



The Hellgate Static

November 2022



Hellgate Amateur Radio Club

P.O. Box 3811, Missoula, MT 59806-3811

Web: www.w7px.org

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Terry Cook
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Coming Events

Nov 5 Election Day
Nov 11 Veterans Day
Nov 14 Testing & Meeting/Nominations
Nov 24 Thanksgiving Day
Dec 12 Testing, Dinner Meeting, Voting

Officers:

President: Paul Shuey, N7PAS
Vice-President: Eric Sedgwick, NZ7S
Treasurer: Dick Walton W7XT
Secretary: Joe Geldrich, AG7FH

Standing Committees:

Emergency Coordinator: Mike Leary, K7MSO

QSLs, Awards: Mike Leary, K7MSO

Webmaster: Mike Leary, K7MSO

Radio License Exams Contact VE:
Paul Shuey, N7PAS

Static Editor: Paul N7PAS
pshuey000@gmail.com

Advisory Committee's:

Eric Sedgwick NZ7S (Chair)

HF-D Tom Hellem, K0SN Dec 2021 for (22/23)

HF-V Tom Mc Ginley, K7QA Dec 2020 for (21/22)

V/U-D David Herzberg, K7MTD Dec 2021 for (22/23)

V/U-V Gary Duncan, KG7WYQ Dec 2021 for (21/22)

This is currently a 1 yr term

HARC November Meeting

Program: World Radio Teamsport Competition
by Patrick Barkey N9RV.

We are back to having monthly meetings and live in person online testing. The testing and meeting are on the 2nd Monday of each Month

Meetings will be held at The Church of Jesus Christ of Latter Day Saints, 3026 South Avenue West, across the street from Big Sky High School. Use the North entrance as all others will be locked.

Testing will begin promptly at 5:30PM, and end at 6:30PM.

Meeting area will be set up between 6:30-7:00PM and meeting will begin at 7:00PM (Business & Program).

Cleanup and Sanitizing will be done from the end of the program until done. Volunteers may assist.

Our good friend Terry Cook is still having medical problems. Please keep him in your prayers. Terry is still having swelling problems with his arms and legs. Dr thinks it might be nerves. Terry is at home. Give him a call on his mobile 406-396-0475. Stop by and say hi, but give him a call first.

September Meeting Testing Results

Congratulations to:

1. Charles Dahlstrom. He passed his Technician exam. His new call sign is KK7IPT.

HARC Meeting 10 October 2022 Minutes

Meeting called to order by President Paul N7PAS, at 7pm.

Roll was taken:

Paul N7PAS Jerri N7JGS David K7MTD Mike K7MSO
Jerry N7GE Aaron N7BIO EricNZ7S Dick W7XT
Charles - Passed Tech. exam tonight.

Minutes from last meeting approved, 1st Dick W7XT, 2nd Mike K7MSO.

Treasurer's report, Dick W7XT, approved, 1st Jerry N7GE, 2nd Mike K7MSO.

- Audit completed by Dean N7DLP and David K7MTD.
- Discussed investing some club funds. Agents of the club need to be identified.
 - The club Treasurer, Dick, W7XT recommends setting up a 'Treasurer's Advising Committee.
 - Ad hoc committee to get things going, then
 - Standing Committee
 - Resolution by Dick W7XT to set up Ad hoc Advising Committee with three ex-officer members, President, Vice President, and the Treasurer. Additionally, Dick would like two non-officers. Tom K0SN and David K7MTD appointed.
 - This committee will draw up all documents to present to the club for a vote.
 - Motion to form ad-hoc committee 1st Dick, 2nd Mike Passed

Upcoming Events

- 14 / 15 October JOTA. Eric reports that no Scouts have expressed interest.
- 20 Oct The Great Montana Shakeout. Mike K7MSO will call 2-meter net at 10:20 a.m. for 'damage' reports. He then will relay this information via HF to Doug K7YD, who will collate this info and send it to the state.
- 22 /23 Oct Dirt Dirby. Eric is looking for about 5 volunteers for each day at the Lubrecht Forest.
- Christmas Dinner paid by club, approved. 1st Paul N7PAS 2nd Dave KMTD

Static Editor – Looking for a new volunteer while Terry KF7BQ is out sick.

