The Repeater



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WX4BCA 147.285 + (131.8)

Amateur Radio Club of Butts County





Amateur Radio Club of Butts County at Buckner's for Christmas Dinner

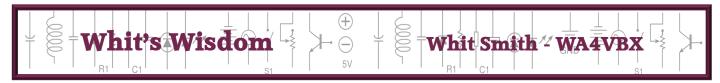
Nancy Phillips Editor

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DECEMBER 2019

Vol 7, No 12



Plug-In Chargers

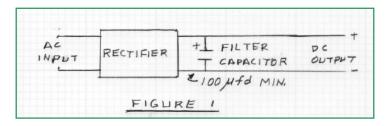
What do you do with those plug-in chargers you have accumulated? You could make a power supply out of them. Look around and see if there are places they could be used.

First. Determine the end result for the plug-in charger. Is it to provide power to one or more battery operated devices, and thereby eliminate the need for the battery or something else? You will need to determine what power requirements are desired. How much voltage and current is required?

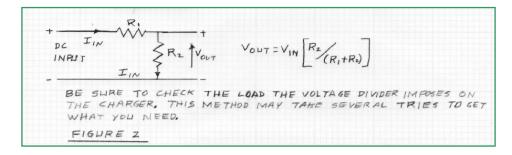
If you are replacing a battery, you know the desired voltage required. You will need to estimate or measure the required amperage required. Spend enough time with the measurements to get a good idea of the value required. You may have to go through several operations in order to get a good idea of the current needed. If you are having trouble with this step, ask someone for help. Now that the power requirements are known, the next step is checking out the chargers for potential candidates.

If you are replacing an AC source, you will still need to verify the power requirements. If you need help, ask someone for assistance.

Second. Look at the chargers and separate them into two categories, either AC or DC. Hopefully, the DC pile will have one to meet your needs. If you have to use one from the AC pile, you will need to provide a rectifier and a filter capacitor to provide DC. See figure 1.



If you are fortunate enough to find a charger that has the requirements you need, then you are all set. If not, you will need to build some sort of device to lower the voltage or regulate the voltage to the desired level. You might be able to use a resistor voltage divider network. If the voltage required is close to the voltage available, and the voltage required is not critical, you might be able to use a **voltage divider network**. See figure 2.



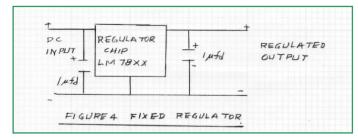
Another choice is to use a Zener diode arrangement similar to the one in the December 2016 issue of the "Repeater". See figure 3. Another option is to use another type of regulator such as a fixed regulator chip. See figure 4. See figure 5 for a variable regulator chip.

CHARGERS continued from page 2

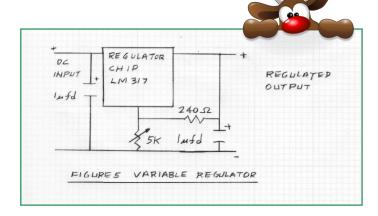
... Zener diode arrangement ... see figure 3.



Another option is to use another type of regulator such as a **fixed regulator chip**. See figure 4.



See figure 5 for a variable regulator chip.



Third. To be sure you don't overload the plug-in charger, check the ratings. There is a voltage and a current rating and thereby a volt-ampere rating on the unit. Some units give the power input in watts and some in voltamperes. Some people use the terms volt amperes and watts interchangeably, however they are different. Volt Amperes X Power Factor = Watts. For most of these applications, use 90%. Volt amperes X .90 = watts.

Some units only give output in terms of voltage and current. Let's take a look at an example. A unit will supply 9 volt at 500 ma or 0.5 ampere. $9 \times 0.5 = 4.5$ watts. Measure the open circuit voltage and it will probably be about 15 volts. What this is saying is that with a 500 ma load, the voltage will be 9 volts. If the open circuit voltage is 9 volts, then add a 75-100 ohm resistor to the output and measure the voltage. If it still reads 9 volts, it is regulated. If not, some sort of regulation probably will be required. Be sure to check the power used and be sure it is less or equal to the power available.

