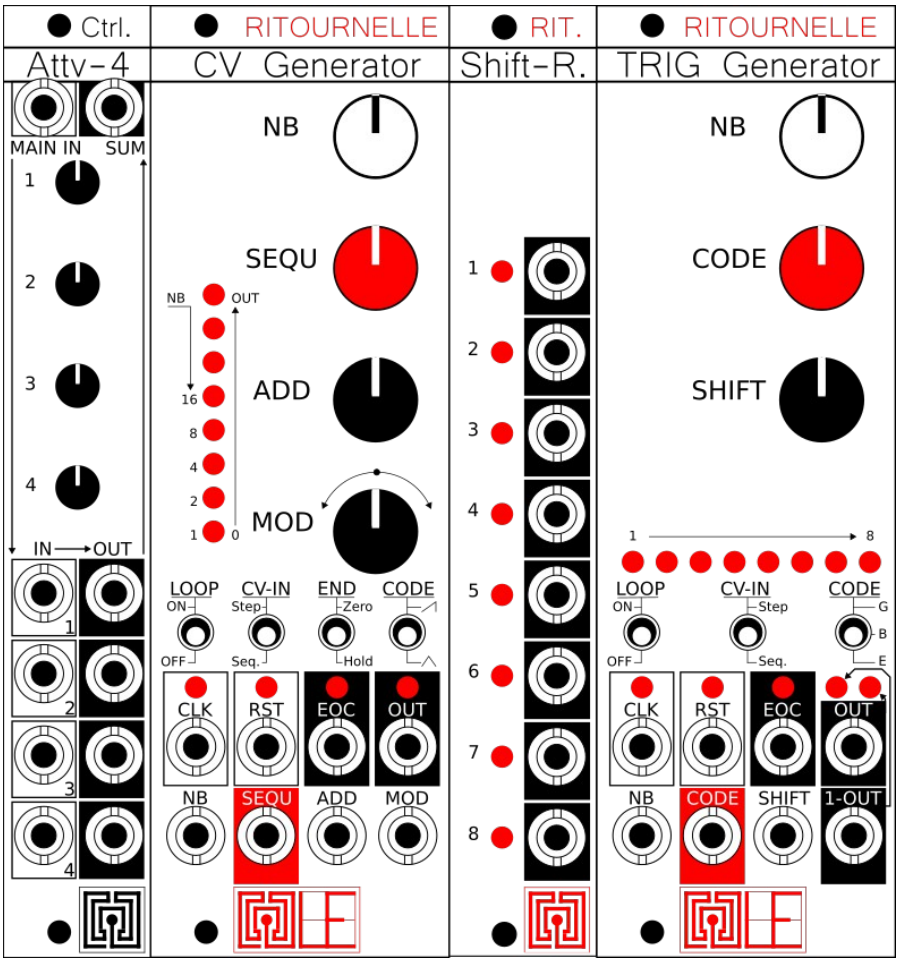
1- A **CLOCK** signal. At each rising front, the IC reads **DATA**.
2- So be sur that your **DATA** value is stable before sending a clock signal.
3- When receiving 8 DATA (or sending 8 clock...) Send a TRIG into **ENABLE**.
It will send to the outputs the last 8 values.

And that's it ! 8 data sent in series are now in parallel !

Of course, you can send a **ENABLE** when you want.
For example, sending after each clock, it will shift the incoming data one step.

FULL RANGE MODULES :

- CV Generator : CV sequence generator.
- TRIG Generator : TRIG sequence generator.
- Attv-4 : 4 attenuverter / Mixer / Dispatcher. Extension for other modules.
- Shift-R : Adds 8 Trig to the CV Generator.



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