

## CALIBRE

### 1632

#### 29 Q LCD CALD S ECL STS CORH CORM CORR CORJ CORMO AL TM AG

#### Description and performances

The caliber 1632 quartz watch with LCD display, developed and assembled by SSIH, is equipped with a high quality 32 KHz quartz. Its accuracy is better than 5 seconds per month (adjusted to this degree if necessary).

A choice of hour, minute, second or date, as well as the day, is permanently displayed. The calendar is programmed for 4 years, and the month is displayed during its correction.

In addition, this caliber offers a complete alarm system, namely:

**Parking alarm** (count-down timer) with a maximum capacity of 11 hours 55 minutes,

**Waking alarm** operative during 24 hours, and

**Diary alarm** memorizing a date (day and month) over a yearly period.

An indicator (star) becomes visible when the alarm is set. The word "DATE" appears on the display when the date is selected. Expiry of the batteries is indicated by flashing of the display.

A switch allows the watch-maker to select easily the 12 h. am/pm or 24 h. version; in the first case, a "P" will be seen after mid-day at the top, to the right of the hour figure.

### Reading of the time and the date (fig. 1)

A choice of hour - minute - second or date, as well as the day of the week, is permanently displayed.

The dot located between the hour and minute flashes at the rhythm of the second. By pressing pusher B briefly, progression of the second is replaced by the date under the "DATE" indication. Pressing pusher 6 once again causes the "DATE" indication to disappear and progression of the seconds is resumed. The small arrow located under the figures points to the day of the week. The pusher E controls lighting of the display.

### Modification of the display

The LCD/SSIH calibers are equipped with a sequential correcting system.

Selection of the indication to be corrected is made by means of the corrector C. The selected indication then begins to flash every second.

The actual correction is effected by pressing pusher B. Each push causes the data to advance one step. A continued push of more than two seconds makes the selected data advance at 4 Hz.

The indicator PM ("P") appears in the 12 h. version, between mid-day and midnight.

The "DATE" indicator blinks during the correcting phase of the month, date and day.

The correcting operations do not influence the different alarm programmes.



### SYNCHRONIZATION OF THE SECOND

#### Rapid synchronization for variations of less than 30 seconds

Select the minute correcting sequence and choose the instant when the exterior reference is at zero seconds.

If the watch is gaining less than 30 seconds (seconds between 0 and 29), a push on B will cause the seconds to restart at zero.

If the watch is losing less than 30 seconds (seconds between 30 and 59), a push on B will cause the minutes to advance one unit and the seconds will restart from zero.

### **Synchronization for variations of more than 30 seconds**

At the time of a minute correction, after two or several pushes on 6, the seconds are reset at zero. Stop the display on the minute to follow. Revert to the permanent display: the screen indicates the hour, the new minute and the seconds at zero, whilst the dot located between the hours and minutes no longer flashes. One push on B at the instant of synchronization, and the seconds restart.

For further information concerning modification of the display, please refer to the instructions for use of caliber 1632.

## **THE ALARM SYSTEM**

### **1. Parking alarm (count-down timer)**

This timer counts down from a maximum capacity of 11 hours 55 min. to zero. At zero the audible alarm is released for 30 seconds.

#### **Utilization**

A push on D selects the parking alarm system with the indication "PA" at right on the display, the 2 arrows at left flash at the rhythm of the seconds; 10 to 12 seconds are then available for starting the introduction of the count-down by means of pusher B, otherwise the normal display will reappear. Introduction of the count-down through pusher 6 is effected by stops of 1 minute from 1 to 10 minutes, then after 10 minutes by stops of 5 minutes. As in the case of display correction, by maintaining more than 2 seconds' pressure on pusher B, the selected data will proceed at 4 Hz, and this for the 3 alarm systems. Once the time has been introduced, the parking alarm immediately starts counting-down, without further manipulation. Moreover, it is also possible to modify at any time the contents of the count-down timer or reset it at zero (push on A). To stop alarm ringing, one push on A or B.

### **2. Waking alarm**

When the time programmed in the alarm is identical to that of the watch, a ringing tone is released for 30 seconds (press A or B to stop it). A star located at bottom right of the minutes indicates that the alarm has been set.

#### **Utilization**

Two pushes on D select the waking alarm system, with the indication "AL" at right of display if the alarm is operative, or "OF" if the alarm is released; the 3 arrows in the centre flash at the rhythm of the seconds. Press pusher B to choose the operative alarm (AL) or released alarm (OF) press pusher A once to select the hour to be chosen with pusher 6 and press pusher A a second time to select the minutes to be chosen with pusher B.

If no other operation is effected, the normal display will reappear after 10-12 seconds.

### **3. Diary**

The diary function enables a date, such as an anniversary, to be memorized with visual indication by flashing of the 7 arrows for the days of the week when the date of the watch coincides with the date memorized.

#### **Utilization**

Three pushes on D select the diary function, with the indication "A" at left of display; the 2 arrows at right flash at the rhythm of the seconds.

Press pusher A once to select the month to be chosen with pusher B, and press pusher A a second time to select the date to be chosen with pusher B. A dash follows the 12th month, and another dash follows the 31st day; in such a case, no date is programmed.