 $_{\rm WS}$

NOTE: Sadly, Whit has decided to retire from journalism. This is his last submission for *The Repeater*. We thank you for all the many informative articles you have offered us over the years, and hope you enjoy your new free time. Thanks again, Whit. We will miss your contributions tremendously.

WHAT ABOUT DIGITAL?

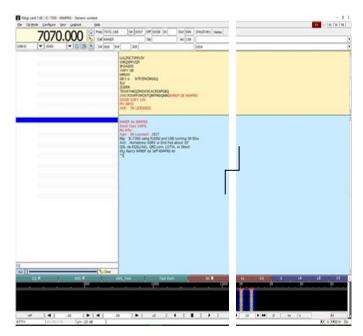
JEFF PHILLIPS KN4FRG

In the last couple of years, digital is vast becoming the next frontier for amateur radio. The previous and current spread of digital technologies increases the options available for Ham radio operators. There are a multitude of digital means to transmit across the bands including PSK, MFSK, FT8, FT4, RTTY, and more. These modes favor the folks that enjoy communicating or exchanging information via a keyboard or for some just a few mouse clicks. These digital modes are typically operated via a computer and your favorite radio either it be a VHF/UHF, HF, or a combination called an all-in-one or "shack in the box. Another digital means is through digital radio referencing D-STAR, DMR, and System Fusion. These forms of digital communication favor the exchange of information via the internet using a stack of servers or some form of computer power. These types of digital communications offer other facets to our hobby and this article will explore a few and hopefully might promote, for some, another means to communicate within our hobby.

Digital modes, such as PSK and/or RTTY, along with the introduction of personal computers enabled a significant increase in these modes of communication. These modes offer an interesting way to communicate over an amateur radio offering different challenges to those presented by the more traditional modes of transmission, let us say HF SSB. With the development in computer techniques as well as transmission technology along with general hardware and software, external or integrated soundcards for example, any Ham with a radio can explore the means to digital communicate using a computer and soundcard. As most can surmise, these modes use digital techniques to transmit a signal. Even though most digital modes occupy more bandwidth than CW, most only use around 200 Hz and present a very efficient means to send traffic usually with significant less interference

and/or when signals are low. There are several different types of digital modes and the next few paragraphs will explore a few of them to hopefully peek someone's interest.

The first on the list is Radio Teletype or RTTY. I will stay away from technical details, but most can easily get started with any digital mode. Most local clubs already use programs like FLDIGI using an external (SignaLink) or internal soundcard - integrated with your radio of choice, so, using any of the modes would be easy. RTTY is a time-tested mode used by many serving as a business tool, in its earlier days, and as a fun contesting mode. The use of RTTY is sparse currently, mostly as a contest mode. There are a variety of contests throughout the year that involve RTTY and an easy means for a new or old operator to gain a few more DX contacts or to help get their Worked All States Award. Normally an operator can find RTTY signals around 14.080 and above.



FLDIGI with a RTTY Signal

NOTES FROM THE BACK ACRE

Buzz Kutcher, K3GWK



TOTAL number of ARES members in your

group is: 27

Change since last month: 0

Name of your Local ARES Net: BUTTS

COUNTY FM TRAINING NET Net Frequency: 147.285 PL 131.8

Day of the week: Tuesday Time of the Net: 19:30 LOCA Total of Nets this month: 8

NTS Liaison: GA ARES, GA SSB Drills, Tests and Training sessions: 9 Drills, Tests and Training Man Hours: 153

Public Service Events: 3
Public Service Man Hours: 28
Emergency Operations: 0

Emergency Operations Man Hours: 0

Misc Activities: 1 Misc man hours: 8

TOTAL ARES OPERATIONS: 13 TOTAL ARES MAN HOURS: 189

Comments: NOV2019 -

The monthly meeting was held at the Jackson Exchange Club building, there was no training presentation. Sylvan Grove Hospital provided Flu Vaccine shots for any member who wanted one.

The Morse code class was discontinued. KN4KTZ, KM4HOS (XYL) and KJ4TVO attended a Butts County POD planning meeting and DPH Trailer inventory.

