

Sandralyn Bailey

04-140  
DOCKET FILE COPY ORIGINAL

**From:** earl leach [wx4j@comcast.net]  
**Sent:** Sunday, November 26, 2006 11:23 AM  
**To:** dtaylor@tateweb  
**Subject:** omnibus ruling

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DEC - 7 2006

Federal Communications Commission  
Office of the Secretary

"Omnibus Ruling"

In addition to the the Factor 111 "oversight", that I previously addressed, the 3600 to 3700 sub band allocation to "Amateur Extra Class" phone disrupting many Public Service Networks, along with ongoing DIGITAL communications, defies logic.

There is absolutely NO justification for this action, and the expansion should NOT take place. Even though CW is authorized throughout the band, CW and Digital networks cannot operate effectively within the phone sub band. Your action will cause chaos between the 3500 to 3600 kc segment, as Networks/Systems attempt to re-locate. Obviously you are not aware of the message handling capability of the NATIONAL TRAFFIC SYSTEM, utilizing various modes, with phone only being one method. Digital systems have been effectively "orphaned" and while attempting to relocate in the 3500-3600 sub band it becomes obvious the result will be ongoing 'interference'.

This allocation should not be allowed to become effective.

Thank you for reviewing this note.

Earl Leach  
wx4j@comcast.net

04-140

**Sandralyn Bailey**

**From:** KG6CSL@Winlink.org  
**Sent:** Sunday, November 26, 2006 8:11 AM  
**To:** KJMWEB; Michael Copps; Jonathan Adelstein; dtaylor@fcc.gov; Robert M. ...  
**Subject:** Regarding FCC Order FCC 06-149

**FILED/ACCEPTED**  
**DEC - 7 2006**  
Federal Communications Commission  
Office of the Secretary

Dear Honorable Senators and Members of the FCC:

We, the long-range boating community, are outraged and worried to hear about the upcoming FCC Order FCC 06-149 with rules regarding the loss of Factor 3 (J2D) transmissions on our SSB radio frequencies and Winlink. We use our Ham radio daily for both mail and critical weather information to keep us safe in our ocean passages and anchorages. For instance, we have just waited out an unexpected gale in the Western Caribbean. Without proper weather data forecasting from our radio transmissions, we would not have been as safe. Many of us live full time on our boats (often our only homes) and rely on J2D communications to assure our safety.

Factor 3 technology allows us to transmit and receive data at a much faster rate than available with the much slower Factor 2 and previous technology. This speed allows us who are very limited by power and propagation considerations to receive the large file data propagated from the National Weather Service and other providers. This data would be difficult to access using only the slower rates as proposed by the rules to be effected December 15, 2006.

I do not know the specific reasons why the sudden rule changes, but I feel that they have not been well thought over and have specifically not considered our safety and welfare issues.

Please re-inspect the proposed FCC 06-149 Order and re-think the logic of those decisions. We really depend on Factor 3 service and expect that it should continue for all Ham users.

Respectfully submitted,  
H. J. Holshuh - kg6csl  
Susan Leverton  
s/v SIPAPU  
CG doc # 1037629

Currently at anchor in the Eastern Holandes, Comarca de Kuna Yala, San Blas, Panama

**SandraLyn Bailey**

04/140

**From:** Joel D. Michello [kq4et@cox.net]  
**Sent:** Thursday, November 23, 2006 11:44 AM  
**To:** KJMWEB  
**Subject:** Comments to the Chairman

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DEC - 7 2006

Federal Communications Commission  
Office of the Secretary

Joel D. Michello (kq4et@cox.net) writes:

November 23, 2006

Commissioner Chairman Kevin J. Martin,

I bring to your attention what appears to be an inadvertent error and ask for your prompt intervention to correct the error.

As I understand it, the clear intent of the Federal Communications Commission was not to impose a 500 Hz bandwidth limitation on existing emission types, especially in the 75-80 Meter Band. Regrettably the intent was reversed when the regulation appeared in the Federal Register. The manner in which the revised rule is written in the Federal Register, a 500 Hz bandwidth limitation will be applied to existing data emission types. This contradicts the Commission's clear intent. Prompt action is necessary before the revised rules go into effect December 15.

Failure to promptly correct this error will result in an immediate degradation of the United States Amateur Radio Service's ability to efficiently provide long distance, high-speed data communications during incidents and disasters. It was cited as one of the best practices used by many Hurricane Katrina response reviews. If not corrected before December 15, the U.S. will be the only country prohibiting the use of the most efficient, long distance, high-speed data emission modes by their own Amateur Radio Service.

I encourage you to act promptly to correct this inadvertent error before the new rules come into effect.

Thank you for your consideration in this matter.

Sincerely,

Joel Michello KQ4ET Winlink 2000 PMBO--Virginia  
228 Matt Lane  
Virginia Beach, VA 23454  
kq4et@cox.net  
757-422-6847

Reference:

FCC 06-149  
WT Docket No. 04-140  
IV. DISCUSSION

A. Amateur Station Frequency Privileges

16. In the NPRM, the Commission sought comment on whether it should revise the definition of data emission types contained in Section 97.3(c) of our Rules to include emission types A1C and F2C. This would permit amateur stations to transmit FAX emissions having an occupied bandwidth of 500 Hz or less on the frequency segments used for data communications. The NPRM also noted that limiting the occupied bandwidth of image emissions in data segments of the HF bands to 500 Hz or less would provide the amateur service community greater flexibility in developing communication systems and communications technology, thereby furthering that purpose of the amateur service while maintaining the narrow bandwidth nature of the data emission band segments.

17. Decision. All commenters who addressed this issue support the NPRM proposal to revise the definition of data in the amateur service rules. We agree that permitting images to be

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transmitted on data emission frequency segments will "allow amateur radio to make the most of new [software] programs" thereby "advancing" its technology."

