



# Balloon Satellite HOSARC Field Day Demo

by Dominick J. Marrone, KC2PXA

On June 24, 2006, the annual nation-wide Amateur Radio and Relay League (ARRL) Field Day Event for promoting 'Emergency Rescue & Preparedness' was hosted by the New York Hall of Science Amateur Radio Club located at Flushing Meadows Park, Queens, NY. The purpose of the Field Day is to educate the general public about amateur radio's role as a communication medium that is used to supplement Civil Emergency Operations. When severe natural disasters cause grid line power to be lost, and telephone, cell phone, and internet access telecommunications to become inoperable, amateur radio operators are called upon to re-establish an instantaneous telecommunications network (locally, nationally, and/or internationally) to enable civil emergency operations to function without further interruption.

In the event of such an emergency, the Federal Emergency Management Agency (FEMA) calls upon their registered and trained 'civil preparedness' first-alert responders who are a dedicated group of volunteer amateur radio operators called the "Radio

Amateur Civil Emergency Service" (RACES). RACES has been providing emergency telecommunications services to local and/or state government agencies since 1952, working in unison with ARRL's very own Amateur Radio Emergency Service (ARES). ARRL's ARES organization, established in 1935, is comprised of ARRL regis-

tered members who are trained volunteer amateur radio operators that provide their skills, services, and/or equipment to aid and support FEMA and RACES in emergency disaster situations. was very helpful to me, as he graciously explained the pro's and con's of selecting a reliable amateur radio Handie-Talkie (HT) and the absolute salient requirements needed for functionality and antenna capability for proper mobile field use. ARRL Volunteer Examiner/Instructor, ARES volunteer, my Elmer instructor, and HoSARC member, Rob Smith (AB2UV) is a satellite telecommunications guru. Throughout the Field Day 2006 event, Rob took time out to tutor me on the techniques of using Automated Position Reporting System (APRS) software to track and establish communications with manned operator satellites including: the Amateur Radio International Space Station (ARISS), and unmanned satellites called Orbiting Satellites Carrying Amateur Radio (OSCAR). Rob has been instrumental in teaching me the technical concepts of using SSB and CW on linear transponders as applied to OSCAR Satellite telecommunications.



During the Field Day 2006 event, I had the privilege to meet Bernard Stein (K2ZIR), a fellow HoSARC member. 'Bernie'

In the aftermath of hurricane Katrina and the Tsunami disasters, it was obvious that there was an industry need for the develop-

**Inside this issue:**

Field Day Balloons	2
Free Technician Training Class	3
Technician Class Schedule	3
Marketplace	4
Club Fishing Trip	5
Hamfest Pictorial	6
Mystery Ham and Club Calendar	7

**THE AMATEUR'S CODE**

**The Radio Amateur is:**

<i>Considerate</i>	<i>Loyal</i>
<i>Progressive</i>	<i>Friendly</i>
<i>Balanced</i>	<i>Patriotic</i>

# OSCAR Balloons Deployed at Field Day

by Dominick J. Marrone continued from page 1



ment of a low cost, easy to implement weather monitoring and telecommunications network system that could be made accessible both within the USA, and internationally. As a 20-year Aerospace Engineer, amateur radio-meteorology enthusiast, and empathetic to the plight of these disaster survivors, I endeavored to design and develop an amateur radio weather-meteorology "Early Warning & Rescue" telecommunications platform which utilizes an easily deployable and low cost OSCAR Balloon Satellite -- a system I call "E! WARNING<sup>™</sup>".

In support of Field Day's 'Emergency Rescue & Preparedness' Exercises, I launched my very first prototype "E! WARNING<sup>™</sup>" OSCAR Balloon Satellite system as a demonstration of Early Warning & Rescue weather-meteorology. My E! WARNING<sup>™</sup> OSCAR Balloon Satellite system is comprised of: 10-foot diameter helium-filled high-altitude weather balloon; 9-foot diameter recovery parachute; 6-lb payload avionics and telecommunications capsule with 433Mhz amateur radio transceiver. The onboard wireless weather radiosonde sensors monitored and captured pertinent weather data measurements of: temperature, pressure, wind speed, wind direction, rainfall level, relative humidity, and 170 other parameters, for live data telemetry. The E! WARNING<sup>™</sup> system successfully endured the torrential rainfall (3.96 inches) that entire day, continuously sending live weather data telemetry back to my earth receiving station below.

