

INTERNATIONAL WATCH



Celebrating our 20th Year

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Zenith

**Sails Up**  
at IWC

**Quartz**  
Pioneers

**Accutron**  
at Fifty

**The TAG**  
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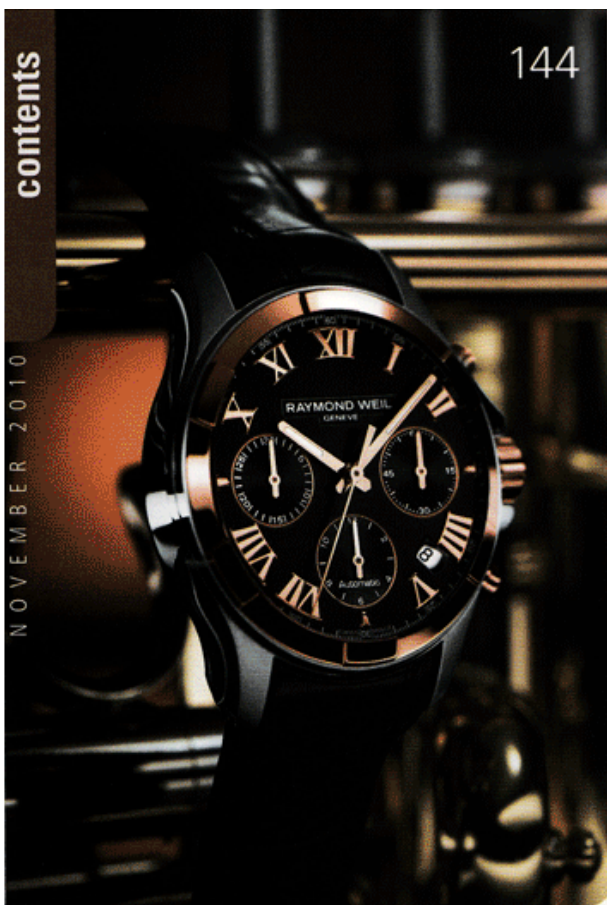
**Complete our puzzle**  
You could win this Croton watch



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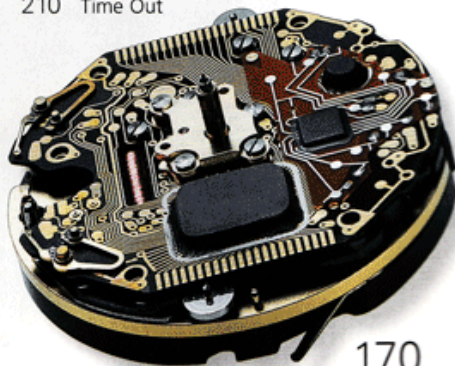


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## Do our puzzle

You could win this  
Croton watch **p.200**



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# Crystal CLEAR



As Bulova's tuning fork movement turned a tick into a hum, the Accutron Spaceview allowed a view of that technology.

BY TED SCHAAR  
PHOTOS BY BOB PIKER

Historians generally credit the development of the first watch to 16th century German locksmith Peter Henlein, although many details about its invention have been lost in the mists of time. The portable device Henlein created ticked as it tracked the hours—and it only had one hand.

All watches made a similar sound until October 25, 1960.

On that day, Bulova introduced a watch that hummed. It was named

Accutron, a melding of “accurate” and “electronic,” words that described the watch’s precision and operation.

The essence of an Accutron is a tuning fork that oscillates at 360 hertz. Powered by a battery about the size of an aspirin, it provides a space-age way of counting seconds, minutes and hours, and produces the watch’s distinctive hum, a tone slightly above F-sharp.

“Some musicians tune their instruments using their Accutrons,”

says Bob Piker of Normal, Illinois, who repairs Accutrons and sells some that he buys and refurbishes.

## Max Hetzel

Swiss immigrant Max Hetzel, who joined Bulova in the early 1950s, invented Accutron’s innovative movement. Hetzel was born in 1921, began making radios at age twelve, was plotting planetary orbits at sixteen (using a telescope he built himself) and later received a masters degree

The original Spaceview 214 is one of the most prized collectibles among Accutron enthusiasts. Details of a new edition can be found on page 158.



in electronics from Zurich's Federal Polytechnical University.

Two years after joining the firm, he was challenged by company chairman Arde Bulova—son of founder Joseph—to design a timekeeper that could compete with the electric watches then emerging from rival firms. Hetzel judged the competition's offerings to be battery-powered versions of conventional designs and said he would create an entirely new concept.

