



Mercedes-Benz

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Shri Deepak Sharma

Advisor,
Telecom Regulatory Authority of India (TRAI)

Subject: Mercedes-Benz views | Consultation paper on formulating a Digital Radio Broadcast Policy for private Radio broadcasters

Respected Sir

Greetings from Mercedes-Benz India!

Mercedes-Benz appreciates the opportunity to provide our comments on the consultation paper as a stakeholder, and we extend our kindest regards to the Telecom Regulatory Authority of India.

Mercedes-Benz India Pvt. Ltd (MB India), a wholly owned subsidiary of German Auto maker Mercedes-Benz Group AG (MBGAG) (formerly known as Daimler AG), was established in 1994 at Pune, Maharashtra. We are the First luxury vehicle manufacturer to start manufacturing in India and have completed more than 30 years of its operations in India. The Manufacturing facility of MB India is spread over 100 acres at Pune, Maharashtra. Till date Mercedes-Benz Group AG has invested more than Rs. 3000 crores in MB India. MB India currently manufactures more than 10 vehicle models domestically and imports a few completely built up (CBU) vehicles. MB India has also set up an ecosystem of local system suppliers supporting the Government's vision of "Make in India."

Mercedes-Benz globally has a rich history in broadcast reception, with the first car radio being available in a Mercedes vehicle in 1949. Our dedicated teams continuously develop broadcast radio technologies, striving to deliver the best customer experience in broadcast reception. To date, Mercedes Benz has sold millions of cars globally equipped with digital radio, offering standards such as DAB/DAB+, HD Radio, Sirius XM, and DRM, in addition to the traditional analog AM and FM standards. Mercedes-Benz maintains a close relationship with standardization organizations, technology solution providers, and device manufacturers, and are long-standing members of the WorldDAB organization.

In view of the above, our colleagues in the Research & Development department at our headquarters in Germany, with their extensive experience, are pleased to share valuable insights as part of this consultation, with the aim of supporting the success of digital radio in India.

We hope that the expertise of our colleagues at our headquarters will offer valuable insights to support the development of an informed and effective policy on Digital Radio Broadcasting for private broadcasters.

Your Sincerely,

For, Mercedes-Benz India Pvt Ltd.

Dr. Shyam Sunder
Head- External Affairs

Nikhil Desai
Manager-Incharge, External Affairs

Annexure – Mercedes-Benz suggestions/ recommendation on the consultation paper on formulating a Digital Radio Broadcast Policy for private Radio broadcasters.

Annexure

Mercedes-Benz suggestions/ recommendation on the consultation paper on formulating a Digital Radio Broadcast Policy for private Radio broadcasters.

Q1. Do you agree that single digital radio technology adoption is preferable for entire country? If not, support your reply with justification.

Yes, adopting a single digital radio technology is preferable for several commercial and technological reasons.

Historically, the introduction of new digital radio technologies has faced a cyclical dilemma: without content, audiences are hesitant to adopt the new technology, and without an audience, content providers are reluctant to invest in it. Overcoming this requires a strong mandate to ensure clarity and commitment from both sides. This has been evident in Europe with the introduction of several broadcasting standards, such as DAB/DAB+, which took 30 years to gain widespread acceptance due to initial hesitance. Another example is DVB-T, which only succeeded due to a dedicated mandate and government-enforced analog switch-off.

In our opinion, establishing clear boundaries for a mature and widely available digital radio broadcasting standard is essential to shorten the transition period and avoid commercial failure.

From a technological perspective, defining a single standard is also advantageous. Current technological solutions on the market typically support only one digital radio standard at a time. While solutions that support multiple standards exist, they are less common and involve higher complexity and costs. These additional costs would ultimately be passed on to the end user, negatively impacting market penetration.

Currently, receiver implementations for digital radio broadcast standards such as DAB+ and HD Radio are well-supported and widely available. Receivers for DRM30 are less common. Implementations for DRM+, ISDB-TSB, and CDR exist but are not readily available for the automotive market. No commercially available implementation is known for RAVIS.

In summary, a single digital radio technology adoption is crucial to ensure commercial success and technological feasibility, benefiting both the industry and consumers.

