

INTRODUCTION

The choice of a watch should be dictated by the functions that you desire your watch to perform. Once you have decided on this, you will then have the pleasant task of choosing the design which suits your personality and lifestyle from among the watches which will provide the functions best suited to your needs. Experience has shown that the most successful and efficient method of purchasing the watch which best suits your needs and personality is to understand what is available to you.

Since the advent of electronic watches, the language applied to timekeeping has undergone considerable change. Before you purchase a new watch, you should be familiar with the terms described in this booklet.

To complete your education on How to Buy a Watch, consideration should be given to the choice of an authorized watch retailer. You should choose an authorized watch retailer who has earned a fine reputation. A retailer should have the proper selection of quality timepieces to choose from, knowledgeable and experienced salespeople, and a service department that has trained personnel capable of handling maintenance and repair, using genuine replacement parts and watch bands, for years after your purchase. The last page of this booklet will provide important tips on the maintenance and service of your watch.

If you cannot locate a reliable authorized dealer in your area, you may write or fax The American Watch Guild for suggestions:

American Watch Guild
257 Adams Lane
Hewlett, NY 11557
Fax: 516-374-5060
www.americanwatchguild.com



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We would like to thank the editors of CHRONOS magazine for their contribution in producing this booklet.

POWER

Quartz watches — battery life has an average of 1-2 years. Watch does not require winding and is very accurate.

Solar-Powered watches — watches with panels that capture light and convert it to electricity to power the quartz movement.

Kinetic/Autoquartz watches — the weighted rotor, activated by the movement of your arm, turns a mini-generator to generate electricity, which is stored in the watch battery.



Mechanical watches — require daily winding. Experience has shown that this becomes second nature, usually wound in the morning as you start your day.

Automatic watches — also known as self-winding, have a rotor which is activated by movement of your arm winding the main spring. Can also be hand-wound. For those who wish to keep the watch running when not being worn, you can purchase a winding box.



PROTECTION

Shock-resistant

ant — The only term acceptable in the United States to describe the ability of a timepiece to resist breakage. The standard test for shock-resistance is the ability of a watch to withstand a drop of 40 inches on to a hardwood surface with a gain or loss of no more than 60 seconds per day.

Incabloc

— unlike standard screw-held balance staff jewels, this device uses spring-held jewels, which produces shock resistance.

Anti-magnetic — Term applied to clocks or watches that will not be affected by external magnetic forces, such as household appliances, etc. With the increasing popularity of magnetic and electronic devices, buyers and sales associates should be made aware that such devices could affect the performance of a watch, especially quartz watches.

Water-resistance — besides water-resistance, a water-resistant watch also provides long-term protection of the internal parts from dust and dirt.

Warranty — The warranty may be a deciding factor when you buy a watch. Warranty duration is usually 1 year but some companies provide 5 years. Coverage is usually limited to manufacturing defects for the movement only.



FUNCTIONS

Calendar

Calendar watches — have a feature that shows the day of the month and often the day of the week and the year. There are several types of calendar watches. Some show the date and day of the week with subdials and analog hands. Others have a scale on the outer rim of the watch face numbered from 1 to 31 for the days of the month. Others show the day, date and sometimes the year digitally through an aperture on the watch face.

Moon phase watches — have a window in a watch face that shows which phase the moon is in. A disk beneath the window with two pictures of a moon, rotates as the month progresses revealing gradually larger or smaller segments of the picture.

Travel

Multi-Zone watches — show the current time in two or more time zones simultaneously.

World timer watches — watches with a dial usually on the outer edge of the watch face that tells the time in up to 24 time zones around the world. The time zones are repre-





sented by the names of the cities printed on the bezel or the dial. The wearer reads the hour in a particular time zone by looking at the scale next to the city that the hour hand is pointing to. The minutes are read as normal.

Yachting and Diving

Water resistant watches — the case, crown, push buttons and crystal of a watertight watch are made in such a way that no dust or water can penetrate, providing longtime protection of the internal parts. Water-resistant watches should be tested once a year and opened only by a qualified watchmaker. Most manufacturers avoid the term “waterproof” as no internal standard has been devised. Waterproof is not a legal term in the US. Water resistant watches can have the following feature:

Screw-lock crown — a crown that can be screwed into the case to make the watch watertight.

