W5DNT
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Submitted Via Email to:

ARRL's RM-11708 Band Planning Sub-committee
Mr. Rick Roderick, K5UR, ARRL 1st Vice President
Dr. David Woolweaver, K5RAV, ARRL West Gulf Division Director
Mr. John Robert Stratton, N5AUS, ARRL West Gulf Division Vice Director

Subject: W5DNT's Formal Input Regarding Band Planning for RM-11708

Ladies & Gentlemen,

As an avid DXer, while I am very concerned with the outcome of the RM-11708 petition process, I am pleased that ARRL has asked for "cogent and thoughtful" input with regard to Band Planning. Not only am I an avid DXer, but I am also an EMCOMM person, holding the job of ARES Emergency Coordinator of two counties in Texas, and a County RACES Radio Officer in one of those counties. I am proficient in RMS Express and have it operational at both of my own stations. At our local EOC I have sent and received email via PACTOR 3. Furthermore, I routinely operate all modes including SSB, CW, RTTY, DSTAR, VHF/UHF FM, several digital modes, satellite operations, repeater installation and occasional HF & VHF contesting. Hopefully this demonstrates the point that I am not just another special interest person, but an amateur with over 43 years of fairly diverse experience on the bands, who has dabbled in many facets of our great hobby! My interest is in the well being of our hobby overall, without the special interests of a few being placed above the interests of other established mainstream traditional sectors of our hobby.

The really interesting thing about my own review process of RM-11708 was that I personally went through a very compressed learning curve regarding the ramifications of the proposal. The folks I was involved with in this analysis did a tremendous amount of research into many related subjects, such as how PACTOR 3 & 4 work technically, appropriateness of encryption or quasi encryption, how busy detectors work or don't work, maritime usage, what the wide band wave form of a modern transceiver's PA looks like when operated on a deep cycle marine battery at 12V or less vs. a 13.8V power supply, FCC 97.221 frequency excursions by the automated stations, alternative maritime services, MARS radio email usage as mandated by DOD, wave form classifications and new modes beyond PACTOR, interference problems, past ARRL RMs and their history, public comments, potential for skimmer analysis during handshake of callsigns and usage, vertical vs. horizontal frequency deployment (coordinated sharing by servers of single

frequencies), competitor analysis with regard to frequency desires, etc., etc. etc. The point is that a lot of material was reviewed in a very short time.

As part of this review, one very fundamental discussion we began to have involved a complex question; what is amateur radio really all about? This is at the core of the issue. In our attempts to answer that question in our own minds, we asked ourselves "what is amateur radio NOT really about?" That question is actually very interesting, as it gets at the usage of some of this new technology.

As we look to the "second century", there are directions our hobby could take that I personally am not going to participate in, despite decades of my own diverse experiences in amateur radio. Amateur radio is not a "personal or private communications service" nor a "quasi commercial service", where folks use it primarily to avoid paying for maritime data plans, text message their non ham buddies, get WX maps for their commercial fishing vessel, post to Facebook, post blogs, etc. By the way, Winlink itself claims to be used by over 10,000 sailors. (http://www.dtreg.com/Winlink_Radio_Network.pdf) Unlike traditional DXers and Contesters, a sailor that uses PACTOR to avoid paying maritime service fees, enabled by a well intentioned ham who "just wants to help", is most likely not going to pay even the current dues for QST, much less donate beyond that to the ARRL. As I have talked to my friends about donating to ARRL's Second Century Campaign, the biggest question that comes up is, "what exactly will the money be used for?" This really begs these core questions.

Rick Roderick, K5UR, once commented to me that we can't even imagine what technologies will be available in five to ten years. I certainly agree with and support that concept. The real question for us to ponder is this, what will those new technologies be used for? Will the usage of those new technologies really be "ham radio" or just some sort of personal radio service as described above? That is a core question to carefully keep in mind going forward, one that really gets at the heart and soul of amateur radio. As we all go forward with evolving technologies, it is my strong desire that we not lose sight of what amateur radio is all about.

Amateur radio is not set up to be an encrypted service. As the FCC and ARRL have both said on numerous occasions in the past, we all need to know what is being said via amateur radio, and by whom. After all, that is a key to the self policing aspect of our great hobby. Besides that, when a real emergency does exist, we need a transparent way to ensure that all know what is going on, so that frequencies can be properly cleared and made available for responders. Amateur radio is not meant to be a global ISP, nor a radio based backup for the internet. While that may be a prime directive for MARS, it is at best secondary for amateur radio, and certainly should not come at the expense of traditional usage.

