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VHF UHF MW NEWSLETTER

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Europe, Africa and part of Asia.
Founded 1950

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New edition of the Region 1 VHF Managers Handbook

Edition 4.2 from the VHF Managers Handbook can be copied from the diskette you find in this envelope (or attached to a next e-mail for those who receive this electronically). Please distribute the Handbook in your member society. It appears that too many VHF Managers keep it as a personal secret. The Region 1 EC, therefore, decided that the Handbook shall be distributed to the secretariats of the member organizations as well.

There are two versions : One has been made up using WP8 and then exported into WP51 (in order to allow pure dos-machines), the other is the MSWord6 version. Although a lot of work went into the conversion, the best printed copy probably will result when printing from the WP version.

Final version C5 minutes

Although the Region 1 Office will distribute the minutes soon, I already got some requests for the final version. It is, therefore, attached to the e-mail distribution.

The ISS Uplink QRG discussion

The discussion at the Lillehammer

conference did not result in a conclusion which makes anybody happy. Since a lot of e-mail has been exchanged on the subject. I think it worthwhile to share the information with you and have copied

the 7 most important mails chronologically (starting with the oldest) below.

1) Dr OM Wil,

Some months have been passed since you wrote me the informative mail on the (im)possibilities for the choice of RX frequencies in the ARISSS project. Your mail has been published in the July edition of the VHF Newsletter of IARU Region 1 .

At the IARU Region 1 conference in Norway last week we, again, had a heated discussion about the matter. Hans, ZS5AKV, told the committee that in fact all our work since 1995 had been in vain, as AMSAT US had chosen the RX frequencies and no other were (therefore?) possible. This created a lot of frustration with the delegates culminating in the unanimous (except South Africa) decision not to allow any frequency in the 144.4-144.5 MHz segment (the current beacon band) to be used for ARISS uplink. This implies switching off the RX when "seeing" Europe.

Well in practice the situation is less bad in Region 1 outside Europe as there almost no beacons are operational, but in Europe many beacons run, even with the highest powered ones at 144.48 and 144.49 thus blocking any reception on ARISS and if not then creating a lot of "battle" with those stations using NBFM in the weak-signal part of the 145 MHz band. I do not know what will happen in the future, but the current dead-lock is not good for inter-regional cooperation.

In 1995 we in Region 1 set aside the 145.2/145.8 pair for (then) MIR communications, advised by the (then) IARU Satellite advisor ON6UG. But if it is really true that since we have been kept in the dark until last week about what was possible and not possible, I have the feeling that any interregional coordination (except, of course in the 145.8/146 and 435/438 MHz segments which still are free from terrestrial activities) will be (psychologically) very difficult.

But there still might be a chance that your e-mail has been wrongly interpreted by ZS5AKV and that there still are some possibilities.

Although not discussed and against the IARU Region 1 position to keep channelised NBFM out of the 144.0-144.8 Mhz, a temporary solution could be (this is at the moment only my personal observation) to arrange for an additional uplink somewhere between 144.506 and 144.525 MHz if the proposal from our 1998 Vienna meeting has no merit.

I am very interested to hear some of your ideas about all this.

73 de Arie, PAoEZ
Chairman IARU Region 1 VHF/UHF/MW Committee

2). Van: Will Marchant <kc6rol@amsat.org>
Aan: Arie Dogterom <pa0ez@amsat.org>
CC: John Fielding <johnf@futurenet.co.za>; Bauer, Frank <ka3hdo@amsat.org>; John & Karen Nickel

<wd5eev@horizon.hit.net>
Datum: woensdag 29 september 1999 21:52
Onderwerp: Re: uplink frequencies

Thanks for the information, Arie. I'm very sorry if anything I've said has caused heartache for the international community! We have always strived to involve the international ham community in human spaceflight operations.

The 145.200 uplink/ 145.800 downlink is already programmed into the ARISS radio. If that frequency pair works for all the Regions then I don't see any problem in using it.

73, Will

Arie Dogterom wrote:

Wil,

I am very happy about the 145.2/.8 pair. ZS5AKV has NEVER told us that this was possible and said only the frequencies between 144.4 and 144.5 could be used.

Pity that we were not aware. In fact the only problem will be that in Europe we have to get mobile users from the 145.2 simplex frequency they use but that might be not too difficult.

Well it appears anyhow that some lack of communications is/was present.

