



International Amateur Radio Union Region 1

Europe, Middle East, Africa and Northern Asia

Founded 1950



General Conference, Davos, 11 to 16 September 2005

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Society	IARU-MS WG	Country:	Region 1
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The Monitoring System of the International Amateur Union Region 1

Attached is a compilation of information papers and extracts of the ITU Radio Regulations pertinent to the Amateur Service for the information of national coordinators active or interested in the work of the IARU Monitoring System. (based on the previous version of G4GKO - Ron Roden)

Wolfgang Hadel – DK2OM
Vice Coordinator IARUMS Region 1

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The Monitoring System of The International Amateur Radio Union Region I INFORMATION PAPER

About IARUMS Region I

HISTORY

In 1959 the Radio Society of Great Britain (RSGB) started an “Intruder Watch” on the part of the spectrum allocated to the Amateur Service, a few other National Societies took up this idea. These so named “Intruder Watches” were operated as an unofficial IARU Regional activity until 1985. In 1985 the Administrative Council of IARU formed a working group made up of interested amateurs who were already participating in these monitoring activities and as the result of discussion at a meeting held in Geneva the IARU Monitoring System was formed. Provision was also made for the appointment of an International IARUMS Co-ordinator.

OBJECTIVES

In brief the objectives of IARUMS are: -

- to log, identify, and if possible to have removed, all non amateur transmissions appearing in the those frequencies that have been allocated exclusively to the Amateur Service and those stations operating in breach of the Radio Regulations in “shared bands”;

- to conduct monitoring for investigations into propagation, band occupancy studies or such other special purpose monitoring as may, from time to time, be required by IARU Note 1.

Note 1. To assist the Administrative Council of the IARU in their preparation for WARC 1992 a comprehensive occupancy survey of the amateur service shared bands was conducted from the 4th of March 1990 to 13th of March 1991 over four periods coinciding with the ITU Broadcasting periods. In this survey which assisted in obtaining new amateur frequency assignments, licensed amateurs and registered short wave listeners from amateur societies in all three IARU Region submitted some 600,000 reports.

In 1992 a special survey was carried out in order to determine optimum locations for a proposed multi-band time-shared international beacon project. The occupancy survey took place on 11 spot frequencies 10101, 10149, 14001, 14349, 18069, 18167, 21001, 21449, 24891 and 24989 kHz, with a bandwidth of +/- 1 kHz. The period of the survey was from the 1st of November 1992 to 15th of December 1992 and was conducted with the co-operation of amateurs from Finland, Germany, Great Britain, the Netherlands and South Africa.

STRUCTURE

Although the table below shows the structure of the Monitoring System a few brief points would assist in a better understanding of how we work.

- The IARU Regions are the same geographical sub division as that used by the International Telecommunications Union.
- The International IARUMS Coordinator has direct responsibility to the IARU Administrative Council while the Regional Coordinators are directly responsible to their own Executive Committees.
- Each Region is autonomous with Regional IARUMS Coordinators operating in the manner they so wish, however due to the exchange of information and experience between the Regions an almost standard method of working has been evolved.
- National IARUMS Coordinators are responsible for recruiting and training their own voluntary observers.
- National IARUMS Coordinators are keeping contacts to the Coordinator of IARU-MS Region I and their national PTTs.

Hierarchical Structure of the IARU Monitoring System

PERSONNEL

All personnel in the IARU Monitoring System are volunteers, giving as much or as little time as they can. Although we have many professionally qualified men and women in our ranks with an electronic background, many amateurs have professions as diverse as accountancy, shop keeping, medicine, mining, commerce & etc. All are united by a common deep interest in radio communication. All with the exception of short wave listener (SWL) all licensed amateurs have sat and passed an examination to HAREC standards (TR61.2). In the case of many amateurs their formal qualifications are supplemented by years of practical experimentation and experience. Often an amateur will find some specific point of interest, direction finding, propagation, digital communication, experimenting with antennae or satellite communication. Over the years he will acquire specialised knowledge, which he is eager to share with his fellows. There is a rich and wide variety of collective expertise and equipment to found in the amateur service and IARUMS.

EQUIPMENT

A normal amateur transceiver is used for monitoring and. antennas can vary from simple dipoles or vertical ground planes to rotating multi-element, multi-band Yagi beams designed specifically for the amateur bands. In addition most amateurs will have available variable types of wire antennas for use on frequencies lower than 14 MHz. For VHF and UHF use is made of high gain antenna specific to the amateur frequencies.

COMMUNICATION AND INFORMATION

Communication between the International IARUMS Co-ordinator, the Regional Co-ordinators and Regional Co-ordinators to National Co-ordinators is by E-mail (where available), Packet Radio (world wide a store and forward mail system designed by and operated exclusively by amateurs), FAX, telephone or post.

The Regional Co-ordinator prepares a monthly newsletter for dissemination of information on Monitoring System activities. The newsletter is sent free of charge to the International Co-ordinator and the Regional Co-ordinators of IARU Region 2 and 3, all Region 1 National Societies (86), National IARUMS Co-ordinators and any government telecommunications authority that through the National Society has indicated they would like a copy. The present total circulation of the newsletter is approximately 130. National Co-ordinators are kept fully informed of changes to the Radio Regulations by periodic information papers sent out by the Regional Co-ordinator. The Region 1 Monitoring System has a Web site <www.iarums-r1.org> with various Information Papers and Extracts of the Radio Regulations relevant to the Amateur Service.

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THE OBJECTIVES OF IARU-MS

THE PROTECTION OF THE AMATEUR BANDS

- a) by the collection of data on the usage of the Amateur Bands.
- b) by the compilation of records of instances of harmful interference by non-amateur stations.
- c) by taking action with the competent authorities for the removal of such harmful interference.

HOW CAN YOUR NATIONAL SOCIETY ASSIST?

BY PARTICIPATION IN REGION 1 IARU-MS

Any National Society that is a member of the IARU which has no established Monitoring System may participate in the work of Region 1 IARU-MS and sending Monitoring Reports to the Region 1 MS Co-ordinator and taking such action as may be requested from time to time through his National Society.

ESTABLISHING A NATIONAL MS

If your Society is interested in the possibility of establishing a National Monitoring System within the framework of IARU-MS, please write to:

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35678 Siegbach
Germany
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EC RESOLUTION 91-1

Concerning the improper use of the amateur bands.

The IARU Administrative Council

Considering

- a) the increasing number of reports received from the amateur community regarding improper use of the amateur bands,
- b) that in accordance with the IARU Constitution, it is the obligation of the IARU and its Member Societies to defend the interests of the Amateur Services,
- c) that the best way to deal with cases of improper use of the amateur bands is by an active involvement of Member Societies with their Administrations, and
- d) that the ITU, having no enforcement authority, is unable to address such matters directly,

Resolves:

- 1. that Member Societies shall aggressively pursue the processing by their own Administrations of documented complaints of improper use of the amateur bands;
- 2. that documented cases of improper use of the amateur bands that cannot be solved by the Member Societies with its Administration shall be forwarded by the Member Society to its regional organisation; and
- 3. that any cases of improper use of amateur bands processed through an IARU regional organisation shall be handled by the following procedure:
 - a) The cases shall be referred to the regional IARU MS co-ordinator in the region where the transmitting station is located.

- b) As soon as possible after receiving a case, the regional IARU MS co-ordinator will verify the report and ensure that all pertinent information is included.
 - c) Upon verification, the IARU MS coordinator will ask the regional secretary to report the incident to the appropriate Member Society in the region.
 - d) The Member Society will promptly submit the report to its Administration
 - e) The Member Society must advise the regional secretary within 30 days after receiving the report:
 - 1) the date the report was presented to its Administration;
 - 2) to whom it was presented; and
 - 3) any formal or informal response of its Administration.
- And further resolves:
- 1. that the IARU MS regional coordinators are encouraged to keep a log by country in their region of cases of improper use of the amateur bands and to issue a summary report to the regional secretary once a year;
 - 2. that regional conferences are encouraged to include in their conference agendas a review of cases of improper use of the amateur bands;
 - 3. that Member Societies are encouraged to seek, in their countries, restrictions on sale of amateur radio transmitting equipment to persons who do not hold amateur licenses; and
 - 4. that if a Member Society is unable or unwilling to present a report of improper use of the amateur bands to its own Administration, the Member Society may request that the regional organisation present the report directly to its Administration.