The VE Team (W4DED, K4NEP, KM4HOS, NI2Y, K3GWK, KI4NWD) held a testing session – one participant passed both the TECH and General test, welcome Chris KO4AFM.

KM4HOS, NI2Y, K3GWK, KA8LAD and W8XC continue to support the Thursday DPH DStar Net from the Butts County DPH office.

Dan, W4DED, assisted with communications (Cone Truck!) for the Thanksgiving Half Marathon in Atlanta. Nine club members attended the Stone Mountain Hamfest. The FM Coverage Site Mapping project continued with K4NEP and KM4HOS participating.

There were eight nets held in November, 35.6 Ham Hours. There were four NBEMS Training sessions held also.

Total calculated Ham Hours 224.6 (Value \$5,648.70)

Membership: 12 Deployable, 10 Active, 5

Pending

K3GWK, AEC

K4SGH - Sylvan Grove Hospital Net

Good net yesterday. We made contacts via Winlink, DStar, and HF. We are still having DStar issues. We were unable to make contacts with magmount and 5100. After connecting to Diamond antenna via Fayetteville DStar Repeater we made contact but Net Control said we were breaking up badly. Not sure of the cause of breaking up or why we could not make contact using mag-mount.

Thanks to Ken, Glenn, and Nancy for joining me yesterday.

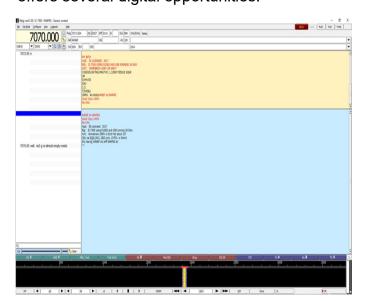
Hope to see everyone on Friday evening.

73, Dan

DIGITAL continued from page 4

What about PSK?

PSK31 is another older mode, but one used daily across the HF bands. Most Saturday mornings, I can always find a DX contact to execute a little keyboard to keyboard chat or just for a quick contact. During the week, there is always PSK traffic operating on 20 meters. PSK allows real-time chat style contacts and offers a great mode in dismal conditions along with contest mode - Field Day as an example using PSK31 or PSK63. There are many forms of PSK ranging from PSK31 -PSK125. PSK is a favorite among digital operators and the local HF frequency on 20 meters is 14.070. One other interesting mode is MFSK-16. MFSK-16 is not the best mode for contests, but it does offer the means to transmit and receive images with full-time forward error correction. The next suite of software offers several digital opportunities.



FLDIGI with a PSK31 Signal

Weak Signal Joe Taylor (WSJT) are several forms of digital communication optimized for weak signal amateur radio communications. The series of modes began around 2000 / 2001 developed by K1JT (Joe Taylor), but now it is an open source development with a small team of operators managing each of its

weak communication modes. A couple of earlier favorites were JT65 and JT9, but now operators use FT8 as their primary digital mode from the suite. FT8 is one variant that is rapidly taking over across the HF bands as the primary digital mode. The mode offers a very speedy means to make contacts with fellow Hams across the US or abroad. Many Hams use the mode to quickly acquire their Worked all States Award at least for digital or for a mixed award. As a note, FT8 has become a favorite for DX-peditions using the software's Fox and Hound method. Just like the other digital modes, the process requires a computer, a soundcard, and your radio of choice. The newest added mode to the suite is FT4. FT4 offers the same qualities as FT8, but faster. The last digital mode we will discuss is WSPR.



