

LIGHT (Button A) ———



———— (Button D) START/RCC

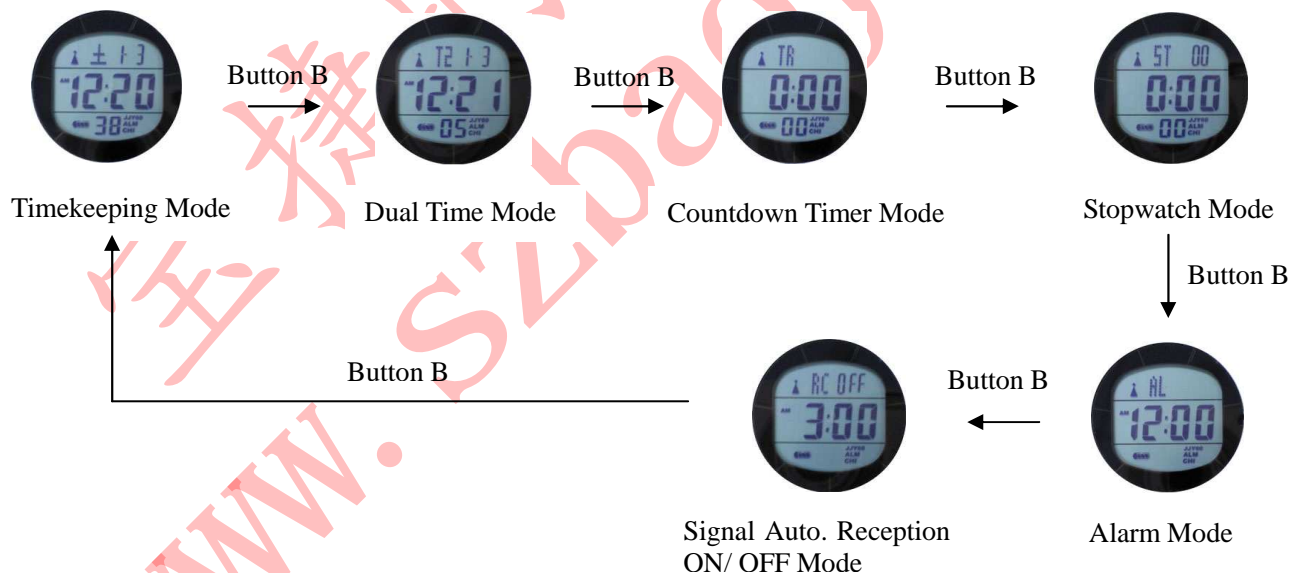
MODE (Button B) ———

———— (Button C) RESET/SET

## A . Features

- 12 digits LCD screen displays hour, minute, second, date, month, year(from year 2000 to year 2099) and day of the week..
- 12-hour / 24-hour format.
- Dual time.
- Countdown timer.
- Stopwatch.
- Alarm and Snooze.
- Automatically receive the signal & Manually receive the signal.
- Radio-controlled signal receiving. Japanese double-frequency 40/60KHz (JJY)
- EL backlight
- Solar-power auxiliary function for battery saving

## B . Product Functional Modes

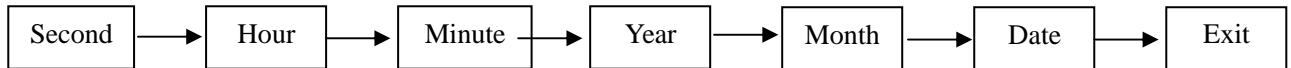


**1. In any mode, EL backlight illuminates for 3 seconds by pressing A button.**

### 2. Timekeeping

- In timekeeping mode, press C button to toggle the time format between 12-hour and 24-hour. It's 12-hour format if indicator of 'AM' or 'PM' displays of the screen. Press D to view the year, then press D again to return to Timekeeping Mode in 5 seconds.