Tidal watches — indicate high and low tides. A must for yachtsmen.

Yacht timer — a countdown timer (see “count-down timer”) that sounds warning signals during the countdown to a boat race.

Diver’s watches — watches able to withstand water

pressure up to a specific depth without incurring damage. These can have the following features:

Depth sensor/meter — a device on a diver watch that determines the wearer's depth.

Depth alarm — an alarm on a diver's watch that sounds when the wearer exceeds a pre-set depth. In most watches it stops sounding when the diver ascends above that depth.

ATM — 1 atm. is the pressure of 1kg/cm² and corresponds to 10 meters of depth.

Altimeter — a device that determines altitude by responding to changes in barometric pressure.

Timing Watches

Chronograph — a watch which not only indicates the time of the day in hours, minutes and seconds, but is also equipped with an additional mechanism — operated manually by push buttons — which makes it possible to measure continuous or discontinuous intervals of time, from a fraction of a second to 12 hours.

Chronometer: not to be confused with a chronograph, this term is assigned to watches that have undergone thorough and intensive testing at an official laboratory or an official institute. A chronometer is a precision instrument and is accompanied by a certificate.

Stopwatch: an instrument, usually a pocket watch, which only measures intervals of time and does not indicate the time of day. A stopwatch can be incorporated into a standard watch; both the stopwatch function and the timepiece would then be referred to as a "chronograph."

Countdown timer — a function that lets the wearer keep track of how much of a pre-set period of time has elapsed. Some countdown timers sound a warning signal a few seconds before time runs out — these are usually events such as yacht races, where the sailor must maneuver the boat into position before the start of a race.

Sweep seconds-hand: a seconds-hand that is mounted in the center of the watch dial.

Telemeter: determines the distance of an object from the observer by measuring how long it takes sound to travel that distance. Like a tachymeter, it consists of a stopwatch or chronograph, and a special scale, usually on the outermost edge of the watch face. One use of a telemeter would be



determining the distance of a storm from its observer.

Tachymeter: probably the most common feature on a chronograph, a tachymeter (also called tachometer) measures the speed at which the wearer has traveled over a measured distance. The wearer starts the chronograph when passing the starting point and stops it when passing the finish. The wearer can then read the speed in units, in this case, miles per hour, off the tachymeter scale.

Lap timer — a chronograph function that lets the wearer time segments of a race. At the end of a lap, he stops the timer, which then returns to zero, to begin timing the next lap.

Lap memory — the ability, in some quartz sport watches, to preserve in the watch's memory the times of laps in a race that have been determined by the lap timer (see lap timer). The wearer can recall these times on a digital display by pushing a button.

12-hour recorder (or register) — a subdial on a chronograph (see "chronograph") that can time periods of up to 12 hours.



Alarm — a device that sounds a signal at a pre-set time.

Yacht timer — a countdown timer (see “countdown timer”) that sounds warning signals during the countdown to a boat race.

Rotating bezel — a bezel (the ring which holds the crystal) that can be turned. Different types of rotating bezels perform different timekeeping and mathematical functions (see “elapsed time rotating bezel”, “uni-directional rotating bezel”, and “slide-rule”).

Elapsed time rotating bezel — a graduated rotating bezel (see “rotating bezel”) used to keep track of periods of time. The bezel can be turned so the wearer can align the zero on the bezel with the watch’s seconds or minutes hand. He can then read the elapsed time off the bezel. This saves him having to perform the subtraction that would be necessary if he used the watch’s regular dial.

Uni-directional rotating bezel — an elapsed time rotating bezel (see “elapsed time rotating bezel”) often found on diver watches, that moves only in a counterclockwise direction. It is designed to prevent a diver who has unwittingly knocked the bezel off its original position from overestimating his remaining air supply. Because the bezel

moves in only one direction, the diver can err only on the side of safety when timing his dive. Many diver watches are ratcheted, so that they lock into place for greater safety.

