Assembly instructions SIDBlaster-USB Tic Tac Rev. 1.2

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
- working lamp with magnifier
- flux pen
- tweezers
- small side cutter
- isopropyl alcohol
- brush
- meter
- wooden toothpick

Assembly Steps:

(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.

(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: 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) clean circuit-board

(13) solder on U1, pinch off spare ends

(14) equip USB jack socket

(15) C10, C11 (22uFs), consider polarity

(16) equip L1

(17) test: connect current source, blue LED must be on; measure voltage between pin 14 (GND) and pin 28 (+12V) of U3 (SID)

(18) IC socket for SID: cut connections with side cutter, sand smooth

(19) solder in the two parts of the socket

(20) equip JP1-JP6

(21) equip SV1 and SV2

(22) Test: set JP1 and mesure voltage at the SID socket (must be 9V now)

(23) **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.

(24) **flash PIC µC:** A programming device like PicIt 3 is needed, possibly build adapter cable, software: MPLAB IPE.

(25) Test: connect circuit board and start ACIDPlayer, play Tune, Sidblaster should be recognized and red LED should be on

(26) equip C70, C71 (470pFs)

(27) equip C72, C73 (22nFs)

(28) equip C80, C81 (1800pFs)

(29) equip C82, C83 (2,2nFs)

(30) equip R12, R8 (1K)

(31) equip R14, R9 (10K)

(32) equip C18 (1000pFs)

(33) equip C8, C9 (100nFs)

(34) set jumper JP1: red; JP4 & JP5: green; JP2 & JP3: blue; JP6: white

(35) equip T1, cosider polarity according to data sheet (can be different from equipment imprint!)

(36) equip C77, C79 (10uFs, bipolar), polarity irrelevant

(37) solder on jack sockets

(38) measure voltage again

(39) install SID

(40) check jumper

(41) connect to personal computer and test with ACID player.

(42) The answer to all questions ☺