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In this issue:

Renew your membership	2
Field Day Report	3
About Running Power	5
Boy Scouts Get Radio Merit Badge	7
How I Renewed My CW Skills	8
Local nets are inviting you	9
Club Meetings and Officers	10

The new ZeroBeat Newsletter, the official publication of the Montgomery Amateur Radio Club published on the first day of each month. Contents: Articles about new products - antennas - techniques and ideas – items for sale – humor - announcements and upcoming events – letters to the editor – articles about old products – profiles of club members – event pictures. No "Easter Egg" in this issue. The ZeroBeat wants your contributions! Email articles to me at CASKYWARN@GMAIL.COM in Microsoft Word format or plain text. Comments and letters to the editor are welcome!



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Field Day Report

N4UZZ



We had a fun Field Day at Randy's KV4AC ranch. We operated two phone stations and one GOTA station.

In the foreground are Tom WE4AU, Mike KQ4MMF operating the Second Phone Station. Lew K1AZE and the GOTA station is in the background.



El, K4DJL, Lew K1AZE, and Jimmy KN4UXO enjoying the gathering. Lew cooked his world famous roadkill chili that was appreciated by all.



The fiberglass mast had trouble holding the club's linked dipole antenna for the First Phone Station. We wound up with a rather severe compromise. We left the linked dipole antenna on the 80m setting and used a wide-range tuner for the radio to operate on 20m. It wound up that we could hear well but were unable to reach other stations, resulting in a low count.

Jim, K4JLN, and Jere, W4CRS, operating the First Phone station in the club trailer. The trailer was air conditioned thanks to a rewiring job by Ken KN4AAZ.



The Field Day rules have changed and no stations can run kilowatt amplifiers anymore. We discussed using lightweight antennas and fiberglass telescoping masts for future Field Days. Endfed antennas can operate on all bands and do not require coax cable to be run up the mast. In inverted-v configuration the nulls of endfed antennas can be minimized.

All stations were operated by batteries. The LifePO4 batteries we used ran the equipment for the full 24 hours without any problem. One LifePO4 battery used to operate the Second Station, a 100-watt phone operation on an endfed antenna, saw a voltage drop from 13.3v to 13.28v, showing that this station could have operated for several days more.

About Running Power

N4UZZ

“Life is too short for QRP!” is a slogan you sometimes hear on the bands. Naturally, people believe that the more power they run, the better chances they have for contacts. Let’s look at the issue from all sides.

An amplifier boosts your signal. Every time you double your output power, you are increasing your signal by 3 dB. Generally, 6 dB are needed to increase your signal by one S-unit on the receivers. So, let’s say that your transceiver runs 100 watts “peak envelope power.” If you put a 600-watt amplifier in line, you are increasing the signal for other stations by 7.5 dB or one and a quarter S units. For typical amplifiers, that is about \$ 2,000.00 per S unit.

Having graduated from CW Academy, I used to participate in the CWT, a friendly CW contest that is held every week. I thought that if I kicked in the amplifier I would make more contacts. I did not. Instead of making more contacts I had lots of people calling me – stations that I could not copy and could not pull out of the mud. They had good copies on my signal, and they assumed that I would have good copies on them. But they were running 50 to 100 watts, and I was running 600. I spent more time that evening asking people to repeat their calls, or telling them “sorry, no copy.”



The Ameritron AL-811, one of the most popular amplifiers around. It puts out about 600 watts with three 811 tubes. It was so popular because it could be run on 110v AC home current. Many amplifiers require 220v. As you can see, these tube amplifiers have LOAD and PLATE controls that require tuning up before operation on a frequency. There are solid-state no-tune amplifiers on the market. They are more expensive.

Power is matter of balance. If the stations you are calling are running 100 watts, you will be best off running 100 watts yourself. Then it is likely that the people who have a good signal on you will also be heard well by you. That is why VHF and UHF repeaters don't run hundreds of watts. They only run 10 to 40 watts. They do not want to be heard with a good signal far away where stations will then be tempted to try to get into the repeater and fail.

