



MUSCLE SHOALS AMATEUR RADIO CLUB

The Monthly Repeater

September 2026

Welcome to the Muscle Shoals Amateur Radio Club's (MSARC) newsletter, "The Monthly Repeater."

What you can expect this month in The Monthly Repeater:

- Gary's random thoughts;
- Happenings in Hueytown;
 - Roy's Rants;
- Price's Ponderings; and
- Microwave Fun from Colbert Heights and Beyond!
by Chris Arthurr/NV4B

So, sit back and enjoy

Gary's Corner

Again, I am waiting until the last minute to get the newsletter out, sorry. My YL is home from France and we are getting her settled back into school as well as dealing with a minor issue from her "trip" in France. I will do my best to get October's newsletter out before the last day of September!

Anyone in the club is welcome to provide an article! Don't be shy! I am sure you all get tired of listening to me each month.

I recently got an email from one of my motorcycling magazines. The article is Ham and Moto: Motorcycling and Amateur Radio. Long story short, N7KPL talks about riding his motorcycle and participating in POTA. He earned his Technician license in 2021 and is currently an Amateur Extra. He starts his article explaining that not all motorcycle rides with ham means ham dinners. He talks briefly about loading up his gear to ride to a remote site to set-up and talk with others on Ham Radio. He lives in Oregon and talks with excitement about talking with people in France, Hawaii, Alaska, and Georgia. But he likes the adventure of ham radio and Parks on the Air.

I guess that I have to start working to get a radio set-up for my motorcycle. He rides an adventure style motorcycle which is much more adapted to off-road and mountain trails; my motorcycle prefers pavement. I will have to start working on a set-up that I can put on my rear luggage rack.

So much about me. I am going to try to contact him to get more information that I can share with our club. Also, I ask that those of you that work POTA, keep a listen for N7KPL!

Happenings in Hueytown

Good morning my fellow MSARC members this month I decided to describe some of my highlights from this year's Huntsville HamFest. I planned my adventure to begin with a small detour to Buc-ee's with my intentions to get sometime to carry for lunch, say a brisket burrito, some chips and a couple of bottles of water. Well, I got a later start on the road and decided to forgo Buc-ee's (that turned out to be a mistake), but by not detouring I got to HSV in time to secure a very close parking spot (\$15.00), after a very short walk inside VBCC I paid another \$15.00 for an entry badge which was good for Saturday and Sunday. So I sat off for my plan to attend some Forums of interest.

The first Forum was Growing Amateur Radio through Vibrant Radio Clubs presented by ARRL representatives Josh Johnston KE5MHV and Dr. Lisa Sheir N3WQL.

The Forum presented information describing the growth and development of the ARRL through local club activities and what resources, practices, information and assistance was available from ARRL.

The second Forum was Engaging the Next Generation of Radio Amateurs presented by ARRL representative Max Freedman N4ML a very brilliant young man but I think that he did not have much experience with live audiences as his scheduled 45-minute presentation only took 25 minutes.

The Forum was about ARRL's mission to develop the next generation of amateur operators. ARRL has a large number of various programs, information, and opportunities to help introduce young people (as well as new Hams) to amateur radio and inspire them in the wide selection of communication modes.

I enjoyed both Forums and went away with ideas and sources on growing our club.

After the Forums I did the "Grand Tour of the Fest", I went up and down the entire Bone Yard, saw several items of interest, did my best to control my spending.

Now came time to purchase lunch (I should have known better), after standing in line at the concession window I got a premade very bland, very dry double cheeseburger for a mere \$9.00, no chips, no drink if I had gotten those the price was \$17.00 (lesson learned again) but I did stumble into Jason Clemons (PanCake).

Well next year I will plan better, overall, it was enjoyable and informative.

Huey Stanfield
KN4DDG

ROY'S RANTS

One of the continuing challenges in amateur radio is finding an HF antenna that works reasonably well without taking over the backyard. That becomes even more important for hams living in patio homes, subdivisions, or HOA-controlled neighborhoods. My answer is a simple 26-32-32 vertical: a 26-foot vertical radiator, two 32-foot ground radials, a 4:1 unun, coax feed line, and an antenna tuner. The idea follows the proven Rybakov-style non-resonant vertical concept, where a relatively short radiator and impedance transformer provide practical multiband operation without requiring a full-size vertical for every band.