Net Control Ops

12 Oct Jerry N7GE
19 Oct Mike K7MSO
26 Oct Eric NZ7S
02 Nov Paul N7PAS
09 Nov Jerri N7JGS

Adjournment approved. 1st Paul, 2nd Mike.

Minutes by Mike Leary

Tesla Invented Radio, Not Marconi!

By [Louis E. Frenzel](#)

I'm probably as guilty as many of you probably are in believing that Marconi actually invented radio. However, he did not. In fact, I'm convinced that the truth is still not well known. Not to burst your bubble or anything, but here's the real story.



What Really Happened?

My son-in-law gave me a book he found on a sale table, called *Tesla, Man Out of Time* by Margaret Cheney. It has a 1981 copyright date on it but was re-released in 1993. My son-in-law is not a technical or electronics type but he read the book and was fascinated by Tesla and even more amazed at Tesla's unbelievable inventions. Tesla was not only a real success in the electrical fields but also a terrible failure in many ways. One of those failures was his inability to get recognition for inventing radio during his lifetime. I read the book only to find that I have had it wrong all these years myself. From my days as a ham radio addict in my teens to today where I write books and articles on radio for a living, I firmly believed I owed my livelihood to Marconi.

Nikola Tesla was born in the Serbian part of Croatia in 1856. He began inventing as a boy. Tesla was educated in various European universities in mechanical and electrical engineering, physics and languages. During the late 1800s, he worked for Thomas Edison's European telephone company in Budapest and Paris. He immigrated to the US in 1884. He worked for Edison in New York City for a while but pursued inventions on his own with great success. After endless squabbles with Edison over the merits of DC vs. AC, Tesla took off on his own and invented a whole stream of electrical things and patented them. Some of them were improvements to the telegraph, arc lights, and all manner of electrical machines like generators and motors. One of his best inventions was the AC induction motor which he sold to Westinghouse.

Tesla went to work for Westinghouse and helped him eventually win the battle for electrical power distribution in the US and elsewhere. Edison was hell-bent to electrify everything with DC but found that it was very inefficient and required more generating stations over shorter distances. However, AC with its ability to be stepped up in voltage by a transformer could be transmitted efficiently over very long distances then stepped back down to usable levels where it was to be used. Tesla was a major player in building the first big power generating plant at Niagara Falls, New York. In any case, he was a major player in making AC the electrical power of choice. And despite his essential role and success he never got rich like the Westinghouses and Edisons of his time.

His number of inventions and patents runs into the thousands but few (if any) actually paid off big for him. He did manage to live comfortably for years in New York City hotels from his royalties and occasional funding for research by a stream of rich benefactors. In general, Tesla was just too distracted by his active mind to patent or otherwise protect everything he invented. That is more or less why he never did get credit for inventing radio despite the fact he did patent it in the US the same year that Marconi got his first British patents. Tesla was very good at getting press coverage for his work, but Marconi came along and captured all the glory and credit before Tesla realized what was going on.

Tesla actually invented the idea of radio in 1892, not too long after Heinrich Hertz demonstrated UHF spark wireless transmissions in Germany in 1885. In 1898, he developed a radio-controlled robotic boat which he demonstrated by driving the boat remotely around the waters of Manhattan from a set of controls at Madison Square Garden. Despite this amazing feat, he tried for years to sell the idea to the Navy without success. His inability to gain recognition for the invention of radio was partly Tesla's own fault. Marconi burst on to the scene in the late 1890s and literally stole the show with patents of his own.

Once realizing the importance of radio, Tesla actually built a huge transmitting tower at Wardencllyffe on Long Island in 1900 to develop world wide radio transmission services. He ran out of money and could not raise the capital to continue. He actually went bankrupt, thus ending his formal radio research and development.

What Marconi Actually Did

Guglielmo Marconi was born in Italy but lived in England. He experimented with Hertz's spark apparatus and develops improvements to extend the transmission range to one mile then hundreds of miles. He received British patents for his radio inventions. In 1901, he demonstrated the first trans-Atlantic radio transmission. He went on to form a wireless telegraphy business for the British. While all of the first patents related to spark wireless, the real important patents were for continuous wave (CW) transmission on one frequency. Spark gap transmitters radiated a very broadband signal on no particular frequency. CW signals used the resonance of tuned circuits and antennas.

