

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)
)
Technological Advisory Council) ET Docket 13-249
Recommendation for Improving)
Receiver Performance)

To: The Commission

COMMENTS OF DIGITAL RADIO MONDIALE:

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Chairman, DRM Consortium

[Digital Radio Mondiale](#) (DRM) hereby submits comments in response to the Federal Communications Commission (FCC) **MM Docket No. ET 13-249** (Docket) with regard to the - Revitalization of the AM Radio Service. DRM is supportive of the changes to its rules that are intended to provide greater flexibility for and regulatory relief to AM broadcasters.

Digital Radio Mondiale (DRM) is the newest and the only global system of the main digital sound broadcasting standards. The [DRM standard is the only platform which covers all the world's radio broadcast bands](#) (LF, MF and HF (DRM30) and the VHF bands I, II and III (DRM+).

We would like the FCC to consider the possibility of accepting standards (other than HD Radio™) that are offering a good service. DRM is particularly effective and efficient in the AM bands ensuring stable coverage, interference free reception with excellent sound quality and extra multimedia services.

The DRM standard mode for replacing analogue sound broadcasting in the frequency bands below 30 MHz, now [called DRM30, is included in Annex 1 of Recommendation ITU-R BS.1514](#), the evaluation criteria of which confirm that DRM is the only digital sound broadcasting system recommended for use in all the sound broadcasting bands below 30 MHz. In particular, the DRM30 system can provide additional data services (like the Emergency Warning feature, data carriage, EPG etc.), either to supplement the program content or for completely independent purposes as required by Recommendation [ITU-R BS.1348](#).

Following the large-scale rollout of DRM in AM in India (This is the largest MW revitalization program in the world that will ensure that 70% of this vast country of 1.2 billion people is or will shortly be covered by a DRM signal) means that DRM capable receivers (produced in India already) will be in large scale production in India, which is taking the lead in this. Cars are already presenting line-fit receivers and the audio quality, as was tested and recently demonstrated in New Delhi in February 2016, is stable, interference-free and excellent sound.

There are clear advantages in replacing the analogue AM services in the medium wavebands with digital sound broadcasting systems. A particular attractive consideration is being able to achieve subjective audio quality close to that of FM. Another is that DRM offers up to three audio channels and one data on one single frequency, along with more stable reception over long distances. The experience with DRM30 implementations to date is that there are also major savings in transmission power and electricity costs – down to up to 80% of conventional AM transmitter requirements.

AM in general and AM stations (irrespective of class) are so much part of the American landscape offering unique services to urban and rural areas of the US that their preservation and enhancement through DRM is perhaps an idea whose time has finally come.

Considering DRM for AM is not such a big issue as current infrastructure can be used and upgraded (some of the key suppliers of DRM equipment are mainly based in the US or Canada, anyway). This would give them a boost but also impact the wider broadcast industry. It would also allow receiver manufacturers in the US to use the multi-standard chips already available which could accelerate the digitization of radio and increase revenue through the sale of multi-standard, global receivers to more than one market. Today the receiver manufacturers far prefer to sell a universal receiver with global application rather than building sets for individual markets. One of the issues facing all digital radio platforms is the cost of receivers compared to standard analog units. Adding DRM would greatly increase the scale of manufacturing, reducing consumer costs at the same time.

While we recognize that the US has selected HD Radio technology for its standard, other systems are in wide use in other parts of the world. We respectfully request that the FCC consider the universality which could be created by multi-standard receivers.

As mentioned DRM offers the opportunity to use one single frequency and deliver up to 3 clear channels with demonstrable spectrum efficiency not delivered by any other standard operating in this waveband. So better use of spectrum used to better effect by bringing listeners reception with greater reliability and of much higher quality plus rich multimedia for all in-home, portable and in-car uses.

DRM has thus the potential to bring to every listener not just good quality audio but also a vast selection of additional rich media content. The supplementary digital data streams available within the DRM standards can be used to provide a variety of added value services, accessible through a link to a personal computer or a self-contained display device. Through DRM the listener's experience is more akin to what he/she is used in the current media environment.

Several types of additional content are possible, singly or in combination and include:

- a) Additional audio/visual/text content provided under a public service remit or on revenue producing basis like: dedicated news streams or emergency broadcasts in time of crisis, natural disasters, extreme weather; government or public sector announcements or service information; - customer specific information services (e.g., stock/commodity/currency market information).
- b) Additional visual/text based programme related features possible with DRM include- web pages and links to the programme content; Journaline® text based information

service (Unicode), supporting all classes of receivers, triggers interactivity and geo-awareness access additional content for advertisers, such as text or web-based material for supplementing the voice advert with more details on the products, local suppliers, pricing, ordering etc.; integrated text, graphics, web-pages, videos & slide shows with audio commentary;

- c) Additional audio based programme related features possible with DRM include stereo/surround sound/surround sound 5.1, dual or multi language programme streams translating the main programme feed or for providing an alternative programme feed.

Digital sound broadcasting is opening the door for improved or completely new broadcasting applications.

The extension of the AM band is an excellent opportunity for some lateral thinking and approach as the DRM family of standards can provide a comprehensive solution to all digital sound broadcasting needs. Its main advantage is that it can be tailored to suit the requirements of any type of sound broadcasting from wide-coverage, national and international stations to small, local, and university or community stations.

For a long while there was the hope that one particular standard will be adopted worldwide. Has not the time come to adopt the technological platform or platforms that is best suited rather than go for one solution alone? The first to recognize the multi-standard possibilities of digital broadcasting were the chipset manufacturers who have managed to produce multi-standard chips to be activated and used as each market demands.

In short, we support the extension of the AM band and urge FCC to examine the possibility of allowing the best digital AM system, DRM, to help revitalise this band. FCC could thus also encourage the production of the universal receiver and realize practically, at receiver level, the “utopian” aspiration of establishing one single digital audio broadcasting standard for the US and the global market.

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