

## AMATEUR EXTRA CLASS ENDS

Last summer, announcement was made that **STARS** would sponsor an Amateur Extra license class in the Fall. After a few delays, the class began on Wednesday, October 1st, at the **STARS** Nike Base Clubhouse. Nine candidates came to the first class.

Under the direction of staff, instruction class members were desks or tables.

The class met Interruptions days and severe

One class was tremely cold day. kept their winter quently, heating viewed, additional service, and the at comfortable levels for

With materials covering the class took longer than students utilized other venues for their examinations, at their own convenience.

To date, five of the nine candidates have tested, passing their exams on the first attempt. They are: **Jon Hall, KC2QKB; John Hasselback, WA2DRG; John Leitten, KA2RFT; Kenneth Pokigo, KC2AYK; and Michael Vogel, KD2DSM.**

Congratulations and thanx to **Ed Patton, N2ING**, and his staff for a job well done.



**Ed Patton, N2ING**, and his began. Space was tight; limited to seats, with no

each Wednesday. occurred, due to holi-weather conditions.

held during an ex-Students and staff coats on. Subse-devices were re-units were placed into temperature was kept other sessions.

nearly 700 test questions, expected. Without tables, stu-

# CLUB OFFICERS

President	Ken Pokigo, KC2AYK
Vice President	John Leitten, KA2RFT
Secretary	Mettieirene Wagner, KD2DFQ
Financial Sec'y	Judy Levan, N2TEZ
Treasurer	John Czuba, W2IV
Director (1 yr.)	Conrad Barrick, KC2WRV
Director (2 yr.)	Jon Hall, KC2QKB
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Clubhouse Chair	Pat Groom, KC2VWG
Telstar Editor	Tom Dean, KA2NXY
Webmaster	(vacant — can you help??)

# WE GOOFED

Last month's issue mentioned that **Pat Groom, KC2VWG**, had "extra" text books available. That was incorrect; the available books are "general".

If you see something that is not correct, let us know at:

[wb2elw@verizon.net](mailto:wb2elw@verizon.net)

# BLUE AND UNDERLINED

When you see something in **TELSTAR** in blue letters and underlined, that means it is an Internet link. Hold the "Control" key and click on the link to open.

*Try it!*      ➡      [sample link](#)    (control + click)

# MARCH MEETING TOPIC

Amateurs often use the phrase, "on the air". However, another similar phrase is of interest. "In the air" is rarely heard, but could be applicable when one considers aircraft.

Aircraft can be tracked by amateurs by a virtual radar system. **Automatic Dependent Surveillance-Broadcast (ADS-B)** technology is now in use by many aircraft. The aircraft determines its own position via GNSS, and periodically broadcasts this info via a radio frequency.

Join us at the March 6th meeting to hear more about this technology during a featured presentation by **Ken Pokigo, KC2AYK**.

# STARS MEETINGS

- ★ STARS meetings are usually at 7:00 PM on the first Thursday of each month, at the Hamburg Memorial Youth Center, 200 Prospect Avenue (near Hawkins Avenue) in Hamburg.
- ★ The March meeting will be **March 6<sup>th</sup>**, at 7:00 PM, at the Hamburg Memorial Youth Center.
- ★ All are welcome,
- ★ The **STARS** board usually meets at 7:00 PM on the fourth Thursday of each month at the Nike Base Radio Clubhouse, just west of the Hamburg Town Arena, 2982 Lakeview Road, Hamburg.
- ★ The March board meeting will take place on **March 27<sup>th</sup>**, at the Nike Base Radio Clubhouse.
- ★ All members are welcome.

