



# THE COMPASS

Official Newsletter of the Great South Bay Amateur Radio Club

December 2015

Volume 43

Issue #12

## Upcoming Club Events

### Next General Meeting:

**Wednesday, Dec. 30th,  
7:30 PM at the EOC**

**Dues are now due!!!**  
Pay at any meeting or  
by PayPal on the club's  
website: [www.gsbarc.org](http://www.gsbarc.org)  
(see PayPal link at the  
bottom of this column)

**GSBARC's FREE  
License Classes Tuesday  
nights 7-9:30 PM.  
General Class  
Currently Running**

**Open Houses on  
Wednesday nights from  
7:30 to 9:30 p.m. and  
also Saturdays from  
noon to 3 p.m**

Visit us on Facebook at  
[www.facebook.com/gsbarc](http://www.facebook.com/gsbarc)



## PREPARE YOUR ANTENNAS

## WINTER IS COMING



**HRU 2016**  
Sunday, January 10

"Spreading Ham Radio  
Knowledge and Know How"  
"A day of education to share ideas, experiences,  
knowledge and fellowship among Amateur  
Radio operators"



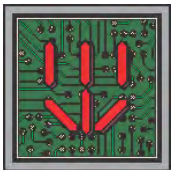
## Inside this issue of The Compass...

- *K0NR Guest Column*
- *Inside the Squirrel Cage (a column)*
- *Filling in a "Formula Wheel"*
- *Finding a Noise Problem*



# President's Message

-----  
-----



ow, I can't believe another year is almost over. Never did I think that GSBARC would be in the position that we are today: 190 members! Welcome to our newest members. We are glad you are all part of our great club.

As many have heard, Walter, KA2CAQ, and Ed, KD2ADC, are the two new directors. If you're not sure what a director does, this should explain: They bring the ideas of the members to the board meetings and they help decide on matters that shape the club and its activities.

I am pleased to say that the executive board works like a well-oiled machine. I think you will agree that the club would not be where it is today if I did not have the support of the board – and, of course, our membership.

Our club has also gotten a great deal: a grant from an anonymous source. This will help us upgrade our radios and power supplies as well as antennas. We are even upgrading the education chairman's white board to an interactive board, so if you are going to be in one of our free classes, or are in one now, wait till you see this. It is going to be awesome!

We will also be installing a battery backup system for the trailer and the EOC radios.

We also had a SteppIR Yagi and satellite antenna donated to the club by Pat, N2IEN, and a Force 12 C3SS by Peter, W2JV. GSBARC thanks the both of you very much for your generous donations.

Our meeting for December will be on the 30th at 7:30 PM. We will have some cookies and some pastries there

and just have a quick business session – and then a good time (maybe a video or something)!

January 8th will be a great night – it's our Annual Winter Night Out - great food and a lot of fun. Please see the details in this newsletter and if you want to go, we must know no later than January 4th. I have to have the total attendees to the restaurant by the 4th and all payments have to be in no later than January 6th - so don't wait until the last minute.

That weekend is busy for us: It's also Ham Radio University, on January 10th

Please make every effort to attend HRU 2016. This is a great way to learn about all amateur radio has to offer.

I hope to see a lot of you at our last meeting of the year and then at the Winter Night Out on Jan. 8!

Wishing everyone a very happy holiday and a Happy New Year!!

A very 73 to you all

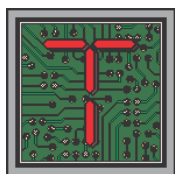
*John Melfi, W2HCB* 



Ham Radio Public Outreach KC4USV McMurdo, Antarctica. Tri-band, 7 element Yagi. Read all about it here: <https://scripps.ucsd.edu/centers/iceshelfvibes/2014/ham-radio-public-outreach-kc4usv-mcmurdo/>

# Inside the Squirrel Cage

by Caryn, KD2GUT



The magic of radio is a given. We can neither see nor (normally) touch electromagnetic energy but somehow it transports us. And it does, profoundly, with all the power and swiftness of light itself. In doing so, it illuminates in ways that most photons never could.

Indeed, flexing muscle that often uses no more than 100 watts, we can stride wondrously across continents, oceans, even hemispheres. We believe in this magic because, as radio amateurs, it is a part of who we are.

