

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA FEBRUARY 27-28 2010

**Agenda**

**1. Opening by the chairman**

1.1. Check on documentation

**2. Preparing the meeting**

2.1. Introduction of delegates ( proxies shall be mentioned explicitly)

2.2. Setting up ad hoc WG's ( if required)

2.3. Terms of reference

**3. CAVTAT 2008**

3.1. Report of the DAVOS 2008 meeting

3.2. Action points

**4. Report from the chairman**

4.1. List of standing recommendation (C1)

**5. Report from the coordinators**

5.1. Allocations coordinator

5.2. Records coordinator

5.3. Beacon coordinator

5.4. Satellite coordinator

**6. Frequency allocations/international bodies**

ITU Radiocommunication Sector (ITU-R) Overview (K1ZZ)

01

**7. Operational matters** 08

**8. Technical Recommendations** 12

**9. Bandplanning** 02; 03; 04; 05; 06; 07; 19; 20; 21

**10. Contests** 09; 10; 11; 13; 14; 15; 16 ;17;18

**11. Any other matter**

( Please inform the meeting secretary about the items you wish to discuss under this heading before the start of the final C5 meeting)



INTERNATIONAL AMATEUR RADIO UNION

1. Administrative Council
2. Christchurch, New Zealand

17-19 October 2009

**Agenda Reference: 7.2.1**

**Document: AC09-7.2.1-1**

**Date: 10 September 2009**

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**Source: David Sumner, K1ZZ**

## **ITU Radiocommunication Sector (ITU-R) Overview**

As noted in Document AC09-7.1-1, the ITU Radiocommunication Sector (ITU-R) is very important to us.

The **Director of ITU-R** is Valery Timofeev of Russia. He is currently serving his second term and is not eligible for re-election. A new Director will be elected at the 2010 Plenipotentiary Conference. This election is likely to be the item of the greatest interest to the IARU at the Plenipot.

The **Radiocommunication Advisory Group (RAG)** generally meets annually and provides advice to the Director (whether he wants it or not). The IARU participates in the RAG most of the time. While an issue of importance to us does arise occasionally, our attendance is not normally essential but is very helpful in causing the IARU to be regarded as an "insider."

The **Radio Regulations Board (RRB)** is a part-time body of 12 experts elected at the Plenipot. The Board's responsibilities do not typically concern us, as they most frequently involve resolving conflicts between administrations regarding frequency assignments. Currently there are two radio amateurs on the RRB: Bob Jones, VE7RWJ and Julie Zoller, KJ4EMJ. Incidentally, Bob's service on the RRB does not preclude him from serving the IARU in a consulting capacity.

**World Radiocommunication Conferences (WRCs)** fall within the purview of ITU-R. Another meeting of great importance is the **Radiocommunication Assembly (RA)**, generally held immediately prior to a WRC and in the same location. The work of the ITU-R **Study Groups (SGs)** is conducted within cycles that are delineated by the RAs. The RA has the authority to create, redefine and even to abolish SGs. Working Parties (WPs) are established by each SG to organize its work. An effort is made to group similar services or technologies in the same WP, and also to balance the workload between the WPs. In addition to their WRC preparatory function, described below, the WPs prepare Reports and Recommendations in response to Questions assigned to their SG by the RA. The process is contribution-driven; if there is no activity in response to a Question over two cycles, the Question will be deleted by the next RA.

WRC preparations within ITU-R generally follow this pattern:

**First Conference Preparatory Meeting (CPM-1)** for next WRC, held immediately following the previous WRC. CPM-1 develops the work plan for WRC preparation by the Working Parties and the organization of the chapters of the CPM Report that will provide the technical basis for the consideration of agenda items at the WRC.

**WP meetings** to prepare draft text for the assigned sections of the CPM Report. Each WP will meet approximately twice a year while it is working on CPM Report text. CPM-1 identifies a “responsible group” (typically but not exclusively a WP) for each agenda item or sub-item and also identifies “concerned groups” whose interests may stand to be affected and from whom input should be invited. Sometimes the work on an issue overlaps more than one WP to such an extent that a Joint Task Group may be set up to deal with the specific issue. Work also may be progressed by email Correspondence Groups between in-person meetings

The IARU is fortunate to have, in addition to its officers, regional executive committee members and International Secretariat staff, a team of volunteers who are well qualified to represent the IARU at WP and other ITU meetings.

Appropriate regulatory/procedural studies on relevant agenda items are carried out by a **Special Committee on Regulatory/Procedural matters (SC)** on the basis of proposals from the membership of ITU and the relevant ITU-R Study Groups.

The “real” **Conference Preparatory Meeting** occurs approximately eight months prior to the WRC. About 1,000 delegates spend two weeks haggling over every comma in a 500+ page draft report. For a WRC proposal to stand a reasonable chance of adoption, it is necessary (but not sufficient) for the proposal to be one of the options identified in the CPM Report. The options in the CPM Report are not proposals in and of themselves, and they do not become proposals until an administration or regional telecommunications organization (RTO) (on behalf of a group of administrations) submits them as proposals for the WRC.

Speaking of RTOs, each one holds WRC preparatory meetings of its own with the objective of developing regional proposals and positions on the proposals of others. These are conducted outside the ITU structure but sometimes with ITU involvement if the RTO lacks the resources to conduct the preparations entirely on its own.

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|          |                                                  |
|----------|--------------------------------------------------|
| Document | B01                                              |
| Subject  | <b>Threatening Developments at 2300-2400 MHz</b> |
| Society  | Radio Society of Great Britain                   |
| Contact  | Murray Niman G6JYB, (Microwave Manager)          |
| Status   | Important                                        |

## Background

New developments are starting to occur in Europe in the 2300-2400MHz band. This raises concerns in a band that supports some of the widest technical variety of amateur activity including narrowband, data, ATV, EME etc. This paper expands on an article in IARU-R1 VHF Newsletter-52.

## Detail

At WRC-07 a major item that was agreed for the ITU Radio Regulations, was Article 5, footnote 5.384A:

*'The bands, or portions of the bands, 1710–1885MHz, **2300–2400MHz** and 2500–2690MHz, are identified for use by administrations wishing to implement International Mobile Telecommunications (IMT) in accordance with Resolution 223 (Rev. WRC-07).'*

In Europe the expansion of IMT will be supplemented by:-

|                 |                                                                    |
|-----------------|--------------------------------------------------------------------|
| 790 – 862 MHz   | Released in Europe from Digital TV Switchover                      |
| 3400 – 3600 MHz | To become Primary Mobile Allocation on 17-Nov-2010 in 80 countries |

The 2300-2400MHz band has Primary status for the Mobile Service in all three ITU Regions. Fortunately in Europe it has significant government and other existing uses, so it was originally not made available for IMT. However as it lies in the spectrum 'sweet spot' it is widely targeted elsewhere around the world by the mobile communications industry.

## Recent Developments

In the past year some recent developments have included:-

- In Ireland (where 2500-2690 MHz was not available) Comreg their regulator has instead proposed a unilateral release of the 2300-2400MHz band (via Consultation 09/49). This prompted strong responses from IRTS and the UK Microwave Group, who both lobbied to protect the 2300-2330MHz range in particular.
- The European Telecommunications Standards Institute, ETSI, has its group on Broadband Radio Access Networks ('BRAN') currently drafting a System Reference Document for broadband wireless systems in the frequency range 2300-2400MHz, due for release in the first half of 2010.
- The 3rd Generation Partnership Project (3GPP) is developing standards for UMTS2300.

## Recommendations

It is likely that continuing pressure from commercial interests may lead to further erosion of our position in the band. We also have the disadvantage of Secondary status. Therefore:-

- It is clear that both Societies and IARU need to monitor developments in this band lest this valuable allocation becomes even more problematic than at present. Societies should provide timely updates to IARU VHF and External Relations Committees
- Where opportune and faced with losses in 2300-2400MHz, to request that substitute spectrum at 3400-3410 be made available in line with European Allocation footnote EU17. This was a tactic used in the Comreg consultation and has the advantage that the EU footnotes can give us increased priority
- IARU to consider how ECA Table footnotes can be added/modified to protect this band (particularly around 2320MHz)

## Reminder

Most focus in Europe continues to be on 3400-3600MHz. This currently is a Secondary allocation for the Mobile Service, but Societies are reminded that this will become a Primary one on 17-November-2010. Fortunately for the Amateur Service, military usage and Footnote EU17 provide cover for our European allocation in 3400-3410MHz. However it is important that this allocation be requested and implemented widely at a national level

## Supplementary Info

a) Documents on ComReg0949 (Consultation), 0976s (Submissions) and 0976(Statement) may be found on the Comreg website <http://www.comreg.ie/>

b) Footnotes that support Amateur Activities in the European Allocation Table are:-

- EU9** In a growing number of CEPT countries, parts of the band **70.0-70.5 MHz** is also allocated to the Amateur service on a secondary basis
- EU17** In the sub-bands **3400-3410MHz**, **5660-5670MHz**, **10.36-10.37GHz**, **10.45-10.46GHz** the amateur service operates on a secondary basis. In making assignments to other services, CEPT administrations are requested wherever possible to maintain these sub-bands in such a way as to facilitate the reception of amateur emissions with minimal power flux densities.
- EU23** In the sub-bands **5660-5670 MHz** (earth to space), **5830-5850 MHz** (space to earth) and **10.45-10.50 GHz** the amateur-satellite service additionally operates on a secondary and non interference basis to other services. In making assignments to other services, CEPT administrations are requested wherever possible to maintain these allocations in such a way as to facilitate the reception of amateur emissions with minimal power flux densities.
- EU35** In Europe the band **75.5-76 GHz** is also allocated to the Amateur and Amateur Satellite services.