On the last Field Day, Lew K1AZE, operated a Xiegu G90, a transceiver that puts out 20 watts. Everyone that heard him was easy for Lew to receive and understand. He made a nice number of contacts with 20 watts on the GOTA station. This is significant because Field Day has the bands quite busy.



The big DX powerhouse stations do their magic not with amplifiers but with antennas. Their big antennas improve signals on both transmit and receive. With some DX club station in Slovenia having a 10-element beam pointed right at you, you have an excellent chance of working them even with just a wire thrown over trees.

The Elecraft KPA-500 is an example of a modern solid-state no-tune 500-watt amplifier. It senses the RF from your transceiver and decides which band is being used. This amplifier runs \$ 2,799.85 before tax and shipping. It is easy to operate but is very sensitive to your SWR. An SWR of 1:2 or higher will trip a protective circuit.

This does not mean that amplifiers are useless. Generally speaking, you can work lots of DX on 40m and up (20m, 15m, and 10m) without an amplifier. However, 80m is a bit of a different story. On 80m where you might want to check into the Alabama Traffic Net Mike on 3.965 MHz, an amplifier will really help, and many stations on the net run amplifiers. You can still participate without running an amplifier, but your signal will be weaker than most other stations.



Boy Scouts Get Radio Merit Badge

N4UZZ

On Thursday, June 20, 2024, three classes of Boy Scouts were awarded the Radio Merit Badge. These classes were taught by Jim K4JKG, and he introduced the scouts to basic radio theory, propagation, the radio spectrum, and the different radio services. As part of the requirements for the Radio Merit Badge, the Boy Scouts had to visit an operating amateur radio station.

The Montgomery Amateur Radio club jumped in to help. Cameron, KN4TUB, brought the MARC trailer to Camp Tuckabatchee in northern Autauga County where Jim was teaching the classes. Otto, N4UZZ, equipped the trailer with a working Icom IC-730 HF radio hooked to an endfed antenna that was hung in the trees nearby.

I sent the following dispatch to the MARC group:

I spent the day today doing what I love most.

I spun the dial of an old Icom IC-730, looking for stations on 20m and 40m. I was doing it in front of a group of highly interested, involved, and excited boy scouts who were finishing up their radio merit badges.

I did that all day at Camp Tuckabatchee in Autauga County because there were three groups, three classes of radio merit badge finalists, and each wanted to listen to amateur radio for an hour, wanted to get on the air and give signal reports, and were curious to hear and understand - at least a little - morse code.

I loved it. Norway, Minnesota, Colorado, New Jersey, California, Mexico, Canada, Cayman Islands, Missouri, and Florida all boomed in on an old receiver that did not have any notch filter, pass band tuning, digital noise reduction, or spectrum scope. No, just old-fashioned spinning the dial that kept me and the boys enthralled and involved. We busted pile-ups on POTA stations with nothing but a home-made endfed up in the trees and a radio with rust on the dial and buttons with worn-off lettering. We had the best of times.

James N4PMD picked up the trailer at the end of the day. Let us hope that this exposure will spark an interest on the hobby on the part of the scouts.

How I Renewed My CW Skills

Otto Amoscht, N4UZZ

I want to briefly describe the resources I used to renew my cw skills. I was licensed in 1976 when General Class required 13 wpm. No problem. After that I completely neglected cw until, in 2019, I complained to people that I could not even copy 5 wpm anymore. One of the people I complained to was Jere, W4CRS, who had just completed a CW Academy class. He urged me to enroll. I did.

I started with the CW Academy Beginner class in January 2020. CW Academy has volunteer instructors who teach mostly on Monday and Thursday evenings by videoconferencing. I graduated from that class with another student, a young lady in Wisconsin. She and I kept on practicing by videoconferencing. I then took the Intermediate class and the Advanced class. The Advanced class was a shock and a challenge, but I hunkered down, practiced a lot, and graduated successfully. I became a member of CWOPS, a group that requires proven ability to carry on a QSO at 25 wpm.

