

COMPARATIVE TEST: ETA 2892-A2

COMMON Ground



Photo: s/w Studio, Trautmann



The ETA 2892-A2 has been around for more than 25 years, and during the past quarter century, the movement has been encased within an immense range of watches. We decided to pit the IWC Mark XV, the Chronoswiss Kairos and the Longines Avigation against each other. All three are powered by ETA's intrepid bestseller.

BY WITOLD A. MICHALCZYK

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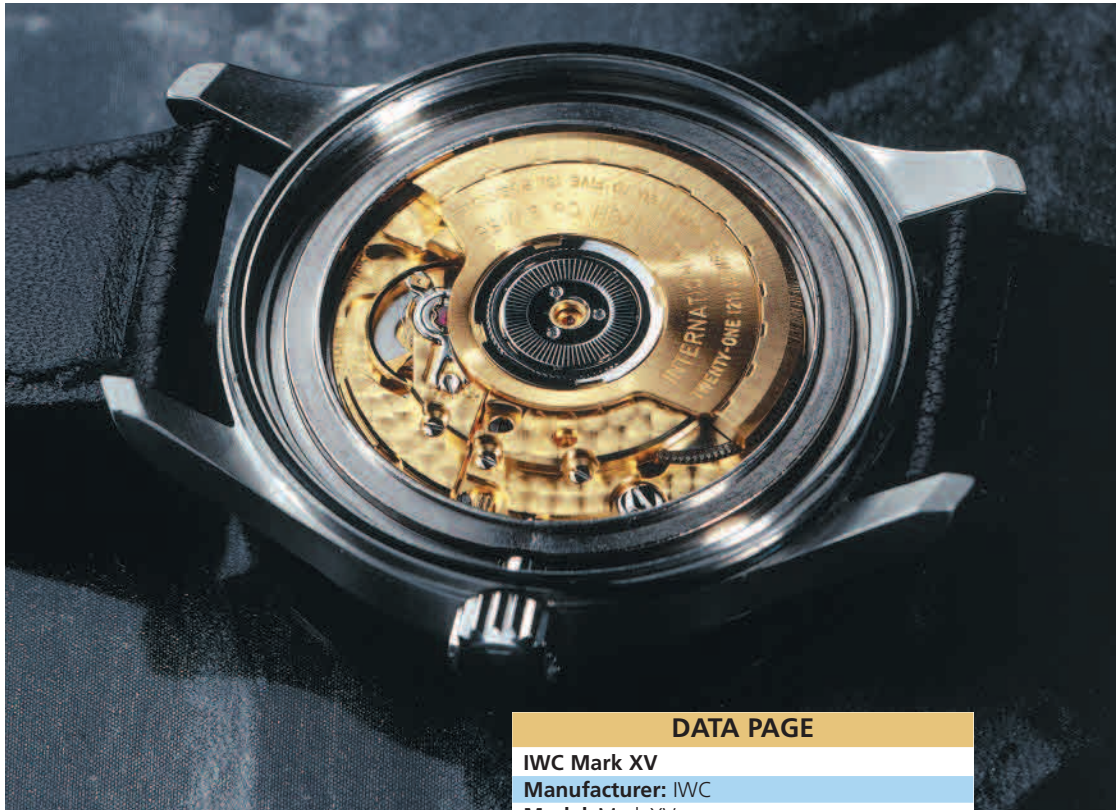
Afficionados of *manufacture* movements will undoubtedly sniff at any mention of ETA. Boring, mass-produced merchandise, they'll say. Well, we say, No way! Manufactured since 1975, ETA's Caliber 2892 outdoes nearly every other caliber in terms of its versatility. As the decades advanced, countless add-on modules were developed for this movement so that the updated ETA 2892-A2 could serve as the powerplant for timepieces with power-reserve displays, retrograde seconds, displays of time in a second time zone, chronograph functions, and five-minute repetition. Lest all these complications dazzle us, we also shouldn't forget that there are also plenty of very pretty 2892-A2s ticking away inside simple three-handed watches.

