



INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA April 19.- 21. 2013

**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. SUN CITY 2011**

3.1. Report of the SUN CITY meeting

3.2. Action points

**4. Report from the chairman**

4.1. Report

4.2. List of standing recommendation

**5. Reports from the coordinators**

5.1. Satellite Coordinator (24)

5.2. DX Records (30)

5.3. WRC-15 Agenda Items (29)

**6. Frequency allocations/international bodies (32)**

**7. Operational matters ( 20; 22; 33)**

**8. Technical Recommendations (05; 08; 15; 16; 17)**

**9. Bandplanning (02; 03; 04; 06; 09; 12; 14; 18; 23; 27)**

**10. Contests (07; 10; 11; 13; 19; 25; 31)**

**11. Any other matter (28)**

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

**INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE**  
**VIENNA 19.- 21. April 2013**

Document	VIE13_C5_01
Subject	Chairman Report
Society	IARU
Contact	Michael Kastelic, OE1MCU
Status	Information

The spectrum between 1 GHz and 3 GHz looks interesting and desirable for many services these days. This means that the pressure on the amateur bands in this range is increasing significantly, and this encompasses very interesting bands used for wide-band ATV, satellite communications, narrow-band long-distance traffic, EME, and many digital modes.

Therefore, we must not only closely watch any changes and trends in the local radio authorities, we also must communicate with them, and exchange our views on what is going on. Again and again, the authorities ask questions, and we must answer them, or at least make our position known with regard to the problem at hand. In the past we have found out that this sort of input first is highly important to remind the decision-makers of the Amateur Radio Service, and secondly, we need to take a clear stand, providing valuable additional information, if possible. He who doesn't react won't be noticed, either. IARU Region I has a competent person for all "spectrum matters". It is Murray Niman, G6JYB, and he is also a co-worker of the IARU VHF Manager.

In 2012, the Contest Robot ([iaru.oevsv.at](http://iaru.oevsv.at)) was up and running for the first time in the IARU VHF & UHF Contests. In the UHF contest, 1,231 logs were processed, and the results were always available online for all participants. Due to the somewhat unclear situation in the handbook, and the lack of a responsible society, the 2012 Contest turned out to be somewhat chaotic. This situation was well reflected in a proposal submitted by the DARC. As is the case with any new system, it didn't run without sputtering, and still needs some fine tuning.

One aspect, however, turned out to be highly beneficial: No logs lost, and the evaluation went well. Other details will have to be worked out, and the 2012 evaluation can be reviewed as well, because all data are available on the server. My – admittedly long-term – goal is to activate the sending of diplomas as PDF files, utilizing a newly designed diploma form. As of 2012, we also will provide a badge for the winner.

Digital modes are very popular, indeed. HAMNET, D-Star and DMR are progressing further, both in terms of hardware as commercially available radio sets, and in terms of software that works in the background. In contrast to analogue modes, the digital ones need databanks, gateways, and data links, which calls for the co-operation of various individuals, working groups and developers amongst us. This is where the different ideas for various operating systems, talk groups, and routing approaches in Hamnet are being developed. As I see it, the development clearly moves in the direction of a digital transmission in a data stream to include video, audio, ATV, Packet Radio, weather data, APRS, a further development of Echolink, etc. This data backbone, with HAMNET as the current transport media, will serve the various interfaces, be it D-Star, DMR, digital ATV repeater outputs, or interfaces for analogue repeaters. As I see it, one of the main tasks of IARU Region I to support this development is to provide for the required spectrum space in the band plans, and this has been already the case.

Another important factor are the interfaces among the systems. We have amateur radio operators who are enthusiastic software developers and can make digital systems fly by creating various platforms like data banks, services, user interfaces, and apps for mobile telephones. It takes standardized interfaces among the various systems to provide an environment for developers to integrate all current and future platforms and applications, so that they can be linked with data banks and servers. In this way, all of them can act on the same level, and there is no crowding out, which would be detrimental to the digital system as such, because users would shy away.

As I already have announced in Sun City, I shall resign from my post as Chairman at the 2014 Conference. By then I will have served in the VHF field for 24 years, and I think it's time for a change. With pleasure do I remember many interesting years, during which I had the privilege to meet outstanding hams, to lead emotional discussions, and to learn about so many different views. Please think of a successor.

Preliminary talks are possible in Vienna, and I shall be pleased to answer any questions about the tasks and the accompanying workload, too.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_02
Subject	70MHz Band Plan
Society	RSGB
Contact	Murray G6JYB murray.niman@rsgb.org.uk
Status	Proposal

### Introduction

In recent years the 70MHz band has seen successful growth in national allocations, spurred by the introduction of European Common Allocation Footnote EU9 which has assisted requests by National Societies.

This growth in usage has often been on restricted allocations rather than the full 70-70.5MHz range making band planning more complex. In 2011 Sun City the band plan was revised but has left a number of areas that need further consideration

### Proposals

**Beacons** – The expansion of the beacons section at Sun City has resulted in a disproportionately large proportion of the band being designated for their use. It is proposed that beacons should continue to be coordinated towards the bottom of the allocation to utilise the spectrum efficiently, and thus forestall a future re-planning exercise.

**70.25MHz** – MS Calling is currently designated at 70.25 – overlapping both the narrow and wider bandwidth all-modes boundary. This is clearly anomalous. In practice most MS schedules or random operation is announced on ON4KST, and the activity occurs lower in the band particularly where a common allocation exists between countries. As the national allocations are not completely harmonised yet, it is suggested to delete the 70.25 MS designation.

**EU9:** The footnote wording was slightly updated following comments by IARU-R1 to CEPT. The handbook should be updated accordingly

**Reference:** A major resource is at [www.70MHz.org](http://www.70MHz.org). It is worth noting that some regulators have been known to refer to the allocations chart on that website. Given its significance, it should be added as a reference to the 70MHz section of the VHF Handbook

### Recommendation

For discussion and updates to the VHF Handbook, based on the above.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_03
Subject	Increased Amateur-Satellite Service 144MHz Usage
Society	RSGB
Contact	Murray G6JYB murray.niman@rsgb.org.uk
Status	Proposal

### Introduction

At the meeting of IARU Region-1 held in Cavtat in 2008, the RSGB proposed the possible shared use of the lightly-used bottom end of the 144-146MHz band by linear transponders in the amateur-satellite service.

At Cavtat a decision was made to remove the EME-exclusive designation of the bottom 35kHz section, although the satellite-usage aspect failed to gain acceptance at the time. Since then, additional evidence of the need and support for the concept has been obtained, in order to enable this innovative and growing usage.

### Current Use

The Amateur-Satellite Service has, according to the ITU Radio Regulations, access to the full allocation of 144-146MHz but, by agreement of all three IARU Regions, currently only uses a sub-section of the allocation on an exclusive basis - namely 145.80 – 146.00 MHz.

It is presently used for both satellite uplinks and downlinks although the Cavtat Conference agreed to recommend its use for downlinks-only to reduce QRM from non-amateur signals being relayed if it used for uplinks. It is the most popular of the Amateur Satellite allocations for the following reasons:-

- It is the only band between 29.7 MHz and 24 GHz where we have Primary use and hence some control. The 435 MHz, 1.26, 2.4, 5.6, 5.8, and 10 GHz amateur satellite bands are all shared with either high power users (eg Primary radars), or large numbers of consumer devices which raise the noise floor.
- 144 MHz is the most efficient band for amateur satellite downlinks due to the relative ease and efficiency of on-board RF power generation and reduced path losses (9dB better than 437MHz).
- Receiving equipment is widely available. This is an important consideration in many countries where Amateur Satellites are seen as an important tool in encouraging young people to pursue technical self-training.
- Ready availability of launch opportunities where size constraints mean Attitude Control is often not possible. The lack of attitude control mandates the use of simple omni-directional antennas. This in turn means the use of VHF due to the lower path losses.
- The current 145.8-146 MHz section of the band is presently quite heavily used by Amateur Satellites. In addition, on the International Space Station, there is an Amateur Packet Repeater, and Voice operations from the Amateurs onboard also taking place in this narrow segment.

As at October 2011, there are 15 amateur satellite systems currently actively using the 144MHz band for either uplinks or downlinks (See Annex). They are all in low earth orbit and so are above the horizon for a maximum of about 15 mins per orbit. Depending on the ground station's latitude, these passes will occur 4 or 5 times per day.

## **Future Use Requirements**

An area that has been growing rapidly has been the development of Amateur Satellites by university students. Already, large numbers of students have been involved in developing Amateur Satellites. This growing activity is beneficial to both the students and the wider Amateur community. The students of today are becoming our successors and supporters of tomorrow.

A large number of both pure amateur radio, and dual-purpose amateur/educational spacecraft, are presently being developed and some are scheduled for launch during 2013.

An increasing tendency is for multiple Satellites to be carried by a single launch. The annex lists one such imminent launch scheduled for 2013, which is expected to deploy seven additional spacecraft, which will use the 145 MHz allocation.

The annex also lists several other planned satellites due in 2013 or shortly afterwards, demonstrating that the utilisation is growing. It can also be anticipated that additional and unexpected launch opportunities may occur.

There is therefore a need for an additional Satellite segment at 144 MHz that could be used for linear transponder downlinks for CW/SSB operation. This would free-up capacity in the current 145.8-146MHz segment to better accommodate FM/data modes.

Given that these linear transponders might have a bandwidth of between 20 and 30 kHz, the use of a segment approximately 35 kHz wide would be required to allow for Doppler shift, which can be as great as +/- 3 kHz. This activity would be restricted to satellites in Low Earth Orbit, so that signals would not be present for extended periods.

## **Background Research**

In 2008 it appeared that very little EME was then taking place at the very bottom of the 144MHz band, due to interference from computer oscillators. This section is already aligned worldwide and therefore it was considered that this could be a suitable part of the band to be used. More recent research and discussions suggest that this situation remains the same today.

Further research has concluded that the bottom 35 kHz of the 2 metre band is almost completely unused. However it is recognised that, in Region-1 at least, occasional brief terrestrial usage does occur - for instance during the IARU Region-1 CW contest (November), and when large scale auroral and tropospheric openings are underway.

The concept behind this proposal has also been presented and discussed at various IARU International Satellite Forums that have taken place since 2007, and has received full approval from the representatives who have been in attendance.

It is noted that some existing regional and national band plans restrict transmitted bandwidth to 500Hz or to CW-only; however the reception of signals from these transponders would not be affected by this restriction.

In mitigation it might be considered that the satellite band plan should have the CW portion at the top end of the proposed spectrum to aid compatibility with possible terrestrial operation in the proposed 144.000-144.035 section.