I will soon inform the Region 1 VHF Community
73,Arie

3). Aan: Arie Dogterom <pa0ez@amsat.org>
CC: PA0SON <pa0son@amsat.org>; John & Karen Nickel <wd5eev@horizon.hit.net>; Bauer, Frank <ka3hdo@amsat.org>; John Fielding <johnf@futurenet.co.za>
Datum: woensdag 29 september 1999 23:58
Onderwerp: Re: uplink frequencies

I'd like you to email with Frank, KA3HDO, about that frequency pair,Arie. It is in the radio, yes, but I don't know if there are any implications to Region 2 and 3 for that particular pair. Frank understands that much more than I do. Frank has been spending a lot of his volunteer time trying to coordinate frequencies that will make everyone happy. We are committed to reaching compromise in the international community.
73, Will

4).Van: Arie Dogterom <pa0ez@amsat.org>
Aan: Will Marchant <kc6rol@amsat.org>
CC: PA0SON <pa0son@amsat.org>; John & Karen Nickel <wd5eev@horizon.hit.net>; Bauer, Frank <ka3hdo@amsat.org>; John Fielding <johnf@futurenet.co.za>
Onderwerp: Re: uplink frequencies
Datum: donderdag 30 september 1999 23:35

Wil,

In parts of region 2 uplinking on 145.2 MHz might be a problem. In Region 1 no problem. In fact that freq pair is part of the R1 bandplan (note p) for manned space NBFM. Region 3 as a region has a very rudimentary plan. I never could get hold of the JA plan. Anyhow over Region 1 it will be the best/only solution. Probably operators in the ISS might have to use a switch h.i.

73

Arie, PAoEZ

5). Aan: Frank H. Bauer <abfhh@abacus.gsfc.nasa.gov>; John@ibm.net <John@ibm.net>; Fielding@ibm.net <Fielding@ibm.net>
CC: Will Marchant <kc6rol@amsat.org>; Ray Soifer <71331.1337@compuserve.com>; Arie Dogterom <pa0ez@amsat.org>
Onderwerp: IARU FORUM
Datum: donderdag 30 September 1999 6:38

Dear Frank

You may have seen the reply from Wil . I am upset that I was never informed that 145.200 was a possibility. It was never discussed in any of the meetings or in the documentation or correspondence I shared with you and Wil. It would have saved a lot of ill feelings and disputes

It now makes me look stupid holding out at the IARU meeting for 144,490!

If indeed 145,200 is available as an uplink can we please discuss this and make a statement next Friday and officially inform IARU Region 1 of the possibility/ARISS Board decision.

73

Hans

6) Arie,

I have been out of town several days and I see there has been a lot of discussion on ISS frequencies as well as the recent IARU meeting. Let me take this opportunity to try to set the record straight on this subject.

First, I appreciate my friend Will Marchant's e-mails to John and you regarding ISS frequencies. Will is my SAREX operations manager. As the operations manager, he is well aware of the problems we have had regarding frequencies for Shuttle, Mir and ISS. He also knows that I have put a lot of effort in understanding the worldwide frequency bandplan and how to best utilize the crowded 2 meter band in the human spaceflight environment. I think that Will would agree with me when I say that Will Marchant is not an expert on international frequency matters. I understand that he provided each of you some preliminary information regarding the paper I wrote to the APRS community on the human spaceflight frequency problem. This paper significantly helped me in the difficult, but successful task of clearing APRS off 145.79 in the U.S. to make 145.80 available for use internationally as a downlink for ISS, Shuttle and Mir. However, some of the statements made by Will regarding ISS uplinks were probably very confusing to you and not totally correct. I will try to clear this up.

As I described in the APRS paper, it is important to understand that in Space you can span several IARU regions at the same time. Also, the astronauts and cosmonauts have clearly demonstrated that if they need to constantly switch frequencies, they will not operate the radio. Therefore, it is imperative that we find a common, worldwide uplink frequency for ISS--not several uplinks that change when you traverse from one region to another. I have stated this to you many times. Because of this, 145.20 will NOT work as an uplink. Ray Soifer and I have repeatedly stated that there are hundreds of repeaters in Region 2 on 145.19, 145.20 & 145.21. This frequency will also be difficult as an uplink in Region 1 because there are many people using this frequency in a coordinated fashion (Raynet for example). The only uplink frequency available is the compromise that I have repeatedly described--144.49. Without it, ISS and ground-based operators will definitely have interference problems.

It is true that the frequency pair 145.20/145.80 are in the ISS radio. However, there are 63 other frequency pairs in this radio---many of these cannot be used in several regions of the world. They were installed to keep our options flexible. We may have some opportunities to use this frequency pair for a future Europe-only DXpedition. I must reiterate, however, that if we ask the orbiting crew to switch between this frequency pair and several others during a 15-90 minute period, they will shut off the radio. The amateur radio community then loses a tremendous

opportunity on ISS. They also lose a tremendous opportunity to reach school students and excite them about amateur radio.

