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THE AERO AERIAL

The newsletter of the Aero Amateur Radio Club

Volume 4 Issue 1
January 2007

Editor Frank Stone AC3P

In This Issue:

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 -)

WEBSITE: http://www.aeroarc.us

Officers			Committees	
Frank Stone	AC3P	President	VE Testing	Pat Stone AC3F
Bob Landis	WA3SWA	Vice-President	Repeater	Phil Hock W3VRD
Joe Miko	WB3FMT	Recording Secretary	Public Service	Frank Stone AC3P
Pat Stone	AC3F	Corresponding Secretary	ECOMMS	Joe Miko WB3FMT
Warren Hartman	W3JDF	Treasurer	Contests	Bob Landis WA3SWA
Ron Distler	W3JEH	Property Mgr	Trustee	Frank Stone AC3P
			Webmaster	Al Alexander K3ROJ

Net Reports

2 Meter Net: WB3FMT(NCS) KB3JDE AC3P W3JEH KB3KRW K3ROJ K3RGG
70 Centimeter Net: WB3FMT (NCS) W3JEH KB3KRW AC3P KB3JDE (on 2 meters)
10 Meter Net: AC3P (NCS) W3JEH WB3KAH K3ROJ KB3KRW

LOCAL AREA NETS

Day	Time	Frequency (MHz)	NET NAME
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
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

Looking Back at 2006

As the 60th Anniversary year A.D. 2006 was a good year for the Aero Amateur Radio Club. The year began with Al K3ROJ and Bob WA3SWA trekking to West Virginia and winning top honors in the ARRL January VHF Sweepstakes with W3PGA/8. Also in January Bob, ND3D, won the Club Operating Contest.

In February Joe WB3FMT, Frank AC3P and Eric KB3JDE began helping with the Baltimore County RACES reorganization as members of the newly-formed RACES Steering Committee.

On April 29th the club mounted its Mini-DXpedition to Hart-Miller Island and gained immortality for W3PGA on the U.S. IOTA website by being the first to put that island on the air for the first time.

In May Aero served double-duty by sponsoring the Amateur Radio Booth at the Baltimore County Waterfront Festival and supplying W3PGA as Net Control Station for communications support for the event.

In June we celebrated the Aero ARC Birthday during Field Day 2006 at Camp Genyara with visitors from BARC and BRATS. We ate lots of cake and made on of our best Field Day efforts. Also in June those of us in RACES got called up to support shelter and Fire Department operations and SKYWARN in Eastern Baltimore County during a severe storm. This was shortly after supporting hospital communications during the County Road Rescue Exercise.

After a brief summer rest, the club resumed license testing in September and once again W3PGA/8 held forth during the ARRL VHF Contest from West Virginia.

October saw Aero members coordinating communications for the American Diabetes Association Walk in downtown Baltimore one Saturday and helping with communications from two water stops during the Baltimore Marathon the following Saturday.

The November test session was followed by activating Franklin Square Hospital and CCBC Essex for the monthly RACES drill on a Tuesday and pulling shelter duty for RACES during a storm on Thursday of the same week.

As December passed we looked back on a very successful 60th Anniversary year.

We cannot say that 2006 was a perfect year however. We must remember those whom we lost. In January we received the sad news of the passing of Walt WA3LAW and Vi WA3???, while mourning the loss of Ralph K3PHH. But even after all this sad news 2006 was not finished as we lost Mike KB3LJI and Warren's daughter, Deborah in September.

We look forward to many successes in the New Year.

Station Activities

AC3P put the AL-80B on 160 meters during the December contest. K3ROJ WA3SWA and W3VRD plan to put W3PGA/8 on the air for the January VHF contest. KB3KRW was racking up points during the ARRL 10 Meter Contest. WB3FMT, AC3F, AC3P, and KB3KRV used the 147.24 MHz repeater to coordinate spotting the Space Shuttle Discovery as it passed up the coast heading for orbit.

Emergency Communications

Stemmers Run Shelter Activated

On the afternoon of November 16th Pat AC3F received a call from RACES RO AJ3X who was stranded in Washington D.C. to alert the members of the Franklin Square and Essex Teams that RACES was on alert.

A storm that spawned a killer tornado in North Carolina was heading northward bringing heavy rain and winds coinciding with high tides on the western shore of the Chesapeake Bay, a scenario not unlike Isabel and the storm the previous June.

Pat relayed the information to Frank AC3P who was at work and did not expect to be free until after the scheduled shelter opening.

Frank alerted Joe, WB3FMT who made the necessary calls to the Franklin and Essex teams.
At 5:30 the RACES net was activated and Joe established communications with the EOC in Towson from Stemmers Run in Essex.

