



International Amateur Radio Union Region 1



**2017 General Conference – Landshut, Germany
16 – 23 September 2017**

Subject:	Conference Report of the 24th IARU Region 1 General Conference		
Society:	Region 1	Country:	IARU
Committee:	Plenary	Paper Number:	LA17_Plenary
Author:	Dennis Green, ZS4BS		

The 24th General Conference of IARU Region 1 was held from 16 to 23 September 2017 at the Sparkassenakademie Bayern in Landshut in Germany. The Deutscher Amateur Radio Club e.V. hosted the Conference.

The following Appendices make up this Conference Report:

Appendix A: Minutes of the First Plenary

Appendix B: List of Member Societies, Delegates and Proxies

Appendix C: Minutes of the Second Plenary

Appendix D: The Minutes of the Final Plenary

Appendix A: Minutes of the First Plenary

Subject:	Minutes of the First Plenary of the 24th IARU Region 1 General Conference		
Society	Region 1	Country:	IARU
Committee	Plenary	Paper Number:	LA17_Opening Plenary
Author:	Dennis Green, ZS4BS		

The First Plenary of the 24th IARU Region 1 General Conference was opened at 11:00 on Sunday 17 September 2017 in the Aula Hall at the Sparkassenakademie Bayern in Landshut Germany.

1. Address by the Deutscher Amateur Radio Club e.V.

Christian Entsfellner, DL3MGB, vice president of the DARC welcomes all the delegates and guests to the 24th IARU Region 1 General Conference in Landshut on behalf of the DARC.

2. Address from the City of Landshut

Mr Robert Mader, a member of the Local Parliament for Landshut welcomes delegates on behalf of the Mayor of Landshut.

3. Address by IARU Region 1

Don Beattie, G3BJ, president of IARU Region 1, welcomes delegates and guests.

“Honoured guests, ladies and gentlemen, welcome to the 24th IARU Region 1 General Conference. Let me begin by welcoming our guests of honour:

- Mr Robert Mader, of Landshut, who you have just heard welcoming us to his city. Mr Mader, thank you for your kind words of welcome. We are delighted to be here in Landshut
- Mr Thomas Weilacher, of BNetzA, here as Chairman of CEPT Working Group FM
- Mr Mario Maniewicz, the Deputy Director of the Radio Bureau of ITU
- Mr Tim Ellam, VE6SH, President of IARU

Also, a warm welcome to the other representatives of IARU, IARU Region 2 and Region 3 and of course a warm welcome to our delegates, observers and partners.

We are grateful to Deutsche Amateur Radio Club, DARC, for taking on the organisation of this conference. This is always a complex and detailed task, and I am personally grateful to Steffen, Christian Entsfellner and their colleagues in DARC for their patience and hard work over the last year. We are looking forward to a productive conference and to find time to experience the good things your country has to offer.

Delegates, thank you for traveling to Landshut to attend this conference. Sadly, we have had the occasional visa problem which has prevented one or two people from being with us here this week. I look forward to the day when international tensions are managed in a way which does not prevent people going about their business. But for those of us here, we are tasked

by our members to consider and address this coming week some important issues for amateur radio.

I am glad to see you here, away from international conflicts and domestic issues to discuss and agree on these matters. Amateur radio prides itself on the contribution it makes to international friendship, and this week will be further evidence of that.

Before I invite our guest speakers to address you, I must pause on a sombre note, for us to remember those well-known radio amateurs who have left us since the last Conference.

In particular - John Dunnington, G3LZQ; Trond Olsen, LA8XM; Lou van de Nadort, PA0LOU; Arie Dogterom, PA0EZ; Kjell Ström SM6CPI/PB3SM; Oyekunyle Ajayi, 5N0ONA; Amnon Bar Giora, 4X1DF; King Bhumibol Adulyadej, HS1A; Eric Winter, ZS1EMC; Bob Knowles, ZL1BAD; Roger Vermet, ON6WU; Boris Stepanov, RU3AX, and Ali Saeed, A61E.

Can I ask you to stand for a moment to remember these past colleagues and those others who we may personally wish to remember?

Thank you.

And now we continue with the opening ceremony, and it is my pleasure to invite the global President of IARU, Tim Ellam, VE6SH, to address the plenary. Tim – a very warm welcome.”

4. Address by IARU President

“The Honourable Deputy Mayor of Landshut, the President of Region 1, the President of DARC, Mr Maniewicz, Mr Weilacher, Distinguished delegates, Ladies and Gentlemen, Good morning.

It gives me great pleasure to bring greetings from the IARU International Secretariat and your officers Vice President Ole Garpestad, LA2RR, and Secretary Dave Sumner, K1ZZ. We are pleased to be attending as observers at this conference and look forward to participating in the discussions this week.

I am also very pleased to be able to address you today and to deliver some remarks at the opening of this conference.

We have just completed our annual IARU in person Administrative Council Meeting. Much of the work the last few days has been to confirm and in some cases, amend our position with the agenda items for the forthcoming WRC and consider possible future allocations for the amateur services. We also made a number of decisions to coordinate our activities within the ITU and RTO process. All of these decisions were taken with the understanding that we must be realistic as to what can be achieved in each WRC cycle and also taking into consideration the limitations on our resources, both in terms of our many excellent volunteers and our finances.

Of course, we must continue to work in engaging the ITU in our policy generally and specifically for the amateur radio services. Our primary goal in working within the ITU and RTO process is to protect our existing spectrum. In that respect, we should continue to care-

fully consider future agenda items given our resources, the work required to obtain new allocations and whether our efforts could be better focused on dealing with threats to our existing spectrum.

We should be mindful that IARU will face continued financial pressures in the future. A number of our member-societies face difficulties in funding some of our volunteers which has placed an increased burden on us. In all cases, we should ensure that the meetings that we attend are beneficial to our overall work and consider the number of attendees we need to fund for these activities.

Most importantly, we must keep in mind the source of our funding. It all comes from our member-societies. Your contributions are extremely valuable and appreciated. However, this revenue stream is unlikely to grow and in fact will likely face contraction in the future. The real issue we face at this conference and indeed in any of our regions is how we can continue to do our work in the face of financial constraint?

At the IS we have made hard decisions to control the financial burden and no doubt the regions including region 1 will have to do the same. The stark economic reality is that in order for IARU to continue to enjoy success we will need to temper our expectations and seriously look at focussing down on our core activities.

One of the consequences of our review of the funding of our activities is that we have taken steps for WRC-19 to have a more coordinated approach to our work and have developed a structure that takes into account regional objectives and the work that has to be done at the RTOs including within CEPT. I am pleased many individuals within your societies in this region are part of this process and thank them and you for their excellent contribution to the success of our work.

Of course, one way to ensure the future of IARU is to attract more people to the amateur services especially those who are younger. I applaud the excellent work that has been undertaken in this region through the YOTA program and we have to give credit to Lisa Leender's hard work in that respect.

In saying this though I also think we need to reflect on what will attract the majority of young people to the amateur services and what our mutual expectations should be. My own personal observation is that while some are interested in the more traditional aspects of amateur radio, many are not. Many are primarily interested in the amateur service as a means to fulfil other perhaps unrelated interests. We need to recognize this. Our ambition should be to embrace these individuals in their activities and accept that some of the more traditional aspects of the hobby will hold little interest to them, and indeed may no longer be relevant.

That is not to say that some are not enthused with what we all hold as the core of our hobby, such as contesting or operating generally. I fear though that we need to look at what will attract the new generations to amateur radio and make sure we promote amateur radio as meeting their needs, rather than promoting the historical view of what amateur radio has to offer. I would also note encouraging young people into amateur radio is one challenge. It is quite another to have them interested in joining our member-societies.

I know this important topic will be discussed at this meeting and I look forward to participating in those deliberations.

Finally, I would like to thank with my deepest gratitude our host society, DARC, for organizing this conference and associated meetings. The level of support and the assistance provided has been outstanding. Thank you very much Steffen to you and your volunteers. I look forward to working with you this week and I extend my personal support for what I believe will be a very good conference.

Thank you.”

“Tim, thank you for your comments, which are very pertinent to some of the papers we have before us, and I know delegates will keep your thoughts in mind as they begin their work this week.

Now it is my pleasure to invite the first of our two speakers from the organisations that govern the spectrum which is vital for amateur radio. CEPT is our “local” Regional Telecommunications Organisation, and IARU is active a number of its meetings. We are fortunate in having Thomas Weilacher with us here today. Thomas has been with the German regulator BNetzA for a number of years and for the last 20 years or so has specialised in radio spectrum utilisation concepts and international affairs. Thomas chairs the influential Working Group Frequency Management in CEPT and I am very grateful for him taking time out of his busy schedule to be with us here. It is now my very great pleasure to invite him to address you now. Thomas.”

5. Address by Mr Thomas Weilacher of CEPT

Mr Weilacher used a PowerPoint presentation for his address.

The CEPT PowerPoint slides (and the Future of Amateur Radio slides from the first session) are downloadable from www.dropbox.com/sh/z0wabjkw5jahue/AAALegX_4SsqAEMeZtdOZH2ua?dl=0

“Thomas – thank you for those words. You can be sure that we will be making in put in the areas that your outlined and also in others, I suspect.

And now to our final speaker. Mario Maniewicz is the Deputy-Director of the *International Telecommunication Union* Radiocommunication Bureau. Mr Maniewicz has been with the ITU for more than 25 years, where he has held various senior positions at ITU headquarters as well as in the Regional Offices in Peru, Chile and Brazil, leading activities towards fostering global telecommunications development. We are very fortunate in having Mr Maniewicz with us here today and it is my pleasure to invite him to address the plenary now. Mario welcome.”

6. Address by Mr Mario Maniewicz of the ITU

“Mario – thank you very much indeed.

Ladies and gentlemen, we have just heard from the two organisations that have a major influence on the spectrum access that we enjoy and I hope that what they have both said will remain with us as we undertake our work this coming week. On your behalf, I think them again for their thoughtful contribution to our opening ceremony today.

And now we move on briefly to the remaining business that must be conducted at the Opening Plenary. We have four short tasks and I thank our honoured guests for their patience as we complete the work of the opening plenary.”

7. Election of Roy Stevens G2BVN Memorial Award Committee

Before the main business of the Opening Plenary, the chairman is required to ask that any Member Societies wishing to propose recipients for the Roy F Stevens, G2BVN Memorial Award, submit their proposals now. If there are any nominations, it must be handed to the secretary now.

