

THE YCARS TRANSMITTER



Ham Radio News, Events and Information

YCARS Club House - 2051 Squire Rd. Rock Hill, SC 29732 – Mailing Address YCARS PO Box 4141 C.R.S., Rock Hill, SC 29732

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JANUARY CLUB EVENTS

Jan 14, 2021 – Business meeting 19:30 (7:30pm) (virtual MS Teams)
 Jan 15, 2021 – Simplex Net 146.580MHz following the YCARS 2m Evening Net, approx. 21:15 (9:15pm)
 Jan 16, 2021 VE Test Session 09:30 YCARS Clubhouse
 Jan 21, 2021 – ARES Meeting 20:00 (8:00pm) Virtual MS Teams
 Jan 28, 2021 Program meeting 19:30 (7:30pm) Youtube Live stream
 Jan 30-31, 2021 Winter Field Day

2021 YCARS OFFICERS

PRESIDENT – W3SPC
 STEVE CZAIKOWSKI
 VICE PRESIDENT –
 KM4WLS PHILIP
 CHANDLER
 TREASURER – K4DQP
 DARCY PACH
 SECRETARY – KN4KCD
 RON PRYOR
 CUSTODIAN – KD4RNP
 WAYNE REEVES
 TRUSTEE – NJ4Z
 JOHN GENDRON

CLUB NET SCHEDULE

2 Meter Morning Net
 Weekdays Mon-Fri 11:00
 K4YTZ Repeater
 147.030MHz (-) pl 88.5
 2 Meter Evening Net
 Weekdays Mon-Sun 20:30
 K4YTZ Repeater
 147.030MHz (-) pl 88.5
 ARES 2 Meter Weekly Net
 Mondays 19:30
 KD4EOD (W4FTK)
 147.255 (+) PL 110.9
 Hoodlum Friendship Net
 Saturdays 22:00
 10meters 28.340 USB

THE YCARS TRANSMITTER

Welcome to the first issue of the YCARS TX. We hope that you will find this newsletter to be a valuable source for Club information and information about Amateur Radio in general.

We hope this newsletter will be a monthly publication, but will need help from membership to provide content. Please help us by contributing to the ongoing sections of the newsletter. It is our goal to bring you monthly information on the following subjects:

- YCARS Club Events for the month
- Contest Calendar for the month
- From NJ4Z's Ham Shack - Musing from the Editor
- Octogenarian Observations by Joe Avampato – W8DKR
- Getting on the Air – Advice for New Hams
- Ask an Elmer – Ham radio questions answered
- Shack/Member spotlight
- YCARS Members Wall of Arrogance
- ARES Information
- YCARS BONEYARD
- Regional Club Updates

If you have ideas for articles or projects you would like to share with the club, please consider sharing it through this newsletter.

So please help us keep this newsletter rolling along. You can e-mail, NJ4Z@YCARS.org with submissions and questions. **Deadline for February Submissions is January 15th, 2021.**

JANAUARY CONTEST CALENDAR

**JAN 2 - RTTY
ROUND-UP 1800
UTC**

**JAN 9 – NAQP – CW
1800 UTC**

**JAN 16 – NAQP –
SSB 1800 UTC**

**JAN 16 – ARRL-
VHF 1900 UTC**

**JAN 29 – CQ –
160M - CW 2200
UTC**

**Jan 30 – WFD
1900 UTC**

Octogenarian Observations – Joe Avampato – W8DKR

My mother hanged our clothes on a clothes line outside. One end was high enough for me to reach so while she was not looking, I jerked the line up and down to create waves. As I adjusted the motion, I could knock my brother's pants o' the line and yet my nearby pants barely moved. What is going on? Get the story here... onechipsystems.com



FROM NJ4Z's HAM SHACK

Musings from the Editor

2020 IN THE REARVIEW AND 2021 IN THE WINDSHEILD

Well first off, let me wish each of you a Happy, Healthy and Prosperous New Year in 2021. With the craziness that was 2020 falling into history, we have a new year beginning. Pandemics, cancellations, boredom and unrest that was 2020 aside, Ham Radio had a record year of growth. The uncertainty, and possibly boredom, brought many new people to the hobby. We have seen strong numbers coming to our hobby. License grants were up over 12% in 2020 as compared to 2019, even with months of missed testing opportunities during the shutdowns. As we move forward in 2021, it is our duty to help these new folks find their way in the hobby. Elmering (mentoring) is a priority to keep these folks engaged and keeping the hobby growing. We cannot squander the bright spot we were gifted in 2020. We need to welcome, engage, and encourage these new amateurs. We need to continue the virtual experience and learn new ways of doing things safely in person until this pandemic has passed. We seem to be turning a corner now that the vaccines are arriving, so maybe soon we can fully engage as the Ham community again. I look forward to those days arriving as soon as possible.