19. ARRL also requests that we not impose a 500 Hz bandwidth limitation in the definition of data emissions, arguing that this limitation would have unintended consequences because the limitation also applies to amateur service bands in which a higher symbol rate or bandwidth is permitted.

...

To accommodate the concern raised by ARRL, however, we will revise our rules to clarify that the 500 Hz limitation applies only to the emission types we are adding to the definition of data when transmitted on amateur service frequencies below 30 MHz. By amending the rule in this manner, the 500 bandwidth limitation will not apply to other data emission types or amateur service bands in which a higher symbol rate or bandwidth currently is permitted.

Federal Register/Vol. 71 No. 220/Wednesday November 15, 2006/Rules and Regulations

§ 97.3 Definitions.

\* \* \* \* \*

(c) \* \* \*

(2) Data. Telemetry, telecommand and computer communications emissions having designators with A, C, D, E, G, H, J or R as the first symbol; 1 as the second symbol; D as the third symbol, and emissions A1C, F1C, F2C, J2C, J3C, and J2D having an occupied bandwidth of 500 Hz or less when transmitted on an amateur service frequency below 30 MHz. Only a digital code of a type specifically authorized in this part may be transmitted.

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Server protocol: HTTP/1.1  
Remote host: 68.10.97.146  
Remote IP address: 68.10.97.146

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**SandraLyn Bailey**

**From:** Paul Plasters [wa9ffi@yahoo.com]  
**Sent:** Tuesday, November 21, 2006 2:17 PM  
**To:** Jonathan Adelstein; KJMWEB; Robert McDowell  
**Cc:** Michael Copps; David E Black MD; William Cross; dtayloratateweb  
**Subject:** FCC 06-149 "Omnibus" Amateur radio "R + O".

FILED/ACCEPTED  
DEC - 7 2006  
Federal Communications Commission  
Office of the Secretary

**From:** Paul Plasters K9PEP  
**Sent:** Wednesday, November 22, 2006  
**To:** 'Jonathan.Adelstein@fcc.gov'; 'dtayloratateweb@fcc.gov';  
'Robert.McDowell@fcc.gov'  
**Cc:** 'bandplan@www.arrl.org'; 'william.cross@fcc.gov';  
Senator Durbin, Senator Obama, Congressman Manzullo

Reference:

WT Docket No. 04-140, also known as "FCC Omnibus Amateur Radio Report and order";

FCC 06-149 (66460 Federal Register / Vol. 71, No. 220 / Wednesday, November 15, 2006 / Rules and Regulations)

Dear Chairman Martin, Commissioner Copps, Commissioner Adelstein, Commissioner Tate, and Commissioner McDowell,

I call your attention to a situation that has specific impact upon many public and private agencies and their ability to communicate in emergencies, and to the individuals of the amateur radio service. I urge your prompt action to correct it.

Among other changes to the FCC rules governing the amateur radio service, the referenced rules change the definitions of "data" emissions permissible for use on the amateur radio bands. In making the change, the FCC has made illegal, a handful of popular data transmission protocols that have high importance in emergency communications, and which have served an important role in amateur radio communications. Specifically, it limits the occupied bandwidth of J2D data signals to 500Hz. This makes illegal the J2D emissions of the Pactor 3 protocol (at 2400Hz bandwidth), Olivia, 1200-baud packet, Q15X25, MT63 and Clover 2000.

The impact is horrific. One example, the Pactor 3 protocol currently carries more radio email volume than all other means of data transmission in all of amateur radio, combined. It is supported by the Winlink 2000 system which has provided essential communications in countless disasters, finding missing and distressed vessels at sea for the US Coast Guard, and daily communications of weather and safety information for over 8,000 vessels at sea. Amateur radio operators use the Pactor 3 protocol and Winlink to provide radio email, the last-option solution to emergency communications, and are directly supported by emergency management agencies across the nation.

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Their investments in Pactor 3 equipment are made worthless.

Regarding Winlink and Pactor 3, one can only imagine the tragic consequences of learning the valuable lessons of Katrina only to eliminate the very system and resource values cited in the report ("A Failure of Initiative", <http://katrina.house.gov>) that contributed to saving lives. A mass casualty event that would follow without this capability would be difficult to explain in the next congressional investigation.

I personally rely on Pactor 3 and Winlink to supply communications as a volunteer for the International Health Service. It provides clinics across remote regions of Honduras, provides healthcare to thousands of indigenous people and regularly saves lives. I am also a member of the Salvation Army, and a regular participant in their Emergency Disaster programs. I am also a member of the Coast Guard Aux., and all 3 of these services need good reliable communication, and during times of great Disaster's, they need a lot of it. Radio email using Pactor 3 is the main means the International Health service communications for logistics and medical consultations among twelve remote teams and stateside medical resources. If US gateway stations are limited by this FCC action, this means of efficient communications will be lost to us, with unthinkable impact. I am sure I need not tell you what the Salvation Army, or Coast Guard need!

Further, the FCC action contradicts the basis and purpose of the Amateur Radio Service. The ability of the Service to support several principles given for its existence in FCC part 97 are directly limited. Specifically, the ability to provide emergency communications, contribute to the advancement of the radio art, and provide advancing skills in both the communications and technical phases of the art are attacked and lessened significantly. Most of today's technical achievements are digital in nature.

(See FCC Part 97.1(a),(b) and (c)).

Mr. William Cross of the FCC Wireless Telecommunications Bureau admits that J2D was added to a list of emissions with the 500 Hz restriction by an "inadvertent error." This was supposed to be an attempt to redefine IMAGE emissions from analog to digital, but by "redefining data" they made the error and "inadvertently included J2D." Nothing was accomplished in an attempt to make a change before the Report and Order was officially published. There has been no word of any timeframe for a correction.

With all urgency, please press for an immediate correction. The regulations take effect on December 15th of this year. Delays will severely affect our public safety and the welfare of many private citizens.

