



The  
**WAVE BENDER**  
 February 2011

PRESIDENT'S QST



Here we are another snowy day. It seems that all it has done this year is snow. Time is moving fast, soon it will be spring. We have had all but 6 members stay with us. That is a good thing. Talk up WRARC to your ham and non-ham friends. Classes will be coming in September, sooner if we get a group that want one. Anyone interested in getting his or her EXTRA please talk to me soon. There will be a class starting in October.

Now it is time to get going with this years FUN things. If you want to have the FUN we are planning you will have to get involved. Before you know it Field Day will be upon us. We will be working a booth at the Home and Garden Show at Austintown Plaza in March. Plan to come out and talk to the people there.

For the club to grow we all have to show and tell people about what we are doing. If you want to have a presentation on some subject let us know about it, don't just sit there and think about it, other people might also be interested in it.

The board is working hard to make this the best radio club in the valley. We need to have everyone's help. Steve, KC8SOY need to have help with the Friday net. Sign up and take a turn. IF your radio will not reach, come to our house and use the radio's here.

*Till next month.  
 73 Allan, AB8AA*



FIELD DAY PACKET AVAILABLE

ARRL Field Day is not a fully adjudicated contest, which explains much of its popularity. It is a time where many aspects of Amateur Radio come together to highlight our many roles. While some will treat it as a contest, most groups use the opportunity to practice their emergency response capabilities. It is an excellent opportunity to demonstrate Amateur Radio to local elected community leaders, key individuals with the organizations that Amateur Radio might serve in an emergency, as well as the general public. For many clubs, ARRL Field Day is one of the highlights of their annual calendar.

**SO---It's that time of year again** -- time to start gearing up for ARRL Field Day, June 25-26, 2011! ARRL's flagship operating event -- always held the fourth full weekend in June -- brings together new and experienced hams for 24 hours of operating fun.

Field Day packets are now available for download and include the complete rules (including a change for 2011), as well as other reference items such as forms, ARRL Section abbreviation list, entry submission instructions, a Frequently Asked Questions section, guidelines for getting bonus points, instructions for GOTA stations and a kit to publicize your event with the local press.

There is one rule change for 2011. Starting this year, all stations operating in Class A may use a free VHF station without increasing their operating category. This is designed to encourage more activity on the VHF bands, especially 6 and 2 meters, during the best sporadic-E season of the year.

We have also included in the FD packet a brief one-page flier with basic "What is Field Day" information that may be reproduced as a handout for your information table.

**WRARC 2011 Field Day Captains:**

*Roy Haren KD8IJF, harens@juno.com*

*Steve Fabry KC8SOY, kc8soy@yahoo.com*

**Social: Maureen Stein KD8NXS,**

*mfstein@zoominternet.net*

Please contact them if you are willing to take a station, you know a good spot to hold Field Day, or are willing to help with the food for our picnic. It is not too soon to start planning. June 24, 25 & 26 will be here before we know it!



[HTTP://WWW.QLS.NET/W8WRC/](http://www.qls.net/w8wrc/)



**Officer's Meeting:** Feb. 13, 7:00P.M.

At the Avnet's, 2050 E. South Range Rd.  
 New Springfield (330-549-3051)

**Regular Meeting:** February 15, 7:00 P.M.

Davidson's, in Cornersburgh

**Program:** AB8AA on Geocaching

**2011 Officers**

**President:** Al Avnet AB8AA ab8aa@arrl.net  
**VP:** Roy Haren KD8IJF harens@juno.com  
**Secretary:** Jane Avnet K8JAA k8jaa@arrl.net  
**Treasurer:** John Fabry KC8SPF

jonnyjukebox@sbcglobal.net  
**Trustees:** Ted Filmer KD8IJE efilmer@aol.com  
 Russ Williams KD8LDY  
 russellwhoknew69@aol.com

Steve Fabry KC8SOY, kc8soy@yahoo.com  
**Social:** Maureen Stein KD8NXS  
 mfstein@zoominternet.net

THANK YOU

The web page currently has pictures posted from our Winter Party, held in January, and our January meeting. I want to thank Robert KD8OXJ for his design, and his help with a problem I had with the pictures. The design is great, and the pictures finally display like they should.

The Winter Party was fun. We had a great turnout - if you weren't able to attend, you missed a good meal and a good time. Thanks to Ted KD8IJE for pulling it all together.

