GARS

Glenn Amateur Radio Society

KJ6HCG

Prez Says **_The GARS Repeater_** January 2024

Salutations from the lair of KF6OBI! – As I write this the weather is a bit dreary; wet, cold, and windy at times. Over this month we have had over twice the rainfall at the repeater site as we have had at my QTH. Today the temperatures at the repeater site dropped to around 30 degrees F. Thus it may be snowing at the site right now. However the rain gauge was still recording rainfall while writing this. More on this down the page.

After having a much different and Merry Christmas I look forward to a bright and Happy New Year, 2024. We can be guaranteed that the coming year will hold many surprises and challenges for all ages. We shall overcome and grow as we endeavor to plow through all the obstacles placed before us.

On the 16th of December Jeramie, W6LND, and Michael, KF6OBI, made a hasty trip to the repeater site. We had two goals to accomplish. The first was to connect the rain gauge heater to the 24VDC power supply, the second was to do a reset, to factory settings, and preform a power cycle on the RigRunner. This needed to be done so that the status of the 12 VDC loads could be monitored from anywhere as long as there is an WEB connection. While at the site there was time to conduct some testing on the GMRS repeater as it was having great difficulties transmitting. We found that the GMRS repeater heard very well but that its transmit signal was very week.

I am happy to report that both rain gauge heater and the RigRunner tasks were completed and both are now working as designed. The GMRS repeater was taken out of service and brought back to Willows for testing and alignment. We suspect the antenna system is the problem for the issues experienced. The antenna system showed a high VSWR and will have to be retested and maybe replaced this coming spring.

The EchoLink – AllStar node 566241 located at the QTH of KF6OBI, has been updated, tested, and then moved off the desk and into the radio rack for a more secure temporary home. Should you experience any difficulties with the node let us know ASAP. Also of note is that Digitalpath has moved the fire camera system back inside for the winter and the Generac generator has been busy keeping the camera system batteries topped off.

Note: Winter Field Day 2024 is planed to be held at the Spurlock Ranch. Please see the flier in a separate attachment to this newsletter.

GARS repeater project update. The duplexer tuning has been completed and the system is now being assembled for testing, tuning and programming. The GMRS antenna project is moving forward with its design and subsequent testing. The Winlink packet system is waiting final programming changes and testing. These last two items have made forward progress and all is looking good at this time.

Notice: The N6YCK repeater is back in operation on red Mountain and is in testing/tuning. Our mileage may very so please give your feedback on what you experience.

Up and coming events are: – For 2024; Winter Field Day the 27th and 26th of January (you should have already received the WFD notice/flier in your inbox); and Run-Your-Tail-Off is on the 13th of April.

This months membership meeting will be on the second Friday, the 12th of January, at the Lutheran Fellowship Hall, 565 Main Street, Artois CA, at 7:00pm. Late arrivals and guests are always welcome. Also remember that one does not have to be a member of the club to participate in our membership meetings and activities. Be safe in all you do and may you all have many blessings in the days and months ahead!

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How to Operate Pedestrian Mobile

It is really exciting to operate on HF while you are hiking into your favorite back country area.

Operating “Pedestrian Mobile”, which I will call “/pm”, is a very challenging and rewarding activity, especially using QRP. It is difficult to explain /pm to hams in foreign countries, so sometimes I tell them that I am operating ‘Back Pack Mobile’ or ‘Walking Mobile’. You won’t have to look for trees to support your antenna anymore; you will look for trails without trees.

Let’s start out with the options of which radio to use. You will probably want to use one you already have. You just need to configure it for trail operation. You will need to find a nice backpack (Like a military ALICE Frame Pack) or shoulder carrying bag (Bergen) that can hold your radio with its battery, an ATU and maybe a keyer. The easier it is to get everything together in one bag, the easier it will be to use and the more you will use it. A radio that draws low power on receive is essential.

CW or SSB

QRP SSB on a short whip is a real challenge in low sunspot minimum years. Soon it will be very easy to work DX on 10 meters with low power, but 20 Watts is really the minimum needed for successful SSB/pm these days on the lower bands.

CW has great advantages (as QRP’ers know). QRP/pm is easy, but you will have to be able to copy CW in your head and start sending CW while walking. This will force you to copy words and not letter by letter. PSK/pm and RTTY/pm works well but the duty cycle is much higher. The NUE-PSK modem can be used without a computer of keyboard for these nodes.

