

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, DC, 20554**

**In the Matter of: Notice of Proposed Rulemaking WT Docket 16-239, NPRM-11708**

**Amending Part 97 of the Commission's Rules and Regulations to Permit Greater Flexibility in Data Communications**

**To the commission:**

**REPLY COMMENT AND REBUTTAL OF:**

<https://ecfsapi.fcc.gov/file/103062622542/Busychannel-detection-codes-sample-and-comments.pdf>

10/31/16

Matthew Pitts Reply Comment 16-239

These Pitts reply comments admit:

“Despite what appear to be claims to the contrary, busy channel detection is a complicated process and current implementations have serious unacknowledged flaws when used in an ARQ system. It is not possible, without complicated auxiliary listening technologies, to determine if a wider bandwidth transition will cause interference with adjacent signals.

**COMMENT:** Pactor and ARDOP is an evolving technology that is not compatible with any other emissions. Matthew Pitts states it has “serious unacknowledged flaws” Further he states: “It is not possible (to prevent) interference.” These emissions still have work to do to prevent interference with it's own type of data. A regulation of 2.8 KHz as the ARRL has proposed does not separate the incompatible modes and “mitigate” this interference that Matthew Pitts admits exists. That is why I have recommended that all “ROBOT” or non HUMAN modes, regardless of bandwidth, be given their own separate sub band, separate from CW/narrow DATA. This is in line with the FCC guidelines for WT 16-239: “the basis for the particular limitation the commenter proposes, and whether the limit should apply across the bands or only in particular subbands”. These separate sub bands and further grounds for adoption into Part 97 rules, not a voluntary band plan administered by a private agency (ARRL), are given in my previous filings:

Detailed band plans using the Part 97 rules as a template:

<https://ecfsapi.fcc.gov/file/1091422828084/filing%2016239%20changes%20to%20fcc%20part%2097%20B.pdf>

Detailed band plans using ARRL's own proposed band plan and IARU region 2 band plan:

<https://ecfsapi.fcc.gov/file/109011952607702/FCC%20FILING%20docket%2016%20239%20FINAL10%20%20rm11708.pdf>

These Pitts reply comments admit:

“Another thing that hams tend to overlook is that ARQ modes usually do not have a means of decoding the existing traffic on a frequency, so users of the associated software do not know if the signals that are blocking their connection attempts are simply others using the same fixed station or one side of a QSO in progress, so any interference that results in a “busted QSO” is not necessarily intentional on the part of the users of automatic stations. They also may not have the time or power resources to spare to run the computer constantly and monitor with applications that can determine these things.”

**COMMENT:** It does not matter whether the interference is INTENTIONAL or just part of the normal operation of these ROBOT systems. It is simply the way they work. Whether they ever will correct the problems with it is pure conjecture. It will be a constantly evolving experimental process. The ROBOT emissions must be given a separate band segment for that operation, to allow them to experiment and work that out amongst themselves. To “burden” incumbent users with the “forbearance” for its documented and admitted flaws is an unreasonable choice for the FCC. The choice in WT 16-239 guidelines: “apply only in particular subbands” works out for both ROBOT and HUMAN operations. The ARRL plan for 2.8 KHz does not confine these incompatible ROBOT or wide band emissions away from the incumbent CW/narrow DATA modes. It is the ONLY solution to the problem, other than prohibiting the use of amateur allocations for HF email ROBOTS. Separate sub bands also allows the FCC to “benefit” by implementing its plan for NO band width limits on data, in certain “sub bands” of the amateur allocations, without intolerable “cost” to the incumbent users. This “mitigates” the impact; ARRL’s 2.8 KHz plan does not separate the incompatible modes and provides NO “mitigation”.

These Pitts reply comments state:

“The following code sample is the actual VB.NET code used as the busy channel detector in ARDOP 0.7.2 up to 0.8.1. Similar code is used in WinMOR and other software modems written by KN6KB. I also have a C# version of the original VB.NET busy channel detector code from ARDOP posted on Github.”

**COMMENT:** This bit of clever baffle-gab in programming languages VB.NET or C# are irrelevant. FCC does not care exactly HOW the “mitigation” of “congestion” is accomplished. FCC and the incumbent users care that it WORKS and complies with current Part 97 rules for “listen before transmit”, as all other emissions do. From the comments below, it is abundantly clear that they do NOT work. These ROBOT emissions need to be separated in a sub band to work these experimental issues out, as stated above.

These Pitts reply comments admit:

“Pactor does have a busy channel detector as well. Other modes can have identical functionality, but most developers don't seem to see the need to implement this due to dependence on use of visual guides that may not adequately prevent interference such as waterfall displays.”

**COMMENT:** Pitts then admits that most developers, specifically Pactor, DO NOT even intend to attempt to comply with “listen before transmit”. This is precisely what many commenters have been saying all along. Previous comments by Ted Rappaport presented proof of this on 9/26/16 in an ex parte presentation before the FCC. For brevity, I will not restate them here, but you can refer to them at:

<https://ecfsapi.fcc.gov/file/1092719005718/Winlink%20Compilation%20pt2.pdf>  
<https://ecfsapi.fcc.gov/file/1092719005718/exparte%20September%2026%202016%20attachment.docx>  
<https://ecfsapi.fcc.gov/file/10925839109476/FCC%20exparte%20letter%209%2025%202016.docx>  
<https://ecfsapi.fcc.gov/file/10925839109476/K7NHV%20Winlink%20Handout.pdf>  
<https://ecfsapi.fcc.gov/file/10925839109476/FCCNPRM%20Docket%2016-239%20Final.pptx>  
<https://ecfsapi.fcc.gov/file/10925839109476/Winlink%20compilation%20pt1.pdf>

These are the legal “grounds” for FCC taking action to prevent intolerable “congestion” and interference, with associated “costs” for enforcement action to deal with the consequences.

Having seen the frank admission and documented track record of “serious unacknowledged flaws” in the implementation of these ROBOT emissions, I petition for relief and “mitigation” of such interference and “congestion” by means of “limiting” these emissions to “only in particular subbands”.

Please therefore adopt the following band plans as Part 97 rules, limiting the “ROBOT” and wide band data emissions to specified sub bands as described in:

Detailed band plans using the Part 97 rules as a template:

<https://ecfsapi.fcc.gov/file/1091422828084/filing%2016239%20changes%20to%20fcc%20part%2097%20B.pdf>

Detailed band plans using ARRL's own proposed band plan and IARU region 2 band plan:

<https://ecfsapi.fcc.gov/file/109011952607702/FCC%20FILING%20docket%2016%20239%20FINAL10%20%20rm11708.pdf>

Respectfully submitted,

/s/

Janis Carson, AB2RA, Extra Class, Amateur licensee since 1959, ARRL member 40 years.

APPENDIX, FCC DIRECTIVE IN RESPONDING TO NPRM-11708 & WT 16-239:

“While we tentatively conclude that a specific bandwidth limitation for RTTY and data emissions in the MF/HF bands is not necessary, we nonetheless request comment on whether we should establish emission bandwidth standards for amateur service MF/HF RTTY and data emissions. Commenters favoring such action should address what the maximum bandwidth should be, the basis for the particular limitation the commenter proposes, and whether the limit should apply across the bands or only in particular subbands. Commenters should explain the grounds for departing from the generally applicable standards.”