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Six Meters Stirs Discussion

The mention of six meters in last month’s newsletter drew immediate and mixed reactions. A number of amateurs expressed thanks for the reminder of an almost-forgotten band in these parts, even though a 6m band is included with many radios. The idea of a regular roundtable on the band also came up.

Local 50 MHz experts Pierre Loncle AL7OC and Al Noe KL7NO inferred some offense from the sidebar regarding potential bad experiences on the band. One unfortunate fact that’s indisputable is the possibility of trouble exists around the country. However, Pierre raises some excellent points. We stand to learn a lot from our local six-meter gurus. Cooperation is key.

As Pierre sees it, “I have tried to encourage newcomers on

6m and no one ever wanted to take the band up in the first place. It is a difficult band to work DX on in the first place, and at high latitudes, the difficulties are compounded by auroral activity and our sheer distance from other stations. Operating on 6m in an ephemeral, weak signal environment requires extraordinary consideration of other operators on the band and some advanced operating skills.

“We have done our best to educate those new to this environment. Some may consider our remarks discouraging, but they are based on our years of experience operating on 6m.

“Those interested in working weak signals on 6m would do well to educate themselves in the operating arts necessary for success on the band. We are here to help but all operators

on 6m need to put in the sweat equity to hone their skills. Coming to 6m with 20 meter DX combat operating skills mindsets will only alienate other operators and decrease the chance for anyone’s success working DX. Skill and courtesy are paramount in the 6m environment.”

Anyone new to any band or mode should take the time to familiarize themselves with a new protocol. Always consult the local experts.

Many 6m DX enthusiasts form mutually-supportive groups, wherein the big guns chum the waters and take their fill while helping the little guys and gals work some new grids, too.

AL7OC suggested the 6m FM calling frequency of 52.525 with 131.8 Hz PL to contact him and KL7NO.

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Don't Neglect Your Ability to Hear

- Good-quality, light-weight headphones ease your burden.
- In the shack, an external speaker usually improves any radio’s audio.
- Consider all possible audio connections and have enough adapters and splitters.

Essential Antennas for ARES

1. J-pole for two meters.
2. Handheld “Arrow” dual-band antenn—for satellite and terrestrial use on 2m and 440 MHz.
3. Mag-mount with 5/8-wave 2m antenna.
4. 3-ele 50 MHz yagi—collapsible with mounting hardware, 1” mast, and TV antenna tripod.
5. Portable horizontal loop antenna for 80 and 40m with tuner, ropes, and mounting hardware.
6. 20-meter wire dipole with support material. Can be used as a sloper.
7. 150 feet of flexible, insulated #12 wire with random wire tuner.
8. 2400 MHz gain antennas — yagis or grid dishes — for wireless LAN connections. Complete with pig-tails, connectors, and converters. ☺

(Six Meters Continued from page 1)

He goes on to say, "Some thoughts on 6m based on what I have seen and heard over 25 years on the band..."

"I was fortunate to have good "Elmers" to get me started on 6m and inexpensive surplus gear to use to get my feet wet on the band. I learned how to work in the weak signal environment without disrupting the QSOs of nearby stations. We also coordinated DX contacts on a 2m or 440 MHz channel to avoid pile-ups and lost opportunities. Cooperation is necessary as DX openings are few and far between, and may only last an hour or less.



"We did get heckled per usual for wasting our time on 6 meters."

"When I first came to Fairbanks, I loaned out one of my 6m Motorola mobiles (which I never got back) for people to try out. In 1996, Albert and I purchased and assembled several affordable Ten-Tec 1260 FM radios and offered to hold a kit building session for any local hams interested in an affordable means of getting on 6 meters. Albert built a 6 meter transverter as well to show. We both presented our projects to the club and we didn't get any interested hams.

"We did get heckled per usual for wasting our time on 6 meters. Whenever we have done 6 meter talks either formally or

informally with local hams, we have found that the 6 meter band is snubbed as 'useless' due to TVI reputation, its erratic propagation characteristics, and the poorly performing multi-band radios that are often the only 6 meter radios that local hams have.

