WA4GDN NEWSLETTER

www.gulfcoastarc.com

Vol. 1, Issue #7 OCTOBER 2023

FROM THE DESK OF THE PRESIDENT

Hello All!
I want to thank all who came to the meeting. If you missed the POTA and picnic we had at Starkey Park. We all had a good time. Learned a lot and got stuffed. We had plenty of food to go around. We have our hamfest coming up Oct 7th. If you can help please let Kevin KO4RIK or myself. The gate open at 8 am for general public Later in of the month is Oct 28th. We have the T2T race. Please if you can help, I need as many people with H/T's or moblies. We are a sponsor of the race. This year the course is different than last year, so I need people for this one. The race starts at 8:30 and I would like to have people there my 7:30. Coming up in Nov, after the test session we will have a Fox Hunt. Also in Nov we will be having elections, the offices are up for election are the president, treasury, and director. If you want to run for an office contact Kevin KO4RIK and let him know. I want to thank Chuck K5KAZ for doing a fine job on the web site and the newsletter. Looks good. If you want to see something in the newsletter let Chuck know. If you would like to do an article contact Chuck. If at any time you want to get a hold of me. You can call me on the repeater, call by phone 727 277 5794, email me keavbv@msn.com. If I do not answer my phone PLS leave me a message and I will call you back. I think that is about it for this newsletter.
73 Barry N2NVP

FALL HAS ARRIVED!

For whatever that means in Florida!

Summer is over, but “hurricane season”, not quite yet, so stay vigilant in your awareness and preparedness!
The POTA and PICNIC was a great success. The weather was perfect and the turn out was good.
Terry KQ4ELE and Pam KQ4IOT set a TORRID pace getting 30 activations on 20M while the rest of us struggled for 5 on all of the bands we tried! I want to thank Mark Toussaint N1MT for organizing the POTA and CHRIS KC3CJU for the club PICNIC! I also want to thank Mark and Nick KN4IKR for contributing content to this months newsletter! Mark wrote an article on “Satellite Communications” and Nick on “Amateur Radio Nets”. This is exactly the kind of content I envisioned for this publication! Anybody can contribute, (as long as it’s RELEVANT) just email me the content at chuck5kaz@gmail.com
The next couple of months are going to be busy for the club with planned events. The “TUNNEL to TOWERS” event will be on the 28th, we need volunteers for this, see Barry. Following Tunnel to Towers, the club’s monthly luncheon will be held at MISSION BBQ (SR 54 & Sunlake Blvd.). Also the “TAILGATE / SWAPMEET” will be held on the on the 7th of Oct., at Millennium Academy!
On November 11th the MUCH ANTICIPATED FALL FOX HUNT will take place! Stay up to date to any changes on facebook and the website! By the way I just want to mention since the “redo” of the website we have had 5000 views! I will make every effort to keep the website content fresh so keep going back!!

Chuck Miller (not Martin) K5KAZ!! Martin is “the other CHUCK!

OCTOBER 2023

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
1	2	3	4	5	6	7
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		TAILGATE / SWAPFEST TESTING!
8	9	10	11	12	13	14
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		
15	16	17	18	19	20	21
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		
22	23	24	25	26	27	28
	GCARC MEMBERSHIP MEETING 7:00pm	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		**TUNNELS to TOWERS**
29	30	31				
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz				

GCARC Tailgate / Swapfest will be held on the 7th of October at Millennium Academy, 10005 Ridge Rd. Port Richey.

Also that same day testing will take place at the same location! To "pre-register" you can contact Al by emailing to AJ4JA@icloud.com. He will inform you on how to obtain an FRN from the FCC and any other documentation you would need to bring with you to the test site.

Tunnels to Towers road race will be held on the 28th at " Starkey Ranch"! Contact Barry at keavbv@msn.com. The monthly club luncheon will be held after the race at MISSION BBQ on SR 54 & Sun lake blvd!

Always check the website and our facebook page for any changes in times or dates for club events!

NOVEMBER 2023

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
			1	2	3	4
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		
5	6	7	8	9	10	11
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		***FOX*** ***HUNT***
12	13	14	15	16	17	18
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		
19	20	21	22	23	24	25
	GCARC MEMBERSHIP MEETING 7:00pm	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		
26	27	28	29	30		
	FUSION RAG CHEW NET 7:30PM 146.670Mhz	GCARC TRADER & INFO NET 7:30pm 146.670Mhz	ARES & Skywarn Net 7:30pm 146.670Mhz	10 METER HF NET 7:30pm 28.430Mhz USB		

We will be conducting a "FOX HUNT" on the 11th of November!

Specific details will follow soon!

