

The Ham Radio Communicator

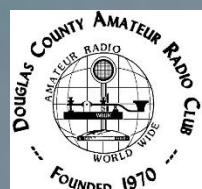
Devoted Entirely to Amateur Radio

March 2018

www.w0uk.org

Severe WX Symposium: Doubletree Hotel Lawrence
New Section: Mentoring
Sloper Antenna
24 hr Clock

**Douglas County Amateur Radio Club
Lawrence, Kansas**



THE MIC.....	3
COVER PAGE	3
MENTORING	3
SEVERE WX SYMPOSIUM CORRECTION	3
MEETING MINUTES.....	4
MICRO-CONTROLLERS	5
GARAGE DOOR APP	5
PIONEER OF THINGS	6
.....	6
ROBOTICS	7
BUILD A BALLISTIC PARACHUTE RECOVERY SYSTEM FOR YOUR DRONE	7
MIT RESEARCHERS PUT VOICE COMMANDS IN CONTEXT	8
PUBLIC SERVICE	9
2018 DOUGLAS COUNTY SEVERE WEATHER SYMPOSIUM	9
CALENDAR OF EVENTS	10
ANTENNAS.....	12
SLOPER ANTENNA	12
SATELLITE COMMUNICATIONS	13
SPACE COMMUNICATION	13
SHACK ACCESSORIES.....	14
24-HOUR CLOCK	14
RADIO-SPORT	15
2018 ARRL CONTEST CALENDAR.....	15
WA7BNM CONTEST CALENDAR.....	15
EMERGENCY MANAGEMENT	16
AMATEUR RADIO EMERGENCY SERVICE (ARES)	16
MENTORING:	17
GEORG OHM.....	17
TECHNICIAN CLASS.....	20
GENERAL CLASS	21
EXTRA CLASS	22
TEST SESSIONS	23
TECHNICAL DEMOS.....	24
CONTACTS	25
REPEATERS & NETS	26
MEETINGS.....	27
TUESDAYS	27
SATURDAYS	27
2 ND WEDNESDAY	27
LAST TUESDAY	27

MEMBERSHIP APPLICATION	28
VENDOR LINKS.....	29
RADIOS.....	29
ANTENNAS	29
TOWERS	29
MORSE KEY	30
STORES.....	30
FILTERS.....	30
SOFTWARE AND SOUND CARD	30
BATTERIES/CHARGERS	31
BUYING ELECTRONIC SURPLUS	31
CIRCUIT BOARDS	31
COMPONENTS.....	31
DATA LOGGING	31
DESIGN/ENGINEERING/REPAIR SERVICES	31
DEVELOPMENT PLATFORMS/TOOLS	31
EDUCATION.....	31
EMBEDDED SYSTEMS	31
ENCLOSURES	32
LCDS/DISPLAYS	32
MICROCONTROLLERS / I/O BOARDS	32
MISC./SURPLUS.....	32
MOTORS / MOTOR CONTROL	32
ROBOTICS	32
TEST EQUIPMENT	32
TOOLS.....	32
TRANSFORMERS.....	32
WIRE, CABLE AND CONNECTORS	33
WIRELESS PRODUCTS.....	33
COPYRIGHT	34

The MIC



The purpose of THE MIC column is provide a place for anyone to make comments to the club. Please send me your comments and they will be placed here.

Cover Page

I noticed this antenna utilizes a “meter” stick. The meter is just a little longer than our “yard” stick, but seems to work well. Sometimes the simplest things work best. – Jim Cessna AC0KN

Mentoring

You will notice HAM CLASSES have been removed in favor of MENTORING. Technician Class, General Class, and Extra Class sub-sections will feature information towards that level of license class. – Jim Cessna AC0KN

Severe WX Symposium Correction

Previous “Severe WX Symposium” public notice should have pointed to Double Tree Hotel Lawrence. The current notice is correct. – Jim Cessna AC0KN

MEETING MINUTES

By Virginia Filardo KD0LFH

DCARC Meeting Minutes, 14-Feb-2018

DCARC Meeting called to order on 14-Feb-2018 at 18:57 Local by John N6UOP.

John N6UOP read the meeting minutes from 10-Jan-2018.

Motion to accept meeting minutes as read. Bill KC0NFL Second Bud N0APJ .
Vote Approved by All

Agenda posted.

Treasurer Report posted. Bill KC0NFL

Repeater Status – 146.76 now operational.

W0UK Web Site Report. David KE0EFY, Bill K0BTY

Program presentation. Ken KA0THK

Winter Field Day at Ken and Virginia Filardo, January 27-28
A number of contacts were made.

Activities Report. John N6UOP for Matt K0TOY

Motion to join MO-Kansas VE, \$20.00 per year. Matt K0TOY will pay the first year.
Approved by all.

Calendar of events can be found at:

<http://w0uk.com/calendar>

W0UK Club Net 146.76 (-) Tone 88.5, Tuesday at 19:00 Local.

ARES Net 146.76 (-) Tone 88.5, Sunday at 20:00 Local.

ARES Net K0USY 443.8 TimeSlot 2 RGID 3120 Kansas

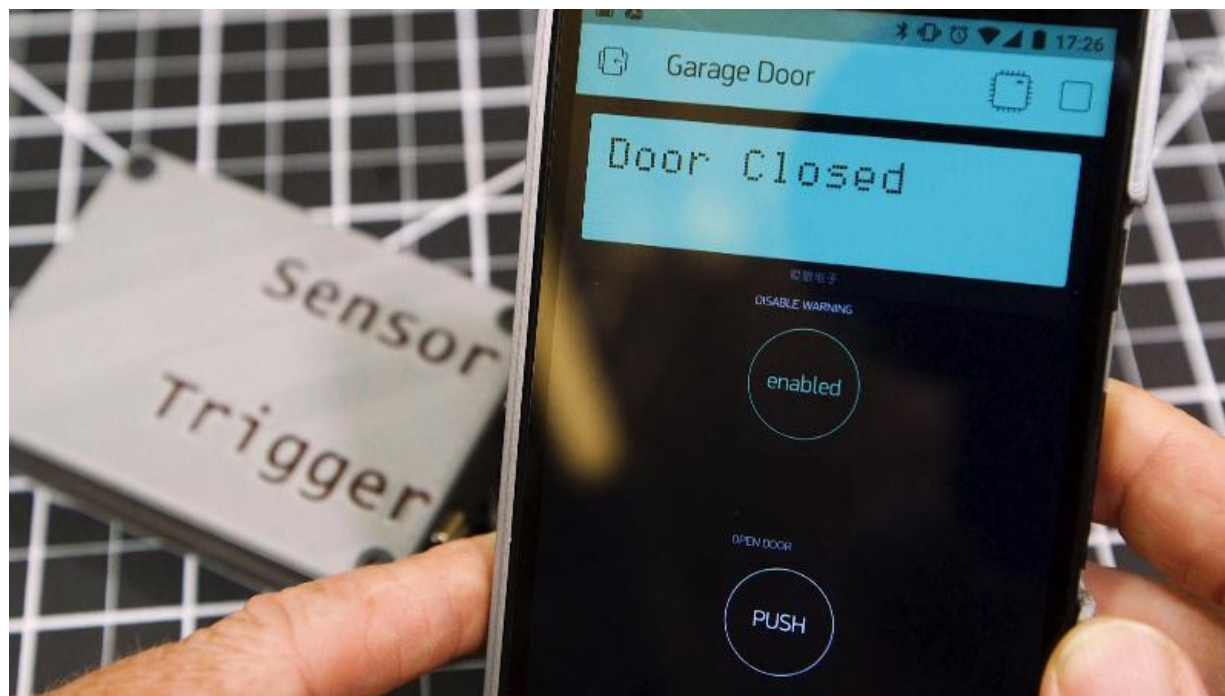
No New Business.

