

# CITIZEN QUARTZ ANALOG DUAL TIME

Model No. AB4XXX/Cal.No.3111

- INSTRUCTION MANUAL
- BETRIEBSANLEITUNG
- MANUEL D'INSTRUCTIONS
- MANUAL DE INSTRUCCIONES
- MANUAL DE INSTRUÇÕES
- MANUALE DI FUNZIONAMENTO
- 取扱説明書

CTZ-B8052

## CONTENTS

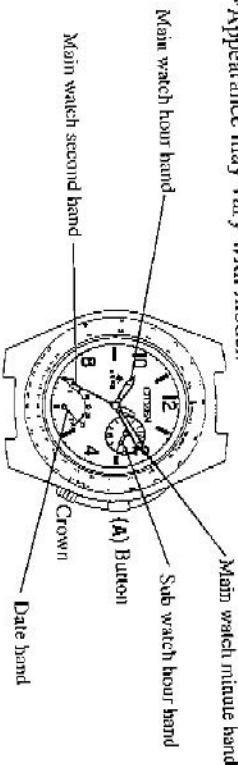
- 1. General ..... 3
- 2. Structure ..... 3
- 3. Adjusting the main watch ..... 4
- 4. Adjusting the date ..... 5
- 5. Adjusting the sub-watch ..... 6
- 6. Using the Register Ring ..... 10
- 7. Precautions ..... 16
- 8. Specifications ..... 23

## 1. General

You can adjust the time in units of hour by one-touch button operation without stopping the watch.

## 2. Structure

\* Appearance may vary with model.



\*The sub-watch is synchronous with the main watch.  
 \*The day hand indicates the date of the main watch.

### 3. Adjusting the main watch

- (1) When the second hand is at 0 second, pull the crown out to the position where you can adjust the time.
- (2) Turn the crown to adjust the main watch.
- It is at 0:00 am when the date increments. Don't mistake am for pm when adjusting the time.
- To adjust the time more accurately, it will be convenient to advance the minute hand 4-5 minutes ahead of the right value and turn it back.
- (3) After adjusting the time in reference to a time signal, return the crown in the normal position.



Time correction position

4

### 5. Adjusting the sub-watch (correcting time difference)

- \*You can adjust the time in units of hour in reference to the main watch.
- (1) Press the (A)-button once and the hour hand of the sub-watch goes back by an hour (counterclockwise).  
Press the (A)-button as many times as needed to correct time difference in reference to the main watch.



(A) Button

6

### 4. Adjusting the date

- \*The day hand indicates the date of the main watch.
- (1) Pull the crown out to the position where you can adjust the date.
  - (2) Turn the crown to adjust the date.
  - Turning the crown once to the left will increment the date value. Turning it to the right does not work.
  - The date varies in a period of 31 days. When the month ends at the 30th or earlier, you have to adjust the date at the first of the next month manually.
  - Don't adjust the date in between 7:00 pm and 1:00 am because the date might not increment on the next day. Move the hand and adjust the date, avoiding that time zone. After adjustment, adjust the main watch again.



Date setting position

5

2/4

- (Example) To adjust the sub-watch to the time at London when the main watch reads 10:10 am at Tokyo.
- The time difference between Tokyo and London is -9 hours. When it is 10:10 am at Tokyo, the time at London is 1:10 am. To correct the time difference:
- (2) Press the (A)-button nine times to move the hour hand of the sub-watch 9 hours back to 1 o'clock.

7

<Time differences of main locations based on UTC>

City name	Time difference	Daylight savings time	City name	Time difference	Daylight savings time
Universal time (varial)	± 0	—	Tokyo	+9	X
London	± 0	○	Sydney	+10	○
Paris	+1	○	Mourna	+11	X
Rome	+1	○	Auckland	+12	○
Cairo	+2	○	Honolulu	-10	X
Istanbul	+2	○	Anchorage	-9	○
Moscow	+3	○	Los Angeles	-8	○
Kuwait	+3	X	Denver	-7	○
Dubai	+4	X	Chicago	-6	○
Karachi	+5	X	Mexico City	-6	X
Dacca	+6	X	New York	-5	○
Bangkok	+7	X	Montreal	-5	○
Singapore	+8	X	Caracas	-4	X
Hong Kong	+8	X	Rio de Janeiro	-3	○
Beijing	+8	X	Buenos Aires	-3	X

\* Cities (regions) in which daylight savings time is used are indicated with a ○, while those in which it is not are indicated with an X.  
 \* The time difference and use of daylight savings time of each city are subject to change by the particular country.

3/4

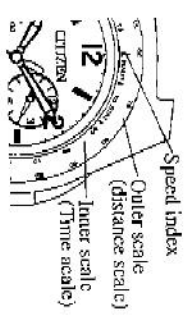
8

**6. Using the Register Ring**

The bezel design may vary depending on the model.

[Calculation function]

Note the following points when using this function. Use the calculation function of this watch only as a guide. These scales do not indicate the position of the decimal point.