Although this was a limited demonstration, in an actual Search & Rescue Operation infield application, the E! WARNING<sup>™</sup> OSCAR Balloon Satellite can be equipped with an Amateur Radio TV (ATV) transmitter and tethered to specific aerial altitudes to assist Firefighters during forest firestorms providing visuals from above which would otherwise be inaccessible to helicopters due to 'loss of life' risk. In similar fashion, the E! WARNING<sup>™</sup> system with ATV capability can also be used to provide wide-area aerial visual feeds to assist in Search and Rescue operations to locate survivors of natural disasters, such as: flash floods, mud slides, earthquakes, hurricanes, tor-

nado's, and tsunamis. When used untethered, the E! WARNING<sup>™</sup> OSCAR Balloon Satellite is capable of reaching near space atmospheric altitudes of 100,000 ft or 19-miles high, from which it can effectively provide a low-cost Global Early Warning Weather Satellite Telecommunications Network. At this altitude, weather-meteorology data telemetry and telecommunications distance greatly increases due to the extended 680-mile line-of-sight to horizon communications capability. The E! WARNING<sup>™</sup> OSCAR Balloon Satellite system is safe, reliable, easy to deploy, costs less than \$2500 USD, and requires only an Amateur Radio Technician Operator license to work. Therefore, it is a viable tool to supplement 'Emergency Rescue & Preparedness' infield operations performed by Firefighters, Policemen, Coast Guard, and the Red Cross, in times of natural disaster.

*"The E! WARNING<sup>™</sup> OSCAR Balloon Satellite demonstration took Field Day 2006 to new heights! I am truly grateful to have been able to participate in this event, it has been an incredible learning experience and lots of fun! Amateur radio, beam antennas, satellites, all-you-can-eat BBQ, and a chance to bond with fellow like-minded caring people -- life doesn't get much better than this! I will forever treasure this day with fond memories" ...Dominick J. Marrone (KC2PXA).*

The E! WARNING<sup>™</sup> OSCAR Balloon Satellite's successful demonstration also served as the official inauguration of the Jules Verne Research Institute of Life Science, a distance learning school enhanced by EcoTrail Adventure DXpeditions and Professional Infield Workshops, found at: [www.jvril-science.com](http://www.jvril-science.com). As founder of JVRIL-Science.com, now 2-years in development, I have developed more than a dozen courses of study, including: Eco-Environmental Conservation, Permaculture Architecture, Hydroponics, Aquaponics, Physical Geology, Weather-Meteorology, Oceanography, Electronics & Computers, TeleRobotics-ROV, Amateur Radio-Astronomy, Alternative Energy, Rocketry & Propulsion, and Near Space Satellite Exploration. The focus of JVRIL-Science distance

learning programs is on applications training of Science, Technology, Engineering and Mathematics (STEM) to aspiring engineers, scientists and eco-environmentalists, of all ages. At JVRIL-Science.com, "we take distance learning to the extreme ... our students bike, hike, raft, scuba-dive, and rocket into space, as they learn to explore the wonder that is our world!". If you would like further technical information, or would like to participate in upcoming projects, please come visit us at: [www.jvril-science.com](http://www.jvril-science.com), or send email to; [dominick.marrone@jvril-science.com](mailto:dominick.marrone@jvril-science.com), or you may contact Dominick J. Marrone via phone at: 718-507-2372, M-F 9am to 6pm.

In closing, I would like to thank the following individuals for their many efforts on my behalf, including: Edward Murray, Visitor Supervisor of the Hall of Science for authorizing facility access to support this event; Tom Golero (KC2CBA) HoSARC Chairman of the Board for his support and permission for me to participate in Field Day; Steve Greenbaum (W2BKDG) for his support, permission and hospitality, Bernard Stein (K2ZIR) HoSARC V.P. for his permission for me to participate, and his instruction on mobile HT's, Anthony Mampilly HoSARC VEC/Instructor for his technical mentorship, guidance and excellent video documentation of this event, and Rob Smith (AB2UV) ARES/VEC Instructor for his technical mentorship, and ARPS instruction. I would like to extend a very special thank you to my wife, Susan Marrone, for her support and patience, and my personal friend and fellow ARRL/HoSARC member Ronald C. Hinds for his financial sponsorship and technical participation on this project.



