**The HIARC Bulletin**

April 2021 Edition

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

**Club Meetings:** Second Thursday of each month at Meemaw’s Barbecue on Babcock Street between Palm Bay Road and Port Malabar Road. Supper is at 5:30 PM, business is at 6:30 PM. Prizes at 7:00 PM. Our programs start at 7:15 PM. Meeting ends by 8:00 PM. As some members have allergies, we kindly ask that you refrain from wearing fragrances thanks. As some members have risk factors for coronavirus, we ask that masks are worn when not eating.

**Club Station:** Building 15, Room 321.  E-mail Butch for access.

**Repeaters:** K4HRS,145.47 Mc, tone 107.2 cycles, elevation 170 feet, Melbourne

**HIARC Web Site:** [www.qsl.net/hiarc](file://///pbympsvm01/wsv100/fparsche/My%20Docs/Not%20Programs/HIARC/bulletins/www.qsl.net/hiarc). Website administrator; Jim , KC7SSW

**Officers:** President: Francis Parsche (“Butch”), WA4AQV

Treasurer: Bill WA4EMU

Secretary: Open

Repeater Chairmen: Bud W4HXP

Program Chairman: Open

Field Day Chairman: Bill WA4EMU

Sunshine Chairman: Open

Club Jester: Ken N8KH

**Membership:**

All welcome to join.

Dues are $12.00 per year to:

Bill WA4EMU

**Annual Events:** Annual swapfest at the October meeting. Field Day (always the fourth full weekend in June)

**Selected Hamfests:**

* Melbourne, 6-12-21, PCARS Tailgate at the Melbourne Fire Department Training Center, 1980 Hughes Road, Melbourne, FL. Stats about 9 AM. Talk in 146.61 MHz.
* Orlando, 6-12-21, K4KDI Summer Tailgate <http://www.arrl.org/hamfests/k4kdi-summer-tailgate-2021>
* Melbourne Hamfest, October 8 and 9, 2021. <http://www.pcars.org/hamfest/2021/index.htm>

**Ham Radio Lunches:**

* Every Friday, 11:00 AM till 12:30 PM or so, Golden Corral on Palm Bay Road in Palm Bay
* Every Friday, 9:00 AM till 11:00AM or so, Umpa's Diner,1115 N Courtenay Pkwy, Merritt Island, FL 3295, (321) 454-3422
* Once a month, the Saturday after the PCARS meeting, Sarno Restaurant And Pizzaria, 11:00 AM. This is at the corner of Sarno Road and Croton Road.

**Presidents Message**

PCARS has several license classes going or getting started [www.pcars.org](http://www.pcars.org).

73’s

Butch WA4AQV

**Thursday March 11 HIARC Meeting**

Our next HIARC meeting is this Thursday April 8 in the Babcock Street Meemaws Barbecue Banquet Room: 5:30 PM for dinner, 6:30 PM for business and 7:15 PM for the program.

The program will be on Slot Antennas. We will demonstrate a “2-Meter Slot-Cube Antenna” from the January 2019 QST article.

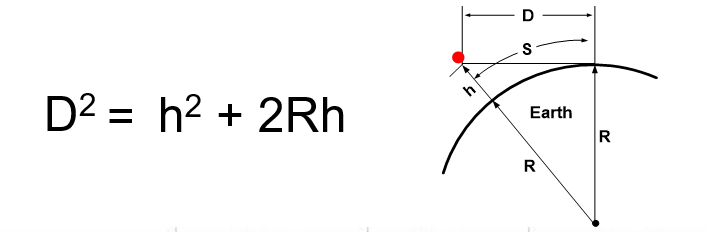
**Antenna Articles For Free**

The Antentop website has many amateur radio antenna articles for free:

<http://www.antentop.org/w4rnl.001/>

**More On How Far The Repeater Should Reach**

To calculate the line of sight for a repeater you can use the spreadsheet that is emailed along with this newsletter. Here is the geometry and the formula involved:



**Line Of Sight Geometry And Formula**

So the higher the antenna the further is the reliable coverage area of course. If you want to enjoy long line of sight in our nearly flat state you can try the N4FL analog repeater on 145.23 Mc PL 103.5 cycles. It’s located in the Bithlo - Oviedo tower farm area east of Orlando. Far as I know it is near 1300 feet. Useful coverage radius is 50 miles or more and it can be accessed in Palm Bay with a decent mobile.

A problem portables face is inadequate power to overcome the ground reflection cancellation that fights the direct wave path. You see, the soil is actually highly reflective at shallow grazing angles at VHF UHF and the phase of the ground reflection is -179 degrees or so shifted in phase. So this fading is built into most communications that illuminate the ground. Sometimes with portable you cannot access a repeater when you can see the repeater antenna due to this!