The storm came and passed through more quickly than expected. Although some areas of Wilson Point, Millers Island, and Bowley's Quarters experienced minor flooding, no area had serious conditions that would lead to evacuations.
Meanwhile at the shelter Joe passed housekeeping traffic and at one point conducted the Baltimore Traffic Net on 145.33 MHz. in addition to maintaining communications on the RACES Net.

At 7:00 p.m. the EOC determined that the danger had passed. The net was secured and the Stemmers Run Shelter was closed.

Aero Members Recognized

Several Aero members were recognized with other RACES operators at the Baltimore County Dept. of Homeland Security's annual Holiday meeting. Receiving certificates of appreciation were Eric KB3JDE, Doug, KB3KRW, Pat AC3F, Frank AC3P, and Joe WB3FMT.

Anyone interested in joining Baltimore County RACES contact BACO RACES Radio Officer, Joe Krystoforski by email at Aj3x@arrl.net.

More Recognitions

Joe WB3FMT and Frank AC3P received certificates of recognition from the Maryland Department of Health and Mental Hygiene for their help during a proof of concept exercise utilizing amateur radio communications for a flu pandemic exercise.

VE Corner *by Pat Stone AC3F*

The final test session for 2006 was held at White Marsh on November 18th. There were 3 applicants and all 3 passed the Technician Exam. Congratulations to Charles, KB3OGT; Charles, KB3OGU and Nick, KB3OGV. .

Thanks to fellow VEs K3ROJ WB3FMT KB3KRV KB3KRW KB3RMX and AC3P for their help.

New Rules Effect Question Pool

The new rules that went into effect December 15, 2006 have prompted the Nation VEC Committee it drop some questions from the exam question pool.

The dropped questions are:

For Element 2 (Tech):

T2A02	Change to §97.113, Incidental music transmissions from manned spacecraft

For Element 3 (General):

G1A02	Change to §97.301(d), General class frequency privileges
G1A03	Change to §97.301(d), General class frequency privileges
G1A06	Change to §97.301(d), General class frequency privileges
G1A10	Change to §97.301(d), General class frequency privileges
G1B05	Change to §97.113(e), Incidental music transmissions from manned spacecraft
G1C01	Change to §97.313(c), Observing 200 W limit in Novice segments
G1D01	No mention of need to be a VE*
G1F02	Change to §97.315(b)(1), External RF power amplifier standards
G1F03	Change to §97.317(a)(3), Power amplifier gain/drive requirements
G1F04	Change to §97.317(b), External RF power amplifier standards
G1F10	Change to §97.317(b), External RF power amplifier standards
G1F11	Change to §97.317(b)(2), Power amplifier gain/drive requirements
G2F02	Change to §97.315(a) Construction of amplifiers

For Element 4 (Extra):

E1A01	Change to §97.301(b), Extra class frequency privileges
E1A02	Change to §97.301(b), Extra class frequency privileges
E1E05	Change to §97.207(d), Space station communications
E1E08	Change to §97.207(g)(1), Space station communications
E1F04	Removed to maintain consistency with VEC regulations*
E1F20	Change to §97.519(b), 10-day rule removed
E1F26	Change to §97.505, Permanent code credit even if CSCE expired
E1F27	Change to §97.505, Permanent code credit even if CSCE expired
E1F28	Change to §97.505, Permanent code credit even if CSCE expired
E1G02	Change to §97.317(a), Standards for RF power amplifiers

G1D01 and E1F04 are also being dropped.
*Source ARRL

2007 Amateur Radio Test Schedule

Dates

January 27
March 24
May 19
July 21
September 29
November 17

Location: White Marsh Branch, Baltimore County Public Library
8133 Sandpiper Circle across from the Mall

Registration at 1:00 p.m. **Testing Begins at 1:30 p.m.** **ARRL VEC**

Fee: $14 **Contact: Pat Stone AC3F** **email: ac3f@juno.com**
Phone: 410-687-7209

The Forgotten Band

Looking through a catalog of amateur radio you will find radios from all sorts of manufacturers. Multi-band rigs will cover 160 meters through 70 centimeters. As you go through the band selection the displays will show 1.8 MHz., 3.5 MHz., 7.0 MHz, 10.0 MHz., 14.0 MHz., 18.6 MHz., 21.0 MHz., 24.9 MHz., 28.0 MHz., 50.0 MHz., 144.0 MHz. and 430.0 MHz. Even many multi-band VHF/UHF will display 50.0 MHz., 144.0 MHz., and 440.0 MHz. The Yaesu FT-8900 FM mobile rig even gives a nod to 10 meters. Missing from all of these radios in the forgotten band, 125 centimeters.

Why is the 222 – 225 MHz prominently missing from our radios? Some say that it's because there is little or no activity there. Of course there would be more activity if those frequencies were included in the multi-band radio design. Others say that it's because most of these radios are manufactured in the Far East where 125 centimeters is not an amateur radio allocation. Still others say that a 222 – 225 MHz. radio is not profitable to manufacture.

