

REF. DESIGNATORS		PARTS LIST	
1		4X3 PCB	PRINTED CIRCUIT BOARD
20	Q1 TO Q20	2N3904	NPN TRANSISTOR
4		LTP-1257AA	BI-COLOR 5X7 LED MATRIX
2	SW1 & SW2	SWITCHES	TOGGLE
3	S1, S2, S3	SWITCHES	PUSH BUTTON
1		PIC16F877	PRE-PROGRAMMED MICRO
1	IC1	SOCKET	40 PIN SOCKET
1	Q21	CRYSTAL	4 MEG
2	C1, C2	CAPACITOR	22 PF
1	C3	CAPACITOR	.01 Uf
2	IC3, IC4	BUSSES	74HC245 SURFACE MOUNT
1	R1	RESISTOR	140 OHM
1	R5	RESISTOR	1K OHM
5	R2, R3, R4, R8, R9	RESISTOR	10K OHM
1	R10	RESISTOR	47 OHM
1	RED TO +, BLK TO -	BATT. HOLDER	4 AA
1	D1	DIODE	1N4148
1	D2	JUMPER	

STEP 3: ADD 4 LED MODULES.
IMPORTANT: MAKE SURE THE LETTERING
ON THE MODULES IS AT THE **BOTTOM**.
SOLDER ONCE MODULES ARE IN PLACE.

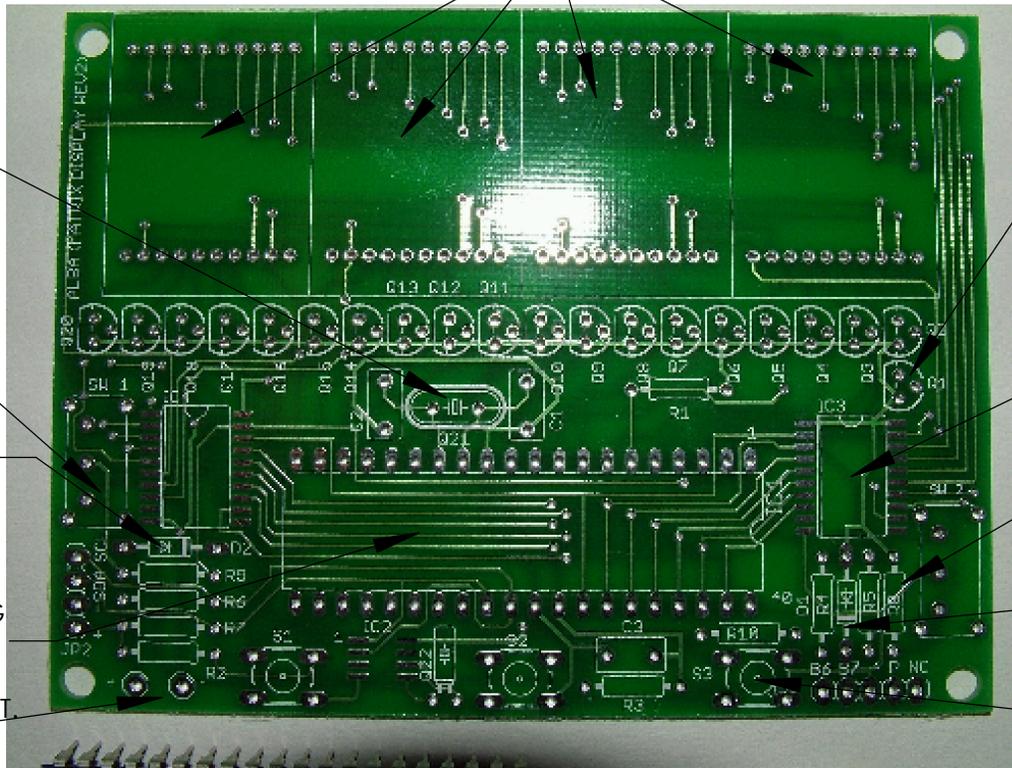
STEP 4:
CRYSTAL AND CAPS
(Q21, C1, C2)

STEP 7:
SOLDER SW1, SW2.
THEY ONLY FIT ONE
WAY.

STEP 8:
SOLDER JUMPER IN
PLACE OF DIODE

STEP 10:
SOLDER 40 PIN
SOCKET.
PAY ATTENTION TO
PIN 1 WHEN ADDING
THE PIC MICRO.

STEP 11:
SOLDER BATT SOCKET
ALSO C3



STEP 2:
ADD TRANSISTORS (Q1 - Q20). MATCH
THE FLAT SIDE

STEP 1:
SOLDER 74HC245 (IC3, IC4)
PAY ATTENTION FOR PIN 1.

STEP 5:
SOLDER ALL RESISTORS. SEE PARTS LIST
FOR REF. DESIGNATORS.

STEP 6:
SOLDER DIODE. BLACK MARK GOES TO
THE STRIPE.

STEP 9:
SOLDER S1, S2, S3 .