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Terms of Reference for the IARU Region I Monitoring System Coordinator

- 1. The IARU Monitoring System (IARUMS) is established to carry out the policy for monitoring laid down by the IARU Administrative Council (AC)
- 2. The IARU Region I Monitoring System shall act decisively, within the limits of the Executive Committee's guidelines in defence of the amateur bands and use its best endeavour for the removal of those stations not authorised to operate in those bands.
- 3. The IARU Region I IARU-MS Coordinator shall be appointed at each triennial General Conference and shall act in accordance with the procedures describe in the Region I Bye-Laws.
- 4. The IARU Region I IARU-MS Coordinator shall;
 - a. Use his best endeavour in defence of the amateur bands against non-authorised users;
 - b. Coordinate and support the efforts of the Region I Member Societies in protesting the use of amateur frequencies by non-amateur users;
 - c. Compile regional data and progress reports and forward them to the national coordinators and the IARU-MS Co-ordinators of Region 2 and Region 3;
 - d. edit a monthly newsletter for the active IARU-MS members of Region 1;
 - e. assist National Coordinators in effectively carrying out their functions within the IARU-MS;
 - f. Acknowledge all reports and inquiries received from National Coordinators and periodically summarise to a National Society the status of its reports;
 - g. Keep National Coordinators adequately informed of current developments;
 - h. he may receive and process reports from individuals in those countries where there is no IARU Member Society.
- 5. The IARU Region I IARU-MS Coordinator will send the monthly newsletter to the EC and collect his informations for a General Conference. He shall attend Region I Conferences.
- 6. The IARU Region I IARU-Ms Coordinator's expenses will be reimbursed according to Articles B.3.25 and B.3.28 of the Region 1 Bye-Laws.

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National Societies in the MS Region 1

In order to avoid possible misconception on the actual strength of Region 1 Monitoring system, where a Society has nominated National IARUMS Coordinator but there is no active participation they are designated as IARUMS Liaison Officers

Region 1 Vice Coordinator

1. Wolfgang Hadel, DK2OM, Baumschulstrasse 30, 35768 Siegbach - Germany – E-mail: dk2om@darc.de

IARUMS National Coordinators

ARSK: - T. Alleyne 5Z4NU, P.O. Box 15056, 00509 Langata, Kenya – Email: alleyne@africaonline.co.ke

DARC: - U. Bihlmayer DJ9KR, Eichhaldenstrasse 35, 72074 Tübingen 1, Germany – Email: dj9kr@darc.de

MRASZ: - Lázló Dallos HA7PL, Berzsenyi Du 11, H-2364 Osa, Hungary – Email: address: ha7pl@freemail.hu

RSGB: - C. Cummings G4BOH, Castle View, Childs Lane, Brownlow, Congleton, Cheshire CW12 4TO, England Email: cc@comcen.org

SRAL: - P. Kemppinen OH2BLU, Kuusmichentie 22D SF-00670, Helsinki, Finland – Email: pekka.kemppinen@digita.fi

VERON: - Dick, PA0GRU, Netherlands – Email : dick.pa0gru@quicknet.nl

IARUMS Liaison Officers

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Email: sekom@pkas.com.ba

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Email: tena@blic.net

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Email: ekip7@mbox.digsys.bg

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IARC: - Yair Shalgo 4X4GI, Zakif 14, Hod HaSharon, Israel 45284 – Email: yshalgo@netvision.net.il

NARS: - Engr. Alhaji Yusuf Abdulmumini, ONA, 5N9AYM, C/O Box 2873 G.P.O. Marina, Lagos

E-mail: yabdulmumini@yahoo.com

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Email: eipro@global.co.za

SSA: - Sigge Skarsfjall, SM5KUX, Slottsgatan 129, SE-60222 NORRKÖPING, Sweden

Email: sigge.skarsfjall@ans.lfv.se

TRAC: - Yalçin Kilan TA1AR, P.O. Box 15, 34821 Basinköy, Istanbul, Turkey

URE: - unknown

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Notes on the formation of a National System

The Coordinator IARU Monitoring System Region 1 will provide: -

- Whatever advice and help that may be asked for by an IARU Member Society in order to establish and operate an IARU Region 1 National Monitoring System.
- A set of "Information Papers" containing extracts of the Radio Regulations relevant to the Amateur Service and general information of interest to those active in IARUMS. These may be freely copied for distribution to amateurs who wish to become Voluntary Observers.
- Monthly, a copy of the IARUMS News Letter to all Member Societies and National IARUMS Coordinators and if so requested, to any government department dealing with spectrum management or amateur radio matters.
- Updated "Information Papers" to make National Coordinators aware of changes in the Radio Regulations, IARU policy & etc.

The National Society will provide: -

- Support and assistance to their National IARUMS Coordinator in his dealings with their national Telecommunications Authorities while endeavoring to obtain action in clearing sources of harmful interference to the Amateur Service bands
- A modest budget to cover the costs of email, post, FAX, phone and other minor incidental expenses incurred by their National IARUMS Coordinator

In the event that a Member Society is unable to establish a National Monitoring System it is essential that their IARU Liaison Officer be prepared to cooperate with the Regional Coordinator when action is called for against persistent intruders.

The National IARUMS Coordinator will: -

- Provide the interface between the National Society and the Regional IARUMS Coordinator.
- Recruit, train and manage the Volunteer Observers (VO).
- Make every effort to bring sources of harmful interference to the attention of his/her telecommunications authorities and seek their assistance in having the offenders identified and action taken to get them to cease operation.
- Keep contacts to his national Radio Club and his PTT (as well as possible).
- Will establish monthly summaries and send these to the Coordinator of IARU-MS Region 1.

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Country prefixes assigned by the ITU

The international Telecommunications Union (ITU) assigns to each country the blocks of prefixes shown in the list. The national telecommunications authority of that country is responsible for allocating any prefix within that block to **any radio communications service** which is within its jurisdiction. Not all prefixes in a block are necessarily given operators in the Amateur Service. The list is substantially correct as at January 1998 but is subject to change by the ITU as circumstances demand. The is published to provide observers in the Monitoring system, all amateurs and short wave listeners with a ready means of identifying the many new prefixes appearing in the Amateur Bands.

Prefixes and countries (source: RSGB)

Prefix & Country	Prefix & Country
A2 Botswana	A3 Tonga
A4 Sultanate of Oman	A5 Bhutan
A6 United Arab Emirates	A7 Qatar
A8 Liberia EL	A9 Bahrain
AA – AG USA W	AH1 – AH0 USA Pacific Islands KH1 – KH0
AI – AK USA W	AL Alaska KL
AM – AO Spain including overseas Territories and Islands EA 6 8 9	AP AR Pakistan
AT India VU	AX Australia and Islands
AY – AZ Argentina LU	BO Quemoy Matsu BV
BS Scarborough Reef	BV Taiwan
BV9P Pratas I.	BV9S Spratly Archipelago 9M0
BY China BA BD BG BT BZ	C2 Nauru
C3 Andorra	C4 Cyprus 5B
C5 Gambia	C6 Bahamas
C9 Mozambique	CE Chile
CE0 Easter I.	CE0 San Felix and San Ambrosio Is
CE0 Juan Fernandez Is	CF – CK Canada VE
CL CM Cuba CO	CN Morocco
CO Cuba	CP Bolivia
CT1CQ-CT2 4-8 0 Portugal	CT3 CQ-CS3 CT9 Madeira Is
CU Azores	CX CV CW Uruguay
CY CZ Canada VE	CY9 St Paul Is
CY0 Sable I.	D2 D3 Angola
D4 Cape Verde	D6 Comoros
D7 Korea (Republic of) HL	DL DA-DD DF-DH Federal Republic
DJ DK DP of Germany	DS Korea (Republic of) HL
DU DV-DZ Philippines	DU Spratly Archipelago 9M0
E2 Thailand HS	E3 Eritrea
E4 Palestine	EA EB-EH1-5 7 0 Spain
EA6 EB6-EH6 Balearic Is	EA8 EB8-EH8 Canary Is
EA9 EB9-EH9 Ceuta and Melilla	EI EJ Republic of Ireland
EK Armenia	EL Liberia
EM EN EO Ukraine UR	EP Iran
ER Moldova	ES Estonia
ET Ethiopia	EU EV EW Belarus
EX Kyrgyzstan	EY Tajikistan
EZ Turkmenistan	F France
FG Guadeloupe	FH Mayotte
FJ St Barthelemy (French St Martin) FS	FK New Caledonia

