W9JOZ

Volume 7, Issue 1 January 2017

Next Meeting is

January 19, 2017

2017 Dues are due.

$12.00

If you wish, you may mail your dues to:
John Poindexter
204 South Main Street, Knox, IN 46534

HAPPY NEW YEAR!

STARKE COUNTY AMATEUR RADIO CLUB WWW.W9JOZ.ORG

Meetings are at the Henry F. Schricker Library on the third Thursday of each month, with the exception of December.

The library is located on west Culver Road, two blocks west of Highway 35.

The Bands are OPEN!

Are you on the air?

Inside This Issue

January Events

Birthdays

January 9 - David, KD9U

January 15 - John, W3ML

Starke County Amateur Radio Club Weekly 2 Meter Net

DAY OF WEEK: Saturday 8:00 p.m. Central time
HOST: KN9OX Repeater
FREQUENCY: 145.410 - 600
PL TONE: 131.8

SB QST ARL ARLB045
ARLB045 FCC Denies Expert Linears' Request for Waiver of 15 dB Rule, Petition Pending

The FCC has denied a request by Expert Linears America LLC to waive Part 97.317(a)(2) of the Amateur Service rules limiting amplifier gain. Expert, of Magnolia, Texas, distributes linears manufactured by SPE in Italy. Its waiver request, filed in June, would have allowed Expert to import an amplifier capable of exceeding the current 15 dB gain limitation as it awaits FCC action on its April petition (RM-11767) to revise the same Amateur Service rules. That petition remains pending. Expert has asserted that there should be no gain limitation on amplifiers sold or used in the Amateur Service. Most commenters supported Expert's waiver request, but a couple of commenters - including FlexRadio - demurred.

"In light of the conflicting comments regarding the desirability of eliminating the 15 dB limitation, we conclude that waiving the limitation at this stage of the rulemaking proceeding would prejudice the rulemaking proceeding and prematurely dispose of commenters' concerns," the FCC said in denying the waiver. "Moreover, we agree with FlexRadio that granting Expert's waiver request while the rulemaking petition remains pending would provide an unfair market advantage for one equipment model over other manufacturers' RF power amplifiers that would still be limited by [the existing rules]."

The FCC said it would rather give full consideration to "the pending issues" and apply the result of the rulemaking proceeding to all Amateur Radio Service equipment. The Commission said rule waivers "generally" are not warranted "merely to accommodate technical parameters that are based solely on harmonization with the manufacturer's

products available abroad."

The FCC said a minority of those commenting on the waiver request expressed concern that eliminating the 15 dB limitation would lead to an overall increase in power levels, "including transmissions that intentionally or unintentionally exceed the maximum power limit."

In its April rulemaking petition, Expert maintained that the 15 dB gain limitation is an unneeded holdover from the days when amplifiers were less efficient and the FCC was attempting to rein in the use of Amateur Service amplifiers by Citizens Band operators.

Although the FCC had proposed in 2004 to delete the requirement that amplifiers be designed to use a minimum of 50 W of drive power - and subsequently did so - it did not further discuss the 15 dB limit in the subsequent Report and Order in that proceeding.

Expert has pointed to its Model 1.3K FA amplifier as an example of a linear "inherently capable of considerably more than 15 dB of amplification," which would make it a suitable match for low-power transceivers now on the market.

The full Report and Order can be found on the web in PDF format at, https://apps.fcc.gov/edocs_public/attachmatch/FCC-06-149A1.pdf .

Home of the world's largest radio/scanner frequency database.

Local users

http://www.interceptradio.com/fcc.php?z=1&cue=1&cfreq=1&ccity=1&ccall=1&cpl=1&cmaplink=1&cskipn=1&ssort=1&sstate=IN&scounty=Starke&scity=KNOX

Knox 800 MHz Frequencies:

Knox, IN 859.7625c 858.7625 859.2625a 851.9875 853.3625 852.650 852.450
857.6625 858.2625

Of course the cheapest radio scanner that will get 800 MHz that I have found is about $500.00.

Emergency Antenna Platform System (E-APS) – WC2FD

A system to facilitate emergency radio communications from parking lots using lamp posts as antenna masts. Designed and built by the kids of the 721st Mechanized Contest Battalion WC2FD.COM

See video here: http://qrznow.com/emergency-antenna-pla1-system-e-aps-wc2fd/

Software Defined Radio

Introduction

Software Defined Radio attempts to place much or most of the complex signal handling involved in communications receivers and transmitters into the digital (DSP) style. In its purest form, and SDR receiver might consist simply of an analog-to-digital convert chip connected to an antenna. All the filtering and signal detection can take place in the digital domain, perhaps in an ordinary personal computer. While there are still good reasons to use some analog components in high-performance gear, the SDR approach is becoming more common in Amateur Radio.

Articles

- The DSP-10: An All-Mode 2-Meter Transceiver Using a DSP IF and PC-Controlled Front Panel by Bob Larkin, W7PUA
  *What's neat about this 2-meter transceiver is that most of it is in **software!** Your PC is its front panel.*
  Part 1 *QST* September 1999, pp. 33-41
  Part 2 *QST* October 1999, pp. 34-40
  Part 3 *QST* November 1999, pp. 42-45
  Note: additional Web link

- A High-Performance, Single-Signal, Direct-Conversion Receiver with DSP Filtering (283,604 bytes, PDF file)
  QST April 1998, pp. 40-43
  Articles referenced in the above article

  - A High-Performance, Single-Signal, Direct-Conversion Receiver
    QST January 1993, pp. 32-40

