

# WorldDAB Automotive 2018

*Where car makers and radio  
broadcasters meet*

15 May 2018  
Munich, Germany

#worlddabauto

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# Welcome to WorldDAB Automotive 2018

Dear colleagues,

Welcome to WorldDAB's annual automotive event – in Munich for the second year in succession.

In this year's event we have three core themes:

1. The importance of fitting digital radio in new cars
2. Improvements to the user interface
3. Improvements to the in-car audio experience



In the last 12 months DAB has made significant progress – particularly in automotive with all major markets increasing the proportion of new cars fitted with digital radio. This reflects a growing recognition amongst car makers that DAB is the core future platform for radio in Europe.

It's not just new cars we need to consider, with millions of vehicles on the road in Europe without DAB. As the first countries switch off FM, it is essential that motorists can get reliable and easy-to-fit adapters and today we will be hearing on work in this area.

As we increase the number of cars with digital radio, it is essential that the listening experience goes above and beyond driver expectations. WorldDAB has taskforces within its Automotive Working Group to provide guidance to OEMs about user interfaces and in-car audio performance. I am pleased to report that these are seeing active engagement from the automotive industry and today we will hear speakers talk in-depth about these issues.

We will also be hearing about the latest developments in hybrid radio. Whilst DAB is positioned as the core broadcast platform for in-car listening, we want to explore how the user experience can be enhanced through IP and voice control.

The close collaboration between the radio and automotive industries has already produced impressive results. We need to continue to work together in order for radio to maintain its place in the dashboard.

I hope you all enjoy the day.

Best wishes

A handwritten signature in black ink that reads "Patrick Hannon". The signature is written in a cursive, flowing style.

Patrick Hannon,  
President, WorldDAB



# „Mein Hörsaal für unterwegs.“

Linn Merle Jördens, Studentin

**Unabhängig. Unverzichtbar.**  
Für 50 Cent Ihres Rundfunkbeitrags.





# PROGRAMME AT A GLANCE

08:30	09:00	Registration
<b>SESSION 1: DAB+ digital radio – the core platform for radio in Europe</b>		
09:00	09:15	DAB+ the platform for Europe
09:15	09:30	DAB+ in Germany
09:30	09:45	DAB+ in France
09:45	09:55	Consistent marketing to consumers and stakeholders
<b>SESSION 2: Digital radio – key markets focus</b>		
09:55	10:25	Panel discussion – major European DAB+ markets
10:25	10:55	COFFEE
<b>SESSION 3: Digital radio and the user experience</b>		
10:55	11:10	WorldDAB guidelines on the digital radio user experience
11:10	11:20	The traffic and travel user experience
11:20	11:30	The user experience – United Kingdom research
11:30	11:45	Discussion
11:45	13:00	LUNCH
<b>SESSION 4: Digital radio and the connected car</b>		
13:00	13:15	Connected solutions and infotainment strategies in the car industry
13:15	13:30	Voice controls and the impact of smart speakers
13:30	14:00	Panel discussion
<b>SESSION 5: Digital radio in the dashboard</b>		
14:00	14:30	Panel discussion – the future of radio in the digital dashboard
14:30	15:00	COFFEE
<b>SESSION 6: Digital radio performance – technical focus</b>		
15:00	15:10	Overview of Radio Equipment Directive
15:10	15:20	WorldDAB research – antenna placement/type and receiver sensitivity
15:20	15:30	Signal coverage and working with the auto sector to get it right
15:30	15:40	Panel discussion
<b>SESSION 7: The aftermarket and the role of dealerships</b>		
15:40	15:50	Insights from the UK 'Go Digital' car conversion pilot
15:50	16:00	DSO lessons learned from Norway on converting cars
		Closing remarks
16:00	17:00	Networking drinks – sponsored by Xperi

# WorldDAB Automotive 2018

08:30 REGISTRATION

09:00 - 09:55

SESSION 1

## DAB+ digital radio – the core platform for radio in Europe

**Session chair:** Patrick Hannon, President, WorldDAB

More and more countries across Europe are actively digitising radio and progress is enhanced by the level of political support for digital radio, both at the national and European levels. This session looks at how DAB+ is establishing itself as the future core platform for radio in Europe, and collaboration on marketing DAB+.

