

INTERNATIONAL TELECOMMUNICATION UNION



Radiocommunication Bureau
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Circular letter
6/LCCE/78

11 May 2012

**To Administrations of Member States of the ITU, Radiocommunication
Sector Members, ITU-R Associates participating in the work of
Radiocommunication Study Group 6 and ITU-R Academia**

Subject: Questionnaire on spectrum requirements for terrestrial television broadcasting in connection with WRC-15 Agenda item 1.2

References: Administrative Circular CA/201

1 Consistent with the directives set forth by Administrative Circular [CA/201](#) and in accordance with the outcomes of the first session of the Conference Preparatory Meeting 15-1, ITU-R Working Party 6A seeks estimates from Member States and Sector Members of current and future spectrum requirements for terrestrial television broadcasting in Region 1 and Iran.

2 One particular question that will be addressed by the JTG 4-5-6-7 is to confirm the lower edge of the allocation to the mobile service made at WRC-12 from 694-790 MHz. As a result Working Party 6A realizes the JTG 4-5-6-7 needs to be fully informed about the implications to the broadcasting service consequential to that decision.

3 The following questionnaire, which is being sent to all Administrations and Sector Members in Region 1 and Iran, is designed to gather information on spectrum use in the band 694-790 MHz for television broadcasting.

4 Administrations and Sector Members are also invited to make more detailed inputs addressing the matter of current and future spectrum requirements for television broadcasting to the next meeting of WP 6A.

5 Administrations and Sector Members are requested to submit responses to brsgd@itu.int or rsg6@itu.int by 31 July 2012.

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At the request of the Chairman of Study Group 6 the attached questionnaire is published for consideration of the Administrations of Member States, Sector Members and Associates, as appropriate. The Radiocommunication Bureau does not make any engagement nor assume any responsibility with respect to the content of the attachment or any follow-up action as may be required.

Distribution:

- Administrations of Member States of the ITU and Radiocommunication Sector Members participating in the work of Radiocommunication Study Group 6
- ITU-R Associates participating in the work of Radiocommunication Study Group 6
- ITU-R Academia
- Chairman and Vice-Chairmen of Radiocommunication Study Group 6
- Secretary General of the ITU, Director of the Telecommunication Standardization Bureau, Director of the Telecommunication Development Bureau

QUESTIONNAIRE ON SPECTRUM REQUIREMENTS FOR TERRESTRIAL TELEVISION BROADCASTING IN CONNECTION WITH WRC-15 AGENDA ITEM 1.2

This questionnaire can be completed online at the following web page:

<https://extranet.itu.int/rsg-meetings/sg6/wp6a/Lists/DTTB%20Questionnaire/overview.aspx>

Login as: **Username:** (your TIES username)@ties.itu.int
 Password: (your TIES password)

NOTE - Electronic versions of Annexes 1, 2 & 2 can be found under QUESTIONNAIRE in the WP 6A Share Folder on the WP 6A Sharepoint site.

Name of the Administration/Sector Member:

For sector members please indicate the geographical area over which you operate:

Contact person: Lilia Yamborak, Oleksandr Kariakin

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Telephone number: +38 (044) 481 08 16, +38 (044) 481 46 90

- 1 a) What standards have you adopted for digital terrestrial television broadcasting?
- b) Have you started introduction of digital terrestrial television services?
- c) If yes, please provide further detail on the number of multiplexes in use, their technical specifications, the percentage of geographic area or population they are intended to cover and the total spectrum use to inform WP 6A.

A proposed format for detailed responses is provided in Annex 1.

Reply: please see the table below:

ANNEX 1

Suggested form of presentation of reply to Question 1: *What standards have you adopted for digital terrestrial television broadcasting? Have you started introduction of digital terrestrial television services? If yes, provide further detail on the number of multiplexes in use, their technical specifications, the percentage of geographic area or population they are intended to cover and the total spectrum use.*

A sample response is shown for guidance only.

Country	No of multiplexes	System & modulation	FEC	GI	Reception mode ¹	Capacity per multiplex (Mb/s)	Current percentage population coverage	Intended percentage population coverage	Content per multiplex	Total capacity (Mb/s)	Total spectrum bandwidth used or intended for implementation (MHz) ²	Any additional comments (e.g. duration of licences)
Ukraine	1	DVB-T2, 256-QAM	3/5	1/16	Fixed	32	95%	<95%	8 SD MPEG64	128	32	Broadcast started since September 2011
	2	DVB-T2, 256-QAM	3/5	1/16	Fixed	32	95%	<95%	8 SD MPEG64			Broadcast started since September 2011
	3	DVB-T2, 256-QAM	3/5	1/16	Fixed	32	95%	<95%	8 SD MPEG64			Broadcast started since September 2011
	5	DVB-T2, 256-QAM	3/5	1/16	Fixed	32	95%	<95%	8 SD MPEG64			Broadcast started since September 2011

¹ E.g. fixed, portable outdoor/mobile, portable indoor.