# CLUB NETS

Saturdays	10:00 AM	3.925 MHz +/- QRM
Sundays	9:30 AM	28.380 MHz
Sundays	10:30 AM	147.09 MHz (repeater)
4th Saturdays	9:00 AM	Tim Hortons Cafe 342 Buffalo St, Hamburg



Upcoming training is listed in the table below. For more information, and to register for a training session, use this link:

<http://www.erh.noaa.gov/buf/skywarnt.htm>

DATE	TIME	COUNTY	LOCATION	SPONSOR/CONTACT
Tuesday March 11, 2014	7:00 p.m.	Erie	Kenmore Church of the Nativity 1500 Colvin Blvd	Radio Association of Western New York (RAWNY) Contact: Kevin Kedzierski 716-693-3916
Wednesday March 19, 2014	7:00 p.m.	Oswego	Fulton County Office Building (lower level) 200 North Second Street (Route 481 North)	Oswego County Emergency Communicators Contact: Oswego County EM 315-591-9150
Monday March 24, 2014	7:30 p.m.	Chautauqua	Jamestown WCA Hospital 207 Foote Ave	CCAFMA Contact: John Crossley 716-569-3257
Tuesday March 25, 2014	7:00 p.m.	Monroe	Fairport Town of Perinton Recreation and Parks Dept 1350 Turk Hill Road	Town of Perinton Recreation and Parks Dept Contact: Matt Steffen <a href="mailto:msteffen@perinton.org">msteffen@perinton.org</a>

## GENERAL BOOKS

A Gordon West amateur **general** text, and an ARRL amateur **general** text are offered for sale for \$15 each.

If interested, contact [Pat Groom, KC2VWG](mailto:Pat.Groom@KC2VWG).



# Makers... The Future of Ham Radio

## May 16-18, 2014

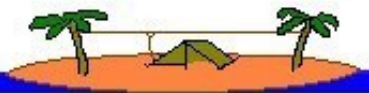
[hamvention.org](http://hamvention.org)



# UP with antennas



by Don - K2PMC



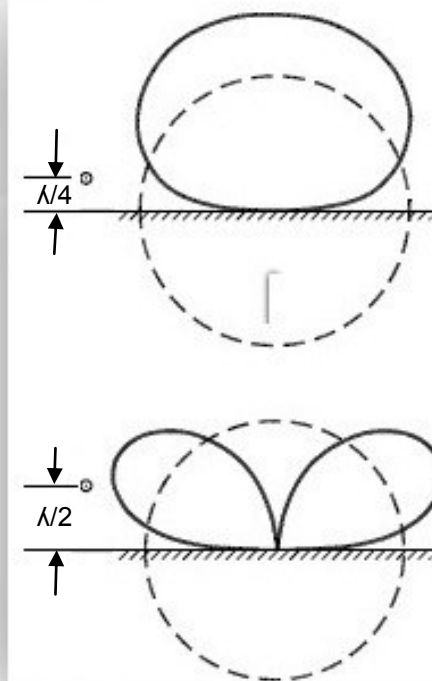
Now that I've written 3 columns I remembered something that I should have said right from the start. If you have a question or comment regarding anything I've written so far, feel free to email me at: [k2pmc@arrl.net](mailto:k2pmc@arrl.net).

This month's column will focus on antenna height and what it means to your signal. Your antenna is going to send your signal into the ionosphere whether it is 10' high or 100' high. And, depending on what you want to do with your signal, higher is not always better.

In last month's column you saw that a dipole generates a figure 8 radiation pattern.

The ground (the dirt under your antenna) significantly affects your antenna's radiation. An entire chapter in the ARRL Antenna Handbook is devoted to a discussion of the effects of the ground on your antenna. We are not going to delve deeply (no pun intended) into that subject. Suffice it to say you must be aware that the ground is an important factor in your antenna's performance. Your antenna launches 2 waves, one up and one down. Thus, the effect of the ground is to increase radiation intensity at some elevation angles and to decrease it at others. When you plot the results as an elevation pattern, you will see lobes & nulls,

For a horizontal antenna near the earth, the resultant elevation pattern is a modification of the free-space pattern of the antenna. The figure below shows how this modification takes place for a horizontal  $1/2$  wave antenna over a perfectly conducting flat surface. Broken lines show what the pattern would be if there were no reflection from the ground (free space). Solid lines consider the effect of ground (i.e. how your antenna will work).



