

Indian River Amateur Radio Club's Spurious Emissions

Jan 2014

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An IRARC Winter Antenna Party

Welcome to the 40th year of IRARC newsletter publications! Time sure moves fast and it's fun being on the leading edge of the technology revolution.

Unlike the northern climate regions in the United States, winter in Florida is a perfect time to fix those broken antennas or get the attic antennas just right before the incessant heat of summer chases you out of the space!

IRARC members devoted a Saturday afternoon on January 11th to fix the 40/80 meter fan dipole. The antenna had been showing poor SWR and would not tune up properly with the internal TS-940 antenna tuner. There was concern the antenna would not allow higher power operation for a statewide emergency exercise later in the month.

The antenna work really became an exercise in eliminating the potential causes of the poor performance. The feedline to the antenna was disconnected from the antenna and connected to a

50 ohm dummy load. The feedline was checked with a simple multimeter to measure potential open/shorts. The feedline measured about 54 ohms. Using an antenna analyzer, to give a realistic measure at the frequency operation, the antenna feed line checked good.

Next the antenna balun was placed with a known good balun - no change in performance was noted. Finally the copper wire connections from the fan dipole were disconnected and behold, a cold solder joint was discovered on the connection to the balun!

The original balun was placed back on the antenna and its electrical connections to the fan dipole elements were secured by soldering the wires with a propane torch. The original feedline was connected to the balun and the antenna assembly was hoisted back into the air. The efforts resulted in good operation across the 40/80 bands and even 20 meters.



Greg O'Neill (It), AB4GO and Del Anderson, AK4EY lay hands on the IRARC 40/80 meter fan dipole. The feedline has been disconnected and moved to a dummy load held by Greg while readings were taken in the shack.

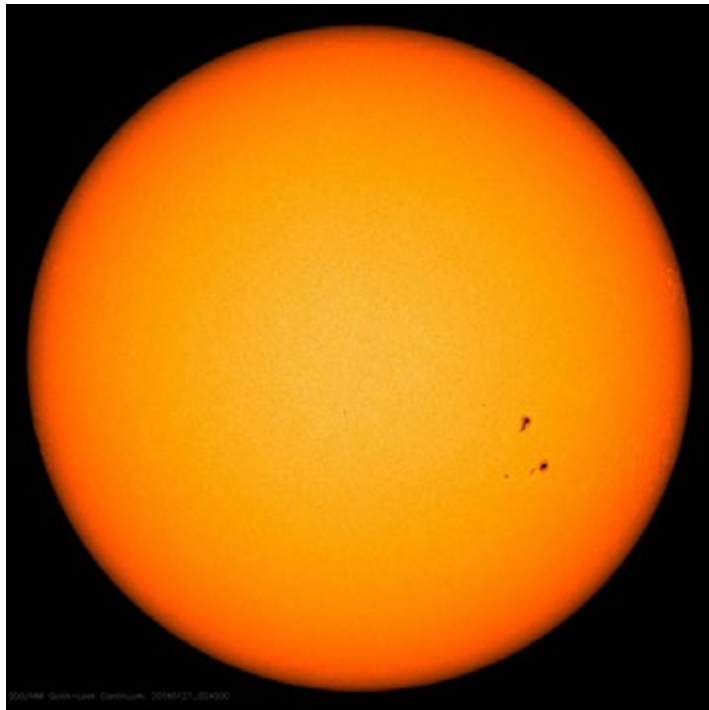


Richard Akelewicz, KI4UZI (It), Del Anderson, AK4EY and Steve Luchuk, N4UTQ (It) uncover the cold solder joint

Meet Us On the Following...

On Wednesday at 7:15 PM local, the Central Brevard County ARES net meets on IRARC's 145.370 MHz repeater (tone 156.7 Hz). After the net, informal ops/rag chew happens on 147.42 MHz simplex. Sunday Half Time Net meets at 3 PM on the 37 repeater - you don't have to be a football fan to join. On the web point your browser to: <http://irarc.ham-radio-op.net>.

IRARC's Spurious Emissions is published monthly. Comments and articles are welcomed, contact Dave Lerret, KU0R, payloadone@earthlink.net



**Flux Density Values in sfu
for 2014-01-26 at 22:00 UTC**

Julian Day Number	2456684.406
Carrington Rotation Number	2146.426
Observed Flux Density	139.7
Flux Density Adjusted for 1 A.U.	135.4
URSI Series D Flux, Adj. x 0.9	121.9

source: www.spaceweather.ca

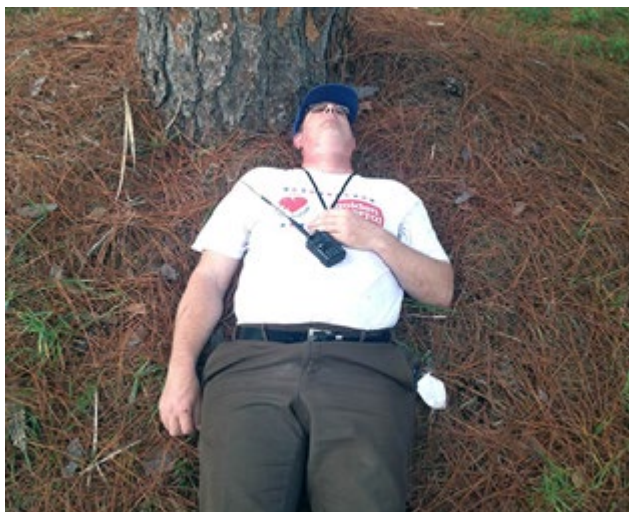
Sun activity from the Solar Dynamics Observatory as of 0245 UTC, 27 Jan 2014. This channel display is from the SDO Helioseismic and Magnetic Imager. - photo courtesy of <http://sdo.gsfc.nasa.gov>.

