



The Blurb



Newsletter of The Phil-Mont Mobile Radio Club
Public Service Since 1949

Volume 73 Number 02

www.phil-mont.org

AuctionFest!!!

Something for Everyone and a Whole Lot of Fun!
Catch up on the Action! - pg 6



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Get the Net!

There's no ham radio without YOU!

Get on the air and share! Operate, cooperate, & celebrate ham radio!

Phil-Mont's Drive Time Net

Join us on the air every Monday to Friday 1700 to 1800 EDT on:

- 147.030 MHz (+offset 91.5 PL)
- Bucks County and North PL 88.5 (147.030)
- [Echolink W3QV-R](#)
- [ALLSTAR](#) 47970

CLUB REPEATERS

VHF: 147.030 MHz (+offset 91.5 PL)

Bucks County and North PL 88.5 (147.030)

UHF: 444.80 MHz Yaesu System Fusion WiresX

[ECHOLINK W3QV-R](#) & [ALLSTAR 47970](#)

[EMAIL REPEATER COMMITTEE](#)

Sunday Morning Nets

Three Nets on three bands, all in a Row! Tune in on any or all for a Sunday morning 'Hello!'

0930 EDT:

- 147.030 MHz (+offset 91.5 PL)
- Bucks County and North PL 88.5 (147.030)
- 2m, [Echolink W3QV-R](#)
- [ALLSTAR](#) 47970

1000 EDT:

75 meter Net (3.993 MHz LSB +/-QRM)

1030 EDT:

10 meter Net (28.393 MHz USB +/-QRM)

CQ! CQ! CQ!



Calling CQ for New Net Control Operators!

[Click Here and Sign Up Today! It's a Fun Way to Meet Our Members!](#)

February Net Control Schedule

2/6 W3MHP
2/13 KB3IV
2/20 K2RSJ
2/27 WU3I

Club Business

Club Directory Update

Your 2022 Dues Invoice/Directory Information Sheet was sent to you in a separate mailing. **Please verify the information and return it with your dues & optional P.M.R.C. SCHOLARSHIP FUND DONATION to: PMRC PO Box 404 Warminster, Pa 18974 OR submit using PayPal.** Your early reply will save the club additional expenses and will speed-up the publishing of the 2022 P.M.R.C. Directory.

MEMBERSHIP STATS

At press time P.M.R.C. has:

121 Fully Paid Members

10 Family Members

1 Youth Member

Honorary Members:

Elaine Spencer

Richard Moll - W3RM

New Members Pending:

NW3T Jerome Winbush - Extra
WB3JAC John Cunnion - General
KC3TIQ Jack Harding - General

NEXT GENERAL CLUB MEETING:

Wednesday, February 9th

IN PERSON *ONLY*

At the [Giant Supermarket 315 York Rd.](#)
[Willow Grove, PA 19090](#)

7PM Start - (6PM Yack & Snack)

This Month's Presentation: [ARDUINO](#) Workshop
by KC3SMW



January General Meeting Attendees:

AA3A	K3FZT	KC3DEX	KU3A	NS3K
AA3RC	K3NOP	KC3SMW	N1LC	W3AOK
AA3WA	K3YO	KC3TIQ	N3JAM	W3JG
AJ3DI	KA2FFP	KD2WGW	N3OMR	W3MHP
K2SPG	KC2JSC	KE3YW	N3PEG	WA3BXH
K3DFG	KC2WVO	KT3H	NC3U	WA3GM

January Board

Meeting Minutes

Call to order by AJ3DI at 7:05 PM

- Reviewed leadership presentation

Treasurer Report

- New Board members
- PMRC Scholarship
- ND3B (former Blurb Editor)

Membership

- 4 new members approved: KC3RFC, KC3RGL, KC3SSG, KC3JYK
- Repeater/Technical
- Voter system discussion
- we don't have any remote sites (eg. Villanova)
- Allstar supports Voting
- W3UP - offering his QTH for testing

New Business

- Booked field day site is done
- We now have a contest team - N3ZP to chair team
- Promote a Philadelphia 10/10 club: <https://www.ten-ten.org/>

- PSK31 group created

Vote to approach PDRA to join up

Rich AA3RC - Yes

Eric - Yes

KRON - Yes

Sal - No

Dick - Yes

Greg - Yes (discussion only, no offer)

Jeff - Yes

Jim - Yes

Jack & Patrick keep assets running.

Change club DVD

- Jeff Golas taking on task

8:48pm Meeting closed

FEBRUARY BIRTHDAYS

03 James Weiler AB3OM

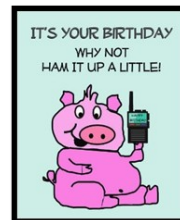
04 Perry Pepper KC3JUD

05 Michael Concordia WB3KAC

10 Sharon Masarsky N3GLU

12 Tracey Thomas KC3DRE

17 James Fisher AJ3DI



22 Harry Jelesiewicz KD2RXL

Jerome Winbush NW3T

23 Stephen Victor WA2DTW

24 Larry Pollack N3VLC

Carmen Decicco KE3QB

The Prez Sez...

***Rest in Peace Bobby, KB2ERL.**

Taken from all of us too soon.*

Hello Phil-Mont,

Auctionfest SUCCESS!

Thanks for all who participated in any way. About 42 folks attended. Special thanks to our Auctioneer, Jack WA3BXH for doing (as always) a stellar job. Jim K3YO for being the assistant and transaction recording Secretary.

