

Assembly instructions SIDBlaster-USB Tic Tac

For the assembly, some experience in soldering is required. Under all circumstances, you'll likely need:

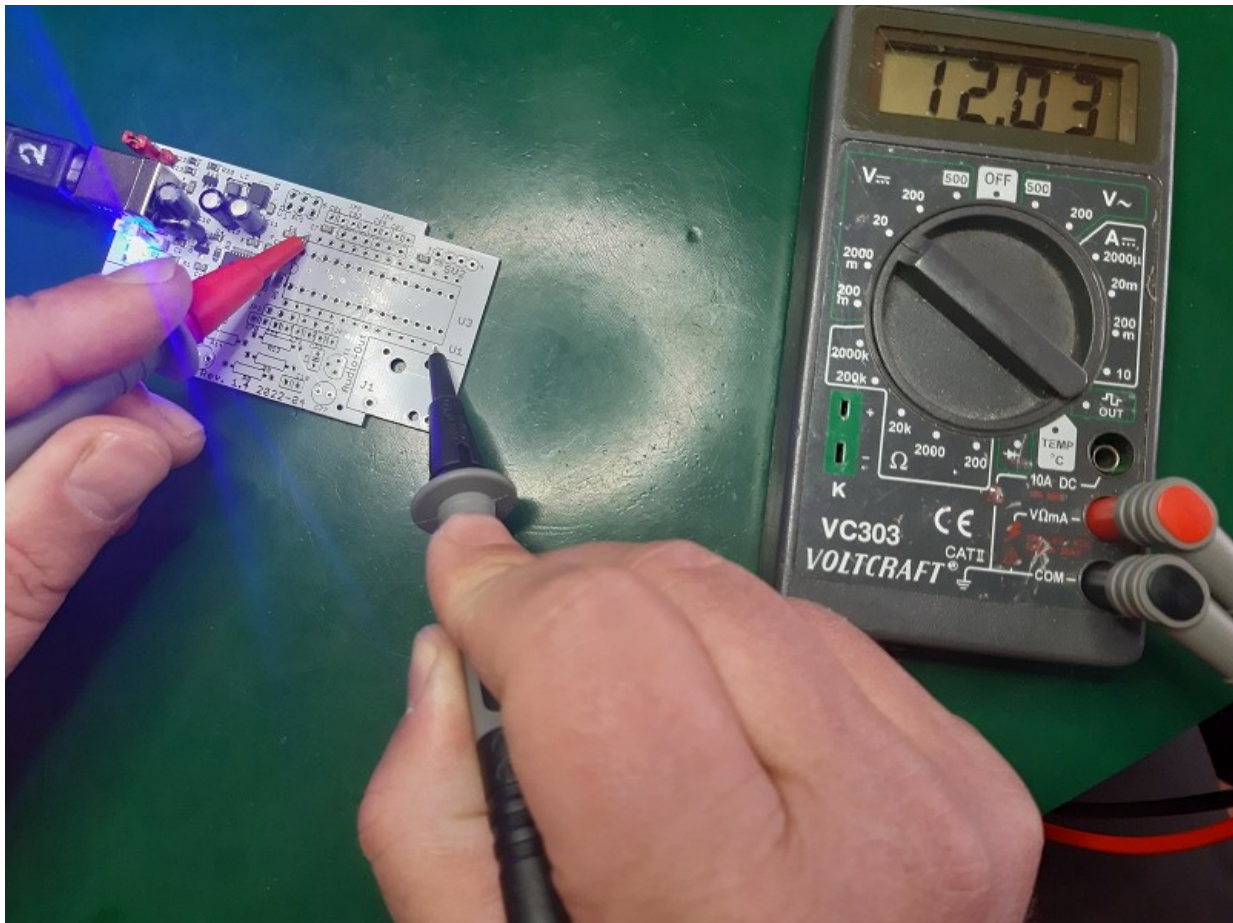
- soldering station with a normal and a pointed soldering tip
- solder wire 0.7 and 1mm
- working lamp with magnifier
- flux pen
- tweezers
- small side cutter
- isopropyl alcohol or denatured alcohol
- brush or toothbrush
- meter
- wooden toothpick

Assembly Steps:

