

# TECHNICAL GUIDE

CAL. Y666A

**DIGITAL QUARTZ**

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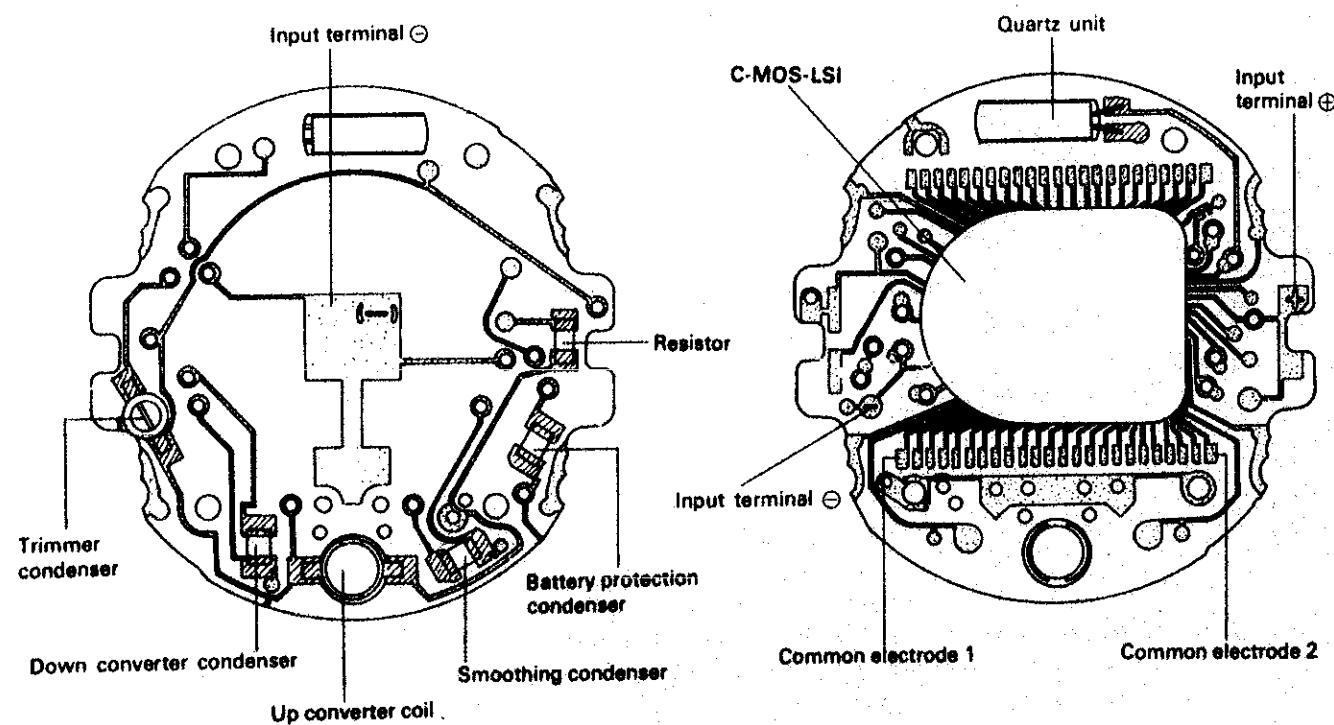
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● Refer to the Technical Guide of Cal. Y665 about A, B, E, F, G, H.	

Cal. Y666 is digital quartz, which was based on Cal. Y665. As this Technical Guide shows only the difference from Cal. Y665, refer to the Technical Guide of Cal. Y665 for the details.

## I. SPECIFICATIONS

Item	Cal. No.	Y666A
Display medium		Nematic Liquid Crystal, FEM (Field Effect Mode)
Liquid crystal panel drive system		Multiplex
Display system		<ul style="list-style-type: none"> <li>● Time display</li> <li>● Alarm display</li> <li>● Stopwatch display</li> <li>● Game display (Heading game)</li> </ul>
Additional mechanism		<ul style="list-style-type: none"> <li>● Game function</li> <li>● Sound demonstration function</li> <li>● Time signal function</li> <li>● Illuminating light</li> </ul>
Operational temperature range		Loss/gain at normal temperature range Monthly rate: Less than 15 seconds
Casing diameter		φ28.0 mm
Height		4.9 mm (excluding battery)
Regulation system		Trimmer condenser
Quartz tester measuring gate		Any gate is available
Battery		Lithium battery: SANYO CR2016 Battery life: Approx. 3 years Voltage : 3.0V