Jim NS3K for doing all the financials for the event. Ed KB3IV for guiding folks to the event on the repeater. Sal NC3U for assisting me with transaction recording into the spreadsheet. Rich AA3RC for taking and providing the photos of the event.

Hams and non-hams from throughout the area came and sold, purchased, and donated for items that were available.

Times have changed. This used to be a way to garner funds for the Scholarship funds.

Now, it has become so much more than that. It is an event this Club can do for the community. It cost us money to have this event. In the past, we got to recuperate all the proceeds for the Scholarship Fund.

I want to thank the Board for seeing that the EVENT is bigger than the money grab.

It's the least we can do, once a year, for our membership, the ham community, and those interested in RF and technology. I really want to thank hams from OTHER clubs who came and participated. WOW. Thanks. That's what it is all about.

Contest Team. N3ZP stepped up and took the chair. We have been posting as we play.

Don't hesitate to talk about contests on the repeater or post to our groups.io if you have any

questions. That's why the Team was started. Any aspect. Any contest.

As I write this today, I am riding the buzz of an impromptu sked after the Sunday Morning Nets to play a little Winterheat.

YOU WANT TO KNOW WHY I DID THIS?

Well, I'll tell you.

This was posted: <https://philmontmobileradioclub.groups.io/g/main/message/1692>

JANUARY 1st.

Then very little more.

CRICKETS..

Daily Nets.

Sunday Nets.

121 Members.

CRICKETS

A little action, and **MUCH SATISFACTION.**

<https://philmontmobileradioclub.groups.io/g/main/topic/88625476#1830>

Come on folks. This is YOUR club. Even if it ain't your club, but you have a license and participate in the stuff we do....THROW STUFF LIKE THIS OUT THERE.

ANYONE CAN DO IT. You don't need a TITLE. I hate mine. I hate the 'illustrious'.

I'm just Jim, AJ3DI who loves to play radio.

I call myself...thanks to Rick, WC2K, a cheerleader. I try to be positive and promote activity. I NEED FOLKS TO PLAY WITH.

This month, I have been inspired by folks taking the chance to say, "Hey, I'm Greg KC3SMW, who wants to play with me?"

Great job Greg. Your journey is now OUR JOURNEY and isn't that grand? (Cont'd on pg 9...)

RUFUS P. TURNER - A Most Remarkable Man

By Bob Thomas, W3NE

In rapidly developing fields such as electronics in general, and ham radio in particular, participants in later eras often do not appreciate the accomplishments of those who went before them, simply because they lack the knowledge of significant events and the personalities of decades past. Such is often the case of Rufus P. Turner, a Black writer and engineer who contributed significantly to the technical education of millions of budding electronics hobbyists and radio amateurs during the 1930s to '60s. This article is intended to enable contemporary amateurs to understand and appreciate one of the personalities and broad shoulders upon which they stand today.

Rufus Paul Turner was born on Christmas Day, 1907 in Austin, Texas. He later moved with his parents to Washington, D.C., where he attended the Armstrong Manual Training School¹, a segregated high school, where he acquired a solid background in English composition, science, and mechanical skills. He was the first African American to receive an amateur license, W3LF, issued by the U.S. Commerce Department (predecessor to the FCC) with an endorsement to *broadcast* in addition to usual point-to-point operation by amateurs. With that endorsement, Mr. Turner broadcast Sunday services and choir of his church. He also operated his 15 watt transmitter in the HF amateur bands, as seen in the accompanying photograph.

It didn't take Mr. Turner long to put his scientific and literary skills to practical use: he wrote his first technical article for publication at the age of seventeen! From then on, it was nearly impossible to peruse any of the dozen or so magazines devoted to radio and electronics published in the 1930s to '70s without seeing the Rufus P. Turner byline. All told, he was author of more than 2500 magazine articles; some might have been only a few informative paragraphs on a timely topic, while others described major projects running several pages, each complete with RPT's photographs, diagrams and enlightening text. His crowning glory was a 1949 description of how to make your own transistor² before commercial transistors had reached² the market. At that time, RPT was employed by the Sylvania, where he participated in development of the ubiquitous 1N34 diode, still the most widely used germanium diode.

Magazine readers were not the only beneficiaries of Rufus P. Turner's talents, He also was author of over forty books devoted primarily to radio and electronics. Most were 90 or more pages in length, usually inexpensive with soft covers, and generally devoted to a single basic subject ranging from elementary topics such as *Impedance*, to esoteric mathematics, as in *The abc's of Calculus*. Unfortunately, most of his books are now out of print, to the detriment of today's enthusiasts, who now often must resort to a restricted variety and inflated prices at sources such as Amazon and eBay. However, there is an internet site where eighteen of Mr. Turner's complete books are available for free download³.

Rufus Turner had a successful professional career well beyond his well-known literary accomplishments. He taught electronics at a vocational school in Rhode Island and communications at USC. He was a licensed Professional Electrical Engineer, first in Massachusetts and later in California, during which eras his amateur call changed from W3LW to W1AY, and finally, W6AI. In those days, call letters were issued strictly according to the FCC District in which the ham lived. If you moved to a new District, you got a new call. That ruled out lifetime and vanity calls, but it did have the advantage of easily identifying the approximate location of any ham station: If the station had a W6 call, everybody knew it was in California; a W1 had to be in New England, etc. (cont'd on pg 9)



A young W3LF adjusts his HF transmitter.

AuctionFest!!!

It's a fundraiser! It's a social event! And as always it was a whole lot of fun!