Thank you.

Paul Plasters  
Amateur Radio Station K9PEP

Background:

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Prior to issuance of the final Report and Order (R&O), the FCC stated in the preliminary R&O that all currently authorized data modes would be permitted.

FCC-06-149, page 12, paragraph 19 (adopted October 4, 2006, released October 10, 2006) states: "ARRL also requests that we not impose a 500 Hz bandwidth limitation in the definition of data emissions, arguing that this limitation would have unintended consequences because the limitation also applies to amateur service bands in which a higher symbol rate or bandwidth is permitted.[87] We understand ARRL's concern, but we note that eliminating or relaxing the bandwidth limitation would de facto eliminate the separation of narrow bandwidth and wide bandwidth emissions.[88]

We believe that separation of emission types by bandwidth is accepted in the amateur service as a reasonable means to minimize interference on shared frequencies and bands [89] and, therefore, we will not replace the 500 Hz bandwidth limitation with a 3 kHz bandwidth limitation.

To accommodate the concern raised by ARRL, however, we will revise our rules to clarify that the 500 Hz limitation applies only to the emission types we are adding to the definition of data when transmitted on amateur service frequencies below 30 MHz.

By amending the rule in this manner, the 500 bandwidth limitation will not apply to other data emission types or amateur service bands in which a higher symbol rate or bandwidth currently is permitted.[90] " (Emphasis added)

When the R&O was published in the Federal Register, this critical language had mysteriously disappeared.

The impacts of this omission affect not only hundreds of amateurs who have purchased now unusable modems (at a cost exceeding \$1,000.00 each) from their own pockets, but also hundreds of government and non-government organizations who have designed critical Emergency Management Communications (EMCOMM) Plans around the use of these modems.

The published R&O limits data and image transmissions to a 500 Hz bandwidth, which drastically limits the data rates that can be supported. That, in turn, requires a transmission to be many times longer to pass the same information - thus occupying a frequency for a much longer time, and preventing other messages from being passed. The modems / protocols that are impacted by the omission are also narrowband, as they use only a portion of a single voice channel (2.8 kHz or 3.0 kHz). In the widest case, they occupy a 2400 Hz (2.4 kHz) bandwidth. I might add, that an average voice channel occupies about 3,000 Hz, 6 times the mode in question.

Essentially, amateur radio is being denied the ability to advance the state of a vital portion of the radio art and the ability to perform vital emergency and/or disaster communications. Both of these are critical reasons (see Part 97, FCC Rules) for the establishment of the service. The availability of a modem designed by an amateur radio operator that provides near MIL-STD-188-110A performance for less than \$1100.00 (versus about \$20,000 for the MIL-STD modem) is a testament to the ability of amateur radio operators to advance the state of the art. The number of amateur radio operators who have

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responded to every disaster since the establishment of the service is a testament to the viability of the resource. The fact that amateur radio operators have shown the ability to establish and maintain functioning communications when the commercial services fail is a testament to the training, skills, and experience of the operators.

There is no technical reason that justifies the 500 Hz limitation. There are a multitude of technical reasons that the limit for at least some forms of HF data should be the width of a single voice channel. There is a clear moral reason (i.e., do what you clearly said that you would do) why the original language should be restored.

The Will of God, will never take you to -  
where the Grace of God, will not protect you.  
Paul Plasters HAM callsign K9PEP  
residing in Rockford, IL.  
1996 Harley Davidson with Champion Sidecar  
Ham Radio on board, 160M. through 70CM.  
Coast Guard AUX., 09W-06-01-1211529 active  
my home gps location 4213.22.06 N, 089.03.50W  
my IL/WIMARC page <http://www.angelfire.com/sports/MARC>  
my personal page <http://www.plasters.islucky.com>  
my SATERN page <http://www.angelfire.com/il2/saternrockford/>  
Semper Paratus

May God help us see the opportunities that are always around us to do good. Going to church doesn't make you a Christian any more than standing in your garage makes you a car.

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**SandraLyn Bailey**

04-140

**From:** Ken Mitchell [kmitchell@houston.oilfield.slb.com]  
**Sent:** Tuesday, November 21, 2006 10:52 AM  
**To:** KJMWEB; Michael Copps; Jonathan Adelstein; dtayloratateweb; Robert McDowell  
**Cc:** William Cross  
**Subject:** COMMENTS ON "OMNIBUS REPORT AND ORDER" AFFECTING FCC PART 97

Request for immediate action:

The Federal Communications Commission recently released the Report and Order (R&O) in the so-called "Omnibus" Amateur Radio proceeding, WT Docket 04-140 (FCC 06-149) to the public through the Federal Register. There were revisions to the original FCC WT Docket published in the Federal Register that will take effect Friday, December 15, at 12:01 AM EST, 30 days after its publication. There are some serious negative impacts upon Emergency Communications capabilities caused by difference between adopted Report and Order and the Report and Order as published in the Federal Register.

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Federal Communications Commission  
Office of the Secretary

One can only imagine the tragic consequences of learning the valuable lessons of Katrina only to eliminate the very communications capabilities cited in the report that contributed to saving lives. A mass casualty event without this capability would be difficult to explain in the next Congressional Investigation.

As an Emergency Coordinator for Harris County, Texas and one who was personally involved in supporting the evacuees from the disaster areas of both Katrina and Rita during the 2005 hurricane season, it disturbs me that the very tools we used to assist in time of human need are being eliminated from our resources due to perhaps a technicality. I am sure that, with your assistance, this small technicality can be averted.