Source: "THE EUROPEAN TABLE OF FREQUENCY ALLOCATIONS AND UTILISATIONS", ERC Report 25, <http://www.ero.dk/>

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|          |                                                     |
|----------|-----------------------------------------------------|
| Document | B02                                                 |
| Subject  | <b>PROPOSED CHANGE TO THE 50MHz BEACON SUB-BAND</b> |
| Society  | Radio Society of Great Britain                      |
| Contact  | David Butler G4ASR                                  |
| Status   | Proposal                                            |

## BACKGROUND

At the IARU Region 1 Conference, Cavtat, 2008 the French Society REF introduced paper CT08\_C5\_40: Narrow frequency band on the 145MHz band for an automatic reporting beacon network (WSPR).

The meeting was comfortable with the recommendation in the paper but the suggestion was made that it might be helpful to assign frequencies on 50MHz and 70MHz for similar purposes.

The RSGB VHF Manager G4ASR reported back on his investigations into suitable frequencies and recommended the use of 50.400MHz not only for WSPR but as a possible precursor to a later step to move the beacon band up to that area of the 50MHz band.

The recommendation was carried unanimously and the RSGB (G4ASR) was requested to prepare a draft paper for the Interim Meeting, Vienna, 2010 regarding a revised beacon band around 50.400MHz.

## CURRENT SITUATION

The 50MHz band plan shows that Telegraphy (cw) is allocated 50.000 – 50.100MHz.

However the sub-band 50.000 - 50.080MHz is currently allocated to propagation beacons.

This only leaves 20kHz for exclusive cw usage.

The 50MHz band within IARU Region 1 is now very popular and it will prove advantageous to move the current beacon sub-band higher in frequency to provide further additional bandwidth for cw usage.

## PROPOSAL

**That the 50MHz beacon sub-band within IARU Region-1 be moved to 50.400 – 50.500MHz.**

**That the sub-band 50.000 – 50.100MHz be allocated for Telegraphy (Exclusive) usage.**

## NOTE

Other IARU regions may need to be consulted but it is useful to note that the ARRL band plan shows that 50.000-50.100MHz is already allocated to cw usage.  
[http://www.arrl.org/FandES/field/regulations/Hambands\\_color.pdf](http://www.arrl.org/FandES/field/regulations/Hambands_color.pdf)

A 20kHz slot 50.060-50.080MHz is currently allocated to a beacon sub-band.

Furthermore the area 50.300-50.600MHz is allocated to all modes that can include cw usage.  
<http://www.arrl.org/FandES/field/regulations/bandplan.html#6m>

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|          |                                     |
|----------|-------------------------------------|
| Document | B03                                 |
| Subject  | <b>50MHz BAND PLAN – EME USAGE.</b> |
| Society  | Radio Society of Great Britain      |
| Contact  | David Butler G4ASR                  |
| Status   | Proposal                            |

## BACKGROUND

With the introduction of specific MGM transmission modes, such as JT65, Earth-Moon-Earth (EME) operation is now possible with single-Yagi stations.

However there is no specific meeting place within the 50MHz band to conduct these types of contacts.

## CURRENT SITUATION

Frequencies are mutually agreed to in advance to avoid birdies and interference, often around 50.200MHz.

An analysis of three years of DX Cluster spots regarding worldwide EME contacts shows that the majority of contacts are made on or around 50.190MHz.

## PROPOSAL

To add within the Usage column of the 50MHz Band Plan:

50.190MHz: EME (MGM)

## NOTE

A number of digital MGM transmission modes have been specifically written into the band plan that over time have either been superseded or made redundant by newer techniques.

It is therefore better practice to mention within the Usage column **EME (MGM)** rather than specific digital modes.

For further details regarding 50MHz EME see...  
<http://www.bigskyspaces.com/w7gj/JT65checklist.htm>

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|          |                                                          |
|----------|----------------------------------------------------------|
| Document | B04                                                      |
| Subject  | <b>50MHz BAND PLAN – CHANGES TO METEOR SCATTER USAGE</b> |
| Society  | Radio Society of Great Britain                           |
| Contact  | David Butler G4ASR                                       |
| Status   | Proposal                                                 |

### BACKGROUND

The IARU Region-1 50MHz band plan shows Meteor Scatter centre of activity as 50.200MHz.

Furthermore the band plan shows:

50.255MHz: JT44 transmissions,

50.260 – 50.280MHz: FSK441 transmissions with 50.270MHz as the FSK441 calling frequency.

### CURRENT SITUATION

The reality is that meteor scatter operation, typically using JT6M, one of the MGM (Machine Generated Mode) modes is practiced on and around 50.230MHz.

JT44 is now a redundant mode and has never been used on 50.255MHz.

Although FSK441 is a popular mode on the 145MHz band its use within the 50MHz band is particularly low and has never been practiced in the sub-band 50.260 – 50.280MHz.

### NOTE

A number of digital MGM transmission modes have been specifically written into the band plan that over time have either been superseded or made redundant by newer techniques.

It is therefore better practice to mention within the Usage column **Meteor Scatter (MGM)** rather than specific digital modes.

### PROPOSAL

To **delete** within the 50MHz Band Plan –

50.200MHz: MS centre of activity

50.225MHz: JT44

50.260 – 50.280MHz: FSK441

50.270MHz: FSK441 calling frequency

To **introduce** within the 50MHz Band Plan –

50.230: Meteor Scatter (MGM) calling frequency

50.210 – 50.250MHz: Meteor Scatter (MGM)



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|          |                                                   |
|----------|---------------------------------------------------|
| Document | B05                                               |
| Subject  | <b>70MHz BAND PLAN – alternative frequencies.</b> |
| Society  | Radio Society of Great Britain                    |
| Contact  | David Butler G4ASR                                |
| Status   | Proposal                                          |

## BACKGROUND

In 1995 a Detailed Spectrum Investigation (DSI) report was presented to CEPT administrations that included the statement “The DSI Management Team recommend in the context of the European Table of Allocations and in accordance with the foregoing, that a minimum of 100kHz in the band 70-70.45MHz be allocated to the amateur service on a secondary basis according to national considerations, if feasible, centred on 70.2 MHz”.

Furthermore in 2008 a note EU9 was added to the CEPT European Common Allocation (ECA) table “In a growing number of CEPT countries, parts of the band 70.0- 70.5MHz is also allocated to the Amateur Service on a Secondary basis.”

## CURRENT SITUATION

There are now a number of countries (see <http://www.70mhz.org/bands.htm> ) within IARU Region-1 that have permanent allocations in the 70.0-70.5MHz band.

There are also a small number of countries that have temporary allocations within this frequency range.

It is noted however that some stations in Germany have received temporary allocations at frequencies centred on 69.950MHz or 69.995MHz. It is also noted that an amateur station in Belgium has recently requested the use of 69.950MHz.

Although these temporary allocations are to be applauded they do tend to fragment the 70MHz band.

Furthermore it is understood that these stations have been licensed as “Experimental Stations” and not as Amateur Service stations with appropriate call signs.

## PROPOSAL

That Note ( c ) be added to the footnotes of the 70MHz band plan to read as follows:

It is strongly recommended that National Societies request frequencies within the 70.000-70.500MHz band.

However it is recognised that the alternative frequency of 69.950MHz (or 69.995MHz) may be useful as a first step in obtaining a permanent allocation within the IARU Region-1 70MHz band.

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|          |                                                   |
|----------|---------------------------------------------------|
| Document | B06                                               |
| Subject  | <b>1240-1250MHz Update and Bandplan Proposals</b> |
| Society  | Radio Society of Great Britain                    |
| Contact  | Murray Niman G6JYB                                |
| Status   | Proposal                                          |

## Background

At Cavtat, RSGB Paper CT08\_C5\_19 successfully proposed both a 1240MHz reserve band and an outline scheme for the future of 1240-1250MHz under Cavtat CT08\_C5\_Rec27. This is intended to efficiently accommodate a variety of modern, spectrally efficient, digital communications including DATV and Digital Voice (DV) and high speed Digital Data (DD).

Since Cavtat, more detailed planning has been undertaken, leading to some amendments being proposed to the precise DV and DD alignments.

### VHF Managers Handbook

The current edition (v5.40) of the IARU-R1 VHF Managers Handbook has the following for the new 1240-1241MHz reserve section:-

| Frequency MHz        | Maximum Bandwidth | MODE                | USAGE                        |
|----------------------|-------------------|---------------------|------------------------------|
| 1240.000<br>1240.500 | 2700 Hz           | ALL MODE            | (Planned for future)         |
| 1240.500<br>1240.750 | 500Hz             | Telegraphy<br>MGM   | Beacons (Planned for future) |
| 1240.750<br>1241.000 | 12kHz             | FM<br>Digital voice | (Planned for future)         |

A few Societies such as ARI have already adopted this in to their national bandplan.