In the above diagram you are looking into the end of the antenna wire which is represented by the little circle to the left of the pattern. Changing the height above ground from  $1/4$  to  $1/2$  wave makes a significant difference in the high-angle radiation, moving the main lobe down lower. If your antenna sends a signal at a high angle, it will return to the earth at a shorter distance than if it were sent at a lower angle. Hams often refer to high angle antennas as "Cloud Warmers". The technical term for Cloud Warmers is Near Vertical Incidence Systems (NVIS). Does that mean that Cloud Warmers are bad? Not at all. If your antenna is relatively low your signal will be strong at locations out to several hundred miles, and become weaker the farther out you go. Ergo, an NVIS system is not a good DX antenna. Can I work DX with an NVIS antenna? Yes, you can but your success rate

(Continued on page 5)

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will be lower because your signal will be weaker at the other end. Band conditions will dictate your chances of success. An open band with strong signals means you would have a better chance than under poor conditions.

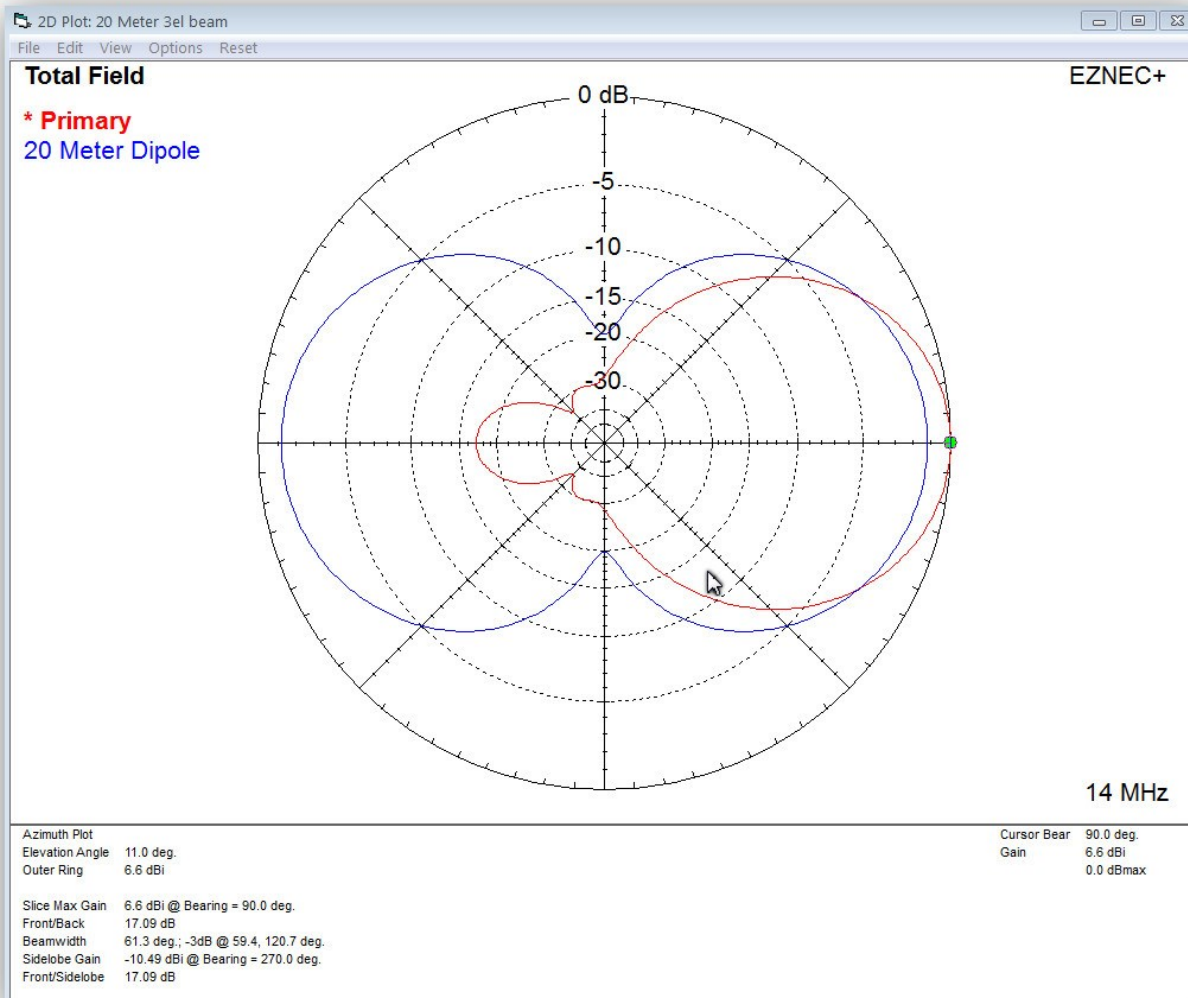
Let's say you were net control for WB2EZU Saturday morning net on 3.925 Mhz. In that case your NVIS antenna would be ideal and would perform much better than a high DX antenna. Why? Because your signal would be more concentrated into areas relatively close to your station which is exactly what you want. The high DX antenna would be significantly weaker than your NVIS antenna. So, like I said at the start, higher isn't always better.

