

QSO'er



Volume 40, Issue 4
August 2026

FEATURES

2026 Hamfest Information Flyer (page 6)

Call For Support to the 2026 Otto Grunski Runski (page 7)

Call For Support to the 2026 St. Joseph Food Pantry Run (page 8)

Photo Recap of FCARC Corn Roast (page 9)

Photo Recap of the FCARC Support to EAA AirVenture (Page 10)

Slicing Through the Static: Inside a Microwave Amateur Radio Activation (Pages 11-12)

Wisconsin Parks on the Air Information For 2026 (Page 13)

Ham Radio Operators Make Connections (Pages 14 - 17)

from contributing author Caitlyn Nally, reprinted from wipota.com

Building a Portable Tower Tote (Page 21)

Reprinted from "On the Air" magazine

IN EVERY ISSUE

The Basics - Understanding Solar Cells (Part 1 of 4) (Pages 18-20)

Article submitted by Bob Schmid (WA9FBO)

Lending Library Catalog (page 27)

Need something for a short period use? Check out the FCARC lending library. It may just have what you need.

Ham Crossword Puzzle and Answers (pages 29 & 32)

FCARC Calendar (page 31)



QSO'er



A publication of the
Fox Cities Amateur Radio Club
P.O. Box 2346
Appleton, Wisconsin 54912
www.fcarc.club

Your FCARC Officers

President— Mike Moore (WI9MMM)
Vice-President— Andy Lawton (AJ9L)
Treasurer— Donna Mendyke (KC9THF)
Secretary— Gene Wall (KE8KWF)
Membership Coordinator— Karen Thorne (WB9ZNA)
Technical Director— Larry Peterson (WA9TT)

Members At Large

Mike Miller (KD9KHQ)
Laurel Eihusen (KD9AJT)
Joel Kasper (WI4WD)

On the cover: John Touzinsky (K9KI) is prepared to head out on the annual fox hunt at the summer corn roast.

Message From the Editor

A Busy Month and Our Core Mission

By Gene Wall (KE8KWF)

FCARC Secretary and QSO'er Editor



It has been a whirlwind of a month for the Fox Cities Amateur Radio Club! Since our last newsletter, our members have been hard at work giving back to the community and coming together as a club. From providing vital communications support during EAA to gathering for fellowship at our annual corn roast, the energy across FCARC has been incredible. Thank you to everyone who volunteered and joined in the festivities.

While these events showcase the fun and camaraderie of amateur radio, recent emergency events served as a powerful reminder of our deeper purpose.

Following the severe tornado that struck Menasha on July 27, 2026, many of our members immediately jumped into action to support local recovery efforts. In the crucial days following the storm, when local infrastructure was strained, our volunteers stepped into the gap. They put into practice the exact skills we hone week in and week out.

Volunteers managed organized net control procedures to maintain clear frequency traffic and operational discipline. They relied on the robust coverage of privately owned repeaters to ensure reliable communications when commercial networks failed. Operators reprogrammed personal radios on the fly to match evolving local frequencies, passed critical information seamlessly to small ground teams, and meticulously maintained detailed activity logs to preserve situational awareness.

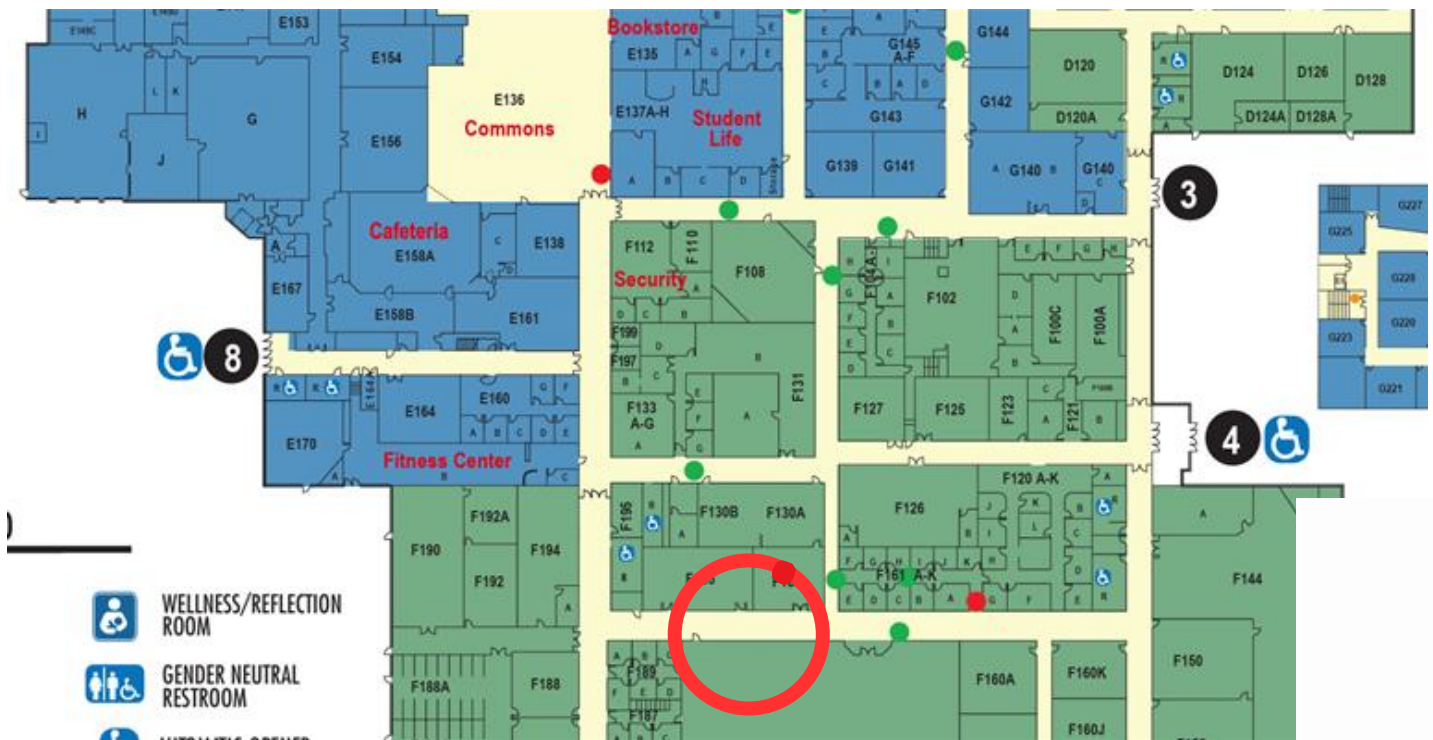
These real-world efforts highlight precisely why our club exists. At its core, the mission of the Fox Cities Amateur Radio Club is to recruit, train, and mentor operators while exposing them to the many facets of the hobby. We are here to bring new people into amateur radio, guide them through licensing, and continuously build their technical and operational confidence.

When emergency situations arise, our community doesn't just need equipment—they need skilled operators who know how to use it under pressure. The effective communication that supported Menasha's recovery was the direct result of operators practicing their craft, experimenting with gear, and learning from one another through FCARC.

Every aspect of our hobby contributes to this readiness. Whether you spend your time experimenting with digital modes, building antennas, handling traffic, or configuring off-grid power, you are building skills that strengthen our entire community.

Let's carry this momentum forward. Continue inviting newcomers to our meetings, encouraging those preparing for license upgrades, and sharing your technical knowledge. By fostering a welcoming environment, we fulfill our primary mission: making capable ham radio operators who are always ready to serve.

