



# Mike Shy

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## Ben Franklin's Armonica

A modern glass Armonica built using Benjamin Franklin's design

Benjamin Franklin invented a radically new arrangement of the glasses in 1761 after seeing water-filled wine glasses played by Edmund Delaval at Cambridge in England in May 1761.[10] Franklin worked with London glassblower Charles James to build one, and it had its world premiere in early 1762, played by Marianne Davies.



Writing to his friend Giambatista Beccaria in Turin, Italy, Franklin wrote from London in 1762 about his musical instrument: "The advantages of this instrument are, that its tones are incomparably sweet beyond those of any other; that they may be swelled and softened at pleasure by stronger or weaker pressures of the finger, and continued to any length; and that the instrument, being well tuned, never again wants tuning. In honour of your musical language, I have borrowed from it the name of this instrument, calling it the Armonica." [11]

In Franklin's treadle-operated version, 37 bowls were mounted horizontally on an iron spindle. The whole spindle turned by means of a foot pedal. The sound was produced by touching the rims of the bowls with water-moistened fingers. Rims were painted different colors according to the pitch of the note: A (dark blue), B (purple), C (red), D (orange), E (yellow), F (green), G (blue), and accidentals were marked in white.[12] With the Franklin design, it is possible to play ten glasses simultaneously if desired, a technique that is very difficult if not impossible to execute using upright goblets. Franklin also advocated the use of a small amount of powdered chalk on the fingers, which under some acidic water conditions helped produce a clear tone.

### SRO Meeting

Wed Feb 6th at the 16th Police District  
5151 N Milwaukee Av - 7:30 PM

## President's Message

Due to the Salvation Army doing construction we have to move our February Meeting. Please note the change in week, date and location. The Feb meeting will be held at the 16th Police District 5151 N. Milwaukee, Chicago- Wednesday Feb 6th - 7:30 PM

Our program this month will be about "Glass Armonica" This is a device made out of spinning glass bowls, designed by Benjamin Franklin. It will show how they are made, played and entertain. A couple years back Cathy and I went to Colonial Williamsburg Va. Williamsburg, a city in the U.S. state of Virginia, was capital of the Virginia Colony from 1699 to 1780 and played a significant role in the American Revolution. It forms the "Historic Triangle" together with Jamestown and Yorktown. Its heart is Colonial Williamsburg, a historic district and living-history museum where actors in period costume depict daily Colonial life in the streets, stores and workshops. We attended a concert where we watched and listened to music played on a Glass Armonica.

In the computer world I follow many developments. I would like to inform you of a few new happenings.

In cellular 5G data has arrived in a few cities. There is a great speed jump in data transfers. They do this by using what is called millimeter frequencies. They are using the 27.5 - 28.35 GHz band and the 37 - 40 GHz band. Mobile operators in the US have already conducted trials in these frequency bands. The FCC has also opened up spectrum from 64 - 71 GHz for 5G use as well, however, there has not been too much activity in this frequency band yet. The distance covered is shorter than on microwave frequencies, so this will mean a lot more micro-cell towers will be needed.

Microsoft this week described a new "Reserved Storage" feature coming to Windows 10 that will allocate about 7GB of a PC's storage space for OS updates. The feature will take effect in Windows 10 version 1903 (code-named "Windows 10 19H1"), which is Microsoft's next spring "semiannual channel" release that is expected to roll out sometime in April this year. Current Windows 10 users will only get the Reserved Storage feature if their systems get "clean installed" to Windows 10 version 1903.

In case you have not been following the hacking world, a massive email breach has exposed 773 million email addresses and 21 million unique passwords. To check your email address you can go to: <https://haveibeenpwned.com/> to check your passwords you can go to: <https://haveibeenpwned.com/Passwords>

I hope to see you at the next meeting

Michael Leibovitz WA9EVF

President

SRO Notes for December 12, 2018 (Or: *Dinner with Donner, Blitzen, and Bromo-Seltzer*)

By Jim Hawes AA9DT



TONIGHT'S MEETING convenes at 6:30 p.m. We meet at Hibachi Grill on 83, just north of Oakton in Elk Grove Village. The event is a stress test for our club bank

account. A secondary goal is a stress test for our belts. From its mile-long sideboard, Hibachi offers an eclectic combination of American and foreign cuisines. You can mix and match as your heart desires. (Or as your heartburn reaches critical mass.)

