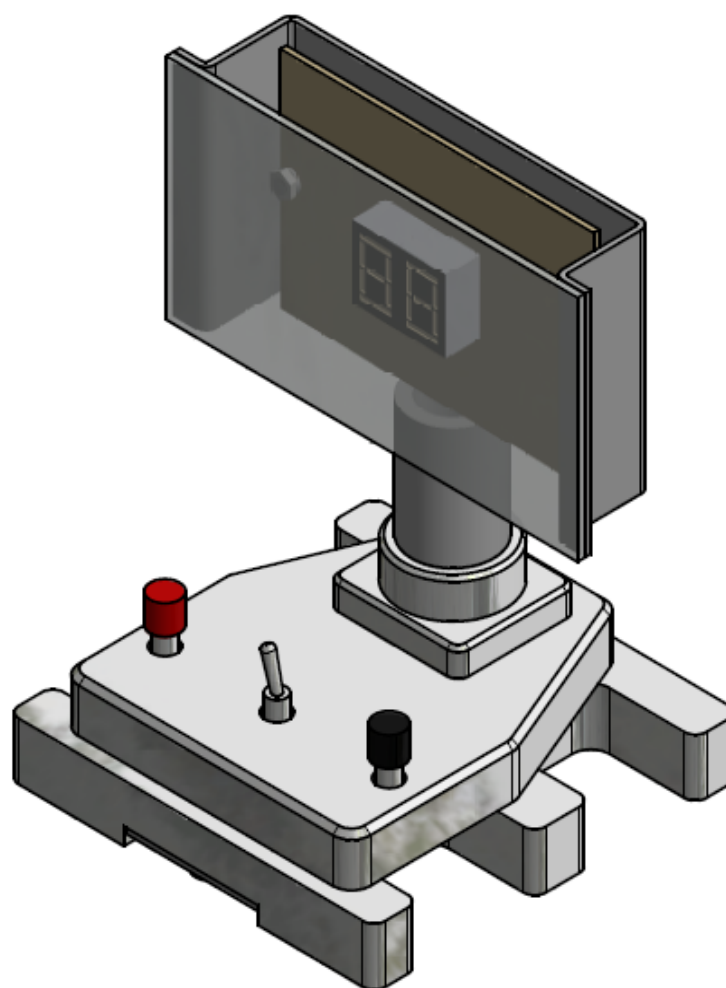


MTC Surprise Project

WSC2013_TP03_JP_surprise_actual_EN

Submitted by:
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Member Country: Japan



Contents

This surprise project documentation consists of

- Description of project and tasks
- Electric task description
- Picture of electric circuit board
- PCB layout
- Tool list
- Material list
- CNC drawing
- Turning drawing
- Electric diagram
- 3d assembly drawing
- Marking sheet

Description of project and tasks

This project will count the number.

The selection switch, count up-down is possible.

CNC and CAM skills: Post and switch is fixed to the chassis.

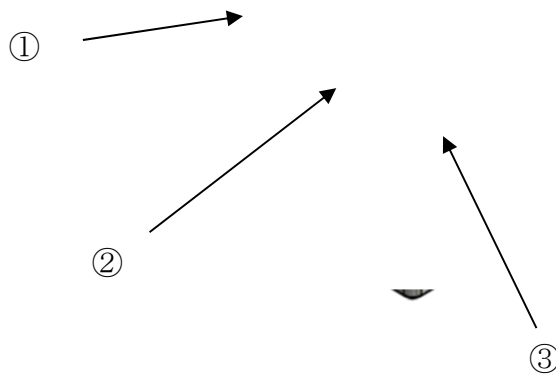
Electronics skills: Electronic parts are mounted on the circuit board.