This month, however, the HF bands transcend such terrestrial markers. We find ourselves floating past state lines, maidenhead grid squares and ITU regions and into the heart: (To the FCC and other regulatory agencies, the heart is, thankfully, uncharted turf.)

On 80 meters, at 3.916 MHz, a sleigh has been parked outside the shack of the Tailgaters and Freewheelers Net. Inside, a red-suited, white-bearded radio amateur holds court, surrounded by his elves as well as his Elmers. The voices of third-party traffic, calling in nightly, bounce high-pitched and buoyant through the ionosphere, partly a result of their extreme youth, partly because maybe - just maybe - band conditions are always favorable when you're an operator called Santa Claus. (And if the band goes long or is plagued by QRN, well, so what? Dipole to North Pole, nothing's impossible when you're this kind of Claus with a cause.)

Like a sine wave itself, you don't need to see it to believe in the might of this Santa Net. Those kids clutching a microphone so many miles away are also holding onto Mr. Claus' hand, whispering in his ear.

Relay stations, even Internet livestreaming and a digital archive help make these moments happen, then preserve them - a holiday snapshot from generous hearts that have kept this project beating strong for 9 years.

It is our hope that there will always be hams who give their all in community service at public events; those who mobilize with emergency readiness in disasters; and

those who deliver training and knowledge unselfishly to this generation or the next, revealing the science behind promises fulfilled by connections between a transmitter, a receiver and a wire.

For now, though, this is all about the promise of radio magic. Now you see it, now you don't. You only need to hear it once to grow willing to believe like you've never believed before. These are enchanted radio waves, traveling at 300,000 kilometers per second. Close your eyes tight and know that, even against the blank screen of your deepest imagination, they could never cast a more brilliant light.

## The Prizes for our next raffle.



## 1st Prize: Rigol 1054Z Oscilloscope



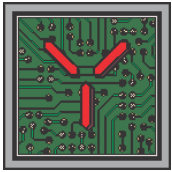
## 2nd Prize (left) MFJ-269C Antenna Analyzer

## 3rd Prize (right) Extech EX330 Digital Multimeter



# Kids are Not the Future of Ham Radio

by Bob Witte, K0NR



You've heard it a million times: our kids are the future. That statement gets applied to almost everything, including amateur radio. How can you argue with an obvious fact like that?

But I am starting to think it is incorrect.



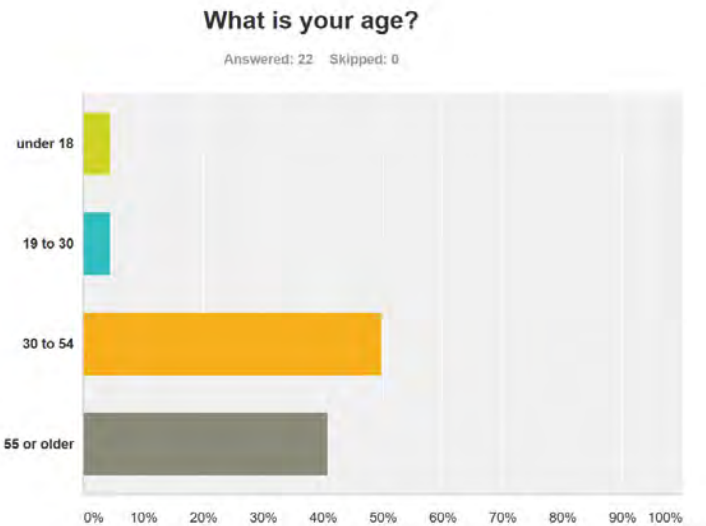
We've had really good success in creating new hams of all ages in our Technician License Class (at the Tri-Lakes Monument Radio Association). We've been doing this for a while now and I think I am seeing a pattern emerge. We've been able to attract middle-schoolers to the class and help them get their ham radio license. I've talked to many of them on the air. They've helped out with public service events. They seem to have fun playing with radios.

Then this thing called high school happens. The high school phase in the U.S. is filled with tons of stuff to do: studying, homework, AP classes, science competitions, sports, dating, movies, driving and after-school jobs. Way too much stuff. Ham radio starts to take a backseat to these normal high school activities. Then we don't see the kids at the radio club meetings or chatting on the local repeater

because they are busy doing other things. Have we lost them forever? Not sure.