There is one nomination for the Roy Stevens Award and a Committee of five people to consider the nomination must be appointed. The names of all Societies present at this Opening Plenary (not proxies) will be in the ballot and five names drawn out. On opening the envelopes containing the name(s), if it is found that a Society has nominated someone from a Society forming the panel, this Society will withdraw and a further name drawn.

Mr Mario Maniewicz is requested to draw five names from the box. The Committee that will consider the nomination is therefore: Denmark, EDR, Iceland IRA, Oman, ROARS, Luxembourg, RL and Slovakia, SARA

8. Election of members of Conference Committee C2 – the Credentials and Finance Committee

This is the Committee which examines and verifies credentials to the General Conference, to establish the rights to vote and gives a report to the Plenary Meeting on the second day of the General Conference, and examines the financial situation of IARU Region 1 and gives a report on the last day of the General Conference.

According to the Constitution and Bylaws, the Committee should consist of an elected chairman and not more than one delegate from each of six different Member Societies – a maximum of seven people in total. The President, Treasurer and Secretary of the Executive Committee are ex-officio members of this Committee and their job is to provide information.

Delegates are reminded, particularly those here for the first time, that only Heads of Delegation may attend the meetings of Committee C2 as observers and that only for the sessions concerned with Finance, which start on Sunday evening. The Credentials session of C2 this evening is for the Committee members only.

The choice of Chairman of C2 is an important one and ideally, a candidate with knowledge of financial matters is needed.

A proposal for the Chairman of Committee C2 is requested.

The IRTS proposes Joerg Jaehrig, DJ3HW and UBA seconded the proposal. There being no further nominations and G3BJ declares Joerg Jaehrig, DJ3HW, chairman of Committee C2.

Proposals for the six members of Committee C2 are called for. The following Member Societies are willing to serve: OeVSV, REF, RSGB, SRAL, UBA and VERON

9. The election of the Election and Ballot Committee

This Committee consists of a Chairman and two members who are duly accredited delegates from different Member Societies. None of them may be a member of the Executive Committee, Chairmen of Specialised Bodies or a candidate for election.

The purpose of this Committee is to arrange the Elections in accordance with Section B.5 of the Region's Byelaws, and any other secret ballots throughout the course of the work of the General Conference. This Committee reports to the Final Plenary Meeting and only acts for the duration of the General Conference.

G3BJ asks for a proposal for the Chairman of the Election and Ballot Committee.

Tomasz Ciepielowski, SP5CCC from PZK volunteers to be chairman. G3BJ declares SP5CCC as chairman of the Election and Ballot Committee.

Proposals for two members of the EBC is called for. IRTS and ROARS make themselves available for the committee. G3BJ declares that Brendan Minish, EI6IZ, of IRTS and Issa Ali Al Jardani, A41NW, of ROARS are duly elected as members of the EBC.

10. Election of the Chairman of Committee C3 - the General Administrative and Organisational Committee

In the past, it has been general practice for this to be chaired by the President of the Region, although there is no requirement for this to be the case. Nominations for the Chairman of Committee C3 are called for.

CRC proposes and UBA seconds Don Beattie, G3BJ. There are no further nominations and G3BJ declares himself elected.

11. That concludes the formal business of the opening Plenary.

The first plenary is closed at 12:05

Delegates and guests move to the area in front of the main building for photographs.

Appendix B: List of Member Societies and Proxies

Member Society	Name, Family Name and Call Sign	HoD /Delegate /Partner	Proxy
Albania AARA	Marenglen "Geni" Mema, ZA1B	HoD	
Algeria ARA	Afif Ben Lagha, 7X2RO	HoD	
Senegal ARAS	Souleymane Dialo, 6W1QL	HoD	LRAA
	Jean Louis Pipien, 6W1JX	Delegate	
Tunisia ARAT	Achraf Chaabane, 3V8SS	HoD	
Italy ARI	Alessandro Carletti, IV3KKW	HoD	ARRSM
	Giovanni Bini I5JHW	Delegate	
Monaco ARM	Robert Scarlot, 3A2CR	HoD	
	Jeannine Scarlot, 3A2EA	Partner	
Bulgaria BFRA	Panayot Danev, LZ1US	HoD	TRAC
Czech Republic CRC	Jiří Šanda, OK1RI	HoD	
	Jan Karel, OK1VAO	Delegate	
Germany DARC	Joerg Jaehrig, DJ3HW	HoD	
	Jann Traschewski, DG8NGN	Delegate	
	Kai Pastor, DG0YT	Delegate	
	Fabian Kurz, DJ1YFK	Delegate	
	Thomas Kamp, DF5JL	Delegate	
	Christian Reiber, DL8MDW	Delegate	
	Christian Entsfellner, DL3MBG	Delegate	
	Klaus Eichel, DL6SES	Delegate	
Denmark EDR	Verner Topsøe Jensen, OZ5TG	HoD	FRA
Egypt ERASD	Said Kamal, SU1SK	HoD	
Romania FRR	Mitrut Marius, YO3CZW	HoD	
	Paisa Gheorghe, YO8WW	Delegate	
Croatia HRS	Željko Pilat, 9A2R	HoD	
Iceland IRA	Jon Th Jonsson, TF3JA	HoD	
Ireland IRTS	Gerry Gervin, EI8CC	HoD	
	Brendan Minish, EI6IZ	Delegate	
Kuwait KARS	Ahmad Alturki, 9K2QA	HoD	EARS
	Mrs Alturki	Partner	
Lithuania LRMD	Simonas Kareiva, LY2EN	HoD	ERAU
	Mrs Kareiva	Partner	
Malta MARL	Ivan Privitera, 9H1PI	HoD	
Hungary MRASZ	László Berzsényi, HA5EA	HoD	RSM
	József Dévényi, HA0LC	Delegate	
Norway NRRL	Stein-Roar Brobakken, LB3RE	HoD	
	Tom V. Segalstad, LA4LN	Delegate	
	Hans Utne, LA6IM	Delegate	

Member Society	Name, Family Name and Call Sign	HoD /Delegate /Partner	Proxy
	Tore Arthur Worren, LA9QL	Delegate	
Austria OEVSV	Ing. Michael Zwingl, OE3MZC	HoD	
	Barbara Zwingl, OE3YCB	Partner	
	Florian Zwingl, OE3FTA	Delegate	
	Ing. Kurt Baumann, OE1KBC	Delegate	
	Michael Kastelic, OE1MCU	Delegate	
	Thomas Ostermann, OE7OST	Delegate	
	Dipl.-Ing. Dieter Kritzer, OE8KDK	Delegate	
Poland PZK	Paweł Zakrzewski, SP7TEV	HoD	UARL
	Tomasz Ciepielowski, SP5CCC	Delegate	
Qatar QARS	Sabaab Mesmar M. A. Al-Jassin, A71BP	HoD	
	Ahmed Mamad A. H. Almohanadi, A71DR	Delegate	
France REF	Sylvain Azarian, F4GKR	HoD	
	Jacques Saget, F6BEE	Delegate	
	Philippe Martin, F6ETI	Delegate	
	Henri Chanforan, F6FHV	Delegate	
Luxembourg RL	Michel Friederich, LX1KQ	HoD	
	Thomas Wrede, LX2OO	Delegate	
Oman ROARS	Ali Nasser Al Harthi, A41KQ	HoD	RAL
	Issa Ali Al Jardani, A41NW	Delegate	
Great Britain RSGB	Nick Henwood, G3RWF	HoD	CARS
	Murray Niman, G6JYB	Delegate	
	Barry Lewis, G4SJH	Delegate	
	Ian Greenshields, G4FSU	Delegate	
	David Lauder, G0SNO	Delegate	
Slovakia SARA	Roman Kudlac, OM3EI	HoD	
	Rastislav Hrnko, OM3BH	Delegate	
South Africa SARL	Rassie Erasmus, ZS1YT	HoD	NARL
	Nico van Rensburg, ZS6QL	Delegate	
Finland SRA	Markku Toijala, OH2BQZ	HoD	
	Jussi Liukkonen, OH5LK	Delegate	
	Marko Wirtanen, OH8WM	Delegate	
Russia SRR	Roman Thomas, R5AA	HoD	
Serbia SRS	Dusan Čeha, YU1EA	HoD	KFRR
Sweden SSA	Mats Espling, SM6EAN	HoD	
	Eric Lund, SM6JSM	Delegate	
	Brita Renström Lund, SM6YBR	Partner	
Belgium UBA	Claude van Pottelsberghe de la Potterie, ON7TK	HoD	
	Carine Ramon, ON7LX	Delegate	
	Jacques Debouche, ON5OO	Delegate	
	Egbert Hertsen, ON4CAS	Delegate	
Andorra URA	Joan Saurí, C31US	HoD	

Member Society	Name, Family Name and Call Sign	HoD /Delegate /Partner	Proxy
Spain URE	Salvador Domenech Fernandez, EA5DY	HoD	
Switzerland USKA	Matthias Schumacher HB9JCI	HoD	AVFL
	Willi Vollenweider HB9JCI	Delegate	
	Peter Jost HB9CET	Delegate	
	Markus Walter HB9HVG	Delegate	
	Vroni Walter HB9HVW	Partner	
Netherlands VERON	Remy Denker, PA3AGF	HoD	
	Sjoerd Ypma, PAØSHY	Delegate	
	Abraham van den Berg, PBØAOK	Delegate	
	Sietse Anema, PA4XA	Delegate	
	Hans Blondeel Timmerman, PB2T	Delegate	
Slovenia ZRS	Miha Habic, S51FB	HoD	
	Robert Vilhar, S53WW	Delegate	
Kosovo SHRAK	Vjollca Caka, Z61VB	HoD	
Executive Committee			
President	Don Beattie, G3BJ	Region 1 President	
Vice Pres	Faisal Al-Ajmi, 9K2RR	Region 1 Vice President	
Secretary	Dennis Green, ZS4BS	Region 1 Secretary	
Treasurer	Eva Thiemann, HB9FPM	Region 1 Treasurer	
	Andy Thiemann, HB9JOE	Partner	
Members	Thilo Kootz, DL9KCE	EC Member	
	Ivan Stauning, OZ7IS	EC Member	
	Ranko Boca, 4O3A	EC Member	
	Dave Court, EI3IO	EC Member	
	Oliver Tabakovski, Z32TO	EC Member	
Working Groups			
HF	Ulrich Mueller, DK4VW	HF Manager	
VHF	Jacques Verleijin, ON4AVJ	VHF/UHF Manager	
ERC	Colin Thomas, G3PSM	ERC Chairman	
Youth	Lisa Leenders, PA2LS	Youth WG	
	Lennart Kieft, PD5LKM	Partner	
	Greg Mossop, G0DUB	Emergency Communica- tions	
	Stefan Dombrowski, ON6TI	ARSPEX WG	
	Mrs Dombrowski	Partner	
	Jiri Marecek, OK2BWN	ARDF WG	
	Seamus McCague, EI8BP	PRC WG	
	Riri Azrak, OD5RI	IPHA	
	Peter W. Frey, HB9MQM	RA	
	Graham Shirville, G3VZV	Satellite WG	
Secretaries			
	Dennis Green, ZS4BS	C2/C3 and Plenary	

