

***TECHNICAL
INFORMATION***

CITIZEN QUARTZ

Cal. No. 22※※※

 **CITIZEN**

■ 1. OUTLINE



This is a high-grade quartz crystal watch (with no center second hand) for ladies, attaining a miniature and thin-gage movement with use of the world first miniature-size power cell.

The concept of this new caliber is based on the precedent Cal. No. 1500 featuring the world smallest capacity of movement.

And a lifetime of about three years is attained for just a miniature power cell thanks to the highly effective use of the current consumption in the circuits and a converter.

Furthermore the location of the setting stem is drifted toward the dial in order to realize a thin-gage appearance structure.

■ 2. FEATURES

- 1) High-grade quartz crystal watch (with no center second hand) for ladies

Owing to the adaption of a small-size movement, more variety of designs is possible for the watch.

Size of movement:	Short dia.	9.0mm	
	Long dia.	13.2mm	
	Move dia.	13.5mm ϕ	(Maximum dia. 14mm ϕ)
	Thickness	1.87mm	(Power cell part 1.9mm)

- 2) DFC (Digital Frequency Control) by nonvolatile memory system

For the ordinary DFC, four to five control terminals are patterned to a substrate and the frequency is set in the blanking process.

With this caliber, however, a writing is carried out to constitute an electrical memory within an IC and then the oscillation frequency of quartz crystal is adjusted.

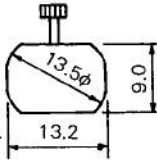
The control terminal for market use is excluded from this caliber since a thorough adjustment is already given to the time rate in the process of production at a factory.

- 3) 20-second step movement of minute hand

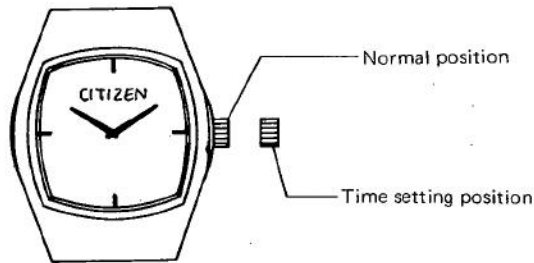
The minute hand advances with every 20 seconds. When measuring the time rate, the "MEASURE TIME" must be set at "10 SEC" since the signal of measurement is applied with every 10 seconds.

(The minute hand moves in 32Hz with a single unit of movement by a quick advance terminal. This enables you to confirm the drive of watch.)

■ 3. SPECIFICATIONS

Caliber No.	2200E-06	
Type	Analog quartz crystal watch (with no center second hand)	
Size of movement	Short dia. : 9.0mm Long dia. : 13.2mm Move dia. : 13.5mmφ Thickness : 1.87mm (Power cell part: 1.90mm)	
Accuracy	±15 sec./month at normal temperatures	
Oscillation	32,768Hz	
Converter	Bipolar step motor (20-second step movement of hand)	
Integrated circuit	C/MOS-LSI (1 unit)	
Effective temperature range	-10°C ~ +60°C (14°F ~ 140°F)	
Adjustment of time rate	DFC by nonvolatile memory system Unit of measurement: 10 seconds Provided with no control terminal for market use	
Additional function	Hour/minute hand stopping device	
Power cell (Silver peroxide)	Parts No. : 280-107 (1 unit) Cell code : TR516HSW Size : 5.8mmφ x 1.6mm Nominal voltage: 1.85 ~ 1.55V Capacity : 10mAH Lifetime : About 3 years	

■ 4. HANDLING INSTRUCTIONS



- 1) The time is set by pulling out the crown one step from the normal position of the crown as shown in the above diagram.
- 2) The crown is turned to adjust the time. The time can be set down to a second by first setting the time with a counterclockwise turn of hands and then pushing the crown synchronously with a time signal through a radio, telephone or the like. The minute hand starts in the lapse of 20 seconds since the minute hand of this caliber moves with every 20 seconds.