MY APPROACH. There's no way to make Hibachi conform to my diet. I decide to break as many rules as possible. In hindsight, the wisdom of this approach seems dubious. But forsaking dependable strategy and adhering to foolhardy tactics, here's my approach. Tell me what you think: For starters, how about pizza and eggrolls? Or chili with chocolate sauce, dill pickle spears, and fresh pineapple slices? My goodness! The variety! Let's see, how about some pork chops with Hollandaise sauce? Or eggplant, artichoke hearts, and orange sorbet? Wash that all down with iced, caffeine-free tea and lime juice. Yum. I'll take two. In fact, I do. Without regrets. That is, until the next day. Then I can't stand up.

FEBRUARY VENUE CHANGE. In February, SRO will assemble at the 16th Police District, 5151 N Milwaukee. The meeting will take place on Wednesday, Feb 6 at 7:30 PM. Notice the "Wednesday"!

RUSSIAN AIR DEFENSE SYSTEM. As the U.S. rolls out its new F-35 Joint Strike Fighter, some defense experts are looking over their shoulders: Because the Russians are deploying their upgraded surface-to-air defense systems. The new Russian S-400 (SA-21) defensive tracking and ground-to-air missile system uses mobile launchers. Each S-400 "Growler" unit includes an eight-wheel transport that carries four launchers. Eight minutes after the transport arrives, it can stand up the launch tubes and begin tracking and locking targets. The system's long-range radars arrive on separate vehicles.

RUSSIAN PRESIDENT VLADIMIR PUTIN has already deployed S-400 systems in Syria and Crimea. (Older Russian S-300 missiles still defend most Syrian assets.) Across the Russian homeland are 300 S-400 batteries. More S-400 systems fan out across Russia's arctic territories. The arctic group protects Russian energy acquisition efforts and potential sea lanes that experts believe might open. Another S-400 net spans the Kuril Islands, a disputed archipelago, some of which Japan also claims.

STEALTH DETECTION. Russia alleges that the new system can detect stealth aircraft. Data from future battles against advanced stealth planes will put that theory to the test. The assumed anti-stealth capability derives from networking several radars that operate at vastly different frequencies. The S-400's panoramic detection system operates on VHF, UHF, plus the L and S microwave bands. Meanwhile, aircraft development is itself a moving target. Airframes and onboard hardware and software undergo continuous improvement.

STATS. Let's consider performance statistics. Hypothetically, the S-400 can outperform the U.S. Patriot missile defense system. A Patriot system can lock onto 100 hostile missiles or aircraft. The Patriot missile defense

# SRO Holiday Party Hibachi Grill



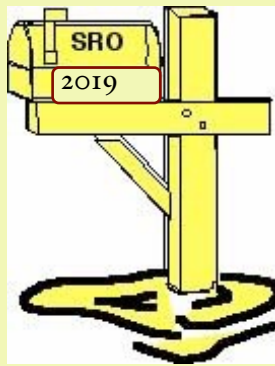
We had a great time. Those who attended were: Mike WA9EVF, Cathy KA9ZWZ, Danny KD9HIL, Jim AA9DT, Jean KB9FXL, Jim B, Fay N9FA, Mike WA9FTS and Carol S.

## Meeting Attendance



Regular Meeting  
Salvation Army - Norridge  
Oc 25th, 2018

Mike WA9FTS  
Danny KD9HIL  
Pete WV9P  
Joe KD9KSE  
Jean KB9FXL  
Jim AA9DT  
George W9GFH



**If you move, let  
the Editor know  
your new mailing  
and email  
addresses. It is  
our way of getting  
Mike Shy to you  
each time.**

system. A Patriot system can lock onto 100 hostile missiles or aircraft. The Patriot battery is then able to launch anti-missiles that rocket upward at a mile-per second. Not bad. Except that the Russian S-400 can lock onto three times as many targets. And the S-400 can fire missiles three times as fast as Patriot missiles. The S-400's target flight altitude is 17 miles, vs. only 12 for the Patriot. Of course, that's the Patriot of today. (An augmented antimissile defense system is on the way.)

