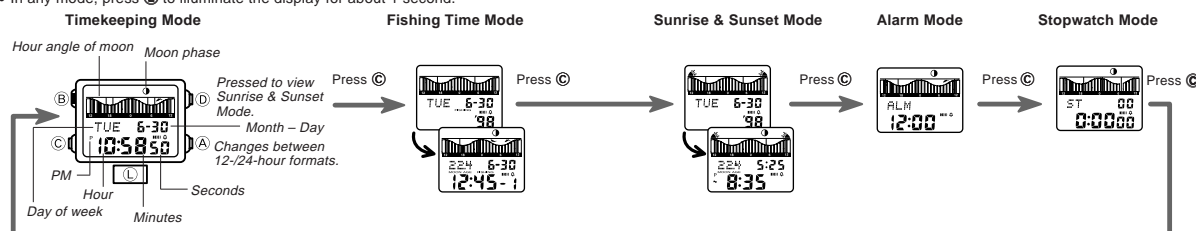


- If the contents of the display seem to be continually changing, see "AUTO DISPLAY FUNCTION" for information on how to stop it.
- Press **C** to change from mode to mode.
- In any mode, press **L** to illuminate the display for about 1 second.



About the backlight
In any mode, press **Q** to illuminate the display for about 1 second.

- The backlight of the watch employs an electro-luminescent (EL) light, which loses illuminating power after very long use.
- The illumination provided by the backlight may be hard to see when viewed under direct sunlight.
- The watch will emit an audible sound whenever the display is illuminated. This is caused by a transistor that vibrates when the EL panel lights up. It does not indicate malfunction of the watch.
- The backlight automatically turns off whenever an alarm sounds.

1) Press **(B)** in the Timekeeping Mode to set correct time.

2) Press **(A)** with a time tone to correct seconds.

3) Press **(C)** to shift flashing digit(s).

Digit(s) to be changed will flash.

The diagram shows a digital watch face with four labels: (B) at the top left, (D) at the top right, (C) at the bottom left, and (A) at the bottom right. The display shows a battery level bar at the top, the time 10:58, and the date 10/5. Below the watch face is a flowchart showing the unit selection cycle: Seconds → Hour → Minutes → Year → Month → Day → Day of week → back to Seconds.

4) Each press of **(A)** increases digit by one.
Hold down for rapid advance.

5) Press **(B)** twice to complete setting.

Note: If you use any other mode within 30 seconds while the calculation is carried out, your new entries may fail to be inputted.
(This operation, however, should never damage your watch.)

Press **D**

180°E 0°E 179°W

Press **A**

Press **D**

65°N 0°N 65°S

Press **A**

- 1) Press **B** twice in the Timekeeping Mode to set new location data.
- 2) Press **A** to advance hour.*
- 3) Press **C** to set longitude.
- 4) Press **C** to set latitude.
- 5) Press **B** to complete.

*Hold down for a few seconds for rapid advance.

The display automatically returns to the Timekeeping Mode, if left unused for a few minutes.

Note: If you use any other mode within 30 seconds while the calculation is carried out, your new entries may fail to be inputted.

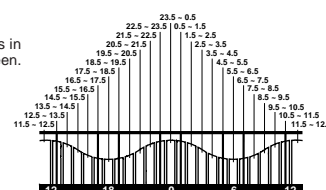
Moon Age

Moon Age									
Moon Phase	New Moon (0.0)		First Quarter (7.4)		Full Moon (14.8)		Last Quarter (22.1)		New Moon (29.5)
Moon age	0.0	1.9	5.6	9.3	13.0	16.7	20.3	24.0	27.7
	\sim	\sim	\sim	\sim	\sim	\sim	\sim	\sim	\sim
	1.8	5.5	9.2	12.9	16.6	20.2	23.9	27.6	29.5



Moon Age
Time elapsed in days from the new moon is called the moon age.

