



Device Board Manual

Device Board Parts



22pf Capacitor
QTY: 2



16mhz Crystal
QTY: 1



IC Socket DIP28
QTY: 1



NS-LS2 Level Shifter
QTY: 1



LM317 Adjustable
Voltage Regulator
QTY: 1



10k Resistor
QTY: 1



Terminal Block 3 pos
QTY: 4



XBee S1 Radio
QTY: 1



POWER_JACK
QTY: 1



330 ohm Resistor
QTY: 3



Terminal Block 2 pos
QTY: 4



RED LED3MM
QTY: 1



560 ohm Resistor
QTY: 1



1X10 2mm female
socket
QTY: 2

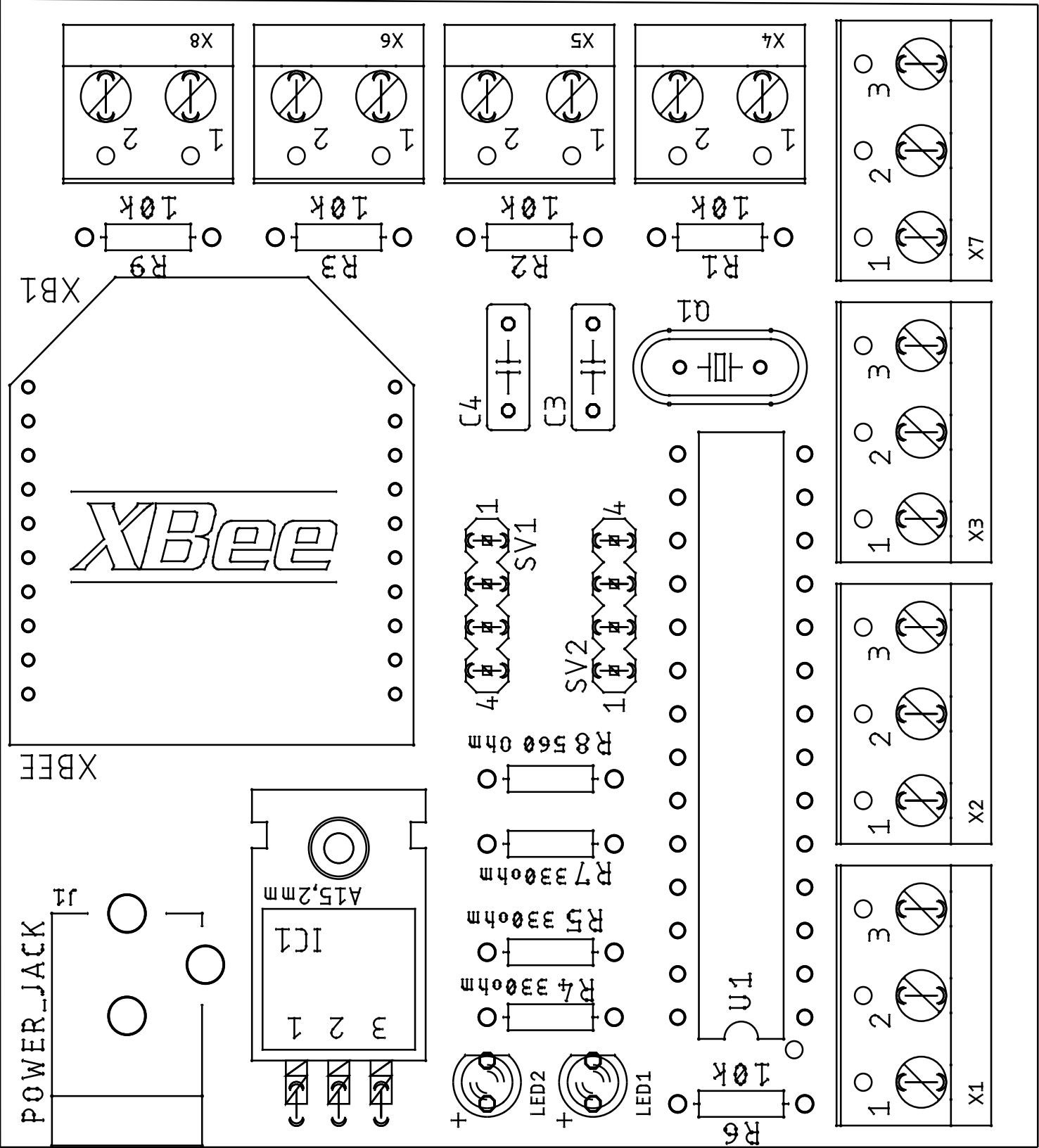


GREENLED3MM
QTY: 1



1X4 Female Socket
QTY: 2

Device Board Diagram



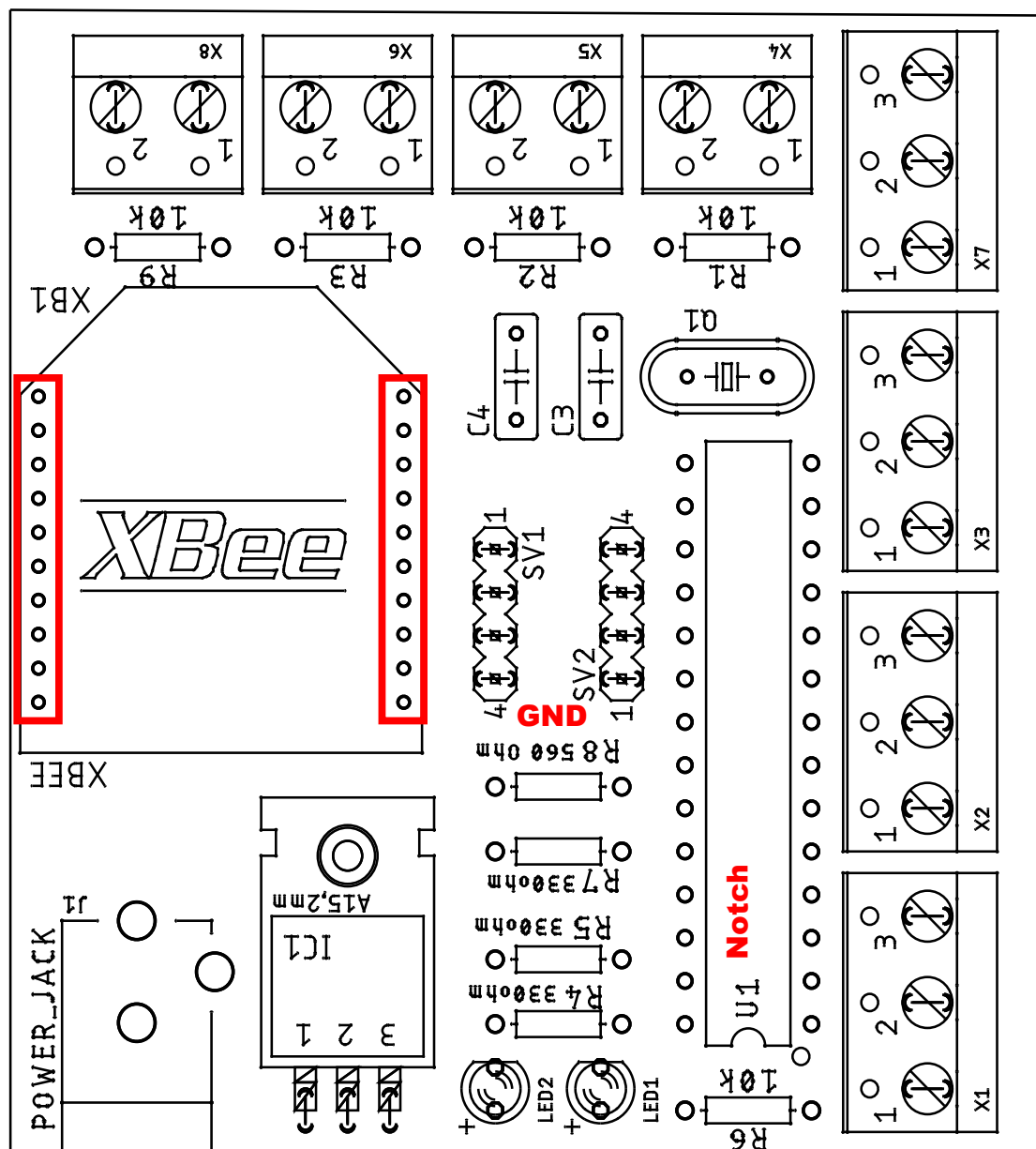
Device Board Partlist

Part	Value	
C3	22pf Capacitor	These parts have a letter/number designation. Match the designation in the list with the corresponding designation on the board diagram.
C4	22pf Capacitor	
IC1	LM317MABT	Pay attention to the orientation of the components. Some need to be soldered/inserted in the proper orientation.
J1	POWER_JACK	
LED1	RED LED3MM - long leg in + hole	R1 R2 and R3 are optional. Only if a switch is connected are they necessary.
LED2	Green LED3MM - long leg in + hole	
Q1	16mhz Crystal	
R1	10k Resistor (Brown, Black, Orange) Optional	