Every January the general club meeting is transformed into a carnival of gear known as **AuctionFest!!!** This January 12th at 7pm our annual event began and what a night it was. Consigned items are sold to the highest bidder with a small piece of the action going to raise funds for the club. Donated items are also available, as seen at left, offering unwanted gear a chance at a new home with proceeds going entirely to the club. More importantly it was a chance for all of us to get together and share some laughter as after several years we can now, cautiously, (cont'd on pg 8)

AuctionFest Items Sold

scanner	tnc pi	mirage 70cm amp	roku	digital caliper	ht antenna
ts430	friendcom data	ft3dr	earbuds	router	swl antenna
signallink	radio	Tnc 9600	pelican case	camera	drake
ic746	airspy + spyverty	ht 2m	heil eq	cables (asst)	subwoofer
sdrplay	spyverter	battery	battery charger	mini kb	heathkit
scope	swl antenna	Ht 440	power supply	gp6	



AuctionFest!!!
\$1294 in Total Sales
\$265 in Sales of Donations
42 Attendees
2,894 Smiles Generated





(con'td from pg 6...) get together again. We had a fantastic turnout this year with lots of great gear and ham radio essentials up for auction. Most everything found a good home and what was old hat is now a new tool for another ham's journey.

This event is an annual tradition and highly anticipated every year. A genuine auctioneer and a volunteer team managed the sales and kept the energy high throughout the event.

More important than any revenue generated is the goodwill and community created by our annual event. While we're not out of the woods with COVID yet we are hopefully nearing the end. Everyone in attendance played safe but it's still a time for caution.

Let's hope that next year's AuctionFest!!! will be unfettered by health concerns and we can have an even bigger turnout than this year. More hams means more goodies, more fun, more smiles, and more radio adventures in the making. See you at *AuctionFest!!!* 2023!

*Also, let's all give a **big thank you** to our hosts at the Ben Wilson Senior Activity Center for working with the club to make it a safe space for the event and everyone involved. ✦*

(PREZ SEZ cont'd from page 4)...

INSPIRE ME. I get bored easily. I order stuff, and then I don't open boxes. Make me open them.

YOU DON'T NEED TO KNOW WHAT YOU ARE DOING. Trust me; I don't. NO ONE EVER DOES.

The KNOW follows the DO.

When you think YOU KNOW; start over.

MORE WILL BE REVEALED.

So coming in February we have the ARDUINO WORKSHOP. If you have a laptop; BRING IT.

We will be BLINKING LEDs.

There will be arduinos and basic electronic kits available for folks to follow along with Greg as he guides us through setup and coding an arduino.

Don't know what any of that means?

P E R F E C T

Come out to the meeting Wednesday February 9th at the Giant in Willow Grove and START THE JOURNEY.

EVERY SINGLE MINUTE remember, this is YOUR Club, YOUR repeaters. USE them. MONITOR them. BE A REPEATER GREETER. Answer calls when you can. Let's try to leave ...

NO CALL UNANSWERED.

PLAY*BREAK*LEARN

jim fisher

AJ3DI

www.aj3di.com

HamshackHotline ext: 14423

"Do, or do not. There is no 'try.'"

-- Jedi Master Yoda

Phil- Mont Launches New 'Coders Corner'

Like to code? Sure you do! Join up with fellow hams who like to bite into the bits. Come early to the monthly meeting and talk shop with the group.

Check out [the repositories on GitHub.](#)

Let's Get Geeky!

(RUFUS cont'd from page 5)...

In 1958 Mr. Turner broadened his horizons late in life when, at 51, he earned a B.A. degree in English at California State College. He followed that with a Master of Arts degree from USC in 1960, and in 1966 Mr. Turner became Doctor Turner when he was awarded a PhD in English Literature at USC. He subsequently became a Professor in the English department of USC and taught there until retiring in 1973. Although his contributions to electronics enthusiasts necessarily declined in that period, he did continue to publish technical articles and a few books as new devices and techniques emerged, as well as editing and updating many of his earlier works. But time inevitably takes its toll. On March 25, 1982 Doctor Rufus P. Turner passed away, and the world lost a most remarkable man.

REFERENCES

Armstrong Manual Training H.S.: <https://historicsites.dcpreservation.org/items/show/831>

<https://worldradiohistory.com/Archive-Radio-Craft/1940s/Radio-Craft-RE-1949-May.pdf>

3. https://worldradiohistory.com/BOOKSHELF-ARH/Bookshelf_Hobbyist.htm (Scroll down to Turner)

Improve the Performance of Your Rubber Duck with a Rat Tail

Submitted for re-print with permission by Bob Witmer, W3RW. Originally published at baofengtech.com

Hams often complain about the performance of the "rubber duck" antennas that come with their handhelds. There's even a question in the Technician Class question pool about rubber duck antennas. Question T9A04 reads, "What is a disadvantage of the rubber duck antenna supplied with most handheld radio transceivers when compared to a full-sized quarter-wave antenna?" The answer is." It does not transmit or receive as effectively."

Usually, the solution is to buy a better antenna. Here at BTECK we sell the Nagoya line of HT antennas (<https://baofengtech.com/accessories>). These antennas are fantastic accessories for our BTECH radios.

