



# PCARA Update



Volume 22, Issue 12 Peekskill/Cortlandt Amateur Radio Association Inc. December 2021

## Cool meeting, warm meals

The November **PCARA Membership Meeting** was held in the Cortlandt Town Center Community Room (CUE Room) in Mohegan Lake, NY on Saturday November 6, 2021 at 9:00 a.m. We had a fantastic turnout of 16 members and the room was a balmy 55°F, which helped to keep folks awake during my exhilarating report.

The meeting began with a **PCARA Foxhunt Certificate** presented to Malcolm NM9J who was successful at locating the fox hidden by Al K2DMV at the October 23 PCARA on-foot Foxhunt in FDR State Park. Through his skills, Malcolm earned the privilege of playing the role of the fox in the next foxhunt. Congratulations Malcolm! Discussion was held on a future hunt trying a search-and-rescue format. Fixed stations would share directional bearings to a central command and the position of the fox would be triangulated based on station locations and shared data. Let's give it a try.



*Foxhunt certificate presentation at the November meeting.*

We were joined at our meeting by **Dr. Joe DeCicco**, Career and Technical Education Instructor at the Putnam | Northern Westchester Board of Educational Services (BOCES) Pines Bridge Campus. Lou KD2ITZ had approached BOCES about a program for the students related to or involving amateur radio and was subsequently put into contact with Joe. PCARA will provide Joe whatever resources he may need in developing his program(s). We are grateful to BOCES and Joe for this opportunity to share amateur radio with



*PCARA Breakfast returned to Uncle Giuseppe's on Nov 20.*

young minds.

**Nominations and elections** for the Board of Directors were held. It was moved and seconded that the current members up for election be nominated and serve for another 2 years. Upon the vote, those nominated for President (Greg KB2CQE), Secretary (Lou KD2ITZ) and Director (Mike W2IG) were re-elected unanimously. Next year the other two Director positions of Vice President and Treasurer will be up for re-election.

Mike W2IG who coordinates the **PCARA V.E. Test Sessions** reported that we have had a very fruitful year with regard to successful candidates. The next PCARA VE Test Session will be held in January 2022, indoors at the John C. Hart Memorial Library in Shrub Oak, NY. Spread the word!

The celebrated **PCARA Breakfast** returned to Uncle Giuseppe's Marketplace on Saturday November 20, 2021 at 9:00 a.m. We had an *Continued on page 2* ⇨

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enthusiastic turnout of 18 souls and the energy was palpable! Before I knew it, two hours had flown by! We had a couple of new faces and potential new members. We continue to grow. Outstanding – Excelsior!

Another tradition has returned – the **Annual PCARA Holiday Dinner** will be held on Sunday December 5, 2021 at 5:00 p.m. at the Cortlandt Colonial Restaurant in Cortlandt Manor, NY. The cost is \$45.00 per head which includes entrée, soft drinks, cake, and coffee (adult beverages extra). Menu details can be found in this month's edition of the *Update*. If you are interested in attending, RSVP to Lou KD2ITZ at: radiocassette'at'gmail.com. Hope to see you there.

The calendar for 2022 is starting to fill up. Here are some upcoming events:

- Sunday January 9, 2022: **Annual PCARA Bring and Buy Auction** at the Cortlandt Town Center Community Room (CUE Room) in Mohegan Lake, NY at 3:00 pm. Bring along your boat anchors.
- Saturday January 22, 2022: **PCARA Breakfast** at Uncle Giuseppe's in Yorktown Heights at 9:00 am. Bring along your appetite.
- Saturday January 22, 2022: **PCARA V.E. Test Session** at the John C. Hart Memorial Library in Shrub Oak, NY at 11:00 am.

So, just like that, 2021 comes to an end... To ALL, I wish a MOST JOYOUS HOLIDAY SEASON and a VERY HAPPY, HEALTHY, AND BLESSED NEW YEAR. Until we meet again may God Bless!

- 73 de Greg, KB2CQE

## PCARA Board

President:

Greg Appleyard, KB2CQE; kb2cqe 'at' arrl.net

Vice President:

Bob Tarsio, N2CBH; bob 'at' broadcast-devices.com

Secretary:

Lou Cassetta, KD2ITZ; radiocassette 'at' gmail.com

Treasurer:

David Fredsall KD2EVI; joanndavidss88 'at' verizon.net

Director:

Mike Dvorozniak, W2IG

*Vice President Emeritus: Joe Calabrese, WA2MCR.*

## Net night

Peekskill/Cortlandt Amateur Radio Association holds a roundtable net on Tuesday evenings at 8:00 p.m. and a directed 'Old Goats' net on Thursday evenings at 8:00 p.m. Both events take place on the 146.67 MHz W2NYW repeater, offset -0.600, PL 156.7 Hz.

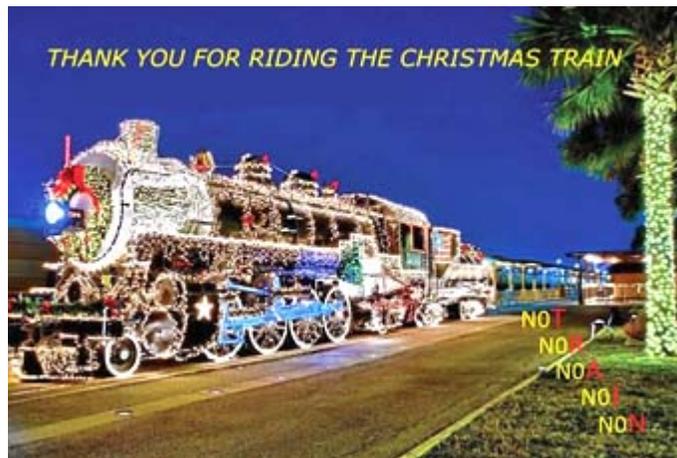
Join the roundtable to find out what members

have been doing or join the Old Goats with net control Karl N2KZ for news and neighborly information.

## Holiday Train

The **Christmas Train Special Event** will be on-air from December 23 to 26. Five engineers will be operating on 80 through 10 meters including the WARC bands using the special event call signs: NØT, NØR, NØA, NØI, & NØN. The Christmas Train is organized by Randy KØRWB from Bates City, MO.

Armando KC2EES will be on-air from Yorktown Heights using the call sign NØN. Be sure to call him and the other stations to exchange signal reports and holiday greetings!



- Lou, KD2ITZ

# Adventures in DXing

- N2KZ

## The Time Has Come

December 11th and 12th, 2021 will become historic days in the world of amateur radio. We are about to celebrate the centennial of the first successful tests to verify the use of ham radio as a means of reliably exchanging messages with fellow amateurs on the other side of the Atlantic Ocean. We expect this event will be nothing short of spectacular!

In a nutshell, the transatlantic experiment became reality when

America's finest seasoned amateur radio operator, **Paul Godley**, was sent to Scotland to establish a state-of-the-art listening station using the finest equipment available. Tents were erected and antennas were built along the beach in Ardrossan.



*Paul F. Godley, 2ZE, radio reception expert and member of ARRL's Advisory Technical Committee, pictured in 1922.*

Scheduled tests were arranged and miracles happened. The message all the way from Greenwich, Connecticut was received! A century later we still celebrate!

In past years, local amateur Clark Burgard, N1BCG of Greenwich, Connecticut has organized concise annual tributes to this occasion to remind our community of the breakthroughs achieved back in the winter of 1921. (The Greenwich station that originally spanned the ocean, 1BCG, is now memorialized in Clark's call sign as it echoes these days gone by. For a detailed summary of the miracle in 1921, please see the April 2021 edition of *PCARA Update*.)

Interest has blossomed now that we have finally reached the one hundredth anniversary of the tests. More and more groups, on either side of 'The Pond,' have planned tributes unbridled in their enthusiasm! I created a concise compendium of all of the coming events and participants to aid your enjoyment this month:

## PAUL GODLEY TRANSATLANTIC CENTENNIAL EVENT CALENDAR

**Historic website:** <https://www.transatlantic.org.uk> and <http://www.internetnetwork.com/radio/n1bcg/>

**Clark N1BCG summary of events:** <https://forums.qrz.com/index.php?posts/6016880/>

Most transmissions will be **CW** only.

Most transmissions will be on the lower end of the 160 meter band (1800 to 1850 kHz suggested.)

