

# Global DAB+ receiver regulation

*Including European Electronic Communications Code*

## Contents

Europe.....	2
Digital terrestrial radio in the car: EEC	2
Text from the EEC	3
Background on implementation in selected European countries .....	4
Belgium .....	4
Denmark.....	4
France .....	4
Germany.....	5
Greece .....	6
Italy.....	6
Malta .....	6
Poland .....	7
United Kingdom.....	7
Montenegro .....	7
Serbia.....	8
MENA - Middle East North Africa .....	9
Thailand .....	9
Frequently asked questions .....	11
Appendix 1 - French receiver legislation .....	12
Appendix 2 - Italy receiver legislation .....	13

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## Europe

### Digital terrestrial radio in the car: EECC

The European Electronic Communications Code (EECC) entered into force on 20 December 2018, with transposition into national legislation by Member States required by 21 December 2020. The Directive applies to all EU member states regardless of the status of DAB in each country.

This means that since the end of 2020, across all EU countries, all radios in new cars must be capable of receiving and reproducing digital terrestrial radio.

The EECC rules apply to all electronics communication services in the EU. The Code has now been adopted by Member States, with the European Commission supporting the Member States in the implementation process. The Commission will publish its first review of the functioning of the Code at the end of 2025 and follow up with a report every five years.

The EECC has also now been incorporated into the European Economic Area (EEA) Agreement and the transposition is complete or underway in these additional countries. For example, Norway introduced a new Electronic Communications Act on 1 January 2025, implementing the EECC.

## Text from the EECC

The obligation applies to car entertainment/infotainment units that are intended for the reception of radio services (amongst other functions) – for example, systems that:

- include receivers for AM and/or FM transmissions; or
- are capable of reception of radio services via (mobile) IP networks.

### Article 113

Interoperability of car radio and consumer radio receivers and consumer digital television equipment

1. Member States shall ensure the interoperability of car radio receivers and consumer digital television equipment in accordance with Annex XI.

### Annex XI

INTEROPERABILITY OF CAR RADIO RECEIVERS AND CONSUMER DIGITAL TELEVISION EQUIPMENT REFERRED TO IN ARTICLE 113 1.

#### 3) Interoperability for car radio receivers

Any car radio receiver integrated in a new vehicle of category M which is made available on the market for sale or rent in the Union from ... [two years after the date of entry into force of this Directive] shall comprise a receiver capable of receiving and reproducing at least radio services provided via digital terrestrial radio broadcasting. Receivers which are in accordance with harmonised standards the references of which have been published in the Official Journal of the European Union or with parts thereof shall be considered to comply with that requirement covered by those standards or parts thereof.

## Background on implementation in selected European countries

### Belgium

According to new regulation in the Dutch-speaking part of Belgium, new passenger cars sold in Flanders are required to include digital terrestrial capabilities from 4 March 2021.

On 1<sup>st</sup> January 2023, the [following legislation](#) came into force:

In Flanders: *"Art. 209/1. All equipment intended for the reception of FM radio signals from a radio broadcaster intended and sold in Flanders must be able to receive digital radio signals. The obligation stated in the first sentence of this paragraph does not apply to radio equipment used by radio amateurs, smartphones and tablets."*

In the French-speaking part of Belgium (Walloon region/French Community): all receivers need to have a DAB+ receiver, with the exception of low-entry receivers (which do not have an alpha-numeric display). These (low entry without digital display) receivers do not need a DAB+ receiver built in.

### Denmark

In June 2020, the Danish Ministry of Climate, Energy and Supply, in charge of the implementation of the Code, published its [Draft Proposal](#) implementing parts of the EEC Code.

Under chapter 6b on "Applications of regulations", the proposed bill states the obligation for manufacturers and importers of Class M vehicles to ensure that a car radio receiver which is built into new class M vehicles, consists of a receiver that can receive and reproduce radio services broadcast via digital terrestrial radio transmission.

The public consultation period for the draft legislation ended on 11 November 2020, and the [new law](#) was passed ensuring that car radio receivers in new category M vehicles put for sale after 21 December 2020 need to be capable of receiving a digital terrestrial radio transmission.

