The C9 Harrison Collection

OWNER'S HANDBOOK

Time on your side...

Your Christopher Ward watch has been designed and engineered by highly talented craftspeople to ensure not only accurate and precise timekeeping but also to bring a real pride of ownership that only luxury items of the highest quality can ever hope to deliver.

You have made an investment, a good one, and the aim of this handbook is to help you make the most of that investment during what I hope will be a lifetime of ownership.

Christopher Ward

John Harrison Watchmaker

John Harrison was born in 1693 in Foulby, West Yorkshire and lived for most of his life in Barrow upon Humber. He became a carpenter, like his father, was a gifted musician and a self-taught watchmaker, creating his first timepieces entirely out of wood.

He moved to London in the 1750s, at the height of his development of his “sea watches” and died in the capital in 1776. The ship’s chronometers were rediscovered at the Royal Greenwich Observatory in the mid-20th century and restored.

Today the H1, H2, H3 and H4 are on display at the National Maritime Museum in Greenwich. The H5 is owned by the Worshipful Company of Clockmakers, and is displayed in the Clockmaker’s Museum in London’s Guildhall.

The Longitude Solution

In 1760 horologist John Harrison took his 1735 invention of the Marine Chronometer to a higher level by making it portable in the form of a pocket watch - his H4 was effectively the first precision watch and the true ancester of the Christopher Ward collection.

Galileo, Cassini, Newton, Halley. Some of the greatest names in modern science history tried, and failed, to solve what was described for centuries as “the longitude problem”. It came down in the end to a self-taught horologist - a man who started out as a working class carpenter - to finally solve the problem in 1735, with the invention of the first ship’s chronometer. He refined and refined the design and mechanics until in 1760 he produced the first practical tool for ship’s navigation - a pocket watch sized device.

Now 250 years on it seems incredible that such a thing as the longitude problem ever existed. But exist it did: many sailors’ lives were still being lost decades into the 18th century - just as they had been lost during the earlier explorations in the 16th and 17th centuries - as a result of inaccurate navigation when ship’s travelled east or west.

Ships sometimes arrived at their destinations as much by luck as by good judgement, and returning to home ports was just as, and sometimes more, problematic. The Isles of Scilly off the south west coast of England were a notorious location for shipwrecks as ships’ captains simply got their positions wrong.

A Rotational Problem

While it was, and is, relatively easy to calculate position on the globe on a north to south axis using the sun or the stars and the lines of latitude, the east/west position - along the lines of longitude - could not be worked out in the same way because the earth is rotating.

There existed a theoretical solution based on measuring time, but until Harrison's invention was proved an astronomical solution was still thought to be the most likely avenue even into the 18th century. The time solution suggested that in order for ships to keep track of their position, they needed both the time at the home port and the time on the ship. The problem was that in order to create a system that provided accurate navigation, time would have to be measured to an accuracy of seconds – because seconds of time can represent huge shifts in distance.

This was a level of accuracy that did not exist until Harrison's breakthrough. Harrison understood that the longitude problem was not just about time, but about accurate time keeping - and he worked for the stretch of his long life on achieving the accurate measurement of time.

The implications of Harrison's work are just as potent today as they were 250 years ago.

Chris Ward is himself inspired by John Harrison, both as an individual and as a watchmaker. “Apart from the navigational breakthrough, in the history of watches the ship’s chronometer was revolutionary in that it made accurate time keeping portable.

“This had implications for the development of pocket watches right into the 20th century. Watches became increasingly smaller and were eventually small enough to be switched from pockets to wrists - an important practical and functional development that was only properly used for the first time by pilots in the First World War,” Chris says.

By the early 18th century, such was felt to be the urgency of the problem of navigation - and it’s implications for trade as well as the loss of life - that the British Parliament passed The Longitude Act in 1714. In effect this was a competition and challenge to the science community to come up with an answer. The Act had a substantial £20,000 prize attached to it - that was a great fortune at the time and equivalent to something in the order of £3 million today.

Harrison was never treated well by the science establishment or by the Board of Longitude set up by Parliament to administer the Act. He was never awarded the whole £20,000, but given grants and awards piecemeal. But he has nonetheless gone down in history as the inventor of the Ship’s Chronometer that revolutionised navigation.

