

DRM+ in VHF Band III

 Hirschmann Car Communication

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Business Units

Antenna Systems	TV Systems
<ul style="list-style-type: none">• Integrated antenna systems• Roof antennas and rod antennas	<ul style="list-style-type: none">• Hybrid• Digital
	

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Antenna Systems



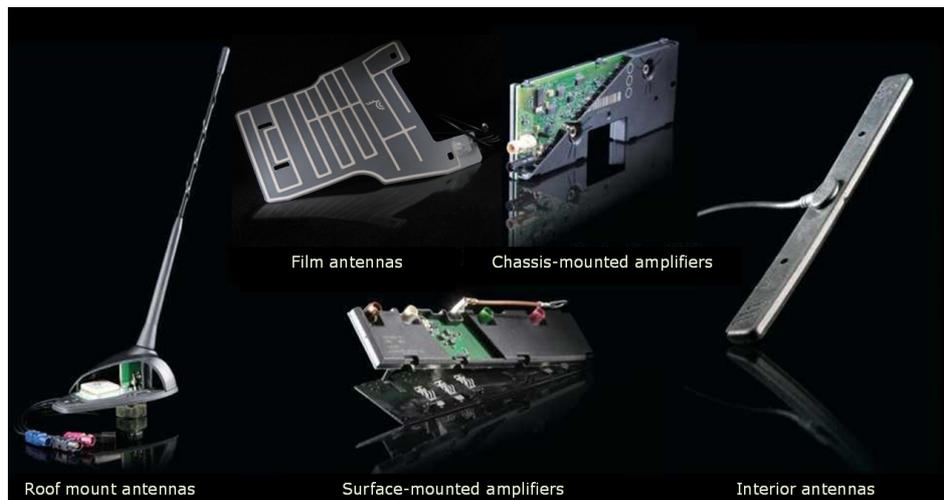
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Antenna Systems – Overview

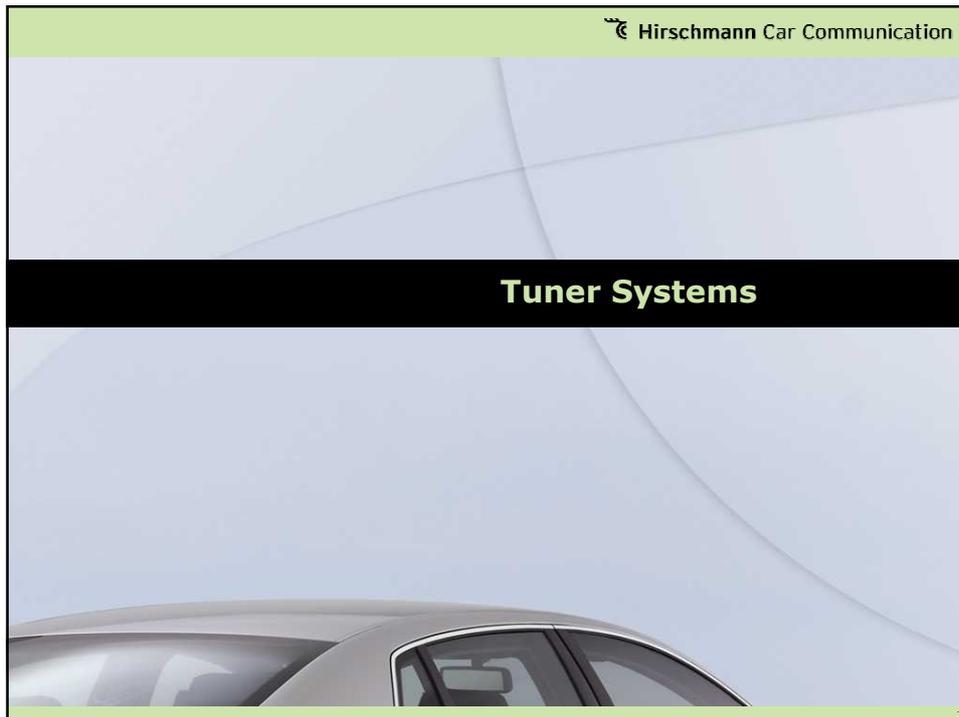
- ➔ **No. 2 in Europe**
Market share 2009: 25%
- ➔ **Sales 2009: € 45m**
Share of total sales: 54%
- ➔ **Technology leader for**
integrated and combined
Antenna Systems