Meanwhile the current default bandplan in the handbook is:-

|                              |       |          |                                                                                  |                                                                                                                                       |
|------------------------------|-------|----------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| 1240.000<br><br><br>1243.250 | 20kHz | ALL MODE | 1240.000-1241.000<br>1242.025-1242.250<br>1242.275-1242.700<br>1242.725-1243.250 | Digital communications<br>Repeater output, ch. RS1 - RS10<br>Repeater output, ch. RS11 - RS28<br>Packet radio duplex, ch. RS29 - RS50 |
|------------------------------|-------|----------|----------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|

## Key Points

- The current bandplan has no usage notes for the All Mode 1241.000-1242.000MHz section. It is therefore potentially feasible to directly incorporate new proposals in the 1241-1242 MHz range, or alternatively extend the 1240-1241MHz reserve scheme in the handbook to at least 1242MHz.
- The current handbook specifies 12kHz Maximum Bandwidth for FM/DV in both current and future bandplans in several sections of the 1240-1300MHz range. This is widely ignored in national bandplans, difficult to implement and not necessary in this band, given that 25kHz spacing is also specified.
- The handbook refers to, but does not directly incorporate, the CT08\_C5\_Rec27 scheme for 1241-1250MHz. However, in general, important recommendations should be incorporated into the handbook for ease of reference.
- Bandplanning should allow for wider availability of true duplex DD equipment in future
- It is important to recognise there needs to be sufficient options to accommodate constraints from current equipment, as well as from Primary Users.
- It is generally neater to have a consistent set of Input/Output channels and shifts. This was not present in the original Cavtat scheme - it was different for DV and DD.

## Proposals

1. We propose that the revised scheme overleaf be adopted for further consideration. This has DV and DD sections with a more consistent 8.25MHz shift (though this does not prevent them being paired with channels higher in the 1240-1300MHz band if available).
2. Based on this scheme, to add the detail for the 1241-1242MHz range to the bandplan.
3. To accept reality and amend all occurrences of 12kHz Maximum BW to at least 20kHz in the 1240-1300MHz bandplan (consistent with the 25kHz spacing)
4. To note that the revised plan supports high speed data by incorporating two sets of 5x150kHz DD blocks centred on:-
  - 1241.075, 1241.225, 1241.375, 1241.525, 1241.675 MHz (+/- 75kHz)
  - 1249.325, 1249.475, 1249.625, 1249.775, 1249.925 MHz (+/- 75kHz)
5. That, in a similar manner to the RSGB 1298-1300MHz paper, these 150kHz blocks may be merged for greater bandwidth. Alternatively, an individual block may be subdivided to create narrower channels compatible with legacy use (eg 3x50kHz or 6x25kHz)
6. To note that paired sets of FM/DV channels on a 25kHz spacing are envisaged at 1240.775-1240.975 and 1249.025-1249.225 MHz
7. To recall, as per CT08\_C5\_27, that DATV will take time to develop, so it is important to recognise the need for careful coordination with analogue FMATV inputs, prior to releasing frequencies around 1248-1249 MHz for other applications.

## Revision of the Cavtat Scheme for 1240-1250MHz

| Frequency | Original<br>Cavtat<br>Example | CH-BW<br>kHz |         | Revised<br>Plan                 |         |
|-----------|-------------------------------|--------------|---------|---------------------------------|---------|
| 1240.00   |                               |              |         |                                 |         |
| 1240.25   | NarrowBand                    | 0.5-3        |         | Legacy, Adhoc and<br>Narrowband |         |
| 1240.50   |                               |              |         |                                 |         |
| 1240.75   | Beacons                       | 0.5          |         | Beacons                         |         |
| 1241.00   | FM/DV -N                      | 25           | Inputs  | FM/DV                           | Inputs  |
| 1241.25   | DV-N                          | 25           |         |                                 |         |
| 1241.50   |                               | 25/150       |         | 5x150k DD                       |         |
| 1241.75   | DV/DATA-W                     | 25/150       | Inputs  |                                 |         |
| 1242.00   |                               | 25/150       |         | FM/DV                           | Simplex |
| 1242.25   |                               |              |         |                                 |         |
| 1242.50   | DATV Blocks:-                 |              |         | DATV Blocks:-                   |         |
| 1242.75   | DATV / Multimedia -2          |              |         | DATV / Multimedia -2            |         |
| 1243.00   |                               |              |         |                                 |         |
| 1243.25   |                               |              |         |                                 |         |
| 1243.50   |                               |              |         |                                 |         |
| 1243.75   | DATV / Multimedia -3          |              |         | DATV / Multimedia -3            |         |
| 1244.00   |                               |              |         |                                 |         |
| 1244.25   |                               |              |         |                                 |         |
| 1244.50   |                               |              |         |                                 |         |
| 1244.75   | DATV / Multimedia -4          |              |         | DATV / Multimedia -4            |         |
| 1245.00   |                               |              |         |                                 |         |
| 1245.25   |                               |              |         |                                 |         |
| 1245.50   |                               |              |         |                                 |         |
| 1245.75   | DATV / Multimedia -5          |              |         | DATV / Multimedia -5            |         |
| 1246.00   |                               |              |         |                                 |         |
| 1246.25   |                               |              |         |                                 |         |
| 1246.50   |                               |              |         |                                 |         |
| 1246.75   | DATV / Multimedia -6          |              |         | DATV / Multimedia -6            |         |
| 1247.00   |                               |              |         |                                 |         |
| 1247.25   |                               |              |         |                                 |         |
| 1247.50   |                               |              |         |                                 |         |
| 1247.75   | DATV / Multimedia -7          |              |         | DATV / Multimedia -7            |         |
| 1248.00   |                               |              |         |                                 |         |
| 1248.25   |                               |              |         |                                 |         |
| 1248.50   |                               |              |         |                                 |         |
| 1248.75   | DATV / Multimedia -8          |              |         | DATV / Multimedia -8            |         |
| 1249.00   |                               |              |         |                                 |         |
| 1249.25   |                               | 25/150       |         | DV-N / FM                       | Outputs |
| 1249.50   | DV/DATA-W                     | 25/150       |         |                                 |         |
| 1249.75   | DV-N                          | 25           | Outputs | 5x150k DD                       |         |
| 1250.00   | FM/DV -N                      | 25           |         |                                 |         |
| 1250.25   |                               |              |         |                                 |         |
| 1250.50   |                               |              |         |                                 |         |
| 1250.75   | DATV / Multimedia -10         |              |         | DATV / Multimedia -10           |         |
| 1251.00   |                               |              |         |                                 |         |
|           | etc                           |              |         | etc                             |         |

### Abbreviations:

DV-N = Digital Voice/Data Narrow bandwidth – 25kHz BW typical

DV-W = Digital Voice/Data Wide bandwidth – 150kHz BW typical – also known as DD (Digital Data)

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|          |                                |
|----------|--------------------------------|
| Document | B07                            |
| Subject  | <b>1298-1300MHz Bandplan</b>   |
| Society  | Radio Society of Great Britain |
| Contact  | Murray Niman G6JYB             |
| Status   | Proposal                       |

## Background

A review of the 1298-1300MHz Bandplan in the VHF Managers Handbook indicates it needs corrections and clarification. It is also opportune to introduce a modernised plan to facilitate new systems and spectrum efficiency. This section is nominally All-modes, but also is a key one for supporting Digital Communications.

### VHF Managers Handbook

The current edition (v5.40) of the IARU-R1 VHF Managers Handbook has the following for the 1298-1300 section:-

|                 |       |           |                   |                                                       |
|-----------------|-------|-----------|-------------------|-------------------------------------------------------|
| <b>1298.000</b> | 20kHz | All Modes | 1298.025-1298.500 | Repeater output channel freqs,<br>ch. RS1 – RS28      |
|                 |       |           | 1298.500-1300.000 | Digital communications<br>(within RS channels) d)     |
| <b>1300.000</b> |       |           | 1298.725-1299.000 | Packet-Radio duplex channel freqs,<br>ch. RS29 – RS40 |

### Key Points

- The bandplan designates channels up to 20kHz maximum bandwidth, with 25kHz spacing (although it is an All-Modes section)
- Careful inspection of the current channel numbering shows that as RS1 is 1298.025, so RS28 is actually 1298.700 - not 1298.500 as currently indicated. This creates a potentially confusing 200kHz overlap in the 1298.500-1298.700 section
- Current/legacy usage does not need a total of 40 channels, especially for Packet
- There is no guidance in the handbook for merging channels for wider bandwidths and higher data rates. This currently occurs on an uncoordinated though limited basis. However modern developments such as commercial 128kb/s Digital Data (DD) (and perhaps faster in future) indicate it is opportune to introduce a new framework to support this.
- Whilst we propose a fresh approach for this part of the band, it is in line with the philosophy used in Cavtat CT08\_C5\_Rec27 (Cavtat Paper CT08\_C5\_19 'A new Vision for 23cms') which concentrated on 1240-1250MHz
- A reformed plan could more clearly distinguish the 1298.0-1298.5 MHz segment which commonly supports narrowband experiments and some conventional repeaters from the rest of 1298.5-1300 section which is preferred for digital communications
- A new plan could also facilitate wider spacing to ease construction of repeaters