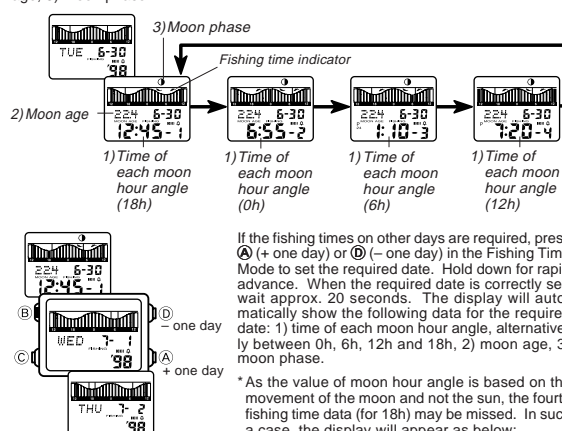
The hour angle of moon tells in what direction the moon is seen.



In the example at left, the moon has passed the meridian. If you look above the moon near the equator, the moon is seen at west. In Northern hemisphere the moon is seen at west from the south. In Southern hemisphere, the moon is seen at west from the north.

Press **C** to get to the Fishing Time Mode from Timekeeping Mode. Wait a few seconds and the display automatically starts to show the following:

- 1) Time of each moon hour angle, alternatively between 0h, 6h, 12h and 18h, 2) Moon age, 3) Moon phase.



If the fishing times on other days are required, press **A** (+ one day) or **D** (- one day) in the Fishing Time Mode to set the required date. Hold down for rapid advance. When the required date is correctly set, wait approx. 20 seconds. The display will automatically show the following data for the required date: 1) time of each moon hour angle, alternatively between 0h, 6h, 12h and 18h, 2) moon age, 3) moon phase.

* As the value of moon hour angle is based on the movement of the moon and not the sun, the fourth fishing time data (for 18h) may be missed. In such a case, the display will appear as below:



Note: Fishing time is indicated by 5 minutes unit.

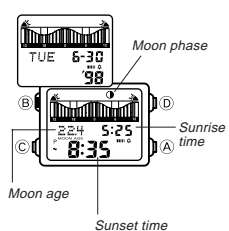
It is well known from the long experience of fishermen that movement of the moon and tides affect fish. In the United States there exist many fishing time theories based on the movement of the moon.

Data displayed is astronomical information on the moon.
Take the challenge to fish using this data.

Relationship between hour angles of moon, moon age and fish marks

Hour angles of moon	0h or 12h	6h or 18h	Hour angles of moon is other than 0h, 6h, 12 and 18h.
Moon phases			
New moon			
Full moon			
First quarter			
Last quarter			
Others			No indication

USING SUNRISE & SUNSET MODE



A few seconds after pressing **C** twice in the Time-keeping Mode, the display will move to the Sunrise & Sunset Mode. The display shows sunrise time, moon age, and moon phase for the date indicated in the time mode. When sunrise, sunset, and moon age data for other dates is required, press **A** or **D** in this mode to obtain the required date. Hold down for rapid advance. When required date has been set, the display will show sunrise, sunset, and moon age data for this date after approx. 20 seconds.

Precaution for Sunrise & Sunset Mode

- The sunrise or sunset time is that of the surface at 0 meter sea level. (So, it is not able that the sunrise or sunset time displayed may include an error depending on where you are.)

- Minimum display unit is: approx. ± 5 minutes where is at less than 50° in latitude and approx. ± 10 minutes at 50° or more in latitude.
- Sunrise & sunset time is indicated by 5 minutes unit.

AUTO DISPLAY FUNCTION

The Auto Display function of this watch continually changes the contents of the display. Note that you cannot use any of the watch's other functions while the Auto Display function is operating.

To turn the Auto Display on

Hold down **C** for about two or three seconds in any mode until the watch beeps.

To turn the Auto Display off

Hold down **C** for about two or three seconds until the watch beeps. At this time the watch is in the Timekeeping Mode.

Note

The Auto Display function cannot be performed while you are making settings (i.e. while digits or other setting are flashing on the display).

USING DAILY ALARM



The alarm beeper will sound for 20 seconds everyday the preset time until cleared when daily alarm is set. Press any button to stop beeper.