Fox Valley Technical College Campus Map



We hold our General Membership meetings at

General Meeting

**Fox Valley Technical College
Room F108. Enter through Door 3
or Door 8 for easiest access.**



2026 HAMFEST

NEW VENUE LOCATION! Sunnyview Expo Center

Presented by: Fox Cities Amateur Radio Club W9ZL
(FCARC)

An ARRL Special Service Club

Talk-In on the wide area **146.76 pl 100** repeater



Sunday

Nov. 8th, 2026



Time

8:00 AM to 2 PM



500 E. County Rd Y
Just off Interstate 41 at Hwy 76 Exit
Oshkosh, WI 54901

**Flea Market
Table**

1 table & 2 chairs

\$15

- Admission per person \$10
- Electricity Cost \$5 Extra
- Free Wi-Fi

**Commercial
Vendor Booth**

Includes 4 tables & 2
Chairs

\$50

- Vendors will be admitted at 6:00 AM
- Vendors-only loading zone on North side
- General Admission and Sales begin at 8:00 AM

To Reserve a Table or Get Information:

Contact: Carol Young, Hamfest Chairperson



920-915-8960



W9PIO2024@gmail.com

ADMISSION:

\$10 per person

VE TESTING

Testing Begins at
9 am

Amazing RAFFLE PRIZES

Raffle Drawings at 1:30 pm!

FOOD & BEVERAGES PRESENTATIONS

Directions from Green Bay

- Take I41 South
- Take Exit 124 (Hwy 76/Jackson St)
- Take a left onto Hwy 76/Jackson St and go south 1 mile to the first stop light (County Road Y)
- Take a left onto County Road Y and go about a 1/4-mile

Directions from Milwaukee

- Take I41/ Hwy 45 North
 - Take exit 124 (Hwy 76/Jackson St)
 - Take a right onto Hwy 76/Jackson St and go south 1 mile to the first stop light (County Road Y)
 - Take a left onto County Road Y and go about a 1/4-mile
- Sunnyview Expo Center is on your left

The Otto Grunski Runski



M E N A S H A , W I S C O N S I N

September 26, 2026
7:00 a.m. - 10:30 a.m.

The FCARC has once again been asked to assist with the 46th Annual Otto Grunski Runski, a fundraiser for the Menasha Parks and Recreation Department. Operators should plan on meeting around 7:00 a.m. for pre-event coordination. The closest stations start to secure around 9:30 am, with the end of the support at approximately 10:30 am.

Our beautiful course highlights Menasha's downtown, trail system and historic Doty Island. Despite the cleanup and rebuilding efforts on Doty Island following the July 27, 2026 tornado, the race will still happen with a slightly modified course. The Grunski starts and finishes at Curtis Reed Square, 160 Main Street, Menasha. Join in the Funski!

Proceeds of The Otto Grunski Runski go to the Menasha Parks and Recreation Family Assistance Fund, providing financial assistance to Menasha youth to participate in Menasha Parks and Recreation programming year-round.

This is an excellent event for new operators who are interested in supporting the community but are nervous about getting started. Training will be provided for new hams to prepare them for this event.

If you can offer a few hours to support our community, scan the QR code and fill out the form, or use the link below:

bit.ly/runski26



If you have any questions, please contact Gene Wall (KE8KWF) via email, phone, or text (920-939-0160).



The St. Joseph Run/Walk will be held on
Saturday, October 3, 2026.

The FCARC will need 8 volunteers to monitor the route and provide assistance if needed.

Rod Roller (K6ROD), the FCARC support coordinator, will send out course maps and positions as the date nears.

Email Rod if you are interested in supporting this event.

K6ROD.46@proton.me

Rod Roller K6ROD

FCARC St. Joe's Run/Walk Coordinator

The mission of St. Joe's Food Pantry is to supplement nutritional needs, free of charge, for the economically distressed within our local communities. Your support to this FCARC community service event indirectly supports thousands of our community neighbors in need of assistance.



A Photo Recap of the FCARC Summer Corn Roast

Page 9

Location: Sunset Park, Kimberly, WI

August 15, 2026

Photos taken by Gene Wall (KE8KWF)



The annual FCARC family corn roast was a huge success. The weather was picture perfect and all the club to enjoy succulent corn on the cob, brats, hamburgers, and a plethora of salads and snacks. The attendees tried their luck on a low-power fox hunt, which once again was a challenge to find.

Copyright © 2026, Fox Cities Amateur Radio Club, All Rights Reserved.

Location: EAA AirVenture, Oshkosh, WI

Approximately 30 ham radio operators from the FCARC and individuals from around the state provided more than 500 volunteer hours over the six days of supporting KidVenture. Special thanks are in order for all stations that answered our CQ while operating the special events station. We especially appreciate the operators who took time to talk with the hundreds of youth who stopped by to get on the air.



Slicing Through the Static: Inside a Microwave Amateur Radio Activation

by Gene Wall (KE8KWF)

Page 11

In the specialized world of microwave amateur radio, success is a delicate equation of line-of-sight propagation, precise antenna aiming, and highly customized gear. In a recent interview, FCARC operators Larry Peterson (WA9TT) and Andy Lawton (AJ9L) shared the details, trials, and technical triumphs behind their latest radio activation on the 5.7 GHz and 10 GHz bands.

For Andy, the primary goal of the day was equipment validation and personal redemption. During a previous Field Day event at Clayton Elementary—the highest point in Winnebago County—Andy had attempted a 100-mile contact with a club station in Madison. While Larry received the station's signal clearly, Andy could barely hear them and could not be heard at all. Determined to identify the issue, Andy utilized this latest activation to test his setups. It marked his first-ever activation on the 5.7 GHz band, alongside his familiar 10 GHz rig. Fortunately, this trial proved successful, with Andy's S-meter showing strong, healthy performance.

At Right: Andy Lawton (AJ9L) is making contact using his personal microwave radio rig. Andy is transmitting from the north shore of Lake Winnebago to the extreme south end, nearly 30 miles away.



The activation also served a broader collaborative purpose, assisting other operators with signal reports and technical adjustments. The contact list included coordinator Scott Littfin (N0EDV), who reached out to Larry "out of the blue" via email after spotting his location on rainscatter.com, Joe Belany (AI9Z) from Ashland, Wisconsin, and John Mahanna (KC4CQT) from Kentucky. Larry provided crucial signal reports, measuring Scott's incoming signal at a peak of 55 to 60 over S9, and Joe's at 45 over S9. These reports allowed Joe to adjust and significantly improve his station's audio quality on the spot.



Scan the QR code or click [this link](#) to view a YouTube video of Scott, Joe, and John activating from Fond du Lac, talking with Larry and Andy on the north shore of Lake Winnebago.



A key highlight of Larry's operations is his highly efficient roving setup, engineered specifically for rapid deployment. While some operators take ten minutes to set up, Larry can exit his vehicle, mount his tripod, align his compass rose, and be active on the air in under two minutes. Speed and convenience extend to their accessories: Larry uses an inexpensive 3D-printed CW paddle, paired with pre-programmed radio memory keys that instantly transmit Morse code beacons at the push of a single button.

The technical conversation of the morning also highlighted how much microwave technology has evolved. While Andy has been capable of generating 10 GHz signals for 35 years, he only made his first actual contact a year and a half ago. In the past, operators relied on "Gunnplexers"—unstable Gunn diodes within resonant cavities that shifted frequency wildly with temperature changes and lacked frequency displays.

Today, advanced units like the IC 905 transceiver streamline operations by mounting the RF components directly on the tower, utilizing Power over Ethernet (PoE) to eliminate the extreme signal losses associated with running long coaxial cables at high frequencies. Additionally, both Larry and Andy emphasized the critical importance of low-loss connectors to ensure maximum power transfer.