Background

Prior to issuance of the final Report and Order (R&O), the FCC stated in the preliminary R&O that all currently authorized data modes would be permitted. FCC-06-149, page 12, paragraph 19 (adopted October 4, 2006, released October 10, 2006) states: "ARRL also requests that we not impose a 500 Hz bandwidth limitation in the definition of data emissions, arguing that this limitation would have unintended consequences because the limitation also applies to amateur service bands in which a higher symbol rate or bandwidth is permitted. We understand ARRL's concern, but we note that eliminating or relaxing the bandwidth limitation would de facto eliminate the separation of narrow bandwidth and wide bandwidth emissions. We believe that separation of emission types by bandwidth is accepted in the amateur service as a reasonable means to minimize interference on shared frequencies and bands and, therefore, we will not replace the 500 Hz bandwidth limitation with a 3 kHz bandwidth limitation. To accommodate the concern raised by ARRL, however, we will revise our rules to clarify that the 500 Hz limitation applies only to the emission types we are adding to the definition of data when transmitted on amateur service frequencies below 30 MHz. By amending the rule in this manner, the 500 bandwidth limitation will not apply to other data emission types or amateur service bands in which a higher symbol rate or bandwidth currently is permitted."

When the R&O was published in the Federal Register, this critical language had mysteriously disappeared. The impact of this omission affect not only hundreds of amateurs who have purchased now unusable modems (at a cost exceeding \$1,000.00 each) from their own pockets, but also hundreds of government and non-government organizations who

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have designed critical Emergency Management Communications (EMCOMM) plans around the use of these modems.

High Frequency (HF) radio is a vital EMCOMM resource. Teams of Amateur Radio operators were sent from South Texas into damage areas immediately after both storms, Katrina and Rita, to assist with communications where land based communicants had been devastated. Many times Amateur Radio is used as the last resort for communications for local and state communications when all else fails. To recall one incidence an Amateur Radio station was used in Louisiana (Katrina) to establish contact between Slidel Office of Homeland Security and Emergency Management and Baton Rouge using modern communications tools for digital messaging. During the aftermath of hurricane Rita these same communications tools were used to establish communications between feeding stations and supply locations to provide timely delivery of needed food, water and other necessary life sustaining goods.

The published R&O limit data and image transmissions to a 500 Hz bandwidth, which drastically limits the data rates that can be supported. That, in turn, requires a transmission to be many times longer to pass the same information - thus occupying a frequency for a much longer time and preventing other messages from being passed. Less efficient and timely use of the radio spectrum by eliminating known modern communications tools can be considered a misuse of the precious radio spectrum, the very essence of what the FCC is to guard against. The modems / protocols that are impacted by the omission are also narrowband, as they use only a portion of a single voice channel (2.8 kHz or 3.0 kHz). In the widest case, they occupy a 2400 Hz (2.4 kHz) bandwidth.

Essentially, amateur radio is being denied the ability to advance the state of a vital portion of the radio art and the ability to perform vital emergency and/or disaster communications. Both of these are critical reasons (see Part 97, FCC Rules) for the establishment of the service. The number of amateur radio operators who have responded to every disaster since the establishment of the service is a testament to the viability of the resource. The fact that amateur radio operators have shown the ability to establish and maintain functioning communications when vital infrastructure has been destroyed or rendered non-operational is a testament to the training, skills, and experience of these operators.

I haven't discussed the technical aspects of this ruling but there is no technical reason that justifies the 500 Hz limitation. There are multitudes of technical reasons that the limit for at least some forms of HF data should be the width of a single voice channel. There is a clear moral reason (i.e., do what you clearly said that you would do) why the original language should be restored.

Failure to promptly correct this error will result in an immediate degrading of the United States' Amateur Radio service's ability to efficiently provide long distance, high speed, data communications during incidents and disasters; was one of the best practices cited by many Hurricane Katrina response reviews. If not corrected before December 15, the U.S. will be the only country prohibiting the use of the most efficient, long distance, high speed, data emission modes by licensed US Amateur Radio service operators.

I encourage you to act promptly to correct this inadvertent error before the new rules come into effect. Thank you.

73,  
Ken Mitchell, KD2KW  
Schlumberger Information Solutions - a Schlumberger Company - <http://www.slb.com>

Ken Mitchell Systems Engineer

kmitchell@slb.com

Remedy Skilled Professional

Schlumberger Information Solutions  
Schlumberger Solutions Center  
+1-713/513 1129  
5599 San Felipe, Ste 400,  
Houston, Texas, 77056

Tel : +1-713/513 2000, Direct

Fax: +1-713/513 3006 (Primary)

Fax: +1-713/513 3007 (Secondary)

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04-140

04-140

Sandralyn Bailey

From: Chuck KA0WFI [chuck@brewventure.com]  
Sent: Monday, November 20, 2006 3:21 PM  
To: KJMWEB; Michael Copps; Jonathan Adelstein; dtayloratateweb; Robert McDowell  
Subject: FCC "Omnibus" Amateur Radio R&O published in Federal Register

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Federal Communications Commission  
Office of the Secretary



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Gentlemen:

Please direct your attention and your subsequent corrective action to the subject "Omnibus Report and Order". The **discrepancy** between the preliminary R&O and the R&O **as published** is a disaster that has already occurred. It is obvious that all parties affected, Commissioners as well as individual Amateurs, must take all possible actions to correct this error.

It is immaterial whether this change occurred by clerical error, by lack of technical expertise, or by the covert activities of a small group of Luddites that call themselves Amateurs. If this R&O is allowed to stand as published, the consequences will fatally impact technical innovation that provides greatly needed HF digital emergency communications in the most efficient manner.

It is requested that you exert your authority to revert the published order to the original intent stated by the FCC in its preliminary version of the R&O. That intent was expressed as follows:

**"To accommodate the concern raised by ARRL, however, we will revise our rules to clarify that the 500 Hz limitation applies only to the emission types we are adding to the definition of data when transmitted on amateur service frequencies below 30 MHz. By amending the rule in this manner, the 500 bandwidth limitation will not apply to other data emission types or amateur service bands in which a higher symbol rate or bandwidth currently is permitted."**

No similar language was included in the final Order as published in the Federal Register.