A signal will sound every hour on the hour if time signal is set.

Sound demonstration

Press and hold **A** in Alarm Mode to sound beeper.

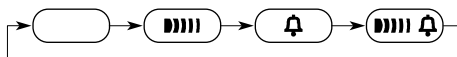
- Press **B** in the Alarm Mode to set new alarm time.
- Each press of **C** shifts the flashing position.
- Pressing **A** increase digit by one. Hold down for rapid advance.
- Press **B** to complete.

Display automatically returns to initial Alarm Mode display if left unused for a few minutes.

Hour ← Minutes

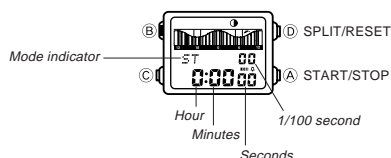
On or off setting of alarm and time signal

In the Alarm Mode, each push of **D** button will change alarm ON/OFF as follows.



||||| appears when alarm is ON.
 ♪ appears when time signal is ON.

USING STOPWATCH



A signal confirms each button operation.

Working range

Total elapsed time display is limited to 23 hours 59 minutes 59.99 seconds. Thereafter it will be automatically reset and started again.

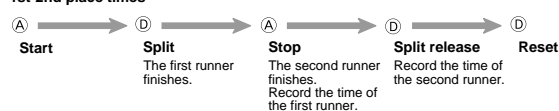
Net time measurement



Split time measurement



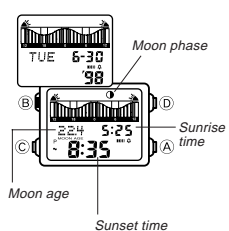
1st-2nd place times



Tips...

- Various moon time information for a specification can be calculated by inputting of longitude, latitude and time difference from GMT. Therefore correct entries are necessary. For world time zones, see the time zone chart booklet attached.
- When summer time adjustment is made, don't forget to adjust time difference from GMT.
- When location is changed, new location data should be inputted to get correct moon time information.
- When the watch shows wrong moon time information compared with actual observed values, or estimated values by public authorities, check entries in the following order: year setting, time difference from GMT, LONGITUDE, LATITUDE, EAST OR WEST, NORTH OR SOUTH.

USING SUNRISE & SUNSET MODE



A few seconds after pressing **C** twice in the Time-keeping Mode, the display will move to the Sunrise & Sunset Mode. The display shows sunrise time, moon age, and moon phase for the date indicated in the time mode. When sunrise, sunset, and moon age data for other dates is required, press **A** or **D** in this mode to obtain the required date. Hold down for rapid advance. When required date has been set, the display will show sunrise, sunset, and moon age data for this date after approx. 20 seconds.

Precaution for Sunrise & Sunset Mode

- The sunrise or sunset time is that of the surface at 0 meter sea level. (So, it is not able that the sunrise or sunset time displayed may include an error depending on where you are.)

- Minimum display unit is: approx. ± 5 minutes where is at less than 50° in latitude and approx. ± 10 minutes at 50° or more in latitude.
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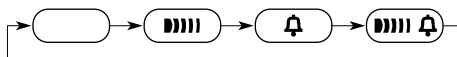
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- Each press of **C** shifts the flashing position.
- Pressing **A** increase digit by one. Hold down for rapid advance.
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Hour ← Minutes

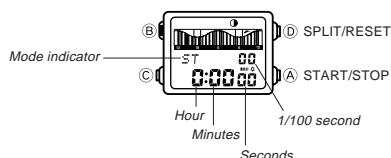
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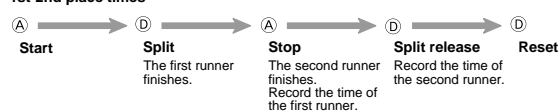
Net time measurement



Split time measurement



1st-2nd place times



Tips...

- Various moon time information for a specification can be calculated by inputting of longitude, latitude and time difference from GMT. Therefore correct entries are necessary. For world time zones, see the time zone chart booklet attached.
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