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Antenna Systems Overview



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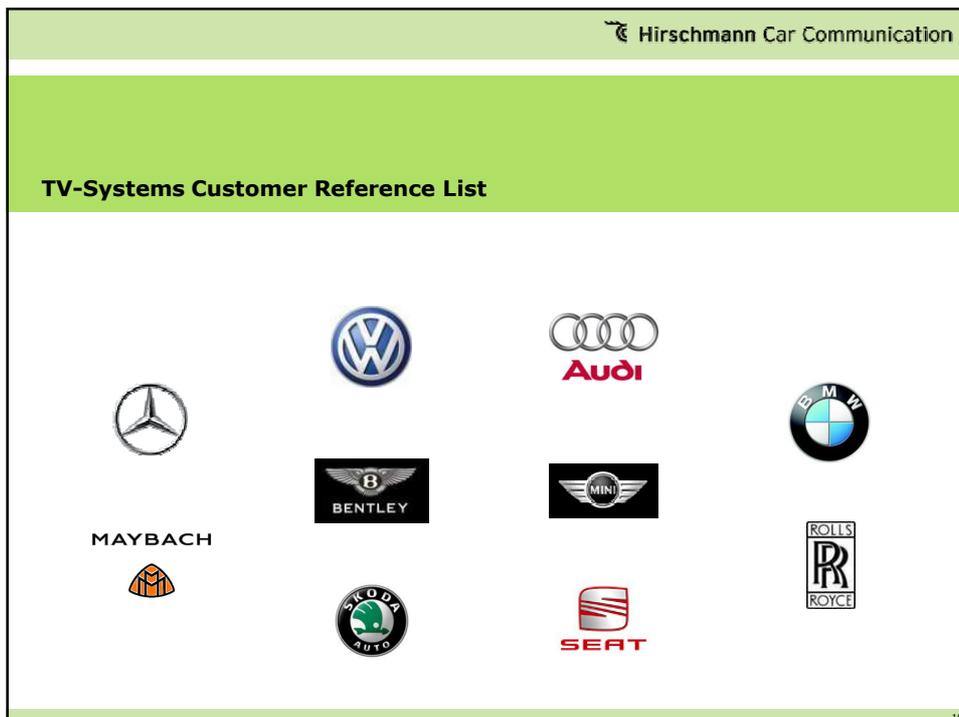
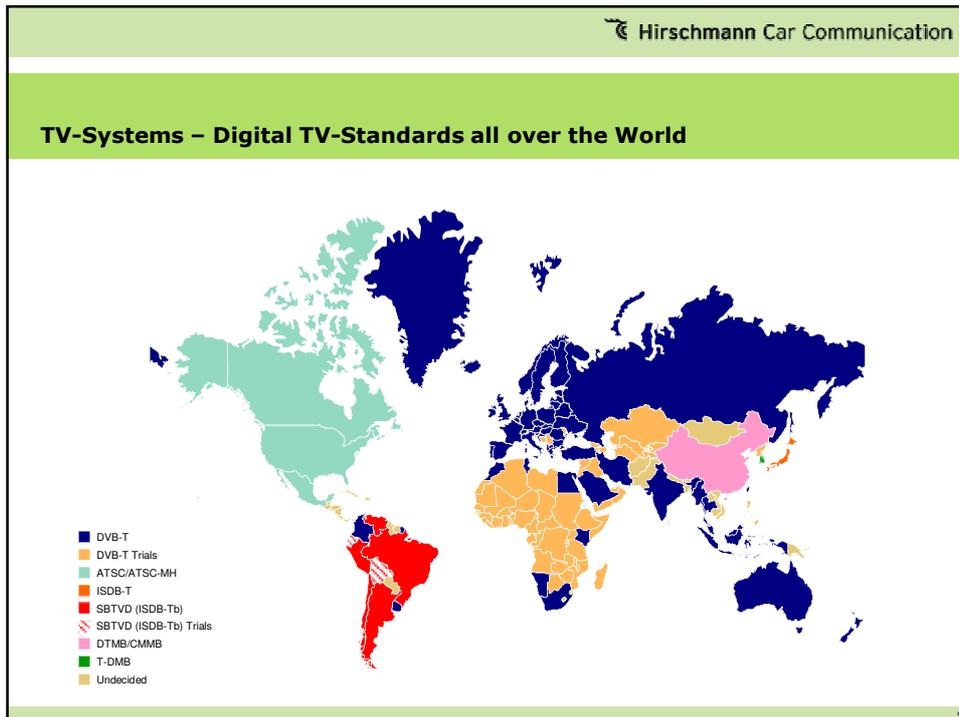
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Tuner Systems – Overview