- **Time setting**
- In Timekeeping Mode, hold down C button until ‘Second’ digit starts to flash, which indicates setting screen.
- Press C button to select other setting items (flash) in sequence as below:



- Press D button to adjust the setting values.
- Press B to exit setting screen.
- The day of the week will automatically adjust once the date, month and year are set well.
- The watch will automatically return to Timekeeping Mode if you do not perform any button within 30 seconds.

### 3. Dual time

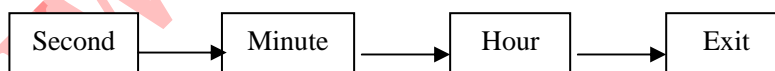
- In the Dual Time Mode, hold down C button for 2 seconds, ‘Hour’ digit starts to flash, which indicates setting screen. Press D to adjust the setting value.(In dual time, ‘second’ cannot be set but ‘hour’ and ‘minute’ can be set.), press B to exit from setting mode.

### 4. Countdown timer

- The countdown time can be set in the range of 23 hours, 59 minutes, 59 seconds. Alarm tone will sound for 20 seconds when countdown time is reached to zero. To stop the alarm tone after it starts to sound, please press any button. The countdown time will automatically back to the initial setting time.
- In Countdown Timer Mode, press D to start / pause counting down.
- In countdown time paused state, press C button to cancel countdown time, and return to the original setting value.
- If you don’t stop the countdown time, when countdown time is reached, alarm tone will beep for 20 seconds. To stop the alarm tone after it starts to sound, you can press B, C, or D button. After stop, countdown time will automatically return to the original setting value.
- When countdown time set to be 00: 00: 00, the watch will start counting down from 23 hours, 59 minutes, 59 seconds by pressing D button.

#### ➤ Countdown time setting

1. In Countdown Timer Mode, hold down C button for 2 seconds, ‘Second’ digit starts to flash, which indicates the Countdown Time setting time.
2. Press C button to select other setting items (flash) in sequence as below:



3. Press D button to adjust the setting values.
4. If you would like to set the countdown starting time to be 24 hours, please set it to be 0:00.
5. Press B to exit setting screen.
6. The watch will automatically return to Timekeeping Mode if you do not perform any button within 30 seconds.

## 5. Stopwatch

- The display range of stopwatch is 23 hours, 59 minutes, 59 seconds.
- To measure times with stopwatch: In stopwatch mode, press D button once to start counting, press D button once again to stop counting. Seconds reset to zero by pressing C button when stopwatch is stopped.
- o measure times with SPL(split time):In Stopwatch Mode, press D button to start counting , press C button to enter split time, then press C or B button again to exit from split time. When enter split time or exit split time, you can res D to stop counting and display the total time. Seconds resets to zero by pressing C.
- The stopwatch will count all the time if you don't stop it. It will restart to count from "0" when reaches its maximum limit.
- In Stopwatch Mode, when stopwatch is counting, pressed B to exit from Stopwatch Mode, but it will continue to work at the background.

## 6. Alarm mode

### To turn on / off Alarm & Hourly Time Signal

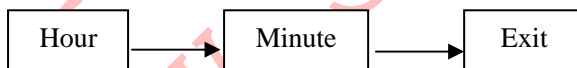
- In the Alarm Mode, press D button to turn on / off Alarm and Hourly Time Signal.
- Alarm indicator ( ALM ) displays on the screen when alarm is turned on.
- Hourly time signal indicator ( CHI ) displays on the screen when hourly time signal is turned on.
- When alarm time is reached, alarm tone will beep for 30 seconds. To stop the alarm tone after it starts to sound, you can press B, C, or D button.

### Snooze

- When alarm tone sounds, you can press B, C, or D button to stop it, meanwhile, Snooze function will automatically turn on, and alarm tone will sound for 30 seconds in 5 minute. Snooze function will automatically release if you do not press B, C or D button during alarm tone sounds within 30 seconds.

### Alarm time setting

- In Alarm Mode, hold down C button for 2 seconds, 'Hour' digit starts to flash, which indicates setting screen.
- Press C button to select other setting items (flash) in sequence as below:



- Press D button to adjust the setting values.
- Press B to exit setting screen.
- The watch will automatically return to the Timekeeping Mode if you do not perform any button within 30 seconds.

