



THE SIGNAL



Official Newsletter of the
Tulsa Repeater Organization



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“Covering Tulsa through the air”

PREZ SAYZ:

In case you did not know I had knee surgery on April 8. I have not felt like doing too much. I hope I can make the club meeting this month. I didn't get to the hamfest this year. The first one I've missed in 8 years. We will have a few bike events coming next month. Thanks to those that have volunteered a lot of their weekend time making improvements on the 146.88 repeater. Read Merlin's – WB5OSM Engineering report later in the newsletter to catch up on the improvements. This month's club meeting will be May 28 at Freeway Cafe 5849 S 49th W Ave. I hope to see everyone at the meeting. It starts at 7:00 come early (6:00) if you want to eat.

Prez Sayz written by your Signal editor this month.
Steve – AA5V

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TRO TEST SESSION MAY 16, 2024:

TRO/Tulsa Red Cross VE testing session, Thursday May 16, 2024. We had two applicants and both got what they came for.

Mr. Billy Bruno KJ5FIS of Glenpool, upgraded from Tech to General.

Mr. Paul Stephenson of Bartlesville went from unlicensed to Technician.

The VE team was Bob K55EQX, Don N5DGF, and Merlin WB5OSM, our next test session at the Red Cross is scheduled for Thursday, July 18, 2024.

ARRL Learning Center Features Two New Emergency Communication Training Courses

<http://www.arrl.org/arrlletter?&issue=2024-05-09#toc01>

ARRL has released [two new courses](#) to train emergency communications (EmComm) operators for volunteering within the [Amateur Radio Emergency Service® \(ARES®\)](#). Both courses are within the ARRL Learning Center.

The Basic EmComm course is designed to get a new volunteer started. It provides basic knowledge and tools for any emergency communications volunteer and contains three modules and 11 topics, including required prerequisites. It's expected to take approximately 10 - 20 hours to complete.

The Intermediate EmComm course builds on the lessons learned in the first course and equips volunteer radio amateurs with the tools needed to thrive in the fast-paced environment of public service communications and to understand the legal rights and responsibilities of working with a served agency, as well as teach them and how ham radio fits into the broader incident command (IC) structure.

The new courses replace the previous EC-001 and EC-016 programs, however, certificates of completion earned for the previous courses are still valid. "Training is not a

one-and-done thing. Throughout my firefighting and emergency management career, we were constantly taking new courses to reinforce existing knowledge and introduce new concepts," said ARRL Director of Emergency Management Josh Johnston, KE5MHV. "Engaged volunteers should want to stay up to date on advances in the science of emergency communications. I'd even encourage veteran operators to take the new courses."

In 2023, the Federal Emergency Management Agency (FEMA) [revised the Guide for National Emergency Preparedness](#) to specifically include amateur radio. ARRL and FEMA entered into a new Memoranda of Understanding in May 2023 that outlined the importance of trained radio amateurs within the response ecosystem.

"Amateur radio is as important as ever in emergency management," said Johnston. "The new courses will keep hams trained to serve effectively."

The ARRL Learning Center at learn.arrl.org is a member benefit and features many ways to get the most out of your amateur radio license. The Basic and Intermediate EmComm courses are available to anyone with a free www.arrl.org account. Users must log in to the ARRL Learning Center with this account, and functionality of the site relies on cookies being enabled.



GREEN COUNTRY HAMFEST 2024 SUMMARY:

By Merlin Griffin – WB5OSM

Green Country Hamfest 2024 was a success. Attendance was around 1200, which is about average, and financially we were revenue positive, which means there will be a Green Country 2025. While, there were some empty tables in the flea market, they were mostly sold, just somebody didn't show up to claim them. There were a few last-minute cancellations due to illness. Somebody's doctor dared to schedule their surgery too close to the Hamfest. We need to seriously educate the medical community about this. A couple of our stalwart commercial vendors didn't make it this year. WB0W, also runs Tarheel Antennas. Galen WB0W himself has been sidelined by health issues. He is doing better, but says they got really behind on antenna production and they can't find anybody to work in the antenna shop, so they are still not travelling to hamfests. If all goes well, they will see us in 2025. The Coax Guy out of Mustang OK, became a silent key this year, we are very sad to report. His family said they are looking for someone to take over the business.