**December 1 - 26**, a special event station, GB1002ZE and GB2ZE (2ZE was Paul Godley's call sign,) will be on the air presented by the Crocodile Rock Amateur Group near Ardrossan, Scotland. In addition to the radio celebrations, North Ayrshire Council (in collaboration with CRAG) have jointly created an exhibition surrounding this centenary which will be hosted in the North Ayrshire Heritage Centre, Saltcoats. This exhibition opens from November 1st through to Mid-December 2021.

The 2021 ARRL 160 meter contest will be held from 2200 UTC Friday night **December 3rd through 1559 UTC Sunday December 5th**. The Radio Society of Great Britain (RSGB) will activate special event 1920s vintage call signs during the contest to commemorate the transatlantic tests.

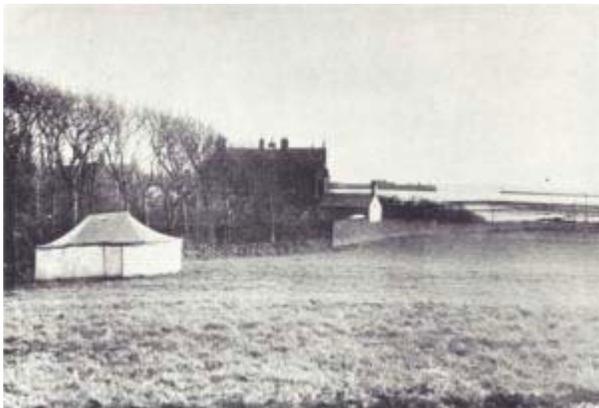
**Starting December 11th through the end of the month**, W1AW at the ARRL headquarters in Newington, CT will be issuing commemorative transatlantic QSL cards. On-air December 11 - 1400 UTC to December 12 0200 UTC. US stations should QSL with a SASE; international stations should QSL via the Bureau.

**Saturday December 11 0250-0300 UTC** will be the exact time of the centennial. The message: "No. 1 de 1BCG. W-12 (Words 12) New York Date 11/12-21 To Paul Godley Ardrossan Scotland Hearty Congratulations Burghard Inman Grinan Armstrong Amy Cronkhite" will be sent from Greenwich to Ardrossan (and hopefully received!)

The ARRL will host the 160 meter Transatlantic Centenary QSO Party from **0200 - 0800 UTC on December 12th**. Stations W1AW ARRL Newington, CT and GB2ZE RSGB Scotland will be on the air 0200-0800 UTC December 12. W1AW will be operating CW and phone until 0200 UTC on December 11 to maximize the number of participating stations, so not all transmissions will be CW only.

The Kilmarnock and Loudoun Amateur Radio Club of Ardrossan, Scotland will be awaiting messages on North Crescent Road along the beach from **1200 UTC Saturday December 11 to 1200 UTC Sunday December 12**. This will be a special event station adjacent to the original

location of the Paul Godley experimental station at Ardrossan, Scotland (circa 1921.) Callsigns to be used: GS2ZE (license holder Jason GM7VSB) and GB1002ZE (license holder Bob GM0DEQ.) Look for them on CW, SSB and data modes on bands between 160m and 10m. An attempt will be made to re-enact Godley's original successful reception of transatlantic signals exactly on the same time and date as 100 years ago.



2ZE's receiving station tent in Ardrossan, 1921. [RSGB]

**1821 kHz (+-) W2AN/1BCG Vintage Radio and Communications Museum of Connecticut, 115 Pierson Lane, Windsor, CT. QST ONLY - NO RECEIVE. Every 15 minutes between 2300 UTC December 11 and 0445 UTC December 12** will be using a replica transmitter at 200 watts approximately connected to an inverted-L antenna. The Antique Wireless Association will display the replica transmitter Saturday afternoon, December 11 — open to the public. There will also be an all-day YouTube channel (schedule TBA) Reception certificate requests to: 1BCG'at'AntiqueWireless.org .



Joel W3ZT tests the 1BCG replica transmitter constructed by volunteers of the Antique Wireless Association. Open layout uses a 204A tube as oscillator and another as PA.

**1825 kHz (+-) W2RCA Radio Club of America (from K1KI - West Suffield, CT) Evening of December 11**

**into December 12** will be sending a one-way transmission at precisely 0252 UTC December 12 to re-enact the transmission first heard by Paul Godley 100 years ago. A special certificate for listeners will be available at the RCA website: <https://radioclubofamerica.org/>

The GMDX Group of Scotland - Ardrossan, Ayrshire - will be listening for North American transmissions. Barry GM3YWH will be serving as station manager at Ardrossan.

'MEDIUM WAVE': Transatlantic Centenary / 630 Meter Operating Event - 472.5 kHz beginning at 2100 GMT December 11

Use software defined radios on-line to listen in with a Scottish perspective... SDR at Stafford, Central England: <http://www.160m.net> and at RAF Hack Green, Nantwich, Cheshire: <http://hackgreensdr.org:8901/>

It should be quite a night! Make sure you listen in!



### Head South!

Retirement is lurking close at the QTH of one N2KZ! Looking for a new place to live puts your mind into high gear. Get ready for adventure! We all have our priorities: How is the climate? Does the area ever suffer severe weather? How has the performance of real estate investments been? How are the school districts? Are stores and airports nearby? Are places to have fun within reach? How active is the community? Do they play golf and tennis?

Some of us have additional urgent queries: Does your AM car radio come alive when you drive into a neighborhood? Would the Atlantic Ocean make a good ground plane for 160 meters? Are there active ham radio clubs in the area? Number one on my list is always peaceful propagation! Have I found it?

My wife and I journeyed to Charleston, South Carolina with big eyes and keen interest. Charleston Air Force Base / International Airport (KCHS) is a joint civil and Air Force facility known as Joint Base Charleston. As our Embraer ERJ-190 twin jet touched down, we taxied right past their impressive VORTAC - a combination of civilian VOR (a VHF Omnidirectional Range navigation system) and military TACAN (a Tactical Air Navigation system,) although the TACAN can also serve dual purpose as a DME (Distance Measuring Equipment) for civilian aircraft. Adjacent to this busy airport



Charleston AFB VORTAC. [N2KZ pics.]

is a leviathan Boeing assembly plant where 787 Dreamliners are built and tested. What a combination of activity! Quite a treat for air enthusiasts like myself!

Upon arrival, my first challenge was taming the rental car's radio. Our provided vehicle was a late model Nissan Altima. It included a fairly non-intuitive touch screen user interface that defied logic and defied my fingers! Often, multiple presses of buttons were needed to make tasks behave. After a few minutes of experimentation, broadcasts could be heard from the dashboard. I was ready to roll!

Our first stop was a popular tourist attraction, Magnolia Plantation, just outside of town. You could spend days exploring all 464 acres — home to a wild variety of environments, wildlife and vegetation. Beautiful magnificent gardens and endless varieties of wildlife filled our minds with fascination and wonder. You have to stay alert and on your toes. In South Carolina's Low Country you might encounter an alligator at any moment. A great — big — alligator! They live here, loose and free to wander, outside in the wild and they are a lot bigger than you!



*Magnolia Plantation alligator.*

All of this natural beauty and architecture has a dark side. Established back in 1676, Magnolia Plantation held as many as 235 enslaved people as their workers. While the owners, the Drayton family, luxuriated in their stately mansions and expansive grounds, their slaves were packed into the confines of little white huts fitted with a fireplace and little else.

A most memorable moment was during a tour called "From Slavery to Freedom." Our tour leader, Joseph McGill, Jr., asked what was the hardest question he ever has to answer: "Were the Draytons good slave owners?" The crowd fell silent. Quite a rough moment. How can plantation owners who enslave people be thought of as "good?" We all sat there and thought about that lesson. It was a moment to remember. My wife and I were humbled and honored to hear his thoughts that brought the legacy of the plantation to life for all who attended. Read all about Mr. McGill and his work at: <https://slavedwellingproject.org>



*Joseph McGill Jr. outside one of the slave dwellings at Magnolia Plantation, Charleston SC.*

### **Back to the Radio**

I knew nothing about local radio in South Carolina. Out of force of habit, I first tuned to 880 kHz in the Magnolia Plantation parking lot. I couldn't believe my ears! It was 11:15 am and I could hear WCBS Newsradio 880 on a car radio about 650 miles away. Medium wave certainly can travel efficiently over an Atlantic Ocean salt water path!

Charleston and surrounds are known as "The Low Country," just barely above sea level. A high point might only be 20 or 30 feet in elevation. One of the legendary great crops cultivated here is long-grain rice. You'll find vast expanses of marshland filled with wildlife, tall grass and everything you could ever imagine. Beauty and serenity abound with so much to see and discover!



