PEAKS & NULLS

MORRIS RADIO CLUB

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WHAT'S ZULU TIME?

I recently saw an article by a guy that stopped by the Royal Observatory in Greenwich England so that he could straddle the prime meridian during a rainstorm (I did say he was in England) and stand in two hemispheres at the same time. What amazed him the most were the original clocks in the museum (still working) that were used to develop Greenwich Mean Time. Any of us that work DX stations use UTC time for our log entries because that removes any question of what day and time it is. If both stations used their local time the logs would not match. This got me to thinking about GMT, Zulu Time and UTC Along with their history and differences.

King Charles II appointed John Flamsteed the first Astronomer Royal in March 1675. The Observatory was built to solve the problem of calculating the Longitude of ships at sea using astronomical means. But that also means you have to know what time it is. Previously while local time at sea could be calculated by observing the Sun you would also have to know the time at Greenwich to calculate the Longitude. Accurate clocks did exist at that time but between the motion of the ship and changes in temperature and humidity they would not be accurate at sea. The Royal Observatory was charged with generating an accurate catalogue of the positions of the stars. You could then measure the position of the Moon relative to the stars and use tables of the Moon's position generated by the Observatory to calculate the time at Greenwich. This is known as the 'Lunar Distance Method'.

A sea disaster in 1707 that killed over 2000 men started calls for a better means of navigation but it took Parliament another seven years before it established a panel of experts called the Board of Longitude in 1714. They then offered a large reward of £20,000 (equal to about £2 million today) to anyone who could solve the problem of calculating Longitude to within half-a-degree (2 minutes of time). It took another 60 years before the prize would be awarded not to a scientist but to a carpenter who became a clockmaker named John Harrison.

Harrison built his first long case clock in 1713 when he was 20. It was made entirely from wood. He then made a clock that did not need lubrication. This was unique for the time and solved one of the primary causes of clock failure. In the mid-1720s he designed long case clocks accurate to one second a month. These were far more accurate than any other clock at that time.

Between 1730 and 1735 Harrison built what is now know as the H1. This was a portable version of his wooden clocks. It is spring driven and runs for only one day. The moving parts are counterbalanced by springs so gravity has no effect. It was tested at sea and was able to correct a misreading of the longitude on the trip.

Harrison built his H2 and H3 versions between 1737 and 1759. The H2 is basically the same design as the H1 but larger and heavier. In 1740 he realized that there were problems with the design and started on the H3. After 19 years of work it did not meet the accuracy requirements to win the prize.

(Continued on page 4)

Inside this issue:

The pictures of the August Get-Together at Atlanta Bread in this months edition are courtesy of Kathy KT2F.

UPCOMING MEETINGS

September 24, 2012 Regular business meeting

October 15, 2012 Regular business meeting

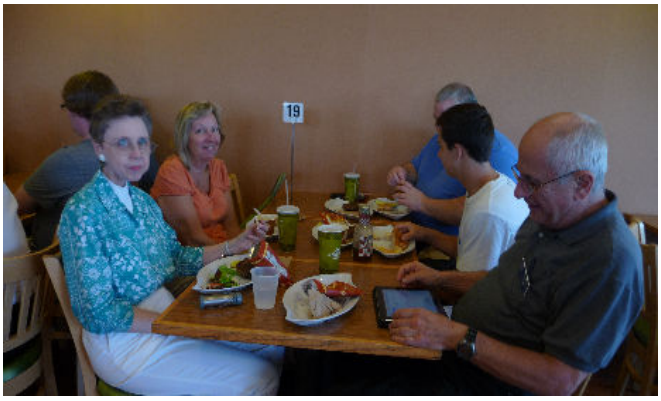
* NOTE: The October meeting date was wrong in the email sent earlier

November 19, 2012 Regular business meeting

December 17, 2012 Holiday Get-Together

SELECTED UPCOMING CONTESTS

TARA PSK Rumble contest	0000Z—2400Z, Oct 6
North American Sprint, RTTY	0000Z—0400Z, Oct 14
CQ Worldwide DX Contest, SSB	0000Z, Oct 27 to 2400Z, Oct 28

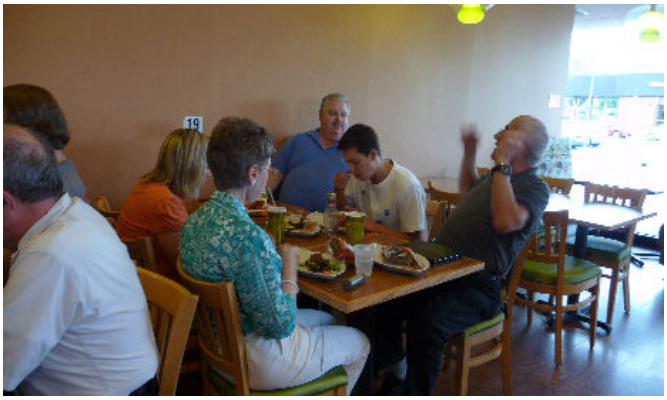


PREDICTED SUNSPOT NUMBER AND RADIO FLUX FOR OCTOBER 2012

SUNSPOT NUMBER			***10.7 RADIO FLUX***		
PREDICTED	**HIGH**	**LOW**	**PREDICTED**	**HIGH**	**LOW**
87.5	97.5	77.5	139.0	148.0	130.0

AUGUST MEETING MINUTES

There was no August meeting. Instead we had a Get-Together at Atlanta Bread in Morris Plains.



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THE MORRIS RADIO CLUB IS AN ORGANIZATION OF AMATEUR RADIO OPERATORS WHICH HAS BEEN IN EXISTENCE FOR OVER SIXTY FIVE YEARS. AS A HOBBY, AMATEUR RADIO SERVES AS A PUBLIC RESOURCE FOR COMMUNICATIONS AS WELL AS AN EDUCATIONAL EXPERIENCE.

ALTHOUGH MANY WHO BECOME INTERESTED IN AMATEUR RADIO ARE INVOLVED IN AN ELECTRONICS RELATED FIELD, THE HOBBY APPEALS TO A WIDE VARIETY OF INDIVIDUALS.

THE MEMBERSHIP OF THE MORRIS RADIO CLUB IS A DIVERSE GROUP MADE UP OF MEDICAL, BUSINESS, EDUCATION, AND LAW ENFORCEMENT PROFESSIONALS, AMONG OTHERS, WHOSE COMMON INTERESTS ARE COMMUNICATION, EDUCATION, AND PUBLIC SERVICE.

(Continued from page 1)

In 1753 Harrison had watchmaker John Jefferys make him a watch from his own designs. In 1755 he realized that with some improvements it could be a very accurate timepiece. This watch became the H4. It is just a large pocket watch. On a sea trial to the West Indies on 1764 the watch lost only 5.1 seconds. On a second trial the error was computed to be 39.2 seconds over 47 days. This was three times better than what was required to win the prize. Captain Cook used a commercial version of the H4 on his second voyage.

Now that ships could know the time at Greenwich they still needed a standard of Longitude.

Next month, Longitude and Zulu Time.

HAMFEST CALENDAR

O.M.A.R.C. Tailgate Hamfest
09/29/2012
Location: Infoage Project Diana Site
2300 Marconi Road Wall Township, NJ
Website: http://omarc.org

BARA Fall Hamfest
10/06/2012
Location: Westwood Regional High School
701 Ridgewood Road
Township of Washington, NJ 07676
Website: http://bara.org

Splitrock ARA
2nd Annual Fall Auction
10/14/2012
Location: Roxbury Senior Center
72 Eyland Avenue Succasunna, NJ 07876
Website: http://www.splitrockara.org