Amateur Radio Operators, as well as the affected public-at-large, will follow your actions with interest.

Sincerely,

Chuck Keiper KA0WFI  
Lummi Island, WA

**SandraLyn Bailey**

04-140

**From:** Lor Kutchins W3QA [lor@w3qa.net]  
**Sent:** Monday, November 20, 2006 3:13 PM  
**To:** KJMWEB; Michael Copps; Jonathan Adelstein; dtayloratateweb; Robert McDowell  
**Cc:** bandplan@www.arrl.org; William Cross; n3llr@arrl.org; w3tom@arrl.org; Kay Cragie N3KN; wb3fpl@arrl.org  
**Subject:** FCC 06-149 "Omnibus" Amateur Radio Report and Order

FILED/ACCEPTED  
DEC - 7 2006

Reference:

WT Docket No. 04-140, also known as "FCC Omnibus Amateur Radio Report and Order";

FCC 06-149 (66460 Federal Register / Vol. 71, No. 220 / Wednesday, November 15, 2006 / Rules and Regulations)

Dear Chairman Martin, Commissioner Copps, Commissioner Adelstein, Commissioner Tate, and Commissioner McDowell,

I call your attention to a situation that has specific impact upon many public and private agencies and their ability to communicate in emergencies, and to the individuals of the amateur radio service. I urge your prompt action to correct it.

Among other changes to the FCC rules governing the amateur radio service, the referenced rules change the definitions of "data" emissions permissible for use on the amateur radio bands. In making the change, the FCC has made illegal a handful of popular data transmission protocols that have high importance in emergency communications, and which have served an important role in amateur radio communications. Specifically, it limits the occupied bandwidth of J2D data signals to 500Hz. This makes illegal the J2D emissions of the Factor 3 protocol (at 2400Hz bandwidth), Olivia, 1200-baud packet, Q15X25, MT63 and Clover 2000.

The impact is horrific. One example, the Factor 3 protocol currently carries more radio email volume than all other means of data transmission in all of amateur radio, combined. It is supported by the Winlink 2000 system which has provided essential communications in countless disasters, finding missing and distressed vessels at sea for the US Coast Guard, and daily communications of weather and safety information for over 8,000 vessels at sea. Amateur radio operators use the Factor 3 protocol and Winlink to provide radio email, the last-option solution to emergency communications, and are directly supported by emergency management agencies across the nation. Their investments in Factor 3 equipment are made worthless.

Regarding Winlink and Factor 3, one can only imagine the tragic consequences of learning the valuable lessons of Katrina only to eliminate the very system and resource values cited in the report ("A Failure of Initiative", <http://katrina.house.gov>) that contributed to saving lives. A mass casualty event that would follow without this capability would be difficult to explain in the next congressional investigation.

I personally rely on Factor 3 and Winlink to supply communications as a volunteer for the International Health Service. It provides clinics across remote regions of Honduras, provides healthcare to thousands of indigenous people and regularly saves lives. Radio email using Factor 3 is the main means of communications for logistics and medical consultations among twelve remote teams and stateside medical resources. If US gateway stations are limited by this FCC action, this means of efficient communications will be lost to us, with unthinkable impact.

Further, the FCC action contradicts the basis and purpose of the Amateur Radio Service. The ability of the Service to support several principles given for its existence in FCC part 97 are directly limited. Specifically, the ability to provide emergency communications, contribute to the advancement of the radio art, and provide advancing skills in both the communications and technical phases of the art are attacked and lessened significantly. Most of today's technical achievements are digital in nature. (See

FCC Part 97.1(a), (b) and (c)).

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With all urgency, please press for an immediate correction. The regulations take effect on December 15th of this year. Delays will severely affect our public safety and the welfare of many private citizens.

Thank you.

Loring Kutchins  
Amateur Radio Station W3QA

CC: Senator Arlen Specter  
Senator Rick Santorum  
Congressman Jim Gerlach

Background:

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The published R&O limits data and image transmissions to a 500 Hz bandwidth, which drastically limits the data rates that can be supported. That, in turn, requires a transmission to be many times longer to pass the same information - thus occupying a frequency for a much longer time, and preventing other messages from being passed. The modems / protocols that are impacted by the omission are also narrowband, as they use only a portion of a single voice channel (2.8 kHz or 3.0 kHz). In the widest case, they occupy a 2400 Hz (2.4 kHz) bandwidth.

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operators to advance the state of the art. The number of amateur radio operators who have responded to every disaster since the establishment of the service is a testament to the viability of the resource. The fact that amateur radio operators have shown the ability to establish and maintain functioning communications when the commercial services fail is a testament to the training, skills, and experience of the operators.

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04-140

**Sandralyn Bailey**

**From:** Alan Isaachsen [kb2wf@yahoo.com]  
**Sent:** Monday, November 20, 2006 2:58 PM  
**To:** KJMWEB; Michael Copps; Jonathan Adelstein; dtayloratateweb; Robert [redacted]  
**Cc:** bandplan@arrl.org; Coy Day; kb2wf@yahoo.com  
**Subject:** Urgent assistance requested regarding WT Docket 04-140

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DEC - 7 2006

**Urgent assistance requested regarding WT Docket 04-140 (FCC 06-149) of Nov 15, 2006** Federal Communications Commission  
Office of the Secretary

A last minute change has inadvertently eliminated the use of the Pactor 3 data transmission protocol (J2D), because this protocol has a bandwidth of 2400Hz. **It is essential that the FCC rules state specifically that protocol J2D is permitted on all Amateur Radio Service bands below 30MHz.**

The effected FCC rules are 47 CFR Parts 1, 2, and 97 in the Report and Order [WT Docket No. 04-140; FCC 06-149] (66460 Federal Register / Vol. 71, No. 220/ Wednesday, November 15, 2006 / Rules and Regulations). ([http://hraunfoss.fcc.gov/edocs\\_public/attachmatch/FCC-06-149A1.pdf](http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-149A1.pdf)).