## Proposals

1. More clearly show that 1298.5-1300MHz is preferred for digital communications, leaving 1298.0-1298.5 for more general uses
2. Designate a nominal set of high speed data channels at 1299.000-1299.750 but in a manner that supports flexible use
3. Designate an additional set of frequencies at the top of the band for possible FM/DV repeater use which maximises frequency shifts to ease cavity filters
4. Add guidance notes to cover narrowband experiments near 1298.000
5. Based on the above we propose the following:-

| Frequency, MHz       | Max BW | Mode      | Usage                                                                          |
|----------------------|--------|-----------|--------------------------------------------------------------------------------|
| 1298.000<br>1298.500 | 20kHz  | All modes | General mixed analogue or digital use in RS1-19                                |
| 1298.500<br>1299.000 | 20kHz  | All modes | Digital Communications within RS21-39                                          |
| 1299.000<br>1299.750 | 150kHz | All modes | Arranged as 5 x150kHz blocks*<br>To support high speed Digital Data (DD) usage |
| 1299.750<br>1300.000 | 20kHz  | All modes | 8x25kHz Channels**<br>Centres: 1299.775-1299.975                               |

\*Centres are: 1299.075, 1299.225, 1299.375, 1299.525, 1299.675 MHz (+/- 75kHz)

These blocks may be merged for greater bandwidth. Alternatively an individual block may be sub-divided to create narrower channels compatible with legacy use (eg 6x25 or 3x50kHz)

\*\*May be used for FM/DV repeater outputs

Additional footnotes:

- RS1 in this section is 1298.025MHz. Higher channels are 25kHz spacing
- Consideration should be given to weak signal use near the bottom of the 1298.000-1298.500 section to provide compatibility with narrowband experiments and down-converters (which may have a ~1296-1298 tuning range)

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|          |                                                                                        |
|----------|----------------------------------------------------------------------------------------|
| Document | B08                                                                                    |
| Subject  | <b>Proposal for reporting contacts made during Rainscatter or Aurora propagations.</b> |
| Society  | OeVSV                                                                                  |
| Contact  | OE5MPL, Peter                                                                          |
| Status   | Proposal                                                                               |

Since a long time it is common under GHz specialists to report for contacts made during Rainscatter propagations i.e. 56s for CW or SSB contacts.

For contacts made from VHF operators under Aurora propagations it is common to report i.e. 55a for CW or SSB contacts.

Caused by the electronic evaluation of the logs, this operators are now in doubt which report they should put in the log.

Therefore the OEVSU suggests to amend for Rainscatter and Aurora contacts the r or a after RS and the paragraph 5.3.8 should be read as follows:

#### **5.3.8 Contest exchanges**

Code numbers exchanged during each contact shall consist of the RS or RST report, followed by a serial number commencing with 001 for the first contact on each band and increasing by one for each successive contact on that band. This exchange must immediately be followed by the complete Locator of the sending station

(examples : 59003 JO20DB or 579123 IN55CC).

**For Rainscatter or Aurora propagations (examples:**

**56r 003 JN78DJ or 57a 123 JO55CC) for CW and SSB contacts.**

Note: for the "T" part of the report, see chapter 8.6.1 **(for digital RSQ reporting)**

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|          |                                 |
|----------|---------------------------------|
| Document | B09                             |
| Subject  | <b>CONTEST RULES/PROCEDURES</b> |
| Society  | REF                             |
| Contact  | F6ETI; F6HYE                    |
| Status   | Proposal                        |

### BACK GROUND

In the Ham Spirit, a contest is a competition between amateur radio that takes place exclusively on the bands allocated to amateur.  
This is implicit, and is not written in the rules of competition that have been established there are now several decades.  
Since then, new technologies have emerged that can easily communicate by means other than radio (within the meaning of the term ham).  
Suffice it to be accountable to consult the "traffic" which runs over some "chat" during competitions.  
The drafting of regulations competitions IARU R1 remained virtually static since their inception.

In their rules of competition, some countries have already clarified this points

“The use of non-amateur radio means of communications (e.g. telephone or the Internet) for the purpose of soliciting a contact (or contacts) during the contest period is inconsistent with the spirit and intent of these rules.

Use of self-spotting techniques on packet or other mediums are inconsistent with the spirit and intent of these rules.

A complete exchange must be logged for each valid QSO.”

The RSGB VHF Contest Committee have revised the VHF General Rules relating to the use of the DX Cluster and other spotting/chat networks (including internet facilities for example ON4KST) in RSGB VHF and UHF contests :

4i. The active use (posting messages, arranging skeds, self spotting etc) of the DX Cluster and other spotting networks (including internet facilities for example ON4KST) to assist an entry to a contest on 6m, 4m, 2m and 70cm is banned in all RSGB contests with the exception of three IARU Region 1 co-ordinated contests (50MHz Trophy in June, 144MHz Trophy in September and 432MHz to 248GHz IARU in October) and the 144MHz Marconi contest in November where permitted by the IARU rules for these contests. You may spot a DX station as long as your operating frequency is not given.

4k. All information must be copied off air at the time of the QSO and on the band in use. Databases must not be used to fill in missing information. The DX Cluster, talkback channels etc must not be used for passing or confirming any contest related information.



To help operators understand these revised rules, a list of do's and don't are listed below:

Do spot DX you have worked or heard when tuning the band for the benefit of all.

Do use the DX cluster to help you find DX during the contest.

Don't use the DX cluster to help the DX find you.

Don't ask other stations that you work to "please spot me"

Don't spot DX you've just worked on your frequency.

Don't spot your fellow team member (if operating in team/multi band contests eg UKAC, AFS, VHF NFD etc).

## **PROPOSAL**

To take account of technological developments and in order to stay within the spirit of amateur radio contest it would be useful to draw up general rules specifying what a competition and what are a valid QSO :

### **Definition of a contest**

A contest is a competition between amateur radio that takes place exclusively on the bands allocated to amateur, with amateur means.

### **Introduce contest general rules**

The active use (posting messages, arranging skeds, self spotting, calling, heading management, frequency management etc.) of the DX Cluster and other spotting networks (including non amateur means eg. telephone, internet facilities like VHF and Microwave chats) to assist an entry to a contest is not allowed in all IARU R1, or in IARU R1 national contests.

You may spot a DX station as long as your operating frequency is not given.

For a complet and valid QSO, all information must be copied off air at the time of the QSO and on the band in use.

Databases must not be used to fill in missing information.

The DX Cluster, talkback channels etc. must not be used for passing or confirming any contest related information.

In the event of use of a talk back frequency (144 MHz if permitted, or lower UHF/microwave band), any return to this talk frequency in the course of session cancels information previously exchanged, and thus the QSO in progress.

Use of self-spotting techniques are inconsistent with the spirit and intent of these rules.

Skeds taken outside contest timeframe are not allowed.

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|          |                                                       |
|----------|-------------------------------------------------------|
| Document | B10                                                   |
| Subject  | <b>Procedure for Automatic Contest Log Submission</b> |
| Society  | ZRS                                                   |
| Contact  |                                                       |
| Status   | Proposal                                              |

#### Introduction

As all the submitted contest logs are in an electronic format it makes it relatively easy to implement automatic contest log collection. By doing so the automatic log cross-checking and fully automated contest adjudication can be realized. At the same time the path for automatic contest log exchange between national VHF managers and IARU R1 VHF&up Contest Robot can be easily established.

This new section is linked to item 5.3.10 and section 5.2 (both of them are subject of a change proposal).

It is proposed to insert this section after the current section 5.8.

### **5.9 Procedure for Automatic Contest Log Submission and Exchange**

- 5.9.1 *To upload a contest log to the IARU R1 VHF&up Contest Robot valid e-mail address must be provided so that submitter can be properly notified on log acceptance/rejection.*
- 5.9.2 *Every uploaded log must be in EDI format (as defined in chapter 5.9 of IARU R1 VHF Managers Handbook).*
- 5.9.3 *If the log does not comply to the EDI format it must be rejected with an unambiguous message which clearly describes the error which caused the log rejection. The notification e-mail must also be sent to the address provided during upload process with the same message. In multiple log upload (ZIP) every rejected log must be clearly marked and commented.*
- 5.9.4 *Log acceptance must be confirmed on the web page and via an e-mail with the following information: callsign, locator, recalculated score, accepted number of QSOs and contest section.*
- 5.9.5 *In case the log can not be accepted due to decision of the IARU Reg.1 member society or their VHF Contest Manager/Committee to organize log collection on a national level, the rejection message must include the web/e-mail address to which such a log can be uploaded/sent.*
- 5.9.6 *In case the same log is uploaded again at some later time the previous log is discarded.*
- 5.9.7 *After the claimed scores publication dead time (see section 5.2, I) the logs should become available for automatic exchange with national Contest Robots/Servers or for manual download by the national VHF Managers.*

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|          |                                                               |
|----------|---------------------------------------------------------------|
| Document | B11                                                           |
| Subject  | <b>new section »Rules for Automatic Contest Adjudication«</b> |
| Society  | ZRS                                                           |
| Contact  |                                                               |
| Status   | Proposal                                                      |

## Introduction

As all the submitted contest logs are in an electronic format it makes it relatively easy to implement automatic contest log cross-checking and thus fully automated contest adjudication. By doing so the results will be available in much shorter time than it is the case today.

During last decade quite some software applications were written by amateurs for automatic contest log cross-check. Every application has its own set of rules how to judge the contact. In order to assure fair adjudication those rules should be clearly written and published in IARU R1 VHF Managers Handbook. In S5 we have 10+ years experience in automatic contest log evaluation. The latest development was done by Peter/S52AA and his web application can be seen at web address <http://slovvhf.net/vhfmanager/>. Based on this long experience and latest S52AA implemenation we created the set of rules that precisely define how an automatic contest adjudication should be done. This is basicaly the design document for the software implementation of the generic VHF Contest Robot. We acknowledge different implementation approaches of every programmer that plans to (or already had) design contest cross-checking robot.