January's speaker was Dr. Carol Shireiner, a friend of Darrin N8DMC's. She teaches at Hiram College. She spoke about the different types of plastics, their use, and which ones can be recycled. I've heard many positive comments about her presentation.

**Home and Garden Show**

**March 25,26,27 2011**

**Austintown Expo Center  
Austintown, Ohio**

Over 15,000 people attended  
this show in 2010 !

**Show Hours:**

**Fri:12 :00 P.M.-9 :00 P.M.**

**Sat:10 :00 A.M.-9 :00 P.M.**

**Sun:10 :00 A.M.-5 :00 P.M.**

Volunteer and spend some time  
promoting WRARC and Amateur Radio

**Join us for the Friday night  
WRARC Net**

**9:00 P.M. on 145.270, PL -110.9**

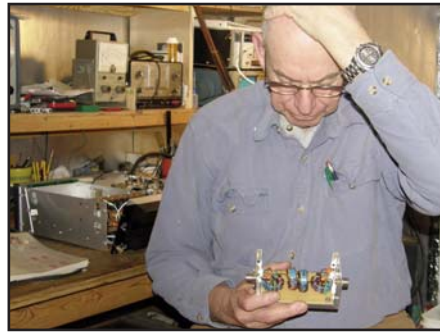
**This is a directed net, with all  
interested members taking a turn  
at Net Control**

- January 28      KD8JMO ROY**
- February 4-    N8DMC Darrin**
- February 11-   KC8WY Dave**
- February 18-   KD8IJE Ted**
- February 25-   KC8SOY Steve**
- March 18 -      KD8LDY Russ**
- April 1-        KD8LDY Russ**

**First Wednesday of the Month  
the Mahoning County  
ARES/RACES/Skywarn training net  
is held on the W8QLY repeater  
146.745 (-) at 8:30P.M.**



THE CONTINUING SAGA OF THE BAND PASS FILTERS



Having completed building the 20 Meter BPF, I started to tune it up. At first it looked really good. But as I went further into the tuning the worse it got. So with this in mind, I contacted the Ham, Ed, W3NQN that designed and

built the original set of filters in 1998. He is in his late 80's and is involved with Array Solutions BPF's. He sent me to another Ham, Paul W7EKG, that has built a lot of them and was willing to help me with the project.

Now the fun begins. The first thing I found out was that the design has changed a lot. Paul sent me a CD with lots of information on all the design changes and what steps to take to tune them up. Now that I have that information it is time to start from scratch again with the 20 Meter BPF. I also found out that as you go up the bands from 20 to 15 to 10 Meters the BPF's get harder to build and tune. So here I go pulling out what little hair I have left to get the project going.

More from here next month, if I still have my sanity

**73 Allan, AB8AA**



NBEMS UPDATE WEBINAR

**From Atlantic Division Director Bill Edgar N3LLR,  
Saturday, February 26, 2011 ? 10:00A.M. through  
12:00P.M.(EST)**

This NBEMS webinar will cover advanced features such as the use of NBEMS FLWRAP and FLMSG for the use of sending and receiving spread sheet/database data and form-based messages such as the ICS-213 and NTS/Radiogram forms. We will also be covering HF digital net procedures and protocols and hope to incorporate a live HF demonstration that will be viewable by all those attending the webinar.

Our speakers for this session will be Harry Bloomberg W3YJ ? Western Pennsylvania Assistant Section Emergency Coordinator and Dave Kleber KB3FXI. Harry and Dave are the developers of this program

To register for this webinar, please go to the link below and complete the registration page at least one hour prior to the webinar start time.

<https://www1.gotomeeting.com/register/497568192>

*"The trouble with quotes on the Internet is that  
you never know if they are genuine."  
- Abraham Lincoln*

*How much water is in the Great Lakes?  
The Great Lakes contain 6 quadrillion gallons of fresh  
water, one-fifth of the world's fresh surface water.  
The Great Lakes are the largest group of freshwater  
lakes in the world.*

SKYWARN

**Nat Weather Service thanks Hams National Weather Service Honored Ham Radio Operators Dec 4, 2011**

Newington, CT Nov 17, 2010 -- The National Weather Service's annual SKYWARN® Recognition event took place Saturday, December 4. Cosponsored by the National Weather Service (NWS) and ARRL, the national association for Amateur Radio, SKYWARN Recognition Day is the National Weather Service's way of expressing its appreciation to Amateur Radio operators for their commitment to keep communities safe.

