



# KARS KEY KLICKS

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September 2009

## KARS KOMM KAMPER PLANNING AT SEPTEMBER MEETING

The Next KARS General Meeting will be September 1st, 7PM at St. Mary's Hospital meeting room.

After the usual short business meeting, there will be a Power Point presentation on the new KARS Communications vehicle.

There will also be a brainstorming session on how to convert and modify it as well as what to paint on the outside and what to name it.

Be a part of it Tuesday night!



Poolside at the KARS August pool party/meeting at Greg WR9L's QTH

### KARS COM TRAILER

At it's August meeting the KARS Board approved the purchase of a used Prowler RV camper trailer. The intent is to modify and convert it to a mobile communications platform for KARS functions such as Field Day, KARSFEST and for emergency communications.



On Sunday, August 23rd, Bill N9OE and Don K9NR closed the deal and moved the camper to Bill's QTH to start the conversion process.

Input from the membership is being solicited as to how best to outfit the interior for our needs. Suggestions on how to "sign" the exterior are also welcome.

We will have a "walk through" soon so all members who have an interest can see the RV up close. Put on your creativity hat and give us your thoughts.

### ILLINOIS QSO PARTY 2009

As the summer days get shorter, the autumn contesting season is fast approaching. In 2008 KARS placed a very high club aggregate score in the Illinois QSO Party.

It's time to do it again! The ILQP will be held on October 18th. Actually, it runs from 1700Z 10/18 to 0100Z 10/19. In other words, Sunday afternoon from 12PM to 8PM.

For complete info check the web page at:  
[www.w9awe.org/ILQP.html](http://www.w9awe.org/ILQP.html)

When you send in your log be sure to indicate your club affiliation as Kankakee Area Radio Society and not SMC (this contest only). Iroquois County ops are very welcome to add their scores!

### HAPPY BIRTHDAY

|            |       |
|------------|-------|
| Sept. 15th | W9HYB |
| Sept. 15th | K9BIG |
| Sept. 18th | Velda |
| Sept. 29th | Terry |
| Sept. 30th | WB9Z  |

Let the newsletter editors know if we miss your birthday or get it wrong

### KARS KALENDAR

|                 |                      |
|-----------------|----------------------|
| Sept 1.....     | KARS General Meeting |
| Sept 12-13..... | CFMC Radio EXPO      |
| Sept 12-13..... | ARRL VHF QSO Party   |
| Sept 15.....    | KARS Board Meeting   |
|                 | ...at El Campesino's |
| Sept 18-19..... | W9DXCC Convention    |
| Sept 19-20..... | Peoria Hamfest       |
| Sept 26-27..... | CQWW RTTY DX Contest |
| Oct 6.....      | KARS General Meeting |
| Oct 18.....     | Illinois QSO Party   |
| Oct 20.....     | KARS Board Meeting   |
| Oct 24-25.....  | CQWW SSB DX Contest  |

*The Kankakee Area Radio Society operates repeaters on:*

**146.34/.94      107.2 PL Access**

**449.8/444.8      114.8 PL Access**

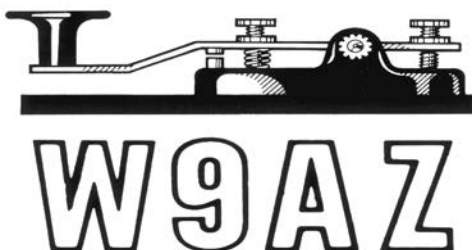
*Also, co-sponsors:*

**145.130      107.2 PL Access**

*Additionally, KARS sponsors:*

**144.39      Wide Area APRS digi-peater**

**145.53      KARS DX Cluster**



### NCS FOR SEPTEMBER

|            |        |
|------------|--------|
| Sept. 7th  | KC9FAV |
| Sept. 14th | KE9MG  |
| Sept. 21st | N9LYE  |
| Sept. 28th | KB9ZQU |

Don't forget the net!  
Mondays at 2100 hrs. local time

*Have you written a short newsletter article lately?*

# KARS HOMEPAGE— WWW.W9AZ.COM —KARS HOMEPAGE

## HOW DOES GPS WORK?

*From the National Air & Space Museum  
Smithsonian Institute*

**Contributed by Duane KB9ZQU**

Global Positioning Systems satellites transmit signals to equipment on the ground. GPS receivers passively receive satellite signals, they do not transmit.