### France

There are two separate pieces of legislation in France related to DAB+ in cars:

(1)

In December 2018 DAB+ coverage reached 21.3% of the French population, which triggered a [law](#) requiring that all radio receivers (including in-car) sold in France be compatible with the broadcasting standards listed in section V of section 19 of the law (see Appendix 1 for a summary of the legislation). The regulator - le Conseil supérieur de l'audiovisuel - notes that

DAB+ is the only authorised digital terrestrial radio standard in France. This 2018 law was amended in June 2020 to align with the EECC deadline of 20 December 2020.

(2)

In November 2020, the French parliament voted in favour of a law to transpose the EECC into French legislation. This [law](#) passed the last stage and was made official in December 2020, with the transposition of the EECC into French law officially [published](#) on 28 May 2021.

#### Other receivers

Other radios (terminals), for which the reception function of radio services broadcast is not purely incidental, and have an alphanumeric screen, must be capable of receiving digital terrestrial radio.

### Germany

In September 2019, the German federal parliament reiterated its commitment to DAB+ by passing a revision to its Telecoms Law. The law was approved and made official in November 2019.

According to the revised law, all radios in new cars should be capable of receiving digital terrestrial radio from 21<sup>st</sup> Dec 2020 – as required by the European Electronic Communications Code.

The obligation only applies to new cars, and does not apply to quads, trucks or other vehicles for goods transport.

The law also requires all new consumer radios, capable of displaying a station's name, to be able to receive digital signals (for example, DAB+ or IP) – from the same date.

The new German national legislation with explanatory text is available in English [here](#).

### Interstate Media Treaty

User interfaces have been regulated for the first time by the [Inter-state Treaty on the Media \(MStV\)](#) in § 84 MStV. The legislator created § 84 MStV with a view to the growing importance of being able to find media offers, which are becoming increasingly differentiated and made accessible via different display channels and "platforms".

Are audio systems and voice assistants in cars user interfaces within the meaning of the MStV? This question is the subject of a legal opinion commissioned by the Landesanstalt für Medien NRW (State Media Authority of North Rhine-Westphalia). The expert opinion by Prof. Dr. Ralf Müller-Terpitz is entitled "[Rechtliche Einordnung von Audiosystemen und Sprachassistenten mit dem Fokus Auto](#)" (Legal classification of audio systems and voice assistants with a focus on cars).

The conclusion of the expert opinion is that the integrated audio systems represent a user interface for linear radio reception in the car. The same applies to the manufacturer's own voice assistants, which are responsible for the navigation of the audio system. As a result, car manufacturers fall under the Interstate Media Treaty and must comply with the regulations of Section 84 MStV for linear radio reception in the integrated audio system in the future.

An example of this has been reported by the Bavarian State Centre for New Media (BLM): [“BMW reports user interface to BLM - First Bavarian car manufacturer fulfils duty to report under the State Media Treaty.”](#) The BLM notes: “the notification to the State Media Authority was preceded by discussions with the provider on the importance of the findability of broadcasting content in the car.” Other manufacturers have [since also followed](#).

## Greece

In June 2020, Greece formally started the process of implementing the EECC directive into national legislation, by publishing a draft proposal that includes the same digital radio requirements and regulations as the EECC directive (article 113 and annex XI).

The draft publication, which was open for consultation until 17 July 2020, is available [here](#).

## Italy

According to Italian regulation, [all consumer radio receivers](#), as well as automotive radio receivers in new [category M and N](#) vehicles sold by importers, wholesalers and retailers are required to be fitted with DAB+ as standard from January 2020. As for new vehicles produced before 1 January 2020 which are not currently factory fitted with DAB+, these could only be sold up to 21 December 2020. The regulation does not apply to devices where the radio function is purely accessory, for example, TV sets, PCs, laptops and tablets.

*“1044. In order to encourage technological innovation, as from 1 June 2019, apparatus for the reception of radio broadcasting reception equipment sold by manufacturers to distributors of electronic retail equipment on the national territory shall integrate at least one interface enabling the user to receive digital radio services. For the same purposes, with effect from 1 January 2020 the apparatus for the reception of radio broadcasting sold to consumers consumers in the national territory shall integrate at least one interface enabling the user to receive digital radio services.”*

## Malta

In April 2020, the Malta Communications Authority published a document on the Interoperability of Car Radio Devices to ensure compliance with the requirement of the EECC. According to the [regulation](#), any car radio receiver integrated in a new vehicle of category M which is made available on the market for sale or rent in Malta as from 21 December 2020 shall comprise a receiver capable of receiving and reproducing at least radio services provided via digital terrestrial radio broadcasting of type DAB+.