Member Society	Name, Family Name and Call Sign	HoD /Delegate /Partner	Proxy
	Ian Greenshields, G4FSU	C4 - HF	
	Greg Mossop, G0DUB	C5 - VHF	
	Hilary Claytonsmith, G4JKS	C7 - EMC	
IARU			
	Tim Ellam, VE6SH	IARU President	
	Ole Garpestad, LA2RR	IARU Vice President	
	Dave Sumner, K1ZZ	IARU Secretary	
Region 2			
	Reinaldo Leandro, YV5AM	Region 2 President	
	Ramon Santoyo, XE1KK	Region 2 Vice President	
Region 3			
	Gopal Madhavan, VU2GMN	Region 3 President	
	Peter Young, VK3MV	Region 3 Director	
Observers	Hans Welens, ON6WQ	Observer	
	Joze Bockx	Partner	

Appendix C: Minutes of the Second Plenary

Subject:	Minutes of the Second Plenary Monday 18 September 2017		
Society	Secretary	Country:	
Committee	Plenary	Paper Number:	LA17_Plenary 2
Author:	Dennis Green, ZS4BS		

Member Societies present:

Albania AARA; Algeria ARA; Senegal ARAS; Italy ARI; Monaco ARM; Bulgaria BFRA; Czech Republic CRC; Germany DARC; Denmark EDR; Egypt ERASD; Romania FRR; Croatia HRS; Iceland IRA; Ireland IRTS; Kuwait KARS; Lithuania LRMD; Malta MARL; Hungary MRASZ; Norway NRRL; Austria OEVSU; Poland PZK; Qatar QARS; France REF; Luxembourg RL; Oman ROARS; Great Britain RSGB; Slovakia SARA; South Africa SARL; Kosovo SHRAK; Finland SRAL; Russia SRR; Serbia SRS; Sweden SSA; Belgium UBA; Andorra URA; Spain URE; Switzerland USKA; Netherlands VERON and Slovenia ZRS

Member Societies present via proxy

Liberia, LRAA; San Marino, ARSM; Turkey, TRAC; Faroe Islands, FRA; Mongolia, MRSF; Estonia, ERAU; Ukraine, UARL; Lebanon, RAL; Cyprus, CARS, Namibia, NARL, Kazakhstan KFRR, Liechtenstein, AVFL and Macedonia, RSM.

1. G3BJ welcomes the delegates and presents an overview of the Conference Server facility.
2. Credentials. DJ3HW presented the minutes of the C2 Credentials meeting held on Sunday 17 September 2017.

There are 98 Member Societies in Region 1. 27 Member Societies have not paid their membership fees, which gives 71 Member Societies eligible to participate in voting at a general conference.

There are 39 Member Societies present in person at the Sparkassenakademie and 12 Member Societies present by proxy vote. This equals to 51 votes at this General Conference.

The proxy vote from Mongolia MRSF was not received and the proxy vote from Montenegro was received after 15:00 on Sunday 17 September.

To change the byelaws of Region 1, a vote of 37 Member Societies is required and to change the Constitution, a vote of 48 Member Societies is required.

The following Member Societies are present in person at this General Conference - Albania AARA; Algeria ARA; Senegal ARAS; Italy ARI; Monaco ARM; Bulgaria BFRA; Czech Republic CRC; Germany DARC; Denmark EDR; Egypt ERASD; Romania FRR; Croatia HRS; Iceland IRA; Ireland IRTS; Kuwait KARS; Lithuania LRMD; Malta MARL; Hungary MRASZ; Norway NRRL; Austria OEVSU; Poland PZK; Qatar QARS; France REF; Luxembourg RL; Oman ROARS; Great Britain RSGB; Slovakia SARA; South Africa SARL; Kosovo SHRAK; Finland SRAL; Russia SRR; Serbia SRS;

Sweden SSA; Belgium UBA; Andorra URA; Spain URE; Switzerland USKA; Netherlands VERON and Slovenia ZRS.

The following Member Societies are present by proxy at this General Conference - Liberia, LRAA (held by ARAS Senegal); San Marino, ARSM (held by ARI Italy); Turkey, TRAC (held by BFRA Bulgaria); Faroe Islands, FRA (held by EDR Denmark); Estonia, ERAU (held by LRMD Lithuania); Ukraine, UARL (held by PZK Poland); Lebanon, RAL (held by ROARS Oman); Cyprus, CARS (held by RSGB Great Britain), Namibia, NARL (held by SARL South Africa), Kazakhstan KFRR (held by SRS Serbia), Liechtenstein, AVFL (held by USKA Switzerland) and Macedonia, RSM (held by MRASZ Hungary).

3. Late Papers. G3BJ explained that some papers were received after the closing date, but these papers are important to the Conference. The Conference unanimously approves that the late papers be accepted for Conference.

4. EC Elections. G3BJ discuss the election of EC members and requests MS to make informed decisions when it comes to the election of the new EC. The members of the EC must have the time and the willingness to work hard for the interests of amateur radio in Region 1 and worldwide.

5. The meeting closed at 09:30

Appendix D: Minutes of the Final Plenary

Subject:	Minutes of the Final Plenary of the 24 th Region 1 General Conference		
Society	Region 1	Society	IARU
Committee	Plenary	Paper Number	
Author:	Dennis Green, ZS4BS		

The Final Plenary was opened at 08:30 on Thursday 21 September 2017 in the Aula Hall.

Present:

Don Beattie, G3BJ, President IARU Region 1 (Chairman)

Dennis Green, ZS4BS (Secretary)

Delegates from:

Albania AARA; Algeria ARA; Senegal ARAS; Tunisia ARAT; Italy ARI; Monaco ARM; Bulgaria BFRA; Czech Republic CRC; Germany DARC; Denmark EDR; Egypt ERASD; Romania FRR; Croatia HRS; Iceland IRA; Ireland IRTS; Kuwait KARS; Lithuania LRMD; Malta MARL; Hungary MRASZ; Norway NRRL; Austria OeVSV; Poland PZK; Qatar QARS; France REF; Luxembourg RL; Oman ROARS; Great Britain RSGB; Slovakia SARA; Kosovo SHRAK; South Africa SARL; Finland SRAL; Russia SRR; Serbia SRS; Sweden SSA; Belgium UBA; Andorra URA; Spain URE; Switzerland USKA; Netherlands VERON and Slovenia ZRS

By Proxy:

Liberia, LRAA; San Marino, ARRSM; Turkey, TRAC; Faroe Islands, FRA; Estonia, ERAU; Macedonia, RSM; Ukraine, UARL; Lebanon, RAL; Cyprus, CARS; Namibia, NARL; Kazakhstan KFRR, Lichtenstein, AVFL and United Arab Emirates (EARS)

Observers:

Hans Welens, ON6WQ

IARU Region 1 Executive Committee Members, IARU Region 1 Working Group Chairmen, IARU Officers, IARU Region 2 Officers and IARU Region 3 Officers.

1. **Welcome.** G3BJ welcomed delegates and observers to the Final Plenary of the 24th General Conference of IARU Region 1.
2. **Agenda.** The agenda for the meeting was approved.
3. **Proxy of EARS.** G3BJ explained that although the notification of a proxy vote from the Emirates Amateur Radio Society to the Kuwait Amateur Radio Society was received by email on time, the proxy was not physically presented to the Secretary before 15:00 on Sunday 17 September 2017. The C2 Credential Committee agreed unanimously to accept the proxy vote of EARS. For voting purposes, this means that 40 Member Societies are present at Conference with 13 Member Societies represented by proxy equalling 53 votes. 37 votes are required to change the Byelaws and 48 votes are required to change the Articles.

4. **Voting for the EC and Venue.** The Election and Ballot Committee collected the voting papers for the Executive Committee elections and the 2017 venue.

Recommendations of Committee C2 – Credentials and Finance Committee

5. **Recommendation LA17_C2_Rec_01**

To add a section "Financial impact" in the document disciplines for the adding of the expected impact on the budget for every conference paper submitted to the Secretary.

Proposed: UBA. Seconded: REF. In favour: 53 Against: 0 Abstain: 0

6. **Recommendation LA17_C2_Rec_02**

If the number of members in the Member Societies of Region 1 does not increase significantly until 2020, the annual fee per member is going to be adjusted in order to balance the budget outline for IARU Region 1, which has not been done for the last 18 years."

Proposed: OeVSV. Seconded: SARL. In favour: 53 Against: 0 Abstain: 0

7. **Recommendation LA17_C2_Rec_03**

That the Outline budget for 2018, 2019 and 2020 be accepted.

Proposed: OeVSV. Seconded: SARL. In favour: 53 Against: 0 Abstain: 0

8. **Recommendation LA17_C2_Rec_04**

That the Region adopts a clear expenditure and income metrics aligned with the primary objectives in Article A-1.3 of the Constitution and ensures there is improved annual reporting based on these metrics to Member Societies

Proposed: RSGB. Seconded: REF. In favour: 52 Against: 0 Abstain: 1

A word of thanks was extended to DJ3HW for the efficient way in which the C2 meetings were run. This concluded the discussion of matters from Committee C2

Recommendations of Committee C3 – Administrative and Organisational

9. **Recommendation LA17_C3_Rec_12**

That papers for the General Conference shall be received by the Secretary at least three months prior to the start of the Conference. The Secretary to provide confirmation of receipt to the sender.

Proposed: REF. Seconded: CRC. In favour: 53 Against: 0 Abstain: 0

10. **Recommendation LA17_C3_Rec_13**

That the Secretary shall circulate the papers for a General Conference at least ten weeks prior to the start of the Conference.

Proposed: REF. Seconded: CRC. In favour: 53 Against: 0 Abstain: 0

11. **Recommendation LA17_C3_Rec_14**

That the requirement in B.1.9 be suppressed

Proposed: REF. Seconded: MARL. In favour: 52 Against: 1 Abstain: 0

12. **Recommendation LA17_C3_Rec_15**

That A 2.5 be amended to include the words “at such General Conferences” after “...of specialised bodies...”