It is quite unfortunate that the IARU meeting did not agree to the continued use of 144.49 on Shuttle, Mir and ISS. I must say that I cannot guarantee that the orbiting crew will not use this uplink over Europe. With ISS flying over several Regions of the world at the same time, some European hams may be tempted in uplinking on 144.49 if the radio is active on this frequency while hams in neighboring Asia are working the bird. This decision will definitely hurt the ability for people in Region 1 to

talk to ISS. Also, past experience on Mir and Shuttle has shown that these crews do not consistently frequency hop to meet the IARU bandplans. I had hoped that the 144.49 uplink would be the best compromise for all around the world. Now I am very concerned about potential future interference. I wish the Region 1 team could have compromised with those in the U.S. on

this frequency issue After all, the U.S. amateur community worked hard to compromise with Region 1 and to move APRS away from 145.80. I, personally, am disappointed that a compromise could not be reached. I am sure that the world could live without one beacon frequency on 2 meters or a better use of our crowded 2 meter band through some beacon frequency sharing.

I hope this clears up the confusion that was raised. Is there any way this decision could be reversed?

73, Frank Bauer, KA3HDO

AMSAT-NA V.P. for Human Spaceflight Programs
-----7).

Dr OM Frank,

Your message confuses the issue again for us. In fact we in Region 1 have got (asked for) the relevant information through

ZS5AKV, the IARU worldwide Satellite Advisor. He thought and brought that message to the Region 1 meetings that the only RX frequencies allowed by NASA (!) in the ISS were those in the 144.4/5 MHz segment. Region 1 had, therefore, to accept those. This implied that all efforts at our side appeared to have been in vain. That gave some frustration and finally resulted in the very explicit decision in Lillehammer last week NOT to extend the relevant 144.49 footnote. You refer to messages you might have send to me earlier. Sorry, but I must have missed some. In fact Wil Marchant indicated me to a paper you presented

in 1997 on a.o. the frequency issue. Here the 145.2/.8 pair was even mentioned.

Your statement that the "amateur" operators in the ISS are not willing to use a very basic tuning knob is new for us here and I suppose the VHF Managers in the Region 1 VHF/UHF/Microwaves committee might have difficulties in understanding that.

In the beginning of the 90ties ON6UG, then our Satellite coordinator, initiated the project to clear the then called R8 repeater channel for "space" use. A very large number of repeaters finally moved and in 1995 Region 1 made that former R8 pair available for manned space applications (note p in the 145 MHz Region 1 bandplan). Since we are not aware of any further discussion on the matter. MIR has used those frequencies as far as I am aware. In 1996 ZS5AKV gave a presentation in which he tried to get the 144.49 Mhz channel in addition into our bandplan. Although it then was not a formal conference proposal, the conference accepted it for a limited time. A written text was presented by Hans to the Vienna meeting in february 1998 of the Region 1 committee. The result of a lengthy debate was a rather long answer (with questions) letter to ZS5AKV of which you might be aware (If not I mail you a copy).

All time nobody has been able to enlighten us here about the problemn with the uplink QRG other than the recent statement : NASA does not allow anything else without a complete re-approval of the equipment.

You may understand that we are quite astonished learning that reception on 145.2 is possible; and more astonished (but thats me, for the VHF/UHF/MW Committee does not yet know) that the problem is (not) using a tuning switch.

I do not think your statement that the ARISS operators cannot/will not switch to 145.20 when over Region 1 (or even Region 3) is very helpful in creating understanding for the ARISS project over here. Between lines I read that AMSAT-NA will advise Region 1 stations to use 144.49. That might create a "battle environment" (NBFM channelised operation in the beacon band)

which in no way can be useful to introduce newcomers to amateur radio. It will be much better that in all Region 1 member societies magazines will be published that (as with MIR) the 145.2/.8 pair will be used. That then could also stimulate active support for the ARISS in Europe, which in the current situation is less likely, 73 Arie

From the information in those e-mails we can conclude that :

there are **no technical obstacles** to the use of the 145.2/145.8 MHz pair, which we already proposed (and made accessible) in 1995.

It will be very important that YOU PUBLISH IN YOUR MAGAZINES the **recommendation to use the 145.2/145.8 MHz pair for communications by amateurs in your country** with the people in the ISS. Using a switch in the receiver should not be a problem for AMATEUR RADIO operators in space.

Coordinators

In Lillehammer we decided that we need a **satellite expert** in our committee. In the 4.2 version of the Handbook his/her T.o.R. are given. Please help me in finding the right person. Preferably this person will be member of a delegation to our meetings as Region 1 cannot pay for the travel costs.

Moreover I have temporarily taken over the duties of **Allocations Coordinator**. We also need a candidate for this function. It is not necessary for him/her to travel, but preferably he/she will be engaged nationally in frequency allocations matters.
Please help !