With regard to encryption, my suggestion would be strongly encourage or even require software developers such as SCS to provide free for download a "Reader" program (*think Adobe Reader for example*) that could be used to read the traffic for their specific proprietary mode, but not enable its actual use by those that have not purchased it. Their proprietary code could easily be kept secret within the program, but any interested parties would then have the opportunity to download the Reader and listen in on the traffic. Who knows, this might actually encourage some to purchase the full version. Such a Reader would also allow ARRL Official Observers to perform their job duties. Right now that is not possible without an Official

Observer purchasing an expensive modem. Such a Reader is essential to ensure the integrity of the Official Observer Program and ensure proper lawful use of amateur spectrum. May I suggest to anyone that might believe amateur radio has a need for encryption that they look to other radio services to provide for their "customers", that is not amateur radio.

Presently, PACTOR 3 does not even have an option to force a CW ID. It uses a much more obscure FEC ID option. When an operator is unexpectedly QRMed by one of these automated stations, callsign capture by FEC is often not practical and in fact beyond the equipment capabilities of many amateurs. A simple CW ID levels the playing field and should be a requirement in the Band Plan! The "busy detectors" *sometimes* enabled by automated stations have been demonstrated repeatedly to be ineffective at best in detecting anything other than another PACTOR signal. In and of themselves, busy detectors simply will not solve the interference problem alone.

The single biggest problem many of us see is interference from automated stations. As shown on Table 1 which consists solely of data obtained from Winlink.org, many of these automatic PACTOR stations are operating outside of the required "auto bands", with no apparent regard for FCC 97.221. If they don't have any regard for FCC rules, one really has to question their regard for a voluntary band plan. Therefore, meaningful Frequency Coordination of ALL automatic stations once a band plan is finalized will be absolutely necessary. After all, we now do that with 10M Beacons. Certainly these automated stations are more of an issue than a 10M Propagation Beacon.

Recently, during the costly Amsterdam Island DXpedition, one of these automated RMS Express stations was very active sending and receiving routine emails directly on the transmit frequency of FT5ZM in the 40M foreign phone band, while FT5ZM was working split SSB. Did the users check to see if the frequency was busy with SSB traffic, NO! They went right ahead with their email traffic and essentially jammed the DX station for well over an hour. They may not have realized RMS Express in Winmor mode was signing each transmission with their callsign. If serious band planning is not done in earnest, this can easily become a routine problem for the RTTY and CW bands too.

With regard to Amsterdam Island and the digital interference that occurred, that interference cost me a 40M SSB QSO, along with many others. That DXpedition had an operational cost of $20 per minute. As a major financial contributor to FT5ZM, I am disappointed to see jamming of any sort, including the RMS Express situation cited above. Perhaps we should really consider the appropriateness of email systems on HF, particularly broad banded modes.

As requested, my specific frequency input is respectfully provided herein. That input in its simplest form can be boiled down to one sentence. Keep all automated stations and wide band digital modes out of current customary CW and RTTY bands. Translating that simple sentence into possible sub-bands for wide band digital modes and automated/remotely controlled email servers, I would suggest as a starting point: **1.880-1.900 MHz, 3.590-3.600 MHz, 7.100-7.125 MHz, 14.115-14.125 MHz, 21.115-21.125 MHz and 28.125-28.189 MHz. NO WIDE BAND DIGITAL or Automated Stations on WARC Bands (30M, 17M or 12M)** as those bands are already too crowded! That would be a good starting point and would provide plenty of diverse spectrum without exposing CW

and RTTY sub-bands to wide band digital and email server QRM. Perhaps someday the current 3.600 – 3.650 MHz Phone band could be evaluated as a potential recommendation to the FCC for return to digital service. True EMCOMM folks would likely applaud that proposal with their need for more local HF coverage. For now I am sticking with frequencies the Band Planning Sub-committee have authority to deal with.

Table 2 shows that W5DNT's proposed set of frequencies actually provides more band space than those allowed for automated stations in FCC Part 97.221. Further efficiencies will also most certainly be gained through meaningful Frequency Coordination. Vertical as opposed to horizontal frequency deployment of the automated stations will add significant efficiencies to spectrum usage.

