

Reply to Steve Waterman comment on ET Docket No. 17-344

Apologies to the Commission for having to do things this way but I see no other way to respond to the attempt to advance changes to Commission rules that should have been left to the RM process.

Winlink has developed a very capable network outside of the amateur bands, SHARES, MARS and others, where Pactor can be used as intended on fixed, dedicated channels with no sharing requirement. To request more permanent spectrum and modes in the shared amateur allocations, for very rare and usually isolated events, defies logic.

It may be different on non-amateur frequencies but shared spectrum is just that, shared. Failure to implement adequate “listen before transmit” protocols is causing daily interference problems. Instances of manned stations attempting to log on to an already busy Winlink RMS (Radio Message Server) also demonstrate the fact the manned station is not monitoring the channel for other activity before sending a connect request. Amateur radio spectrum is a finite resource that is shared with multiple users, allowing stations that, by necessity, must operate on a fixed frequency, effectively removes that channel from sharing, if channel activity is ignored (§ 97.101(b) applies). Most of the problems stem from the stations operating under 47 C.F.R. §97.221(c) and >500Hz stations operating outside the automatic sub bands.

Failure to develop “vertical stacking” or time share methods to better utilize existing frequencies. Mr. Waterman complains about the narrow allocations for automatic Winlink operations on the amateur bands when in reality the total spectrum available is 13.5% of all the RTTY/Data sub bands. The IARU, International Amateur Radio Union, band plan for Region 2, the Americas, has similar suggested segments for wide band digital and also requests the activity be limited.¹ The bands that have small automatic allocations are themselves quite narrow and therefore have correspondingly smaller automatic sub bands. Better spectrum management methods instead of inefficient use of existing resources would seem to be a reasonable option rather than requesting more spectrum.

Mr. Waterman poses the question, “For example, how much high-speed data at 2.4 KHz (Pactor 3) can be sent and received on the 40 Meter Part 97 spectrum totaling an allowable 5 KHz total?” I will point out that the 5kHz total limits transfer to the automatic sub bands but there is no restriction if the link is manned on both ends, peer-to-peer, in which case the entire sub band, on all bands, is available depending on license class and existing frequency occupancy, 125kHz on 40m. During an actual event the standard practice is to publish frequencies to avoid so that amateurs worldwide can