Proposed: PZK. Seconded: OeVSV. In favour: 53 Against: 0 Abstain: 0

13. **Recommendation LA17_C3_Rec_16**

That B 1.15.1, second sentence, be amended to read “Only heads of delegations shall.....”

Proposed: KARS. Seconded: AARA. In favour: 53 Against: 0 Abstain: 0

14. **Recommendation LA17_C3_Rec_17**

That minor typographical and grammatical errors in the Constitution, as identified in paper LA17_C3_22, be corrected without making any change to the sense of the wording.

Proposed: PZK. Seconded: AARA. In favour: 53 Against: 0 Abstain: 0

15. **Recommendation LA17_C3_Rec_18**

That the relevant section of B5 Table 2 of the Bylaws be amended to read:

Candidates for election to the EC and to chair the three permanent Committees (HF, VHF/UHF/Microwave and EMC) should be notified to Conference delegates by way of a Conference paper, distributed two months prior to the Conference, and including a CV of each candidate and the name of the proposing Society. In the case of candidates for the post of Treasurer, the recommending Society or group of Societies must also certify that the candidate has the required qualifications for the post.

Notwithstanding that details of candidates shall be nominated in advance by Member Societies, where the number of candidates nominated in that way is less than the number of

vacancies, and at the discretion of Conference, candidates for appointment to the EC and as chairs of the permanent committees may be nominated during the Conference.

Proposed: BFRA. Seconded: AARA. In favour: 51 Against: 1 Abstain: 1

16. Recommendation LA17_C3_Rec_19

That the relevant section of the nomination process for candidates to the EC and permanent committees should be amended to read:

A "curriculum vitae" (CV) for the candidate should be enclosed, which should include particulars of his/her amateur radio and relevant professional activities. This "curriculum vitae" must not exceed 400 words in length and if longer it will be stopped at the 400th word, (it will not be abridged).

Proposed: UBA. Seconded: OeVSV. In favour: 53 Against: 0 Abstain: 0

17. Recommendation LA17_C3_Rec_20

That a new clause be inserted in the Articles as follows:

A.3.2.8 The Executive Committee may arrange for video/audio streaming of the General Conference and that a clause be added to the Byelaws restricting streaming to the opening Plenary, and on a time-delayed basis.

Proposed: OeVSV. Seconded: DARC. In favour: 51 Against: 1 Abstain: 1

18. Recommendation LA17_C3_Rec_21

Six months after election, the EC should publish a clear plan and split of work for the upcoming period

Each year there should be a detailed report from each EC member about progress within his area of responsibility. All these progress reports shall be published on the Region 1 website.

Proposed: OeVSV. Seconded: MRASZ. In favour: 53 Against: 0 Abstain: 0

19. Recommendation LA17_C3_Rec_22

To change the name of the External Relations Committee to the Spectrum and Regulatory Liaison Committee (SRLC).

To suppress all references to the EMC Working Group and replaced with EMC Committee (C7-EMCC)

1. Political Relations Terms of Reference (PRC)

The PRC deals with issues related to the European Institutions and other Region 1 political and governmental entities of a similar nature, with the following Terms of Reference and objectives. The PRC shall:

- Monitor and research developments in relevant political forums which potentially impact the Amateur Service and Amateur-Satellite Service (the Amateur Services);
- Advise the EC on the workings of supra-national political bodies on any matter which might impact the interests of the Amateur Services and process material and undertake actions delegated to it by the EC in respect of such bodies;
- Exchange information on political initiatives which might impact the amateur service;
- On request, advise Region 1 IARU MS on issues concerning the supra-national political forums which affect the Amateur Services;
- Prepare submissions to the relevant forums (Involving others, especially SRLC and EMCC as appropriate) to represent and advocate the position of the Amateur Services and attend relevant meetings of political bodies to pursue these positions.

The PRC shall work with other permanent Committees (SRLC, EMCC, C4 and C5) to identify potential threats to the Amateur and Amateur Satellite Services from legislative, political or commercial pressures and agree with the RSMC and other relevant permanent bodies, strategies and measures to ensure that these threats are managed in a way that limits any adverse impact on the Amateur Services.

3. EMC Committee (C7) Terms of Reference

EMCC (C7) is a specialist technical body of IARU and deals with Electromagnetic Compatibility issues related specifically to the EU's Electromagnetic Compatibility (EMC) and Radio Equipment Directives in CISPR, IEC, ICNIRP, CENELEC and ETSI and other Region 1 entities of a similar nature, with the following Terms of Reference and objectives.

The EMCC shall:

- Monitor and research developments in relevant forums addressing EMC, which potentially impact the Amateur Service and Amateur-Satellite Service (the Amateur Services);
- Advise the EC on the workings of such forums affecting any matter which might impact on the interests of the Amateur Services and process material and undertake actions delegated to it by the EC in respect of these forums;
- Prepare submissions on EMC, detailing the views and concerns and objectives of the Amateur Services in relation to emerging technologies;
- Wherever feasible, influence EMC related standards to the benefit of the Amateur Services;
- Bring potential interference threats to the Amateur Services, from emerging technologies, to the attention of the SRLC and PRC, to influence relevant legislative changes and implementation, internationally and nationally; and
- Work in close and regular contact with specialists in MS to assist in the development of IARU EMC strategy;
- Provide advice on EMC concerns to IARU MS and coordinate actions in core areas in

support of IARU Region 1 or IARU global EMC strategies.

- Keep a watching brief on all issues relating to EMF as they affect the Amateur Services

The EMCC shall work with other permanent Committees (PRC, SRLC, C4 and C5) to identify potential threats to the Amateur Services and agree with the other relevant permanent bodies, strategies and measures to ensure that these threats are managed in an appropriate way.

4. Spectrum and Regulatory Liaison Committee (SRLC) Terms of Reference

The SRLC, although termed a “Committee” is in fact a group of individual experts who are personally involved in work for IARU in relations with regulatory and standards organisations. Individually and collectively, under the leadership of the Chair of the SRLC, they establish the policy and strategic direction IARU Region 1 should take in the International Telecommunication Union (ITU) and in Region 1, Regional and Sub-Regional Telecommunication Organisations (RTOs) e.g. ASMG (Arab Spectrum Management Group), ATU (African Telecommunication Union), CEPT (Conférence Européenne des administrations des Postes et Télécommunications) and RCC (Regional Commonwealth in the field of Communications) on matters of importance to the interests of the Amateur Services (e.g. spectrum management, licensing and spectrum engineering). The Chair identifies and commissions Region 1 experts to represent IARU at meetings/conferences of these organisations in accordance with the following Terms of Reference and objectives.

- Monitor and research developments in relevant regulatory forums which potentially impact the Amateur Service and Amateur-Satellite Service (the Amateur Services);
- Advise the EC on the workings of RTOs affecting any matter which might impact the interests of the Amateur Services and process material and undertake actions delegated to it by the EC in respect of these bodies; Prepare submissions on regulatory and spectrum management issues detailing the views, concerns and objectives of the Amateur Services within the overall envelope of IARU’s global strategies;
- For ITU issues work closely with the IARU officers and experts from IARU Regions 2 and 3 to arrive at common positions to take in RTOs worldwide;
- Liaise with PRC on matters arising in the Radio Spectrum Policy Group (RSPG) and Radio Spectrum Committee (RSC) of the European Commission;
- Provide advice on regulatory concerns to IARU MS and coordinate actions in core areas in support of IARU Region 1 or IARU global spectrum strategies;
- Liaise with EMCC concerning relevant issues raised in CEPT by ETSI and CENELEC, including any proposals to amend ETSI EN 301 783.

Members of the SRLC, and particularly the Chair, shall work with other permanent Committees (PRC, EMCC, C4 and C5) to identify potential threats to the Amateur Services from regulatory pressures and agree with the PRC and other relevant permanent bodies, strategies and implementation to ensure that these threats are managed in a way that limits any adverse impact on the Amateur Services.

Proposed: PZK. Seconded: VERON. In favour: 48 Against: 1 Abstain: 4

20. **Recommendation LA17_C3_Rec_23**

To add the following Term of Reference for the Emergency Communications Coordinator

7. To organise tests and exercises to promote international emergency communications and links between countries

Proposed: OeVSV. Seconded: ZRS. In favour: 53 Against: 0 Abstain: 0

21. **Recommendation LA17_C3_Rec_24**

To accept the proposed strategy for STARS as set out in paper LA17_C3_19

Proposed: SHRAK. Seconded: ARAS. In favour: 53 Against: 0 Abstain: 0

22. **Recommendation LA17_C3_Rec_26**

That a list of Member Societies receiving financial support to attend Conference will be submitted during the first meeting of C2 Credentials together with data on the justification provided by each Member Society

Proposed: OeVSV. Seconded: USKA. In favour: 53 Against: 0 Abstain: 0

23. **Recommendation LA17_C3_Rec_27**

It is recommended that action be taken to lobby Region 1 RTOs and administrations to introduce an Entry Level Amateur Licence.

Proposed: OeVSV. Seconded: UBA. In favour: 51 Against: 0 Abstain: 2

24. **Recommendation LA17_C3_Rec_28**

It is recommended to continue the initiative within IARU Region 1 to get Morse Code on different national lists of heritage.

Furthermore, IARU is asked to request UNESCO to establish Morse Code as an intangible heritage.

Proposed: REF. Seconded: BFRA. In favour: 53 Against: 0 Abstain: 0

25. **Recommendation LA17_C3_Rec_29**

That a link be placed on the new IARU website to link to the DXCC listings on the ARRL site.

Proposed: UBA. Seconded: PZK. In favour: 46 Against: 4 Abstain: 3

26. **Recommendation LA17_C3_Rec_30**

1. **Senders of QSL cards are encouraged to provide a QR-Code on their cards, using the code outlined in Annex A to this paper. [LA17_C3_47]**
2. **Member Societies are encouraged to publish the code spelled out in Annex A on a continuous basis and to encourage logbook software developers to implement the code in their programs for both direction, on outgoing card and for easy logging on incoming cards.**
3. **DARC will accept QR code standardisation role and will liaise with other Regions about possible broader implementation of the coding system**

Proposed: DARC. Seconded: Serbia. In favour: 47 Against: 1 Abstain: 5

27. **Recommendation LA17_C3_Rec_31**

IARU Region 1 should set up a task group to make an inventory of the current state of planning policies in countries, with the objective of creating a base-line database for further actions to encourage nation states to ease restrictions on amateur antennas.