This change affects the data emission segment of the amateur bands so as to restrict this area to emissions of a bandwidth of 500Hz or less. This has dire consequences on the ability of Amateur Radio to assist the Dept of Homeland Security and other agencies during emergencies

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04-140

**Sandralyn Bailey**

**From:** Don Felgenhauer [K7BFL@earthlink.net]  
**Sent:** Monday, November 20, 2006 1:50 PM  
**To:** "FCC Commissioners"  
**Cc:** FCC Staff - Bill Cross  
**Subject:** FCC "Omnibus" Amateur Radio R&O, WT Docket 04-140 (FCC 06-149)

**FILED/ACCEPTED**  
**DEC - 7 2006**  
Federal Communications Commission  
Office of the Secretary

Dear Commissioners:

Following is a "email" I sent yesterday evening to Representative Cathy McMorris (and others) regarding the referenced Subject. Thank you for your attention, interest, and hopefully a favorable resolution.

Don Felgenhauer

-----

Subject: FCC "Omnibus" Amateur Radio R&O, WT Docket 04-140 (FCC 06-149)

Dear Ms McMorris:

I am an amateur radio operator, living in Spokane. My interest and expertise includes support for 3rd party message handling services, using voice, morse code and computer "digital" techniques. I actively support "emergency communications" for local and state government agencies, including the Department of Homeland Security. I have been appointed "Section Traffic Manager" for Eastern Washington, by the American Radio Relay League (ARRL).

Several months ago the FCC solicited comments from a Draft version of the R&O. The draft was silent on a number of issues, including those involving "Pactor 3".

Pactor 3 is a state-of-the-art communications mode which enables us, using a computer, to send and receive emails via high frequency (HF) radio, both for internal ham radio use, and for support of public and government agencies during "emergency" conditions, such as hurricanes, floods, terrorist attacks, etc. The throughput of Pactor 3 is about 5 times as much as the next best available alternative. The use of Pactor 3 has, in the past, been encouraged by the FCC. Homeland Security grants have been used by state and local government agencies, including Lincoln County, to acquire equipment which uses Pactor 3.

The R&O released October 10 was silent regarding Pactor 3. Comments were submitted by the ARRL and others regarding the omission. We were told that the FCC staff had "inadvertently" committed an error.

The R&O of November 15 specifically excludes the use of Pactor 3 in the HF amateur radio bands! The FCC staff again explains that this was due to a semantics error.

Effective December 15 I and other amateur radio operators in the USA will not be allowed to use Pactor 3 to send and receive emails via radio in the HF radio bands. We cannot use this method to support the public and government agencies during communications overloads and outages. Lincoln County amateur radio operators will not be allowed to use the county owned equipment purchased with government grants. The use of Pactor 3 will be denied to thousands of USA amateur radio operators on vessels at Sea, now using Pactor 3 as their primary digital messaging method, including weather and safety relating messages.

Apparently portions of the FCC staff need to hone their language skills. Apparently there is no interaction with persons "outside" the FCC staff to proof-read the Orders from an applied technical standpoint, prior to being officially published.

In closing, it would be very much appreciated if your office could do whatever is possible to:

- 1. Enable USA amateur radio operators to continue the use of Pactor 3 on December 15, 2006.

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2. Decrease the "error rate" of future FCC Orders.

Thank you.

Don Felgenhauer  
509-926-2703

cc: Dave Byrnes, DHS, Washington State, District 9  
Senator Patty Murray  
Senator Maria Cantwell  
American Radio Relay League  
Gordon Grove, WA7LNC, Eastern Washington Emergency Coordinator  
Dale Lathrop, WB7QMD, Lincoln County Emergency Coordinator  
Steve Waterman, K4CJX, Winlink 2000 Administrator  
Jim Fenstermaker, K9JF, ARRL Northwestern Division Director  
Mark Tharp, KB7HDX, ARRL Eastern Washington Section Manager

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Federal Communications Commission  
Office of the Secretary**Sandra Lyn Bailey**

**From:** AylwardJim@aol.com  
**Sent:** Monday, November 20, 2006 11:34 AM  
**To:** KJMWEB; Michael Cops; Jonathan Adelstein; dtaylorataweb; Robert McDowell  
**Subject:** FCC Omnibus R&O, Amateur radio rule changes

Commissioner:

These changes are set to go into effect December 15th, 2006, and can have serious detrimental consequences for amateur radio operators providing disaster relief emergency communications.

The changes in bandwidth and symbols will preclude U.S. amateurs from being able to use Pactor 3, Clover, or similar digital modes and will be a major setback to emergency communications support.

WinLink 2000 using Pactor 3 on HF, as an example, is the single success story for served agencies in quite some time. A correction to the rule change is essential to ensure that Pactor 3 and similar modes are not removed from the U.S. amateurs tool box. You can learn more about WinLink 2000 at [www.winlink.org](http://www.winlink.org).

The critical utility of WinLink 2000 in post-Katrina relief efforts received much recognition and the Military Affiliate Radio System (MARS) has adopted WinLink 2000 for its data communications on HF.

Please ensure this so-called more than 500 KHZ, "oversight", does not become a matter of law. Please take the immediate necessary steps to ensure Pactor 3 and other such advances in amateur radio continue to be a front runner in EmComm and homeland security support.

Thank you.

James Aylward, KC8PD

**SandraLyn Bailey**

FILED/ACCEPTED

04-140

DEC - 7 2006

Federal Communications Commission  
Office of the Secretary

**From:** hazardd@ucc.org  
**Sent:** Monday, November 20, 2006 11:22 AM  
**To:** Robert McDowell  
**Subject:** Re: Proceeding 06-121 (Media Ownership)

Commissioner Robert McDowell  
445 12th Street, SW  
Washington, DC 20554

Dear Commissioner McDowell,

As a supporter of the United Church of Christ's media advocacy efforts, I write to encourage you to stop large media companies from getting even bigger.