The IWC Marx XV, which sells for \$3,000 is the most expensive of our three candidates. Not only does its price make it a tempting watch with which to begin your serious collection, in many other respects its noble attributes distinguish it as the most interesting of our trio. Although this pilot's watch is powered by a 2892-A2, the watchmakers in Schaffhausen,



The case of the Mark XV shields the caliber against magnetism. Sturdy and beautiful: the folding clasp of the Mark XV.

Switzerland have gone to the trouble of so luxuriously rebuilding the base caliber that you could almost describe it as a total revision. The most immediately notable feature of the modified caliber is the gold plating. After IWC has subjected the caliber to comprehensive upgrading, it operates with significantly less friction and its balance swings through a larger arc. IWC insists on closer tolerances for endshake, meshing, and truing in the flat than ETA permits. A lever is individually made for each



A rare view into the comprehensively rebuilt ETA 2892-A2 that's used in the IWC Mark XV.



movement. Nearly all critical components along the path from the escapement to the mainspring are removed from the movement and replaced with corresponding components from IWC's own *manufacture*. The escapement and balance are optimally fine-tuned and painstakingly adjusted.

Unfortunately, the Mark XV's owner rarely has an opportunity to admire all of these many changes and improvements because the watch's screw-in back is not fitted with a trans-

DATA PAGE	
IWC Mark XV	
Manufacturer: IWC	
Model: Mark XV	
Functions: Hours, minutes, seconds, date.	
Movement: IWC C.37524, based on an ETA 2892-A2, mechanical with automatic winding, diameter = 25.6 mm, height = 3.57 mm, 21 jewels, 28,800 beats per hour, fine adjustment via eccentric, Incabloc shock absorption, 40-hour power reserve, screw-down crown, water-resistant to 6 atmospheres.	
Case: Stainless steel case, sapphire crystal, screw-in back.	
Wristband and clasp: Buffalo leather wristband with stainless steel folding clasp.	
Results of running test:	
(deviations in seconds per 24 hours):	
Dial up:	+2
Dial down:	+1
Crown right:	0
Crown left:	-2.5
Crown down:	0
Crown up:	-4
Greatest rate difference:	6
Average deviation:	0.5
Average (max.) amplitude:	300°
Dimensions: Diameter = 38 mm, height = 9 mm. Weight: 56 g.	
Price: \$2,995	

parent window. Even after unscrewing the opaque metal back, the movement still remains hidden from view because IWC has equipped the watch with a soft iron inner case to protect the caliber from the deleterious ef-

COMPARATIVE TEST: ETA 2892-A2

fects of magnetic fields. Only after the inner case has been removed can you feast your eyes on the Caliber C.37524, which is the reference number IWC uses to designate this revamped movement. The fine-tuning given to the caliber by IWC was unmistakably apparent on our tester's timing machine, which registered an average deviation of just 0.5. Our advisor for this test, Rainer Merath, the owner of Kerner Jewelry and Watches in Ulm, Germany, admitted he rarely encounters such a tiny deviation during timing trials.

The Kairos debuted in 1989 and is named after the Greek god of auspicious moments.

Compared to its predecessor (the Mark XII), the Mark XV has grown two millimeters larger. That may not seem like much expansion, but because the watch looks fairly small, every little bit of extra size helps. At the same time, its overall height was decreased by 1.5 millimeters, despite the fact that the movement itself is thicker than its forerunner. Although the remaining elements of design were transferred unchanged, these two alterations make the

DATA PAGE

Chronoswiss Kairos

Manufacturer: Chronoswiss

Model: Kairos

Functions: Hours, minutes, seconds, date.

Movement: ETA 2892-A2, mechanical with automatic winding, diameter = 25.6 mm, height = 3.57 mm, 21 jewels, 28,800 beats per hour, fine adjustment via eccentric, Incabloc shock absorption, 42-hour power reserve, bridge with cloud pattern, skeletonized rotor.

Case: Stainless steel case, sapphire crystal, sapphire crystal case back.

Wristband and clasp: Crocodile-skin wristband with pronged buckle.