Club Meeting Adjured at 19:32.

MICRO-CONTROLLERS

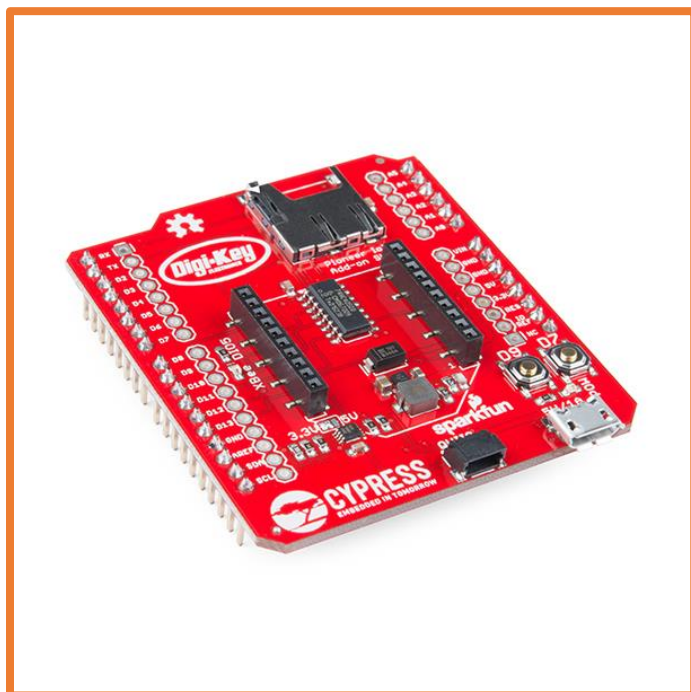
Garage Door App

From makershare.com



At my house in San Francisco we have a garage, but with a pretty old garage door opener, and I wanted to add some modern functionality to it without a massive new install. A friend of mine introduced me to a smartphone app called Blynk, that allows you to directly control internet connected internet boards, and I knew I had my solution. After experimenting with different boards and different ways of completing the circuit to emulate a button press, I finally come up with this: an Adafruit Feather Huzzah board as the brain of the device, and an optoisolator to actuate the circuit.

There is one button in the app that triggers the garage door to open or close. A reed switch reports whether the door is open or not, and is displayed on the LCD screen in the app. If the door is left open for too long, you'll get a notification on your phone to remind you to close it. If you need to leave the door open for an extended period, you can disable the notifications - they'll be re-enabled the next time you close the door.



The Pioneer IoT Add-On Shield is a unique board designed to add more functionality to the PSoC 6 from Cypress while remaining useful and practical for plenty of other Internet of Things applications. Each Add-On Shield is a pretty simple board with an equally simple layout that provides XBee, [Qwiic](#) and microSD functionality not only to the PSoC 6 but also to any board with an Arduino R3 shield format. On top of designing this board with a reliable IoT performance, we have written a guide that will show you how to communicate with a Raspberry Pi via Bluetooth® and WiFi, as well as how to communicate

between a PSoC 4 BLE Pioneer Board and the PSoC 6 Pioneer Board via Bluetooth Low Energy.

In addition to the microSD card slot, XBee headers and Qwiic connector, the Pioneer IoT Add-On Shield is equipped with a micro-B USB connector. This connector provides 5V to the 3.3V regulator for the XBee module, overriding the 5V coming from the Arduino header and allowing high-power XBee modules to function properly. This is all thanks to the 3.3V regulator, level shift buffer, I²C level shift circuitry and a voltage supply selection jumper — all found on the shield!

If you aren't familiar with it, the PSoC 6 Pioneer Board is the development tool associated with this processor line, sporting an onboard debugger, Arduino-compatible headers, CapSense widgets and more — all tied to a PSoC 6 processor. The processor is a dual-core device, with a Cortex-M0+ low-power processor and a Cortex-M4 high-power processor tied together via shared peripherals and memory space.

[GET STARTED WITH THE PIONEER IOT ADD-ON SHIELD GUIDE](#)

ROBOTICS

Build a Ballistic Parachute Recovery System for Your Drone

By [Andrew Morgan](#)

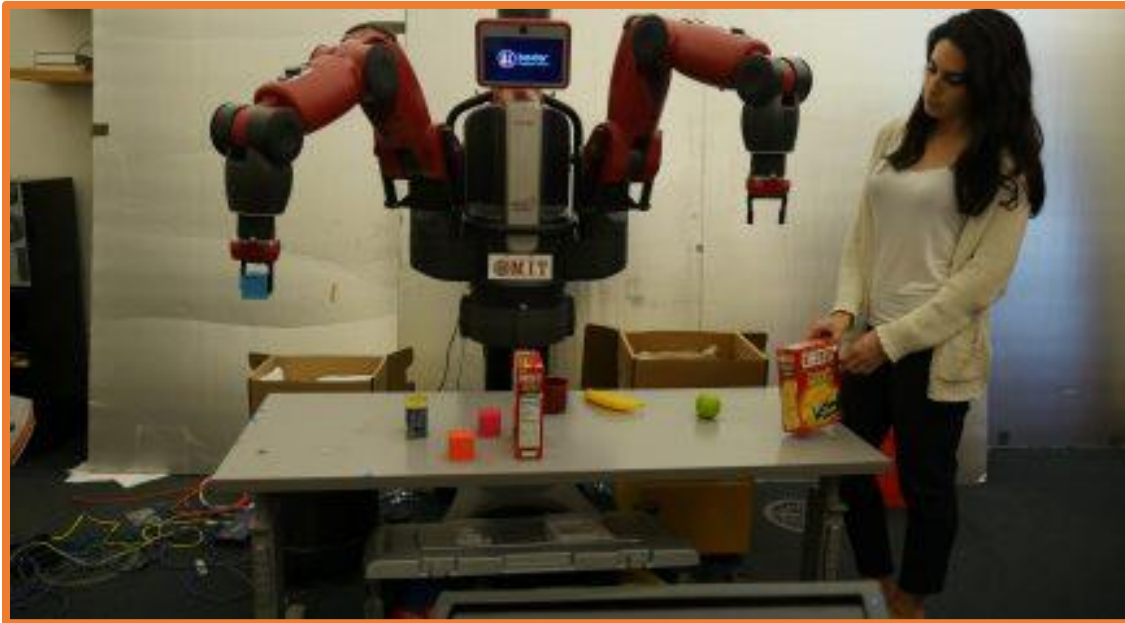


Starting on December 21, 2015, the Federal Aviation Administration (FAA) began requiring hobbyists to register their Unmanned Aerial Systems – often referred to as drones. After two days of registration, the database contained 45,000 aircraft dedicated and designed for personal use. This mandate was set forth by the Federal Aviation Administration (FAA) to increase accountability for drone operations and reduce accidents involving small drones. Failure to register a personal drone weighing between 0.55 lbs. and 55 lbs. could land you with a fine of up to \$27,000. A federal judge ruled in May, 2017 against the requirement for registration, but the matter may be appealed (“Federal Appeals Court Voids FAA Registration Rule For Model Aircraft,” John Goglia, Forbes, May 19, 2017).