Now let's look at a case where higher is much better.

Using antenna modeling software, I developed 2 model antennas. The first is a 3 element 20 meter beam (shown in red). This thing is a monster, with a 26' boom and full sized 34' elements. It would be very heavy and provide a very high wind loading factor. The second is a simple 20 meter dipole (shown in blue) consisting of about 34' of #20 wire — total weight in ounces, no significant wind loading and a snap to erect. The 3 element beam is sitting at a height of 25', while the simple dipole is sitting at 50'.

Referring to the exhibit below, you will see that at a take off angle of 11 degrees (you want a low angle for DX) in its favored direction, the simple dipole at slightly more than 1 db weaker would be very competitive with the monster beam. You can do a lot with simple antennas.

Next month we will discuss transmission lines and what they mean to your antenna.



# EXAM SITES


03/01/2014 [Jamestown](#)

Sponsor: CARS  
 Location: Prendergast Library  
 509 Cherry Street 2nd fl conf rm  
 Time: 2:00 PM (Walk-ins allowed)

03/01/2014 [North Tonawanda](#)

Sponsor: ARA of the Tonawandas  
 Location: North Tonawanda Fire Headquarters  
 495 Zimmerman Street - Training Rm.  
 Time: 9:30 AM (Registration preferred)

03/12/2014 [Canandaigua](#)

Sponsor: SQUAW Island ARC   
 Location: Ontario Co. Safety Training Facility  
 2914 County Road 48  
 Time: 6:30 PM (Walk-ins allowed)

03/12/2014 [Niagara Falls](#)

Sponsor: Niagara Radio Club, Inc.  
 Location: Venture Forthe, Inc.  
 3900 Packard Road  
 Time: 6:30 PM (Walk-ins allowed)

03/07/2014 [Salamanca](#) 

Sponsor: Catt. Co. Amateur Radio. Exam Team  
 Location: Allegany Indian Reservation V.F.D  
 East Loop Road in Jimersontown  
 Time: 7:00 PM (Walk-ins allowed)

03/15/2014 [Hamburg](#)

Sponsor: **STARS**  
 Location: Hamburg Youth Center  
 200 Prospect Avenue  
 Time: 9:00 AM (Walk-ins allowed)



(control-click on City for more info)



- Free; no charge for examination

03/15/2014 [Rochester](#)

Sponsor: Rochester ARA  
 Location: RIT Gleason Engineering Bldg Rm 3139  
 1 Lomb Memorial Drive  
 Time: 10:00 AM (Walk-ins allowed)

03/15/2014 [West Seneca](#)

Sponsor: West Seneca Kiwanis Center  
 Location: 50 Legion Parkway  
 Time: 8:30 AM (Walk-ins allowed)

03/23/2014 [Geneseo](#)

Sponsor: Genesee Valley ARA  
 Location: Livingston County Government Center  
 2 Court Street Rm 205  
 Time: 5:30 PM (Walk-ins allowed)

03/25/2014 [Lancaster](#)

Sponsor: Lancaster ARC  
 Location: Lancaster ARC- Club House Building  
 525 Pavement Road  
 Time: 7:00 PM (Walk-ins allowed)

(control-click on City for more info)

## TESTING NEEDS

- Legal photo ID (a driver's license is excellent!)
- Current license and/or CSCE documents, if any, and a non-returnable photocopy of each
- Federal Registration Number (FRN); if none, then Social Security Number (SSN)
- \$15 in cash, check or money order
- Two #2 pencils with erasers, and a pen

