



Squelch Tales



Newsletter from the Merrymeeting Amateur Radio Association for June 2014



June is Field Day Month COME OUT AND HAVE SOME FUN.



Good News, Petition to Expand RFID Use on 70cM Withdrawn

From **ARLB009**

The FCC has dismissed without prejudice a Petition for Rule Making (RM-11651) by Lockheed Martin that would have amended the Commission's Part 15 rules to expand deployment of the company's radio frequency identification (RFID) system in the 433 MHz band (433.5-434.5 MHz). Lockheed Martin sold its RFID business 2 years ago, but the company only this month requested that the Petition be withdrawn and the proceeding terminated.

The ARRL had staunchly opposed the Lockheed Martin petition, which the firm filed on behalf of its subsidiary, Savi Technology. The League locked horns with Savi years ago, when the company successfully petitioned the FCC to amend its Part 15 rules governing periodic radiators to permit high-power, near-continuous duty RFID tags in the 433 MHz band. As a concession to opponents, the FCC limited deployment of the devices to "commercial and industrial areas" and allowed their use only for tracking "commercial shipping containers." Lockheed Martin acquired Savi Technologies in 2006.

The now-dismissed petition would have expanded the frequency range

of the RFID tags to 433.05-434.79 MHz, required listen-before-transmit protocols to avoid interference to Amateur Radio, eliminated a manufacturer registration requirement, and dropped rules that prohibited deploying the devices outside "commercial or industrial areas" and limited their application to "commercial shipping containers."

The ARRL filed vigorous opposition to the Lockheed Martin Petition in January 2012, saying that Lockheed's petition "seeks to undo virtually all of the few interference protections" the FCC had adopted in 2004, "solely on the basis of vaguely stated advances in RFID technology." Other Part 15 device manufacturers also opposed any expansion of the high-power application.

A May 14 Commission letter from FCC Office of Engineering and Technology Chief Julius P. Knapp said that on the basis of Lockheed Martin's Petition and the comments filed on it, "we do not find sufficient basis to propose rules," and determined that the original petition "does not warrant" FCC consideration. Knapp added, however, "Any party interested in pursuing changes to the rules for RFID operations in the 433 MHz band may file a new petition."

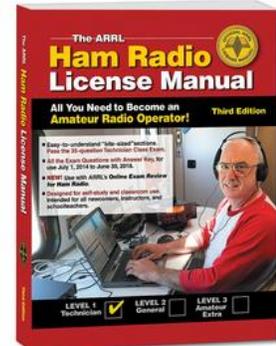


ARRL Announces Free Exam Review Website

The ARRL has launched a new online resource that allows users to take randomly generated practice exams using questions from the actual examination question pool.

[ARRL Exam Review for Ham Radio™](#) is *free*, and users do *not* need to be ARRL members. The only requirement is that users must first set up a site login (this is a different and separate login from your ARRL website user registration).

"The ARRL's online [Exam Review](#) is designed to help license examination candidates review their progress as they study," said ARRL Marketing Manager Bob Inderbitzen, NQ1R. "As you complete a chapter or section of a license manual, you can turn to the online program to review all of the related questions taken directly from the examination question pool. After answering each question -- right or wrong -- the correct answer is shown, and a page reference to the license manual is displayed for further review."



Inderbitzen said that when you're close to completing your study, you can take as many practice exams as you like. "The practice exams can be taken on-screen or printed. You won't have any surprises on exam day!" he added.

Inderbitzen said users are encouraged to share feedback and suggestions for improvement with the development team, using the online feedback [form](#) linked from the Exam Review site. ARRL Exam Review was designed for ARRL by DHF Systems, the creator of ARRL's [TravelPlus for Repeaters™](#) software.

Education Services Manager Debra Johnson, K1DMJ, pointed out some of ARRL Exam Review features that are intended to help

Amateur Radio instructors and schoolteachers. "Instructors have a new online resource at their fingertips," she said. "They can print practice exams anytime and encourage students to review between classes. The site is also mobile-browser friendly, so it can be used on a laptop, tablet, or smartphone, at home or in the classroom."