Read more: https://makezine.com/projects/diy-drone-recovery-parachute/?utm_source=MakeNewsletter+20180130&utm_medium=email&utm_content=button&utm_campaign=newsletter

MIT Researchers Put Voice Commands in Context

By MIT



Imagine there are two boxes on a table — a box of saltine crackers and a box of granulated sugar. You inform robot with voice commands about the contents of each box and then direct it, “Pick up the snack.” Deducing that sugar is a raw material and, therefore, unlikely to be someone’s snack, the robot instead selects the crackers. That scenario is being developed by researchers at the Massachusetts Institute of Technology’s [Computer Science and Artificial Intelligence Laboratory](#) (CSAIL), as they look at robot memory in a new way.

Read more: https://www.roboticsbusinessreview.com/research/mit-researchers-put-voice-commands-in-context/?utm_source=rbr_article&utm_medium=email&utm_campaign=rbr_newsletter&eid=399017737&bid=1992109

PUBLIC SERVICE

2018 Douglas County Severe Weather Symposium



The Symposium is for Storm Spotters, but is open to the public. This day is designed to train and expand your knowledge in advanced storm development, spotter safety, and the importance of spotter reports. The presentations will include incredible storm videos; experts in the field from the National Weather Service and the private sector, and will conclude with a Round table discussion with local television meteorologists.

Place - Double Tree Hotel Lawrence

200 McDonald Drive, Lawrence, Kansas, 66044, USA

TEL: +1-785-841-7077 FAX: +1-785-841-2799

Date - March 3, 2018

Time – 7:30 doors open till 4:00 pm

Fee: \$20

More info: <https://www.douglascountyks.org/severe-weather-symposium/join-us>

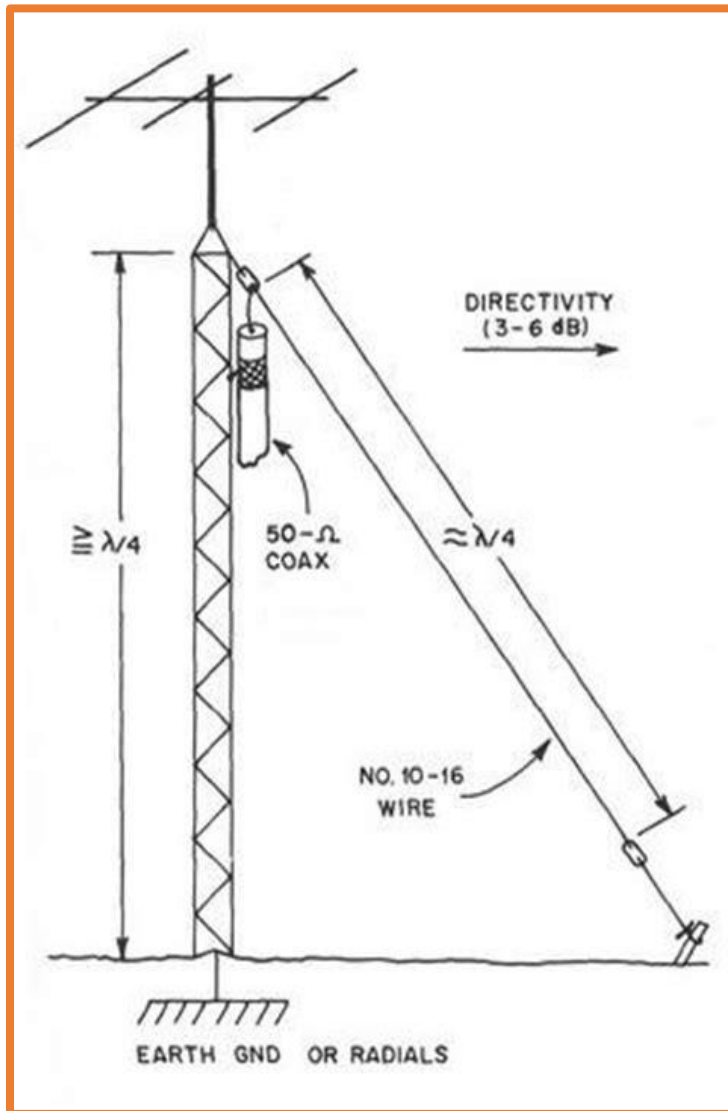
Calendar of Events

DATE	TIME	EVENT
01/27/2018	10:00-15:00	KS DAY: KS joined union 1/29/1861
01/27/2018 01/28/2018	13:00 13:00	Winter Field Day https://www.winterfieldday.com/
01/27/2018 01/28/2018	10:00-17:00 10:00-15:00	WW1USA – Commemorating Wilson’s “14 Points” speech Herb Fiddick NZ0F 913-744-0586 hfiddick@gmail.com
02/3/2018	08:00-13:00	Mine Creek Winterfest Ron Cowan KB0DTI 913-757-3758 kb0dti@peoplestelecom.net
02/17/2018	09:00-16:00	Freeze Your Keys – W0EBB 14.058 14.325 7.035 7.240 Gary Auchard w0mna74@gmail.com
03/03/2018	07:00-16:00	Sever Weather Symposium Double Tree Hotel Lawrence 200 McDonald Drive, Lawrence, Kansas, 66044
03/28/2018		Weather 101
04/07/2018		MS-WALK – Kansas Speedway Herb Fiddick NZ0F 913-744-0586 hfiddick@gmail.com
04/21/2018	08:00-14:00	Ararat Shrine Hambash Ararat Shrine Temple 5100 Ararat Drive Kansas City, MO 64101 www.hambash.com
04/21/2018		GARMIN (Olathe) Marathon Herb Fiddick NZ0F 913-744-0586 hfiddick@gmail.com
04/21/2018	0000-2359Z	International Marconi Day (K2M, GB4IMD, EI6YXQ) http://gx4crc.com/gb4imd/
04/26/2018		Morse Code Day https://www.daysoftheyear.com/days/morse-code-day/
05/12/2018		Armed Forces Day Layne LaBaume, AE1N ae1n@gmail.com
05/12/2018 05/13/2018	10:00-17:00 10:00-15:00	WW1USA – Commemorating The Battle of Cantigny Herb Fiddick NZ0F 913-744-0586 hfiddick@gmail.com
05/18/2018 05/19/2018 05/20/2018	07:30-18:00 07:30-17:00 08:00-13:00	Dayton Hamvention http://hamvention.org/
05/19/2018 05/20/2018		William Becknell Heritage Days – Starting of the Santa Fe Trail 1821
06/10/2018		Lone Star Bike Ride (Lone Star Lake, Lawrence) http://www.kansascyclist.com/events/Calendar.html
06/16/2018		Tour de Cure Wheel to Weston Steve Rainey WD0DPB wd0dpb@comcast.net 913-963-9089
06/23/2018 06/24/2018	s-time: 13:00 e-time: 13:00	Field Day http://www.arrl.org/field-day
07/14/2018	08:00-13:00	Warrensburg Hamfest Crest Ridge Middle School 50 Hwy and 58 Hwy 5 miles West of Warrensburg