## Poland

Regulation [published by the Polish Ministry of Digital Affairs](#) on 9 November 2020 states that DAB+ is mandatory in category M new vehicles from 1 January 2021, according to the Ordinance of the Minister of Digitisation. (The mentioned Ordinance is an executive act of the Telecommunications Law and is effective from the date indicated therein.)

### *Background:*

On 4 November 2020, the Polish Ministry of Digital Affairs published an amendment to regulation that had been [published on 14 February 2020](#), clarifying the technical and performance requirements for radio equipment intended for the reception of digital radio in category M vehicles. The November amendment came into force on 1 January 2021. In particular, the ordinance clarifies the details of some functions (DL, Slide Show, Service following) and specifies the date of April 1, 2023 as the point from which these requirements became mandatory.

## United Kingdom

On 1 September 2020, the Department for Transport's new Road Vehicles (Approval) Regulations 2020 came into force. The Regulations include provisions to implement Article 113 of the European Electronic Communications Code, which covers the compulsory fitment of digital radio in passenger cars and buses that come fitted with a radio. The regulation specifies the fitment of digital terrestrial radio broadcasting, rather than IP, and allowed automotive manufacturers until 21 December 2020 to meet the requirement.

A link to the explanatory memorandum to the road vehicles (approval) regulation 2020 is available [here](#). The specific regulation on the Interoperability for car radio receivers is available [here](#).

In July 2019, The UK Department for Culture, Media and Sport (DCMS) published a [consultation](#) setting out the Government's proposed approach to implementation of the European Electronic Communications Code Directive and seeking stakeholders' views. The consultation document states that "In the longer term, we will consider extending this requirement to commercial vehicles and to mandate for the installation of digital connectivity in all domestic radios".

## Montenegro

Montenegro has taken steps to harmonise its legal framework with the European Electronic Communications Code, as part of its work to meet the requirements of the EU accession process. In October 2024, it adopted the new [Law on electronic communications](#) aligning with the acquis on Directive (EU) 2018/1972 establishing the EECC. Section 159 of the new law transposes receiver requirements.

## Serbia

In 2023, Serbia adopted the [Law on Electronic Communications: 35/2023-3](#) which broadly aligns it with the EEC. It does not yet specify what will be prescribed, stating: *“The Ministry, at the proposal of the Regulator, shall further prescribe the requirements for the interoperability of car radios.”*

[“Official Gazette of the Republic of Serbia”, issue 35 of April 29, 2023.]

### ***Interoperability of automotive and consumer radio receivers and consumer digital television equipment***

#### *Article 119.*

*Car radios and consumer digital television equipment, which are delivered to the market of the Republic of Serbia, must comply with the interoperability requirements set out in the regulation referred to in paragraph 4 of this Article.*

*Operators providing media content distribution services in the form of television broadcasting are obliged, where appropriate, to ensure the interoperability of digital television equipment they supply to end users, so that, if technically possible, digital television equipment can be reused for the provision of digital television services by other operators.*

*The operator referred to in paragraph 2 of this Article must, after termination of the contract, provide the end user with a simple procedure for returning the digital television equipment, free of charge, unless the operator proves that this equipment is fully interoperable with the services of other operators providing the service of distribution of media content in the form of television broadcasting, including a new operator providing the service of distribution of media content in the form of television broadcasting to the end user.*

*The Ministry, at the proposal of the Regulator, shall further prescribe the requirements for the interoperability of car radios and consumer digital television equipment.*

*The regulation referred to in paragraph 4 of this Article may also prescribe technical requirements for the interoperability of automotive and consumer radio receivers and consumer digital television equipment, to which the interoperability requirements referred to in paragraph 4 of this Article do not apply, as well as conditions for the transition to new standards in the field of radio broadcasting, whereby these technical requirements do not apply to products in which the radio receiver has only an auxiliary function, such as smartphones, nor to amateur radio equipment.*



## MENA - Middle East North Africa

The GCC Standardisation Organisation (GSO), a standards organisation for the member states of the Gulf Cooperation Council and Yemen, publishes a [List of GSO Technical Regulations for Motor Vehicles](#), including “Implementation of Terrestrial Radio Receiver Specifications for AM/FM/TDAB+”.