### **Recommendations**

- To permit those satellites which are launched into Low Earth Orbit, operating in the Amateur-Satellite Service, and which incorporate narrowband “linear” transponders, to use, on a non-exclusive basis, the 144.000 –144.035MHz section of the 2 meter band for down-link (satellite-to-ground) mode only.
- To accommodate the above by amending the existing 2 metre band plans in each IARU Region. This will enable more efficient accommodation of FM and data use at 145.8-146.0 MHz and also enable us to improve the spectrum efficient utilisation of our 144 MHz band.
- As an aid to compatibility to coordinate SSB from linear transponder operation to the lowest part of the new 144 segment (towards 144.000); and that CW be positioned at the upper end (near 144.035).

## Annex: 144MHz Amateur Satellites

### Currently active in the 144MHz Band

Satellite / Callsign	Object	Uplink	Downlink	Beacon	Mode
AO-7	07530	432.125-175	145.975-925	145.970	B,C
UO-11 (UoSAT-2)	14781	-	-	145.826	Beacon
AO-27 (EYESAT-A)	22825	145.850	436.795	436.795	1200bps AFSK,FM
FO-29 (JAS-2)	24278	145.900-999	435.900-800	435.7964	SSB,CW
NA1SS/ISS	25544	145.825	145.825	145.825	APRS
NO-44 (PCsat1)	26931	145.827	145.827	145.827	1200bps AFSK
SO-50 (SaudiSat-1c)	27607	145.850	436.795	-	FM_tone 67.0Hz
VO-52 (Hamsat)	28650	435.225-275	145.925-875	145.860	SSB,CW
PCSat2		145.825	435.275	437.975	9600bps FSK
DO-64 (DELFI-C3)	32789	-	145.870	145.8675	1200bps BPSK
Tlsat-1	36799	145.980	437.305	145.980	FM,AFSK,PSK,CW
FO-70 (FASTRAC-2)	37380	435.025	145.825	145.825	1200bps AFSK
Xatcobeo	38082	-	145.940	437.365	1200bps FFSK,SSR,CW
PW-Sat1	38083	435.020	145.900	145.902	1200bps BPSK,FM,CW
PRISM	33493	145.xxx	437.425	437.250	1200bps AFSK

### Amateur Satellites expected to be active in the 144MHz Band

#### Imminent: (in a single launch)

- **FUNcube-1** - Transponder uplink 435.150-435.130MHz downlink 145.950-145.970 MHz and beacon 145.935MHz (Netherlands)
- **FirstMOVE** - Telemetry downlink 145.970MHz (Germany)
- **Velox P11**- Telemetry downlink 145.980 MHz (Singapore)
- **Triton 1** - Telemetry and DSB transponder downlinks 145.815 MHz and 145.860MHz (Netherlands)
- **Delfi-n3Xt** - Transponder uplink 435.130-435.150 MHz downlink 145.880-145.970 MHz & Telemetry and DSB transponder downlinks on 145.870 MHz & 145.930MHz (Netherlands)
- **PUCPSat** - Telemetry downlink 145.840MHz (Peru)
- **Icube-1** - Telemetry and DSB transponder downlink 145.947 MHz (Pakistan)

#### Planned for later in 2013:

- **UKube-1** – Linear transponder downlink 145.930-145.950 MHz, telemetry downlinks on 145. 915 MHz & 145.840 MHz (United Kingdom)
- **KiwiSat** – FM voice transponder& telemetry downlink 145.865MHz & linear transponder downlink 145.850 -145.880 MHz (New Zealand)
- **FOX-1** – FM transponder downlink 145.xxx MHz (USA) – Amsat-NA



**Also Planned:**

- **ESEO** – DSB transponder downlink 145.xxxMHz (ESA)
- **CAS-2** - CW telemetry beacon 145.990 MHz, AX.25 digital telemetry beacon & voice beacon 145.815MHz, Linear transponder downlink 145.850 -145.900 MHz, (China)
- **Nanosatc-BR2** - Telemetry and DSB transponder downlink 145.865MHz (Brazil)
- **DynaCube** – Telemetry downlinks on 145.840 & 145.980MHz (South Africa)
- **MaxValier** - Telemetry downlinks on 145.860 & 145.960MHz (Italy)
- **Duchifat-1** -APRS downlink 145.825MHz plus DSB transponder downlink 145.980 MHz (Israel)
- **CAMSAT BUAA-SAT1** - FM voice transponder downlink 145.875 MHz, telemetry downlink 145.950 MHz and CW beacon 145.835MHz (China)

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_04
Subject	Band Plan Modernisation & Updates
Society	RSGB
Contact	Murray G6JYB murray.niman@rsgb.org.uk
Status	Proposal

### Introduction

In order to promote modernisation, updates are proposed to simplify the current band plans where usage/modes have either changed, are not used, or to correct errors.

### Background

The Vienna meeting provides an excellent opportunity to review band plans and incorporate simple changes/updates in line with current usage. The changes listed below have been collected together in this single paper as they are believed to be non-controversial and overdue. The following all refer to the band plans in Section-4 of the IARU-R1 VHF Managers Handbook v6.00

### Proposals

#### a) Fax

Review and potentially delete allocations to FAX at 70.3, 144.7, 432.7, 433.7 MHz  
- as compared to more modern designations for 'Image Modes' (SSTV/FAX) such as 50.55, 1296.5

#### b) 145MHz

- Rename of 145.500. '(mobile) calling' to 'FM Calling' (to be consistent with 433.5 below)
- Deletion of 144.630-144.660 Linear Transponder Outputs
- Deletion of 144.660-144.690 Linear Transponder Inputs

#### c) 430MHz

- Deletion of 432.5000-432.6000MHz - Linear Transponder Inputs
- Deletion of 432.6000-432.8000MHz - Linear Transponder Outputs
- Rename of 433.500 '(mobile) FM calling' to 'FM calling' (to match separate DV calling)
- Deletion of 439.9875 POCSAG (Paging)

#### d) 1240MHz

- Deletion of 1242-1243 Packet Radio (RS29-RS50)
- Deletion of 1270-1271 Packet Radio (RS29-RS50)

#### e) 24GHz

- Move wideband centre from 24125 in Secondary Segment, to 24025 in Primary Segment

### Recommendation

Update band plans in the VHF Handbook as per the proposals above.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_05
Subject	Recommendations for DATV Transmission
Society	RSGB
Contact	Murray G6JYB murray.niman@rsgb.org.uk
Status	Proposal

### Introduction

Digital Amateur TV (DATV) offer benefits for picture quality, spectrum efficiency and promotion of the amateur service. DATV developments should be recognised by the incorporation of new recommendations into the IARU-R1 VHF Managers Handbook.

### Background

The current IARU-R1 recommendations for ATV are based on analogue standards and the relatively large bandwidth used by FMATV. However most consumer television in Europe is now Digital and it is important that the amateur equivalent keeps pace and can also be used to promote the hobby.

Amateur TV (ATV) operators have been experimenting with Digital TV (DATV) transmissions for over ten years, initially using equipment obtained by those working in the broadcast industry. The first DATV experiments were used to determine performance differences between single carrier DVB-S (QPSK) and the wider bandwidth 7- 8 MHz multi-carrier (OFDM) DVB-T modes. Experiments over typical ATV paths using narrow beamwidth antennas, showed no significant multi-path benefits of DVB-T over DVB-S for ATV links.

It has been found that for ATV applications, acceptable video quality performance can be achieved with video bit rates between 2 and 4 Mbit/s. These bit rates mean that, even when used with high Forward Error Correction (FEC) rates, a very high quality robust ATV signal could be transmitted using DVB-S modes in an approximate 4 MHz bandwidth (4 MBit/s, ½ FEC, 4 Msymbols).

The results obtained with these new DATV experiments compares very favourably to the much wider 16MHz bandwidth analogue ATV signal. Benefits include significant spectrum efficiency over current analogue operations, and better sharing with Primary Users. As a result, DVB-S, as defined in ETSI EN 300-421, along with MPEG-2 audio and video encoding, is now adopted as the standard for DATV operation in the UK.

Results have not only been obtained for microwave bands, but also at 437MHz where DX reception of Digital Colour ATV has also occurred –a significant development.

ETSI EN 300-421 has been adopted, along with the use of the DVB compliant service information (SI), as defined in ETSI EN 300 468. The call sign is always transmitted as service name, for station identification compliance. Use of ETSI standards enables decoding and identification of the signal by any consumer decoder without the need for special hardware or software.

## Proposals

It is proposed that ETSI EN 300-421 and EN 300 468 standards, along with a subset of operating and frequency planning parameters, are adopted to ensure interoperability between DATV operators.

The spectrum efficiency of DATV has enabled new activity to occur in the 430MHz band using 2Ms/s. Advice from the IARU- R1 Satellite Coordinator has been to centre this at 437.0MHz in order to optimise sharing with the Amateur Satellite Service. This is already a feature of the RSGB 430 MHz band plan.

## Future Developments

Whilst DVB-S and MPEG-2 have been adopted for mainstream DATV operation, further projects are underway to investigate the use of MPEG-4 video coding to enable the use of lower symbol rate / narrower bandwidth DVB-S2 signals and the carriage of HD in 4 MHz bandwidths. This work may result in the potential of 'narrow bandwidth' (sub 1 MHz) DATV being possible on bands at 430 MHz and below where spectrum availability and band plans permit. As with the DVB-S developments, one of the main hurdles to overcome, apart from spectrum, has been the availability of suitable encoders

However, it is proposed that future DATV operation should continue to use the evolving open industry standards to enable reception of the signals on readily available consumer hardware.

## Recommendations

To initiate the modernisation of the IARU-R1 Handbook for ATV based on the following:-

- Incorporate a DVB-S based DATV standard, using the parameters as detailed in the Appendix.
- That the 430MHz band plan be amended to indicate that DATV should be centred at 437.0MHz, with a recommended maximum of 2M Symbols/s
- Future Proofing: Relevant ATV developments (spectrum, standards and band plans) should be kept under review to accommodate further updates for the VHF Managers Handbook
- That future DATV operation should continue to use the evolving open industry standards to enable reception of the signals on readily available consumer hardware

## Appendix - Recommendations for Digital Amateur Television (DATV)

DATV using DVB-S is recommended based on the following parameters:-

Frequency Band	Symbol Rate (Msymbols/s)	FEC	Maximum Bandwidth
432 MHz	1.66 2.00	$\frac{1}{2}$ or $\frac{3}{4}$	2 MHz
1.3 GHz Repeater i/p & simplex	2.00 4.00	$\frac{1}{2}$ or $\frac{3}{4}$	4 MHz
1.3 GHz Repeater o/p	4.00	$\frac{1}{2}$ or $\frac{3}{4}$	4 MHz
2.3 GHz	4.00	$\frac{1}{2}$ or $\frac{3}{4}$	4 MHz
3.4 GHz	2.00	$\frac{1}{2}$ or $\frac{3}{4}$	2 MHz
5.6 GHz	4.00	$\frac{1}{2}$ or $\frac{3}{4}$	4 MHz
All bands above 5.6 GHz	4.00	$\frac{1}{2}$ or $\frac{3}{4}$	4 MHz

### *Comments on UK Usage Information*

*UK adopted 437 MHz – proposed as international working frequency*

*FM and DATV mixed operation currently used due to cost & availability of equipment*

*UK sub band 1300 – 1325 MHz*

*No DATV operation at present*

*Restricted sub-band 3404 – 3410 requires 2 Msymbol operation*

*Mixed mode (FM & DVB-S) wireless cameras*

*4 Msymbol DVB-S on UK 10GHz ATV repeaters*

### Notes

ETSI EN 300-421 and EN 300 468 standards, along with a subset of operating and frequency planning parameters, should be adopted to:-

- Ensure interoperability between DATV operators
- Ensure compatibility with readily available consumer hardware

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_06
Subject	Shortwave links for Digital Communications and Voice
Society	DARC
Contact	Jochen Berns, DL1YBL@darcd.de
Status	Discussion

### Introduction

More and more radio amateurs might close down their station due to man-made noise on HF bands. Furthermore building of appropriate HF antennas is already difficult in urban areas today and does not allow the use of the HF bands as desired. Digital voice (DV) applications will become more popular in future. Today some local VHF or UHF repeaters are connected worldwide via Internet if possible. Unfortunately in some areas an Internet connection is not available for several reasons.