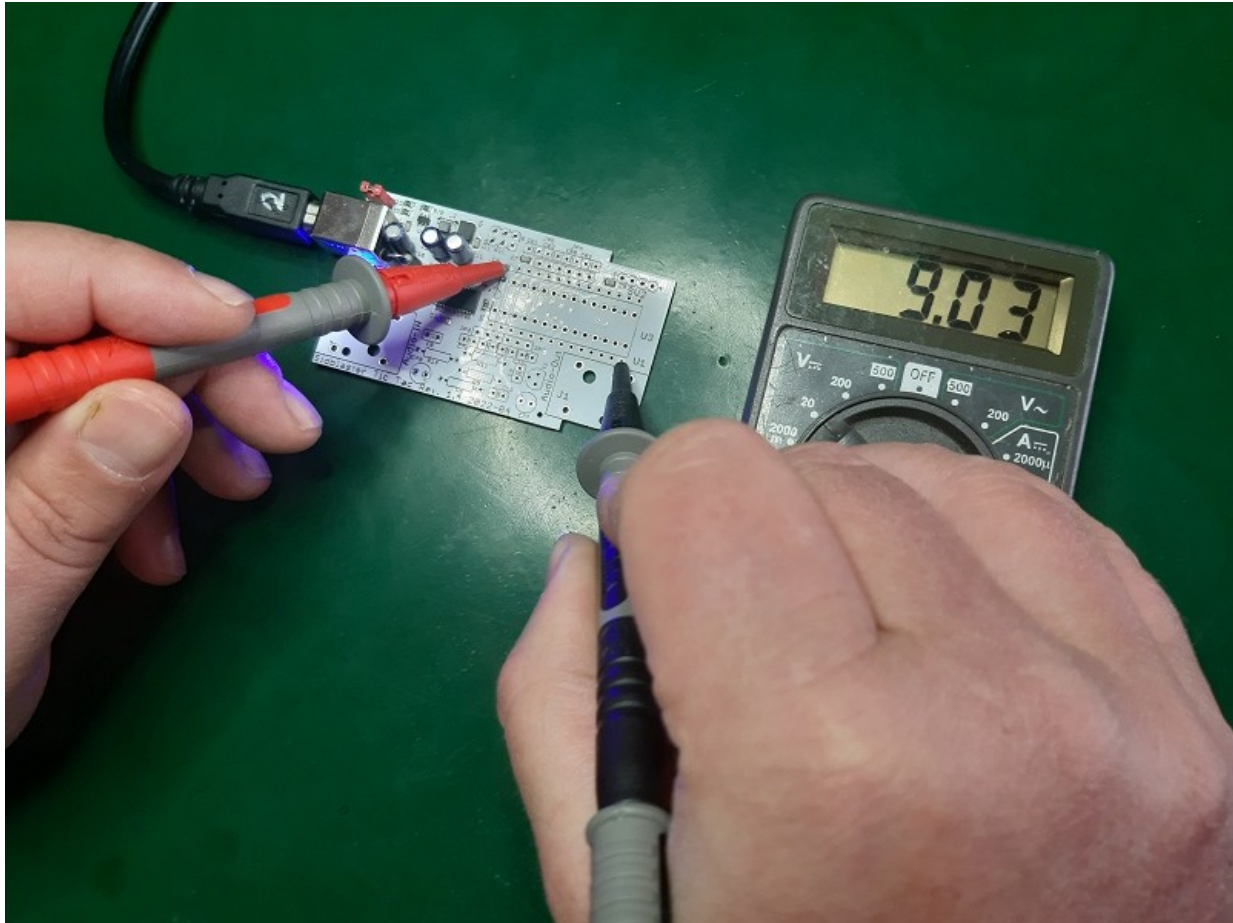
Owners of a kit with a pre-assembled SMD part start at point 16.

- 1 equip FT232 chip (U2); the following pin numbers must be soldered up: 1; 4; 5; 7; 12; 15; 16; 17; 18; 20; 21; 23; 25.
hint: subsequently check the right connections according to the circuit diagram with a multimeter ("wiring test")
Please note: For correct operation, pin 26 must be switched on mass. This was forgotten in the layout of revision 1.2. Therefore, bridge pin 25 with pin 26. This is fixed from revision 1.3
- 2 equip LEDs D2: blue; D3: red; consider mark!
- 3 equip R1 and R2, 270 Ohms
- 4 equip C1, 10nFs
- 5 equip U4, Imprint: **B6287G**; **attention!** U4 is turned by 180° in relation to U2
- 6 equip C3, C4, C2, C21, C5, C6, C7, C20, C12(from Rev. 1.4): 100nFs
- 7 equip R23 (18k)
- 8 equip R22 (47k)
- 9 equip R20 und R21 (1k)
- 10 solder on inductor (L2), tip: tin-plate pads in advance

- 11 solder diode D1 (SS26)
- 12 Q1 (from Rev. 1.4) equip
- 13 Equip R3, R4 (from Rev. 1.4) 1K
- 14 Equip R5 (from Rev. 1.4) 10K
- 15 clean circuit-board
- 16 equip USB jack socket
- 17 equip L1
- 18 C10, C11 (22uFs), C13 (4,7μF)(from Rev 1.4) consider polarity
- 19 **test**: connect current source, blue LED must be on; measure voltage between pin 14 (GND) and pin 28 (+12V) of U3 (SID)