So, looking forward in 2021, we hope to see hamfests come back to life sometime in the second quarter. It looks as though that would be the earliest that we will see any real activity. The Hamvention in Xenia (Dayton), Ohio could be the first big hamfest of 2021 and the first major hamfest in over a year. We are a mere 20 weeks away, hopefully the show will go on. It will certainly be interesting to see how hamfests will be changed because of the pandemic. Will there be pent-up demand with great attendance and vendor participation or will Hams and vendors be reluctant to attend?

2021 also brings the ramping up of the next solar cycle. An increase in solar activity and sunspots means better HF propagation. We are already beginning to see it as the SFI hit the low 100's in late November and Early December of 2020. That is the first time it has happened since 2017. The higher bands are coming to life. Ten, 12, 15, 17 and 20 meters have all seen increased activity as the sun wakes up from sunspot minimum. Soon we should be able to work the world with five watts and a wet noodle!

2021 should be an exciting year for YCARS as well. Our club has found a way to stay somewhat active and engaged during the pandemic. As we move forward to the future, I can see more activity ramping up as we exit the first quarter. Hopefully, the newly upfitted Hambulance will be ready to go for summer field day. We are looking forward to resuming "Operating nights" and in person meetings. We should all be excited for our 69th annual Rock Hill Hamfest in October. Just be patient and smart for the next couple of months and we should be able to really enjoy the fellowship that is Amateur radio.

So, until next month... stay healthy and safe, be patient and, of course, be passionate about Ham radio. Happy 2021 everyone!

John Gendron, NJ4Z

Getting on the Air Helping new Hams Advance!

With such explosive growth in the Amateur Radio hobby this year, we want to provide a resource for new Hams to get answers and advance their knowledge in our hobby.

So, you have earned your Tech ticket, what is next?

For most new Hams, the first question to answer is what radio to buy and/or what antenna to purchase. Many new Hams get caught up in G.A.S. (Gear Acquisition Syndrome). The choices are overwhelming; information and opinions are so plentiful and diverse, you just begin to spend money and buy gear. ICOM, YAESU, KENWOOD, TYT, BAOFENG, FLEX, WOUXON, XEIGU, and so forth... what to pick.

Radio, Antenna, Coax, SWR meter, Antenna Analyzer, Hand Mics, Desk Mic, Boom Mic, Portable Masts, Antenna Rope, Rope Launchers, Antenna Match Box (Tuner) and the list grows with every Web search, YouTube video, Facebook post or issue of QST. It can be overwhelming and most certainly expensive. Now don't get me wrong, it is most certainly fun to try new equipment and wear out the UPS and Amazon Drivers making weekly HAM CHRISTMAS deliveries to your house. We all go through this at some stage in our life, no matter what the hobby may be.

The best advice I can give a new ham is to set a budget to get yourself started. Do not exceed this budget for the first couple of months. Now some folks have more disposable income than others, so your budget may be a bit different. The biggest thing is to stick to the budget so you can learn what you don't know before you spend way too much hard-earned money learning those lessons the hard way. Here is a simple tiered budget for most Hams to get started with a low-cost radio, decent antenna and base antenna. This budget will let you get active; at home, portable and mobile on UHF/VHF repeaters.

Basic Budget –

Handheld Transceiver	\$ 40.00	Baofeng UV-5R, UV82, TYT UV88
Whip Antenna	\$ 17.00	Nagoya 771, etc
Handheld Speaker Mic	\$ 15.00	TYT SM
¼ Wave Mag mount antenna	\$ 25.00	Tram
Miscellaneous	\$ 25.00	connectors, pizza pan, etc.
CLUB Dues	\$ 50.00	
Total	\$ 172.00	

Now I know some of you are scratching your head about the pizza pan in the miscellaneous column. That is used for your home base antenna with the ¼ wave mag mount. A pizza pan will make a solid ground plane for the mag mount. You can substitute other products in this budget to get going with a better radio or antenna, etc. This is a basic list to get you on the air from home, vehicle or just about anywhere you have repeater coverage.

So why the \$50.00 for club dues? Well that \$50.00 dollars (or less) is going to save you much more money down the road. The \$50.00 you set aside to join 1 or 2 clubs is an investment that will pay you dividends for as long as you are in this hobby. Finding a good club is very important. It is where you are going to find your Elmer, and other folks who will be lifelong friends, that are going to help guide you and increase your enjoyment of this hobby. The folks you will meet and connect with in clubs will help you sort out good deals on used equipment, steer you away from buying equipment you don't need, will share equipment and some will even loan out gear to try before you buy. You will get the education without having to buy the mistakes.