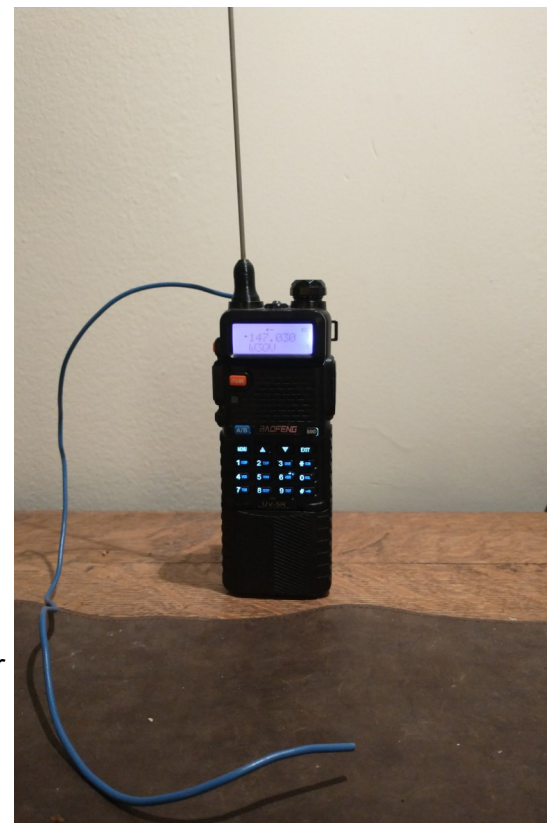
Another way to improve the efficiency of your handheld antenna is to add a counterpoise, also known as a rat tail or tiger tail, to your antenna. As shown in the figure at right, the rat tail is simply a short piece of wire that connects to the ground side of the antenna connector. In normal use, the radios whip antenna operates against whatever kind of ground it can find. It works, but isn't very efficient. With a rat tail, however, the rubber duck becomes much more efficient, meaning that you'll be able to get out farther and receive weaker signals.

They couldn't be any easier to build. For a 2-M rat tail, simply cut a 19.5-in. piece of hookup wire, strip one of the ends, then form a loop that will go over the antenna connector where the rubber duck screws in. You can solder the spot where the end of the wire forms the loop so that the loop stays intact. Another option is to use a crimp-on ring terminal at the radio end of the rat tail. Before crimping on the terminal, make sure that it will fit over the stud.

Now, all you have to do is slide the loop or the terminal over the stud and screw in the antenna.

Keep in mind that the rat tail will be shorter on other bands. For the 1.25 m (220 MHz) band, the rat tail should be about 11.5 inches. For the 70 cm (440 MHz) band, the rat tail should be about 6.5 inches.

Finally, keep in mind that the rat tail makes whatever antenna you're using more efficient. What this means is that you'll get even more of a performance boost if you use a rat tail with a Nagoya antenna. This combination may be just what you need if you find that you're only making a repeater marginally.



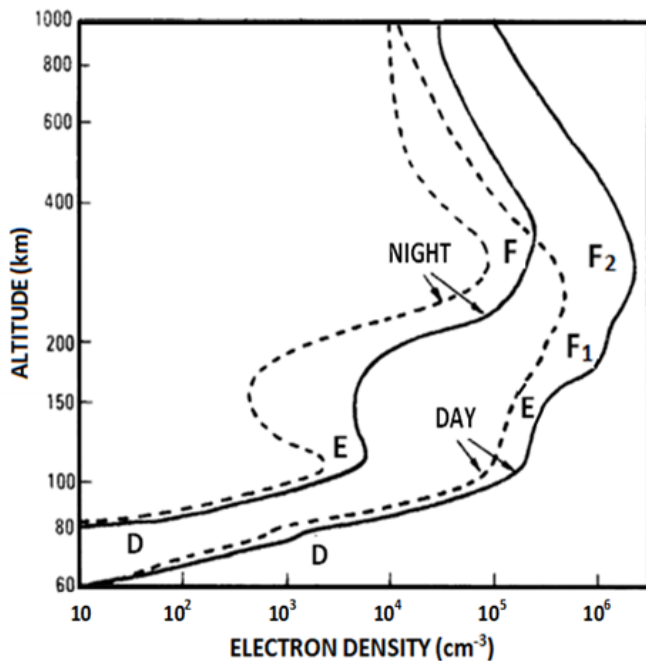
Your editor, W4GMN, displays his own 2m rat tail paired with a SignalStuff Signal Stick antenna. He has found this useful when not holding the radio providing grounding with his body, and to add some directionality by moving the rat tail around to find a sweet spot when signal path is marginal.

The Ionosphere and its Effect on Radio Communications

by

Vince Pisacane WB3IDW

The *ionosphere* is a plasma shell that surrounds the Earth from an altitude of about 35 miles (56 km) to well above 600 miles (966 km). Electrical plasma is a conducting medium and the most abundant form of the four fundamental states of matter in the universe. It contains nearly equal numbers of negatively charged electrons and positively charged ions. The ionospheric plasma results primarily from the interaction of ultraviolet radiation from the Sun with neutral components of the Earth's upper atmosphere. Global and



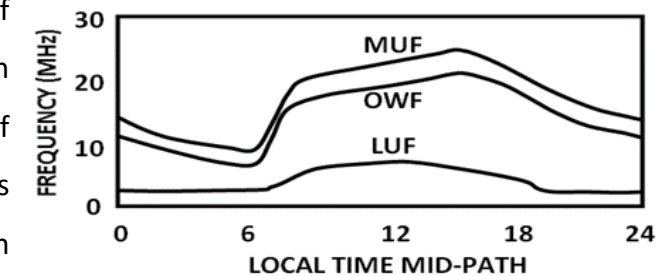
Change of the layers in the ionosphere based on time of day and altitude.