  - High-Performance Direct-Conversion Receivers
    QST August 1992, pp.19-28

- Signals, Samples and Stuff: A DSP Tutorial by Doug Smith, KF6DX/7
  Part 1 *QEX*, March 1998, pp. 3-16
  Part 2 *QEX*, May 1998, pp. 22-37
  Part 3 *QEX*, July 1998, pp. 13-27
  Part 4 *QEX*, September 1998, pp. 19-29

- A DSP-Based Audio Signal Processor
  QEX September 1996, pp. 8-13

- Linux, Software Radio and the Radio Amateur
  QST October 2002, pp. 33-35
  How software radio technology might revitalize experimentation in Amateur Radio

- A Software-Defined Radio for the Masses by Gerald Youngblood, AC5OG
  This series describes a complete PC-based, software-defined radio that uses a sound card and an innovative detector circuit.
  Part 1 *QEX* Jul/Aug 2002, pp. 13-21
  Part 2 *QEX* Sep/Oct 2002, pp. 10-18
  Part 3 *QEX*, Nov/Dec 2002, pp. 27-36
  Part 4 *QEX*, Mar/Apr 2003, pp. 20-31

- The Need for Standard Application-Programming Interfaces (APIs) in Amateur Radio
  QEX Jan/Feb 1999, pp. 19-21.

- Software-Defined Hardware for Software-Defined Radios
  QEX Sep/Oct 2002, pp. 41-50
  Using programmable logic in Amateur Radio applications

- A High-Performance Digital Transceiver Design by James Scarlett, KD7O
  Data-converter technology has made tremendous strides in the past several years. Lets take a look at how we can achieve high performance in an almost-all-digital radio design.
  Part 1
  Part 2
  Part 3

- Linrad: New Possibilities for the Communications Experimenter by Leif Åsbrink, SM5BSZ
  Discussion opens with analog versus digital RF-input techniques and attendant performance considerations.
  Part 1
  Part 2
  Part 3
  Part 4
  Part 5

- An All-Digital SSB Exciter for HF appeared in the May 2008 issue of QEX, pages 3-10. James Ahlstrom N2ADR's transmitter uses an FPGA and software.

Web Links

- High Performance Software Defined Radio--An Open Source Design
  A High Performance SDR (HPSDR) -- an open source (GNU type) hardware and software project intended as a "next generation" Software Defined Radio.

- *Advanced Technology in Amateur Radio* video - Talk given by Doug Smith, KF6DX, *QEX* Editor at Georgia Tech, March 10, 2003. Windows WMV format, 110 minutes.

- FCC News:
  FCC adopts rule changes to facilitate deployment of Software Defined Radio technology.

- Introduction to DSP
  The BORES Signal Processing DSP course - Introduction to DSP - is free of charge on line.

- f4dan.free.fr
  Christophe Bourguignat, F4DAN, maintains categorized and annotated links to different software defined radio technologies.

http://www.arrl.org/software-defined-radio

Noise floor report does not inspire confidence

By Dan Romanchik, KB6NU

Last June, the FCC's Technical Advisory Committee asked licensed and unlicensed users of the electromagnetic spectrum to answer some questions about the noise they were experiencing and whether or not it was affecting their services. Specifically, they asked:

* Is there a noise floor problem?
* Where does the problem exist? Spectrally? Spatially? Temporally?
* Is there quantitative evidence of the overall increase in the total integrated noise floor across various segments of the radio frequency spectrum?
* How should a noise study be performed?

Well, the results are in, and Radio World recently published a summary of the responses that the FCC received (http://www.radioworld.com/business-and-law/0009/noise-floor-where-do-we-go-from-here/338242). The FCC received 93 replies from 73 (great number, eh?) different people or organizations, including:

* 23 companies/industry organizations
* 39 RF professionals (broadcast and wireless)
* 31 licensed radio amateurs
* 9 responders did not reply to the questions asked

Respondents included the ARRL, the Society of Broadcast Engineers, the National Association of Broadcasters, the National Public Safety Telecommunications Council, ATT, and the National Electrical Manufacturers Association. I found especially interesting comments from the Society of Broadcast Engineers. They include:

* Increased cooperation is needed between manufacturers of Part 15 devices and users of radio spectrum to identify noise sources and take appropriate remedial action.
* Radiated emission limits below 30 MHz in the FCC Part 15 rules for unintentional emitters should be enacted. There are presently no radiated emission limits below 30 MHz for most unintentional emitters.
* Reduced Part 15 limits for LED lights should be enacted to be harmonized with the Part 18 lower limits for fluorescent bulbs.
* Better labeling on packaging for Part 18 fluorescent bulbs and ballasts to better inform consumers of potential interference to radio, TV and cellphone reception in the residential environment.
* Specific radiated and/or conducted emission limits for incidental emitters, such as motors or power lines, should be enacted.
* Conducted emission limits on pulse-width motor controllers used in appliances should be enacted.
* Substantially increase the visibility of enforcement in power line interference cases.

Other organizations made similar comments.

While the report is encouraging, it won't mean a thing if no action is taken on these issues. Given that the FCC is cutting back on its field offices, and our president-elect has said that he plans to reduce the number of governmental regulations, I'm not optimistic that we'll see the noise situation get better before it gets worse. What do you all think?

When he's not battling the noise floor at his QTH, Dan blogs about amateur radio at KB6NU.Com, writes the "No Nonsense" amateur radio study guides and teaches ham classes. You can contact him by e-mailing cwgeek@kb6nu.com.

While not Amateur Radio related, it is still interesting to see the workings of Big Ben.

Three minutes long - and worth every second! Literally!

This is very interesting - well worth watching.
https://drive.google.com/file/d/0B3c7hKe5Kp7TNWxMaWptZnNHcDQ/view

See you at a meeting.

73
John, W3ML