The Original Seamaster

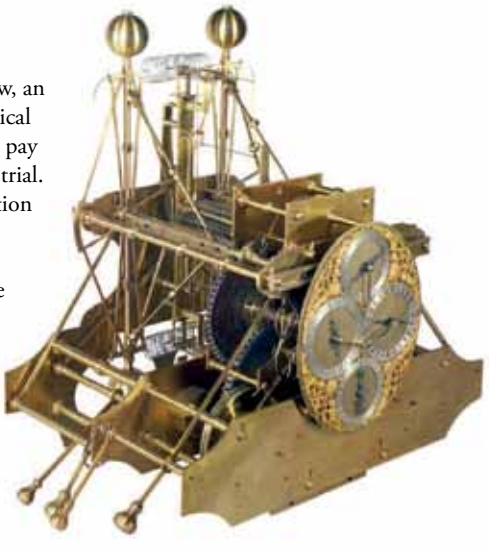
He did have supporters. Clockmaker George Graham, to whom Harrison first showed his concept in 1728, supported him financially so that he could develop his ideas, and Astronomer Royal Edmond Halley - of Halley's Comet fame - was another champion from the time when Harrison first proposed his solution.

Harrison, working with his brother and later with his sons, engineered a clock that remained accurate under the changing conditions experienced on board ships - changes of humidity, temperature, salination, movement, gravitational pull, and compression, among others. He solved the problem by using different metals in the movement that expanded and contracted in complementary measures and by doing away with the need for unstable lubricants through the use of his own invention of the grasshopper escapement.

His first 'sea clock', the H1 (pictured right), was tested in 1736 on a trip to Lisbon in Portugal. On the return voyage Harrison's calculation of landfall was accurate - the sea master's own calculation was 60 miles out. It was a very slow process to move from that first machine - a large and ungainly instrument - to the H4 pocket version of 1760. Intervening were wars, lack of funds, engineering breakthroughs and the development by Harrison himself and by other watchmakers of precision movements on a much smaller scale than had previously been thought possible.

The H4, which measures 5.2 inches in diameter, was trialled in 1761. On arrival in Jamaica following

a voyage from England, the H4 was four minutes slow, an error in longitude of 1.25 minutes or about one nautical mile. Despite this, the Board of Longitude refused to pay the full £20,000 to Harrison and demanded another trial. Harrison by this time, was working on the next iteration - the H5.



By the time of his death in 1776, Board of Longitude had finally acknowledged Harrison. Captain James Cook used copies of his H4 on his historic voyages to the southern Pacific. Chris goes on: "Accurate clocks are one of the things that made Britain great in the 18th and 19th centuries. Before Harrison's invention crossing oceans was not easy - sailors just could not plot with any accuracy."

Christopher Ward is marking the 250th anniversary of the H4 with a series of three automatic watches, the C9 Harrisons. Each has a quintessentially English appearance, and complications that nod to Harrison's own timepieces - two time zone settings prevalent among them.

Longitude and Latitude

What's the difference between longitude and latitude?

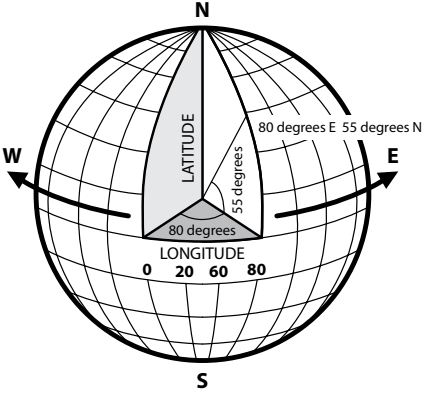
Lines of latitude run in parallel to each other, rounding the globe to the north and to the south from the mid-point Equator, which is at 0º latitude. They stay parallel to each other in concentric rings of decreasing size. Key lines of latitude in addition to the Equator are the Tropic of Cancer and the Tropic of Capricorn. These tropics mark the high points of the sun in summer in the northern and southern hemispheres, respectively.

Lines of longitude, on the other hand, straddle the globe in circles of the same size, that converge north and south at the Poles. The 0º longitude line, the Prime Meridian, runs through Greenwich in London – hence Greenwich Mean Time. The Prime Meridian has, however, moved to different locations over time, reflecting political and scientific power at any time. The Canary Islands, Paris, St Petersburg, Rome and Jerusalem have all been named as home to 0º longitude, among others, over the past 2,000 or more years

What was the longitude problem?

