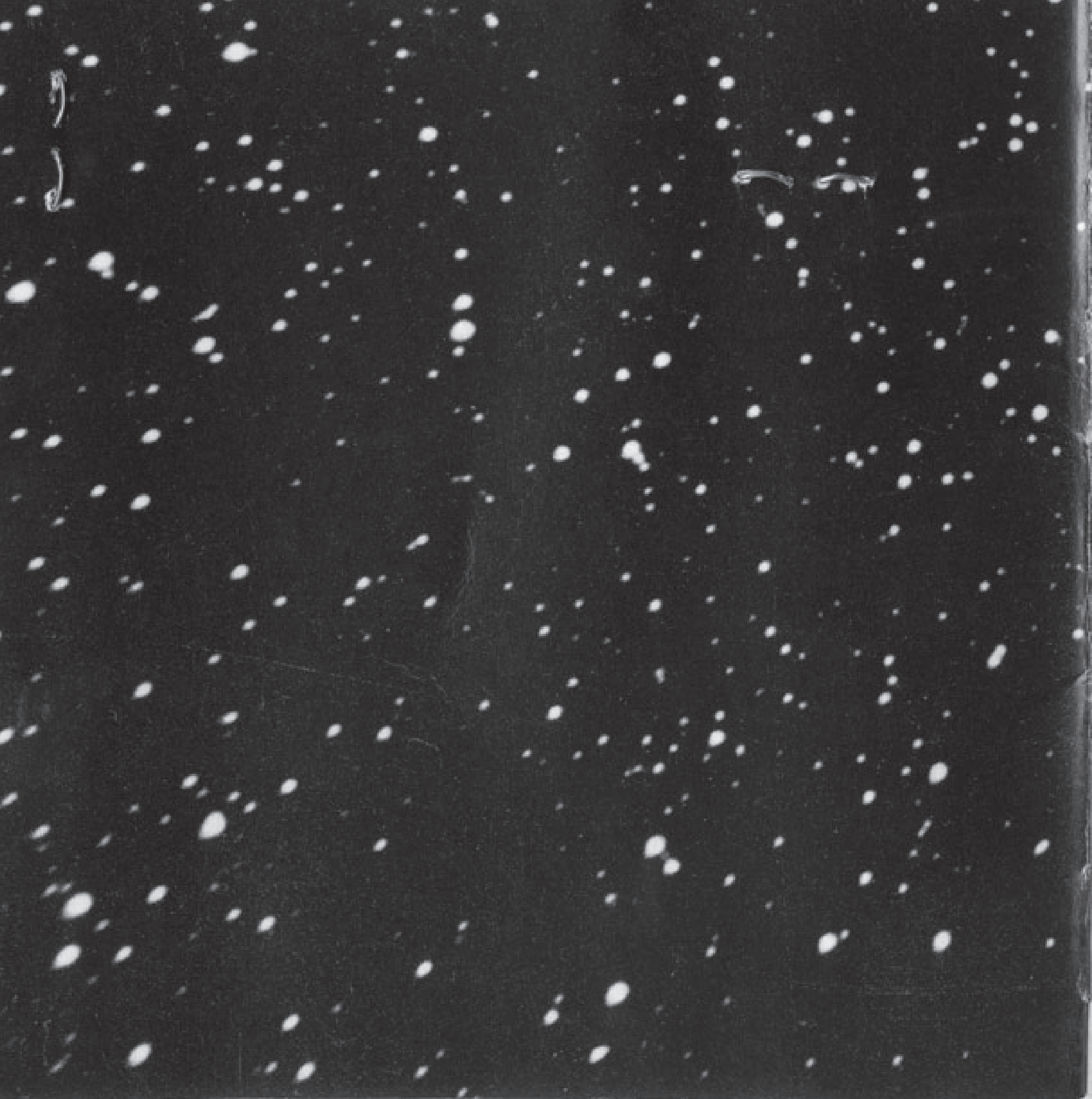
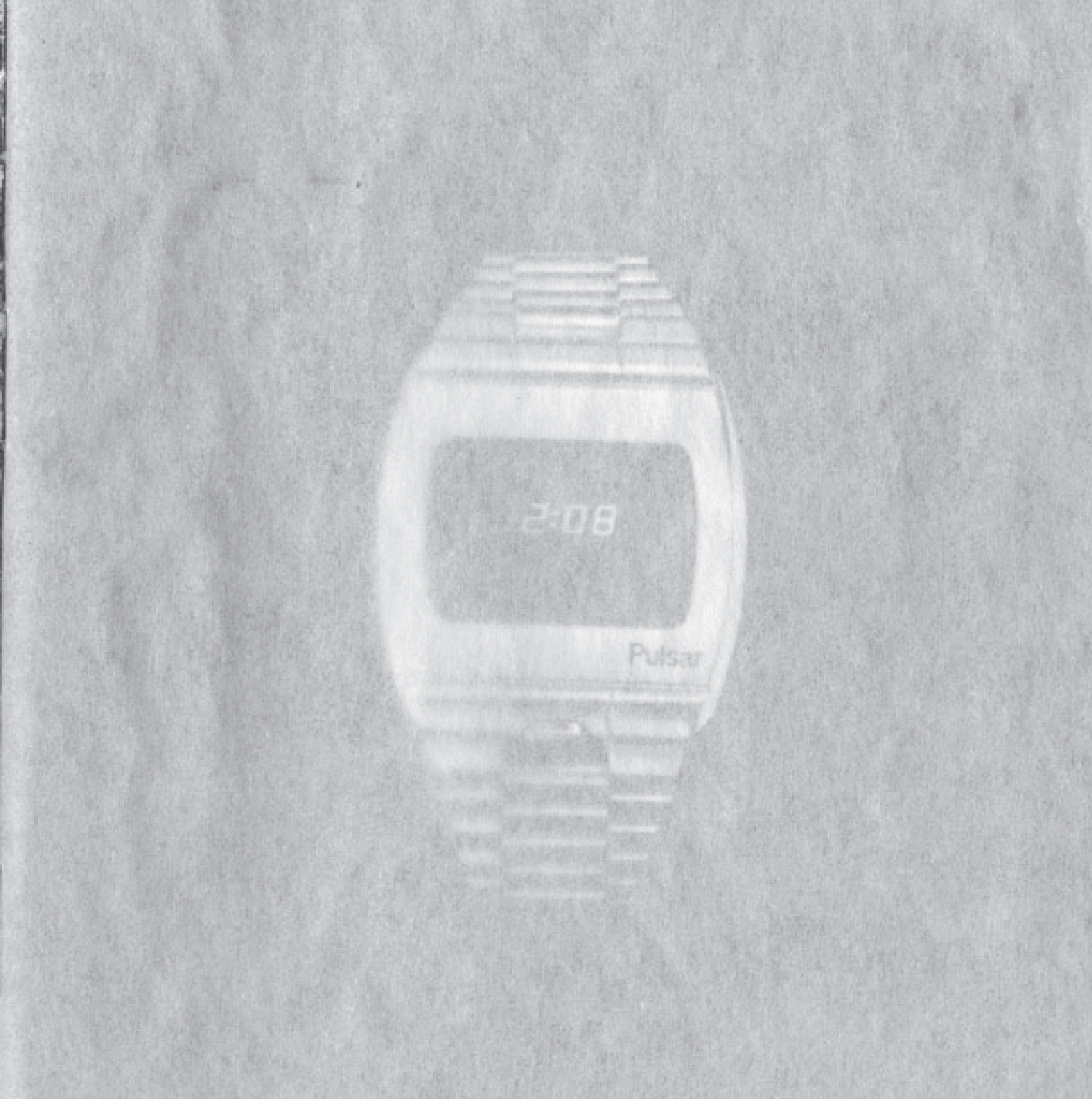
Water can ruin this watch. If the watch should get submerged, remove the batteries immediately and return the watch to us for service.