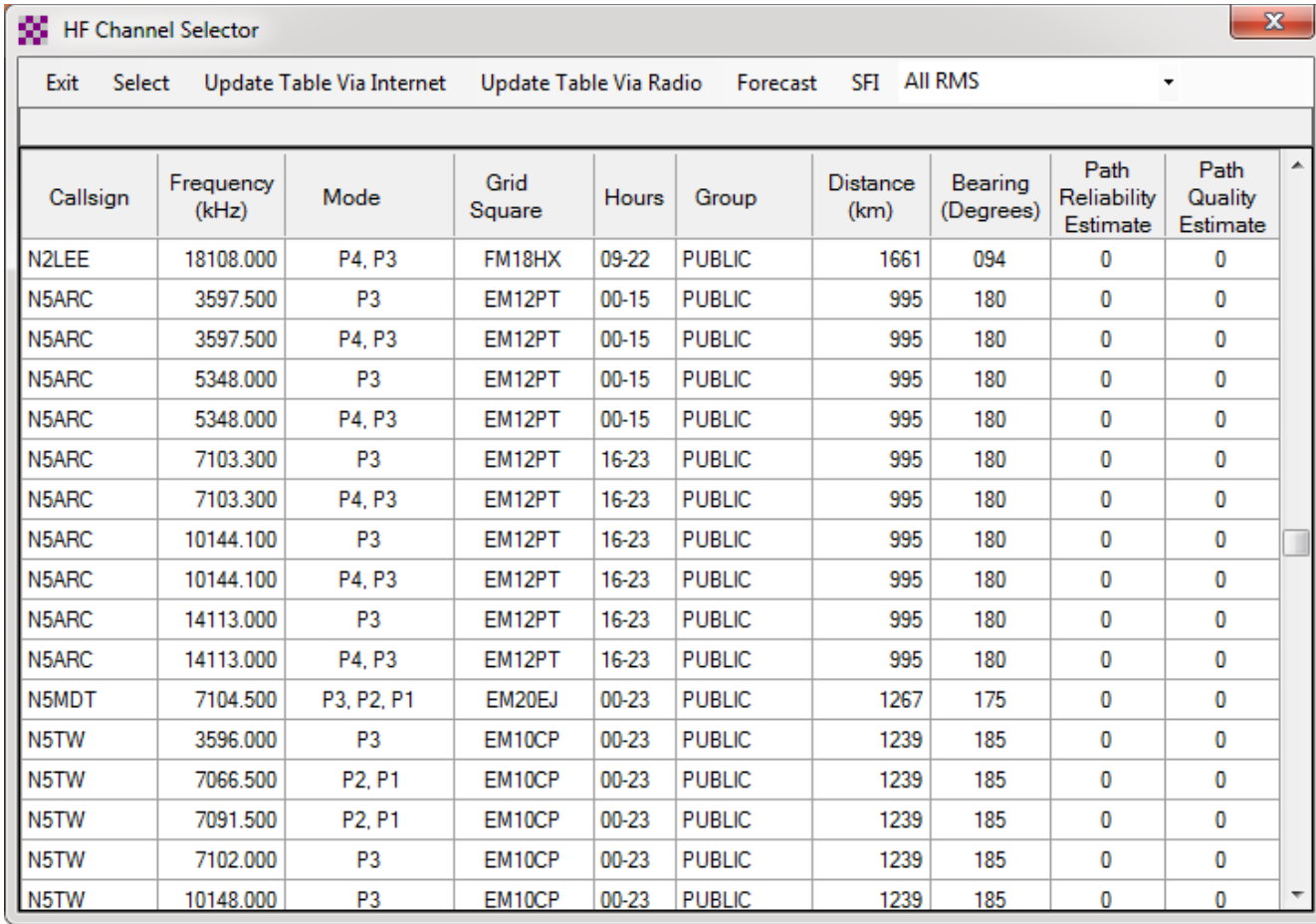
¹ <http://www.iaru-r2.org/band-plan/>

stay clear of the emergency traffic; there never has been a frequency or range of frequencies published for digital operations, only voice or cw, why not?

This isn't about real emergency communications, where the entire RTTY/Data sub band would be available for Pactor 3 use, it appears more likely a desire to enhance HF email systems that run unattended 24/7 for other purposes.

Failure to address interference complaints, many examples in comments to FCC RM-11306, RM-11708 and others. The ongoing interference issues need to be dealt with before instituting changes as requested with the potential for additional interference. Documented illegal and business use of Winlink on amateur frequencies are serious issues that need attention, again examples are available in prior proceedings.²

Failure to manage the network, no frequency coordination and limited monitoring of server providers and users, only occasional reminders about illegal content and 3rd party traffic. Currently there is a Winlink RMS listed on 5348kHz accepting Pactor 3 and 4 connects which is legal but unattended operation is not. This station, and others, are also listed as accepting Pactor 4 connects on other bands where it isn't legal.



The screenshot shows the 'HF Channel Selector' window. It has a menu bar with 'Exit', 'Select', 'Update Table Via Internet', 'Update Table Via Radio', 'Forecast', 'SFI', and 'All RMS'. Below the menu is a table with 10 columns: Callsign, Frequency (kHz), Mode, Grid Square, Hours, Group, Distance (km), Bearing (Degrees), Path Reliability Estimate, and Path Quality Estimate. The table lists various HF channels, including N2LEE, N5ARC, N5MDT, N5TW, and others, with their respective frequencies, modes, grid squares, hours, groups, distances, bearings, and path estimates.