To listen to some of Larry and Andy's QSO's, click the links below or scan the QR codes.



QSO #1



QSO #2



QSO #3



QSO #4



Wisconsin Parks on the Air

September 19, 2026

Sponsored by



Purpose: The Fox Cities Amateur Radio Club is pleased to support the Wisconsin Parks on the Air. This is to promote public awareness of ham radio in Wisconsin's beautiful state parks.

Objective: To operate from as many Wisconsin parks as possible and work hams in other WI parks, as well as hams not located in a park in any state, province or country.

Contest Period: The 3rd Saturday in September each year from 11 am until 6 pm local/CDT.

Bands & Modes: All amateur bands, except 60, 30, 17 and 12 meters Any voice or digital mode, and CW, as long as you make the appropriate exchange.

Exchange: If you are in a WI park, exchange call sign and US-POTA park number during each and every QSO, with one exception when working state QSO party stations (see Rules at www.wipota.com). All other stations only need to exchange their call sign.

Scoring: # of QSOs times # of WI parks worked

Operator Categories:

- Single transmitter at one time in WI park
- QRP for single transmitter at one time in WI park
- Multiple simultaneous transmitters in WI park
- WI operators not in a park
- Non-WI operators

The Fox Cities Amateur Radio club would like to thank Wolf River Coils for supporting WIPOTA.



Calling from Wisconsin parks: Ham radio operators make connections

By Caitlyn Nalley

This article was originally posted on the Wisconsin Parks on the Air (wipota.com) website.

“Whiskey, nine, alpha, victor!” Headset on, alert and leaning in, Clint Sprott calls out the words quickly and clearly from his home office in Madison. There is silence for a beat. Then Sprott receives a response: “Whiskey, nine, alpha, victor ... five-seven, central Texas.”

W9AV is Sprott’s call sign, or how he can be uniquely identified when broadcasting on the radio waves. The phrase “five-seven” means the operator on the receiving end, in this case from Texas, can hear him OK.

Sprott is something of a University of Wisconsin-Madison celebrity. He’s an emeritus professor of physics known for the school’s annual Wonders of Physics show, which he started in 1984.



University of Wisconsin-Madison physics professor emeritus Clint Sprott is the eight-time winner of Wisconsin Parks on the Air, a ham radio competition. Here, he operates from the Lower Wisconsin State Riverway near Muscoda.

But Sprott is well-known in non UW-Madison circles too. He’s been participating in one relatively niche hobby since he was 12, and that hobby has led to him being crowned the victor of an even-more-niche Wisconsin contest for all eight years of its existence.



Clint Sprott operates a ham radio out of his home office in Madison.

What in the world is WIPOTA?

The hobby is ham radio operation. The contest is Wisconsin Parks on the Air (WIPOTA).

WIPOTA is a Wisconsin-based contest inspired by the international amateur ham radio program Parks on the Air (POTA). POTA and WIPOTA differ, but the umbrella concept is pretty similar.

There are two camps of participants: activators and hunters. Activators travel to places predefined by POTA as parks (think state and national parks, but also national scenic trails, waterways and more) set up ham radio equipment, and attempt to contact as many people as they can on the airwaves.

Hunters can be located anywhere in the world and use their ham radios to contact as many activators as possible. While POTA is international and continuous, WIPOTA is a single day contest held in Wisconsin. WIPOTA was started by Appleton resident Larry Peterson (call sign: WA9TT). A ham radio operator since age 12, Peterson was in Xenia, Ohio for Hamvention, the world's largest amateur radio convention, when two local hams told him about how they had organized their own POTA-inspired contest for Ohio state parks. They encouraged Peterson to return to Wisconsin and do the same.

"I brought that idea home, knowing it'd be a lot of work," Peterson said. "I got together a team of hams to think about how we would structure it in Wisconsin, and we did it. So 2018 was our first Wisconsin Parks On The Air event."

With Peterson at the helm, the WIPOTA contest now falls annually every third weekend in September. Since that first year, the overall winner of the Wisconsin Parks on the Air contest has been the same: Clint Sprott.



Larry Peterson and his friend Paul Zuiker activate for Parks on the Air from High Cliff State Park on Lake Winnebago.

Sprott was inspired to be a ham (slang for a ham radio operator) by one of his father's friends who was a ham himself. Young Sprott enrolled in classes to get his license, and there he met Quent Cassen (call sign: W6RI), the son of one of his instructors.



Clint Sprott and Quent Cassen operate a ham radio circa late 1950s.

Bonding over their shared interests, Sprott and Cassen became fast friends. They went their separate ways for college and didn't see each other in person again for almost 60 years. It wasn't until after Sprott retired in 2008 that he and Cassen, now living in California, began talking again more regularly.

In 2018, Sprott suggested that Cassen fly to Wisconsin to compete together in the first WIPOTA contest. That year, the two set up shop near the banks of Sprott's cabin on the Lower Wisconsin Riverway, operated the day away, won WIPOTA, and have made it an annual tradition to compete together (and win) ever since.



Quent Cassen (left) and Clint Sprott (right) operate out of Clint's backyard along the Lower Wisconsin State Riverway for the 2025 Wisconsin Parks on the Air contest.

Last year however, their winning streak faced quite the challenger. Michael Martens (call sign KB9VBR) and Dave White (KZ9V) teamed up to activate out of Lake Wissota State Park near Chippewa Falls to see if they could thwart the reigning champs.

Martens is the owner of KB9VBR Antennas, a small business which sells amateur ham radio equipment, and the creator behind the KB9VBR Antennas YouTube channel.

“Clint, is a very, very good operator, so we knew that we were going to have our work cut out for us to kind of go head-to-head with him,” Martens said.

Ultimately, he and White were able to make 603 contacts, 17 of which were within Wisconsin parks. While this made the competition closer than in years past, in the end, Sprott and Cassen were still able to come out victorious with 687 contacts, 19 of which were within Wisconsin parks.

These scores mean both teams were able to make well over one contact per minute.

For the love of the hams

For hams like Sprott, Cassen and Martens, the contest isn’t everything. Their hobby offers a way to get outside, to mentally challenge themselves, to carve out a niche in an increasingly hectic world. It was genuine, enthusiastic curiosity that drew Sprott to ham radio in the first place, and that enthusiasm still remains.

“I do feel like in many ways I’ve returned to the way I was as a teenager, just doing whatever’s fun,” Sprott said.

Ham radio has served as the cornerstone of Sprott and Cassen’s friendship for over 70 years. Similarly, for others, the hobby has built up a community of like-minded radio enthusiasts from all over the globe.

“The cool thing about ham radio,” Martens said, “is that I’m not reliant on any kind of infrastructure to talk to and to meet another person. I can just take my little transceiver and I can go out to wherever, and I can throw a piece of wire into the air, and all of a sudden, I’m talking to California, I’m talking to Texas, I’m talking to New York. And someone might say ‘Well, why can’t I just chat with them on my phone?’

“And I say, ‘Well, I suppose you could. But what fun is that?’”

About the Author: Caitlyn (Cait) Nalley is originally from Louisville, KY, and received her B.A. in Environmental and International Studies from the University of Michigan in 2020.

After earning a graduate certificate in Environmental Education from Hamline University during the pandemic, Cait moved to Denver, Colorado, and worked full-time in education and part-time on a farm for 2 years. In 2023, Cait moved to Madison, Wisconsin, and began working for the Wisconsin Department of Natural Resources’ Office of Applied Science as a communications specialist.

Loving this work, Cait decided to pursue her master’s degree in Journalism and Mass Communications at the University of Wisconsin-Madison, where she is also a communications assistant within the Department of Life Sciences Communications.

