

The SKYHOOK



HOLIDAY CITY AMATEUR RADIO CLUB

www.hcarc.us

February 2018

Toms River, NJ

February Presentation

The presentation for February will be a video on a Fox Hunt which was originally given at the Fair Lawn Amateur Radio club in October 2016 by Jim Joyce K2ZO. Purpose is to get H.C.A.R.C. members interested in having a Fox Hunt in April or May.

What's a "Fox Hunt"?

Originally intended to teach how to locate sources of interference and illegal stations, it's a "game" that radio amateurs play, usually on a week-end morning or afternoon.

The "Fox" is any small transmitter hidden somewhere within a few miles of a starting place. Pairs of ham radio operators use their cars, their handhelds, their maps, their ingenuity, and whatever other gear they want to bring along, to locate the source of the signal.

The first team to find the Fox normally gets to be the Fox for the next Hunt. The hunt continues until all the Hunters have had a fair chance to find it. Finally, all the teams get together for refreshments and to compare techniques.

Happy Birthday To:

Carl LeFevre WA2IQE
Bill Locke KD2MHA
Steve Palmer KD2NDZ



Happy Anniversary To:

Murray & Shirley Goldberg
Carl & Harriet LeFevre
Urb & Pat LeJeune
Eric & Florence Schwab



The President's Report



Carl Lee W2PTZ

I want to thank the club members for my election as club president.

Due to his wife's health Joe had to resign as president. I understand this all too well as I had to resign being club president for the same reason years ago.

I would like the members to come to the February meeting prepared to discuss what they would like the club to do. This is your club and I want to get the members more involved.

The program for the February meeting is a video on fox hunting.

There will be an Executive Board meeting before the members meeting, so E B members please try to arrive by 6:30.

I look forward to seeing everyone at the meeting.

Carl W2PTZ

NEXT REGULAR MEETING:
Thursday February 1 at 7:00 PM
Bldg A, Meeting Rm. #1
Holiday City South Clubhouse
Santiago Drive at Mule Road
Toms River, NJ

Ocean County ARES® News

February, 2018

A note from Keith - KC2OON, Ocean County Skywarn Coordinator:

I wanted to thank all the Skywarn members who checked into the nets during the big snow event at the beginning of the month. We had about 12 reports on each net which is a great amount for Skywarn check-ins. I want to continue to keep Skywarn in our county active and hope to have another Skywarn class locally here to get more members on board. I'll be sure to post that information when it becomes available. If you are Skywarn certified but don't receive the Skywarn emails, email me at kc2oon@yahoo dot com and I'll add you to the list for the bulletins that get sent out. Also, be sure to like and follow the Ocean County Skywarn Facebook page <https://www.facebook.com/Ocean-County-Skywarn-617818108267259/>

Keith, KC2OON.



It is my intent to once again include the Manahawkin repeater into the Ocean County ARES training net schedule. On the third Wednesday of each month, the net will be held on N200/R, 146.835 MHz, PL of 127.3, -600 KHz. As usual, if there is an ARES meeting the net will not be held. Since there is no meeting in February, expect a net on 146.835 on February and March 21st, 2018.

The ARRL has released some information in regard to the reorganization of ARES. The info is ARES Connect.

What is ARES Connect?

ARES Connect is a volunteer management system that will allow each ARES group to manage their roster, create and staff events, and track nets and training. Each ARES group and ARRL Section will have a unique page on the platform with appropriate admin control given to the ARES Emergency Coordinator.

ARES members will be able to create a user profile that connects them to their local ARES group. Through their profile they can register for ARES (pending EC approval), sign up for events, log volunteer hours, and log training.

Reporting will be different through ARES Connect. As users log activity, data is created that allows ECs, DECs and SECs to run custom reports. The current ARES report forms will continue to be used through 2018 as the system is being built, but our current plan is to shift all reporting over to ARES Connect in January 2019.

Beta testing of the platform will begin in early 2018. Look for more information to be released about ARES Connect around midyear, once testing and initial build is complete.

Ocean County ARES applied for a unique group ID on January 5th, 2018 and is waiting for a response from the ARRL. Since this is a new program, the response will most likely be slow.

73 de WX2NJ

Bob Murdock

Ocean County Amateur Radio Emergency Service® EC

WHO DISCOVERED OHM'S LAW?

