

Field Day 2017

June 24 - 25 , 2017

Prologue:

The Amateur Radio Relay League sponsors the annual Field Day event and is the most popular radio event in the United States. Each year, radio clubs and individuals across the USA and Canada take to the field to set up radio stations in "less than optimal conditions" to demonstrate their portable prowess, to have fun, and to enjoy the camaraderie. It is also an opportunity to demonstrate to the community the potential of Amateur Radio communications during times of emergency or disaster. The event is always held on the last full weekend of June and runs 24 hours beginning at 1 PM Saturday.

Normally the weather here in the South during this time of year is miserably hot and humid and can be counted on to add plenty of physical stress. However, this



year we were blessed with unseasonably cool weather. What came with that, however, was thunderstorms particularly during the setup period. Temperatures were in the low 80's during the day, and in the low 50's during the night ! This felt more like April rather than the weekend before the 4th of July !

Going into Field Day, we knew up front that there were going to be some limitations. Glenn N4MJ generously allows use of his shop for Field Day operations and has so for several years. Glenn's XYL Linda has had some serious health challenges that required Glenn to more concentrate on her needs than on Field Day. The decision was made to go without the Spiderbeam antenna array and to use a simpler antenna instead. This would alleviate the need for a tractor to pull it up and all the labor that goes into it. As it turns out, this decision was quite fortuitous as you will see. Also, the small tower supporting the VHF antennas would be replaced by a simpler push-up mast. In addition, any labor needed to set up the shop would be provided by club members. Also, there would be no formal "sit down" type dinner on Saturday night - it would be grab and go.

Plans were to compete again in the very competitive class 3A which affords three HF stations, a free VHF station, and a "Get On The Air" (GOTA) station bearing Glenn's N4MJ call sign.



Steve KK4NNH Setting Up GOTA

Captains for the HF stations were Bob K9IL for CW with XYL Rose W9DHD's very nice Kenwood TS-590S, Michael AK4VU on phone with his Kenwood TS-480HX, and Jamie WB4YDL on digital with his Elecraft K3S station. The VHF station was also supplied by Jamie WB4YDL and consisted of his Yaesu FT-847 including potential digital mode (JT65) capability for 6 meters. Steve KK4NNH was captain of the GOTA station and this year consisted of his backup Kenwood TS-570D radio, as his primary TS-590S had to be sent off for repairs.

There were no changes to rules regarding bonus points this year. The first points garnered for Field Day this year was actually an announcement for the event on Facebook - worth 100 points for the Social Media bonus. Both Noel KJ4UNX and Jamie WB4YDL shared Safety Officer duties and there were a few things to consider. Normally, Ray N4SLY provides the number 2 generator supplying the VHF station and camper. However, after repairs were made to his generator after last year's event, Noel found that there was no output at all. A backup generator provided by Jamie WB4YDL was pressed into duty and performed flawlessly throughout the weekend. First Aid was available but thankfully was not needed. All cables and guy anchors were carefully marked with survey flags or caution tape. Noel also sent out the press release which was printed in the Union City Messenger - good for another



Antenna Crew Raising CW Mast

Setup:

Reelfoot Amateur Radio Club normally has their regular meetings on the 4th Thursday of each month. Setup for Field Day can commence at 00 Zulu on Friday the day before the event.



Barber Pole Antennas for GOTA

computer. Somehow, Bob's laptop, which was used last year in the same way, needed to have the USB drivers (FTDI) reinstalled ! Go figure. Jamie had to bring these the next day and was easily resolved.

Michael AK4VU provided the phone station with his very nice Kenwood TS-480HX transceiver. This is a unique transceiver in that it requires two power plug attachments to allow for up to 200 watts output. In order to be legal in the low power category, we turned it down to 150 watts. The phone station also made use of the N3FJP logging software. This year, the intercom box was not used as well as the bandpass filters. This was an effort to make the station simpler but carried the possibility of some inter-station interference. In fact bandpass filters were not used at any station except the digital station.

Jamie WB4YDL once again provided his Elecraft K3S station for the digital HF station. This includes USB connectivity which makes it simple to configure "sound card" modes including PSK31 and RTTY (run as AFSK). Bandpass filters were used at this station. A new laptop was in place and ran the ever popular N1MM+ contest software running the fldigi digital engine for those modes. This station was easy to setup and saw none of the problems from last year, such as computer failure.