[\(more info\)](#)

# CONTEST CALENDAR



Start and Finish	Contest Title	Sponsor's Website
Mar 1, 0000Z - Mar 2, 2359Z	ARRL Int'l Phone DX Contest	<a href="http://www.arrl.org/arrl-dx">www.arrl.org/arrl-dx</a>
Mar 1, 0600Z - Mar 1, 0800Z	Wake-Up! QRP Sprint	<a href="http://grp.ru/contest/wakeup/333-wakeup-eng">grp.ru/contest/wakeup/333-wakeup-eng</a>
Mar 1, 1800Z - See website	Open Ukraine RTTY Championship	<a href="http://uarl.com.ua/openrtty">uarl.com.ua/openrtty</a>
Mar 2, 1100Z - Mar 2, 1700Z	DARC 10-Meter Digital Contest	<a href="http://www.darc.de/referate/ukw-funksport/">www.darc.de/referate/ukw-funksport/</a>
Mar 2, 1200Z - Mar 2, 1400Z	SARL Hamnet 40m Sim. Emergency	<a href="http://www.sarl.org.za/">www.sarl.org.za/</a>
Mar 2, 1600Z - See website	OK1WC Memorial Contest	<a href="http://www.memorial-ok1wc.cz">www.memorial-ok1wc.cz</a>
Mar 4, 0200Z - Mar 4, 0400Z	ARS Spartan Sprint	<a href="http://www.arsqrp.blogspot.com">www.arsqrp.blogspot.com</a>
Mar 4, 1900Z - Mar 4, 2100Z	AGCW YL CW	<a href="http://www.agcw.de/index.php/en/">www.agcw.de/index.php/en/</a>
Mar 5, 2300Z - See website	John Rollins Memorial DX Contest	<a href="http://www.antiquewireless.org/">www.antiquewireless.org/</a>
Mar 7, 0230Z - Mar 7, 0300Z	NS Weekly Sprint	<a href="http://www.ncccsprint.com">www.ncccsprint.com</a>
Mar 8, 0000Z - Mar 9, 2400Z	Worldwide EME Contest	<a href="http://www.dubus.org">www.dubus.org</a>
Mar 8, 1000Z - Mar 9, 1000Z	RSGB Commonwealth Contest	<a href="http://www.rsgbcc.org">www.rsgbcc.org</a>
Mar 8, 1200Z - Mar 9, 2359Z	Straight Key Weekend Sprintathon	<a href="http://www.skccgroup.com">www.skccgroup.com</a>
Mar 8, 1400Z - Mar 8, 2000Z	AGCW QRP Contest	<a href="http://www.agcw.de">www.agcw.de</a>
Mar 8, 1500Z - Mar 8, 1800Z	QRP ARCI HF Grid Square Sprint	<a href="http://www.qrparci.org/contests">www.qrparci.org/contests</a>
Mar 8, 1600Z - Mar 9, 1600Z	EA PSK63 Contest	<a href="http://www.ure.es">www.ure.es</a>
Mar 8, 1900Z - Mar 9, 1900Z	Idaho QSO Party	<a href="http://www.idahoarrl.info/qsoparty">www.idahoarrl.info/qsoparty</a>
Mar 9, 0000Z - Mar 9, 0359Z	North American RTTY Sprint	<a href="http://www.ncjweb.com">www.ncjweb.com</a>
Mar 9, 1800Z - Mar 10, 0100Z	Wisconsin QSO Party	<a href="http://www.warac.org">www.warac.org</a>
Mar 12, 1100Z - See website	CWops Monthly Mini-CWT Test	<a href="http://www.cwops.org/cwt.html">www.cwops.org/cwt.html</a>
Mar 14, 1600Z - Mar 16, 1000Z	SARL VHF/UHF Analog/Digital	<a href="http://www.sarl.org.za">www.sarl.org.za</a>
Mar 15, 0200Z - Mar 17, 0200Z	BARTG HF RTTY Contest	<a href="http://www.bartg.org.uk">www.bartg.org.uk</a>
Mar 15, 1200Z - Mar 16, 1159Z	Russian DX Contest	<a href="http://www.rdxo.org">www.rdxo.org</a>
Mar 15, 1200Z - Mar 16, 1200Z	F9AA Cup, SSB	<a href="http://www.site.urc.asso.fr/">www.site.urc.asso.fr/</a>
Mar 15, 1400Z - See website	Virginia QSO Party	<a href="http://www.qsl.net/sterling">www.qsl.net/sterling</a>
Mar 15, 1600Z - Mar 15, 1800Z	Feld-Hell Leprechaun Sprint	<a href="http://www.feldhellclub.org">www.feldhellclub.org</a>
Mar 16, 0000Z - Mar 16, 0359Z	North American Sprint	<a href="http://www.ncjweb.com">www.ncjweb.com</a>
Mar 17, 0200Z - Mar 17, 0400Z	Run For the Bacon	<a href="http://www.fpqrp.org">www.fpqrp.org</a>
Mar 18, 1700Z - See website	CLARA and Family HF Contest	<a href="http://www.clarayl.ca">www.clarayl.ca</a>
Mar 20, 0030Z - Mar 20, 0230Z	NAQCC Monthly QRP Sprint	<a href="http://naqcc.info">naqcc.info</a>
Mar 22, 0000Z - Mar 22, 2359Z	FOC QSO Party	<a href="http://www.g4foc.org">www.g4foc.org</a>
Mar 22, 1300Z - See website	Oklahoma QSO Party	<a href="http://www.k5cm.com/okqp.htm">www.k5cm.com/okqp.htm</a>
Mar 22, 1400Z - Mar 23, 0200Z	Louisiana QSO Party	<a href="http://laqp.org">laqp.org</a>
Mar 22, 1800Z - Mar 22, 1800Z	QCWA Spring QSO Party	<a href="http://www.qcwa.org/2014-qso-party-rules.pdf">www.qcwa.org/2014-qso-party-rules.pdf</a>
Mar 29, 0000Z - Mar 30, 2359Z	CQ WPX SSB Contest	<a href="http://www.cqwpw.com/rules.htm">www.cqwpw.com/rules.htm</a>
Mar 29, 0000Z - Mar 30, 2359Z	Feld-Hell Worked all Americas	<a href="http://www.feldhellclub.org">www.feldhellclub.org</a>