High school is often followed by college, which has its own set of challenges: a totally new environment, away from home, a new set of people, new studies, etc. There might be a ham radio club on campus but maybe not. If a kid is not off to college they are (hopefully) out doing something to establish themselves in this world. Eventually they emerge on the other side, get a job, get themselves established, sometimes with a spouse and maybe a kid or two. By this time, they are 25 to 30 years old, depending on the individual.

I recently posted about the demographics of our students in the Tech License Class (<http://www.k0nr.com/wordpress/2015/10/where-are-the-new-technicians-coming-from/>). The chart below shows the age distribution of our students from our most recent class. Hmmmm, clearly most of our students are 30 or older. (Sorry, we have not collected age data with finer resolution.) This particular class is light on the under-18 crowd...sometimes we have a clump of kids in the mix.



For whatever reason, it seems that most people find themselves in a situation as an adult that causes them to say "I want to get my ham radio license." When asked why they want to get their ham license, the top response is always emergency/disaster communications, followed by back country communications, pursuing electronics as a hobby and learning about radio communications. I suspect that starting to be established in a community and having some disposable income also play a role.

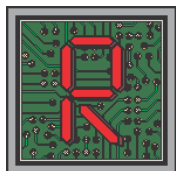
My hypothesis is that the most effective way of growing a vibrant ham radio community is to target adults ages 25 to 40.

This age range is more equipped and ready to be ham

*Continued on page 6...*

# Solving A Noise Problem

by John Smale, K2IZ



Recently I was talking with another amateur radio station in the metropolitan area. His complaint was that no matter what he tried, he had a very high local noise level. He had tried many things to fix it. Another amateur had been to his QTH to try and help him, but the problem still existed.

He finally told me that he had unplugged all his power units from a power cube -- a metal power cube. And he said that did reduce the noise quite a bit. At this point, I mentioned that power strips are only good for a certain amount of time and that I would have switched out a metal one a long time ago.

I also passed along several troubles I had run across during my time in the phone company -- all of these troubles were rooted in electrical problems.

One of them involved a customer who was using a data coupler from his house. The customer, who was bedridden, had been given access to his employer's computer via a dial-up data line. He was getting a lot of errors and dropouts. Quite a few of the Techs in our department had checked his line and found no trouble, so I was dispatched to the house. There, I found that our data coupler tested OK.

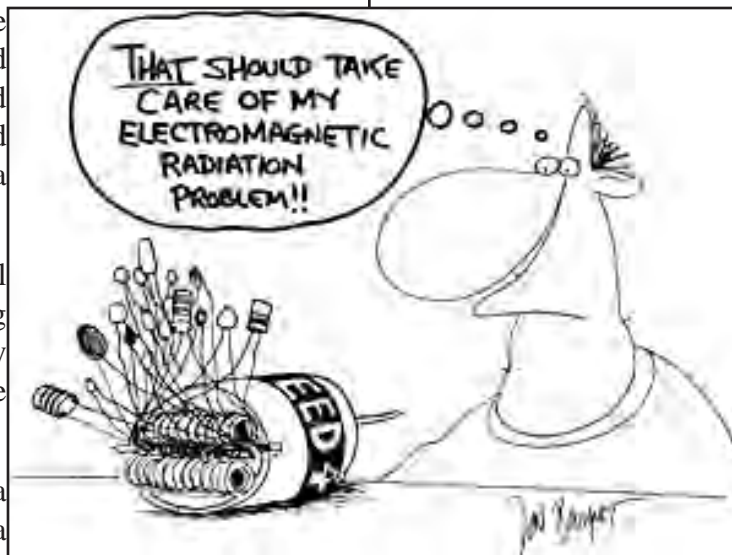
I took it a few steps further by doing a complete pair check on his incoming telephone line, but when I hooked up my test meter to his electrical ground, I was unable to

see either battery or ground. If I went across the pair I did see -48VDC. Finally I opened the window, ran a piece of wire outside and stuck a screwdriver in the ground. I wrapped the wire around it. It turned out that his electrical outlet had no ground. I suggested getting an electrician to check out the house, and after that we had no more troubles at that house.