The nub of the problem was for ships' navigation. Latitude is fixed, and if you can see the sun, experience the length of the day, and read the stars at night you can calculate your position north to south. Sailors have been able to do this for millennia.

But the globe turns every 24 hours, so moving across the globe east or west is based on changing time and not a fixed position. As the globe turns 360º in 24 hours, each hour's journey is equivalent to 15º of longitude, which is one hour difference in time. To calculate your ship's distance travelled you need to know the time at your port of departure as well as the time on board. And to do this, you need to have clocks that work with absolute precision.



Chris concludes: "As a business we also find John Harrison a real stimulus to our work. He showed a combination of determination, grit, fortitude and perseverance plus a touch of genius - he is probably the finest watchmaker that we have ever had and his legacy goes on today."


Swiss Made
0003
Sapphire Crystal
5 ATM Water Resistant
Automatic
25 Jewel Movement
Christopher Ward

Caring for your Christopher Ward automatic watch

Your C9 Harrison is constructed from the finest components and materials available including one of Switzerland's finest automatic movements. As with all mechanical watches of this quality, with just a little care, it has the potential to become an heirloom piece giving further joy to future generations.

Here are a few hints to help keep your watch working perfectly over the years:

- Never fully wind your watch if it stops, 10-15 revolutions should suffice to have it restart.
- Try and wear your watch everyday, if possible, as this will both enable it to keep better time as well as preventing the lubricants in the movement from solidifying.
- Your watch is fitted with the finest Incabloc™ anti-shock system which should protect it if dropped onto a carpeted surface. However, it is best to avoid hard surfaces or sharp knocks. You may not want to wear your watch whilst playing racquet sports, for instance.
- There are many differing views about the right frequency for servicing your watch, ranging from 2 to 7 years! A modern mechanical watch like yours shouldn't need servicing more than every 3 years but we wouldn't recommend leaving it longer than this as, just like a car, the oil needs topping up from time to time.
- Always use a reputable watch repairer to clean and lubricate your watch, and keep any documentation you receive. You can always use the Christopher Ward after-sales service programme too.

Should you need a replacement part - don't worry, we keep stocks of spare parts for years, even for discontinued models. It's all part of the Christopher Ward service.

Finally, don't forget our **CW360° Care Programme** allows you to return your watch absolutely free, for any reason, and with no quibbles, for up to 60 days after purchase and we also guarantee your movement for up to 60 months, so long as it is regularly serviced. After all, why shouldn't you enjoy peace of mind as much as you enjoy your watch?

About automatic accuracy

If you are new to automatic watches you may not be aware that generally speaking automatic watches are not as accurate as their quartz counterparts. Whilst it is possible to fine tune an automatic watch to within a few seconds per day, the accuracy is largely dependent upon the power reserve in the watch at any given time. As you will appreciate the power reserve is dictated largely by the amount of wear and the amount of movement given to each individual watch.

When you first receive your watch it is quite possible that the balance may have been upset during its' journey to you, and then may require a settling down period of a few days or so. After a few weeks of wear you should be in a position to determine how your wearing habits affect the accuracy of the watch and whether it is within the tolerances specified by ETA and CWL on subsequent pages of this manual.


Christopher Ward
LONDON
AUTOMATIC
SWISS MADE

The C9 Harrison Automatic

Features

*25 or 26 jewel Swiss mechanical movement

Self winding (automatic)

Water resistant to 5 atm

Date indicator

Convex sapphire crystal with anti-reflective coating

38 hours maximum power reserve

Transparent case back

Hand polished stainless steel case with unique serial number

Technical Data

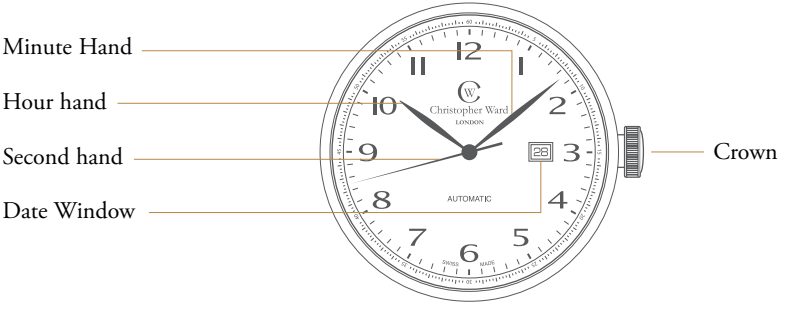
Diameter:	43mm
Height:	13mm
Weight:	90g
Case:	316L Stainless steel
Calibre:	*ETA 2824-2 or Sellita SW200-1
Vibrations:	28,800 per hour (4 Hz)
Accuracy:	+20 / -10 seconds per day