One could evaluate whether it might be possible to use HF frequencies for links to connect local VHF or UHF repeaters. After an agreement to use HF for such links, a protocol, frequencies, principles and transfer method for Data, Voice, Video and more has then to be defined.

### Background

A common standard for communication in DV or for Data links does not exist yet. Some stations worldwide are using the DSTAR Protocol, with GMSK Modulation and approximately about 6 kHz bandwidth.

It might be possible to develop a software for a fading resistant modulation scheme which is comparable to SSB.

### Key points and discussion

A discussion should take place whether HF links for DV are possible and desired. Frequencies, methods and transfer characteristics then have to be defined in accordance with the HF bandplan requirements. Such a discussion about this issue should take place in C4 and C5, because both committees are affected.

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INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_07
Subject	Contest Evaluation Procedure
Society	DARC
Contact	Jochen Berns, DL1YBL@darc.de
Status	Proposal

## Introduction

IARU R1 introduced in 2012 the contest robot for evaluating the IARU R1 VHF/UHF/SHF-contests, due to make results public short after the deadline. The success of the IARU R1 contest robot is very unsatisfying, because there are still no official results, partially there are even no claimed scores. Details are summarized in the attachment.

## Background

Several changes were agreed in the last years for evaluating the IARU R1 VHF/UHF/SHF-contests. In 2012 the IARU R1 contest robot was introduced. The results can be summarized as follows:

- In the VHF-Managers Handbook a mixture of old and new procedure is written. The description is no longer consistent and did not meet the past decisions within IARU R1 and the C5 committee.
- Some of the last decisions were not realized or ignored.
- The number of submitted logs has decreased dramatically:
  - September 2011: approx. 1600 logs      2012: approx. 930 logs
  - October 2011: approx. 2200 logs      2012: approx. 960 logs
- C5 decided, that the evaluating society would be responsible for the last decision about the contest results. But for September and October 2012 no society was appointed for duty.
- Currently (January 2013) both results for the October-contest and claimed-scores are still not available, because the results of the Millimeter-group and the over all results are still missing.

The evaluation of the MMC for 2010 and 2011 shows, that the old procedure can work very well, when some preconditions will be met.

## **Key points and proposal**

For providing contemporary and reliable VHF/UHF/SHF-contest results, the old procedure (cp. VHF-Managers-Handbook 5.42, 5.2) has to be reestablished with retroactive effect from 2012 with some modifications. The modified old procedure should be used until IARU R1 contest robot work in satisfying matter.

Similar to the MMC one society should be announced for evaluating the contest. All logs have to be sent via email.

## **Recommendation**

The contest evaluation procedure in accordance with VHF-Managers-Handbook 5.42, chapter 5.2 will temporarily be reestablished with retroactive effect from 2012 with the following preconditions:

- Articles E and F were no longer used, because they are no longer up to date.
- One society will be appointed for evaluation the June-, September- and October-contest (starting in 2012) for the next years, until the society will resign.
- The temporally period ends when the agreed improvements are implemented in the IARU R1 contest robot and the robot works in a satisfying matter.



## Attachment

Decision	Result in 2012
<p>2010: Significant change of the contest evaluation procedure. <i>Vienna 2010: Document B16 (Raification of Paper SC11_C5_09 in the year 2011)</i></p> <p>Meeting Minutes Document B16, SC11_C5_09 PROCEDURE FOR ORGANISING IARU REGION 1 CONTESTS</p> <p><i>“HA2VR proposed a compromise whereby the server remains restricted to national contest managers during 2010, and during that period national contest managers have the opportunity to compare results from the IARU robot with their own procedures. If they are happy, then the new procedure may be taken to the 2011 conference.”</i></p>	<p>There was no test/test period. Server was not restricted to contest managers. Logs from iaru.oevsv.at are not available for contest managers, so a comparison of iaru.oevsv.at with the national procedure was impossible.</p>
<p>2010: Document B16, SC11_C5_09 (C) <i>The organizing society shall use any suitable means to announce the contest and invite all the amateur radio operators to participate in the contest.</i></p>	<p>No organizing society was appointed.</p>
<p>2010: Document B16, SC11_C5_09 (E) <i>Logs from each participant must be sent to their own, nationally agreed, address not later than the second Monday after the end of the contest.</i></p>	<p>The server iaru.oevsv.at accepted logs for a period of about four weeks. So the first national results are available before this dead line. Participants are able to correct their logs based on the national evaluation.</p>
<p>2010: Document B16, SC11_C5_09 (F) <i>[...] 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&amp;up Contest Robot for automatic (two way) exchange of the contest logs. [...]</i></p>	<p>There is no upload path for an automated submission of logs to the iaru log robot.</p> <p>Log exchange is not possible (two way exchange). Downloading the logs from the IARU log robot for national evaluation is not possible.</p>

<p>2010: Document B16, SC11_C5_09 between uploading of the log and the log submission deadline: <i>(I) [...] Only the call sign and the upload date and time shall be published - the list shall not contain any other data. [...]</i></p>	<p>Callsigns and locators are visible, so participants could check and correct received callsigns and/or locators.</p>
<p>2010: Document B16, SC11_C5_09 <i>(J) The IARU R1 VHF&amp;up Contest Robot shall publish results based on claimed scores not later than third Wednesday after the end of the contest. The list must contain: place, callsign, locator, claimed and recalculated scores, number of QSOs, ODX Call, ODX locator, ODX QRB.[...]</i></p>	<p>IARU robot is not able to publish recalculated claimed scores.</p> <p>No claimed score result were published at this time (log submission was still open).</p> <p>Actually (December 2012, January 2013):</p> <ul style="list-style-type: none"> <li>- there is sometimes no result for the VHF contest</li> <li>- There is no result and no claimed score result for the Millimeter-Group<sup>1</sup> and the Overall<sup>2</sup> section of the October contest.</li> <li>- Some logs are listed with higher score, but no „Rang“.</li> <li>- There are duplicate calls with „Rang“ 1 (but different points)</li> <li>- Some logs (even with a high score) are neither evaluated nor listed as checklog (or something like this).</li> </ul>
<p>2010: Document B16, SC11_C5_09 <i>(J) [...] All the logs shall be made available to all national VHF/Contest managers for their national crosscheck purposes.</i></p>	<p>Logs are not available for national contest managers</p>
<p>2010: Document B16, SC11_C5_09 <i>(L) The IARU R1 VHF&amp;up Contest Robot shall publish the unofficial results not later than the third Thursday after the end of the contest.</i></p>	<p>Actually (January 2013) there is no result and no claimed score result for the Millimeter-Group and the Overall section of the October contest 2012.</p> <p>The results of some other sections are strange (for example: duplicate Rang 1 entries for 435MHz single operator)</p>

1 The scoring of the sections 24GHz and up is combined in the Millimeter-Group (5.3.9, Handbook V6.00)

2 The scoring for 435MHz, 1.2GHz, 2.4GHz, 5.7GHz 10GHz section and the Millimeter-Group is combined by an adaptive multiplier system (5.3.12, Handbook V6.00)

<p>2010: Document B16, SC11_C5_09  <i>(L) The list of results, separated by band and by section, shall include at least the following data: callsign, locator, score, number of QSOs, number of deleted QSOs, percentage of deleted QSOs, ODX call sign, ODX Locator and ODX QRB.</i></p>	<p>Data of the (valid) ODX QSO is not listed at iar.u.oevsv.at</p>
<p>2010: Document B16, SC11_C5_09  <i>(O) The organising society shall publish the official results not later than the eighth Friday after the end of the contest. [...]</i></p>	<p>Because there is no organizing society, there are still no official results available.</p>
<p>2010: Document B16, SC11_C5_09  <i>(O) [...] The list of stations with unreliable logs together with comment on unreliability should also be published. [...]</i></p>	<p>It seems, that all logs are used for evaluation - even all unreliable logs (even logs with lots of missing QSOs). There seems to be no procedure to identify unreliable logs like logs from wrong sections or wrong contests, logs with wrong callsign or locator etc.)</p>
<p>2010: Document B16, SC11_C5_09  <i>(P) The organizing society will receive the certificates from the chairman of the VHF/UHF/Microwaves committee [...] Optionally, certificates for all participants may be provided by the Robot in pdf format.</i></p>	<p>Because there are no results, there are also no certificates available.</p>
<p>Document SC11_C5_49 Contest Robot (Ratification in the year 2011)   <i>[...] The final evaluation is the responsibility of the organizing society. [...]</i></p>	<p>Because there is no organizing society, there are no final results for September 2012 and October 2012.</p> <p>This sentence was important to get vote for this paper, but it is not possible to make a final evaluation for the organizing society. There are no tools available to make major modifications/changes.</p>

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_08
Subject	Repeater Access Methods
Society	DARC
Contact	Jochen Berns, DL1YBL@darc.de
Status	Proposal

## Introduction

The technical recommendations in the VHF-Managers Handbook 6.0 given on Page 120, FM.2 Clause 10 and Clause 2 need to be reconsidered, because of contradictory requirements in the text.

## Background

Clause 2

**2. Operation:** Without a new selective call the operating time for a repeater shall be between 3 – 10 minutes. The frequency of the selective call shall be 1750 Hz. **As an alternative the CTCSS and/or DTMF as described in below can be used.** When the signal to be relayed has disappeared or the operating time has come to an end the repeater station shall send its own call, and 15 seconds thereafter the transmission shall be interrupted. It should not be possible to interrupt the automatic identification transmission by a selective call. For the station identification F2A modulation shall be used.

When working through a repeater station the lowest usable power consistent with good communication is recommended.