Steve KK4NNH brought his Kenwood TS-570D transceiver and set up his GOTA station. This particular backup radio does not have USB connectivity - standard serial port connections were used with a USB adapter. He used his Mac computer running Windows 7 via "Bootcamp" to interface with his radio and this had issues maintaining connection with the software. After some experimentation, it was decided to use fldigi straight instead of via

This correlates to Thursday evening at 7 PM. So customarily, RARC has their June meeting at "The Shop" for brief business and setup of the radio stations in air conditioned comfort. Refreshments were provided by Hannah KK4SJJ - pizza ! Also a surprise guest was Linda Snow ! She looked great after having gone through some difficult medical issues. Glenn and son Michael KJ4KHx have been working very hard for many days prior to this meeting to fix up the shop and it really showed ! The old workbench was moved out to make space for a desk where the digital station would reside and this gave the CW station area more elbow room. The phone and GOTA stations were positioned in their same spaces. Each station had coax drop cables in place for easy hookup to the outdoor antennas. Except there was one problem with the one going to the digital station - the cable had the wrong type connectors - N type instead of PL259 ! Oops ! This cable was quickly replaced and there were no further issues.

There were tables and chairs and a covered billiards table in the middle of the room - plenty of space for food items and plenty of corner space for radio accessory storage. The display table sported the tower safety poster and there was a visitor list for sign in.

The CW station once again consisted of Rose W9DHD's very nice Kenwood TS-590S transceiver and Jamie WB4YDL provided a Winkeyer for flawless CW generation. The computer uses the N3FJP Field Day software that is easy to configure and use. The CW station is also used to acquire the alternative energy bonus when we use a solar panel and QRP for the first 5 QSO's. This year, a new charge controller was used as well as a LiFePO battery for solar contacts. The TS-590S and the Winkeyer use USB connection to the



Jamie, Mike, & Harold Pushing Up Mast

N1MM Logger. This was by and large successful. The GOTA station is also designated the



Old Glory On CW Antenna Mast

beam mounted on a 30 foot push-up mast and turned by a simple TV rotator mounted on a PVC mast. The antenna was stored in the shop already constructed and was trivial to mount and raise. Along with this antenna, a 135 foot dipole doublet was mounted with the mast as its center support. Ladder-line fed, its LDG tuner is mounted in an ammo box and sits on a nearby ladder. It is controlled in the shack using a bias-T to power it. This was the only dipole that needed to be raised for this year's event.

During this year's Ides of March Hamfest early this Spring, Jamie WB4YDL noticed a vendor, *TNO7 Engineering* from Eagleville, TN where Bob K4AZM and Laura KK4CGY were showing their vertical antenna which was housed in a 30+ foot fiberglass extendible mast. This is a very lightweight solution that compacts to 4 feet. The other thing that was attractive was the ability to extend the radiator with an attached wire, making it a 66 foot inverted-L antenna. This all came in a very attractive package complete with heavy metal mount that can be staked into the ground. This ultimately became the digital station antenna. Jamie modified the mount to include bolted-on aluminum square channel that would be used as a ground bus to mount ground radials. Glenn also owns one of these nice antennas. To mount the end of the inverted-L wire, Jamie rigged a pulley to the top of a fiberglass extendible "Wonderpole" (normally used as a flagpole for tailgating) and used Glenn's mount to make it a truly portable setup. Pre-configured 60 foot radial wires were attached to the ground bus and the coax was run from the station to the antenna via an attached LDG 4:1 UNUN. The LDG tuner at the station easily matched this antenna and it was ready for action. The only thing that was necessary was to stiffen the top section of this mast (which amounts to the top of a fishing pole) so

experimental antenna station. Steve and his son Samuel KK4SJE used a variation of the shortened "barber pole" antenna. This year they added a 40M version which is much larger. In fact, transporting it to the Field Day site involved strapping it to the side of Steve's car ! This antenna, configured as a vertical dipole, can easily load other bands including 6 meters.