Dominick Marrone,  
KC2PXA



# HOSARC Delivers Free Technician Class Training

HOSARC has started a free ham radio class at the New York Hall of Science. The goal of the ham radio course is to improve training in communication, science, and ionospheric transmissions.

HOSARC has started a series of training classes preparing anyone interested in taking the FCC technician class amateur radio license. The classes are four weeks in duration and are held on Saturday mornings. They begin at 9 am and end at 11 am at the New York Hall of Science. The first class was scheduled for July 1, 2006.

Students learn about the United States Federal Communications Commission's (FCC) rules and regulations regarding amateur radio, elementary physics, modes of radio transmission, and emergency communications.

Along with teaching the science of radio and short and long distance communica-

tion, there is ample time allotted in each classroom session for questions and answers with the instructors. Students will have the unique opportunity of hands-on learning by visiting and using a real working ham radio station located in the museum, under the supervision of a FCC

and Rob Smith, AB2UV. Both Anthony and Rob are registered, certified instructors with the Amateur Radio Relay League.

HOSARC anticipates great interest in the technician classes offered. Recently, HOSARC members demonstrated the science and hobby of amateur radio by participating in a Science Fair hosted at Public School 22. Students and teachers at PS 22 were thrilled with the demonstration and expressed real interest in getting licensed as radio operators themselves.

If anyone is interested in signing up for one of the courses, or wants more information on becoming an amateur radio operator, please contact Anthony Mampilly at 718-969-3116 or [anthonymampilly@gmail.com](mailto:anthonymampilly@gmail.com).



*HOSARC instructors with some of their pupils. Spreading the knowledge and fun of ham radio is rewarding for all involved.*

licensed radio operator. All courses are taught by Anthony Mampilla, KC2OLF,

## HOSARC 2006 TRAINING SCHEDULE TECHNICIAN CLASS LICENSE PREPARATION

Session	Dates	Time	Lesson Plan	Class Activity	Session	Dates	Time	Lesson Plan	Class Activity
Batch 1	27-May-06	9am-11am	Introduction to Amateur Radio	Tour Radio Shack	Batch 5	7-Oct-06	9am-11am	Introduction to Amateur Radio	Tour Radio Shack
	3-Jun-06	9am-11am	Chapters 2-3 and Q&A	HF Demo		14-Oct-06	9am-11am	Chapters 2-3 and Q&A	HF Demo
	10-Jun-06	9am-11am	Chapters 4-5 and Q&A	SSTV/Satellites		21-Oct-06	9am-11am	Chapters 4-5 and Q&A	SSTV/Satellites
	17-Jun-06	9am-11am	Chapters 6-7 and Q&A	Morse Code		28-Oct-06	9am-11am	Chapters 6-7 and Q&A	Morse Code
	1-Jul-06		Final Exam			4-Nov-06		Final Exam	
Batch 2	1-Jul-06	9am-11am	Introduction to Amateur Radio	Tour Radio Shack	Batch 6	4-Nov-06	9am-11am	Introduction to Amateur Radio	Tour Radio Shack
	8-Jul-06	9am-11am	Chapters 2-3 and Q&A	HF Demo		11-Nov-06	9am-11am	Chapters 2-3 and Q&A	HF Demo
	15-Jul-06	9am-11am	Chapters 4-5 and Q&A	SSTV/Satellites		18-Nov-06	9am-11am	Chapters 4-5 and Q&A	SSTV/Satellites
	22-Jul-06	9am-11am	Chapters 6-7 and Q&A	Morse Code		25-Nov-06	9am-11am	Chapters 6-7 and Q&A	Morse Code
	29-Jul-06		Final Exam			2-Dec-06		Final Exam	
Batch 3	5-Aug-06	9am-11am	Introduction to Amateur Radio	Tour Radio Shack	Batch 7	2-Dec-06	9am-11am	Introduction to Amateur Radio	Tour Radio Shack
	12-Aug-06	9am-11am	Chapters 2-3 and Q&A	HF Demo		9-Dec-06	9am-11am	Chapters 2-3 and Q&A	HF Demo
	19-Aug-06	9am-11am	Chapters 4-5 and Q&A	SSTV/Satellites		16-Dec-06	9am-11am	Chapters 4-5 and Q&A	SSTV/Satellites
	26-Aug-06	9am-11am	Chapters 6-7 and Q&A	Morse Code		23-Dec-06	9am-11am	Chapters 6-7 and Q&A	Morse Code
	2-Sep-06		Final Exam			30-Dec-06		Final Exam	
Batch 4	2-Sep-06	9am-11am	Introduction to Amateur Radio	Tour Radio Shack					
	9-Sep-06	9am-11am	Chapters 2-3 and Q&A	HF Demo					
	16-Sep-06	9am-11am	Chapters 4-5 and Q&A	SSTV/Satellites					
	23-Sep-06	9am-11am	Chapters 6-7 and Q&A	Morse Code					
	30-Sep-06		Final Exam						