"There seem to be few hams willing to learn more about the band and willing to take the time to learn how to make the best of it. Our experience is that if you want to learn about VHF radios and propagation, and are willing to patiently wait for rare openings, your efforts will be rewarded richly. Six

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Power Talk (Part 2): Switched Supply Or Not?

An unfortunate byproduct of their clever, lightweight design is a tendency to radiate noise over a broad spectrum.

If you enjoy traveling with your radio equipment or plan for an emergency operation, you probably prefer less bulk and weight. A switched power supply should be part of your kit, but do your homework first.

Not all switchers are created equal. All power supplies need to meet certain minimum requirements, not the least of which are DC rating, AC filtering, intermittent and continuous current ratings, and RFI specifications.

A switching-mode power supply is a power supply that provides the power supply function through low loss components such as capacitors, inductors, and transformers -- and the use of switches that are in one of two states, on or off. The advantage is that the switch dissipates very little

power in either of these two states and power conversion can be accomplished with minimal power loss, which equates to high efficiency.

An unfortunate byproduct of their clever, lightweight design is a tendency to radiate noise over a broad spectrum. ARRL's *QST* magazine often feature test results. ARRL members can view an archive article here with several comparisons: <http://www.arrl.org/members-only/prodrev/pdf/pr0001.pdf>.

A typical switching power supply starts by directly rectifying the AC power line and filtering it to DC with large electrolytic capacitors. This eliminates the big, heavy and expensive 60 Hz power transformer used in conventional "linear" power supplies. The AC line input is typically protected with low

pass filters designed to block radio frequency interference from being conducted back out the power line. If the line input is 240 VAC, then the DC obtained from the filter capacitors is $\sqrt{2}$ times this value, or about 340 VDC.

The 340VDC is then fed to high frequency high power switching transistors that "chop" the DC into high frequency AC, typically at tens or hundreds of kilohertz, and fed to a transformer wound to give the desired voltage at the output. The secondary is then rectified and filtered again to produce the desired DC output voltage.

Why use high frequency? Because high frequency transformers can carry far more power for a given weight and size than those operating at 50

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meters demands some time and effort on the part of the successful operator.

Six meters here and elsewhere has become the domain of VHF devotees who are tired of the FM repeater scene and want to learn more about radios and the exotic propagation modes that 6 meters has to offer. Hams on 6 tend to be much more technical in their interests. Part of this is due to the lack of quality, commercially available 6 meter ham gear.

All of my original gear was commercial FM surplus that I converted to the 6 meter band. Most of the other hams on 6m were using surplus or home-brewed equipment out of necessity.

Perhaps some newcomers to 6 may feel like outsiders in the technical group. But, more often than not, 6 meters has also become a band where local hams can enjoy long QSOs with their friends without worrying about tying up repeaters. The pace of conversations is slow, just as it would be over a cup of coffee with a good friend. Newcomers are

welcome to join in. Bring your own friends with you and enjoy the leisurely pace of 6m FM QSOs.

Just as 160 was considered the 'gentlemen's' band of HF, 6m SSB/CW is the 'gentlemen's band' of VHF. There is a lot of weak signal work, and that requires that operators watch their proximity to weak signal stations. Operators need to know the footprint of their transmitter's noise output spectrum and steer clear of fellow operators trying to pull faint signals out of the noise floor.

Using 20 meter combat operating techniques on 6m will not win you friends on the band. Courtesy and patience will earn you the respect due a good VHF operator.

The new 6 meter operator would do well to learn the techniques for working weak DX and gentlemen's rules that make it possible for all of us to get the most out of 6m. Albert and I would be happy to discuss good operating techniques for those interested in getting into 6m. It is also a very good idea for the new 6 meter operator to learn CW and get proficient at it. On weak or auroral openings, CW is the

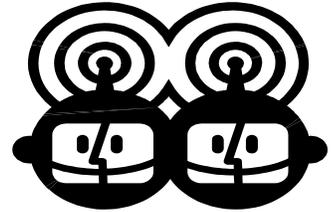
only mode that will work.

In summary, everyone is welcome on 6m, but the nature of the band demands more technical effort and better operating practices than 2m FM. Those of us who already enjoy 6m are happy to have new people share in the fun. VHF enthusiasts ask that new folks take time to learn how to operate weak signal stations and share the band to the benefit of all.

