

The Broadcasting Council of the Republic of Macedonia, pursuant to Article 37, paragraph 1, item 5 of the Law on Broadcasting ("Official Gazette of the Republic of Macedonia", No.100/05, 19/07, 103/08, 152/08, 6 / 10, 145/10, 97/11, 13/12 and 72/13), and in accordance with Article 19, paragraph 2, indent 10 and Article 20, paragraph 1, indent 1 and 3 of the Rules of Procedure of the Council (consolidated version), No.01-4301/1 dated 14 August 2012 and the Conclusion No.02-2259/2 dated 17 May 2013 , at its 24<sup>th</sup> meeting, held on 17 May 2013 adopted a:

**RULEBOOK**  
**on the technical, spatial, financial and staffing requirements**  
**on acquiring a license for performing a broadcasting activity**

**I. GENERAL PROVISIONS**

Article1

This Rulebook shall prescribe the minimum technical, spatial, financial and staffing requirements that broadcasters should comply with, so as to be able to broadcast programme at the local, regional and national level.

This Rulebook refers to broadcasters, but also concerns production studios that produce programme in coproduction or by order of the broadcaster.

This Rulebook does not apply to broadcasters, in terms of the provisions for mandatory possession of a studio or additional premises, in cases when the programme service only contains shows that are completely prepared or have been prepared elsewhere (specialised music, film or sports programme, teleshopping programme and so on.), regardless of the broadcaster.

This Rulebook, in terms of the basic spatial requirements and parameters, does not apply to cases where the transmission or recording, takes place outside the studio area (stadium, cultural or sporting event, open space, a public meeting, etc.).

**II. GENERAL CONDITIONS**

**Basic spatial requirements**

Article 2

The business premises should possess authorisation to use the facility, issued by a competent authority.

If the business premises of the broadcaster are located in residential buildings, then the broadcaster should also possess approval for using the facility for business purposes.

## **Basic electrical and energy requirements**

### Article 3

Each broadcaster, must have acquired protective grounding for the premises from which it creates, i.e., initially broadcasts their programme and where control and recording of the output signal (studio and director) is performed. As evidence, the broadcaster must possess appropriate attestation issued by an authorised organisation for measuring of the grounding. Each broadcaster in their facility should have an uninterruptible power supply that will provide independence for electric operation of the basic functions of the station, i.e. smooth broadcasting of the programme. Depending on whether they perform a broadcasting activity at national, regional or local level, stations should meet the following criteria in terms of continuous power supply:

- For the state-level possibility for full electric independence of at least 24 hours;
- For the regional level possibility for electric independence of at least 12 hours;
- For the local level, electric independence of at least 6 hours.

## **III RADIO PROGRAMME SERVICES**

### **III.1. Basic technical requirements, standards and parameters for radio stations**

#### **1. Studio**

##### Article 4

Each radio station which plans to produce speech and / or live music on their programme service, or later from their premises, must possess acoustically treated studio space - studio. Common parameters for the studios are, as follows:

- The studio should be acoustically treated and isolated from external noise;
- Time of reverberation  $T_r$ :

$$0,25 \text{ sec} < T_r < 0,4 \text{ sec}$$

where  $T_r$  must not deviate more than +0,05 c from the nominal value in the range from 200 HZ to 4.000 Hz, and

- Mandatory use of ventilation and air conditioning (central air conditioning / ventilation is recommended).

##### Article 5

The studio or the space for recording or broadcasting announcements, news, statements, comments, interviews, discussions, debates, meetings, reading texts and similar voice information should meet the following minimum criteria:

- The area of the acoustically treated premises must not be less than 9 m<sup>2</sup>.
- The minimum height of the acoustically treated space should be 2.6 m.
- If it was envisaged that there should be more than two persons at the same time in the studio, the area of the room should be increased to a minimum of 2 m<sup>2</sup> per person.

## 2. Directing room

### Article 6

Technical directing rooms of radio stations are facilities where by electronic and electroacoustic devices, programme with voice or music content is prepared or produced and objective and subjective control of the sound and the output signal is performed.

