



# **IREDELL WIRELESS**

Newsletter

**W4SNC 146.685-REPEATER**

Published monthly as a service to the Iredell County Amateur Radio Community  
By the Iredell County Amateur Radio Society (ICARS)  
P.O. Box 142 Statesville NC 28687

**May 2011**

**This month's Meeting will be held at Julia's Tally House. May 12, 2011. Come early (6:30PM) and eat or rag chew. The Meeting Starts at 7:00 PM. All ICARS members and Families are encouraged to attend!**

*ICARS Website*

[www.w4snc.org](http://www.w4snc.org)

**President: Donald Summers, W4DON~~Vice-President: Dennis White, N4WHK  
Secretary: Tim Misenheimer, KC4MJC~~Treasurer: Rick McClure, KE4TEP  
Members-at-Large Greg Cason, KJ4ENR~~Ed Pucket, K4ELP**

Wireless Editor, Tim Misenheimer KC4MJC

Iredell Wireless submission cut off date is  
the first Thursday of each month.

## **Iredell County Amateur Radio Society Meeting Minutes**

**April 14 2011**

*For the May 12 2011 Meeting*

The Iredell County Amateur Radio Society met at Julia's Tally House for the regular monthly meeting. President Don Summers, W4DON called the meeting to order at 7:00 PM. There were fourteen (14) attending – eleven (11) members and two (2) visitors. Don asked everyone to introduce themselves.

**Minutes-** A motion to approve the March 10, 2011 minutes as published was made and seconded. Motion carried.

**Treasurer's Report** – W4DON presented the Treasurers Report, in the absence of Rick, KE4TEP. Don also submitted a written report, from Rick, for the period ending March 31, 2011.

**Andrew Causey, AK4BU** Submitted an application to re-join ICARS. Andrew was a member back in the late 70's till he had to move out of town, due to work relocation. Now he is back. Andrew was voted in unanimously. Glad to have you back Andrew!

**Old Business** – W4DON informed the group, that the 4-bay folded dipole antenna, he has been testing is now the backup antenna for the repeater. Don and a group of volunteers, muscled the antenna in place.

**Walk America** – Dennis N4WHK Told the club that any one wishing to volunteer to help this year were to meet at the front of Mitchell College around 8:30AM. And to stay tuned to your radio because rain and storms are expected.

**Program** – The program was presented at this time.

After the program, the meeting was adjourned.

Respectfully submitted

*Tim Misenheimer* KC4MJC

Secretary

One of our Honorary Members



Mark Sanger

Wife: Kathy, Kids: Lydia(6), Mark Jr. (4.5) Lauren and Lindsay (twins 2)  
Attend Twin City Baptist Church  
President, Iredell Broadcasting, Inc. since inception.  
Manage and operate 1400 WSIC in Statesville.  
Bachelor's degree in Radio and Television Broadcasting from Bob Jones  
University in Greenville, SC.  
Minor in Bible, Associates Degree in Fire Science

Hobbies since having kids... are my kids. Enjoy working with anything with a motor on it: chain saws, mowers, etc.... etc... nothing better than a good day cutting wood or running a bob-cat.

Born in Portsmouth, VA, grew up in Litchfield, MI, home of "Cleveland Center" radio omni.

Grew up in a home where my dad, W8QGP, used his "ham radio" every chance he got and messed up our cartoons every weekend. *"This is Whiskey 8 Quebec Gulf Papa.. over... you are five nine michigan... five nine michigan over..."*  
great memories... LOL

\_\*\_\*\_\*\_\*\_

Mark can be heard daily on WSIC, 1400 on your AM radio dial.

## WSIC Community Picnic

Saturday, May 21, 2011

- ✓ Location: in field located behind WSIC Studios
- ✓ Live music and singing from on-site bandstand
  - ✓ Open to the Public
  - ✓ 30 + Vendors
- ✓ Please attend and support these Organizations
  - ✓ Vendor Registration is Required

Contact:

Mark Sanger  
1400 WSIC  
336-499-5859

~\*~\*~\*~

Mark Sanger has invited ICARS to participant in this event by: 1-providing public tours of the WSIC radio station, 2-helping with security of radio station facilities and grounds and 3-by setting up an operating HF station powered by a generator. Call sign will be W4SNC.