ITEM 10

**10 CTCSS:** The use of CTCSS as an alternative or an addition to 1750Hz tone access shall be encouraged for VHF and UHF repeaters in Region 1 with the aim of reducing inadvertent interference by users to repeaters sharing the same input channel. To minimise mutual unwanted interference, **all FM repeaters will incorporate CTCSS tones on receivers as well as on transmitters. The transition period ends by the end of 2014.**

**11. DTMF:** The DTMF system as specified below can be used as an alternative to the control of repeaters, voice mail boxes etc.

## **Key points and proposal**

In Clause 2 (Operation) 1750 Hz or CTCSS can be used as alternative but in Clause 10 only CTCSS shall be used after 2014. These items are conflicting. The texts of both items need to be harmonised for doubtless understanding.

## **Recommendation**

Clarify the objection in the VHF-Managers Handbook. To point out, that both CTCSS and 1750 Hz Repeater Access Tone are appropriate methods. To delete the “end of transition period” in Clause 10. To add a recommendation in Clause 10 to use CTCSS in densely populated areas in order to avoid interferences.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_09
Subject	<b>DV Simplex and Hotspot (IDVG) frequencies on 145 MHz</b>
Society	NRRL
Contact	LA8KV Kjetil Toresen
Status	Proposal

### **Introduction**

Changes in the MODE and USAGE for DV in VHF bands. This proposal deals with 145 MHz. Equal solutions should be made for 435 MHz.

### **Background**

Current bandplans indicate mixed mode on several segments. DV and FM are shared modes in hole off the previous FM segment. Bandplans footnotes indicate that DV users should check for any FM traffic before starting a QSO.

This combination of MODE is frustrating for FM users and for DV users. Rapid growth in DV usage will create more frustration. To avoid short time conflicts it will be a good idea to allocate segment for DV. In this also include segments for DV Simplex IDVG as done for FM. NRRL feels that the current segment 144.794 – 144.962,5 is the right place for such allocations.

This will give DV users a segment for Gateways and a simplex area. Furthermore as technology improves the canal spacing can be reduced to 6,25 KHz

### **Previous discussions**

C5 decision on mixed DV/FM in all previous FM Segment was done with very few Against's. This should not refrain us from clearing up the mess.

## Recommendation

NRRL recommend that the part off the segment 144.794 – 144,625 (currently All Mode) shall be used for Simplex IDVG and DV Simplex canals. The segment's only USAGE is 144.800.

144,8000	APRS	MGM
144,812,5		MGM
144,8250	Sekundær APRS	MGM
144,837,5	DV Hotspot (IVG)	DV
144,8500	DV Hotspot (IVG)	DV
144,862,5	DV Hotspot (IVG)	DV
144,8750	DX cluster	MGM
144,887,5	DV Simplex	DV
144,9000	DV Simplex	DV
144,912,5	DV Simplex	DV
144,9250	PACKET	MGM
144,937,5	DV Simplex	DV
144,9500	PACKET og DX cluster	MGM
144,962,5	DV Hotspot (IVG)	DV

In Nations where PACKET and DX cluster not are in operation the hole segment can be used for DV / DVIG with the exception off 144.800

Footnote h must be chanced (amendments): Digital Voice gateways is allowed in this segment

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_10
Subject	<b>National VHF+ Activity Contests</b>
Society	NRRL
Contact	LA8KV Kjetil Toresen
Status	

### Background

Contests in the amateur radio bands are important in order to show, and to document, the amateur radio activity: *"use them, or lose them"*. In addition, contests are good for training operators. And many radio amateurs find that the competition scene is important for them, in order to test their operating skills, their radio station, and their antennas.

In addition to the occasional IARU Region 1 VHF and higher frequencies [all above 30 MHz; here called VHF+] contests, a number of national societies arrange their own activity contests weekly on different VHF+ bands. National activity contests are important for the national societies, because participations in such frequent national activity contests document the activities in such bands, which is useful when negotiating amateur radio privileges with the national authorities.

The national societies wish a high participation in their national activity contests. But high participation is dependent on if there are stations to work. A higher presence of stations to contact, will make it more fun to participate in the activity contests; hence the participation in the national activity contests should rise.

Furthermore, IARU Region 1 has previously discussed measures to reduce the spread of contests over the calendar, by merging contests or having more contests being arranged on the same days, with similar exchange reports.

The Nordic Activity Contest (NAC) started back in the nineteen-fifties (1954?). It started locally in Scania (South Sweden) on 144 MHz, and NAC has developed ever since. Although its rules are not static. [The NAC Open Class was started in 1989, to encourage activity outside the traditional Nordic countries, and is organized by the EDR (The Danish Ham Radio Organization). To participate in the NAC Open Class, non-Scandinavian participants need QSOs with at least 2 Scandinavian stations, according to the NAC rules.]

The Nordic countries have via their Nordic Radio Amateur Union (NRAU) agreed to arrange their weekly VHF+ activity contests, Nordic Activity Contest (NAC), for many decennia. **The agreement involves mainly the time periods for the different weekly activity contests, and the similarity of exchange reports.**

Other countries have decided to have their own activity contests at the same times as NAC, with similar exchange reports, in order to increase participation. This move has been successful both for the the other countries and the NAC.



Examples:

LYAC (LY) since 1999. To apply, non-Lithuanian participants need at least 1 QSO with an LY station.

UKAC (G) since 2001? *Some* bands held on the same dates, the time differs, but overlaps some.

IAC (Italy) since 2004.

SPAC (Poland) since 2005. To apply, non-Polish participants need at least 1 QSO with SP station

RUAC (Russia) since 2006. To apply, non-Russian participants need at least 1 QSO with an RA/RU/RK... station. There are other slight differences in rules : digital modes added; yearly results are made of 6 best monthly scores.

YLAC (Latvia) since 2007.

[Thanks to Ivan, OZ7IS, for the information about the NAC history and development.]

We see that NAC could benefit from increased activity from other Region 1 countries. We also note that other societies could benefit from increased activities, for instance even for RSGBs UKAC (United Kingdom Activity Contests), by coordinating some of the bands.

### **Recommendation**

NRRL wants to propose the following *advisory recommendation*:

**National societies wishing to increase participation in their national VHF+ activity contests, may consider arranging their national activity contests during the same periods as the NRAU Nordic Activity Contests (NAC) and some other nation's activity contests, and to use a similar QSO exchange (RST report + full 6-character Maidenhead Locator).**

## Appendix

Periods and essential rules for the NRAU Nordic Activity Contests (NAC):

**Time:** 1900 - 2300 Central European Time (CET; UTC+1), including summer daylight savings time (UTC+2)

**Bands:** 50 MHz: 2nd Thursday in the month

70 MHz: 3rd Thursday in the month

144 MHz: 1st Tuesday in the month

432 MHz: 2nd Tuesday in the month

1296 MHz: 3rd Tuesday in the month

2.3 GHz & up: 4th Tuesday in the month

28 MHz: 1st Thursday in the month: CW 1st hour; SSB 2nd hour; FM 3rd hour; MGM 4th hour

**Modes:** Usage according to IARU Region 1 bandplan; QSOs via active repeater, satellite or EME will not count in these contests

**Exchange:** RST report + full 6-character Maidenhead Locator.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_11
Subject	SSB/CW Contest in the 70 MHz band
Society	VERON
Contact	Rob Hardenberg, PE1ITR
Status	Proposal

### Summary

This Recommendation provides a VERON proposal for an SSB/CW contest in the 70 MHz frequency band. It provides the relevant information with respect to rules, time planning and duration.

The IARU-R1 VHF/UHF/Microwave Committee (Vienna 2013),

*considering*

- a) that within IARU-Region 1 in more than 40 DXCC countries the 70 MHz frequency band has been allocated to the amateur service;
- b) that the number of countries where the amateur service has access to the 70 MHz frequency band is growing;
- c) that it is desirable that the use of the 70 MHz band shall be encouraged and the activity on this frequency band is increased;
- d) that during the third weekend of June the IARU 50 MHz contest is organized;
- e) that during the first weekend of July the harmonized national VHF-UHF contests are planned,

*recognizing*

- a) that during the summer season there is a high probability of sporadic-E propagation, allowing long distance communication on 70 MHz;
- b) that the month of June is preferred for a 70 MHz SSB/CW contest;
- c) that, to ensure concentration of activity, a 70 MHz contest must take place in a weekend separate from other VHF contests in the same period;
- d) that the rules for the existing official IARU-Region 1 VHF contests, set out in the VHF Managers Handbook, can be applied to a 70 MHz contest,

*recommends*

1. that member societies encourage the use of the 70 MHz frequency band;
2. that every year an IARU-Region 1 70 MHz SSB/CW contest shall be organized during the first full weekend of June;
3. that this contest shall run for 24 hours from 14:00 to 14:00 UTC;
4. that the rules for this contest shall be mentioned in the VHF Managers Handbook;
5. that the chairman of the VHF/UHF/Microwave committee shall be invited to update the VHF Managers Handbook,

*requests the Chairman of the VHF/UHF/Microwave Committee*

to bring this Recommendation to the attention of the 2014 IARU-Region 1 General Conference, V

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_12
Subject	Frequency of WSPR beacons in the 144 MHz band
Society	VERON
Contact	Peter Hoefsloot, PA3BIY
Status	Proposal

## INTRODUCTION

This document provides a VERON proposal to change the frequency of WSPR beacons in the 144 MHz band.

WSPR transmissions are considered as beacons. Contrary to conventional beacons, which are geographically static, the place and time may change dynamically. Frequency assignment and location of conventional beacons are coordinated, i.e. an attempt is made to optimize the use of the allocated spectrum and to prevent interference.

## EXPERIENCES

The allocation of WSPR to 144.4905 MHz has caused harmful interference in large parts of Western Europe. Over the past year the reception of DBØFAI (144.490 MHz) has often been impaired, due to the ad hoc appearance of (strong) WSPR beacons. The ad hoc character of these beacons requires a much larger guard band in order to safeguard the reception of static beacons.

## SOLUTION

An adequate solution may be found by shifting WSPR to a slightly higher frequency.

The 144-146 MHz bandplan gives no allocation for the frequency band 144.491 - 144.500 MHz. This part of the band is solely used as a guard band between the Beacon band and the All Mode allocation. The All Mode frequency band 144.500 MHz and up is mainly used for transmissions requiring < 12.5 kHz bandwidths (even though the maximum allowable bandwidth is 20 kHz). 144.500 MHz is the SSTV calling frequency, for which either SSB or (narrow-band) FM is used.

Shifting WSPR to 144.492 MHz would still prevent interference to narrow band (FM, 12.5 kHz bandwidth) and SSTV (either 3 kHz SSB-mode or narrow band FM bandwidth) users, and would provide the required safeguard for the Static Beacons.

## PROPOSAL

- 1. That the frequency allocation for WSPR beacons in the 144 MHz band shall be shifted from 144.4905 MHz to 144.4920 MHz.**
- 2. That the 144 – 146 MHz bandplan shall be updated accordingly.**

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_13
Subject	Amendment of IARU-R1 ATV contest rules
Society	VERON
Contact	Roel van Dijk PA1DYK
Status	Proposal

## INTRODUCTION

This document provides a VERON proposal for an update of the actual rules of the IARU-R1 ATV contest as described in section 5.7 of the VHF Managers Handbook.