Each radio **must** have a room of this kind.

The directing rooms must meet the following minimum criteria:

- The area of the room after the acoustic treatment must be at least 10 m<sup>2</sup>, with a minimum height of the treated area of 2.6 m;
- The shape of the room must be rectangular or trapezoidal. Due to stereophony, there is a need to provide spatial and acoustic symmetry i.e. the symmetry axis and the axis of listening must match (The manner of placing speakers, the shape and proportions of the rooms are defined in the Recommendation of the Broadcasting Council BC-TR 4);
  - The directing premises should be acoustically treated and isolated from external noise.
  - Time of reverberation  $T_r$ :

$$0,25 \text{ sec.} < T_r < 0,4 \text{ sec.}$$

where  $T_r$  must not deviate more than +0,05 sec. of the nominal value in the range from 200 Hz to 4.000 Hz, and

- mandatory use of ventilation and air conditioning.

If it was envisaged that there should be more than two persons at the same time in the directing room, the area of the room should be increased to 2 m<sup>2</sup> per person.

### Article 7

The directing room may also be used as a studio in cases when the radio programme service includes a vocal segment in their shows.

In this case the technician / presenter, as well as the other persons who should have control of the tone (interlocutors, additional sound expert etc.) of the programme, must use headphones the frequency characteristics of which should be in accordance with Figure 1.

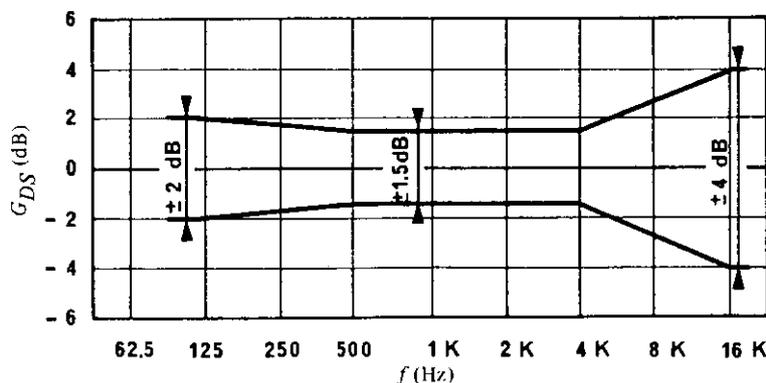


Figure 1 – Allowed tolerances of the amplitude-frequency characteristic of the studio monitoring headphones (in accordance with the ITU Recommendation - ITU-R recommendation BS. 708)

In cases when the directing room is also used as a studio, the following conditions should be fulfilled:

- The area of the room after the acoustic treatment should be at least 15 m<sup>2</sup>, with a minimum height of the processed area of 2.6 m, and
- If it was envisaged that there should be more than two persons at the same time in the studio/directing room, the area of the room should be increased to 2 m<sup>2</sup> per person.

### **3. Additional premises**

#### Article 8

Each radio station which performs an activity at state, regional and local level, and which, apart from previously recorded content from another production, plans to produce their own programme produced in live or with a delayed presentation (news, interviews with guests, quizzes, etc. ) on their programme service, must mandatorily possess:

- Room for journalists (editors) and other participants in the programme;
- Archives - which can be placed in rooms for other purposes, and serves for archiving of audio content arising from the obligation to keep records for a period of 30 days;
- Room to accommodate technical and IT equipment - which will accommodate the active equipment, with proper ventilation and air-conditioning, as well as, devices for uninterruptible power supply, and
- Sanitary facilities.

### **4. Signal quality and basic technical equipment**

#### Article 9

The signal must be stereo.

Every radio station should have an output compressor / tone limiter.

The music that is broadcasted should be in Hi-Fi (Hi-Fi) quality. In case of use of digital signal the use of compression techniques with the following features is allowed:

- for HD FM minimum 300 kbit / s;
- for MP3 format minimum 128 kbit / s, and
- for more modern compression techniques like AC-3, AAC, MPEG-4 etc., minimum 128 kbit / s.