Results of running test:

(deviations in seconds per 24 hours):

Dial up:	+5
Dial down:	+7
Crown right:	0
Crown left:	0
Crown down:	+1
Crown up:	+2.5
Greatest rate difference:	6
Average deviation:	+2.5

Dimensions: Diameter = 38 mm, height = 9.5 mm. Weight: 55 g.

Price: \$2,400

The skeletonized rotor has two "windows" through which you can see the movement.

Mark XV look much younger and fresher. Satin-finished steel is only one reason why its case well suits the image that you might demand from a modern, high-quality wristwatch. The handling of the details is so good that no shortcomings could be found. Just the opposite, in fact: the closer you look, the more excellence you discover, such as the beveling at the edges of the lugs. The Mark XV is also the only watch in our test that offers a screw-down crown. The crown itself isn't especially large, but its size and design are good matches for the Mark XV's overall look. The crown is also readily grasped and very pleasant to operate. Some critics might complain that the Mark XV's appearance is somewhat too austere, but we think that in this case austerity in design has led to very attractive contours.

Clear contours and a reduction to the bare essentials also characterize the look of the dial. Compared to its predecessor, the hands and indices on the Mark XV have gained a little weight. The Mark XV is also the only one of our three candidates to offer a date window at the 3 o'clock position. The date beside the "3" (rather than down at the "6") seems a wee bit conservative and interferes with the



Above: The Kairos reflects Gerd-Rüdiger Lang's penchant for classical shapes.

Below: Chronoswiss insists on perfection, even in the smallest of details.





Longines hasn't made many changes in the stock ETA 2892-A2.



A side view of the Avigation highlights its slender, sporty profile. The crown has a nice feel, but is a little too large.

otherwise pleasing harmony of the overall appearance. The stalk-type hands aren't exactly graceful beauties, but their lengths are just right and even the most cursory glance can so easily distinguish between the three different hands that you can even tell the time of day when you're flying through a summer thunderstorm in a jittery little Cessna. If you ever find yourself trying to perform that stunt in the middle of the night, five luminous tritium markings will help keep you oriented, at least as far as the time is concerned. A domed sapphire crystal covers the dial. The crystal, inci-



The clasp is a good match for the watch's style. Unfortunately the piece of leather that protects the wrist isn't perfectly sewn.

dentally, fits so securely that IWC promises that it will also be able to withstand a sudden plunge in cabin pressure. We opted not to put that promise to the test, but can assure you that when danger threatens; you can rely on IWC's Mark XV.

The buffalo leather wristband is excellently crafted. From start to finish, it evinced greater suppleness than the wristbands of the other two candidates in our comparative test. The folding clasp is very beautiful, but operating the one on our test watch required a bit of brute force.

DATA PAGE

Longines Avigation

Manufacturer: Longines

Model: Avigation

Functions: Hours, minutes, seconds, date.

Movement: L619, based on an ETA 2892-A2, mechanical with automatic winding, diameter = 25.6 mm, height = 3.57 mm, 21 jewels, 28,800 beats per hour, fine adjustment via eccentric, Incabloc shock absorption, 42-hour power reserve, bridge with cloud pattern.

Case: Stainless steel case, sapphire crystal, sapphire crystal case back.

Wristband and clasp: Reptile-skin wristband with pronged buckle.

Results of running test:

(deviations in seconds per 24 hours):

Dial up:	-1
Dial down:	+3
Crown right:	+5
Crown left:	+4
Crown down:	-1
Crown up:	0
Greatest rate difference:	6
Average deviation:	1.5
Average (max.) amplitude:	280°

Dimensions: Diameter = 38.5 mm, height = 9.1 mm. Weight: 55 g.

