

National Association of Watch and Clock Collectors (NAWCC)

Chapter 154 – Daytona Beach, Florida

www.nawcc154-daytonabeach.com

February 2018 Newsletter

NEXT MEETING & MART

February 18, 2018 (Sunday)

Meeting Agenda

9:00am to 11:00am – Mart

11:00am to 11:30am - Workshop / Show and Tell

11:30am to 11:45am – Chapter Meeting

11:45am to 12:30pm – Program

12:30pm - Buffet Lunch

* **Program:** “Using the Watchmaker's Lathe in Clock Repair and Restoration”

* **Guest Speaker:** Pete Schreiner

Many of the procedures used for fabricating and servicing parts of a clock require the use of a precision lathe. This presentation will describe the precision watchmaker's lathe and a number of the operations for which it is used. Examples of the equipment and associated tools will be displayed and demonstrated.

* **Workshop:** “Identifying Silver and Fake Silver Pocket Watch Cases” by Randy Jaye.

Show and Tell: Please bring any horological, interesting or historic item to discuss with the group.

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MEETING PLACE

Duff's Original Buffet
(Banquet Room)
2667 N. Atlantic Ave.
Daytona Beach, FL 32118
(In the Bellair Plaza)
(386) 492-7380

Meeting Includes:

* Mart Table is included (bring your items to sell or trade) | Silent Auction | Program by a Guest Speaker | Workshop | Show & Tell

REGISTRATION AND DUES

The Mart, Meeting and **Full Course Buffet Lunch** is \$15.00 per person (lunch, drink and tip are all included).

Annual Chapter Member Dues are \$10.00

NAWCC Chapter 154 News

Recap of the January 2018 Meeting

The January 2018 Meeting & Mart featured Chris H. Bailey's Program: "The Rise & Fall of Chauncey Jerome" which detailed the history of this man and his clock manufacturing and distribution, not only in America, but pioneering the exporting to and sale of Yankee clocks in England.

A Workshop "Wood Clock Case Restoration Tips: Aging Wood using a 'Home Remedy' and Custom Staining Techniques" by Randy Jaye which featured the aging of various species of wood and rub-on gel stain techniques.

Public Project Update: Historic Signage for the Coquina Clock Tower in Daytona Beach

On January 23, 2018, Jim Zeisler and Randy Jaye met with James Chisholm (Daytona Beach City Manager), and Hardy Smith (Daytona Beach Government Relations Administrator) and discussed placing signage at the Daytona Beach Coquina Clock Tower and other historic structures in Oceanfront Park. Information is being gathered and follow-up discussions will be scheduled.

Public Project Update: Holden House Clock

Randy Jaye is visiting the Holden House Museum on a regular basis and is monitoring the accuracy of the hall clock and making adjustments to the pendulum's adjustment nut when necessary. It is currently running a few minutes fast over a 7 day period, but additional adjustments will get it to +/- 1 minute per week, which is our goal.

* **Show & Tell** – please bring along any item(s) you would like to present - various historical and interesting items will be showcased and discussed by members and guests.

* **Chapter 154 has a FREE Silent Auction at all Meetings:** Bring your items to any Meeting and Mart to sell or maybe you can find something to buy.

Upcoming 2018 Chapter 154 Events

-- March 18, 2018 (Sunday)

* **Speaker:** Randy Jaye

Program: "Clock and Watchmakers who Helped Build the Modern World (Part 2)."

-- September 16, 2018 (Sunday)

* **Speaker:** Mark Lane

Program: "Preserving History through Local Media."

-- October 21, 2018 (Sunday)

* **Speaker:** Ken Rockwell

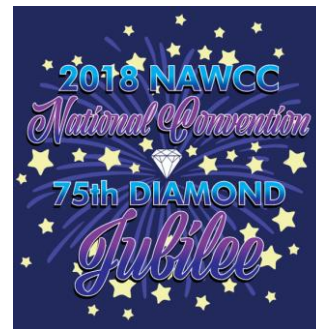
Program: "To Be Announced"

-- November 18, 2018 (Sunday)

* **Speaker:** Dave Howard

Program: "What's in the name – on the Dial."