Another trouble was at an electrical engineering company which, like the previous customer, had been using one of our data couplers for a teleprinter. This customer was reporting the same type of problems: garbled data and foreign characters. When I arrived, one of the engineers said: "Let me guess, you're going to disconnect our equipment, test the coupler and you're going to tell us it's a 'no trouble found.' Well, our tech has tested our teleprinter and he says there's no problem with it."

For some reason, I noticed that our power transformer was plugged into one outlet and their teleprinter was plugged into another. I suggested that they get an extension cord and try plugging their equipment into the outlet with our transformer. They did -- and the trouble cleared.

Being engineers, they had to get fancy to find the trouble. They ended up hooking an oscilloscope up to the outlet their equipment had been plugged into and the AC sine wave was all jagged lines. The AC was noisy!



They took the outlet apart and the screw for the ground wire was loose. Normal building vibration caused the ground wire to move around and create noise on the AC power. They tightened it down and we never went back on that trouble.

The reason I mention both of these troubles is because after the amateur radio operator replaced the power strip, I suggested he take a look at his electric. He said he scraped off 20 years' worth of paint, took the cover off the outlet and discovered there was no ground wire!

He also mentioned that he had bought the house from someone who considered electricity to be a hobby. At that point, I advised him to step away from the troubleshooting and get a licensed electrician to check out the house wiring. I also suggested buying one of those electric test cubes --

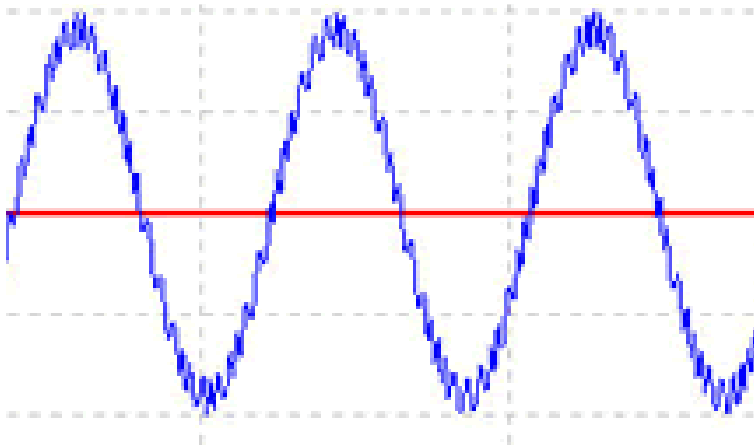
*Continued on page 6...*

### *Solving a Noise Problem continued from page 5...*

the ones with the 3 LED's that show opens, reverses and missing grounds-- and doing a quick visual check on every outlet in his house.

This issue hits close to home for me: When I bought my house, I was the third owner. The original owner had been an amateur radio operator and, from what I found, he also considered electricity to be a hobby. It seemed whenever he installed a circuit and he ran out of wire, he would splice in another piece -- in most cases totally different wire -- inside an electrical box and run it to where he needed it. He apparently didn't believe in using wire nuts or electrical tape when he spliced. The majority of splices I had to replace were just the bare copper wire sticking outside of the box.

The last time I spoke to the amateur with the noise problem, he said that he also found out that the power supply he was using was causing noise problems. He switched to a different one, different manufacturer, and that also helped to reduce his noise. Ⓜ



*AC Line Noise on an oscilloscope.*

### *Kids are not the future... continued from page 5...*

radio operators and are still young enough that they will be around for a while. Of course, we still want to work with all age groups, including kids and retirees. We've all seen very young hams get the bug for ham radio early and carry it throughout their life. And we also see plenty of older folks get interested in the hobby as they approach or enter retirement. We don't want to miss out on either of those groups.