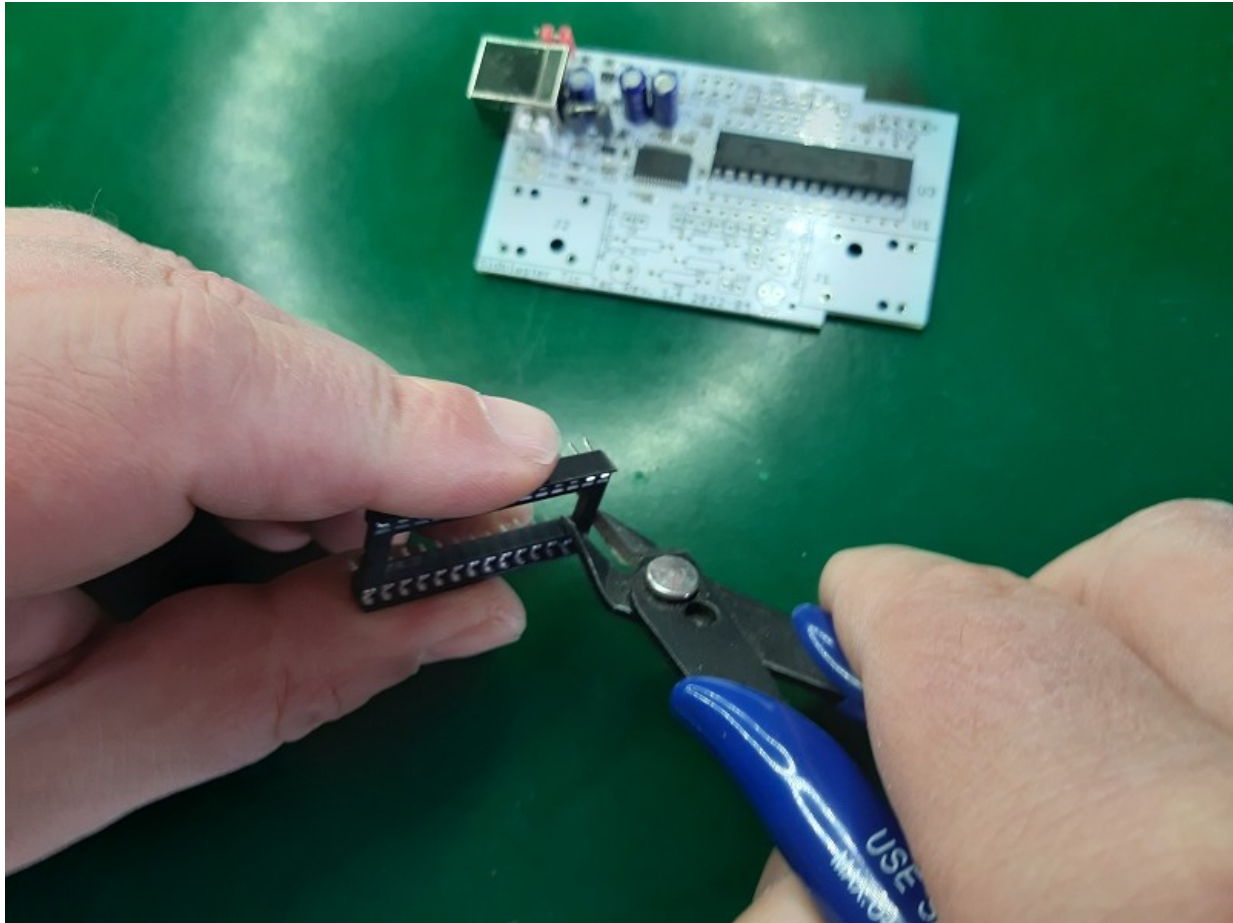


- 20 equip JP1 (Red)
- 21 Test: set JP1 and measure voltage at the SID socket (must be 9V now)



22 solder on U1, pinch off spare ends

23 IC socket for SID: cut connections with side cutter, sand smooth



24 solder in the two parts of the socket

25 **flash FT232 template:** software tool "FT_Prog" by FTDI required. Connect circuit board, start FT Prog, scan for device, load template (GitHub), right click on Device ->Apply Template. Then click "program" and program. Attention! New template for Rev. 1.4!

26 **flash PIC μ C:** A programming device like PicIt 3 is needed, possibly build adapter cable (see manual), software: MPLAB IPE. Kit customers receive a pre-programmed PIC.

27 **Test:** connect circuit board and start ACIDPlayer, play Tune, Sidblaster should be recognized and red LED should be on

Note: It is best to equip blue and green in 2 groups per pin strip with the associated capacitors and solder them together, otherwise holes could become clogged. If the holes get blocked, use a suction pump and toothpick.

28 equip JP2-JP6

29 equip SV1 and SV2

30 equip C70, C71 (470pFs)

- 31 equip C72, C73 (22nFs)
- 32 equip C80, C81 (1800pFs)
- 33 equip C82, C83 (2,2nFs)
- 34 equip R12, R8 (1K)
- 35 equip R14, R9 (10K)
- 36 equip C18 (1000pFs)
- 37 equip C8, C9 (100nFs)
- 38 set jumper JP1: red; JP4 & JP5: green; JP2 & JP3: blue; JP6: white
- 39 Equip T1, observe polarity according to data sheet! (May deviate from the equipment label!) With Rev.1.2 a PN2222A must be fitted the wrong way round, from Rev.1.3 the equipment label is ricky for PN2222A
- 40 equip C77, C79 (10uFs, bipolar), polarity irrelevant
- 41 solder on jack sockets
- 42 Clean the circuit board with a toothbrush and spirit and let it dry. I personally get the best results with denatured alcohol.
- 43 measure voltages again
- 44 install SID
- 45 check jumper
- 46 connect to personal computer and test with ACID player.