-- December 2, 2018 (Sunday)
Chapter 154 - Holiday Party



July 19-22, 2018 at the York Fairgrounds in York, Pennsylvania

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NASA Tests Atomic Clock for Deep Space Navigation

By Danny Baird – February 6, 2018

NASA's Goddard Space Flight Center, *Greenbelt, Md.*

In deep space, accurate timekeeping is vital to navigation, but not all spacecraft have precise timepieces aboard. For 20 years, NASA's Jet Propulsion Laboratory (JPL) in Pasadena, California, has been perfecting a clock. It's not a wristwatch; not something available in a store. It's the [Deep Space Atomic Clock](#) (DSAC), an instrument being built for deep space exploration.

Currently, most missions rely on ground-based antennas paired with atomic clocks for navigation. Ground antennas send narrowly focused signals to spacecraft, which, in turn, return the signal. NASA uses the difference in time between sending a signal and receiving a response to calculate the spacecraft's location, velocity and path.

This method, though reliable, could be made much more efficient. For example, a ground station must wait for the spacecraft to return a signal, so a station can only track one spacecraft at a time. This requires spacecraft to wait for navigation commands from Earth rather than making those decisions onboard and in real-time.

"Navigating in deep space requires measuring vast distances using our knowledge of how radio signals propagate in space," said Todd Ely of JPL, DSAC's principal investigator. "Navigating routinely requires distance measurements accurate to a meter or better. Since radio signals travel at the speed of light, that means we need to measure their time-of-flight to a precision of a few nanoseconds. Atomic clocks have done this routinely on the ground for decades. Doing this in space is what DSAC is all about."

The DSAC project aims to provide accurate onboard timekeeping for future NASA missions. Spacecraft using this new technology would no longer have to rely on two-way tracking. A spacecraft could use a signal sent from Earth to calculate position without returning the signal and waiting for commands from the ground, a process that can take hours. Timely location data and onboard control allows for more efficient operations, more precise maneuvering and adjustments to unexpected situations.

This paradigm shift enables spacecraft to focus on mission objectives rather than adjusting their position to point antennas earthward to close a link for two-way tracking. Additionally, this innovation would allow ground stations to track multiple satellites at once near areas like Mars, crowded with NASA science missions. In certain scenarios, the accuracy of that tracking data would exceed traditional methods by a factor of five.

DSAC is an advanced prototype of a small, low-mass atomic clock based on mercury-ion trap technology. The atomic clocks at ground stations in the [Deep Space Network](#) are about the size of a refrigerator. DSAC is about the size of a four-slice toaster, and could be further miniaturized for future missions.

The DSAC test flight will take this technology from the laboratory to the space environment. While in orbit, the DSAC mission will use the navigation signals from [U.S. GPS](#) coupled with precise knowledge of GPS satellite orbits and clocks to confirm DSAC's performance. The demonstration should confirm that DSAC can maintain time accuracy to better than two nanoseconds (.000000002 seconds) over a day, with a goal of achieving 0.3 nanosecond accuracy.

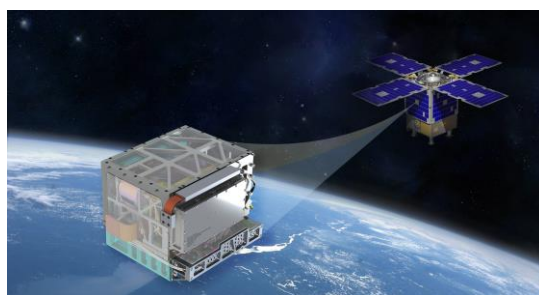
Once DSAC has proven the technology, future missions can use its technology enhancements. The clock promises increased tracking data quantity and improved tracking data quality. Coupling DSAC with onboard radio navigation could ensure that future exploration missions have the navigation data needed to send humans back to the moon and traverse the solar system.