The antenna is particularly suited to a backyard tree. For an HOA-friendly installation, I suggest black 18-gauge stranded insulated copper wire for the 26-foot radiator. Run it vertically into a tree and it can virtually disappear near the trunk, branches, and foliage. The two 32-foot counterpoise wires can lie directly on the lawn or be placed just beneath the sod. They do not have to be perfectly straight; broad curves around patios, flower beds, sidewalks, and property lines are acceptable. The result is an antenna requiring no conspicuous tower or aluminum vertical.

At the feedpoint, the radiator connects through a 4:1 unun, with both 32-foot radials connected to the counterpoise side. The 4:1 does not magically make the antenna 50 ohms; instead, it helps transform the varying impedance of this non-resonant antenna into something the tuner can more readily handle. An external ATU is my preferred arrangement because the objective is useful multiband operation rather than obtaining a perfect untuned SWR on one frequency. A good 50-ohm coax such as RG-8X is a straightforward feed-line choice, although the final installation and tuner determine how easily each band matches.

Forty meters is the principal band for this version, with regional coverage and nighttime DX being the main attractions. Thirty and 20 meters should provide a useful mixture of regional and DX operation, while 17, 15, 12, and 10 meters increasingly become DX-oriented as the 26-foot radiator becomes electrically longer. This vertical should not be considered a dedicated NVIS antenna; high-angle regional coverage may occur, particularly on 40 meters, but lower-angle radiation is one of the attractions of the vertical format. Sixty meters is experimental. A capable external tuner may find a match and regional or occasional longer-distance contacts are worth trying, but efficiency on 60 meters should not be assumed simply because the tuner produces a low SWR.

Perhaps the best feature of the 26-32-32 is that there is not much to it. Sixty-four feet of inexpensive radial wire, 26 feet of black radiator wire, a 4:1 unun, and a tuner can give a ham with a modest backyard useful access to the major HF bands from 40 through 10 meters. It is inexpensive, adaptable, easy to hide in a tree, and simple enough for an afternoon project. The 26-32-32 adapts a proven multiband vertical idea to the realities of today's smaller residential lots: keep it simple, keep it inconspicuous, and get on the air. - De ROY KI4UX

Microwave Fun from Colbert Heights and Beyond

by Chris Arthur, NV4B

Ever since I was licensed 30 years ago, I've wanted to explore bands just because they were there, not necessarily because they were the bands that had the most activity. We are fortunate as radio amateurs to have access to as much spectrum as we have. And with commercial interests incessantly petitioning the FCC for access to our bands, the old adage "use it or lose it" seems truer than ever.

As I have gotten more and more into VHF contesting and weak-signal operation, the desire to keep adding bands to my station has grown. My first portable VHF contest operation was 6 and 2 meters only using a Yaesu FT-817. 432 MHz was the obvious next band to add, needing only an antenna. 222 MHz came along a couple of years later with the purchase of a used Down East Microwave transverter, and although I had gear for 1296 MHz, I really didn't have anyone to work in northwest Alabama at the time. I acquired my first 902 MHz gear in 2015, but it would be several more years before I got going on that band. By the time I did, I had begun roving -- I could now go to where the stations were and do so from a good location. I had some early successes roving and knew I would need as many bands as I could get -- up to 10 GHz -- to be competitive with the biggest rover stations. So, I began accumulating gear for 2.3, 3.4, 5.7, and 10 GHz.

10 GHz has a community of its own that has sprung up in recent years due to the rainscatter phenomenon. High-topped thunderstorms scatter 10 GHz radio waves in a way that makes contacts possible over hundreds of miles, and software is available to analyze weather radar returns to predict possible paths between known 10 GHz stations. Huntsville has its own group of microwave operators, the Dixieland GHeezers, who meet weekly for lunch and have a mailing list on groups.io. As I accumulated more microwave gear, I began to attend the lunch meetings in 2023. As virtually the only member of the group to not have a functional 10 GHz station, the pressure -- friendly though it was -- to get my station going grew over time.

