



## ***THE AERO AERIAL***

The newsletter of the Aero Amateur Radio Club

Volume 1 Issue 4

April 2004

Editor Frank Stone AC3P

### Officers

Al Alexander	K3ROJ	President
Bob Landis	WA3SWA	Vice-President
Joe Miko	WB3FMT	Recording Secretary
Pat Stone	AC3F	Corresponding Secretary
Warren Hartman	W3JDF	Treasurer

### Committees

Repeater/Trustee	Phil Hock	W3VRD
VE Testing	Pat Stone	AC3F
Public Service	Frank Stone	AC3P
RACES/ARES	Joe Miko	WB3FMT
Hamfest Chairman	Ron Distler	W3JEH

## ABOUT THE AERO AMATUER RADIO CLUB

Meetings: First and Third Wednesdays at 7:30 pm at Coffman's Diner  
(Middle River and Orem's Rd.)

Nets: See Local Area Net Schedule

Repeaters: W3PGA (147.24 MHz - / 449.575 MHz -)  
W3JEH (223.24 MHz -)

WEBSITE: <http://mywebpages.comcast.net/w3pga/>

## LOCAL AREA NETS

<b>Day</b>	<b>Time</b>	<b>Frequency (MHz)</b>	<b>NET NAME</b>
Daily	9 – 10 am	147.03	ORIOLE Net
Daily	6 – 6:30 pm	3.920	Maryland Emergency Phone Net
Daily	6:30 – 7 pm	146.670	Baltimore Traffic Net
Daily	7 pm and 10 pm	3.643	Maryland/DC/Delaware Traffic Net
1 <sup>st</sup> Tues	7:30 pm	145.330	Baltimore ARES Net
2 <sup>nd</sup> Tues	7:30 pm	146.670	Baltimore County RACES Net
2 <sup>nd</sup> Wed.	8 pm	28.445	AERO ARC Net
4 <sup>th</sup> Wed	8 pm	147.240	AERO ARC Net
5 <sup>th</sup> Wed.	8 pm	449.575	AERO ARC Net

Ed. Note – The following was submitted by Joe WB3FMT to help us with our logging.

## **Margaritaville its 5pm some place**

**TIME – a measure of duration, whether past, present, or future.**

One thousand seconds is about seventeen minutes. A million seconds? One million seconds will take twelve days to pass. Now guess how long one billion seconds is? Take a second to figure it out. Take a hundred seconds to do the math. The answer will take your breath away.

"Take one second. One hundred seconds is about 1 minute and a half. One billion seconds is over thirty-two-years"

All I really need to know I learned from watching Star Trek by Dave Marinaccio

### **Systems of Time**

"Now let me see," the Golux said. "If you can touch the clocks and never start them, then you can start the clocks and never touch them. That's logic, as I know and use it...." James Thurber, "The 13 Clocks"

**Atomic Time**, with the unit of duration the Systeme International (SI) second defined as the duration of 9,192,631,770 cycles of radiation corresponding to the transition between two hyperfine levels of the ground state of cesium 133. TAI is the International Atomic Time scale, a statistical timescale based on a large number of atomic clocks.

**Universal Time (UT)** is counted from 0 hours at midnight, with unit of duration the mean solar day, defined to be as uniform as possible despite variations in the rotation of the Earth.

- UT0 is the rotational time of a particular place of observation. It is observed as the diurnal motion of stars or extraterrestrial radio sources.
- UT1 is computed by correcting UT0 for the effect of polar motion on the longitude of the observing site. It varies from uniformity because of the irregularities in the Earth's rotation.

**Coordinated Universal Time (UTC)** differs from TAI by an integral number of seconds. UTC is kept within 0.9 seconds of UT1 by the introduction of one-second steps to UTC, the "leap second." To date these steps have always been positive.

**Dynamical Time** replaced ephemeris time as the independent argument in dynamical theories and ephemerides. Its unit of duration is based on the orbital motions of the Earth, Moon, and planets.