# Marketplace

A new feature of the HOSARC NewsFuse is the Marketplace page. In this column the NewsFuse Editor will list an advertisement or any ham related equipment, including computers, that HOSARC members would like to sell, swap, or trade. There are no warranties or guarantees implied by HOSARC with these postings. If there is a piece of equipment that is listed that you are interested in, please contact the seller directly. If you would like to list a piece of equipment please send an email to the Editor. Good luck and happy hunting.

**Seller: KC2KXC**

**Email: motoshack@optonline.net**

Mark has a number of commercial Motorola radios for sale. All of these radios are capable of covering the ham bands and then some. Mark has a Motorola Astro Saber in excellent condition. The Astro Saber covers 403 MHz to 470 MHz. Mark also has a very rare Motorola GP300 radio that covers the 220 MHz band! Send Mark, KC2KXC, an email if you are interested in his radios.

**Seller: KC2CBA**

**Email: Tomflushing3@aol.com**

Tom has 50 feet of RG-8 coax, brand new in the box from Radio Shack. He is looking to sell it for \$22. If you are interested please send Tom an email.



**Seller: K0SID**

**Email: sidney@sidneyko.com**

Sidney has Yaesu FT50 dual band handheld radio in excellent condition for sale. This is a solid radio. It comes with dual battery charger (NC-50), two NiMH batteries, and a built-in digital recorder. Asking price is \$250.

Also for sale is a Yaesu FT-847 HF/VHF/UHF transceiver with cross-band repeat in excellent condition, very clean. It comes with original power cable, hand microphone, and optional voice synthesizer installed. Asking price is \$1,200.

For sale is a Yaesu VX-150 VHF handheld radio in very good condition. Radio is a solid performer. It comes with original battery and wall charger. Asking price is \$100.

Sidney also has a Radio Shack HTX-10, 10 meter FM and SSB mobile transceiver for sale. It is brand new and still in the box. Asking price is \$75.

Motorola Saber I, UHF handheld radio with 12 channels. Radio does not come with battery or antenna. It is a very clean commercial radio in good condition. Asking price is \$75.

Finally, Sidney is selling his Sony Vaio Notebook VGN-T250. It is in good condition. Laptop is ultra portable with a long lasting battery and was recently upgraded with 1 GB RAM. Deal includes power supply and 5.0 MP Sony W1 digital camera. Asking price is \$1,600.

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# Club Fishing Trip Report: Montauk, Long Island

The 2006 annual HOSARC fishing trip was completely different than any other previous club sponsored fishing event. First, everyone on the trip caught big fish! That's right, everyone caught fish. Montauk, Long Island is one of the world's premier fishing locations. It is no wonder why it is home to so many world class fishing tournaments. 2006 was the year that HOSARC members, Felix Lam, Rob Smith, and Tom Golero made the long trip out to these sacred fishing grounds.