GPS receivers require an unobstructed view of the sky, so they are used only outdoors and they often do not perform well within forested areas or near tall buildings.

GPS operations depend on a very accurate time reference, which is provided by atomic clocks at the U.S. Naval Observatory. Each GPS satellite has atomic clocks on board. Each GPS satellite transmits data that indicates its location and the current time. All GPS satellites synchronize operations so that these repeating signals are transmitted at the same instant. The signals, moving at the speed of light, arrive at a GPS receiver at slightly different times because some satellites are farther away than others.

The distance to the GPS satellites can be determined by estimating the amount of time it takes for their signals to reach the receiver. When the receiver estimates the distance to at least four GPS satellites, it can calculate its position in three dimensions.

There are at least 24 operational GPS satellites at all times. The satellites, operated by the U.S. Air Force, orbit with a period of 12 hours. Ground stations are used to precisely track each satellite's orbit.

### Determining Position

A GPS receiver "knows" the location of the satellites, because that information is included in satellite transmissions. By estimating how far away a satellite is, the receiver also "knows" it is located somewhere on the surface of an imaginary sphere centered at the satellite. It then determines the sizes of several spheres, one for each satellite. The receiver is located where these spheres intersect.

### GPS Accuracy

The accuracy of a position determined with GPS depends on the type of receiver. Most hand-held GPS units have

about 10-20 meter accuracy. Other types of receivers use a method called Differential GPS (DGPS) to obtain much higher accuracy. DGPS requires an additional receiver fixed at a known location nearby. Observations made by the stationary receiver are used to correct positions recorded by the roving units, producing an accuracy greater than 1 meter.

When the system was created, timing errors were inserted into GPS transmissions to limit the accuracy of non-military GPS receivers to about 100 meters. This part of GPS operations, called Selective Availability, was eliminated in May 2000.



**Howard AK9F and Carl K9CS compare notes during a break at the "ZO-FEST"**

### ZO-FEST 2009

This years SMC get-together was hosted again by Ralph K9ZO in Bloomington. Many fine papers and programs on DXing/Contesting were presented by the Midwest's most active operators. Not the least of which was Jerry WB9Z's presentation on the Desecheo Dxpedition.

KARS was represented by WB9Z, AK9F, K9CS, K9NR, N9IO, AI9L and AF9H.



## MY ANTENNAS IN THE ICE STORM

**by John K9KOC**

Here are 2 pictures of my antennas in the December Ice Storm.



The Dipole came down on top of the garage, but when the ice melted it went back up where it was supposed to be. That is because of the special device that I built to hang it with did just what it was designed to do, allow the antenna to sag as far as it wanted to go and return in place when the weight was gone. The beam was bending down but there was no damage.

### FROM THE WEBMASTER

It had to happen sooner or later. Check out this great new ham radio site: [www.hamtv.org](http://www.hamtv.org) a streaming video page on all things ham radio. 73 de Clay N9IO (click the link above)



**Additional views of the new KARS Kommunikations Kamper!**



# Views of the very successful 2009 KARSFEST



**Jess AI9L and Patti AF9H graciously provided card checking at the KARSFEST.**



**Charlie Sufana AJ9N put the live audio of the Space Jam Scouts ARISS contact on the PA system at KARSFEST.**



**Terry, at right (XYL of board member Paul W9IEY) at the KARS table greets a visitor, while Billie K9QT mans the talk-in station**



**A view from the flea market**



**One of the many vendors**



**Almost SRO at the heavily attended Winlink presentation**



**Clay N9IO spins the drum while Chris performs the duty of drawing for KARSFEST prizes.**



**The Grundy County Communications Van at KARSFEST**



**It was a busy morning for the VE team!**