*South Carolina Low Country.*

Now to our perspective... A swamp also equates to the world's finest ground conductivity. Can it be any better? Yes! Add very close proximity to The Atlantic Ocean. If you love low bands like 80 and 160 meters, medium wave broadcast DX and long wave reception you just might refer to the South Carolina Low Lands

as “Heaven.” Want to hear an AM radio station from 650 miles away in the daytime? This might be a wonderful place to try!

Everyday daytime AM reception was curious. South Carolina seems to be too distant from Cuba to have their stations as a pest. Compare this to Southern Florida where Cuban broadcasters are omnipresent day and night. I found my daytime stretch indicators were grasping 50 kilowatters WSB 750 Atlanta, WBT 1110 Charlotte, North Carolina and WSM 650 Nashville.

One interesting lesson I had was how different and unpredictable hotel rooms could be when it comes to DXing ability. Our first of two seaside hotels was the Holiday Inn Resort Beach House on Hilton Head Island. We had a third floor room with a balcony facing the beach and the radio reception was better than average.

At night, I could hear everything you would expect from about a 1000 mile radius around. New York, Toronto, Chicago, St. Louis and beyond were all delivered to my little Sony portable radio without effort while peering over the balcony. I even managed to DX weather radio stations on 162 MHz as far away as WXJ-60 Gainesville, Florida 200 miles from our QTH.



South Carolina beach hotel.

Later on, we stayed at the Marriott Hilton Head Resort this time from a sixth floor balcony again facing the water. It was truly like hanging from a sizable tower. It had a beautiful view, especially at dawn, but absolutely, positively no radio reception at all. It was immediately obvious that I was sitting within an old-school, plaster, lath and steel frame building with no hope that any RF would ever reach me. Indeed, reception was far better when walking down the beach at sea level than 60 or more feet up surrounded by steel. My friend Chris Kadlec recently published a comprehensive guide to on-the-road DXing:

<http://www.chriskadlec.com/radio/articles/mobile>. You'll find very useful hints and tips within!

How about ham radio? I brought my trusty 4th-hand Uniden all-purpose BC80XLT scanner to survey the area. In all the time I was in South Carolina, no

matter where I was, I would incessantly scan 2 meters and 70 centimeters for even the slightest hint of amateur radio activity. Maybe this was a classic case of ‘wrong place — wrong time’ but I never heard even a trailing peep of a repeater ID. Not one amateur radio voice was heard on VHF or UHF! If I could log a weather radio station 200 miles away, I should be able to hear local ham radio repeaters... but no dice (at least during this trip.)

South Carolina has a much different personality for amateur radio operation than the Northeast but a



lot of potential exists within! Several area amateur radio clubs can be found through a simple Internet search.

One even mentions on-air meetings on Wednesday and Sunday nights. When was my visit? Thursday through Saturday! I guess I can try Echolink or e-mail to discover more about the area. Time will tell! Many retirement developments have strict rules regarding outdoor antennas and South Carolina is no exception. Is there a cure for these restrictions? Read all about sneaky stealth antennas in the October 2021 edition of *PCARA Update*.

The search continues and the adventures await! We will be reporting in the pages of *PCARA Update* as things proceed! Have a very happy holiday season and we will see you again just before the new year.

73 es dit dit de N2KZ “The Old Goat.”



# Field Day Results 2021

## Last year

Because of COVID-19 restrictions, ARRL relaxed the rules for Field Day 2020. This allowed Class D (home) stations to work all other stations and for individual entrants to then credit their scores to a club, so an aggregate score could be calculated. In 2020, fourteen members nominated PCARA as their radio club, producing an aggregate score of 6,152 points.

## This year

ARRL Field Day 2021 took place over the weekend of June 26-27, 2021. By then vaccines had become available, restrictions on gathering in public places had been relaxed and PCARA made a return to the grounds of Walter Panas High School. Some 25 members contributed to a great weekend of radio activity, with a 3-element wire flame-thrower for



40 meters designed by Jay NE2Q, the first outing for PCARA's recently-acquired telescopic tower — and an on-site V.E. Test Session. See *PCARA Update* July 2021 pp 9-13 for a full report.

Results from ARRL Field Day 2021 were published in the December 2021 issue of *QST* with the full database appearing on ARRL's web site on November 24. [A special thank



Tower and triband beam.

you to ARRL Contest Program Manager Paul N1SFE for informing your editor about the results database.]

PCARA's 2021 Field Day entry in Class 2A resulted in a record **1366 QSOs** and a record total score of **3662 points**. These results were transmitted electronically to ARRL by Joe WA2MGR. They are shown below along with results from previous years when PCARA had a Class 2A station.

### Peekskill/Cortlandt ARA, W2NYW, Class 2A

	2002	2003	2004	2005	2007	2008	2009	2011	2012
QSOs:	718	733	968	853	1019	1109	694	879	968
Power:	2 (<150W)								
Partcpts:	15	11	12	10	14	10	10	14	15
Tot sc:	2,096	2,328	2,996	2,798	2,906	3,460	2,746	2,602	2,920

	2013 (1A)	2014	2016	2017	2018	2019	<b>2021</b>
QSOs:	775	722	816	813	731	829	<b>1366</b>
Power:	2 (<150W)						
Participants:	14	16	19	22	22	29	<b>25</b>
Totl score:	2040	2460	3018	2734	2886	2764	<b>3662</b>

Several neighboring clubs decided **not** to hold a traditional Field Day event this year and instead continued with aggregating scores for their own Class D stations. Some clubs held a traditional Class A portable Field Day event *and* aggregated their own Class D station scores as well. This makes an apples-to-apples comparison rather difficult — but here is a listing of near neighbors and their aggregate scores, along with the *non-aggregate* scores for PCARA and Yonkers ARC.

Club	Aggreg. Score	Entries
Westchester EmCom Assn	12,856	3
Orange County (NY) ARC	9,372	13
<b>[Peekskill/Cortlandt ARA]</b>	<b>3,662</b>	<b>[1]</b>
[Yonkers ARC]	2,288	[1]
Putnam Emergency ARL	2,116	6
QSY Society	1,422	2

Congratulations to WECA on their high score — most of which came from their traditional Field Day effort. Here are the *non-aggregated* results for all the top-scoring stations in **Eastern New York (ENY) Section of ARRL's Hudson Division**.

#	Call	Score	Cat.	QSOs	Club
1	N2SF	11,344	4A	3,083	Westchester EmComm Assn
2	N2LBR	5,342	2D	1,298	N2LBR Contest Team
3	W2C	5,100	5A	1,175	Warren County (NY) RC
4	K2CT	4,930	3A	1,118	Albany ARA
5	K2UF	4,594	1D	1,136	Broughton Memorial FD Gp
6	W2HO	4,252	4A	862	Orange County (NY) ARC
7	<b>W2NYW</b>	<b>3,662</b>	2A	<b>1,366</b>	<b>Peekskill / Cortlandt ARA</b>
8	K2DLL	3,478	3A	687	Saratoga County ARA
9	K2FO	2,646	2A	834	Tri-County ARA (NJ)
10	WD2K	2,598	3A	486	Rip Van Winkle ARS
11	K2SUL	2,588	5A	240	Sullivan County ARES
12	WB2FUV	2,500	1B batt	225	Hudson Valley Cont & DX
13	K2ARE	2,428	2D	939	Broughton Memorial FD Gp
14	N2LL	2,372	5A	489	Overlook Mountain ARC
15	NM2R	2,338	1D	572	Broughton Memorial FD Gp
16	W2YRC	2,288	3A	492	Yonkers ARC

In 2021 PCARA was:

- **First** out of two entries in Category 2A, ENY section.
- **Seventh** out of 90 in all of ENY section.
- **Second** out of 10 in Category 2A, Hudson Division.
- **18th** out of 220 in the entire Hudson Division.
- **41st** out of 277 in Category 2A nationwide.
- **343rd** out of 5878 total entries listed.

Most of these results represent a substantial improvement over PCARA's positions in 2019.

- NM9J

# The Morse Machine

- W2VJ

Do you need a little help getting up to speed with Morse Code? If so, a piece of ancient technology may be just the thing for you.

Thirty years ago, when I was studying to upgrade to Extra, I needed to get my code speed from near nil

up to 20 wpm. I hadn't sent or received code in years, and I didn't believe that listening to cassette tapes or W1AW

would be enough to get me there. My ham-radio Mecca at the time was Barry Electronics in Manhattan, and they had just what I needed.

