

# **The HIARC Bulletin**

June 2016 Edition

## **The Official Bulletin of the Harris-Intersil Amateur Radio Club**

**Club Meetings:** Second Thursday of Every Month at Meemaw's Barbecue on Babcock Street between Palm Bay Road and Port Malabar Road. Supper is at 6:00 PM, and a short business meeting is at 7:00 PM. Our programs start around 8:00 PM. Exception: In December, the HIARC Christmas Dinner is held instead at someplace fancy TBD.

**Club Station:** The club station is K4HRS in Building 15, Room 321. Contact Butch to sign up (Must be a current Harris employee)

**Nets:** The South Brevard Emergency Net meets every Thursday at 7:00 PM local on the 146.85 Mc repeater.

**Repeaters:** 145.47 MHz, tone 107.2 cycles, elevation 160 feet, Melbourne

**Officers:** President: Francis Parsche ("Butch"), WA4AQV

**Treasurer:** Bill Dahmke WA4EMU

**Secretary:** TBD

**Repeater Chairmen:** Bud Simciak W4HXP

**Program Chairman:** Eric Johnson N4SCS

**Field Day Chairman:** Bill Dahmke, WA4EMU

**Sunshine Officer:** Open

**Club Jester:** Ken N8KH

### **Membership:**

Dues are \$12.00 per year to:

### **Annual Events:**

Annual swap-fest at the September meeting. Field Day (always the fourth full weekend in June) at Grant Community Center Fairgrounds, Field Day web site link <https://sites.google.com/site/hiarcfieldday2013/>

## **Selected Upcoming Hamfests**

UCF Tailgate, Saturday June 11, 2016. Free. Info: <http://www2/mmae.ucf.edu/wiki/Tailgate>

## **President's Message**

Field Day will be June 25 and 26 at the Grant Seafood Festival grounds in Grant FL. There will hamburgers, bratwurst hot dogs and good times. All are invited. Details later in the newsletter. Discussions at the meeting.

Officers elections will be at the June meeting. Current nominations are to re-elect the existing slate.

Annual dues are due, still \$12.00. These are important to fund field day.

Bill Dahmke WA4EMU

The summer ionosphere is upon us meaning much higher losses and weaker signals. This is because the summer daytime ionosphere splits into two F layers F1 and F2 and the winter ionosphere does not. At night the ionosphere settles down into a single F layer making for much better signals.

The next HIARC club meeting is this Thursday June 9 at Meemaw's Barbecue on Babcock Street. Supper starts at 6:00 PM, and the formal meeting is at 7:00 PM. The program will be a show tell of a Rycomm VLF receiver. We'll listen for signals down to 1 Khz. Yes, 1 KHz. Also ultrasonics will be demonstrated.

## **HIARC Field Day: You're Invited!**

HIARC FD 2016 will be held June 25th and 26th at the Grant Seafood Festival facility in Grant, FL. We will have operating positions in A/C trailer like last year. Main antenna will be A3S Tribander with 40 m add-on up 55 ft. Class 2A planned with phone and CW sharing antenna via filter/triplexer combination. Hoping for VHF 6m as well. GOTA station also planned. We have gear but we need OPs!!! Two key CW OPs from last year not available so need CW guys to step forward. If we can't keep CW station on air most of contest should we consider only operating one rig PH/CW as class 1A? Maybe have second station as combo CW/digital to get more OPs? Need to get a headcount of who will operate, for how long and on what mode so we can plan best strategy. Plan is to setup antennas on Friday 6/24 time TBD and trailer and equipment on 6/25 AM. FD operation runs from 2:00 PM Saturday to 2:00 PM Sunday. Contact me and let me know your availability to setup/operate. We will discuss at meeting on Thursday, 6/9.

## **Melbourne Library Ham Radio Display**

KA4NHW's wife Lynn has done yet another nice ham radio display at the Melbourne Library for the month of June!

## HF Polarization, Free Book

Someone asked what polarization is best at HF? Interesting question as cross polarization antennas are commonly used in amateur high frequency radio contacts: “antenna is a horizontal dipole here” and “antenna is a vertical here”. For most other communications the polarizations must be similar to avoid heavy losses!

The book “Ionospheric Propagation” by Kenneth Davies is perhaps the authoritative reference on what makes our HF bands work. It’s available free on line at.

<https://ia600800.us.archive.org/18/items/IonosphericRadioPropagation/IonosphericRadioPropagation.pdf>.

Davies “Ionospheric Propagation” book explains the matter of HF polarization in section 5.3.5. In most instances the ionosphere converts whatever hits it into elliptical polarization making the orientation of linearly polarized antennas noncritical. Polarization does matter a little though as the returning elliptical wave has more horizontal energy component if it bounced at the equator and more vertical energy component if it bounced near the poles. So there is some benefit for using horizontal polarization antennas at the equator and vertical polarization antennas further toward the poles. Here at mid latitudes vertical and horizontal polarization may bounce about the same off the ionosphere. There may also be a few dB of ionospheric noise rejection if you get the just the right sense and axial ratio elliptically polarized receive antenna.

NVIS ionograms were taken at the South Pole in 1961 using horizontal polarization as vertical polarization cannot be radiated straight up.

## Daily Ionospheric Map

The ionosphere is mapped pretty precisely now in real time. Impressive graphics, here is a link the last 24 hours of data: <http://giro.uml.edu/IRTAM/>

## How The Cold War Was Won

Back in the Cold War the Soviet Union shot down a U2 aircraft and captured the American pilot. The US pilot was interrogated for a number of days. Friction was very great between the US and the USSR yet the Soviet interrogator bragged that he shaved with American razor blades!