## 7. To receive RCC automatically

- In Auto. Reception Mode, press D to turn on Auto. Reception. Then press D again to turn off Auto. Reception. and enter into power saving mode.

## 8. To receive RCC manually

- In Timekeeping Mode, indicator of '40KHz' displays on the screen, hold down D button for 3 seconds to receive time signal manually, at this time, 40KHz is picked up by the watch. But if the watch cannot pick up the signal of 40KHz within 5 minutes, it will automatically try the another signal of 60 KHz., in the meantime, indicator of '60KHz' displays on the screen, the watch continues picking up the signal of 60KHz. But if the signal still cannot be picked up within another 5 minutes, the watch will stop receiving the signal
- In above mentioned, if the watch needn't to wait for picking up the another signal, in the state of the watch picks up the first signal (40KHz or 60KHz), press B , C or D once to stop receiving, then hold down D for 3 seconds to pick up the another (second) signal.
- After entering in the state of signal reception, receiving indicator (▲) starts to flash on the screen. Signal strength indicator (▲) appears if signal reception is successful. Receiving indicator and signal strength indicator remain on the screen once decode is successful. If signal reception fails in the second time, the signal strength indicator will not display on the screen but receiving indicator display.

## 9. Signal reception indicator




No signal (receiving indicator flashes)	▲
Signal is too weak (receiving indicator flashes)	▲
Signal is a little weak (receiving indicator flashes)	▲
Signal is good (receiving indicator flashes)	▲
Signal reception is successful(receiving indicator not flash )	▲ (▲) (▲)
Signal reception is unsuccessful(receiving indicator not flash )	▲




## C. Notes for Signal Reception

1. If Auto. Reception is turned on, the default time to receive the time signal is 3:00 a.m.
2. In the state of Auto. Reception is turned on, , the watch will automatically receive signal every 24 hours, which is used for calibrating the time.
3. Time calibration signal reception takes five or ten minutes, if signal reception is unsuccessful within 10 minutes, the watch will automatically stop receiving.
4. To make sure better signal, we advise to place your watch near the window when receiving.
5. In order to save the battery power and prolong the battery life, please turn off auto reception when the watch does not need the signal to calibrate the time.

## D. Instruction of Solar Cell

- This watch is equipped with a solar cell, which can convert light energy into electricity, and then save the generated electricity into the rechargeable battery. Generally, the regular battery replacement is not required. However, after very long use, the rechargeable battery may lose its ability to achieve a full charge. If you found the rechargeable battery cannot be recharged fully, you can replace it with the type of ML2032. After replacing it, all data in the watch will be deleted.
- Battery power indicator can show you the status of the rechargeable battery's power

Level	Battery Power Indicator	Function Status
1		All functions enabled
2		EL backlight without delay function. Alarm, Hourly time signal, and button tone disabled.
3		The watch keeps timing, enter into power saving state after LCD screen displays for 15 seconds.
4	No battery power	All functions disabled.

- Once the battery reaches Level 1 (  ), all functions enabled.
- The battery power at Level 2 (  ) tells you that battery power is low, and EL backlight without delay function. Alarm, Hourly time signal, and button tone disabled.
- The flashing indicator at Level 3 (  ) tells you that battery power is very low, the watch will enter into power saving (sleeping) state after display indicator flashes for 30 seconds. Display indicator reappears and flashes on the screen by pressing any button, which means you need to leave the watch in bright light to allow it to charge as soon as possible.
- At Level 4 ( No battery power ), all functions disabled. Once charge fully, all functions will recover. But all data those saved in the watch will be deleted. Therefore, reconfigure the current time and date once the battery is charged from Level 4 to Level 2.

**Note:** Leaving the watch exposed to direct sunlight or some other very strong light source can cause the battery power indicator to show a reading temporarily that is higher than the actual battery level. Press 'LIGHT' button once to display the correct battery level. However, please avoid pressing 'LIGHT' button frequently during a short period as that will cause the battery over-consumption.