By Bob Buus, W2OD

By the 1820s, the Voltaic pile was commonly used to produce steady (dc) current at a voltage determined by how many cells were in the pile (see p. 7 of June 2016 *Propagator*). Also at this time, the tangent Galvanometer was commonly used to accurately measure current flow (see p. 7 of August 2016 *Propagator*). The time was ripe for someone to discover the relationship between the voltage across and the current through a resistor load. That person was a German mathematician named Georg Simon Ohm (b. 1789 – d. 1854)

Ohm received his Doctorate in Mathematics from the University of Erlangen in 1811. He obtained a post to teach physics and math at the Jesuit Gymnasium in 1817. This school had a well-equipped physics lab with Voltaic piles and tangent Galvanometers which Ohm started experimenting with. Using various lengths and diameters of iron and copper wires, Ohm tried to measure the relationship between the applied voltage

and the resulting current through the wires. There were many problems to be overcome. Since the wires used for the “resistors” had low resistance, the resulting high current, even when using a single Voltaic cell, caused the cell voltage to drop significantly when the wire was placed across the cell. Furthermore, the high current heated the wire so the measured current decreased with time.

The breakthrough came when Ohm learned that two wires of dissimilar metals twisted together produced a small voltage across the junction when heated. This is what we now call a thermocouple and it produced a constant small voltage when heated to a specific temperature. Using a thermocouple source, Ohm was able to use much lower voltages and hence much lower currents though his “resistance” wires and reduce the heating effect as well as the source voltage drop with current. He then verified the linear nature between voltage and current with resistance being the proportionality constant. This was published in 1827 in a paper by Ohm entitled “*The Galvanic Circuit Investigated Mathematically.*”

Ohm’s paper was not well received by the scientific community. His math was complicated and hard to follow but his results were so simple that many thought it obvious without need for the math. The Jesuit Gymnasium did not think the paper worthy of the school so Ohm was encouraged to find other employment and transferred to a position at the Polytechnic School of Nuremberg in 1833. Only after Kirchoff published calculations of resistor networks using “Ohm’s Law” did it become accepted as a significant contribution and Ohm lived to see fame with his law.

But the story doesn’t end here. In the 1870s, the brilliant British mathematician James Clerk Maxwell was going through the 100 year-old papers of Henry Cavendish (who is famous for accurately measuring the mass of the earth) and found that Cavendish had discovered “Ohm’s Law” in 1781 – 8 years before Georg Ohm was even born. And Cavendish did it the hard way using Leyden jars with static charges, a series of glass tubes of varying diameter and length filled with salt solution for “resistors” and using his own

body to measure the “kick” when discharging the Leyden jars through various resistors through his own body. Technically, it should be called “Cavendish’s Law” and the unit of resistance the “Cavendish” but that’s too awkward to pronounce so we’ll stick with Ohm. So now you know.

Our VE Crew

Larry [K2QDY](#) (Liaison) 732-349-2950,
 Urb [W1UL](#), John [KQ4WR](#), Stan [KB2PD](#), Steve [N2WLH](#),
 Murray [KD2IN](#), Paul [N2QXB](#), Larry [WA2VLR](#), Tony [KD2GSO](#).
License exams are given by appointment at 6:30pm on the second Wednesday of each month at Holiday City South Clubhouse, Bldg A, which is at the corner of Mule Rd. and Santiago Dr. Call Larry Puccio, K2QDY, at 732-349-2950 for an appointment.
Directions: From either Route 37 W or Davenport Road, take Mule Road to Santiago Drive. Clubhouse A is the building nearest the street corner.

CLUB COMMITTEES

Refreshments: Tony [KD2GSO](#) 732-930-5779
Webmaster: Steve [N2WLH](#) N2WLH@yahoo.com
Publicity: Paul [N2QXB](#) 732-279-3911
Programs: Tony [KD2GSO](#) 732-930-5779
Sunshine: Dave [WA2DJN](#) WA2DJN3@verizon.net
Field Day: Larry [K2QDY](#) 732-349-2950
VE Sessions: Larry [K2QDY](#) 732-349-2950
Membership: Doug [KC2TZC](#) 732-928-2316

Holiday City Amateur Radio Club

Toms River, New Jersey

Web Site www.hcarc.us

President	Carl Lee	W2PTZ	732-575-7558
Vice President	Billy Locke	KD2MHA	732 282-0151
Treasurer	Larry Puccio	K2QDY	732-349-2950
Secretary	Marge Penn	KD2LNT	732-736-0115
Executive Board	Doug Poray	KC2TZC	732-928-2316
Executive Board	John Roberts	KQ4WR	732-966 4665
W2HC Trustee	Larry Puccio	K2QDY	732-349-2950

Membership is open to all interested persons. Ham license is not required. Dues are \$25.00 per year, payable Jan 1st. Members joining during the year will have the dues prorated. Family membership \$30.00 per family.

Meetings are held on the first Thursday of every month, at 7:00 pm, except December.

