

Digital Radio Mondiale

Global Country Update

Countries broadcasting and planning to roll out DRM



INDIA

- The rollout of DRM in the AM bands for regular domestic broadcasts by the Indian public broadcaster All India Radio (AIR) is ongoing. Currently 35 high power DRM medium wave and 3 DRM shortwave transmitters are installed throughout the country. Out of these, 5 DRM medium wave transmitters are operating in pure DRM mode round the clock. The remaining 30 DRM medium wave transmitters are operating in simulcast mode, with one hour in pure DRM
- Over 900 million people in India can receive DRM broadcasts when all these 35 DRM medium wave transmitters work in pure DRM mode. 6 more high power medium wave transmitters are carrying test transmission of DRM. These are also likely to start regular DRM services soon
- There are over 4.2 million cars fitted with DRM receivers already on the roads in India. Major car brands using DRM for their infotainment systems are: Maruti Suzuki, Hyundai, Toyota, MG Motors, and lately Mercedes Benz
- On the request of the public broadcaster AIR, the DRM Consortium conducted a DRM for FM test in India at Delhi and Jaipur in March 2021. Full features of DRM in pure DRM (single DRM block with up to 4 services – 3 audio and 1 multimedia), also simulcast (analogue FM and up to 4 DRM blocks), multi-DRM (up to 6 DRM blocks) and DRM in white spaces (up to 5 DRM blocks in the white space of 600 kHz between 2 analogue FM stations) were successfully demonstrated during those tests
- In parallel to the measurements carried out by the public broadcaster, the DRM Consortium also had taken its own measurements. These measurements had shown excellent results. Based on these measurements, the Consortium has prepared a report which can be found at: <https://s.drm.org/8wBg>





PAKISTAN

- The public broadcaster, Pakistan Broadcasting Corporation (PBC), has approved DRM as the radio standard for use in all frequency bands (AM and FM) in January 2020
- PBC has a three-phase digitisation plan (with the required budget), which is now with the government for final approval
- Approval was given for the acquisition of a 1000 KW DRM medium wave transmitter. This is being considered for installation in Islamabad
- After successfully testing DRM for FM from the PBC HQs some years back, the broadcaster acquired a 5kW DRM FM transmitter (GatesAir) to be installed in Lahore. Another 5kW DRM FM transmitter is planned for Islamabad
- All new transmitters will broadcast in analogue first and, once final Government approval has been granted, they will start transmitting in DRM, too



INDONESIA

- The public broadcaster, Radio Republik Indonesia (RRI), has carried out several successful demonstrations with DRM in both the AM and FM bands over the last few years and they are now ITU reference documents*
- RRI have purchased five DRM FM transmitters installed in strategic locations and used also for broadcasting emergency warnings, a key feature of the DRM standard (Emergency Warning Functionality – EWF). Transmissions started in 2020
- RRI is also planning to install five DRM mediumwave and one shortwave transmitter in key locations (ring of fire) in the country



CHINA

- The country has installed and uses seven DRM shortwave transmitters for domestic coverage (aimed for the large populous region of eastern China primarily but also for the rest of the country)





RUSSIA

- DRM was endorsed for both the AM and FM bands. Successful demonstrations took place in Siberia for AM previously and in St. Petersburg (for FM) in the period 2019 – 2021. The tests proved DRM created no interference and a larger than expected coverage, exceeding all calculations, (especially during the St Petersburg FM demonstration). Please see the report here: <https://s.drm.org/BbKM>
- Test transmissions continue to be carried out in the eastern part of Russia with DRM in AM (SW and MW)



BRAZIL

- Brazil has carried out successful DRM high-power and low-power demonstrations in both AM and FM bands over the last few years.
- EBC, the public broadcaster, has tendered for a 100kW shortwave transmitter recently and awarded the contract to a local transmitter manufacturer. The broadcaster wishes to transmit in both analogue and DRM (simulcast) towards the large Amazonian basin in the north of the country



SOUTH AFRICA

- DRM was demonstrated in both the AM as well as in the FM bands over several years, proving that the standard works well and without interferences to analogue broadcasts in a very crowded spectrum like that of Johannesburg. These reports are now ITU reference documents
- The SA government has chosen both DRM and DAB+ as solutions for the radio digitisation. The double-headed solution is called Digital Sound Broadcasting (DSB). DSB Services Regulations were issued by the South African Regulator (ICASA) in April 2021
- A DSB technical advisory group (DTAG) will be created to advise the regulator on technical matters relating to the roll out of DSB services with a two-phase timeline (first the established broadcasters and then the newcomers). The DRM South Africa Group (local DRM Platform) has requested representation on DTAG





GERMANY

- The country has demonstrated extensively the features and benefits of DRM in all frequency bands. Currently DRM is being used by the German Navy for distribution of data to ships navigating around the world
- Lower power shortwave DRM broadcasts from two transmission sites are planned to be on air shortly



ROMANIA

- Radio Romania International (RRI) is one of the most active international broadcasters using DRM in shortwave with an extensive DRM schedule in several languages, being often listened to and commented on in countries as far apart as India, United States and Brazil