## II. CIRCUIT SCHEMATIC

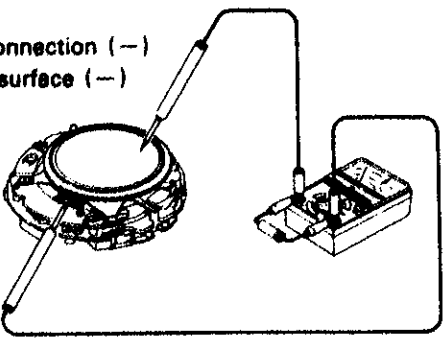
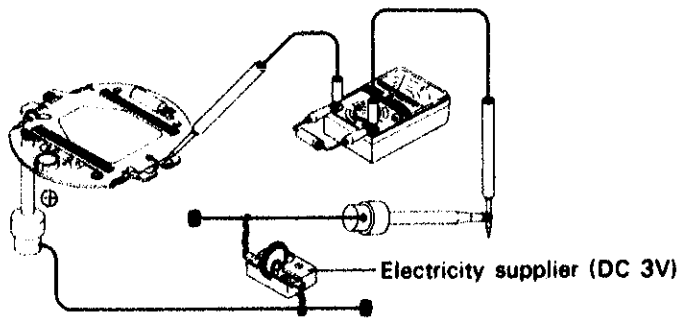