Amateur Radio operators ("hams") volunteering as storm spotters are an extremely valuable asset to National Weather Service operations because they are cross-trained in both communications and severe storm recognition. Typical SKYWARN operations during severe weather provide direct communication between mobile spotters and local NWS offices giving critical "ground truth" information for forecasters. Instant spotter reports of events such as hail size, low-level cloud rotation and wind damage, given in real time, greatly assist the weather centers. Their reports can be then be correlated with Doppler radar displays which may not see lower level activity in storms. The results are more accurately worded statements or issuing life-saving warnings a few precious minutes earlier than would otherwise have been possible.

For everyone who is interested in Skywarn 2011 training, the following are local dates and times:

- **Columbiana County** - 3/22 6/6:15PM , Columbiana County Career Center, State Rt. 45, South of Lisbon across from OSP Post 15.
- **Mahoning County** - 4/6/11 5:30 PM, Austintown Fitch Auditorium, 4560 Falcon Drive, Austintown, OH 44515
- **Trumbull County** - 3/15/11 6:30 PM, Kent State Branch, Technology Building, Room 117, 4314 Mahoning Ave., N. W., Warren, Ohio 44483

You don't have to be a Ham to attend. If you are an accredited spotter but didn't attend last year you must renew in 2011.



**THE ARRL AND THE BOY SCOUTS OF AMERICA SIGNED A MEMORANDUM OF UNDERSTANDING ON JANUARY 31.**



**Scouting:** Boy Scouts of America and ARRL Team Up to Help Scouts Learn Communications Skills

After working together for nearly a century to provide Scouts with the ability to learn radio communication skills, Boy Scouts of America and the ARRL have officially teamed up by signing a memorandum of understanding. This MOU designates the ARRL as a key resource for K2BSA and Radio Merit Badge training at the BSA National Scout Jamboree and establishes the ARRL as the go-to source for Scouts interested in learning about and becoming involved in radio communication. Read more here:



<http://www.arrl.org/news/boy-scouts-of-america-and-arrrl-team-up-to-help-scouts-learn-communications-skills>

**Portage County Amateur Radio Service, Inc.**

**PCARS - K8BF  
Sixth Annual**



**"Freeze Your Acorns Off"**

(FYAO) QRP mini-field day  
Special Event Station

Where: Fred Fuller Park - 497 Middlebury Rd., Kent, Oh  
at the Roy Smith Shelter House  
When: Saturday - Feb. 19, 2011  
Set up: 9am

Operating Time: 10am - 6pm EST

We will be active on CW & SSB in the General areas of the 15, 20, 40 and 80 meter bands (Echolink on the KC8RKV echo link node) and anything else we can get working. Club Call Sign K8BF for a certificate. Other participating stations will be using their own callsign/FYAO, or calling —CQ FYAOII (only stations at the Freeze Your Acorns Off event should use the /FYAO designator).

Yes, we'll be braving the cold snowy weather of North Eastern Ohio to set up QRP stations using portable power and antennas.

A beautiful color (suitable for framing) 8" x 10" certificate will be available if you contact K8BF and send your QSL with a large SASE to the club call trustee:

Al Atkins, KB8VJL - 12433 Chamberlain Rd. - Aurora, OH 44202

So, from the comfort of your warm radio shack - give us a contact while we're out freezing. We'll need all the contacts we can make to help keep us warm. Your support will be very much appreciated!

**LEGISLATIVE MATTERS: AMATEUR RADIO BILL**

**INTRODUCED IN THE US SENATE**

On January 26, Senator Joe Lieberman (ID-CT), along with Senator Susan Collins (R-ME), introduced Senate Bill 191, The Amateur Radio Emergency Communications Enhancement Act of 2011. Similar to HR 81, introduced in the US House on January 5, the bill, if passed, would direct the Department of Homeland Security to undertake a study on emergency communications. S 191 has been referred to the Committee on Homeland Security and Governmental Affairs.

**NEW HF TRADER AND RAG CHEW NET**

Beginning on February 3, 2011, Dan W8DFA will be hosting an HF Trader and Rag Chew Net at 8:00 P.M. on 28.337, 10-meters.

On February 6, 2011 on the CFARC repeater 147.270. The new Traders Net will begin at 8:00 P.M. Sunday night. Because of potential license liability, Dan will use the W8DFA call for this net.

The thought behind these nets are to populate the bands, to have an operating event locally, and to provide a swap meet on the air. Dan W8DFA will be running these nets weekly.

Let's make Ham Radio fun again.