While ARRL Exam Review is being introduced with the new, third edition of the popular Technician study guide, [The ARRL Ham Radio License Manual](#), the site also supports practice examinations for General and Amateur Extra. An updated Technician class examination question pool becomes effective July 1, and Exam Review will automatically transition to the new question pool on that date.



Were you a licensed Ham prior to June 1989? If so, you should consider joining the Quarter Century Wireless Association, QCWA.

For more information about this special Amateur Radio organization, go to, <http://www.qcwa.org/> or contact the following MARA & QCWA members:

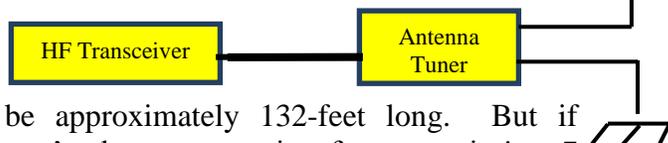
Steve Kercel, AA4AK
Bruce Randall, W1ZE
Dan Lindsley, N5AGG



The End Fed Marconi gets you on the air easy

By Bruce Randall, W1ZE

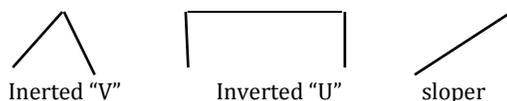
Over the years in this great hobby I have had the need for a quick way to get a portable or temporary HF station on the air. What I consistently fall back on is an end fed half-wave wire antenna referred to by the old timers as an End Fed Marconi. What makes it so simple and easy to put up is that it is just a wire antenna fed at one end that is at least a half wave long at the lowest operating frequency. For example you want to operate on 80-meter CW the wire should



be approximately 132-feet long. But if you're lowest operating frequency is just 7 MHz the antenna only needs to be about 66-feet long.

The advantage of this antenna is that it will work on the bands above the lowest operating frequency with the aid of a good wide range antenna tuner (transmatch). Since the antenna is a half-wave at the lowest intended operating frequency an extensive ground system is not needed, but you still need a ground or counterpoise to make the antenna perform well. A six foot ground rod in good soil is just OK, but attaching a counterpoise (wire) will make it work better. You can also use a chain-link fencing; the house electrical ground; copper water pipe or hot water baseboard copper piping for this purpose.

How you string up the antenna is not overly important as long as it isn't lying on the ground. I like to use insulated hookup wire so I can string up the wire in trees and bushes. Some good shapes are the Inverted "L" shown in the above block wiring diagram. Other shapes to consider are:



If your transceiver has a built in antenna tuner don't expect it to tune the Marconi on every frequency. Transceiver internal tuners can only tune SWRs that are 3:1 or less. For this reason I strongly recommend an external wide range tuner like or similar to the MFJ series of tuners.

I do like to feed the Marconi with a 4:1 balun which is built into most wide range tuners. The balun takes antenna frequencies that exhibit high input impedances and lowers it making it easier for the tuner to find a match.

At my W6 (California) QTH I use a 100 foot long end fed Marconi antenna with one third of its length folded back on itself about two foot in parallel to fit into the small house lot. With just a small MFJ-902 tuner feeding the wire antenna through a homebrew 4:1 balun I can tune that operate that antenna from 3.5 to 54 MHz. Since the house has aluminum siding and a metal carport all bonded together it makes a pretty good counterpoise and I make QSOs with that Marconi.
73, Bruce



Sunspot Cycle

As of May 2014

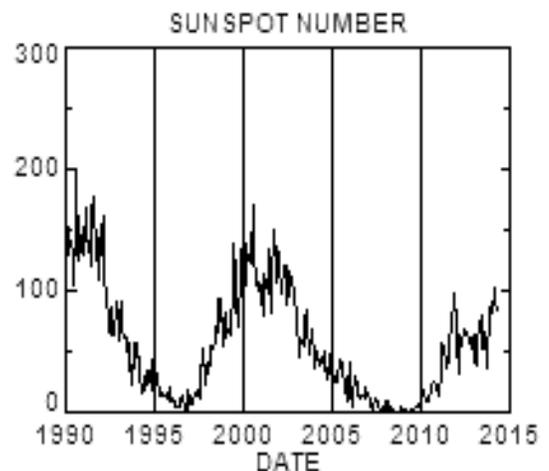
From SARA Newsletter Plano, TX

In 1610, shortly after viewing the sun with his new telescope, Galileo Galilei made the first European observations of Sunspots. Continuous daily observations were started at the Zurich Observatory in 1849 and earlier observations have been used to extend the records back to 1610. The sunspot number is calculated by first counting the number of sunspot groups