Good Backpacking Radios

I use the military PRC319 backpack radio. It is set up for /pm right out of the box and can transmit SSB as well as CW. It can put out 5 watts or 50 watts. But at 50 watts CW, the battery won’t last long. It weighs 25 pounds, which is a bit heavy for a backpacking radio, and only operates on fixed frequencies. I have worked 210 DXCC entities with this radio on a 10-foot whip.The PRC319 can be seen here: https://www.eham.net/reviews/view-product?id=6314

Another one of my favorites is the Elecraft KX1-4 transceiver. This great little radio will work on 80m, 40m, 30m, and 20m. The KX2 and KX3 are even better and everything is built in. There are also hams using lots of other radios like the FT817, IC706 and Penntek TR-35 that are popular.

Antennas

I use a 10-foot whip with a center loading coil. The whip is attached to the backpack frame for backpack radios, or I use my shoulder sling whip mount for shoulder bag radios and hand held radios like the KX1. See http://qrper.net/viewtopic.php?t=74

The loading coil is usually about 3 or 4 feet above my head. My loading coil is wound on a nylon Fram fuel filter. Whips longer than 10 feet are harder to hike with.

The antenna will also require a counterpoise, which I call a ‘drag wire’. The drag wire length should about 10% less than a quarter wavelength. The drag wire should have a break-away connection, like a banana plug. On 14,000-foot mountain tops I always use a shorted quarter wave stub for a drag wire to protect the input of my radio from precipitation static. I never use a drag wire longer than 30 feet, because it gets a little too hard to handle (drag).

The simplicity of tuning with an automatic tuner is a perfect fit for /pm work. The tuning is done once and not retuned unless you walk over different terrain, like snow or salt water. The radio should be connected to the

tuner with coax but the whip is connected to the tuner with only a single HV wire. The counterpoise wire goes directly to the tuner ground.

Before you take the rig out for the first time, set your rig up on a wooden step ladder and tune your antenna/drag wire with an antenna analyzer or for maximum on a field strength meter. This will make sure you are getting those few watts out into the ether, and may prevent harm to some of the simpler rigs which need to see 50 ohm impedance.

Batteries

This is a good opportunity to ditch those heavy SLA's. Newer LiIon cells provide /pm operators with twice the energy and half the weight of a NiCad pack. I don't use Li Poly packs because they are a bit harder to handle. I use Sony hard carbon LiIon cells. The new A123 *Lithium* Iron Phosphate cells are excellent too.

You will probably have to procure a new LiIon charger too. I have been using Batteryspace.com for my LiIon cells and chargers. BuddiePole also has LiFePo4 battery packs. NiCad's and NiMH's are still popular cells, but tend to weigh a bit more for the same amount of portable energy.

Locations

As they say in real estate, location is everything. The best places to operate are on mountain tops and ridges. Deep valleys are not good. I have had the opportunity to operate /pm from National Parks, Beaches, inside volcanoes, on the Colorado Trail and the on the Santa Fe Trail. These /pm locations will generally be free of power lines.

Hazards

There can be dangers to /pm, if you don't exercise a little care. Possible problems are RF burns to the hand or ear, lightning, joggers, horses, coyotes, bears, etc. I was approached by a bear once as I was working Estonia on 20 meters at midnight with my KX1.

The good news is that all kinds of interesting things can happen to you. Once while I was walking down the street at night, operating on 80 Meter CW, I noticed a house light blinking on and off. It was me! I was tripping some SCR lamp inside the nearby home.

Safety

Don't let older people get near you when you are transmitting until you make sure they don't have any implanted medical devices, like a defibrillator or pacemaker. You can check your RF Safety on the RF Safety calculator at http://arrl.org/rf-exposure-calculator Don't operate near low power lines or during lightning storms.

See you on the trail. Paul, w0rw

Pedestrian Mobile Hazards

Ped Mobile is a lot safer than Bike Mobile and Vehicular Mobile but it has its own hazards.

If you are wearing head phones or a headset you still need to aware of OHV's, Cars, Bikes, Runners, Dogs, Coyotes, Bears, and Deer, etc. Don't run across streets or RR Tracks, you can't out run them with a back pack on.

Do not transmit near anyone that might have a medical device, Anyone could have a Defibrillator or a Pace Maker.

Do not transmit in Mining areas or Ghost towns because there may still be blasting caps in old buildings.