local variations in the ionosphere are caused by solar activity such as variations in solar intensity, coronal mass ejections, geomagnetic activity, and solar flares. During daytime, when solar UV radiation is present, the ionosphere typically consists of 4 regions identified with increasing altitude as the D, E, F1 and F2 layers as illustrated in the figure. At night, when UV radiation is absent, the electron density decreases resulting in three layers: D, E, and F. In the absence of direct radiation from the Sun at night, recombination of the charged particles occur due to collisions with the neutral atmosphere which is more pronounced at the lower altitudes. Increase in solar activity often establishes small, irregular, anomalous, ionized regions within the E region called sporadic E. The

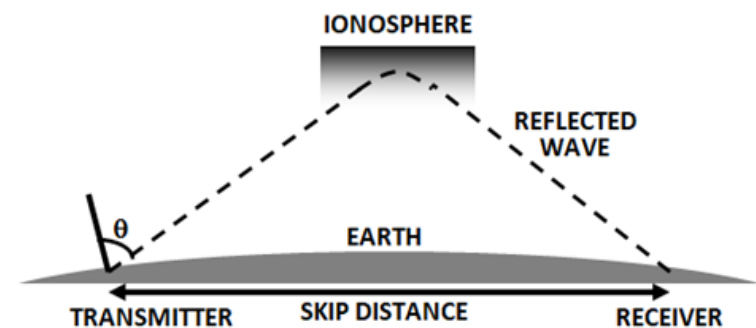
plasma electron frequency, known simply as the *plasma frequency*, is the natural frequency of oscillation of electrons in plasma when they are displaced relative to the ion background and is proportional to the square root of the electron density. Electromagnetic waves can propagate in plasma only at frequencies higher than the plasma frequency. Waves at frequencies below the plasma frequency are reflected from the plasma boundaries. This permits the ionosphere to be studied using bottom side ionosondes from Earth and topside ionosondes from spacecraft. Ionosondes emit multiple frequencies and determine from the time delay of the returned signal the plasma frequency at various altitudes and consequently the electron density profile. Ionospheric plasma frequencies increase with increasing altitude to the peak in the F or F2 layer of about 3 MHz at night and 10 MHz during the day at an altitude of ~ 300 km.

The ionosphere has multiple effects on the propagation of radio waves. These include the phase velocity greater than the speed of light, signal velocity lower than the speed of light, Doppler shift, Faraday rotation, and scintillations from small-scale irregularities in electron density. In stratified plasma, the electromagnetic ray will bend away from the normal as the electron density increases and toward the normal as the electron density decreases. The

main effect of the D region is to attenuate signals that pass through when present during the day although the level of attenuation decreases with increasing frequency. The main effect of the E region is to reflect some radio signals although they still undergo some attenuation. The F region is higher than both the D and E regions with less neutral atmosphere present to cause attenuation and is the most important region for long distance MF and HF communications. As illustrated in the figure, transmissions below the maximum plasma frequency may occur over long distances by reflection from the ionosphere. The distance from the



Maximum Usable Frequency (MUF), Optimum Working Frequency (OWF), and Lowest Usable Frequency (LUF) changing over time of day.



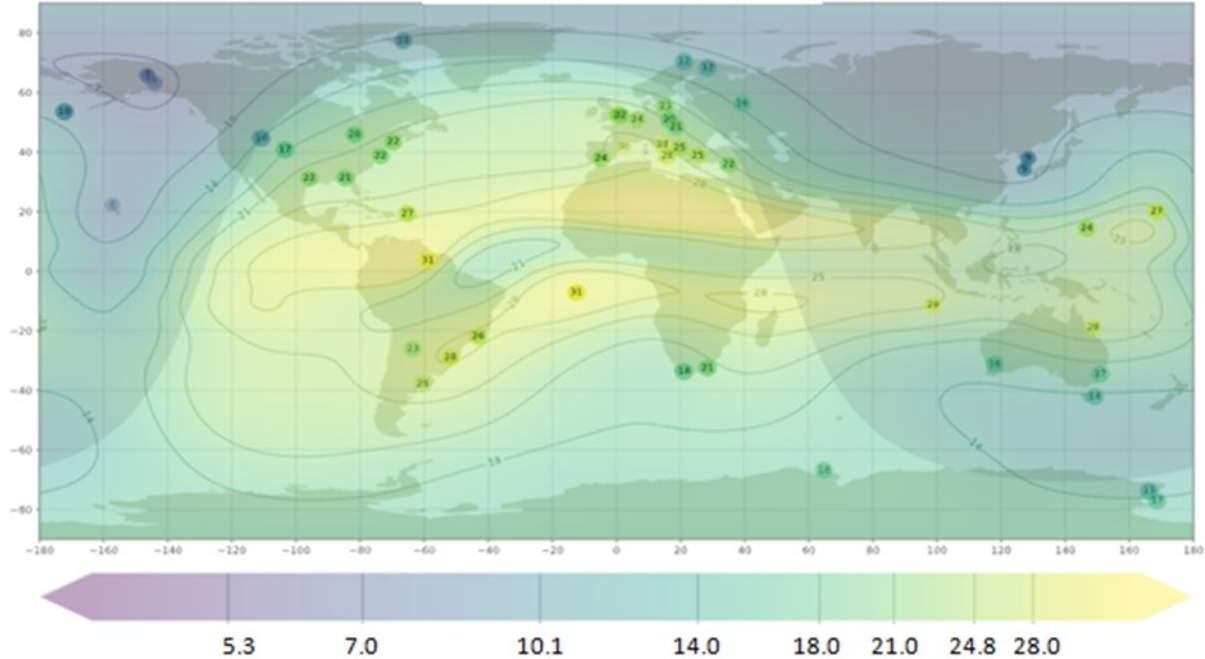
RF transmissions below the MUF may occur over long distances by reflection from the ionosphere.

transmitter to receiver is called the *skip distance* with multiple reflections possible. Several definitions are associated with ionospheric communications. The *Lowest Usable Frequency* (LUF) is the lowest frequency that can be used to communication between two points by reflection from the ionosphere. The *Maximum Usable Frequency* (MUF) is the maximum frequency that can be used to communicate between two points

by reflection from the ionosphere. Often the MUF is specified for a particular distance, usually MUF (3000) for communication between two points 3000 km apart. The *Optimum Working Frequency* (OWF) is the highest frequency predicted to be usable for a specified path and time of day for 90% of the days of the month. The *foF2* is the *critical frequency* of the F2 layer, i.e., the highest frequency that would be reflected by the ionosphere at vertical incidence.