FK----/C Chesterfield Is	FM Martinique
FO Austral Is	FO French Polynesia
FO Marquesas Is	FO8X Clipperton I.
PFP St Pierre and Miquelon	FR Reunion I.
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FR-----/E Europa I. FR-----/J	FR-----/G Glorioso Is
FR-----/J Juan de Nova	FR-----/T Tromelin I.
FS French St Martin	FTnW Crozet Is
FTnX Kerguelen Is	FTnZ Amsterdam I. and St Paul I.
FW Wallis and Futuna Is	FY French Guiana
G GX England	GB United Kingdom G GD GI GJ GM GU GW
GD GT Isle of Man	GI GN Northern Ireland
GJ GH Jersey	GM GS Scotland
GU GP Guernsey and Dependencies	GW GC Wales
H2 Cyprus 5B	H3 Panama HP
H4 Solomon Is	H40 Temotu Province
H5 Bophuthatswana ZS	H6 H7 Nicaragua YN
H8 H9 Panama HP	HA Hungary
HB Switzerland	HB0 Liechtenstein
HC,HD Ecuador	HC8,HD8 Galapagos Is
HE Switzerland HB	HF Poland SP
HG Hungary HA	HH Haiti
HI Dominican Republic	HK HJ Colombia
HK0 Malpelo I.	HK0 HJ0 San Andres and Providencia
HL Korea (Republic of)	HP HO Panama
HR HQ Honduras	HS Thailand
HT Nicaragua YN	HU El Salvador YS
HV Vatican City	HZ Saudi Arabia
I IA-IH IK IL IN IP Italy	IR IT IV-IX
IS0 IM0 Sardinia	J2 Djibouti
J3 Grenada	J4 Greece SV
J5 Guinea-Bissau	J6 St Lucia
J7 Dominica	J8 St Vincent and the Grenadines
JA JE-JS Japan	JD 7J Minami Torishima
JD 7J Ogasawara Is	JT JU JV Mongolia
JW Svalbard	JX Jan Mayen
JY Jordan	K KA-KZ USA and US Islands W KC6xx KG4xx KH1-0 KP1-5
KC6 x x Republic of Palau	KG4 x x Guantanamo Bay
KG6 x x Guam	KH1 Baker I. and Howland I.
KH2 (KG6) Guam	KH3 Johnston I.
KH4 Midway Is.	KH5 Palmyra I.
KH5J Jarvis I. KH5	KH5K Kingman Reef
	KH6 7 Hawaiian Is
KH7K Kure I.	KH8 American Samoa
KH9 Wake I.	KH0 North Mariana
KL Alaska	KP1 Navassa I.
KP2 US Virgin Is	KP3 4 Puerto Rico
KP5 Desecheo I.	L2-L9 Argentina LU
LA LB LC LG LI Norway	LJ LN
LU LO-LT LV LW Argentina	LX Luxembourg
LY Lithuania	LZ Bulgaria
M MX England G	MD MT Isle of Man GD
MI MN Northern Ireland GI	MJ MH Jersey GJ
MM MS Scotland GM	MU MP Guernsey and Dependencies GU
MW MC Wales GW	N NA-NG NI-NK USA W

NM-NO NQ-NZ	NH1-NH0 US Pacific islands KH1-KH0
NL Alaska KL	NP1-NP5 US Caribbean Islands KP1-KP5
OA OB OC Peru	OD Lebanon
OE Austria	OH OF OG OI Finland
OH0 OF0 OG0 Aland Is	OJ0 OF0M OH0M Market Reef
OK OL Czech Republic	OM Slovak Republic
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ON OO-OT Belgium	OX Greenland
OY Faroe Is	OZ Denmark
P2 Papua New Guinea	P3 Cyprus 5B
P4 Aruba	P5 Korea (Dem Peoples Rep of)
PA PB PD PE PI Netherlands	PJ1 PJ2 4 9 Netherlands Antilles
PJ5 PJ6 7 8 Sint Maarten, Saba and St Eustatius	PY PP-PX Brazil
PY0F Fernando de Noronha Archipelago	PY0M Martim Vaz I. PU0T
PY0R Atol das Rocas PY0F	PY0S St Peter and St Paul Rocks
PY0T Trindade I.	PZ Suriname
R1A Antarctica	R1F Franz Josef Land
R1M Malyj Vysotskij I.	R RA RK RN RU-RZ European Russia UA
R RA RK RN RU-RZ Asiatic Russia UA9	R2 RA2 RK2 RN2 Kaliningradsk UA2
RY2	S2 Bangladesh
S4 Ciskei ZS	S5 Slovenia
S6 Singapore 9V	S7 Republic of Seychelles
S8 Transkei ZS	S9 Sao Tome and Principe
S0 Western Sahara	SM SH-SL Sweden
SP SN-SR Poland	ST Republic of the Sudan
SU Egypt	SV SX-SZ Greece
SV—/A Mount Athos	SV5 Dodecanese Is
SV9 Crete	SV0 Non-nationals in Greece or on Greek Is SV SV5 SV9
	T2 Tuvalu
T30 West Kiribati	T31 Central Kiribati
T32 East Kiribati	T33 Banaba
T4 Cuba CO	T5 Somalia
T6 Afghanistan YA	T7 San Marino
T9 Bosnia-Herzegovina	TA Turkey
TD Guatemala TG	TE Costa Rica TI
TF Iceland	TG Guatemala
TI Costa Rica	TI9 Cocos I.
TJ Cameroon	TK Corsica
TL Central African Republic	TM France including overseas Territories and Departments F
TN Congo	TO France including overseas Territories and Departments FG FJ FM FP FR FS FY
TP Council of Europe - Strasbourg F	TR Gabon
TT Chad	TU Cote d'Ivoire
TX France including overseas Territories and Departments FK FO FW	TY Benin
TZ Mali	UA U UA UE 1 3 4 6 European Russia
UA2 U UA UE 2 Kaliningrad	UA9 U UA UE 8-0 Asiatic Russia
UK U8 UJ UK7-9 UM Uzbekistan	UN UN1-0 UP UQ Kazakhstan
UR US-UZ Ukraine	V2 Antigua and Barbuda
V3 Belize	V4 Federation of St Kitts and Nevis
V5 Namibia	V6 Micronesia
V7 Marshall Is	V8 Brunei Darussalam
V9 Vendaland ZS	VE VA-VG Canada
VE0 Canadian /MM Stations	VK VI Australia