Annex 1 contains the proposed amendments to the ATV contest rules. Deletions in the text are indicated in striked out red characters, while additions are showed in underlined blue. Comments are mentioned in separate text boxes.

## MOTIVATION

- Simplification. It is more clear what is needed in practise.
- Encourage 'Rover stations' and 'moving to other locations' to stimulate general ATV activity.
- Make it possible to use technical solutions for longer cables, to stimulate innovations like kite flying, RC helicopters, etc. and to avoid technical solutions as 'via internet remote controlled stations'.

## PROPOSAL

1. That the IARU-R1 ATV contest rules shall be amended in accordance with this proposal.
2. That the VHF Managers Handbook shall be updated accordingly.

## ANNEX 1

### 5.7 RULES IARU-REGION 1 SEPTEMBER ATV CONTEST

#### 5.7.1 Contest sections

The contest will comprise two sections on each UHF/Microwave band on which ATV transmissions are authorized:

##### Section 1 - Transmitting:

This section is entered by all those who use transmitting equipment to send pictures for the purpose of establishing two-way vision communication, or those transmitting any other mode for the purpose of establishing one-way vision communication with a transmitting television station.

##### Section 2 - Receiving:

This section is entered by all those who use receive-only television equipment and do not attempt to communicate in any way with other participating television stations in order to influence their operations.

A station operating under section 1 on any single band will automatically be classified also as such on the other bands where ATV is allowed.

#### 5.7.2 Eligible entrants

No more than one transmitter may be in use at any one time. All the equipment of the station (transmitters, receivers and antennas, etc) must be located within a single circle of no greater than 500 metres diameter.

##### Section 1:

All licensed radio amateurs in Region 1 can participate in the contest. Multiple operator entries will be accepted, provided only one callsign is used during the contest. The contestants must operate within the letter and spirit of the contest and at no greater power than permitted in the ordinary licenses of their country. Stations operating under special high power licenses do so "hors concours" and cannot be placed in the contest proper.

##### Section 2:

All amateurs within IARU-Region 1 who possess ATV receiving equipment.

#### 5.7.3 Date of contest

The contest will begin on the second Saturday of September.

#### 5.7.4 Duration of contest

The contest will commence at 1800 UTC on the Saturday and will end at 1200 UTC on the Sunday.

It is recommended that the national societies will run their ATV contests at the same time as the IARU Region 1 ATV contest takes place (~~1800 UTC – 1200 UTC~~).

Times in UTC are mentioned already in the first sentence. No additional value to repeat it.

### 5.7.5 Contacts

For contest scoring purposes a participating station may be worked or viewed only **once** on each band.

In case a participating station has moved a minimum of five kilometres, the station may be considered as a new station. Therefore, the transmitting station should use a new logsheet and four digit code.

To make it possible to consider a moved (rover) station as a new station, it is proposed to add this second sentence.

Contacts made via active repeaters or transponders do not count for points.

A wireless video link that is only used to send the video signal from the stations receiver to the same station over a maximum distance of 500 meter shall not be considered as a repeater or transponder.

In case of technical innovations it is wise to have the definition of a repeater or transponder clarified. Also to avoid 'remote stations' via internet. This is also in line with the first sentence of section 5.7.2. For that reason it is proposed to add this second sentence.

### 5.7.6 Types of emission

On each band on which ATV transmissions are allowed, contacts may be made using the mode(s) authorized for ATV on that band.

### 5.7.7 Contest exchanges

The following information shall be exchanged during a contact:

- i) a codenumber

For each band used a transmitting station shall choose a four-figure code group that shall **not change** throughout the contest, unless a moved station (as defined in section 5.7.5) is involved.

The moved station should use a new four digit code to transmit. The moved station should request stations that were logged on other locations to transmit a new four digit code and mention it as remarks in their logsheet.

In case of a moved station (proposed in 5.7.5), **both** transmissions should be verified by new digits. The moved station also by using a new logsheet with new locator. The base station should also use a new four digit code while transmitting to the moved station. Because for the base station only the code will be different for that contact, it should be enough to have that code mentioned as 'remarks' on the logsheet. It is proposed to add: 'unless a moved station (as defined in section 5.7.5) is involved. The moved station should use a new four digit code to transmit. The moved station should request stations that were logged on other locations to transmit a new four digit code and mention it as remarks in their logsheet'.

The four figures shall neither be the same (e.g. 2222) nor consecutive (e.g. 4567 or 5432). ~~Stations using such groups shall be disqualified.~~

It has no added value to point to disqualification; disqualification is applicable for all aspects mentioned in these rules (in accordance to section 5.7.10). Proposal: delete 'Stations using such groups shall be disqualified'.

THIS CODE GROUP SHALL BE EXCHANGED IN VIDEO ONLY AND SHALL NOT BE TRANSMITTED BY ANY OTHER MODE THAN VISION.

(Reporting the sum of the four digits via other mode then vision is acceptable by the viewing station The transmitting station may answer with yes or no).



In case of many contest stations with B2/B3 signals, it is not always clear if the involved station is seen. For station verification, it is recommended to add the following sentence between brackets: '(reporting of the sum of the four digits via other mode than vision is acceptable by the viewing station, the transmitting station may answer with yes or no)'

- ii) On different bands a different code group - obeying the above rules - must be used.  
Call sign ~~(also in video)~~

It makes no sense to oblige to have the call sign in video. Especially in weak signal views. Proposal: delete 'also in video'.

- Vision ~~and sound~~ report

In practise: no one cares about sound during a contest. Proposal: delete 'and sound'.

- IARU Locator ~~(also in video)~~

It makes no sense to oblige to have the locator in video. Especially in weak signal views. Proposal: delete '(also in video)'.

- Contact serial number, starting with 001 on each band used and increasing by one for each successive contact on that band, no matter if a new logsheet is applicable.

For the moving stations as proposed in 5.7.5, this rule is also valid. No matter that the moved station uses a new logsheet. Proposal to add: ',no matter if a new logsheet is applicable'.

For the vision report the internationally recognized codes B0 to B5 shall be used:

- B0 - No picture perceived
- B1 - Synchronisation with very little picture contents
- B2 - Only large images (call sign etc.) perceivable
- B3 - Picture noisy but some detail resolved
- B4 - Picture slightly noisy but with good detail and resolution
- B5 - Noise-free picture

~~For the sound report the codes T0 to T5 shall be used:~~

- ~~T0 - No sound~~
- ~~T1 - Audible but unintelligible sound~~
- ~~T2 - Partly intelligible sound~~
- ~~T3 - Noisy, but intelligible sound~~
- ~~T4 - Slightly noisy sound~~
- ~~T5 - Perfect noiseless sound~~

~~The report (e.g. B4T4) is followed by the suffix 'C' if the transmission is received in colour.~~

In practise: no one cares about sound or colour during a contest. Proposal: remove sound and colour reporting.

## 5.7.8 Scoring

### Section 1:

A two-way exchange of the four-digit code group by vision together with the exchange of the other information specified in rule 7 by vision or any other mode of transmission shall score:

for contacts on the 435 MHz band : 2 points/kilometre

for contacts on the 1.3 GHz band : 4 points/kilometre

for contacts on higher bands : 10 points/kilometre

If only one station received the four-digit code group, and the other information specified in rule 7 was exchanged, the scores for *both* stations shall be reduced by 50%.

## Section 2:

Reception of the four-digit code group by vision and of the other information specified in rule 7 shall score:

for reception on the 435 MHz band : 1 points/kilometre

for reception on the 1.3 GHz band : 2 points/kilometre

for reception on higher bands : 5 points/kilometre

Notes.

i) For scoring purposes all valid contacts shall be deemed to have taken place over a distance of at least 5 kilometres, even if the two stations in contact have the same or adjacent IARU Locators.

~~ii) In order to make contest scores comparable, for the conversion from degrees to kilometres a factor of 111.2 should be used when calculating distances greater than the 5 kilometres mentioned under i) with the aid of the spherical geometry equation (Noordwijkerhout, 1987).~~

Unclear additional value of 'ii'. Nowadays everyone uses PCs to calculate distances, likely no one remembers what 'Noordwijkerhout, 1987' means. Proposal: delete 'ii'.

### 5.7.9 Entries

The entries must be set out on log sheets fulfilling the requirements given under rule 12.

~~Multi-operator stations shall be clearly marked as such.~~

No added value because no multi-operator section exists. Proposal: remove this sentence.

A copy of the logs must be sent to the national ATV Manager, VHF Manager or the national Contest Committee ~~postmarked~~ not later than the third Monday following the contest weekend. Late entries will not be accepted. The submission of the logs implies that the entrant accepts the contest rules.

'postmarked' is outdated because all logsheets come by email. Proposal: delete 'postmarked'.

### 5.7.10 Judging of entries

The judging of the entries shall be the responsibility of the organising society, whose decision shall be final. Entrants deliberately contravening any of these rules or flagrantly disregarding the IARU Region I bandplans shall be disqualified. Minor errors may result in loss of points.

The claimed contact will be disqualified for an obviously wrongly stated Locator, callsign, codenumber, or a time error of more than 10 minutes.

### 5.7.11 Awards

The winner in each of the two sections on each band and the overall leading station shall receive a certificate, within six weeks after due date for sending the logs.

Would it not be logical to mention also a timeframe here? For example add: 'within six weeks after due date for sending the logs'.

The organising society may also send certificates to all entrants if they so wish.

### 5.7.12 Logsheets

For every individual band, a separate logsheet should be used. A moving station (as defined in section 5.7.5), a separate logsheet should be used every time the station has been moved.

To identify on what band is viewed, for every band a separate logsheet should be used. This is not clearly mentioned. Proposal: add the following sentence: 'For every individual band, a separate logsheet should be used. A moving station (as defined at 5.7.5), a separate logsheet should be used every time the station has been moved'.

The logsheets used for the IARU Region I UHF/Microwaves ATV contest shall have an **upright** format not smaller than A4 and shall show the following columns in the order named:

Unclear why the logsheets must be 'upright'. Especially since the data is mostly sent as an (excel) file and it is hardly possible to have all reported data filled out in an upright format. Proposal: delete 'upright'.

- date
- time in UTC
- callsign of the station worked/seen
- report sent: B# report followed by serial number ([not applicable for section 2](#))
- report received: code number (vision!) followed by B# report and serial number (~~sections 1 and 2~~)
- IARU Locator received (~~sections 1 and 2~~)
- number of points claimed

It would make sense to have clear that the report sent is not applicable for section 2 only. The rest is therefore applicable for section 1 and 2. Proposal: remove 'sections 1 and 2', replace 'section 1' by 'not applicable for section 2'

~~Note. — A contest entrant must clearly mark crossband QSO's on the logsheet for the band on which the transmission was made.~~

Since the only classifications are section 1 and section 2, the added value of this note is unclear. If a transmission is seen on one band, points are valid for that band. Proposal: delete note.