The following morning was scheduled to be antenna setup time. However, Mother Nature had other plans and thoroughly washed us out with thunderstorms that lasted until the mid afternoon. It was decided to wait until Saturday morning to put up the antennas - just like the good ol' days. Steve KK4NNH was able to get his "Barber Pole" antennas mounted in the North field that afternoon for the GOTA station. Several QSO's were made and verified that the antennas were indeed working great. Saturday morning was beautiful with clear skies and temperatures in the upper 70's with low humidity ! Wow ! This was a great relief in comparison to last year's 107 degree heat index !!

The scheduled VE test session took place with Nathan Spencer KM4ZYM upgrading to General Class. Congratulations !! Nathan also took the Extra Class exam and actually answered more right than he got wrong. During the test session, seeing that enough test monitors were on hand, Jamie WB4YDL scurried outside and began setting up the CW station antenna system. He was quickly joined by other club members, making this antenna raising smooth and efficient.

As in previous years, the CW station uses the nice two element Mosley MINI-32 tri band



Jamie WB4YDL at VHF Station

as to protect it from the tension of the extended wire. This was done with a 3/8" wooden dowel taped to it with a ring on which attached two guy lines to back-guy the mast. This worked flawlessly. This antenna loads all bands without the need for a low band dipole. It was further hoped that with this antenna's vertical polarization, that this would minimize interference with those stations using horizontal antennas.

As with last year, the phone station also sported a two element Mosley MINI-32 tri band beam



Michael AK4VU Running on Phone

fantastic job all weekend.

The Operation:

Bonus points were starting to rack up with Michael KJ4KHX and Phil N4PWG both copying the W1AW Field Day bulletin. The Visitor list eventually included two elected officials - Benny McGuire, Obion County Mayor and Ralph Puckett, County Commission Chairman. Also, our own Phil Green N4PWG is EMA/NIMS director at Troy, TN and he also gave the educational talk on NIMS. This was very well received.

With all antennas set up and tested in record time, and all systems functioning well, at the appointed time of 1 PM, the bands exploded in activity. The only thing missing were, umm ... extension cords to get to the generator ! These were quickly produced and we were on our way ! Out of the gate, Bob K9IL quickly racked up the QRP solar powered QSO's with the help of Jamie WB4YDL's solar panel and new LiFePO battery. The new Buddipole solar charge controller performed well and there were no visits from ol' Murphy. After that, the battery was taken off line and the transceiver connected to the power supply. Bob then took off on 20M CW with no issues.

Jamie WB4YDL got to work running RTTY on 20M without interfering with the other stations on the same band. Samantha KK4NNM was having a tough time getting the GOTA station going with mal-communication between the radio and the software. Steve KK4NNH was unable to be there for another couple hours. However, things got resolved and Samantha put in her usual fine showing at this station. The band conditions were expected to be quite poor given the downturn in the solar cycle, however, it seemed better than last year and contacts were being made.

The phone station was manned by Michael AK4VU and his Kenwood TS-480HX performed flawlessly at 150 watts output. No intercom was used so it was a bit inconvenient to talk to a sitting logger/assistant. Michael appeared to more easily make contacts this year as compared to last. He did notice some interference from the digital station particularly when it was on the same band. This was likely due to the proximity of the two antennas to each other as well as the lack of bandpass filters on his station (although it would likely make little difference

mounted near the shop. The low band duties would be supported by an Extended Double Zepp antenna. This year the VHF antennas were mounted on Michael AK4VU's push-up mast and raised near Noel's camper. The old "junkyard dog" 6M beam was mounted as was the Cushcraft AR-270 vertical. No antenna rotator was mounted on this mast and the 6M antenna was simply pointed Northeast. Actually, we all held out little hope that there would be much activity on 6M as the band has been closed much of the E-skip season thus far. Boy, were we wrong on that one !

With all the cables run into the shack, the radios were all tested on actual antennas. All appeared to work extremely well and antennas loaded as expected. Noel's camper was setup and provided shelter and air conditioning for the VHF station and also sleeping quarters for the Field Day chairman ! The only thing needed, strangely, was heat !! It was cold at night ! The secondary generator provided by Jamie was a Honda 2KW generator which did a



Noel KJ4UNX Running on PSK31



Vertical/Inverted-L Antenna for Digital

the noise floor should there be no activity on the usual modes. However, 6M was even dead for these modes ... for the time being.