Understanding Solar Cells (Part 1 of 4)

Part 1: Turning light into electricity

Most radio amateurs have used a solar-powered device, from a calculator to a portable battery charger. Many have used solar panels for Field Day, emergency communications, or remote repeater sites. What's actually happening inside a solar cell? This article introduces the photovoltaic effect and explains how sunlight is converted directly into electrical energy. Understanding how a solar cell works also explains why temperature, shading, and the color and intensity of light all affect its output.

Why doesn't an ordinary piece of metal generate electricity?

An ordinary piece of metal doesn't produce useful electrical power when placed in sunlight. The energy absorbed from the light simply becomes heat.

A solar cell is different because sunlight creates electrical charges, and its internal electric field separates them before they can recombine and their energy is lost as heat.

How does a solar cell generate electricity?

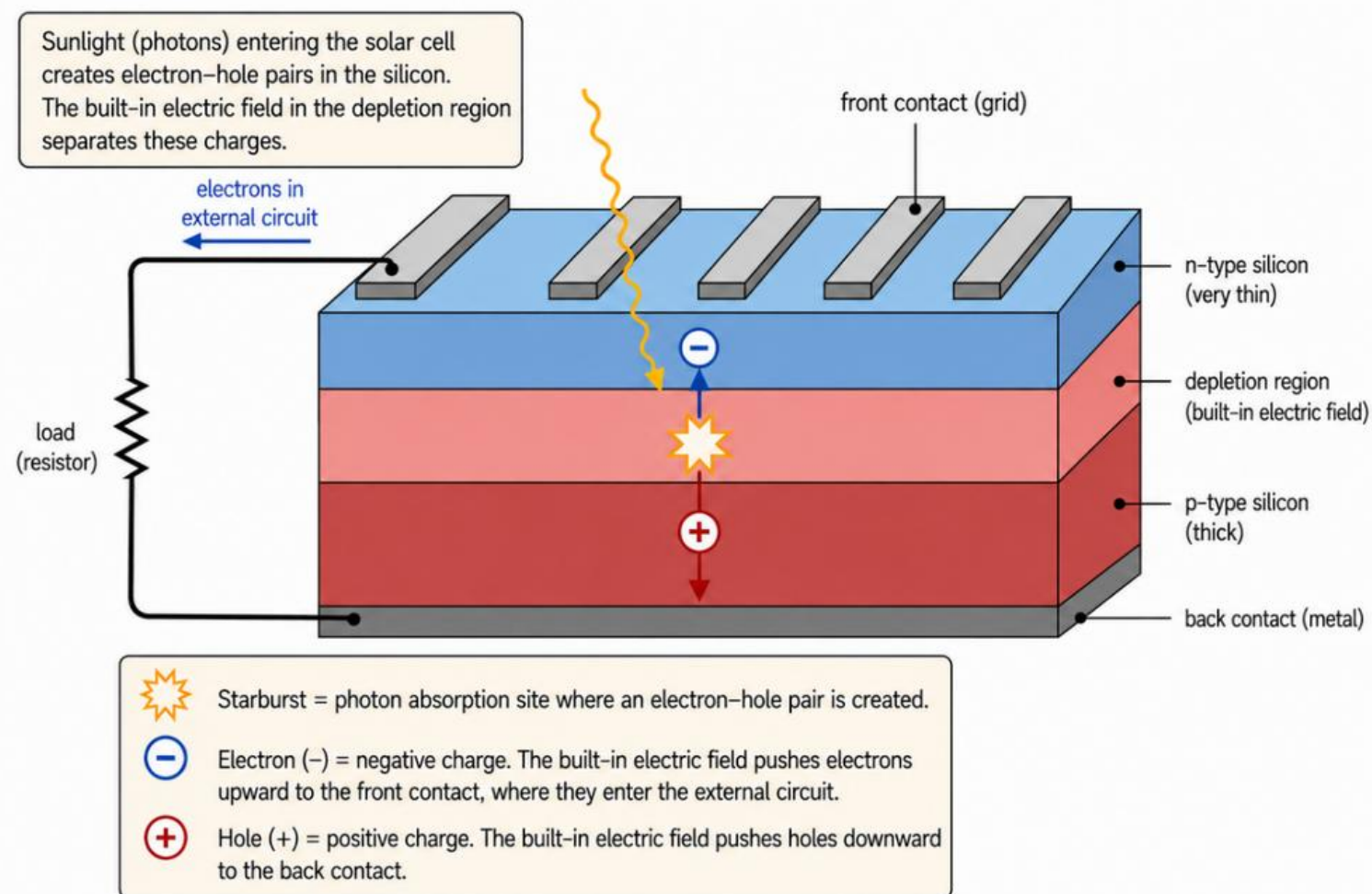


Figure 1 - Basic operation of a silicon solar cell.

The p-n junction. A silicon solar cell is a specially constructed semiconductor diode containing a large-area p-n junction (Fig. 1). During manufacturing, a very thin depletion region forms where the p-type and n-type materials meet. Electrons diffuse across the junction, leaving behind fixed charged atoms in the depletion region. These fixed charges create the built-in electric field that separates the electron-hole pairs created by sunlight.

Separating the charges. When sunlight creates an electron-hole pair near the junction, that electric field quickly separates the electron and hole, sweeping the electron toward the n-type side and the hole toward the p-type side. By separating the charges before they can recombine, the junction allows light energy to be converted into usable electrical energy.

Current through the load. Metal contacts on the front and back of the cell collect the separated charges. Electrons flow through the external circuit, power the load, and eventually return to the opposite side of the cell where they recombine with holes. The process repeats continuously as long as sunlight creates new electron-hole pairs, producing a steady flow of current.

Polarity can be confusing. A solar cell behaves like a source of electrical power, so current leaves its positive terminal. An ordinary diode behaves like a load when forward biased, so current enters its anode and leaves its cathode. Keeping this difference in mind makes bypass and blocking diode circuits easier to understand.

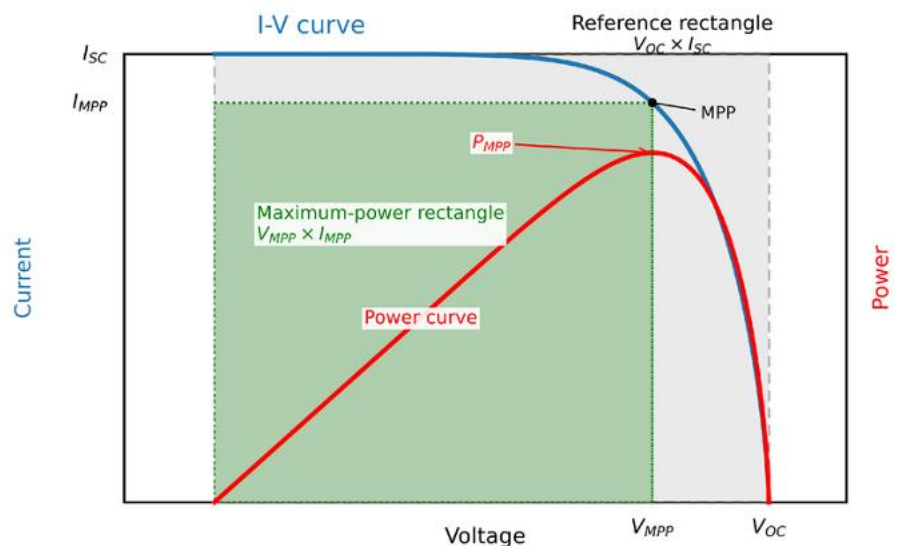
Why doesn't every photon produce electricity?