Yes, we know the PA system was terrible. The normal PA system we've used for several years actually belongs to Rogers State University, not Claremore Expo. Apparently there is some sort of dispute between RSU and Expo, exactly what, we don't know. Anyway, RSU is not allowing other users of Claremore Expo to use the P/A system. When Expo tried to bill us for use of the ineffective PA system they leased us, Richie our treasurer objected and they gave us some discounts in other areas. We will ask if this will be a problem next year once we get into planning for GCHF 2025 and explore our alternatives.

Some people wondered why **TRO's** tables were empty; we learned that our president Paul KE5EHM was recovering from knee surgery, so we'll give him a pass. Although we need to get his doctor better trained, no surgeries too close to Hamfest. Other **TRO** people were busy working in the Hamfest. Don, N5DGF, ARES people greeter, and VE; Bart N5TWB, ARES team and worked the back door on Friday afternoon during flea market and commercial vendors check in, also helped at the TARC tables; Steve AA5V, Green Country Web Master, worked at the back door, Green Country Hamfest committee member; Merlin WB5OSM is president of Green Country Hamfest, leads a VE team, and serves on the GCHF committee year round. Other **TRO** people involved, Mark N7XYO is our emcee extraordinaire, PR chair, and oversees the security guards. Mark also serves on the planning committee. Paul WB5ANX and Ben WB5VST worked the ARES table and served as people greeters at the front door. Paul also organized the ARES crew. The Green Country Hamfest committee meets on the second Thursday of the month September through May, usually two in-person meetings per year and the rest by Zoom. We gained a couple of new members this year Dave N5DMK and Curtis N5CEL we wouldn't mind a few more. Give me a call @ 918-520-7668 or drop an email to WB5OSM@hotmail.com if you are interested.

The most frequently asked question, who won the cool prizes?

First Prize the Yaesu FT-DX10 won by Jerry WB5YMT of Cape Fair, MO.

Second prize the Yaesu FT-991A won by Tim KA7NWT of Altus, OK

Third prize the Yaesu FT-891 won by Kip KA5ZZX of Claremore

Special Drawing Prize the Yaesu 710 AESS won by Don N5SGE of Claremore

Volunteer's prize a \$150 gift certificate to DX Engineering was won by Ray K5CFY

The Saturday April 13, GCHF VE testing session served 16 candidates and produced nine new Techs, three upgraded to General and one made Extra. Results of the Friday test session aren't known at this time, but it was busier than the Saturday session.

Green Country 2025 will be held on April 11 and 12th 2025. Registration will open around the first of the year.

MINUTES OF 04/23/2024 TRO MEETING:

TRO General meeting 4/23/24

Don Ferry, VP - Presiding
11 Members present

Secretary report from March: Moved for approval by Joe, seconded by Remell - APPROVED

Treasurer report from March: Moved for approval by Kenny, seconded by Joe - APPROVED

An inquiry was made about the club banner and who might have it. Contact Paul Young.

Discussion was initiated by Mark regarding activity and club growth goals. Subjects in the discussion included adopting a purpose statement. Mark also volunteered he has a remote base and ICOM radios with a 30 amp power supply that was previously used by TRO.

Motion to Adjourn by Mark, seconded by Merlin - APPROVED

Respectfully submitted -
Bart Pickens, N5TWB
TRO Club secretary

TRO TREASURY REPORT OF 05/24/24:

Total TRO Accounts Beginning Balance	\$6508.92
Checking Beginning Balance	\$2654.54
04/22 Deposit 9 reg, 4 fam & 5.00 donation	+\$350.00
04/29 Deposit 7 reg, 1 fam & 10.00 donation	+\$215.00
05/24 Deposit 3 reg	+\$75.00
Checking Balance	\$3294.54
PayPal Beginning Balance	\$274.62
2 Member Renewals	+\$50.00
PayPal fees	-\$1.50
PayPal Ending Balance	\$323.12
Cash Beginning Balance	\$100.00
Cash Ending Balance	\$100.00
Savings Beginning Balance	\$3479.76
04/09 Service Charge	-2.00
04/30 Interest Earned	+0.57
Ending Savings Account Balance	\$3478.33
Total TRO Account Balance	\$7195.99

Respectfully Submitted by Steve Miller – AA5V 05/24/2024

ENGINEERING REPORT:

By Merlin Griffin – WB5OSM

REPEATER STATUS

146.805 (-) PL 88.5 ? ? ? ? – Looking for location
146.880 (-) PL 88.5 (CityPlex), 82.5 (Skiatook) or 141.3
(Keetonville receiver) 81st & Lewis – Working
146.940 (-) PL 88.5 Sun Building, 9th & Detroit – Working
927.700 (-25 MHz) (902.7) CityPlex - ? ?