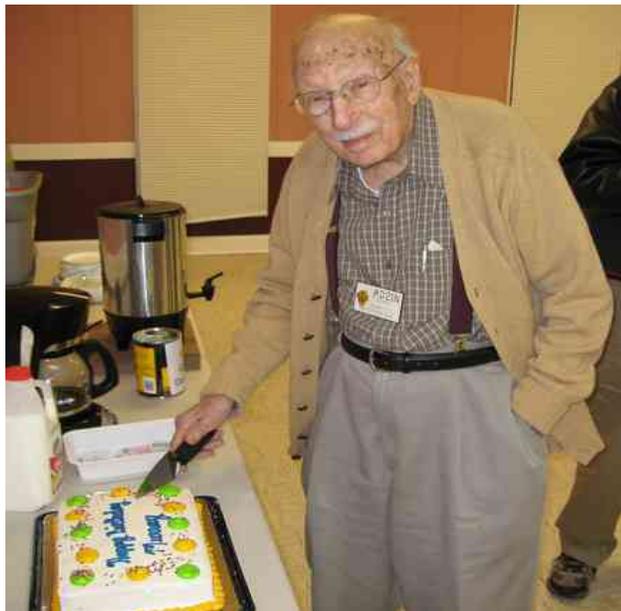
Location: Meeting Room #1 in the Holiday City South Clubhouse A.

Directions: From either Route 37 W or Davenport Road, take Mule Road to Santiago Drive. Turn into the parking lot from Santiago Drive and park near the pool. Enter the building nearest the street corner.-

The SKYHOOK is published monthly as the HCARC's official newsletter.
 Editor and Publisher:

John Roberts [KQ4WR](#) 7 Lincoln Ct. Whiting, NJ 08759-1505
 e-mail KQ4WR@arrl.net 732 966 4665

Murray Begins His 98th Year



At our January meeting, Murray Goldberg KD2IN, with his loving wife Shirley, celebrated his 97th birthday, by making the first cut of the cake. When asked how to live so long, he summed it up in one word, "Medicare".

He explained that the doctors (most of which he's outlived) have been watching over him closely, directing his diet, etc.

He mentioned that he was a substitute engineer running WNEW one Sunday morning, when suddenly the bells on the teletypewriters started ringing madly. It was December 7, 1941. Black planes were attacking Pearl Harbor.

HCARC Badge Ordering



The club's official badge maker is the Capital Engraving Co. in Longview, WA. To order a badge, simply call Capital at 1-800-628-4985 after 1PM M-F. All that is required is to give your call and first name and your mail address. Use your credit card to pay. Cost is \$13.25 plus \$4.00 S&H. Al Ross WA7UQE will take care of you and put our official logo and club name on your personal badge.

The Get-Togethers

Some of our members and friends like to meet each week at the Holiday City Diner, 621 Mule Road (near Davenport Rd) or Lisa's Pizzeria, 864 Route 37W (at Mule Rd). Everyone is welcome to join them.

The February schedule is:

Feb 5, Noon, Lunch at Lisa's

Feb 12, 9:00am, Breakfast at Holiday City Diner

Feb 19, Noon, Lunch at Holiday City Diner

Feb 26, 9:00am, Breakfast at Holiday City Diner

Internet Site Of The Month

by Tony KD2GSO

This month's site was suggested by Joe Fiorino KC2OAN. This is a series of videos on YouTube given by a ham under the channel name "Ham Radio Concepts" and his series of the different HF bands is of particular interest. There is also a recommended site:

<http://www.bandplans.com/>

in which you can click on the different HF bands to see how the bands are allocated according to usage, and also the different modes where you click on a mode of interest and it gives you the frequency on the different HF bands.

Our Tuesday Evening Net

The Holiday City ARC hosts a 2-meter voice net on Tuesday evenings at 7:00 PM on the WA2JWR, 146.655, repeater.

Use a 127.3Hz background tone and a -600kHz offset.

All are welcomed and the topics are varied.

We have a very congenial group and would like to hear from you.

Usually there is a designated net control; however the net is also free running, so why not join us.

The Marvelous Pentagrid Converter



by John Roberts, KQ4WR

Nearly every name-brand AM radio made between 1930 and 1960 was designed around a tube with five grids known as a pentagrid converter tube. It was the heart of almost every "superhet".

Its job was to convert the Radio Frequency (RF) signal from the antenna to a lower, narrow frequency band around 455kHz, known as the Intermediate Frequency (IF).

The first of the five grids was tuned, by a small coil and the smaller section of the main tuning capacitor, to a frequency equal to the sum of the RF and IF frequencies. Current from the tube's cathode fed back to a tap in the coil, to make it oscillate as a Hartley oscillator.

The RF signal from the antenna, resonated by the other section of the tuning capacitor, went to the third grid, which was shielded from the cathode, first grid, and plate by the remaining grids.