So, as a new ham, set a budget and stick to it. Don't get caught up in buying, buying, buying, because in a month or two you will be crying, crying, crying. It is very easy to get swept up in the new hobby. It is about fun, but disciplined fun.

So, for now – stay passionate about your radio and get on the air!!!

If you need help getting started, please send in questions to the club, YCARS@YCARS.ORG. We are here to help.

YCARS WALL OF ARROGANCE JANUARY 2021

YCARS is proud to CONGRATULATE these fine OPERATORS on the AWARDS they have earned.

Darcy Pach, K4DQP - Parks on the Air Award Ouachita Mountain Goldenrod Hunter Award - 300 unique parks worked

Steve Czaikowski, W3SPC – Parks on the Air KILO Activator Award 1000 contacts from one Park location - Shenandoah River State Park, VA

Steve Czaikowski, W3SPC – Parks on the Air KILO Activator Award 1000 contacts from one Park location - Lake Wateree State Park, SC

John Gendron, NJ4Z - CQ Magazine WPX Honor Roll Mixed 1000 prefixes worked

John Gendron, NJ4Z - CQ Magazine WPX Honor Roll SSB 900 prefixes worked

John Gendron NJ4Z - Parks on the Air Enrubio Hunter Award - 200 unique parks worked

If you would like to have your awards published as they are awarded please send the information to NJ4Z@YCARS.org



YORK COUNTY ARES & SKYWARN

York County ARES plans to hit the ground running in 2021 with a series of on-air exercises the entire month of January. In December, we provided some basic instruction and training after our weekly ARES net on Monday nights. This training was to familiarize our folks on the SC Tactical Communications Plan as well as our own tactical communications plan. Having radios and operators is the best place to start, but what now? Where do you go? What do you do? Who do you talk to? We plan to answer these questions. Participants on the Monday night net will be given a specific frequency to report to. This will be a frequency they can locate in one of the tactical guides provided. A random station will be tasked with establishing a controlled net on that frequency and take check-ins. The net control station will be responsible for logging and submitting that information to the EC for counting participation. Points will be assigned based on check-ins, method, and duration with bonus points available for completing documentation on ICS forms and submitting via Winlink. Much more to come from York County ARES in 2021. Stay tuned!

Daniel J. Boyer WD2DW
AEC, York County ARES
Hamshack Hotline: 4658
(704) 691-5128

SKYWARN TRAINING CLASSES – ONLINE

BASIC Spotter Training

Thursday Jan. 14, 2021 – 18:00-20:00

Friday Jan. 29, 2021 – 14:00-16:00

Wednesday Feb.13, 2021 – 13:00-15:00

Advanced Spotter Training

Tuesday Feb. 9, 2021 – 18:30-20:30

Thursday Feb. 11, 2021 – 14:00-16:00

Info: [PowerPoint Presentation \(weather.gov\)](#)

AREA CLUB NEWS

Cabarrus County Amateur Radio Society – CCARS is holding in person License classes in January, February and March. They will have a tech class starting Jan. 26 – every Tuesday and Thursday evening, thru Feb 11th with a test session on the 11th. Classes begin at 19:00 and 90mins in length.

A general class will be held starting Feb. 23 each Tuesday and Thursday Evening until March 11th with a test session on Mar. 11. Classes begin at 19:00 and 90mins in length.

For more information contact David Whitely W4DPW
Hospiceforcars@windstream.net

ASK AN ELMER

HAM RADIO ADVICE AND ANSWERS

This column will be a forum to ask questions and seek knowledge of amateur radio. We are looking for someone to help answer these questions for members, if you would like to volunteer to help answer or have a question, please email NJ4Z@ycars.com.

We did have a couple of great questions for this month's issue. Due to the research required for those questions and the limited time to publish this first issue, I will be answering those next month along with submissions for February.

The Question for this month is from **Richard Marby, KM4HTM**

What's the difference between a straight key, keyer, bug, etc. (all the ways to send CW)? What ancillary equipment is need for each device? How are these devices hooked up to the transmitter? Which is recommended for a beginner? What is the approximate cost for each device? In other words, any and all questions regarding the devices used to send CW.

Well, this is certainly a broad question... so we will do our best to answer here. CW (Continuous Wave) is a mode of communicating using a sinusoidal carrier wave that is switched on and off to convey a message, typically Morse Code.