VK9C Cocos Keeling Is	VK9L Lord Howe I.
VK9M Mellish Reef	VK9N Norfolk I.
VK9W Willis Is	VK9X Christmas I.
VK0 Heard I.	VK0 Macquarie I.
VO1 VO3 5 7 9 Newfoundland VE	VO2 VO4 6 8 0 Labrador VE
VP2E Anguilla	VP2M Montserrat
VP2V British Virgin Is	VP5 Turks and Caicos Is
VP6 Pitcairn Is	VP8 Antarctica
VP8 Falkland Is	VP8 South Georgia
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VP8 AZ1 5 ED0 L South Orkney Is	UnZx
VP8 South Sandwich Is	VP8 CE9 CX0 ED0 South Shetland Is
HF0 HL5 LUnZx South Shetland Is cont.	ZX0 4K1
VP9 Bermuda	VQ9 Chagos Is
VR2 Special Administrative Region of Hong Kong	VU India
VU Lakshadweep	VU Andaman Is and Nicobar Is
VX VY Canada VE	VY1 Yukon Territory VE
VY2 Prince Edward I. VE	W WA-WG WI-WK USA
WM-WO WQ-WZ	WH1-WH0 US Pacific Islands KH1 - KH0
WL Alaska KL	WP1-WP5 US Caribbean Islands KP1 - KP5
XE XB-XH Mexico	XF4 Revilla Gigedo Is
XJ-XO Canada VE	XQ XR Chile and Islands CE CE9 CE0
XT Burkina Faso	XU Cambodia
XV Vietnam 3W	XW Lao Peoples Democratic Republic
XX3 Madeira Is CT3	XX9 Macao
XZ XY Myanmar	XZ5 XZ9 Karen State XZ
YA Republic of Afghanistan	YBYC YE-YH Indonesia
YI Iraq	YJ Vanuatu
YK Syria	YL Latvia
YM TurkeyTA	YN Nicaragua
YO YP-YR Romania	YS El Salvador
YU YT Yugoslavia	YV YW-YY Venezuela
YV0 Aves I.	YZ Yugoslavia YU
Z2 Zimbabwe	Z3 Macedonia
ZA Albania	ZB ZG Gibraltar
ZC UK Sovereign Bases on Cyprus - Akrotiri and Dhekelia	ZD7 St Helena
ZD8 Ascension I.	ZD9 Tristan da Cunha and Gough I.
ZF Cayman Islands	ZK1 South Cook Is
ZK1 Northern Cook Is	ZK2 ZK9 Niue
	ZK3 Tokelau Is
ZL New Zealand	ZL7 Chatham Is
ZL8 Kermadec Is	ZL9 Auckland I. and Campbell I.
ZM New Zealand and Islands ZL ZL7 ZL8 ZL9	ZP Paraguay
ZS ZR ZU Republic of South Africa	ZS8 Prince Edward I. and Marion I.
ZV-ZZ Brazil and Islands PY PY0	1A0 Sovereign Military Order of Malta (Rome, Italy)
1B Turkish area of North Cyprus	1C Chechnya Rep. (Russian Federation)
1P Seborga Principato (Italy)	1S Spratly Archipelago 9M0
1Z Karen State (Myanmar)	2D Isle of Man GD
2E England G	2I Northern Ireland GI
2J Jersey GJ	2M Scotland GM
2U Guernsey and Dependencies GU	2W Wales GW
3A Monaco	3B6 Agalega Is
3B7 Cargados Carajos (St Brandon) 3B6	3B8 Mauritius

3B9 Rodriguez I.	3C Equatorial Guinea
3C0 Annobon I.	3D2 Republic of Fiji
3D2 Conway Reef	3D2 Rotuma I.
3DA0 Swaziland	3E-3F Panama HP
3G Chile and Islands CE CE9 CE0	3V Tunisia
3W XV Vietnam	3X Republic of Guinea
3Y Bouvet I.	3Y Peter I Island
3Z Poland SP	4A-4C Mexico and Islands XE XF4
4D-4I Philippines DU	4J 4K Azerbaijan
4L Georgia	4M Venezuela and Islands YV YV0
4N1 6-0 Yugoslavia YU	4S Sri Lanka
4T Peru OA	4U United Nations Organization
4U1ITU 4UnITU United Nations Geneva	4U1SCO UNESCO, Paris F
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4U1UN 4UnUN United Nations New York	4U1VIC United Nations Vienna OE
4U1WB World Bank Washington D.C. W	4V Haiti HH
4W East Timor	4X 4Z Israel
5A Libya	5B Cyprus
5C Morocco CN	5H Tanzania
5J 5K Colombia and Islands HK HK0	5L Liberia EL
5N Nigeria	5P Denmark OZ
5R Madagascar	5T Mauritania
5U Niger	5V Togo
5W Western Samoa	5X Uganda
5Z 5Y Kenya	6C Syria YK
6D-6J Mexico and Islands XE-XF4	6K 6L Republic of Korea HL
6O Somalia T5	6P Pakistan AP
6T 6U Sudan and Southern Sudan ST ST0	6W 6V Senegal
6Y Jamaica	7J-7N Japan JA
7O Republic of Yemen	7P Lesotho
7Q Malawi	7S Sweden SM
7X 7W Algeria	7Z Saudi Arabia HZ
8A 8B 8E 8I Indonesia YB	8J Japan JA
8O Botswana A2	8P Barbados
8Q Maldives	8R Guyana
8S Sweden SM	9A Croatia
9G Ghana	9H Malta
9J 9I Zambia	9K Kuwait
9L Sierra Leone	9M2 Malaya (Malaysia)
9M6 Sabah (Malaysia) 9M8	9M8 Sarawak (Malaysia)
9M0 BV9S 1S DU Spratly Archipelago	9N Nepal
9Q 9R Democratic Republic of Congo	9U Burundi
9V Singapore	9W Malaysia (including Sabah & Sarawak) 9M2 8
9X Rwanda	9Y 9Z Trinidad and Tobago

The Monitoring System of The International Amateur Radio Union

Region I

ITU Country Symbols for use in Monitoring Reports

With the geopolitical changes that have occurred over the last few years the list of countries shown in the IARU Monitoring System Manual requires to be brought up to date. The following list has been extracted from a recent edition of the ITU Directory should be used by to designate countries in IARUMS reports.

Afghanistan to Fiji

Afghanistan	AFG
Albania	ALB
Algeria	ALG
American Samoa	SMA
Angola	AGL
Anguilla	AIA
Antigua & Barbuda	ATG
Antilles (Netherlands)	ATN
Argentina	ARG
Armenia	ARM
Aruba	ABW
Ascension Island	ASC
Australia	AUS
Austria	AUT
Azerbaijani	AZE
Bahamas	BAH
Bahrain	BHR
Bengladesh	BGD
Barbados	BRB
Belgium	BEL
Belize	BLZ
Belarus	BLR
Benin	BEN
Bermuda	BER
Bhutan	BTN
Bolivia	BOL
Boznia Herzegovena	BIH
Botswana	BOT
Brasil	B
British Virgin Islands	VRG
Brunei Darussalam	BRU
Bulgaria	BUL

Burkina Faso	BFA
Burundi	BDI
Cambodia	CBG
Cameroon	CME
Canada	CAN
Cape Verde	CPV
Cayman Islands	CYM
Central African Republic	CAF
Chad	TCD
Chile	CHL
China	CHN
Columbia	CLM
Comoros	COM
Congo	COG
Cook Islands	CKH
Costa Rica	CTR
Cote d'Ivoire	CTI
Croatia	HRV
Cuba	CUB
Cyprus	CYP
Czech Republic	CZE
Denmark	DNK
Djibouti	DJI
Dominica	DMA
Dominican Republic	DOM
Ecuador	EQA
Egypt	EGY
El Salvador	SLV
Estonia	EST
Ethiopia	ETH
Falkland Islands	FLK
Fiji	FJ

Finland to Slovenia

Finland	FNL
France	F
French Polynesia	OCE
Gabon	GAB
Gambia	GMB
Georgia	GEO
Germany	D
Ghana	GHA
Gibraltar	GIB
Granada	GRD
Greece	GRC
Guam	GUM
Guatamala	GTM
Guinea-Bissau	GNB
Guinea Equatorial	GNE
Guinea (Republic of)	GUI
Guyana	GUY
Haiti	HTI
Honduras	HND
Hongkong	HKG
Hungary	HUN
Iceland	ISL
India	IND
Indonesia	INS
Iran	IRN
Iraq	IRQ
Ireland	IRL
Israel	ISR
Italy	I
Jamaica	JMC
Japan	J
Jordan	JOR
Kazakhstan	KAZ
Kirghizia	KGZ
Kenya	KEN
Kiribata	KIR
Korea (Republic of)	KOR
Korea (Peoples Rep. of)	KRE
Kuwait	KWT
Laos (Peoples Rep. of)	LAO
Latvia	LVA
Lebanon	LBN
Lesotho	LSO
Liberia	LIB
Libya	LBY
Liechtenstein	LIE
Lithuania	LTA
Luxembourg	LUX
Macao	MAC
Macedonia	MKD
Madagascar	MDG
Malawi	MWI
Malaysia	MLA