The electron stream was already a series of pulses at the oscillator frequency. The RF signal amplitude-modulated the oscillator's electron stream, producing sidebands at the sum and difference frequencies. The IF was the difference frequency (the lower sideband!).

The IF signal still had to be singled out by band-pass filters, amplified, and rectified to produce both the audio frequency (AF) signal and negative bias voltage for the automatic volume control (AVC).

Some of the more popular pentagrid tubes included:

6A7, 6SA7, 12SA7, 1R5, 6BE6 and 12BE6.

FCC License Exam Information



The Holiday City ARC VE team gives exams for Technician, General and Extra Class licenses at the Holiday City South club house located at 139 Santiago Drive (at Mule Rd), Toms River, NJ.

Sessions are held on the second Wednesday of each month at 7:00 PM in room 1 of building A, unless there are no applicants.

The testing is done on a scheduled basis only (no walk-ins).

Two pieces of identification are required and at least one must be a photo ID such as a driver's license.

Applicants must provide either their Social Security Number or their FCC Registration Number. (FRN).

If you have an FCC license, you may find your FRN number on the front of your license. If you don't have an FRN number, you can apply for one at <https://apps.fcc.gov/coresWeb/publicHome.do>

The fee is \$15.00 by check payable to the American Radio League; cash will also be accepted.

If you currently have an amateur radio license, bring the original and a copy. If you have a CSCE from a previous testing session please bring that also.

For registration and to confirm a seat please contact Larry Puccio, K2QDY, at 732 349-2950.

Due\$ Are Due



Our club counts on its members for financial support, and dues were due January 1. But a few members seem to have forgotten. If that means you, please call our friendly treasurer, [Larry Puccio](#),

22 Sabinas Street, Toms River, NJ 08757 (732-349-2950). Let's keep him friendly. Thank you.

Grounds



No, I didn't mean coffee grounds, but I did want to point out that our Treasurer, Larry Puccio, K2QDY, is an expert on the subject. Grounds are as important as antennas, so before you consider setting up an antenna, especially an outdoor one, check with the Elmer squad at our next meeting.

Doing It Yourself

There was a time when most ham transmitters were home-made from kits or individual (sometimes scrap) parts. There are still a few companies, like Elecraft, that sell kits, and some, like RF Parts, that sell radio parts, but in most cases, radios that are commercially made cost less in the long run.

But there are still some adventurous individuals who can take pride in doing old things the old way, old things a new way, a new thing the old way, or a new thing a new way.

Kosovo (Z6) Now A DXCC Entity



The ARRL DX Bulletin has announced that the Republic of Kosovo has been added to the list of DXCC entities. There are now 340 entities on the DXCC list. That means you have to work more countries to get on a DXCC Honor Roll, but you now have one more possibility. The new prefix is Z6.

Where is Kosovo? It's a small country, within what was once known as Yugoslavia. It's listed at Latitude 42deg 35min by Longitude 21deg. That's in Grid Square KN02no, 4665 miles NE of the Holiday City South clubhouse.

On The Proper Use Of A Microphone

Most microphones are designed for their best frequency response with at least a few inches between the mike and the sound source (mouth). Getting closer impairs clarity.

Avoid talking directly into the mike. Your breath can cause some sensitive mikes to overload trying to follow the pressure changes. But keep in front of the mike, because most good mikes are directional, so they don't hear well from the side or back.

Think ahead and speak slowly. Someone may be having difficulty hearing you clearly.

Adjust the mike sensitivity properly. With too much sensitivity, background noises could be annoying or confusing, especially if you use volume compression.

High fidelity doesn't produce high intelligibility. Best results with most audio systems are usually obtained by reducing the bass and increasing the treble. The same is true with ham equipment.

And smile. Long ago, the Bell Telephone Company discovered that listeners could tell from the sound of a voice if the talker was smiling, so their operators were instructed to smile, to make the experience less intimidating. Signs were posted saying simply, in big block letters, "SMILE". Bell System ads boasted, "The Voice with a Smile".

A smile has been called the most attractive thing you can wear. So if you're at all happy, don't be afraid to smile. It's contagious.

February						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
				1 HCARC MEETING 7PM	2	3
4	5 Noon Lunch @ Lisa's	6 HCARC NET 146.655 7PM	7	8	9	10
11	12 9am Breakfast @ HC Diner	13 HCARC NET 146.655 7PM	14 License exams 7pm Call Larry 732.349.2950	15	16	17
18	19 Noon Lunch @ HC Diner	20 HCARC NET 146.655 7PM	21 ARES NET 8:30PM	22	23	24
25	26 9am Breakfast @ HC Diner	27 HCARC NET 146.655 7PM	28			