Proposed: NRRL. Seconded: SRR. In favour: 49 Against: 2 Abstain: 2

28. **Recommendation LA17_C3_Rec_32**

It is recommended that in order to promote the introduction of the CEPT Novice Licence a survey should be conducted of Member Societies in CEPT countries to identify the regulatory parameters (including frequencies and power) currently included in such licences.

Proposed: RSGB. Seconded: ARI. In favour: 53 Against: 0 Abstain: 0

29 **Recommendation LA_17_C3_33**

That the paper LA17_C3_12b Rules A of the ARDF WG be accepted, subject to resolution of the applicability of the Child Protection Policy in Regions 2 and 3.

Proposed: CRC. Seconded: KARS. In favour: 53 Against: 0 Abstain: 0

30. **Recommendation LA_17_C3_34**

That every member society should, especially in absence of a national AMSAT group, seek to become the national contact organisation for CubeSat projects and advise them on issues of telecommunications, including whether or not the satellite should use amateur frequencies.

Proposed: OeVSV. Seconded: SSA. In favour: 53 Against: 0 Abstain: 0

This concluded the discussion of matters from Committee C3

Recommendations of Committee C4 – HF Committee

31. Recommendation LA17_C4_REC_01

The Region 1 HF Managers' Handbook, v8.1 page 113 and the IARU Region 1 HF band plan be revised to read:

Sideband Usage: Below 10 MHz lower sideband (LSB) is recommended and above 10 MHz use upper sideband (USB). The exception to this is on the 5 MHz band where USB is recommended.

Proposed: HRS. Seconded: MARL. In favour: 51 Against: 2 Abstain: 0

32 Recommendation LA17_C4_REC_02

That the following proposed usage plan for the WRC-15 5 MHz allocation be implemented in Region 1 with a view to harmonising across all regions:

5 351.5 – 5 354.0 kHz	200 Hz CW / narrow band modes
5 354.0 – 5 366.0 kHz	2 700 Hz All modes. USB recommended for voice operation
5 366.0 – 5 366.5 kHz	20 Hz Weak signal narrow band modes

It is recommended that frequencies within the WRC-15 allocation only be used if there are no other frequencies available at 5 MHz under domestic (ITU-R RR Article 4.4) permissions. Local nets and long rag chew QSOs should avoid the WRC-15 allocation if possible. Emergency communications traffic and exercises may use the 5 MHz band.

Proposed: RSGB. Seconded: SSA. In favour: 48 Against: 3 Abstain: 2

33. Recommendation LA17_C4_REC_03

It is recommended that the IARU Region 1 band plan for 30 m be revised as follows:

FREQUENCY SEGMENT (kHz)	MAX BANDWIDTH (Hz)	PREFERRED MODE AND USAGE	
10100 - 10130	200	CW	10116 kHz - CW QRP Centre of Activity
10130 - 10150	500	Narrow band modes	Digimodes

Note that CW is permitted over the whole band.

It should be noted there is an IARU recommendation that there should be no beacons below 14 MHz (DK0WCY excepted) and current beacons in the 30 m band are operating against this recommendation.

Proposed: UBA. Seconded: KARS. In favour: 52 Against: 0 Abstain: 1

34. **Recommendation LA17_C4_REC_04**

It is recommended that the IARU Region 1 band plan for 80 m be revised as follows:

FREQUENCY SEGMENT (kHz)	MAX BANDWIDTH (Hz)	PREFERRED MODE AND USAGE	
3500 - 3510	200	CW	Priority for intercontinental operation
3510 - 3560	200	CW	CW contest preferred 3555 kHz - CW QRS Centre of Activity
3560 - 3570	200	CW	3560 kHz - CW QRP Centre of Activity
3570 - 3580	200	All Narrow Band Modes	Digimodes
3580 - 3590	500	All Narrow Band Modes	Digimodes
3590 - 3600	500	All Narrow Band Modes	Digimodes, automatically controlled data stations (unattended)

Proposed: NRRL. Seconded: SSA. In favour: 53 Against: 0 Abstain: 0

35. **Recommendation LA17_C4_REC_05**

It is recommended to delete Recommendation Davos 2005 DV05_C3_Rec_20

Proposed: RSGB. Seconded: VERON. In favour: 53 Against: 0 Abstain: 0

36. **Recommendation LA17_C4_REC_06**

The IARU Region 1 HF Manager's Handbook should be modified to include the 60 m band on the excluded bands list.

Contests should be restricted to 160, 80, 40, 20, 15 and 10 m. That is 60, 30, 17 and 12 m bands should not be used for contests.

Proposed: MRASZ. Seconded: PZK. In favour: 53 Against: 0 Abstain: 0

37. **Recommendation LA17_C4_REC_07**

That Region 1 works with Region 2 and Region 3 with the goal of achieving greater harmonisation of the bands plans between all regions.

Proposed: ARI. Seconded: ARM. In favour: 53 Against: 0 Abstain: 0

38. **Recommendation LA17_C4_REC_08**

That each Member Society be reminded of the IARU Region 1 policy for beacons below 14 MHz and again makes this policy clearly known in its country.

Proposed: NRRL. Seconded: VERON. In favour: 53 Against: 0 Abstain: 0

39. **Recommendation LA17_C4_REC_09**

To preserve the integrity of the amateur service, contest organisers are encouraged to enforce rules that ensure all transmissions remain completely within the allocated amateur service bands.

Proposed: EARS. Seconded: NRRL. In favour: 51 Against: 0 Abstain: 2

40. **Recommendation LA17_C4_REC_10**

Due to the current amateur activity on the 10 MHz, 18 MHz and 24 MHz bands, it is recommended that Torremolinos 1990 - C4.3 and Torremolinos 1990 - C4.4 be deleted.

Proposed: RSGB. Seconded: EARS. In favour: 53 Against: 0 Abstain: 0

A word of thanks was extended to DK4VW for the efficient way in which the C4 meetings were run. This concluded the discussion of matters from Committee C4.

Recommendations of Committee C5 – VHF/UHF/Microwave Committee

41. **Recommendation LA17_C5_Rec_01**

It is recommended that the following recommendations from the C5 Interim Conference in Vienna are endorsed:

- **VIE16_C5_01 (The usage of a controlled cloud solution for collecting and providing relevant information for MS is encouraged)**
- **VIE16_C5_03 and 04 (Removing footnotes in VHF band plan)**
- **VIE16_C5_06 (To correct the satellite segment the table in chapter 4.9 by deleting “5790”, inserting “5830” and adding the footnote: “Any wideband system shall protect narrowband applications”)**
- **VIE16_C5_08, 09, 15 and 16 (corrections to contest rules)**
- **VIE16_C5_11b (Requiring contest entries to be set out in digital/electronic form fulfilling the requirements under rule 5.3.13. Logs shall be sent according to rule 5.2.3 not later than the second Monday following the contest weekend.)**
- **VIE16_C5_12 (The sub regional contest managers are encouraged to exchange the received contest logs for cross checking purposes on their decision.)**
- **VIE16_C5_13 (To update Section 5.3.6 by adding the acceptable/unacceptable examples of secondary methods as mentioned in the document.)**
- **VIE16_C5_14 (To retain the 6-digit Locator system in 50 MHz contest. For stations outside Region 1, four digits can be accepted and such Locators would be assumed to be completed with “MM”)**
- **VIE16_C5_22 (To encourage MS and members to use the old beacon segment for CW (at 50.031-50.100 MHz)**
- **VIE16_C5_23 (Continuing work on harmonising APRS frequencies across all three regions)**
- **VIE16_C5_27 (To remove paragraph 5.11 from the VHF-Managers Handbook and putting the winners table on the website.)**

- **VIE16_C5_27b (To remove all dedicated WSPR spot frequencies and footnotes from the VHF Managers Handbook.)**

Proposed: ARI. Seconded: OeVSV. In favour: 53 Against: 0 Abstain: 0

42. Recommendation LA17_C5_Rec_02

It is proposed that all IARU bodies and member societies use every opportunity to exert pressure on national regulators to implement all the recommendations that protect the amateur bands.

Proposed: CRC. Seconded: EDR. In favour: 53 Against: 0 Abstain: 0

43. Recommendation LA17_C5_Rec_03

The inclusion of the 3,4 GHz band to IARU Region 1 UHF/Microwaves contest is recommended. The content of paragraph “5.3.12 Awards” of IARU Region 1 VHF Managers Handbook needs to be updated.

Proposed: RSGB. Seconded: ZRS. In favour: 53 Against: 0 Abstain: 0

44. Recommendation LA17_C5_Rec_04

It is proposed to create a team of experienced VHF contesters and contest robot owners/designers to define common checking rules for automatic contest adjudication applications.

Proposed: SARA. Seconded: CRC. In favour: 53 Against: 0 Abstain: 0

45. Recommendation LA17_C5_Rec_05

It is recommended that the text of the 50 MHz band plan in the VHF Managers handbook is modified by

Remove “In many countries in the African part of Region 1 (see footnotes accompanying the LA17_C5_19 RSGB - 50 MHz Band Plan (52 - 54 MHz) ITU frequency allocation table) the 50 - 54 MHz band is allocated to the Amateur Service on a primary basis. These Countries may refer to the SARL Band plan.”

Add a 52 - 54 MHz section to the IARU Region 1 band plan as ALL Modes with this usage footnote:

In those Region 1 countries where 52 - 54 MHz (or parts thereof) is allocated, its use should be planned on the basis of up to 4 x 500 kHz blocks which may be sub-divided to suit digital applications. Amateurs using digital transmission methods must also ensure that their transmissions do not spread beyond band edges.

Proposed: OeVSV. Seconded: REF. In favour: 53 Against: 0 Abstain: 0

46. Recommendation LA17_C5_Rec_06

It is recommended that the text of the 50 MHz band plan in the VHF Managers handbook is modified to amend the modes section with a footnote that "legacy usage for MGM is accepted, but effort should be made to move this to 50,300 – 50,400 MHz. Usage by operators may vary due to restrictions on national allocations"

Proposed: MRASZ. Seconded: PZK. In favour: 53 Against: 0 Abstain: 0

47. Recommendation LA17_C5_Rec_07

It is recommended that the VHF Handbook Section 11.3 (50 MHz beacons) to be updated to include the following:

- 50 MHz Synchronised beacons may optionally also transmit on 50.4xx when not transmitting in their 50.0xx synchronised scheme time slot.
- If they use this dual-frequency option, the beacon callsign on each frequency should be slightly different to assist reception and reporting systems. For example, to append /S and /B onto the callsign to indicate Synchronised and ordinary Beacon frequency respectively
- Synchronised Beacons should detect loss/failure of GPS and mute transmissions on their synchronised frequency assignment (50.0xx). However, they remain free to transmit on their (optional) 50.4xx assignment (where they may revert to a CW-only to indicate the problem)
- Consider the advantages of adaptive MGM and remote control for propagation events
- 50 MHz users and propagation experts are encouraged to propose multiplex sequences, with due consideration for access to remote beacon locations/re-programming
- Both transmit and receive software should be flexible to support the above including for example the use of more than one-time slot, if a multiplex is sparse during roll out

Proposed: SSA. Seconded: OeVSV. In favour: 53 Against: 0 Abstain: 0

48. Recommendation LA17_C5_Rec_08

It is recommended that obsolete footnotes 'g' and 'h' of the 2 m band plan are deleted.