So that's my read on the situation. I've got some data to support my theory but I can't really prove it. What do you think? What are you seeing in your ham radio community? Ⓜ

**Bob Witte, K0NR, blogs about amateur radio at [k0nr.com](http://www.k0nr.com). You can find this post at <http://www.k0nr.com/wordpress/2015/11/kids-not-the-future/>. You can e-mail him at [bob@k0nr.com](mailto:bob@k0nr.com). He is also on Twitter: @K0NR.**

# **GSBARC WINTER NIGHT OUT**

*Don't be left out in the cold! — Let's have a fun time!*

**How Much?** Adults \$46, Kids \$25

**When:** Friday, January 8th, 7-10 p.m.

**Where:** [La Famiglia Family Style Restaurant](#)  
90 West Main Street  
Babylon, NY 11702

*Every table gets the following:*

- **Bruschetta platter**
- **House salad**
- **Baked clams**
- **Stuffed mushrooms**
- **Mozzarella and tomatoes and roasted peppers**
- **Eggplant Rollatini**

*Main course platters:*

- **Penne a la Vodka**
- **Rigatoni La Famiglia**
- **Chicken Parmesan**
- **Veal Rosario** (*Veal with prosciutto mushrooms roasted peppers in a light brown sauce with mozzarella on top*)
- **Seafood COMBO** (*Mussels, Clams, Jumbo shrimp, and calamari over pasta*)

*Wine, Beer, Soda, coffee, Cappuccino, and Espresso all included*

**Why:** Because we all deserve a night out with amateur radio friends and family!

**Want to go?** email our president W2HCB at [w2hcb@arrl.net](mailto:w2hcb@arrl.net)

**How do you pay?** *Cash, check, or PayPal via the website. Under the donation button enter: "GSBARC Winter Night Out" in the memo section so we know why you gave us money.*

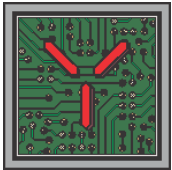
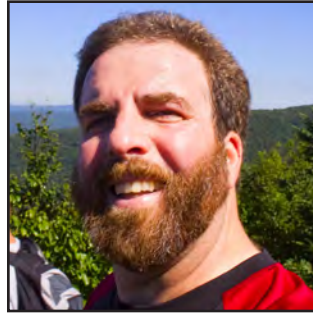
I hope to see a large turnout because it's going to be a lot of fun.

*73, John Melfi, W2HCB*

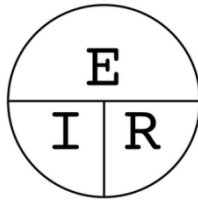


# Inside the Classroom: Filling in Your Own "Formula Wheel"

By Kevin, AB2ZI



You've seen formulas like Ohm's law put into a circle to aid in solving for various unknowns (like  $I$  or  $R$ ), and you've also been exposed to the basic power formula,  $P = E \times I$  also being put into one of these transposing circles.



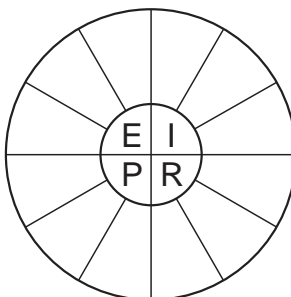
The pie aid for solving for various unknowns.

For those General and Extra Class licensees you've also been shown how the Ohm's law formulas for  $E$  and  $I$  have been used as substitutions in the power formula to build new formulas.

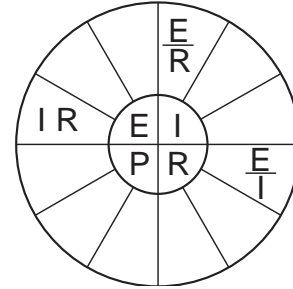
How it goes is like this. You are given  $P = E \times I$  and told to substitute the formulas for  $E$  and  $I$  from Ohm's law to get 2 new formulas for power: that is  $E = I \times R$ , so we now have  $P = I \times R \times I$  and combining the 2  $I$ 's we get  $P = I^2 \times R$ , and  $I = E / R$  gives us  $P = E \times E / R$  and again we combine the 2  $E$ 's to get  $E^2$  leaving us with  $P = E^2 / R$ .

Using Ohm's law and the 3 versions of the power formula we can generate a formula wheel with 4 variations on each value,  $P$ ,  $E$ ,  $I$  and  $R$ .