## **III.2. STAFF REQUIREMENTS**

### **1. Number and structure of employees required for performance of the activity**

#### Article 10

The number and structure of employees of radio stations at the national level, depending on the format should be:

- for general format - at least ten (10) persons, of whom three (3) journalists with appropriate education and
- for specialised format - depending on the function performed by the programme service (educational, informative or entertaining) at least five (5) persons, of whom 2 (two) journalists with appropriate education.

The number and structure of employees of radio stations at the regional level should be at least five (5) persons, of whom 3 (three) journalists with appropriate education.

The number and structure of employees of radio stations at the local level should be at least three (3) persons, of whom 2 (two) journalists with appropriate education.

## **IV. TELEVISION PROGRAMME SERVICES**

### **IV. 1. Basic technical and spatial requirements, standards and parameters for the studio segment of the broadcasters which broadcast programme at the local level**

## 1. Studio or stage

### Article 11

Each television station that plans to show their own programme produced in live or shown later (news, interviews with guests, quizzes, etc.) on their programme service, must possess acoustically treated studio room - a television studio.

Depending on the purpose and the number of people who should be simultaneously present at the television studio, the studio space must meet the following minimum criteria:

- Acoustically treated area of at least 30 m<sup>2</sup>;
- The height should be at least 3.5 meters, and
- Possession of properly performed ventilation and air-conditioning.

## 2. Directing room or a room for production control

### Article 12

Technical directing rooms of television stations are rooms at which with the help of electronic, electroacoustic and video devices, programme with audiovisual content is led, prepared and produced and objective and subjective control of the audio and video output signal is performed, control of the lights in the studio, control of the cameras (by shutter level and video signal level) and control of the audio signal is performed.

The minimum area of television directing rooms should be at least 12 m<sup>2</sup>.

Each television station **must** have a room of this kind.

The studio and directing room should be separated by a glass, the thickness of which should meet the standards for acoustic insulation, and reverberation of the sound.

This room may also be used as **main recording section**, where recording is performed of all shows from the studio, recording material by line of other TV stations, synchronisation, nachsynchronisation and subtitling of shows.

## 3. Editing/mounting room

### Article 13

The editing/mounting room is a room where mounting of shows that should be prepared for broadcast is performed and can be part of another room, for example: technical directing room or editors' room (finalisation of the show from a programming and technical aspect is performed).

## 4. Additional premises

### Article 14

**Room for archiving** - Every local television station must provide **archiving** of recorded audio-visual materials in a separate room or another room which is used for other purposes, or to provide contract for storage of data at a distant location, minimum 30 days after broadcasting the programme.

**Editors' space** - separate working room for journalists.

**Premises for accommodation of technical and IT equipment** - which will accommodate the active equipment, with proper ventilation and air-conditioning and devices for uninterruptible power supply or can be part of another room,

**Make up room with wardrobe section**, where programme participants can prepare before their appearance and

**Sanitary facilities.**

The broadcaster may own several studios and several rooms of the ones mentioned above.

## 5. Signal quality and basic technical equipment

### Article 15

The quality of the signal used by the broadcaster should meet the following criteria:

- the signal should be in colour, according to the G / PAL standard;
- the production of the audio-video signal should be in digital format;
- each station should have an output compressor / tone limiter,
- the video format used should be in any digital format with the same or better features and quality than the S-VHS format, and
- the audio signal must be stereo.

## IV. 2. Basic technical and spatial requirements, standards and parameters for the studio segment of the broadcasters which broadcast programme at the regional level

### 1. Studio or stage

#### Article 16

Each television station that plans to show their own programme produced in live or shown later (news, interviews with guests, quizzes, etc.) on their programme service, must possess acoustically treated studio room - a television studio.

Depending on the purpose and the number of people who should be simultaneously present at the television studio, the studio space must meet the following minimum criteria:

- Acoustically treated area of at least 30 m<sup>2</sup>;
- The height should be at least 3.5 meters, and
- Possession of properly performed ventilation and air-conditioning.