A photon must have enough energy to free an electron so that it can become part of an electron-hole pair. In silicon, photons with wavelengths longer than about 1100 nm do not have enough energy and therefore pass through the cell without generating electricity. Photons with more energy than necessary do create electron-hole pairs, but their excess energy is converted into heat instead of additional electrical power.

Predicting solar cell performance

The I-V curve. The current-voltage characteristic, or I-V curve, is the fundamental performance curve for a solar cell. It is used to characterize and compare cells because every possible operating point lies somewhere on this curve.

Figure 2 - Typical current-voltage (I-V) and power curves for a solar cell. The maximum power point (MPP), defined by V_{MPP} and I_{MPP} , corresponds to the knee of the I-V curve; P_{MPP} is the peak of the power curve. The fill factor is the ratio of the green maximum-power rectangle ($V_{MPP} \times I_{MPP}$) to the gray reference rectangle ($V_{OC} \times I_{SC}$).



To create an I-V curve, a solar cell is illuminated at a known intensity and connected to a variable load. The load is varied from a short circuit to an open circuit, and the voltage and current are measured at each step. The measured values are then plotted (Fig. 2, blue curve).

The power curve. The power delivered by the cell at each operating point is $P = V \cdot I$. Multiplying the voltage and current at each point on the I-V curve and plotting the results produces the power curve (Fig. 2, red curve). The peak of the power curve (PMPP) corresponds to the maximum power point (MPP) on the I-V curve.

Key specifications from the I-V curve

Short-circuit current (ISC). A solar cell generates a current approximately proportional to its area and the amount of light falling on it. ISC is the current measured when the cell's terminals are shorted together. At this point the output voltage is zero, so the output power is also zero.

Open-circuit voltage (VOC). VOC is the voltage measured when the cell is not connected to a load. The output current is zero, so the output power is again zero. A silicon cell typically produces about 0.6–0.7 V under strong illumination. Unlike short-circuit current, open-circuit voltage does not increase in direct proportion to light intensity, although it does change somewhat with illumination and temperature.

Maximum power point (MPP). The output power is zero at both ISC and VOC and reaches a maximum somewhere between them. This point, near the knee of the I-V curve, is called the maximum power point. Its voltage is VMPP, typically about 0.5 V for a silicon cell, and its current is IMPP. The maximum output power is the product of VMPP and IMPP.

Fill factor (FF). Imagine drawing a rectangle whose width is the open-circuit voltage (VOC) and whose height is the short-circuit current (ISC). This rectangle represents the largest possible voltage-current combination defined by the two endpoints of the I-V curve. The largest rectangle that fits beneath the I-V curve is smaller. It represents the cell's maximum output power (VMPP • IMPP). Fill factor is the ratio of the areas of these two rectangles: $(VMPP \cdot IMPP) / (VOC \cdot ISC)$. A higher fill factor means the I-V curve is more nearly square and the cell delivers more usable power. Good silicon cells commonly have fill factors in the range of about 70%–80%.

Conversion efficiency (η). Conversion efficiency, η (eta), is the percentage of light power converted into electrical power. It is calculated by dividing PMPP (W) by the input light irradiance E (W/m²) multiplied by the illuminated surface area A (m²): $\eta = PMPP / (E \cdot A)$. Commercial silicon cells typically achieve efficiencies in the low-20-percent range under standard test conditions.

Next time. One solar cell teaches us how the photovoltaic effect works, but it produces only about half a volt. In the next article, we'll see how individual cells are connected together to produce useful voltages and currents for real applications.

73,
Bob (WA9FBO)

Hints & Hacks

Share your hints (or hacks) with fellow hams by sending them to ota@arrl.org or On the Air, ARRL, 225 Main St., Newington, CT 06111.



Above: The frame of the toddler trailer, with the top canopy part removed, is ready to be repurposed for hauling ham equipment.

Right: The completed portable antenna system, ready to roll.



HACK

Toddler Transport Becomes a Tower Tote

I have been operating in some nice places for the ARRL 10 GHz and Up Contest for the past few years, but until recently I have had to use loaner stations. I finally got my own transverters so I don't have to worry about damaging someone else's equipment. Now my problem is toting all my equipment. Some locations require me to carry it to a distant site — one of my operating sites is a good quarter-mile hike uphill over an unimproved path. Carrying about 50 pounds of equipment up this hill isn't easy. It usually requires numerous trips between the site and my car. I started thinking about an easier way to move my equipment to distant sites like this one. I think I came up with an interesting solution that may also work for hams doing POTA and other portable operating.

I got a toddler trailer that attaches to a bicycle and totes your toddler in comfort as you ride along (see above left). I paid \$30 for it at a bike shop, or you may be able to find someone who is discarding theirs. Look for one that allows you to remove the wheels. This way, it will sit on the ground, adding more support.

To convert the frame, I removed the enclosure that the toddler would sit in, then I cut an 8-foot 2 x 4 so I had two pieces that would fit across the front and back of the carrier. Then I used U-bolts to anchor it to the frame. Next I drilled three holes for 3/4-inch hex bolts, washers, and nuts to attach my 3-foot tripod.

The frame has a cross piece that is bent upward in the center, with a hole for supporting the now-removed enclosure. There I placed a 2-inch PVC cap with a 3/4-inch hex bolt, washer, and nut as a support for the base of the mast. The 4-foot antenna supports you can find at hamfests and swaps fit in this nicely and it keeps the mast from slipping out from under you.

The photo at below left shows the finished setup with my microwave antenna and 10 GHz transverter on it. When this picture was taken, wind gusts were around 20 MPH and the setup wasn't moving. The pipe I used as the mast is a surplus piece of galvanized gas pipe.

This has been a sturdy setup with flexibility for other things like my state QSO party, a trip to a scenic operating position, and areas that can only be accessed by foot or bicycle.

James French, W8ISS

“I started thinking about an easier way to move my equipment to distant sites like this one.”



Strong partners and sponsors of the FCARC Hamfest.

Shop West Mountain Radio online at
westmountainradio.com

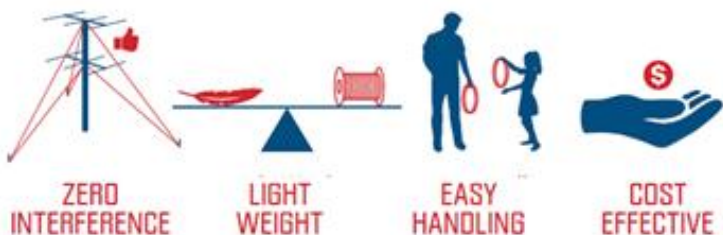
RIGblasters
RIGrunners
DC Power

Battery Analyzers
Audio Ware
Powerpole Cables

Custom Power Cables
Custom Battery Boxes
More for Hams



WHY GUY WITH SYNTHETIC ROPES?



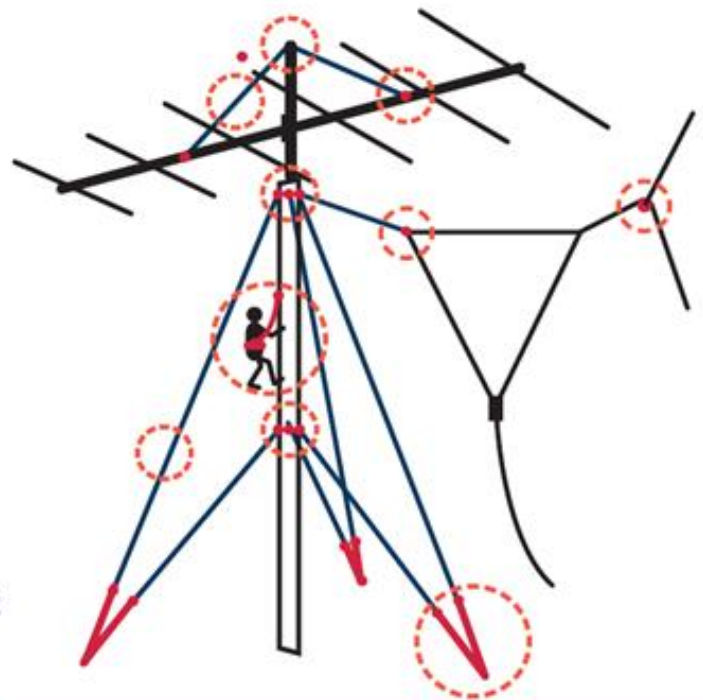
WHY MASTRANT?