KUWAIT

- Radio Kuwait has regular DRM broadcasts in shortwave with target area the Middle East



NEW ZEALAND

- The country uses DRM for also rebroadcasting to the Pacific Islands

Countries considering the adoption of DRM

SOUTHERN AFRICA

- The Southern African Development Community (SADC), representing sixteen African countries, in conjunction with the Communications Regulators' Association of Southern Africa (CRASA), representing their thirteen states, have also recommended DRM and DAB+ for their sixteen member countries

NORTH AND CENTRAL AFRICA

- In North Africa, Algeria is making progress with the DRM roll-out

- Nigeria – Voice of Nigeria (VoN) has SW DRM capability and is known to broadcast towards Europe with reception even in North America
- Central African countries like Chad, Mauritania, Congo etc. have also shown interest in adopting DRM for their domestic and international broadcasts and intend to upgrade their infrastructure to achieve this



USA

- DRM was used during a successful test by the US Coast Guard for data transmissions in the Arctic region
- DRM in shortwave for broadcasts to Latin America has been available from North Carolina



AUSTRALIA

- Stakeholders in Australia are exploring DRM for full coverage of its territory

Other countries with interest in DRM

EUROPE



HUNGARY

- Antenna Hungaria, the local network provider, has installed one DRM capable medium wave transmitter with a power of two megawatt
- DRM in shortwave with very low power transmissions was demonstrated in Hungary and were able to cover the capital Budapest and be picked up even in the Netherlands



DENMARK

- The country is planning to demonstrate the use of DRM in the FM band soon



MIDDLE EAST

- Some countries in the region have shown interest in the standard with no formal decision yet and contacts with the Arab States Broadcasting Union (ASBU) are continuing
- In Saudi Arabia the **Saudi Broadcasting Corporation** has adopted the DRM digital standard for MW and SW

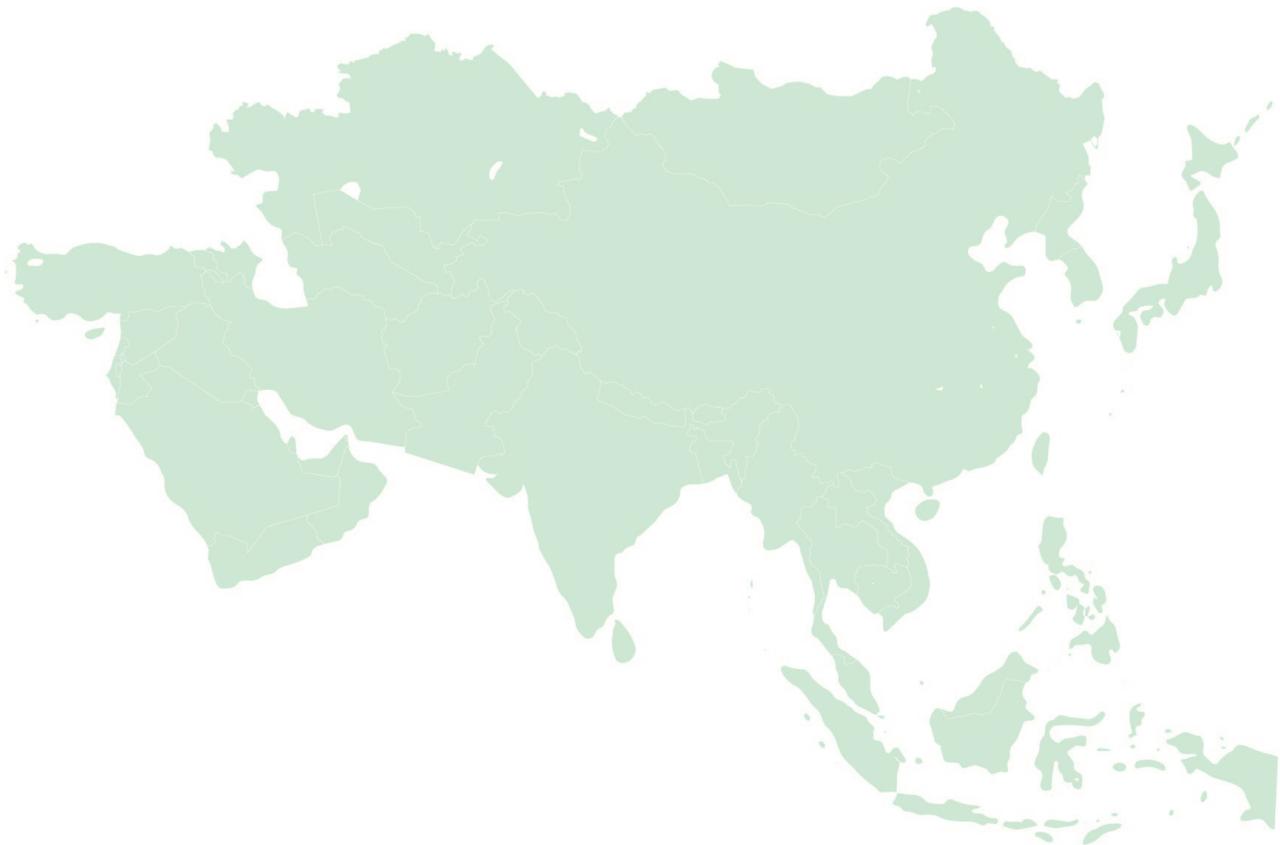
ASIA

MALAYSIA

- The country has been showing interest in DRM, as the stakeholders have found it possibly the most suitable radio digital standard for future country-wide deployment