		Ken Smith, KO9R klsmith92@gmail.com 660-441-0007
07/21/2018		Moonlight Bike Ride Steve Rainey WD0DPB wd0dpb@comcast.net 913-963-9089
07/18/2018- 07/27/2018		Boy Scouts Jamboree On The Air (JOTA) http://www.summitbsa.org/events/jamboree/overview/
08/19/2018		Salina Convention
08/25/2018		Joplin Hamfest
08/25/2018 08/26/2018	09:00-21:00 09:00-15:00	KS QSO Party www.ksqsoparty.org
09/03/2018		Bike for the Brain www.bikeforthebrain.org Steve Lester KD0EKS 913-390-3570 stevekd0eks@gmail.com
09/8/2018- 09/9/2018	06:00 08:00	Hawk 100 Run Clinton State Park, Lawrence, KS Contact: Bill Gery KA2FNK at 913-575-3763 ka2fnk@gmail.com
09/8/2018 09/9/2018		William Becknell Heritage Days – Starting of the Santa Fe Trail 1821
09/22/2018 09/23/2018		Bike MS Olathe to Lawrence and Back Herb Fiddick, NZ0F 913-744-0586
09/15/2018		Bikers 4 Babies Kansas Speedway Matt May, KC4WCG kc4wcg@twc.com 913-927-4148
09/23/2018	13:00	Lawrence Crop Hunger Walk http://www.crophungerwalk.org/lawrenceks
09/22/2018 09/23/2018	10:00-17:00 10:00-15:00	WW1USA – Commemorating the Muse-Argon Offensive Herb Fiddick NZ0F 913-744-0586 hfiddick@gmail.com
10/20/2018	08:00-13:00	Southside Hamfest Mill Creek Upper Elementary School 308 South Cleveland Ave. Belton, Mo. 64012 Dave Nielnhuser KC0CMD 913-636-9696 info@southsidearc.net
10/19/2018- 10/21/2018		BSA-JOTA Les Mignerey, KB0MEF Assistant Section Manager for Radio Scouting South Texas Section, ARRL West Gulf Division Houston, TX 77070 kb0mef@arrl.net
11/03/2018	08:00-13:00	Raytown Hamfest Ararat Shrine Temple 5100 Ararat Drive Kansas City, MO 64101 Joel Griebshaber KC0ELZ kc0elz@sbcglobal.net
11/11/2018	10:00-17:00	WW1USA – Commemorating Armistice Day Herb Fiddick NZ0F 913-744-0586 hfiddick@gmail.com
12/31/2018 01/01/2019	s-time: 18:00 e-time: 18:00	Straight Key Night http://www.arrl.org/straight-key-night

ANTENNAS

Sloper antenna
From Wikipedia



The **Sloper Antenna** is a slanted Dipole antenna.

Advantages

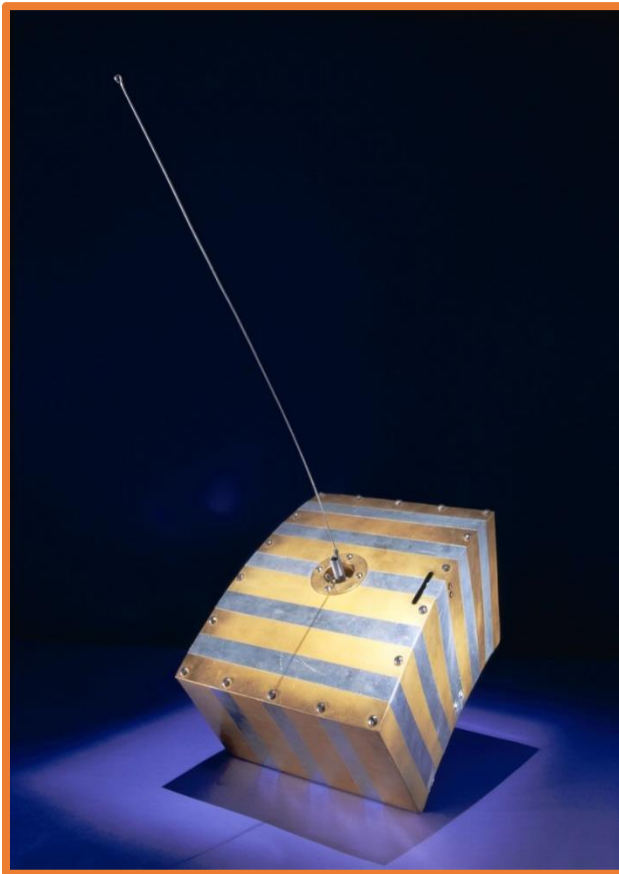
While horizontal dipoles required two large support masts, this antenna type only needs one large mast. It is therefore widely used by radio amateurs with limited space. In particular for low frequencies this antenna form is interesting. The angle of the slope is usually between 45° – 60° and the lower end of the wire is at least $\frac{1}{6}$ wavelength above the electrical ground.

A sloper is typically fed with a coaxial cable in the center, at the top of the center support mast. At least $\frac{1}{4}$ of the wavelength of feedline must be at 90° angle to the antenna. It is also possible to feed the antenna asymmetrically. Due to the low-angle radiation pattern this antenna has, it performs well for long distance contacts (QSOs) (DX).

SATELLITE COMMUNICATIONS

Space Communication

By ARRL



On December 12, 1961, Amateur Radio entered the Space Age when OSCAR-1 was launched. Since then, amateurs from more than 22 different countries have launched over 70 satellites, exploring both digital and analog satellite technology. Many of the latest birds have been school experiments, training scientists and engineers. But, you don't need to be a rocket scientist to participate-- Some satellites operate FM and can actually be worked using a dual-band handheld transceiver. An excellent place to start is AMSAT's [Station and Operating Hints](#) page. AMSAT, or the Radio Amateur Satellite Corporation, has played a key role in building, launching, and using amateur satellites. Occasionally, Radio Amateurs can talk with the astronauts on the International Space Station. For more information check out [ARRL](#)



SHACK ACCESSORIES

24-hour clock

From Wikipedia



The **24-hour clock** is the convention of time keeping in which the [day](#) runs from midnight to midnight and is divided into 24 [hours](#), indicated by the hours passed since midnight, from 0 to 23. This system is the most commonly used time notation in the world today,^[1] and is used by international standard [ISO 8601](#).^[2]

A limited number of countries, particularly English-speaking nations, use the [12-hour clock](#) as a standard, or a mixture of the 24- and 12-hour time systems. In countries where the 12-hour clock is still dominant, some professions prefer to use the 24-hour clock. For example, in the practice of [medicine](#) the 24-hour clock is generally used in documentation of care as it prevents any ambiguity as to when events occurred in a patient's [medical history](#).^[3] In the United States and a handful of other countries, it is popularly referred to as **military time**.^[4]

WWV is the [call sign](#) of the [United States National Institute of Standards and Technology](#)'s (NIST) [HF](#) ("shortwave") [radio](#) station located near [Fort Collins, Colorado](#).^[1] WWV continuously transmits official U.S. Government [frequency](#) and [time signals](#) on 2.5, 5, 10, 15, and 20 [MHz](#).

