

Working Party 5A (WG 5A-1)

GUIDE TO THE USE OF ITU-R TEXTS RELATING TO THE AMATEUR AND AMATEUR-SATELLITE SERVICES

(Last update: ~~6 November 2014~~ 8 JULY 2015)



1 Scope

This document describes various topics that are relevant to the amateur service and the amateur-satellite service, and identifies the ITU-R texts (Radio Regulations excerpts, Recommendations, Reports and Handbooks) applicable to these topics. The information included in this document is based on completed work within the ITU-R. The ongoing work on these topics is documented in the latest WP 5A Chairman's Report.

Attention: The information contained in this document is temporary in nature and does not necessarily represent material that has been agreed by the group concerned. Since the material may be subject to revision during the meeting, caution should be exercised in using the document for the development of any further contribution on the subject.

2 Provisions in the Radio Regulations, including ITU-R Recommendations incorporated by reference

The provisions of the Radio Regulations (including ITU-R Recommendations incorporated by reference) relevant to the amateur and amateur-satellite services are listed in Table 1 of the Annex at the end of this guide.

As defined in Article 1 of the Radio Regulations, the amateur service is a radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest (1.56). The amateur-satellite service is a radiocommunication service using space stations on earth satellites for the same purposes as those of the amateur service (1.57).

The frequency allocations to the amateur and amateur-satellite services are listed in the table and footnotes of Article 5.

Article 19 contains rules regarding the identification of stations and the formation of call signs. All transmissions in the amateur service should be identified (19.5). Call signs in the amateur service are formed in accordance with the provisions of Nos. 19.67-19.69, inclusive.

Article 25 contains general regulations applicable to stations in the amateur and amateur-satellite services. The article is divided into two sections, Section I for the amateur service, and Section II for the amateur-satellite service. Article 25 is reproduced in full here:

Section I – Amateur service

25.1 § 1 Radiocommunication between amateur stations of different countries shall be permitted unless the administration of one of the countries concerned has notified that it objects to such radiocommunications. (WRC-03)

25.2 § 2 1) Transmissions between amateur stations of different countries shall be limited to communications incidental to the purposes of the amateur service, as defined in No. 1.56 and to remarks of a personal character. (WRC-03)

25.2A 1A) Transmissions between amateur stations of different countries shall not be encoded for the purpose of obscuring their meaning, except for control signals exchanged between earth command stations and space stations in the amateur-satellite service. (WRC-03)

25.3 2) Amateur stations may be used for transmitting international communications on behalf of third parties only in case of emergencies or disaster relief. An administration may determine the applicability of this provision to amateur stations under its jurisdiction. (WRC-03)

25.4 (SUP - WRC-03)

25.5 § 3 1) Administrations shall determine whether or not a person seeking a licence to operate an amateur station shall demonstrate the ability to send and receive texts in Morse code signals. (WRC-03)

25.6 2) Administrations shall verify the operational and technical qualifications of any person wishing to operate an amateur station. Guidance for standards of competence may be found in the most recent version of Recommendation ITU-R M.1544. (WRC-03)

25.7 § 4 The maximum power of amateur stations shall be fixed by the administrations concerned. (WRC-03)

25.8 § 5 1) All pertinent Articles and provisions of the Constitution, the Convention and of these Regulations shall apply to amateur stations. (WRC-03)

25.9 2) During the course of their transmissions, amateur stations shall transmit their call sign at short intervals.

25.9A § 5A Administrations are encouraged to take the necessary steps to allow amateur stations to prepare for and meet communication needs in support of disaster relief. (WRC-03)

25.9B § 5B An administration may determine whether or not to permit a person who has been granted a licence to operate an amateur station by another administration to operate an amateur station while that person is temporarily in its territory, subject to such conditions or restrictions it may impose. (WRC-03)

Section II – Amateur-satellite service

25.10 § 6 The provisions of Section I of this Article shall apply equally, as appropriate, to the amateur-satellite service.

25.11 § 7 Administrations authorizing space stations in the amateur-satellite service shall ensure that sufficient earth command stations are established before launch to ensure that any harmful interference caused by emissions from a station in the amateur-satellite service can be terminated immediately (see No. **22.1**). (WRC-03)

Appendix **42** contains the allocation of call sign series to various countries and international organizations. The administration or organization authorizing a station in the amateur service may be determined by comparing the first characters of the call sign with the list in Appendix **42**.