Dan W8DFA, Radio Officer  
Cuyahoga Falls ARC

THINGS YOU MIGHT OR NEED TO KNOW

IMPEDANCE AND REACTANCE

**Impedance** (symbol Z) is a measure of the overall opposition of a circuit to current, in other words: how much the circuit impedes the flow of current. It is like resistance, but it also takes into account the effects of capacitance and inductance. Impedance is measured in ohms, symbol Ω.

Impedance is more complex than resistance because the effects of capacitance and inductance vary with the frequency of the current passing through the circuit and this means impedance varies with frequency! The effect of resistance is constant regardless of frequency.

The term 'impedance' is often used (quite correctly) for simple circuits which have no capacitance or inductance - for example to refer to their 'input impedance' or 'output impedance'. This can seem confusing if you are learning electronics, but for these simple circuits you can assume that it is just another word for resistance.

Four electrical quantities determine the impedance (Z) of a circuit, resistance (R), capacitance (C), inductance (L) and frequency (f).

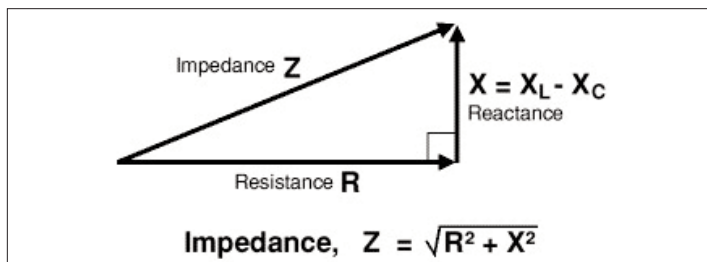
Impedance can be split into two parts:

**Resistance R** (the part which is constant regardless of frequency)

**Reactance X** (the part which varies with frequency due to capacitance and inductance)

The capacitance and inductance cause a phase shift\* between the current and voltage which means that the resistance and reactance cannot be simply added up to give impedance. Instead they must be added as vectors with reactance at right angles to resistance as shown in the diagram.

\* **Phase shift** means that the current and voltage are out of step with each other. Think of charging a capacitor. When the voltage across the capacitor is zero, the current is at a maximum; when the capacitor has charged and the voltage is at a maximum, the current is at a minimum. The charging and discharging occur continually with AC and the current reaches its maximum shortly before the voltage reaches its maximum: so we say the current leads the voltage.



**Reactance, X**

Reactance (symbol X) is a measure of the opposition of

capacitance and inductance to current. Reactance varies with the frequency of the electrical signal. Reactance is measured in ohms, symbol Ω.

There are two types of reactance: capacitive reactance (Xc) and inductive reactance (XL).

The **total reactance (X)** is the difference between the two:  
 $X = X_L - X_C$

Capacitive reactance, Xc

$X_c = \frac{1}{2\pi f C}$	where:	Xc = reactance in ohms (Ω) f = frequency in hertz (Hz) C = capacitance in farads (F)
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Xc is large at low frequencies and small at high frequencies.

For steady DC which is zero frequency, Xc is infinite (total opposition), hence the rule that **capacitors pass AC but block DC**.

For example: a 1µF capacitor has a reactance of 3.2kΩ for a 50Hz signal, but when the frequency is higher at 10kHz its reactance is only 16Ω.

**Inductive reactance, XL**

$X_L = 2\pi f L$	where:	XL = reactance in ohms (Ω) f = frequency in hertz (Hz) L = inductance in henrys (H)
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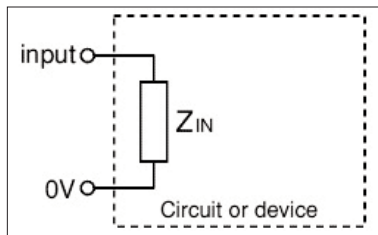
XL is small at low frequencies and large at high frequencies.

For steady DC (frequency zero), XL is zero (no opposition), hence the rule that inductors pass DC but block high frequency AC.

For example: a 1mH inductor has a reactance of only 0.3Ω for a 50Hz signal, but when the frequency is higher at 10kHz its reactance is 63Ω.

**Input Impedance ZIN**

Input impedance (ZIN) is the impedance 'seen' by anything connected to the input of a circuit or device (such as an amplifier). It is the combined effect of all the resistance, capacitance and inductance connected to the input inside the circuit or device.



It is normal to use the term 'input impedance' even for simple cases where there is only resistance and the term 'input resistance' could be used instead. In fact it is usually reasonable to assume that an input impedance is just resistance providing the input signal has a low frequency (less than 1kHz say).

