

Digital Radio for Car Infotainment Systems

ClearSignal-Auto™ is a package of Software IP targeted to be executed on Blackfin® processors by Analog Devices, which provides multimode Digital Broadcasting capability in an automotive receiver. It is a proven solution that has been deployed in high-end German automotive cars.

ClearSignal-Auto was designed to be included in the modern infotainment environment, where the digital receiver is part of a high-tech system, connected and working together with other related applications, hardware and sensors, such as mobile phones, navigation devices and downloaded content.

EtherWaves provides its customers with DAB/DMB DRM and HD-Radio software libraries along with comprehensive API. A reference design system is also available from ADI, complete documentation for design and testing, usage examples, test vectors, and optional integration services.

ClearSignal's Innovative Automotive Design

Designed to be quickly and efficiently integrated into an existing system already based on Blackfin processors by Analog Devices, the innovative ClearSignal-Auto maximizes the usage efficiency of the existing hardware resources (DSP and memory), thus leaving a sufficient amount for the existing applications. ClearSignal-Auto can be used on either a single Blackfin processor or in a multiple-chip configuration, resulting in a fast and cost-effective development cycle¹. A complete Digital Radio solution executed on a single Blackfin processor comprises:

- ClearSignal Baseband Decoders
- ClearSignal Audio Decoders (MPEG-2 Layer II, MP3, HE-AAC and WMA)
- Customer's applications

Key Features

- Strong anti-fading channel algorithms
- Optimal resource usage of BlackFin:
 - Enables other applications to be operated simultaneously
- Soft solution
 - Flexibility enables updates and upgrades on existing hardware
- Documented API
 - For easy and fast integration with customer's software modules
- Supports multiple Digital Broadcasting standards
 - DAB, DAB+, T-DMB, DRM, and HD Radio
- Extendable to additional COFDM based Digital Broadcasting standards
 - ISDB-T, DVB-H and DMB-T
- Supplied on a Reference Design platform

Broadcasting Standards Supported

ClearSignal-Auto currently supports:

- DAB (Europe, Australia, etc. - ETSI EN 300 401) and DAB+ (ETSI TS 102 563 v1.1.1)
- T-DMB (Korea TTAS.KO-07.0026 and Europe ETSI TS 102 427 / 428)
- DRM (ETSI TS 101 980).

ClearSignal, ClearSignal-Auto and IMSiS are trademarks of EtherWaves. Blackfin is a registered trademark of Analog Devices, Inc. All other trademarks are the property of their respective owners. Specifications subject to change without notice. © 2007 EtherWaves Ltd.

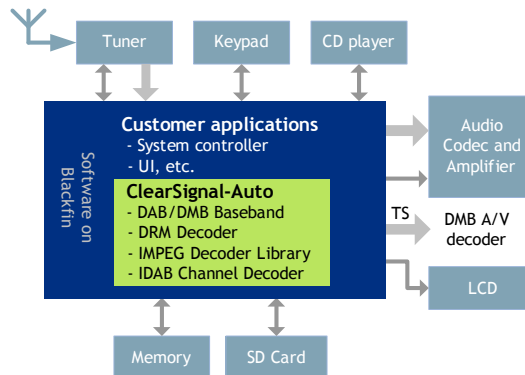


Figure 1 - Example of ClearSignal-Auto integration with the Customer's system

- HD Radio - ITU-R BS.1114

Main Benefits

- Dedicated and proven solution for the Automotive environment
- Produces high-performance receivers
- Rapid design cycle
- Fast and easy integration for a large range of system configurations
- Cost-effective (low BOM of the end product)
- Integration services at customer site

¹ Please contact us to learn more about EtherWaves' innovative hybrid solution of software and FPGA accelerator - for even more flexibility and performance, such as receiving FM and scanning DAB simultaneously or decoding the DMB video on the same Blackfin processor.