PULSAR®

THE TIME COMPUTER®




2:08
Pulsar


12:08
Pulsar

Your Pulsar is the world's first solid-state digital time computer to wear on your wrist. It is the ultimate in reliability, because Pulsar has no moving parts.

Accuracy is guaranteed to within 60 seconds a year. This superb timing performance is the result of a quartz crystal which oscillates at 32,768 Hz. per second, and a computer which translates these oscillations into precise usable increments. Pulsar makes no audible sound.

Pulsar is unconditionally guaranteed for one year. Be sure to read and fill out the enclosed guarantee application and mail it to us within ten days from date of purchase. This application *must* be registered with us to validate the guarantee.

The following pages will tell you all you need to know about your new Pulsar. Please read them carefully.


12:08
Pulsar

THE ADVENT OF DIGITAL TIME

Medieval clocks indicated time only to the nearest hour, since they only had one hand. As watches and clocks became more accurate, minute and second hands were added. However, the ability to resolve and quickly interpret time has not significantly improved since a Nürnberg locksmith named Peter Henlein made his first portable timepieces in the sixteenth century.

To several independent but demanding time using groups, it became obvious that another, more precise method of indicating time was not only possible but virtually necessary. Digital time, that is, displaying the time of day by numbers rather than the relative positions of hands against a dial, has rapidly gained acceptance. Modern

transportation systems, with their fetish for precise time schedules, led the way. Major airline terminals and train stations now display actual time, as well as arrival and departure data, in digital form. Additional impetus for the switch to digital time was given by widely telecast space program activities and sporting events.

The advanced technology of PULSAR now permits time to be presented as precisely as it is computed. No longer is twenty four minutes after ten o'clock represented by an hour hand somewhere past the number ten and a minute hand before the number twenty five. In digital time, it is simple, clear and unambiguous—10:24.

As peoples' lives become more precise, the method of keeping them informed will do likewise. You can be certain that the switch to digital time has just begun.

