THE COMPASS

Official Newsletter of the Great South Bay Amateur Radio Club

December 2011 | Volume 39 | Issue #12

Upcoming Club Events

Next General Meeting: Thursday, Dec. 29th. 8 PM at the EOC Refreshments to be served!

Free General License Classes Currently in progress at the EOC. Classes meet Tuesday evenings, 7:30-9:30 P.M.

End of Year Holiday Party: Friday evening Dec. 16th. See back page for details.

Ham Radio University January 8th, 2012 Briarcliffe College Doors open 7:30 A.M. $3 suggested donation Forums start 9 A.M.

Club dues now being collected at any meeting or via Pay Pal on the web. www.gsbarc.org

2012 Hope for the Warriors Run

The start/finish line in front of Babylon Town Hall

Runners (top left), Ch. 12 Helicopter Crew including Jennifer Melfi, KC2TMA (right), and Tom, KA2D, Scott, AC2FV, Glenn, KC2VVQ and Frank, K2LI on their way out with their assignments.

President's Message

−−·− ··· −   −−·− ··· −   −−·− ··· −   −·· ·

·−− ··−−− ···· −·−· −··· −·−· ·−− ··−−− −−· ··· −···

Well it's that time of year once again, Thanksgiving has come and gone and the holiday season is upon us. I would like to congratulate our two newly elected board members, John Smale, K2IZ, and Peter Portanova, WB2OQQ. I look forward to their participation and the new perspective they bring to the board. I would also like to make sure everyone knows that I've appointed Peter, WB2OQQ, to be our public information officer (PIO). He will be assisted by Bob, K2TV.

Our last meeting of the year will be on December 29th at the EOC. We will go over events from the past year and there will be refreshments. I hope to have a video put together reviewing some of our 2010 special events and projects.

Many changes will be taking place soon in the EOC. The Town of Babylon has donated their old board room table to us which we'll be incorporating into our new operating positions. We will also be doing some cleaning and reorganization of the EOC to allow for easier traffic flow, better seating arrangement and access to the operation areas.

As I begin my 4th year as the club's President I have to say what an honor it's been to serve such an incredible group. You, the members, have been terrific by helping out and sharing the work load. There is no way we could do all of the events we do without your help. To the rest of the Board Members thank you, the workload at times can be insane and the way everyone steps up to take on more than their share of the work is inspiring. It's nice to know that we have reliable people we can count on. As I have mentioned many times before, the key to the success of our club is *teamwork*. I look forward to seeing many of you at our end of the year holiday party on the 16th.

Lets also not forget that Ham Radio University (HRU) is Sunday, January 8th at Briarcliffe College, please try make every effort to attend this year's event. There are a lot of interesting topics that will be presented at the forums, some great door prizes, and an opportunity to see and catch up with fellow hams from other areas that we might not have seen in a while. HRU is always a great time.

In closing I'd like to wish all the members and their families a very happy and healthy holiday season.

73, John Melfi, W2HCB

Club Elections Results:

President: John Melfi, W2HCB

Vice President: Bob Myers, K2TV

Secretary: John Cresson, W2JGH

Treasurer: Tom Favilla, N2MIG

2 Board of Directors Positions:

Newly elected board members:

Peter Portanova, WB2OQQ
and
John Smale, *K2IZ*

Oscar 1, continued from page 3...

OSCAR into orbit. At the time of separation, a latch was released which allowed the antenna to spring upright into the operating position. Dual snap-switches actuated by the release mechanism turned on the 145-MHz. Transmitter and OSCAR was on the air!

OSCAR 1 was an overwhelming success. More than 570 amateurs in 28 countries forwarded observations to the Project OSCAR data reduction center. The observations provided important information on radio propagation through the ionosphere, the spacecraft orbit and thermal satellite design. OSCAR remained in orbit for 22 days, it re-entered the earths atmosphere January 31st, 1962.

The OSCAR 1 mission clearly demonstrated that amateurs are capable of, designing and constructing reliable spacecraft, tracking satellites and collecting and processing related and engineering information.