### DAB+ the core platform for Europe

Patrick Hannon, President, WorldDAB and Vice President Corporate Development, Frontier Silicon

### DAB+ in Germany

Martin Wagner, Chairman of the ARD Radio Commission and Director of Radio, Bayerischer Rundfunk

### DAB+ in France

François-Xavier Bergot, Deputy Head of Radio Directorate, Conseil Supérieur de l'Audiovisuel (CSA)

### Consistent marketing to consumers and stakeholders

Jacqueline Bierhorst, Project Director, Digital Radio NL and Vice President, WorldDAB



**Patrick Hannon**  
WorldDAB and  
Frontier Silicon



**Jacqueline Bierhorst**  
Digital Radio NL and  
WorldDAB



**Martin Wagner**  
ARD Radio Commission  
and Bayerischer Rundfunk



**François-Xavier Bergot**  
Conseil Supérieur de  
l'Audiovisuel (CSA)

## Digital radio – key markets panel discussion

**Session chair:** Jacqueline Bierhorst, Project Director, Digital Radio NL and Vice President, WorldDAB

European markets are at different stages in the adoption of DAB+. This panel discussion will cover key headlines on the number of new cars with digital radio, increased road coverage, new stations on air for drivers and the marketing campaigns to promote listening to DAB+ in the car.

### Panel speakers

#### Norway and the digital revolution, the first six months without FM

Ole Jørgen Tormark, Digital Radio Norway

#### Italy and mandatory digital radio in all receivers by 2020

Eugenio LaTeana, RTL 102.5, EuroDAB Italia

#### UK to hit 50% listening and the DSO discussion

Laurence Harrison, WorldDAB Automotive Working Group, Digital Radio UK

#### France and the continued rollout of digital radio nationwide

Jean-Marc Dubreuil, WorldDAB France

#### Switzerland's digital switchover plan

René Wehrin, OFCOM Switzerland



**Ole Jørgen Tormark**  
Digital Radio Norway



**Eugenio LaTeana**  
RTL 102.5, EuroDAB  
Italia



**René Wehrin**  
OFCOM Switzerland



**Jean-Marc Dubreuil**  
WorldDAB France



**Laurence Harrison**  
WorldDAB Automotive  
Working Group, Digital  
Radio UK

# An update from the WorldDAB Automotive Working Group



**Laurence Harrison**, Digital Radio UK and Chair, WorldDAB Automotive Working Group

Drivers love radio, to the extent that 82% of people in the UK wouldn't buy a car without it – so we need to make sure that the next generation of radio delivers the best possible experience to drivers. With this in mind, the last 12 months have perhaps been the busiest and most productive in the history of the WorldDAB Automotive Working Group, with several outputs that have already had a significant impact with automotive OEMs and broadcasters.

This time last year we were faced with a challenge - everyone had strong opinions about what constitutes the best user experience, but there wasn't clear evidence available to support them. At the 2017 WorldDAB Automotive Event we announced the first results of our consumer research and these have since been used to develop a set of digital radio UX guidelines for both broadcasters and OEMs.

Launched in February, the guidelines give clarity to both sides of the industry, ensuring the driver has the best experience with digital radio. The design guidelines are based on seven consumer use-cases, ensuring they reflect the actual experience of consumers.

We have also been working closely with RadioDNS, EBU and other industry groups on developing guidelines for automotive manufacturers and broadcasters. They outline best practice for broadcasters with services

on DAB+ and FM to supply and update brand logos, and guidance to automotive manufacturers for downloading and display of these logos. Feedback from industry suggests the guidelines, based on open standards, have provided much needed clarity.