We want to stress out the necessity for formal establishment of such rules.

This new section is linked to item 5.3.10 and sections 5.2 and 5.9 (both of them are subject of a change proposal).

It is proposed to insert this section after the newly proposed section 5.9 (which is to be inserted after the current section 5.8).

## **5.10 Rules for Automatic Contest Adjudication**

### *Description of terms:*

- *claimed QSO: any contact that counts more than 0 points*
- *valid QSO: any contact for which both logs are available and the exchanged information is without any error*
- *deleted QSO: QSO that is not taken into account in further log processing ????*

### **5.10.1**      *Crosschecking should consist of 6 steps:*

- *deleting of unclaimed QSOs*
- *deleting QSOs with uncomplete exchange information*
- *marking of valid QSOs*
- *marking of unreliable logs*
- *deleting of invalid QSOs based on received logs*
- *deleting of invalid QSOs based on generated logs*

### **5.10.2**      *Deleting of unclaimed QSOs*

- 5.10.2.1**      *Unclaimed QSO is a QSO that has 0 points but it is not a duplicate QSO. All such QSOs are deleted.*

- 5.10.3 *Deleting the QSOs with incomplete exchange information*
- 5.10.3.1 *All the QSOs with contact date/time which is outside the valid contest time are deleted. Example: QSO time is 14:xxGMT on the second day of the contest. Example: contest date is 23./24.09.2009.*
- 5.10.3.2 *All the QSOs with wrong mode of operation are deleted. Example: unknown mode (code 0 in EDI).*
- 5.10.3.3 *All the QSOs with invalid call sign are deleted. Example: call sign is empty, »ERROR« or contains »?«.*
- 5.10.3.4 *All the QSOs with invalid locator are deleted. Example: locator incomplete, empty, contains »?« or »\*«.*
- 5.10.3.5 *All the QSOs with invalid received QSO number are deleted. Example: received number empty or »0«.*
- 5.10.4 *Marking of valid QSOs*
- 5.10.4.1 *The QSO is valid when the other log contains the QSO with the same call sign and the exchanged data is not in error (report, contact number and locator). Valid QSO can not be deleted.*
- 5.10.5 *Marking of unreliable logs*
- 5.10.5.1 *The specific data (call sign, locator) in the log marked as unreliable should not be used for QSO deletion in other logs.*
- 5.10.5.2 *The log that was obviously sending different form of the call sign is marked as unreliable. The criterion is applicable to a log with more then 10 valid QSOs. The log is marked as unreliable when 25% or more of correspondents received different form of a call sign than official call sign of that log. Example: log with a call sign S52AA/p has 100 valid QSOs; the call sign in 10 other logs is S52AA and in 25 other logs it is S52AA/2.*
- 5.10.5.3 *The log that was obviously sending different locator is marked as unreliable. The criterion is applicable to a log with more then 10 valid QSOs. The log is marked as unreliable when 25% or more of correspondents received different, but same locator than official locator of that log. Example: log with a locator JN75DS has 200 valid QSOs; the locator received in 50 other logs is JN75CS.*
- 5.10.6 *Deleting of invalid QSOs based on received logs*
- 5.10.6.1 *The QSO is deleted when the bare received call sign (call sign without prefix and/or suffix) matches the bare call sign of one of the received logs, but the received call sign does not match the other log call sign. Example: logged call sign is DL/S53WW but the log from S53WW contains a call sign of DL/S53WW/p. In case the log of S53WW is marked as unreliable with respect to the sent call sign this rule is not applicable.*
- 5.10.6.2 *The QSO is deleted when the received locator is not the same as the locator of the other log. Example: logged locator for station S50C is JN76WG but the correct locator is JN76JG. In case the log of S50C is marked as unreliable with respect to the sent locator this rule is not applicable.*
- 5.10.6.3 *The QSO is deleted when the received report is not the same as the sent report. Example: logged report is 59 but sent report is 55. Example: logged report is 59S but sent report is 599.*
- 5.10.6.4 *The QSO is deleted when the other log contains the calls sign but under the received QSO number some other station is logged, or the received number is higher than the number of QSO's in the other log. Example: logged QSO number is 213 but in the other log the QSO number 213 is not that call sign. Example: logged QSO number is 554 but the other log contains only 64 QSOs.*

- 5.10.7 *Deleting of invalid QSOs based on generated logs*
- 5.10.7.1 *Generated log is a log of a station that did not sent its log to the IARU R1 VHF&up Contest Robot (has not participated in the contest). Generated log is a partial log created from the data contained in the received logs. Generated log is created on the basis of a bare call sign (call sign without prefix and/or suffix). Example: QSO is entered in a generated log of S57C even when the received call sign is S57C/p or OM/S57C/p.*
- 5.10.7.2 *The QSO is deleted when the received call sign is not the same as 90% of received call signs in a generated log. In case the generated log contains less than 10 QSOs this rule is not applicable. Example: logged call sign is S53MM/p; generated log of S53MM contains 10 QSOs and for 9 of them the received call sign is S53MM.*
- 5.10.7.3 *The QSO is deleted when the received locator is not the same as 90% of locators in the generated log. In case the generated log contains less than 10 QSOs this rule is not applicable. Example: logged locator for station S53RM is JN76HD; generated log of S53RM contains 10 QSOs and for 9 of them the received locator is JN76JB.*
- 5.10.7.4 *The QSO is deleted when the received QSO number is not in sequence of the generated log serial numbers. The criterion to be out of sequence is when the time of a QSO under check is between times of two QSOs in a generated log but the received QSO number is not. The time difference between the two QSOs in a generated log must be more than 15 minutes. In case the generated log contains less than 10 QSOs this rule is not applicable. Example: generated log contains one QSO at 14:25 with sent number of 10 and next QSO at 15:00 with sent number of 34; QSO in log under check at 14:29 has QSO number of 125.*

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|          |                                         |
|----------|-----------------------------------------|
| Document | B12                                     |
| Subject  | <b>Beacon Developments and Messages</b> |
| Society  | Radio Society of Great Britain          |
| Contact  | Murray Niman G6JYB                      |
| Status   | Proposal                                |

## Background

At Cavtat there was interest in developments on multi-band beacons such as GB3RAL and the MGM modes they employ. Modern beacons with advanced timing and modulation capability can provide a valuable service to amateurs, propagation research and enhance the overall image of the hobby.

### Considering

Since Cavtat further MGM advances have occurred such as JT4G, assisted by continuing developments with Direct Digital Synthesis (DDS). This suggests that it is time that additional information and guidance may need to be included in the VHF Handbook.

Means to monitor beacons have also continued to improve. ON4KST and the DX cluster are well established. These have since been complemented by new developments such as BeaconSpot, <http://www.beaconspot.eu/> and developments in SDRs

### VHF Managers Handbook

The current edition (v5.40) of the IARU-R1 VHF Managers Handbook has the following in regard to Beacon use of MGM:-

#### **11.1.5 MESSAGE**

*As beacons are often heard at very low signal levels, together with spurious signals, it is important the message is simple, unambiguous and repeated frequently. It is also necessary to have a period without information ("carrier") for frequency checking purposes and signal strength measurement and also to make it easy to distinguish the frequency when using FSK.*

*Maximum Morse code keying speed should not exceed 60 characters per minute.*

*The beacon message should consist of a callsign and possible other information for identification and a period without information ("carrier"). The message may also contain other information if required, e.g. locator, automatic identification and information in MGM modes. The total cycle period should not exceed 60 seconds and the "carrier" period without information should not exceed 30 seconds.*

*For alternative modes the cycle period is F1A + Alternate mode. For example, a beacon transmitting PSK31 would send one period of PSK31 followed by one period of either F1A or A1A. If several alternative modes is used then the total cycle could be F1A/A1A + mode 1 + mode2 + F1A/A1A, repeating continuously.*

We believe that there is scope for improving the final paragraph in particular.