The upper bands such as 15 meters started to show some life on Sunday morning, but this was nothing to what happened at about 9 AM ! Suddenly, 6 meters (yes, 6 meters !) exploded with phone signals from the Northeast and into Canada. Several QSO's were made by Jamie WB4YDL who was manning that station while waiting on an ISS space station pass. After several QSO's, Jamie ran over to the shop and told everyone that 6M was open and that they should check the upper bands for activity. Sure enough, 10 meters (yes, 10 meters !) was open as well as 15 meters. A record number of 6M QSO's were put into the log for Field Day this year, several on CW.

Two meter operations were routinely made by Jamie WB4YDL with many more than the needed number of messages for the formal NTS message bonus. This was performed via Winlink with many Field Day stations across the country. Also a formal Winlink message was sent to Keith Miller N9DGK, the Tennessee Section Manager. So 300 total bonus points were acquired using 2 meter frequencies. Awesome ! Unfortunately, the signal from the International Space Station was just too weak to make a satellite QSO.

The Results:

This year we had 13 licensed operators participating in Field Day operations. No Youth Bonus was achieved as there were no operators or guest operators less than 18 years old. The following are the bottom line results :

Score Summary:

	CW	Digital	Phone	Total
Total QSO's	579	557	283	1419

when on the same band).

Normally the GOTA station is configured as a digital station only as this is most popular with the youth. However, this year we had no youth participation at all. None. This was disappointing. The GOTA station was able to reconfigure quickly and put in several CW QSO's and even two phone QSO's in the log. Oh, those two phone QSO's ? They were on 6 meters - yes, 6 meters !!

Noel KJ4UNX was busy as chef as well ! He fired up the grill and we had thick, juicy hamburgers and hot dogs for lunch and later snacks. This was a grab and go affair and this worked out very well.

Noel KJ4UNX's camper is always a welcome hangout to escape the chaos that is "The Shop" during Field Day and is, of course, the site of the VHF station. Jamie's old favorite Yaesu FT-847 was combined with a new MicroHAM Digikeyer to make use of an outboard sound card for potential use in digital modes such as JT65. This is a mode that could garner QSO's under



Phil N4PWG with Education Bonus

Band / Mode QSO Breakdown:

	CW	Digital	Phone	Total
80M	61	111	39	211
40M	59	85	29	173
20M	364	72	83	519
15M	44	105	29	178
10M	37	0	33	70
6M	8	0	68	76
SAT	0	0	0	0
2M	0	0	0	0
GOTA	6	184	2	192
TOTAL	579	557	283	1419

The bonus point total this year was down from last year to **1730 points**. This was primarily due to decreased GOTA station participation and no youth participation. Excellent results with bonus points were earned by Samantha KK4NNM, Steve KK4NNH, Joe KN4BJH, Hannah KK4SJF and Nathan KM4ZYM. A total of three operators (Steve, Samantha, and Nathan) earned double bonus status with Steve maxing out the double bonus at 200 points ! The total number of bonus points generated by the GOTA station this year was a very respectable 280 points.

The total QSO score after the power multiplier (x2) came out to **5110 points** - a huge improvement from last year's score. This was due primarily to much improved operation from the phone station and a bigger QSO total for the digital stations (GOTA and digital). In fact, the number of digital QSO's was on par with the CW QSO total. This made the total submitted score **6840 points** for Reelfoot Amateur Radio Club in the class 3A category. This represents a big improvement over last year and managed to get close to the all time record of 7074 points scored in 2015. So this score represents the 2nd highest in club history ! This is despite a reduced bonus point total and using simpler antennas. Very impressive !

Epilogue:

Field Day is all about preparing for unexpected events and conditions. But it is also about lessons learned and the efficiency of a team that has learned them over the years. For the 13 operators of Reelfoot Amateur Radio Club it was a "been there, done that" time, and it really showed and paid handsome dividends.