Slide rule — a device, consisting of logarithmic or other scales on the outer edge of the watch face, that can be used to do mathematical calculations. One of the scales is marked on a rotating bezel, which can be slid against the stationary scale to make the calculations. Some watches have slide rules that allow specific calculations, such as for fuel consumption by an airplane.

Flyback hand — a seconds hand on a chronograph (see "chronograph") that can be used to time laps or to determine finishing times for several competitors in a race. Usually has two sweep second hands, one positioned above the other. When the timer is running, the hands appear as one. When the start/stop button is activated while the chronograph mechanism is running, one hand stops to record a lap time etc. and the other continues to run. Activating the start/stop button causes the hand to return to the original position in tandem with the running sweep hand.



Auto repeat countdown timer — a countdown timer (see “count-down timer”) that resets itself as soon as the pre-set time has elapsed and starts the countdown again. It repeats the countdown continuously until the wearer pushes the stop button.

Subdial — a small dial within a watch dial used for any of several purposes, such as keeping track of elapsed minutes or hours on a chronograph or indicating the date.

Repeater

A repeater watch is a complication watch that indicates the hours by means of striking gongs — a function activated by a pushpiece or slide. There are several types of repeater watches:

Quarter-Hour Repeaters — This type of mechanism is designed to strike the hours and quarter-hours. A low-pitched gong is struck to indicate the hour, while quarter-hours are indicated by a low and a high note struck together.

Half-Quarter Repeaters — This type of mechanism is designed to strike the hours, quarter-hours and half-quarter hours, i.e. 7.5 minutes after the quarter-hour. A low-pitched (bass) gong is struck to indicate the hour, quarter-hours being indicated by a combination of bass and treble notes, the first half of the quarter-hour by a single treble note and the second half by two treble notes.

Five-minute Repeaters — These come in two versions: A bass note is struck to indicate the hours, and a treble note for every five minutes, rather than for every quarter-hour. A bass note is struck for the hours, combined bass and treble

notes for the quarter-hours, and a treble note every five minutes in addition to the quarter-hour.

Minute Repeaters

— watches that strike or sound the hours and minutes on





demand by activating a button.

Grandes Sonneries — (GRAHND sohn er EE) — this mechanism is designed to strike the hours and quarter-hours en passant, i.e. automatically, in a way similar to the traditional pendulum clock. A pushpiece, or a slide, makes it possible to select striking the hours, quarter-hours and minutes.

Multi-Function

Skeleton — a watch with a mechanism cut away to the minimum material by sawing and milling. Skeleton mechanisms are often provided with fine engravings and casings. Built in between the transparent dial and glass bottom, they create attractive, decorative watches.

Tourbillon — Device invented by A. L. Breguet in 1801 to eliminate errors of rate in the vertical positions. It consists of a rotating carriage or cage carrying all the parts of the escapement and the balance wheel. This ingenious mechanism corrects the small gravitational error that exists in regular watches.

Complication — a watch with more than one function (e.g. alarm, moonphase, perpetual calendar, power reserve indicator, split seconds, repeater). The term is usually used only for mechanical watches.

Grande Complication — a masterpiece of micro engineering. It usually includes the maximum number of functions. Displays hours, seconds, elapsed time, phases of the moon, and includes a split-second chronograph. Can have 9 hands, over 950 parts, and automatic mechanical perpetual calendar programmed for 514 years.

EXTERIOR

The following are the main parts of a watch:

Watch Case — the body that houses and protects the watch movement from dust, dirt, moisture and shocks. It also gives the watch as attractive appearance as possible, subject to fashion and to the person's taste.

Crystal — the transparent protective covering over a





watch face, made of sapphire, mineral crystal, glass or plastic.

Dial — the readable part of the watch, the face:

Analog display — the system of indicating time using hands and a dial.

Numerical display — the system of indicating time figures. Also called Digital Display.

Anadigi display — a display that shows the time both by means of hour and minute hands (analog display) and by numbers (digital display).