- ➔ **No. 1 worldwide**
Market share 2009: 59%
- ➔ **Sales 2009: € 34m**
Share of total sales: 40%
- ➔ **Pioneer and technology leader**
for hybrid and digital TV tuner

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This slide has a light blue background. The Hirschmann Car Communication logo is in the top right corner. A green horizontal bar with the text 'Tuner Systems – Overview' is below the logo. Three green arrows point to the right, each followed by a line of text. A small number '8' is in the bottom right corner.



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TV Systems – Overview

Applications

TV Systems

- **Communication and control busses MOST or CAN**
- **Broadcasting standards DVB-T, ISDB-T, DTMB or T-DMB**
- **2 - 4 Tuner systems**



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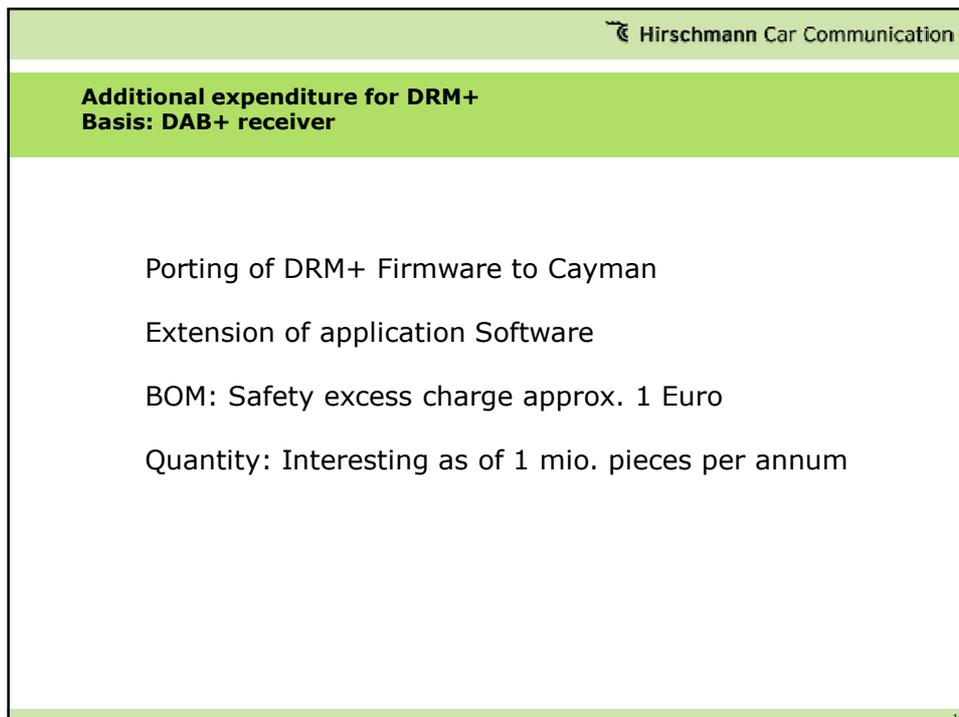
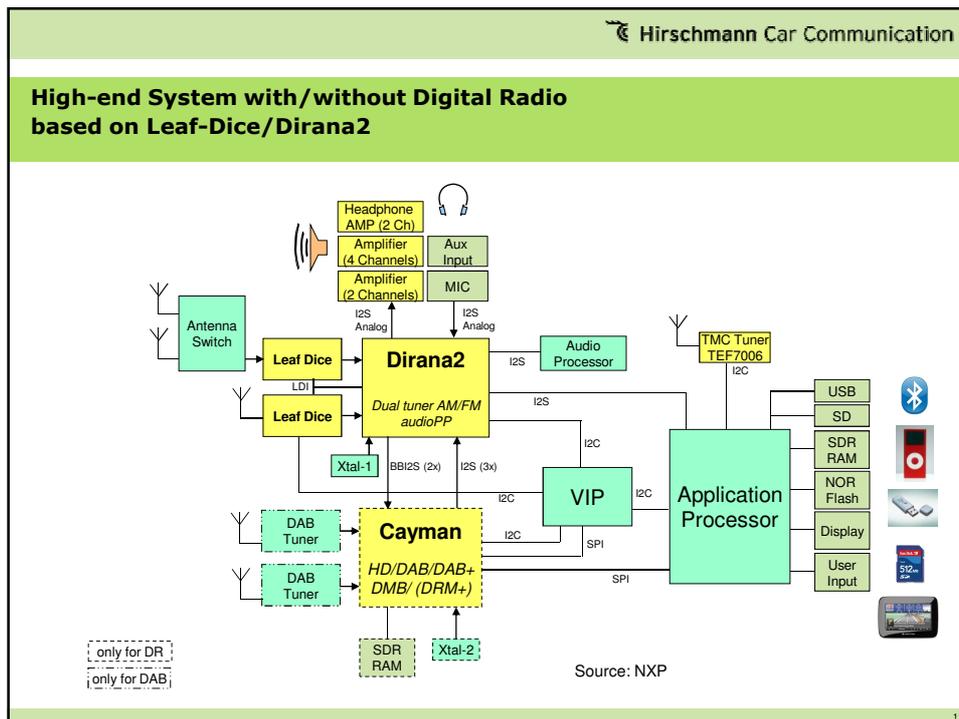
TV Systems