## E . Charging Time

- About the battery charging time, please see below table.
- The battery daily operating conditions: In the situation of the watch not exposed to light, the watch receives the signal once time for 10 minutes. Alarm operation once time for 30 seconds. EL backlight twice for 6 seconds.

**Table 1: When the surface transparency is 100%.**

Brightness	2500LUX (Charge the battery in the distance of 20cm under 13W fluorescent lighting )	5000LUX (Sunlight through a window )	10000LUX (Outdoor sunlight on a cloudy day)	50000LUX (Outdoor sunlight on a sunny day)
Approximate exposed time for one day's operating	1.9 hours	56 minutes	28 minutes	6 minutes
Approximate exposed time when the battery power is half	151 hours	73 hours	37 hour	7.5 hours
Approximate exposed time when the battery power is exhausted	302 hours	146 hours	74 hours	15 hours

**Table 1: When the surface transparency is 70%**

Brightness	2500LUX (Charge the battery in the distance of 20cm under 13W fluorescent lighting )	5000LUX (Sunlight through a window )	10000LUX (Outdoor sunlight on a cloudy day)	50000LUX (Outdoor sunlight on a sunny day)
Approximate exposed time for one day's operating	3 hours	1.52 hours	40 minutes	9 minutes
Approximate exposed time when the battery power is half	235 hours	119.5 hours	52.5 hours	11.8 hours
Approximate exposed time when the battery power is exhausted	470 hours	239 hours	105 hours	23.5 hours

## F. Charging Precautions

- Certain charging conditions can cause the watch to become very hot. Avoid leaving the watch in the areas described below whenever charging its rechargeable battery.
  - On the dashboard of a car parked in direct sunlight.
  - Too close to an incandescent lamp.
- Please note that allowing the watch to become very hot can cause its liquid crystal display to black out. The appearance of the LCD should become normal again when the watch returns to a lower temperature.
- Leaving the watch in bright light to charge its rechargeable battery can cause it to become quite hot. Please take care when handling the watch to avoid burn injury.

## G. (Solar) Power Saving Function

1. Put the watch under the indoor sunlight with the brightness of 100Lux to 300Lux, the power of the battery can be saved 50% to 90.
2. The battery almost needn't consume any power if the brightness is more than 300 Lux.

### Important tips:

The rechargeable battery will goes exhausted if leave it in the area where without sunlight or it covered by clothing when put on it. Be sure it can be exposed under sunlight whenever possible.

1. After charge fully, the watch can operate in dark environment for 4 months.
2. After leaving the watch in dark environment for 4 months, please charge fully the battery and reconfigure the time before using it.

## H. Specifications

- Module dimension :  $\Phi 33.2\text{mm}$
- Module thickness(with buzzer) : 10.15mm
- Working temperature range :  $-10^{\circ}\text{C}\sim+60^{\circ}\text{C}$
- Working voltage : 3.0V
- Battery code and capacity : ML2016 (Capacity: 25m Ah)
- Time accuracy :  $\pm 30\text{ sec/month}$
- Static average current :  $\leq 5.11\mu\text{A}$  (Static maximum current: 6.5  $\mu\text{A}$ )
- Alarm average current :  $\leq 1.0\text{mA}$  (Alarm maximum current: 5.0 mA)
- Alarm average current :  $\leq 6.16\text{mA}$  (Maximum current of EL backlight: 10mA)
- Average current of EL backlight :  $\leq 72\mu\text{A}$  (Maximum current of RCC reception: 90.0  $\mu\text{A}$ )
- Average current of RCC reception :  $\leq 48\text{dbuv/m}$
- Sensitivity of RCC reception(only movement) :  $\geq 300\text{ times}$
- Battery life (repeatedly charge) : 4 months
- Battery life when charge fully (in dark environment) :  $\geq 24\text{ months}$  (Japan battery)

According these standards to calculate battery life: EL backlight illuminates 2 times (6 seconds) per day. Alarm tone sounds once (30 seconds) per day. RCC reception once (10minutes) per day.

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