I would have never done this alone. CW Academy connects you with instructors and other students. This helps put cw practice into your daily routine which is required to gain proficiency. It also taught me a few important lessons about approaching cw practice. Here are the most important ones:

- Never work or listen to cw that is slower than 20 wpm.
- Keep on listening to cw and just catch as much as you can. Gradually you catch more and more.
- Use helpful software and services:
 - RufZ – a great program that sends call signs which you type in. It gives instant feedback of characters you get right or wrong.
 - CWRunner – this program simulates cw contests
 - ARRL QST articles in cw – they have files posted on their website in different speeds
- Get on the air and chat, call cq, make contacts! If you struggle sending and copying – welcome to the club!

Some tele video conferencing services have issues with the sounds of morse code. I resolved those by using jitsi with a command line instruction to disable audio processing.

Local Nets You May Want to Know About

Otto N4UZZ

NOTE: Technicians have privileges on the 10-meter band that allow them to participate in the nets on 10m.

- The Cradle of the Confederacy Net and 10-10 International Chapter meet weekly on 28.350 MHz on Wednesdays at 7:00 PM CT on upper side band.
- The QCWA (Quarter Century Wireless Association) meets for a rag chew following the Cradle of the Confederacy Net on 28.350 MHz upper side band. Any amateur radio operator who has been licensed 25 years or longer is invited to join the QCWA by going to QCWA.org. We are Chapter 40.
- Monday nights at 8:00 PM CT the UHF Net meets for ragchew and to answer questions about antennas, coax cables, and various other equipment. New hams and experienced hams are invited. The net meets on the 444.500 W4AP Bald Knob repeater.
- Sunday night at 8:00 PM local time the Central Alabama 2m Net meets on the 146.84 W4AP repeater. This is a get-together that should not be missed.
- The Alabama Emergency Net Mike meets daily at 6:00 PM on 3.965 MHz LSB for statewide traffic handling. (This net requires General Class privileges.)

**Do you want to look up events or nets?
The club calendar on the front page of our website
<https://w4ap.org>
is always up-to-date with the latest details.
Just click on an event to get everything you need to know.**

MARC Happenings for July 2024

The Lunchbunch meeting schedule: all meetings at 11:00 AM

July 3, 2024	Pizza Perfect, 428 Coliseum Blvd, Montgomery, AL 36109
July 10, 2024	San Marcos, 61 N Burbank Dr, Montgomery AL 36117
July 17, 2024	Sommer's Place, 7972 Vaughn Road near Vaughn & Taylor
July 24, 2024	Full Moon Bar-B-Que, 7660 Eastchase Pkwy, Montgomery, AL 36117
July 31, 2024	Coaches Corner, 203 Orline Street, Wetumpka AL 36092

To join the club or Lunchbunch email list, send request to CASKYWARN@GMAIL.COM

The MARC 2m Net	meets every Sunday at 8:00 PM CT on 146.84 W4AP
Skywarn Training Net	meets every Thursday 7:00 PM CT on 146.84 W4AP
Club Breakfast	Chappy's, Carmichael at Perry Hill Road, 7:00 AM July 13, 2024
Club Meeting	Mon, July 15, 2024, 7:00 PM, American Red Cross Building 5015 Woods Crossing, Montgomery, AL 36106
CAVEC Testing	Mon, July 8, 2024, 6:30 pm Community Room, Renfroe's Foodland, 9168 East Chase Parkway Montgomery, AL 36117
ARRL-VE Testing	Sat, July 27, 2024 9:00 AM, Renfroe Food Market Chantilly Corner Pre-registration required Lewin.nyman@gmail.com
Foxhunt	No foxhunt this month

Other regular club events:

Radio at the Park	No Radio at the Park in July
Club Station Operations	No club station operation in July
For details on all events:	go to w4ap.org Scroll down to the club calendar

Facebook page: <https://www.facebook.com/groups/1412939275643917/>

Club Officers:

President:	Otto Arnoscht N4UZZ
Vice-President:	Ken Brittin AK4KN
Treasurer:	Fidel Cintron KK4KGO
Secretary:	Dennis Egbert K4PDQ
Public Information Officer:	Jim Norris K4JLN
Director 1:	Trent Davis KV4UZ (2024 - 2028)
Director 2:	Philip Salley K4PO (2022 - 2026)
Director 3:	Fred Springall KR4YK (2023 - 2027)
Director 4:	Mac McWhorter (2024 - 2025)