

RealTimeClock(DS1337)

20140413

Reference;
i2c_utility_0.2.1.f
DS1337_1.5.f

Connection

```
RTC DS1337  Propeller
    scl  ---- P28
    sda  ---- P29
    INTA ---- n LED p --- 220ohm -- 3.3V
    SQW/INTB ---- n LED p --- 220ohm -- 3.3V
```

Prop0 Cog6 ok

i2c_detect

```
    0 1 2 3 4 5 6 7 8 9 A B C D E F
00: -- -- -- -- --
10: -- -- -- -- --
20: -- -- -- -- --
30: -- -- -- -- --
40: -- -- -- -- --
50: 50 -- -- -- -- --
60: -- -- -- -- -- 68 -- -- -- -- -- <-- DS1337's address is h68.
70: -- -- -- -- --
i2c_device:2
```

--- Display register value

Prop0 Cog6 ok

disp_reg

Address(hex) value(hex)

00	33
01	03
02	00
03	01
04	01
05	01
06	00
07	00
08	00
09	00
0A	00
0B	00
0C	00
0D	00
0E	18
0F	80

Prop0 Cog6 ok

Set 24Hour-mode/Date on current/alarm1/alarm2 by set_current

--- Set current-time to 2013/11/5 TUE 20:28:00

2013 11 5 2 20 28 set_current

CurrentTime

Year: 2013

Date: NOV 5 TUE

Time: 20:28:00

Prop0 Cog6 ok

Week is defined by 'rtc_week'.

--- Set alarm1 to [Date]5 20:30:00

5 20 30 set_alm1

Alarm1 setting

Date: 5

Time: 20:30:00

Alarm1 Interupt:Enabled

Alarm2 Interupt:Disabled

Prop0 Cog6 ok

--- Set alarm2 to [Date]2 20:33

2 20 33 set_alm2

Alarm2 setting

Date: 2

Time: 20:33

Alarm1 Interrupt:Enabled

Alarm2 Interrupt:Enabled

Prop0 Cog6 ok

--- Check alarm1/alarm2 flag

chk_INT

Alarm1 Flag:0

Alarm2 Flag:0

Prop0 Cog6 ok

--- Display all setting

all

CurrentTime

Year: 2013

Date: NOV 5 TUE

Time: 20:29:01

Alarm1 setting

Date: 5

Time: 20:30:00

Alarm2 setting

Date: 2

Time: 20:33

Prop0 Cog6 ok

--- Change alarm2 to week of day

1 alarm2 alm_Day

Prop0 Cog6 ok

--- Display all setting

all

CurrentTime

Year: 2013

Date: NOV 5 TUE

Time: 20:29:14

Alarm1 setting

Date: 5

Time: 20:30:00

Alarm2 setting

Week: TUE

Time: 20:33

Prop0 Cog6 ok

INTA-pin goes to Low at 20:30 11/5 TUE

--- Check alarm1/alarm2 flag

chk_INT

Alarm1 Flag:1

Alarm2 Flag:0

Prop0 Cog6 ok

INTA-pin goes to Hi

--- Clear INT-flag for alarm1

alarm1 clr_INT

Alarm1 Flag:0

Alarm2 Flag:0

Prop0 Cog6 ok

INTA-pin goes to Low at 20:33 11/5 TUE

--- Check alarm1/alarm2 flag

chk_INT

Alarm1 Flag:0

Alarm2 Flag:1

Prop0 Cog6 ok

INTA-pin goes to Hi

--- Clear INT-flag for alarm2

alarm2 clr_INT

Alarm1 Flag:0

Alarm2 Flag:0

Prop0 Cog6 ok

--- Set INTCN because of using SQW/INTB-pin

1 set_INTCN

Prop0 Cog6 ok

--- Set alarm2 to Tue 20:36

2 20 36 set_alm2

Alarm2 setting

Week: TUE

Time: 20:36

Alarm1 Interrupt:Enabled

Alarm2 Interrupt:Enabled

Prop0 Cog6 ok

--- Set alarm2 to [No Day/Date]

1 alarm2 no_DY/DT

Prop0 Cog6 ok

--- Display all setting

all

CurrentTime

Year: 2013

Date: NOV 5 TUE

Time: 20:34:26

Alarm1 setting

Date: 5

Time: 20:30:00

Alarm2 setting

Time: 20:36

Prop0 Cog6 ok

SQW/INTB-pin goes to Low at 21:10

--- Check alarm1/alarm2 flag

chk_INT

Alarm1 Flag:0

Alarm2 Flag:1

Prop0 Cog6 ok

--- Clear INT-flag for alarm1

alarm2 clr_INT

Alarm1 Flag:0

Alarm2 Flag:0

Prop0 Cog6 ok

--- Back alarm2 to [Date]

0 alarm2 no_DY/DT

Prop0 Cog6 ok

all

CurrentTime

Year: 2013

Date: NOV 5 TUE

Time: 20:36:50

Alarm1 setting

Date: 5

Time: 20:30:00

Alarm2 setting

Week: TUE

Time: 20:36

Prop0 Cog6 ok

Set current/alarm1/alarm2 to 12Hour-mode

1 set_12H

CurrentTime

Year: 2013

Date: NOV 5 TUE

Time: PM 08:37:05

Alarm1 setting

Date: 5

Time: PM 08:30:00

Alarm2 setting

Week: TUE

Time: PM 08:36

Prop0 Cog6 ok

--- Set alarm1 to [Date]5 20:40:00

5 20 40 set_alm1

Alarm1 setting

Date: 5

Time: PM 08:40:00

Alarm1 Interrupt:Enabled

Alarm2 Interrupt:Enabled

Prop0 Cog6 ok

--- Display all setting

all

CurrentTime

Year: 2013

Date: NOV 5 TUE

Time: PM 08:38:06

Alarm1 setting

Date: 5

Time: PM 08:40:00

Alarm2 setting

Week: TUE

Time: PM 08:36

Prop0 Cog6 ok

INTA-pin goes to Low at 20:40

--- Check alarm1/alarm2 flag

chk_INT

Alarm1 Flag:1

Alarm2 Flag:0

Prop0 Cog6 ok

INTA-pin goes to Hi

--- Clear INT-flag for alarm1

alarm1 clr_INT

Alarm1 Flag:0

Alarm2 Flag:0

Prop0 Cog6 ok

--- Check INTCN

control DS1337 i2c_rd hex st? sc

ST: 0000_001F 0000_0000

2 items cleared

Prop0 Cog6 ok

--- Clear INTCN

0 set_INTCN

Prop0 Cog6 ok

control DS1337 i2c_rd st? sc

control DS1337 i2c_rd st? sc

ST: 0000_001B 0000_0000

2 items cleared

Prop0 Cog6 ok

--- output 8.192kHz from SQW/INTB-pin (default is 32.768kHz) ---

8kHz set_SQW

Prop0 Cog6 ok

--- output 4.096kHz from SQW/INTB-pin ---

4kHz set_SQW

Prop0 Cog6 ok

--- output 32.768kHz from SQW/INTB-pin ---

32kHz set_SQW

32kHz set_SQW

Prop0 Cog6 ok

--- output 1Hz from SQW/INTB-pin ---

1Hz set_SQW

Prop0 Cog6 ok

--- When osc stop, DS1337's clock stop ---

-- 1Hz blinking stop

0 osc_on/off

Prop0 Cog6 ok

--- Re-start DS1337's clock ---

-- 1Hz blinking re-start

1 osc_on/off

Prop0 Cog6 ok