SELLING LIKE HOTCAKES. The cutting edge is sexy. Already, Russia has sold systems to China and India. Now Russia is courting Turkey, Saudi Arabia, and other potential buyers. Meanwhile, military technology marches on. Russian engineers are developing a more advanced S-500 system. This system will be able to counteract upcoming next-gen ICBMs and hypersonic missiles.

FORTRESS RUSSIA. Check out radar deployments in Fortress Russia by visiting this interactive map: <https://bit.ly/2DCKvsX>







Turkey's interest in the Russian missile system spooked its Western NATO allies, for technical and political reasons. [Vasily Fedosenko/Reuters]



Russian S-400 Triumph medium-range and long-range surface-to-air missile systems [Sergei Karpukhin/Reuters]

## The FCC is Back in Business

01/29/2019

[UPDATED: 2019-01-29 @ 2115 UTC] In the wake of the more-than-month-long partial government shutdown, the FCC said today that it would be tackling the backlog of applications already in the queue over the course of a couple days. The FCC had earlier indicated that it would resume processing Amateur Radio applications starting today. Subsequently, the Commission requested that the ARRL Volunteer Examiner Coordinator (VEC) give the agency time to work through its already-pending backlog, before ARRL VEC submit any additional new files. Information released before the shutdown said the FCC would take the first day it was open, which was Monday, January 28, to get idle systems up and running again.

“The FCC has resumed all operations since the partial funding lapse has ended,” the FCC said via Twitter on Monday.

# Foxhunt Report



CFAR 2M Foxhunt - Jan 5th, 2019 by Pete K9PW

The fox had a good signal at the start from the north-northeast. Most hunters had a strong 1 or even a 2 on their sniffers. But nothing through the CFAR repeater! One hunter had forgot his equipment. He only had a couple of HT's with no directional antennas. Another hunter wasn't feeling well. The hounds were released at 8:06 by Pete, K9PW this hunt's fox.

All hunters started north on IL-83. On the second transmission with John, K9JK at the mic, nobody heard the fox! Nobody called asking if the transmission really occurred. Instead, U-turns were made back towards the starting point. Some checked out a possible park or two on the way back.

Only 12 minutes into the hunt, the WD9EXW and KC9SEM teams drove into Plunkett Park. Both spotted Pete's van parked under a light. John (WD9EXW) was heard saying "he's sitting in the car". Was it going to be that easy? John quickly ran up to Pete, ask if he was the fox. The reply: NO! Matt overheard the reply. Both looked confused. Pete pointed to the nearby playground for the kids. Was the remote transmitter there? Kids and most of the adults went to the playground.

On the next transmission, it was clear that the fox was not in the playground. Perhaps the baseball fields to the northwest? It was a sprint. Unfortunately, the 60 second transmission ended before any hunter got close enough to know exact where the fox was hidden among the three baseball diamonds. John went into a dugout while Matt went around the outside. The transmitter was located inside the dugout on the ground behind the bat rack. John was able to grab the tag for first place, Matt was only a few seconds behind just 16 minutes after the start. By then, W9RA had arrived in the parking lot. He found the fox shortly thereafter. The fox's transmitter was a crossband repeater. Output power was just 5 milliwatts to a quarter wave vertical at ground level. N41.89712 W87.96218