### 2. Directing room or a room for production control

#### Article 17

Technical directing rooms of television stations are rooms at which with the help of electronic, electroacoustic and video devices, programme with audiovisual content is led, prepared and produced and objective and subjective control of the audio and video output signal is performed, control of the lights in the studio, control of the cameras (by shutter level and video signal level) and control of the audio signal is performed.

The minimum area of television directing rooms should be at least 12 m<sup>2</sup>.

Each television station **must** have a room of this kind.

The studio and directing room should be separated by a glass, the thickness of which should meet the standards for acoustic insulation, and reverberation of the sound.

This room may also be used as **main recording section**, where recording is performed of all shows from the studio, recording material by line of other TV stations, synchronisation, nachsynchronisation and subtitling of shows.

### 3. Editing/mounting room

#### Article 18

The editing/mounting room is a room where mounting of shows that should be prepared for broadcast is performed and can be part of another room, for example: technical directing room or editors' room (finalisation of the show from a programming and technical aspect is performed).

#### 4. Additional premises

##### Article 19

**Room for archiving** - Every television station with regional coverage must provide **archiving** of recorded audio-visual materials in a separate room or another room which is used for other purposes, or to provide contract for storage of data at a distant location, minimum 30 days after broadcasting the programme.

**Editors' space** - separate working room for journalists.

**Premises for accommodation of technical and IT equipment** - which will accommodate the active equipment, with proper ventilation and air-conditioning and devices for uninterruptible power supply or can be part of another room,

**Make up room with wardrobe section**, where programme participants can prepare before their appearance and

**Sanitary facilities.**

The broadcaster may own several studios and several rooms of the ones mentioned above.

#### 5. Signal quality and basic technical equipment

##### Article 20

The quality of the signal used by the broadcaster should meet the following criteria:

- the signal should be in colour, according to the G / PAL standard,
- the production of audio-video signal should be in digital format, DV standard
- each station should have an output compressor / tone limiter and
- the audio signal must be stereo.

### IV. 3. Basic technical and spatial requirements, standards and parameters for the studio segment of broadcasters which broadcast programme at the state level

#### 1. Spatial requirements

##### 1.1. Studio or stage

##### Article 21

Each television station that plans to show their own programme produced in live or shown later (news, interviews with guests, quizzes, etc.) on their programme service, must possess acoustically treated studio room - a television studio.

Depending on the purpose and the number of people who should be simultaneously present at the television studio, the studio space must meet the following minimum criteria:

- Acoustically treated area of at least 30 m<sup>2</sup>;
- The height should be at least 3.5 meters, and
- Possession of properly performed ventilation and air-conditioning.

## 1.2. Large television studio

### Article 22

The large television studio – is used for production / recording or broadcasting of TV shows of different nature: discussions, debates, music and dance performances, entertainment show programmes, musical shows using scenic elements, capturing theatre and film projects and related content. The characteristics of this type of studio should be as follows:

- An area of at least 250 m<sup>2</sup> (the functionality of the space, shape and proportions of the rooms are defined in the Recommendation of the Broadcasting Council BC-TR 4);
- The height should be at least 5.2 meters.
- Broadcasters are not obliged to have such a studio in their possession. The provision of a large studio could be ensured by a lease, but during the recording/shooting in the studio the norms for quality of the audio-video signal should be observed.

## 1.3. Virtual studios

### Article 23

Virtual studios – are such TV studios that allow combining people and / or real objects with computer generated environments and objects in real time.

- An area of a minimum of 15 m<sup>2</sup>;
- The height should be at least 3.5 meters.
- Possession of properly performed ventilation and air-conditioning.
- Monotone background, preferably in blue.

## 1.4 Separate studios

### Article 24

The separate studios for performing synchronisation, nachsynchronisation and voice recording at television stations should comply with the provisions for studios in radio stations, Article 4 and 5 of this Rulebook.

The broadcaster may possess several studios of one type, as well as several types of studios of the ones mentioned above.