Technologies aboard DSAC could also improve GPS clock stability and, in turn, the service GPS provides to users worldwide. Ground-based test results have shown DSAC to be upwards of 50 times more stable than the atomic clocks currently flown on GPS. DSAC promises to be the most stable navigation space clock ever flown.

"We have lofty goals for improving deep space navigation and science using DSAC," said Ely. "It could have a real and immediate impact for everyone here on Earth if it's used to ensure the availability and continued performance of the GPS system."

DSAC is a partnership between NASA's Space Technology Mission Directorate and the Space Communications and Navigation program office, a program under the Human Exploration and Operations Mission Directorate. DSAC will launch in 2018 as a hosted payload on General Atomic's Orbital Test Bed spacecraft aboard the U.S. Air Force Space Technology Program (STP-2) mission.

For more information about DSAC visit nasa.gov/mission_pages/tdm/clock.



A glimpse of the Deep Space Atomic Clock in the middle bay of the General Atomic's Orbital Test Bed spacecraft.

Credits: NASA

Chapter 154 - Daytona Beach, of the National Association of Watch and Clock Collectors, Inc. (NAWCC)¹ is dedicated to preserving the history, art and science of timekeeping (horology). NAWCC is a nonprofit scientific organization that serves as a unique educational, cultural, and social resource for its membership and the public at large.

Our members include hobbyists, students, educators, casual collectors, clock makers, watch makers, jewelers and professionals in related retail and manufacturing trades.

¹ The National Association of Watch and Clock Collectors (NAWCC) is an American non-profit organization with about 14,000 members. The NAWCC was founded in 1943 by members of the *Horological Society of New York* and the *Philadelphia Watchmakers' Guild* who wished to create a national organization. The membership is now divided into over 175 "Chapters" which can be based on a locality or a special interest. The vast majority of chapters are US location based, a number are also in Canada and Australia (which do not have national horological collectors associations) and a handful are elsewhere. Special interest chapters range from "Tower Clocks" to "Horological Science".

Contact Information **(NAWCC - Chapter 154 - Daytona Beach)**

Chapter Officers (2018)

President / Newsletter Editor: Randy Jaye
(407) 497-5755

Secretary: Viviane Lindeolsson

Treasurer: Goran Lindeolsson

Vice-President: Jim Zeisler

Director: Ed Epp

Director: Pete Schreiner

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Timex's First Hand-Winding Timepiece in Decades Is One of the Best Budget Watches of the Year

Andrew Connor | Gear Patrol | November 11, 2017

<https://gearpatrol.com/2017/11/06/timex-marlin-mechanical-watch/>

During the 1960s, Timex came out with a series of advertisements starring news commentator and spokesperson John Cameron Swayze and featuring a variety of robust, waterproof mechanical Timex watches being put through torture tests. It was the genesis of the now famed slogan "takes a licking and keeps on ticking," and an important era of Timex's history. One of those watches was the Marlin, and now Timex is bringing it back. Further, rather than updating the watch with a quartz movement (which is Timex's *modus operandi*), the brand is packing it with a hand-winding mechanical movement, making it [a first in decades](#) for the brand.

The Marlin really looks like a faithful remake of the original watch of the 1960s, even down to the [very small](#) (for 2017, anyway) 34mm case diameter. Other details like a domed acrylic crystal, silver sunray dial, mid-century Arabic numerals and "lizard-pattern" leather strap are emblematic of men's watches from the era. And of course, there's that mechanical movement inside, which "must be wound once per day," according to Timex's press material.

Currently, there's not much known about the movement inside, though [Worn & Wound reports](#) that the back of the watch reads "MVMT China," so it's likely the movement comes from a Chinese manufacturer like Seagull or one of several other Chinese movement makers.