Proposed: SSA. Seconded: REF. In favour: 53 Against: 0 Abstain: 0

49. Recommendation LA17_C5_Rec_09

To introduce an Experimental Machine Generated Mode ("EMGM") segment on the 2 m, 70 and 23 cm bands for weak signal narrow band modes.

144.491 – 144.493 MHz (BW: 500 Hz)

432.491 – 432.493 MHz (BW: 500 Hz)

1 296.741 – 1 296.743 MHz (BW: 500 Hz)

Proposed: REF. Seconded: UBA. In favour: 50 Against: 1 Abstain: 2

At 10:30, the Final Plenary stopped for tea and refreshments and reconvened at 11:00

50. **Recommendation LA17_C5_Rec_10**

It is recommended that the 2 m band plan in the VHF managers handbook is modified to show

Frequency, MHz	Max BW	Mode / Usage
144.025 - 144.100	500 Hz	Telegraphy
144.100 - 144.150	500 Hz	Telegraphy and MGM
144.150 - 144.400	2 700 Hz	Telegraphy, SSB, MGM

and to remove the PSK31 spot frequency.

Proposed: CRC. Seconded: ARI. In favour: 53 Against: 0 Abstain: 0

51. **Recommendation LA17_C5_Rec_11**

It is recommended that footnote m. of the 70 cm band plan be copied to 434.000 – 434.594 MHz and the words, ‘centre frequency of’ and ‘horizontal polarization’ be removed to allow broadband digital experiments.

Proposed: OeVSV. Seconded: SSA. In favour: 53 Against: 0 Abstain: 0

52. **Recommendation LA17_C5_Rec_12**

It is recommended that the text shown 2 304 to 2 306 MHz about being an alternative location for narrowband working be copied to 2 400 to 2 402 MHz and frequency/footnotes modified accordingly.

Proposed: REF. Seconded: SARL. In favour: 52 Against: 0 Abstain: 1

53. **Recommendation LA17_C5_Rec_13**

It is proposed to amend the 5.7 GHz Band Plan in the VHF Managers Handbook to more clearly designate the 5 760 – 5 762 MHz range as ‘preferred’ and to remove the 2.7 kHz bandwidth restriction at 5 650.0 – 5 668.0 MHz

Proposed: DARC. Seconded: SARA. In favour: 53 Against: 0 Abstain: 0

54. **Recommendation LA17_C5_Rec_14**

In order to protect the 24 and 47 GHz band it is recommended that:

- IARU member societies fully engage with their national administrations to ensure they are fully aware of the radio amateur interest in their countries in the 24 GHz and 47 GHz bands.
- IARU member societies ensure their national administrations actively support the protection of the amateur radio services in the 24 GHz and 47 GHz bands in the WRC-19 preparatory studies.

- IARU member societies encourage their national interest groups to publicise and highlight their achievements in these frequency bands (including by web pages, social media, YouTube, etc.)

Proposed: REF. Seconded: SSA. In favour: 52 Against: 0 Abstain: 1

55. Recommendation LA17_C5_Rec_15

In order to protect and develop the use of the millimetre wave bands it is recommended that Member Societies should;

- recognise the importance of the millimetre wave frequency bands as territory for experimentation and innovation.
- recognise that the ability to exploit these frequencies reflects the true amateur radio spirit of self-learning and training.
- encourage national interest-group organisations to provide a forum for efficient sharing of experiences and ideas amongst their amateur communities for the use of these bands.
- facilitate the organisation of events and meetings (including contests) that can allow like-minded enthusiasts to exchange ideas.
- take steps to highlight and promote activity and experimentation in this area with their national and regional administrations.

Proposed: OeVSV. Seconded: SSA. In favour: 53 Against: 0 Abstain: 0

56. Recommendation LA17_C5_Rec_16

It is proposed add the following new text to the 5.3.2 chapter (Contest Sections) of the current VHF Managers handbook:

Section SINGLE – LOW POWER: stations operated by a single operator, with no operational assistance of another person during the contest, transmitting with less than 100 W PEP and using single directional antenna (with only one radiating element - i.e. 9 element Yagi or 4 element loop) for transmit and receive (144 MHz only).

Section MULTI – LOW POWER: stations operated by multiple operators transmitting with less than 100 W PEP and using single directional antenna (with only one radiating element - i.e. 9 element Yagi or 4 element loop) for transmit and receive (144 MHz only).

Proposed: HRS. Seconded: PZK. In favour: 53 Against: 0 Abstain: 0

57. Recommendation LA17_C5_Rec_17

It is recommended to amend the second paragraph of the Chapter 5.3.11:

The claimed contact shall be disqualified for any error in the information logged by the station. When there is high evidence that the error is due to the wrongly logged information of the transmitting station (i.e. wrong date/time or call/UL) such a LOG shall not be used for adjudication purposes.

Proposed: SARA. Seconded: ZRS. In favour: 53 Against: 0 Abstain: 0

58. Recommendation LA17_C5_Rec_18

It is proposed to modify section 5.3.11 of the VHF Managers handbook as follows:

The final judging of the entries shall be the responsibility of the organising society, whose decision shall be final. Entrants deliberately contravening any of these rules, attempting fraud or flagrantly disregarding the IARU Region 1 band plans shall be disqualified.

Each VHF Manager and/or national Contest Committee can propose to the contest organizer disqualification or penalization of an entrant. The claimed contact shall be disqualified for any error in the information logged by the station.

Any error in the exchanged information logged by a station is liable to result in the loss of all points for that contact, subject to review and confirmation by the contest organiser.

Proposed: ARI. Seconded: ZRS. In favour: 53 Against: 0 Abstain: 0

59. Recommendation LA17_C5_Rec_19

If an entrant will attempt to complete a QSO with a secondary method (as Internet chat channel, DX Cluster, talk-back on another amateur band, telephone, etc.), or improperly use any means for self-spotting he will receive from the C5 Contesting WG a Yellow Card.

The list of stations that receive Yellow Cards will be published at the end of the Final Classification.

An entrant or operator receiving two yellow cards over three consecutive IARU Region 1 contests (50 - 70/VHF/USHF) will be disqualified. If the entrant is in a multi-operator category, all listed operators are so affected.

C5 Contesting WG will be responsible for these actions; every National VHF Contest Manager could suggest such penalizations.

Proposed: ARI. Seconded: REF. In favour: 53 Against: 0 Abstain: 0

60. Recommendation LA17_C5_Rec_20

It is recommended to incorporate the MGM Operating Procedure for Contests detailed in paper LA17_C5_48 into the VHF Managers Handbook

Proposed: RSGB. Seconded: AARA. In favour: 53 Against: 0 Abstain: 0

61. Recommendation LA17_C5_Rec_21

It is recommended that the following definitions are incorporated into the rules for IARU Region 1 50/70 MHz, 145 MHz and UHF/Microwaves Contests

- **Station:** set of antennas, transmitters and receivers used during the contest on each frequency band (i.e. multiband setups are composed of multiple stations).
- **Location:** geographical area with diameter of no more than 500 meters where the station resides during the contest.
- **Call Sign:** identification of the station during the contest. Added prefix and/or suffix do not generate different call sign (i.e. S50AAA/p or DL/S50AAA are the same call sign as S50AAA).
- **Operator:** an individual that operates the station during the contest using the station's call sign. Operator may reside inside (local operator) or outside (remote operator) the location. During the contest, an operator may operate only stations that form one entry.
- **Entries:**
 - o **Multi operator:** stations from the same location, operated by more than one operator and using one callsign on all bands.
 - o **Single operator:** stations from the same location, operated by a single operator and using one callsign on all bands, with no operational assistance of another person during the contest.

6 HOURS section time rule: The 6-hour time segment can be divided into maximum two periods. The time of the first QSO sets the start time of the first period. When operating in two periods, the pause between the periods must be longer than 2 hours.

The first-time difference of 2 hours or more between two consecutive QSOs marks the pause segment. Only the QSOs that fall into the combined 6-hour time segment will be counted for points. Participants are welcome to operate longer than 6 hours and in such case, they shall send their complete log (the contest robot will automatically extract the 6 hours' part from the log, while the rest of the log entries will be used for cross-checking purposes).

Proposed: AARA. Seconded: CRC. In favour: 53 Against: 0 Abstain: 0

62. Recommendation LA17_C5_Rec_22

It is recommended that the IARU encourages development of Digital Voice Interoperability through articles in the VHF newsletter, website, etc.

Proposed: NRRL. Seconded: OeVSV. In favour: 53 Against: 0 Abstain: 0

63. Recommendation LA17_C5_Rec_23

It is recommended that the content of paper LA17_C5_17 replaces the appropriate chapter in the VHF Managers Handbook for the locator system.

Refer to Appendix A

Proposed: ZRS. Seconded: SHRAK. In favour: 53 Against: 0 Abstain: 0

64. Recommendation LA17_C5_Rec_24

It is proposed that IARU Region 1 create guidance and prerequisites on how Licence Share Access (LSA) may work in an Amateur Radio context. This can support member societies to prepare for future national discussions where LSA is proposed to be the future way for amateur radio to retain access to spectrum.

Proposed: SRAL. Seconded: REF. In favour: 53 Against: 0 Abstain: 0

65. Recommendation LA17_C5_Rec_25

It is recommended to delete footnote ii from the 145 MHz band plan regarding cross band repeaters.