NOAA's National Centers for Environmental information (NOAA NCEI) and the Lowell Global Ionosphere Radio Observatory (GIRO) provide near real-time global maps of the MUF(3000) and foF2 at the website <https://prop.kc2q.com> updated at 15 minute intervals based on ionosonde data; see figure. The maps are

mufd 2022-01-26 15:30 eSFI: 90.8, eSSN: 36.9



NOAA's National Centers for Environmental information (NOAA NCEI) and the Lowell Global Ionosphere Radio Observatory (GIRO) provide near real-time global maps of the MUF(3000) and foF2 at the website <https://prop.kc2g.com> updated at 15 minute intervals.

given as a function of the *Effective Sunspot Number* (eSSN) and *Equatorial Spread F Irregularities* (eSFI) that accounts for F layer irregularities at low magnetic latitudes. These maps can be used by ham operators to select the best frequencies for long-distance communications. ♦

<p>Philadelphia</p> <p>ARES</p>	<p>The Amateur Radio Emergency Service are trained licensed amateur radio operators providing radio communications as a public service in disaster situations. All licensed operators are welcome to join. To get started fill out this ARES Registration form and submit it to Cliff Hotchkiss (KC3PGT), the Philadelphia Emergency Coordinator.</p>	<p>Join the A.R.E.S. Training Net</p> <p>Every Sunday evening at 2100 (9:00 PM)</p> <p>147.030 MHz (+offset 91.5 PL)</p>
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From the PMRC Archive

How often have you heard the question, "Anybody have a good antenna for working from an apartment?" Louis Moxey, N3CZB (SK) has a solution from the Jan. 1992 Blurb.

Experiences with Antennas for Apartment Dwellers

Louis W. Moxey, N3CZB

Antennas make the difference. Power is just the icing on the cake! If you want DX, your antenna must be capable of sending your signal in the right direction and at the right angle above the horizon. If it doesn't, you won't get that DX station—you may not even hear it.

When I first became interested in amateur radio back in 1919 at age 11 (it was then called "wireless"), my father assisted me. Among other things, he put up a single wire antenna between supports attached to the two chimneys of our twin-type house. The equipment was placed on an old table in the basement and consisted of a long tapped coil, a capacitor, a galena crystal, and headphones. We heard time signals from NAA in Arlington, Virginia, and some local naval and commercial stations. I had to learn the code immediately, as that was all there was. Later, we replaced the crystal with a vacuum tube detector and then added two stages of audio amplification. Most importantly, we added a spark coil, gap, capacitor made of glass photographic plates and foil, and coils made of brass ribbon for a transmitter.

Subsequently, the antenna was changed to a four-wire "flat top" and a counterpoise was added. The spark transmitter was replaced with a vacuum tube and I acquired a license (3BFL, later changed to W3BFL). I worked hams around town, but none outside the local area. When we moved the rig to the second floor, shortening the lead-in. There

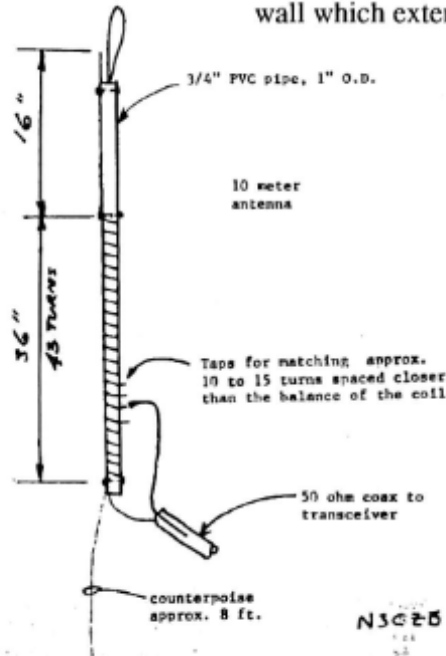
was no difference in operation. But I noticed that when I pressed the key the light in the hall would glow cherry red!

The house was wired "knob and tube" with no metallic enclosure for the wires, so I was putting out power. But some, if not most, was going into the house wiring. Another concern at the time was the fact that the antenna was about five feet above and parallel to the metal flashing on top of the party wall which extended above the roof.

In 1928, we moved to a single house where a long wire antenna could be erected, which turned out to be an end-fed Zepp. It was about 20 feet above the ground, the far end being attached to a tree. The tree was in an area where a street was later cut through, so that antenna did not last long enough to have a good trial.

Shortly after, I got married and moved to a twin house with a backyard. The garage was in the rear basement, so the second floor where the rig would be placed was equivalent to a third floor as far as height above ground was concerned. Also, behind the lot in the back of the common driveway, there were several Lombardy poplar trees, not exactly what one would use for an antenna support. But I had seen it done somewhere, with a pulley, rope, and sash weight. The antenna was center fed with tuned feeders—a center-fed Zepp. At 40 meters it was a dipole, but I was going to use 20 meters. Many believed it would not work.

