

The Broadcasting Council of the Republic of Macedonia, based on Article 120-a, paragraph 2 of the Law on Electronic Communications ("Official Gazette of the Republic of Macedonia" No. 13/2005, 14/2007, 55/2007, 98/2008, 83/10, 13 / 12, 59/12 and 123/12), on 24 December 2012 adopted a:

P L A N
FOR ASSIGNMENT AND ALLOCATION OF THE TRANSMISSION CAPACITIES OF A DIGITAL
TERRESTRIAL MULTIPLEX

I. SCOPE

Article 1

This Plan shall determine the assignment and allocation of transmission capacities of a digital terrestrial multiplex.

Article 2

The assignment and allocation shall be performed pursuant to the Law on Broadcasting, the Law on Electronic Communications and the provisions of the final acts of the Regional Radio communication Conference on planning of the digital terrestrial broadcasting services in parts of the Regions 1 and 3, in the frequency bands 174-230 MHz and 470 - 862 MHz (hereinafter referred to as "RRC-06"), and the Regional Agreement for the implementation of the final acts of the RRC-06 of the International Telecommunication Union (ITU).

II. DEFINITIONS

Article 3

Certain terms used in this Plan shall have the following meanings:

1. **Allotment zone** is a defined geographic area in which frequencies - channels are used designated for that zone by RRC-06.
2. **Broadcasting activity at a regional level** is a broadcasting activity performed by a broadcaster that provides coverage of at least 80% of the population of the area of the zone of distribution.
3. **Simulcast period** is the period of simultaneous transmission of analogue and digital television services.
4. **Digital terrestrial multiplex (MUX)** is a standardized flow of a sequence of signals containing television, radio programme services, additional services and other supporting information and data broadcasted via a terrestrial radio channel to the end users.
5. **Digital terrestrial system** is an electronic communications network that broadcasts the content of the digital terrestrial multiplex to the end users via terrestrial radio communication.

6. **Free-to-air broadcasting** is broadcasting of unencrypted radio and television services for the public.
7. **Electronic programme guide, EPG** is a feature that allows information on the schedule of the content of television services and direct access to the content.
8. **MUX** - (*MUltipleX*) - Multiplex.
9. **MPEG** - (*Moving Picture Expert Group*) - standard for digital video compression
10. **SD** - (*Standard Definition*) - standard picture definition.
11. **HD** - (*High Definition*) - high picture definition.
12. **DVB-T** - (*Digital Video Broadcasting Terrestrial*) - terrestrial digital broadcasting.
13. **API** – (*Application Program Interface*) - an open interface.
14. **ITU** - International Telecommunication Union.

III. ASSIGNMENT OF DIGITAL TERRESTRIAL MULTIPLEXES

Article 4

MUX1, MUX2 and MUX3 multiplexes are assigned for digital retransmission of television programme services, by a conditional access.

MUX4 and MUX5 multiplexes are assigned to the PE Macedonian Broadcasting, and are intended for digital broadcasting of public programme services of the Macedonian Radio Television.

MUX6 and MUX7 multiplexes are assigned for free-to-air digital broadcasting of television programme services of the trade broadcasting companies that have obtained a license for performing a broadcasting activity by the Broadcasting Council, for the coverage of audience at state and regional level.

IV. ALLOCATION OF THE TRANSMISSION CAPACITIES OF A DIGITAL TERRESTRIAL MULTIPLEX

Article 5

The operator of a public communications network for the multiplexes MUX6 MUX7 should comply with the technical specifications of DVB-T (EN 300 744) network defined in the authorization to use radio frequencies for digital terrestrial multiplex issued by AEC and provide a network that allows coverage of over 80% of the population.

The minimum capacity of a multiplex in the DVB-T network is 22 Mbps by a multiplex in all areas of distribution.

Article 6

The transmission capacities of MUX6 and MUX7 should provide transmission of television programme services in standard definition (SDTV) and high definition (HDTV) by the standard of video compression (coding of picture and sound) ITU-T H.264 | ISO / IEC 14469 (MPEG 4 AVC)

Article 7

For the content of television services in standard definition (SDTV) the required data flow is between 1,5 - 2,5 Mbps, including the transfer of additional services.

For the content of television services with high definition (HDTV) the required data flow is between 4-8 Mbps, including the transfer of additional services.

Technical parameters for audiovisual content with standard definition (SD) and high definition (HD) are shown in Annex 1.

Article 8

Operators of digital multiplexes are required to provide an electronic programme guide (EPG) for each television programme service. Broadcasters that provide programme services are required to promptly and regularly communicate information - content for EPG.

Article 9

Operators of digital multiplexes shall ensure transfer of additional services:

- multilingual subtitling, provided by trade broadcasting companies;
- multi-channel tone, provided by trade broadcasting companies;
- teletext, provided by trade broadcasting companies;
- open Interface (API).

Article 10

The capacity of an individual MUX (22 Mbps) is sufficient for broadcasting of 10 television programme services with standard definition and 3 television programme services with high definition.

Article 11

The schedule of television programme services of trade broadcasting companies in the electronic programme guide (EPG) for MUX6 and MUX7 shall be determined by the Broadcasting Council, annually, according to data coverage and share in the ratings. Services at the state level shall be first, then the service at a level in the allotment zones, according to official data contained in the market analysis of the broadcasting activity in the previous year.

