

1. Feature List

Time / Date

- Two Time Zones (Main time and secondary time)
- Hour, Minute, Second display in 12H or 24H format
- Month, Date display in Month-Date or Date-Month format
- Day of Week peek display
- Automatic day of week calculation and leap year handing
- Optional Hourly chime and button beep

Timer

- Count Down Timer with settable time up to 23:59:59
- Settable repeat count function when timer count to zero, maximum repeat 99 times

Chronograph

- 1/100 second resolution chronograph up to 1 hour, one second resolution up to 99:59.59 hours
- Selectable Lap or Split display
- Laps/Split count (1 ~ 99)

Alarm

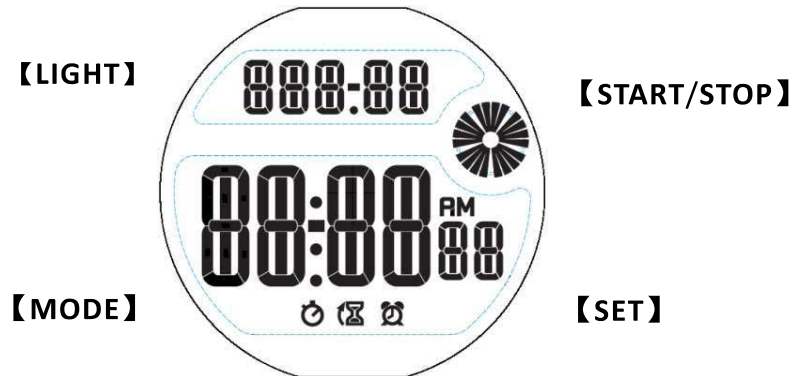
- Daily Alarm
- 5 minutes backup alert

Backlight

- 3 seconds EL backlight
- Night-Light function. When this function is enable, any key depression will active the backlight

2 · Display and Buttons description

The module full display and button description as below:



3. Module Reset flow (Power On, Hardware or Software Reset)

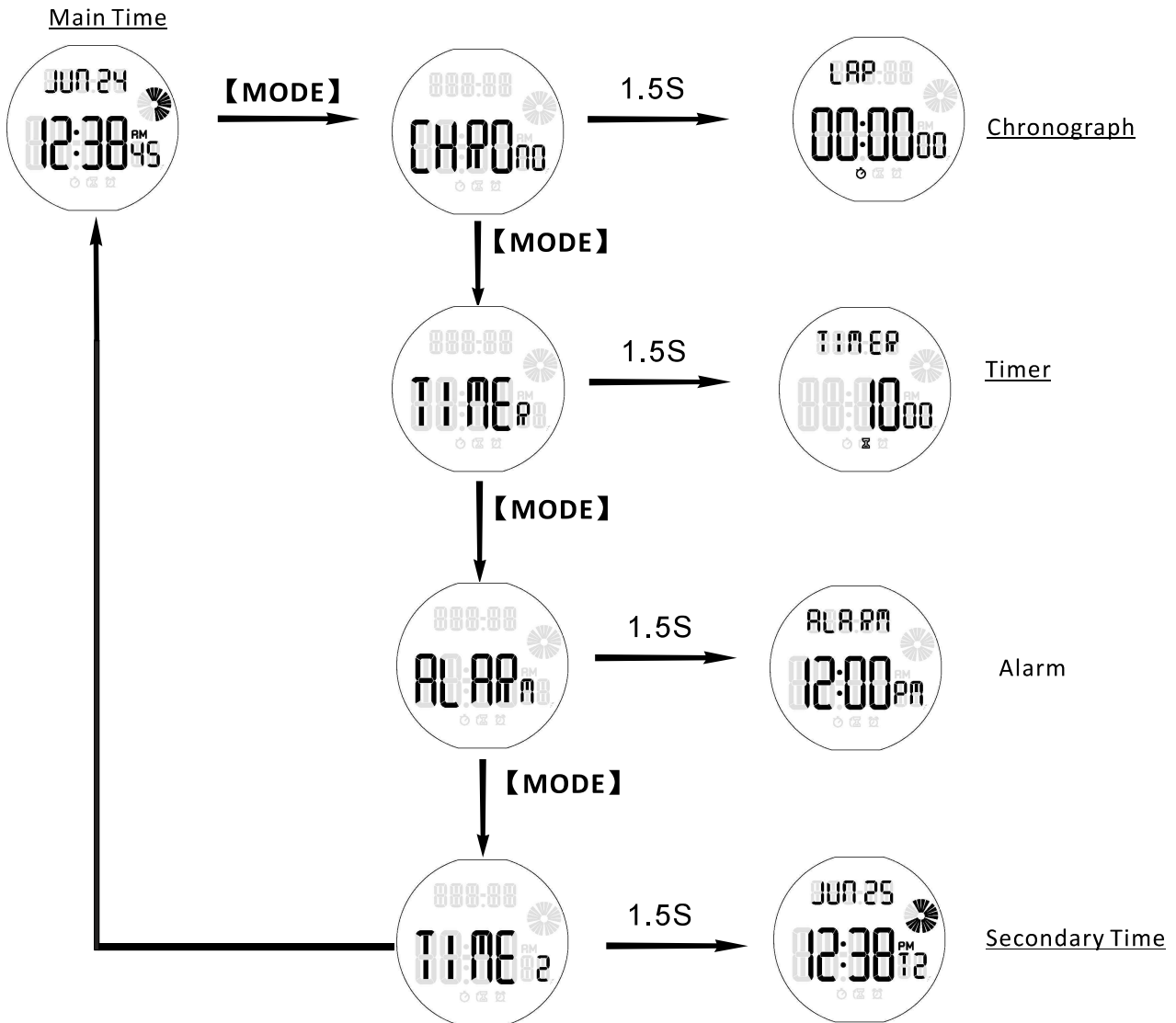
Actions on this module during reset as below:

Sound self-checking -> Full Display and turn on backlight for 2 seconds -> Software version display -> Normal Time display

Depress of buttons **【SET】** , **【MODE】** , **【START/STOP】** , **【LIGHT】** at the same time for 4 seconds, the module will reset, which called Software Reset

4. Mode Architecture

By depression of button **【MODE】** can select different function mode as below:



5. Operation in Time Mode



- Press button **【MODE】** change to Chronograph mode
- Press button **【START/STOP】** peek display Day of week, release this key will return to main time display
- Press button **【SET】** will enter Time set state, in Time set state, press button **【START/STOP】** will increase the setting value. Press button **【MODE】** continuously will change setting item as the sequence: Hour → Minute → Second → Month → Date → Year → Hour Format → Date Format → Hourly Chime → Button Beep
- Under Time setting state, press button **【SET】** or no any key input for 3 minutes will exit Time set

6. Operation in Chronograph mode



- If stay in Chronograph mode less than 3 seconds, press button **【MODE】** will change to next function mode Timer
- If stay in Chronograph mode over than 3 seconds, press button **【MODE】** will return to main Time display mode
- When chronograph is in Reset or Stopped state, press button **【START/STOP】**, Chronograph will start running immediately
- When chronograph is running, press button **【START/STOP】**, it will stopped
- When chronograph is running, press button **【SET】** will take current LAP or SPLIT time and display it still for 10 seconds, at the same time, chronograph is counting continue for a new Lap, after 10 seconds, it will changed to display new LAP or SPLIT information automatically
- During display LAP or SPLIT still, press button **【START/STOP】**, chronograph is stopped and change to display current new LAP or SPLIT information
- Under Chronograph Stopped state, press button **【SET】**, all chronograph information are clean which is called Reset.
- In Reset state, press button **【SET】** can select chronograph time display format as LAP or SPLIT

7. Operation in Timer mode



- If stay in Timer mode less than 3 seconds, press button **【MODE】** will change to next mode Alarm
- If stay in Timer mode over than 3 seconds, press button **【MODE】** will return to main Time display mode
- Under Timer Stopped or Reset state(Preset time is not zero), press button **【START/STOP】** Will start the Timer running immediately
- When Timer is running, press button **【START/STOP】** , Timer is stopped
- When Timer is stopped, press button **【SET】**, all Timer information are set to preset value, which is called Reset.
- Under Timer Reset state, press button **【SET】** will enter Timer set state, under this set state, Press button **【START】** will increase setting value, press button **【MODE】** continuously will change current set item as the sequence Hour → Minute → Second → Repeat action at end
- In Timer set state, press button **【SET】** or no any key input for 3 minutes will exit Set state

8. Operation in Alarm mode



(Alarm is Off)

or



(Alarm is On)

- If stay in Alarm mode and no any button action for 3 minutes, module will return to main Time display mode automatically.
- If stay in Alarm mode less than 3 seconds, press button **【MODE】** will change to Secondary Time display mode.
- If stay in Alarm mode over than 3 seconds, press button **【MODE】** will return to main Time display mode.
- Press button **【START/STOP】** will turn on or off Alarm.
- Press button **【SET】** will enter Alarm set state, under this state, press button **【START】** will increase setting value, press button **【MODE】** continuously will change set item as sequence as: Hour → Minute → AM/PM (No this item when Hour Format is set as 24H)
- In Alarm set state, press button **【SET】** or no any button action for 3 minute will exit set state

9. Operation in Secondary Time mode



- Press button **【MODE】** will change to main Time display mode
- Second data of this mode is the same with main Time
- Press button **【START/STOP】** will peek to display Day of week
- Press and hold button **【SET】** for 3 seconds will enter Set state, under this state, press button **【START/STOP】** will increase setting value, and press button **【MODE】** continuously will change set item as the sequence: Hour → Minute → Second → Month → Date → Year → Hour format → Date format
- In Set state, press button **【SET】** or no any button action for 3 minutes will exit set state

10. Specification

- | | |
|--------------------------------|--------------------------------|
| ➤ Module Size | φ 33.20 mm |
| ➤ Module Thickness | 8.50mm (Include Buzzer plate) |
| ➤ Working Temperature | -10°C~60°C |
| ➤ Working Voltage | 3.0V |
| ➤ Time Accuracy | +/-30 Seconds per month |
| ➤ Battery | CR2025 (170mAh) |
| ➤ Standby Current | 1.7uA |
| ➤ Alarm average Current | 8.58mA |
| ➤ EL backlight average Current | 9.33mA |
| ➤ Estimate Battery life (90%) | 24 months |

Noted: Conditions of battery life calculation:

- Turn on backlight 4 times per day and keep 3 seconds on time for each
- One time Alarm alert per day and alert time is 60 seconds
- Chronograph run one hour per day