Decoding the Solar Data

The **Julian Day Number** is a simple day count starting at noon on 1st January, 4713 BC. It is convenient for long-term astronomical observations. The **Carrington Rotation Number** is the number of times the Sun has rotated since 9th November, 1853. The **Observed Flux Density** value is the number measured by the solar radio telescope. When the Sun is being studied, the annual modulation of the 10.7cm Solar Flux by the changing distance between the Earth and

Sun is undesirable. However, one by-product of the ephemeris calculations needed for the solar flux monitors to properly acquire and track the Sun is the distance between the Sun and the Earth. We therefore produce an additional quantity, corrected for variations in the Earth-Sun distance, and given for the average distance. This is called the **Flux Density Adjusted** value. A final adjustment for fitting the flux data across the frequency spectrum is a scaling factor of 0.9 for the 10.7 cm Solar Flux, the **URSI Series D Flux**.

Strays -n- Stuff
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What's on John Webb's N3RCV mind? Most likely dreaming about winning first prize at the Feb 7-9 Orlando Hamcation. Hope to see you at the hamfest.

- *IRARC Financial Report for January 2014
Checking: \$4243, Equipment Fund: \$1134.*
- *Not too late to pay your 2014 club dues. Full membership is still \$18.00*
- *NTS Training Net Fridays at 7:15 PM on 145.37 MHz repeater - learn how to pass traffic.*
- *Join the Space Coast QRP Group. They meet at a Brevard local park or other listed location - see website at http://groups.yahoo.com/group/Space_Coast_QRP_Group/*
- *Are you RadioActive? Check the IRARC website calendar at <http://irarc.ham-radio-op.net/> for upcoming events, photos and links to other local clubs.*

Club Meeting News

The January 2, 2014 IRARC meeting began at 7:30 PM with the pledge of allegiance led by Steve, N4UTQ. Visitors to the group were recognized: grandson of Del Anderson, AK4EY. Wellness news – Norm W1TLZ is recovering at the Life Care Center in Melbourne. He is in good spirits and his release date is still TBD.

Club minutes from the November 2013 meeting were approved by the membership (No formal December meeting due to the Christmas Party). John, N3RCV gave the treasurer's report: Checking \$4,074.32 and \$1,106.33 in the Equipment Fund. The report was accepted. Bob, N4VO gave the technical report: 37 repeater is operating fine and the club's 70 cm repeater on 444.650 MHz (+5 MHz), tone 107.2 Hz) is operational. The 70 cm repeater is now part of the statewide amateur radio link giving IRARC coverage over a large area of Florida. The VHF 88 repeater is down while a potential oscillation problem is being resolved. The antenna also has a relatively high VSWR.

Stan, KJ4NUV gave his Emergency Coordinator report stating several exercises will be conducted in January: A predrill on 08 Jan where a simulated radiological event in

South Florida will require services in south Brevard County. The formal drill with FEMA and Red Cross participation will occur on 23 January. BEARS and PCARS will be supporting the formal exercise.

Greg, AB4GO gave a report on Red Cross news. The emphasis now is on on-line training. Red Cross volunteers should use the web based volunteer connection to see what training opportunities are available and register for classes. No update on the satellite terminals.

Steve, N4UTQ began a discussion on club goals for 2014. The initial discussion centered on disposition of the two tower trailers that have deteriorated in the Red Cross yard. We should either bring them up to a serviceable condition or give them to a responsible group/individuals. A photo slide show of the trailer conditions was presented to the membership detailing upgrades required to make the trailers serviceable. A motion was made and approved to have Stan KJ4NUV make the trailers available to Ray Kassis then BEARS. The club will not obtain license tags for the next renewal cycle.

Steve noted we would like to operate IRLP (Internet Radio Linking Project) on the 88 repeater. The 88 machine has issues

passing tones necessary for successful IRLP ops. The repeater will need upgrades to handle tones and carrier operated squelch.

The Cocoa Beach VHF repeater (formerly used by police department) needs disposition. A suggestion to place the repeater on Craig's List was made but no action was taken at this time.

Need maintenance to the club's gin pole (used to erect antennas or tower sections). We need to replace the pulley.

Steve, N4UTQ gave a presentation on micro-controllers – specifically a system used for data acquisition. Steve's controller will be used to measure ground currents that he associates with electrical activity concurrent with tornadoes. There are numerous controllers available to the hobbyist with the most popular being the Arduino series. Another controller, Raspberry Pi has a card option with an onboard operating system and video output – ideal for linking the data acquisition card with a controller/display system.

For the 50/50 drawing, there was \$16 in the kitty and David, AI4FY took home \$8.00. The meeting was adjourned at 9 PM.

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