Description of the display and control buttons

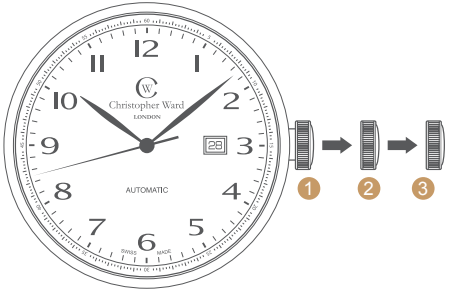
The C9 Harrison Automatic has a maximum power reserve of 38 hours when fully wound. To re-power the watch after a period of non-use, simply wind the crown in a clockwise direction approximately 10-15 revolutions. Normal wearing will very quickly allow the rotor to start re-powering the watch over time after putting it on your wrist.

Display elements

Control buttons



Setting the time/date



- Position 1 is for winding in power. Wind in a clockwise direction to re-power the watch.
- Pull gently into position 2. For rapid date correction, turn in a clockwise direction.
- Pull gently into position 3. This position is used for handsetting, and stopping of the second hand.

Please note: Date correction should not be carried out between 20.00 hr and 02.00 hr as the watch gearing will already be aligning itself to change the date.
The crown should always be pushed in after adjustment, and it is best to do so from position 3 to avoid advancing beyond the desired date.


Christopher Ward
LONDON
GMT
AUTOMATIC
SWISS MADE

The C9 Harrison GMT

Features

21 jewel Swiss mechanical movement

Self winding (automatic)

Water resistant to 5 atm

Date indicator

Convex sapphire crystal with anti-reflective coating

38 hours maximum power reserve

Transparent case back

Hand polished stainless steel case with unique serial number

2 instantaneous timezone readings

Technical Data

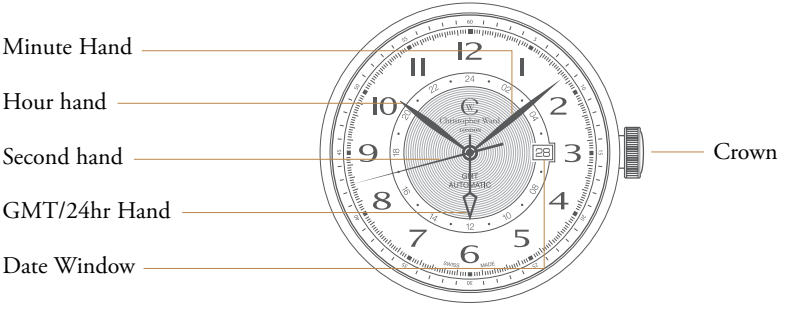
Diameter:	43mm
Height:	13mm
Weight:	90g
Case:	316L Stainless steel
Calibre:	ETA 2893-2
Vibrations:	28,800 per hour (4 Hz)
Accuracy:	+20 / -10 seconds per day

Description of the display and control buttons

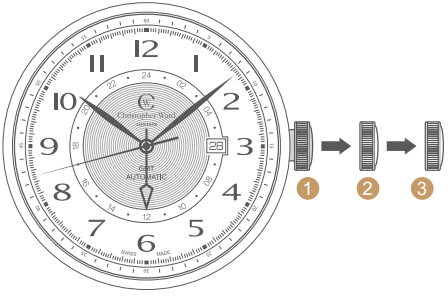
The C9 Harrison GMT has a maximum power reserve of 38 hours when fully wound. To re-power the watch after a period of non-use, simply wind the crown in a clockwise direction approximately 10-15 revolutions. Normal wearing will very quickly allow the rotor to start re-powering the watch over time after putting it on your wrist.

Display elements

Control buttons



Setting the time/date



- Position 1 is for winding in power. Wind in a clockwise direction to re-power the watch.
- Pull gently into position 2. For rapid date correction, turn in a anti-clockwise direction.
- Pull gently into position 3. This position is used for handsetting, and stopping of the second hand. A second time zone can be selected by means of the GMT/24hr hand which completes one revolution in 24hrs (see over).