These [carrier frequencies](#) and time signals are controlled by local [atomic clocks](#) traceable to NIST's primary standard in [Boulder, Colorado](#) by [GPS](#) common view observations and other [time transfer](#) methods. NIST also operates the very similar radio station [WWVH](#) in [Kauai, Hawaii](#). WWV shares its site near Fort Collins with radio station [WWVB](#) which transmits carrier and time code (no voice) on 60 [kHz](#) in the [LF](#) ("longwave") band.

Both WWV and WWVH announce the Coordinated Universal Time each minute, and make [other recorded announcements](#) of general interest on an hourly schedule, including the [GPS](#) satellite constellation status and severe oceanic weather warnings. Since they share frequencies, WWV uses a male voice to distinguish itself from WWVH, which uses a female voice. WWV time signals can also be accessed [by telephone](#).

RADIO-SPORT

2018 ARRL Contest Calendar

January 2018 1 <u>Straight Key Night</u> 6 <u>Kids Day</u> 6-7 <u>RTTY Roundup</u> 20-21 <u>January VHF</u>	February 2018 12-16 <u>School Club Roundup</u> 17-18 <u>International DX – CW</u>
March 2018 3-4 <u>International DX– Phone</u>	April 2018 15 <u>Rookie Roundup – Phone</u>
May 2018	June 2018 9-11 <u>June VHF</u> 17 <u>Kids Day</u> 23-24 <u>Field Day</u>
July 2018 7-8 <u>IARU HF World Championship</u>	August 2018 4-5 <u>222 MHz and Up Distance Contest</u> 18-19 <u>10 GHz & Up – Round 1</u> 19 <u>Rookie Roundup – RTTY</u>
September 2018 8-9 <u>EME - 2.3 GHz & Up</u> 8-10 <u>September VHF</u> 15-16 <u>10 GHz & Up - Round 2</u>	October 2018 6-7 <u>EME - 50 to 1296 MHz</u> 15-19 <u>School Club Roundup</u>
November 2018 3-4 <u>EME - 50 to 1296 MHz</u> 3-5 <u>Nov. Sweepstakes – CW</u> 17-19 <u>Nov. Sweepstakes – Phone</u>	December 2018 1-3 <u>160 Meter</u> 8-9 <u>10 Meter</u> 16 <u>Rookie Roundup–CW</u>

WA7BNM Contest Calendar

<http://www.hornucopia.com/contestcal/>

EMERGENCY MANAGEMENT

Amateur Radio Emergency Service (ARES)



The Amateur Radio Emergency Service® (ARES) consists of licensed amateurs who have voluntarily registered their qualifications and equipment, with their local ARES leadership, for communications duty in the public service when disaster strikes.

ARES Membership Requirements

Every licensed amateur, regardless of membership in ARRL or any other local or national organization is eligible to apply for membership in ARES. Training may be required or desired to participate fully in ARES. Please inquire at the local level for specific information. Because ARES is an Amateur Radio program, only licensed radio amateurs are eligible for membership. The possession of emergency-powered equipment is desirable, but is not a requirement for membership.

How to Get Involved in ARES

Fill out the [ARES Registration form](#) and submit it to your local Emergency Coordinator.

Sign-up to receive an ARES e-Newsletter at <http://www.arrl.org/ares-e-letter>.

ARES is activated before, during and after an emergency. Generally, ARES handles all emergency messages, including those between government emergency management officials. RACES, on the other hand, almost never starts before an emergency and is active only during the emergency and during the immediate aftermath if government emergency management offices need communications support. RACES is normally shut down shortly after the emergency has cleared.

REPEATER	FREQUENCY	TONE	LOC	MODE	DAY	TIME	NET
W0UK	146.760 MHz	88.5	DCARC	Analog	Sunday Tuesday	20:00 20:00	ARES Club

MENTORING:

Georg Ohm

By www.famousscientists.org



Georg Simon Ohm was a German physicist, best known for his “Ohm’s Law”, which states that the current flow through a conductor is directly proportional to the potential difference (voltage) and inversely proportional to the resistance. The physical unit of electrical resistance, the Ohm (symbol: Ω), was named after him.

Early Life and Education:

Born on March 16 in 1789 in the university town of Erlangen, Bavaria, his younger brother Martin Ohm also became a famous mathematician. His father, Johann Wolfgang Ohm, was a locksmith and his mother Maria Elizabeth Beck, who died when Georg was ten years old, was the daughter of a tailor. Johann Ohm taught his children science and mathematics at home and Georg also attended Erlangen Gymnasium for four years.

In 1805, at the age of fifteen Georg Ohm began studying at Erlangen University but he left after three semesters having spent much of his time enjoying himself dancing, ice skating and playing billiards and too little time on his studies.

Career Path:

Ohm was then sent to Switzerland in 1806, accepting a position as a mathematics teacher in a school in Gottstadt. In 1809, Ohm became a private tutor in Neuchâtel, Switzerland. As well as his teaching obligations, Ohm found time to continue his private study of mathematics.

In 1811, Ohm returned to Erlangen University earning a doctorate that same year, and then becoming a Privatdocent (an unsalaried teacher).

Ohm returned to school teaching in 1813, teaching mathematics and physics and writing a geometry textbook at a poor quality school in Bamberg for three years. In 1817 he accepted a position at a Jesuit gymnasium in Cologne in 1817 and here he spent time carrying out physics experiments in the well-equipped laboratory. While here, he developed his important theory between the relationship of resistance, electric current and voltage.

In 1825, Ohm published his first paper which examined the decrease in the electromagnetic force produced by a wire as the length of the wire increased. It was not well received. Ohm published two more papers in 1826, and his famous book containing Ohm's law, in 1827 in which he detailed his complete theory of electricity.

Resigning his teaching position in 1828, Ohm was without permanent employment until 1833 when he accepted a professorship at the Polytechnic School of Nuremberg, remaining there for sixteen years.

In 1849 he became curator of the Bavarian Academy's physics cabinet at Munich, and in 1852 was appointed to the chair of physics at the University of Munich, a position he held until his death.

Contributions and Achievements:

While teaching in Cologne, Ohm started passionately working on the conductivity of metals and the behavior of electrical circuits.

After extensive research, he wrote "Die Galvanische Kette, Mathematisch Bearbeitet" (The Galvanic Circuit Investigated Mathematically) in 1827, which formulated the relationship between voltage (potential difference), current and resistance in an electrical circuit:

$$I = V/R$$

The unit of current is the ampere (I); that of potential difference is the volt (V); and that of resistance is the ohm (Ω). This equation, as defined using the unit of resistance above, was not formalized until the 1860's.

Ohm's Law states that the current flow through a conductor is directly proportional to the potential difference (voltage) and inversely proportional to the resistance.