FLDIGI Received Image using MFSK-16

Weak Signal Propagation Report (WSPR), usually pronounced "whisper," is a means for radio operators to test signal's propagation using a world-wide network of low power beacons. WSPR is another tool or mode within the WSJT suite that enables an operator through their transceiver to send and receive the WSPR signals using around 5watts of power and then upload the data to real-time servers to confirm their propagation results. The results post on a world-wide map allowing the operator to verify their propagation paths to a given location. Using the suite, the operator just gets the process going, the operation is automatic, requiring no intervention. The

SURVEY FOR ARCBC

ARRL Member	yes / no
VHF/UHF mobile capability	yes / no
VHF/UHF HT capability	yes / no
Do you have mobile or HT 220 capability	yes / no
HF capability (Circle all that apply)	mobile / shack based
Are you able to use the 2m repeater from your home QTH	yes / no
Are you able to use the 440 repeater from your home QTH	yes / no
Do you have DStar mobile capability	yes / no
Do you have DStar HT capability	yes / no
Do you have DStar PC capability	yes / no
Are you familiar with or do you use Echolink	yes / no
Are you familiar with or do you use Fldigi	yes / no
Are you familiar with or do you use Winlink	yes / no
Are you familiar with or do you use VARA	yes / no
If using Winlink, how do you connect (circle all that apply) Telnet,	Packet, Winmor, VARA
Are you familiar with or do you use System Fusion	yes / no
Are you familiar with of do you use DMR	yes / no
Facebook page do you use this (Circle all that apply)	never, rarely, sometimes, or often
Groups IO. Do you use this (Circle all that apply)	never, rarely, sometimes, or often
Web page (Circle all that apply)	never, rarely, sometimes, or often
Do you prefer to receive club information via, email, groups IO, Fa	acebook or Web page
Do you have or have you participated in a NVIS antenna build	yes / no
Do you have an interest in participating in a weekly NVIS net	yes / no
What additional projects/presentations/training would you like to additional antenna type builds, coax termination, station groups power etc	
Fill in the blank on anything you would like to see for projects/presentations/training	
What events should the club participate in or not participate in?	Fairs, festivals, 5k's etc
General Comments	
Name Optional	

Please fill out and bring to January meeting or email to john.lipscomb@att.net

191107 BCHD Report

We got chk'd into 3 outta 4 GA HD Nets, the BCHD office was closed for Thanksgiving. Thx again to all our RT operators for supporting our county Health Dept and ARES.

Anna & I went to the BCHD 2 weeks ago and did the training for the POD Ex in Mar '20. Also got the 2 Health Dept trailers inventoried and what's needed is on-order for the exercise. For any of y'all thinkin' about joining our BC ARES krew, this POD Ex might be just for you.

BCFD, BCSO, Jackson Police, the EMA folks, and other agencies will be in on the planning and also conducting this exercise. You might find it interesting to see how local agencies work together during an 'event' and how our ARES group is I implemented into the plans & exercise.

If you're interested in BC ARES and/or our BCHD RT, pls contact Ken, KM4HOS, for more details.

Remember, if you're D-Star equipped, ANY of you in the ARCBC might wanna just listen in or chk-in fm home or your mobile station. Just tell 'em you're 'off site' and representing the Butts Co Health Dept in Jackson, GA, District 4. If you need help finding the repeaterz we use, gimme a holler and I'll give you a list or the file we use in our K4SGH or KW4BHD radios.

REMINDER - ALL the BCHD RT operators should make sure they have 'up to date' FLDigi/FL Msg, and WinLink Express (w/ UZ7HO's 'Sound Modem' program) on their laptops so we're able to go 'digital' if the Health Dept staff needs us to. The weekly GA DPH Net chk-ins DON'T need a laptop, it's just a D-Star voice chk-in.

Thx fer yer support...
Ken, KM4HOS
yer friendly, neighborhood HD rep

191107 Net Mgr Report

Elaine, KW4AQ, held 4 ARCBC Trng Nets in November, averaging 5 voice chk-in's per wk, down to 6 on WL, and less than 2 on MT-63. Gittin' RE-ALLY ugly y'all...

We still need NCS volunteers for the weekly Trng net each month. Reckon I'd be 'it' for Dec, but I'm gonna be in SC on the 3rd & 17th... The 24th & 31st are Christmas & New Year's Eve's. Not alot of interest in the BC Trng Net lately, so maybe we'll CNX 'em for the 'Eve's'. The only Net I can do this month is the 10th, if anybody wants to volunteer for the others, pls lemme know.