- DESIGNED FOR GUYING
- UV RESISTANCE • HIGH STRENGTH
- LOW ELONGATION - NO STRETCH • WEATHER DURABILITY • WIDE RANGE OF ACCESSORIES AND "MUST HAVES" FOR ANTENNA WORK

HOW?

- CHOOSE APPROPRIATE GUYROPE
 - CALCULATE LENGTHS
 - THINK ABOUT IT • DO IT
 - REGULARLY CHECK IT

WHERE WE CAN SUPPORT YOU



WE WOULD BE DELIGHTED TO SUPPORT YOU WITH YOUR FUTURE PROJECTS.
DON'T HESITATE TO ASK US AT INFO@MASTRANT.COM

WWW.MASTRANT.COM - Distributors on the web

HamThings)))



HamThings is owned by club member Chris N9CVR. We sell Fuse Blocks and VHF/UHF antennas.

Talk to Chris, good on QRZ, or HamThings.com,
Use promo codes W9ZLCLUBPRICE and W9ZLHANDDELIVER

GOLD MEDAL IDEAS HAM RADIO STORE

NAME BADGES

HAM ACCESSORIES

CUSTOMIZED CAPS

HAM NOVELTY TEES

NAME & CALL TEES



**Strong partners and sponsors of the
FCARC Hamfest.**

<https://hamradio.goldmedalideas.com/>

Locally owned and operated.

SHOP IN STORE

634 W Wisconsin Ave
Appleton, WI 54911
Monday-Friday 10am-3pm, or by
appointment



SHOP ONLINE

<https://www.amanoprintshop.com>

No minimum sized order required

																				
K8000 - Port Authority® EZCotton® Polo	PC61 Port & Co™ Essential Tee	PC61 Port & Co™ Essential Tee																		
AVAILABLE POLO COLORS:	AVAILABLE TEE COLORS:	AVAILABLE TEE COLORS:																		
<table border="0"><tr><td> BLACK</td><td> APPLE RED</td></tr><tr><td> TRUE ROYAL</td><td> OXFORD HEATHER</td></tr><tr><td> STERLING GREY</td><td> WHITE</td></tr></table>	 BLACK	 APPLE RED	 TRUE ROYAL	 OXFORD HEATHER	 STERLING GREY	 WHITE	<table border="0"><tr><td> BLACK</td><td> APPLE RED</td></tr><tr><td> TRUE ROYAL</td><td> OXFORD HEATHER</td></tr><tr><td> STERLING GREY</td><td> WHITE</td></tr></table>	 BLACK	 APPLE RED	 TRUE ROYAL	 OXFORD HEATHER	 STERLING GREY	 WHITE	<table border="0"><tr><td> BLACK</td><td> APPLE RED</td></tr><tr><td> TRUE ROYAL</td><td> OXFORD HEATH</td></tr><tr><td> STERLING GREY</td><td> WHITE</td></tr></table>	 BLACK	 APPLE RED	 TRUE ROYAL	 OXFORD HEATH	 STERLING GREY	 WHITE
 BLACK	 APPLE RED																			
 TRUE ROYAL	 OXFORD HEATHER																			
 STERLING GREY	 WHITE																			
 BLACK	 APPLE RED																			
 TRUE ROYAL	 OXFORD HEATHER																			
 STERLING GREY	 WHITE																			
 BLACK	 APPLE RED																			
 TRUE ROYAL	 OXFORD HEATH																			
 STERLING GREY	 WHITE																			
AVAILABLE POLO SIZES: XS - 6XL	AVAILABLE POLO SIZES: S - 6XL	AVAILABLE POLO SIZES: S - 4XL																		
PRICE PER POLO: \$48.00	PRICE PER POLO: \$34.00	PRICE PER POLO: \$58.00																		



From the guys who brought you misfit coils, Wolf River Coils LLC now has misfit collapsible whips.

102 inch collapsible SS whips \$15.00 or 3 for \$40

213 inch collapsible SS whips \$25.00

Now that Wolf River Coils LLC has incorporated a CNC Milling machine for coil production their supply of misfit coils is dwindling as we no longer create a misfit. So if you ever wanted to purchase a misfit SB1000 or SB Mini now is the time because when they're gone, they're gone.

SB1000 sells for \$20.00 and the SB Mini sells for \$15.00.

Social Saturday

September 5, 2026

9:00 am

Mark your calendars for our next FCARC Social Saturday! We're gathering at Golden Corral for good food, great conversation, and classic ham radio fellowship.

Whether you want to talk shop about your latest antenna project, debrief from recent club events, or simply catch up with fellow operators over a great meal, this is the perfect relaxed environment to connect. Family members and anyone interested in amateur radio are always welcome to join us—the more, the merrier!

Bring your appetite and your best radio stories. We look forward to seeing everyone there!

Golden Corral
1169 North Westhill Blvd.
Appleton, WI 54914

FCARC Club Gear

On sale now at <http://www.jse-repair.com>

Contact Jeff on his website for information on items that you don't see but would like. He stocks and makes a wide variety of POTA clothing and flags, hats, club shirts, and radio covers.



OPTIONAL NAME AND
CALLSIGN SHOWN



OPTIONAL BACK OF
JACKET EMBROIDERY



Next FCARC Ham Exam

September 19, 2026 (at FVTC)

Registration starts at 0800. Testing starts at 0830. Room A160. Enter Door 15 from the north parking lot. The exam fee is \$15; this goes to the ARRL. You will receive an email from the FCC after testing on how to pay them for your license. You will need two forms of ID at least one of which must be a picture ID. All candidates must use their Federal Registration Number (FRN). No SSN's accepted per the FCC. Email addresses are

REQUIRED. If you are upgrading, please bring a printed copy of your license for the VE's to verify your current license level.

Location: Fox Valley Technical College, 1825 N Bluemound Dr, Appleton, WI 54914. Details on each testing date will be posted on the FCARC website.

Cell phones must be silenced and put away during exams. Non-cell phone calculators are permitted. Programmable calculator memories must be cleared and are subject to examination by a VE. If you fail an exam you may take a different version, time permitting, but you will be charged another \$15. If you are successful, you may take the next element during that session with no charge.

If you have any questions concerning FCARC Exams or to preregister contact Rick Kosiorek at (920) 809-1010 or WJ9K.mail@gmail.com.

Looking to prevent unwanted signals
on HF frequencies?

Visit Our Website
Or Find us at a Swapfest.

C3

ELECTRONICS, LLC.

Our Products are Great for
Field Day, POTA,
or Contesting



**Bandpass Filters & Mast Stand Holders
Built Locally in Wisconsin!**

C3 Electronics, LLC.

(920) 915-8960

www.c3electronicsllc.com



FCARC Lending Library

Chris Reitz, N9CVR

Head Librarian



The FCARC lending library is a repository of references, equipment, and supplies that club members are willing to loan out to other club members. If you would like to borrow an item from the lending library contact the owner and arrange to borrow the item. If you have something you would like to list in the lending library, contact Chris Reitz (N9CVR) to have your item listed.