The AEA Morse Machine, Model MM-3, is a memory keyer and a whole lot more. Even if you don't need a keyer for your rig, think of this as a personal trainer. You can set it to send words or random 5-letter groups at the speeds of your choice. Most amazing to me is that you can practice entire QSOs with the MM-3. Just send off a CQ with your call sign, and you'll be simulating the exchange of

greetings, signal reports, names and locations, and more.



Rear of the MM-3 Morse Machine has connections for power, serial port, phones, straight key or paddle and positive or negative keying for the transmitter.

The MM-3 hasn't been manufactured in years, but they show up on eBay from time to time. At this writing, there's one available for \$119 plus \$13 shipping.

There are two videos on YouTube, and 18 reviews with a perfect 5-star rating on eHam.net. The manual is available at <https://www.dl0bn.de/dc7xj/Anleitungen/AEA%20MM-3%20Instruction%20Manual.pdf>. The holidays are just around the corner!

- Verle, W2VJ

[Just in case you cannot find an AEA MM-3 Morse Machine for sale, there are modern trainers available including the MFJ-492X Memory Keyer, the MFJ-418 Code Tutor, MF-414 Classroom Morse Tutor and the Hamcrafters Morse Tutor Keyer Kit V2. There are also very many online and software-based training solutions available through the Internet. See reviews on eHam.;, <https://www.aham.net/reviews/-Ed.>]



**The Morse Machine**  
The Ultimate Keyer from AEA

The Morse Machine has all the features you've been asking for in a high performance keyer like 2-99 WPM speed selection and over 8,000 characters of memory that can be stored as 20 memories. The 20 memories are self-programmed so that your stored messages may be as short or long as you like. Memory can be expanded to hold up to 16,000 characters. Of course, all memory is backed up by an internal lithium battery so that once a message is loaded, it will stay there until you write over it.

Whether you're an expert or a novice, The Morse Machine has three ways to help you improve your code:

- A proficiency trainer, the same as the one used in the MorseMate, allows random code group practice with steadily increasing speed.
- A random word generator that randomly generates 4 letter words for a three minute practice session.
- A QSO (two QSO simulator based on our program for the Commodore 64 computer. You can call other stations, answer a CQ, or just sit back and listen to realistic QSOs very much like those you would hear on the air.

The Morse Machine is a full featured keyer for the serious contest, with automatic serial number insertion and incrementing to any arbitrary message. You can set the front panel knob to adjust your sending speed or even a precise speed with the keypad, ranging between the two at any time. Exchanges can be speeded up by having parts of your message sent at a higher speed. You can also add moment switches for 4 of the memories so that you can instantly send your responses or call CQ.

A computer can be interfaced to The Morse Machine through its RS-232 compatible I/O. Any front panel function may be programmed by the computer. This makes loading memories as simple as typing them in from your keyboard. The Morse Machine can display your random code, or QSO practice sessions on the computer screen.

The Morse Machine can be programmed to be an automatic beacon. This can be used to automatically repeat a Morse (or RS-232 ASCII) message at a programmed interval of 1 to 999 seconds.

See your AEA dealer today for a demonstration of The Morse Machine or contact:

**Advanced Electronic Applications, Inc.**  
P.O. Box C-2595 Lynnwood, WA 98036  
206-773-7373

Advanced Electronic Applications (AEA) advert in QST for October 1989.

Advanced Electronic Applications (AEA) advert in QST for October 1989.



AEA's MM-3 Morse Machine is a Morse trainer, memory keyer and CW beacon. The code proficiency trainer generates random groups with increasing speed. There is also a QSO simulator and contest simulator. The keyer can be set from 2 to 99 wpm with 20 message memories. [W2VJ pics.]

# Essential<sub>2</sub> hooking

This month's "Essential<sub>2</sub>" column is *not* about sky hooks or anglers, but about devices that keep our world bundled together, tight-laced, in place and secured. We are talking about **hook and loop fasteners**.

## Swiss beginnings

The story begins with George de Mestral, born in Lausanne, Switzerland in 1906. His first patent was obtained for a toy airplane that he designed at age 12. He studied engineering at the École Polytechnique Fédérale de Lausanne and took a job in the machine shop of a Swiss engineering company.

In 1941 Monsieur de Mestral was on a hunting trip through the Jura Mountains with his Irish Pointer dog. Back home he noticed that his



George de Mestral and dog Meka.

trouser legs and dog's ears were covered in prickly seed heads of either the cocklebur or the wild burdock plant. These burrs are difficult to remove, a property that al-



Burdock burrs with hooks.

lows the seeds to be widely dispersed by passing animals.

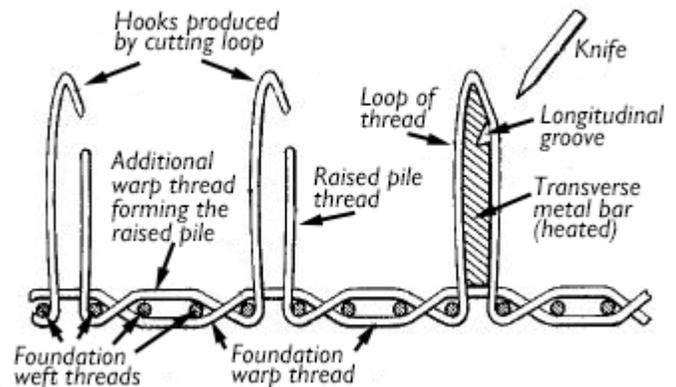
George de Mestral was intrigued and examined the burrs under a microscope. The hundreds of prickly spurs on each burr were hook-shaped at the tip, allowing the seed pods to cling to the loops of fabric in his wool trousers and to his dog's tangled animal fur. De Mestral realized that if he could create a fabric fastener that acted like the burrs, it would be more convenient than buttons, snaps or a zipper. This was the birth of hook and loop fasteners.

## Development

M. de Mestral worked with a weaver in the French city of Lyon and a loom-maker in Basel to reproduce nature's sticky hook design. They began with cotton fabric, but it was too weak and too thin to provide adequate grip between hooks. A fortunate supply accident proved that **nylon thread** was a better material to form the tough hooks on the 'burr' side of a two-part fastener tape. Nylon had only been invented a few years earlier in 1935 by Wallace Carothers and his team at

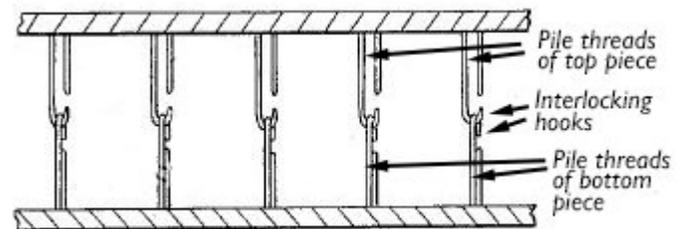
DuPont. See "Essential<sub>2</sub> socks", *PCARA Update*, June 2010, pp 4-6.

In 1952 George de Mestral set up a new company in Fribourg, Switzerland named **Velcro S.A.** to manufacture hooked fasteners. The name is derived from the French *velours* meaning velvet and *crochet* meaning (small) hook. He had applied for a Swiss patent in 1951 covering his hooked fastener and this was issued as Swiss No. 295638 in 1954. A similar U.S. Patent was applied for in 1952, and U.S. Patent 2,717,437 was granted in 1955: "Velvet type fabric and method of producing same". In this patent a woven foundation material has an additional warp thread of synthetic material such as nylon introduced in a similar manner to the weaving of standard velvet. The loops of synthetic material are then cut during production to form tiny hooks. By heating the metal bars around which the plastic loops are formed, the loop material is forced to retain its shape.



Woven fabric includes raised pile of nylon threads formed over a heated metal bar then cut with a knife to form hooks. [U.S. Patent 2,717,437.]

The patent points out that by using an identical pair of these types of hooked fabric oriented at 90°, they will adhere strongly to each other when pressed together. By sewing the fabric into the edges of clothing, curtains and other items, the edges can be held together simply by pressing. Note that this is a "hook and hook" fastener, not yet hook and loop.



Two pieces of fabric with their raised pile surfaces facing each other and one piece turned through 90° will cling together. [USP 2,717,437.]