Marconi's real contributions are more engineering and commercial than theoretical. He took the basic ideas and inventions of others and improved upon them and made them practical business successes. Tesla was almost the opposite. He created original ideas and proved them mathematically and physically, patenting some and not others. Some of his best ideas like the AC induction motor was a commercial success which brought him fame but not riches. Marconi, of course, was fabulously rich.

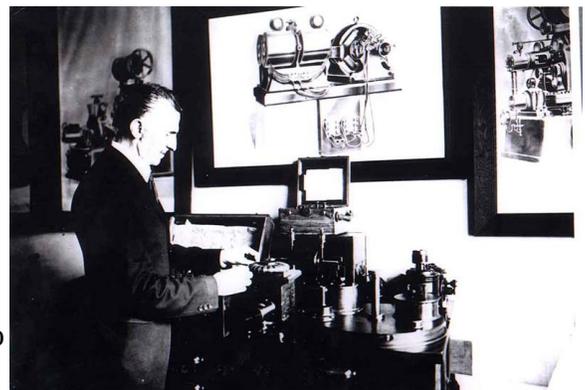
A patent battle between Tesla and Marconi went on for years. Marconi died in 1937. Tesla died in 1943 and six months after his death the US Supreme Court ruled that all of Marconi's radio patents were invalid and awarded the patents for radio to Tesla. So, for the past 64 years, we still believe that Marconi invented radio. Few actually know of Tesla's radio inventions. He is, of course, well known but for his strange experiments with high voltage, lightening and the claim he had invented not only an electrical "death ray" but a way the transmit electrical power wirelessly.

The Invention or Radio

Like most significant inventions, radio had not just one "father" but many. British mathematician James Clerk Maxwell first proved the existence of radio waves mathematically in 1864. The German physicist Hertz set out to prove Maxwell's equations and did so in 1885. After that lots of others jumped into the fray. Some of them included Briton Oliver Lodge, Indian physicist Jagdish Chandra Bose, and the Russian Popov. None of this would never have happened unless Edouard Branly invented the coherer, the first real detector of radio waves. This device used metal filings inside a glass tube that served as a kind of crummy but sensitive diode detector.

Nikola Tesla in his 60's adjusting a radio device in his lab in New York City. *Photos courtesy Dr. Ljubo Vujovic, General Tesla Memorial Society of New York, www.teslasociety.com.*

Radio or wireless was strictly a telegraphy medium until the vacuum tube was invented. The first tube diode was invented by John Fleming of England in 1904. In 1906, American Lee DeForest invented the triode vacuum tube that quickly made radio even better because of the amplification and oscillation it could provide. Reginald Fessenden then made the first AM radio broadcast in 1906.



By the 1920s, there were hundreds of radio stations in the USA. Edwin Armstrong invented FM in 1933 but lost the patent battle with RCA and committed suicide shortly there after. Then in 1947, Shockley, Bardeen, and Brattain at Bell Labs invented the transistor which Shockley later perfected into the transistor as we know it today.

In 1957 and 1958, Jack Kilby (Texas Instruments) and Robert Noyce (Fairchild, later Intel) invented integrated circuits. And the rest as they say is history. **NV**



The ARRL Letter for October 13, 2022

Our own Lance Collister once again makes it into the ARRL letter

Announcements

October 15 - 16 is session three of the ARRL EME Contest, for frequencies between 50 MHz and 1296 MHz. It's never been easier to complete the Earth-moon-Earth circuit. [Lance Collister's, W7GJ, "6 Meter EME Array"](#) document from 2010 talks about the minimum frequency you'd need to decode signals from the moon, which can be boiled down to a good antenna, reasonable radio, and appropriate software. Activity also helps. With a "regular" 6-meter antenna, it should be possible to copy signals from the moon at moonrise, taking advantage of ground gain. -- *Thanks to ARRL Contest Program Manager Paul Bourque, N1SFE, for this information.*

Call for Instructors

ARRL is embarking on a journey of training for club officers and members. The new club development webinar series will include live Q&A, and the live sessions will be available to everyone. The webinars will be recorded and available to ARRL members through the ARRL Learning Center. We're looking for ARRL members to help us produce, create, and deliver the webinars.

The purpose of this program is to offer a series of short webinars that offer training for the skills needed to build and run a successful club. Topics will include leadership, activities, finance, and recruiting. Envisioned is a series of 10 or more webinars, all lasting from 20 to 30 minutes.