Resolution **641** addresses the use of the band 7 000-7 100 kHz, which is allocated to the amateur service on a primary and exclusive basis worldwide. The resolution states that the broadcasting service shall be prohibited in the band 7 000-7 100 kHz and that the broadcasting stations operating on frequencies in this band shall cease such operation, and urges administrations responsible for the broadcasting stations operating on frequencies in the band 7 000-7 100 kHz to take the necessary steps to ensure that such operation ceases immediately.

Resolution **642** relates to the bringing into use of earth stations in the amateur-satellite service. Resolution **642** notes that that certain information specified in Appendix **4** of the Radio Regulations cannot reasonably be provided for earth stations in the amateur-satellite service, and establishes provisions for notification and publication of satellite systems in the amateur-satellite service that take this fact into account.

Resolution **644** addresses radiocommunication resources for early warning, disaster mitigation and relief operations, and resolves that the ITU-R continue to study, as a matter of urgency, aspects of radiocommunications/ICT that are relevant to early warning, disaster mitigation and relief operations, such as decentralized means of telecommunications that are appropriate and generally available, including amateur terrestrial and satellite radio facilities, mobile and portable satellite terminals, as well as the use of passive space-based sensing systems.

[Recommendation ITU-R M.1172-0](#) is incorporated by reference into the Radio Regulations. It lists miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service. Section I (from QRA to QUZ) and Section II are relevant to the amateur and amateur-satellite services, as the abbreviations are frequently used therein.

3 ITU-R Recommendations not incorporated by reference in the Radio Regulations

Recommendations relevant to the amateur and amateur-satellite services (other than the Recommendation incorporated by reference in the Radio Regulations) are listed in Table 2 of the Annex at the end of this guide.

[Recommendation ITU-R M.1041-2](#) specifies recommended design criteria and objectives for future amateur radio systems.

[Recommendation ITU-R M.1042-3](#) addresses disaster communications in the amateur and amateur-satellite services. It is recommended that administrations encourage the development of amateur service and amateur-satellite service networks capable of providing radiocommunications in the event of natural disasters, that such networks be robust, flexible and independent of other telecommunications services and capable of operating from emergency power, and that amateur organizations be encouraged to promote the design of robust systems capable of providing radiocommunications during disasters and relief operations.

[Recommendation ITU-R M.1043-2](#) addresses the use of the amateur and amateur-satellite services in developing countries. It recommends that administrations encourage and facilitate the amateur and amateur-satellite services in order to develop radio operator skills, train engineers and technicians to design, construct and maintain radio equipment and systems, assist in forming groups capable of providing local support, exchange technical and operational information, experiment with new technology, and establish stations in rural and remote areas, among several other objectives.

[Recommendation ITU-R M.1044.2](#) contains frequency sharing criteria for the amateur and amateur-satellite services. The Recommendation lists the radiocommunication services with which the amateur and amateur-satellite services may readily share, and those services with which sharing would be difficult. It states that the amateur services operate with relatively weak signals and provides mitigation procedures that facilitate sharing.

[Recommendation ITU-R M.1544-0](#) defines minimum levels of operational and technical knowledge for use by administrations when verifying the qualifications of a person wishing to operate a station in the amateur services.

[Recommendation ITU-R M.1677-1](#) defines the International Morse code characters and the operational provisions applying to their use in radiocommunication services. Morse telegraphy is widely used in the amateur services.

[Recommendation ITU-R M.1732-1](#) documents the technical and operational characteristics of systems used in the amateur service and amateur-satellite services for the purposes of carrying out sharing studies. The systems and their characteristics described in this Recommendation are considered representative of those operating in the frequency bands available to these services ranging from 135.7 kHz through 81.5 GHz.

[Recommendation ITU-R M.2034-0](#) establishes a telegraphic alphabet and transmission protocols for phase shift keying at 31 baud in the amateur and amateur-satellite services.

4 ITU-R Reports

Reports relevant to the amateur and amateur-satellite services are listed in Table 3 of the Annex at the end of this guide.

[Report ITU-R M.2085](#) addresses the role of the amateur and amateur-satellite services in support of disaster mitigation and relief.

[Report ITU-R M.2117](#) addresses software-defined radio in the land mobile, amateur and amateur-satellite services.

Reports [ITU-R M.2200](#), [M.2203](#), and [M.2226](#) contain information relevant to the amateur service allocation at 472-479 kHz adopted at WRC-12.