UCC has been active in promoting broadcaster's accountability to the public since the 1960s. But many of the gains of the 1960s are being lost because the FCC has allowed media companies to become too large, and to become unmoored from their local community.

The question of who owns the media is a question of justice. It is essential that the individuals owning media companies reflect the broad array of people in this country. If some viewpoints and stories are excluded from the media landscape, we are all poorer as a result. Our democracy requires the free flow of information from a broad range of diverse voices.

The question of who owns the media is a question of civic accountability. As someone who is active in my community, I am often dismayed at the scant coverage given to local political matters. School board decisions and city or town council decisions are rarely the topic of broadcast news. Yet, each year all citizens are asked to cast votes to select these local leaders. How can local elected officials represent their constituencies when citizens are inadequately informed by our media.

The question of who owns the media is a question of social responsibility. For example, children are often served poorly by the current media system. UCC has recently been instrumental in ensuring that a minimum of protection will be accorded to children who watch broadcast television. But more protection is needed. And studies show that a more consolidated media market serves children less well than a more diverse market.

As a person of faith, I take a strong interest in the world around me. I believe our media should serve our societal goals of justice, fairness, and community. I strongly urge you to hold the line on media consolidation and ensure that justice, fairness, and community are the centerpiece of communication policy at the FCC.

Sincerely,  
Daniel Hazard

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Sandralyn Bailey

From: Larry Randall [Larry@NREGroup.net]  
Sent: Sunday, November 19, 2006 9:29 PM  
To: Robert McDowell; dtayloratateweb; Jonathan Adelstein; Michael Jones; KIMWEB  
Cc: bandplan@www.arri.org  
Subject: ERROR: FCC-06-149, page 12, paragraph 19

FILED/ACCEPTED

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Federal Communications Commission  
Office of the Secretary

Request for Correction:

**FCC-06-149 "OMNIBUS REPORT AND ORDER"**

**Extreme negative impacts upon Emergency Communications capabilities caused by difference between adopted Report and Order and the Report and Order as published in the Federal Register.**

**Background**

Prior to issuance of the final Report and Order (R&O), the FCC stated in the preliminary R&O that all currently authorized data modes would be permitted. FCC-06-149, page 12, paragraph 19 (adopted October 4, 2006, released October 10, 2006) states: "ARRL also requests that we not impose a 500 Hz bandwidth limitation in the definition of data emissions, arguing that this limitation would have unintended consequences because the limitation also applies to amateur service bands in which a higher symbol rate or bandwidth is permitted.[87] We understand ARRL's concern, but we note that eliminating or relaxing the bandwidth limitation would de facto eliminate the separation of narrow bandwidth and wide bandwidth emissions.[88] We believe that separation of emission types by bandwidth is accepted in the amateur service as a reasonable means to minimize interference on shared frequencies and bands [89] and, therefore, we will not replace the 500 Hz bandwidth limitation with a 3 kHz bandwidth limitation. **To accommodate the concern raised by ARRL, however, we will revise our rules to clarify that the 500 Hz limitation applies only to the emission types we are adding to the definition of data when transmitted on amateur service frequencies below 30 MHz. By amending the rule in this manner, the 500 bandwidth limitation will not apply to other data emission types or amateur service bands in which a higher symbol rate or bandwidth currently is permitted.[90]** " (Emphasis added)

**When the R&O was published in the Federal Register, this critical language had mysteriously disappeared.** The impacts of this omission affect not only hundreds of amateurs who have purchased now unusable modems (at a cost exceeding \$1,000.00 each) from their own pockets, but also hundreds of government and non-government organizations who have designed critical Emergency Management Communications (EMCOMM) Plans around the use of these modems.

High Frequency (HF) radio is a vital EMCOMM resource. As I traveled to Bogolusa, Louisiana from the Dallas (TX) area, I maintained HF communications from my car with

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Disaster Response and EMCOMM stations in Dallas, Baton Rouge, New Orleans, Gulfport, and a host of other cities and towns within a 400 mile radius of my vehicle. Several helicopter rescues were coordinated on our HF net with the Coast Guard, who were active on our net.

When my team arrived in Bogalusa, we established the first contact with the outside world – and with the state EOC – using amateur radio HF, VHF, and UHF communications. We remained the only communications link until 10 September, 2005, when partial telephone service was restored. Every piece of equipment, resource, and food for a town of 5000 people was requested over our communications facilities for over one week. We also handled intercommunication with the parish EOC and surrounding counties.

Our team brought a trailer with a low bit-rate satellite link, but many other sites had only one or two amateur radio operators with an HF radio and HF modem. They were able to provide significant volumes of communications to local government, NGO, and FEMA. The modems they used to provide these communications will be illegal because of the omission of the critical language.

These modems, which are similar to MIL-STD-188-110A modems in function, offer fast HF data and e-mail at around 3200 bit/second. In point of fact, they can directly connect (and have connected) government agencies with vital government and non-government resources – whether across the state, or across the country – when all landline, internet, and cellular services are down. **This support comes at essentially ZERO cost to the served agency(ies). In most cases, the entire cost is born by the trained and dedicated amateur radio operators.**

The published R&O limits data and image transmissions to a 500 Hz bandwidth, which drastically limits the data rates that can be supported. (See technical discussion.) That, in turn, requires a transmission to be many times longer to pass the same information – thus occupying a frequency for a much longer time, and preventing other messages from being passed. The modems / protocols that are impacted by the omission are also narrowband, as they use only a portion of a single voice channel (2.8 kHz or 3.0 kHz). In the widest case, they occupy a 2400 Hz (2.4 kHz) bandwidth.

