

# The transition process in relation to Wi95revCo07

**Darko Ratkaj**

*EBU Technical Department*

**The first T-DAB planning meeting – held in Wiesbaden, Germany, in 1995 – produced an allotment Plan for T-DAB and a new agreement called “Wiesbaden Special Arrangement, 1995” (Wi95). Most of the countries in Europe obtained two coverages across their whole national territories.**

**Subsequently, the need for additional T-DAB services intended to cover smaller areas was identified, which led to the second T-DAB planning meeting in Maastricht (The Netherlands) in 2002. In addition to the two coverages already available in the Wi95 Plan, each CEPT country obtained one additional coverage. The original Wi95 had to be revised and it was now called “Wiesbaden 1995 Special Arrangement, as revised in Maastricht 2002” (Wi95revMa02).**

**Following the GE06 Agreement that resulted from RRC-04 and RRC-06, the T-DAB Special Arrangement was further revised at a meeting in Constanta, Romania, in July 2007. The revised document is now called “Wiesbaden 1995 Special Arrangement, as revised in Constanta 2007” (Wi95revCo07).**

The first T-DAB planning meeting took place at Wiesbaden (Germany) in 1995, under the umbrella of CEPT. The meeting produced an allotment Plan for T-DAB and a new agreement called “Wiesbaden Special Arrangement, 1995” (**Wi95**). Most of the countries in Europe obtained two coverages across their whole national territories.

The Wi95 Special Arrangement covered several frequency bands that were at that time considered suitable for the introduction of T-DAB. However, the majority of the agreed allotments were accommodated in the frequency bands 174 - 230 MHz (also called VHF or Band III), 230 - 240 MHz (VHF channel 13) or 1452 - 1467.5 MHz (also called the 1.5 GHz band or simply “L-band”). It is Band III that we are concerned with here.

Subsequently, the need for additional T-DAB services intended to cover smaller areas was identified, which led to the second T-DAB planning meeting in Maastricht (The Netherlands) in 2002. In addition to the two coverages already available in the Wi95 Plan, each CEPT country obtained one additional coverage. New allotments were to be found only in the 1.5 GHz band where T-DAB partition was extended to the 1452 - 1479.5 MHz band (a total of 16 T-DAB blocks). Moreover, a new Maastricht Special Arrangement 2002 (**Ma02**) was established to cover all T-DAB allotments in the 1.5 GHz band, including those agreed at Wiesbaden in 1995 which were to be transferred into the new Ma02 Plan.

As a result, the original Wi95 had to be revised and it was now called “Wiesbaden 1995 Special Arrangement, as revised in Maastricht 2002” (**Wi95revMa02**).

That revision had no impact on the allotments in Band III which continued to be implemented, eventually resulting in more than 2000 T-DAB transmitters being put into operation.

## Putting the latest revision in context

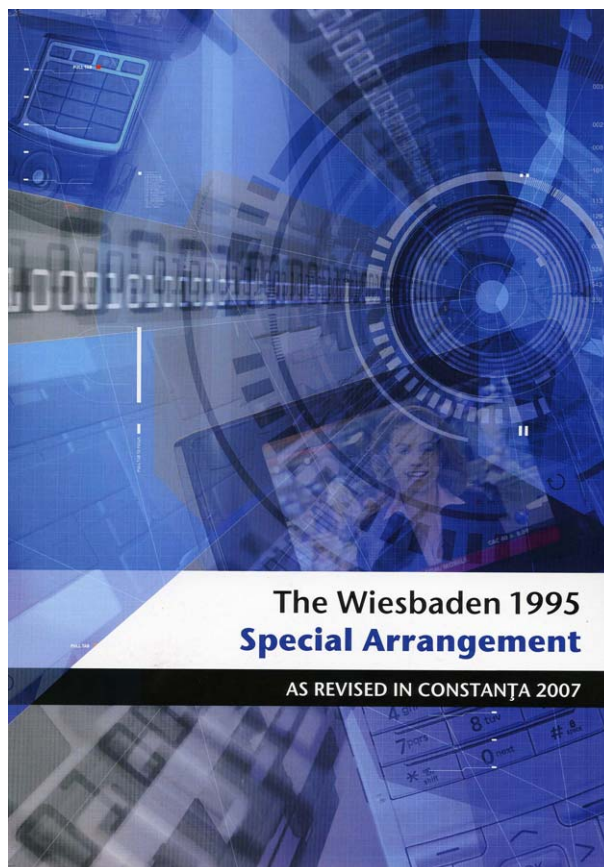
After the Maastricht meeting broadcasters and administrations turned their attention to the fast-approaching ITU Regional Radiocommunications Conference which was to take place in two sessions; the first in 2004 (RRC-04) and the second in 2006 (RRC-06).