Library Catalog

Current As Of 8/29/26

Item	Make	Model	Owner	Notes
Coax / Powerpole crimper			N9CVR	contains all required tools for crimping
Power Meter	Diamond	SX-200	KD9UHZ	
RF Preamp	Ameco	PT-3	KD9UHZ	
Manual Antenna Tuner	MFJ	MFJ-945E	KD9UHZ	
TDR pulse generator	-	-	N9CVR	For Time Domain Reflectometry
TDR potentiometer	-	-	N9CVR	For finding characteristic
75m/40m NVIS dipole	-	-	N9CVR	Requires a tree or pole and some open
2m/70cm tape measure yagi			N9CVR	Portable, directional antenna. SO-239
offset attenuator	KC9ON		N9CVR	for fox hunting
20ft fishing pole			N9CVR	Good for portable installations where
misfit 213in whip	Wolf River Coil		N9CVR	Misfit whip - skinniest section
Microbit v2 (x2)	BBC	Microbit	N9CVR	USB/Bluetooth Microcontroller with
Antenna Analyzer	MFJ	208	WI9MMM	2m Only Antenna Analyzer
2m mobile radio	Yaesu	FT-1500M	N9CVR	2m / Analog FM / 50W + WX.
Code Practice Oscillator	Pacific Antenna	CPO	N9CVR	From club build day. There are 3 in my

Ham Humor

If you know, you know.

Girl: Our Relationship is over.
Me: Our relationship is what? Over.



Ham Radio Trivia

1. Which state is NOT in the 8th US call district?

- a) Indiana b) West Virginia c) Ohio d) Michigan

2. What is the highest number of US amateur radio license classes ever available at one time in the past?

- a) 6 b) 7 c) 8 d) 9

3. Which US call sign district is the smallest in land mass?

- a) The 1st district b) The 2nd district c) The 3rd district d) None of the above

4. Who developed the first FM radio?

- a) Aleksandr Popov b) Michael Faraday c) Edwin Armstrong d) David Sarnoff

5. Eimac is a tube manufacturer?

- a) True b) False

1. a) Indiana | 2. b) 7 | 3. b) The 2nd district | 4. c) Edwin Armstrong | 5. a) True

by Chris Codella, W2PA

Spot Not

Across

1. Eight furlongs
5. Propagation predictor, with solar
9. Early ham technology
14. 7700 maker
15. Network, especially in I-land
16. Blender setting
17. Solar WX org.
18. Kit maker of the 1960s
19. Poem of lament
20. Propagation predictors, with 58 down
22. OX dir. from XE
24. Formerly known as
25. Chop (off)
26. Solar minimum result
28. Fed. fiscal agency
31. "Encore!"
33. 144 MHz
34. Phoned

36. Deteriorates
38. Post det. stage
42. Hams eagerly await it
45. 1970s sat.
46. Garbage barge
47. "I'm ___ your tricks!"
48. Checks in check ins
50. Calls from NJ or NY
52. What some amateurs are, professionally
53. The 2009 sun, mostly
57. W7 ARRL sect.
59. 440 MHz region, say
60. Prefix, opposite of 63 down
61. Early receiver maker
65. Wanderer
67. Generate RF sig.
69. Handle

70. Nonsensical
71. Tropospheric propagation path
72. Connectors with shells
73. FD abodes
74. Ckts. for CW
75. Put in stitches

Down

1. Subcompact
2. Desktop feature
3. PA front panel label
4. In-box contents
5. C6 city
6. KH6 rings
7. GMT replacer
8. Veracruz prefix
9. Indy place
10. YA cent
11. Hara, for example
12. Superhet alternative
13. Sent CW
21. It may follow a dot
23. ___ King Cole
26. Picks up, on the air
27. Fab
28. Shamu, for one
29. W0 Clinic
30. Locking connectors
32. Column crossers
35. Sparkle
37. KC4 WX
39. Code for code
40. Receiver rear panel label
41. Con cons
43. Rules out

44. 33 dBm
49. K7UGA, once: Abbr.
51. Ant. measurement
53. 56 down measurement
54. Second SS weekend
55. GD isle
56. See 53 down
58. Types of 20 across
61. Micro micro
62. Antenna measurement
63. Prefix, with directional
64. What crank-up sections do when cranked-down
66. Dip. or Inv-V, e.g.
68. Propagation condx indicator

1	2	3	4		5	6	7	8		9	10	11	12	13
14					15					16				
17					18					19				
20				21				22	23			24		
			25				26				27			
28	29	30		31		32			33					
34			35		36			37		38		39	40	41
42				43					44					
45						46					47			
			48		49		50			51		52		
53	54	55				56			57		58			
59				60				61				62	63	64
65			66			67	68				69			
70						71					72			
73						74					75			



Get On the Air With the FCARC



FCARC Repeaters

Frequency (MHz)	Offset	Tone	Remarks
145.33	- 0.600 MHz	100	Yaesu System Fusion
145.69	Simplex		Yaesu System Fusion Analog Node
146.76	-.600 MHz	100	
146.76	-.600 MHz	107.2	This is a receiver station at Oneida Heights.
443.65	+5.000 MHz	100	

FCARC Member Repeaters

Frequency (MHz)	Offset	Tone	Remarks
224.5	-1.6	100	1.25 m repeater owned by WJ9K
1282.2	-12	146.2	23 cm repeater
442.475	5	146.2	70 cm repeater owned by AJ9L
442.175	5	100	70 cm repeater owned by WJ9K

FCARC Nets

Net Name	Frequency	Schedule and Extra Information
2-Meter	146.76	Wednesdays at 8:00 pm. Coordinator: John (KC9TFM)
2-Meter Digital	145.33	First Tuesday of the month at 8:00 pm. You can also use the FCARC's Fusion Room 40216, the W9ZL room. Coordinator: Mike (KD9QHQ).
2-Meter SSTV	146.76	Second Sunday of the month at 6:00 pm. Coordinator: Larry (WA9TT)
70 cm	443.65	Last Tuesday of the month at 8:00 pm. Coordinator: Rod (K6ROD)
222 Net	224.5	2nd Tuesday of the month. Coordinator: Dave (KB9RPH)
6-Meter	52.55	Third Tuesday of the month. Coordinator: Larry (WA9TT)

FCARC Club Calendar

September 2026

- 1 - 2 meter digital net 8 pm (K6ROD)
- 2 - 2 meter digital net 8 pm (KC9TFM)
- 5 - Social Saturday 9 am & Fox Hunt 7:30 am
- 8 - 220 Mhz Monthly Net 8 pm
- 9 - 2 meter net 8 pm (KE8KWF)
- 13 - 2 meter SSTV net 6 pm (KC9TFM)
- 14 - Board of Directors meeting 7 pm
- 16 - 2 meter net 8 pm (WI4WD)
- 19 - Amateur Radio License Exam
- 19 - Wisconsin Parks On The Air (WIPOTA)
- 21 - General Membership Meeting 7 pm
- 22 - 6 meter net 8 pm
- 22 - 2 meter net 8 pm (K6ROD)
- 26 - **Otto Grunski Runski**
- 29 - 70 cm net 8 pm (WA9TT)
- 30 - 2 meter net 8 pm (N9TNW)