For Model Year 2025, this document notes requirements in the following countries:

**1) UAE:** *Must comply with UAE.S 5021: 2018: Terrestrial Radio Receiver Specifications.*

**2) Bahrain:** *If the vehicle is provided with AM/FM/T-DAB+, Must comply with GSO 2693:2022, SASO 2938:2019 or UAE.S 5021: 2018.*

**3) Saudi Arabia:** *Must comply with SASO 2938:2019: Technical specifications of the radio, digital and analog broadcasting receiver for (AM/FM/T- DAB+).*

Additionally, Saudi Arabia has legislation since January 2021 mandating DAB+ in all home receivers, portable devices, and vehicles.

## Thailand

On 31 October 2024, Thailand's National Broadcasting and Telecommunications Commission (NBTC) introduced a new [NBTC Standard for Digital Broadcasting Radio Receivers \(DAB\)](#). The newly established NBTC BS 3004-2567 introduces conformity requirements for digital receivers to improve product quality and ensure compatibility with Thailand's broadcasting standards. The implementation timeline for the new NBTC Standard is as follows:

- For digital broadcasting radio receivers installed in new vehicles: Effective October 31, 2025 (1 year after the announcement date).
- For other digital broadcasting radio receivers: Effective February 28, 2025 (120 days from the announcement date).

Below is an English translation summary supplied by NBTC.

## Factsheet

### Thailand – DAB+ Receiver Regulation

#### Overview

Thailand's National Broadcasting and Telecommunications Commission (NBTC) has issued technical standards for digital radio receivers under the Digital Audio Broadcasting (DAB+) system. This regulation ensures alignment with international standards and technological advancements, benefiting both consumers and the broadcasting industry.

#### Legislation Status

Published in the Royal Thai Government Gazette on October 31, 2024. The regulation is issued under the authority of Section 27 (10) and Section 27 (24) of the 2010 Act on Organization for Allocation of Spectrum and Supervision of Broadcasting, Television and Telecommunication Businesses.

#### Implementation Timeline

- Effective 120 days after publication: General receiver standards.
- Effective 1 year after publication: Standards for digital receivers in new vehicles.

#### Scope

Applies to all digital radio receivers using MPEG-4 HE-AAC v2 (DAB+ Audio), categorized as:

- Automotive Receivers
- Domestic and Portable Receivers
- Adaptors for Analogue In-Vehicle Receivers

#### Key Technical Requirements

- All receiver types must support DAB+.
- Automotive and Domestic receivers must support FM; AM support is required for Automotive and optional for Domestic receivers.
- Must display Thai script per ETSI TS 101 756.
- Automotive and Domestic receivers must decode dynamic labels (X-PAD).
- Receivers must support Thai Service Information decoding (UTF-16 and UTF-8).

#### Safety and Compliance

- Must comply with IEC 62368-1 or equivalent safety standard.
- Supplier's Declaration of Conformity (SDoC) is required as per NBTC regulations.

#### Additional Requirements

- User manual must be provided in Thai and/or English.
- Remote control (if any) must include batteries.
- Antenna (if any) must support digital broadcast frequency range.

#### Appendix: AM/FM Specifications

AM: 526.5–1606.5 kHz, Modulation A3, 9 kHz spacing

FM: 87.5–108 MHz, Modulation F3, 250 kHz spacing

## Frequently asked questions

### 1. What does it mean by the wording 'car radio receiver' – does this mean mobile chip or other parts of the infotainment system?

It's not just a chip – it's the whole radio – i.e. the device which receives and reproduces radio services. This may be part of an infotainment system. In short, if a car has an FM radio, this device will also need to be able to receive and reproduce digital terrestrial signals.

### 2. Is there a definition of 'digital terrestrial broadcasting'? Does it specifically mention the DAB+ bands anywhere?

"Digital terrestrial broadcasting" is digital broadcasting via terrestrial transmitters – as opposed to via the internet or 3G / 4G.