NEPAL, BANGLADESH, VIETNAM, THAILAND

- These countries have shown interest in adopting DRM. However, there is no formal decision towards its roll-out, even though some have equipment either ready for DRM or ready to be upgraded to DRM broadcasting

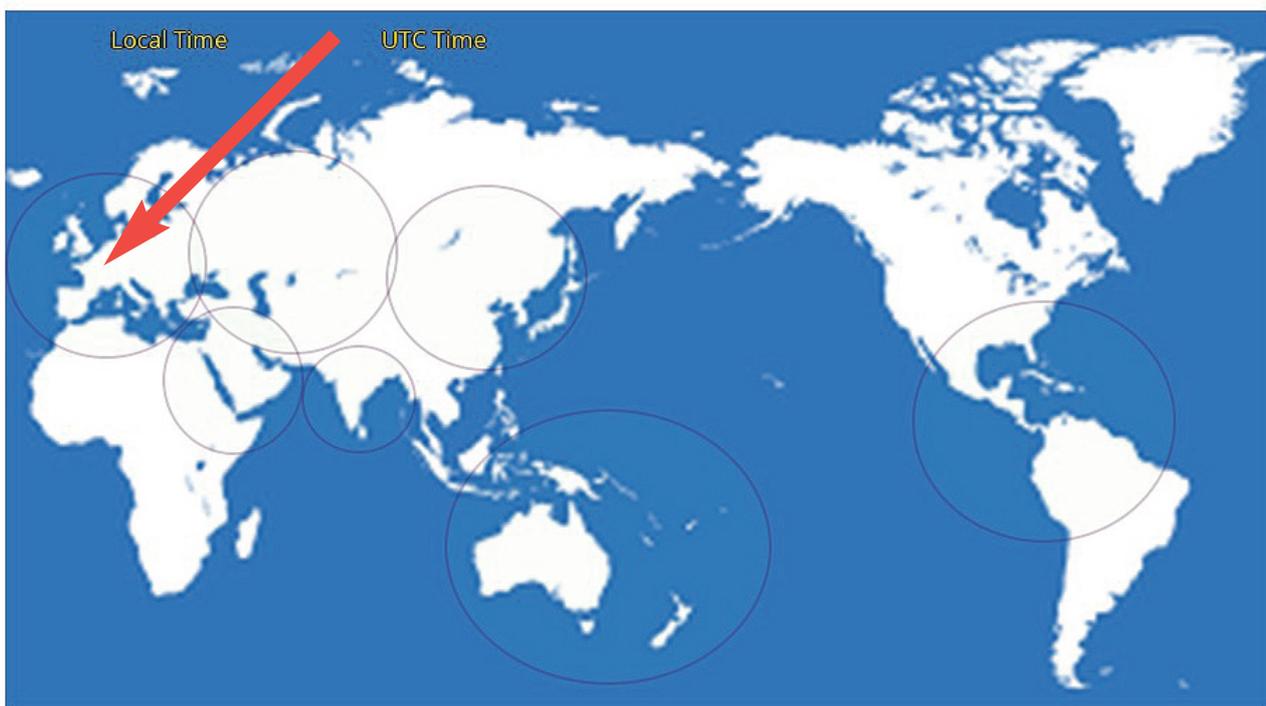


Additional information

I. Countries using the DRM standard for shortwave broadcasts

Broadcasters around the world using the DRM standard in shortwave are listed on the DRM website under the heading **'Broadcast Schedules'**: <https://schedule.drm.org/>

The DRM Consortium has developed an online tool to quickly find DRM shortwave broadcasters, their transmission times and target areas. This tool is accessible for both DRM members and non-members and is illustrated in the following picture



To use the map and the broadcast information, simply click on the circles which cover world regions where transmissions occur and where broadcasts are received.

After clicking those circles, the details of shortwave broadcasts to that region will appear in a list below the map, highlighted in **green**.

NOTE: The DRM Consortium is grateful for all the information received from broadcasters around the world which use our standard for their regular broadcasts, be they domestic or international. We can only mention and list those DRM transmissions if we are made aware of them by their broadcasters around the world

We therefore urge any broadcaster (member or non-member) using the DRM standard to let our Project Office know that they transmit in DRM. Please contact us at projectoffice@drm.org

I. DRM field trials and demonstrations

Extensive DRM tests have been conducted throughout the world over the last years using the DRM system.

The results confirm that the DRM standard (both in the AM and VHF/FM bands) performs according to the specifications and that it can be rolled out to meet a wide range of broadcasters' requirements and in all types of environments.

Please visit our DRM website where all these trials and demonstrations are listed:
<https://s.drm.org/drm-field-trials>

For more information on the DRM standard and its global reach, please visit our website
www.drm.org

November 2021