Price: \$1,195

Timepieces from the House of Chronoswiss can hardly be described without using the often-repeated adjective "classical." But that epithet is no mere platitude here, as Gerd-Rüdiger Lang readily admits that his watches run "100 years slow." Scarcely any other brand has become such a trendsetter by virtue of its uncompromising refusal to get with the times. The Kairos, which debuted in 1989, derives its name from Ancient Greek mythology. This model bears the same name as the Hellenic god of the "auspicious moment." You could argue that anyone who wears this watch is in danger of losing track of time – not because of any shortcoming inherent in the wristwatch, whose dial is readily legible – but because its face is so beguiling that you might lose yourself in contemplation of beauty and forget what time it's getting to be. Lovely guilloché decorations expand in concentric circles from the midpoint of its dial. The large numerals are arranged on a smooth annulus, followed by the somewhat smaller strokes, dots, and digits of the minute-circle that form a ring around the hour indices. The date window is cleverly located above the "6," where it provides visual counterweight to the "12," a numeral

which, by its very nature, necessarily looks somewhat heavier than all the others with which it shares the dial. The brand name and the name of the watch are unobtrusively aligned along the central, vertical axis between “6” and “12.” Notwithstanding the classicism of several stylistic elements, this focus on the watch’s essentials is thoroughly modern. The 38-mm diameter is regarded as a comfortable standard for today’s wrists, although when the Kairos debuted, it ranked among the larger watches in its class.

And yet, to describe the Kairos as a “modern” wristwatch wouldn’t do justice to Lang’s idea, at least if you substituted “modern” for “fashionable.” The Kairos’ modernity derives

The roots of the Longines Avigation can be traced to 1920, when a navigation instructor developed the first genuine pilot’s watch.

from its timeless design. Although it was born during the aftershocks of the 1980s, its form can still effortlessly hold its own against any 2002 competitors. Other manufacturers have frequently tried to imitate the classic characteristics of the Kairos, but their copying merely apes its surface design without getting to the heart of its perfection, which is in the details. While other brands strive to reduce the number of components, the lavishness of Lang’s approach seems almost extravagant: The case alone is constructed from 19 separate parts. The same austere clarity that we admired on the dial is continued within the 9.5-mm-tall cylinder of the case. Despite the case’s somewhat unergonomic form, the extreme down-

ward curvature of the lugs ensures that this watch fits comfortably on the wrist. The channeled bezel, which has practically become a trademark for Chronoswiss, rounds the edges of the case far enough so that the watch won’t snag on even the closest-fitting shirt cuff. The elaborate construction of the case notwithstanding, this watch is water-resistant to 30 meters. You can search for luminous indices, but you won’t find them, as the application of luminous material to the blued-steel Breguet-style hands would rob these indicators of their charm. If you want to read the time from this watch during the night, you’ll need to rely on other sources of light. If your surroundings aren’t absolutely as black as midnight, then the clear structure of the dial and the perfect lengths of the hands will facilitate the time-telling task. The hands have been kept rather narrow, but good legibility is assured by their azure color, which contrasts extremely well with the silvery hue of the dial.

The steel hands on Lang’s watches aren’t mere off-the-shelf items: Each one is manually curved, sharpened to a rapier-like point, and carefully polished. True to tradition, the eyelets on these Breguet-style hands are asymmetrically filed. The fruits of all this effort are graceful blue beauties of a kind that’s seldom seen on other brands’ watches. In a lean era which has made efficiency and cost-cutting its first and second commandments, Lang’s perfectionism seems almost anachronistic. The Kairos positively invites close scrutiny, and anyone who takes the time to really look closely will no doubt appreciate the differences. Two other details that distinguish Lang’s timepieces from the also-rans are the screws on the wristband’s crosspiece and clasp, where Chronoswiss uses its patented Autobloc system. It

TEST RESULTS:	IWC MARK XV	CHRONOSWISS KAIROS	LONGINES AVIGATION
Wristband and clasp (max. 10 points):	7	9	7
Operation (5):	5	4	5
Case (10):	8	10	7
Design (15):	14	13	11
Legibility (5):	5	4	5
Wearing comfort (10):	8	8	7
Movement (20):	13	12	11
Results of running test (10):	8	8	8
Overall value (15):	11	12	11
TOTAL:	79	80	72



ETA and Its Best-selling Caliber 2892-A2

In the wake of comprehensive reforms in response to the Quartz Crisis, SSIH (Société Suisse pour l'Industrie horlogère S.A.), ASUAG, and thus also the several companies which were formerly subsidiaries of Ebauches S.A. were all absorbed by SMH Concern (Société Suisse de Microélectronique et d'horlogerie), which was jointly founded by charismatic super entrepreneur Nicolas G. Hayek and a consortium of renowned banks. All ébauche-related activities were brought together under the aegis of the new ETA S.A., a subsidiary of SMH.