The equipment needed today for CW communication is a transceiver, antenna, a switching device or a key and a good audio path between one's ear and brain. The key is used to switch on and off the carrier wave produced by the transceiver's oscillator and transmitted through the antenna. Now the key, for the most part, is a physical device or switch such as a straight key, paddles, cootie, bug, etc. but can be an electronic device such as a keyer.

Taking a look at the switching devices, the straight key is the classic and quintessential morse code device. It is basically a single pole, single throw (SPST), normally open, momentary contact. It is a very large and precise example of said contact, but at its heart a simple device. The operator has full control over the contact, so it takes great skill to form the dits and dahs that get translated by our brains into letters and words. Precise rhythm and timing are required to send proficiently. It is probably the most difficult of the devices to master. Repeated use by telegraph and other operators caused a condition known at the time as glass arm. Today, it is known as repetitive motion or carpal tunnel syndrome. This led to the development of other sending devices.

Building on the straight key, comes the cootie or sideswiper which is basically a straight key turned on its side, with two contact points. The side-to-side motion was used to form the morse characters. For example, the letter M (--), two dahs, would be sent with one dah to the

right and one to the left. This was no more accurate than a straight key and still required great skill and precise timing, but it did help with the glass arm.

Straight keys and cooties can be homebrew and built for a few dollars, or can be purchased with prices ranging from tens of dollars to hundreds of dollars. Straight keys have become quite collectable with some rare models going for thousands of dollars

Both the straight key and cootie were simply momentary contacts. The Bug is a mechanical device that use one and sometimes two levers to automate the sending of the dits. It uses two contact points on the left and one on the right. The left was a normally open, momentary contact usually used to send the dahs. The contact on the right has a series of weights and springs that set up a vibrating system to send a string of repeating dits. When pushed to the right the bug will repeatedly send a string of dits until the lever is released. Like the straight key and cootie, the bug still requires solid skills to operate.

Because of the complexity of the vibrating mechanism most bugs are manufactured ranging in price from tens of dollars to hundreds of dollars. Like straight keys, bugs do have collectable value with some rare models going for hundreds of dollars

All three of the devices, due to the skill required, are inconsistent in transmission. Each operator develops their own accent when operating, sometimes called a fist.

The straight key, cootie and the bug all require a cable and connector; usually a 2-wire cable and an audio plug 1/4", 1/8" or 3.5mm to be inserted into the key jack on the transceiver.

Enter the keyer. A keyer is an electronic device, that can be stand alone or built into a transceiver. The keyer switches on and off the transmitter based on a control signal given by another device such as a paddle or keyboard. The dits and dahs formed by the keyer are constant in duration and spacing. A single unit for a dit, three units for a dah. The speed of characters can be set on the keyer to match the skill level of the operator. When using a paddle to the control the keyer, the space between the characters, letters and words are controlled by the operator, so some skill is required. Some keyers have built in memories that are used to store frequently used messages that can be sent with a touch of a button.

Controlling a keyer can be done several ways. The most common is a paddle. A paddle device can be single lever or dual lever. All paddle devices contain two dumb switches, one on each side, which are separate circuits. A single lever paddle can be pushed left or right to close one of the switches. With the dual lever paddle, each switch is controlled by one of the levers. Depending on the operator's preference, either right or left can be set up to be dits or dahs.

There are keyers that are built into keyboards which can be connected to the transceiver directly and will send code as the operator types on the keys. It has a speed setting, just like a normal keyer, as well as some models will have built in memories.

Paddles also have a wide range of prices from \$20 up to hundreds of dollars for a Bengali or Vibroplex.

A computer, Arduino, or Raspberry Pi can be used to control a keyer as well. Software like FL Digi, DM780 and others can be used to interface a computer to the transceiver allowing not only the sending of code but also decoding as well. Macros for commonly used transmissions can be set up and sent with a key stroke. In modern radio sport contesting, most CW ops will use a computer interface to both decode and send CW. Elite operators can log a sustained contact rate of 200 plus an hour for 24 hours or longer.

Paddles are typically connected to the keyer or transceiver via a three-wire cable and an TRS audio plug similar to the ones used for a key, cootie or bug. Connections for a computer to a transceiver may be a proprietary din plug, serial (DB9) connection or a USB connection.

It is recommended that most operators learn CW on both a straight key and using a paddle/keyer. Learning on the straight key will make an operator appreciative of the advances in technology but also allow them to learn proper spacing and character length. It is valuable to learn to copy code by ear versus using a decoder. There is a significant art to CW but is a valuable skill to learn and have in one's operational bag of tricks.