It used to be that mom and pop two way radio businesses operated many repeater sites and towers. Today competition for cell sites and increased zoning hurdles to new to towers have made high spaces a competitive big business. Sometimes a whole rooftop is leased by one single “communications infrastructure” company.

**ARLB006 Amateur Radio Gets a Partial Reprieve on 3.5 GHz**

SB QST @ ARL $ARLB006

ZCZC AG06

QST de W1AW

ARRL Bulletin 6  ARLB006

From ARRL Headquarters

Newington CT  March 23, 2021

To all radio amateurs

SB QST ARL ARLB006

ARLB006 Amateur Radio Gets a Partial Reprieve on 3.5 GHz

Pending future FCC action, amateur radio secondary use of the 3.3 - 3.45 GHz band segment may continue indefinitely. The FCC, as part of a lengthy Second Report and Order (R&O) for commercial licensing of 3.45 - 3.55 GHz adopted on March 17, agreed with ARRL that continued access by amateur radio to 3.3 - 3.45 GHz should be allowed until consideration of the 3.1 - 3.45 GHz spectrum in a later proceeding.

The FCC action in WT Docket 19-348 represents a partial "and temporary" reprieve from the FCC's December 2019 proposal to remove amateur radio from the entire band, and it makes available an additional 50 Megahertz than an FCC proposal last fall to allow amateur temporary use of 3.3 - 3.4 GHz.

The Second R&O can be found in PDF format at, <https://docs.fcc.gov/public/attachments/FCC-21-32A1.pdf> .

Amateur secondary operation in the 3.45 - 3.50 GHz band must cease 90 days after public notice that the spectrum auction has closed and licensing has begun. That is expected to happen early in 2022. The FCC announced the opening of 3.45 - 3.55 GHz for auction to commercial 5G interests on March 17.

The FCC stated that "While we adopt our proposal to bifurcate the band, we adjust our proposal and set 3450 MHz as the frequency at which the band will be split."  It agreed "with the ARRL's assessment that the guard band is not necessary from a technical standpoint. We also recognize that the nature of amateur equipment realities makes the 50 Megahertz at 3400 - 3450 MHz particularly valuable to amateur operators because it means existing equipment can continue to operate in the band for the time being."

This allows "amateur operations to continue in the lower portion of the band while the FCC and federal government users continue to analyze whether that spectrum can be reallocated for flexible use," the FCC said. The FCC had proposed splitting the band at 3.4 GHz, permitting amateur use in 100 Megahertz of spectrum "while also providing a buffer to protect flexible-use operations at the lower edge of the 3.45 GHz band."

"We therefore allow secondary amateur operations to continue in the 3.4 - 3.45 GHz portion of the band," the FCC said. "We emphasize, however, that amateur licensees remain secondary users, and those that operate on frequencies close to the 3450 MHz band edge must do so with particular caution to avoid causing harmful interference to flexible-use licensees in the 3.45 GHz Service, which hold primary status.

"In light of these considerations, while amateur operations between 3450 MHz and 3500 MHz must cease within 90 days of the public notice announcing the close of the auction for the 3.45 GHz Service, as specified in the Report and Order; amateur operations may continue between 3300 MHz and 3450 MHz while the Commission, NTIA, and the DoD continue to analyze whether that spectrum can be reallocated for commercial wireless use."

"There is no expectation that such operations will be accommodated in future planning for commercial wireless operations in this spectrum, or that amateur operators will receive more than a short period of notice before their operations must cease," the FCC said.

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**3.5 GHz Calling Frequency**

The San Bernardino Microwave Society (SBMS) has made a recommendation for a new 9cm band plan.

Given that all of 3300-3500 MHz is not fully lost to U.S. Radio Amateurs after all, but only 3450-3500 is to be sunset in the near term, the San Bernardino Microwave Society recommends a new weak signal sub-band and calling frequency to upcoming re-coordination activities.

See

<https://w6ife.com/documents/3.4%20GHz/SBMS%203_4%20GHz%202021_04_02.pdf>

at Presentation and Newsletter Archives

<https://w6ife.com/Page/Presentations>

for the full draft.

Comments and constructive input are welcome,

73

Courtney Duncan N5BF, President SBMS

Dave Laag W6DL, Trustee W6IFE

In response to SBMS, Kent Britain WA5VJB chimes in and says:

> The North Texas Microwave Society is planning 3400.1 MHz for the

> calling frequency. It is our understanding most 9cm EME is higher up

> the band. 3400.1 MHz is pretty much the world standard.

**Early TV Remote Controls**