The effects of capacitance and inductance vary with frequency, so if these are present the input impedance will vary with frequency. The effects of capacitance and inductance are generally most significant at high frequencies.

Usually **input impedances should be high**, at least ten times the output impedance of the circuit (or component) supplying a signal to the input. This ensures that the input will not 'overload' the source of the signal and reduce the strength (voltage) of the signal by a sub-

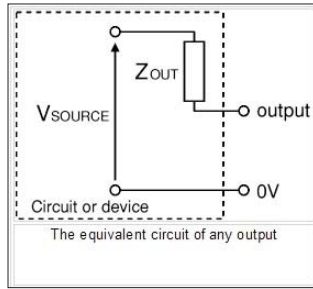
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NEED TO KNOW - CONTINUED FROM PAGE 4

stantial amount.

**Output Impedance  $Z_{OUT}$**

The output of any circuit or device is equivalent to an output impedance ( $Z_{OUT}$ ) in series with a perfect voltage source ( $V_{SOURCE}$ ). This is called the **equivalent circuit** and it represents the combined effect of all the voltage sources, resistance, capacitance and inductance connected to the output inside the circuit or device. Note that  $V_{SOURCE}$  is usually not the same as the supply voltage  $V_s$ .



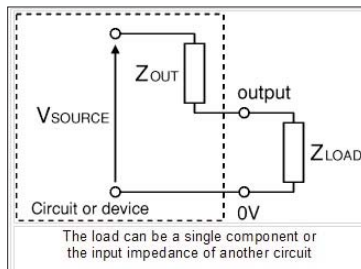
It is normal to use the term 'output impedance' even for simple cases where there is only resistance and the term 'output resistance' could be used instead. In fact it is usually reasonable to assume that an output impedance is just resistance providing the output signal has a low frequency (less than 1kHz say).

The effects of capacitance and inductance vary with frequency, so if these are present the output impedance will vary with frequency. The effects of capacitance and inductance are generally most significant at high frequencies.

Usually **output impedances should be low**, less than a tenth of the load impedance connected to the output. If an output impedance is too high it will be unable to supply a sufficiently strong signal to the load because most of the signal's voltage will be 'lost' inside the circuit driving current through the output impedance  $Z_{OUT}$ . The load could be a single component or the input impedance of another circuit.

**Low output impedance,  $Z_{out} \ll Z_{LOAD}$**

Most of  $V_{SOURCE}$  appears across the load, very little voltage is 'lost' driving the output current through the output impedance. Usually this is the best arrangement.



**Matched impedances,  $Z_{OUT} = Z_{LOAD}$**  Half of

$V_{SOURCE}$  appears across the load, the other half is 'lost' driving the output current through the output impedance. This arrangement is useful in some situations (such as an amplifier driving a loudspeaker) because it delivers maximum power to the load. Note that an equal amount of power is wasted driving the output current through  $Z_{OUT}$ , an efficiency of 50%.

**High output impedance,  $Z_{OUT} \gg Z_{LOAD}$**  Only a small portion of appears across the load, most is 'lost' driving the output current through the output impedance. This arrangement is unsatisfactory.

**The output resistance of a voltage divider**

Voltage dividers are widely used in electronics, for example to connect an input transducer such as an LDR to a circuit

input.

For successful use the output impedance of the voltage divider should be much smaller than the input impedance of the circuit it is connected to. Ideally the output impedance should be less than a tenth of the input impedance.

In the equivalent circuit of a voltage divider the output impedance is just a resistance and the term 'output resistance' could be used.  $R_{OUT}$  is equal to the two resistances ( $R_1$  and  $R_2$ ) connected in parallel:

$$\text{Output impedance } R_{OUT} = \frac{R_1 \times R_2}{R_1 + R_2}$$

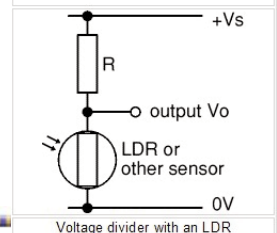
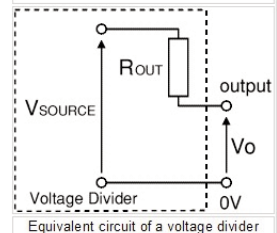
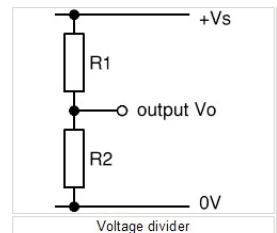
The voltage source  $V_{SOURCE}$  in the equivalent circuit is the value of the output voltage  $V_o$  when there is nothing connected to the output (and therefore no output current). It is sometimes called the 'open circuit' voltage.