Soon after completing the antenna, I was delightfully surprised to hear a French



station answer my call! Subsequently, other European countries were contacted. In addition to being two half-waves in phase, the antenna was accidentally oriented so that the beams pointed northeast from Philadelphia, just right for Europe. But this did not last long: The pulley rusted and froze, the rope was worn by rubbing, and a puff of wind brought the antenna down.

But now I knew what would work. So I built a guyed wood pole in the back yard, of necessity closer to the house; yet the rig was now operated on 10-meter phone. The new antenna, also a center-fed Zepp, was oriented so that the broad side faced west and resulted in a number of QSOs with W6s. Shortly afterwards, World War II was upon us and the rig was put in "moth balls" for the crisis' duration.

By the time the war ended, my family had found other interests, such as spending time at the seashore. It wasn't until 1982, when I was asked to look into an interference problem between two public service radio stations, that I thought about ham radio. A trip to the library to look up RFI references re-kindled my interest in the hobby. Why not now? I was retired and had the time and energy to start over. I could still read the code, though at a reduced speed. With a license manual and some code practice, I acquired a general license with the call N3CZB.

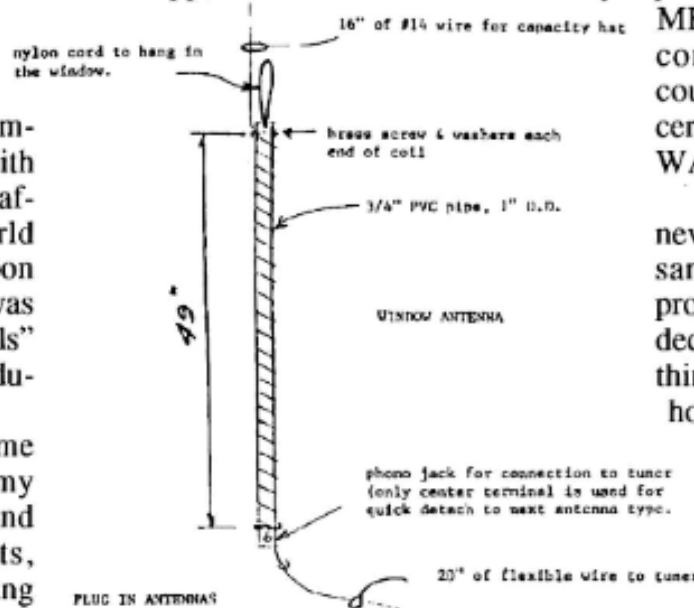
The question was where to erect an antenna in the garden-type apartment in

which we now lived. The apartment was in a one-story building shaped like a U with square corners. In the opening of the U was a garden area of about 17 square feet. Fortunately, some years before we had requested and received permission to install a 20-foot flag pole in the garden area. Using this pole, the antenna became a sloping dipole cut for 21 MHz. Though it was rebuilt later for 14 MHz in order to reduce RFI, it was the best antenna ever! We altered it several times, finally turning it into a tri-bander for 28, 21, and 14 MHz. A supplementary indoor antenna was a slinky dipole 12 feet long, for 7 MHz. With these, we contacted many DX countries and received certificates for WAS and WAC.

But conditions never seem to remain the same very long. Approaching 80 years, we decided that we should think about a retirement home. In fact, recent health problems with the XYL indicate that this was a good move. Our retirement community was in an eight-story fireproof building without balconies or terraces—

just about the worst place to erect an antenna. To place it on the roof, if permitted, would require a transmission line over 200 feet long!

The original plan was to use a loaded, vertical dipole for 28 MHz, both near the window. But these did not work as planned. The 28 MHz vertical had to be close to the glass and the slinky did not perform at all. No wonder—there was too much steel in the building. The floors were reinforced concrete planks, as were the exterior walls.



PLUG IN ANTENNAS

Band	Turns
10	270
20	110
15	48
10	43

use any available wire size for low power (20-50 watts) #16 to #26

N3CZB

Even the interior partitions had steel studs!

The windows were about 5 square feet, of two sashes 5 feet high by 2-1/2 feet wide, set in aluminum frames. As far as could be ascertained by tests, the window frames were not grounded. However, it did not seem like a good idea to use those frames as an antenna because they were common to the frames in the next apartment.

We tried all kinds of arrangements. Management frowned upon hanging anything out the window because it would interfere with the window cleaners; although it was tried temporarily with some success.

We finally decided to try hanging a helical vertical in the window. Actually, this was one half of the slinky, the top being arranged to hang from an insulator and the bottom resting on a ceramic tile on the sill. It was, in effect, a helical vertical 4 inches in diameter and nearly 60 inches long. The number of turns was varied experimentally. The former loaded dipole was dropped to the floor. We constructed a trans-match out of spare parts and made contacts on 28, 21, 14, and 7 MHz. When the loaded dipole was completely disconnected, the antenna could not be tuned. A counterpoise was needed!

The helical vertical proved to be the most appropriate of all arrangements. After much experimentation, the best versions of the helical were 26 turns of one half of the slinky mounted on one window for 28 and 21 MHz; and 60 turns of the other half, mounted in an adjacent window, for 14 and 7 MHz. The latter required using three nylon cords to hold every tenth turn, so that only the unused turns were bunched together at the sill.

