

## **Dirty Electronics Sonar 20th Anniversary Synth 2013**

### **John Richards 2022 ed. 2**

The Dirty Electronics Sonar 20th Anniversary Synth is an ultra minimal pocket-sized synth, black finished with silver-plated etched Sonar logo. The Synth has a 20-step sequencer to celebrate the twentieth anniversary of Sonar (one step for each year). The instrument comes with pre-written sequenced patterns that can be either listened to in their own right or 'played' (mashed-up, parts of the sequence looped, tempo changed, noise and feedback added, etc.). The Synth is played by running fingers across the letters of the Sonar logo and is designed for headphone listening or line out.

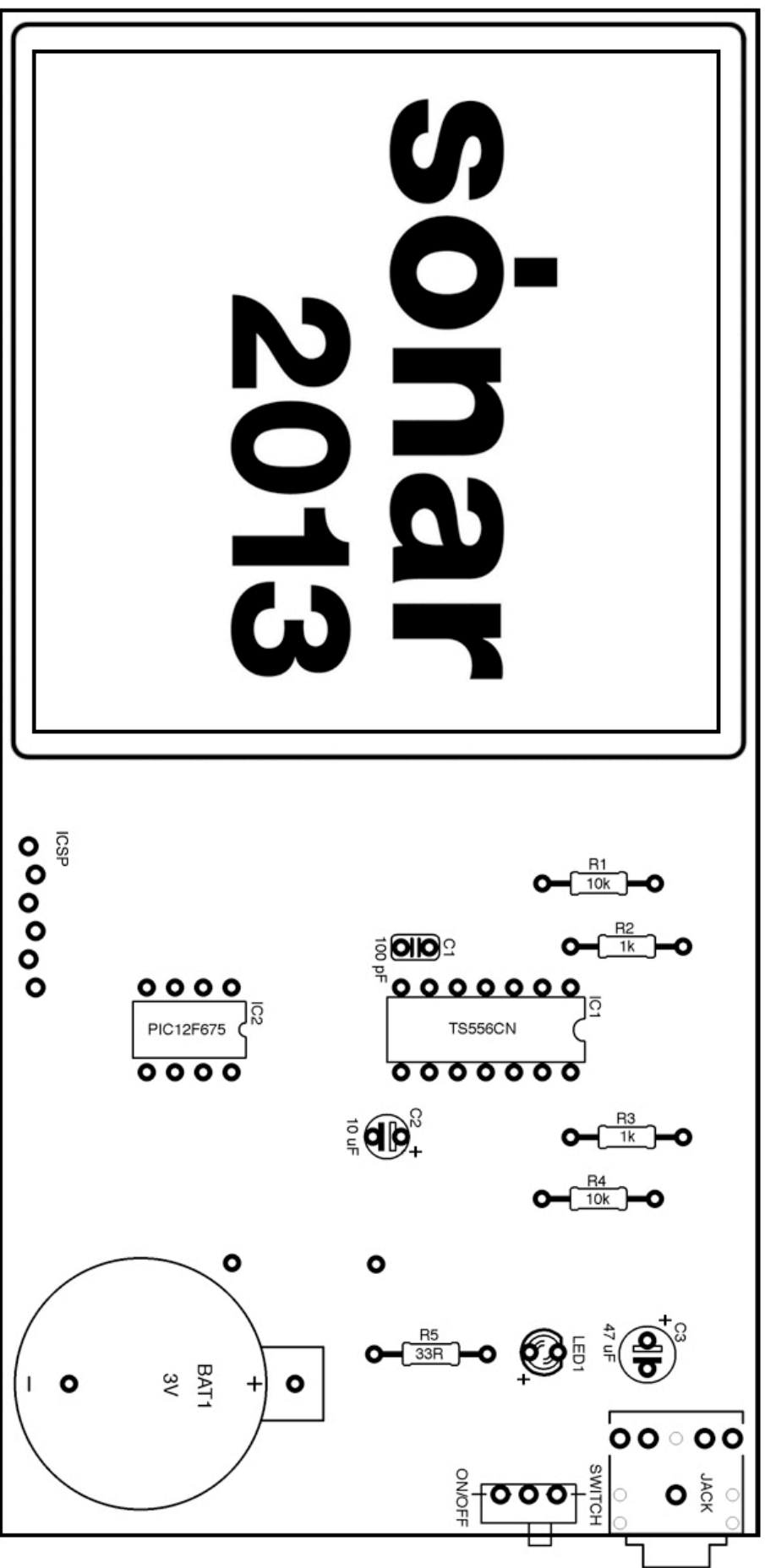
The Sonar 20th Anniversary Synth is a hybrid digital and analogue device. A programmable integrated circuit (PIC) microcontroller is used to create control and sequencer information, whilst the sound synthesis, which consists of an oscillator and noise circuit, is analogue. It is possible to write new PIC code and upload this data direct to the synth, thus offering potential to vary and modify the sounds and behaviour of the instrument. It is through combining both digital and analogue techniques that new possibilities arise in, not only synthesis and circuit board design, but also user-group interaction and engagement with the DIY community. The instrument presents the idea of composing using code and electronics and is a contribution towards developing new instruments that blur the distinction between hardware and software.

The White Label Synth, a derivative of the Sonar 20th Anniversary Synth, was also designed for additional events in Spain, 2013. Performances and workshops took place in Valencia, Barcelona and Bilbao.

The default code for the instrument was written in C language with Jim Frize.

Dirty Electronics were in residence over a weekend at Sonar by Day, Barcelona, 2013, where over a hundred people took part in building the Synth with large audiences watching and listening to the results.

## Sonar 20th Anniversary Synth Component Layout



### Part List

IC1 – TS556CN (notch = top)  
 IC2 – PIC12F675 (notch = top)  
 DIL Socket – 14 pin (notch = top)  
 DIL Socket – 8 pin (notch = top)  
 R1 – 10k (br/blk/blk/red/br)  
 R2 – 1k (br/blk/blk/br/br)

R3 – 1k  
 R4 – 10k  
 R5 – 33R (or/or/bl/gld/br)  
 C1 – 100 pF (beige)  
 C2 – 10 uF (+ = long leg)  
 C3 – 47 uF (+ = long leg)  
 LED1 – 3mm (+ = long leg)

BAT1 – holder  
 Bat 3v – CR2023  
 Jack Socket – 3.5 mm stereo  
 Switch – SPDT  
 Rubber feet x4

NOTE: Two large vias (no component)

Sonar 20th Anniversary Synth Schematic