Watch out for tripping hazards, Gopher Holes, Snake holes, rocks, cliffs, etc.

Watch out for low hanging trees or power lines.

Do not operate from high mountain peaks when there is wind or when it is snowing. Precipitation static might kill your rig and lightning might kill you.

Keep your radial (Drag wire) off the trail in case of runners, you don't want to trip a runner.
Always have a break away connection on your drag wire so it won't pull you down if it snags.

If you are operating on 80 or 160 meters with high power have someone watch the tail end of your drag wire for grass ignition. They should have a water bottle, Easy to do at night.

If you drop something you have to squat to pick it up. If you bend over at the waist you might whip someone with your whip antenna or break it. A heavy back pack will change your center of gravity and you will be more susceptible of falling.

If you see horses on the trail you need to move well clear of the trail because the horses might have had bad experiences whir people holding whips.

Environmental Hazards: Thin Air, Sun Burn, Frostbite, Crevasse, Caissons disease (http://www.altitude.org/altitude_sickness.php), Dehydration (Carry plenty of water), Saint Elmo's Fire, 1500 foot drop-offs, Icy trails require shoe spikes.

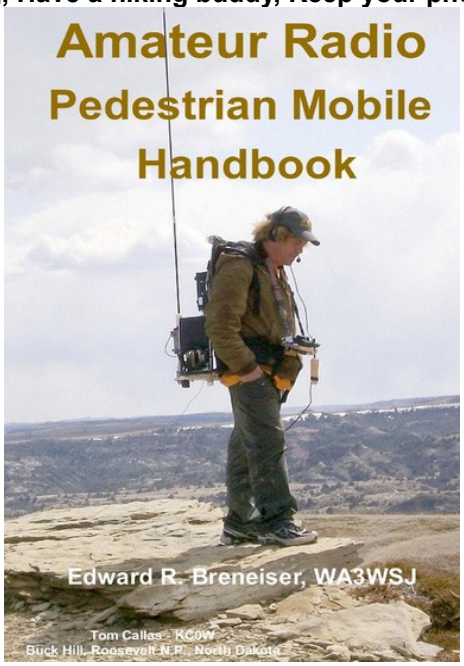
When you are not operating, Don't leave your rig unattended sitting on the beach, a rogue wave can wash it away.

Don't step on Yucca or Cactus plants, they can go right through your shoe. A painful way to pick up a better ground.

Make sure your antenna is well tuned. If you have a 'hot' system you might get RF burns on your ears, hands, mouth, etc. High levels of RF can also cause RF Feedback through your microphone that will distort your audio.

Always check your equipment for RF safety rules: http://www.arrl.org/rf-exposure

Tell someone where you are going, Have a hiking buddy, Keep your phone charged.



Club Officers: (Board of Directors)

President …… Michael A. Ellithorp, KF6OBI
Vice President …… Bob Wirth, KC6UIS
Secretary …….. Jeramie Finch, W6LAD
Treasurer …….. Phil Zabell, KI6SMN
Past President ……
Board …….. Ryan Elliott, AG6VA
Board …….. Vacant
Training …….. Vacant
Publications …….. Vacant
Radio Officer …… Phil Zabell, KI6SMN
Emcomm Officer ……. Michael Maddalena, KJ6KIZ

Board Meeting, 2nd Friday of each month, meetings starting at 6:30 PM
General Membership Meeting, 2nd Friday of each month, meetings starting at 7:00 PM

GARS Meeting locations: Main site is the Lutheran Fellowship Hall, 565 Main Street, Artois CA, our alternate meeting site is the Willows Seventh-Day Adventist Church, 543 1st Avenue, Willows, CA.

GARS Net: Mondays, 7:00 PM Primary 147.105 (N6YCK) (+)110.9 PL);
secondary: 145.410 (W6RHC-west) -PL encode/decode 123.0 (used on the first Monday of each month)

GEARS Club Net: Tuesday, 7:30 PM 146.850 MHz-PL 110.9

Sacramento Valley Traffic Net: Nightly 9:00 PM 146.850 MHz-PL 110.9

ARES Nets:
Butte Mondays 20:00 146.850 MHz-PL 110.9
Yuba Sutter Thursdays 19:00 146.085+MHz PL 127.3

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Editor ……..…….. Michael A. Ellithorp, KF6OBI **Distribution—via email—monthly**