

JPS

TRANSCENDENT 2000



The Transcendent 2000: your new home electronics project!

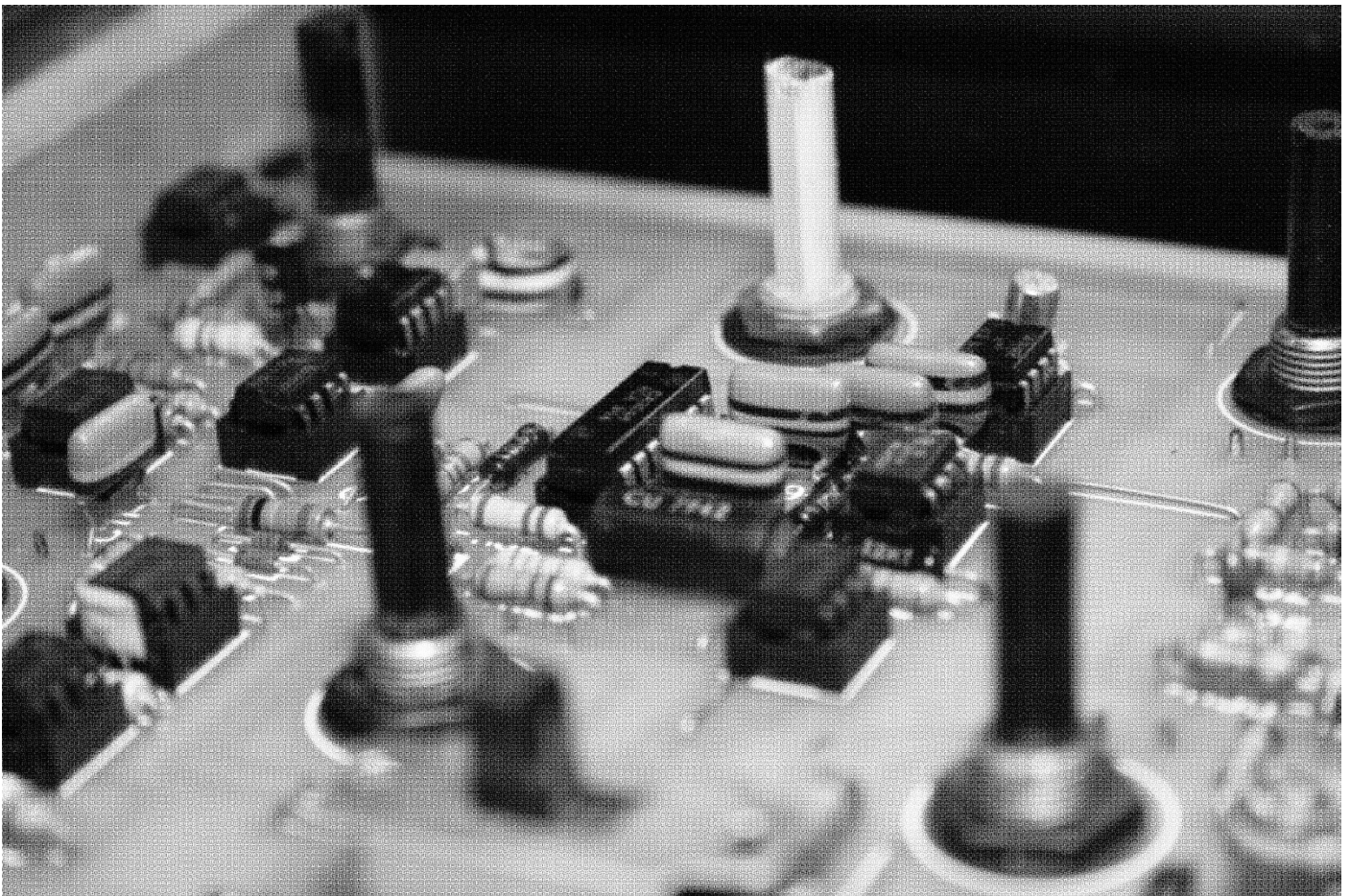
Thank you for purchasing the T2K kit synthesizer, a live performance instrument with precision components to ensure tuning stability. Featuring a three octave transpose with sweep control, a noise generator and an ADSR envelope generator. There is also a slow oscillator, new pitch detector, ADSR repeat, sample and hold