Maldives	MLD
Mali	MLI
Malta	MLT
Marshal Islands	MRL
Mauritania	MTN
Mauritius	MAU
Mexico	MEX
Moldavia	MDA
Monaco	MCO
Mongolia	MNG
Montserrat	MSR
Morocco	MRC
Mozambique	MOZ
Myanmar	BRM
Namibia	NMB
Nauru	NRU
Nepal	NPL
Netherlands Antilles	ATN
Netherlands	HOL
New Caledonia	NCL
New Zealand	NZL
Nicaragua	NCG
Nigeria	NIG
Niger	NGR
Niue	NIU
Norway	NOR
Oman	OMA
Pakistan	PAK
Panama	PAN
Paraguay	PRG
Peru	PRU
Philippines	PHL
Poland	POL
Portugal	POR
Puerto Rico	PTR
Qatar	QAT
Rumania	ROU
Russian Federation	RUS
Rwanda	RRW
Saint Helena	SHN
Saint Kitts & Nevis	SCN
Saint Lucia	LCA
St. Vincent/Grenadines	VCT
Samoa Occidental	SMO
San Marino	SMR
Sao Tome & Principe	STP
Saudi Arabia	ARS
Senegal	SEN
Seychelles	SEY
Sierra Leone	SRL
Singapore	SNG
Slovak Republic	SVK
Slovenia	SVN

Solomon Islands to Zimbabwe

Solomon Islands	SLM
Somalia	SOM
South Africa	AFS
Spain	E
Sri Lanka	CLN
Sudan	SDN
Suriname	SUR
Swaziland	SWZ
Sweden	S
Switzerland	SUI
Syria	SYR
Tajikistan	TJK
Tanzania	TZA
Thailand	THA
Togo	TGO
Tokelau	TKL
Tonga	TON
Trinidad & Tobago	TRD
Tunisia	TUN
Turkey	TUR
Turkmenistan	TKM

Turks & Caicos Islands	TCA
Tuvalu	TUV
Uganda	UGA
Ukraine	UKR
United Arab Emirates	UAE
United Kingdom	G
United States of America	USA
US Virgin Islands	VIR
Uruguay	URG
Uzbekistan	UZB
Vanuatu	VUT
Vatican City State	CVA
Venezuela	VEN
Viet Nam	VTN
Wallis & Fortuna Islands	WAL
Western Samoa	SMO
Yemen	YEM
Yugoslavia	YUG
Zaire	ZAI
Zambia	ZMB
Zimbabwe	ZWE

Although not ITU practice if a positive ID based on previous knowledge, content of the transmission or characteristics cannot be made but an approximate locality can be established by bearing or language, the following symbols may be used.

Africa Central	C.Af
Africa East	E.Af
Africa North	N.Af
Africa West	W.Af
America Central	C.Am
America South	S.Am
Asia	ASA

Europe Central	C.Eu
Europe North	N.Eu
Europe South	S.Eu
Europe West	W.Eu
Far East	F.Ea
Middle East	M.Ea
Oceania	OCN

The Monitoring System of the International Amateur Radio Union Region I

Classification of Emissions

The following short list of classifications of emissions is for those modes most frequently used by non-amateur stations operating in the Amateur Bands and is for your guidance only. While the list is not complete it covers the Minimum format to be used when submitting reports. For your further information the paper contains an extract of the ITU classifications of emission for those who wish to report the full details of signals heard.

Some examples of symbols for the most common classes of emission.

Telephony:

Single side band, suppressed carrier (SSB)	J3E
Frequency modulation (FM)	F3E
Phase modulation (PM)	G3E
Amplitude modulation (AM)	A3E

RTTY & SITOR:

Direct frequency shift keying of the carrier	F1B
Frequency shift keyed audio tone (FM)	F2A
Frequency shift keyed audio tone (SSB)	J2B

Morse:

On/off keying of carrier (hand sending)	A1A
On/off keying of carrier for automatic reception	A1B
On/off keying of the Audio tone (FM transmitter)	F2A

Section III. Designation of Emissions

- S2.2 Emissions shall be designated according to their necessary bandwidth and their classification in accordance with the method described in Appendix 1.

Section II. Classification

- § 3. The class of emission is a set of characteristics conforming to § 4 below.
- § 4. Emissions shall be classified and symbolised according to their basic characteristics as given in Sub-Section IIA and any optional additional characteristics as provided for in Sub-Section IIB.
- § 5. The basic characteristics (see Sub-Section IIA) are;
- (1) first symbol - type of modulation of the main carrier;
 - (2) second symbol - nature of signal(s) modulating the main carrier;
 - (3) third symbol - type of information to be transmitted.

Modulation used only for short periods and for incidental purposes (such as, in many cases, for identification or calling) may be ignored provided that the necessary bandwidth as indicated is not thereby increased.

Sub-Section IIA. Basic Characteristics

- § 6. (1) First symbol - type of modulation of the main carrier
- (1.1) Emission of an unmodulated carrier N
 - (1.2) Emission in which the main carrier is amplitude-modulated

(including cases where sub-carriers are angle-modulated)	
(1.2.1) Double-sideband	A
(1.2.2) Single-sideband, full carrier	H
(1.2.3) Single-sideband, reduced or variable level carrier	R
(1.2.4) Single-sideband, suppressed carrier	J
(1.2.5) Independent sidebands	B
(1.2.6) Vestigial sidebands	C
(1.3) Emission in which the main carrier is angle-modulated	
(1.3.1) Frequency modulation	F
(1.3.2) Phase Modulation	G
(1.4) Emission in which the main carrier is amplitude - and angle-modulated either simultaneously or in a pre-established sequence	D
(1.5) Emission of pulses ²	
(1.5.1) Sequence of unmodulated pulses	P
(1.5.2) A sequence of pulses	
(1.5.2.1) modulated in amplitude	F
(1.5.2.2) modulated in width/duration	L
(1.5.2.3) modulated in position/phase	M
(1.5.2.4) in which the carrier is angle modulated during the angle-period of the pulse	Q
(1.5.2.5) which is a combination of the forgoing or is produced by other means	V
(1.6) Cases not covered above, in which an emission consists of the main carrier modulated, either simultaneously or in a pre-established sequence, in a combination of two or more of the following modes; amplitude, angle, pulse	W
(1.7) Cases not otherwise covered	X

²Emissions where the main carrier is directly modulated by a signal which has been coded into quantized form (e.g. pulse code modulation) should be designated under (1.2) or (1.3)

§ 6.	(2) Second symbol - nature of signals(s) modulating the main carrier	
	(2.1) No modulating signal	0
	(2.2) A single channel containing quantized or digital information without the use of a modulating sub-carrier ³	1
	(2.3) A single channel containing quantized or digital information with the use of a modulating sub-carrier ³	2
	(2.4) A single channel containing analogue information	3
	(2.5) Two or more channels containing quantized or digital information	7
	(2.5) Two or more channels containing analogue information	8
	(2.7) Composite system with one or more channels containing quantized or digital information, together with one or more channels containing analogue information	9

(2.8) Cases not otherwise covered X

³ This excludes time-division multiplex.

- § 6. (3) Third Symbol - type of information to be transmitted
- | | |
|---|---|
| (3.1) No information transmitted | N |
| (3.2) Telegraphy - for aural reception | A |
| (3.3) Telegraphy - for automatic reception | B |
| (3.4) Facsimile | C |
| (3.5) Data transmission, telemetry, telecommand | D |
| (3.6) Telephony (including sound broadcasting) | E |
| (3.7) Television (video) | F |
| (3.8) Combination of above | W |
| (3.9) Cases not otherwise covered | X |

⁴ In this context the word 'information' does not include information of a constant, unvarying nature such as is provided by standard frequency emissions, continuous wave and pulse radar. etc.

Sub-Section IIB. Optional Characteristics for the Classification of Emissions

- § 7. Two optional characteristic should be added for a more complete description of an emission. These are (see also Recommendation 62)

Fourth symbol - Details of signal(s)

Fifth symbol - Nature of multiplexing

Where the fourth or fifth symbol is used it shall be as indicated below.