- Terrestrial Time (TT), (or Terrestrial Dynamical Time, TDT), with unit of duration 86400 SI seconds on the geoid, is the independent argument of apparent geocentric ephemerides.  $TDT = TAI + 32.184$  seconds.
- Barycentric Dynamical Time (TDB), is the independent argument of ephemerides and dynamical theories that are referred to the solar system barycenter. TDB varies from TT only by periodic variations.

**Geocentric Coordinate Time (TCG)** is a coordinate time having its spatial origin at the center of mass of the Earth. TCG differs from TT as:  $TCG - TT = Lg \times (JD - 2443144.5) \times 86400$  seconds, with  $Lg = 6.969291e-10$ .

**Barycentric Coordinate Time (TCB)** is a coordinate time having its spatial origin at the solar system barycenter. TCB differs from TDB in rate. The two are related by:  $TCB - TDB = iLb \times (JD - 2443144.5) \times 86400$  seconds, with  $Lb = 1.550505e-08$ .

**Sidereal Time**, with unit of duration the period of the Earth's rotation with respect to a point nearly fixed with respect to the stars, is the hour angle of the vernal equinox.

**Delta T** is the difference between Earth rotational time (UT1) and dynamical time (TDT). Predicted values of  $UT1 - UTC$  are provided by the Earth Orientation Department.

**Julian Day Number** is a count of days elapsed since Greenwich mean noon on 1 January 4713 B.C., Julian proleptic calendar. The Julian Date is the Julian day number followed by the fraction of the day elapsed since the preceding noon.

We frequently make use of the **Modified Julian Date (MJD)**, which is defined as  $MJD = JD - 2400000.5$ . An MJD day thus begins at midnight, civil date. Julian dates can be expressed in UT, TAI, TDT, etc. and so for precise applications the timescale should be specified, e.g. MJD 49135.3824 TAI.

For more information, see:  
 Explanatory Supplement to the Astronomical Almanac, P. K. Seidelmann, ed.,  
 University Science Books, 1992, ISBN 0-935702-68-7

WEB Site = <http://tycho.usno.navy.mil/systime.html>  
 Dr. Demetrios Matsakis, Director, Time Service Dept.,  
`dnm@orion.usno.navy.mil`)

# STANDARD TIME ZONE CONVERSIONS

Conversions from UTC to some US time zones:

\* = previous day

UTC (GMT)	PACIFIC STANDARD	MOUNTAIN STANDARD	CENTRAL STANDARD	EASTERN STANDARD
00	4 pm *	5 pm *	6 pm *	7 pm *
01	5 pm *	6 pm *	7 pm *	8 pm *
02	6 pm *	7 pm *	8 pm *	9 pm *
03	7 pm *	8 pm *	9 pm *	10 pm *
04	8 pm *	9 pm *	10 pm *	11 pm *
05	9 pm *	10 pm *	11 pm *	12 mid
06	10 pm *	11 pm *	12 mid	1 am
07	11 pm *	12 mid	1 am	2 am
08	12 mid	1 am	2 am	3 am
09	1 am	2 am	3 am	4 am
10	2 am	3 am	4 am	5 am
11	3 am	4 am	5 am	6 am

# DAYLIGHT-SAVING TIME ZONE CONVERSIONS

Conversions from UTC to some US time zones:

\* = previous day

UTC (GMT)	PACIFIC DAYLIGHT	MOUNTAIN DAYLIGHT	CENTRAL DAYLIGHT	EASTERN DAYLIGHT
00	5 pm *	6 pm *	7 pm *	8 pm *
01	6 pm *	7 pm *	8 pm *	9 pm *
02	7 pm *	8 pm *	9 pm *	10 pm *
03	8 pm *	9 pm *	10 pm *	11 pm *
04	9 pm *	10 pm *	11 pm *	12 mid
05	10 pm *	11 pm *	12 mid	1 am
06	11 pm *	12 mid	1 am	2 am
07	12 mid	1 am	2 am	3 am
08	1 am	2 am	3 am	4 am
09	2 am	3 am	4 am	5 am
10	3 am	4 am	5 am	6 am
11	4 am	5 am	6 am	7 am

Hear Ye Hear Ye

The First Annual

Essex-Middle River Hamfest

When: April 1, 2004 from 6 AM to 6 PM

Where: Freedom Drugs Parking Lot

Admission: \$ 20

Tailgates: \$50

Tables: \$100

Catering by Coffman's

Entertainment provided by Rock-a-billy's

Door Prizes Every hour

Grand Prize Yaesu FT- 1000 MP

Talk-in 1850 khz.