CONTENTS OF YOUR PULSAR PACKAGE:

Pulsar Time Computer with set of power cells installed.

Instruction booklet with guarantee application form and return envelope.

An extra timeset bar.

Certificate, exchangeable for one free set of power cells.

PULSAR FACTS

Pulsar's Time Screen—Made of unbreakable synthetic ruby, one of the toughest, most scratch-resistant substances in the world. The screen allows the computer to display exact digital time when you touch the command button on the case.

Pulsar's Light Sensor—Located on the computer module directly behind the time screen, this electronic sensor detects surrounding light conditions and adjusts the intensity of the digital time display. In direct sunlight, for best time-reading visibility, we recommend shading the time screen with your hand as you touch the command button.

Power Source—Your Pulsar power cells will last approximately one year under normal use of about 25 time readouts each day.
In this booklet you will find a certificate which can be exchanged at your authorized Pulsar jeweler for a fresh, free set of power cells when you need them. Your second year of Pulsar time is on us.

Water Resistance—Pulsar's computer circuitry is hermetically sealed in a helium

atmosphere inside its 18 kt. gold case. Neither water nor dirt can penetrate it. The power cell hatches, which screw down onto the back of the case, have special gaskets to prevent water from entering the power cell chambers. You can wear your Pulsar when you go swimming, boating or skindiving.

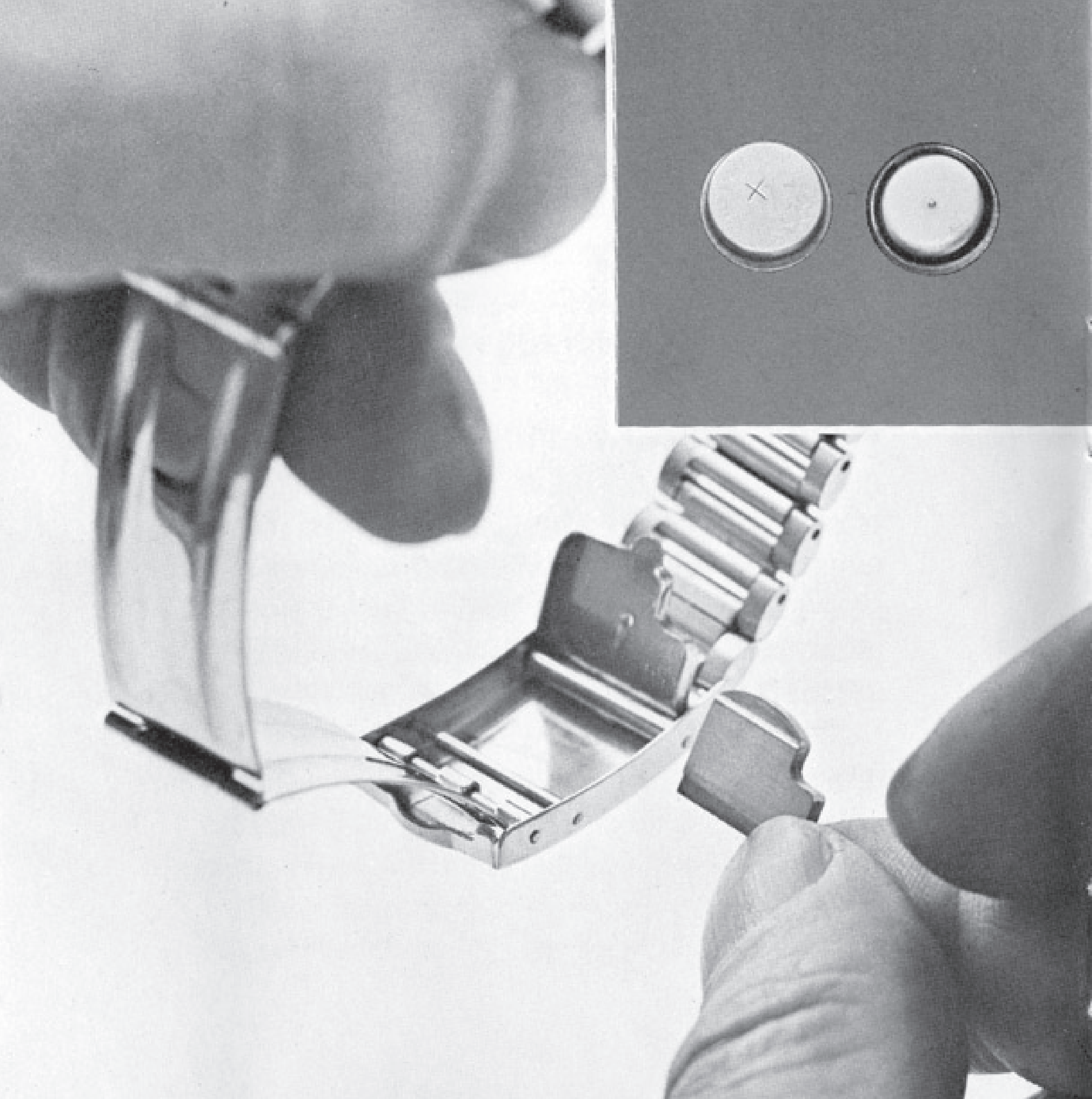
Shock Resistance—Pulsar has been successfully tested to an impact equal to 2,500 times the force of gravity (2,500 Gs). Since Pulsar has no moving parts, there are no balance wheels, springs, hands, gears or motors which can be damaged by shock.