Dust off your directional antennas and prepare to:

"RELEASE THE HOUNDS"

Amateur Satellites 101

By Mark Toussaint, N1MT

First, I must disclose that I'm new to satellite communications, having started only 6 months ago, and I am still learning each day. I certainly don't have all the answers, but I thought that a short article focused on some basic amateur satellite topics may motivate some newer hams to give it try. I hope you enjoy the article and feel free to reach out with any questions / thoughts / experiences you may have. The best email to reach me at is: N1MT.CW@Gmail.com

To many hams, communicating via satellites appears confusing, especially when you hear terms like Doppler effect, LEO, transponders, uplinks, downlinks, tracking apps, etc. Getting started with satellites is easier than you think. Here are just a few reasons why giving satellites a try makes sense:

Most satellite frequencies are open to holders of a technician license.

Doesn't require expensive gear.

The distance you can communicate is much greater than typical repeater operation.

Adds another operating skill to your tool kit.

Two Basic Satellite Types

The first type are the FM satellites. Think of an FM Satellite like an FM Repeater in the sky. Both satellites and repeaters operate on a single input frequency and a different single output frequency. For example, our club repeater has an input frequency of 146.070 Mhz and an output frequency of 146.670 Mhz. Both input and output are on the 2-meter band. Satellites are similar; however their input and output are cross band. For example, Satellite SO-50 has an input (uplink) frequency of 145.850 Mhz and an output (downlink) frequency of 436.795 Mhz. Just like repeaters, satellites typically use a PL tone for transmit. The SO-50 satellite requires a 67 Hz CTCSS. Because FM satellites only operate on one frequency, there are typically multiple signals present, and the chance of interference is great. It is encouraged that an operator keep the QSO's short and only make one or two contracts then surrender the frequency. .

The second type of satellite is a linear satellite. These satellites primarily operate SSB, CW and digital. Linear satellites use a transponder which allows operation over a range of frequencies (20 khz – 100 khz) on both uplink and downlink. Like the FM satellites, they also operate cross band. Because these satellites operate over a range of frequencies, it allows for multiple signals at one time and operators typically carry on longer QSO's.

Doppler Effect

No matter what type of satellite (FM or Linear) that you are operating, you will experience the Doppler Effect. The best way to describe the Doppler Effect is to give an example. So, when a noisy object is moving toward you, like a train, its sound waves bunch up, producing a higher frequency, or pitch. Conversely, as soon as the train is moving away from you, the sound waves stretch out, and the pitch lowers. The faster the object, the greater the change. Satellites are traveling at approximately 17,000 mph so the Doppler effect is very noticeable in the change of frequency. As the operator, you'll need to manually adjust your frequency as the satellite passes. A typical pass only lasts about 15 minutes and in

those 15 minutes, the 70 centimeter frequency can change as much as 20 khz. I won't go into much more detail than this, but after you listen to a few satellite passes, you'll get the hang of it.

Tracking Satellites

There are many satellites in orbit. Amateur satellites make up a very small portion of the total satellites in orbit. The great thing is that the internet offers numerous options for tracking satellites. I'm not going to advocate for one application over another but to help you get started, type in www.N2YO.com and spend a few minutes exploring that web page. Earlier, I mentioned the SO-50 FM satellite. I'd recommend searching the database for SO-50 (also called Saudisat 1c) and find out when it will be tracking over you location. Another very popular option is the international space station (ISS). Either of these are easy to receive (and transmit to) when they pass overhead. Both of these satellites receive (downlink) on 70 centimeters. The N2YO web page is another great source of finding out what the uplink and downlink frequencies are for satellites. There is also a wealth of information on www.AMSAT.org.

My First Day on SO-50

My satellite station has evolved over the past 6 months, but my first SO-50 contract was on a Yaesu FT-5100 dual band FM mobile rig. This radio has full duplex capabilities, which allows me to listen to the downlink on 70 centimeters while transmitting on the 2-meter uplink. The output power was set at 40 watts. Having a full duplex radio is not mandatory but makes using satellites much easier. When you can hear your voice, full quieting, coming back on the downlink, you know you are getting into the satellite. The antenna I used was a small 4 element Yagi for 2 meters and an even smaller 5 element Yagi for 70 centimeters. You can see a photo of these antennas on my QRZ page. I have also worked this satellite using a ¼ wave vertical as well. The point is you don't need a big, expensive setup to get started and have fun.