The 'Preamble' (script) is posted on the groups.io 'files' pages and I'll be more than happy to send you my macros for FLDigi and show you how to use 'em. Lemme know if yer interested.

Reminder: Some (most) of our current ARES Response Team operators are over-booked, so pls lemme know if you're interested in supporting the Sylvan Grove Hosp, BC Health Dept, 911 Ctr, or Ol' Yeller as an ARES operator.

...and remember:

" ...we gotta be able to DO what we SAY we can

and "ya cain't DO wut ya DON'T practice."

Appreciate all y'alls time & effort last month in support of Butts Co HAM radio,

& 73, Ken, KM4HOS, Butts Co Net Mgr



NETS

SUNDAY: (rev. 190722)

Metro ARES FM Net - 1st Sunday ONLY at 1600L, WA4ASI repeater, Covington, 146.925-, 88.5 PL KK4GQ repeater, Fayetteville, 145.210 -, 131.8 PL KC4AQS repeater, Paulding Co, 145.805 +, 100.0 PL

- GA ARES/ARCBC WL Express Net Send an ICS-213 (or regular typed msg, if unable 213) to KX4MAT and WX4BCA by 2200Z. [1700L EST winter/1800L EDT summer.] Please use a Winlink RF gateway; Winmor packet, etc, if capable; otherwise, use Telnet.
- **GA ARES Digital Nets** 2100Z [1600 EST winter/1700 EDT summer] 3.583 MHz USB.
- GA ARES 'Traffic' Net EVERY mo, FLDigi, MT-63 1KS, centered 2K MHz. called by GA ARES districts, send an 'I have traffic' msg when your district is called, wait til CFD'd, then ICS-213 to WX4GMA NCS.
- GA ARES 'check-in' Net <u>Even</u> mos, FLDigi, MT-63, centered 1000Hz, justa 'text' check-ins only and runs concurrently with the 'Traffic' Net.
- GA ARES D-RATS Net 2130Z [1630 EST/1730 EDT].
 Odd months, port: gaares.ratflector.com, use 'chat' to ck-in; also under 'messages', send ICS-213, if able; runs concurrently with 'Traffic' net.
- **GA Section HF Net** 2200Z [1700 EST/1800 EDT], 3.975 MHz LSB, voice, by callsign prefix.
- **SE Weather Net** 2100L, D-Rats/D-Star, on sewx.ratflector.com. D-Star Voice on REF004A.

TUESDAY:

Butts County Emergency Comm Training Net - 1930L, WX4BCA repeater, 147.285 MHz, + offset, 131.8 PL, begins with voice check-ins, followed by NBEMS Digital Net. WL Express msgs accepted if Not sent the previous Sunday, send to WX4BCA with name, callsign, location, whether on mobile or aux power.

THURSDAY:

NCRC/ARES/RACES FM Net - 2000L, WA4ASI repeater, 146.925 - & 444.800 -, 88.5 PL. WL - K4NCR. May have a 'follow on' Digital Net - MT63-2KL, centered 1500 Hz, D-Rats on gaares.ratflector.com.

*** For other training opportunities, see the ARCBC Group.io website, and/or the GA ARES website for other Nets w/ days, times, freqs, protocols, etc, for your training convenience.***

Butts Co EP Survey Report, 191201

brought to you this month by 'the **Lone Ranger**' and '**Tonto**'. Yeah, slim turnout last Sat, just Nancy & me. Nancy play'd 911 Net Control at her QTH (2 blocks away fm the 911 Ctr) and I chk'd out a TON of wet, muddy, dirt roads in southern Butts Co.

I'll bet I got the only 'low rider' mud bogger in the county, but what the hay, gotta race wut ya brung, right? I had to turn the ol' 'Bottom-out Special' around one time or I'da pulled a Glenn & "ol' Stumpjumper" maneuver, sep I DIDN'T have a 'winch' OR 'Burnham's Swampside Wrecker Svc' to come pull me out. I thought better of it, 'prudence' proved the better part of 'valor' (spell dat *stupidity*) and me and 'the Special' turned around and went to find us a few paved roads fer a change.