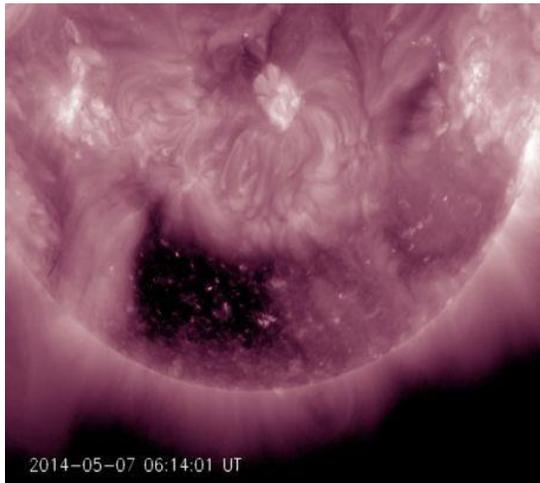
and then the number of individual sunspots.

The "sunspot number" is then given by the sum of the number of individual sunspots and ten times the number of groups. Since most sunspot groups have, on average, about ten spots, this formula for counting sunspots gives reliable numbers even when the observing conditions are less than ideal and small spots are hard to see. Monthly averages (updated monthly) of the sunspot show that the number of sunspots visible on the sun waxes and wanes with an approximate 11-year cycle.

(Note: there are actually at least two "official" sunspot numbers reported. The International Sunspot Number is compiled by the Solar Influences Data Analysis Center in Belgium. The NOAA sunspot number is compiled by the US National Oceanic and Atmospheric Administration. The numbers tabulated in spot_num.txt are the monthly averages (SSN) and standard deviation (DEV) derived from the International Sunspot Numbers.



A Hole in the SUN



From Chron News

One of the occasional holes in the sun, known as a coronal hole, has been spotted by NASA's Solar Dynamics Observatory.

This one, which is almost square in shape, was most noticeable May 5-7, the space agency said.

A coronal hole is an area where high-speed solar wind streams into space, according to NASA. Inside the hole, bright loops are visible where hot plasma outlines little pieces of the solar magnetic field sticking above the surface, NASA said. This makes for a flicker-ing effect.

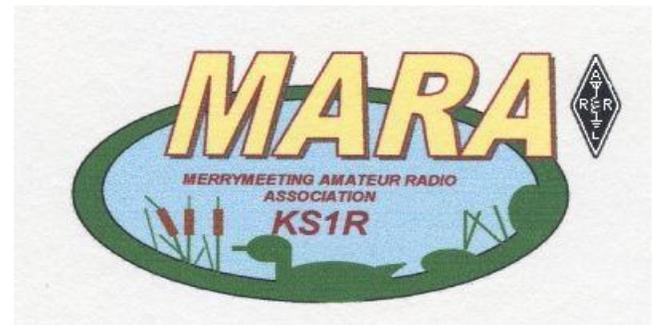
This one isn't likely to impact us here on Earth due to its far-south position on the sun.

The Solar Dynamics Observatory was launched in February 2010 to increase knowledge of the sun's variability and its effect on Earth, the space agency said.

In June, the observatory sent back images of a massive hole that covered almost the entire upper left quadrant of the sun. This coronal hole was at least 400,000 miles across, wider than 50 Earths side by side, NASA said.

NASA scientists have been observing coronal holes since the early 1970s, when Skylab first detected them. Their size and number vary with the sun's solar cycle, which reaches maximum activity every 11 years, according to NASA

<http://www.chron.com/news/nation-world/space/article/NASA-catches-photo-of-a-square-hole-in-the-sun-5478027.php>



HOPE TO SEE YOU AT FIELD DAY