The tuning fork watch he developed was introduced to potential customers in Bulova print ads with headlines such as, "Why you should wear Accutron instead of a watch" that appeared in leading magazines of the day, including *National Geographic* and *The Saturday Evening Post*.

Bulova's confidence in Hetzel's approach was so strong the ad portrays the name as not just synonymous with the word "watch" but able to supplant it: "It's not a watch,

it's an Accutron." It was to be worn instead of a watch and it was guaranteed "not to gain or lose more than one minute a month in actual daily use" for a period of one year after purchase.

#### Unintended consequence

Although a marvel, the Accutron wasn't a hit until an unintended consequence gave it an unusual appearance—one that appeals to people who like form-follows-function design.



This stainless steel chapter ring Spaceview, made for the Swiss market, is slightly different from American versions in that it has a tuning fork logo at noon and hash marks at the 3, 6 and 9 positions. Bulova Accutron is also printed in two lines on the crystal in a place where American versions generally show the tuning fork logo over the word Accutron.

Some musicians tune their instruments using their Accutrons

"Early Accutrons looked like typical watches and sported gold dials. Bulova wanted jewelers to be able to show their customers how different the Accutron was inside, so the company made display models with the dials removed, allowing people to view the watch's internal parts, including the tuning fork and electronics," says Piker.

On his Web site [www.accutron214.com](http://www.accutron214.com), Accutron repairer-restorer Martin Marcus of Marblehead, Massachusetts, recounts what happened when jewelers put the display models in their windows:

"Perhaps because of its uniqueness, potential customers who thought that the watch in the jeweler's window was a standard model started asking to buy one. Dealers who didn't want to lose a sale were happy to sell the 'display model' and the strangely attractive watch started selling like hotcakes."

Bulova was surprised and delighted by the interest in these dial-less Accutrons and quickly moved to capitalize on it. First, it offered a conversion kit that allowed jewelers to transform standard Accutrons into dial-less models. The kit included a replacement crystal with hour and minute marks so the modified watch's hands had something to point to.

#### NASA connection

Bulova also began working on a production version that it eventually called Spaceview, a name that took advantage of Accutron's association with NASA, which utilized early tuning fork technology. Hetzel's movement, in fact, helped send America's first satellite, Explorer, into orbit. More than a decade later, an Accutron timer was placed on the Moon's Sea of Tranquility when the Apollo 11 mission landed the first humans on the lunar surface.

#### BULOVA ACCUTRON

The Bulova Accutron features a quartz crystal oscillator which is the source of the timekeeping function. It is a mechanical and a quartz watch, a tuning fork vibrating 359,140 times a second, providing accurate timekeeping. Quartz is a natural material which is cut into a specific shape and size to vibrate at a specific frequency. This 32,768 cycle per second quartz crystal is the heart of the Accutron. The quartz crystal is mounted in a special holder which is part of the watch movement. The quartz crystal is a natural material which is cut into a specific shape and size to vibrate at a specific frequency. This 32,768 cycle per second quartz crystal is the heart of the Accutron. The quartz crystal is mounted in a special holder which is part of the watch movement.

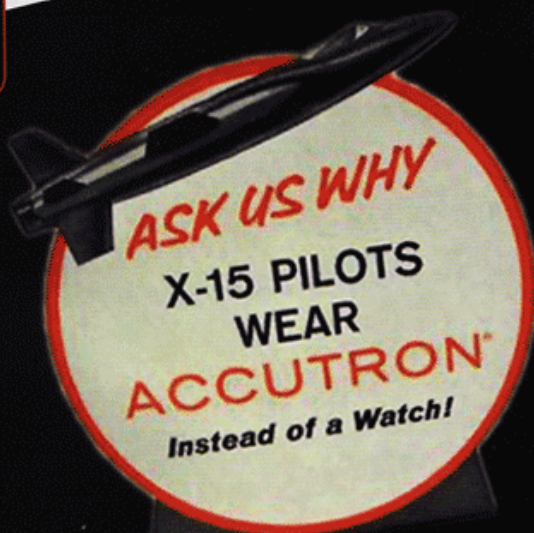


Spaceviews began rolling out of the Bulova plant in 1961. Early models were similar to conversion-kit Accutrons and featured crystals with hour and minute dots and dashes.

#### Chapter rings

In 1962, a chapter ring installed around the exposed electronic and mechanical parts replaced the Spaceview's decorated crystal. In horology, chapter refers to the marks or numerals designating divisions of time on a clock or watch. →

A popular sixties Accutron was the Astronaut...  
Elvis Presley owned one with a black dial.



