THE AERO AERIAL

All Aboard

The newsletter of the Aero Amateur Radio Club
Middle River, Md
Volume 8 Issue 6
June 2011

Editor Frank Stone AC3P

ABOUT THE AERO AMATEUR 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 -)

WEBSITE: www.aeroarc.us

LOCAL AREA NETS

Day	Time	Frequency (MHz)	NET NAME
Daily	9 – 10 am	147.03	ORIOLE Net
Daily	5:30– 6 pm	3.820	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
1st Tues	7:30 pm	145.330	Baltimore ARES Net
2nd Tues	7:30 pm	146.670	Baltimore County RACES Net
2nd Wed.	8 pm	28.445	AERO ARC Net
4th Wed	8 pm	147.240	AERO ARC Net
5th Wed.	8 pm	449.575	AERO ARC Net

The Aero Quantum Mechanics Net: Anytime any Frequency contact WB3FMT. The last one was on 449.575 MHz on Tuesday 8 pm on March 30t. Who knows where or when the next on may be?

Aero Net Reports

April

10 Meters: WB3FMT(NCS) AC3P W3VRD KA3SNY KB3PGN

70 Cm: WB3FMT(NCS) AC3P K3AK W3JEH

Station Activities

WB3FMT is portable 2. Speedy recovery to **AC3F.** Congrats to **KB3BUW** harmonic of **AC3P** and **AC3F** on the addition of a new harmonic.

New Officers For 2011-2012

Following the long electoral tradition of the Aero ARC, those who miss the election meeting are prime candidates for office.

At the close of the regular meeting, the proceedings were turned over to Frank AC3P to serve as election manager. Frank opened the floor for nominations. For President, it was noted that Joe, WB3FMT was not present. Quickly Bob WA3SWA placed Joe's name in nomination and the nominations for President were closed.

Following the Presidential nominations, each of the remaining nominations for office were for the incumbents with no opposing candidates.

As a result the train left with the officers for the 2011-2012 year,

President: Joe Miko WB3FMT
Vice President: Bob Venanzi ND3D
Recording Secretary: Lou Kordek KB3LJF
Correspondence Secretary: Patricia Stone AC3F
Treasurer: Warren Hartman W3JDF
Resource Coordinator: Ron Distler W3JEH

Public Service Opportunity

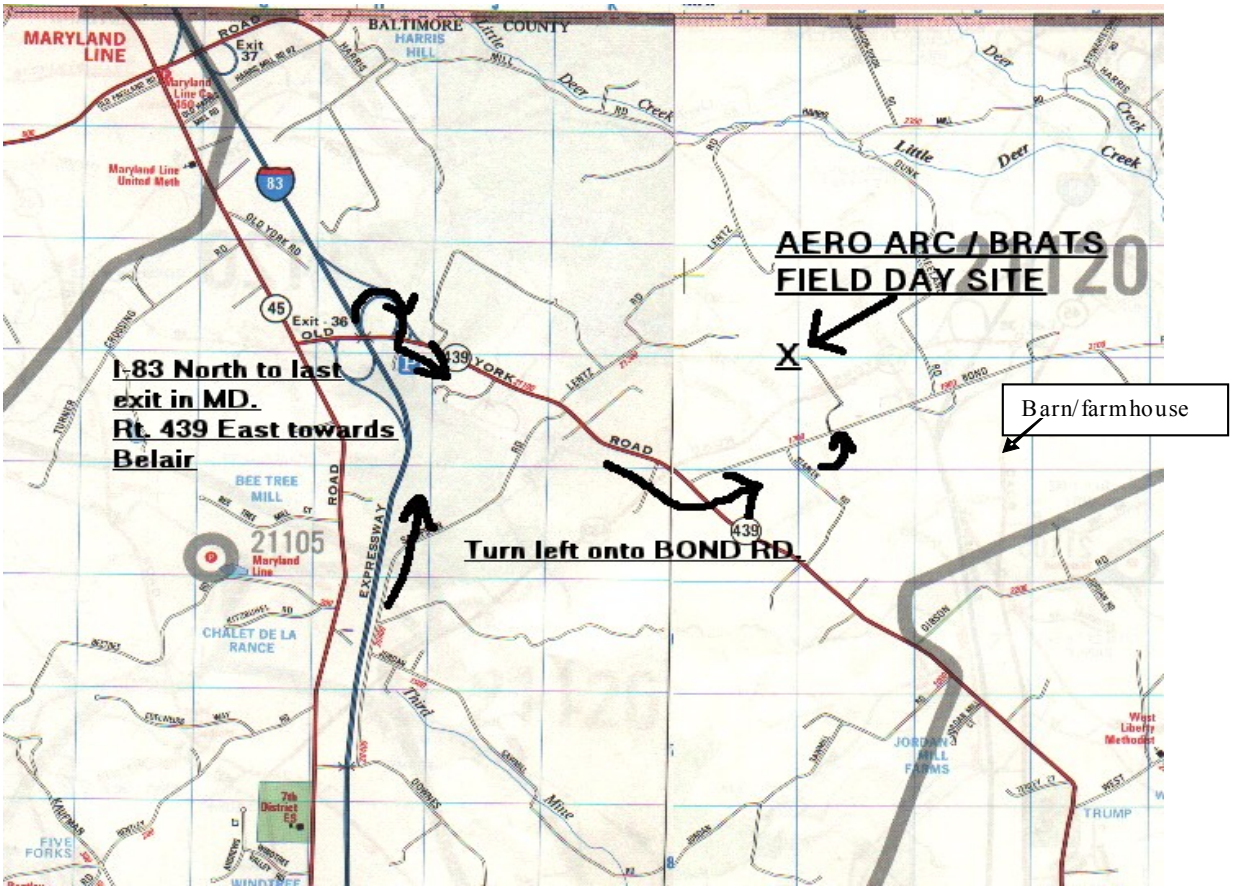
BRATS is looking for help with the MS Society Bike Tour in Chestertown, Md. On the weekend of June 11-12. the MS people are providing lodging at Washington College. Operators are needed for rest stops and SAG vehicles. To volunteer, contact Bob Landis WA3SWA.

