

FREQUENCY CENTRAL TRANS EUROPA

Trans Europa is a CV processor/generator module with a number of unique features:

- Octave switching over 9 octaves
- Voltage controlled octave switching, CV input is bipolar +/-5V
- Semitone transposition over 1 octave
- Voltage controlled semitone transposition, CV input is bipolar +/-5V
- 8 Modes (see below)
- Glide feature, which can be applied either manually or by external gate.
- CV thru, you can patch a 1V/oct voltage source in Trans Europa's Input, it will be replicated at the Output, with the benefit that all Trans Europa's features can be applied.

Although both CV inputs are bipolar +/-5V, they will also operate well from 0V to 5V CV sources, courtesy of the cunning way in which the input data is interpreted by Trans Europa. CV inputs are not 1V/oct, as Trans Europa was designed as a transposer rather than a quantiser (see 'Backstory'). For example, in Mode 1 (Semitones), 0V to +5V CV input will allow transpositions over 13 semitones, -5V to +5V will allow transpositions over 25 semitones, in both cases 0V corresponds to no transposition.

8 Modes are available:

- Semitones
- Minor 7th
- Major 7th
- Rick's Chord
- First Fourth Fifth
- Diminished
- Sustained A
- Sustained B

By applying control voltages to the Transpose CV input, arpeggios and tuned pseudo-random sequences can be achieved based upon the Mode selected, further enhancements can then be made by modulating the Octave CV input. Suitable input devices are wheels, joysticks, touch pads, FSRs, ribbons, LFOs, ADSRs, S/H etc.

Trans Europa can be used in a number of different ways:

1. As a simple CV source for quick on-the-fly octave and semitone transposition, using the Octave and Transpose knobs only.
2. As a complex CV source for octave and semitone transposition by applying CVs to the Octave and Transpose CV inputs, in this way many interesting pseudo sequences and arpeggios can be created.
3. In conjunction with 1V/oct source, using Trans Europa to transpose the octave and semitone of the 1V/oct source. Additionally, the 1V/oct source can be used to transpose pseudo sequences and arpeggios set up in point #2 (above).

Backstory

The original idea for Trans Europa was to provide a simple octave switch for VCOs which lacked this feature. We then decided that it would also be nice to include semitone switching too. It soon became apparent that working with PIC rather than in the analogue domain would provide for both features plus a lot more. PIC gave us the ability to include CV control of both octaves and semitones. It also presented the opportunity to include additional transposition modes, which added arpeggiation-like abilities to the feature set.

We added 1V/oct CV 'thru' so you can send a 1V/oct source such as a keyboard through Trans Europa and have the ability to transpose it both manually and under CV modulation. Finally, as Trans Europa developed into a CV processor, we decided to add gated glide to round out it's feature set.

Early on in development, we decided that Trans Europa was to be a dedicated transposer, rather than a quantiser, by making this decision we were able to make the Transpose CV input far more manageable and useable, specific pseudo sequences and arpeggios are far more easily dialled in.

More on the modes

Here's the details, expressed in semitone transpositions from the root:

Chromatic:

-12, -11, -10, -9, -8, -7, -6, -5, -4, -3, -2, -1,
0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12

Minor 7th:

-24, -21, -17, -14, -12, -9, -5, -2,
0, 3, 7, 10, 12, 15, 19, 22, 24

Major 7th:

-24, -20, -17, -13, -12, -8, -5, -1,
0, 4, 7, 11, 12, 16, 19, 23, 24

Rick's Chord:

-24, -22, -19, -17, -12, -10, -7, -5,
0, 2, 5, 7, 12, 14, 17, 19, 24

First Fourth Fifth:

-24, -19, -17, -12, -7, -5,
0, 5, 7, 12, 17, 19, 24

Diminished:

-24, -21, -18, -15, -12, -9, -6, -3,
0, 3, 6, 9, 12, 15, 18, 21, 24

Sustained A:

-35, -30, -25, -20, -15, -10, -5,
0, 5, 10, 15, 20, 25, 30, 35

Sustained B:

-24, -23, -19, -18, -12, -11, -7, -6,
0, 1, 5, 6, 12, 13, 17, 18, 24

...0 being equal to 0V. Positive CV giving higher than root transpositions, negative CV giving lower than root transpositions.

Patch ideas

1. Basic octave switch: patch your 1V/oct source into the main input, patch Trans Europa's output to your VCOs. Use the Octave Transpose knob to select octaves. Perfect for use with VCOs which lack an octave switch.
2. Patch sample and hold into both Octave and Transpose CV inputs, attenuate to taste. Play about with the mode knob.....instant cool jazzy solos. Then use a 1V/oct source into the main input to transpose this into any key.
3. For cool arpeggios: patch any of sawtooth, ramp or triangle LFO waveforms into the Transpose CV input. Play about with the Mode knob until you find something you like. Attenuate to taste for simple/complex arpeggios.
4. Octave basslines: as above, patch any of sawtooth, ramp or triangle LFO waveforms into the Octave CV input, attenuate to taste.
5. Wild wiggles: X axis of joystick to Octave CV input, Y axis of joystick into Transpose CV input. Select you mode and wiggle your ass off.