## Key Points

- In addition to a CWID an increasing number of beacons are taking advantage of DDS to provide MGM modulation and GPS Locking for accurate timing/frequency control
- There is little consensus on the best mode. In addition to CW (which may be A1A or F1A) current systems feature JT65, DFCW, JT4G, phase reversals etc. In addition we have seen and supported the growth of WSPR in the HF and VHF bands
- Many amateurs and regulators continue to expect to hear regular CW idents, without the need for a PC and advance knowledge of what MGM technique is in use
- Some MGM requires a significant amount of time to send and decode. For example, the JT4G symbol rate is ~4baud and needs 48s to transmit. This leaves insufficient time to include a usefully long period of plain carrier as well as a CWID inside a single minute. This makes dual cycles of a minute each with and without MGM desirable
- References to even and odd minutes assume good (GPS?) based timing, which is helpful for both users and automated monitoring equipment
- Whilst MGM is a desirable feature the necessity for a useful period of say 15-30s of plain carrier has not disappeared.
- Some beacons helpfully add a CW symbol or two at the ends of long plain carrier periods to prepare listeners for a change in message/mode.
- Coordinators and builders of advanced beacons also need to consider their bandwidth. For example the very promising JT4G uses 4 tones at 315Hz spacing and needs 1260Hz bandwidth. This fits well with 5-10kHz microwave band spacings where doppler and dispersion is more challenging but would not fit on most VHF/UHF bands where 1kHz spacing is the norm.
- Although it is largely a matter for designers, it is worth pointing out that in the microwave bands, direct multiplication of a baseband DDS can result in excess spurs or phase noise. An alternative is to use a DDS as a divider (a 'reverse DDS') within a phase locked loop that controls a crystal oscillator based source.
- We need to continue to cater for a variety of designs. It would be difficult and expensive to expect every beacon to be engineered for the latest mode or DDS/GPS.
- For information, following a re-licensing exercise in the UK, most microwave beacons are now authorised to transmit *"CW callsign every 60s with the option of additional MGM Data"* (though the precise time on the licences may vary from 30s, to up to 120s on one cluster). In the UK only the callsign has to be included – the locator and other message contents etc are now optional and not a licence condition

## Proposals

6. That additional guidance and some actual message/keying examples are added to the handbook based on the above
7. Examples should include both simple CW systems as well as more advanced beacons. Where long MGM is present that may result in inadequate plain carrier periods within a one minute cycle, the guidance should be more specific with regard to use of even and odd minute cycle contents
8. RSGB is open to further inputs as well as a discussion at the meeting



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|          |                                       |
|----------|---------------------------------------|
| Document | B13                                   |
| Subject  | <b>IARU R1 VHF Contest rule 5.3.6</b> |
| Society  | ZRS                                   |
| Contact  |                                       |
| Status   | Proposal                              |

## Introduction

In current rules only contacts via active repeaters are not counted for points. As we have many EME stations QRV on VHF&up frequencies in Reg.1, the EME QSOs should also be explicitly mentioned in the rule. It would be relatively easy to win the contest for example on 10 GHz with only few EME QSOs. There are special EME contests organized for those stations to compete with each other.

We do not have an explicit rule how the contest contact should be made. There are many irregularities or new practices observed during the VHF&up contests last years, like:

- exchange of complete or partial contest exchange information via bypass communication channel (internet chat, telephone, other amateur band)
- repairing contest log after the contest by crosschecking it with friend's log

It is not the intention of this change proposal to prohibit SKED's, either arranged before the contest or during the contest.

UL must be received (it is clear that must be transmitted – rule 5.3.8 *Contest exchanges*) on the band where contact started, but it should not be forbidden to state your own locator on some other (bypass) channel (exclusively for pointing the antenna), if we want to arrange a SKED.

We believe that this change proposal reflects tradition and spirit of IARU Reg.1 VHF contests.

### **5.3.6 Contacts (old)**

Each station may only be worked once per band, whether it is fixed, portable or mobile. If a station is worked again during the same contest on the same band, only one contact may count for points, but any

duplicate contacts should be logged without claim for points and clearly marked as duplicates.

Contacts

made via active repeaters do not count for points.

### **5.3.6 Contacts (new)**

*Each station may only be worked once per band, whether it is fixed, portable or mobile. If a station is worked again during the same contest on the same band, only one contact may count for points, but any duplicate contacts should be logged without claim for points and clearly marked as duplicates.*

*Contacts made via active repeaters and EME contacts do not count for points.*

*Competitors are obliged to follow common definition for a valid QSO (described in VHF Managers Handbook). UL should be received on the band where contact started during the contest, however, report and QSO number including confirmation must be received and transmitted **only** on the band where contact started and **only** during the contest.*



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|          |                                        |
|----------|----------------------------------------|
| Document | B14                                    |
| Subject  | <b>IARU R1 VHF Contest rule 5.3.10</b> |
| Society  | ZRS                                    |
| Contact  |                                        |
| Status   | Proposal                               |

#### Introduction

IARU R1 VHF&up Contest Robot is under construction and it is experimentally working for a whole year on address <http://iaru.oevsv.at/> . It is opening many new possibilities how to handle contest logs and contest organization.

We have many member societies that have their own system of collecting and managing their national contest logs and contest results and we assume that most of them want to retain their system. We have also many national organizations that do not organize contest log collection and national result preparation and their contest operators will be perfectly satisfied that IARU VHF&up Contest Robot will do the job.

Here we propose changing the 5.3.10 section of the VHF/UHF/SHF contest rules so that hopefully all member societies will be satisfied. We also have to discuss, what to do with possible entrants from other regions (50 MHz).

Part of this change is also reflected in proposed revision of complete section 5.2.

#### **5.3.10 Entries (old rule)**

The entries must be set out in digital/electronic form fulfilling the requirements under section 5.3.13.

Logs

must be sent to the national VHF Manager or the national Contest Committee not later than the second

Monday following the contest weekend. Late entries will not be accepted. The submission of the logs implies that the entrant accepts the contest rules.

Change to:

#### *5.3.10 Entries (new rule)*

*Each IARU Reg.1 member society or their VHF Contest Manager/Committee decide weather logs of all their participants will be submitted by their VHF Contest Manager/Committee or each participant can upload his log directly to the IARU R1 VHF&up Contest Robot. Logs from each participant must be sent to nationally agreed web address not later than the second Monday following the contest weekend. Participants outside IARU Reg.1 can send their logs directly to IARU VHF&up Contest Robot. Late entries will not be accepted.*

*Contest logs must be uploaded to IARU R1 VHF&up Contest Robot by national VHF Contest Managers not later than the second Tuesday after the end of the contest (see section 5.2 for details). The entries must be set out in digital/electronic form fulfilling the requirements under section 5.3.13. The submission of the logs implies that the entrant accepts those contest rules.*

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|          |                                        |
|----------|----------------------------------------|
| Document | B15                                    |
| Subject  | <b>IARU R1 VHF Contest rule 5.3.11</b> |
| Society  | ZRS                                    |
| Contact  |                                        |
| Status   | Proposal                               |

### Introduction

Present rules for judging of entries are trying to penalize only the station that made a logging mistake. Loss of points is mainly at the receiving stations because we assume, that logging at the transmitting station is without errors. After we (S5) successfully start our VHF contest robot and made results of it's crosscheck available and easily controllable by competitors (entrants) we discovered that there is a substantial number of errors logged by transmitting station too and in most cases only receiving station is penalised. We are quite sure that many other national contest evaluators came to the same conclusion and that this topic showed up in various forum debates.

We should also discuss what to do with stations that made a mistake in declaring their own CALL or UL in their submitted LOG. We propose to disqualify such entrants due to careless preparation of their contest log that serves as an official document to penalize their correspondents.

The amateur radio contact is only valid when both stations confirm the reception of exchanged information (see section 7.1).

In order to increase the overall quality of contest operation and to stress that both stations are responsible for any error in contest data exchange we propose a change to the rule 5.3.11 in a way that both correspondents are penalized for any error in a logged information.

The introduction of this rule should be made gradually. In the intermediate time of for example 5 years, the official score publication would be made according to both rules and the results based on the new rule would be informational only.

### 5.3.11 Judging of entries (old rule)

The final judging of the entries shall be the responsibility of the organizing society, whose decision shall be final. Entrants deliberately contravening any of these rules or flagrantly disregarding the IARU Region 1 bandplans shall be disqualified.

Each VHF Manager and/or national Contest Committee shall be responsible for monitoring during contests. Additional monitoring stations may be appointed but these stations may not take part in the contest. The national VHF Manager/Contest Committee is responsible for disqualification based upon the results of monitoring. The claimed contact shall be disqualified for any error in the information logged by the station.

Any error in the information logged by a station shall result in the loss by the receiving station of all points for that contact.

Change to:

#### **5.3.11 Judging of entries (new rule)**

*The final judging of the entries shall be the responsibility of the organizing society, whose decision shall be final.*

*Entrants deliberately contravening any of these rules, flagrantly disregarding the IARU Region 1. bandplans and declare CALL or UL that was not used during the contest or UL that does not match the station location shall be disqualified.*

*Each VHF Manager and/or national Contest Committee shall be responsible for monitoring during contests. Additional monitoring stations may be appointed but these stations may not take part in the contest. The national VHF Manager/Contest Committee is responsible for disqualification based upon the results of monitoring.*

*Any error in the exchanged information logged by a station shall result in the loss of all points for that contact for both correspondents (receiving and transmitting station) – see section 7.1.*

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|          |                                                        |
|----------|--------------------------------------------------------|
| Document | B16                                                    |
| Subject  | <b>PROCEDURE FOR ORGANISING IARU REGION 1 CONTESTS</b> |
| Society  | ZRS                                                    |
| Contact  |                                                        |
| Status   | Proposal                                               |

## Introduction

Due to fast growth of internet infrastructure and increasing usage of computers during and after the contests the complete section that describes the procedure for organizing IARU R1 VHF&up contests needs to be reviewed.

The aim of this proposal is to:

- drastically reduce time needed for publication of the official results
- minimize the impact of human factor on the log collection, contest adjudication and publication of the results
- define the automatic collection/exchange of contest logs (no more lost logs due to different subjective reasons)
- define the automatic adjudication of contest logs (all the entrants to be treated in the same way)

The idea lies in the central LOG server (named IARU R1 VHF&up Contest Robot) that serves as an IARU R1 wide contest log database that will be used for automatic preparation of results for IARU contests and as an exchange server for all other VHF&up (national, regional) contests. It's main function are:

1. Uploading VHF Contest logs in correct EDI format (single or ZIP)
2. Establishing list of received logs
3. Establishing list of claimed scores
4. Establishing files for log exchange between VHF/contest managers
5. Crosschecking of all received logs
6. Establishing list of unofficial results
7. Establishing list of official results
8. Forming list of interesting statistical data.