Anti-Magnetic—Pulsar cannot be permanently damaged by high magnetic fields. Should such exposure occur, all you need do is reset Pulsar's computer (high magnetic forces will cause Pulsar to light up and its digits to advance;

however, such exposure cannot cause damage.

Routine Maintenance—None. Pulsar has no moving parts to wear out, require cleaning or oiling.

Pulsar Service—Your Pulsar is unconditionally guaranteed for one year, as outlined in the enclosed guarantee application. In the unlikely event your Pulsar ever needs service, consult your authorized Pulsar jeweler or call our laboratory collect. (See guarantee form for details.)



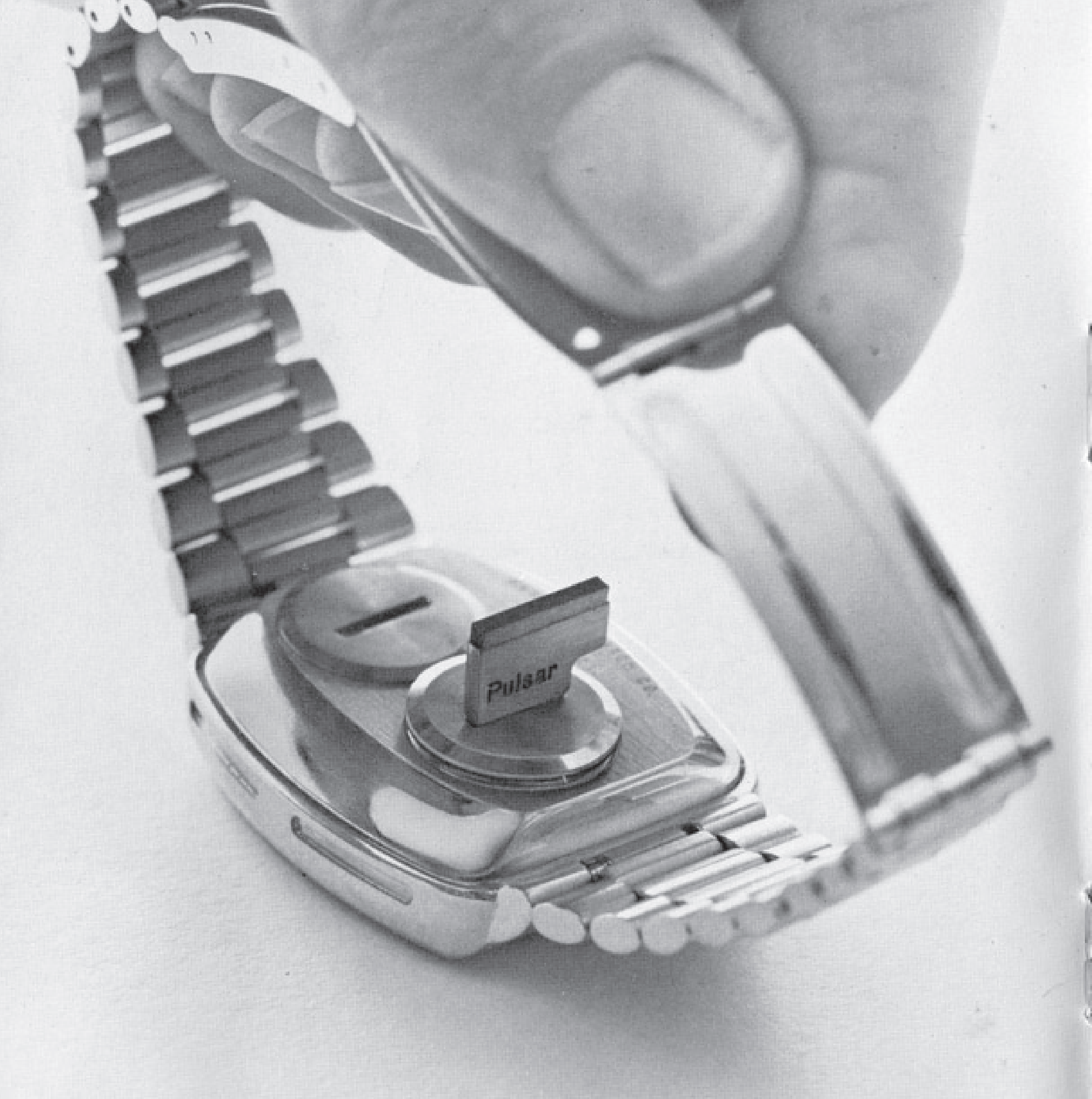
POWER SOURCE

Pulsar calculates time with energy supplied by two small power cells included with the computer. These cells are already installed. When new cells are needed, they may be obtained from your Pulsar jeweler, or from us. Specify part #WD-2806.