For 21 and 28 MHz it was necessary to cut quarter-wave counterpoise wires and connect them to the ground terminal. These were laid on the floor below the window and along the walls. With a purchased tuner, this arrangement gave 1.5 or lower SWR on the bands normally used—7, 14, 21, and 28 MHz. During the 1990 Ten Meter Contest, when propagation was good, QSOs were

made with F, YU, I, PA, KL7, and J. Only the last two were expected; the others were shielded by part of the building!

The best results are currently obtained on 21 and 28 MHz. Reports are often one to three S-points lower than given to the station being received, but under the conditions imposed by this location it is satisfying to be able to have QSOs over a reasonable area, with 50 watts input to the transmitter.

If you are on a restricted budget or have limited space for an antenna, don't give up. "Where there's a will, there's a way!"

In further experimenting, after the above was published, it was found that vertical orientation was better than horizontal. It was also found that coils wound on a one inch form (3/4" PVC pipe) gave better results than the 4" diameter coils, at least on 10, 15 and 20 meters.

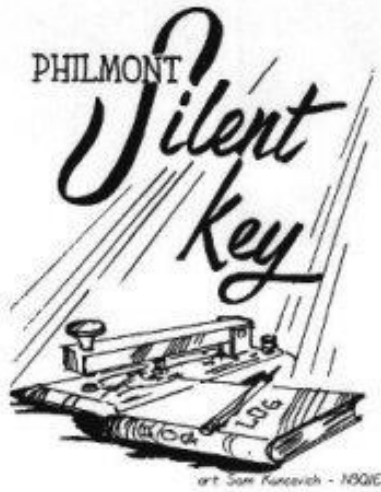
Using the ARRL Antenna book description of a "short helical wound vertical antenna" (page 10-11 of the 14th edition) as a guide, coils were wound for 40, 20, 15 and 10 meters as shown in the drawings.

Having acquired a Radio Shack HTX-100 10 meter transceiver, the 10 meter antenna was built with a matching section so as to have it available for 10 meters without the tuner [that is] used for the other bands. Two antennas are therefore always available, one in each of the two panes of the window. In fact, for a quick change, the 15 meter antenna can be operated on 20 or 40 meters with the MFJ001 B tuner. Home brew tuners will also work, however, the larger antennas work better on the longer wavelengths.

[Submitted by "The Northern Reporter" who appended the following:]

Louis PXY's "grandfather-in-law" who lives in Doylestown, PA. PXY's trying to get him on 2 meters, and has sent him W3SRU's antenna design.

You guys with \$300 antennas should try this for \$6.50! Results are 120 contacts in two days—that even beats PXY's \$11 budget limit!



SILENT KEYS

An all too regular occurrence in our hobby is the loss of members of our ham radio community. Sadly all things must pass, so let's please take a moment and pause to remember the experiences that they shared with us in this all too short life and say good-bye to our newly departed friends.



Bob Nicotera - KB2ERL(SK)

January 10, 2022. Age 70 of Philadelphia, PA and Ocean City, NJ. Bob was born in Philadelphia, Pa to the late Joseph and Josephine (nee Passanante) Nicotera. He spent his years living between both South Philadelphia and Ocean City, NJ. Robert graduated from Bishop Neumann High School, Class of 1969. Robert spent 6 years enlisted in the United States Navy. He then went on to continue his love of the ocean by serving for 43 years with the Coast Guard Auxiliary. Robert worked with his father in their family-owned business, Joe's Auto Clinic and Son, for which he took over, continuing to be a legacy amongst his South Philly family and friends. Robert was a Ham Radio operator, "KB2ERL", which he utilized to assist with communications for numerous volunteer services, such as the MS 150 cycling event from Philadelphia to Ocean City. He was also a member of the Somers Point Office of Emergency Management and had a strong passion for fishing. Surviving are his children: Kristen (nee Nicotera) Stamato (David) of Riverton, NJ; Robert Nicotera (Kate) of Seaville, NJ; Steven Nicotera of Seaville, NJ; and Caroline (nee Pompetti) Spross (Gary) of Souderton, PA. Also surviving are his seven grandchildren: Lana, Calista, Bobby, Leah, Ava, Mia and Carson.

James Day, age 79 years of Hatfield, PA passed away on December 25, 2021. Husband of 51 years to Patricia Ann (Welch) Day, Father of Kelly Ann Day (Johannsen) and Stephen Matthew Day. Grandfather to Olivia Johannsen, Jack Johannsen, James Day and Annika Day.

James attended Roxborough High School class of 1961, Williamson College of the Trades (carpentry) and earned a BS Degree in Computer Science from Philadelphia University. He served 4 years active duty in The United States Marine Corps from 1963 thru 1967 and had one tour of duty in Vietnam 1964-1965.

He retired from Philadelphia Electric Company in 1995. He was a member of Covenant Presbyterian Church, Harleysville. James is a Past Master of Concordia Lodge #67, Jenkintown PA and an Active Member of Charity Lodge #190, Jeffersonville PA. as well as the Phil--Mont Mobile Radio Club.

James was a life member of many organizations. The Williamson College of the Trades Alumni Association, VFW Post 32 Lansdale, Disabled American Veterans (DAV) Chapter 25, The American Radio Relay League (ARRL) call sign WA3QED, First Marine Aircraft Wing Association Vietnam Service, Marine Corps Heritage Foundation, National Rifle Association and the National Street Rod Association. He was especially proud of his restoration of a 1931 Chevy 2-Door Sedan.



James Day - WA3QED (SK)

The Last Page



The Blurb wants to hear from **YOU!**

Got a hot lead on antenna design? Soldering up a special circuit? Digging some new DSP? Reminiscing about some retro receivers? Maybe you have some goodies for sale.

Click the big blue envelope and [tell us your tale!](#)

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