How to connect the ZT-180 UART to your PC

You MUST use a level shifter between the ZT-180 board and the serial connector of your PC. Otherwise you will damage you ZT-180 !!!

The ZT-180 uses level between 0 and 3.2 V and RS232 can be between -14V and +14V.

Standard level shifter is a MAX3232 or similar device. See figure 3. It needs only a few external components. Easy to build yourself.

Start with connecting the VCC and VDD to the level shifter.

Test the level shifter by connecting it's RX and TC pins together and connect it to you PC. Open an terminal emulator and check if the keys you type are echoed back.

If you pass this test, you can connect the level shifter to the ZT-180 as shown if figure 3. I'm not sure on which must go to RX and which one to TX. So try it and if you don't see any output on your terminal emulator, just swap them.

ZT-180 uses a baudrate of 115200, no parity and 1 stop bit.

A good terminal emulator for windows is tera term Pro http://hp.vector.co.jp/authors/VA002416/teraterm.html

On linux PC's you can use minibox

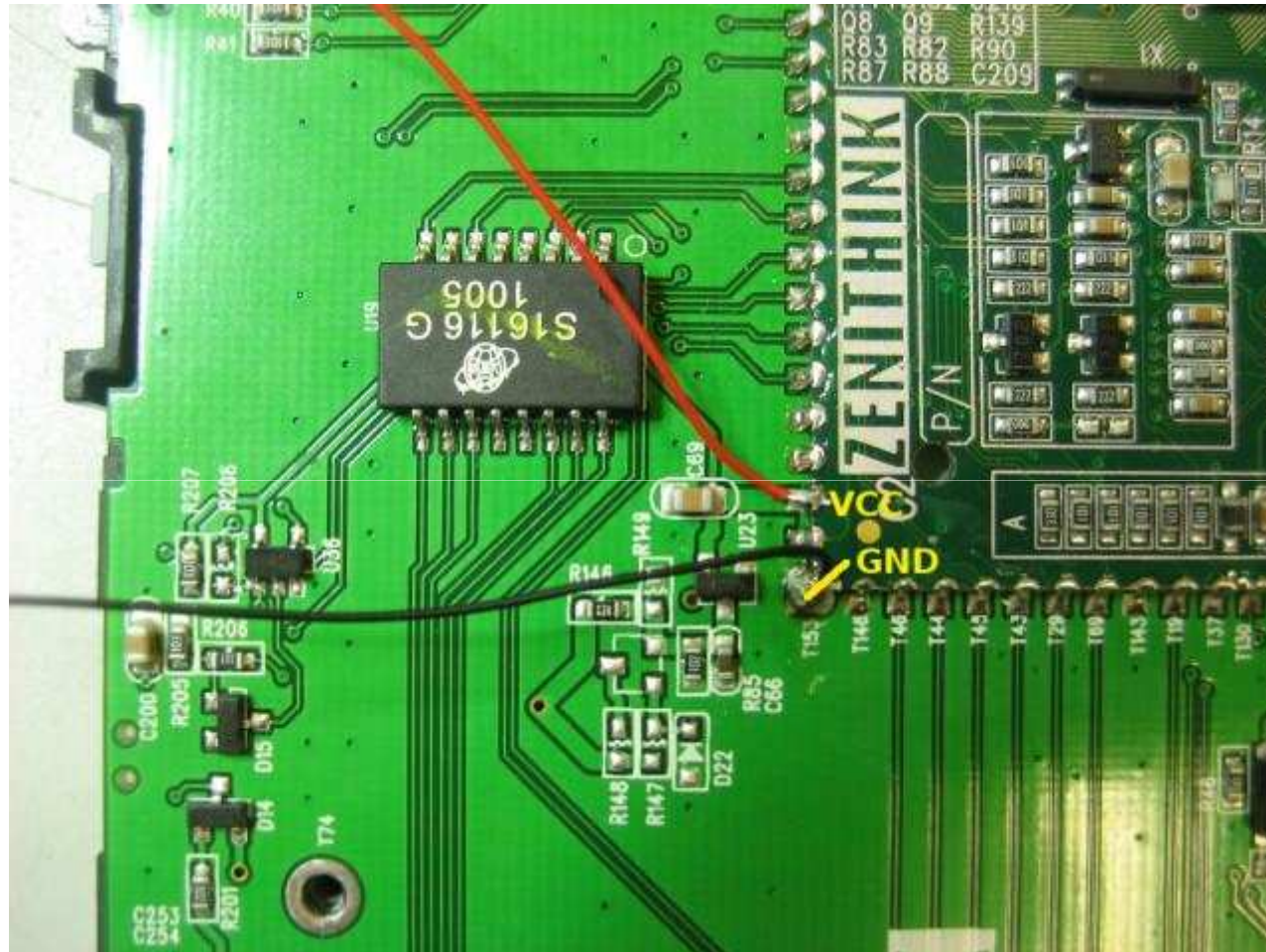Figure 1 Power connection to max323 board
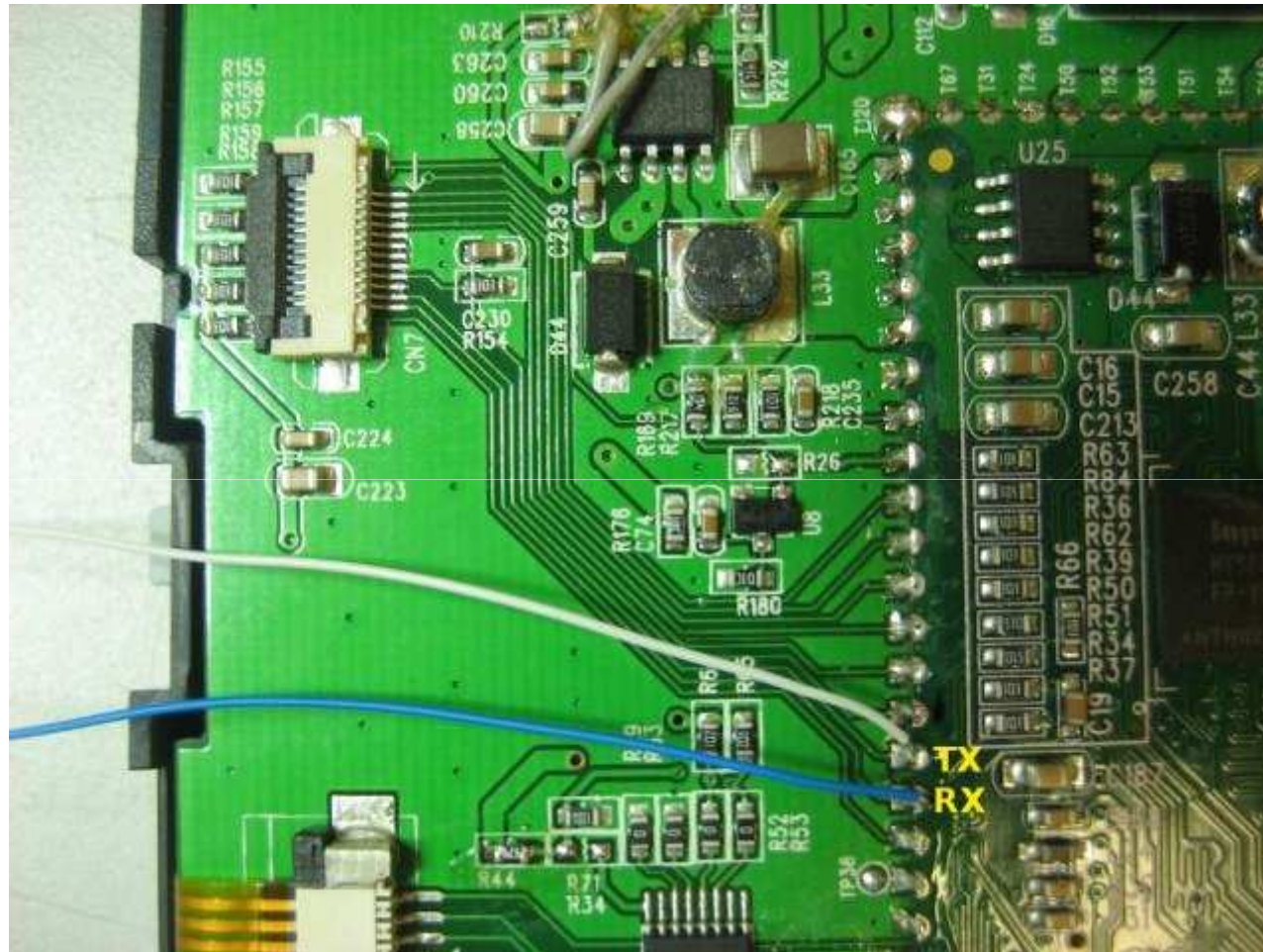
Figure 2 Serial Transmit and Receive lines to max3232 board

Figure 3 Max3232 level shifter (0..3.2V to +/- RS232 compatible levels

To Vcc (see figure 1)

To GND (see figure 1)

RX

TX

To TX and RX (see figure 2). I always mix-up RX and TX. So if you have not output on your terminal, just swap RX and TX.

+3.3V

0.1µF

0.1µF

16

1 C1+

Vcc

V+ 2

C3
0.1µF

3 C1-

MAX3232

4 C2+

V- 6

0.1µF

5 C2-

C4
0.1µF

11 T1IN

T1OUT 14

TTL/CMOS
INPUT

RS-232
OUTPUT

12 R1OUT

R1IN 13

TTL/CMOS
OUTPUTS

5k

RS-232
INPUT

GND

15

5
4
3
2
1

9
8
7
6