When it's time to replace these power cells, here's how you do it:

On the back of Pulsar's case you'll see two power cell hatches. Inside the clasp of Pulsar's bracelet there's a small lid. Open it and take out the timeset bar,* which is shaped like the letter "P." With the rounded end of it, unscrew each power cell hatch and remove the old cells.

Note that each cell has a "plus" sign on one side. Place your Pulsar face down and put a fresh power cell in each chamber.


Pulsar

In the chamber nearest the command button, the "plus" sign on the cell should face up; the other cell faces "plus" side down. While doing this, be careful not to let one power cell touch the other, and be sure that each cell is properly seated in its chamber. Again using the timeset bar, screw the power cell hatches tightly into place.

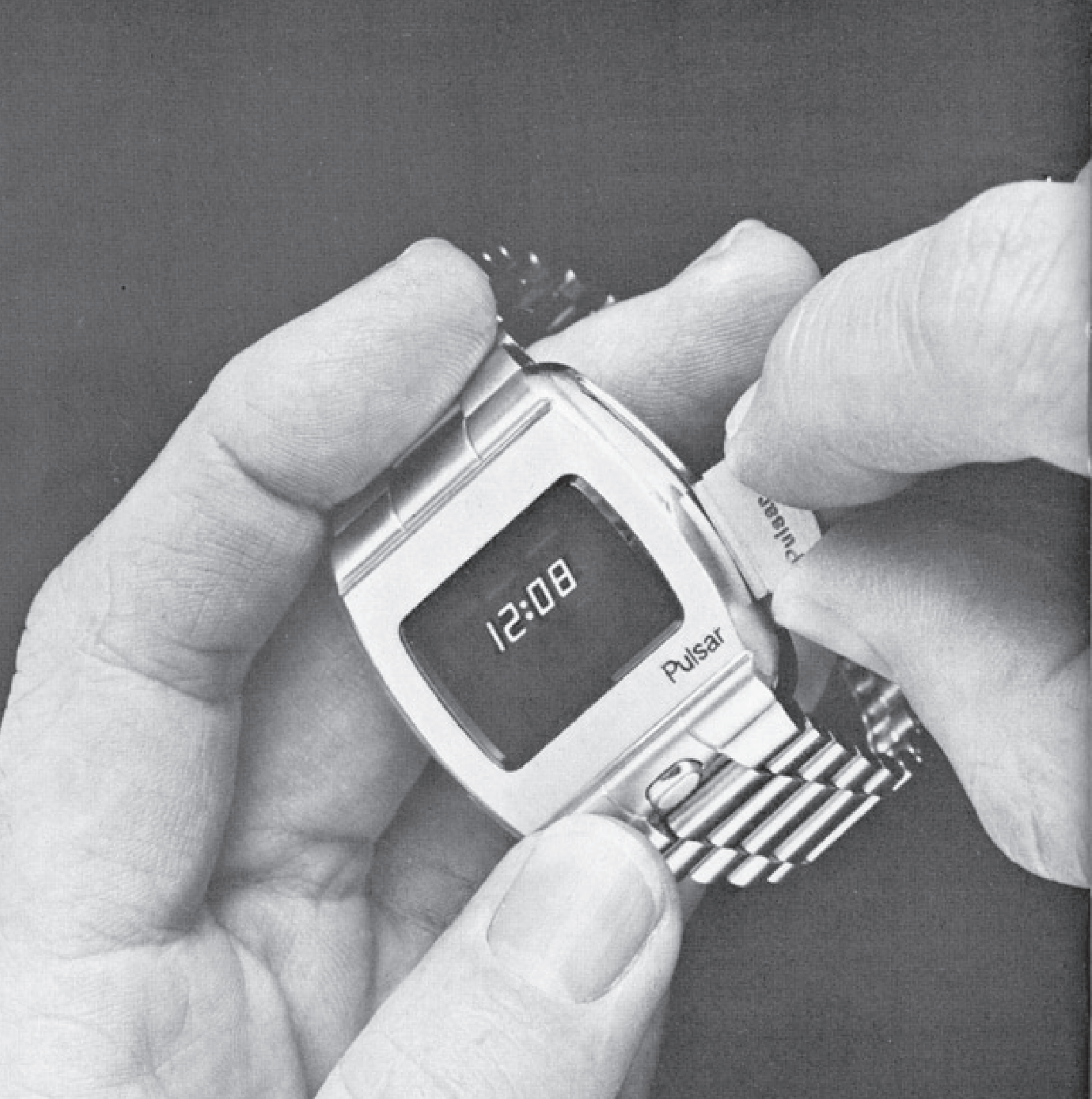
Now you are ready to use and set your Pulsar.