Where the fourth or fifth symbol is not used this should be indicated by a dash where each symbol would otherwise appear

- § 7. (1) *Fourth symbol* - Details of signal(s)

- | | |
|--|---|
| (1.1) Two-condition code with elements of differing numbers and/or durations | A |
| (1.2) Two-condition code with elements of the same number and duration without error correction | B |
| (1.3) Two-condition code with elements of the same number and duration with error correction | C |
| (1.4) Four-condition code in which each condition represents a signal element (of one or more bits) | D |
| (1.5) Multi-condition code in which each condition represents a signal element (or one or more bits) | E |
| (1.6) Multi-condition code in which each condition or combination of conditions represents a character | F |
| (1.7) Sound of broadcasting quality (monophonic) | G |
| (1.8) Sound of broadcasting quality (stereophonic or quadraphonic) | H |
| (1.9) Sound of commercial quality (excluding categories given in sub-paragraphs 1.10 and 1.11) | J |

	(1.10) Sound of commercial quality with the use of frequency inversion or band splitting	K
	(1.11) Sound of commercial quality with separate frequency- modulated signals to control the level of demodulated signal	L
	(1.12) Monochrome	M
	(1.13) Colour	N
	(1.14) Combination of the above	W
	(1.15) Cases not otherwise covered	X
§ 7.	(2) <i>Fifth symbol</i> - Nature of Multiplexing	
	(2.1) None	N
	(2.2) Code-division multiplex ⁵	C
	(2.3) Frequency-division multiplex	F
	(2.4) Time-division multiplex	T
	(2.5) Combination of frequency-division multiplex and time-division multiplex	W
	(2.6) Other types of multiplexing	X

5 This includes bandwidth expansion techniques

The Monitoring System of The International Amateur Radio Union Region I INFORMATION PAPER

Some Definitions of Interference

Introduction.

The following extracts of Appendix S1 have been included in the series of Information Papers for the IARU Monitoring System Region to provide clarification of the various ways that the ITU defines and considers interference.

Extract from Article **S1** of the Radio Regulations

Section VII. Frequency Sharing

S1.166

Interference: The effect of unwanted energy due to one or a combination of *emissions*, *radiations*, or inductions upon reception in a *radiocommunication* system, manifested by any performance degradation, misinterpretation, or loss of information which could be extracted in the absence of such unwanted energy.

S1.167

*Permissible Interference*¹: Observed or predicted *interference* which complies with quantitative *interference* and sharing criteria contained in these Regulations or in ITU-R Recommendations or in special agreements as provided for in these Regulations.

S1.167.1

1 The terms “permissible interference” and “accepted interference” are used in the coordination of frequency assignments between administrations.

S1.168

*Accepted Interference*²: *Interference* at a higher level than that defined as *permissible interference* and which has been agreed upon between two or more administrations without prejudice to other administrations.

S1.168.1

2 The terms “permissible interference” and “accepted interference” are used in the coordination of frequency assignments between administrations.

S1.169

Harmful Interference: Interference which endangers the functioning of a radionavigation service or of other safety services or seriously degrades, obstructs, or repeatedly interrupts a radiocommunication service operating in accordance with these Regulations (CS).

The Monitoring System of The International Amateur Radio Union Region I INFORMATION PAPER

The ITU Monitoring System

Introduction.

The following extract of Article S16 has been included in the series of MS Information Papers to acquaint those amateurs active in IARUMS with some idea of the set-up and operation of the official ITU Monitoring System

International Monitoring

Extract from the Radio Regulations

Article S16

S16.1 To assist to the extent practicable in the implementation of these Regulations, in particular to help ensure efficient and economical use of the radio-frequency spectrum and to help in the prompt elimination of harmful interference, administrations agree to continue the development of monitoring facilities and, to the extent practicable, to co-operate in the continued development of the international monitoring system, taking into account the

relevant ITU-R Recommendations. 1

S16.1.1 1 Information on this subject is also provided in the ITU-R Handbook on Monitoring Stations

S16.2 The international monitoring system comprises only those monitoring stations which have been so nominated by administrations in the information sent to the Secretary-General in accordance with [No. 1879 - see [Annex 20]]. These stations may be operated by an administration or, in accordance with an authorisation granted by the appropriate administration, by a public or private enterprise, by a common monitoring service established by two or more countries, or by an international organisation. S16.3 Each administration or common monitoring service established by two or more countries, or international organisations participating in the international monitoring system, shall designate a centralising office to which all requests for monitoring information shall be addressed and through which monitoring information will be forwarded to the Bureau or to centralising offices of the other administrations. S16.4 However, these provisions shall not affect private monitoring arrangements made for special purposes by administrations, international organisations, or public or private enterprises.

S16.5 Administrations will, as far as they consider practicable, conduct such monitoring as may be requested of them by other administrations or by the Bureau.

S16.6 Administrative and procedural requirements for use and operation of the international monitoring system shall be in accordance with the provisions of the ITU-R Recommendations (see [Annex 20]).

S16.7 The Bureau shall record the results supplied by the monitoring stations participating in the international monitoring system, and shall prepare periodically, for publication by the Secretary-General, summaries of the useful monitoring data received by it including a list of the stations contributing to the data.

S16.8 When an administration, in supplying monitoring observations from one of the monitoring stations taking part in the international monitoring system, states to the Bureau that a clearly identified emission is not in conformity with these Regulations, the Bureau shall draw the attention of their administration concerned to those observations.

**The Monitoring System of
The International Amateur Radio Union Region I
INFORMATION PAPER – Frequency allocations and [important footnotes](#)**

Some extracts of the Radio Regulations relevant to the Amateur Service.

Note: The following paragraphs of Chapter SII are relevant in deciding if a transmission by a nonamateur station heard in the Amateur Service bands is operating in contravention to the Radio Regulations.

CHAPTER SII

Frequencies

ARTICLE S4

Assignment and Use of Frequencies

Section 1. General Rules

Members undertake that in assigning frequencies to stations which are capable of causing harmful interference to the services rendered by the stations of another country such assignments are to be made in accordance with the Table of Frequency Allocations and other provisions of these Regulations

S4.4

Administrations of the Members shall not assign to a station any frequency in derogation of either the Table of Frequency Allocations given in this Chapter or the other provisions of these Regulations, except on the express condition that such a station shall not cause harmful interference to, and shall not claim protection from harmful interference caused by, a station operating in accordance with the provisions of the Constitution, the Convention and of these Regulations.

S4.5

The frequency assigned to a station of a given service shall be separated from the limits of the band allocated to this service in such a way that, taking account of the frequency band assigned to a station, no harmful interference is caused to services to which frequency bands immediately adjoining are allocated.

ARTICLE S5

Section IV. Table of Frequency Allocations

1 800 - 2 065 kHz

Allocation to Services

Region 1 Region 2 Region 3

1 810 - 1 850

AMATEUR

S5.98 S5.99 S5.100 S5.101

1 810 - 1 850

AMATEUR

1 850 - 2 000

AMATEUR

FIXED

MOBILE except

aeronautical mobile

RADIOLOCATION

RADIONAVIGATION

S5.102

1 800 - 2 000

AMATEUR

FIXED

MOBILE except aeronautical mobile

RADIONAVIGATION

Radiolocation

S5.97

S5.97

In Region 3, the Loran system operates either on 1 850 kHz or 1 950 kHz, the bands occupied being 1 825 - 1 875 kHz and 1 925 - 1 975 kHz respectively. Other services to which the band 1 800 - 2 000 kHz is allocated may use any frequency therein on condition that no harmful interference is caused to the Loran system operating on 1 850 - 1 950 kHz.

S5.98

Alternative allocation: in the Federal Republic of Germany, Angola, Austria, Belgium, Bulgaria, Cameroon, the Congo, Denmark, Egypt, Spain, Ethiopia, France, Greece, Italy, the Lebanon, Luxembourg, Malawi, the Netherlands, Portugal, Syria, the German Democratic Republic, Somalia, Tanzania, Tunisia, Turkey and the USSR, the band 1 810 - 1 830 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.99

Additional allocation: in Saudi Arabia, Iraq, Israel, Libya, Poland, Romania, Chad, Czechoslovakia, Togo and Yugoslavia, the band 1 810 - 1 830 kHz is also allocated to the fixed and mobile, except aeronautical mobile, service on primary basis.