The hope is that club officers and members will view the series as an opportunity to learn from others that have been able to put those skills to use. To do this, we need the help of membership. We're looking for instructors to help with building the training. We're also looking for members that can present in a standard format and have the skills necessary to do the training. If this sounds like something that you are interested in, please contact Mike Walters, W8ZY, at mwalters@arrl.org for further details. We hope to start this series in late January 2023.

Suggestions for Clubs

1. Offer a free year's membership to newly licensed hams, especially if they are kids. But they must show up in person to a club meeting in order to qualify. If they attend a meeting, make sure a mature member is tasked with making them feel welcome and helping them determine what they need to become radio active. If for some reason they never come back, it will have cost the club nothing but the time it took to process their membership form. But if they do decide not to come back, you need to find out why.
2. There's no need to keep all of your print edition's of *QST* now that you can access them online. So, keep some of them in your car, and when you visit the doctor, barber shop, auto repair place, etc., leave them with all of the other magazines provided at each business for others to browse them while they wait. You should probably use a marker to cross out the name and address, as you would not want to advertise that the addressee has valuable electronics gear at that residence. Better yet, get some Avery® labels to cover up that information. I suggest printing your club's information on the label, such as: "Compliments of the Podunk Valley Amateur Radio Society (www.podunkars.org). We meet every third Tuesday at 7:30 PM at the Podunk Rescue Squad Headquarters Building, 101 Main St. Visitors are always welcome!"
3. If your club conducts test sessions, make sure it has a promotional brochure that talks about the organization. Make sure new licensees are made aware of the free membership offer and the assistance you provide to help them get on the air. Most important: when they show up, smile!

Nominations

OFFICERS

Officer positions are 1 year terms voted in by membership each year. Enter your choice below.

President: _____

Vice Pres: _____

Treasurer: _____

Secretary: _____

STANDING COMMITTEES

Repeater Advisory Committee (2 seats)

These 2 positions have said they will run again, but are voted positions.

If you want to nominate someone else, enter there name on the line below.

HF-Voice for 2023/2024: Tom Mc Ginley, K7QA

Vhf/Uhf-Voice for 23/24: Gary Duncan, KG7WYQ

Appointed Positions

Emergency Coordinator: Mike Leary, K7MSO

QSL,s Awards: Mike Leary, K7MSO

Webmaster: Mike Leary, K7MSO

Assistant Webmaster: Paul Shuey, N7PAS

License Exam Coordinator: Paul Shuey, N7PAS

Static Editor: Paul Shuey, N7PAS

NOTE: Please fill the nominations form out, copy it, and email it back to club president at pshuey000@gmail.com by **13 Nov 2022**. Thank You.

Great Montana Shakeout Report

By Mike Leary, K7MSO

A Geeky Feeling a Satisfaction

This last Thursday, 20 October 2022, I was the club's representative for the Great Montana Shakeout of 2022. This first involved calling into a Montana Net on 3.880 MHz. I was relieved that the net control, Doug K7YD, in Livingston, was able to hear me check in on this frequency at 10:20 a.m. I also heard the voice relay on this net of a message from NORTHCOM, the combatant command responsible for the defense of the continental US (below).

Next, I called a net on our 147.04 repeater for checkins reporting any 'damage' from the 'earthquake'. Luckily two local hams who I did not recognize responded with 'no damage'. I then took this info and sent it to Doug K7YD via Winlink message, since the HF net he was running was very busy with other reports from around the state, both voice and digital. Doug then collated all of the reports from across the state and relayed them to NORTHCOM.

For some reason I found my participation in this exercise very rewarding. Seems like hams across the state are coming together to do public service with this exercise. Each year it is getting better and better.

From: United States Northern Command

To: United States Amateur Radio Operators, Simulated Emergency Test (SET)

SUBJECT: USNORTHCOM Message Supporting the SET

1. As the combatant command responsible for the Homeland Defense (HD) and Defense Support of Civil Authorities (DSCA), USNORTHCOM appreciates the efforts of the amateur radio community in conducting regular training events throughout the year to hone your operating and communication skills.

2. In support of USNORTHCOM's DSCA and HD missions, MARS is the Department of Defense's conduit to the amateur radio community who serve as a source for information on current events and situational awareness in your local areas.