Meanwhile, a task force focused specifically on the impact of antennas and other factors on receiver performance has been collating and analysing research before sharing the findings in meetings with broadcasters and major car manufacturers, continuing the collaborative efforts to improve performance of DAB+ in vehicles.

The response from the car manufacturers we have visited so far has been exceptional and has led to even greater collaboration between the two sectors. We are working hard to ensure the issues put forward by the car industry are on the agenda for the Automotive Group going forward to ensure the best possible digital radio experience for the driver.

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“ One upcoming area of focus is the creation of drive test routes in several European countries. These will allow for the real-world testing of in-car digital radio

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One upcoming area of focus is the creation of drive test routes in several European countries. These will allow for the real-world testing of in-car digital radio and will be supported in each country by relevant stakeholders from the Performance Group.

In the conference today, I'll be summarising our work in the last year, outlining the next areas of focus and how both the broadcast and automotive industries can work together to deliver the best possible experience to drivers around the world. Our work in this area is a long-term commitment to collaboration with broadcasters and car manufacturers on great digital radio UX design. My thanks to all of those who have helped and contributed to the work of the Group and its Task Forces.

## Research conclusions

- 1 A RADIO button is essential
- 2 An A-Z station list is the best search UX
- 3 Presets should be easy to set
- 4 Terminology must be easier to understand
- 5 Drivers expect a great, simple UX



# DAB/DAB+

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## DAB/DAB+ SOLUTIONS

We offer DAB/DAB+ modules for such car brands as:  
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### JRDAB-01 MOST OPTICAL SYSTEM

- Track the selected radio station while driving (service following)
- Controlled directly from the factory panel of the AUDI MMI
- Compatible with factory car antenna
- Possibility software update
- Plug & Play installation

### JRDAB-02 CAN BUS SYSTEM

- Track the selected radio station while driving (service following)
- Controlled directly from the factory radio panel
- Works on MDI/AMI platform
- Possibility software update
- Plug & Play installation



## CONTACT US:

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## WATCH US ON:



## ABOUT US:

JUNA Electronics is a company with over 20 years of experience specializing in the design and manufacture of electronic devices mainly for the automotive industry. During production, we use such technologies as MOST™, CAN bus, DAB/DAB+, USB, Bluetooth and others.



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18 NATIONAL PROGRAMMES

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NEW CARS WITH DAB+ A GOAL TO SERVING ALL  
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2018 INCREASING INDOOR COVERAGE



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dedicated to music genres, service information,  
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album and song title information.

## Digital radio and the user experience

**Session chair:** Roger Lancot, Director Automotive Connected Mobility, Strategy Analytics

The experience of using digital radio in the car must offer the driver more, but continue to offer a user experience which adheres to the simplicity which drivers have come to expect. This session looks at how the auto and broadcast industries are working together to ensure digital radio remains easy to use and distraction free.

### WorldDAB guidelines on the digital radio user experience

Laurence Harrison, Chair of WorldDAB Automotive Working Group, and Market Development Director, Digital Radio UK

### The traffic and travel user experience

Andrew Nash, Automotive Director, Mediamobile

### The user experience – United Kingdom research

Lindsey Mack, Senior Manager Digital Radio, BBC

### Panel discussion



**Roger Lancot**  
Strategy Analytics



**Lindsey Mack**  
BBC



**Laurence Harrison**  
WorldDAB Automotive  
Working Group, Digital  
Radio UK



**Andrew Nash**  
Mediamobile

11:45 - 13:00 LUNCH



# WorldDAB General Assembly 2018

6 – 7 November 2018  
Berlin, Germany

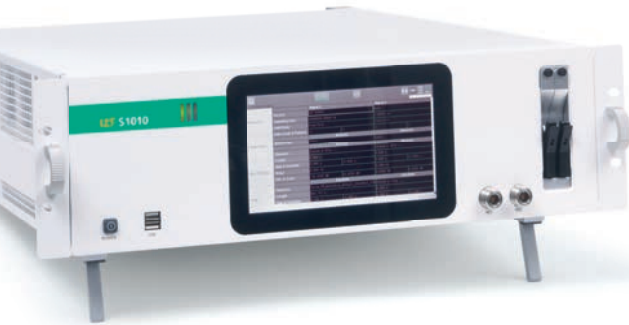
**Conference:** Maritim proArte Berlin

**Gala Dinner:** Käfer Dachgarten – the Reichstag

Register now at  
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# Solutions for DAB Testing and Head-end installations