Contact: Hamfest Chairman Ron Distler W3JEH

## WA3SWA First Place



Bob Landis, WA3SWA, was awarded a plaque for taking 1<sup>st</sup> Place in the AERO 250 Hour Fun Run in January. Bob's other prize for this feat is to chair the contest next year showing that no good deed goes unpunished.

## K3PHH Life Member



Ralph Schools, K3PHH was unanimously voted a Life Member by the general membership. Ralph a member of AERO going back to the 1960's, has served as club president, club treasurer, and on various committees.

## Station Activities

KC3EF is a New Station heard on the club nets. KB3JVD is re-locating his station to shorten those coax runs. AC3P was found on a list of stations that were digipeated via the International Space Station on APRS. KB3JDE is perfecting his TV video adjustment skills at Coffman's. K3PHH is in his new QTH in Edgewater Md.

## VE Testing

A test session was held March 13 at the library. There were two applicants. One upgraded to Extra, another passed the code for Tech with HF privledges.

Thanks to AC3F, AC3P, WB3FMT, W3MAO, W3FQE, WA3WRT and K3FT for helping.

## Public Service

With Spring many a ham's fancy turns to Public Service.

There are several events needing our services over the next few months. Please consider helping with one or more of them.

April 17: MS Walk in Baltimore contact BRATS [n3cva@hotmail.com](mailto:n3cva@hotmail.com)

April 18: MS Walk in Towson contact BRATS [n3cva@hotmail.com](mailto:n3cva@hotmail.com)

April 25: March of Dimes WalkAmerica in Baltimore contact BARC [n3vej@arrl.net](mailto:n3vej@arrl.net)

May 15: American Diabetes Tour de Cure, Harford County contact AERO ac3p@arrl.net

On an additional note AERO supported the March COMEX for Baltimore County RACES by operating from the Northpoint/Edgemere VFD. with AC3P as operator.

## Aero Net Reports

Two Meter Net - Check-ins : WB3FMT (NCS), AC3P, KC3EF, KB3JDE  
Moved to 440 repeater due to 2 meter repeater problem.

Ten Meter Net – Check-ins: WB3FMT (NCS) W3JEH, K3ROJ, AC3P,  
KB3JVP (via 2 meters)

## COMING EVENTS

March 24	Aero 2 meter net 8 pm
March 27 -28	CQ WPX SSB Contest Baltimore Hamboree (BARC) Timonium
March 31	Aero 440 net 449.575 rptr 8 pm
April 7	Aero Meeting Coffman's 7:30 pm
April 10	VE Testing Owings Mills BARC Eastern Shore Hamfest & Computer Show Easton, Md
April 11	Daylight Savings Time Spring forward at 2 am
April 14	10 meter net 8 pm
April 21	Aero Meeting Coffman's 7:30 pm
April 27	2 meter net 8 pm

## Correspondence From the Members

**From:** Warren Hartman [mailto:[hartmanw@satc.com](mailto:hartmanw@satc.com)]  
**Sent:** Friday, February 20, 2004 11:37 AM

**To:** jmiko  
**Subject:** RE: March Aerial

This is very nice. We should have had something like this sooner.

diner? dinner?

Warren

**From:** RonDistler@aol.com [mailto:[RonDistler@aol.com](mailto:RonDistler@aol.com)]

**Sent:** Friday, February 20, 2004 5:12 PM

**To:** jmiko@verizon.net

**Subject:** Re: FW: March Aerial

Tower Jack??

## Contributions Appreciated

The Aero Aerial is always looking for material to put in this newsletter. If anyone has an article or news item that they could submit it will be appreciated.

Submissions can be e-mailed to Frank AC3P at [ac3p21220@yahoo.net](mailto:ac3p21220@yahoo.net).