R2	10k Resistor (Brown, Black, Orange) Optional	
R3	10k Resistor (Brown, Black, Orange) Optional	
R4	330ohm Resistor (Orange, Orange, Brown)	
R5	330ohm Resistor (Orange, Orange, Brown)	
R6	10k Resistor	
R7	330ohm Resistor (Orange, Orange, Brown)	
R8	560 Ohm Resistor (Green, Blue, Brown)	
R9	10k Resistor (Brown, Black, Orange)	
SV1	1X4 Female Socket - For the level shifter	
SV2	1X4 Female Socket - For the level shifter	
U1	IC Socket DIP28	
X1	Terminal Block 3 pos	
X2	Terminal Block 3 pos	
X3	Terminal Block 3 pos	
X4	Terminal Block 2 pos	
X5	Terminal Block 2 pos	
X6	Terminal Block 2 pos	
X7	Terminal Block 3 pos	
X8	Terminal Block 2 pos	

Device Board Notes

The 10k ohm resistors are optional. Only if a switch is connected are they necessary.

The XBee socket is not one part. It is 2 1x10 2mm female sockets



The level shifter has an end for ground(GND) and an end for power. Insert the level shifter as indicated on this diagram.

There is a correct orientation for the IC Socket DIP28. Find the notch on the chip. Match the notch on the chip with the notch on the board. Do the same when inserting the ATmega328 chip

Completed Device Board