The Code refers to "harmonised standards the references of which have been published in the Official Journal of the European Union (OJEU)". Two such standards are listed: DAB (Digital Audio Broadcasting, which includes DAB+) and DRM (Digital Radio Mondiale). A full list of harmonised standards can be found here:

[https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018XC0914\(06\)&rid=1](https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52018XC0914(06)&rid=1)

DAB+ is widely deployed across Europe with extensive coverage and multiple services available. DRM is not widely deployed in Europe.

Other examples of digital terrestrial broadcasting include:

- IBOC (In-Band On-Channel) also known as HD Radio
- ISDB-TSB (Integrated Services Digital Broadcasting-Terrestrial Sound Broadcasting)

Neither of these is in the OJEU list.

### 3. What does 2020 mean? Does this mean all cars on the line in 2019 but sold in 2020 direct from the deal or does that mean all cars coming off the line in 2019?

Member States have two years from 20 December 2018 to transpose the EEC into national legislation. Accordingly, radios in cars which are made available on the market (i.e. to consumers or companies) from 21 December 2020 should be capable of receiving and reproducing digital terrestrial radio.

### 4. Do you have a technical definition of DAB?

A technical definition is provided here:

[https://www.etsi.org/deliver/etsi\\_en/300400\\_300499/300401/02.01.01\\_60/en\\_300401v02\\_0101p.pdf](https://www.etsi.org/deliver/etsi_en/300400_300499/300401/02.01.01_60/en_300401v02_0101p.pdf)

### 5. Is L band required for DAB / DAB+ receivers?

No.

## Appendix 1 - French receiver legislation

Law No. 2007-309 dated 5 March 2007 on the modernisation of audiovisual broadcasting and the television of the future

Article 19, chapter IV and V.

Links:

<https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000248397>

[https://www.legifrance.gouv.fr/eli/loi/2011/5/17/2011-525/jo/article\\_143](https://www.legifrance.gouv.fr/eli/loi/2011/5/17/2011-525/jo/article_143)

Amended by Law No. 2011-525 of 17 May 2011 – Article No. 143

V. Within a period of three months from the digital terrestrial broadcasting of radio services over the air to at least 20% of the French population, when they are sold by a business to a private individual, new terminals dedicated mainly to reception of radio services and capable of displaying multimedia content, except terminals which form part of the equipment of motor vehicles, shall allow reception of terrestrial radio services over the air in digital mode in the frequency bands referred to in paragraph 4 of Section II of Article 29-1 of Law No. 86-1067 of 30 September 1986 on freedom of communication.

Within a period of twelve months from the digital terrestrial broadcasting of radio services over the air to at least 20% of the French population, this obligation shall apply to all new terminals dedicated mainly to reception of radio services and capable of displaying multimedia content, except terminals forming part of the equipment of motor vehicles.

Within a period of eighteen months from the terrestrial broadcasting of radio services over the air in digital mode to at least 20% of the French population, this obligation shall apply to all new terminals dedicated to reception of radio services.

Once the broadcasting of digital terrestrial radio services over the air reaches a level of coverage corresponding to 20% of the French population, the Higher Audiovisual Council will render this information public.

## Appendix 2 - Italy receiver legislation

Law dated 27 December 2017, n. 205, article 1, paragraph 1044

State budget for the 2018 financial year and the multi-year budget for the three-year period 2018-2020.

<http://www.gazzettaufficiale.it/eli/id/2017/12/29/17G00222/sq>.

1044. In order to promote technological innovation, starting from 1 June 2019 the devices for receiving radiobroadcasting sold by manufacturers to retail electronic equipment distributors in the national territory shall integrate at least an interface that allows the user to receive digital radio services. For the same purpose, starting from 1 January 2020, the equipment to receive radiobroadcasting sold to consumers in the national territory shall integrate at least an interface allowing the user to receive digital radio services.

### Amendment / clarification by MISE

Published by DAB Italia ([www.dab.it](http://www.dab.it))

The law applies to devices including but not limited to the following:

- Fixed radio receivers
- Portable radio receivers;
- Radio receivers for mobile vehicles
- User terminal for mobile telephony equipped with radio receiver
- Multimedia player equipped with radio receivers

### Timeline summary

- Law enters into force - 17 December 2017
- Application to products sold to distributors – 1 Jul 2019
- Application to products sold to consumers – 1 Jan 2020
- 24 months from law published until sale of analogue radios to end