FD Help Wanted

Aero and BRATS are looking for a few good operators (and even newbies) to help keep W3PGA on the air for 24 hours durinf Field Day 2011 June 25-26. We have three HF transceivers and a VHF/UHF in need of constant care. If you have done 50 Field Days or none, come up to Camp Genyara and join the fun. Directions and a map are on the next page.

Directions to AERO/BRATS Field Day Site
Camp Genyara 1814 Bond Road
near Maryland Line, Md.
June 25 – 26, 2011

From Baltimore, take I 83 North to Exit 36, Route 439 East.
Take 439 East approximately 1 mile to BOND RD.
Turn left onto BOND RD.
Take BOND RD. approximately 1/2 mile to a dirt road on the left. (If you come to a barn and farmhouse on the left, you have gone too far.) Turn left onto the dirt road, follow it through the field and through a grove of tall pine trees. The pine trees have created a tunnel over the road. The Field Day site is at the end of the pine trees.



June 2011

			Meeting Coffmans 7:30 pm 1	2	3	4
5	6	7	10 Meter Net 28.445 Mhz 8 pm 8	9	10	ARRL VHF QSO PARTY 11
ARRL VHF QSO PARTY Manassas Fest www.w4ohv.net 12	13	14	Meeting Coffman's 7:30 pm 15	16	17	18
19	20	21	2 Meter Net 147.24 Mhz 8 pm 22	23	24	FieldDay 25
Field Day 26	27	28	70 Cm Net 449.575 Mhz 8 pm 29	30		

From the Skies over Mt. Essex

SKY Events for June 2011

June 1st - New Moon

June 3rd - Double shadow transit on Jupiter 5:55 UT, 01:55 EDT.

June 5th - Double shadow transit on Jupiter 00:24 UT, 20:24 EDT on June 4th.

June 8th – First Quarter Moon

June 9th – 11th – After Sunset Saturn is ¼ ° to the lower left of Porrima (Gamma Virgo) a yellow-white double star magnitude +2.7 the stars are 1.7 arc seconds apart, need 440 power.

June 10th - Double shadow transit on Jupiter 9:26 UT, 05:26 EDT.

June 12tth – Mercury in superior conjunction (behind the Sun as seen from the Earth) and a double shadow transit on Jupiter 2:48 UT, 22:48 EDT on June 11th.

June 14th – Earliest Sunrise

June 15th - Full Moon "Green Corn Moon" Native American tribes or "Rose" the Colonial Americans.

June 17th – Earliest morning twilight.

June 19th - Double shadow transit on Jupiter 5:26 UT, 01:26 EDT.

June 21st – Summer begins 1:16 pm EDT (17:16 UT).

June 24th – Latest evening twilight..

June 25 -26th – ARRL Field Day Weekend.

June 26th - Double shadow transit on Jupiter 08:04 UT, 04:04 EDT.