Metro Link:

444.1 (+) PL 88.5 Skyline East 41st & Skelly Drive – Working
444.725 (+) PL 88.5 GRDA tower NW of Skiatook – ? ?
444.950 (+) PL 88.5 ? ? ? ? – Looking for location

146.94 Operational

146.805 Still looking for a site.

444.1 went down; Paul Teel WB5ANX found out that building management pulled the plug. They just weren't sure who it belonged to. Paul is going to put a copy of the club's FCC license on it and some contact information, hopefully that will satisfy them. He also took the repeater to Bob W5RAB for some tweaking,

444.725 Operational

146.88 Received reports of weak transmitted signal, and reports that 900 MHz repeater was down.

- Saturday May 4, Tom K5OHM, Dave N5DRS, and Merlin WB5OSM accessed the 146.88 site at Cityplex tower.

- o First suspicion, that power amp was down, possible blown fuse.

- o Second suspicion antenna problem.

- o Found power amp to be operational and repeater controller basically in safe mode.

- o 900 MHz repeater was powered on, but off-line.

- o After checking with an antenna analyzer and seeing high VSWR

- o Tom and Dave accessed the roof and found the DB-224 type transmi antenna broken off at the mast about a foot and a half above the mounting bracket. It is rated for a wind survivability of 100 mph, which I think is a bit low for a commercial grade antenna. The receive antenna was intact and the 900 MHz repeater antenna also fine. Those are both monopoles with fiberglass radomes and don't catch a lot of wind. However, for reasons unknown, fiberglass radomes don't show great longevity in that site.

- Powered down repeater equipment so that Tom could hook up the antenna analyzer without getting his fingers burned.

- o We turned the power back on to the cabinet the 12 VDC didn't come back up.

- o The 75 amp 12V switching power supply failed right in front of us.

- § Looked for a fuse, looked for a reset button, and there aren't any.

- § It doesn't even have an on/off switch. You send 120 VAC into one end,

and 12 VDC comes out the other end. Furthermore the case is riveted shut; you really can't get in to problem solve.

§ Club approved purchase of an Astron 50 amp switching power supply. It's rated 50 A intermittent/40A continuous.

§ 40 Amps should be enough to carry everything in that cabinet. I've never had an Astron power supply let me down. Although, I have no experience with their switching power supplies. I've had a report of some problems using them on HF while running SSB, because the current demand from a SSB transmitter fluctuates so rapidly. The repeater only runs FM, and Astron says they made some design changes anyway in order to support better support HF operation.

§ The 900 MHz repeater has a built-in power supply and is not on the 12 VDC buss in the cabinet.

- We've encountered some problems possibly due to power surges or EMP, maybe lightning, we don't know.
 - o Second known time the controller had its brains scrambled.
 - o Link receivers change channels on their own.
 - o A CAT RLS-1000 receiver switch had chips blown and was unrepairable.
 - o The 900 MHz repeater was found in some kind of lockout or safe mode.
 - o Now a power supply dies.
- We installed a 900 VA UPS in order to smooth out power fluctuations.
 - o Cityplex has several back-up generators.
 - o Don't know if we are hooked up to them.
 - o We possibly are because we are plugged into the same receptacle as the old maintenance and security repeater for Cityplex.
 - o It's my experience that in many places with backup generators there is a brief brown-out period while waiting for the generator to take over.
- Is this our problem or is it lightning? We can't rule either one out. The only thing about lightning;
 - o Our antennas are at DC ground.
 - o The building has a lightning protection system.
 - o There are two UHF TV transmitting antennas up there significantly higher than us.
- Saturday May 12; Tom K5OHM, Tom K5AMP, and Merlin WB5OSM returned to Cityplex.
 - o A bottom mast for the DB-224 was obtained from Bob W5RAB
 - o Tom and Tom got it installed; the antenna elements aligned and remounted the antenna.
 - o Merlin installed the new DC power supply, found the terminals too small to accommodate the cables for the power amp and the main 12 V power buss at the same time. So, we connected the power buss which powers everything, but the power amp. Besides, we want to know more about the antenna's condition before we apply 120 W to it.
 - o Found, AC plug on 900 MHz repeater was loose, firmly plugged it back into repeater. Repeater appears to be operating normally now.
 - o With the repeater operating at only 10W, we received good signal reports from as far away as Skiatook, and Merlin noticed the improvement in Owasso.
- Work remaining to be done: Scheduled for May 25.