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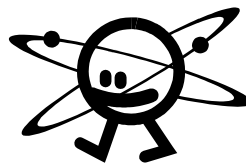


For more information on contests: <http://www.arrl.org/contest-calendar>

# SPECIAL EVENT STATIONS

Full information at: <http://www.arrl.org/special-event-stations>

03/01/2014 Nuclear Security Summit 2014



03/09/2014 Pennsylvania Charter Day

03/15/2014 Commemoration of the 233rd Anniversary of the Battle of Guilford Courthouse

03/15/2014 The American Legion 95th Birthday Commemoration

03/21/2014 University of California, Berkeley Amateur Radio Club Centennial

03/22/2014 32nd Annual Cherry Blossom Festival



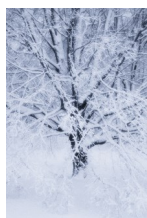
03/22/2014 Green Valley, Arizona 50th Anniversary

03/24/2014 Falcon Field Open House Special Event

03/25/2014 Honoring 72 Years of the Opening of the Buckingham Gunnery Army Airfield

03/29/2014 Battle of Horseshoe Bend (Creek Indian War) Bicentennial

03/31/2014 Frost Buster



## USEFUL INTERNET LINKS

(control + click to use link)

**ARRL MAIN SITE:** <http://www.arrl.org/home>

**ARRL ATLANTIC DIV.:** <http://www.atldiv.org>

**CONTESTS:** <http://www.arrl.org/contest-calendar>

<http://www.hornucopia.com/contestcal/perpetualcal.php>

**HAMFESTS:** <http://www.arrl.org/hamfests-and-conventions-calendar>

**STARS REFLECTOR:** <http://groups.yahoo.com/group/STARS-WB2ELW/>

**TELSTAR EDITOR:** [wb2elw@verizon.net](mailto:wb2elw@verizon.net)