Proposed: KARS. Seconded: NRRL. In favour: 52 Against: 1 Abstain: 0

66. Recommendation LA17_C5_Rec_26

It is recommended that the following general footnote is added to the 50 MHz band plan:

- Experiments using wider bandwidth digital modes may take place in the 50 MHz band within the 50.5 - 52 MHz segment where local conditions permit, on the basis it does not cause interference to other users (including narrowband/beacon use)**
- noting that potential options for this include around 50.6, 51.0 or 51.7 MHz and maximum bandwidth of around 50 kHz**
- That Member Societies encourage such 50 MHz digital experiments to support innovation and development of the band and report results back to IARU Region 1**

and to remove the specific designation for RTTY at 50.6 MHz (as per the review proposed by Varna Rec VA14_C5_04)

Proposed: AARA. Seconded: REF. In favour: 52 Against: 0 Abstain: 1

67. Recommendation LA17_C5_Rec_27

It is recommended that a Contest working Group is formed with the following terms of reference.

C5 Contest Working Group Terms of Reference

Objectives

- 1. Organisation and conduct of IARU-Region 1 VHF/UHF/SHF contests including:**
 - Collecting logs**
 - Evaluating and judging of the received logs**

- Publication of official results in a timely manner
- Preparation of awards and certificates
- 2) Encouragement of new participants, modes, activity and use of the higher frequency bands
- 3) Promotion of IARU-Region 1 VHF/UHF/SHF to encourage participation - by website and other means such as social media

Responsibilities

- 1) To engage testers both electronically and at major events such as Friedrichshafen where an annual forum and awards ceremony might occur
- 2) To maintain and modify contest rules as appropriate
- 3) To further develop contest organisation
- 4) To decide when and how the changes to the contest rules and contest organisation would be implemented
- 5) To maintain an appropriate 'Contesting Handbook' that would be the master reference for the Organisation and Rules of IARU Region-1 VHF/UHF/SHF Contests - including any directly associated procedures and items such as log file formats
- 6) To arrange for contest information, rules and results to be easily found online
- 7) To coordinate the development of the contest robot
- 8) Annual budgeting and expenditure, in cooperation with the C5 Chairman. This budget needs to be approved by the EC.
- 9) To provide a yearly report to EC
- 10) To provide reports to C5 meetings
- 11) To operate in an open and transparent way including:
 - a) Regular consultation of contest managers and testers
 - b) Ensure that there is at least 6 months' notice period before any agreed contest rule changes are implemented
 - c) In case of serious problems, appeals (or strategic issues), C5/EC would continue to be the arbiter

Group Membership

- 1) The Working Group consists of:
 - C5 Contest Co-Ordinator
 - C5 Chair
 - up to seven additional ordinary members
- 2) Members shall be active testers. Of the ordinary members, at least one needs to be:
 - Robot/IT expert
 - VHF/UHF specialist
 - Microwave specialist

Proposed: PZK. Seconded: UBA. In favour: 53 Against: 0 Abstain: 0

68. Recommendation LA17_C5_Rec_29

It is recommended that a task group is formed within the C5 Committee to compile a survey of actual band usage and activity above 148 MHz, as requested by the IARU AC, to ensure it

is completed by all the Member Societies and send the conclusions to IARU AC by the beginning of 2018 to update the IARU database of band usage for use in ITU discussions.

Proposed: SRAL. Seconded: NRRL. In favour: 53 Against: 0 Abstain: 0

A word of thanks was extended to ON4AVJ for the efficient way in which the C5 meetings were run. This concluded the discussion of matters from Committee C5.

Recommendations of Committee C7 – EMC Committee

69. Recommendation LA17_C7_Rec_01

To adopt the following Terms of Reference for the EMCC:

The Terms of Reference for the EMCC were accepted in Recommendation LA17_C3_Rec_22

70. Recommendation LA17_C7_Rec_02

To start a simple noise measuring campaign amongst Region 1 Member Societies. Hence, enabling IARU to be able to have an independent opinion on the noise situation in the bands and the trends over time. A data collection and processing system will be developed. The input data will be provided by the members.

The noise measuring campaign mentioned here will include the following points:

- Collection of information from existing measurement projects**
- Understanding and examining the different methods used**
- Finding ways of aligning methodology to be able to compare results**
- Financial support will be needed**

To appoint Brendan Minish, EI6IZ, as chairman of the Noise Measuring Campaign Sub-Working Group

The EMCC (C7) to send a liaison statement to IARU Regions 2 and 3 including the following:

- 1. Information on what Region 1 is planning and referring to any noise measurement recommendations that may be approved by the Final Plenary.**
- 2. A request for input from Region 2 and Region 3 on any relevant activities**
- 3. An invitation to collaborate on a world-wide noise measuring project**

Proposed: UBA. Seconded: NRRL. In favour: 53 Against: 0 Abstain: 0

71. Recommendation LA17_C7_Rec_03

That Member Societies should influence their national standards organizations towards covering disturbance issues of large structures such as wind turbines in the future. Furthermore, Member Societies are requested to report such disturbance issues to the EMCC.

Proposed: SSA. Seconded: REF. In favour: 53 Against: 0 Abstain: 0

72. **Recommendation LA17_C7_Rec_04**

That the IARU shall work to create a system to store relevant interference observations done by the Member Societies. The 'system' shall have a well-controlled access system limiting both read- and write-access as decided by IARU. The EMCC is entitled to work out the access policies on behalf of the IARU.

Proposed: PZK. Seconded: UBA. In favour: 53 Against: 0 Abstain: 0

A word of thanks was extended to LA9QL for the efficient way in which the C7 meetings were run. This concluded the discussion of matters from Committee C7.

Appointment of Coordinators, Committee and Working Group Chairmen

73. **Recommendation LA17_C3_Rec_01**

To reappoint Wolf Hadel, DK2OM, as Coordinator and Peter Jost, HB9CET, as vice-coordinator for the IARUMS for the next three years.

Proposed: DARC. Seconded: PZK. In favour: 53 Against: 0 Abstain: 0

74. **Recommendation LA17_C3_Rec_02**

To reappoint Mark Jones, G0MGX, as the IARU Region 1 AROS Coordinator for the next three years.

Proposed: UBA. Seconded: ARA. In favour: 53 Against: 0 Abstain: 0

75. **Recommendation LA17_C3_Rec_03**

To reappoint Greg Mossop, G0DUB, as IARU Region 1 EMCOM Coordinator for the next three years.

Proposed: MARL. Seconded: SRAL. In favour: 53 Against: 0 Abstain: 0

76. **Recommendation LA17_C3_Rec_04**

To reappoint Ivan Ivanov, LZ1PJ as Chair and Andre Schoch, DL4UNY, as Vice-Chair of the IARU Region 1 HST Working Group for the next three years.

Proposed: FRR. Seconded: BFRA. In favour: 53 Against: 0 Abstain: 0

77. **Recommendation LA17_C3_Rec_05**

To reappoint Stefan Dombrowski, ON6TI as Chair of the IARU Region 1 ARSPEX Working Group for the next three years.

Proposed: RL. Seconded: SARA. In favour: 53 Against: 0 Abstain: 0

78. **Recommendation LA17_C3_Rec_06**

To reappoint Graham Shirville, G3VZV, as the IARU Region 1 Satellite Coordinator for the next three years.

Proposed: REF. Seconded: KARS. In favour: 53 Against: 0 Abstain: 0

79. **Recommendation LA17_C3_07**

To reappoint Jiří Mareček, OK2BWN, as the IARU Region 1 ARDF WG Chair for the next three years.

Proposed: SRS. Seconded: CRC. In favour: 53 Against: 0 Abstain: 0

80. **Recommendation LA17_C3_08**

To appoint Seamus McCague, EI8BP, as the IARU Region 1 PRC Chair for the next three years.

Proposed: IRTS. Seconded: EARS. In favour: 53 Against: 0 Abstain: 0

81. **Recommendation LA17_C3_09**

To reappoint Peter M. Frey, HB9MQM, as the IARU Region 1 RA Coordinator for the next three years.

Proposed: OeVSV. Seconded: USKA. In favour: 53 Against: 0 Abstain: 0

82. **Recommendation LA17_C3_10**

The plenary endorsed the appointment of Dave Court, EI3IO as the SRLC Chair.

(Note: The Committee is proposed to be renamed as the Spectrum Regulatory Liaison Committee – see Recommendation LA17_C3_Rec_22)

Proposed: NARL. Seconded: LRAA. In favour: 53 Against: 0 Abstain: 0

83. **Recommendation LA17_C3_11**

To reappoint Lisa Leenders, PA2LS, as the chair of the IARU Region 1 Youth Working Group for the next three years.

To appoint Florian Zwingl, OE3FTA, as the vice-chair of the IARU Region 1 Youth Working Group for the next three years.

Proposed: RSGB. Seconded: ARI. In favour: 53 Against: 0 Abstain: 0

84. **Recommendation LA17_C3_Rec_25**

To appoint Riri Azrak, OD5RI as Chair of the STARS WG for the next three-year period

Proposed: REF. Seconded: UBA. In favour: 53 Against: 0 Abstain: 0

85. **Recommendation LA17_C4_REC_11:**

To appoint Tom Kamp, DF5JL, as the Chair of the Permanent HF Committee (C4).

Proposed: VERON. Seconded: DARC. In favour: 53 Against: 0 Abstain: 0

86. **Recommendation LA17_C4_REC_12:**

To appoint Ian Greenshields, G4FSU, as the Vice-Chair of the Permanent HF Committee (C4).

Proposed: REF. Seconded: ARAS. In favour: 53 Against: 0 Abstain: 0

87. **Recommendation LA17_C4_REC_13:**

To appoint Dennis Green, ZS4BS, as the HF Beacon Coordinator for Region 1

Proposed: SARL. Seconded: SARA. In favour: 53 Against: 0 Abstain: 0

88. **Recommendation LA17_C4_REC_14:**

To appoint Andre Schmidt, DL8WX, as the HF Beacon Vice-Coordinator for Region 1

Proposed: ZRS. Seconded: MRASZ. In favour: 53 Against: 0 Abstain: 0

89. **Recommendation LA17_C5_Rec_28**

To reappoint Jacques Verleijn, ON4AVJ, as the chair and Jann Traschewski, DG8NGN as Vice Chair of the Permanent VHF/UHF and Microwaves Committee (C5)

Proposed: OeVSV. Seconded: UBA. In favour: 53 Against: 0 Abstain: 0

90. **Recommendation LA17_C5_Rec_29**

To appoint Matthias Klug, DH4FAJ, as VHF/UHF and Microwave beacon coordinator

Proposed: DARC. Seconded: EDR. In favour: 53 Against: 0 Abstain: 0

91. **Recommendation LA17_C7_Rec_05**

To appoint Tore Worren, LA9QL, as the Chair and Hilary Claytonsmith, G4JKS, as the Vice

Chair of the Permanent EMC Committee (C7)

Proposed: SRAL. Seconded: PZK. In favour: 53 Against: 0 Abstain: 0

This concludes the appointments as agreed at Conference

Election and Ballot Committee

93. **Roy Stevens, G2BVN, Memorial Award.** The Roy Stevens panel, after consideration of the nominations by OeVSV and the RSGB award the Roy Stevens, G2BVN, Memorial Award to

Colin Thomas, G3PSM

A second decision to award the G2BVN Memorial Award would be communicated once the recipient (who was not at the Conference) had been properly notified

94. **2020 Region 1 Conference Venue.** The Election and Ballot Committee released the results of the voting for the 2020 Conference Venue.