Oscar 1, Celebrating the 50th Anniversary of the Launch

by Peter Portanova, *WB2OQQ, AMSAT NY Area Coordinator, Amateur Satellites*

On December 12th the amateur satellite community will be acknowledging the 50th anniversary of OSCAR 1, launched in 1961.

The radio amateur satellite idea originated in 1959 when Los Angeles amateur operator Don Stoner suggested that radio amateurs had the technical know-how to build their own satellite. They could accomplish this only if someone only had the vehicle to carry it into space. Don, along with Fred Hicks, and other amateur operators kept the idea alive and formed the Project Oscar Association.

Just four years after the USSR launched the Space Age with its Sputnik satellite, a 10-lb Orbital Satellite Carrying Amateur Radio, or OSCAR for short, was launched as a ballast replacement on a Thor-Agena rocket, from Vandenberg Air Force Base, which also carried the U.S. military satellite Discoverer-36. The rocket left OSCAR in an elliptical orbit ranging from 152 to 295 miles above Earth's surface, just above our planet's atmosphere; known as OSCAR-1, it was the very first Hamsat!

Pete, seen here working satellites from his backyard in Masspequa, NY, using an HT and Elk log periodic satellite antenna

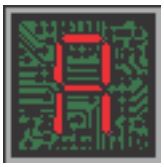
That first tiny 11-lb hamsat measured 9" by 12" by 6" tall. OSACR did not offer two-way communications; its radio transmitted Morse code with 140 millwatts of power on a frequency of 144.983, fourteen times the power of the 10-milliwatt radio in Explorer-1, America's first satellite. There was a bit of scientific value in OSCAR's, HI greeting. The speed of the message was controlled by the temperature inside the satellite. This unique, recognizable identification was required for the OSCAR satellite. A wavier was obtained, from the FCC so that the Oscar's call, W6EE, need not be transmitted. The symbols "HI" were chosen as the identifier as they were easy to generate, and because they have a low duty cycle; the time off is large compared to the time-on, which helped minimize the average power drain of the transmitter's r.f. section. The transmitter keyer made use of digital circuits, which in 1961 was not very familiar to many amateur operators. Oscar's battery comprised of Mercury cells, similar to those used in the Vanguard satellite. Three 18-volt batteries were connected in parallel to meet the capacity requirements; two of the three batteries were sufficient to power the equipment for 30 days.

The OSACR package, was made of magnesium alloy, to hold the weight to a minimum, it had to withstand up to 15g's at launch and space exposure. During the period the satellite was between earth and the sun, the container was directly exposed to radiation from the sun without the benefit of protection from the atmosphere. On the other hand, OSACAR-1 spent half of the time in the shadow of the earth and was radiating its heat into the cold blackness of space. The developers had to come up with a heat balance package for OSCAR-1, it was decided to plate the surface of the container with gold to reflect most of the incident heat from the sun and then cancelling part of the reflection by covering a portion of the gold surface with a pattern of absorptive black stripes of paint to maintain the proper heat to cold balance, with temperatures ranging from 0 to +150 degrees F. The electronic equipment in the OSCAR package was protected by a thick layer of epoxy foam. A non-directional antenna pattern was desired because the orbiting package was not stabilized and would be tumbling as it revolved around the earth. For this reason, a simple ground-plane antenna was selected. A quarter-wave monopole operated against the metal case of OSCAR which served as the other half of the dipole. When the achieved orbit was set the "piggy-back" OSCAR package was ejected upon command. An adapter fitting was rigidly attached to the Agena in the aft-equipment rack near the motor housing. The OSCAR satellite was fastened to this adapter and help in place with an explosive bolt which sent

Continued on page 2...

What is amateur radio contesting and why participate?

by Tom, KA2D



s you all know by now KA2D likes to play in contests. I started contesting to increase my DXCC and WAS totals and I have learned to enjoy the challenge of contesting. I am not a serious competitor, but I have enjoyed receiving many local awards and certificates for contesting. The following is an article from Rick Tavan N6XI. I took the liberty of editing Rick's article for our group

Amateur radio is licensed use of radio communication for personal satisfaction and public service. It has its own unique form of competition. Radio contesting, or "radiosport" as it is known by some, offers an opportunity to demonstrate skills in station building, operating tactics, physical endurance and strategy. Contesting is done more for personal satisfaction, the excitement of the chase and the admiration of our peers than for any more tangible reward. Although there are plaques, awards and certificates for high scores.