A standard cover sheet, containing the essential information required to judge the contest entry and with a separate space for the comments of the national Contest-manager should be used for each band. The following information should be submitted:

- name and address of the first operator
- station call sign
- contest section
- station IARU Locator
- bands used, with the four-digit code group used for each band
- ~~— multi- or single-operator~~
- ~~— call-signs of other operators, if any~~

Since no multi-operator section is applicable, it makes no sense to have this information added. Proposal: delete '- multi- or single-operator' and '- call-signs of other operators, if any'.

- claimed score [for each band.](#)

To add: 'for each band'.

The coversheet should show the signature of the first operator certifying the correctness of the log(s) submitted.

In case of digital delivery of the log, a typed name is the alternative of the signature.

Signature is impossible while delivering the logs in a digital manner.

Proposal: add a sentence like 'In case of digital delivery of the log, a typed name is the alternative of the signature'.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_14
Subject	Assign preferred frequencies for repeaters & gateways in the 4m band
Society	UBA
Contact	ON7EQ
Status	Proposal

### Background

In several countries within IARU R1 , the 4m band becomes available to the amateur service. In order to promote the activity on this band, experiments with (simplex) repeaters and/or (internet) gateways , for FM & GMSK modulation (so called 'digital voice') should be made possible in structural manner.

### Current situation

In the existing 4m band plan, there are no frequencies allocated to repeaters and/or gateways in the segment 70.250 – 70.500

### Proposal

To recommend the frequencies of 70.3875 , 70.4000 & 70.4125 Mhz for these services, both for FM & GMSK modulations, in accordance with the 12.5 kHz channel spacing foreseen in the segment.

### Remarks :

With respect the IARU R1 VHF Manager's Handbook, chapter 4.3 page 37, following typographic errors / omissions to be corrected:

1. For footnote (a) : include reference (a) next to the segment reserved for "Coordinated Beacons"
2. For the segment 70.250 – 70.294, change the reference in the MODE column of footnote (a) into (b), in order to refer to correct footnote.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_15
Subject	Extend the modulation method for Internet Voice Gateways in the 70cm band
Society	UBA
Contact	ON7EQ
Status	Proposal

## Background

There are several solutions available today to allow experimentation with internet gateways for 'digital voice' with embedded data traffic ,either COTS equipment (like the D-STAR DVAP – Digital Voice Access Point) or homebrew equipments.

## Current situation

In the existing 70cm band plan, there are a number of frequencies allocated to **FM** Internet Voice Gateways (433.950, 433.9625, 433.975, 433.9875, 434.0125, 434.434.025, 434.0375, 434.050 MHz), but no frequencies are allocated for Digital Voice gateways.

## Proposal

To allow as well the usage of GMSK on these frequencies to allow 'Digital Voice' simplex gateways. To make it simple, the reference 'FM' as modulation method should be dropped in footnote (n) page 47.

Consequently, on page 45 footnote (f) should be deleted.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_16
Subject	Extend the modulation method for Internet Voice Gateways in the 23cm band
Society	UBA
Contact	ON7EQ
Status	Proposal

## Background

There are several solutions available today to allow experimentation with internet gateways for 'digital voice' with embedded data traffic.

## Current situation

In the existing 23cm band plan, there are a number of frequencies allocated to Simplex **FM** Internet Voice Gateways (1297.900-1297.975 MHz) but no frequencies are allocated for Digital Voice gateways.

## Proposal

To allow as well the usage of GMSK on these frequencies to allow 'Digital Voice' simplex gateways.

To make it simple, the modulation method FM can be deleted in the column 'USAGE' and the reference to footnote (e) in the 'MODE' column is to be deleted in frequency segment 1297.494 - 1297.981 MHz.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_17
Subject	Extend the modulation method for Internet Voice Gateways in the 2m band
Society	UBA
Contact	ON7EQ
Status	Proposal

## Background

There are several solutions available today to allow experimentation with internet gateways for 'digital voice' with embedded data traffic ,either COTS equipment (like the D-STAR DVAP – Digital Voice Access Point) or homebrew equipments.

## Current situation

In the existing 2m band plan, there are a number of frequencies allocated to **FM** Internet Voice Gateways (145.2375, 145.2875, 145.3375 MHz), but no frequencies are allocated for Digital Voice gateways.

## Proposal

To allow as well the usage of GMSK on these frequencies to allow 'Digital Voice' gateways. To make it simple, the reference 'FM' as modulation method should be dropped next to these 3 frequencies.

For the segment 145.206 – 145.5625 , delete the reference to footnote (i) in the MODE column.



INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_18
Subject	A complete review of the footnotes concerning the Bandplans
Society	UBA
Contact	ON4AVJ
Status	Proposal

### Background

There were a lot of changes during the last conferences (Cavtat and Sun City) on the bandplanning on our several bands. Sometime the footnotes were also changed, but some not.

### Current situation

In the VHF managers Handbook 6.0 some of the footnotes are not consequent to the bandplanning or outdated. Pe:

- Footnote b) and d) in 50 MHz bandplan (are pointing to void)
- footnote a) and b) from the 70MHz bandplan

It would take too much time and effort now to make the full redaction.

### Proposal

Making a working group who would make an audit of all band plans and check the accordance with the footnotes. There are **inconsistencies**. The working group should make proposals to edit the footnotes, without changing the band plan for the upcoming conference in 2014.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_19
Subject	Submitting contest logs for ATV contest to adjudicating society
Society	UBA
Contact	ON6TI
Status	Proposal

**Background :**

The participants to the ATV contests are not always informed where to send in the logs.

Although the adjudicating societies are nominated at the regional conferences, national contest committees or individual contestants are not well informed about where to submit logs and summary sheets.

As a result, the apparent number of participating is very low and will generate a declining interest in ATV and in ATV contests.

**Proposal :**

An e-mail alias (e.g. [atv-contest@iaru-r1.org](mailto:atv-contest@iaru-r1.org)) is created on the region 1 IARU server. This e-mail address is used for all national ATV contest managers, as well as for direct submissions when there is no national ATV contest manager. This e-mail alias is redirected every year to the adjudicating ATV contest manager : the adjudicating contest manager will communicate one or two e-mail addresses that will be active between march 1st and December 31st of the year where this society takes over the contest. The region 1 VHF manager arrange that the e-mail alias is redirected.

**Remark :**

Contestants should be reminded to use one of the proposed IARU-R1 worksheets to submit logs. Experience shows that this is not the case. National ATV contest committee is encouraged to perform the conversion before submitting non-standard logs.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_20
Subject	Expeditions operations
Society	SRAL
Contact	Jussi OH5LK
Status	Proposal

We see more expeditions specialising in one propagation mode only (for example EME or MS).

SRAL proposes that expeditions should be recommended to use different Propagation modes whenever possible. For example MS-expeditions are encouraged to operate on EME.

Tropo should not be forgotten, since it gives a chance for stations located relatively close to the expedition to make a contact. Aurora, Auroral-E and ES should also to be taken into consideration.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_22
Subject	procedures for meteor scatter operation shall be reviewed.
Society	SRAL
Contact	Jussi OH5LK
Status	Proposal

SRAL proposes that the existing procedures for meteor scatter operation shall be reviewed.

The use of chat rooms and more effective modulation/coding techniques may have caused differences between the procedure and practice. It should be decided whether procedure or practice should be changed in case there is are discrepancies.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_23
Subject	Status 50MHz beacon move
Society	SRAL
Contact	Jussi OH5LK
Status	Discussion

SRAL asks for an update on the move of the 50 MHz beacon band.

What has been done?

What should have been done?

What more needs to be done?

Once we get answers to these questions SRAL proposes that we take a look at the recommendation to move the beacon band on 50 MHz to see if something needs to be changed in the recommendation or in the implementation of the recommendation.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_24
Subject	<b>Region 1 Satellite Coordinator</b>
Society	IARU Region 1
Contact	<b>Graham Shirville G3VZV</b>
Status	Report

#### **Current active transponder satellites**

There are currently only four satellites, in low earth orbit, carrying voice transponders:

- A07 – linear transponders – launched 1974 so will celebrate its 40<sup>th</sup> birthday next year!
- FO29 - linear transponder
- SO50 – FM transponder
- VO52 – linear transponder

(There were nine such active spacecraft at the time of my last report in 2011)

Additionally there are more than 20 cubesats currently active transmitting a variety of data and CW beacons and a number of Russian satellites which also use frequencies within the 70cms band for their data downlinks.

#### **AMSAT satellite projects (under construction or at proposal stage)**

This list shows a number of the active projects known to be underway at this time:

- Phase 3E - AMSAT-DL – launch date unknown
- Kiwisat - AMSAT-ZL – launch date unknown
- ESEO - AMSAT-UK (communications package only) possible launch 2015
- FUNcube-1 - AMSAT-UK (cubesat) expected launch 2013
- FUNcube-2 on UKube - AMSAT-UK (cubesat) expected launch 2013
- Nextgen/Fox - AMSAT-NA (cubesat) expected launch 2013/2014

#### **CubeSats**

Delfi-N3Xt and Turksat -3USat are both University CubeSat projects which have linear U/V (ie 435MHz up 145MHz down) or V/U transponders as part of their mission. Both of these are expected to be launched this year. Additionally, there are a number of University CubeSats under development, which have an “end of life” single channel FM to DSB transponder incorporated into their transceivers. Generally these are U/V configurations.

#### **Frequency Coordination**

The IARU Frequency Coordination Panel has continued to be very active and is working to ensure that any satellite project which is intending to use frequencies in the amateur satellite service is actually compliant with the requirements for such use. The IARU Panel has dealt with more than 70 proposals in the past three years.

It is understood that in the US the FCC have decided to require most of the NASA supported CubeSat projects to be licensed as “experimental stations” rather than as amateur stations using the Amateur Satellite Service. Where these projects are using frequencies which coincide with those of the amateur satellite Service the IARU AC has instructed the Panel to provide coordination for them. Obviously the usual requirements for the stations to be operated only by licensed radio amateur operators will no longer apply, but these spacecraft will have to cease operations in the event of them causing interference to any amateur activities.

Full details of all satellite projects which have come to the notice of the Coordination Panel can be found at <http://www.amsat.org.uk/iaru/>

### **Education Outreach**

Both of the FUNcube projects and the FOX and ESEO projects are intended as dual-use missions, for both educational outreach and amateur usage, to support will support the educational Science, Technology, Engineering, Maths (STEM) initiatives. The FUNcube Dongle SDR will be used to create simple groundstations for use by schools.