The SO-50 satellite pass that I tried had it travelling in the northwest sky over Montana, then travelling southeast across Texas, and finishing in South America. When the satellite was due west (over south Texas), I was able to clearly hear signals on the downlink. I threw out my call on the uplink 2 meter frequency and heard it coming back on the downlink. On the 3rd attempt, I got W6FOG in grid square DM23 (Arizona) to return my call. Wow, I couldn't believe it that my simple setup hit DM23. About 8 minutes later when the satellite was south of me, I contacted KN4ZUJ who was in EL89 in Alachua, Florida. My first thought was, "well, that's no big deal". BUT, considering my signal had to travel from Land O Lakes, Florida to the satellite, which at the time was over the country of Panama, and then had to travel back to Alachua, Florida, that was really cool.

In my 46 years of being licensed, I never really embraced working FM repeaters. I have a dual band in my truck and use it from time to time. However, put the repeater 1,500 miles away, 1,000 miles high in the sky, have it traveling at 17,000 mph, and call it a satellite, now that gets me excited. Anyway, I hope you enjoyed reading my article called Amateur Satellites 101 and I encourage anybody that has an interest in satellites, please reach out. I provided my email address earlier in the article, I'd love to share thoughts and ideas. If we get enough members interested, maybe we can schedule a club event on a Saturday and try working a couple of passes!

73, Mark N1MT

GULF COAST AMATUER RADIO CLUB

Tailgate / Swapmeet

October 7th, 2023
Millennium Academy

10005 Ridge Rd. Port Richey, FL

DOOR PRIZES!

SET UP 6:30am

GATES OPEN AT 8:00 am

$5.00 DONATION TO SELL

$5.00 ADMISSION DONATION

Raffle to benefit the Club - Anytone 778uv Dual Band Radio

Talk-In GCARC's repeater 146.670 pl tone

Amateur Radio Nets

Nick Stewart

KN4IKR

One of the most popular functions of a Ham radio club is the amateur radio "Net." It's like an on-the-air meeting and like any club activity, it can have very different purposes.

For example, there is the Rag Chew Net, where members get together to discuss virtually anything. Then there are more formal Nets, like an ARES/SKYWARN Net, which is intended to provide a vital service to the community in the event of a weather emergency or other disaster that disrupts normal means of communications.

Somewhere in between the ARES/SKYWARN Net and the Rag Chew Net lies the Gulf Coast Amateur Radio Club's Tuesday Night Net, which is a mix of radio-related announcements, club news, and a buy-sell-trade opportunity.

The Tuesday Night Net is not as informal as a Rag Chew Net or as structured and technical as an ARES/SKYWARN Net. Some might call it "semi-formal." While it is a directed net, which means it is run by a Net Controller, it lacks strict protocols. It is more of a friendly gathering with rules to keep communication flowing smoothly.

As a threshold matter, it is important to mention the equipment we use for our Nets. On the Club side there are our repeaters located near the Government Center in New Port Richey and in Land O' Lakes. These repeaters operate on the Two Meter Band at 146.670 MHz and 145.330 MHz, and both require a PL tone of 146.2 Hz. The club repeater call sign is WA4GDN. Our club repeater is also usually linked to the Pasco County Emergency Management repeater, W4PEM, operating on a frequency of 147.135 MHz from a location in Dade City, also with a tone of 146.2 Hz.

For simplicity's sake, let's set aside for now the function of the PL tone and the mechanics of repeater frequency offsets. When you key the mic on your radio and begin transmitting on our Net frequencies, our repeater receives your transmission and then re-transmits it from the repeater antenna. It bears mentioning that that the repeater output is about 20 watts, transmitted from over 100 feet up on the antenna tower. So if you have reached the repeater from a hand-held radio transmitting at 5 watts, your signal will be retransmitted at a much higher power level from a much better antenna. For that reason, just because you can hear a transmission from the repeater doesn't mean that the repeater can hear your transmission. Stated differently, because you can hear the repeater clearly doesn't mean that the repeater can hear you clearly. That's both the beauty and the curse of going through a repeater.

It is also important to know that the repeater functions are not instantaneous. For example, It takes a fraction of a second for the repeater to receive your signal and then re-transmit it. But most importantly, it's important to recognize that after each transmission the repeater receives and re-transmits, it goes through a reset process that can take a few seconds. When you release your mic key, if you listen carefully, you will hear our repeaters reset. We sometimes call the sound the resetting repeaters make a "kerchunk." It might also be described as a short burst of static or radio noise. You should be able to see this short burst on your signal strength meter. When the repeaters are linked, as they usually are, you will first hear the WA4GDN repeaters reset, then a second or so later the W4PEM. While the repeaters are resetting, they are not able to receive and retransmit a new transmission. So if you start transmitting before the repeaters finish resetting, the first few seconds of your transmission will not be heard by the repeaters, nor retransmitted. If it's something important, like your call sign, and you spoke too soon, you will have to say it again.