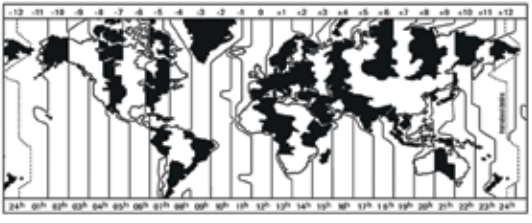
Please note: Date correction should not be carried out between 20.00 hr and 02.00 hr as the watch gearing will already be aligning itself to change the date.
The crown should always be pushed in after adjustment, and it is best to do so from position 3 to avoid advancing beyond the desired date.

GMT explained

The GMT/24hr hand with its triangular point allows you to read the time back home at a glance on the 24-hour scale at the centre of the dial.

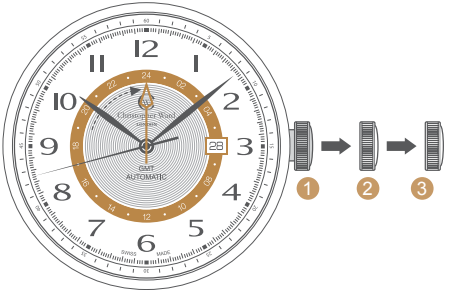
People travelling East, for example from London to Hong Kong, should pull the crown to position 2 and move the hour hand forwards (in this case by 8 hours). The table (shown below) can be used to calculate any time difference.

People travelling West, for example from London to New York, should pull the crown out to position 2 and move the hour hand backwards (in this case by 5 hours). The table (shown right) can be used to calculate any time difference.



In both cases, the GMT/24hr hand allows travellers to read the time back home - London, in our example - at a glance, using the 24-hour scale on the dial. The second time zone – in this case Hong Kong or New York - is read off the dial in the usual way. Each time the hour hand crosses midnight, the date jumps forwards or backwards, depending on whether the hour hand is moved forwards or backwards.

Setting the GMT/24hr hand



- Pull gently into position 2. Turn the crown clockwise and rotate the hand until you have reached the desired time indication.
- **To reset GMT to your local time.** Pull the crown into position 3. Turn counter clockwise past midnight and stop at 3:00a.m. Then push the crown into position 2. Rotate the GMT hand until it is also at 3:00a.m. then set the date.
- Pull the crown out to position 3 and set the time and the GMT hand will be in sync with local time.

Please note: Date correction should not be carried out between 20.00 hr and 02.00 hr as the watch gearing will already be aligning itself to change the date.
The crown should always be pushed in after adjustment, and it is best to do so from position 3 to avoid advancing beyond the desired date.


CHRONOGRAPH
AUTOMATIC
Christopher Ward
LONDON
SWISS MADE

The C9 Harrison Chronograph

Features

25 Jewel Swiss automatic chronograph

Etachron regulator system

2 counter multi-function chronograph (hours and minutes)

Convex sapphire crystal with anti-reflective coating

Water resistant to 5 atm

Adjustable quick-release butterfly clasp

Hand-polished surgical grade stainless steel case with unique serial number

Transparent case back

Technical Data

Diameter:	43mm
Height:	13mm
Weight:	90g
Case:	316L Stainless steel
Calibre:	ETA 7750 (modified) Valjoux

Description of the display and control buttons

Display elements

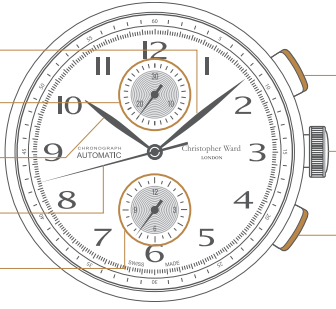
Minute Hand

Minute Counter

Hour Hand

Second Hand

Hour Counter

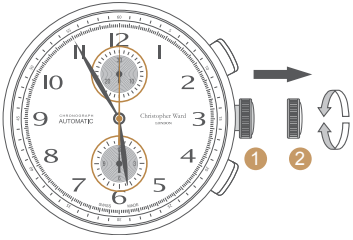


Control buttons

Push-button A

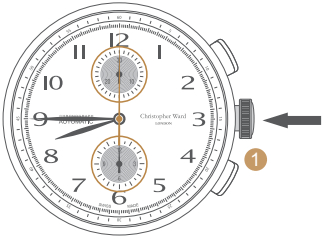
Crown

Push-button B



Setting the time

- Pull out the crown to position 2 (the watch stops).
- Turn the crown until you reach the correct time e.g. **08.45 hr.**
- Push the crown back into position 1 and the crown should sit flush to the case.