To accomplish this feat we need all ICARS members to volunteer their time and efforts. We will need to set up two tents with tables, chairs, HF antenna and a generator. ARRL brochures to be provided by Dennis, N4WHL.

One tent will be set up directly behind the WSIC building. This will be used by ICARS members supporting items 1 & 2 above. A central meeting point if you will. 100 foot power cord may be needed.

A second tent will be set up on the right side of the field, down near I-40. This tent will provide an HF operating position with at least one HF station. There are tall trees nearby to string up a 40m flat-top dipole or possibly an end-fed zepp. A power generator is to be located nearby because distance to commercial power is to far away.

Both tents should be properly secured to the ground using non-conductive guying stakes if available especially for tent behind WSIC building. Be prepared for any wind and rain.

Don, W4DON

## Great Program for May ICARS meeting

AMSAT area coordinator Clint Bradford, K6LCS, will be presenting his "Working Amateur Satellites With Your HT" presentation at the May 12, 2011 meeting of the Iredell County Amateur Radio Society. All are welcome to attend. Those who would like to join us for dinner, can arrive between 6:00 and 6:30. Talley house takes credit cards.

Come to the meeting and learn how to have fun on the satellites. And see the melding of technologies as we present this via Skype from Clint's base in California.

"The Iredell club has been serving Central North Carolina for over 35 years," Clint writes. "I am looking forward to meeting them."

7:00 PM, May 12, 2011

Julia's Talley House Restaurant

Highway 21 North, Troutman, NC 28166

Attendees should download Clint's four-page tutorial and radio programming matrix before the meeting from ...<http://www.work-sat.com>

And Clint welcomes pre-presentation questions - call him at 909-241-7666, or send email to [clint@clintbradford.com](mailto:clint@clintbradford.com)



# Work Satellites with your HT!

*Most hams already have the necessary equipment to work FM amateur satellites.  
This guide offers all the information you need to "work the birds."*

All cited resources – and more info! - are available to you on one Web site:

<http://www.work-sat.com>

If you can program split frequencies in your HT (transmit on 2 meter and receive on 440), you can work the FM amateur satellites! In satellite AO-51's primary **VHF/UHF (V/U)** mode, the **UPLINK** frequency (*to AO-51*) for voice is 145.920MHz\*. The **DOWNLINK** freq (*from AO-51*) is 435.300MHz\*.

First, you need to know **WHEN** and **WHERE** the satellite will be passing over your location. There are several commercial computer programs that will tell you. In the home office, I use **Nova for Windows**<sup>[1]</sup>. Outside, though, I use **PocketSat**<sup>[1]</sup> on my Palm PDA or iPod touch/iPhone. On my MacBook Pro, **MacDoppler**<sup>[1]</sup> is amazing. These programs are easily updated with satellite tracking data. But **free of charge** info is also available online at ...

[heavens-above.com](http://heavens-above.com) -or- [amsat.org](http://amsat.org)

Plug in your longitude and latitude coordinates on either or both of these free sites, and you can access all sorts of amateur satellite pass information.

The one "absolute" for success is to **open up your squelch**. We're talking "weak signals" from 500+ miles away - so don't expect the satellite to be strong enough to break squelch like your local repeater. Sure, it's a little noisy, but that's part of the process. Noise is also an aid in locating the satellite: When the frequency starts exhibit **QUIETING**, that's a sign that you are capturing the satellite's signal!

Improve your HT's stock antenna. For BNC connectors, **Pryme's AL-800**<sup>[2]</sup> will make the difference. For SMA, the **Diamond SRH-320a** or **Smiley 270A**<sup>[2]</sup> are good performers. Using an **Arrow** dual-band<sup>[3]</sup> Yagi is better. If you prefer to homebrew your antenna, see the Notes<sup>[4]</sup> for construction article citations.