IV. ALLOTMENT ZONES AND MULTIPLEXES

Article 12

In the Republic of Macedonia, in accordance with the final acts of the RRC-06 the following has been established:

- Eight (8) zones of distribution: D1 – Crn Vrv, D2 - Stracin, D3 - Turtel, D4 - Boskija, D5 - Pelister, D6 - Mali Vlah, D7 - Stogovo and D8 – Popova Shapka and

- One (1) subzone, D9 - Vodno for the area of the City of Skopje, which is contained within zone D1-Crn Vrv.

In Annex 2 the allotment zones are provided.

- In each allotment zone and subzone there are 8 radiofrequency channels forming 8 multiplexes.

In Annex 3 the allocation of multiplexes in the allotment zones is provided.

Article 13

Programme services of trade broadcasting companies that broadcast programme with state coverage, shall be broadcasted in all zones of distribution.

Programme services of trade broadcasting companies that broadcast programme with regional coverage, including the subzone Vodno - Skopje, shall be broadcasted in the allotment for which they have obtained a broadcasting license.

V. TRANSITIONAL AND FINAL PROVISIONS

Article 14

This Plan shall enter into force on the eighth day after its publication in the “Official Gazette of the Republic of Macedonia”.

No. 01-6569/1

Broadcasting Council of RM
President,

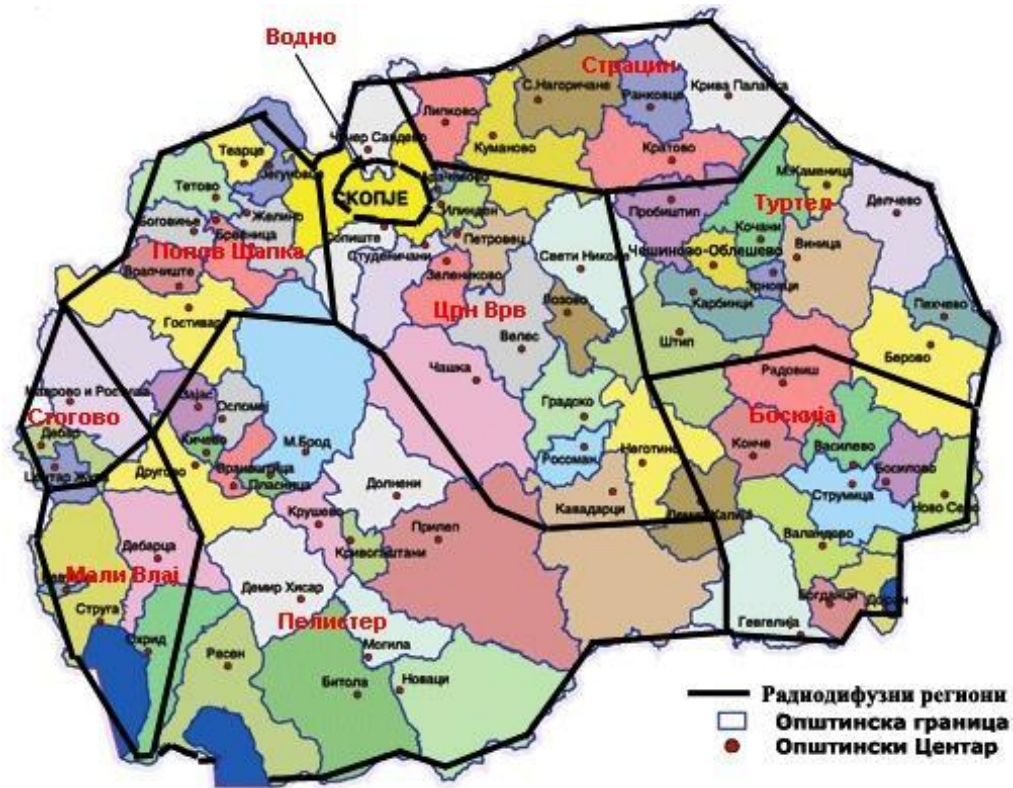
26 December 2012

MSc Zoran TRAJCEVSKI, handwritten signature

Annex 1. Technical parameters for audiovisual content with standard definition (SD) and high definition (HD):

	SD	HD (1080i)
Speed of video frame	25 Hz p (progressive) / 50 Hz i (interlaced)	25 Hz p (progressive) /50 Hz i (interlaced)
Format of picture	4:3 или 16:9	16:9
Resolution	720 x 576	1280 x 720 / 1920 x 1080
Audio sampling frequency	48 kHz	48 kHz
Data flow	Variable from 1,5 – 2,5 Mbps	Variable from 4 – 8 Mbps

Annex 2. ALLOTMENT ZONES



Broadcasting regions

Municipality border

Municipality centre

Annex 3.

ALLOCATION OF MULTIPLEXES IN THE ALLOTMENT ZONES

Mark	Name of the zone	Digi Plus Multimedia LLC Skopje			PE Macedonian Broadcasting		ONE Telecommunication Services LLC Skopje	
		MUX 1	MUX 2	MUX 3	MUX 4	MUX 5	MUX 6	MUX 7
D1	Crn Vrv	26	28	30	23	52	40	47
D2	Stracin	21	41	46	37	42	50	56
D3	Turtel	22	32	43	24	39	38	44
D4	Boskija	21	37	49	34	41	50	54
D5	Pelister	25	29	33	22	37	38	42
D6	Mali Vlaj	32	39	41	26	36	44	50
D7	Stogovo	51	57	59	28	43	21	31
D8	Popova Shapka	24	34	38	27	36	41	50
D9	Vodno							25