## RF Recording and Signal Generation

- High-performance RF receivers
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- Powerful impairments

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- Suited for virtualization in IT data centers
- Developer Edition for receiver testing



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# BR

## DAB+

More radio. Less ordinary.

## Digital radio and the connected car

**Session chair:** Nick Piggott, Project Director, RadioDNS

The connected car offers new listening opportunities for drivers, but what are they listening to and how are they connecting? What does the non-broadcast connection mean for the broadcaster and what is the impact of voice control for the auto maker and the broadcaster?

### Connected solutions and infotainment strategies in the car industry

Roger Lancot, Associate Director, Global Automotive Practice, Strategy Analytics

### Voice controls and the impact of smart speakers

Michael Hill, Managing Director, Radioplayer Worldwide

### Panel discussion



**Michael Hill**  
Radioplayer Worldwide



**Nick Piggott**  
RadioDNS



**Roger Lancot**  
Strategy Analytics

## Digital radio in the dashboard

**Session chair:** Caroline Grazé, Managing Director, Radioplayer Deutschland

This session considers the competition digital radio faces today and in the future. Will radio be designed out of the dashboard? Could the future see radio as no longer part of the listening experience in the car?

### Panel speakers:

Joe D'Angelo, Xperi  
 Thomas Glassenhart, JATO Dynamics  
 Christian Winter, AUDI AG  
 Carsten Zorger, Digitalradio Büro Deutschland  
 Ben Poor, European Broadcasting Union



**Caroline Grazé**  
Radioplayer Deutschland



**Thomas Glassenhart**  
JATO Dynamics



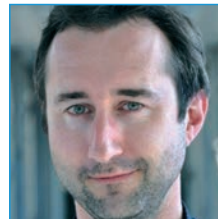
**Christian Winter**  
AUDI AG



**Joe D'Angelo**  
Xperi



**Carsten Zorger**  
Digitalradio Büro  
Deutschland



**Ben Poor**  
European Broadcasting  
Union

# DAB-XPlorer – DABRF

## DAB test receiver with integrated modulator

- ▶ Test receiver and modulator rolled into one
- ▶ RF recording with 1.6 MHz bandwidth
- ▶ Can be combined with software components of the DAB-XPlorer family
- ▶ COFDM modulator for simultaneous generation of up to four DAB blocks
- ▶ GPS receiver integrated
- ▶ Gigabit Ethernet interface



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## Digital radio performance - technical focus

**Session chair:** Lindsay Cornell, Chairman, WorldDAB Technical Committee

Listening to the radio in the car needs to give the driver an audio experience similar to that in the home, which presents a myriad of unique engineering challenges. The way to overcome these challenges is for broadcasters and automotive manufacturers to work together. This session looks at the work being carried out on receivers, antennas and coverage to ensure the driver hears his or her favourite station.

### Overview of Radio Equipment Directive

Lindsay Cornell, Chairman, WorldDAB Technical Committee

### WorldDAB research - Antenna placement/type and receiver sensitivity

Ron Schiffelers, Senior Director Program Management, NXP

### Signal coverage and working with the auto sector to get it right

Hanns Wolter, Technical Director, DAB Italia

### Panel discussion



**Hanns Wolter**  
DAB Italia



**Lindsay Cornell**  
WorldDAB



**Ron Schiffelers**  
NXP

## The aftermarket and the role of dealerships

**Session chair:** Sophie Spooner, PR Manager, Pure

While more and more vehicles now come with DAB+ as standard, aftermarket products are still an important part of the digital radio ecosystem and working with the driver remains a key area of focus. This session looks at initiatives in the UK and Norway to ensure aftermarket products are installed correctly, and how consumer trends are affecting the development of these devices.