It takes constant awareness and considerable patience to avoid transmitting into the repeater reset void, but it is a good habit

to get into. That's not to say that even the most seasoned Hams don't occasionally forget to give the repeaters time to reset. Our experienced Net Controllers do it on a regular basis. But for the sake of smooth communication, it's worthwhile to make an effort to be conscious of the repeater status. And it's not the crime of the century if you forget and talk over the reset process. It just means that you may have to repeat the first part of your transmission because it was chopped off.

One final point about the repeater process: even if the repeaters are done resetting and you've waited for the two kerchunks, it also takes a split-second for your radio to start transmitting when you hit your mic key and for the repeater to recognize it is receiving a transmission. Moral of the story – don't start talking the millisecond you key your mic. This is another common occurrence we see during our Nets – the Ham begins talking before the hardware has had time to react, so the first part of their transmission is lost. This happens all the time when people are checking in to a Net, and the result is that the Net Controller has to ask the Ham to say their call sign again.

That's about it for the peculiarities of the GCARC repeater setup. Now for a few matters of style and procedure.

Although it probably does not need to be mentioned, it is your responsibility as a Net participant to follow all FCC regulations, as well as the Net Controller's instructions. For example, during our Tuesday Night Nets the Net Controller will let you know when you can make announcements and when it's time for you to check in. Of course, depending on the Net and the circumstances, there may be many other instructions you will need to follow.

Now let's talk about what happens during a Net.

In order to communicate effectively with other Hams through our repeater, listening stations have to be able to hear you clearly. Some of our members and Net participants have fantastic radio rigs that sound like they are talking directly into your ear. Clarity and sound quality are both excellent and every transmission is clear as a bell. But some of us have handy-talkies (HT) that max out at about 5 watts and maybe the sound quality leaves something to be desired.

We don't suggest that everybody with an HT go out and buy a new rig, but sometimes littles things make a difference. Less powerful radios are sensitive to the type of antenna used, and even the location from where they are transmitting. A whip antenna is inexpensive and can add considerably to the range of an HT; same with a mobile antenna intended for use on a vehicle. Some Hams with HTs even use a mag-mount mobile antenna mounted on a large cookie sheet in their backyard (connected by coax), and it works much better than a rubber duck antenna. Sometimes moving outdoors or to the other side of the house or apartment can make a significant difference. Another inexpensive trick is to get s speaker-mic for your HT, which sometimes sounds better than the built-in mic. So if you are having trouble making your station heard, you might try either a better antenna, a speaker-mic, or changing your physical location.

Sometimes the way you speak into your mic can make an enormous difference, too. Every radio rig is different, and you can experiment with how you hold the mic. For instance, does your voice sound better when you talk with the mic directly in front of you? How about slightly off to one side? What is the best sounding distance from your mouth to your mic? Some folks hold the mic too close, and the sound is distorted; some hold it too far away and the signal sounds weak. You can experiment with another Ham almost any time you want on our repeater, and the improvement in sound quality can be impressive.

When participating in a Net, there are a few more things to remember that will make you a more effective radio operator

Every Ham knows the phonetic alphabet. It's a must when checking in to a Net, and critical when conveying data or specific info that could otherwise be misunderstood. But many Hams like to invent their own phonetics for their call sign, which can be unhelpful to a busy Net Controller who keeps a written record of everyone who checks in to the Net. Rather than throw the Net controller off balance with made-up phonetics, it's best to use the regulation phonetic alphabet.

Next, as a general principle, dead air is not a good thing. (And we do have a little unavoidable dead air built into our system already because we need to wait for the linked repeaters to both reset before we start a new transmission.) But the best solution is not to fill dead air by talking to yourself with your mic keyed. It adds nothing to your on-the-air presence to interject something like, “Now, where did I put that darn pencil? I know it was here just a minute ago. Let me find something to write with.” Better, perhaps, to simply say, “Wait one, be right back.”

Try to speak briskly but not so fast that you’re hard to understand. This is very important, especially when giving your call sign. We mentioned earlier that some folks start talking before the hardware has time to actually start transmitting, so the first part of their transmission is chopped off. After that example, the next most common cause of the Net Controller – or any listener -- not getting your call sign the first time you give it is because you spoke too rapidly. Remember that the Net controller is writing while you are transmitting.

When you check in with a Net, there are a few other things you can do to make the process go smoothly. When the Net controller indicates it time for you to check in and asks you to give your call sign, name and location, you could say this:

> “Net Control, Kilo November 4 India Kilo Romeo, Nick, New Port Richey.”