October 2026

- 3 - **St. Joe's Run/Walk**
- 3 - Social Saturday 9 am & Fox Hunt 7:30 am
- 6 - 2 meter digital net 8 pm (KC9TFM)
- 7 - 2 meter net 8 pm (WI9MMM)
- 11 - 2 meter SSTV net 6 pm (KC9TFM)
- 12 - Board of Directors meeting 7 pm
- 13 - 220 Mhz Monthly Net 8 pm
- 14 - 2 meter net 8 pm (WA9TT)
- 19 - General Membership Meeting 7 pm
- 20 - 6 meter net 8 pm
- 21 - 2 meter net 8 pm (AJ9L)
- 27 - 70 cm net 8 pm (K6ROD)
- 28 - 2 meter net 8 pm (KC9TFM)

November 2026

- 3 - 2 meter digital net 8 pm (KC9THF)
- 4 - 2 meter net 8 pm (KE8KWF)
- 7 - Social Saturday 9 am & Fox Hunt 7:30 am
- 8 - **HAMFEST & Amateur Radio License Exam**
- 8 - 2 meter SSTV net 6 pm (KB9YUC)
- 9 - Board of Directors meeting 7 pm
- 10 - 220 Mhz Monthly Net 8 pm
- 16 - General Membership Meeting 7 pm
- 17 - 6 meter net 8 pm
- 18 - 2 meter net 8 pm (K6ROD)
- 24 - 70 cm net 8 pm (KB9AIT)
- 25 - 2 meter net 8 pm (N9TNW)

December 2026

- 1 - 2 meter digital net 8 pm (KD9QHQ)
- 2 - 2 meter net 8 pm (WI9MMM)
- 5 - Social Saturday 9 am & Fox Hunt 7:30 am
- 8 - 220 Mhz Monthly Net 8 pm
- 9 - 2 meter net 8 pm (WA9TT)
- 13 - 2 meter SSTV net 6 pm (WI9MMM)
- 14 - Board of Directors meeting 7 pm
- 16 - 2 meter net 8 pm (AJ9L)
- 21 - **General Membership Meeting (Location TBD) 7 pm**
- 22 - 6 meter net 8 pm
- 23 - 2 meter net 8 pm (KC9TFM)
- 29 - 70 cm net 8 pm (KC9THF)
- 30 - 2 meter net 8 pm (KE8KWF)

January 2027

- 2 - Social Saturday 9 am
- 5 - 2 meter digital net 8 pm
- 6 - 2 meter net 8 pm
- 10 - 2 meter SSTV net 6 pm
- 11 - Board of Directors meeting 7 pm
- 12 - 220 Mhz Monthly Net 8 pm
- 13 - 2 meter net 8 pm
- 18 - General Membership Meeting 7 pm
- 19 - 6 meter net 8 pm
- 20 - 2 meter net 8 pm
- 26 - 70 cm net 8 pm
- 27 - 2 meter net 8 pm

February 2027

- 2 - 2 meter digital net 8 pm
- 3 - 2 meter net 8 pm
- 6 - Social Saturday 9 am
- 8 - Board of Directors meeting 7 pm
- 9 - 220 Mhz Monthly Net 8 pm
- 10 - 2 meter net 8 pm
- 14 - 2 meter SSTV net 6 pm
- 15 - General Membership Meeting 7 pm
- 16 - 6 meter net 8 pm
- 17 - 2 meter net 8 pm
- 23 - 70 cm net 8 pm
- 24 - 2 meter net 8 pm

Calendar items in red require membership participation or volunteer support to make the event happen.

Crossword Solution From Page 23.

M	I	L	E		F	L	U	X		S	P	A	R	K
I	C	O	M		R	E	T	E		P	U	R	E	E
N	O	A	A		E	I	C	O		E	L	E	G	Y
I	N	D	I	C	E	S		N	N	E		N	E	E
			L	O	P		D	E	A	D	B	A	N	D
O	M	B		M	O	R	E		T	W	O			
R	A	N	G		R	O	T	S		A	F	A	M	P
C	Y	C	L	E	T	W	E	N	T	Y	F	O	U	R
A	O	S	I	X		S	C	O	W		O	N	T	O
			N	C	S		T	W	O	S		E	E	S
S	P	O	T	L	E	S	S		W	W	A			
U	H	F		U	N	I		P	A	R	A	G	O	N
N	O	M	A	D		X	M	I	T		N	A	M	E
I	N	A	N	E		D	U	C	T		D	I	N	S
T	E	N	T	S		B	F	O	S		K	N	I	T

Submit your ideas for content, contributions, or items for sale for future editions of QSO'er to Gene Wall (KE8KWF) at ke8kwf@gmail.com. There are no special formatting requirements. All ideas are welcome. Together, we can make our newsletter a useful addition to your shack.



FCARC



FOX CITIES AMATEUR RADIO CLUB, INC.

General Membership Meeting Sign-in Sheet

Date: 7/20/2026

Name		Callsign	Name		Callsign
1. Mike Moore		WI9MMM	21. MICHAEL KRAYS		KE9AEJ
2. Michael Petre		NCHLS	22. Gene Wall		KE8KWF
3. KAREN THORNE		WB9ZNA	23.		
4. CHRIS BEITZ		N9CVR	24.		
5. ELIZABETH BEITZ		VE9DZD	25.		
6. TERRY SCHILLING		N9AOT	26.		
7. Carol Young		W9PIO	27.		
8. CARL YOUNG		N9NADU	28.		
9. Larry Petersen		WA9TT	29.		
10. JIMMY LEE		L1H6BY	30.		
11. Joel Kasper		WI4UW	31.		
12. Rod Rulien		K4ROD	32.		
13. Eric Borkquist		KG8RF	33.		
14. Marcus Van Cressen		KC9VEJ	34.		
15. Alex Grandorf		W9LEK	35.		
16. JOHN KUZINSKI		K9KEI	36.		
17. ANDY LAUTON		AJ9L	37.		
18. TONY MACI		AB9EO	38.		
19. Rich Kosiorok		WJ9K	39.		
20. Scott Reynolds		WG9I	40.		



FOX CITIES AMATEUR RADIO CLUB, INC.

FCARC, PO Box 2346, Appleton, WI 54912
920-415-2ham (2426) - www.fcarc.club - fcarcw9zl@gmail.com

Membership Application

Date _____ ☐ New member ☐ Renewal
☐ Full / Associate / Retired ☐ Student
Call Sign _____ License Class _____ ARRL Member? ☐ Yes ☐ No
Name _____ Phone _____
Address _____
City _____ State _____ ZIP _____
Email _____

\$20.00 _____ Full, Associate (non ham), Retired
\$10.00 _____ Student School _____
Free _____ New Ham (FCARC VE certificate required)
\$5.00 each _____ Additional Family Members
_____ Donation (Optional)
Total _____

My Family Member is Joining or Renewing:

☐ New member ☐ Renewal
Call Sign _____ License Class _____ ARRL Member? ☐ Yes ☐ No
Name _____ Phone _____
Email _____

☐ New member ☐ Renewal
Call Sign _____ License Class _____ ARRL Member? ☐ Yes ☐ No
Name _____ Phone _____
Email _____

Note: Family members must reside at the same address

Note: Please see the treasurer for an ARRL dues form. Our club will receive a portion of those dues if you sign up or renew through us.

*Fox Cities Amateur Radio Club, Inc. is a 501(c)3 non-profit corporation.
Your contribution supports our community service and public safety activities.
All donations are tax-deductible to the fullest extent of the law. Please consult your tax advisor.*

Treasurer Use:

Amount Paid \$ _____
Check # or method of payment _____
Paid through 12/31/ _____
Date Deposited _____

QuickBooks Updated _____
Website Updated _____
HamClubOnline Updated _____



Radioddity

A Better Store

**A loyal sponsor of the
FCARC hamfest.**

**Thank you to Radioddity for their donation
of HTs for two lucky winners who attend
the FCARC hamfest.**

See page 6 for details about the hamfest.

<https://www.radioddity.com/>