*You will find an extra timeset bar in the small envelope in this booklet. We suggest you keep it with your cuff links, etc., in the event you misplace the original bar stored in the bracelet clasp.


12:08
Pulsar
00
Pulsar

TO USE YOUR PULSAR TIME COMPUTER

When you touch the command button, the hour and minute digits light up on Pulsar's time screen for 1.1 seconds. Continue to touch the button, and you'll see the hour and minute disappear, replaced by the seconds appearing one after the other. To reactivate hour and minute reading, release the command button and touch it again.


12:08
Pulsar

TO SET YOUR PULSAR TIME COMPUTER

Look at the right side of Pulsar's case. You will see two timeset slots. The bottom one sets minutes and seconds.

Touch the back edge of the timeset bar to this lower slot. It automatically resets seconds to 00. It also causes hour and minute digits to light up, and minute digits to advance. Quickly remove the timeset bar from the slot when the desired minute setting appears.

Next, touch the timeset bar to the upper slot. Again, hour and minute digits light up, and the hours advance. Quickly remove the timeset bar when you have reached the hour setting you want. Now, the time you have set is locked into Pulsar's computer.

Using a reference time signal (from the telephone or radio), wait for the "beep" to occur on the time you have set (for instance, 12:08:00). Press the command button at the instant the "beep" sounds. Your Pulsar is *now computing* the exact time. Please note that to synchronize Pulsar to the exact second, you must start at 00 seconds.

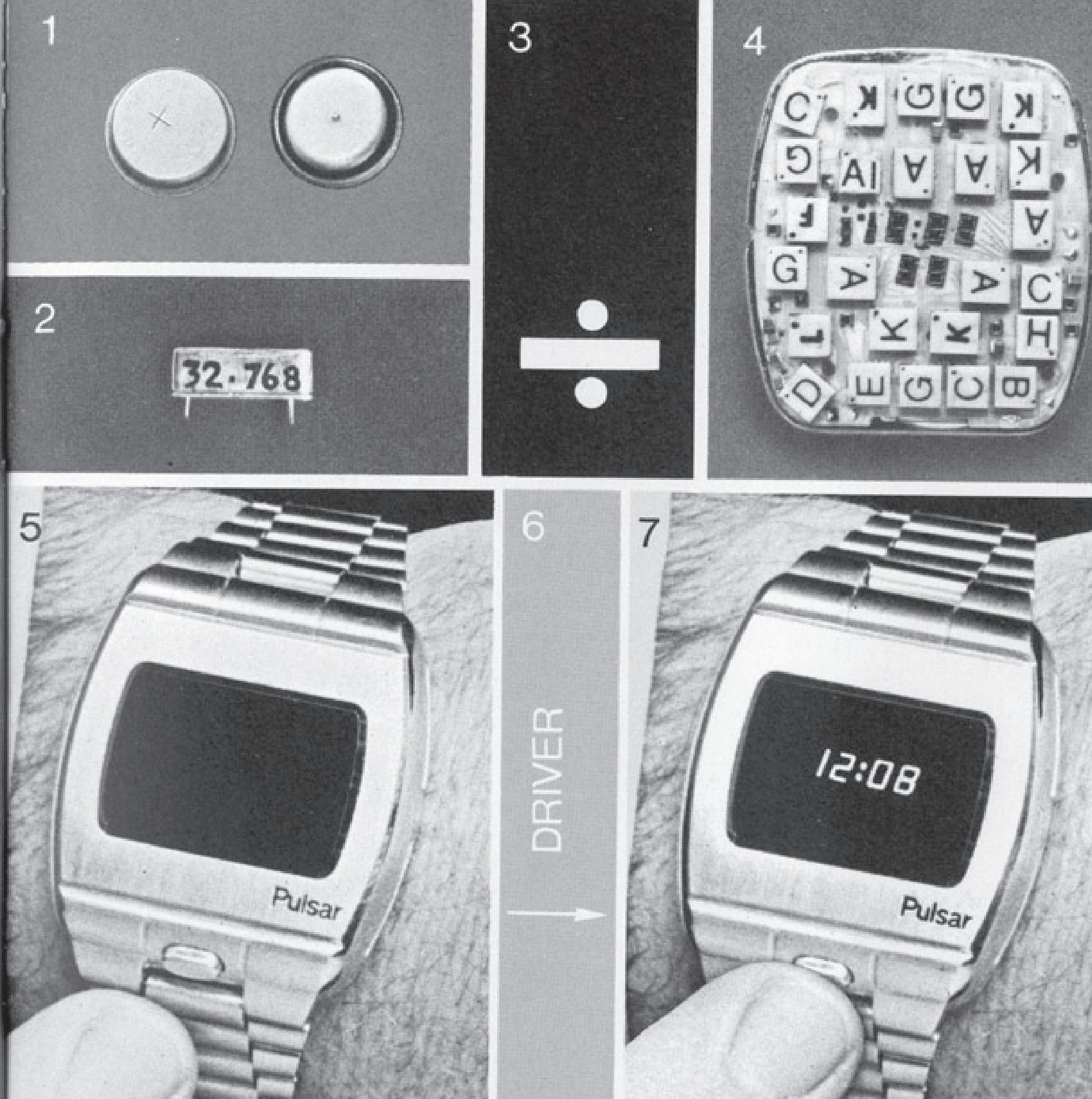
Replace the timeset bar in the hatch inside the bracelet clasp. Your Pulsar is now ready to wear.