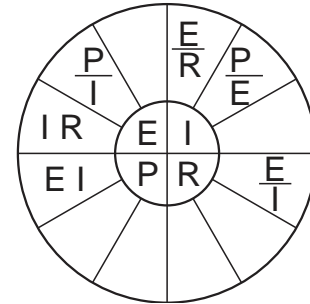
We will now fill in the following wheel:



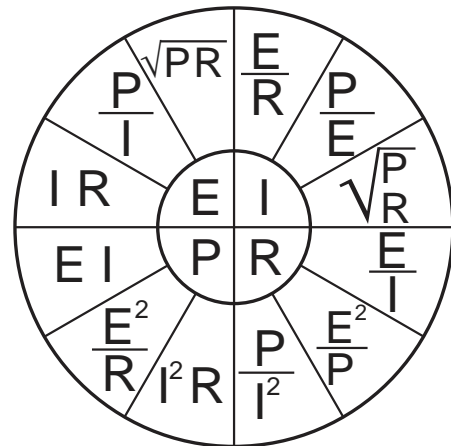
We'll start with the  $E$  (voltage) wedge and go around with each formula and its transpositions. From Ohm's law you already know that  $E = I \times R$  so we put  $I \times R$  in one of the empty  $E$  spaces. Next, we take  $I = E / R$  and insert it into an  $I$  wedge.  $R = E / I$  so let's fill in that wedge. Our wheel should now look something like this:



Now let's put in our first power formula:  $P = E \times I$  and its variations, so in the  $P$  wedge we have  $E I$ , in the  $I$  wedge  $P/E$  and in the  $E$  wedge  $P/I$ .



You should see where I'm going by now so I'm going to go ahead and finish up by filling in the 3 variations each of  $P = I^2 \times R$  and  $P = E^2 / R$ . Thus finishing up with this:



If you still have questions you can always email me at [kmorgan6@optonline.net](mailto:kmorgan6@optonline.net) or just see me at any open house or before one of the Tuesday night classes.

(Note: This article originally appeared in the February 2013 issue of *The Compass*—Ed.)

# YAHOO!

GSBARC has a New Yahoo Group and the old one has been deleted

If you are a member in good standing and want to join the club's new Yahoo group, go to:

<http://groups.yahoo.com/neo/groups/gsb-arc/>

and click on "Join Group" Be sure to add a note when filling out your information with your call sign so we know who you are!

## 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](http://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 7:00 PM

EC/RO Steven W. Hines, N2PQJ, (###) ###-####

### 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, KB2IOE, 631-664-6709

### Div. 5—Town of Brookhaven ARES/RACES

EC/RO: Ted Debowy, AC2IR, 631-751-6576

### Div. 6—Riverhead ARES/RACES

EC/RO: < Unknown — no longer in state. >

### Div. 7—Southampton ARES/RACES

EC/RO: Dennis O'Rourke, KB2ZWW, 631-728-5424

### Div. 8—Southold ARES/RACES

EC: Don Fisher, N2QHV, 631-765-2757  
RO: Charles Burnham, K2GLP, 516-779-4983

### 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 (136.5 PL)  
Alternate Frequency - 145.370 (136.5 PL)

## New York State

### RACES Net (HF)

Sundays 0900 Local, 3993.5 KHz LSB

## 2015 VE Session Dates

- December 26th

## 2016 VE Session Dates

- January 23rd
- February 27th
- March 26th
- April 23rd
- May 28th
- June 18th

All sessions are at the Town of Babylon EOC at 10 a.m., 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 fee is \$15 payable by cash or a check made out to "ARRL VEC".



## All Flag & Flagpoles

FLAGS • BANNERS • FLAGPOLES & REPAIRS

SPECIALIZING IN CUSTOM FLAGS AND BANNERS

97 Gnarled Hollow Road, East Setauket, NY 11733

Tel: 631-751-5500 Outside NY: 800-247-8331

Fax: 631-751-5505

Website: [www.all-flags.com](http://www.all-flags.com) • E-Mail: [info@all-flags.com](mailto:info@all-flags.com)



23 1/2 Hour  
TOWING SERVICE

# Hassell

Auto Body

390 ROUTE 109 WEST BABYLON, NY 11704

[www.hassellautobody.com](http://www.hassellautobody.com)

(631) 587-5500 1-800-HASELL FAX: (631) 587-7845

## 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](http://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

Warren, KD2DIN

Mike, KC2OLA

Frank, WA2LUY

John, W2JGH

Les, K2ENC

Danny, WB2COO



## Pride Equipment

Corporation

150 Nassau Avenue,

Islip, NY 11751

(800)-564-7743

Fax: 631-224-5152