Munch: Portillo's

Fox: Pete K9PW, John K9JK

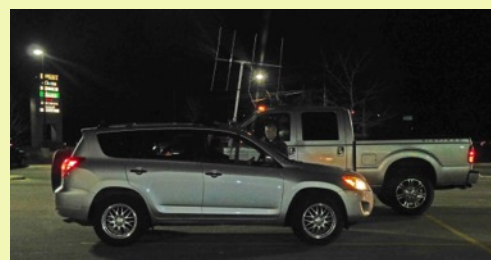
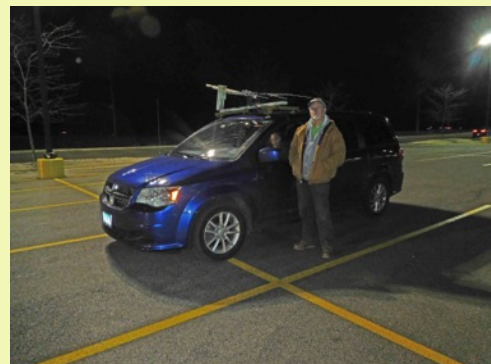
First (8:22pm): John WD9EXW, Janet

Second (8:22pm): Matt KC9SEM, Jacob,

Mike WA9FTS (8:27pm), Patty N9PLS & Mac

Third (8:28pm): Don W9RA

DNF: Tom N9CBA





Added perspective from Mike  
WA9FTS

The weather was like spring as the temp hit 50 earlier in the day. It was about 40 at the start of the hunt. Pete started the 4 hunt teams off with a strong signal. He must be close. Three of the hunters took 83 north but Tom turned west on North Av. John and Janet went up to 3rd and back to North and south on West Av Matt's team took North to York and north. In the second transmission, Pete could not be heard - back to the starting point. Pete must be running very low power. We looked at Salt Creek Park and then on West Av to find John driving just ahead of us. We both spotted Pete's van and with him in it. He said he was not the fox and he would say no more than that. John and Matt headed for the playground area. I took off for the baseball diamonds and checked out the dugouts. Nobody there. I checked out the west edge of the park as I noticed John and Matt at one of the third base dugouts I just was at. They walked away as I went back there to see Pete. I rechecked the dugout to find out the repeater was between bat rack tubes and the chain link fence. I did not lean over to see it clearly marked. Don was walking around closeby and then in to find the repeater. Tom was on the west side of the Salt Creek and was not feeling well



### SRO Officers

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Mike Leibovitz - WA9EVF  
Vice President  
Jean Pressel - KB9FXL  
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Jim Hawes - AA9DT  
Treasurer  
Mike Brost - WA9FTS

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Jon Tammen - K9IQF  
Jean Pressel - KB9FXL

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708-457-0966 Voice

Mike Shy is published 6 times a year by the Society Radio Operators. Deadline is 2 weeks before the meeting. Contributions are welcome & should be sent to the Editor.

### Regular Meeting Place

Salvation Army every even month at 7:30 PM unless other-wise indicated in Mike Shy and SRO web site. Check for exact date & time.

### Standing Committees

Membership - WA9FTS  
Program - AA9DT  
Meeting Refresh. - KB9FXL  
Foxhunting - WA9FTS  
Repeater - K9IQF  
Field Day - WA9EVF  
Education - WA9EVF  
Mike Shy - WA9FTS  
Picnic - WA9FTS  
Christmas / Hanukkah Party - WA9EVF  
Webmaster - WA9FTS

### SRO Web Site

[www.w9sro.org](http://www.w9sro.org)  
Mike Brost - WA9FTS

### SRO Repeaters

|                   | In      | Out     |
|-------------------|---------|---------|
| CFAR (107.2) PL   | 147.750 | 147.150 |
| TOOFAR (110.2) PL | 223.260 | 224.860 |

### Repeater Personnel

Trustee - WA9EVF  
CFAR Chairman - K9IQF  
Site Maintenance  
K9IQF, W9RA & W9BEA  
Control Operators  
K9IQF, TBD  
NW Maintenance  
W9JEM  
Northeast Maintenance  
K9IQF & TBD  
Lisle Maintenance  
W9AEK

**Regular meetings** - Salvation Army  
- 8354 W Foster Av, Norridge

**Board Meetings** - Every 5th  
Thursday

## Mike Shy

Mike Brost - WA9FTS - Editor

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First Class Mail



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