S5.100

In Region 1, the authorisation to use of the band 1 810 - 1 850 kHz by the amateur service in countries situated totally or partially north of 40° N shall be given only after consultation with the countries mentioned in Nos. S.98 and S.99 to define the necessary steps to be taken to prevent harmful interference between amateur stations and stations of other services operating in accordance with Nos. S5.98 and S5.99.

S5.101

Alternative allocation: in Burundi and Lesotho, the band 1 810 - 1 850 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.102

Alternative allocation: in Argentina, Bolivia, Chile, Mexico, Paraguay, Peru, Uruguay and Venezuela, the band 1 850 - 2 000 kHz is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis.

S5.102

Alternative allocation: in Argentina, Bolivia, Chile, Mexico, Paraguay, Peru, Uruguay and Venezuela, the band 1 850 - 2 000 kHz, is allocated to the fixed, mobile except aeronautical mobile, radiolocation and radionavigation services on a primary basis.

3 230 - 4 063 kHz

Allocation to Services

Region 1 Region 2 Region 3

3 500 - 3 750

AMATEUR

S5.119

3 500 - 3 800

AMATEUR

FIXED

MOBILE except
aeronautical mobile

S5.92

3 750 - 4 000

AMATEUR

FIXED

MOBILE except
aeronautical mobile (R)

S5.122 S5.124 S5.125

3 500 - 3 900

AMATEUR

FIXED

MOBILE

S5.92

Some countries of Region 1 use radiodetermination system in the bands 1 6006.5 - 1625 kHz, 1635 - 1800 kHz, 1850 - 2 160 kHz, 2 194 - 2 300 kHz, 2 502 - 2 850 kHz and 3 500 - 3 8000 kHz, subject to agreement obtained under No. S9.21, The radiated mean power of these stations shall not exceed 50W.

S5.119

Additional allocation: in Honduras, Mexico, Peru and Venezuela, the band 3 500 - 3 750 kHz is also allocated to the fixed and mobile services on a primary basis.

S5.12

For the use of the bands allocated to the amateur service at 3.5 MHz, 7.0 MHz, 10.1 MHz, 14.0 MHz, 18.068 MHz, 21.0 kHz, 24.89 MHz and 144 MHz in the vent of natural disasters, see Resolution 640.

S5.122

Alternative allocation: in Argentina, Bolivia, Chile, Ecuador, Paraguay, Peru and Uruguay, the band 3 750 - 4 000 kHz is allocated to the fixed and mobile, except aeronautical mobile, services on a primary basis.

S5.125

Additional allocation: in Greenland, the band 3 950 - 4 000 kHz is also allocated to the broadcasting service on a primary basis. The power of broadcasting stations operating in this band shall not exceed that necessary for a national service and shall in no case exceed 5 kW.

5 450 - 7 100 kHz

Allocation to Services

Region 1 Region 2 Region 3

7 000 - 7 100

AMATEUR

AMATEUR -SATELLITE

S5.140 S5.141

S5.140

Additional allocation: in Angola, Iraq, Kenya, Rwanda, Somalia and Togo, the band 7 000 – 7 050 kHz is also allocated to the fixed service on a primary basis.

S5.141

Alternative allocation: in Egypt, Eritrea, Ethiopia, Guinea, Libya, Madagascar, and Malawi, the band 7 000 - 7 050 kHz is allocated to the fixed service on a primary basis, Allocation to Services

Region 1 Region 2 Region 3

7 100 - 7 300

AMATEUR

S5.142

The use of the band 7 100 - 7 300 kHz in Region 2 by the amateur service shall not impose constraints on the broadcasting service intended for use within Region 1 and Region 3.

10 100 - 13 410 kHz

Allocation to Services

Region 1 Region 2 Region 3

10 100 - 10 150

FIXED

Amateur

13 410 - 15 600 kHz

Allocation to Services

Region 1 Region 2 Region 3

14 000 - 14 250

AMATEUR

AMATEUR-SATELLITE

14 250 - 14 350

AMATEUR

S5.152

Additional allocation: in Afghanistan, China, the Ivory Coast, Iran and the USSR, the band 14 250 - 14 350 kHz is also allocated to the fixed service on a primary basis. Stations of the fixed service shall not use a radiated power exceeding 24 dBW.

15 500 - 19 800 kHz

Allocation to Services

Region 1 Region 2 Region 3

18 068 - 18 168

AMATEUR S5.120

AMATEUR-SATELLITE

S5.154

Additional allocation: in the USSR the band 18 068 - 18 168 kHz is also allocated to the fixed service on a primary basis for use within the boundary of the USSR, with a peak envelope power not exceeding 1 kW.

19 8000 - 23 350 kHz

Allocation to Services

Region 1 Region 2 Region 3

21 000 - 21 450

AMATEUR S5.120

AMATEUR-SATELLITE

23 350 - 27 500 kHz

Allocation to Services

Region 1 Region 2 Region 3

24 890 - 24 990

AMATEUR

AMATEUR-SATELLITE

S5.158

27 500 - 40 980 kHz

Allocation to Services

Region 1 Region 2 Region 3

28 000 - 28 700

AMATEUR

AMATEUR-SATELLITE

**The Monitoring System of
The International Amateur Radio Union Region I
INFORMATION PAPER**

Broadcasting stations in the amateur bands

Introduction.

The following extract of Article S16 has been included in the series of MS Information Papers to acquaint those amateurs active in IARUMS with some idea of the set-up and operation of the official ITU Monitoring System.

RECOMMENDATION COM4/B

HF Bands Allocated to the Broadcasting Service

The World Administrative Radio Conference for Dealing with Frequency Allocations in Certain Parts of the Spectrum (Malaga-Torremolinos, 1992)

considering

- a) that there is an increasing number of HF broadcasting stations operating on frequencies outside the bands allocated to the broadcasting service;
- b) that the common use of the HF bands by the broadcasting and other services without the relevant allocations or detailed regulations, results in inefficient use of the frequency spectrum;
- c) that such use has led to harmful interference;
- d) that this Conference has allocated additional spectrum to the broadcasting service in the HF band;

resolves

that administrations shall take practicable steps to eliminate HF broadcasting outside the HF bands allocated to the broadcasting service.

**The Monitoring System of
The International Amateur Radio Union Region I
INFORMATION PAPER**

7 000 - 7 100 kHz and broadcasting

Introduction.

The extract of the following Resolution No. 641 is of particular value when protesting against any broadcast station establishing itself within the exclusive amateur portion of the spectrum between 7 000 - 7 100 kHz
Resolution No. 641

Relating to the Use of the Frequency Band

7000 - 7100 kHz

The World Administrative Radio Conference Geneva, 1979

considering

- a) that the sharing of frequency bands by amateur and broadcasting service is undesirable and should be avoided;
- b) that it is desirable to have world-wide exclusive allocations for these services in Band 7;
- c) that the band 7000 - 7100 kHz is allocated on a world-wide basis exclusively to the amateur services

resolves

that the broadcasting service shall be prohibited from the band 7000 - 7100 and

that the broadcasting stations operating on frequencies in this band shall cease such operation.

**The Monitoring System of
The International Amateur Radio Union Region I
INFORMATION PAPER**

Military Transmissions in the Amateur Bands

The following is an extract of Article 38 of the ITU Convention that covers rules in regard to transmissions from the military.

ARTICLE 38

No. 163. §1. Members retain their entire freedom with regard to military radio installations of their army, naval and air forces.

No. 164. §2. Nevertheless these installations must, so far as possible observe statutory provisions relative to giving assistance in case of distress and to the measures to be taken to prevent harmful interference, and the provisions of the Administrative Regulations concerning types of emission and frequencies to be used according to the nature of the service performed by such installations.

No. 165. §3. Moreover when these installations take part in the service of public correspondence or other services governed by the Administrative Regulations annexed to this Convention, they must comply with the regulatory provisions for the conduct of such services.