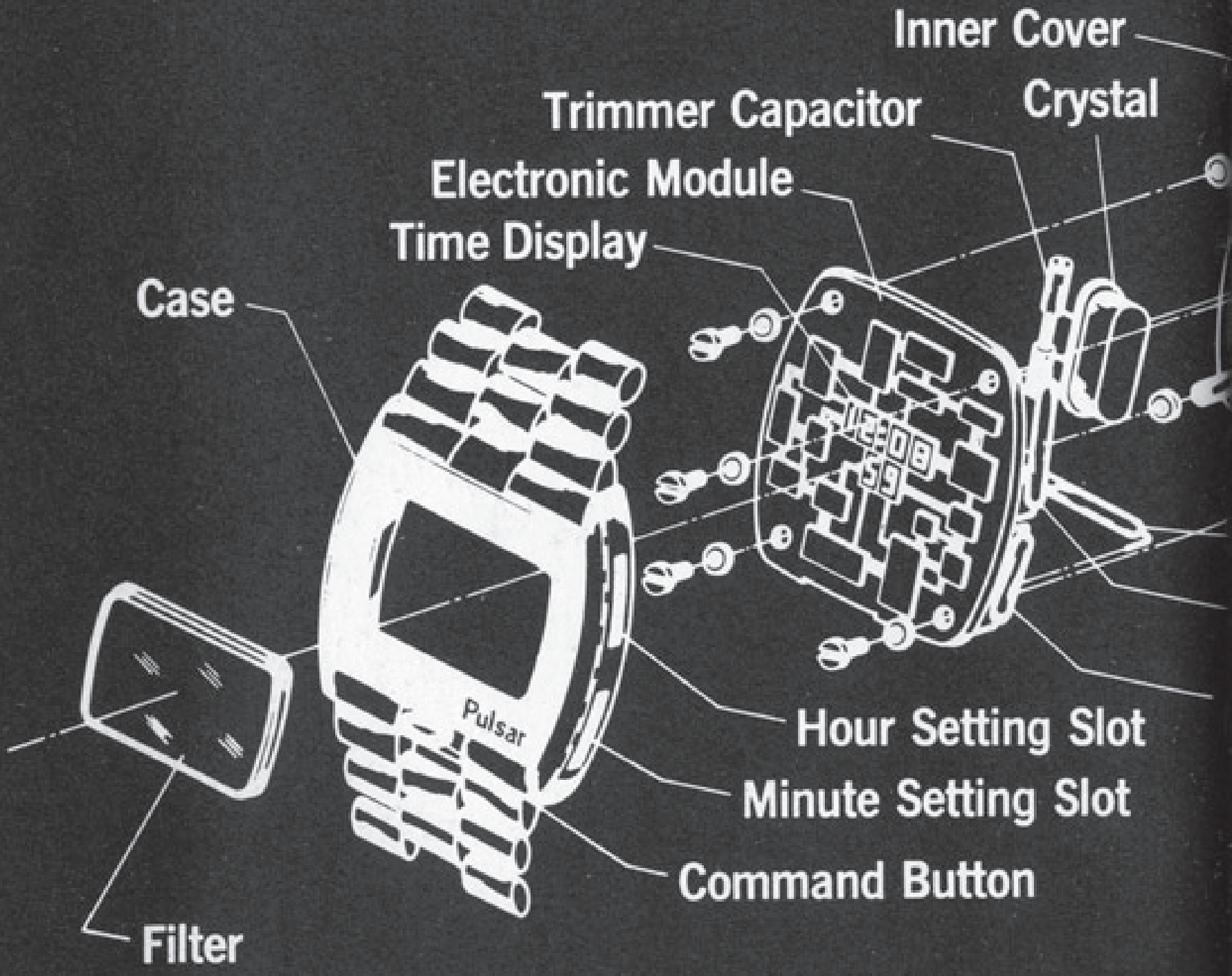
Standard time, daylight-saving time, time zone changes: Just touch the timeset bar to the *upper* slot which controls only the hour computations, and advance the hour setting to the time you want. Minutes and seconds will continue to calculate, unaffected by the hour change.