After initial criticism, most particularly by Georg Hegel, the noted creator of German Idealism, who rejected the authenticity of the experimental approach of Ohm, the "glory" finally came in 1841 when the Royal Society of London honored him with the Copley Medal for his extraordinary efforts. Several German scholars,

including an adviser to the State on the development of telegraph, also recognized Ohm's work a few months later.

The pertinence of Ohm's Law was eventually recognized. The law still remains the most widely used and appreciated of all the rules relating to the behavior of electrical circuits.

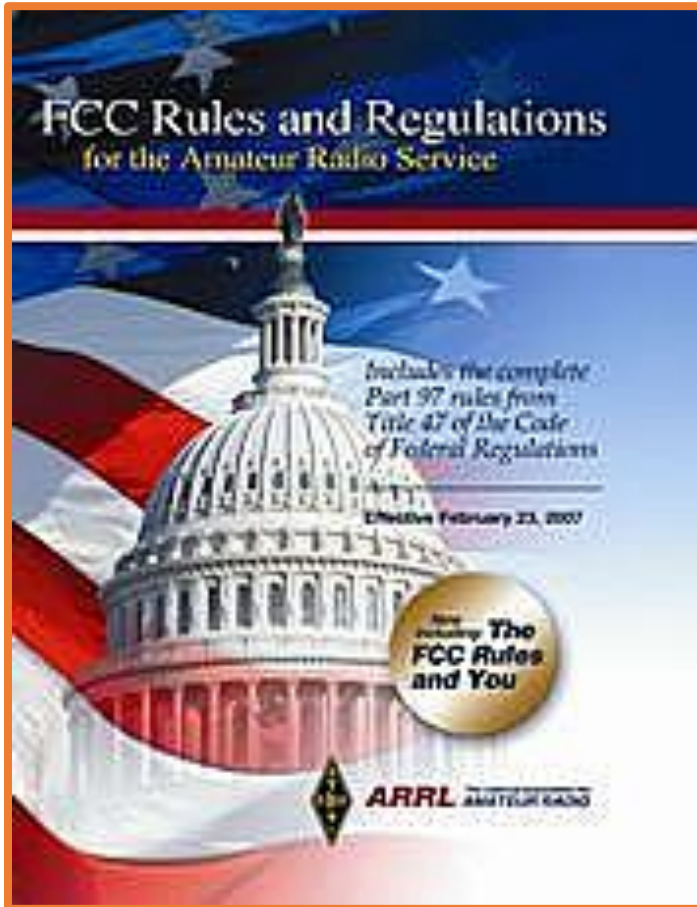
Awards and Death:

He received the Royal Society Copley medal in 1841.

Georg Ohm was made a foreign member of the Royal Society in 1842, and became a full member of the Bavarian Academy of Sciences and Humanities in 1845.

Ohm died on July 6, 1854. He was 65 years old. The physical unit of electrical resistance, the Ohm (symbol: Ω), was named in his honor.

FCC Rules and Regulations



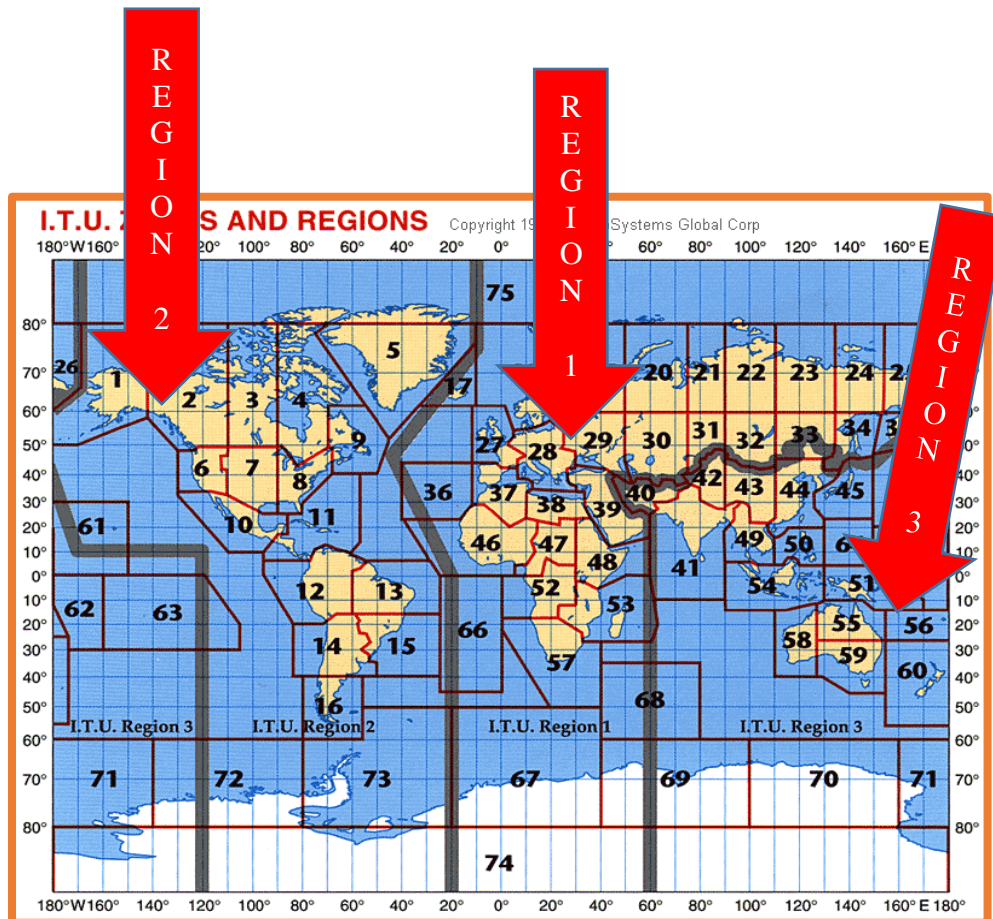
The amateur service is defined by and operates according to the rules in Part 97 of the FCC's rules.

[T1A03]

Which part of the FCC regulations contains the rules governing the Amateur Radio Service?

- A. Part 73
- B. Part 95
- C. Part 90
- D. Part 97

International Telecommunication Union (ITU)



[G1A14]

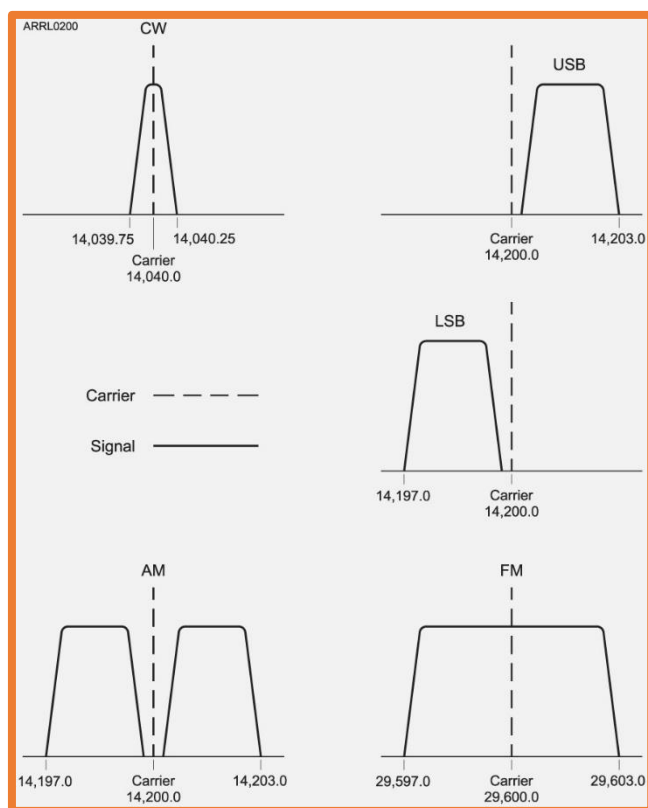
In what ITU region is operation in the 7.175 to 7.300 MHz band permitted for a control operator holding an FCC issued General Class license?