Without ETA's tremendous production potential and broad spectrum of calibers, many of Switzerland's watch brands would have been forced to stop making watches. Despite (or perhaps because of) ETA's large-series production, its products distinguish themselves as paragons of precision and reliability. Furthermore, respected luxury brands (e.g. Frank Muller or IWC) rely on tried-and-tested calibers such as the ETA 2892, or, to be more precise, the updated version of that caliber, which bears the reference number 2892-A2.

This flat, self-winding movement with central, ball-borne rotor debuted in 1975. To compete with the precise rate of electronic timepieces, in this and other mechanical calibers ETA relied on an easy-to-handle balance frequency of 28,800 beats per hour or four-hertz. Compared to the likewise available five-hertz (36,000-beat-per-hour) calibers, the slower heartbeat combines adequate precision with relatively minor and easily mastered technical difficulties.

Three watches, three price classes, three philosophies. And yet, all three watches have one very big element in common: The ETA 2892-A2.

goes without saying that the reptile-skin wristband is sewn by hand.

The appealing impression made by the watch's exterior isn't entirely reinforced by the horological landscape beneath the screw-in back, which is fitted with a sapphire crystal. Only the standard, bi-directionally winding rotor has been replaced with a gold-plated, skeletonized variant. The Chronoswiss team is meticulous when it comes to reassembling and ad-

The 2892-A2 also embodies principles in its self-winding construction group which ETA had already used successfully for many years. These principles include the patented, ball-borne rotor which had been developed for Eterna in 1947, the automatic gear-train with an efficient click-wheel alternator to polarize the rotor's motions so that the oscillating weight can wind the mainspring in both of its directions of rotation, easy servicing thanks to modular construction, and reduction of the entire device to the fewest possible components. When fully wound, the barrel stores enough energy to keep the watch running for 42 hours. Rapid adjustment for the date display, a directly propelled "sweep" seconds-hand, an eccentric to adjust the regulator's tail, and a balance-stop function to facilitate to-the-second setting of the time likewise number among this calibers standard features.

Considering all of these attributes, the caliber's dimensions needn't fear comparison with exclusive, small-series calibers. Its diameter is 11 1/2 lignes (25.6 mm) and its height is 3.6 mm. When a caliber-savvy watch aficionado sees those figures, he or she is likely to be reminded of the legendary Eterna-Matic 3000, which celebrated its premiere in 1963. This extra-flat wristwatch originally encased the Caliber 1466 with a balance frequency of 18,000 beats per hour (2.5 hertz). Later, this leisurely paced ticker was replaced by the Caliber 1505, whose balance completes 21,600 beats every hour. Like the 2892, these automatic movements supported date displays and were a

justed the caliber, although seven seconds "plus" in the dial-down position and five seconds "plus" in the dial-up position are relatively large deviations. On the other hand, the Kairos was the sole contestant of the three whose rate didn't lag at all on the timing machine.

Longines debuted the Avigation line four years ago, but its history can be traced back to 1920, when a navigation instructor named Philip van Horn Weems collaborated with Longines to develop the first genuine pilot's watch. Its special feature was a pivoting subdial in the center of the dial that pilots could use to make navigation easier. Weems coined a name for this system by combining the concepts of aviation and navigation, and the "Avigation" was born. Weems also took pains to ensure that only the

mere 3.6-mm slim. It thus seems likely that the Caliber 2892 was originally based on these trail-blazing calibers.

Of course, ETA's technicians continued to refine the caliber during its production phase. The optimized version, which was first marketed in 1983, bears the reference number 2892-A2.

The 2892-A2 belongs to the "Mecaline" category in ETA's current spectrum of movements. The company distinguishes between simple calibers ("Standard") and extra-flat, highly complicated movements ("Specialties").