### Insights from the UK 'Go Digital' car conversion pilot

Sam Bonham, Digital Radio UK

### DSO lessons learned from Norway on converting cars already on the road

Michel Gascoin, NRK

Jørn Jensen, NRK

**CLOSING REMARKS:** Patrick Hannon, President, WorldDAB



**Sophie Spooner**  
Pure



**Michel Gascoin**  
NRK



**Jørn Jensen**  
NRK



**Sam Bonham**  
Digital Radio UK

16:00 - 17:00 NETWORKING DRINKS

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- And also:** ETI player&recorder, multiple multiplexers with multiple RF outputs

Test all DAB features in one box with live RF output!

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/// Test multiplexer with TPEG Inserter and DAB/DAB+ Encoders

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/// DAB RF Monitoring Receiver

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**bmt** is a competence center for the realisation of projects within the scope of digital broadcasting. For years bmt has been active in the specification and implementation of TPEG (Transport Protocol Expert Group) services. This includes both consulting services and products like TPEG ON AIR, TPEG Analyser, TPEG Editor and TPEG Library.

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As a qualified and experienced partner of the industry, **ADMESS** offers signal generators and test tools for DAB+/T-DMB and various digital and analogue standards, wideband RF recording/playback solutions, audio analysers, oscilloscopes and general purpose tests and measuring instruments for R&D, QC and manufacturing tests.

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**AVT** is a manufacturer of DAB system components such as audio encoders, multiplexers, redundancy switches, ETI/EDI converters and monitoring decoders. Thanks to many years of project experience, AVT offers small-scale solutions up to complete and redundant DAB head-ends.

Together with the DAB specialist IB-Mulka, the tunnel break-in system MAGIC-TBR and the DABRF test receiver with integrated modulator were developed as a first cooperation between both German companies.

[www.avt-nbg.de](http://www.avt-nbg.de) [www.ib-mulka.de](http://www.ib-mulka.de)



**Bayerischer Rundfunk (BR)** is Bavaria’s public broadcasting service with around 8m viewers and listeners per day throughout Germany. With 10 radio and two television stations, two internationally renowned symphony orchestras, a celebrated chorus and approximately five thousand professionals, BR is one of Europe’s most respected broadcast institutions. BR operates broadcast centres in Munich and Nuremberg and over twenty regional offices throughout Bavaria.

[www.br.de](http://www.br.de)



**DIGIDIA** provides complete end-to-end DAB transmission and receiving chain for broadcast and test applications. Products include multiplexers and content servers (on IPC or virtual platforms), EDI/ETI IP gateways, monitoring equipment (RF and EDI/ETI), professional receivers and tunnel break-in products. DIGIDIA leads the way with straightforward design for innovative, compact and flexible products.

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**Factum Radioscape** is featuring the OBSERVA Field Monitor at WorldDAB Automotive 2018. The OBSERVA Field Monitor, the world's most comprehensive DAB+ monitoring tool, is utilised in over 15 countries by broadcasters, transmission networks and the automotive industry. Factum Radioscape's market leading DAB+ broadcast system, ENMUXA, is demonstrated live at this event.

[www.factumradioscape.com](http://www.factumradioscape.com)



**in2digi Ltd**, a UK company formed in 2010, provides aftermarket DAB/DAB+ solutions within the premier automotive sector targeted, primarily, toward Mercedes Benz and Jaguar Land Rover vehicles. The product portfolio provides an end to end digital domain design experience with full infotainment system integration and DAB service following.

