

TRI COUNTY REPEATER ASSN.
NEWLETTER

AUG 4, 2009

The meeting was opened on or about 7 Pm by Club President w9mm with the following Hams in attendance W9RMA, KC9CGW, KC9GYR, K9YLI and N9XMU. Treasurers report \$219.87. The club currently has thirteen paid up members. A discussion developed concerning a way to acquire and maintain new members, a project K9YLI has been working on. W9RMA Chippewa County Emergency Coordinator was in attendance and welcomed anyone wishing to join ARES to contact him. He was also promoting the idea that area clubs could acquire Umbrella Insurance coverage and all could contribute for coverage. The idea was tabled but will need to be considered at a future date. WB9WKT and his son KC9OLC have become involved in Satellite Operation and enclosed with this newsletter are some tips they provided about chasing the birds. The next meeting is scheduled for Tuesday Oct 5th, 2009 and the new meeting place is Main Street Cafe in Bloomer, discussion of the Christmas Party is on the agenda, see you then.
73 N9XMU

Marv

OK here we go--I only have equipment to work FM satellites ("birds"). Here are the 4 "birds" that can be worked right now:

name	other name	uplink	downlink	notes
SO-50	saudisat 1C	145.850	436.800	need 67hz tone
AO-51	ao-echo	145.920	435.300	need to check web page because they change freq's every month
AO-27		145.800	436.795	
ISS	space station	437.800	145.800	Not turned on all the time

WEB PAGES to check out:

<http://www.amsat.org/amsat-new/index.php>
<http://oscar.dcarr.org/index.php>
<http://www.heavens-above.com/>

lots of info for tracking and status
good "status" page plus links to the birds
this is my main goto page

Tracking software:

You don't need tracking software if you have web access--all the above sites do the tracking for you. You just need to move around the websites and you can find anything. I suggest you get a logon for heavens-above.com (its free). When you tell it where you live it lays out all the information yo will need. Under "CONFIGURATION" select "create new user account". Then the next time you login it will know who and where you are. The you go to "SATELLITE" and choose "radio amateur saellites--24 hour prediction". That page

lists all the satellies and times of when they will be accessable to you from your QTH. You need to go through the list and find the 4 FM satellites. You just need to "play around" in here. On the 24-hour page click on the satellite and it will go to another page. From that page click on "Passes (all)". This will give you a 10 day pass schedule for your area. It will look like this:

23 Aug	02:20:47	10	ENE	02:23:12	13	E	02:25:37	10	ESE
24 Aug	14:50:19	10	SSE	14:55:38	82	WNW	15:00:44	10	NNW

So on 8/24 at 2:50 AO-27 will come out of the SSE at 10 degrees and when it is in the WNW it will be at 82 degree's (90 degree's is straight overhead, 10 degree's is almost on the horizon). This will be a great pass to work the bird. Anything that has an elevation of 45 degrees or greater is good to work. So this says it comes out of the SSE and will follow a line until it dips below the horizon in the NNW. You just have to point your antenna and track it across the sky.

I would suggest getting a tracking antenna---I got the arrowII (VHF/UHF dual antenna) this is used by almost everyone playing with the birds. Of course you could build your own. This antenna is a hand held antenna that you can point right at the birds. It works great.

Remember the "birds" only transmit back to earth at a power of maybe .25 or .5 watts so A good receive antenna really helps. Plus the polarization is not vertical or horizontal so you can rotate this antenna for better reception. We used a vertical truck antenna to uplink to the birds when we first started and had no problems but you will need a higher elevation pass to really work it. I have heard birds on the downlink side just using a "rubber duck" but the bird has to be almost overhead to really hear it.

I do NOT adjust my radio's for doppler on transmit--I set it on the transmit freq and leave it. I suppose I could work them better if I did adjust for doppler on TX. I DO adjust the RX for doppler. When the birds is coming at you you want to be 5 or 10Khz higher than the original downlink freq. As the satellite comes closer and passes over you need to adjust the RX freq DOWN. I just do 5Khz jumps--that works fine.

When in RX always have your squelch "OFF". You will miss the lower elevation passes if you have the squelch "ON". I learned this one the hard way.

I use 5watts to transmit---not sure what everyone esle uses. I know they use a lot more to work the ISS (international space station).

On a pass elevation of 80 degrees you get about a 7 minute window to work. Its crazy--lots of people trying to access the bird. Its a repeater in the sky so only one gets in at a time. If the satellite is coming out of the south and going north I usually wait until it gets farther north. Remember--when the satellie is directly over head the coverage range south will be Texas--lots of big cities between here and Texas. (heavens-above shows the coverage range of each bird on each pass according to the elevation at your area.)

Lots of good people working the birds--we have yet to meet a jerk. Each pass Jerry and I learn something new. I suggest getting a tape recorder and record each pass you work. Its such a busy scramble to aim the antenna, write down calls, adjust for doppler, you can always go back over the tape to verify call signs and grid squares. People hunt for grid squares so each contact consists of a call sign and grid squarre (no signal reports). Its fast

and crazy--but man its a RUSH!!!.

To work satellies you need computer access. This means everyone you work has an email address on QRZ. There have been many times I will email these guys with questions--they always reply back with an answer. Lots of times I email them to confirm the contact. Jerry has gotten lots of emails back from guys telling him what a good job he does on the birds. Early on I would let Jerry operate the Mic (guys love talking to kids) and I would point the antenna. But I got things rigged up now so I can do this solo if needed. Jerry would get on the birds and have a pileup.

When I work solo i will listen for a stong signal and call him---I never call CQ on the birds. Once you call a guy be ready because people will hear your grid square and start calling you. The tape recorder is very very helpfull.

I suggest "listening" for a few weeks before attempting to TX. You can tell the people on the birds that jump right in and don't have a clue what they are doing. Get use to tracking with the antenna, listening to how the people try and make contact and all the other good stuff. It really pays to listen for a few weeks. The AMSAT page has lots of good stuff for the beginner. I still consider myself a beginner.

You will get frustrated at times but hang with it. For some reason I still really enjoy trying to make contacts even when it is so conjested. Weekends are terrible times to try and work a bird.

Jerry can't think of anything else to add. We learned by doing and making mistakes. Its fun and frustrating all at the same time. You will hear lots of the same "big guns" all the time--but I learned a lot thur emails to the "big guns". If you look on the AMSAT pages you will notice a lot of call signs that you hear on the birds. These guys are willing to help. Don't be afraid to contact them for help. Jerry and I will help you too---no problem there.

Let me know what else I can help with. I think I covered the basic's. There is SO much stuff--but thats the cool part about it. Just think----that satellie is 25cm cube in size, traveling at 17,500MPH and is 200 miles above the earth--and you are accessing it--thats COOL BABY!!!!!!!!!!!!!!!

There are two new FM satellites coming later this year or next year. Jerry and I have worked all 4 satellites. We only worked the ISS once---that one is a total ZOO.

Let me know if you have questions. If you want to see some pictures of us in action let me know and I can email you some.

Good luck Marv.

Rod Anders
WB9WKT

Every time Jerry and I go outside to work a "bird" my wife asks if we are going outside to "talk to the aliens". The neighbors give us funny looks also.