Questions? You can call AL7OC or KL7NO on 52.525 FM (PL 131.8) or 50.125 USB. If you aren't on 6m yet, but are interested, drop either of us a line, or any of the other handful of 6m ops in town. We'll help you get started on the right foot with 6 meters.

Even if DX is not your aim, six meters can be a very useful band for personal use as well as public service. Ideas abound. It just makes sense to explore an area with so much potential. Elmers are ready and willing to help. Try it.

You can contact Pierre and Al by email at and@acsalaska.net and kl7no@arrl.net. Explore beyond familiar boundaries! ☺



Cooperation and mutual support are needed for successful exploitation of any band.

“Those of us who already enjoy 6m are happy to have new people share in the fun.”

Elmer Central: Questions & Answers

(Power Continued from page 2)

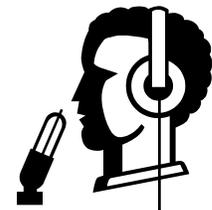
or 60 Hz. Also, the filter capacitors at the output of the supply can be much smaller than those operating at 60 Hz. switching power transistors dissipate zero power when they're off, and very little when they're on. How much depends on their internal resistance when "on". ☺

Q: Is there a way to use alkaline batteries in an HT?

A: You bet! Sometimes, especially when traveling to remote locations without reliable AC for recharges, you need a power option based on the ubiquitous AA battery. Many handi-talkies have optional battery holders for AA alkalines or NiCd cells. Consider that in your next purchase.

Check the manufacturer's web site for a complete list of accessories or visit after-market vendors like <http://www.batteriesamerica.com>.

Alternatively, if your HT accepts 12 VDC input through a coaxial power plug, you can easily rig a pack of D cells or two 6 VDC dry cells wired in series to provide adequate power. ☺



Send your questions to n1tx@amsat.org

Snippets off the Wire

SSETI Express launch delayed indefinitely as a result of as a result of problems with one of the other spacecraft on the flight.

Hurricane relief ham operators are still needed. Prospective volunteers may indicate their willingness to deploy by first signing up on the Hurricane Katrina and Rita Disaster Communications & Volunteer Registration and Message Traffic Databases at <http://katrina.ab2m.net> and <http://rita.ab2m.net>.

rita.ab2m.net.

New York Congressman Steve Israel has reintroduced legislation that could make it easier for radio amateurs living in communities with deed covenants, conditions and restrictions (CC&Rs) to erect suitable antennas, HR3876.

Serge, F6AML is QRV from Renunion Island as TO5R until October 23. Activity is on 40 to 10 meters, including the newer bands, using CW and SSB. During this time, he

plans to take a side trip to Mayotte where he will be QRV as TX5M from October 10 to 14. QSL direct to home call.

Mike, VE6AO is QRV as CK6AO to celebrate Alberta's 100th anniversary, and can often be found on 20 meters using SSB. QSL to home call.

The annual Scouts "Jamboree on the Air" Amateur Radio event is scheduled 1200 UTC on October 15 until 1200 UTC on October 17, 2005. #



Just scratching the surface.

Contesting Gives Chance to Hone Skills

Mention amateur radio in a crowded room filled with the uninitiated, and you'll find a variety of opinions about the images it conjures. Most would have a geeky theme, and I'll bet money none would portray a highly skilled, highly competitive cadre of operators, their drive no less than many athletes.

The contestants regularly engage in on-the-air marathons worldwide. Many travel to remote locations to operate. Success is often relative and the rewards little more than colored paper certificates or the occasional engraved plaque. And fame.

Most, though, do it as challenges to themselves and to reap the rewards of friendship with a hard-won place in the contest fraternity. In Russian and other languages, terms for

the hobby translate literally to radiosport.

In contesting, technical and logistical efforts -- sometimes many months or years in the planning and execution--finally come together with operator skills and physical stamina.

The drive to abuse oneself is mysterious, even to other non-contesting hams. The rigors for 24, 36, or even 48 hours straight involve continuously turning knobs, pressing keys, and staring at tiny colored screens while trying to exchange and record contact information with other stations. At the same time a cacophony of other voices, tones, and noise blasts into both ears. Lock your head in a tumble drier for a similar effect.