Turning skills: Post display (circuit board)

Sheet metal skills: Display case and Battery cover

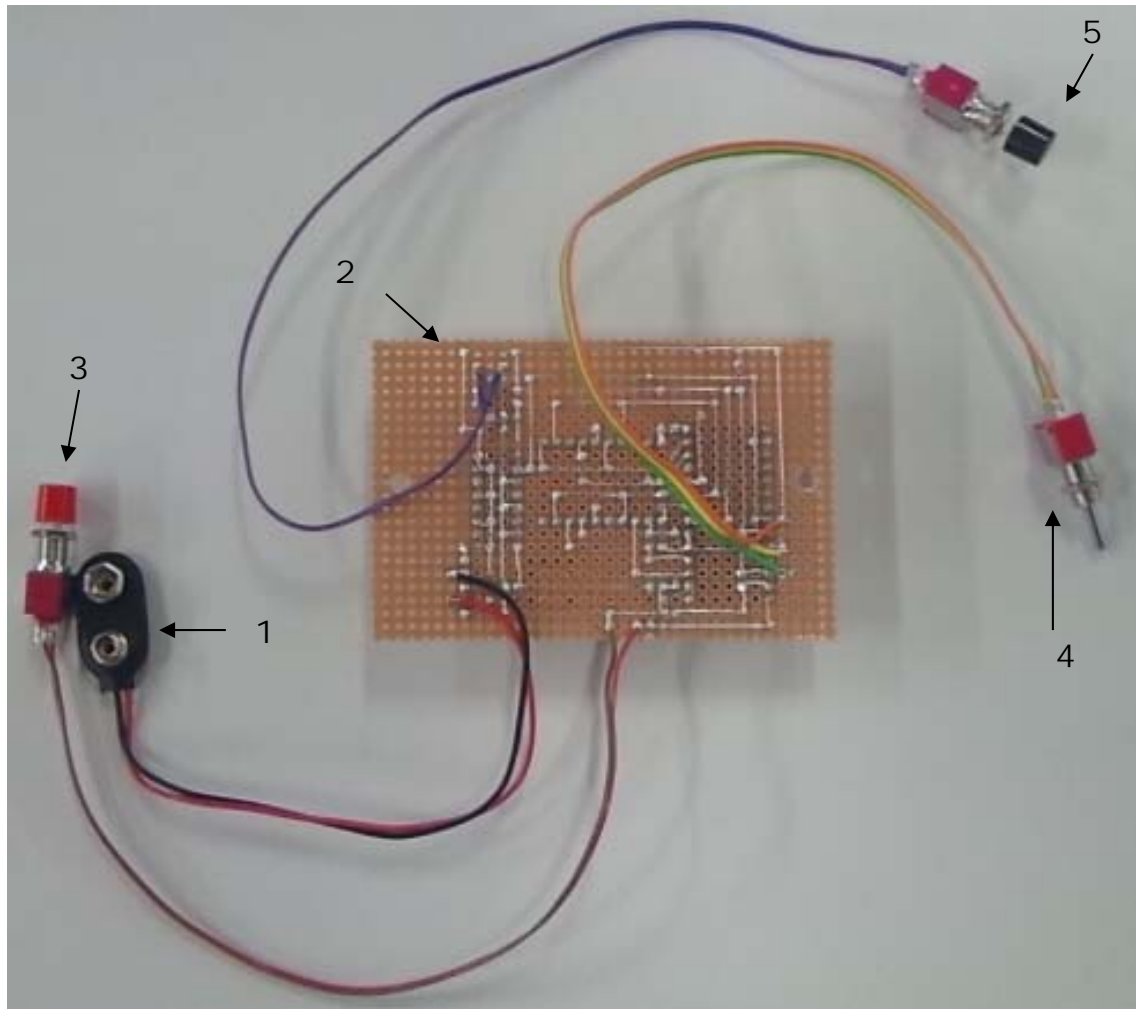
Electronic task description

Description of the switch operation