Some might say that fishing is all "luck", but I say, "not". Sure, there is definitely some luck involved in fishing. If there weren't we would call it "catching" instead of "fishing". However, there is way more than luck involved in fishing when everyone on a trip catches fish. The secret ingredients that made our trip so successful were as follows: moon phase, tide, location, equipment, and a skilled boat captain willing to teach everyone fine fishing techniques. We fished on a

ocean, we started drifting for fluke. Everyone on the boat was catching fluke. It was still early in the season for this particular species. All the fluke caught were short of the legally required lengths, and we weren't able to keep any of these most

changed to using live eels and the hunted quarry exclusively became big striped bass. Due to the quickly changing tide, and the speed of the boat drift, this type of fishing took much more concentration and focus on the part of the fisherman than all the previous forms of fishing that day. In this type of fishing constant contact with the bottom is necessary while feeling for a strike. When a strike is finally detected, extreme discipline is necessary on the part of the fisherman to allow the bass enough time to take the eel and understand the change in the tension of the rod before setting the hook. It took each of us on the boat some practice to get this technique down, but once we did, the real monsters started coming onboard! Several bass in the 30 plus pound range were caught. Let me assure you

that a fish this size gives you a real heart pounding fight on open rod and reel.



*Rob, AB2UV, and Felix, K2KHV, each land a 35lb Striped Bass.*

tasty fish. We changed fishing tactics and sought a different species.

The captain turned the boat toward a group of birds feeding further offshore. When we arrived at this location, we jigged for bluefish. Blues are tough, ornery fish that sometimes need to be clubbed into submission before they are safe to handle once landed on the boat. Even though the limits on bluefish are generous, some sizable blues up to 10 lbs were caught on jigs. When enough blues were caught, the style of fishing changed yet again. We stopped jigging and began trolling! We trolled an umbrella rig and a giant chartreuse diving plug. We caught more bluefish and the first striped bass of the evening hit the plug and was brought onboard.

As evening fell and the tide began to run again, the boat was maneuvered to the legendary offshore rips found near Montauk. At this point of the trip all fishing



*HOSARC guest, Lloyd Kass, reels in another monster.*

full moon, during a changing tide, off of Montauk, supplied everyone the right gear, and chartered the best boat and the best captain.

This was a combination day and evening trip. The boat left the dock at 4:30pm. As soon as the boat made the turn around the Montauk lighthouse toward the open



*Captain Pete Mikoleski, owner/operator of the Miss Mac.*

If you are interested in this type of exciting northeast fishing, then sign up for the club's trip next year. If you can't wait and want to fish with the best captain and the best boat in the Montauk area, then contact Captain Pete Mikoleski of the Miss Mac who will be more than happy to arrange your own fishing adventure of a lifetime! His boat is advertised in the Marketplace (page 4) section of the NewsFuse. See ya on next year's trip!



# HOSARC Hamfest Vendor Hall of Fame June 2006



*The HOSARC Hamfest is lots of fun! Bring the whole family. Meet old friends.*

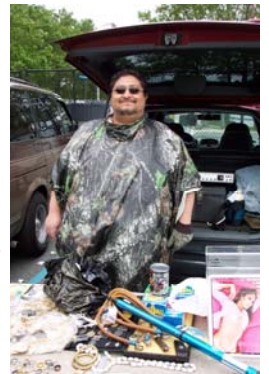




# HOSARC Hamfest Vendor Hall of Fame - Part Duex



*HOSARC would like to thank all vendors who participated in the June hamfest! We hope to see you again.*



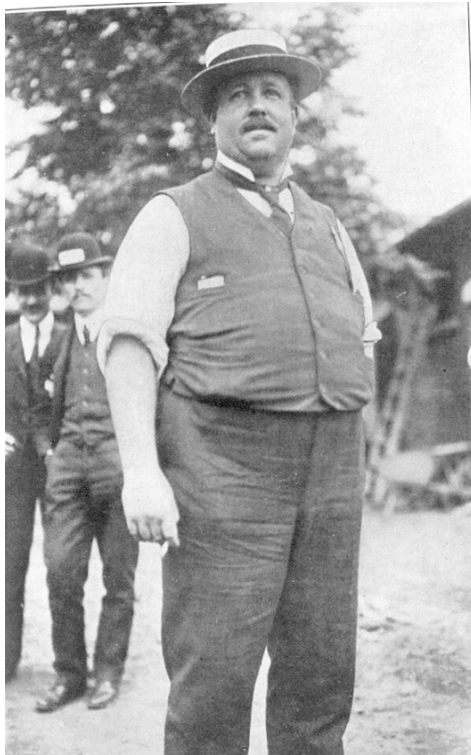
# September 2006

Sun	Mon	Tue	Wed	Thu	Fri	Sat
					1	2
3	4	5 Board Meeting	6 Club Net	7	8	9
10	11	12 Club Meeting	13 Club Net	14	15	16
17	18	19	20 Club Net	21	22	23
24	25	26	27 Club Net	28	29	30