Set up your radio to tune for the **Doppler effect** on the downlink. Start listening **above** the center frequency<sup>[5]</sup> - you will **acquire** the satellite sooner and clearer. When the downlink gets scratchy or fuzzy, tune down 5KHz at a time, and reception should be clearer. With low power, only transmit when you can **clearly** hear the satellite. Follow the signal down in frequency as the pass continues.

***Don't hold your whip antenna upright.*** Held in a vertical position, your transmitted signal is hitting land-based receivers. You need to tilt your HT's antenna so that it is ***perpendicular*** to the airborne satellite. Very few of the ham satellites are land-based (grin), so you must **TILT** your antenna about the same amount as the satellite's **ELEVATION**. You'll quickly get the hang of it and hear the difference!

Ideally, we should all be working the satellites in **full duplex** mode, where we can *simultaneously* listen to the downlink as we are transmitting. Although this method is preferred, it is not mandatory: Carefully monitor the downlink, and wait for a break in the conversations to announce yourself. You might find it helpful to record your sessions for later review. Even if you don't make a contact during a pass, a recording can help you recognize the callsigns, voices, and personalities of other operators. Pocket recorders are as inexpensive now as they have ever been, and most smartphones have recording applications. Some hams use headphones or an earpiece to monitor the downlink.

Knowing your grid square - and having a grid square map - is a quick way of identifying locations of what you will be hearing. The **ARRL** and **Icom** have grid square maps: Icom's is free and available at better ham radio stores<sup>[6]</sup>.

It just takes a little preparation and planning for working amateur satellites. Not every pass is workable with an HT — don't go after the sub-10° elevation passes. Choose passes wisely, working ones you know will give you better results.

When you clearly hear others, try to find a break in the action, and use the ITU-approved phonetics<sup>[7]</sup> to announce your callsign, grid square, and op mode:

**"KILO-SIX-LIMA-CHARLIE-SIERRA, D-M - ONE-THREE, handheld."**

**Check the [work-sat.com](http://work-sat.com) Web site for the sats' control team news – to make sure the sat is in the mode you can work with your HT!**

Ask questions! Find an elmer or look up the **AMSAT**<sup>[8]</sup> area coordinator for your area. Use the Work-Sat.com support YahooGroup for any questions!

**Clint Bradford, K6LCS – [www.work-sat.com](http://www.work-sat.com)  
clint@clintbradford.com**

Skype, Twitter: clintbradford

***Updated 03/07/2011***

## Notes

Access this Web site for all citations, links, resources, and updates:

<http://www.work-sat.com>

[1] Nova for Windows is available from Northern Lights Software Associates' Web site at [www.nlsa.com](http://www.nlsa.com). PocketSat is available from Big Fat Tail's site at [www.bigfattail.com](http://www.bigfattail.com). And MacDoppler is available at [www.dogparksoftware.com](http://www.dogparksoftware.com).

[2] The Pryme AL-800 telescopes to 34" and collapses to 10". It is packaged with a 9" rat tail - which you can use for everyday use. Use caution with this massive, heavy antenna: It has the potential of placing a lot of stress on your radio's BNC connector.

[3] Arrow's Model 146/437-10WBP is a dual-band cross-Yagi design, with a diplexer built into the handle. It has three elements on 2M and 7 on 440. See it in action in the December, 2007 issue of CQ Magazine. Arrow's Web site: <http://www.arrowantennas.com>.

[4] Alex Diaz' Yagi-Uda plans, AMSAT's "Cheap and Easy" sat antenna articles, a tape measure beam construction article – and LOTS more – are all on the Antennas page at [work-sat.com](http://work-sat.com)

[5] For example, here's how I have programmed my radios for **AO-51\***:

<b>Ch #</b>	<b>Name</b>	<b>TX Freq*</b>	<b>CTCSS*</b>	<b>RX Freq</b>	<b>CTCSS</b>
101	51 +2	145.920*	67.0*	435.310	None
102	51 +1	145.920*	67.0*	435.305	None
<b>103</b>	<b>51 MID</b>	<b>145.920*</b>	67.0*	<b>435.300</b>	<b>None</b>
104	51 -1	145.920*	67.0*	435.295	None
105	51 -2	145.920*	67.0*	435.290	None

And here's how I have programmed my radios for **SO-50**:

<b>Ch #</b>	<b>Name</b>	<b>TX Freq</b>	<b>CTCSS</b>	<b>RX Freq</b>	<b>CTCSS</b>
201	50 +4	145.850	67.0	436.815	None
202	50 +3	145.850	67.0	436.810	None
203	50 +2	145.850	67.0	436.805	None
204	50 +1	145.850	67.0	436.800	None
205	50 74	145.850	74.4	436.795	None
<b>206</b>	<b>50 MID</b>	<b>145.850</b>	<b>67.0</b>	<b>436.795</b>	<b>None</b>
207	50 -1	145.850	67.0	436.790	None
208	50 -2	145.850	67.0	436.785	None
209	50 -3	145.850	67.0	436.780	None

[6] Icom's map is available as a .pdf file on Icom's Web site. Search their Knowledge Base for Article 5BUE54225A at <http://icomamerica.com> - or download at [work-sat.com](http://work-sat.com).

[7] Download the [ARRL's Handy Operating Guide](#) (FSD-220) at – you guessed it – [work-sat.com](http://work-sat.com).

[8] **AMSAT** *deserves your support!* Membership isn't that expensive, and members are entitled to discounts on AMSAT publications and satellite tracking software. Support the sats!

[\*] Watch the [AO-51 Control Team](#) page for frequency changes and scheduled updates! What's your single source for links to the ops schedules for the popular FM birds? **work-sat.com** !



I've been a licensed amateur just since 1994, and involved with AMSAT the past few years. My "*Working Amateur Satellites with your HT*" presentation has proven to be popular, and has been given to scores of clubs and hamfests in Southern California ... as well as via EchoLink and Skype conferences. *Some comments received ...*

Clint has this magnetism - you never know what to expect. He started out with interesting trivia and gave prizes to the lucky winners. He is a very motivating speaker!

Your Web site took me from zero knowledge in 10/2009 to getting an HT and an Arrow. As of March 6, 2010, I have qualified for VUCC on the FM birds. A great site for the beginner on the birds. You un-mystify the birds.

I love the site and I greatly appreciate the information you have provided to get me going! Yours is a no-nonsense approach to working satellites and helpful documentation (tutorial). The photos really helped in understanding.

Simplicity ... the idea of working sats "sounds complicated" but that's really not the case. You keep the language simple, illustrations simple, and concept simple ... give folks the idea that any ham can do this (which they can) with the right equipment....if they follow the directions you provide.

### **Want a lively, hour-long satellite presentation at YOUR club?**

I have given my presentation several times via Skype: I prepare and send a customized slideshow ahead of time for you to project to your club, and we use Skype over the Internet for two-way audio.

*Contact me! – let's schedule a presentation!*

Clint Bradford, K6LCS  
Mira Loma CA US DM13  
Email: [clint@clintbradford.com](mailto:clint@clintbradford.com)  
909-241-7666

I C A R S  
FM and HF Nets  
**MAY**  
2011

*Net Manager: W4DON*

2m FM Net 2100 L 146.685		10m SSB Net 2030 L 28.468 USB	
Date	NCS	Date	NCS
4	KC4MJC	7	N4ACF
11	W4DON	14	WB4WRY
18	KJ4YZZ	21	<b>NO NET WSIC PICNIC*</b>
25	KE4TEP	28	KC4MJC

*Thanks for volunteering to be a NCS*

ICARS MEETING MAY 12<sup>TH</sup> AT TALLEY HOUSE

- \* 1- ICARS HAS BEEN INVITED TO PARTICIPATE IN THE "WSIC COMMUNITY PICNIC" ON MAY 21<sup>ST</sup>
- \* 2- TENT(S), 2M STATION AND HF STATION
- \* 3- HELP CONDUCT TOURS AT WSIC (W4ONS & W4DON)
- \* 4- HELP PROVIDE SECURITY

Call your Net on time. Maintain Net for minimum of 15 minutes

If you're unable to call your Net find a replacement NCS

NCS please give a 5 minute notice before Net time.

Don't forget to send your Net Report to N4WHK

ICARS was organized on September 9, 1976

Nets have been running since 1977