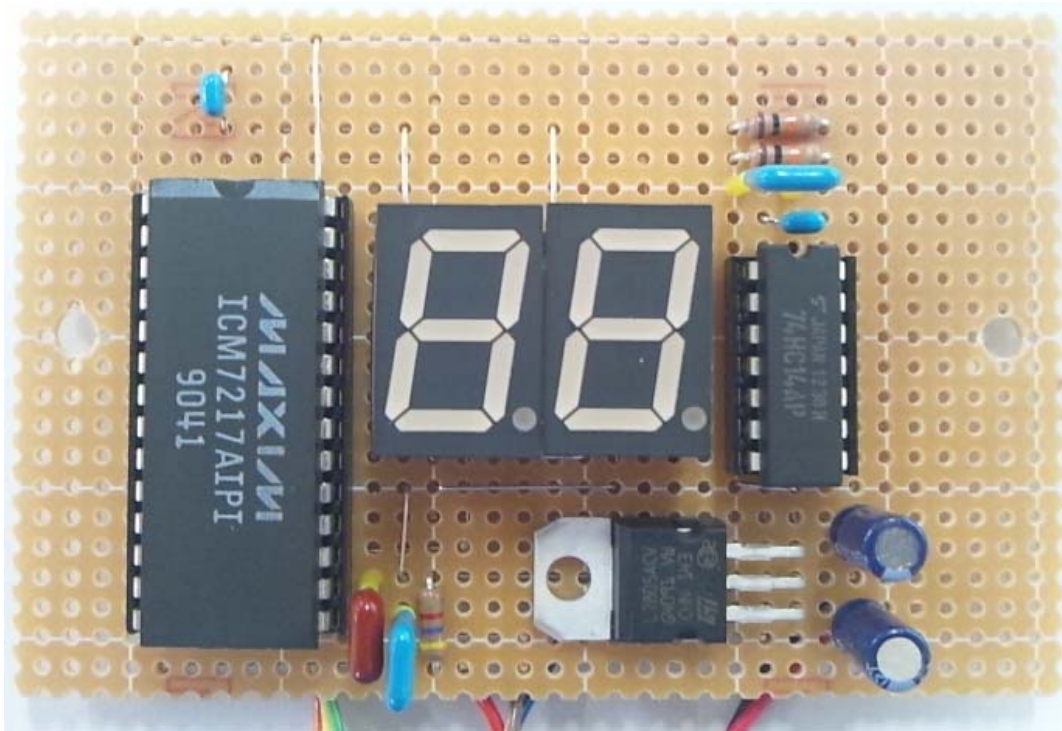


- ① Push-button switch : Display returns to "00"
- ② Select switch : Upper side is up counter, the lower side down counter
- ③ Push-button switch : Count the number