Nancy did a fine job as NCS, every time I called she sounded like the Bell Telephone operator - OK Ken, full scale, now switch to simplex, or UHF, or the HT... glad I had some adult supervision.

Now if we could only talk her into doin' the Tues night training net ... hmmm.

Stopped and sed hello to Steve & Rita Dillon, KN4ETI, at 6 ctr North, they gotta PAVED, .2 mi long drive-way off a DIRT road, how cooool is dat!! The ol' 'Bottom-out Special' luv'd that, sep fer da speed -bumps, ugghhh. Obliviously for all them goats I bet.

A little slow-goin', but we got Zone 6 all finished by noon. Not sure we'll be doin' a Survey this month cuz of Christmas and New Year's and gittin' everything everybody's gotta DO, DONE, in time, maybe we'll talk about it at the 8th Annual Christmas Dinner this week.

...and remember, for ALL yer LowRider mudboggin' needs, call Glenn, KK4GNO, & ol' Stumpjumper, cuz Ken's 'Hideous Hot Rod' ain't cut out for this stuff!!

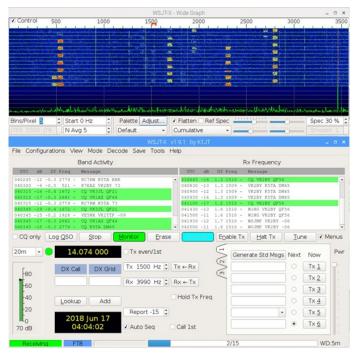
until our next Adventure into WILD Butts Co,

Merry Christmas!!

Ken KM4HOS, ARCBC Recreational Adventure chair

DIGITAL continued from page 6

software controls the process including the transceiver. There are similar real-time servers for other digital modes like FT8/PSK called "PSK Reporter."



WSJT-X Software Running FT8

Now, let us use the VFO and change frequencies and talk about D-STAR, DMR, etc.

Digital Smart Technology Amateur Radio (D-STAR) is a hybrid radio communications method using radio frequency transmissions and the Internet. D-STAR uses digital voice (DV) instead of traditional FM that link their repeaters to the Internet. With the advent of the internet, these repeaters can link together forming a world-wide network for communication. D-STAR communications usually requires a D-STAR compatible radio acquired from Icom or Kenwood for handheld or home station use. A second part of the equation is the repeater allowing the user to connect to the available network of other repeaters throughout the world. In the age of continuous improvement of technology, an individual without a repeater can use a personal low-power hotspot (personal access point). The hotspot is a combination of hardware, firmware, and software enabling a Ham with a D-STAR radio and internet connectivity to link directly to DV systems around the world. There is also software/ hardware available that with take the required radio out of the equation. One such technology

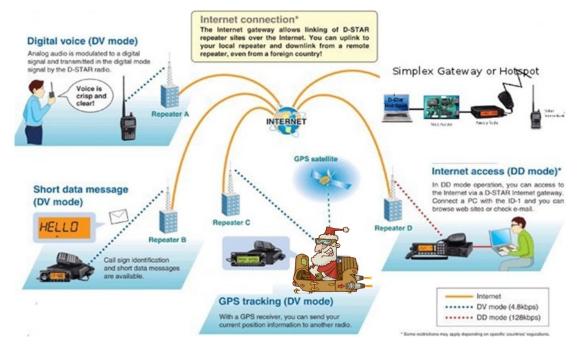
WSJT-X - WSPR - Wide Graph WSJT-X - WSPR v1.6.0-devel by K1JT File View Mode Decode Save Help 1200 23 27 27 33 0.001518 DKSJP 6060 0.001471 I080 FN22 VESPKI MIAVV Enable Tx Halt Tx Tune Tx 1560 Hz 0 Upload spots Tx Pct 20 % © Ø Band hopping Tx Next 37 dBm Scope Last Tx: TUNE

is the Digital Voice Access Point. The most common means for operators to gain access to the D-STAR network is via a repeater. Oh, by the way, if you did not know, our local club does have a UHF D-STAR repeater for our use. The depiction below provides a good overarching concept for its use.