This year, communications were nicely supported in bands above 20 meters, including a monster 10 and 6 meter opening. This also led to improved QSO totals as the same worked stations were able to be worked again on these new bands. More efficient operation - and more skilled operation - of all stations, particularly the phone and digital stations, made for a very smooth event. And ol' Murphy was kept in his box !

Photography for this event was provided by Michael AK4VU, Glenn N4MJ, Jamie WB4YDL and his son Patrick (unlicensed).

The Shop at the QTH of Glenn N4MJ was once again the perfect Field Day location and the club members owe many thanks to Glenn and XYL Linda for a wonderful experience. Thanks also go to our XYL's who kept us fed and hydrated. The full Field Day results are published in the December issue of QST.

Soapbox Comments :

Glenn N4MJ :

Reelfoot Amateur Radio Club hosting event this weekend

The Reelfoot Amateur Radio Club is ready for a weekend of fun with the annual ARRL Field Day scheduled for Saturday and Sunday.

ARRL Field Day is the single most popular on-the-air event held annually in the United States and Canada. On the fourth weekend of June each year, more than 35,000 radio amateurs gather with their clubs, groups or simply with friends to operate from remote locations.

This year the event will be held locally at 3350 Billy Jolley Road near South Fulton.

"Field Day is a picnic, a campout, practice for emergencies, an informal contest and, most of all, fun," a spokesman said, adding "It is a time where many aspects of amateur radio come together to highlight our many roles."

While some will treat it as a contest, other groups use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate amateur radio to the organizations that amateur radio might serve in an emergency, as well as the general public. For many clubs, ARRL Field Day is one of the highlights of their annual calendar.

The contest part is simply to contact as many other stations as possible and to learn to operate the radio gear in abnormal situations and less than optimal conditions.

"We use these same skills when we help with events, such as marathons and bike-a-thons; fund-raisers, such as walk-a-thons; celebrations, such as parades; and exhibits at fairs, malls and museums — these are all large, preplanned, non-emergency activities," the

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Field Day 2017 -

With age creeping up on me I didn't want to get the 'usual' hot during the exercise. Excepting Friday's thunderstorm and rain, it turns out it couldn't have been much better weather for this event - highs of mid 80s, lows in the mid 50s.

Friday's rain meant we would defer antenna installation until Saturday morning. The VE session and antenna set up would conflict in time, however, Jamie took the antenna set up lead and got 'er done while Harold, KJ4FTM; Bob, K9IL; and I completed the VE session.

The most difficult antenna to set up was the CW beam and wire but that went smoothly as all team members except two had previous experience. Although Joe, KN4BJH, and Nate, KM4ZYM were new to the team they performed well and their help was much appreciated.

This year saw the use of a vertical for the digital station. Jamie, WB4YDL, used a TNo7 vertical with radials. It seemed to work well and the number of contacts was improved.

An interesting antenna was the spiral verticals designed, built, and tested by Steve, KK4NNH. There was one for 40 m and one for 20 m. They were super easy to deploy and performed very, very well. To gain isolation they were located a good ways from any other antennas. Somewhat over 200 feet of coax was used to feed each. These were used with the GOTA station, which did very well this year. Unfortunately, we didn't have any youngsters to help increase the score.

There were two elected officials in attendance on Saturday - County Mayor Bennie McGuire and County Commissioner Ralph Puckett & XYL Shirley. It was good to see them and visiting. Other visitors were Mr. Nick Parker of Union City and Nate's XYL, Dimi. We're hoping Mr. Parker was bitten by the ham bug and will soon join the fraternity.

One of the generators would run but had zero voltage output. Bummer. Fortunately, Jamie, WB4YDL, had brought his small Honda generator; it filled in nicely for the VHF station.

All in all it was a very good Field Day, low temps and humidity, great food, including grilled burgers by Noel, KJ4UNX.

On Thursday night Steve & Family brought pizzas for refreshments. All but two pieces were consumed. Yum, yum. Thanks Steve & family.

Hannah, KK4\$JF, out did herself by preparing & serving food, on Saturday then bringing a super breakfast casserole. She operated the GOTA station for a good while and finally she cleaned up and put away food and items when we closed down the operation.

Thank you Hannah, for all your efforts and support.

73 de n4mj//Glenn

See you on Field Day 2018 !

When all else fails ... Amateur Radio.