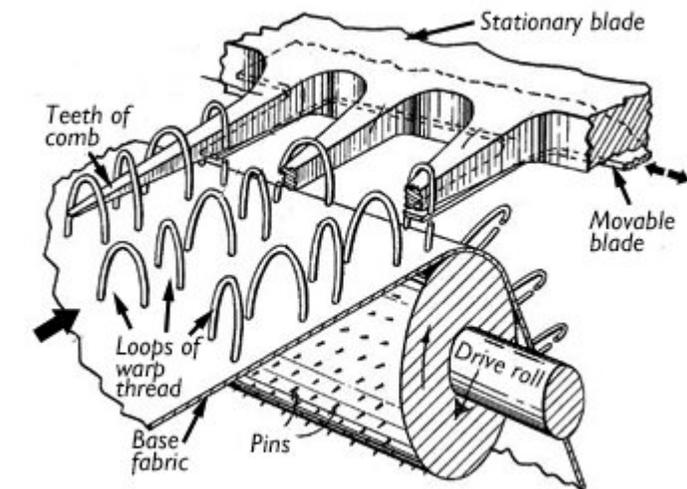
In 1956 the Velcro® trademark was registered in Switzerland, followed by a U.S.A. trademark in 1958.

George de Mestral applied for a subsequent patent in Switzerland in 1957 and in the USA in 1958. U.S. Patent 3,009,235 granted in November 1961 was titled “Separable Fastening Device” and recommends using two different types of fabric material, one with **hooks** on the surface and the other with **loops**, similar to terry cloth. The number of hooks attaching to loops can be increased by changing the height of loops in adjacent rows and by altering the orientation of adjacent loops.



Hair clippers.

According to the patent, hooks are best made of nylon monofilament while loops are made of nylon multifilament, which can be brushed out to produce more loops. After weaving, loops are heat-treated with infra-red radiation so they retain their woven shape. Cutting the loops to form hooks is then carried out by a device similar to a barber’s **hair clippers**. A comb of reciprocating blades moves back and forth alongside the stationary blades, cutting rows of loops on opposite sides.



Woven loops of warp thread are made into hooks by passage over a comb of cutting blades. The movable blade only has half as many teeth as the stationary blade and is moved to-and-fro so that only one leg of each loop is cut. [U.S. Patent 3,009,235.]

Almost twenty years after George de Mestral had his first idea, this process allowed construction of looms and cutting systems for mass-production of hook and loop fasteners. Commercial product became available in Switzerland and other European countries in the late 1950s.

### Teething troubles

The early days of Velcro S.A. proved difficult as few people had a use for this new type of fastener. A licensing deal with **Velok** Ltd of Canada in 1957 allowed Velok to produce Velcro hook and loop tape in the

Americas as well as Asia and the Pacific. Velok agreed to give the Swiss company the rights to all patents it subsequently developed. Velok was successful, eventually merging with Velcro S.A. in 1967, and changing name to Velcro Industries.

George de Mestral thought that fashionable clothing would be a major market for re-closable fasteners. Clothes with Velcro fasteners were introduced in 1958 but they did not really take off. The industry that *did* adopt his products in the early 1960s was

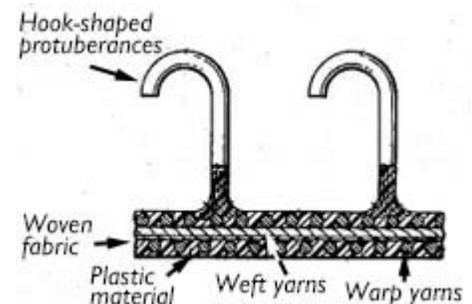


Jackets from the 1958 Sears Christmas Catalog with Velcro front closures that “hold like magic, contain no moving parts, can’t jam or snag.”

**aerospace**, with NASA using Velcro’s hook and loop fasteners in the Apollo moon landing missions to secure food packets, pens and other equipment that should not be floating around the cabin in zero gravity.

### Inject more material

Meanwhile, manufacturing methods were being improved. Velcro S.A. applied for a U.S. Patent in 1961, granted in 1964 as U.S. 3,147,528: “Separable Fastener Element”. Instead of weaving loops of nylon then cutting the loops to form hooks, this method used **injection molding** to force molten nylon polymer through a strip of woven cotton fabric into a mold which forms hooks of nylon that can engage with a suitable loop pile fabric. The mold into which molten nylon is forced under pressure is made

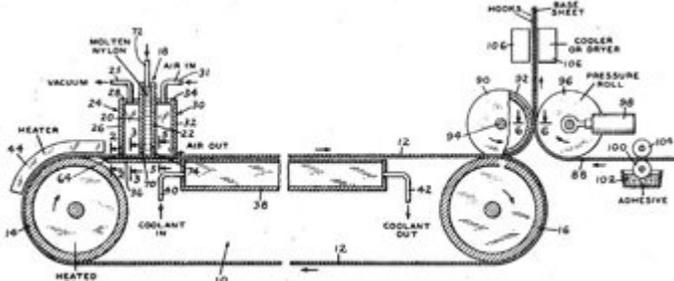


Woven cotton fabric is injection-molded with molten nylon — which is forced through the cotton into molds with hook-shaped cavities. [U.S. Patent 3,147,528.]

up of pairs of split plates with one half of the cavity on each side. This allows mold plates to be split apart for removal of the molded hooks.

In 1967, the Velcro Companies began manufacturing **Continuous Injection Molding (CIM)** plastic molded hook tapes. A continuous injection molding machine is described in U.S. Patent 3,594,863, granted in 1971 to American Velcro’s George Erb. An endless belt of stainless steel moves under an extruder which pushes molten nylon into a set of grooves cut into the

belt. These grooves have molding recesses for the desired hook shape. The extruder nozzle fits into the grooves on the belt so the desired shape of strip with hooks is molded. As the belt emerges from the nylon extruder, it is cooled, the nylon strip is peeled off then pressed against a base sheet coated with adhesive. By modifying the groove design, it is also possible to manufacture continuous strips with loops instead of hooks.



Continuous injection molding machine forms strips of extruded plastic with molded hooks/loops. [USP 3,594,863.]

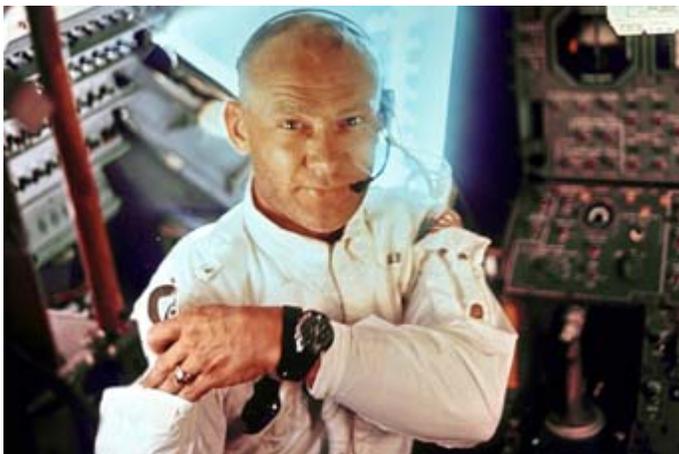
### Growing popularity

In 1968, athletic shoe manufacturer Puma introduced running shoes fastened with Velcro hook and loop straps in place of laces, gaining success in the 1968 Olympics. The closure design also proved popular for children's sneakers — no more need for young fingers to tie laces. Other shoe manufacturers soon adopted the versatile fasteners.



Puma running shoes from 1968 with Velcro hook and loop straps.

In 1969, Apollo 11 landed on the moon, supported by 3,300 square inches of Velcro hook and loop fasteners. Some of the applications included securing instruments to space suits, watch straps, fastening down camera equipment and breathing apparatus.



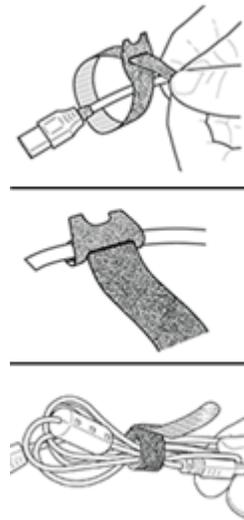
On Apollo 11, Buzz Aldrin shows his Omega watch with Velcro strap, capable of being worn outside a space suit. [NASA.]

George de Mestral's U.S. patent 3,009,235 for hook and loop tape issued in November 1961 expired seventeen years later in 1978. As a result, other manufacturers could now compete with Velcro. This spurred Velcro to look for additional applications beyond the worlds of fashion and shoe manufacture. One area explored was **automobile** production, where Velcro's fasteners could secure door panels without rattling and hold down carpets and seat fabrics. Similar fabric fasteners are also used in aircraft.

