

International Telecommunication Union

**ITU-R**  
Radiocommunication Sector of ITU

**Recommendation ITU-R BS.216-2**  
(07/1982)

**Protection ratio for sound broadcasting  
in the Tropical Zone**

**BS Series**  
**Broadcasting service (sound)**

## Foreword

The role of the Radiocommunication Sector is to ensure the rational, equitable, efficient and economical use of the radio-frequency spectrum by all radiocommunication services, including satellite services, and carry out studies without limit of frequency range on the basis of which Recommendations are adopted.

The regulatory and policy functions of the Radiocommunication Sector are performed by World and Regional Radiocommunication Conferences and Radiocommunication Assemblies supported by Study Groups.

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### Series of ITU-R Recommendations

(Also available online at <http://www.itu.int/publ/R-REC/en>)

Series	Title
<b>BO</b>	Satellite delivery
<b>BR</b>	Recording for production, archival and play-out; film for television
<b>BS</b>	<b>Broadcasting service (sound)</b>
<b>BT</b>	Broadcasting service (television)
<b>F</b>	Fixed service
<b>M</b>	Mobile, radiodetermination, amateur and related satellite services
<b>P</b>	Radiowave propagation
<b>RA</b>	Radio astronomy
<b>RS</b>	Remote sensing systems
<b>S</b>	Fixed-satellite service
<b>SA</b>	Space applications and meteorology
<b>SF</b>	Frequency sharing and coordination between fixed-satellite and fixed service systems
<b>SM</b>	Spectrum management
<b>SNG</b>	Satellite news gathering
<b>TF</b>	Time signals and frequency standards emissions
<b>V</b>	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 BS.216-2\*

**Protection ratio for sound broadcasting in the Tropical Zone**

(Report ITU-R BS.302)

(1951-1953-1956-1978-1982)

The ITU Radiocommunication Assembly,

*considering*

- a) that it is necessary to establish a value for the protection ratio for sound broadcasting within the shared bands in the Tropical Zone;
- b) that the operation of sound broadcasting transmitters with 10 kHz separation makes it difficult to measure the protection ratio with a receiver having an audio-frequency cut-off in excess of 5 kHz;
- c) that more information concerning noise values in various parts of the Tropical Zone is necessary to arrive at a more accurate value of minimum field strength to which the protection ratio should be maintained; however, this minimum field strength should provide satisfactory reception at the limit of the broadcast station coverage area, as provided by No. 23.3 of the Radio Regulations,

*recommends*

- 1 that, for the present, and wherever practicable, in the Tropical Zone, the ratio of median-wanted sound broadcasting carrier to median-unwanted carrier shall be 40 dB, to provide a signal-to-interference ratio of not less than 23 dB for at least 90% of the hours and 90% of the days (taking into consideration the effect of short- and long-term fading – see Recommendation ITU-R BS.411);
- 2 that the protection ratio thus defined should be measured at the output of a receiver provided with a filter having an audio-frequency cut-off of 5.0 kHz;
- 3 that, for the present, the protection ratio, as defined in § 1, should be maintained throughout the broadcast coverage area in the Tropical Zone to a minimum field strength of 200  $\mu\text{V}/\text{m}$  or any lower value consistent with satisfactory reception;
- 4 that the conditions of operation required for sound broadcasting in the Tropical Zone should be compatible with the protection ratio required for other services outside the Tropical Zone, in accordance with No. 4.8 of the Radio Regulations.

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\* Radiocommunication Study Group 6 made editorial amendments to this Recommendation in 2002 in accordance with Resolution ITU-R 44.