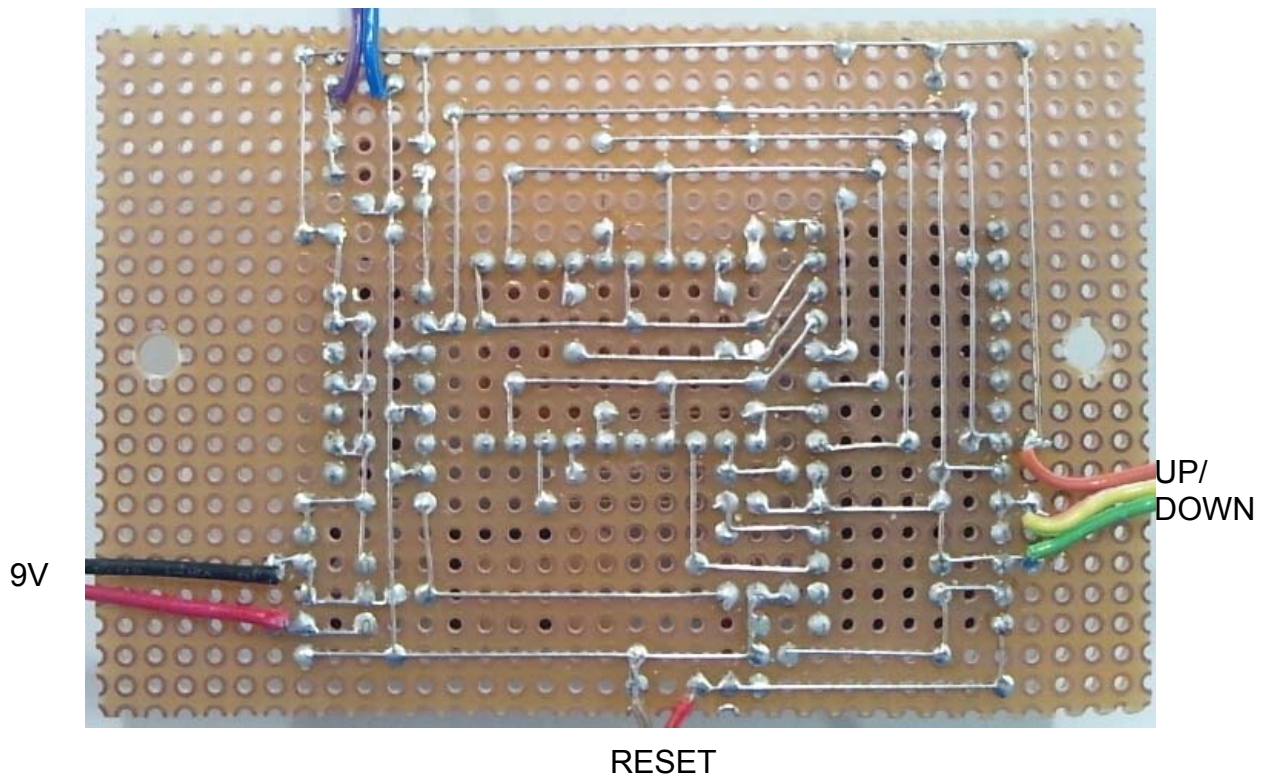
PICTURE OF THE ELECTRONIC BOARD



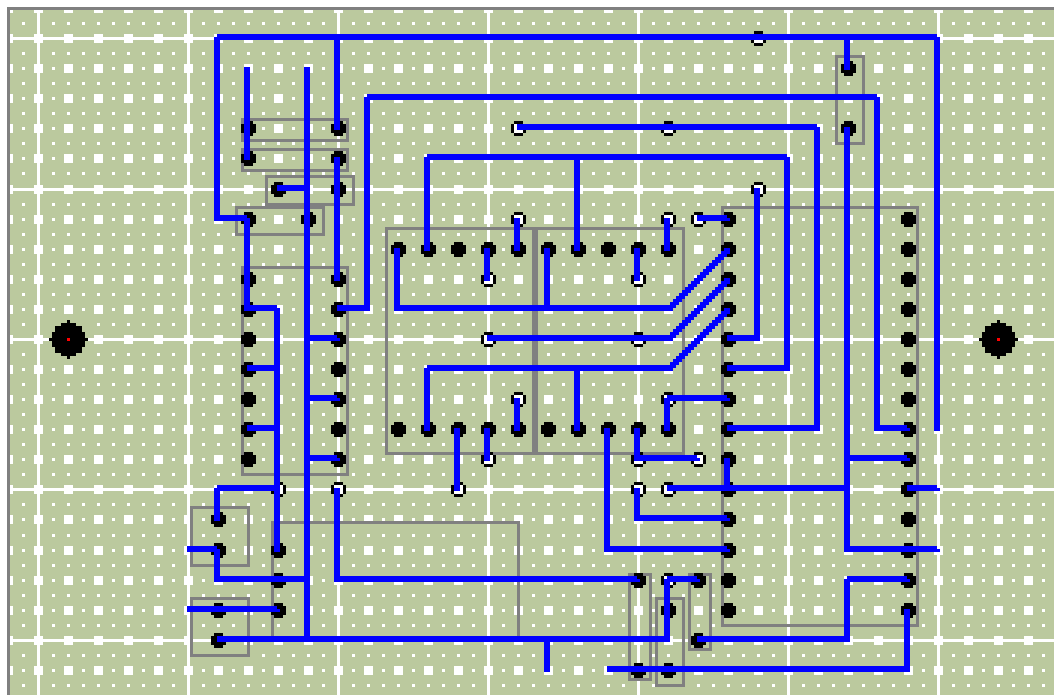
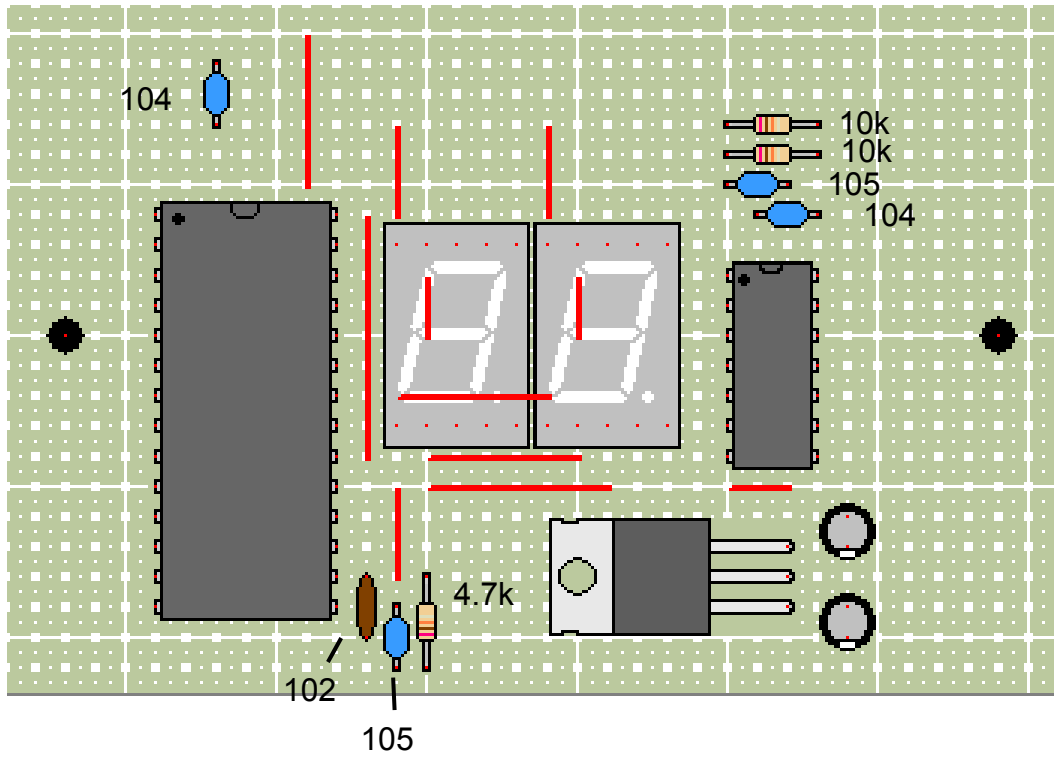
- 1- Battery connector
- 2- PCB
- 3- Reset Switch (Push type)
- 4- Up/Down Select Switch (Toggle type)
- 5- Count Switch (Push type)



COUNT



PCB layout



Material list

Mechanics:

no	item	description	qty
1	Aluminium	50 x 100 x 100	1
2	Steel	Φ25 x 65	1
3	Steel	t1.6 x 200 x 150	1
4	Steel		
5	Plastic	t2 x 110 x 60	1
6	Spacer	M3 x 6	2
7	Bolt	M3 x 12	2
8	Nut	M3	2
9	Washer	M3	2
10	Bolt	M4 x 8	2
11	Base		1
12	Leg		2
13	Screw	M6x10	2
14	Screw	M4x10	2

Electronics: Components

no	item	description	qty
	PCB Board		1
	Switch (Push type)		2
	Switch (Toggle type)		1
	IC Soket	28pin	1
	IC Soket	14pin	1
	IC Soket	Single 10pin	2
	IC	ICM7217AIP1	1
	IC	TC74HC14AP	1
	IC	7805	1
	LED Display		2
	Capacitor	0.1uF	2
	Capacitor	1000pF	1
	Capacitor	1uF	2
	Electrolytic Capacitor	33uF	2
	Resistor	4.7k ohm	1
	Resistor	10k ohm	2
	Solder	1.5m	1
	Flat cable	0.5m	1
	Battery	9V	1
	Battery connector		1
	Bare wire	3m	1
	Yellow tube	0.1m	1