### Radio Velcro

Nowadays there are numerous applications for Velcro's hook and loop technology, from the cuff on a blood pressure analyzer to the high-temperature stainless steel fasteners developed for the Space Shuttle. Here we'll concentrate on applications that might find a place in the radio shack.

One of the surprising things about wireless is how many wires it needs — and one of the main reasons to use hook and loop products around electronics is for **cable management** in the form of **wire and cable ties**.



How to use Velcro One-Wrap cable ties.

wrapped. A short video showing how to use Velcro One-Wrap ties is available here: <https://youtu.be/5R-Ck-Wuaz1Q>.

I may have ordered



Velcro® Brand One-Wrap® ties are available in a variety of colors. They are adjustable and reusable, to accommodate additional cables. The correct way to install these ties is by inserting the rounded end through the hole in the strap, pulling tight around one cable, then wrapping the tie around all the cords and back onto itself to secure.

The pre-cut ties have molded hooks on the inside surface and loops on the outside so both surfaces cling together when



Close-up of last 1/4" of a green Velcro cable tie with molded hooks on top, loops below.

hundreds of similar Panduit Tak-Ty™ cable ties for various LAN projects. Some cable tie manufacturers such as APC have a different design with a ribbon loop at one end for passing the cable through — this is less convenient as the loop would be too small to pass a PL-259 or RJ-45 connector through.



Velcro One-Wrap cable ties keep a coaxial cable neatly coiled up.

An alternative to individual ties are continuous lengths of hook and loop tape which can be cut to length, for example Velcro One-Wrap® Straps. This type of product can be used on large bundles of cable that are too fat for a typical 8-inch pre-cut tie. They can also be used to hold cylindrical objects together such as antenna tubing, masts, ground rods, fishing rods, sleeping bags, lumber, bundled coax and guy rope. You might even attach an antenna mast temporarily to a fence post or to a bush using wide Velcro strip. The following YouTube video shows how to put One-Wrap straps to use: <https://youtu.be/Yvoje1-Mtac> .



Velcro One-Wrap® Roll has 12 feet of cut-to-length bundling strap.

Any time you have a loose bundle of cable, cord, rope or twine that threatens to become tangled, you can use hook and loop fasteners to organize it neatly.

### Stick-em up

The first installation of amateur radio equipment in the International Space Station used Velcro hook and loop material to secure equipment to the wall of the Service Module. (*QST*, May 1999, p 72.)

It's not just NASA that needs to fix equipment in place so it does not drift around. Another use for Velcro hook and loop fasteners is in the mobile station or radio shack for temporary or permanent location of items on vertical surfaces.



British-born Michael Foale, KB5UAC tests out the Kenwood TM-D700E secured to the International Space Station wall along with flashlights and other items in 2003. [NASA.]

Your E-ZPass transponder is held securely against the windshield with 3M™ Dual Lock™ re-closable fasteners. Other items can be secured inside the vehicle with similar adhesive-backed hook and loop fasteners. If you have a mobile transceiver with detachable control head, the head can be fastened to a convenient spot on the dashboard, with the microphone hanger mounted alongside. CW operators can fasten their keys onto a suitable surface so they do not move around.

Velcro Sticky Back squares, strips and coins can be used for this type of application in car and home. They can fasten labels, signage, tool-holders, calendars, maps, remote controls, pens and pencils to vertical surfaces including walls and doors. Go-boxes can also make use of hook and loop strips to secure microphones, power bricks and other small items during transport.

Heavy duty versions of these fasteners are capable of holding up to 10 lbs. The Extreme Outdoor versions can hold up to 15 lbs on rough surfaces. In the opposite direction there are removable versions capable of holding 5 lbs on painted and smooth surfaces.

### Adjustable apparel

Hook and loop closures are sewn into PCARA's "Otto" baseball caps to adjust the size, into ARRL's soft-shell jackets to adjust the cuff tabs, into reflective safety vests to close the front and into handi-talkie 'leather' cases to adjust the strap size.

### Remember my name

Velcro's lawyers really do **not** want you to use their registered trademark as the generic name for any old hook and loop fasteners that you might employ around your station... see this YouTube video for the reason why: <https://youtu.be/rRi8LptvFZY> .

- NM9J

# A visit to Samuel Morse's house - Masa JR1AQN

A tour of the stunning heritage house at Locust Grove Estate, Poughkeepsie, NY.



[Masaaki Maeda JR1AQN wrote this article about Samuel Morse's Locust Grove Estate for non-amateur readers of the Japanese magazine *Telecommunication*. It was translated into English by Benjamin Freedman for members of the Japanese Chamber of Commerce and Industry, NY (JCCI). -Ed.]

## Introduction

The advent of telecommunications in Japan can be traced back to 1854, when Commodore Perry presented the "Embossing Morse Telegraph" to the Tokugawa shogunate\*. On October 23rd, 1869, engineers began the construction of the telegraph line between Tokyo and Yokohama, and this date has become memorialized as Japan's "Telegraph and Telephone Day". Initially, communication over this line was conducted via the Breguet needle telegraph, but this method was later replaced by Morse Code.

\*[Tokugawa shogunate = military government of Japan prior to 1868 - Ed.]

Among the various key phrases communicated over these lines, "SOS" — a plea for help, often used in conjunction with CQD "All Stations distress" — has arguably become the most embedded in popular consciousness. It is often associated with the tragic sinking of the Titanic, but many postulate that this phrase had picked up usage several years before then. Popular imagery of telecommunication also spread through World War II-era Western films, in which cowboys and bandits were depicted transmitting and receiving messages via Morse Code. When robbing a train, they would communicate by pressing electric telegraph keys in certain patterns — dot dot dash.

The telegraph was the primary method of long-distance communication until the invention in 1875 and patent application for Alexander Graham Bell's telephone, and Morse Code traveled around the world through submarine cables. Even with the widespread use of telephones and telexes, Morse Code remains an economical and reliable means of communication with ships engaged in long-distance fishing. Although it is

outclassed in many ways by satellite communication and its professional use has diminished, Morse Code is still used in niche environments such as Amateur Radio.

## What is Morse Code?

Morse Code is a signal that expresses characters by combinations of dots and dashes. It was common to learn Morse code as a Boy Scout or when obtaining an Amateur Radio license. The patterns of the code are shown below.

A ● -	J ● - - -	S ● ● ●
B - ● ● ●	K - ● -	T -
C - ● - ●	L ● - ● ●	U ● ● -
D - ● ●	M - -	V ● ● ● -
E ●	N - ●	W ● - -
F ● ● - ●	O - - -	X - ● ● -
G - - ●	P ● - - ●	Y - ● - -
H ● ● ● ●	Q - - ● -	Z - - ● ●
I ● ●	R ● - ●	

*Dots and dashes of International Morse Code for letters A-Z.*

Morse Code was originally designed for the Latin alphabet, but Japanese telegrams were often transmitted using the language's syllabic kana: aiueo\*. In Japan, too, telegrams were widely used as a general means of communication before the invention of the telephone.

[\* See for example: [https://a1club.net/CW\\_J\\_e.htm](https://a1club.net/CW_J_e.htm) -Ed.]

As described later, a number of Morse Code competitors were emerging at the time. Many realized that electricity could be used to send information instantly, but they needed a way to send sentences. The idea of Morse Code, which uses simple electrical ON/OFF signals and sends characters by a combination of long and short (dot and dash) signals, attained widespread use because it was able to transmit the code over long distances, but it also evolved over time.

## Locust Grove Estate: A visit to Morse's house

About an hour and a half drive north of Manhattan, there is the Locust Grove estate which includes a mansion. This was the home of Samuel Morse, renowned inventor of Morse Code. The mansion is in a great location and is complete with 25 rooms, as well as gardens and farms overlooking the Hudson River. Morse moved to this estate in 1851 and spent about 20 years there with his family until his death in 1872. It is now a historic site as a museum which is open to the public.

### 1. About Samuel Morse

Samuel Finley Breese Morse (April 27, 1791 - April 2, 1872) invented the Morse Telegraph and developed the eponymous Morse Code. Additionally, he is

very famous as a painter, and many of his works remain in his Locust Grove estate.

Morse was born in Charlestown, Massachusetts (a neighborhood of Boston). His father, Jedidiah Morse (1761-1826), was a Calvinist minister of British descent and became known as “The Father of American Geography.” His mother was Elizabeth Anne Finley Breese (1766-1828).

