

# *Spurious Emissions*

*Orleans County Amateur Radio Club*

*April 2010*

## OCARC Meetings

The OCARC meets at **7:30 PM** on the **2nd Monday** of each month at the Orleans County Emergency Management Office (14064 W. County House Rd. Albion, NY)

The exceptions are the August (picnic) and September (dinner) meetings

## Club Officers

### President

Stephen W Maier KZ2R

### Vice President

Howard Flint KC2EZJ

### Secy

Charles Lind N8CL

### Treas

Richard Toussaint  
KA2BCF

### Dir

Bruce Sidari WA2TMC

### Net Mgr

Marion Toussaint  
KA2BCE

# OCARC Meeting April 12, 2010

**WHERE: EMO**

**WHEN: April 12, 2010**

**TIME: 7:30 PM**

**Program: SKYWARN**

SKYWARN is a concept developed in the late 1960s that was intended to promote a cooperative effort between the National Weather Service and communities. The emphasis of the effort is often focused on the storm spotter, an individual who takes a position near their community and reports wind gusts, hail size, rainfall, and cloud formations that could signal a developing tornado. Another part of SKYWARN is the receipt and effective distribution of National Weather Service information.

SKYWARN is not a club or organization, however, in some areas where Emergency Management programs do not perform the function, people have organized SKYWARN groups that work independent of a parent government agency and feed valuable information to the National Weather Service. While this provides the radar meteorologist with much needed input, the circuit is not complete if the information does not reach those who can activate sirens or local broadcast systems.

SKYWARN is a national effort to save lives during severe weather emergencies with an expanding network of trained weather spotters. The services performed by SKYWARNTM spotters

# ***Receiver S METERS***

An S meter (signal strength meter) is an indicator often provided on communications receivers, such as amateur radio receivers or shortwave broadcast receivers.

The scale markings are derived from a subjective system of reporting signal strength from S1 to S9 as part of the RST code. The term S unit can be used to refer to the amount of signal strength required to move an S meter indication from one marking to the next.

The International Amateur Radio Union (IARU) Region 1 agreed on a technical recommendation for S Meter calibration for HF and VHF/UHF transceivers in 1981.[1]

IARU Region 1 Technical Recommendation R.1 defines S9 for the HF bands to be a receiver input power of -73 dBm.

This is a level of 50 microvolts at the receiver's antenna input assuming the input impedance of the receiver is 50 ohms.

For VHF bands the recommendation defines S9 to be a receiver input power of -93 dBm. This is the equivalent of 5 microvolts in 50 ohms.

The recommendation defines a difference of one S-unit corresponds to a difference of 6 decibels (dB), equivalent to a voltage ratio of two, or power ratio of four.

Signals stronger than S9 are given with an additional dB rating, thus "S9 + 20dB", or, verbally, "20 decibels over S9".

A weak signal with signal strength of S2 corresponds to received power of -115 dBm or 0.40 microvolts in 50 ohms on HF.

A strong signal with signal strength of S8 corresponds to received power of -79 dBm or 25 microvolts in 50 ohms on HF.

Some signal generators are calibrated in dB above 1uV and have an output in emf. For example to set an HF receiver's S-reading to S9 set the signal generator out-

### ***S meter Voltage Scale***

<b><i>S Reading</i></b>	<b><i>uV (50 ohm)</i></b>	<b><i>dBm</i></b>	<b><i>dB above 1uV</i></b>
S9+10dB	160.0	-63	44
S9	50.2	-73	34
S8	25.1	-79	28
S7	12.6	-85	22
S6	6.3	-91	16
S5	3.2	-97	10
S4	1.6	-103	4
S3	0.8	-109	-2
S2	0.4	-115	-8
S1	0.2	-121	-14

## **S Meters Needles and LEDs**

We use S meters all the time in our daily ham activities

Sometimes it's an analog meter with a needle movement and more than likely your VHF/UHF radio uses LED indicators for signal strength.

Do we really know what that indicates?

Is THREE lit LEDs on an ICOM the same as a Kenwood or any other radios?

Is S-9 the same on a TenTec as a Yaesu etc.

I will do a program in the very near future on the simple S meter.

I'll try to use a few visual aids. We will measure a few radios and see how they react to the same input signal levels.

I think it will prove very interesting. I'm sure we will all be surprised how varied S meters are from radio to radio.

## **ARRL—RED CROSS**

On Thursday, March 25, ARRL President Kay Craigie, N3KN, signed a new Memorandum of Understanding (MoU) with the American Red Cross (ARC) at ARC National Headquarters in Washington, DC. The MoU, which replaces an earlier Statement of Understanding that expired in 2007, provides a "broad framework for cooperation" between the ARRL and the ARC "in preparing for and responding to disaster relief situations at all levels in rendering assistance and service to victims of disaster, as well as other services for which cooperation may be mutually beneficial."

The ARRL Board of Directors approved the signing of the MoU at its January 2010 meeting following the completion of negotiations. The Red Cross requires the completion of a criminal background check to participate in Red Cross activities and provides a process by which a volunteer may have a criminal background check performed at no cost to the volunteer. In the case of ARRL volunteers, the Red Cross has agreed to accept an alternative process: ARRL volunteers may arrange, at their own initiative and expense, to have the criminal background check performed by a state or local law enforcement agency.

The Red Cross also has agreed that ARRL volunteers shall not be asked or required to consent to credit checks, mode of living investigations or investigative consumer reports in order to provide a communications function.

\*\*\* April Meeting Refreshments: \*\*\*

John Maha and Jean Seward

Ray - N2VDR

Reports he is a grandfather once again to Kelsey Ann.

Congrats Ray!!!

## **OCARC Weekly NET**

The OCARC 2 Meter Net meets every Tuesday evening at 9:00 PM on the WA2DQL repeater.

**Freq** = 145.27 KHz –600

**PL** = 141.3 Hz

This is a very informal net and ALL stations are welcome.

The schedule of net Control stations for the next month is:

April	6	KA2BCE
April	13	WA2TMC
April	20	KA2BCF
April	27	KC2JKU
May	4	KA2BCE
May	10	WA2TMC