December 2019 The Repeater

DIGITAL continued from page 11

How D-STAR works through Repeaters



Now let us discuss DMR.

Our club, during a previous monthly meeting, had two outstanding individuals provide a very in-depth brief on DMR, so, I will hit the highlights. Digital Mobile Radio (DMR) resembles some of the same traits as

D-STAR with the ability to access a world-wide network of other Ham operators throughout the world for communications purposes. As noted with D-STAR, the ability to acquire a compatible radio is only through two vendors, but DMR offers multiple vendors following more of an open standard that can lead to a cheaper solution for someone trying to get into the digital world. DMR, in general, usually requires a repeater, a compatible radio, and the internet. But. as



Kenwood's Top of the Line TH-D74A

stated with D-STAR, one can use a hotspot when a repeater is not available.

DMR Setup without the Availability of a Repeater



Note: The ZUMspot can connect To gateways for DMR, D-STAR, etc.

Another digital amateur radio technology is Yaesu's System Fusion. System Fusion also provides the capability to transmit digital voice and data over the amateur radio bands with the same traits as D-STAR and DMR. Digital communication modes continue to gain popularity across the Ham community because they can provide excellent performance in environments when interference, noise, and

DIGITAL continued from page 11

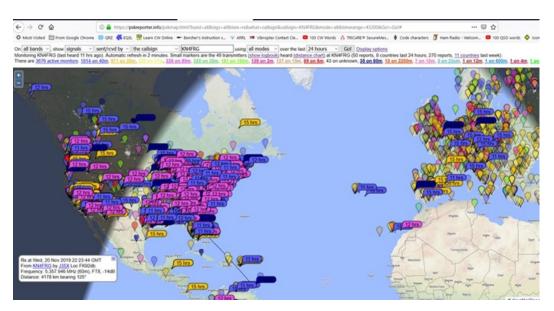
other factors might degrade the normal FM analog signal. These modes offer the means to communicate across the States and the World. If the reader is interested in these modes, first take a look on the internet at https://repeaterbook.com/ to identify what digital type repeaters are available in your area. Next, choose your compatible radio of choice, setup the radio, and communicate and/or choose your favorite digital mode (D-STAR, DMR, System Fusion), purchase an appropriate radio, and a hotspot. What is a digital mode using the Internet and one can communicate with just an app on a cellphone?

EchoLink is a software-based system allowing a licensed amateur radio operator to communicate with other Ham operators over the internet using streaming-audio technology. This simple program allows world-wide connections between stations or from a computer to a station, offering more means to communicate. The program is Windows-based with apps for Apple and Android – free of charge. The process does require registration/validation, just to verify the requester maintains an amateur license. Download the software and install it on your computer and/or install the app on your iPhone or Android cellphone. EchoLink, just like the other digital voice systems can link to a repeater or direct to an individual across the world.

Hopefully this article provided a little insight into several digital modes allowing the operator to make keyboard to keyboard conversation over HF. There is software available allowing connectivity with your radio, i.e. FLDIGI. The WSJT-X software suite offers many digital modes including FT8, FT4, and WSPR. FT8 is an easy means to make a multitude of contacts and WSPR provides a great means to track the propagation of your signal. PSK reporter provides reception records of digimode activity. Using FT8/PSK can provide a means to identify good propagation routes along with actual received signal strength using this site.

PSK Reporter (Shown with results for 60m)

Digital voice (D-STAR, DMR, and System Fusion) and EchoLink offers the opportunity for a HAM to get worldwide communication without a HF radio, but requires, at some point, the backbone of the in-



ternet. Normally, digital voice requires a compatible radio and repeater with a connection to the internet. An alternate means is using a hotspot either with connection with a compatible handheld (ID-51/TH D74A) or base station (IC-7100/9700) radio or with software installed on your computer. If any of these modes provide you with any interest, a simple search can provide additional information on how to use them or you can just get in touch with your local Elmer. •

JP

A Ham's Night Before Christmas

'Twas the night before Christmas, And all through two-meters, Not a signal was keying up Any repeaters.