Callsign	Frequency (kHz)	Mode	Grid Square	Hours	Group	Distance (km)	Bearing (Degrees)	Path Reliability Estimate	Path Quality Estimate
N2LEE	18108.000	P4, P3	FM18HX	09-22	PUBLIC	1661	094	0	0
N5ARC	3597.500	P3	EM12PT	00-15	PUBLIC	995	180	0	0
N5ARC	3597.500	P4, P3	EM12PT	00-15	PUBLIC	995	180	0	0
N5ARC	5348.000	P3	EM12PT	00-15	PUBLIC	995	180	0	0
N5ARC	5348.000	P4, P3	EM12PT	00-15	PUBLIC	995	180	0	0
N5ARC	7103.300	P3	EM12PT	16-23	PUBLIC	995	180	0	0
N5ARC	7103.300	P4, P3	EM12PT	16-23	PUBLIC	995	180	0	0
N5ARC	10144.100	P3	EM12PT	16-23	PUBLIC	995	180	0	0
N5ARC	10144.100	P4, P3	EM12PT	16-23	PUBLIC	995	180	0	0
N5ARC	14113.000	P3	EM12PT	16-23	PUBLIC	995	180	0	0
N5ARC	14113.000	P4, P3	EM12PT	16-23	PUBLIC	995	180	0	0
N5MDT	7104.500	P3, P2, P1	EM20EJ	00-23	PUBLIC	1267	175	0	0
N5TW	3596.000	P3	EM10CP	00-23	PUBLIC	1239	185	0	0
N5TW	7066.500	P2, P1	EM10CP	00-23	PUBLIC	1239	185	0	0
N5TW	7091.500	P2, P1	EM10CP	00-23	PUBLIC	1239	185	0	0
N5TW	7102.000	P3	EM10CP	00-23	PUBLIC	1239	185	0	0
N5TW	10148.000	P3	EM10CP	00-23	PUBLIC	1239	185	0	0

Winlink Channel Selector, 2-19-2018

2 <https://www.fcc.gov/ecfs/filing/10925839109476>

According to Mr Waterman, “No one is going to sit on the “auto-start” end and watch already prepared off-line prepared binary data transfers with binary attachments as they would while composing on-line text, over the air, with protocols designed for real-time “keyboard” typing speed applications.”,³ so it would seem the Winlink RMS on 60m is unattended, clearly a rules violation with either P3 or P4.

Pactor in today’s amateur radio world sees little if any use beyond being an email provider when there are a multitude of other options available for the purpose, and puts amateurs in direct competition with commercial services.⁴ The “need for speed” to use amateur spectrum to send emails during disaster recovery is questionable. An email requires the recipient to actually be available and read the mail in a timely fashion, not exactly what’s needed for true emergency messages.

The Pactor variants beyond Pactor 1 are not fully documented protocols, being closed proprietary modes, which is in violation of § 97.309(a)(4). Why the amateur service needs closed, effectively private, communications modes is a mystery.

Now the Winlink system administrator is asking for more spectrum, more modes with the potential to cause harm to existing users and encryption? Pactor already has de facto encryption in that once two stations are linked in ARQ (Automatic Repeat Request) the transmission is not readable by third parties. Encryption of a signal that can’t be decoded outside of the linked parties is a bit redundant. Amateurs have zero need for encryption and are generally not covered under HIPPA rules. EMS responders routinely pass voice traffic over open channels and somehow don’t violate HIPPA rules.⁵

Mr. Waterman asks the FCC to move on the pending RM’s which only affect MF/HF frequencies and leaves the VHF+ baud limits in place. I would ask the FCC to act on the many complaints and documented illegal Winlink activity before granting additional privileges and rewarding same. Reject RM-11708 and WT 16-239.

Respectfully submitted,

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ARRL member

3 <https://ecfsapi.fcc.gov/file/6518324273.pdf>

4 see Pactor.com

5 <http://psc.apcointl.org/2010/08/26/hipaa-radio-emd/>