Today there are only three ways to get on the air using 125 centimeters; homebrew you own equipment, modify surplus military gear, or buy a mono-band FM rig or transverter kit.

A Little History

At the 1938 World Radio Conference held in Cairo, Egypt, among changes to the amateur radio allocations were three VHF/UHF bands. At that the philosophy was to arrange the amateur allocations so that each band was in harmonic relationship to the other bands. As a result, the amateur allocations were a 5 meter band, a 2.5 meter band, A 1.25 meter band and a .75 meter band. There frequencies were 56 Mcs., 112 Mcs., 224 Mc., and 448 Mcs., respectively. The idea was that if a ham transmitter had a case of harmonic interference, the offending signal would appear in another ham band.

After World War II the frequency alignments changed. The 5 meter band was reallocated to broadcast television and the hams were given 6 meters. The 2.5 meter band was reallocated to aircraft communications and the hams were given the current 2 meter frequencies instead. However the 220 – 225 MHz allocation did not change. Neither did the 430-450 MHz assignments.

During this time up to the 1970's 1.25 meters was an empty band, used mainly for weak signal work and contesting. Commercial equipment was virtually non-existent. The most common method of getting on the band was with homebrew transverters.

With the coming of the FM repeater boom of the early 1970's, FM repeaters and control links for 2 meter repeaters began to appear. Even with this development the number of 222 MHz signals remained scares as commercial equipment for the band continued to be scarce and what was available cost more than the average 2 meter radio.

Band Under Threat.

In the mid-1970's with the Class D CB craze running rampant on 27 MHz. there was a proposal to turn the 1.25 meter band into a CB band with repeaters and power limits of 25 Watts using FM only. This threat was beaten back by amateurs writing in opposition to the proposed allocation change.

Amateur Radio Operators were lulled into a false sense of security until in the 1980's another proposal was made to turn 220-222 MHz over to the land mobile service for data communications. Another letter writing campaign ensued but this time the FCC overruled the ham community's objections. The lower two megahertz of the band was re-assigned and promptly auctioned off to the United Parcel Service to be used for package tracking. However UPS never implemented the tracking scheme on those frequencies and opted to use another band. To this day 220-222 MHz remains unused.

In a move to give something back to the amateurs, the FCC allocated 219-220 MHz. on a secondary basis to amateur radio for data transmissions only.

1.25 Meter Propagation

Propagation in the 1.25 meter band is very similar to both 2 meters and 70 centimeters. Mostly it is line-of-sight but 222 MHz signals can be ducted by the troposphere. E layer skip is a very rare occurrence. Like 70 cm. 1.25 meter signals are better at penetrating buildings than 2 meters.

222 – 225 MHz Today

The 222 – 225 MHz band today remains under used. The low end of the band where weak signal work can be done is usually idle with sporadic activity. There are a few beacons but the only real activity occurs during VHF/UHF contests.

The 223 – 225 segment of the band is home to several repeaters. Though a QSO is seldom heard on them. Those that are heard are usually coming from systems that are linked to repeaters on other bands.

As mentioned earlier in this article modern 222 MHz equipment is hard to find but not impossible. If it's weak signal work you want, transverters are available from Electkraft and West Mountain.

There are few FM transceivers out there. Only Alinco markets the DJ-296T HTand DR 235T mobile. The other manufacturers have basically abandoned the field. If you want a Kenwood, Yaesu or Icom the best bet is one of their vintage radios.

The Local Scene

As in other parts of the country 1.25 meter activity in Baltimore is sparse. There are several repeaters sitting silent waiting for users. Some of these repeaters are interconnect with counterparts on other bands some are standalone. A list of these repeaters appears at the end of this article.

This author has used many of these machines of and on over the years. A call on the standalone will sometimes get an answer. Many times the author will check into the interlinked machine to check into a net that is on 2 meters.

One thing the author noticed was that when running mobile, the 222 MHz radio seems to be immune to much of the pager intermod and other annoyances the are present on 146 and 444 MHz multiband transceivers.

Save the Band

Over the past 10 years our frequency allocations have been under assault. Under-used frequency allocations have been auctioned off to the highest bidder. Since we as amateurs have little resources to buy our frequencies, we are in constant danger of losing them. The history of the 220-222 allocation shows this to be a fact.

What can we do to protect 222 – 225 MHz.? If you don't have the equipment, try to get at least one piece of gear to cover 1.25 meters. Then get on the air. Use those repeaters that are sitting dormant. Start a net or a friendly ragchew group. By using all our allocations we have the best hope of keeping them.