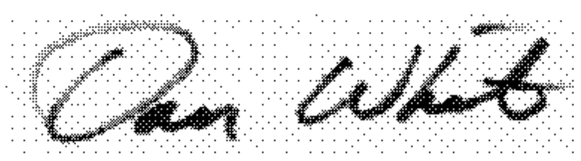
Hopefully many others from the DX and Contest Community will provide input and the ranges can be tweaked as needed. Also, hopefully ARRL will seriously consider the desires of existing DX and Contest enthusiasts, and not just primarily the EMCOMM folks and software/hardware manufacturers frustrated with the current nuances of "broad band internet" style email over HF spectrum.

My belief is that if you can properly solve the RM-11708 Band Planning problem, there is a home run here for ARRL. Let me repeat, there is the real potential for an ARRL HOME RUN! We would now have a bandwidth limit in effect AND the automated email servers would be contained to a limited slice of frequency, NOT allowed on all non-phone frequencies. I can see a scenario where, if meaningful Band Planning and Frequency Coordination are done properly, many folks like me won't need to oppose RM-11708 with the FCC should a comment period ever re-open, some of us might actually support it.

ARRL now has a chance to avert a spectrum disaster through good old fashioned common sense. Simply keep the automated stations and wide band digital out of current customary CW and RTTY frequencies, through proper band planning. Coordinate the automated stations and require them to use a CW ID. Insist that software developers provide Readers so that we do not move down the slippery slope of encryption. If these measures can be implemented, I truly believe the ARRL will have done a tremendous job and RM-11708 will be a success.

Now, I take this opportunity to wish you the very best in the challenging task ahead, and offer any personal assistance that I may be able to provide.

Respectfully submitted with Best 73!



Dan White
W5DNT

Table 1
Automated Stations Outside of FCC 97.221
(as color coded below)

Callsign	GridSquare	Freq	Mode
NNA4HE	EM83AK	**10,122.900 KHz**	Pactor 1,2,3
K0SI	EM38TX	**10,131.500 KHz**	Pactor 1,2
K0SI	EM38TX	**10,138.000 KHz**	Pactor 1,2,3
K0SI	EM38TX	**10,139.000 KHz**	Pactor 1,2,3
K1SGA	FN33VR	**10,139.500 KHz**	Pactor 3
K1SGA	FN33VR	10,141.000 KHz	Pactor 1,2,3
K1SGA	FN33VR	10,141.200 KHz	Pactor 1,2
K1SGA	FN33VR	10,141.200 KHz	Pactor 1,2
K1SGA	FN33VR	10,142.900 KHz	Pactor 3
K1SGA	FN33VR	10,143.000 KHz	Pactor 1,2,3
K5AEA	EM10DQ	10,143.400 KHz	Pactor 1,2,3
K5AEA	EM10DQ	10,143.500 KHz	Pactor 1,2,3
K5AEA	EM10DQ	10,143.700 KHz	Pactor 1,2,3
K5AEA	EM10DQ	10,143.700 KHz	Pactor 1,2,3
K5AEA	EM10DQ	10,143.700 KHz	Pactor 1,2
K5CW	DM61RU	10,144.500 KHz	Pactor 3
K6CYC	DM03SX	10,145.060 KHz	Pactor 3
K6CYC	DM03SX	10,145.900 KHz	Pactor 3
K6CYC	DM03SX	10,146.200 KHz	Pactor 3
K6IXA	CM97QI	10,146.500 KHz	Pactor 1,2
K6IXA	CM97QI	10,147.700 KHz	Pactor 3
K6IXA	CM97QI	10,148.500 KHz	Pactor 3
K6IXA	CM97QI	**14,063.900 KHz**	Pactor 1,2
K6IXA	CM97QI	**14,063.900**	Pactor 1,2