Q2. In case a single digital radio broadcast technology is to be adopted for the entire country, which technology should be adopted for digital radio broadcasting? Please give your suggestions with detailed justification.

To enable wide acceptance of a digital technology, it is essential to choose a widely available and proven standard. This benefits both the customer and broadcaster sides.

For customers, widely available and well-supported solutions enable economies of scale, ensuring lower prices. Since cost is often the primary barrier to acceptance, this factor is crucial. Additionally, mature solutions reduce customer frustration associated with immature technologies.

For broadcasters, widely available solutions offer similar benefits. Economies of scale provide a wide range of products to choose from, lowering investment costs. A widely adopted standard ensures better support, more robust equipment, and mature solutions, which in turn reduce ongoing maintenance costs.

The existing used device market for available solutions may also be of interest in cost-sensitive applications.

In our experience, the most mature solutions, with millions of receivers sold and thousands of broadcasting stations equipped, are:

- DAB+
- HD Radio

Each technology has its advantages and disadvantages.

DAB+ is primarily designed for broadcasts in the VHF Band III, requiring dedicated frequency ranges and regulations, as well as specific broadcasting and reception facilities. This could be a disadvantage in markets accustomed to AM/FM reception and does not align perfectly with the consultation's focus on VHF Band II. However, DAB+ offers high efficiency and performance in a single-frequency network (SFN). It is optimal for delivering a set of high-quality radio stations to a regional area with multiple broadcasting stations working together in an SFN. The operation of a syndicated SFN network is technologically demanding, making it suitable where content and network operations are managed by a single entity or a dedicated broadcasting service provider. DAB+/FM multicast is crucial during the transition period and is well-supported in our vehicles.

HD Radio is designed for broadcasts in VHF Band II and the MF AM band, providing hybrid digital and analog broadcasts from a single facility. It is ideal for transitioning markets, allowing broadcasters to offer digital and analog radio without relying on third-party services. This technology enables broadcasters to maintain their existing audience while offering additional digital services. HD Radio allows broadcasters to continue using most of their existing equipment, reducing costs and environmental impact. Supported by iBiquity, HD Radio ensures quality standards through receiver certification, improving customer experience and minimizing early adopter frustrations.

Considering the advantages and disadvantages of these technologies, and acknowledging the consultation's focus on VHF Band II, we recommend favoring HD Radio as the single digital radio broadcast technology.

Q3. In case multiple digital broadcasting technologies are to be adopted, please specify whether it should be left to the market forces to decide the appropriate technologies and what could be the potential problems due to adoption of multiple technologies? Please suggest probable solutions to the problems, with detailed justification.

Selecting a single digital radio standard is vital for the automotive industry for several reasons. Firstly, it ensures compatibility and interoperability across different vehicle models and locations. This uniformity allows consumers to expect their digital radios to function seamlessly, regardless of where they drive.

Secondly, a single standard reduces product complexity and costs. Supporting multiple digital radio standards simultaneously requires additional resources, such as processing power, memory, or dedicated integrated circuits, which increases product costs. It may also force end users to choose the appropriate digital radio standard based on their location and available radio stations. Given that automotive receivers are inherently mobile, customers might need to switch between standards frequently, leading to frustration and reduced adoption. Additionally, requiring customer interaction poses a risk of distractions, potentially causing additional road hazards.

By concentrating on a single radio standard for the market, the car manufacturers can streamline their production processes by focusing on one technology, achieving economies of scale. This reduction in complexity not only lowers production costs but also minimizes the potential for errors and defects, resulting in more reliable products. Moreover, it enhances the consumer experience. Drivers and passengers benefit from a consistent and reliable digital radio experience, without worrying about compatibility issues when traveling across different regions or switching between car brands.

Finally, adopting a single standard fosters innovation and futureproofing. With a unified approach, the automotive industry can concentrate its research and development efforts on enhancing and evolving the technology. This collective focus can lead to more advanced features, better integration with other in-car technologies, and a more robust digital radio ecosystem.

In summary, selecting a single digital radio standard is essential for the automotive industry to ensure compatibility, reduce costs, enhance the consumer experience, simplify regulatory compliance, and foster innovation. This unified approach will ultimately benefit manufacturers, consumers, and the broader broadcasting ecosystem.