The antennas reached up From the tower, quite high, To catch the weak signals That bounced from the sky.

The children, Technicians, Took their HT's to bed, And dreamed of the day They'd be Extras, instead.

Mom put on her headphones, I plugged in the key, And we tuned 40 meters For that rare ZK3.

When the meter was pegged By a signal with power. It smoked a small diode, And, I swear, shook the tower.

Mom yanked off her phones, And with all she could muster Logged a spot of the signal On the DX PacketCluster,

While I ran to the window And peered up at the sky, To see what could generate RF that high.

It was way in the distance, But the moon made it gleam -A flying sleigh, With an eight element beam,

And a little old driver Who looked slightly mean, So I though for a moment That it might be Wayne Green.

But no, it was Santa, The Santa of Hams, On a mission this Christmas To clean up the bands. He circled the tower, Then stopped in his track, And he slid down the coax Right into the shack.

While Mom and I hid Behind stacks of CQ, This Santa of hamming Knew just what to do.

He cleared off the shack desk Of paper and parts, And filled out all my late QSLs, for a start.

He ran copper braid, Took a steel rod and pounded It into the earth Till the station was grounded.

He tightened loose fittings, Resoldered connections, Cranked down modulation, Installed lightning protection.

He neutralized tubes In my linear amp... (Never worked right before -Now it works like a champ).

A new low-pass filter Cleaned up the TV. He corrected the settings In my TNC.

He repaired the computer That wouldn't compute, And he backed up the hard drive And got it to boot.

Then, he reached really deep In the bag that he brought, And he pulled out a big box. "A new rig?" I thought!

"A new Kenwood? An Icom? A Yaesu, for me? An Elecraft, TEN-TEC Or Flex, could it be!"

(If he thought I'd been bad It might be QRP!)

Yes! The Ultimate station! How could I deserve this? Could it be all those weekends I worked Public Service?

He hooked it all up And in record time, quickly Worked 100 countries, All down on 160.

I should have been happy. It was my call he sent. But the cards and the postage Will cost a month's rent!

He made final adjustments, And left a card by the key: "To Gary, from Santa Claus. Seventy-Three."

Then he grabbed his HT, Looked me straight in the eye, Punched a code on the pad, And was gone - no good bye.

I ran back to the station, And the pile up was big. But a card from St. Nick Would be worth my new rig.

Oh, too late, for his final Came over the air. It was copied all over. It was heard everywhere.

The Ham's Santa exclaimed What an old ham expects: "Merry Christmas to all, And to all, good DX."



Written by:

Gary Pearce KN4AQ

CALENDAR

DECEMBER 2019

6 - 9th Anniv Family Christmas Dinner - 6:00 PM Buckner's, 1168 Bucksnort Rd, Jackson

21 - Hungry Hams - Huddle House (I-75/16) - 0730

21 - Tech Saturday - 0830, FS #7, 144 Colwell Rd

JANUARY 2020

6 - Monthly Meeting - 7PM, Jackson FGs "Using an Antenna Tuner" - Winford Barnes

11 - GA ARES meeting - GPSTC, Forsyth, 0800

18 - VE Session - 0830, FS #7, 144 Colwell Rd

FEBRUARY 2020

3 - Monthly Meeting -7 PM, Jackson FGs "DMR Radio Programming" - Chris Southerland **15 - Tech Saturday** - 0830, FS #7, 144 Colwell Rd

MARCH 2010

2 - Monthly Meeting - 7 PM, Jackson FGs "Henry Co Library, part deux" - Michelle Burnham 21 - VE Session - 0830, FS # 7, 144 Colwell Rd

APRIL 2020

6 - Monthly Meeting - 7 PM, Jackson FGs
"Battery Usage" - Melvin Mosier
18 - Tech Saturday - 0830, FS #7, 144 Colwell Rd

MAY 2020

4 - Monthly Meeting - 7 PM, Jackson FGs"Drones" - Pete Acevedo16 - Tech Sat - 0830, FS #7, 144 Colwell Rd

CONTACT INFO

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Tues Net NCS for January
Anthony N4TZY