$$\text{Voltage source } V_{SOURCE} = \frac{V_s \times R_2}{R_1 + R_2}$$

In most voltage dividers one of the resistors will be an input transducer such as an LDR. The transducer's resistance varies and this will make both  $V_{SOURCE}$  and  $R_{OUT}$  vary too. To check that  $R_{OUT}$  is sufficiently low you should work out its highest value which will occur when the transducer has its maximum resistance (this applies wherever the transducer is connected in the voltage divider).

**For example:** If  $R_1 = 10k\Omega$  and  $R_2$  is an LDR with maximum resistance  $1M\Omega$ ,  $R_{OUT} = 10k \times 1M / (10k + 1M) = 9.9k\Omega$  (say  $10k\Omega$ ). This means it should be connected to a load or input resistance of at least  $100k\Omega$ .

*'Till next month, 73 Allan AB8AA*



*Pictures from our first annual Winter Party and the January meeting are posted on the WRARC website. Check them out.*

[HTTP://WWW.QLS.NET/W8WRC/](http://www.qls.net/w8wrc/)

## THIS WEEK ON THE RADIO

## This week:

February 4 -- NCCC Sprint Ladder  
 February 5 -- Minnesota QSO Party;  
 FYBO Winter QRP Sprint;  
 AGCW Straight Key Party  
 February 5-6 -- Delaware QSO Party;  
 10-10 International Winter Contest (SSB);  
 British Columbia QSO Party;  
 Mexico RTTY International Contest;  
 YL-ISSB QSO Party (CW); EPC WW DX Contest  
 February 5-7 -- Vermont QSO Party  
 February 6 -- North American Sprint (CW)  
 February 8 -- ARS Spartan Sprint  
 February 9 -- NAQCC Straight Key/Bug Sprint  
 February 9-10 -- CWops Mini-CWT Test

## Next week:

February 12 -- Asia-Pacific Spring Sprint  
 February 12 -- FISTS Winter Sprint  
 February 12-13 -- Dutch PACC Contest  
 February 12-13 -- New Hampshire QSO Party  
 February 12-13 -- CQ WW RTTY WPX Contest  
 February 12-13 -- SARL Field Day Contest  
 February 13 -- North American Sprint, SSB  
 February 14-18 -- School Club Roundup



## ITU

If you were to ask most amateur radio operators what entity is responsible for granting privileges to use portions of the radio spectrum for amateur radio purposes the answer would likely be their own national telecommunication authority. However, that's only partially true. The ultimate authority for the use of the radio spectrum is the International Telecommunication Union (ITU). It is desirable that each amateur radio operator understand what the ITU is and why its work and decisions are important.

Most countries are Member States of the ITU and by way of treaty generally agree to be bound by the decisions of the ITU when it comes to the usage of the radio spectrum. Each country can decide that a certain use determined by the ITU may not apply in their own jurisdiction. It is not common for countries to do that but it is within their sovereign authority to do so.

The International Telecommunication Union is a United Nations agency that deals with information and communications technology issues. They have an extensive web site at [www.itu.int](http://www.itu.int) that details much of their work. The ITU is based in Geneva, Switzerland and includes in its membership 192 Member States and more than 700 Sector Members and Associates.

ITU has coordinated the shared global use of the radio spectrum, promoted international cooperation in assigning satellite orbits, worked to improve telecommunication infrastructure in the developing world, established the worldwide standards that foster seamless interconnection of a vast range of communications systems and addressed other global concerns, such as mitigating climate change and strengthening cybersecurity.

The top staff official of the ITU is its Secretary-General, Dr. Hamadoun Toure who is also a licensed radio

amateur with the call sign HB9EHT. There are three sectors in the ITU: Radio-communication (ITU-R), Development (ITU-D) and Standardization (ITU-T). The IARU is a Sector Member in both the ITU-R Sector and the ITU-D Sector. The IARU fully participates in both of those sectors by attending any and all meetings that involve issues that may impact the amateur or the amateur-satellite services. The Secretary-General, the Deputy Secretary-General and the Directors of the three ITU Sectors are elected to four-year terms by the Member States at Plenipotentiary Conferences held every four years. The IARU is a recognized international telecommunication organization and is invited to participate as an observer at the Plenipotentiary Conferences. The most recent "Plenipot" was held in October, 2010 in Guadalajara, Mexico.