RRC-06 produced a new GE06 Agreement <sup>1</sup> and a set of associated frequency plans. The most important was the new plan for DVB-T and T-DAB in the frequency band 174 - 230 MHz and for DVB-T in the band 470 - 862 MHz. The Conference was declared to have been a great success, in particular for European countries.

However, the Wi95revMa02 Special Arrangement was still in force, signed by more than 30 countries, all of which have also signed the new GE06 Agreement. There was an overlap between the two agreements, i.e. both covered T-DAB in the frequency band 174 - 230 MHz. Something clearly had to be done to avoid a “regulatory conflict” between the two agreements and so the Electronic Communications Committee (ECC) of the CEPT decided to abrogate the parts of Wi95revMa02 relevant to the frequency band 174 -230 MHz.

The actual meeting to revise the Special Arrangement took place on 04 July 2007 in Constanta (Romania). The revised document is now called “Wiesbaden 1995 Special Arrangement, as revised in Constanta 2007” (**Wi95revCo07**).

The Wi95revCo07 document covers the frequency bands 47 - 68 MHz, 87.5 - 108 MHz and 230 - 240 MHz, whereas T-DAB in the frequency band 174 - 230 MHz is governed only by the GE06 Agreement.



## What has been revised and how

### Abrogation of the frequency band 174 - 230 MHz

The main objective of the 2007 revision was to align the European Special Arrangement for T-DAB with the outcome of the RRC-06, i.e. the GE06 Agreement. This was achieved by removing all references to the frequency band 174 - 230 MHz from the text of the Special Arrangement. The corresponding technical information has also been removed from the relevant technical annexes.

Furthermore, T-DAB allotments in the frequency band 174 - 230 MHz have been deleted from the Wi95revCo07 Plan (Annex 1 to the Special Arrangement).

1. The ITU-R is the guardian of the GE06 Agreement (see [www.itu.int/ITU-R/terrestrial/index.html](http://www.itu.int/ITU-R/terrestrial/index.html)).

## Abbreviations

<b>CEPT</b>	Conférence Européenne des Postes et Télécommunications (European Conference of Postal and Telecommunications Administrations)	<b>DVB-T</b>	DVB - Terrestrial
<b>DAB</b>	Digital Audio Broadcasting (Eureka-147) <a href="http://www.worlddab.org/">http://www.worlddab.org/</a>	<b>ECC</b>	(CEPT) Electronic Communications Committee
<b>DVB</b>	Digital Video Broadcasting <a href="http://www.dvb.org/">http://www.dvb.org/</a>	<b>ERO</b>	European Radio Office of the CEPT
		<b>RRC</b>	(ITU) Regional Radiocommunication Conference
		<b>T-DAB</b>	Terrestrial - DAB

Finally, bilateral agreements relevant to the frequency band 174 - 230 MHz were deleted. These agreements were concluded between individual administrations at the Wiesbaden 1995 meeting and were concerned with specific implementation conditions. No presumption has been made as to whether or not administrations will want to retain some of these agreements for the transition period.

### Protection of the existing T-DAB transmissions

More than 2000 T-DAB transmitters were brought into operation over the years in accordance with Wi95 and, subsequently, Wi95revMa02. It was important to protect these transmitters, at least for a period of time, so that the transition to the new regime (e.g. GE06) can take place without disruption of services. The transition arrangements consist of several elements:

- It was decided that only those T-DAB transmitters will be protected that were formally notified to ERO<sup>2</sup> by 02 July 2007 (shortly before the revision took place). These transmitters were assumed to have been operational at the time of the revision. That cut-off date was announced several months in advance to allow sufficient time for the administrations to update their records.