Generally speaking, worlds of difference can separate one specimen of a 2892-A2 from another. ETA offers this caliber in the "normal" version (the basic, plain-vanilla item), as well as in an "elaborate" version. Additionally, ETA also makes gold-plated movements and crafts special editions with Incabloc shock absorption, Nivaflex-1 mainspring, and better adjustment. If that's not enough – if a watch company has loftier demands – then a specially "souped-up" version can be commissioned. ETA will gladly do whatever you ask, beginning with engravings, continuing through precious metal rotors, and finishing with meticulous skeleton-work. The list of options reads like a spare-parts catalogue from a luxury car manufacturer. After all of the refinements have been installed, an ETA Caliber 2892-A2, at which many self-proclaimed connoisseurs so often thumb their noses, can easily hold its own in the elite class of luxurious mechanical watch movements. Gisbert L. Brunner

highest-quality and most skillfully crafted materials were used in his watch. The 2002 reincarnation of the Avigation no longer has a pivoting subdial, but it hasn't lost one iota of its craftsmanship. The case's design gives the watch a light and elegant appearance despite the fact that this 9.5-thick watch is slightly taller than the other candidates in our test are. Its 38.5-mm diameter also makes it the biggest of the three, but because the Avigation's case is so strongly curved, it seems thinner than the Mark XV and the austere cylindrical Kairos. The Avigation's short lugs help the wristwatch to convey an impression of compactness. Unlike the balanced designs of the Mark XV and the Kairos, the case and crown of the Avigation do not form a holistic unit. Although its large and rather sharp-

edged crown seems like a foreign body that's been grafted onto the case, the grooved crown fits well between the fingers and is therefore easier to operate than the oversized, onion-shaped crown on the Kairos.

The polished stainless steel of the case is a good match for the overall unostentatious appearance of the watch. If you're looking for ornamental frills, then you'll have to look elsewhere. Like the Kairos, here too the point of the design is the task of depicting the time of day or night. Whereas the design of the dial on the Chronoswiss watch was obviously inspired by classical models from the early 19th century, Longines looked to the great pilot's watches of the 1930s and 40s for inspiration. Large, clear, authentically styled numerals enhance the dial's legibility. Stalk-shaped strokes in the minute-circle help the user to tell the time with to-the-minute and to-the-second accuracy. All three of the hands are well crafted and sufficiently long. Under dark conditions, the Avigation proved itself to be the most legible of the three tested watches, although earning that distinction wasn't so very difficult because the Chronoswiss has no luminescent material on its dial. The Mark XV glows, but the Avigation's tritium-treated numerals and large hands are significantly easier to distinguish in the dark. Longines has coated the hands with one type of luminous material and the indices with another, an unfortunate choice that has resulted in unequal luminosity. On the other hand, perhaps the Avigation's design engineers opted for this solution because they wanted to make it easier to distinguish between the hands and the numerals. If that was their intent, then it would have been better to have used two different colors.

The Avigation is the largest of the three, but because its case is so strongly curved it seems smaller than the Mark XV and the Kairos.

One stylistic bone of contention that's constantly gnawed at by impassioned watch collectors is the question of brown and black. Does good taste permit a brown wristband to be affixed to a wristwatch that has a black dial? Be that as it may, this two-tone combination is not inauthentic among pilot's watches – and it's standard procedure at Longines. Other details on the Avigation that authentically revive the style of 1930s pilot's watches include the clasp, which looks as though it has been wrought from aircraft sheet metal, and the leather protection for the wrist, which, at least on our test model, was somewhat crookedly sewn to the wristband.

Beneath the mineral crystal case back we find an ETA 2892-A2 which looks more or less like a stock item, with only some engraving on the rotor giving it a touch of individuality. Praiseworthy, however, is the excellent adjustment given to this caliber by Longines. Our empirically determined values ranged from a very slight lag of one second to a maximum of five seconds "plus."

Three watches, three price classes, three philosophies. And yet, all three watches have one very big element in common: The ETA 2892-A2 that ticks inside each. Our trio highlights the diversity of this bestseller from Grenchen in exemplary manner. To turn up your nose or sneer at mass-produced movements is an unfair reaction to the 2892-A2. Each of the three watches reviewed here could easily lay the groundwork for a very interesting collection.