² Refer Sections 2 and 3 on page 1 of this circular.

- 2
- a) Have you commenced analogue television switch-off?
 - b) If you have any such plans, when do you expect to have completed the analogue switch-off process?

Reply:

The process of analogue television switch-off has already commenced. It is intended to have this process completed till 2015. But it shouldn't be ruled out that this process could be completed earlier. By this time a simulcast period of analogue terrestrial television broadcasting and digital terrestrial television broadcasting will exist.

- 3
- a) What is the percentage of viewer uptake of terrestrial television in your country, including those whose service provider uses terrestrial broadcast re-transmission (e.g. in cable networks)?
 - b) If possible, please also provide details of the number or proportion of users who receive television primarily by terrestrial means.

Reply:

The percentage of viewer uptake of terrestrial television in Ukraine is in the following proportion:

90% - analogue terrestrial television + cable networks

10% - satellite television

- 4 a) Indicate how many analogue television transmitters use channels in the frequency sub-band 694-790 MHz (as indicated in Resolution **232 (WRC-12)**).
- b) How many are in the remaining part of the UHF band.

Reply:

At this stage all the analogue television transmitters as well as digital television ones use channels (from 21 till 64 channels) in the frequency band 471,25 MHz-815,25 MHz.

- 5 a) What frequencies/channels are currently used or intended to be used by digital terrestrial television broadcasting in your country? Please distinguish between those in use and those intended to be used.
- b) If allotments/SFNs are in use, a sketch map of frequency allocations could be included, with an accompanying table of allocations, as shown in Annex 2. Otherwise, it might be possible to show main transmitters and channels, grouped in layers, in a table.
- c) Please indicate how many digital television assignments/allotments use channels in the frequency sub-band 694-790 MHz (as indicated in Resolution **232 (WRC-12)**, and
- d) How many are in the remaining part of the UHF band.

Reply:

There are 166 points of frequency allocation in Ukraine and in each of them there are 4 digital transmitters for each of 4 multiplexes. Every digital transmitter broadcasts in different frequencies channels that are free on a certain area.

- 6 a) Are those frequency bands also shared with other primary services?
- b) If yes, please give details of those systems and their spectrum use.

Reply:

The detailed information concerning this issue can be provided by the National Television and Radio Broadcasting Council of Ukraine.

- 7 a) Are those frequency bands also shared with secondary services such as PMSE (Programme Making and Special Events), radio astronomy or wind-profile radar?
- b) If yes, please give details of those systems and their spectrum use.

Reply:

The detailed information concerning this issue can be provided by the National Television and Radio Broadcasting Council of Ukraine.

- 8 a) Do you foresee the adoption or expansion of television services broadcast using second-generation systems such as DVB-T2?
- b) If yes, please give indicative details of the planned transition, including any simulcast period.

Reply:

Ukraine has been already using such television services broadcast system as DVB-T2.

- 9 a) Do you foresee a requirement for new and enhanced services, including HD and 3D television, on the terrestrial television platform?
- b) If yes, please give indicative details of the number and nature of services planned, and if known, the expected timeframe for their introduction.

Reply:

The technical requirements in Ukraine already exist for new services including HD television, but the broadcasting in Ukraine is mainly SD. But as far as the details of the number and nature of services planned and the expected timeframe for their introduction are concerned there is no exact answer about it yet. The more HD content appears the more chances appear to broadcast in HD.

- 10 a) Are there plans in your country to launch more multiplexes in the future?
- b) If yes, how many more and when? Please also indicate the expected timeframe for their introduction.

Reply:

At this stage there are no such plans that are officially approved by the state authorities.

- 11 a) What is the amount of spectrum you foresee that will be required for terrestrial television broadcasting, if plans in Questions 8, 9 and 10 are to be supported, and services identified in Questions 6 and 7 are to be taken into account? Please indicate the modes of transmission that will be used, and timeframes.
- If appropriate, a suggested form to express these requirements is shown in Annex 3.

Reply:

The detailed information concerning this issue can be provided by the National Television and Radio Broadcasting Council of Ukraine.