### **The International Space Station**

There continue to be a large number of contacts between the astronauts and schools using the 145MHz band organised by ARISS. Additionally the HAMtv project, to support these contacts with direct DATV video links from the ISS should start this year. The hardware for this system will be delivered to the ISS in June on board the Japanese HTV cargo carrier and tests should commence shortly thereafter. The HAMtc hardware will be located in the European Columbus module and it has been funded by the ESA Human Space Flight Education Office. It is anticipated that this system, which will use our S Band allocation, will transmit a video beacon when not in use for school qos.

Graham Shirville G3VZV

January 2013

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_25
Subject	CONTEST RULES – Definition of a contest
Society	IARU Region 1
Contact	F6ETI & F6IOC f6eti@wanadoo.fr
Status	Proposal

### **BACK GROUND**

According to the Ham Spirit, a contest is a competition between radio amateurs which takes place exclusively on the bands allocated to amateurs.

This is implicit and is not written in the contest rules which have been established several decades ago.

Since then, new technologies have appeared which allow to easily exchange through other means than radio amateur.

This can be seen in the traffic on some chats during or after the contests.

IARU R1 contests rules have remained quite unchanged since they were written. However, some societies have already clarified this point in their own contest rules :

“Use of non amateur means (telephone or internet for example) in order to request one or more contacts during the contest period is not compatible with the spirit and the letter of these rules.”

“So is the use selfspotting on the packet or on any other network.”

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

### **PROPOSAL**

In order to take into account evolution of technologies together with the spirit of amateur radio contests, it would be useful to add the definition of a contest.

#### **Definition of a Contest**

A contest is a competition between radio amateurs that takes place exclusively on the bands allocated to amateurs. During the contest period, only amateur radio means are allowed.



INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_26
Subject	Change of section 5.3.10 in the VHF Managers Handbook – Entry of logs
Society	IARU Region 1
Contact	OZ7IS, Ivan
Status	Proposal

The current situation for contest entries is that a lot of countries do not enforce the rule of one week between the end of the contest and the entry of logs. In many cases the national contest coordinator sets up to three weeks. As an example in 2012 even the IARU contest robot had a submission deadline of one month after the end of the VHF contest.

The problem is that with the computerized logs and the endless possibilities for checking and crosschecking every detail, the final result will not just be a consequence of the performance of equipment and operators during the contest itself, - but also a result of who has the most time and possibilities for log checking.

Thus something that has nothing to do with the sport of the contest itself.

During the last couple of years an unfortunate practice of comparing and cross checking logs between participants has evolved.

A one week period between the end of the contest and the submission of logs is not a long time if you are a portable station that has to pack all equipment, and get down from the mountain. It may be several days before you have the possibility of checking the log.

Two options exist for solving the problem of unequal competition and log checking. Either we accept the extensive log checking and correction and enforce a three week period for everybody or we shorten the entry time to a 48 hour period between the end of the contest and the log submission. The latter solution would put the focus back where it really belongs; that is to the operating skills of the participants.

Current rule:

#### 5.3.10 Entries

The entries must be set out in digital/electronic form fulfilling the requirements under rule 5.3.13. Logs must be sent to the national VHF Manager or the national Contest Committee and parallel the IARU Contest robot 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.

Proposal a)

A three week period for entries for everybody

#### 5.3.10 Entries

The entries must be set out in digital/electronic form fulfilling the requirements under rule 5.3.13. Logs must be sent to the national VHF Manager or the national Contest Committee and parallel the IARU Contest robot not later than the fourth Monday following the contest weekend. Late entries will not be accepted. The submission of the logs implies that the entrant accepts the contest rules.

Proposal b)

A 48 hour period for entries for everybody

#### 5.3.10 Entries

The entries must be set out in digital/electronic form fulfilling the requirements under rule 5.3.13. Logs must be sent to the IARU Contest robot not later than 48 hours after the end of the contest. Late entries will not be accepted. The submission of the logs implies that the entrant accepts the contest rules.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_27
Subject	New Narrow-Band working frequencies in the 2300 – 2450 MHz band
Society	IARU Region 1
Contact	OZ7IS, Ivan
Status	Proposal

On several occasions in the past the future of the 2300 – 2400 MHz band has been raised during working group meetings or conferences. (I.e. Doc. 90/TS/C5.47 – Torremolinos - and more recent: Doc. B 01, Newsletter 51, Vienna 2010.)

Now reality has caught up. The segment 2300 – 2400 will be occupied by commercial services in Europe within a few years (WGFM-PT52).

Several societies have now been told to evacuate the segment and others have been told they will have to do so within the next 2 – 3 years!

Now it is no longer a threat. It is for real and we will have to adapt to the situation.

It seems like we will need to move the present terrestrial traffic above 2400 MHz and find a solution to accommodate Satellite- and terrestrial traffic within the 2400 – 2450 MHz sub-band shared with ISM/W-LAN/Microwave ovens etc.

We therefore propose to establish a sub working group.

The task of the sub working group will be to consider possible solutions to accommodate all present traffic within this 50 MHz segment after consulting the AMSAT community and the IARU satellite coordinators.

The aim will be a proposal for a new band plan to be discussed during the next conference in Varna, 2014.

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_28
Subject	Proposal to avoid copy right problems for articles exchanged between IARU, Region 1, magazines.
Society	IARU Region 1
Contact	OZ7IS, Ivan
Status	Proposal

For decades it has been said that all articles in any of the IARU, Region 1, magazines of the member societies could be copied/translated in any of the other magazines without problems and without violating copyright law.

It has been stated over and over again and hence established as a fact!

But suddenly a claim of violated copyrights arrived on the editor's desk of "OZ" – the Danish amateur radio magazine. My immediate reaction was to refer to the "well known fact" mentioned above!

But panic broke out in the editorial staff and I had to prove my contention!

In order to do so I leafed through my IARU documents and recommendations as far back as to 1978.

I found NOTHING to substantiate my claim!

Then I turned to several members of the EC and AC. They all knew about the agreement but none have so far been able to come up with a reference to a particular document/recommendation.

There seems to be no such document after all?

But we need it! We must work towards a recommendation like that "missing one".

The original problem we had in "OZ" is now solved.

To avoid any such problems in the future we have produced a document for the authors of articles send to the editors of "OZ" to sign. (See attachment.)

In order to (re)establish a recommendation that despite the normal copyright law allows us to bring the articles mentioned we propose to make an agreement between the IARU, Region 1, amateur radio societies/magazines along the following lines:

- a) When planning to print a copy or translation of an article as mentioned - ask for permission from the magazine of origin.
- b) Make a general recommendation stating that authors renounce their rights when their article have been published in one of the IARU, Region 1, magazines. Other member society magazines can then copy/translate the article having achieved permission (a).
- c) Establish a form for all authors to sign after handing in material for the (national) editors. (See attachment.)
- d) Make these rules clear in the leaf imprint of the (national) magazine.

ATTACHMENT.

To the editors of "XXX".

Statement about the material sent for publication in "XXX"

I hereby declare that the material sent for publication in "XXX",  
\_\_\_\_\_ is not subject to third party copyright!

\_\_\_\_\_ that I have permission to publish it in "OZ" including download of software etc. on the "YYY"  
web site.

\_\_\_\_\_ I accept that my article/material can be placed in any other IARU, Region 1, member  
magazine.

Name:

Address:

Call (if any):

Date and signature:

.....  
.....

*The above form is sent to the author or the translator of the above mentioned material when  
received by the editors and need to be returned within two weeks including a copy of any possible  
permission from the original author.*

*If more than one author is involved all authors must fill out a copy of the above form.*

**When publishing an article from any other IARU, Region 1, magazine the editors will have to  
obtain permission from the original publishing magazine.**

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_29
Subject	WRC-15 Agenda Items
Society	IARU Region 1
Contact	Hans PB2T
Status	Report

WRC15 will take place in Geneva, Switzerland 2-27 November 2015, preceded by the Radiocommunication Assembly 26-30 October 2015. For the purpose of discussions on development of the IARU positions on those items and the other WRC-15 Agenda Items, the following list sets forth the agenda items that will or may impact the amateur radio service:

**Agenda Item 1.1** -- "to consider additional spectrum allocations to the mobile service on a primary basis and identification of additional frequency bands for International Mobile Telecommunications (IMT) and related regulatory provisions, to facilitate the development of terrestrial mobile broadband applications, in accordance with Resolution **233 (WRC-12)**;"

**Agenda Item 1.4** -- "to consider possible new allocation to the amateur service on a secondary basis with the band 5 250 - 5 450 kHz in accordance with Resolution **649 (WRC-12)**;"

**Agenda Item 1.6.1** -- "(to consider possible additional primary allocations) to the fixed-satellite service (Earth-to space and space-to-Earth) of 250 MHz in the range between 10 GHz and 17 GHz (and review the regulatory provisions on the current allocations to the fixed-satellite service with each range, taking into account the results of the ITU-R studies, in accordance with Resolutions **151 (WRC-12)** and **152 (WRC-12)**, respectively);"

**Agenda Item 1.10** -- "to consider spectrum requirements and possible additional spectrum allocations for the mobile-satellite service in the Earth-to-space and space-to-Earth directions, including the satellite component for broadband applications, including International Mobile Telecommunications (IMT), within the frequency range from 22 GHz to 26 GHz, in accordance with Resolution **234 (WRC-12)**;"

**Agenda Item 1.12** -- "to consider an extension of the current worldwide allocation to the Earth exploration-satellite (active) service in the frequency band 9 300 - 9 900 MHz by up to 600 MHz with the frequency bands 8 700 - 9 300 MHz and/or 9 900 - 15 500 MHz, in accordance with Resolution **652 (WRC-12)**;"

**Agenda Item 1.18** -- "to consider a primary allocation to the radiolocation service for automotive applications in the 77.5 - 78.0 GHz frequency band in accordance with Resolution **654 (WRC-12)**;"

**Agenda Item 8** -- "to consider and take appropriate action on requests from administrations to delete their country footnotes or to have their country name deleted from footnotes, if no longer required, taking into account Resolution **26 (Rev. WRC-07)**," and

**Agenda Item 10** -- "to recommend to the Council items for inclusion in the agenda for the next WRC, and to give its views on the preliminary agenda for the subsequent conference and on possible agenda items for future conferences, in accordance with Article 7 of the Convention."

INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013

Document	VIE13_C5_30
Subject	DX record listings
Society	IARU Region 1
Contact	Tommy SM6NZB
Status	Report

Hi Michael

I have to retire from making the DX record listings.

<http://www.ham.se/vhf/dxrecord/dxrec.htm>

It is the last one I managed to make because my hard drive with the Linux program I have been using gave up.

When you have a new DX record coordinator I can post it on the [www.ham.se](http://www.ham.se) <<http://www.ham.se>> server and send all info I have to him/her.

Regards Tommy SM6NZB  
[sm6nzb@gmail.com](mailto:sm6nzb@gmail.com)



**INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013**

Document	VIE13_C5_31
Subject	Amendment to IARU Region-1 ATV Contest Date
Society	RSGB
Contact	Murray G6JYB murray.niman@rsgb.org.uk
Status	Proposal

### **Introduction**

In order to support ATV technical development and contest activity, a change of date is proposed

### **Background**

At the IARU Region 1 Conference in Noordwijkerhout (1987) an IARU Region 1 ATV contest to be held during the second weekend of September was added to the contest schedule.