## 2. About Samuel Morse’s Paintings

Samuel Morse studied at the Phillips Academy in Andover, Massachusetts, and attended Yale University to study religious philosophy and mathematics. He took lectures on electricity from Benjamin Silliman and Jeremiah Day while attending Yale. He also began to



*Samuel F. B. Morse, self-portrait painted around 1810.*

explore his talent for painting. He graduated in 1810, and Yale University still bears the name of Morse on one of its fourteen colleges in honor of his achievements.

Although more than ten paintings are displayed in the Locust Grove Estate, Morse created many other excellent works.

He first studied painting in England for three years. His masterpiece *Dying Hercules* (1812) dates from the outbreak of the War of 1812, and the painting was sometimes perceived as a political statement about Britain and the Federalist Party. Morse’s *The Judgment of Jupiter* (1815) built on a tradition of early 19th century British and American paintings that concern religious and political themes. This work allegedly expresses both Morse’s religious beliefs and his support for anti-federal masters. Additionally, his *Portrait of John Adams* (1816) depicted former Federalist and the second President of the United States. Morse founded the National Academy of Design in New York in 1825, and he was the first director (1826-1842). He was also an art professor at New York University.

## 3. About Morse’s house

The estate was first occupied in 1771, but Morse purchased it in 1847. According to the commentary at the exhibition, Morse became very wealthy after receiving a patent for his dot-dash telegraphy signals in

1840, and consequently his first land purchase was the Locust Grove Estate. Then in 1851, his house was converted into an Italian-style villa. He used the mansion as a summer house and lived in Manhattan in the winter. The Metro-North Railroad from Manhattan is now primarily used for commuting, but at the time it was a means of transportation between suburban summer homes and the city.

After Morse died in 1872, his family moved out of the estate and rented it out. One of the subsequent residents, William Young, moved to the mansion in 1895 and purchased it from Morse’s heirs in 1901. Recognizing its historic importance, he and his wife, Martha, restored the mansion and gardens and added new dining and guest rooms. The decorative and artistic items that the Youngs collected are now on display in each room of the mansion.

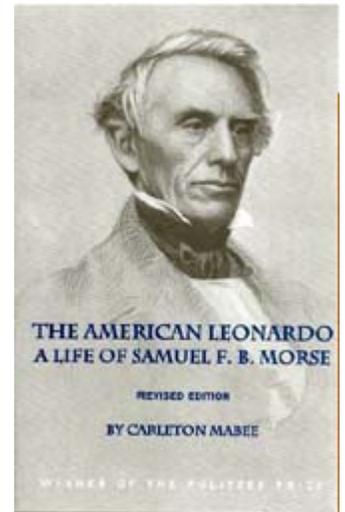
Currently, Locust Grove Estate offers events such as guided tours and lectures. The five-mile road — jutting into the woods — has also been restored since its use in the 19<sup>th</sup> century, reminiscent of the exterior of the mansion when Morse lived there.

## 4. Mansion tour

I had the opportunity to participate in a 90-minute tour of the Locust Grove Estate with commentary from local volunteers. The tour rules were quite strict: photography is prohibited, physical contact with interior decoration and even doors is not allowed, and the only thing that can be touched is the handrail. It is clear that two areas of the building were used by Morse himself: his study on the first floor, and a small room with bookshelves within. This historic site is a good place to learn about the daily life of 18<sup>th</sup> and 19<sup>th</sup> century Americans, and life itself from that time remains frozen in the walls of the estate. There are large windows in the guest room and dining room, offering a clear view of the Hudson River. It was a bit lonely in December when I visited, but from spring to autumn, visitors can enjoy the wonderful, lush landscape.

## 5. Exhibition

In the Visitor Center, there is a special gallery with Morse paintings and early telegraphs and keys. At this point, I’d like to discuss the main pieces and functions of the telegraph.



*Pulitzer Prize winning biography of Samuel Morse by Carleton Mabee, originally published in 1943. Photo shows re-issue from 2000.*

### Morse Telegraph patent model (1835)

This was the first practical telegraph using an electromagnet. As part of a public experiment at New York University, a 1700 foot wire was stretched back and forth across a long room with transmission on the circuit controlled by peaks and valleys of a moving type rule. At the receiver an electromagnet attracts an iron bar while a paper ribbon is fed through the machine by a clockwork mechanism.



*Morse Telegraph patent model, 1835. Type-rule sender at front. Receiver was based on an artist's canvas stretcher.*

With a pen attached to the iron bar, marks are made on the paper ribbon. The original Morse telegraph used at the time of the patent application is in the Smithsonian National Museum of American History (Washington, DC), and the exhibits here are replicas.

### Telegraph register (1850)

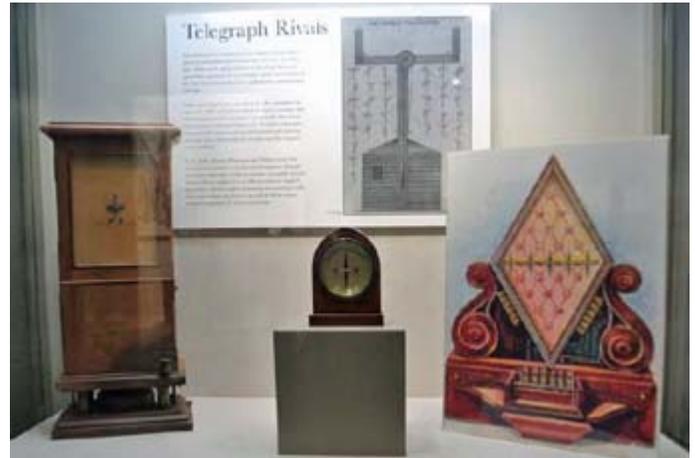
This is an improved receiver design from roughly 15 years after Morse's original invention. The basic mechanism is the same. Activated by electrical dots and dashes, the electromagnets move a lever arm with pen or stylus that marks the moving paper roll.



*Telegraph register, 1850. Electromagnets at left attract an iron bar attached to a brass arm, scribing the paper roll.*

### Additional pictures

This is an exhibition of rivals of Morse's invention developed in France and England, followed by Morse communication-related items including various keys.



*Morse competitor items.*



*Morse communication-related items.*

### In conclusion

The biography of Morse, entitled "American Leonardo (Da Vinci)," was written by Pulitzer Prize winner Carleton Mabee, whose preface states that Morse is a lifetime

- (1) Painter
- (2) Inventor
- (3) Entrepreneur
- (4) A person who has lived in four careers as a politician.

He says, "Heaven does not grant two things" but it can be said that he was a rare one endowed with four talents.

If you have a chance, please take a look at the gallery overlooking the Hudson River, which Morse would have loved, as well as the interior of the mansion, and then see the exhibits related to Morse code.

- Masa, JR1AQN

# Found a fox

## Foxhunts on foot

PCARA's last two foxhunts, organized by Lou KD2ITZ, took place in FDR State Park on May 1st and October 23rd 2021. Instead of driving toward a mobile transmitter, hunters had to search on foot for a small portable transceiver concealed inside a furry red fox outfit supplied by Stanley WA2NRV and supervised by Al K2DMV.



Verle W2VJ, Lou KD2ITZ (with fox) and Stan WA2NRV during the May 2021 Foxhunt in FDR Park.

These on-foot events proved popular and it occurred to your editor that PCARA should have access to a similar fox transmitter for training events and future hunts without having to rely on the kindness of Stan and availability of his fox.

## Hello Byonics

Stan's fox transmitter as used at FDR Park was a **MicroFox** supplied by Byonics LLC of Chandler, AZ. Byonics LLC is run by Byon, N6BG, supplying a range of products for GPS, APRS (Automatic Packet Reporting System), balloon tracking and foxhunting, or hidden transmitter hunting. See: <http://byonics.com>

One of the products sold by Byonics is the **PicCon** — a low-cost hidden transmitter controller that can be interfaced to an existing transceiver. I have a couple of vintage low-power HTs that might have been suitable for use with a PicCon, but I thought interfacing two items of battery-powered equipment in the field could be a potential source of problems.

Byonics has several products that integrate a hidden transmitter controller with a 146 MHz transceiver for a fully self-contained Fox transmitter. Power varies from 15mW for the "MicroFox 15" to 500mW for the "MicroFox2" and 700mW for the "MicroFox PicCon". I ordered the "MicroFox PicCon USB Combo" which includes a MicroFox transceiver, V2 SMA antenna, and USB programming cable.