In a radio contest, a sponsoring organization designates a time period ranging from a few hours to a full weekend during which amateurs in various geographic areas will attempt to contact each other. Each contact is worth a designated point value which is multiplied by the number of different places contacted. The highest scores in each of several entry categories win.

Each contest defines these "multiplier" places differently. For example, in the ARRL Sweepstakes a "multipler" is one of 80 "sections" of the US and Canada. In most worldwide contests, each country is considered a unique multiplier. There are fascinating strategies for deciding when to seek new multipliers and when to make more contacts as quickly as possible.

Each contact is very brief, with the communicating stations exchanging only a few prescribed tidbits of information. Some contests allow multiple contacts between the same pair of stations, provided each contact is on a different frequency "band." This makes sense because the different bands often have dramatically different signal propagation characteristics.

It is not uncommon for a contestant to make several thousand contacts in the course of a weekend contest. There is nothing like the thrill of having station after station respond to your calls, pushing your "rate" up to several hundred contacts per hour. Nothing, that is, except the equal thrill of hearing a rare multiplier come back to you through a "pileup" of a hundred or more stations.

The sponsor also defines different categories of competition. The most popular is Single Operator, All Band, separated into High Power and Low Power divisions, and these categories usually attract the largest numbers of entrants. Some operate from their own home stations while others operate as guests at other stations. However, there are usually other categories including various multi-operator team arrangements in which two or more amateurs share operating responsibilities. In the larger contests (those with the most participants) there also may be Single-Band categories. Some contest rules stipulate voice contacts only while others are for Morse code or various digital communication modes. Some involve multiple modes at the same time. All competitors contact each other during the contest period, regardless of their categories, but the results segregate efforts in different categories and award prizes accordingly.

Most worldwide phone (SSB) contest communication is in English. However, the required vocabulary is very small, under 100 words, so most amateurs in the world are quite capable of competing without a significant language barrier. CW is very universal, so language, local accents, and phonetics do not play into the ability to copy a correct report.

Skill in radiosport comprises several factors. Most notable is operating ability - knowing where to tune the radio, when to solicit callers, when to seek out others who are soliciting calls. This requires a knowledge of radio propagation, "good ears" for separating multiple conflicting signals that are often weak or compromised by atmospheric noise and fading, experience with the dynamics of each contest and excellent hand-eye-ear coordination to move quickly around the frequency spectrum, record contacts in a log, send Morse code or type or speak clearly and rapidly and so on. Some contests last as long as 48 hours and become endurance sports. The skills are demanding and hard to maintain over such a long period with little or no rest. The most serious contesters, like athletes, train diligently between events. Although physical strength is not a factor, most of the other attributes of athletics come very strongly into play.

As in other forms of competition, skills are not the only factors determining a winning effort. Equipment and location are also very important. In a radio contest, it is common for several competitors to call the same station at once. Timing is important in determining who gets through; it's not always the loudest signal. This requires a good radio, the maximum power allowed under the rules and, above all else, effective antennas.

Modern contest stations include extensive computer automation. Computers maintain the "log" of contacts which is submitted at the end to the sponsoring organization for adjudication. That includes checking accuracy and eliminating contacts recorded in error. Computers also check call signs to help prevent duplicates during the contest, help to control the radios, send contest exchanges without the need for speaking or manual sending and interface with world-wide "spotting" networks that report the frequencies currently in use by various participants. Modern contesting has been described as "the ultimate, highly-distributed, multi-player computer game." Recent developments now make it possible to follow some participants' scores in real-time during a contest, potentially turning radio contesting into a spectator sport, albeit of interest mainly to hams.