The graphical representation of the procedure for sending the logs is given as appended scheme.

In a separate proposal, a new section (5.9) is introduced that exactly defines the procedure for automatic contest log submission and handling.

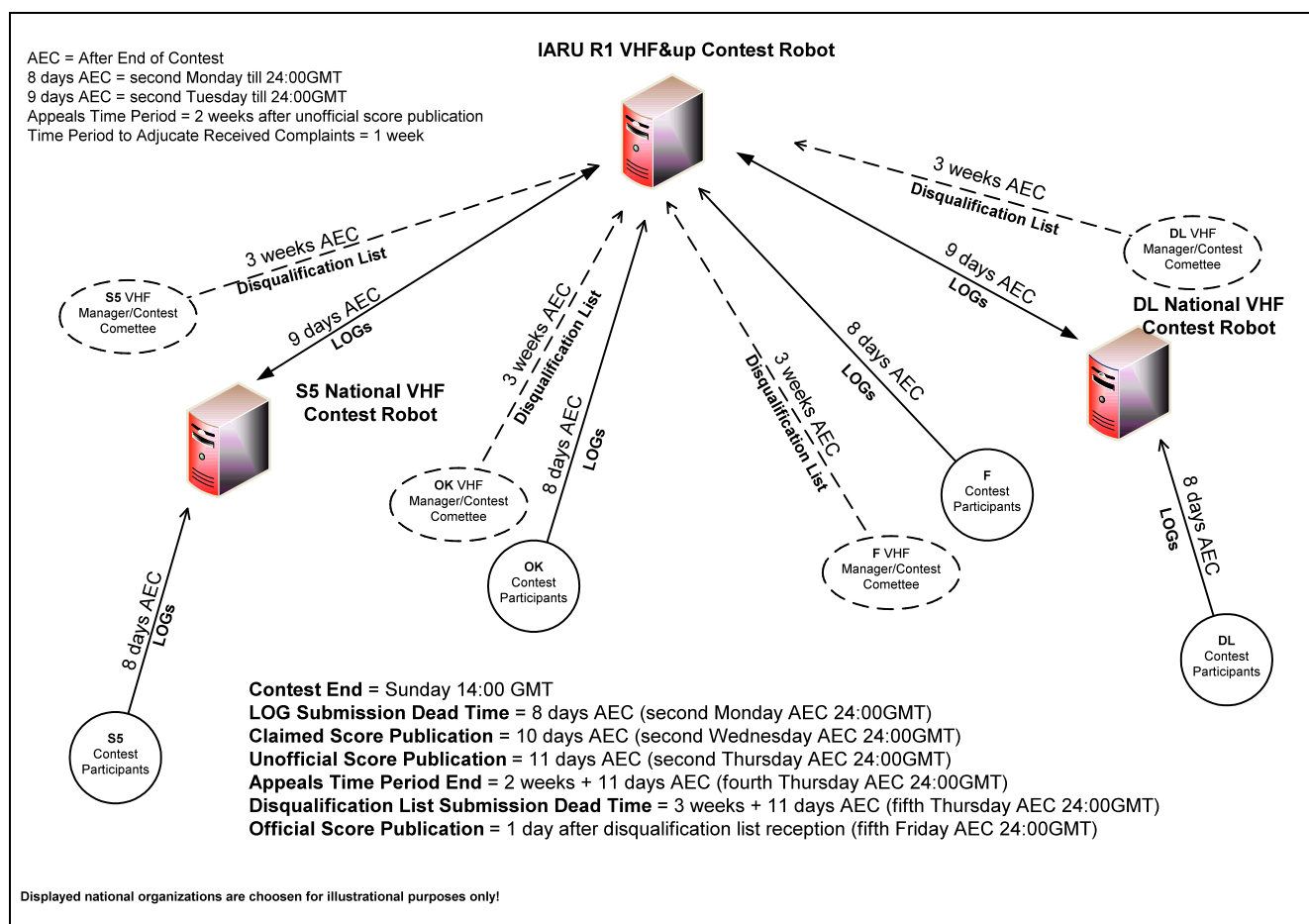
In yet another separate proposal, a new section (5.10) is introduced that exactly defines the rules for automatic adjudication (cross-checking) of the contest logs.

*New text of the section 5.2.*

### **5.2 PROCEDURE FOR ORGANISING IARU REGION 1 50MHz/145MHz/UHF/MICROWAVE CONTESTS**

- A) *An up-to-date copy of the rules for these contests is included in the latest version of the VHF Managers Handbook that can be downloaded from the official IARU R1 web page (<http://www.iaru-r1.org/>).*
- B) *The organizing society shall use any suitable means to announce the contest and invite all the amateur radio operators to participate in the contest.*
- C) *The central point for collection of contest logs is a data server called IARU R1 VHF&up Contest Robot. The web address of this server (currently <http://iaru.oevsv.at/>) shall be published on the official IARU R1 web page.*

- D) *Each IARU Reg.1 member society or their VHF Contest Manager/Committee decides whether logs of all their participants will be submitted by their VHF Contest Manager/Committee or each participant can upload his log directly to the IARU R1 VHF&up Contest Robot. This decision shall be submitted to the Chairman of the IARU R1 VHF/UHF/Microwaves Committee (at any time, new decision overrides the previous one). In case the member society does not submit this decision, the contest participants of this member society are allowed to upload their logs directly to the IARU R1 VHF&up Contest Robot. In case the member society decides to organize collection of contest logs on its own, the IARU R1 VHF&up Contest Robot must not accept direct log uploads from participants of that member society. The rejection response must contain information where to upload the contest log (this information must be included in the submitted decision to the Chairman of the IARU R1 VHF/UHF/Microwaves Committee).*
- E) *Logs from each participant must be sent to nationally agreed address not later than the second Monday after the end of the contest. Participants outside the IARU Reg.1 can send their logs directly to IARU R1 VHF&up Contest Robot.*
- F) *Contest logs must be uploaded to IARU R1 VHF&up Contest Robot by national VHF Contest Managers not later than second Tuesday after the end of the contest. It is envisioned that national collection of contest logs will be made automatic via national contest log servers. Those servers would have an autonomous connection with the IARU R1 VHF&up Contest Robot for automatic (two way) exchange of the contest logs. It should also be possible to upload the archive file with all the national logs to the IARU R1 VHF&up Contest Robot.*
- G) *The log submission procedure is described in the section 5.9.*
- H) *IARU R1 VHF&up Contest Robot shall maintain the alphabetical list of the stations that submitted the contest log separately for each frequency band. Only the call sign with upload date and time is to be published - the list must not contain any other data. The list should be updated immediately after the log is accepted.*
- I) *IARU R1 VHF&up Contest Robot publishes results based on claimed scores not later than second Wednesday after the end of the contest. The lists should be separate by band and by section. The list must contain: place, callsign, locator, score, number of QSOs, ODX Call, ODX locator, ODX QRB. Optionally the contest location height and technical data (antennas and TX power) can be published. All the logs become available to all national VHF/Contest managers for their national crosscheck purposes.*
- J) *The IARU R1 VHF&up Contest Robot performs automatic log cross-checking based on the rules described in the section 5.10.*
- K) *IARU R1 VHF&up Contest Robot publishes unofficial results not later than second Thursday after the end of the contest. The list of results, separate by band and by section, should include at least the following data: callsign, UL, score, number of QSOs, number of deleted QSOs, percentage of deleted points, ODX call sign, ODX Locator and ODX QRB. Optionally the contest location height and technical data (antennas and TX power) can be published. List of deleted QSOs per log, clearly commented with specified errors, must be accessible at least to the sender of the log.*
- L) *National VHF Contest Manager/Committee must send a list of disqualified stations based on the arbitration of national complaints not later than fifth Thursday after the end of the contest. If no entries are received all the logs are assumed to be eligible for final evaluation.*
- M) *IARU R1 VHF&up Contest Robot removes all the stations included in the disqualification list and repeats the log cross-checking based on the rules described in the section 5.10.*
- N) *IARU R1 VHF&up Contest Robot publishes official results not later than fifth Friday after the end of the contest. The list of results should include the same data as for the unofficial results. Deleted QSOs and complete logs shall be made publicly available, but no personal details (address, e-mail,...) from a summary sheet. A list of disqualified and check-log stations is to be published. The list of stations with unreliable logs together with comment on unreliability should also be published. Some most interesting statistical data should be provided, for example number of received logs per country, number of all contacts, number of all different call signs per country, a list of very long contacts, etc..*
- O) *The entrants scoring highest in each section will be awarded the IARU REGION 1 CERTIFICATE. The organizing society will receive the certificates from the chairman of the VHF/UHF/Microwaves committee (signed by the R1 secretary ) and will send those after having filled in the relevant data and after signature to the winners in each section. Optionally certificates for all participants may be provided for distribution by national societies. See also chapter 13.*



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|          |                                                                       |
|----------|-----------------------------------------------------------------------|
| Document | B17                                                                   |
| Subject  | <b>Introducing a standard for the bandnominaton in the EDI format</b> |
| Society  | UBA                                                                   |
| Contact  |                                                                       |
| Status   | Proposal                                                              |

### Background

During the IARU R1 conference in Cavtat 2009 the EDI format was made the standard for exchanging VHF/UHF and  $\mu$ wave contestlogs. This is a very good step for the automatic corrections of the logs. There remains still a little problem. The different contestprograms are using different names for the used frequencys. This hampers the automatic correction of the logs. As an example the 23cm band is named at the following way: 23 cm, 1,2 GHz, 1.2 GHz, 1,3 GHz, 1.3 GHz, 1296 MHz, etc... This is also the case for all the other bands.