Four days later a "Priority Mail" package arrived with the transceiver in a bright orange plastic case, a Nagoya NA-771 dual-band SMA-male antenna and a

"Byonics USB-2.5" USB to 2.5mm stereo cable adapter. The orange case was a surprise as the web-site shows a gray-colored case... but it proved to be an appropriate color for the fox.

## Testing time

There was no instruction manual in the mail package, but I was able to download a PDF version of the "Micro-Fox PicCon Manual" from Byonics' web site. I set up the MicroFox PicCon for an initial test, connected through an SWR/ power meter to a 50Ω shielded dummy load. The plastic case contains a battery holder for three AA-size batteries, so I loaded three fresh alkali cells and switched on.



Byonics MicroFox PicCon transceiver in its orange plastic case.



MicroFox test set up using SMA to SO-239 adapter cable, Daiwa power meter and dummy load.

The transmitter started up on its default frequency of 146.565 MHz FM playing a non-musical tone sequence, followed by its default Morse ID: "MFPC V061", then a pause, before the cycle repeated. Power output with a fresh battery voltage of 4.5 V was 350 mW.

If the MicroFox is left running, the battery voltage falls. Current draw is specified as approx. 180 mA — I measured 160 mA after battery voltage had fallen to 1.42 volts per cell. According to a Duracell technical note, a standard MN1500 AA Coppertop cell should have a life of 10 hours when discharged at a current of 200 mA. I was tempted to try Energizer® Ultimate Lithium™ AA cells, but there is a warning in the Micro-Fox manual not to exceed a 5 volt supply. Lithium/iron disulfide AA cells have an off-load voltage of ~1.75V per cell, or 5.25V for three cells.

One capability of the MicroFox PicCon is remote control using a separate transceiver with a touch-tone pad. You have to wait for a pause in the MicroFox transmission then send a touch-tone sequence. I checked that this was working — it was fine.

You can also reprogram the MicroFox using touch-tones — there are full instructions in the Manual. But some of the commands need a long sequence of tones keyed in accurately. There has to be a better way — and that’s why I had purchased the USB-2.5 programming cable.

### Programming time

Programming software for Windows is available on the Byonics web site. I downloaded the ZIP file, expanded it and found the “Byonics Micro-Fox Config Software Manual” pdf as well as the .exe file for execution under Microsoft Windows.

I plugged the USB cable into my notebook PC, connected it to the MicroFox’s 2.5mm stereo jack and followed the instructions to test communication. The first attempt proved unsuccessful because of a bad USB cable, but Byonics quickly supplied a replacement.

With the new cable, communication between computer and MicroFox was taking place on port COM5. I was able to ‘Read’ the existing configuration and save to a file. After changing several parameters including Morse Code ID and tone sequence I wrote the revised configuration to the MicroFox. I also saved a copy of the new configuration in a local file.

### Dressing up

Taking a cue from Stan WA2NRV, I felt that hidden transmitter hunters should have something fox-like to search for rather than a plastic box. The local branch of PetSmart® has a range of dog toys including a “KONG® Floppy Knots Fox”. This was just the right size to fasten to the MicroFox with Velcro® hook and loop tape.

Use of a dog toy can have its drawbacks... One of the online reviews for the Kong Fox states:

“4 out of 5 stars. Not for aggressive chewers! This lasted 3 days with our bull terrier. He was so excited to play with his new toy, so it is a great product, just not for aggressive dogs. He still loves it even though it ripped open.”

Let’s hope that no aggressive dogs are being walked through the park during our next fox-hunt. Otherwise the fox (complete with transmitter) might be picked up by a different hunter and carried off to a far-away forest! Then we’d need a real foxhunt to find it again.



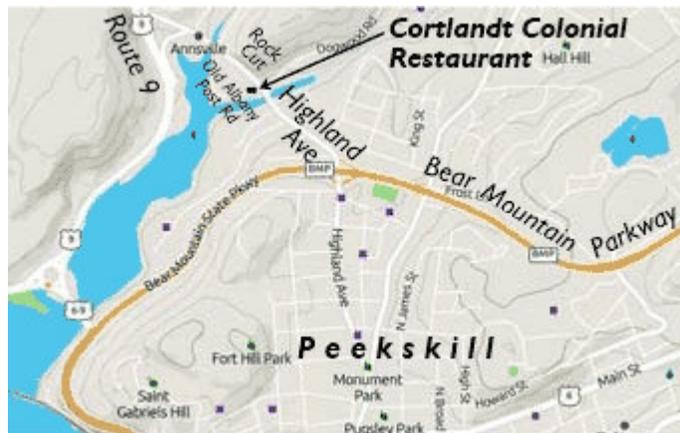
## Holiday Dinner

The 2021 PCARA Holiday Dinner will take place at the same location as in 2019, the Cortlandt Colonial Manor Restaurant. The event begins at 5:00 p.m. on Sunday December 5th.



Cortlandt Colonial Manor Restaurant.

The restaurant is located at 714 Old Albany Post Road in Cortlandt Manor. Take the Bear Mountain Parkway to the Highland Avenue exit, then proceed north down Highland Avenue and across the bridge. Restaurant and parking are immediately on the left.



The dinner menu is as follows:

*Soup and Salad*  
*Soda, iced tea and soft drinks (unlimited)*  
*\*\*\* choice of: \*\*\**  
*Prime Ribs of Beef*  
*Grilled New York Strip Steak*  
*Grilled Pork Tenderloin Medallions*  
*Jumbo Shrimp with crabmeat stuffing*  
*Chicken Marsala*  
*Penne ala Vodka, traditional or w/grilled chicken*  
*Custom Cake – Chocolate Mousse*

Cost will be ~\$45.00 per head including service, but *not including* alcoholic drinks. Please let Lou KD2ITZ know if you will be attending by emailing the number of people to: radiocasseta‘at’gmail.com.

# Peekskill / Cortlandt Amateur Radio Association

**Mail:** PCARA, PO Box 146, Crompond, NY 10517

**E-Mail:** mail 'at' pcara.org

**Web site:** <http://www.pcara.org>

**PCARA on Facebook:** <http://facebook.com/pcarahamradio>

**PCARA Update Editor:** Malcolm Pritchard, NM9J

E-mail: NM9J 'at' arrl.net

*Newsletter contributions are always very welcome!*

Archive: <http://nm9j.com/pcara/newslett.htm>

## PCARA Information

PCARA is a **Non-Profit Community Service**

**Organization.** PCARA meetings take place every month (apart from July/August break). See <http://www.pcara.org/> for current details.

## PCARA Repeaters

**W2NYW:** 146.67 MHz -0.6, PL 156.7Hz

**KB2CQE:** 449.925MHz -5.0, PL 179.9Hz

**N2CBH:** 448.725MHz -5.0, PL 107.2Hz

## PCARA Calendar

Masks and Social Distancing may be required.

**Sun Dec 5:** PCARA Holiday Dinner, Cortlandt Colonial Restaurant, 714 Old Albany Post Rd, Cortlandt. 5:00 p.m.

**Sat Dec 18:** PCARA Breakfast, Uncle Giuseppe's, 380 Downing Drive, Yorktown Heights. 9:00 a.m.

**Sun Jan 9, 2022:** PCARA Bring and Buy Auction, Cortlandt Town Center CUE Room, 3:00 p.m.

**Sat Jan 22, 2022:** PCARA Breakfast 9:00 a.m., followed by PCARA V.E. Test Session 11:00 a.m. (details below).

## Hamfests

Check with organizers before leaving.

**Sat Jan 8:** Ham Radio University, Second year as a Virtual Event with registration links available for the forums. See: <https://hamradiouniversity.org/>.

## VE Test Sessions

Check with contact before leaving. Masks may be required.

**Dec 4, 11, 18:** Westchester ARC, 19 Hunts Bridge Rd, Yonkers NY. 12:00 noon. Must contact VE, ac2t'at'arrl.net.

**Dec 4, 11, 18:** NYC-Westchester ARC, 43 Hart Ave, Yonkers NY. 12:00 noon. Must contact VE k2ltm'at'aol.com.

**Dec 9:** WECA, Westchester County Fire Training Center 4 Dana Rd, Room 3, Valhalla NY. 7:00 p.m. Contact: Stanley E. Rothman, (914) 831-3258.

**Jan 22, 2022:** PCARA, John C. Hart Memorial Library, 1130 E Main St., Shrub Oak NY. Contact: Michael W2IG (914) 488-9196, w2igg'at'yahoo.com. Masks required.



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PO Box 146  
Crompond, NY 10517