Most participants in contests, like citizen racers, have no expectation of winning. They operate from modest stations in unexceptional locations for only a fraction of the contest period. Yet the thousands of them who get on the air for only a few hours of fun and practice make the sport exciting for the hundreds who operate around the clock seeking a personal best or a victory in their categories and locations.

There is no level playing field in radiosport. Because of the physics of radio signal propagation and the demographics of the world, competitors in some locations can have a huge advantage over those elsewhere. . A degree of skill and effort that makes 1000 contacts from New York might well result in 4000 contacts from an identically equipped station on a Caribbean island. Simple rule changes cannot "fix" this. For this reason, most contest sponsors recognize winners in different geographic areas such as the entire world, each continent, each country, state or artificial section or zone. This helps competitors to compare their results with peers who are on a roughly equal geographic footing, without denying that someone indeed "won the world." It is far from perfect but it helps a lot. It keeps the competition interesting and the inequities have not discouraged thousands of amateurs from participating enthusiastically. In fact, some enjoy traveling to exotic locations which offer an advantage as much as others enjoy building capable stations and antennas at home. A "contest expedition" is the highlight of many contesters' year. See the sidebar for some of my own international radiosport adventures.

In an attempt to level the playing field and answer the urgent question "Who is the best contester?" several groups have sponsored World Radiosport Team Championships, a contest within a contest. Each time, about 50 designated two-person teams gather in one city to operate from very similar stations in the 24 hour worldwide IARU Radiosport contest. Stations are assigned to teams by lot and all have the same types of antennas and comparable locations. The 2010 event in Russia will have all stations set up on a single (large) piece of flat land. This approach evens things out substantially and there have been some notable repeat winners and high place scorers, confirming what we all knew - that contesting is a game of knowledge, skill and stamina and that some competitors stand head and shoulders above the rest. See the sidebar.

Contesting is not for everyone and some hams view it as raucous and annoying. But to those who pursue it, contesting is great challenge for you and your station. If you are a non-contester ham, give it a try.

Here are some contest internet links:
www.contesting.com -general contesting info featuring contest calendar, links to rules, etc
www.rttycontesting.com – great resource for RTTY contesting, featuring "how to"
www.yccc.org – Northeast area contest club feature lots of contesting info
www.n1mm.com – freeware contesting software

If you have any questions concerning Contesting, DXing or station setup, you can email or call me. I am listed in the GSBARC roster. I also frequent "Open House" and attend most GSBARC meetings.

73, *see ya in the pileups,*

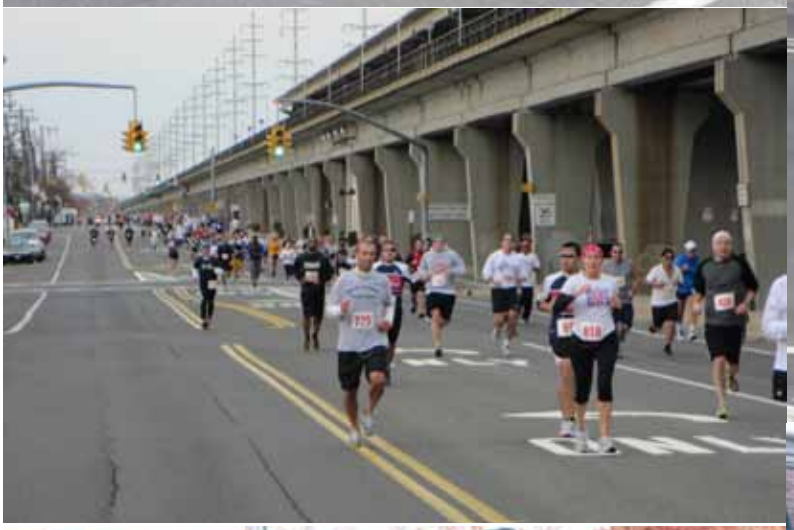
Tom KA2D
ka2d@arrl.net


7910
2001


Suffolk Police


ARMY ROTC


ARKING FOR LIRR
MPLOYEES ONLY
SIGNALS
SET FOR
35
MPH
47
532




35

Inside this issue of The Compass...