## 1.5 Required time for reverberation in the studio

### Article 25

The required time for reverberation in a television studio depends on the volume of the room. In the range from 200 Hz to 4.000 Hz it is determined in accordance with the following formula:

$$T_r = 0,25 (V / V_0)^{1/3} \text{ sec};$$

Where:

$T_r$  - is the required time of reverberation expressed in seconds;  $V$ - the volume of the room in cubic meters m<sup>3</sup>, and  $V_0$  – the reference volume that is 100 m<sup>3</sup>.

The permissible deviation from the required time of reverberation, calculated by the above formula in the range from 200 Hz to 4.000 Hz, is +0,05 sec.

## 1.6 Level of lighting in the studio

### Article 26

The level of lighting in the studio should meet the minimum required under the technical features of the cameras used in the respective room. The temperature of the colour of the light should also be adjusted according to the technical characteristics of the cameras that are used. For this purpose every television studio must possess a device for measuring the intensity of light (light meter - luksmeter).

Due to energy saving it is mandatory to use a so-called cold light to illuminate the studios.

## 2. Directing room or production control room

### Article 27

Technical directing rooms of television stations are rooms at which with the help of electronic, electroacoustic and video devices, programme with audiovisual content is led, prepared and produced and objective and subjective control of the audio and video output signal is performed.

In the premises referred to in paragraph 1 of this Article control of the lights in the studio, control of the cameras (by shutter level and video signal level) and control of the audio signal is performed.

The directing rooms of television stations should comply with the minimum criteria laid down in Article 6 of this Rulebook, except for the provision for minimum area, which for television stations should be at least 12 m<sup>2</sup>.

Each television station **must** have a room of this kind.

The studio and directing room should be separated by a glass, the thickness of which should meet the standards for acoustic insulation, and reverberation of the sound.

Terrestrial and satellite television stations at the national level should have the main output directing room for transmission and control of the programme and it should have a minimum area of 20m<sup>2</sup>.

## 3. Main control room - Master

### Article 28

The main control room (Master-control room) is a room where by electronic, electroacoustic and video devices which are too noisy or too warm, and therefore they cannot be accommodated in the directing room or the production control premises, objective and subjective control of the audio and video output signal at the moment when it is ready for broadcast is performed.

From the main control room coordination and assembling of audiovisual content from several studios is also performed (if such are owned by the broadcaster) that are ready for broadcast.

The premises referred to in paragraph 1 of this Article should meet the criteria laid down in Article 6 of this Rulebook.

It is advisable that for every terrestrial or satellite television station at the state level to have a main control room.

In cases when the broadcaster does not possess a main control room, the main control of audiovisual content shall be performed in the directing room.

#### 4. Main recording section – magnetoscopes

##### Article 29

The main recording section or magnetoscopes is the section for recording of all programmes from the studio, recording material by line of other TV stations, synchronisation, nachsynchronisation and subtitling of programmes. The section should be connected with the master room, the studio directing and editing rooms.

The section referred to in paragraph 1 of this Article, shall meet the criteria specified in Article 6 of this Rulebook, except for the provision for minimum area, which must be at least 16 m<sup>2</sup> for magnetoscopes.

Any terrestrial or satellite television station at the state level **is obliged** to possess such a room.

#### 5. Editing/mounting room

##### Article 30

The editing/mounting room is a room where mounting of shows that should be prepared for broadcast is performed (finalisation of the show from a programming and technical aspect is performed).

This room should be connected to the main recording section and the main output directing room.

##### 5.1. Acoustic insulation of television studios and control rooms

##### Article 31

The studio and directing room should be acoustically treated and isolated from external noise, and the noise caused by the devices for ventilation and air-conditioning.

The permissible level of noise and undesired sounds in television studios and directing rooms, at the height of 1.2 meters from the floor, must not exceed the values of the curve *HP 20* of Table 1.