Contest teams form to represent a common interest and to

exercise it as a group. At this level, the competition becomes extreme with both minor and major leagues. Compared to the single operator, the effectiveness of team contesting depends far greater on overcoming the many challenges of having multiple stations on the air simultaneously. Solo contesting, however, can be physically and mentally more grueling.

While the rules vary in details, most ham radio contests have much the same objectives: to contact as many other stations in the time allotted. Extra points may be allowed for certain modes, frequencies, or even station call sign prefix and location.

Jump right in! If you're new to contesting, try the ARRL Sweepstakes in November. Check the calendar. #

Fall and spring HF contests sponsored by ARRL and CQ magazine offer fun for everyone. Try Sweepstakes in November to start.



Contesting brings a lot of different people together.

Arctic Amateur Radio Club

Membership \$20 individual, \$25 family. Send checks to AARC

PO Box 81804

Fairbanks, AK 99708

Phone: 907-479-5203

E-mail: bennie@aci.net

Visit www.kl7kc.com for the latest club news and events!

Service to Interior Alaska: We can, we will, we do.



NEWS FLASH! Club meetings on October 7th and November 4th will be held at the International Arctic Research Center (IARC) in Room 401. IARC is next door to the traditional meeting location at the UAF Geophysical Institute (Elvey Building). Please stand by for additional updates on meeting location. The GI recently informed AARC of their decision to enforce a long-standing policy not to permit unaffiliated groups use of their facilities. Discussions continue, but the board is investigating other venues for meetings. ☺

The Arctic Amateur Radio Club traces its roots back nearly 70 years. Ham radio has played a key role in many Alaskan's lives over the last century, including critical assistance after the Great Earthquake of 1964. Even today amateur radio provides the only means of communication with some homesteaders far off the beaten path. Headquartered in Fairbanks, AARC also welcomes all visitors to our great land and encourages you to join us for on-the-air friendship and radio fun with our members residing throughout Interior Alaska. Turn the page for details on the club, special events, and more.



2005-06 Election Results

Officers

- Larry Ledlow N1TX, President
- Justin Burket KL1RL, Vice Pres.
- MaryBeth Groves KC0CWG, Secretary
- Benny Benevento NL7XH, Treasurer

Board of Directors

- Jim Movius KL7JM
- Linda Mullen AD4BL
- Dan Wietchy KL1JP
- John Slater KL1AZ
- Steve Estes KL7XO
- Kevin Abnett NL7WO
- Shelley Levine KL1SE

Calendar of Events

2005

Oct 1: License exams Noel Wein Library @ 1 PM. Contact NL7XH.

Oct 7: Club meeting UAF IARC @ 7 PM. Pre-meeting starts at 6 PM.

Oct 29-30: CQ Worldwide DX contest (SSB).

Oct 30: FISTS CW Coast-to-Coast contest.

Nov 4: Club meeting UAF IARC @ 7 PM. Pre-meeting starts at 6 PM.

Nov 5: License exams Noel Wein Library @ 1 PM. Contact NL7XH.

Nov 5-7: ARRL Sweepstakes Contest (CW).

Nov 19-21: ARRL Sweepstakes Contest (SSB).

Nov 26-27: CQ Worldwide DX contest (SSB).

Dec 2: Club meeting location TBD @ 7 PM. Pre-meeting starts at 6 PM.

Dec 3: SKYWARN Recognition Day special operating event at National Weather Service. 0000-2400 UTC.

Dec 3: License exams Noel Wein Library @ 1 PM. Contact NL7XH.

Dec 10-11: ARRL 10m contest

2006

Jan 6: Club meeting location TBD @ 7 PM. Pre-meeting starts at 6 PM.

Dec 7: License exams Noel Wein Library @ 1 PM. Contact NL7XH.

Feb 3: Club meeting location TBD @ 7 PM. Pre-meeting starts at 6 PM.

Feb 4: License exams Noel Wein Library @ 1 PM. Contact NL7XH.

Feb 4-5: Junior Yukon Quest. Contact AD4BL.

Feb 11: Yukon Quest starts in Fairbanks. Contact AD4BL.