		KHz	
		14,064.000	
K6IXA	**CM97QI**	**KHz**	**Pactor 3**
		14,065.900	
K6JGL	**DM03TU**	**KHz**	**Pactor 1,2**
		14,066.500	
K6JGL	**DM03TU**	**KHz**	**Pactor 1,2,3**
		14,066.900	
K7DAV	**DN40BX**	**KHz**	**Pactor 3**
		14,096.200	
K7DAV	**DN40BX**	**KHz**	**Pactor 1,2**
		14,097.000	
K7DAV	**DN40BX**	**KHz**	**Pactor 1,2,3**
		14,097.500	
K7EK	**CN87TB**	**KHz**	**Pactor 1,2,3**
		14,098.000	
K7EK	**CN87TB**	**KHz**	**Pactor 1,2,3**
		14,098.500	
K7EK	**CN87TB**	**KHz**	**Pactor 1,2,3**
		14,098.700	
K7EK	**CN87TB**	**KHz**	**Pactor 1,2,3**
		14,098.700	
K8KHW	**EM99JJ**	**KHz**	**Pactor 1,2,3**
		14,101.280	
K8KHW	EM99JJ	KHz	Pactor 1,2,3
		14,102.500	
K8KHW	EM99JJ	KHz	Pactor 1,2,3
		14,102.700	
K8KHW	EM99JJ	KHz	Pactor 1,2,3
		14,104.200	
K9BBS	EM68SR	KHz	Pactor 1,2
		14,104.200	
K9BBS	EM68SR	KHz	Pactor 1,2
		14,105.600	
K9BBS	EM68SR	KHz	Pactor 1,2
		14,106.000	
KA7HRC	CN95GQ	KHz	Pactor 1,2,3
		14,106.700	
KB5HCD	EL29FU	KHz	Pactor 1,2
		14,108.500	
KB5HCD	EL29FU	KHz	Pactor 3
		14,108.900	
KB6BT	CN85QN	KHz	Pactor 1,2,3
		14,110.000	
KB6BT	CN85QN	KHz	Pactor 1,2,3
		14,110.500	
KB6YNO	CM88QG	KHz	Pactor 1,2
		14,111.000	
KB6YNO	CM88QG	KHz	Pactor 1,2
		14,111.500	
KB6YNO	CM88QG	KHz	Pactor 3
		14,112.500	
KB9MMC	EN53XB	KHz	Pactor 1,2
		18,098.900	
KC4TVO	**EM85WX**	**KHz**	**Pactor 3**
		18,101.500	
KC4TVO	EM85WX	KHz	Pactor 1,2,3
		18,104.000	
KC4TVO	EM85WX	KHz	Pactor 1,2,3

KC4TVO	EM85WX	18,105.000 KHz	Pactor 3
KC9SGV	EN52WC	18,106.900 KHz	Pactor 1,2
KF7RSF	CN73TD	18,108.000 KHz	Pactor 1,2,3
KF7RSF	CN73TD	18,108.500 KHz	Pactor 1,2,3
KH6UL	BL11AM	21,095.000 KHz	Pactor 1,2,3
KH6UL	BL11AM	21,098.000 KHz	Pactor 1,2,3
KH6UL	BL11AM	21,098.700 KHz	Pactor 1,2,3
KH6UL	BL11AM	28,144.500 KHz	Pactor 1,2,3
KK5AN	EM11CC	28,169.000 KHz	Pactor 3
KK5AN	**EM11CC**	**3,580.000 KHz**	**Pactor 3**
KK5AN	**EM11CC**	**3,584.500 KHz**	**Pactor 3**
KK5AN	EM11CC	3,585.500 KHz	Pactor 3
KL7EDK	BP64DV	3,586.500 KHz	Pactor 1,2,3
KL7EDK	BP64DV	3,587.000 KHz	Pactor 1,2
KL7EDK	BP64DV	3,588.500 KHz	Pactor 3
KL7EDK	BP64DV	3,589.000 KHz	Pactor 1,2,3
KL7EDK	BP64DV	3,589.000 KHz	Pactor 1,2
KL7EDK	BP64DV	3,589.000 KHz	Pactor 3
KN6KB	EL98PF	3,589.000 KHz	Pactor 3
KN6KB	EL98PF	3,590.000 KHz	Pactor 1,2
KN6KB	EL98PF	3,592.000 KHz	Pactor 3
KN6KB	EL98PF	3,592.000 KHz	Pactor 1,2
KN6KB	EL98PF	3,592.500 KHz	Pactor 1,2
KQ4ET	FM16XU	3,593.000 KHz	Pactor 1,2,3
KQ4ET	FM16XU	3,593.000 KHz	Pactor 1,2,3
KQ4ET	FM16XU	3,594.000 KHz	Pactor 1,2,3
KQ4ET	FM16XU	3,595.000 KHz	Pactor 1,2
KQ4ET	FM16XU	3,595.000 KHz	Pactor 1,2,3
KQ4ET	FM16XU	3,595.000 KHz	Pactor 1,2,3
KQ4ET	FM16XU	3,595.000	Pactor 1,2,3