Technical Features

- **Analogue and digital reception for DVB-T and DTMB**
- **Pure digital reception for ISDB-T and T-DMB**
- **Variable 2 - 4 receiving paths**
- **Diversity: combines the receiving paths especially for mobile purposes**
- **Control, Diagnosis and Audio-transmission via optical MOST Bus or Control, Diagnosis via CAN**
- **Software update via MOST or CAN**
- **Teletext (if available)**
- **Providing new features (EPG, Browser, ...)**



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Future digital receivers for DAB+/DRM+ only

At present DAB is only available as additional function in form of mere DAB-receivers.

The market for Hybrid Receivers is only poorly developed.

Today, advanced CMOS processes already allow highly integrated one chip solutions.

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Digital radio in Japan

Based on the Japanese terrestrial TV-system, the so-called „Sound Broadcasting“ system was supposed to be launched already three years ago.

On enquiry a NHK Manager explained:
SB in Japan is the same nightmare as DAB in Europe.

According to our information the system has „fallen asleep“.

Kids watch 1 segment video/audio TV programmes on their mobile phones.

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Digital radio in Korea

Korea has introduced T-DMB.

At the moment there are two 6MHz channels in the VHF range for:

- 8 TV programmes
- 4 digital audio programmes
- Broadcast Website
- Encrypted TPEG data for traffic information

For some months it has been changed to DMB 2.0, i.e. the previous DAB Audio signals have been integrated into the h264 data stream. Broadcast Website (BWS) is encoded.

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Digital radio in China

Young Chinese only listen to radio in the taxi.

In Beijing DAB and T-DMB test programmes are on the air.

In the UHF range China has launched an own mobile TV- and data system called CMMB.

In hundreds of cities up to 8 TV and radio programmes can be excellently received via handhelds.

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Digital radio in France

In 2013 DMB audio is to be launched in France.

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Summary

At the moment portable equipment with LC displays ranging from 4 to 6 inch is available in the Asian countries.

The majority of the equipment features:

- TV
- Radio
- Navigation

In Korea concepts like BWS and BIFS are planned requiring return channels.

The first mobile phone with CMMB was introduced in Beijing on the occasion of the CCBN in March this year.

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Hirschmann Car Communication GmbH

Stuttgarter Strasse 45-51

72654 Neckartenzlingen

Germany

Phone +49-7127-14 - 0

Fax +49-7127-14 - 12 14

<http://www.hirschmann-car.com>