**The Monitoring System of
The International Amateur Radio Union Region I
INFORMATION PAPER**

Infringements and harmful interference

Introduction.

The following extract from Article S15 of the Radio Regulations is to illustrate to amateurs in IARUMS of the ITU standard reporting procedures for administrations for cases of infringements or harmful interference.

Section V. Reports of Infringements

S15.19

§ 11. Infringements of the Constitution, Convention or Radio Regulations shall be reported to their respective administrations by the control organization, stations or inspectors detecting them. For this purpose they shall use forms similar to the specimen given in Appendix S9.

S15.20 § 12. Representations relating to any serious infringement committed by a station shall be made to the administration of the country having jurisdiction over the station, by the administrations which detect it.

S15.21

§ 13. If an administration has information of an infringement of the Convention or Radio Regulations, committed by a station over which it may exercise authority, it shall ascertain the facts, fix the responsibility and take the necessary action.

Section VI. Procedure in a Case of Harmful Interference

S15.22

§ 14. It is essential that Members exercise the utmost goodwill and mutual assistance in the application of the provisions of Article 34 of the Constitution and of this Section to the settlement of problems of harmful interference.

S15.23

§ 15. In the settlement of these problems, due consideration shall be given to all factors involved, including the relevant technical and operating factors, such as: adjustment of frequencies, characteristics of transmitting and receiving antennae, time sharing, change of channels within multichannel transmissions.

S15.24

§ 16. For the purpose of this Section, the term “administration” may include the centralizing office designated by the administration, in accordance with No. **S16.3**.

S15.25

§ 17. Administrations shall cooperate in the detection and elimination of harmful interference, employing where appropriate the facilities described in Article **S16** and the procedures detailed in this Section.

S15.26

§ 18. Where practicable, and subject to agreement by administrations concerned, the case of harmful interference may be dealt with directly by their specially designated monitoring stations or by direct coordination between their operating organizations.

S15.27

§ 19. Full particulars relating to harmful interference shall, whenever possible, be given in the form indicated in Appendix **S10**.

S15.28

§ 20. Recognizing that transmissions on the distress and safety frequencies (see Article **S31** and Appendix **S13**) require absolute international protection and that the elimination of harmful interference to such transmissions is imperative, administrations undertake to act immediately when their attention is drawn to any such harmful interference.

S15.29

§ 21. In cases of harmful interference where rapid action is required, communications between administrations shall be transmitted by the quickest means available and, subject to prior authorization by the administrations concerned in such cases, information may be exchanged directly between specially designated stations of the international monitoring system.

S15.30

§ 22. When a case of such harmful interference is reported by a receiving station, it shall give to the transmitting station whose service is being interfered with all possible information which will assist in determining the source and characteristics of the interference.

S15.31

§ 23. If a case of harmful interference so justifies, the administration having jurisdiction over the receiving station experiencing the interference shall inform the administration having jurisdiction over the transmitting station whose service is being interfered with, giving all possible information.

S15.32

§ 24. If further observations and measurements are necessary to determine the source and characteristics of and to establish the responsibility for the harmful interference, the administration having jurisdiction over the transmitting station whose service is being interfered with may seek the cooperation of other administrations, particularly of the administration having jurisdiction over the receiving station experiencing the interference, or of other organizations.

S15.33

§ 25. When cases of harmful interference occur as a result of emissions from space stations, the administrations having jurisdiction over these interfering stations shall, upon request from the administration having jurisdiction over the station experiencing the interference, furnish current ephemeral data necessary to allow determination of the positions of the space stations when not otherwise known.

S15.34

§ 26. Having determined the source and characteristics of the harmful interference, the administration having jurisdiction over the transmitting station whose service is being interfered with shall inform the administration having jurisdiction over the interfering station, giving all useful information in order that this administration may take such steps as may be necessary to eliminate the interference.

S15.35

§ 27. On being informed that a station over which it has jurisdiction is believed to have been the cause of harmful interference, an administration shall, as soon as possible, acknowledge receipt of that information by telegram. Such acknowledgement shall not constitute an acceptance of responsibility.

S15.36

§ 28. When a safety service suffers harmful interference the administration having jurisdiction over the receiving station experiencing the interference may also approach directly the administration having jurisdiction over the interfering station. The same procedure may also be followed in other cases with the prior approval of the administration having jurisdiction over the transmitting station whose service is being interfered with.

S15.37

§ 29. An administration receiving a communication to the effect that one of its stations is causing harmful interference to a safety service shall promptly investigate the matter and take any necessary remedial action.

S15.38

§ 30. When the service rendered by an earth station suffers harmful interference, the administration having jurisdiction over the receiving station experiencing such interference may also approach directly the administration having jurisdiction over the interfering station.

S15.39

§ 31. If the harmful interference persists in spite of the action taken in accordance with the procedures outlined above, the administration having jurisdiction over the transmitting station whose service is being interfered with may address to the administration having jurisdiction over the interfering station a report of irregularity or infraction in accordance with the provisions of Section V.

S15.40

§ 32. If there is a specialized international organization for a particular service, reports of irregularities and of infractions relating to harmful interference caused or suffered by stations in this service may be addressed to such organization at the same time as to the administration concerned.

S15.41

§ 33. (1) If it is considered necessary, and particularly if the steps taken in accordance with the procedures described above have not produced satisfactory results, the administration concerned shall forward details of the case to the Bureau for its information.

S15.42

(2) In such a case, the administration concerned may also request the Bureau to act in accordance with the provisions of Section I of Article **S13**; but it shall then supply the Bureau with the full facts of the case, including all the technical and operational details and copies of the correspondence.

S15.43

§ 34. (1) In the case where an administration has difficulty in identifying a source of harmful interference in the HF bands and urgently wishes to seek the assistance of the Bureau, it shall promptly inform the Bureau.

S15.44

(2) On receipt of this information, the Bureau shall immediately request the cooperation of appropriate administrations or specially designated stations of the international monitoring system that may be able to help in identifying the source of harmful interference.

S15.45

(3) The Bureau shall consolidate all reports received in response to requests under No. S15.44 and, using such other information as it has available, shall promptly attempt to identify the source of harmful interference.

S15.46

(4) The Bureau shall thereafter forward its conclusions and recommendations to the administration reporting the case of harmful interference. These shall also be forwarded to the administration believed to be responsible for the source of harmful interference, together with a request for prompt action.

Appendix: Important abbreviations for monthly summaries, compiled by PA0GRU (Dick)

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Explanations / Administrations / Area's

Adm	- Administration	Asia	- Asia
Approx	- Approximately	CHN	- China
BC	- Broadcast	CIS	- Commonwealth of Independent States
BEAR	- Bearing	E	- Spain
Dly	- Daily	E.Eu	- East Europe
**	- Multiple dates	I	- Italy
Em	- Class of Emission	M.Ea	- Middle East
FC	- Coast station	ROU	- Roumania
HSM	- High speed morse	RUS	- Russia
Pbl	- Preamble		
Proc's	- Procedures		
Ptr	- Printer		
Revs	- Reversals		
Tfc	- Traffic		
Tgm	- Telegram		
Ui	- Unidentified		
UiBC	- Unidentified broadcast station		
UiBUZ	- Unidentified audio frequency buzzer		
UiCAR	- Unidentified carrier		
UiCW	- Unidentified Morse transmission		
UiDIPLO	- Unidentified Diplomatic Radio transmission		
UiFAX	- Unidentified facsimile transmission		
UiILL	- Unidentified non-amateur voice transmission		
UiJAM	- Unidentified jamming transmission		
UiMIL	- Unidentified military transmission		
UiMOD	- Unrecognised Modulation		
UiMUX	- Unidentified multi-channel digital transmission		
UiOTHR	- Unidentified over the horizon radar transmission		
UiPIC	- Unidentified piccolo transmission		
UiPTR	- Unidentified printer		
UiPSK	- Unidentified phase shift keying		
UiVFT	- Unidentified single channel digital transmission		
2f/3f/9f	- Second/third/ninth harmonic		
4F/5F	- 4-figure groups/5-figure groups		
5BL	- 5-letter groups with accented letters (Cyrillic morse)		
5L	- 5-letter groups		
MIL	- military		