YCARS Remembers our Members that Became Silent Keys in 2020

W8JGS – John Sneed

W4ONI – Harry Mahan

KJ4COE – Ronnie Hunter

Don't Forget 2021 Membership Dues are \$46.00 by check mailed to the PO BOX. You can also pay \$47.50 by PAYPAL

YCARS@YCRAS.ORG

THE WORKBENCH

HAM RADIO PROJECTS, TIPS AND TRICKS

Dits and Dahs Jeff KA4WYC

So You Want To Learn (Brush-up) On CW?

I was licensed in 1980, as a Novice – KA4WYC. Man, that seems a **LONG** time ago! 40 years this November! Back then, as the Ol' Timers say, the FCC REQUIRED Morse Code; 5 WPM for Novice, 13 WPM for General, and 20 WPM for Extra. In a motion from the International Telecommunications Union, ITU, the FCC DROPPED the requirement for Morse Code in 2007. I remember there was a HUGH UPROAR ON DROPPING CW from the licensing requirements. It seems you were on one side or the other. The Extras **before** the change called the Extras **after** the change, Extra Lites, like Bud Lites!! Many thought this was the downfall of Amateur Radio. Some thought it would wind up like 27MHz....!! But it didn't, and **hasn't**!! if you tune down to the lower portions of the HF bands, CW is still strong! More so than ever!!! Check out CW Clubs like SKCC or FISTS. (More about these two later). Their Members rank in the Tens of Thousands.

But that's not what this article is about. I'll provide you with some information so you can go from ZERO to 15WPM in no time. BUT it takes a desire to learn another language. I passed a 5 WPM exam in 1980, but never did make use of HF back then. I didn't have a good rig or antenna system. I got my Technician in 1981. VHF and UHF were my main stay. And there I stayed until the FCC, in 1987, combined the different classes of licenses. I was able to go to General because I already had the written portion of General, AND a 5WPM code endorsement. So as much as I loved hearing CW, I never became proficient at it.

Until 2019!!! I was talking to a Ham friend about if I made any New Year's Resolutions. NO, why make something you KNOW you're going to break in a few weeks or a month!! Then another friend called and said I had a piece of Traffic on the Evening CW Net. WOW, it was from someone welcoming me to the FISTS group. You see FISTS are giving out FREE 2 yr. Memberships, for a limited time, if you join now. And in 2 yrs., it's \$15.00 a year. If you are already a Member of FISTS, you don't send in the dues, but Renew online and get an Extension to your Membership. It's all on their Website, (www.fists.org).

Now how do you start learning CW? Several ways, try these FREE Programs on the Internet. (www.lcwo.com) is a good place to start. **Learn CW Online** will teach you the characters, two at a time, then adding one more when you can copy the first two at 90%. They'll add all the letters, numbers and Prosigns, one at a time. Again, you learn two, then another, and so on...!! ICWO also has graphs to show how you are doing. The next Program is Koch Method CW Tutor.

Go to: (www.g4fon.net). It uses the same method of learning 2 characters, then another. Both Programs have a way to 'add' noise as the code is sent. Just like being on the air.

One of the best articles I've found, on the web, look up '**The Art and Skill of Radio-Telegraphy**' (TASRT) from Wm. Pierpont, N0HFF, a great introductory free ebook that you will find fascinating. Grab it at: (www.tasrt.ca/TASRT/index.html). It's a long read, but well worth your time.

The Straight Key Century Club, (www.skccgroup.com) is another CW club that has a lot of members. They offer CW events on the Air, EVERY WEEK...!!! Mentors are there to help you get on the Air. Check out their Beginners Corner, in the menu list on the left side of the Home Page. Lots of good reads there too! One more thing... You need motivation!

An Old CW Op and a New CW Op were out in a fishing boat one day. The New CW Op said "I wish I could operate CW as well as you." Not saying a thing, The Old CW Op scratched his chin, set down his fishing pole and grabbed the New CW Op by the back of his head and pushed his face underwater outside the fishing boat, and held him there fighting for a long time. After a while he released the New CW Op. "Why'd you do that?" the New CW Op wailed, gasping for air. The Old CW Op just leaned back and said, "**When you want to learn CW as much as you wanted to breathe; then you will learn CW.**"

Ok, I'm starting over again. What about you? 73 Jeff KA4WYC SKCC #1889, FISTS #19060

THE YCARS BONEYARD

A Place to Sell, Trade or Find Ham Related Equipment

NU4S – "Shep" Shepard is looking for a Chuscraft R-9 or similar Vertical rtoller1@cfl.rr.com

NJ4Z – John Gendron has two Kenwood TH-F6A handhelds with accessories \$ 530.00 for the pair. Contact NJ4Z@YCARS.ORG for details.