In April 2025, I finally found a good deal on a used low-power (10 milliwatt) 10 GHz transverter made by Down East Microwave, Inc. (DEMI), one of the best makers of microwave amateur radio equipment. A couple months later, I got very lucky and found a killer deal on a 2-watt power amplifier, also by DEMI. At this point, the station began to come together.

At the past several Huntsville Hamfests, Ben Lowe, K4QF from Scottsboro has led a microwave activity in conjunction with the ARRL 10 GHz and Up Contest at 4 p.m. on Saturday afternoon. This activity has involved several 10 GHz operators taking their portable stations to the top of the parking garage at the corner of Clinton Avenue and Church Street in downtown Huntsville. From there, the broadcast TV towers on Monte Sano Mountain are visible. Ben discovered that 10 GHz signals can be scattered off of the tower structures themselves, using them as an effective passive all-mode repeater. In August 2025, I brought my new 10 GHz setup along for its maiden voyage. We had sent a member of the group, Tom Smith, W4RXX, to a spot on the northwest side of Huntsville that was not line-of-sight to us but did have the same view of the TV towers. Once I figured out my amplifier was not amplifying or even passing my transmitted signal, I removed it and worked Tom on 10 GHz SSB via tower scatter using just 10 milliwatts of output into my 60 cm dish antenna! The dish has approximately 30 dBi of gain, so my 10 milliwatts gave me an effective isotropic radiated power (EIRP) of 10 watts. This was, at that time, the lowest ERP station to make a contact via tower scatter in our local group.



My first 10 GHz setup in August 2025 with IC-705, DEMI low-power 10 GHz transverter, non-functional 1-watt amplifier, and 2-foot dish with dual-band feed -- that I couldn't see over to aim! (K4CNY photo)

This year presented a unique opportunity -- with the Huntsville Hamfest moving one week later, the 10 GHz and Up Contest was on a different weekend. Since last year's hamfest, I had acquired another complete 10 GHz station and decided to get both me and my YL Laura, K4CNY, QRV on 10 GHz for the contest. I broke the 10 GHz station I'd bought apart and recycled the platform and tripod for myself, and built an ultra-portable, lightweight station for Laura using that station's Kuhne Electronic 10 GHz transverter. For an antenna, I built Laura a conical horn antenna based on a design by K4QF for ultra-portable operation. This antenna consists of an 8½" brooder lamp reflector with a W5LUA-style dual-band (5.7/10 GHz) dish feed mounted where the lamp would normally mount. This type of antenna was shown to have 13 dBi of gain at the Southeastern VHF Society conference's antenna testing range this year in Macon, GA. With the 100 mW output of her transverter, her EIRP would be somewhere in the neighborhood of 2 watts. After determining that my amplifier problem was a flaky PTT line, my setup makes over 1 watt of power output; with my dish, my EIRP is around 1 kW.

Colbert Heights -- in particular, the gap in foliage where power lines go over the mountain at the end of Stone Gap Road -- provides a vantage point to the east-northeast with many miles of line



NV4B's 10 GHz station with the new tripod and platform at Colbert Heights



K4CNY's 10 GHz ultra-portable station

of sight. This is the perfect spot in this area for playing with microwave. On Sunday, August 16, Laura first went to the Love's truck stop on AL 20 at Three Mile Lane. Love's is 4 miles away but easily visible from the mountain, so if we couldn't work over that path, nothing else was going to work. Lacking a place to park with an unobstructed view of the mountain at the time she was there, Laura set up hastily where she could and was S5 on 10368.1 MHz SSB.

I had picked out two more spots with a good view of the mountain -- one at approximately 11 miles away on Fennel Road near the MSL VOR northeast of Leighton, and another 22 miles away north of the old International Paper mill north of Courland. Laura was a couple of dB above the noise on SSB at Fennel Road, and about RST 339 on CW from Courtland! I was really surprised and excited that she had that good of a signal over a path that long with such a simple 10 GHz setup. We tried one more path that would have given me a new grid square -- a spot west of Cherokee on Mill Creek Loop in grid EM54xs. However, this 19-mile non-line-of-sight path was not successful with our stations. If Laura was equipped with a station similar to mine, it might have been possible, but being 17 dBi down from a 2-foot dish and 27 dB down in EIRP, it wasn't to be.