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**IRT** is a worldwide renowned neutral research and competence centre for audio-visual technologies. Involved from the very beginning, IRT supports broadcasters, device manufacturers and the automobile industry with operational issues and the standardisation of DAB+. IRT presents DAB EDI Archiver, DAB Scout.3 at this event.

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**Innovationszentrum für Telekommunikationstechnik GmbH IZT**

provides equipment for signal generation, receivers for signal monitoring and recording, broadcast systems and channel simulators. The portfolio includes solutions for DAB head-ends. IZT's signal generators and RF receivers are powerful tools for the analysis of broadcast signals and for the development radio receivers.

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**JVCKENWOOD Corporation** operates three business sectors, Automotive, Public Services and Media Services with a focus on its superior technologies in imaging, sound and radio technologies. The Automotive sector centers on car navigation systems and car audio systems with Consumer Business and OEM Business divisions.

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**Mediamobile** is trusted by over 30 car brands, our V-Traffic service is a European leader for automotive services. Now introducing Radiobridge© - an innovative hybrid radio solution that allows drivers to enjoy metadata content, extended coverage and new listening modes like Pause and Replay for both broadcast and internet radio.  
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Sahaga is the owner of the **POP** brand, presenting the widest range of DAB+ radios in Norway. We offer in-car solutions, personal protection equipment with DAB+ and radios for in the home and on the move. Sahaga is looking for partners all over Europe for launches in 2018.  
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For more than 80 years, **Rohde & Schwarz** has stood for quality, precision and innovation in all fields of wireless communications. Rohde & Schwarz is among the technology and market leaders in all of its business fields, including wireless communications, EMC and TV test and measurement.  
[www.rohde-schwarz.com](http://www.rohde-schwarz.com)



**Sony Corporation** is a leading manufacturer of audio, video, imaging, game, communications, key device and information technology products for the consumer and professional markets. With its music, pictures, computer entertainment and online businesses, Sony is uniquely positioned to be the leading electronics and entertainment company in the world. [www.sony.net](http://www.sony.net)



**TT Micro** is a Norwegian company that was founded in 2001 and is today one of Scandinavia's leading suppliers of mobile accessories and DAB. We started early with the development of DAB radios and adapters, and our brands Pinell and Tiny Audio are today leading brands in the Norwegian market.  
[www.tinyaudio.com](http://www.tinyaudio.com)

Our thanks to bmt for their assistance as local event partners

Join the only global industry forum bringing the broadcast and automotive industries together

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WorldDAB is the global industry forum responsible for defining and promoting DAB digital radio. By bringing together radio industry professionals, WorldDAB provides knowledge and expertise that helps countries successfully adopt and implement broadcast digital radio.



MINISTRIES OF  
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# How WorldDAB works with the automotive sector

## Automotive Working Group

The WorldDAB Automotive Working Group works closely with the auto sector on optimising the user-experience, antenna and receiver performance for in-car digital radio.



## Market Insights

Our regular newsletters, reports, infographics and analysis share best practice on the installation and implementation of in-car digital radio, data on DAB updates, services on air and aftermarket trends.



## Collaboration

We host and facilitate events and workshops that bring the automotive and broadcast industries together, to help ensure radio remains prominent in the car dashboard.





## Driving antenna technology forwards



An AM/FM/DAB antenna with a short 23 cm mast and shallow mounting depth. Can used to replace an existing whip antenna.

This active antenna gives outstanding reception, delivering a clear crisp sound.



A high performance sleek active AM/FM/DAB sharkfin antenna with fully optimised digital radio reception. A series of separate seal adapters are available for use with new Mercedes and VW/Audi vehicles. \*NEW version 3785.01 has just been released with added GPS receiver.



Our classic "matchbox" 15 dB DAB gain amplifier/splitter for use with passive antenna.

This unit needs a separate 12 volt supply, the output side of the amplifier will supply this voltage to the cable centre core.



Active radio splitter designed for use with existing rod antenna. A simple and cost effective splitter for legacy vehicles upgrading to digital radio. For simple installation the splitter is available with a range of connectors.



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