

J HAIBLE TAU PHASER for Eurorack

Jürgen Haible's Tau "Phaser is a redesign of the legendary and extremely rare Tau "The Pipe" Flanger - inspired by Aries, ARP and Tau circuits. A bit of history: the original Tau phaser was developed by Dennis Colin and Ken McNeill in 1975 and released by Tau Systems of Newton, New Hampshire around 1980. Dennis Colin designed the ARP 2600 synth as well as the Aries synth.

Jürgen Haible's design was inspired by those phasers, but replaced obsolete components and added a number of features and improvements. The R*S version is an adaption of the Haible Tau phaser for Eurorack format.



Features

The TAU PHASER for eurorack is a 18 pole phaser. Jürgen's original circuit has been carefully updated for increased CV control and superior audio performance.

Extensive voltage control has been added: while the original version only has a 1V/Oct input, the RS version offers an additional -1V/Oct input (providing the opposite behavior) and an additional variable CV input (attenuverting). All these can be used simultaneously for crazy sci-fi effects.

Front Panel / Controls

- Audio **INPUT** with level knob (attenuator).
- 2 **OUTs**: normal and alternative (allows pseudo-stereo output)
- **Extended CV control**: 1V/Oct, -1V/Oct and an (attenuverting) CV input
- Internal LFO (2 LEDs indicating the LFO speed):
LFO RATE sets the speed,
LFO DEPTH blends from 100% LFO to 100% PITCH + CV control.
- **PITCH** knob for manual phase shifting
- **FEEDBACK** knob for resonance control up to self oscillation. Allows use of the TAU as a crazy oscillator - don't expect superior tracking!
- **HARD / SMOOTH** switch for high pass filtering of the phaser LFO control voltage (softening the triangle LFO to avoid clicks - rather subtle)
- **NORMAL / COLOR** switch for inverting the effect signal (creates another output spectrum by swapping high and low frequencies)

Details

- **Eurorack** (3U) format, **18 hp**
- **Skiff-friendly**: module depth < 30mm
- **Power consumption**: appr. 45mA @+12V, 42mA @-12V

Inspiration

Some ideas to get started:

- Try running audio through the TAU and add (lots of) CV. The TAU loves complex signals. Enjoy pseudo-stereo output.
- Mix external CV and the fairly fast internal LFO to get weird 70s / Sci-Fi / Dr. Mabuse vibrato effects.
- "Ping" the TAU - send slow pulses or hard edges and play with the resonance.
- Try running noise (of whatever color) through the TAU to get "PIPE" sounds.
- Turn up the Resonance without any input and add CV for oscillator action - if you have 2 or more TAUs, you can cascade them for heightened levels of craziness.

By the way

- The SMOOTH switch has been implemented as by Jürgen's design - it's effect (on the internal LFO control) is very subtle, most likely you will only notice a difference at fast LFO speeds.
- The (main) Tau board was designed by Jürgen Haible to be powered by +/-15V (or 18V AC). However, the Euro version has been adjusted to be powered by a **+/-12V stabilized PSU** only. Any given for the main pcb in this document assume such **+/-12V power supply**.
- Random*Source has aquired all rights to Jürgen Haible's electronic heritage and is the only legitimate source for Jürgen Haible's designs.