USNORTHCOM uses this information to better understand an event while providing unique military capabilities to support a Lead Federal Agency.

3. Request SET participants acknowledge receipt of this message via only one of the below options:

a. an ICS 213 message through any MARS station to UHCHBPM, Chief Army MARS

b. a Radiogram through the National Traffic System to Paul English, Salado, TX 76571; C: 254-630-9472

c. an RRI ICS 213 radiogram message through Radio Relay International to Paul English, Salado, TX 76571; C: 254-630-9472

d. a general message (ICS 213) via amateur radio Winlink to WD8DBY. In your responses, please include: your organization, callsign, number of participating amateur stations, city-state and entity you're supporting.

4. Chief Army MARS will provide USNORTHCOM a summary of amateur radio responses to this message.

5. Thank you for your support.

Signed Frank Skinner Dept Air Force Civilian
USNORTHCOM Operation

HELLGATE AMATEUR RADIO CLUB

AGENDA – 14 Nov 2022 meeting

Introductions. Make sure you sign the attendance sheet

Last meeting minutes: _____
Motion to approve minutes: 1st _____ 2nd _____ Discussion P/F/T _____

Treasurer's report: _____
Motion to approve report: 1st _____ 2nd _____ Discussion P/F/T _____

Repeater Advisory Committee Report: _____

Motion to approve report: 1st _____ 2nd _____ Discussion P/F/T _____

Events for 2022:

8 Nov – Election Day	12 Dec – Testing and Christmas Dinner Meeting
11 Nov – Veterans Day	24 Dec – Christmas Eve
14 Nov – Testing and Meeting	25 Dec – Christmas Day
24 Nov - Thanksgiving Day	26 Dec – Christmas Day Off

HARC Social Net every Saturday morning @ 9:00 AM on 147.040 Repeater

HARC Discussion List

1. thedustybandita.com an all-women's gravel bike race - Saturday, June 3, 2023
Please take time to look at info provided in Oct static and meeting.
Motion to accept or reject and discussion will be at November meeting.

2. Christmas Dinner – will be held at our meeting site.

3. Nominations for club positions

VHF Net NCS assignments:

Oct 5 _N7PAS_ Backup	Nov 2 _N7PAS_
Oct 12 _N7GE_ Backup	Nov 9 _N7JGS_
Oct 19 _K7MSO_ Backup	Nov 16 _____
Oct 26 _NZ7S_ Backup	Nov 23 _____
---- - - _____ Backup	Nov 30 _____

Reminder: Backup is always the next person in line as the net control.

Good and Welfare. _____

***** Next Club meeting: Dec 12.**

Adjournment: 1st _____ 2nd _____ P/F/T _____

Program: World Radio Teamsport Competition being held in Italy next summer.
by Patrick Barkey N9RV.

>>> November 2022

Goal of the month:Get prepared early for Winter.....

30	31	1	2	3	4	5
			ERC NET 7:30 on 146.900-88.5Tone BARC NET 8:15 on 146.720-203.5Tone HARC NET 9:00 on147.040+NoTone			HARC Social Net 9:00 Am on 147.040 Repeater
6	7	8	9	10	11	12
		Election Day	ERC NET 7:30 on 146.900-88.5Tone BARC NET 8:15 on 146.720-203.5Tone HARC NET 9:00 on147.040+NoTone		Veterans Day	HARC Social Net 9:00 Am on 147.040 Repeater
13	14	15	16	17	18	19
	HARC Testing 5:30 & Meeting 7:00 PM		ERC NET 7:30 on 146.900-88.5Tone BARC NET 8:15 on 146.720-203.5Tone HARC NET 9:00 on147.040+NoTone			HARC Social Net 9:00 Am on 147.040 Repeater
20	21	22	23	24	25	26
			ERC NET 7:30 on 146.900-88.5Tone BARC NET 8:15 on 146.720-203.5Tone HARC NET 9:00 on147.040+NoTone	Thanksgiving Day		HARC Social Net 9:00 Am on 147.040 Repeater
27	28	29	30	1	2	3
			ERC NET 7:30 on 146.900-88.5Tone BARC NET 8:15 on 146.720-203.5Tone HARC NET 9:00 on147.040+NoTone			