The ITU Council was established in 1947 under the name Administrative Council, following a decision taken by the 1947 Plenipotentiary Conference in Atlantic City, New Jersey, United States. The Council comprises a maximum of 25% of the total number of Member States, which are elected by the Conference with due regard to the need for equitable distribution of Council seats among the five world regions (Americas, Western Europe, Eastern Europe, Africa, Asia, and Australasia). The current Council is comprised of 48 members.

The role of Council is to consider, in the interval between Plenipotentiary Conferences, broad telecommunication policy issues to ensure that the Union's activities, policies and strategies fully respond to today's dynamic, rapidly changing telecommunications environment. It also prepares a report on the policy and strategic planning of the ITU. In addition, Council is responsible for ensuring the smooth day-to-day running of the Union, coordinating work programs, approving budgets and controlling finances and expenditures. Finally, Council also takes all steps to facilitate the implementation of the provisions of the ITU Constitution, the ITU Convention, the Administrative Regulations (International Telecommunications Regulations and Radio Regulations), the decisions of Plenipotentiary Conferences and, where appropriate, the decisions of other conferences and meetings of the Union. The IARU has attended several ITU Council meetings in the recent past.

The ITU-R Sector is very important for radiocommunication services, including the amateur and amateur-satellite services. Every 4 or 5 years the ITU holds a World Radiocommunication Conference (WRC) to revise the international Radio Regulations. It is the job of WRC to review, and, if necessary, revise the Radio Regulations, the international treaty governing the use of the radio-frequency spectrum and the geostationary-satellite and non-geostationary-satellite orbits. Revisions are made on the basis of an agenda determined by the ITU Council, which takes into account recommendations made by previous world radiocommunication conferences. The general scope of the agenda of world radiocommunication conferences is established four to six years in advance, with the final agenda set by the ITU Council two years before the conference, with the concurrence of a majority of Member States. The next WRC is scheduled for 23 January to 17 February 2012, just one year away.

Under the terms of the ITU Constitution, a WRC can:

## ITU - CONTINUED FROM PAGE 6

1. revise the Radio Regulations and any associated Frequency assignment and allotment Plans;
2. address any radiocommunication matter of worldwide character;
3. instruct the Radio Regulations Board and the Radiocommunication Bureau, and review their activities;
4. determine Questions for study by the Radiocommunication Assembly and its Study Groups in preparation for future Radiocommunication Conferences.

There is a lengthy preparatory process for every WRC in which the IARU participates as a Sector Member. There are usually countless meetings dealing with each agenda item that has been determined to be on the agenda for a WRC. Many of those agenda items can, and do, have a substantial impact on the amateur radio usage of portions of the radio spectrum. It is important for the IARU to participate to "protect our frequencies" and when the opportunity presents itself, to expand our spectrum.

ITU-R Study Groups and Working Parties address each agenda item on the WRC agenda and try to arrive at a consensus and recommendation(s) how the agenda item may be addressed or dealt with at the WRC. Studies are conducted many times to determine how a proposed new usage may impact the other services, or not. Each of these agenda items are thoroughly discussed for at least a couple of years leading up to the WRC. You can imagine how important it is for the worldwide amateur community that IARU participate in the entire study group/working party process.

ITU-D is where much of the ITU's work on disaster response takes place. The development arm of the ITU considers emergency telecommunications an integral part of its projects integrating telecommunications/information and communication technology in disaster predication, detection, and alerting. Emergency Telecommunications play a critical role in the immediate aftermath of disasters by ensuring timely flow of vital information which is much needed by government agencies, and other humanitarian actors that are involved in rescue operations and providing medical assistance to the injured. IARU's task in the ITU-D Sector is to ensure that amateur radio's role in disaster communications is understood and appreciated by the ITU members. The ITU-D Sector also conducts a worldwide conference. The current schedule calls for a World Telecommunication Development Conference every 4 years. In 2010, the WTDC was held in Hyderabad, India in late May and early June. IARU participated in the conference.

The ITU also sponsors regional and global exhibitions called TELECOMS. An ITU Telecom offers a global ICT community platform that gathers stakeholders from across the telecommunications/ICT sector to connect, collaborate and create the future ICT landscape. Forums or seminars related to ICT are conducted at the Telecoms and IARU has participated in such forums, usually on topics related to emergency communications.