If no other operation is effected, the normal display will reappear after 10-12 seconds.

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### 3. TECHNICAL DATA AND PERFORMANCE OF CALIBRE 1632

<b>Dimensions :</b>	$\emptyset$ 29.00 mm H 5.50 mm on battery fixing clamp
<b>Frequency of resonator :</b>	32'768 Hz
<b>Quality factor :</b>	100,000
<b>Thermic coefficient :</b>	0.15 s/d for a variation of $\pm 5^{\circ}$ C.
<b>Consumption :</b>	4.4 $\mu$ A maxi
<b>Typical running time with 2 batteries of 55 mAh :</b>	24 months with each day: 4 lightings of the display during 1 second, and 60 seconds' use of audible signal
<b>Variation during wear :</b>	5 s/month (adjusted to this degree if necessary)
<b>Resistance to shocks :</b>	In conformity with NIHS norms. Residual affect recoverable by the trimmer.
<b>Resistance to magnetic fields :</b>	NIHS magnetism test no affect
<b>Temperature functioning limits :</b>	- 10° to + 55° C
<b>Feed :</b>	2 batteries 1.55 V SSIH 9909 or Vartachron 547.

## CALIBRE

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 Checking and maintenance

DIAGNOSTICS	No. of operations to be followed
Disassembling	1.0 to 3.7
Cleaning	4.0
Assembling	5.1 to 7.3
Changing of battery	1.1 + 2.1 + 2.2 + 6.1 + 6.2 + 8.1 + 8.2
rate adjustment	8.1 + 8.2
Exchange of electronic module	1.1 to 3.1 + 5.7 to 8.2
Exchange of display	1.1 to 3.6 + 5.2 to 8.2

ORDER OF OPERATIONS	PART NO.	FIXING DEVICE	REMARKS
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**DISASSEMBLING**

**1.0 EXTERIOR**

1.1 Open the case			
1.2 Uncase			The loudspeaker (No 1632.9430) remains fixed in the case, but can be extracted easily if necessary.

**2.0 BATTERIES**

2.1 Battery clamp	1632.9033	2 screws 2686	
2.2 2 batteries	9909 or Vartachron 547		

**3.0 ELECTRONIC MOVEMENT**

3.1 Electronic module	1632.9600	2 screws 2686	
3.2 Distance piece for diffuser	1615.9804		
3.3 Reflector	1615.9803 .9814		9803 : grey 9814 : yellow
3.4 Diffuser	1632.9802		
3.5 Connectors (2)	1632.9805		Cleaning : see 4.0
3.6 Display module	1615.9801		
3.7 Movement framework	1632.9001		

#### 4.0 CLEANING

Never clean any of the components in a bath. Dry-clean the contacts by means of a very clean brush or skin buff. Take care to avoid damaging the display module which is very delicate.

ORDER OF OPERATIONS	PART NO.	FIXING DEVICE	REMARKS
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#### ASSEMBLING

#### 5.0 ELECTRONIC MOVEMENT

5.1 Movement framework	1632.9001		Countersink for battery at 6 hours.
5.2 Display module	1615.9801		Welding on right, display module pushed to the maximum towards right.
5.3 Connectors (2)	1632.9805		
5.4 Diffuser	1632.9802		
5.5 Reflector	1615.9803 or .9814		9803 : grey Mat side 9814 : yellow against display module
5.6 Distance piece for diffuser	1615.9804		Scale on left
5.7 Electronic module	1632.9600	2 screws 2686	
5.8 Checking of consumption: maxi 4.4 $\mu$ A			Black probe on negative clamp (-) red probe on earth (see fig. 1)

#### 6.0 BATTERIES

6.1 2 batteries	9909 or Vartachron 547		+ on top
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ORDER OF OPERATIONS	PART NO.	FIXING DEVICE	REMARKS
6.2 Battery clamp	1632.9033	2 screws 2686	

## 7.0 EXTERIOR

7.1 Loudspeaker	1632.9430		Press loudspeaker into the case, the arrow pointing towards exterior of case (fig.2.). Do not press centre of loudspeaker.
7.2 Case-up			
7.3 Commutator 12-24h.	1620.9634		Select 12 or 24 h. display by modifying position of the commutator with tweezers

## 8.0 ADJUSTMENT OF THE RATE

**6.1** Place watch, without back, on the captor (key 32 KHz) display aide down, and press key > 15Hz of Deltatest (1 Hz for ODT 1).

**Note:** As a general rule, a measuring time of 12 seconds and a measuring accuracy of 1/100th second will be used.

**8.2** Adjust watch by means of trimmer, avoiding any possible pressure during this operation. Correct the rate according to client's indications, or otherwise in the following manner (when changing a module, for example)

In premises where the temperature is between 21° and 26° C, the rate of the watch (back closed) should be between + 0.15 s/d and + 0.25 s/d. For this purpose, adjust it, back open, to approx. + 0.30 s/d.

**Note:** With this adjustment, the majority of watches will be within the tolerance of  $\pm 5$  sec./ month during wear.

Should a correction prove necessary, it is absolutely essential that the rate be adjusted according to the client's indications.