## Schedule of Events

- September — D. Marrone Guest Spkr
- October — HOSARC Hamfest
- November — ARRL Sweepstakes
- December — Holiday Party
- January — ARRL VHF Sweepstakes
- February — ARRL International DX
- March — Timonium Hamfest
- April — tbd
- May — Dayton Hamfest
- June — Field Day, HOSARC Hamfest
- July — Fishing Trip, BBQ Party

## Mystery Ham



*Who is this familiar face?*

Mystery ham!? When I was a young boy my mother would send me to school with a mystery sandwich for lunch. I called it a mystery sandwich because my mother would slap two pieces of bread together and it would always be a mystery what kind of meat was in-between. It could have been ham, but I'll never know.

For the purposes of this publication, the mystery meat is already somewhat solved; we know the meat is ham. What kind or which ham is the question. It's some kind of mystery ham!

It's a game of 'name the ham in the photo'. That's right. The dashing fellow pictured here could be one of three things: (1) a real historical figure; (2) a real nobody but interesting photo anyway; or (3) a remarkable resemblance to an amateur radio operator and HOSARC club member. Your answer could be 1, 2, 3, or some combination. If you're paying attention I've already given you a clue to the right answer.

Of course, no game is interesting unless there is a prize involved. Therefore I

have been authorized by the Board of Directors to offer anyone who guesses the correct answer to this first installment of the Mystery Ham Game a free one-year subscription to the NewsFuse! As if that's not good enough, the winner will also have his or her name and photo published in a future issue of this fine publication.

Your name and the correct answer will be published in a future issue so that all can marvel at your superior skills of association and great sense of humor. If you feel you've got what it takes to accept the mystery ham challenge, then email K2KHV (check membership roster) your guesses for the right answer.

73 and have fun!





**NEW YORK HALL OF SCIENCE  
AMATEUR RADIO CLUB**

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E-mail: K2KHV@HOSARC.ORG

***Do you have a story?  
Contact the NewsFuse Editor.***



*The Hall of Science Amateur Radio Club, HOSARC, was founded in 1972 and is affiliated with the New York Hall of Science, a hands-on science and technology center located in the historic Flushing Meadows, Corona Park in Queens, New York. HOSARC club members maintain and operate the amateur radio exhibit located in the lower level of the center's central pavilion. The exhibit is a fully functional radio shack, equipped with top-of-the-line, modern amateur radio equipment. The shack operates all modes on all HF, VHF, and UHF bands. Visitors to the Hall of Science can operate the kilowatt HF station, WB2JSM. The club also operates the WB2ZZO repeater on 444.200 with a positive shift and a PL tone of 136.5. You do not have to be a club member to use the repeater; all are welcome. Please join our club nets which occur every Wednesday evening at 9pm. Net control operators are Ken, K2JLK and Bernie, K2ZIR. The club meets at 8pm every second Tuesday of each month in the cafeteria of the New York Hall of Science. Come on down, and meet the gang!*



## Amateur Radio Operator's Code of Conduct

The Code has appeared in every issue of the Radio Amateur's Handbook since 1927.

The radio amateur is:

**CONSIDERATE**, never knowingly operates in such a way to lessen the pleasure of others.

**LOYAL**, offers loyalty, encouragement, and support to other amateurs, local clubs, and the American Radio Relay

League, through which Amateur Radio in the United States is represented nationally and internationally.

**PROGRESSIVE**, with knowledge abreast of science, a well-built and efficient station, and operates above reproach.

**FRIENDLY**, slow and patient operating when requested; friendly advice and counsel to the beginner; kindly assis-

tance, cooperation, and consideration for the interests of others. These are the hallmarks of the amateur spirit.

**BALANCED**, radio is an avocation, never interfering with duties owed to family, job, school, or community.

**PATRIOTIC**, station and skill always ready for service to country and community.



**The HOSARC Board of Directors**

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