- ***Hope for the Warriors Run Pics***
- ***What is amateur radio contesting?***
- ***50th Anniversary of Oscar 1***

Club Apparel

Want a shirt, jacket, hat, sweatshirt or t-shirt with a Great South Bay club logo? We now use *Mr. Shirt,* located at 80 East Montauk Hwy in Lindenhurst (www.mrshirt.com). Now you can get color matched backgrounds on your logo too. Check them out...

ARES/RACES Information

Div. 1—Town of Babylon ARES/RACES
Net: 146.685/R, Mondays 8:15 PM
EC/RO: John Melfi, W2HCB, (631) 669-6321
Div. 2—Town of Huntington ARES/RACES
Net: 147.210 MHz +600/ PL 136.5, Mondays 7:30 PM
EC/RO John Allocca, WB2LUA, (631) 261-3726
Div. 3—Town of Islip ARES/RACES
EC/RO: John J Blowsky, KB2SCS, 631-467-2410
Div. 4—Town of Smithtown ARES/RACES
Net: 145.430 MHz, PL136.5, Mondays 7:30 PM
EC/RO: Joe Albertus , KB2JOE, 631-664-6709
Div. 5—Town of Brookhaven ARES/RACES
EC/RO: Joe Werner, KC2BPS, 631-730-8694
Div. 6—Riverhead ARES/RACES
EC/RO: Donald Rollock, W2EUL, 631-929-0705
Div. 7—Southampton ARES/RACES
EC/RO: Dennis O'Rourke, KB2ZWW, 631-728-5424
Div. 8—Southold ARES/RACES
EC: Charles Burnham, K2GLP, 516-779-4983
RO: Don Fisher, N2QHV, 631-765-2757
Div. 9—East Hampton ARES/RACES
EC/RO: Nat Raynor, N2NEI, 631-324-3738
Div. 10—Shelter Island ARES/RACES
EC/RO: Neal Raymond, N2QZA, 631-749-9330

Suffolk County ARES/RACES Net:

Mondays 2100 Local - 145.330/R (136. 5PL)
Alternate Frequency - 145.370 (136.5 PL)

New York State RACES Net (HF)

Sundays 0900 Local, 3993.5 KHz LSB

2011 VE Session Dates:

- December 17th

2012 VE Session Dates:

- January 28th
- February 25th
- March 24th
- April 28th
- May 26th
- June 16th
- July 21st at Custer
- July 28th
- August 25th
- September 22nd

All sessions are at the Town of Babylon EOC, located in the basement in the rear of town hall. Please bring photo ID, a copy and your original amateur radio license (if you have one), and any CSCE's you may have. Non programmable calculators are allowed. The exam fees for 2011 is $15 payable by cash or a check made out to "ARRL VEC".

Need Antenna Work?

Sign-up on the list at the EOC. Please supply as much information about your situation so the committee can be properly prepared with assistance and tools when they come to your QTH.

Club Name Badges

Club name badges are available from ***The Sign Man (www.thesignman.com)*** of Baton Rouge, LA.

The badges which are 1-3/4 in. x 3 in. If you visit The Sign Man's webpage you can order the badges by using a drop down selection on the orders page and clicking on "Great South Bay ARC - NY"

December Birthdays

Lester, K2ENC
Danny, WB2COO
John, W2JGH
Frank, WA2LUY
Mike, KC2OLA
Preston, WJ2V

GSBARC Annual End-of-Year Holiday Party

Friday December 16th at 7:30 PM.
Location: Tre Scalini
(formerly La Cassuccia)
196 Main Street in Farmingdale

$ 45.00 per head (all inclusive meal), unlimited beer wine & soda)

Menu: antipasto, pasta & salad
Choice of entree: Chicken, Veal, Fish or eggplant
Dessert: sheet cake
Coffee or tea
Please respond early so we may get an early head count, deadline to respond Dec. 2nd

Send payment to: KC2SYF or N2MIG at any club meeting or Open House, or mail to the club at P.O. Box 1356, W. Babylon, 11704