



## FANNIN COUNTY AMATEUR RADIO CLUB

PRESIDENT Mike Durbin, K5MJD  
VICE PRESIDENT Mark Hetherington, KF5KUW  
SECRETARY Robin Warren, KE5DQM  
TREASURER Bill Purcell, KF5GJY  
TRUSTEE Mike Durbin, K5MJD



# FANHAMNEWS

Volume 1 Issue 5 – June-July 2017



Telephone Repeater Tower  
 Located on Fannin County  
 Property  
 Height: 350 ft.  
 APRS on antenna  
 "903 Broadband" is Internet  
 Provider  
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SUMMER FIELD DAY

The FCARC did not participate as a club in the summer field day because there were not very many club members able to participate.

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CERT TRUCK

The CERT truck should be available soon to install radio gear, etc.

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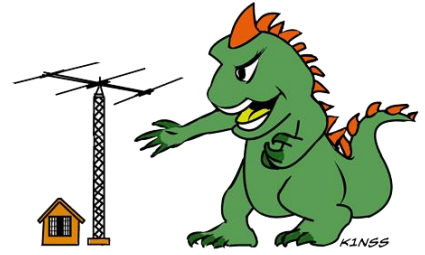


Repairing Antenna  
 James, KI5DG Preparing to  
 Climb  
 Mike, K5MJD Assisting



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Telephone Tower Base  
 Houses the K5FRC Repeater  
 Station



K5FRC REPEATERS

- 147.200 (100Hz tone; +600Khz offset)  
 analog only; WIRES 21173
- 145.470 (100Hz tone; -600Khz offset)**  
**C4FM or Analog; IRLP 3602;**  
**ECHOLINK 143903; WIRES 21151;**  
 Tuesday Night Net 9:00 PM
- 442.525 (100HZ TONE; +5.0 Mhz offset)  
 C4FM or Analog; WIRES 21174
- 443.750 (100Hz tone; +5.0Mhz offset)  
 C4FM or Analog; WIRES 21164

FCARC meets every third Saturday at  
 9:00 AM at the Bonham First  
 Presbyterian Church (corner of Center  
 and 7<sup>th</sup> St.).

Networks are held every Tuesday at 9:00  
 PM CDT on the 145.470 Mhz repeater.

Fannin County Hams Facebook:  
[https://www.facebook.com/search/top/?q=fannin county hams](https://www.facebook.com/search/top/?q=fannin%20county%20hams)

K5FRC Facebook:  
[www.facebook.com/K5FRC/](http://www.facebook.com/K5FRC/)  
*Mark, KF5KUW is the administrator.*

K5FRC Website: [www.k5frc.org](http://www.k5frc.org)

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FIND NEWS ON ARRL.ORG

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FIND INFORMATION ABOUT  
 LICENSEES ON ARRL.ORG AND  
 QRZCQ.COM

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**ADD 6 HOURS TO CDT TO GET UTC**

**Example: 9:00 PM CDT is 3:00 AM UTC**

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**James, KI5DG Climbing Telephone Repeater Tower**  
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James, KI5DG and Mike, K5MJD preparing for the climb Rich's thumb, W5ZXG, in upper right  
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EDITORIAL

I don't know about anyone else, but I've been having a hard time staying up until 9:00 PM on Tuesday evenings to participate in the FCARC net. Call it old age, or anything else, but since I've retired my hours have changed: rise at 5:00 AM and in bed by 8:00 - 8:30 PM.

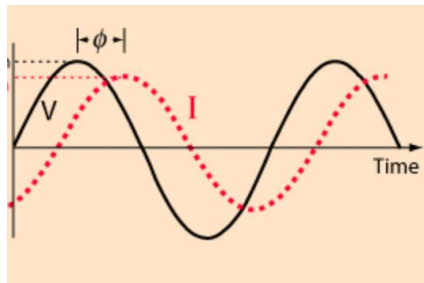
I may have ARIA, a fictional virus inducing infectious retrograde amnesia. The effect of ARIA is apocalyptic in that the infected lose their memory backwards at the rate of a year's worth per week.

The summer heat keeps me indoor most of the day; any

AC POWER CALCULATION

This month we look at single phase AC power in circuits where the voltage and current are not in phase. The phase of voltage and current is affected by reactive components - capacitance and inductance. When an AC voltage is applied to an inductor the current goes into the inductor 90 degrees behind the voltage. When an AC voltage is applied to a capacitor the current rushes into the capacitor 90 degrees ahead of the voltage. In a combination of components in a circuit the phase between the voltage and current varies.

When the voltage and current are out of phase, they are cycling with each other as illustrated in the diagram below.



**AC Voltage and Current Out Of Phase**

In this case, the effective power can be calculated by multiplying the cosine of the angle,  $\Phi$ , between the voltage and current. The power is called time averaged, or RMS, power (the effective power equivalent to DC power). We will deal only with effective power in this discussion.

The angle between the voltage and current is measured in degrees and can vary from 0 to  $\pm 180$  degrees; the cosine of  $\Phi$  [ $\cos(\Phi)$ ] is called the "power factor" and is found from a trigonometry table such as <http://www.dummies.com/education/math/trigonometry/the-trigonometry-functions-table/>. Since the voltage and current are out-of-phase, we use the following power formulas to calculate the effective power:

$$P = E^2/R * \cos(\Phi), P = I^2R * \cos(\Phi), \text{ and } P = EI * \cos(\Phi)$$

Where P=watts, E=volts RMS, I=amps RMS and  $\cos(\Phi)$  is the cosine of the phase angle between the voltage and current.

If E is 120 volts RMS, I is 5 amps RMS, R is 24 ohms and the power factor is 0.707, what is the effective power? It's easier to use the calculator <http://www.rapidtables.com/calc/electric/power-calculator.htm>.

For more explanation of a-c circuits see <http://hyperphysics.phy-astr.gsu.edu/hbase/electric/powerac.html>

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WHY JOIN ARRL

Reason #1 - QST magazine contains myriads of information on various DIY projects and reviews of ham radio products. Plus there are plenty of ads about where to buy stuff.

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TECHNICIAN COURSE

The technician courses have been cancelled for now. Mark Hetherington, KF5KUW is recovering from surgery. He's usually monitoring 2M.

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RADIO IN THE PARK

The Club will be hosting a "Radio in the Park" event at Bonham State Park sometime in the near future.

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USING A MAC?

Not very many amateur radio programs are available for MacIntosh computers. However, you can find programs like EchoHam and EchoMac that let you connect to the Echolink system. EchoMac is built as a Universal Binary, and works on OS X 10.3.9 or later (including 10.8.x). It's available at <http://echomac.sourceforge.net/>. EchoHam allows Amateur Radio operators to use the Echolink network from their iMac. It's available at <https://itunes.apple.com/us/app/echoham/>. Other Mac software is available from [www.dxzone.com/catalog/Software/Macintosh/](http://www.dxzone.com/catalog/Software/Macintosh/)

outdoor work is done before 10:00 AM; and that's limited by miscellaneous activities such as eating breakfast.

## 73's Rich

EchoLink is also available for the iPhone and iPad at <https://itunes.apple.com/us/app/echolink/id350688562?mt=8>

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**If You Remember This, You're an Old Key**