For this year's microwave activity at the hamfest, I got the 2-watt 5.7 GHz transverter I bought in April '25 at the same time as the 10 GHz hooked up and working. Scott Littfin, NOEDV of Maryville, TN, an avid microwave builder and operator, brought along his 5.7 and 10 GHz rigs and set up at the Marriott at the Space and Rocket Center, about 3 ½ miles from the parking garage and about 7 miles from the TV towers on Monte Sano. We worked with ease on 10 GHz SSB, then went to 5760.1 MHz SSB and worked with very strong signals -- Scott was S9+20 reflected off the

towers vs. S7 on the direct path -- for my first-ever 5.7 GHz QSO. Scott heard Laura's portable 10 GHz station off the TV towers on both SSB and CW, although the frequency instability of Laura's older Kuhne transverter made copy difficult. This was, however, the lowest EIRP station to successfully use tower scatter in our group. Six others had 10 GHz stations at this year's activity, with most working Scott on SSB and/or FM on 10 GHz. Scott and my 5.7 GHz QSO was also the first among our group to use tower scatter on that band, proving that it does work at almost twice the wavelength and opening the door for some practical applications such as using the towers to extend AREDN coverage. This is the kind of advancing the radio art we're supposed to be doing as amateur radio operators -- and it couldn't be more fun!



Eight 10 GHz stations in one place at this year's Huntsville Hamfest, with a ninth 3 ½ miles away near the Space and Rocket Center (Laura's station was not in view for this picture)

If you think you might be interested in experimenting with microwave, there are options for getting started that are much cheaper than the ICOM IC-905 (which only 2 of the 8 operators at our parking garage activity had). Down East Microwave transverters are still somewhat expensive but allow you to use your existing 2-meter all-mode radio on different bands. Deals on used transverters from DEMI and Kuhne Electronic (DB6NT) can be found on amateur classifieds sites and at hamfests. And for those inclined to do some construction and aren't afraid of a little surface mount work, Paul Wade, W1GHZ has designs on his web site (w1ghz.org) for inexpensive transverters for each of the bands between 902 and 10 GHz inclusive. NOEDV built his 5760 transverter from the W1GHZ design, and it seemed to work great on the air.

If you'd like to know more about microwave or VHF/UHF weak-signal work in general, please get in touch with me -- my e-mail address is good on QRZ. There are also multiple potential Tech Talk topics here if there is enough interest.

Price's Ponderings

Greetings and salutations to everyone from KQ4TJG. I trust all is well. As we are aware, this past week Huntsville, AL. had its' annual Hamfest Convention. The 2026 show was a resounding success, in fact, it was a record setting turnout for Huntsville with 6,558 friendly Amateur radio enthusiasts in attendance. Huntsville does indeed have the "World's Friendliest Hamfest."

As expected, there were many booths, tables, retailers, vendors and manufacturers represented. ICOM, Yaesu, Elecraft, Radioddity, DX Engineering, GigaParts, HRO, and Chatt Radio, just to name a few.

I had the pleasure of meeting some of the finest people there at some of the Forums that was offered. These Forums were very similar to our "Tech Talks." I was able to meet the "Ham Radio Duo" the CW Morse Code Ambassadors: Mike and Becky from YouTube. They were very friendly and knowledgeable. I was able to learn so much from everyone.

I'm looking forward to next year's Huntsville Hamfest 2027. Let's break more records and I hope to see you there! 73 to all from KQ4TJG

Upcoming Events:

MSARC Monthly Business Meeting September 5 th , 9am, Underwood/Petersville Community Center 840 County Rd 7 Florence, AL 35633 MSARC 3rd Thursday Tech Talk September 17 th , 7pm, Colbert County EMA 91 Harcourt Morgan Way Muscle Shoals, AL 35611	MSARC 1st Thursday On-Air Tech Talk About 6:15pm, September 3 rd Immediately Following our nightly Training Net Same frequencies as our Nightly AENJ Training Net
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