- The transmitters which met the first condition were recorded in a new Annex II to the Final Acts<sup>3</sup> which was created for that purpose.

- A new Article 2 was included in the Final Acts which reads:

*“The T-DAB assignments in the frequency band 174-230 MHz recorded by 02 July 2007 in the Assignment List in accordance with Article 6 of the Wiesbaden, 1995 Special Arrangement, as revised in Maastricht 2002, as provided in Annex II, shall be protected, taking into account the relevant bilateral agreements reached at the RRC-06, until the date to be agreed by the administrations concerned but not later than 01 January 2012.”*

- The new Annex II also contains an introductory text as follows:

*“According to Article 2 of the Final Acts, these T-DAB assignments shall be protected, taking into account the relevant bilateral agreements reached at the RRC-06, until the date to be agreed by the administrations concerned but not later than 01 January 2012.”*

*“Administrations may agree bi-laterally to protect actual service areas of individual assignments or SFN. Protection of the fully implemented allotments can be based on the original allotment parameters.”*

*“The original allotments cannot be developed any further as the provisions of the Special Arrangement are withdrawn for these frequencies.”*

2. The European Radiocommunications Office (ERO) is the Plan Management Body for Wi95revCo07 (see also [www.ero.dk/tdab/wi95revco07](http://www.ero.dk/tdab/wi95revco07)).

3. The Wi95revCo07 Final Acts are an overlay document that reflects the history and the context of the Special Arrangement. Annex I to the Final Acts is the Special Arrangement itself (including five technical annexes). Annex II to the Final Acts contains a list of T-DAB assignments in the frequency band 174 - 230 MHz recorded on 02 July 2007 in the Assignment List in accordance with Article 6 of the Wi95revMa02.



**Darko Ratkaj** holds a degree in electrical engineering from the University of Zagreb, Croatia. For more than 15 years he has specialised in radio spectrum management. He worked for several years in the Croatian Ministry of Maritime Affairs, Transport and Communications, and then for eight years in the European Radiocommunications Office (ERO) in Copenhagen.

In the ERO, Mr Ratkaj's responsibilities included support for the CEPT/ECC in the area of frequency management and spectrum engineering, and in the T-DAB Plan management. He was actively involved in CEPT activities concerning the introduction of T-DAB and DVB-T. He took part in the Maastricht conference in 2002 as well as in RRC-04 and RRC-06.

In January 2008, Darko Ratkaj joined the EBU Technical Department where he now works as a member of the spectrum group.

### Portable indoor reception

The original Wi95 technical planning parameters are suitable for mobile (outdoor) reception which is not always sufficient – as more and more T-DAB networks nowadays aim at providing portable *indoor* reception. Therefore, an additional provision was included in Annex 2 of Wi95revCo07 which allows for portable indoor reception.

However, it was decided not to include any additional technical parameters for portable indoor reception. Instead, the administrations concerned shall bilaterally agree the bases to be used for co-ordination.

## Transition process

Transition provisions are necessary only for those T-DAB networks which operate in the frequency band 174 - 230 MHz and which are not in accordance with the GE06 Plan. Protection of such networks is based on the parameters of the original allotments (i.e. those allotments which existed in the Wi95revMa02 plan before the latest revision in 2007).

The revised Wi95revCo07 Special Arrangement does not contain any specific provisions for modification of the existing T-DAB transmitters as contained in the new Annex II. However, the original technical information has been retained in the relevant technical annexes (which continue to apply in the remaining frequency bands covered by the Wi95revCo07) and can be used in bi- and multi-lateral negotiations.

For the existing T-DAB assignments that are, or will be, included in the GE06 Plan, the relevant provisions of the GE06 Agreement can be used.

For the T-DAB assignments that are not in accordance with the GE06 Plan, there are several possible approaches:

- The networks can be modified / aligned with the GE06 Plan before the end of the transition period (i.e. the end of 2011); or
- The networks continue to operate without change after the end of the transition period, provided that they are either:
  - co-ordinated in accordance with the GE06 rules and included in the GE06 Plan; or
  - protected by means of bi- or multi-lateral agreements, as necessary;
- The transmission ceases not later than 01 January 2012 (the end of the transition period).