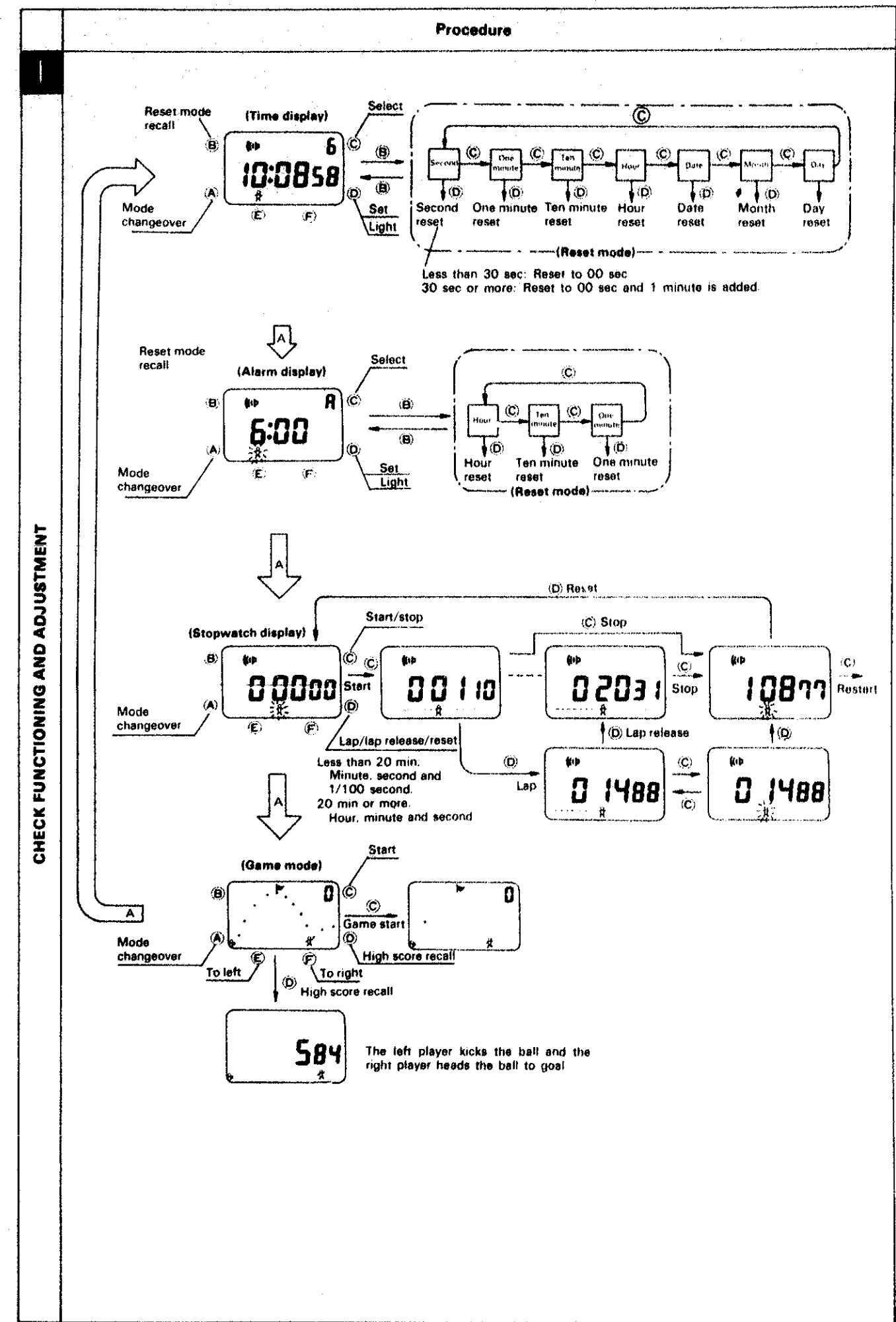
## III. DISASSEMBLING, REASSEMBLING AND LUBRICATING

Refer to the Technical Guide of Cal. Y665

## IV. CHECKING AND ADJUSTMENT

Procedure	Result and repair
<p>(1) Check the circuit block output signal. Refer to the Technical Guide of Cal. Y665.</p> <p>(2) Check the liquid crystal panel for broken wire and short-circuit. 1. Turn the liquid crystal panel to the reverse side. 2. Set up the Volt-ohm-meter. Range to be used: OHMS R × 1 (Any range will do if more than 3V is applied to the terminal of the Volt-ohm-meter.) 3. Attach the probes to the common electrode and segment electrodes of the liquid crystal panel. (Either red or black probe will do.)</p> <p>Common electrode 1 is connected electrically with ● segment. Common electrode 2 is connected electrically with ○ segment.</p> <p>[Symbol description] B1 ~ B26: Ball M1 ~ M7: Day M8, M9: Kicker's leg M11, M12: Flags</p> <p>● The liquid crystal panel has two common electrodes. Each segment is displayed with the potential difference between one of two common electrodes and each segment electrode.</p>	<p>Displayed: Normal Not displayed: Defective Replace the liquid crystal panel with a new one.</p>

	Procedure	Result and repair
<p><b>D</b></p> <p><b>CHECK CURRENT CONSUMPTION</b></p> <p>Check if the current consumption is normal.</p> <ol style="list-style-type: none"> <li>1. Set up the Volt-ohm-meter. Range to be used: DC 12<math>\mu</math>A</li> <li>2. Measuring Red probe (+)... Battery connection (-) Black probe (-)... Battery surface (-)</li> </ol>  <ul style="list-style-type: none"> <li>● As a special IC is used in this watch, the Volt-ohm-meter sometimes swings when measuring. Read the mean value of the Volt-ohm-meter or use condenser kit (250 ~ 500<math>\mu</math>F).</li> </ul>	<p>1.0<math>\mu</math>A or less: Normal More than 1.0<math>\mu</math>A: Defective Replace the circuit block or liquid crystal panel with a new one.</p>	
<p>If the current consumption is large, check as follows.</p> <ul style="list-style-type: none"> <li>● Judgement for large current consumption Check the current consumption of only the circuit block.</li> </ul> 	<p>0.7 <math>\mu</math>A or less: Circuit block is normal. Replace the liquid crystal panel with a new one.</p> <p>More than 0.7 <math>\mu</math>A: Circuit block is defective. Replace the circuit block with a new one.</p>	



# PARTS LIST

# CAL. Y666A

PART NO.	PART NAME
4001 223	Circuit block
4225 038	Battery clamp
4245 038	Switch spring (A)
4245 039	Switch spring (B)
4246 014	Speaker lead terminal
4270 034	Battery connection (—)
4313 033	Connector
4398 176	Battery guard
4398 178	Liquid crystal panel frame
4510 106	Liquid crystal panel
4521 027	Reflecting mirror
4530 013	Bulb
012 178	Battery guard screw
012 178	Battery clamp screw
017 287	Tube for battery guard screw
017 287	Tube for battery clamp screw
SANYO CR2018	Lithium battery

• MATUSHITA BR2016