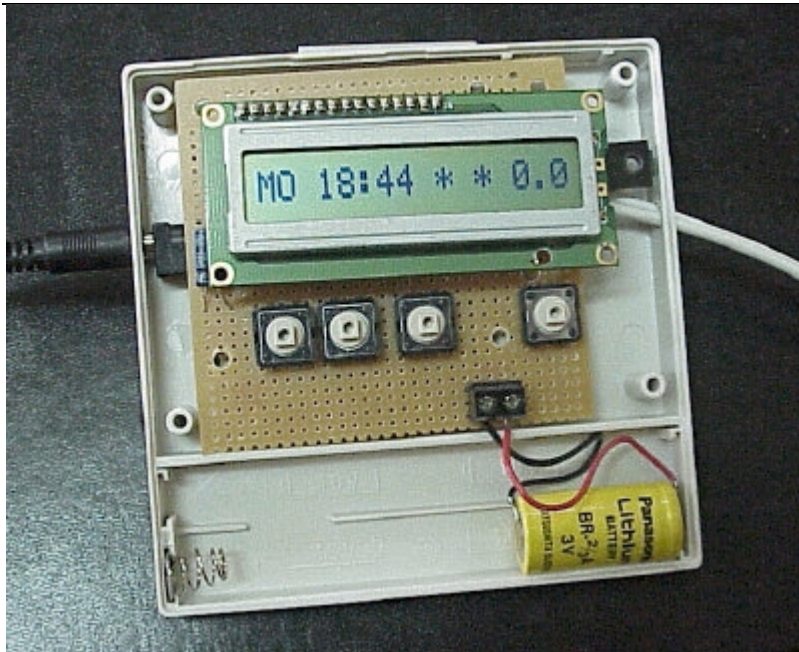
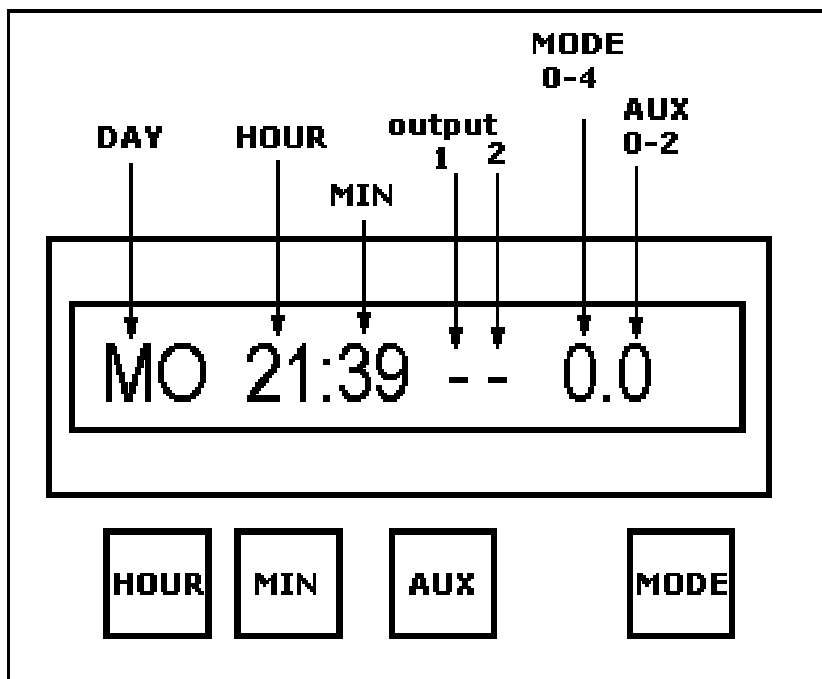


# Time Switch V1.0 Quick Start Guide



Functional of keypad:



**MODE:** to select MODE 0, 1, 2, 3 and 4

**MODE 0:** Set current time with HOUR and MIN keys.

**MODE 1:** Set current day from MON – SUN with HOUR key.

MODE 2: Manual set output ON/OFF with HOUR for OUTPUT1 and MIN for output2.  
MODE 3: program settings.  
MODE 4: Display program from 0-4 by key HOUR.

**AUX:** to be used with MODE 3 for scheduler programming. In MODE 0 it will reinitialize LCD.

**MIN:** to set minute in MODE 0 and MODE 3, to set output2 manually in MODE 2.

**HOUR:** to set hour in MODE 0 and MODE 3, set DAY in MODE 1, set output1 manually in MODE2, display scheduler in MODE 4.

### **Time setting:**

Select MODE 0, key HOUR and MIN when pressed will change HOUR value from 0-23 and MIN value from 00-59.

### **Day setting:**

Select MODE 1, key HOUR when pressed will change DAY from MON to SUN.

### **Output setting:**

Select MODE 2, key HOUR when pressed will toggle output 1 ON/OFF and key MIN for output 2.

### **Programming:**

The current version has only five programs from 0 to 4. Each program comprises of day, hour, min, and output. Suppose we want to have the scheduler as follows;

DAILY	18:50	output 1 = ON	output 2 = OFF
DAILY	22:00	output 1 = OFF	output 2 = OF

Above example may be for night light for everyday. Follow below steps to enter the program:

1. Select MODE 3,
2. Set HOUR and MIN to 18:50,
3. Press AUX to enter MODE 3.1,
4. Key HOUR now will use for day setting. Display will change from AA, MO, TU, WE, TH, FR, SA, SU, \_\_ ,

AA is for daily control, the output will be activated without checking day.  
\_\_ is end of program, the compare time will scan program until found \_\_.

5. Press AUX to enter MODE 3.2,
6. Now key HOUR and MIN will use to set output 1 and 2. The display shows '\*' for ON and '-' for OFF.
7. Press AUX to enter next program.
8. Repeat step 1

At the end of program, set DAY to \_\_.

To edit the program, select MODE 3 again and use AUX to change step to the step need to be edited.

### **Display Program:**

Select MODE 4, use key HOUR to display program from 0 to 4.

### **Specification:**

MCU: Motorola 68HC908QY4, 16-pin MCU with 4kB FLASH memory

Firmware: RTC.C compiled with ICC08

Oscillator: External X-TAL 4MHz

Output: 2-channel zero crossing opto-triac 600V 8A

Power dissipation: 50mW @ +5V, 10mW @ +3V battery backup

Updated firmware can be downloaded from [www.kmitl.ac.th/~kswichit/timeswitch/](http://www.kmitl.ac.th/~kswichit/timeswitch/)