



Recommendation ITU-R BT.2072-0
(02/2015)

**Main functionalities of consumer receivers
for worldwide broadcasting roaming**

BT Series
Broadcasting service
(television)

Foreword

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Series of ITU-R Recommendations

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Series	Title
BO	Satellite delivery
BR	Recording for production, archival and play-out; film for television
BS	Broadcasting service (sound)
BT	Broadcasting service (television)
F	Fixed service
M	Mobile, radiodetermination, amateur and related satellite services
P	Radiowave propagation
RA	Radio astronomy
RS	Remote sensing systems
S	Fixed-satellite service
SA	Space applications and meteorology
SF	Frequency sharing and coordination between fixed-satellite and fixed service systems
SM	Spectrum management
SNG	Satellite news gathering
TF	Time signals and frequency standards emissions
V	Vocabulary and related subjects

Note: This ITU-R Recommendation was approved in English under the procedure detailed in Resolution ITU-R 1.

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RECOMMENDATION ITU-R BT.2072-0*

**Main functionalities of consumer receivers for
worldwide broadcasting roaming**

(2015)

Scope

This Recommendation defines main functionalities of consumer receivers for worldwide broadcasting roaming. The list of the functionalities given in the Recommendation should be taken into account for the development and production of modern and prospective consumer receivers of TV, multimedia and sound broadcasting.

Keywords

Consumer receiver, functionality, worldwide broadcasting roaming

The ITU Radiocommunication Assembly,

considering

- a) that there is an increasing demand to use portable broadcast receivers worldwide, and a consumer may use his receiver when travelling;
- b) that various digital TV, multimedia and sound broadcasting systems for fixed, portable and mobile reception and their parameters are described in ITU-R Recommendations and Reports;
- c) Report ITU-R BT.2295 contains the characteristics of systems for digital terrestrial sound, multimedia and TV broadcasting for fixed, portable and mobile reception;
- d) that TV, multimedia and sound broadcasting operates on various frequency bands in various parts of the world;
- e) that there are many source-coding systems and channel-coding systems in use for TV, multimedia and sound broadcasting, some of them currently in widespread use, others in use in some countries only, and others already documented and tested but not yet widely used;
- f) that Question ITU-R 136-2/6 defines worldwide broadcasting roaming as "the possibility for a consumer to receive radio, multimedia or television programmes of interest in any location of the world where those programmes are available, using a single receiver irrespective of the broadcasting platform on which those programmes are delivered at that location";
- g) that several of functionalities of consumer receivers for worldwide broadcasting roaming are already mentioned in Recommendations ITU-R BS.774, BS.1114 and BS.1348;
- h) that Report ITU-R BT.2267 contains information on integrated broadcast-broadband systems that could be considered in worldwide broadcasting roaming, namely public alert in case of a crisis and appropriate actions in case of emergency;
- i) that a new global platform for the broadcasting service is under study within the ITU-R,

* Radiocommunication Study Group 6 made editorial amendments to this Recommendation in July 2015 in accordance with Resolution ITU-R 1.

recommends

that, in order to receive, demodulate and decode broadcast signals in any part of the world, consumer receivers for worldwide broadcasting roaming should support the main functionalities listed in Annex 1.

Annex 1

Main functionalities of consumer receivers for worldwide broadcasting roaming

Main functionalities of the consumer receivers for worldwide broadcasting roaming should supply the tasks according to the definition given in the *considering f)*.

These functionalities could be divided into some groups.

1 Main functionalities for supporting travelling

The very concept of worldwide broadcasting roaming implies that a consumer may also use his receiver when travelling. Consequently a receiver for worldwide broadcasting roaming:

- should be reasonably compact and lightweight;
- should be powered from batteries (possibly rechargeable) and from the mains;
- should be able to operate on batteries over a period of many hours;
- should be designed to receive and present both TV, multimedia and sound broadcasting program content at a reasonable level of perceptual image/sound quality;
- should provide prioritized public alert and additional appropriate emergency information available from broadcasting;
- should be preferably supplied with a simple indicator of the received RF field level and of the bit error rate.

2 Main functionalities for supporting various broadcasting systems

Television, multimedia and sound broadcasting operates on various frequency bands in various parts of the world, and there are many source-coding systems and channel-coding systems. Consequently a consumer "multimode" receiver for worldwide broadcasting roaming should be able:

- to tune to all the frequency bands in use for TV, multimedia and sound broadcasting in widespread use in the world;
- to demodulate, channel-decode and source-decode sound, multimedia and TV broadcast signals that are modulated and encoded in any of the various systems in widespread use in the world, by automatically switching to the appropriate demodulator and decoder stored in its memory;
- to store software decoders for new or little-used channel-coding and source-coding systems that are not yet available in its digital memory and that the receiver owner may download from the web;

- to tune automatically as well as manually (optional); this includes automatic switching to the demodulator, channel-decoder and source-decoder used on the tuned channel;
- to receive broadcasting content that is delivered via non-broadcasting means, for example, broadband fixed or mobile telecommunication networks;
- to prevent reception of non-public communication, legally restricted by several Administrations.

3 Main functionalities for supporting programmes information

A consumer receivers for worldwide broadcasting roaming should be designed to be "user-friendly", namely it should help the user to rapidly find the sound, multimedia or TV programmes of his interest. Indeed, automatic tuning of a consumer receiver for worldwide broadcasting roaming will generally result in a list of those channels that the receiver can tune to, and successfully demodulate and decode. However, for the receiver to really be user-friendly, such list should also provide information on the channel content, including:

- the name of the station and the quality of reception;
- the title of the program, assuming that this helps to form an idea of its content;
- the genre of the program (e.g.: sports, news, music, etc.) and its sub-genre (e.g.: tennis, soccer, etc. as sub-genres of sports);
- the program language, for programs with speech content, etc.

Such information, with the exception of the one on the quality of reception which is generated inside the receiver, should be presented to the user in a language at the user's choice. Consequently it should be delivered to the receiver in a standardized form, i.e. by means of standardized metadata multiplexed on the program stream.