- A. Region 1
- B. Region 2
- C. Region 3
- D. All three regions

Frequency and Emission Privileges

Your signal's size (foot print) depends on what mode you're operating.

Stay 3 kHz from band edge.



[E1A01]

When using a transceiver that displays the carrier frequency of phone signals, which of the following displayed frequencies represents the highest frequency at which a properly adjusted USB emission will be totally within the band?

- A. The exact upper band edge
- B. 300 Hz below the upper band edge
- C. 1 kHz below the upper band edge
- D. 3 kHz below the upper band edge

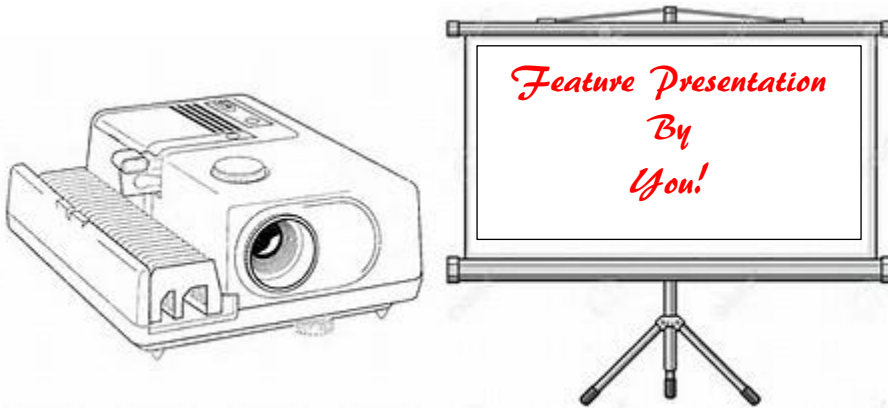
TEST SESSIONS

W5YI TEST SESSIONS	LOCATION	CONTACT
Second Saturday 09:00 AM	Fire Station #1 950 N. Spring Street Independence, Mo. (24 Hwy/Spring)	Norma Hatfield (W0KC) 816-536-0469 normalibby@sbcglobal.net
Third Saturday 09:00 AM	Blue Valley Library 9000 W. 151 Street Overland Park, Ks 66221 (West of 151 & Antioch)	Jim Lee (N0KCB) 913-745-5121 jimlee@kc.rr.com
Forth Saturday 09:00 AM	Mid-continent Public Library 850 NW Hunter Dr. Blue Springs, Mo. 64105	Jim Arnold (N0SAK) Arnold-j@swbell.net
Odd Nbr Months 07:00 PM	City Hall 234 Main St. Carbondale, Ks. 66414	W. Paul Mills (AC0HV) 785-286-3506 Ac0hv@mills-usa.com

ARRL TEST SESSIONS	LOCATION	CONTACT
First Saturday	Kearney Library 100 S. Platte-Clay Way Kearney, Mo. 64060	Bill Gerle (N0JJA) 816-289-6301 Bill.n0jja@gmail.com
Second Saturday 02:00 PM	Topeka Public Library 1515 SW 10 th Ave. Topeka, Ks. 66604	W. Paul Mills (AC0HV) 785-286-3506 Ac0hv@mills-usa.com Pre-Registration Requested!

If you know of additional test sessions, please send their information on to me, and I'll include it here. TNX

TECHNICAL DEMOS



2018		
DATE	SUBJECT	PRESENTER
01/10/18	Club Goals	John Harris
02/14/18	Winter FD report / Baofang Internals	John Harris / Ken Filardo
03/14/18		
04/11/18		
05/09/18		
06/13/18		
07/11/18		
08/08/18		
09/12/18		
10/10/18		
11/14/18		
12/12/18	Christmas Party	

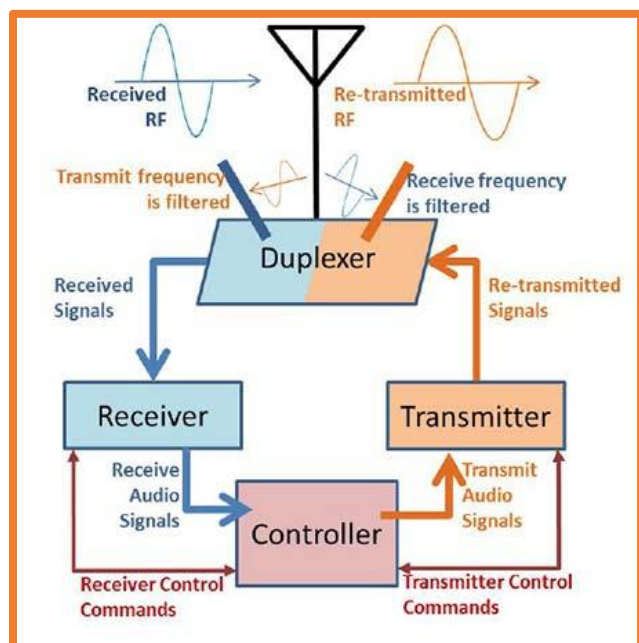
CONTACTS



PRESIDENT	John Harris N6UOP	john.harris101@yahoo.com
VICE PRESIDENT	Virginia Filardo KD0LFH	vhfilardo1116@yahoo.com
SECRETARY	Kevin Oneslager KS0EGL	kevin@prometheusinc.net
TREASURER	Bill Musick KC0NFL	blackcat@sunflower.com
EMER MGMT CORD	Bill Musick KC0NFL	blackcat@sunflower.com
TRAINING MGR	Ken Filardo KA0THK	ka0thk@arrl.net
PROGRAM MGR	Ken Filardo KA0THK	ka0thk@arrl.net
ACTIVITIES	Matt Hilt K0TOY	k0toy@yahoo.com
FIELD DAY	Ken Filardo KA0THK	ka0thk@arrl.net
HAM CLASSES	Ken Filardo KA0THK	ka0thk@arrl.net
ARES	Bill Musick KC0NFL	blackcat@sunflower.com
REPEATER	Skyler Huffman KU0JHK John Harris N6UOP	skylerhuffman@outlook.com john.harris21@sbcglobal.net
WEB SITE	David Klamet KE0EFY Bill Wachspress K0BTY	info@w0uk.com bill@wachspress.net
NEWSLETTER	Jim Cessna AC0KN	jimrcessna@gmail.com

REPEATERS & NETS

REPEATER	FREQUENCY	TONE	LOC	MODE	DAY	TIME	NET
W0UK	146.760 MHz	88.5	DCARC	Analog	Sunday Tuesday	20:00 20:00	ARES Club
N0APJ	147.030 MHz	88.5	Douglas Co				
N0RC	442.000 MHz		Basehor				
K0USY	444.750 MHz	88.5	Lawrence				
K0USY	444.800 MHz	88.5	Lecompton Lawrence	Analog			
K0USY	444.825 MHz	88.5	Lecompton	DMR P25 Fusion D-Star			
K0HAM	444.900 MHz	88.5	Linked KS				
W0OQW	147.390 MHz	151.4	Ottawa				



W0UK 146.760 MHz repeater Lawrence, KS
Repeater upper-right in cabinet.
Large 4 gray Duplexers for 2m.