Unfortunately, this date always clashes with the International Broadcasting Conference (IBC) held every year in Amsterdam on the second weekend of September. This means a significant number of potential participants, who are also employed in the professional broadcast and media industry, are unable to participate in the contest.

In considering an alternative date there is a further consideration. Due to the use of common equipment, particularly for DATV, experience in the UK has shown that when ATV contests are combined with narrow band microwave contests, activity in the ATV section increases.

### **Proposal**

It is recommended that the date of this contest is amended such that it runs in parallel with the IARU Region 1 Microwave Contest on the first weekend in October.

**INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE  
VIENNA 19.- 21. April 2013**

Document	VIE13_C5_32
Subject	2400MHz Amateur Satellites
Society	RSGB
Contact	Graham Shirville and AMSAT-UK
Status	Information

### **Introduction**

The 2300-2400MHz band is subject to increasing pressure from new Broadband Wireless Systems (notably LTE-TDD). The adjacent 2400-2450MHz band is allocated to both the amateur and amateur satellite service – but is itself subject to interference from ISM and short-range devices (Wi-Fi etc).

This paper provides background data on Amateur Satellite usage in 2400-2450MHz to promote awareness and assist planning.

### **Background**

Whilst IARU-R1 continues its efforts to protect the 2.3GHz amateur service allocation, for some countries only the 2400-2450MHz amateur allocation may remain. Operating within that band in the presence of interference from Wi-Fi can be exceptionally difficult.

Partly to counter this, amateur satellites in the 2400MHz band are usually configured for downlinks, so that their uplink receivers can be placed in alternative lower noise/doppler allocations. In addition many downlinks frequencies are set for the bottom of the band, as reception above 2402MHz can be rendered unusable due to Wi-Fi etc.

### **Information**

Based on information kindly provided by AMSAT-UK and the IARU-R1 Satellite Coordinator, the annex gives a list of known 2400MHz satellites/frequencies.

These include a new DATV downlink from the International Space Station and frequency coordination support of many projects, including the prestige EU Framework-7 QB50 programme.

Please use this to promote greater awareness and understanding.

## Annex: 2.4GHz Amateur Satellites

(Data from AMSAT-UK / IARU-R1 Satellite Coordinator, Jan-2013)

### Known/Planned:-

Satellite	Frequency, MHz	Launch Date
Phonesat V2-1	2420(?)	March-2013
Triton-2	2408.00	2013 Q2/3
Phonesat V2-2	2401.2 – 2431.2	2013 Q3
KickSat	2401.2 – 2436.2	2013 Q3
Argus-1	2403.0-2403.4	2013 Q3
Copper	2403.0-2403.4	2013 Q3
UKube-1 (UK-Space)	2401.0	2013 Q3
HiakaSat (U.Hawaii)	S-Band	tbd
Phase-3E (AMSAT-DL)	2400	tbd
Space Station HamTV Downlink 9dBW	2422 Main + 2437 Backup	2013Q2/3
QB50 Constellation <a href="https://www.qb50.eu/">https://www.qb50.eu/</a>	16 cubesats on 2.4GHz out of 50 total	2015Q2

### Active

Name	Norad-ID	Uplink	Downlink	Beacon	Mode
Aeneas	38760	-	437.600 / 2425.000	-	1200bps AFSK

(1W Tx RFID tracking experiment)

### Available in orbit but not activated\*\*:-

Name	Norad-ID	Uplink	Downlink	Beacon	Mode
AO-7	07530	-	-	2304.100 (100mW)	CW

\*\*Regulatory permission from FCC to activate the Oscar-7 beacon not achieved, but OSCAR-7 is operational.

### In orbit but offline / mission complete:-

Name	Norad-ID	Uplink	Downlink	Beacon	Mode
UO-11	14781	-	145.826 / 435.025	2401.500	(V)FM,(S)PSK
AO-16	20439	145.920	437.026	2401.143	1200bps
DO-17	20440	-	145.825	2401.220	1200bps AFSK
SAFIR-S	28898	-	-	2401.900	9600bps FSK
AO-40	26609	-	2400.100-2400.600	2401.323	400bps PSK
A051	28375	145.860/880	2401.200	435.150	9600bps FSK
XO-53	28894	-	2401.835	437.250	9600bps FSK
MAST	31126	-	2400-2483.5	-	FHSS
ALMASat	38078	-	437.465 / 2407.850	437.465	1200bps FSK

**INTERIM MEETING OF THE IARU REGION 1 VHF/UHF/MICROWAVE COMMITTEE**  
**VIENNA 19.- 21. April 2013**

Document	VIE13_C5_33
Subject	Beacons – MGM Alignment
Society	RSGB
Contact	Murray G6JYB murray.niman@rsgb.org.uk
Status	Proposal

### **Introduction**

The application of MGM (Machine Generated Modes) to VHF and Microwave beacons has been an area that has developed rapidly over the past few years. There are now a number of active beacons within IARU Region-1, which have evolved, with different placements of the MGM tones with respect to the beacon frequency.

The 2011 IARU Region-1 Conference in Sun City, agreed beacon timing sequences and also agreed that the first tone, or pilot tone of the MGM should be at the same frequency as the CW as per:-

"Should MGM also be used by a beacon, the nominal MGM tone (e.g. for sync, JT4 tone-0 etc.), should be exactly as per the nominal carrier frequency".

This results in a requirement for different receiver offsets from the CW frequency depending upon the characteristics of the MGM in use.

Since that meeting it has become apparent that this specification can lead to particular difficulties at VHF frequencies and to confusion amongst end users. As a result of a review we propose to replace the Sun City recommendation with a new standard offset of 1 kHz for the MGM tuning offset.

### **Background**

It has long been agreed that the operating frequency for CW transmissions is the frequency of the carrier wave that was keyed. Subsequent work established that the 'SSB reference frequency', was the frequency of the suppressed carrier of a standard SSB transmitter. These definitions are widely used and accepted by the amateur community.

Although MGM have been used for many years the development of the WSJT software suite by Joe Taylor K1JT has greatly increased its popularity for amateur communications. On many of the VHF bands WSJT supported MGMs have displaced CW as the preferred communications mode for Meteor Scatter (MS) and moon-bounce (EME). The advantages of demodulating weak MGM signals has been widely recognised and has resulted its deployment on beacons in the VHF and microwave bands.

The following table shows the lowest tone frequencies and total MGM signal width of a number of the amateur MGM modes most currently used on VHF and microwave frequencies including WSJT modes and two of the P14 modes developed by the Danish 'Next Generation Beacons' group.

MGM Mode	Lowest or Sync Tone, Hz	MGM Signal Width, Hz	Main Usage
FSK441	882.00	1323	VHF meteor scatter
JT6M	1076.66	926	50MHz EME + meteor scatter
JT65A	1270.48	175	50MHz EME + terrestrial
JT65B	1270.48	350	VHF EME + terrestrial
JT65C	1270.48	700	Microwave EME + terrestrial
JT4G	797.96	950	Microwave
ISCAT-A	1012.06	926	VHF-microwave
ISCAT-B	559.80	1852	Microwave
PI4	882.81	703	VHF Beacons
PI4-80	765.63	1406	Microwave beacons

The table shows that there is currently little standardisation concerning the frequency of the lowest tone, as it often varies with different MGM.

Reception and transmission of MGMs by amateurs is generally achieved by coupling a PC sound card to the audio output and input of a SSB transceiver. In normal QSO usage the frequency used is specified in the same way in which it is when using SSB. i.e. the frequency of the suppressed carrier. Therefore unsurprisingly the differences resulting from the way in which the CW and SSB frequencies are defined will become an issue when CW and MGMs are used on the same transmission from a beacon.

### Consideration of Users

Most users have a 'preferred' offset for the reception of CW; this varies typically between 500 and 800Hz. With modern transceivers this offset is often configurable with the frequency display showing the zero beat frequency when the beat note is at the 'preferred' offset. Those using SSB-only transceivers or receiving in the normal USB mode will have to offset their reception point by an appropriate offset on the low frequency side of the signal. As the majority of current users rely on CW reception, it is important that the impact on the CW user experience is minimised if features such as MGM are deployed.

The most common method for receiving the MGMs is to interface the audio output of a receiver into Personal Computer (PC) running WSJT software. For simplicity it is preferable to have the receiver tuning frequency for the nominal beacon frequency to be coincident with the displayed frequency of the SSB receiver. If coincidence between the displayed frequency and the nominal beacon frequency cannot be achieved and a frequency offset is required, this offset should be as simple as possible to avoid user confusion and mistakes.

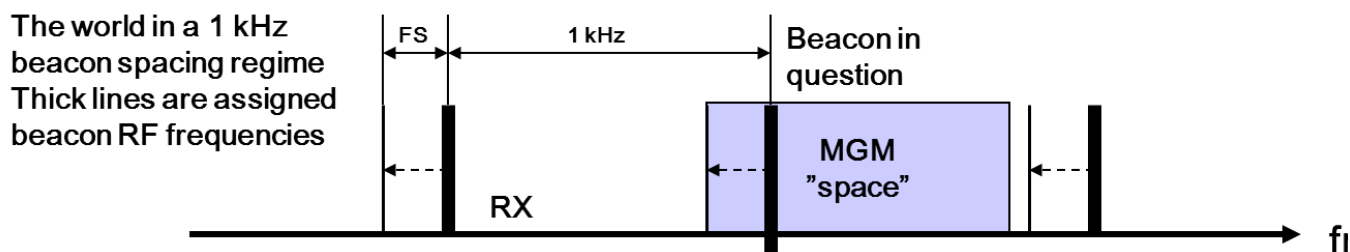
## Proposals

The experience of the ordinary user should be prioritised. This can be facilitated if the same offset can be used for all VHF and microwave bands. Otherwise changing offsets with changing bands or modes will lead to user confusion and mistakes.

Suggestions we have considered include 800Hz, 1270Hz and 1500Hz offset options, depending upon the particular MGM in use. However all these options have significant potential to confuse listeners and detract from the overall usability of MGMs deployed on amateur beacons. Therefore although it is a compromise we have concluded that a consistent, simple, single offset of 1kHz is best.

## Recommendations

- Should MGM be implemented on a beacon, a standard 1 kHz MGM tuning offset should be adopted (see diagram below)
- In any given frequency band, the specific MGM selection should have regard to the beacon frequency spacing and MGM bandwidth (see examples below)
- It is recognised that further experimentation and innovation may occur. Therefore the standards for the use of MGMs on beacons should be kept under review



### Examples

These are for MGM for the worst case 1kHz beacon spacing, 1kHz offset case. Note how some MGM would not be appropriate for such tightly spaced VHF allocations, but would be acceptable in wider spaced microwave beacon allocations.