**Essentially, amateur radio is being denied the ability to advance the state of a vital portion of the radio art and the ability to perform vital emergency and/or disaster communications.** Both of these are critical reasons (see Part 97, FCC Rules) for the establishment of the service. The availability of a modem **designed by an amateur radio operator** that provides near MIL-STD-188-110A performance for less than \$1100.00 (versus about \$20,000 for the MIL-STD modem) is a testament to the ability of amateur radio operators to advance the state of the art. The number of amateur radio operators who have responded to every disaster since the establishment of the service is a testament to the viability of the resource. The fact that amateur radio operators have shown the ability to establish and maintain functioning communications when the “professional” cannot is a testament to the training, skills, and experience of the operators.

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## Technical Discussion

The required bandwidth for an FSK signal is equal to the baud rate + the separation between the tones.

The lower limit is defined as  $\{ Fc0 - (\text{Baud rate} / 2) \}$

The upper limit is defined as  $\{ Fc1 + (\text{Baud rate} / 2) \}$

For a 300 Baud (= 300 bps for FSK) modulation on ANY tone frequency pair, the bandwidth is 300 Hz plus the separation. For an SSB transmitter operating at 14.000 MHz on USB and phase-contiguously FSK modulated using the optimum separation (separation = Baud rate) with 900 and 1200 Hz tones, the lower limit of the signal is  $\{ 900 - (300/2) \} = 14,000,750$  Hz. The upper limit of the signal is  $\{ 1200 + (300/2) \} = 14,001,350$  Hz. The occupied bandwidth is  $14,001,350 - 14,000,750 = 600$  Hz.

For an SSB transmitter operating at 14.000 MHz on USB and phase-contiguously FSK modulated using the NON-optimum separation (separation NOT EQUAL to a multiple of the Baud rate) with 2100 and 2300 Hz tones, the lower limit of the signal is  $\{ 2100 - (300/2) \} = 14,001,950$  Hz. The upper limit of the signal is  $\{ 2300 + (300/2) \} = 14,002,450$  Hz. The occupied bandwidth is  $14,002,450 - 14,001,950 = 500$  Hz.

300 Baud on HF is a fools errand. The decision time is too short to permit accurate detection in a multipath environment. 75 Baud to 150 Baud are much more reliable, PROVIDED that the tone frequencies are sufficiently separated that in-band diversity is effective.

The good choices for tone separation for 300 Baud in a noisy environment are 150 Hz (for Minimum Shift Keying), 300 Hz, 600 Hz, and 900 Hz. The best choices for maximum effectiveness of in-band diversity are 600 Hz or 900 Hz shifts, though 300 Hz works reasonably well. **Note that ALL of these shifts except MSK exceed the 500 Hz occupied bandwidth limit ! This constrains us to slow baud rates with narrow shifts, and sacrifices effective in-band diversity. This sacrifices some easy real-time error detection/correction, causing repeats and even longer time on the air.**

The general problem with 300 Baud on HF is that the symbol period ( $1000 \text{ mS} / 300 \text{ Baud} = 3.33333 \text{ mS}$ ) is very short -- especially in multipath environments. The difference in arrival times between a single-hop and a multi-hop signal can be (and typically is) equal to or greater than the symbol period. When that is combined with selective enhancement of the multi-hop signal, it is possible to miss an entire symbol.

HF modems are designed with 75 and 100 Baud signaling rates to ensure that their symbol period exceeds the multipath differential delay (i.e., the delay between the time of arrival of the signal with the least number of hops -- and the time of arrival of the longest delayed signal, which is the signal with the greatest number of hops).

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**There is no technical reason that justifies the 500 Hz limitation.** There are a multitude of technical reasons that the limit for at least some forms of HF data should be the width of a single voice channel. There is a clear moral reason (i.e., do what you clearly said that you would do) why the original language should be restored.

Respectfully,

James L. "Larry" Randall

WA5BEN

Former holder of FCC First Class Radiotelephone, current lifetime GROL holder

(I am also the creator of the HF modem protocol concept that became known as G-TOR, and designer of an HF Tactical modem that fits in the pocket of fatigue pants. This modem is used by U.S. and other forces.)

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**Sandralyn Bailey**

**From:** Nettles, Mike [Mike.Nettles@adem.state.ar.us]  
**Sent:** Sunday, November 19, 2006 6:35 PM  
**To:** KJMWEB; Michael Copps; Jonathan Adelstein; dtaylorateweb@fcc.gov; Robert McDowell  
**Cc:** Nettles, Mike  
**Subject:** WT Docket 04-140 (FCC 06-149)

FILED/ACCEPTED

DEC - 7 2006

Federal Communications Commission  
Office of the Secretary

Set to go into effect December 15th, 2006

Please do not let this mistake become law.

The changes in bandwidth and symbols that make U.S. amateurs no longer to use Pactor 3, Clover, or other type digital modes, will be a major setback in emergency communications support.

WinLink 2000 with Pactor 3, as an example, is the single success story for the served agency in quite some time. At this writing we have Winlink with Pactor 3 in our State RACES Communications room as well as plans for another setup in our mobile command post. There are also plans for Pactor 3 to be used by the Arkansas Health Department. I urge a correction to ensure Pactor 3, and such modes are not removed from the U.S. amateurs tool box. ([www.winlink.org](http://www.winlink.org)) If these modes are made illegal, it will take longer to pass the same ammount of emergency traffic when we could use Pactor 3 and use the HF spectrum more efficiently.

Please ensure this so-called more than 500 KHZ, "oversight", does not become a matter of law. Please ensure Pactor 3 and other such advances in amateur radio continue to be a front runner in EmComm and Homeland support.

Thank you.

Mike Nettles KB5WBH  
Ar State RACES Officer  
Arkansas Department of Emergency Management