HP curves	Frequency (Hz)								
	31,5	63	125	250	500	1κ	2κ	4κ	8κ
20	69,0	51,3	39,4	30,6	24,3	20,0	16,8	14,4	12,6

*Table 1 – Permissible level of noise*

*Volume of sound pressure in dB in relation to 20 µPa - rms for the Octavian line*

#### 6. Signal quality and basic technical equipment

##### Article 32

The quality of the signal use by the broadcaster should meet the following criteria:

- the signal should be in colour, in accordance with the G / PAL standard;
- the production of the audio-video signal should be in digital format, and
- each station should have an output compressor / tone limiter.
- The video format used should be DV with a minimum of 25 Mbit / s (for digital production), whereby the cameras should be with a minimum of 3 CCD or CMOS chips and the recording to be performed with a minimum of 1/3 CCD or equivalent quality with cameras with CMOS chips, and
- the audio signal must be stereo.

## 7. Additional premises

### Article 33

**Room for archiving** - Every terrestrial or satellite television station at the state level must have a room for archiving as a separate room, apart from the other room, where under specified conditions the recorded audio-visual materials would be kept, for minimum of 30 days after their broadcasting. The room for archiving can be a part of the room for technical and IT equipment or the broadcaster may provide a contract for storage at a distant location. Each television station that plans to show their own programme produced in live or shown later (news, interviews with guests, quizzes, etc.) on their programme service, must also possess the following additional premises:

- **editors' space** - separate working room for journalists. Broadcasters may have more than one room of this kind;
- **make up room**- a separate room, apart from the other premises, where participants in the programme can prepare before their appearance;
- **wardrobe**- a separate room, apart from the other premises, where participants in the programme can change their clothes;
- **room to accommodate technical and IT equipment** - which will accommodate the active equipment, with proper ventilation and air-conditioning, as well as, devices for uninterruptible power supply, and
- **sanitary facilities**.

## IV. 4. FINANCIAL REQUIREMENTS

### Article 34

Broadcasters are required to provide funds for the smooth performance of the broadcasting activity for which their license by the Broadcasting Council of the Republic of Macedonia was granted, which means fulfilling the obligations laid down in the current legislation in the Republic of Macedonia and the regulations adopted by the Broadcasting Council.

## V. 5. STAFF REQUIREMENTS

### V. 5.1. Number and structure of employees necessary for the performance of the activity

### Article 35

The number and structure of employees of TV stations at the state level that broadcast programmes terrestrially, depending on the format, should be:

- for the general format - at least 100 (one hundred) people, of whom 30% journalists with appropriate education and
- for the specialised format - depending on the function performed by the programme service (educational, informative or entertaining) not less than 40 (forty) persons, of whom 30% journalists with appropriate education.

The number and structure of employees of TV stations at the state level, broadcasting programme via satellite, depending on the format, should be:

- for the general format - at least sixty (60) persons, of whom 20% journalists with appropriate education and

- for the specialised format - depending on the function performed by the programme service (educational, informative or entertaining) not less than 40 (forty) persons, of whom 20% journalists with appropriate education.

The number and structure of employees of TV stations at the regional level should be at least ten (15) persons, of whom nine (9) journalists with appropriate education.

The number and structure of employees for TV stations at the local level, should be at least ten (10) persons, of whom 6 (six) journalists with appropriate education.

## **VI. FINAL PROVISIONS**

### **Article 36**

The Broadcasting Council of the Republic of Macedonia, within six (6) months from the date of adoption of this Rulebook, shall verify the compliance of broadcasters with the technical, spatial, financial and staff requirements laid down in this Rulebook.

### **Article 37**

This Rulebook shall enter into force on the day of its publication in the "Official Gazette of the Republic of Macedonia".

### **Article 38**

With the entry into force of this Rulebook, the Rulebook of the Broadcasting Council of the Republic of Macedonia on the basic technical requirements, standards and parameters for the studio segment of broadcasters, No.01-1085/1 dated 29 March 2011, published in the "Official Gazette of the Republic of Macedonia "No. 41/2011, shall cease to be valid.

**No. 01-2269/1  
18 May 2013  
Skopje**

**Broadcasting Council of RM  
President,  
PhD Zoran Trajcevski, handwritten signature**