If you have a comment to add when you check in, you could add this to the end of your check-in: “…with a comment.”

Sometimes the Net Controller will ask you to announce whether you have any traffic for the Net when you check in. In that case, if you have nothing to say, after giving your location add the phrase “…no traffic,” or “I have traffic for the Net.”

Once you’ve checked in, you might want an opportunity to talk to the Net. Here are a few of examples of how to raise your hand and be recognized:

> When you want to ask a question, say, “KN4IKR, Question.”
>
> When you want to make a comment, say, “KN4IKR, comment.”
>
> When you want to help answer a question, say, “KN4IKR,with info.”

Always give your call sign when you have finished transmitting. If you are involved in a lengthy conversation, you must give your call sign at least every 10 minutes, and again when you finish transmitting.

Talking on the air is fun. It can also be a critical public service in emergencies. But it isn’t fun or a viable public service if you are consistently misunderstood or the Net traffic is chaotic. We hope that everyone -- from the most experienced Hams to the newbies among us – will continue to hone their craft and be better radio operators for their efforts. You will enjoy being on the air even more, and anyone listening on the frequency will get more out of your transmissions.

Here's looking forward to hearing you on the air!

BOARD OF DIRECTORS

NAME / CALL	BOARD POSITION	EMAIL
Barry Keaveny, N2NVP	President	keavbv@msn.com
Kevin McConn, KO4RIK	Vice-President	ko4rik@gmail.com
Ralph McCullough, WA3YFQ	Secretary	wa3yfq1@gmail.com
Maureen Keaveny, KB2QNK	Treasurer	keavme50@outlook.com
Chris McCullough, KC3CJU	Director	kc3cju@gmail.com
Mark Toussaint, N1MT	Director	n1mt@arrl.net

GCARC NETS

On **Monday** nights at 7:30pm we hold a **"system fusion" net** on the WA4GDN repeater at 146.670. We discuss all Amateur Radio topics, with an emphasis on the various Digital modes and beyond.

On **Tuesday** nights at 7:30pm we hold a **trader's and general Information net** on the WA4GDN repeater at 146.670. If you have an amateur radio related item to buy, sell, trade, or want, you may list it here. All brief amateur related announcements may be made here.

On **Thursday** nights at 7:30 pm the GCARC club holds a **10 meter HF net**. 10 Meters HF – 28.430 MHz SSB (USB). The purpose is to promote activity on the 10 meter band (especially during low sunspot activity). To give technician class operators an opportunity to operate phone, and to provide a venue for conversation and experimentation with antenna and ground wave propagation.

CLUB REPEATERS

New Port Richey 146.670/146.070 MHz PL Tone – 146.2 Hz Yaesu System Fusion Capable	Land O Lakes 145.330/144.730 MHz PL Tone – 146.2 Hz Yaesu System Fusion Capable

MEMBERSHIP INFORMATION & DUES

Gulf Coast Amateur Radio Club has Regular memberships available for licensed hams, Junior memberships for licensed hams under the age of 18, Family memberships for all family members residing at the same address, and Associate memberships for those not yet licensed. Membership runs for 12 months, beginning on January 1 and ends December 31.

For more information, you can contact Mark Toussaint at membership@gulfcoastarc.com. There is also a downloadable membership application on the website, gulfcoastarc.com/membership !

Regular & Associate Membership* $25 Junior Membership $15 Family Membership* $30

- **Associate & Family members who are non-licensed hams will not be granted voting privileges or have the privilege to serve on the board.**

WOULD YOU LIKE TO BE A NET CONTROLLER?

The club is looking for members to be ***Net Controllers***

The Tuesday Night Net is an important function of the GCARC, and the Nets must have a controller to keep the flow of information orderly. Right now we need more Net Controllers, so the same few people aren't holding the Nets week after week.

Being a Net Controller is fun, you get to practice your on-the-air skills, and you get to use your radio equipment in a live exercise. And you are helping the club by donating about 30 minutes of your time for maybe one night a month. You will even be furnished scripted dialogue, so you don't have to ad lib.

If you are a member in good standing, and you have a radio rig that can reach the club repeater clearly and reliably, you can let us know if you'd like to be a Net controller by several means: you can post a message on our Facebook site, or send us a message through the "contact us" link on the web site, or just say so during a Net.

Please give it some thought. We'd love to have you join us as a Net Controller.

Nick

KN4IKR

stewartnick@erols.com

PASCO COUNTY ARES & SKYWARN NET

Wednesday at 7:30 PM.

146.670 GCARC Port Richey

147.135 Pasco County ARES Dade City

- All have PL-146.2