In one of the ITU buildings, there is a permanent amateur radio station, 4U1ITU. 4U1ITU is the club station of the International Amateur Radio Club.

**73, Rod W6ROD**

ANONYMOUS INTERNET USERS HELP EGYPT  
COMMUNICATE

Craig Kanalley Craig Kanalley – Sun Jan 30, 2:56 am ET  
"Internet not working, police cars burning," sent out one Egyptian. "Today marks a great day for Egypt," sent out another.

These messages weren't coming from mobile phones or computers, but from an amateur radio sending out Morse Code somewhere amidst the chaos in Egypt.

The Egyptian government's efforts to limit communications within the country has triggered a wave of activism from an international group of free speech activists on the Internet called Telecomix.

Organizing using chat rooms, wikis, and collaborative writing tools, this largely anonymous group has worked to inform Egyptians about their communications options while receiving incoming messages from them. Telecomix has previously worked on free speech efforts in Tunisia, Iran, China and other countries who have tried to censor or block parts of the Internet.

Egypt has been identified as a "top priority" for Telecomix on one of its network sites, We Re-Build. It has a wiki set up as a one-stop shop with the latest chat rooms and resources for the ongoing efforts.

There are roughly 20 extremely active members, 50 active and some 300 total including lurkers, according to chat administrator Christopher Kullenberg from Gothenburg, Sweden.

**Here's a timeline of recent events for the group:**

When Internet and mobile services were cut off in Egypt on Thursday night, though landlines were operational, members immediately got to work to send information to Egyptian fax numbers. Searching for a common string of characters found in Egyptian fax machines on Google, they discovered a large amount of numbers.

At first, they sent out Wikileaks cables to these numbers, but then they determined the Egyptians didn't need additional motivation. Instead, they were interested in information on how to communicate with each other and the outside world. The activists thus began providing instructions for using dial-up modems and amateur radios, known as Ham radios, which the Egyptian people could use to communicate.

The group says it's also worked on receiving and decoding amateur radio messages, sent on frequencies recommended by the group of activists. While these groups have only been able to receive a small amount of messages of a short length with an unknown source, the Egyptian people's use of amateur radio to transmit messages represents an interesting utilization of old-fashioned technology to circumvent government restrictions.

Most activists behind these messages tell The Huffington Post they wish to remain anonymous. But besides Telecomix, other Internet groups have assisted, including "Anonymous," which has helped by sending out large amounts of faxes into Egypt. "Anonymous" was also involved in denial of service operations against organizations who took actions against Wikileaks. They've also participated in many other operations, with targets ranging from Scientology to Gene Simmons.

Have these efforts proven effective in helping the Egyptian people? "We cannot really tell," said Kullenberg. "Opening up communication channels is enough for us. What that leads up to, is up to the people communicating."

# February 2011

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
		<p>1</p> <p>Happy Birthday KD8KED</p> 	<p>2</p> <p>General Class 7:00PM</p> <p>ARES Net 8:30 P.M. 146.745</p>	<p>3</p>	<p>4</p> <p>WRARC Net 9:00PM 145.270</p>	<p>5</p>
<p>6</p>	<p>7</p>	<p>8</p> <p>Eat'n Park Boardman 8:30 A.M. Ham Community Breakfast</p>	<p>9</p> <p>General Class 7:00PM</p>	<p>10</p>	<p>11</p> <p>WRARC Net 9:00PM 145.270</p>	<p>12</p>
<p>13</p> <p>WRARC Board Meeting 7:00P.M</p>	<p>14</p> <p>Valentines Day</p> 	<p>15</p> <p>WRARC Meeting 7:00P.M</p>	<p>16</p> <p>Test Session EMA 6:30P.M.</p>	<p>17</p>	<p>18</p> <p>WRARC Net 9:00PM 145.270</p>	<p>19</p> <p>FYAO 9AM</p> 
<p>20</p>	<p>21</p> <p>President's Day</p>	<p>22</p> <p>Eat'n Park Boardman 8:30 A.M. Ham Community Breakfast</p>	<p>23</p>	<p>24</p>	<p>25</p> <p>WRARC Net 9:00PM 145.270</p> <p>Happy Birthday N8DMC</p> 	<p>26</p>
<p>27</p>	<p>28</p>	<p>March 1</p>	<p>2</p> <p>ARES Net 8:30 P.M. 146.745</p>	<p>3</p>	<p>4</p> <p>WRARC Net 9:00PM 145.270</p>	<p>5</p>