Borovets, Bulgaria - 5

Nova Sad, Serbia - 32

Skopje, Macedonia – 12

The 25th IARU Region 1 General Conference will be held in September 2020 in Nova Sad, Serbia.

95. **Election of the Executive Committee.** The Election and Ballot Committee released the results of the voting for the Region 1 Executive Committee

IARU Region 1 President

Don Beattie, G3BJ - elected unopposed

IARU Region 1 Vice President

Faisal Al-Ajmi, 9K2RR - elected unopposed

IARU Region 1 Secretary

Hans Blondeel Timmerman, PB2T - elected unopposed

IARU Region 1 Treasurer

Andreas Thiemann, HB9JOE - elected unopposed

Members

Sylvain Azarian, F4GKR – 39 votes

Ranko Boca, 4O3A – 12 votes

Alessandro Carletti, IV3KKW – 49 votes

Panayot Danev, LZ1US – 9 votes

Souleymane Dialo, 6W1QL – 21 votes

Rassie Erasmus, ZS1YT – 10 votes

Mats Espling, SM6EAN – 24 votes
Joerg Jaehrig, DJ3HW – 42 votes
Michael Kastelic, OE1MCU – 11 votes
Oliver Tabakovski, Z32TO – 27 votes

The Executive Committee for the next three years will therefore comprise

President: Don Beattie, G3BJ
Vice-President: Faisal Al-Admi, 9K2RR
Secretary: Hans Blondeel Timmerman, PB2T
Treasurer: Andreas Thiemann, HB9JOE
Members:
Sylvain Azarian, F4GKR
Alessandro Carletti, IV3KKW
Mats Espling, SM6EAN
Joerg Jaehrig, DJ3HW
Oliver Tabakovski, Z32TO

The meeting closed at 13:00

Subject	Clarification and Extension of the IARU Locator System		
Society	RSGB	Country:	United Kingdom
Committee	C5	Paper Number	LA17_C5_17
Author	Andy Talbot G4JNT		

1. Introduction

This paper provides the basis to re-draft and modernise Section 5.11 of the IARU Region-1 VHF Managers Handbook which defines the IARU Locator system. The aim is to clarify and standardise the use of the IARU locator, including its extension to additional characters when specifying more precise positions.

2. Background

The IARU Locator system was defined in 1980 as a World-wide system for radio amateurs to quote their location with sufficient accuracy for practical purposes using a simple alphanumeric scheme related to latitude and longitude. The initial specification called for a 6-character code which could define a station's location to a squaroid ⁽¹⁾ of approximately 4,6 km each side at mid latitudes. The resulting positional accuracy was therefore around 3 km. This was deemed adequate for VHF contest scoring purposes. For lower resolution, for example at HF, a larger squaroid using just four characters would suffice. Even with six digits, it can prove to be inadequate for microwave usage and thus extensions have come into use.

3. Updating the Definition of the IARU locator

The widespread use of GPS and the resulting high accuracy possible in specifying any person's location on the Earth has led to a multiplicity of software and applications for radio amateurs such as path profile plots, terrain mapping as well as applications such as Google maps. The IARU locator is a natural contender as a means of specifying any station's position in a format that is much neater and simpler than quoting a latitude / longitude. However, to use the locator in this way means its resolution has to be extended. It is thus opportune to formally clarify that extension and other inconsistencies that have arisen.

4. Definition of the original IARU locator

Latitude of any station is measured within a range of -90 to +90 degrees, with -90° being the South Pole and +90° being the North Pole. Longitude is defined from -180° to +180° with zero degrees being the Greenwich meridian.

The Locator first divides the latitude/longitude into large 'squaroids' of 10 degrees of latitude and 20 degrees of longitude. There are 18 of these subdivisions for lat and long; each are allocated a letter of the alphabet from A to R.

The first letter of the Locator corresponds to the 20-degree longitude squaroid starting from the antipodal line of +/-180 degrees and counting round the world in units of 20°. Therefore 20 degrees WEST of Greenwich would be the ninth division and gets the letter 'I'

The second character of the locator defines the large squaroid of latitude, counting up from the South Pole up to the North Pole. A latitude of 50 degrees North therefore corresponds to 14 up from the pole and equates to the letter 'O'

Each 20 x 10 degree squaroid is then subdivided into 10, measured conventionally from left to right for longitude and bottom to top for latitude. The pair of numbers from 0 to 9 corresponding to this division are appended to the locator as characters 3 and 4 for long / lat respectively. For example, the squaroid whose lower left corner lies at 2° West and 50° North becomes IO90. This four-character format is the lowest resolution used in practice and at mid latitudes gives a positional accuracy of very roughly 80 km, which is usually sufficient for most HF use.

For VHF and up these large squaroids are subdivided into 24 x 24 "sub-squares", with dimensions 5 x 2.5 minutes of arc for longitude/latitude respectively. Again, counting left to right and bottom to top, they are allocated the letters A to X. For example, IO90IV therefore corresponds to the squaroid whose lower left corner sits at 1 degree 20 minutes West and 50 degrees 52.5 minutes North. This six-character format represents a positional accuracy of around 3 km at mid latitudes. ⁽²⁾

The original 1980 definition also allowed for a further subdivision into 10 "small squares" of 0.5' x 0.25' for roughly 300 metres positioning accuracy. These appear as another pair of numbers, for example IO90IV58. Eight-digit locators started to be used amongst some microwave operators in the 1990s for dish bearing calculations where the normal six-digit format was not accurate enough. It also allowed more accurate distance calculations on short microwave paths. Eight characters can also be useful for defining the location of microwave propagation beacons.

5. Problems with the Existing Scheme

The six or eight-character version only allows positions to be quoted to about 3 km or 300 metres respectively. This can often be insufficient for terrain or path plotting software to work with.

When deriving an (approximate) latitude and longitude from a quoted locator we need a reference point within the squaroid to calculate from. This was originally defined as being the middle of the square. Unfortunately, not everyone has adopted this definition; some software is believed to use the lower left corner. In addition, where locators are quoted to different resolutions, 4, 6 or 8 characters; which 'middle' should be used?

Previous to the introduction of the IARU locator, the old QRA used a scheme where its last letter was traditionally spelt in lower case, eg ZM41f. Despite the definition in the VHF Handbook specifying capital letters, this has carried over into common usage with the 'new' six-

digit locator. So, people often write IO90iv instead of the original intended IO90IV. The use of lower case for characters 5 and 6 then extended into many popular software packages.

It is also opportune to clarify how the system converges to a single point at the North and South Poles.

6. New Higher Resolutions

The advent of very high accuracy positioning using GPS and high-resolution mapping such as Google Maps has led to an expansion of the use of the Locator scheme. But such expansion has not always been implemented in a coordinated manner.

The majority of schemes in use subdivide the 8-character squaroid into 24 further 'micro-squares' each of 0,5/24 and 0,25/24 minutes of arc (1,25 x 0,625 seconds of arc) and append these as another pair of letters, A-X, to make a 10-digit locator; for example, IO90IV58AH. The resulting accuracy of a position so-defined is now about 13 metres.

Several manufacturers of GPS handhelds have used IARU locator as a display option. Several software packages, many interfacing to Google maps, also adopt the 10-character locators. All software packages that have been verified so far use the sub-divisions described above.

However, at least one manufacturer of GPS receivers that have IARU locator as a display option has used a 25 x 25 division with letters A-Y for the final pair (possibly to gain a squaroid of 0,02 x 0,01 minutes of arc). Some have also added a yet another pair of numbers, for 1 metre accuracy.

7. Mapping and Accuracy

At one time, every country had its own mapping of latitude/longitude due to adopting a localised spheroid model of the Earth's shape. For example, the mainland UK adopted the GBR36 spheroid. This typically leads to errors of a few hundreds of metres when compared with a lat/long mapping extended from another country. The few-kilometres accuracy of the original six-character locator meant that whatever local mapping was in use, any such error would go unnoticed.

However, the GPS system needs a uniform mapping so the world-wide WGS84 standard has now been adopted as an international standard. To make use of higher resolution locators on a world-wide basis, a similar universal spheroid has to be used for all stations.

8. Proposals to Clarify and Standardise the IARU Locator, including Higher Accuracy positioning

- 1) The definition of the existing 8-character scheme should be extended by adding a further division into 24 lettered squares to give a 10-character locator allowing a positioning accuracy of around 13 metres. Even higher resolution use for future applications should be defined by successively sub-dividing in the same way; alternating 10 and 24 subdivisions using numbers and letter pairs.

- 2) When the locator is specified at lower resolutions, e.g. 6 characters such as in VHF contests, the centre of the squaroid at that resolution should be taken. This is equivalent to, for example, appending the 6-digit location IO90IV with the mid-range characters 44LL to give IO90IV44LL for the purposes of calculation. A quoted locator of IO90IV58 would have “LL” appended for the calculation.
- 3) That the WGS84 worldwide spheroid be the standard mapping be used for all locator conversions.
- 4) IARU Locators should always be quoted and used employing all Upper Case (Capital) letters.

9. Recommendation

In the VHF Managers Handbook - That Section 5.11 regarding the locator system should have 5.11.1 (History) moved to an archive and that 5.11.2 – 5.11.4 be updated/replaced based on the above, including examples / illustration where appropriate.

Foot Notes

- (1) *The term ‘Squaroid’ has been used throughout this document in place of the incorrectly used locator ‘square.’ The small subdivisions of lat/long are three-dimensional projections on a spheroid and are neither square, nor have their sides straight, nor at right angles. On a Mercator map projection, they may appear rectangular, and at 60 degrees’ latitude, may even appear square but this is only an artefact of the projection in use. The term ‘squaroid’ removes this ambiguity.*
- (2) *The system converges to a point at the geographic poles. The origin at the South pole is therefore AA00AA00AA. The squaroids at the North and South Poles locations are of zero “width” as the longitude lines have all converged there.*

Editor’s note – *Figures/ Examples to be added in final version for the Handbook*