LCD (Liquid Crystal Display) — a method of displaying time in an electronic watch. It is created when particles are rearranged by electrical excitation. In LCD watches time is displayed constantly. All LCD watches have quartz movements.

LED (Light Emitting Diode) — The method of displaying time and/or other functions in an electronic watch using the phenomenon known as electroluminescence. The time appears on the watch face of an LED watch only when a button is pressed and power is sent to the diodes.



Guilloche — a type of engraving in which thin lines are interwoven, creating a patterned surface. Adds beauty and design to the watch.

Subdial — a small dial on a watch face used for any of several purposes, such as keeping track of elapsed minutes on a chronograph or indicating the date.

Hands — indicate the time or function.

Crown — the knob used to set hands and change functions.

Stem — the shaft connecting the crown to the winding and setting mechanism.

Push button — used in complications to start and stop special functions.

Watch strap — leather, rubber, fabric or synthetic materials.

Deployant buckle — safety feature protects against dropping the watch. Allows for the look of a strap style with the convenience of a one-piece foldover buckle style band.

Watch band — either a link or expansion band made in stainless steel, gold or a combination of materials.

Integrated — watch and bracelet in all one piece to accent a particular design.

Bezel — case ring that holds the crystal, sometimes set with precious stones.



INTERIOR

Movement — the inner mechanism of a watch that keeps time and operates the watch's functions.

Caliber — used to denote the size of a movement usually measured in lignes (2.256 mm); also used by manufacturers as "names" for their movements.

Ligne — used to indicate the size of a mechanical movement, measured over the plate beneath the dial. 1 ligne = 2.256 mm (one twelfth of a "French inch".)

Ebauche — literally the basic frame; commonly used for an assembled movement, without escapement, balance and hairspring and mainspring.

Mainspring — a coiled flat spring which provides the power to drive the gear train of mechanical watches.

Balance wheel — an oscillator, which regulates or governs the speed of the movement. A flat ring which pivots on an axle. It must be perfectly poised. After it has swung one way, the spring at its center reverses it and makes it swing the other way — hence the "tick tock" of a mechanical watch. Both balance and hairspring are made of a special alloy to offset the effect of temperature changes.



Hairspring or balance spring — a very delicate spiral spring attached to arbor of balance to control oscillations.

Balance staff — the axle on which the balance pivots.

Jewels — used as bearings to reduce wear at points of greatest friction in movements. Usually 17-21 jewels in mechanical watches. By reducing friction they add years to a watch's life. Once they were natural rubies, but now are synthetic. Their design shape helps to hold oil at the specific point of lubrication.

Quartz crystal — an oscillator made of a tiny piece of synthetic quartz. Its standard frequency is 32,768 times per second.

Hertz — Hz — the number of oscillations per second of electronic watches.



Maintenance & Service

Because of the complexity of the mechanisms, it's best to have a fine timepiece serviced by an authorized agent, equipped with genuine replacement parts and trained by the watch manufacturer. Upon request watch companies can provide a list of authorized service centers. For telephone numbers of watch companies, write or fax The American Watch Guild.

When setting the time, always turn the hands in a clockwise direction.

If you need to change the time, always set the day and/or date function during the day. The day-date mechanism is activated between the hours of 11 PM and 3 AM; adjusting the time during these hours can jam the mechanism. The day-date mechanism is activated between 9 PM and 12 AM in some watches.

For maximum efficiency and preservation of value, a fine mechanical watch, like an automobile, needs regular check-ups. A mechanical watch should be serviced every three to four years, depending on the manufacturer's instruction.

A quartz watch should be serviced when a battery change is necessary. Only a qualified watchmaker should open and close the watch. Some warranties are in jeopardy if someone opens the watch other than an authorized person.

Note: A quartz watch will not run if the crown is not completely in.

Automatic wind watches should be hand-wound if not running or if they have been off the wrist and the mainspring has run down. This winding builds up power to get the timepiece running immediately. After this initial winding, the normal wrist action will wind the watch. Generally, after wearing a full day, an autowind should run for 36 to 48 hours.