### Current situation

There is for the moment no standardization

### Proposal

We want to harmonise the names from the different bands in general and specific for the use in the EDI format. The following table proposes the unique names of the bands and the way the frequency is noted. In the EDI format only the frequency can be used

| <b>Band</b> | <b>Frequency</b> |
|-------------|------------------|
| 6m          | 50 MHz           |
| 4m          | 70 MHz           |
| 2m          | 144 MHz          |
| 70 cm       | 432 MHz          |
| 23 cm       | 1,2 GHz          |
| 13 cm       | 2,3 GHz          |
| 10 cm       | 3,4 GHz          |
| 6 cm        | 5,7 GHz          |
| 3 cm        | 10 GHz           |
| -           | 24 GHz           |
| -           | 47 GHz           |
| -           | 77 GHz           |
| -           | 122 GHz          |
| -           | 134 GHz          |
| -           | 248 GHz          |

**Remark:**the use “,” or “.” as decimal separtor is to be decided

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|          |                                                                                   |
|----------|-----------------------------------------------------------------------------------|
| Document | B18                                                                               |
| Subject  | <b>Introducing a Rover class in the UHF/SHF and <math>\mu</math>wave contests</b> |
| Society  | UBA                                                                               |
| Contact  |                                                                                   |
| Status   | Proposal                                                                          |

### **Background**

During the contests there is relatively less activity on those bands, and so there are not so many squares activated. To give a new boost to these contests we are proposing the installation of a Rover class, for the band 1,2GHz and higher.

### **Proposal**

The installation of a new "Rover" class during the UHF/SHF and  $\mu$ wave contests (1.2 GHz and above).

A Rover station is a station traveling to more than one grid location during the same contest. Rover stations use "Rover" or "/R" as suffix with the same callsign.

A Rover station can be worked more than once, on the condition that the rover has changed from locator square, this means a change of the 4 first digits (eg. from JO32.. to JO31..).

The final score of the Rover station is the sum of the logs per square. A Rover station makes a specific EDI file for each locator. The sum of the different logs will be the final result of the rover station.

### **Remark:**

The UBA will install for his national championship a Roverclass for the bands 1.2 GHz and higher.

This can be used as a test case for the IARU R1.

The contestprogram "WinOnContest" will support this new class in 2010.



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|          |                                                             |
|----------|-------------------------------------------------------------|
| Document | B19                                                         |
| Subject  | <b>Highspeed data feeds in top segment of the 23cm band</b> |
| Society  | UBA                                                         |
| Contact  |                                                             |
| Status   | Proposal                                                    |

**Background:**

Currently there is no place provided for broadband highspeed data stations on the 23cm band. These (usually GMSK modulated), simplex stations are currently active on a non-coordinated frequency in the band. Given the ever increasing number of these stations, it is desirable to coordinate. To be expected is interference of the Galileo system: alternative freq must be available.

**Proposal:**

4 channels centred on 1299.125, 1299.375, 1299.625 MHz for Simplex highspeed data stations. As well vertical/horizontally or left- or right-hand polarisation is to be used. Max. 200 KHz bandwidth

**Remark:**

We have to be prepared in case in case of Galileo system interference. The back-up frequencies should be between 1241 and 1242 MHz. (4 channels)

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|          |                                                                                     |
|----------|-------------------------------------------------------------------------------------|
| Document | B20                                                                                 |
| Subject  | <b>Partly grid of 6,25 kHz channels in 2 m band as a transitional period to DV.</b> |
| Society  | UBA                                                                                 |
| Contact  |                                                                                     |
| Status   | Proposal                                                                            |

**Background:**

the large number of analog repeaterstations in the 2 m band, disables the implementation of DV repeaters in this band. Seen DV is the the biggest and fastest-growing mode with a smaller bandwidth to analog FM.

**Proposal:**

It is desirable to provide room within the current repeaters frequencies with use of a grid of 6,25 kHz

|    |                   |    |                   |
|----|-------------------|----|-------------------|
| 1  | 145,600000        | 16 | <b>145,693750</b> |
| 2  | <b>145,606250</b> | 17 | 145,700000        |
| 3  | 145,612500        | 18 | <b>145,706250</b> |
| 4  | <b>145,618750</b> | 19 | 145,712500        |
| 5  | 145,625000        | 20 | <b>145,718750</b> |
| 6  | <b>145,631250</b> | 21 | 145,725000        |
| 7  | 145,637500        | 22 | <b>145,731250</b> |
| 8  | <b>145,643750</b> | 23 | 145,737500        |
| 9  | 145,650000        | 24 | <b>145,743750</b> |
| 10 | <b>145,656250</b> | 25 | 145,750000        |
| 11 | 145,662500        | 26 | <b>145,756250</b> |
| 12 | <b>145,668750</b> | 27 | 145,762500        |
| 13 | 145,675000        | 28 | <b>145,768750</b> |
| 14 | <b>145,681250</b> | 29 | 145,775000        |
| 15 | 145,687500        | 30 | <b>145,781250</b> |
|    |                   | 31 | 145,787500        |

The odd channels are to be used for Analog FM , the odd and even channels for DV, this in function of their geographic location and their frequency allocation to prevent interference of other AV and DV repeaters.

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|          |                                                                        |
|----------|------------------------------------------------------------------------|
| Document | B21                                                                    |
| Subject  | <b>Expanding the range for the unmanned stations in the 70cm band.</b> |
| Society  | UBA                                                                    |
| Contact  |                                                                        |
| Status   | Proposal                                                               |

## Background

New techniques such as "Digital Voice" and "Digital Data" encourages more radioamateurs to build and use unmanned stations to experiment in these modes. The 70cm allocation for repeaters with -7.6 MHz shift is already heavily used, so we are in need of more frequencies for this kind of applications.

## Current situation

The voice repeaters have input channels from 431.050 to 431.825 MHz and output frequencies from 438.650 to 439.425 MHz. This equals to 32 duplex-channels with a 25 kHz spacing.

The frequency-range from 439.4375 to 439.5875 MHz (and inputs 7.6 MHz lower) is already in use for Digital Voice in DL - HB - ON.

## Proposal

Increase the number of channels for voice repeaters to 38 by changing the 70cm bandplan and then double this number by changing the spacing to 12.5 kHz:

### 4.5 430 - 440 MHz BANDPLAN

| Frequency MHz                                         | Maximum Bandwidth | MODE          | USAGE                 |                                                                                         |
|-------------------------------------------------------|-------------------|---------------|-----------------------|-----------------------------------------------------------------------------------------|
| 430.000                                               | 20kHz             | ALL MO<br>DES | 430.025 -<br>430.375  | FM repeater<br>output-channel freqs<br>(F/PA/ON),12,5 kHz spacing,<br>1.6 MHz shift (f) |
| SUB-<br>REGIONAL<br>(national<br>bandplanning)<br>(d) |                   |               | 430.400 -<br>430.575  | Digital communication link<br>channels (g) (j)                                          |
|                                                       |                   |               | 430.600 -<br>430.925  | Digital communications repeater<br>channels (g) (j) (l)                                 |
|                                                       |                   |               | 430.925 -<br>431.025  | Multi mode channels (j) (k) (l)                                                         |
|                                                       |                   |               | 431.050 -<br>431.9875 | Repeater input channel freqs, 12.5<br>kHz spacing, 7.6 MHz shift (f)                    |
| 432.000                                               |                   |               | 431.625 -<br>431.975  | Repeater input channel freqs<br>(F/PA/ON), 12.5 kHz spacing,<br>1.6 MHz shift           |

| Frequency MHz                                                                                           | Maximum Bandwidth | MODE                        | USAGE                                                                                                                                      |                                                                                                                                                                                                                         |
|---------------------------------------------------------------------------------------------------------|-------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>434.594</b><br><br>ATV (c) & FM<br><br><b>434.981</b>                                                | 12kHz (c)         | ALL MODES                   |                                                                                                                                            | REPEATER OUTPUT (region 1 system),<br>25 kHz spacing, 1.6 MHz shift, (Channel freq 434.600 -- 434.975 MHz)                                                                                                              |
| <b>435.000</b><br><br><br><br><b>438.000</b>                                                            | 20kHz (c)         | Satellite service & ATV (c) |                                                                                                                                            |                                                                                                                                                                                                                         |
| <b>438.000</b><br><br><br>ATV (c) & SUB-REGIONAL (national bandplanning ) (d)<br><br><br><b>440.000</b> | 20kHz (c)         | ALL MODES                   | 438.025 - 438.175<br><br>438.200 - 438.525<br><br>438.550 - 438.625<br>438.650 - <b>439.5875</b><br><br>439.800 -- 439.975<br><br>439,9875 | Digital communications channel frequency (g)<br><br><br>Digital communications repeater channels (g) (j) (l)<br><br>Multi-mode (j) (k) (l)<br><br><b>Repeater output channels, 12,5 kHz spacing, 7.6 MHz shift, (f)</b> |

#### Remarks

Allow the possibility of 6.25 kHz channels on all the repeater frequencies for the use of narrow band modes with a maximum bandwidth of 6 kHz.