



RTM-WORLDDMB-ABU DAB+ TECHNOLOGY WORKSHOP AND TRANSMISSION DEMONSTRATION

28 Feb - 4 Mar 2014, Kuala Lumpur

This event, "RTM-WorldDMB-ABU DAB+ Technology Workshop and Transmission Demonstration", will showcase the DAB+ standard and its transmission technology demonstrating its features and efficiency improvements compared to analogue FM broadcast. The event comprises a 2-day technology workshop followed by a 1-day transmission trial and field measurement exercise in and around the city of Kuala Lumpur and half day session of the test result. The workshop will provide the participants with up to date information on implementation of DAB+ technology, its enhancements and its planning and digital radio implementation aspects. The project aims to equip the participants with expertise in the area of digital radio broadcasting helping them in carrying out similar implementations in their own countries.

PROGRAMME

Time	Topic	Speaker
DAY-1: 28 Feb (Friday)		
0830-0900Hrs Registration open (<i>in front of Dewan Cendekiawan of IPPTAR Hall in RTM</i>)		
Opening Session		
0900 – 1010Hrs	Welcome remarks	Dato' Abu Bakar, RTM
	Introduction, opening remarks and objectives	Zulkifli Raham, RTM
	Overview of Regulation and Planning in Malaysia	MCMC-Malaysia
	Asia Pacific Overview	Dr Amal Punchihewa, ABU
Session 1: DAB+ Digital Radio Overview and Services		
1010 – 1030Hrs	How Malaysian broadcasters will benefit from DAB+ digital radio	Kath Brown, CRA
<i>Coffee/Tea break</i>		
1130 – 1230Hrs	Overview of DAB+ Digital Radio – capabilities and functionality	Dr Les Sabel, WorldDMB Technical Committee
	Personal Receivers – types, features and trends	Kath Brown, CRA or Industry speaker TBC
	Automotive Receivers – types, features and which vehicle manufacturers support DAB+	Kath Brown, CRA

	Automotive Best Practice	Wilson Ng, CRA
<i>Extended lunch break</i>		
1500 – 1630Hrs	<p>Examples of new services and platforms</p> <p>Smartphones and Hybrid Radio Apps – Opportunities for Malaysian broadcasters</p> <p>Why DAB+ makes radio environmentally friendly</p>	<p>Kath Brown, CRA</p> <p>Industry speaker, TBC</p> <p>Dr Les Sabel, WorldDMB TC /Industry speaker</p>
<i>Coffee/Tea break</i>		
1645 – 1730Hrs	<p>RTM Kuala Lumpur DAB+ Trial System description</p> <p>Field Testing Exercise</p> <ul style="list-style-type: none"> • What will be demonstrated and measured • How and why • Where 	<p>Zulkifli Rahim, RTM</p> <p>Wilson Ng, CRA</p>
	Closing remarks	Zulkifli Rahim, RTM
- End of Day 1 -		
DAY-2: 1 March (Saturday)		
Session 2: Infrastructure System Planning		
0900 - 1015Hrs	<p>Additional remarks and objectives</p> <p>Engineering aspects of regulation</p> <p>Structure of DAB+ broadcasting , Part 1: Head end system – Services and Structure</p> <ul style="list-style-type: none"> • Multiplexing and stream structure • PAD types and inclusion in ETI stream • Data services • Signalling • Delay systems 	<p>Zulkifli Rahim, RTM</p> <p>MCMC</p> <p>Dr Les Sabel, WorldDMB Technical Committee</p>
<i>Coffee/Tea break</i>		
1030 – 1230Hrs	<p>Structure of DAB+ broadcasting , Part 2: Transmission</p> <ul style="list-style-type: none"> • ETI / EDI • Modulation • Transmitters and Repeaters • Antenna systems 	<p>Dr Les Sabel, WorldDMB TC /Industry speaker TBC</p>
	PAD generation methods and hybrid operation overview	Wilson Ng, CRA
	Payout Systems and PAD Server	Industry Speaker

	RF planning Part 1: Coverage <ul style="list-style-type: none"> • Planning tools • Single Frequency Networks • Multi Frequency Networks • Network design • Coverage modelling 	Dr Les Sabel, WorldDMB TC /Industry speaker
<i>Lunch break</i>		
1315 - 1500Hrs	RF planning Part 1: Coverage - continued RF Planning continued, Part 2: Interference <ul style="list-style-type: none"> • Co-Channel – DAB+ to DAB+ • Adjacent Channel <ul style="list-style-type: none"> o DAB+ to DAB+ o DTV Network Planning <ul style="list-style-type: none"> • Network types • Multiplexer / head-end location options • Connectivity options • Cost benefit analysis • System construction options 	Dr Les Sabel, WorldDMB TC /Industry speaker Dr Les Sabel, WorldDMB TC /Industry speaker TBC Dr Les Sabel (WorldDMB TC)
<i>Coffee/Tea break</i>		
1515 - 1645Hrs	System construction phase <ul style="list-style-type: none"> • System design and documentation • Tendering • Construction planning • Project management • Commissioning Operations and Maintenance <ul style="list-style-type: none"> • Network Management systems • System monitoring • Maintenance programs • Operations management • On-going activities and financial control Field Testing Exercise <ul style="list-style-type: none"> • What will be demonstrated and measured • How and why • Where 	Dr Les Sabel, WorldDMB TC /Industry speaker TBC Dr Les Sabel, WorldDMB TC Wilson Ng, CRA
	General Questions and closing remarks	Zulkifli Rahim, RTM
- End of Day 2 -		
DAY-3: 2 March (Sunday)		
Session 3: Field Measurement		

0900 - 1700Hrs	Field testing activities From RTM site to main transmitter or different OCRs 4 – 6 field trips of approximate 1.5 hrs each	Assumes one vehicle with 5 passengers plus the demonstrator in rear, driver in front
- End of Day 3 -		
DAY-4: 4 March (Tuesday)		
Session 2: DAB+ Results and Discussion		
0900 - 1030Hrs	Presentation of field testing results Questions and Answers	Dr Les Sabel, WorldDMB TC Panel session chaired by Dr Amal Punchihewa (ABU)
<i>Coffee/Tea break</i>		
1100 – 1230Hrs	Next steps to move forward <ul style="list-style-type: none"> • Regulation • Collaboration and commercialisation • Rollout timing, geography and cost Next Steps for Malaysia WorldDMB Closing Remarks	Kath Brown (CRA) Panel session chaired by Zulkifli Rahim (RTM) WorldDMB
	General Questions and closing remarks	Zulkifli Rahim (RTM) / Dato' Abu Bakar
<i>Lunch</i>		
- End of Day 4 -		

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