**A. Navigational calculation**

**1) Time required**

**Example:** Obtain the time required for the flight of an aircraft at 180 knots for 450 nautical miles.

**Answer:** Align "18" on the outer scale with the SPEED INDEX (▲) on the inner scale. Then, "45" on the outer scale corresponds to "2:30" on the inner scale (time scale). Thus, the time required for the flight is 2 hours and 30 minutes.

**2) Knots (air speed)**

**Example:** Obtain the knots (air speed) for 240 nautical miles with a flight time of 1 hour and 20 minutes.

**Answer:**

Align "24" on the outer scale with "1:20" on the inner scale (time scale). Then, the SPEED INDEX (▲) on the inner scale corresponds to "18" on the outer scale. Thus, the air speed for the flight is 180 knots.

**3) Flight distance**

**Example:** Obtain the air distance when the air speed is 210 knots and the flight time is 40 minutes.

**Answer:** Align "21" on the outer scale with the SPEED INDEX (▲) on the inner scale; then, "40" on the inner scale corresponds to "14" on the outer scale. Thus, the air distance of the flight is 140 nautical miles.

**4) Rate of fuel consumption**

**Example:** Obtain the rate of fuel consumption (gallons / hour) when the flight time is 30 minutes and the fuel consumption is 120 gallons.

**Answer:** Align "12" on the outer scale with "30" on the inner scale. Then, the SPEED INDEX (▲) on the inner scale corresponds to "24" on the outer scale. Thus, the fuel consumption is 240 gallons per hour.

**5) Fuel consumption**

**Example:** Obtain the fuel consumption required for a flight when the rate of fuel consumption is 250 gallons per hour and the flight time is 6 hours.

**Answer:** Align "25" on the outer scale with the SPEED INDEX (▲) on the inner scale. Then, "6:00" on the inner scale (time scale) corresponds to "15" on the outer scale. Thus, the fuel consumption is 1,500 gallons.

**6) Estimated flight time**

**Example:** Obtain the estimated flight time when the rate of fuel consumption is 220 gallons per hour and the aircraft has 550 gallons of fuel.

**Answer:** Align "22" on the outer scale with the SPEED INDEX (▲) on the inner scale. Then, "55" on the outer scale corresponds to "2:30" on the inner scale (time scale). Thus, the estimated flight time is 2 hours and 30 minutes.

**7) Difference in altitude**

The difference in altitude can be obtained from the rate of descent and the descent time.

**Example:** Obtain the difference in altitude when an aircraft continues descending for 23 minutes at a rate of 250 feet per minute.

**Answer:** Align "25" on the outer scale with "10" on the inner scale. Then, "23" on the inner scale corresponds to "57.5" on the outer scale. Thus, the difference in altitude is 5,750 feet.

12

**8) Rate of climb (or descent)**

The rate of climb (or descent) can be obtained from the time required to reach an altitude.

**Example:** Obtain the rate of climb when an aircraft reaches an altitude of 7,500 feet after climbing for 16 minutes.

**Answer:** Align "75" on the outer scale with "16" on the inner scale. Then, "10" on the inner scale corresponds to "47" on the outer scale. Thus, the rate of climb is 470 per minute.

**9) Time of climb (or descent)**

The time required for climb can be obtained from the altitude to be reached and the rate of climb (or descent).

**Example:** Obtain the time of climb when an aircraft is to climb to 6,300 feet at a rate of 550 feet per minute.

**Answer:** Align "55" on the outer scale with "10" on the inner scale. Then, "63" on the outer scale corresponds to "11.5" on the inner scale. Thus, the time of climb is 11 minutes and 30 seconds.

**10) Conversion**

**Example:** Convert 30 statute miles into nautical miles and kilometers.

**Operation:** Align "30" on the outer scale with STAT (▲) on the inner scale. Then, NAUT (▲) on the inner scale corresponds to "26" nautical miles on the outer scale, and "12 km" (s) on the inner scale corresponds to "48.2" km on the outer scale.

13

4/4

**B. General Calculation Functions**

**1) Multiplication**

**Example:**  $20 \times 15$

**Operation:** Align "20" on the outer scale with "10" on the inner scale. Then, "15" on the inner scale corresponds to "30" on the outer scale. Take into account the position of the decimal point and add one zero to obtain 300. Note that with the scales of this watch, the position of the decimal point cannot be obtained.

**2) Division**

**Example:**  $250 / 20$

**Operation:** Align "25" on the outer scale with "20" on the inner scale. Then, "10" on the inner scale corresponds to "12.5" on the outer scale. Take into account the position of the decimal point to obtain 12.5.

**3) Proportion**

**Example:**  $30/20 = 60/x$

**Operation:** Align "30" on the outer scale with "20" on the inner scale. Then, "60" on the outer scale corresponds to "40" on the inner scale. At this point, the proportion for every value on the inner and outer scales is 30:20.

14

**4) Square root**

**Example:** Square root of 225

**Operation:** Turn the outer scale slowly and find a value that corresponds to both "22.5" on the outer scale and "10" on the inner scale. In this example, "22.5" on the outer scale corresponds to "15" on the inner scale, and "10" on the inner scale corresponds to "15" on the outer scale. Thus, the answer is 15.

15