Included in the package are all the electronic components and PCBs and cabinet panels you require to put together your dream synthesizer! With a construction process so simple it can be built in a few evenings by almost anyone capable of neat soldering!

When finished you will possess a powerful synthesizer, comparable in performance and quality with ready-built instruments selling for twice the price!

This document is compiled from the instruction guide printed weekly in the Electronics for Beards publication. Ensure you follow the construction details very carefully to ensure you get the perfect results.

So warm up your soldering iron, and prepare to step in the future world of analog synthesis!



Step 1: Unpacking

Carefully lay out all the components and boards on a clean workbench. Use the checklist in Appendix 1 to identify each part to ensure you have all the correct items. If you find any parts missing please contact us. Do not attempt to begin the build with missing parts. You will also need:

- Soldering Iron, with spare tips
- Lead solder
- Philips and flat head screwdriver
- 1/8th hex key
- Variable size wire stripper
- Multi-meter
- A pair of ears!

Please note that due to local supply restrictions you may find your knob set may not exactly match those of the photographs. Replacement knob sets can found at your local Maplins or independent electronics specialist retailer, or return by post to exchange knobs for a different type.

Step 10: Finishing off

With the oscillators now hand-tuned into the correct pitches, carefully lay the front panel over the potentiometer stalks, and screw it into place. Now insert the knobs on to the stalks, ensuring the correct positioning for the indicator mark. For best results set every potentiometer to a hard left position, then screw the knob into place with a hex key.

You can control the overall tuning of both oscillators with the Tune knob on the front panel without worrying about ever having to take all the knobs off, unscrewing the panel, and going through the pain of tuning the two oscillators and three octave ranges ever again, then putting the panel back on and rescrewing all the knobs into place.

So CONGRATULATIONS!

You should now have completed this amazing electronics project and you now have a beautiful wood-panelled monophonic synthesizer, comparable to the most expensive American muscle-synths!

Step 11: The Controls

KB: PORTAMENTO

Controls glide time from one note to another. Higher values produce a longer duration pitch change between notes.

KB: PITCH

Twist the control to adjust the pitch up or down, which is auto-centred on releasing the control. The range can be adjust with the switch to bend the tone by 2, 7 or 12 semitones (one octave).

OSCILLATOR VCO: SHAPE CONTROL

Select the overall waveform type with the first selector: Triangle/Saw, or Square/Pulse. The oscillator can also be disabled by switching to the "—" position for using only the white NOISE generator for tone. With a waveform set, you can use either the TRIANGLE or SQUARE shape control to adjust the tone, from Triangle to Saw of the Triangle/Saw tone output, or the Pulse Width of the Squarewave tone output. Additionally, when using Square/Pulse output, the Pulse Width can be modulated by the PWM (Pulse Width Modulation) control, the rate of which is set by the PWM Sine Speed.

and setting the control to around the 30% mark for the best balance of tone to SPRING reverb level.

LEVEL

Finally, set the line output volume with the LEVEL control. The LED will signal when an external note gate event is triggering the instrument.

And with that, you have the full breakdown of the product controls and its multitudes of capabilities. Now it's up to you to play, create, and enjoy!



JP's INFONOTE:

The T2K Rack Extension is based by a design created in the late 1970s by British synth legend Tim Orr, under the synth brand Powertran, and was originally published in Electronics Today International in the late 70s. Best-known as the "Joy Division" synth, this is a dirty little powerhouse of mad mono-synth heaven.