

PC-Interface : I2C_PC

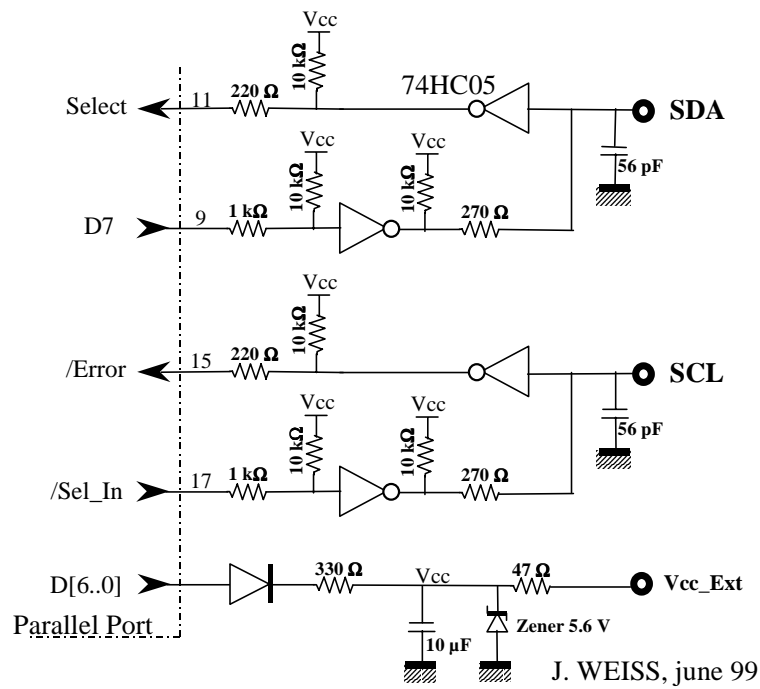
By

J. WEISS

SUPÉLEC, Campus de Rennes

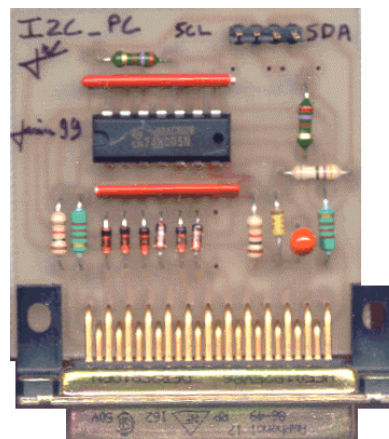
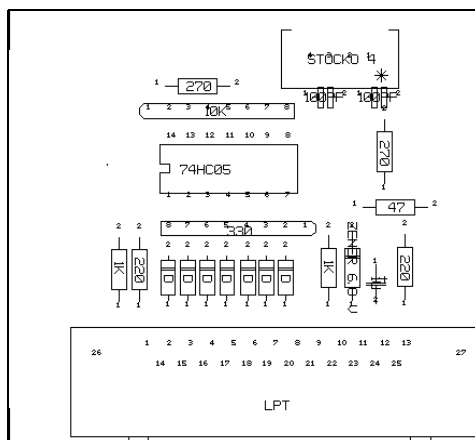
<http://www.supelec-rennes.fr/ren/perso/jweiss>

Schematic



PCB

Implementation

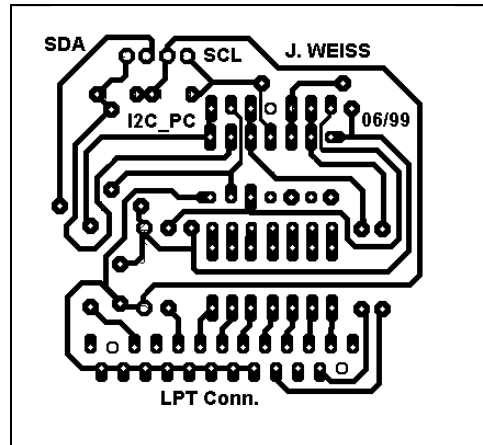


Layout

It consists in a one-side PCB of dimensions :

X=60.96 mm

Y=55.88 mm



Bill of material :

ICs : 74HC05 or 74HC07	(6 Open-Collector Inverters)
Zener diode of 5.6 V	(protection of supply voltage)
7x Diodes (1N4148 or equivalent)	(for a self powered interface)
Resistors :	
2x 220 Ω 1/4W	
2x 270 Ω 1/4W	
47 Ω 1/4W	
RSIL 10 k Ω	
RSIL 330 Ω	(for a self powered interface)
Capacitors	
10 μ F Tantalum	
2x 56 pF	(optionnal)

Software use

On a traditional PC, parallel ports have the following base address :

 LPT1 : @base = 0x378

 LPT2 : @base = 0x278

It is preferable to use a standard port (eg not in ECP or EPP mode)

If you want to power the interface you must write a '1' in bits D0 to D6 (@ = @base)

Writing SDA is done by setting D7 (@ = @base)

Reading SDA is done by reading SELECT line (bit 7 of @base+1)

Writing SCL is done by setting D7 (bit 3 of @base+2)

Reading SCL is done by reading SELECT line (bit 3 of @base+1)