- o Obtain adapter that will allow the power supply to be rack mounted, only \$30.00 from Astron. To buy the same power supply already configured for rack mounting nearly doubled the price, go figure!
 - o Work on DC-wiring in order to connect everything to the power supply.
 - o Does a cold restart on the 7330 controller install firmware upgrade, and make some desired programming changes.
 - o Make sure both remote receivers are interfaced to the repeater.
 - o Tom K5OHM, wants to do to some more work on the antenna mounting.
 - o Also, obtain a directional wattmeter and check the antennas. The amateur grade antenna analyzer suffers from interference from all the other transmitters in that site. We are not alone, folks.
 - o Repeater is back on the air at reduced power, and the only working receiver is the local one at Cityplex (88.5) tone, until the controller can be reconfigured. Just turning it off and back on is not a cold restart as SCOMM calls it. It's a more involved process. The controller does not run Windows, or Linux.
- 444.95 still looking for a site.



ARES Net

Thursday evenings at 8:00 PM
 1st, 2nd and 3rd Thursdays on the 145.11 MHz repeater
 4th and if there is a 5th Thursday use the
 TARC Super Link System 443.850 MHz PL 88.5 Hz

CLUB MEETINGS

Tulsa Repeater Organization

Fourth Tuesday of the month at 1900 (7PM) except June (Field Day) and December (Christmas).
Meetings are held at Freeway Cafe at 5849 South 49th West Avenue in Tulsa.
If you plan on eating be there 30 minutes to an hour early.

Tulsa Amateur Radio Club

Third Tuesday of the month 1900 (7PM)
Meetings are held at Tulsa University Keplinger Hall Room 3140 (west of Harvard & 5th Street)

Broken Arrow Amateur Radio Club

First Monday of the month (except for holidays) 1900 (7 PM)
Community Recreation Center, 1500 South Main, Broken Arrow

Rogers County Wireless Association

Second Saturday of every month at 0800 (8 AM)
Check the RCWA website at www.rcwa.org for meeting information.

VE TEST SESSIONS *WALK-INS ARE WELCOME AT ALL SESSIONS!*

Check with the contact for each testing session for their plans.

Tulsa Repeater Organization

Third Thursday of odd-numbered months, 1900 (7 PM)
American Red Cross 10151 E 11th (11th & US 169) Tulsa, Oklahoma 74128
Contact: Merlin Griffin WB5OSM at WB5OSM@hotmail.com or (918)520-7668 - leave message

Broken Arrow Emergency Management

First Saturday of odd-numbered months - 0900 to 1100 (9:00 to 11 AM)
Broken Arrow Public Service Complex 1001 N 6th Street Broken Arrow OK 74012
Contact: Loyd Beeson, AE5MM at ae5mm@arrl.net or (918)638-2393 (text msg or voice)

Broken Arrow Amateur Radio Club

Second Saturday of even-numbered months at 0930 (9:30 AM)
Broken Arrow Public Service Complex 1001 N 6th Street Broken Arrow OK 74012
Contact: Don Doyle AC5II at AC5II@arrl.net or (918)379-0962

Rogers County Wireless Association (New session in Owasso)

First Saturday of each quarter at 0900 (9:00 AM)
Trinity House, 9210 N Garnett, Owasso OK 74055
Contact: Dustin Dye, AB5C at contact@rcwa.org or (918)734-0869

MAKING CONTACT – How To Find Out More About The Tulsa Repeater Organization

Our Website: www.tulsahamradio.org

Our Facebook: <https://www.facebook.com/groups/TulsaRepeaterOrganization/>

Our Twitter: <https://twitter.com/TulsaRepeaters>

TRO OFFICER CONTACT INFORMATION

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Want more information about the Tulsa Repeater Organization or have questions about articles in the newsletter? Contact us at email address wa5lvt@tulsahamradio.org or write to:

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