For the next fifteen years, many Spaceview styles were made in gold and stainless steel and millions were sold before production was halted in 1977, primarily due to the emergence of quartz technology, which was as precise as Accutron's tuning fork mechanism but priced much lower. (I grew up in the sixties and liked the Spaceview the first time I saw one. Being able to view the workings of the watch was groovy and appealed to my sense of aesthetics and interest in science. The odd mixture of copper coils, resistors, tuning fork, and other parts got my attention and held it.)

#### Chance encounters

In the late 1970s, I purchased a used stainless steel Spaceview from a pawnshop for \$40. It kept perfect time, and I wore it regularly for the next dozen years. In the early nineties I was on a video shoot when a crewmember noticed it. He said he had a similar watch in gold that was a high

school graduation present. It wasn't working, had sat in a drawer for years, and he no longer wanted it. Was I was interested in buying it? Ultimately, I paid him \$100 for the watch. After repairs, it kept time precisely for well over a decade.

Like its stainless steel predecessor, my gold Spaceview occasionally drew favorable comments from people who noticed its unusual appearance. Unfortunately, it stopped working around the time the economy slowed in the wake of the Iraq War. I put off having it repaired and instead installed a new battery in my steel Spaceview. After lying dormant for more than a decade, it didn't hum in response.

In the fall of 2008, I looked into having my Spaceviews repaired and found Piker's website [www.my-bob.net](http://www.my-bob.net). Piker traces his interest in watches to an antique show where he purchased a 1915 Elgin watch.

"I thought about how someone

was wearing it before World War I," he says. "It got me hooked on the 'soul' of watches, so I became a collector."

In 1990 Piker bought a Spaceview at a flea market. "I didn't know it was called that at the time, but I liked the skeletal look and hum and wound up paying \$150 for it." He set out to learn what he could about the watch but didn't find much. "This was pre-Internet," he says. "But eventually I encountered a watchmaker who sketched the history."

#### Hobby into business

Piker looked for more Spaceviews, purchased Accutron parts, and ultimately acquired original repair manuals. He decided to take a crack at fixing examples in his collection.

"It was a challenge because the manuals used words I wasn't familiar with," he says. Still, Piker kept at it and grew skilled. After years of working on his own watches, he realized that he could repair any Accutron

The watch pictured is a special Spaceview that was designed and sold to commemorate Bulova's 100th Anniversary in 1975.

**Why you should wear ACCUTRON® instead of a watch**

**ACCUTRON is the only timepiece guaranteed 99.9977% accurate on your wrist.**

**ACCUTRON by BULOVA**



and decided to go into the Accutron repair and restoration business

Accutrons are almost always restorable, he adds. The most common problem is plain old dirt. "After years of use or of sitting in a box or drawer, fine particles work their way into the mechanism and gum up the works."

He has repaired hundreds of Spaceviews along with dialed Accutrons, including another popular sixties model called the Astronaut. "Elvis Presley had one with a black dial," he notes. Interest in tuning-fork watches is high enough to bring between five and eight to his shop every week. Fans sell, purchase and repair various models regularly, and today the most valuable Spaceview is worth about \$2,000, he explains.

Demand for Spaceviews and their increasing value has also attracted the attention of crooks. Some

unscrupulous watchmakers take the dials off later-model Accutrons, install marked crystals, and sell them as early Spaceviews. Piker urges care when shopping.

#### 40th anniversary

In 2001, to commemorate the 40th anniversary of the Spaceview, Bulova produced a watch with exposed internal parts that it called the Spaceview 21. The quartz movement is attractive but not as exotic or interesting as Hetzel's tuning fork mechanism, and the 21 doesn't hum. The watch was discontinued after its initial run of 1,000.

Bulova marketing manager Angelica Almeida says that interest in the original Accutrons, especially Spaceviews, remains strong.

"We get regular calls from customers who want to know where they can buy a Spaceview or get one

served," she explains. Almeida attributes the watch's continuing popularity to its "unique tuning-fork technology" and "the ability to view the mechanism through the crystal."

I'm glad to have my Spaceviews working again. Both watches have an original Accutron band that is appropriate to the year the watch was made, 1966 for the stainless steel Spaceview and 1970 for the gold. I enjoy wearing mine and answering the questions people who haven't seen one before sometimes ask. Moreover, after all these years, I still pause now and then to examine the intricate connections and electronics of the high-tech, tuning-fork mechanism and occasionally put the watch to my ear to hear that slightly above F-sharp hum. I even use my Accutrons to tell time, although with a Spaceview that seems secondary. ☺