Please note. The watch can be also be manually wound from position 1.

Chronograph:

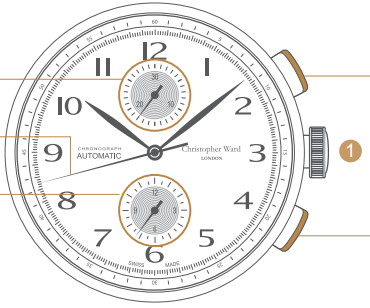
- The minute counter measures 30 minutes per rotation.
- The hour counter measures 12 hours per rotation.
- The centre stop-second measures 60 seconds per rotation.

Display elements

Minute Counter

Centre Stop-Second

Hour Counter



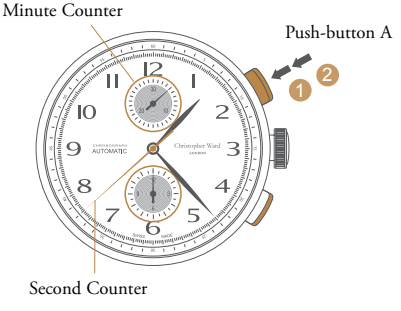
Control buttons

Push-button A
(Start / Stop)

Push-button B
(Reset)

Please note:
Before using the chronograph functions, please ensure that:

- The crown is in **position** 1
- The 2 chronograph hands are precisely at zero position following activation of **push-button B**.



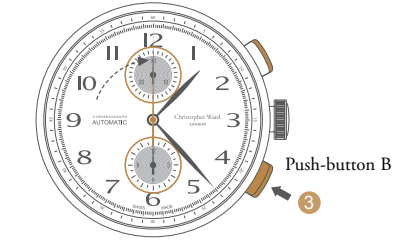
Chronograph: Basic function

(Start / Stop / Reset)

Example:

1 **Start**: Press push-button **A**.

2 **Stop**: to stop the timing, press push-button **A** once more and read the 2 chronograph counters: **4 min / 38 sec.**



3 **Zero positioning:**
Press push-button **B**.
(The 2 chronograph hands will be reset to their zero positions).

Example of use:
Timing a runner over 100m.

The quick-release butterfly clasp

The strap versions of the C9 Harrison Collection use quick-release butterfly clasps. If you are unfamiliar with the butterfly clasp system just follow our 8 step guide below.

Step 1 Locate the clasp

Step 2 Click quick-release

Step 3 Pull open clasp

Step 4 Prise cover open

Step 5 Thread strap through

Step 6 Snap back

Step 7 Close clasp

Step 8 Complete

Water resistance

Please note. these are only guidelines but we strongly urge you to adhere to them to retain the integrity of your watch. If you have any queries regarding this please contact us direct.

1 ATM (10 Metres)

Safe to wear your watch while washing your hands with tap water.

3 ATM (30 Metres)

Washing your car and or general hosepipe usage.

5 ATM (50 Metres)

Water resistant to most household shower units.

10 ATM (100 Metres)

Safe to use while snorkelling in open water, it is not advisable to dive with your watch.

30 ATM (300 Metres)

Ideal for experienced divers and, in general, anybody practising scuba-diving.

50 ATM (500 Metres)

Professional divers, experienced prolonged exposure underwater.

NB. To safeguard watch movement please ensure the crown is, at all times, pushed in correctly.

Keeping in touch with Christopher Ward...

From small beginnings just a few short years ago (our first workshop was actually a refurbished chicken shed!), Christopher Ward has won a worldwide following for his eponymous watch brand and can justifiably claim to manufacture the most affordable luxury watches in the world.

For many, the philosophy behind the brand, trying to put luxury watches within the reach of everyone, is as attractive as the watches themselves as is the very open approach of the business which means that Chris and the team spend a lot of time communicating personally with our customers - many of whom have become friends.

As the owner of a Christopher Ward watch, if ever you need to get hold of us we are at your service. We have listed some useful contact details on the back cover.

There is also always something new going on at our website at **www.christopherward.co.uk** and, if you haven't already discovered the independent forum dedicated to our brand at **www.christopherwardforum.com** we would recommend a visit. Informative and fun, it's a great place to hear the unexpurgated view of Christopher Ward of London!