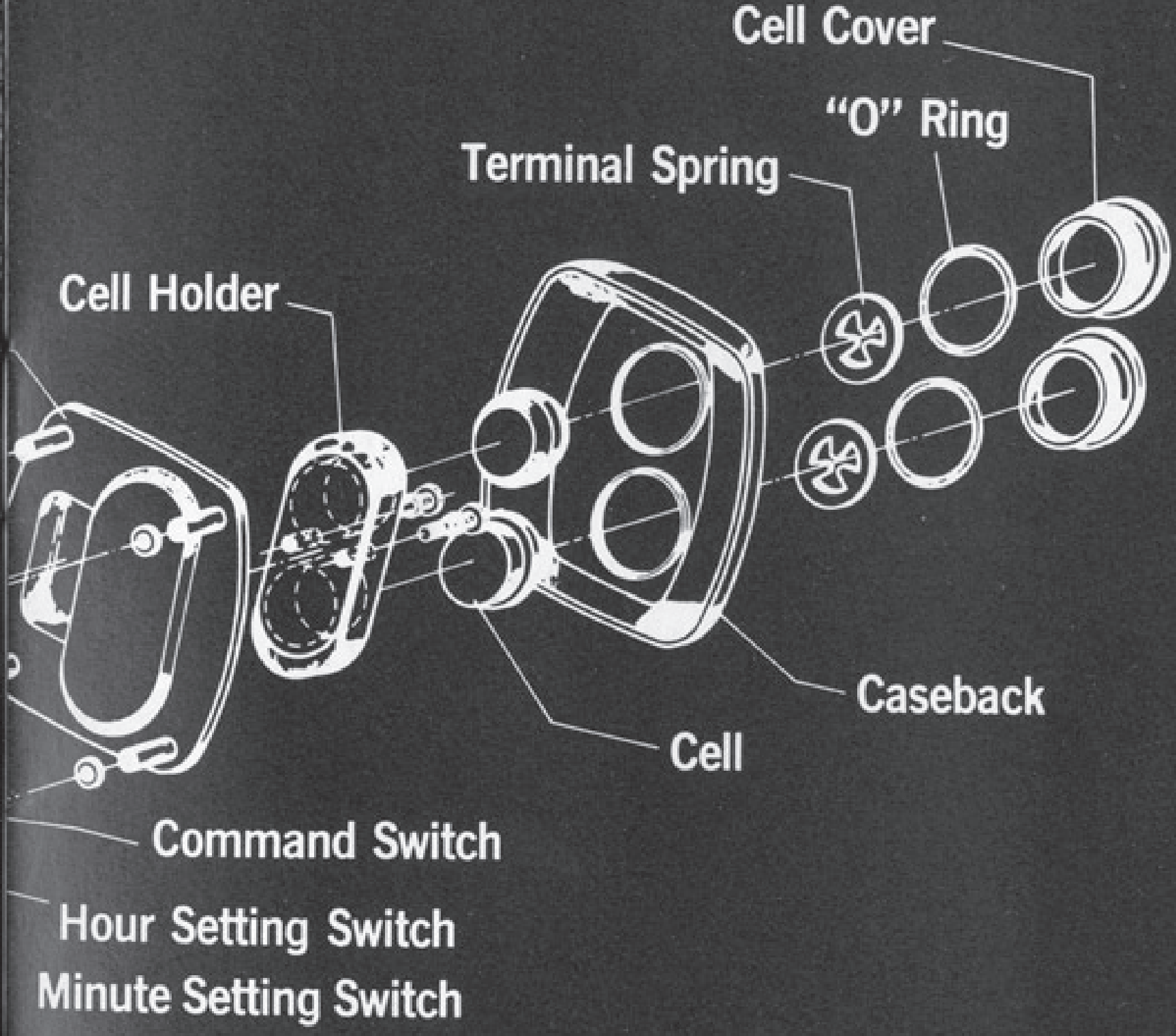
Pulsar measures elapsed time, too: Use your timeset bar to lock time into the computer as follows: advance minute and seconds readout to 00. When you are ready to begin timing, touch the command button, which activates the computer. Make note of the readout. When you are finished timing, touch the command button again, and make note of the time which has elapsed. Then reset your Pulsar to the correct time.

HOW PULSAR FUNCTIONS

(1) The power cells make everything go. First, by exciting the oscillator and the (2) quartz crystal which vibrates 32,768 times per second. This extremely rapid oscillation rate is divided again and again down to more useable, but equally precise increments, by a (3) binary divider. The reduced vibrations are fed continuously into the (4) logic area of the computer (where, the timeset/reset activity is also carried on). All this goes on without let-up as the computer module keeps constant track of the exact time. (5) When you depress the command button, power is fed from the power cells to the (6) driver, which extracts the time information from the logic part of the computer and releases it to the light-emitting diodes, or (7) digital time displays, causing the appropriate numbers to light up.


1
2
32.768
3
4
5
Pulsar
6
DRIVER
7
12:08
Pulsar


Inner Cover
Crystal
Trimmer Capacitor
Electronic Module
Time Display
Case
Pulsar
Hour Setting Slot
Minute Setting Slot
Command Button
Filter



Pulsar was conceived / designed / developed and is produced in the U.S.A.

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