		KHz	
		3,596.020	
KR4MA	FM17SE	KHz	Pactor 1,2,3
		3,597.000	
N4MEH	EM84QM	KHz	Pactor 1,2,3
		3,597.900	
N4MEH	EM84QM	KHz	Pactor 1,2,3
		7,062.900	
N4MEH	**EM84QM**	**KHz**	**Pactor 1,2,3**
		7,063.040	
N4MEH	**EM84QM**	**KHz**	**Pactor 1,2,3**
		7,065.900	
N4MEH	**EM84QM**	**KHz**	**Pactor 1,2,3**
		7,065.900	
N7YRT	**DN18DD**	**KHz**	**Pactor 1,2,3**
		7,066.900	
N7YRT	**DN18DD**	**KHz**	**Pactor 1,2**
		7,067.500	
N7YRT	**DN18DD**	**KHz**	**Pactor 3**
		7,067.900	
N7YRT	**DN18DD**	**KHz**	**Pactor 1,2,3**
		7,069.500	
W1EO	**FN42IM**	**KHz**	**Pactor 1,2,3**
		7,072.000	
W1EO	**FN42IM**	**KHz**	**Pactor 1,2,3**
		7,075.900	
W1EO	**FN42IM**	**KHz**	**Pactor 1,2,3**
		7,076.900	
W1EO	**FN42IM**	**KHz**	**Pactor 1,2,3**
		7,076.900	
W5KAV	**CN86KT**	**KHz**	**Pactor 1,2,3**
		7,083.000	
W5KAV	**CN86KT**	**KHz**	**Pactor 1,2,3**
		7,085.000	
W5SEG	**EL19AN**	**KHz**	**Pactor 1,2,3**
		7,089.000	
W5SEG	**EL19AN**	**KHz**	**Pactor 1,2,3**
		7,089.000	
W5SEG	**EL19AN**	**KHz**	**Pactor 1,2,3**
		7,096.000	
W5SEG	**EL19AN**	**KHz**	**Pactor 1,2,3**
		7,096.500	
W5WSR	**EL29GA**	**KHz**	**Pactor 1,2,3**
		7,099.800	
W5WSR	**EL29GA**	**KHz**	**Pactor 1,2,3**
		7,100.000	
W6IM	DM12JR	KHz	Pactor 1,2
		7,100.000	
W6IM	DM12JR	KHz	Pactor 3
		7,100.000	
W6IM	DM12JR	KHz	Pactor 3
		7,100.500	
W6IM	DM12JR	KHz	Pactor 3
		7,101.200	
NNA0WA	CN85PV	KHz	Pactor 1,2
		7,101.200	
W7ODN	CN84LW	KHz	Pactor 1,2
		7,101.500	
W7ODN	CN84LW	KHz	Pactor 1,2,3

W7ODN	CN84LW	7,101.700 KHz	Pactor 1,2,3
WA6OYC	CM87US	7,101.800 KHz	Pactor 3
WA6OYC	CM87US	7,102.400 KHz	Pactor 3
WA6OYC	CM87US	7,102.400 KHz	Pactor 3
WA6OYC	CM87US	7,103.240 KHz	Pactor 3
WA6OYC	CM87US	7,103.400 KHz	Pactor 3
WB2LMV	FN21TS	7,103.500 KHz	Pactor 1,2,3
WB9AYD	EL87RH	7,103.500 KHz	Pactor 1,2,3
WE9COM	EN54QH	7,103.500 KHz	Pactor 1,2,3
WE9COM	EN54QH	7,103.700 KHz	Pactor 1,2,3
WL7CVG	BP51DE	7,103.700 KHz	Pactor 1,2
WL7CVG	BP51DE	7,104.000 KHz	Pactor 1,2,3
WL7CVG	BP51DE	7,104.400 KHz	Pactor 1,2,3
WL7CVG	BP51DE	7,104.500 KHz	Pactor 1,2
WL7CVG	BP51DE	7,104.500 KHz	Pactor 3
WL7CVG	BP51DE	7,104.500 KHz	Pactor 3
WX4J	EM90EB	7,104.500 KHz	Pactor 1,2,3
WX4J	EM90EB	7,104.500 KHz	Pactor 1,2
WX4J	EM90EB	7,105.900 KHz	Pactor 1,2

Table 2
Band Plan Comparison
Wide Band & Automated Stations

Band	W5DNT Plan	Allowance, KHz	FCC 97.221C	Allowance, KHz
160	1.880-1.9	20	0	0
80	3.590-3.6	10	3.585-3.6	15
40	7.1-7.125	25	7.1-7.105	5
30	0	0	10.140-10.150	10
20	14.115-14.125	10	14.095-14.0995 & 14.005-14.12	16
17	0	0	18.105-18.110	5
15	21.115-21.125	10	21.090-21.100	10
12	0	0	24.925-24.930	5
10	28.125-28.189	64	28.120-28-189	69
Total		**139**		**135**