MEETINGS

DAY OF WEEK	PLACE	TIME	EVENT
Tuesdays	Dairy Queen 1835 Mass St. Lawrence, Ks. 66044	11:30 am	Lunch
Saturdays	Hy-Vee 4000 W 6 th St. Lawrence, Ks. 66049	6:00 am	Breakfast
2 nd Wednesday	Douglas Co. Fairgrounds 2130 Harper Lawrence, Ks. 66046	7:00-9:00 pm	Club Meeting at Flory Meeting Hall
Last Tuesday	Hy-Vee 3504 Clinton Pkwy Lawrence, Ks. 66047	11:30 am	Ladies Luncheon



MEMBERSHIP APPLICATION

Make Check/Mail to:

Douglas County Amateur Radio Club
3916 Bob Billings Pkwy.
Lawrence, KS 66049

DATE: _____ **NEW MEMBER:** ____ **RENEWAL:** ____

CATEGORY	AMT
Regular	\$25
Family	\$30
Student	\$10

CALL:	
NAME:	
ADDR:	
CITY:	
STATE:	
ZIP:	
PHONE:	
EMAIL:	



WE WANT YOU! To Join Our Ham Radio Club!

VENDOR LINKS

RADIOS

<u>ALINCO</u>	<u>DMR HAM RADIO</u>	
<u>ELECRAFT</u>	<u>SDR RADIO</u>	
<u>FLEX RADIO</u>		
<u>ICOM</u>		
<u>KENWOOD</u>		
<u>TEN-TEC</u>		
<u>YAESU</u>		

ANTENNAS

<u>ALPHA-DELTA</u>	<u>JET STREAM</u>	<u>PACIFIC ANTENNA</u>
<u>BUDDIPOLE</u>	<u>M2 ANTENNA</u>	<u>SPIDERBEAM-US</u>
<u>CHAMELEON</u>	<u>MFJ ANTENNA</u>	<u>TENNADYNE</u>
<u>COMET</u>	<u>SCORPION ANTENNA</u>	<u>LNR PRECISION</u>
<u>CUSHCRAFT</u>	<u>STEPPIR ANTENNA</u>	<u>VARI-TEN</u>
<u>D&L ANTENNA</u>	<u>TARHEEL ANTENNA</u>	
<u>DIMOND ANTENNA</u>	<u>INTERNATIONAL ANT CO</u>	
<u>GAP ANTENNA</u>	<u>LDG ELECTRONICS</u>	
<u>HY-GAIN ANTENNA</u>	<u>MOSLEY ELECTRONICS</u>	

TOWERS

<u>ALUMA</u>		
<u>GLEN MARTIN</u>		
<u>ROHN</u>		
<u>TEXAS TOWERS</u>		
<u>TASHJIAN TOWERS</u>		
<u>US TOWER</u>		

MORSE KEY

<u>BENCHER</u>		
<u>BEGALI KEYS</u>		
<u>KENT KEYS</u>		
<u>VIBROPLEX</u>		

STORES

<u>ALL ELECTONICS</u>		
<u>ASSOCIATED RADIO</u>	<u>RF PARTS CO</u>	
<u>CHEAP HAM</u>	<u>SSB ELECTRONICS USA</u>	
<u>DX ENGINEERING</u>	<u>WEST MOUNTAIN RADIO</u>	
<u>GIGAPARTS</u>	<u>WIREMAN</u>	
<u>HAM RADIO OUTLET</u>		
<u>HAMMOND MFG</u>		
<u>HEIL SOUND</u>		
<u>UNIVERSAL RADIO</u>		
<u>MAIN TRADING CO</u>		
<u>QUICKSILVER</u>		

FILTERS

<u>PALOMAR ENGINEERS</u>		
--	--	--

SOFTWARE AND SOUND CARD

<u>RT SYSTEMS</u>	<u>TIGERTRONICS</u>	
	<u>TIMEWAVE TECH</u>	

BATTERIES/CHARGERS

<u>HITEC COMM SOLU</u>		

BUYING ELECTRONIC SURPLUS

<u>ALL ELECTRONIC</u>		

CIRCUIT BOARDS

<u>ACCUTRACE</u>	<u>SAELIG CO INC</u>	
<u>EXPRESS PCB</u>		

COMPONENTS

<u>ALL ELECTRONICS</u>		
<u>SAELIG CO INC</u>		

DATA LOGGING

<u>MEASUREMENT COMPUTING</u>		

DESIGN/ENGINEERING/REPAIR SERVICES

<u>ACCUTRACE</u>		
<u>EXPRESS PCB</u>		

DEVELOPMENT PLATFORMS/TOOLS

<u>TECHNOLOGIC SYSTEMS</u>		

EDUCATION

<u>COMMAND PRODUCTIONS</u>	<u>PARALLAX</u>	
<u>M.E. LABS</u>	<u>POLABS</u>	

EMBEDDED SYSTEMS

<u>SAELIG CO INC</u>		
--------------------------------------	--	--

<u>TECHNOLOGIC SYSTEMS</u>		
--	--	--

ENCLOSURES

<u>HAMMOND MFG</u>		

LCDS/DISPLAYS

<u>SAELIG CO INC</u>		

MICROCONTROLLERS / I/O BOARDS

<u>M.E. LABS</u>		
<u>TECHNOLOGIC SYSTEMS</u>		

MISC./SURPLUS

<u>ALL ELECTRONICS</u>		

MOTORS / MOTOR CONTROL

<u>HITEC COMM SOLU</u>		
<u>SERVOCITY</u>		

ROBOTICS

<u>HITEC COMM SOLU</u>		
<u>SERVOCITY</u>		

TEST EQUIPMENT

<u>POLABS</u>		
<u>SAELIG CO INC</u>		

TOOLS

<u>PANAVISE</u>		
<u>POLABS</u>		

TRANSFORMERS

<u>HAMMOND MFG</u>		
------------------------------------	--	--

--	--	--

WIRE, CABLE AND CONNECTORS

<u>ALL ELECTRONICS</u>		

WIRELESS PRODUCTS

<u>LEMOS INTERNATIONAL</u>		
<u>TECHNOLOGIC SYSTEMS</u>		

COPYRIGHT

This Newsletter is published monthly by the Douglas County Amateur Radio Club (DCARC). Reprint permission is granted to other Amateur Radio orientated publications for non-copyright material provided that credit is given to the author and source. Copyright articles require permission to use from the holder of the copyright. Opinions expressed herein are not necessarily those of the Club or its officers.

Get Involved ... we help others ... through Ham Radio.