[Report ITU-R M.2281](#) contains characteristics of stations in the amateur service that may operate within the frequency range 5 250-5 450 kHz for the purposes of sharing studies for WRC-15 agenda item 1.4.

[Report ITU-R M.2335](#) is the sharing study for stations in the amateur service that may operate within the frequency range 5 250-5 450 kHz under WRC-15 agenda item 1.4.

5 ITU-R Handbooks

ITU handbooks with content relevant to the amateur and amateur-satellite services are listed in Table 4 of the Annex at the end of this guide.

A handbook containing the documentation listed herein, titled [Handbook on amateur and amateur-satellite services](#), is periodically updated. The handbook also contains detailed information on specific amateur and amateur-satellite frequency allocations, usage conventions, and operational procedures. The handbook was last revised in 2014.

Chapter 5 of the ITU [Handbook on emergency telecommunications](#) (Edition of 2005) presents information on the use of stations in the amateur and amateur-satellite services in disaster and emergency situations. A revision effort was completed in 2013, and the availability of the revision is pending.

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ANNEX

TABLE 1
From the Radio Regulations (RR)

Article 1	<i>Amateur service: A radiocommunication service for the purpose of self-training, intercommunication and technical investigations carried out by amateurs, that is, by duly authorized persons interested in radio technique solely with a personal aim and without pecuniary interest (RR 1.56)</i> <i>amateur-satellite service: A radiocommunication service using space stations on earth satellites for the same purposes as those of the amateur service (RR 1.57)</i>
Article 5	Frequency allocations
Article 19	Identification of stations
Article 25	Amateur services
Appendix 42	Table of allocation of international call sign series
Resolution 641 (Rev.HFBC-87)	Use of the frequency band 7 000-7 100 kHz
Resolution 642	Relating to the bringing into use of earth stations in the amateur-satellite service
Resolution 644 (Rev.WRC-2000)	Telecommunication resources for disaster mitigation and relief operations
ITU-R Recommendations incorporated by reference in the RR	
Rec. ITU-R M.1172-0 (last revised 1995)	Miscellaneous abbreviations and signals to be used for radiocommunications in the maritime mobile service. (Section I QRA to QUZ and Section II are relevant to the amateur and amateur-satellite services.)

TABLE 2
Other ITU-R Recommendations and year of last revision

Rec. ITU-R M.1041-2	2003	Future amateur radio systems
Rec. ITU-R M.1042-3	2007	Disaster communications in the amateur and amateur-satellite services
Rec. ITU-R M.1043-2	2003	Use of the amateur and amateur-satellite services in developing countries
Rec. ITU-R M.1044-2	2003	Frequency sharing criteria in the amateur and amateur-satellite services
Rec. ITU-R M.1544-0	2001	Minimum qualifications of radio amateurs
Rec. ITU-R M.1677-1	2009	International Morse code
Rec. ITU-R M.1732-1	2012	Characteristics of systems operating in the amateur and amateur-satellite services for use in sharing studies
Rec. ITU-R M.2034-0	2013	Telegraphic alphabet for data communication by phase shift keying at 31 baud in the amateur and amateur-satellite services

TABLE 3
ITU-R Reports and year of last revision

Rep. ITU-R M.2085	2011	Role of the amateur and amateur-satellite services in support of disaster mitigation and relief
Rep. ITU-R M.2117	2012	Software-defined radio in the land mobile, amateur and amateur-satellite services
Rep. ITU-R M.2200	2010	Characteristics of amateur radio stations in the range 415-526.5 kHz for sharing studies
Rep. ITU-R M.2203	2010	Compatibility of amateur service stations with existing services in the range 415-526.5 kHz
Rep. ITU-R M.2226	2011	Description of amateur and experimental operation between 415 and 526.5 kHz in some countries
Rep. ITU-R M.2281	2013	Characteristics of amateur radio stations in the range 5 250-5 450 kHz for sharing studies

TABLE 4
ITU-R Handbooks relevant to the amateur and amateur-satellite services

Handbook on amateur and amateur-satellite services (Edition of 2014)	Periodically updated Handbook containing the documentation described herein and other information describing amateur and amateur-satellite service operation.
Handbook on emergency telecommunications (Edition of 2005)	Periodically updated Handbook with chapter on use of amateur radio in emergency and disaster telecommunications.