June 28th – Latest sunset and Pluto (Dwarf Planet) at Opposition: Mars is 2° South of M45 Pleiades.

Planet Lookout

Mercury Hidden until the last week of June. Low in the west at sunset, on the 30th in a line east of Caster and Pollux. Magnitude -0.5 Angular diameter 6".

Venus , Mars, and Jupiter are all in the morning sky. All are visible in the low eastern sky at dawn.

Venus – -3.9 magnitude, angular diameter 10".

Mars – + 1.4 magnitude, angular diameter 4".

Jupiter- -2.2 magnitude, angular diameter 36".

Saturn- High in the southwest near Virgo +0.9 magnitude, angular diameter 17" disk.

Uranus – Rises after midnight in Pisces +5.8 magnitude, angular diameter 4"

Seeing Double??

Take a look at Mizar and Alcor the middle stars in the handle of the Big Dipper (Ursa Major). This was the first discovered double star system (actually 4 stars).

Our Sun is a loner in space, it's estimated that between 60% and 85% of all stars are thought to be double or multiple star systems.

There are 4 main types of double star classifications:

- Visual binaries – double stars resolved using a telescope.
- Spectroscopic binaries – Stars that can only be resolved via spectral analysis.
- Eclipsing binaries – detectable when the secondary star eclipses the primary star.
- Optical binaries – unrelated stars which lie along the same line of sight.

Things to consider when looking at double stars are magnitude, color and separation.

Magnitude is the brightness of an object. One magnitude is 2.512 times brighter than the next magnitude. A minus magnitude is the brightest, the range goes from a minus, to zero than to, plus. The difference in magnitudes between a 1st and 2nd magnitude star is 1 magnitude or 2.512 x, the difference between a 2nd magnitude and an 7th magnitude star is 5 magnitudes or 100x. The Sun at -26.74 magnitude and the Moon at -12.74 magnitude there is a difference of 14 magnitudes, the Sun is398,359 times brighter than the Moon. When looking at double stars, the difference in magnitudes should be no more than 8 magnitudes which is 1,585 times fainter.

Color of stars is the spectral class of the star. The spectral class goes from O, B, A, F.G, K, M. The visual colors are: O -Blue; B-Blue-White; A-White; F-Yellow-White; G-Yellow; K-Orange; M-Red. The sun is a G class star which is Yellow. This indicates the surface temperature of the star O Class Blues stars are approximately >44,500 °F; G Yellow Class stars 8,500 to 10,300°F (The sun is a G Class star); M Red Class stars <3,500°F..

Separation is how far apart the stars appear in arc seconds. Mizar and Alcor are separated by 11 ¾ arc minutes, most people can't without a telescope separate less than 4 arc minutes, and 8 minutes is a more practical value. The moon is approximately 30 arc minutes or 1,800 arc seconds. Beginners should start with easy doubles at least 10 arc seconds of separation. The optimum viewing separation is 8 arc minutes (480 arc seconds) to achieve this divide 480 by the arc second separation of the stars and this equals the required eyepiece power. Example: Mizar and Alcor are separated by 14 arc seconds to view it with an apparent 8 arc minute separation you need 34 power. 480 / 14 = 32x. Separation angles are measured by using the brightest star as the center star and the dimmer star is measured in a counter clockwise direction in degrees from North (0°) thru East (90°), south (180°) and West (270°).

Summer's double stars						
Object	Constellation	R.A.	Dec.	Mag.	Sep.	Recommended magnification
Alpha (α)	Capricornus	20h18.1m	-12° 33'	3.6, 4.2	378"	<10x
Beta (β)	Capricornus	20h21.0m	-14° 47'	3.4, 6.2	206"	<10x
61	Cygnus	21h06.9m	38° 45'	5.2, 6.0	28"	17.14x
Albireo (B)	Cygnus	19h30.7m	27° 58'	3.1, 5.1	34"	14.11x
Omicron (o)	Cygnus	20h13.6m	46° 44'	3.8, 4.8, 6.7	338", 107"	<10x <10x
Gamma (γ)	Delphinus	20h46.7m	16° 07'	4.5, 5.5	10"	48x
Nu (v)	Draco	17h32.2m	55° 11'	4.9, 4.9	62"	<10x
Alpha (α)Herculis	Hercules	17h14.6m	14° 23'	3.5, 5.4	5"	96x
Delta (δ)	Hercules	17h15.0m	24° 50'	3.1, 8.2	9"	53x
Double-Double (ε)	Lyra	18h44.3m	39° 40'	5.0, 6.1,5.2, 5.5	208", 2",2"	<10x, , 240x