222- 225 MHz Repeaters in Maryland

Courtesy T-MARC

223.840	222.240	MD	Perry Hall	W3JEH	W3JEH	BALTIMORE	
223.880	222.280	MD	Davidsonville	W3VPR	AARC	ANNAPOLIS	aez911
223.900	222.300	MD	Lexington Park	WA3UMY	WA3UMY	SOUTH	o
223.920	222.320	MD	Columbia	K3CUJ	Col. ARA	BALTIMORE	l
223.960	222.360	MD	Belair	N3EKQ	N3EKQ	NE MD	ca
224.020	222.420	MD	Salisbury	N3FJM	DARC	CENTRAL DELMARVA	
224.080	222.480	MD	Arnold	WB0FQC	WB0FQC	ANNAPOLIS	l
224.120	222.520	MD	Manchester	N3KZS	N3KZS	NE MD	ap
224.200	222.600	MD	Frederick	K3MAD	MADRA	WEST CENTRAL	ot123 caexz
224.300	222.700	MD	Rising Sun	N3PCL	K3DWB	MD NE	107.2
224.320	222.720	MD	Ellicott City	N3EZD	N3EZD	BALTIMORE	
224.380	222.780	MD	NW Baltimore	W3HMO	W3HMO	BALTIMORE	l
224.480	222.880	MD	Carney	KB3AVZ	KB3AVZ	BALTIMORE	ALTt
224.520	222.920	MD	Port Deposit	N3VTI	N3OUT	NE	t103.5
224.540	222.940	MD	Damascus	W2BZR	W2BZR	CENTRAL	a
224.560	222.960	MD	Millersville	W3VPR	AARC	BALTIMORE	
224.580	222.980	MD	Damascus	K3LNZ	PAVHFS	CENTRAL	
224.600	223.000	MD	Odenton	N3MIR	N3MIR	MD NE	
224.640	223.040	MD	W. Baltimore	WA3Z	SummitAR	BALTIMORE	
224.680	223.080	MD	S. Baltimore	KS3L	SummitAR	BALTIMORE	
224.760	223.160	MD	Jessup	WA3DZD	MFMA	WASHINGTON AREA	lt107.2
224.760	146.160	MD	Jessup	WA3DZD	MFMA	BALTIMORE	lt107.2
224.760	223.160	MD	Jessup	WA3DZD	MFMA	BALTIMORE	lt107.2
224.760	449.000	MD	Jessup	WA3DZD	MFMA	WASHINGTON AREA	lt107.2
224.760	449.000	MD	Jessup	WA3DZD	MFMA	BALTIMORE	lt107.2
224.760	146.160	MD	Jessup	WA3DZD	MFMA	WASHINGTON AREA	lt107.2
224.800	223.200	MD	NW Baltimore	WA3DZZ	BRATS	BALTIMORE	
224.860	223.260	MD	Columbia	W3CAM	W3CAM	BALTIMORE	
224.900	223.300	MD	Colora	K3UAV	FORCE	NORTHEAST	ert107.2
224.920	223.320	MD	Shawsville	WA3DUR	WA3DUR	NORTHEAST	
224.940	223.340	MD	Rockville	K3ATV	MACS	WASHINGTON AREA	ar(ca)e
224.960	223.360	MD	Baltimore	WA3DZZ	BRATS	BALTIMORE	oel (ca) Wx

Estate Sale

SWAN 350B 80, 40, 20, 15, 10 meter 125 watt transceiver	**$ 200**
SWAN SWR 1A Power Meter	**$ 15**
Hallicrafters S-77A Receiver (Needs Work)	**Best Offer**
Ringo 10 meter vertical (Must be removed from roof)	**$50**
MFJ901 Antenna Tuner	**$40**

All prices negotiable.

Contact Frank Stone AC3P
410-687-7209
Email: ac3p@arrl.net

January 2007

	1	2	3 Meeting 7:30 pm Location TBA	4	5	6
7	8	9	10 10 Meter Net 8 p.m.	11	12	13
14	15	16	17 Meeting 7:30 pm Location TBA	18	19	20 ARRL VHF Contest
21 ARRL VHF Contest	22	23	24 2 Meter Net 8 pm	25	26	27 Testing White Marsh Library 1 pm
28 Odenton Hamfest Md.Mobileers Odenton VFD 1425 Annapolis Rd	29	30	31 70 Cm Net 8 pm BARC Mini-fest Timonium			

FCC To End Code Test

Ending a century of amateur radio tradition the FCC announced on Black Friday, December 15, 2006, its intention to scrap the Morse Code requirement for any Amateur Radio License.

The change will not go into effect until 30 days after its publication in the Federal Register. Based on prior experience that means the code test will be terminated sometime in January or February of 2007.

RIP Element 1.

Dues Reminder

Dues are due on the first meeting in January but must be paid by the first meeting in April in order to remain a member in good standing.