

A complete Digital Radio solution

ClearSignal RD™ is a reference design demonstrating a complete Digital Radio solution to manufacture enhanced Digital radio products. The product may be used to build a Digital Radio ready-made-module and/or a multi-featured radio receiver. It also enables the addition of Digital Radio capability to an existing device, such as a DVD player, cellular phone or regular FM radio.

ClearSignal-RD uses ADI BlackFin's low-cost general-purpose DSP, an off-the shelf single chip RF for a cost effective solution, and advanced Digital Radio software applications.

The design of ClearSignal RD package enables the customer to either use it "as-is", after a few simple electronic and manufacturing design steps, or to modify it to as required, using the included documentation and software API.

ClearSignal RD is offered to consumer electronics manufacturers.

A special version of ClearSignal RD is offered to the RF tuners' manufacturers. ClearSignal RF has a customizable IF input, for complementing the tuners with a digital radio baseband, thus enabling the RF manufacturers to offer complete solutions to customers.

Conceived for fast design cycle and cost-effective complete solution

Designed to be cost-effective and fast implemented complete solution, ClearSignal RD™ includes an Eureka 147 DAB digital radio channel decoder with all the modern features expected from a state-of-the-art product, an FM mono/stereo/RDS decoder, an MP3/WMA player and supports a variety of broadcasting formats, state of the art sound processing and clock-radio features. The sound processing includes bass & treble control, equalization, echo, reverb and mixing, thus precluding the need for dedicated additional expensive circuitry. Furthermore, ClearSignal enables the recording of the original digital audio format for later playback. ClearSignal system management includes graphical User Interface and a file system.

EtherWaves provides its customers with a hardware evaluation board, documentation and BOM for completing the design (Hardware schematics), software libraries with a demo application and usage examples, and integration support.

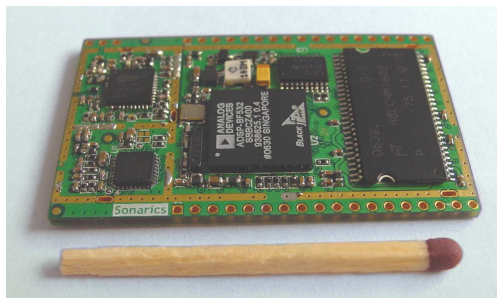


Figure 1 - ClearSignal RD board in the reference design

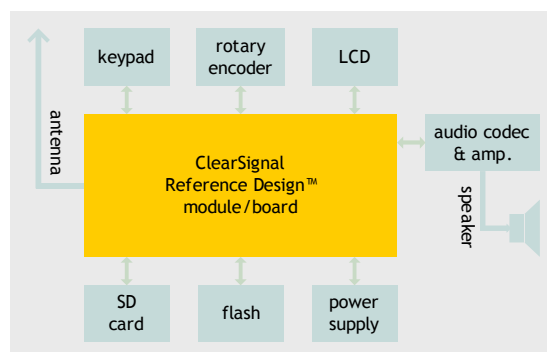


Figure 2 - Typical digital radio receiver & MP3 player block diagram

Key Features

- DAB/DAB+ (including data services, EPG), DMB, DRM, FM mono/stereo decoder
- DMB/DAB multi-mode L-band and band III
- Stereo FM receiver with RDS support
- Playback of MP3/WMA/AAC files from SD card
- Multi-lingual
- Continuous record for on-demand last minutes replay
- Built-in sound control engine: bass, treble & loudness
- Intelligent API User Interface, including direct control of LCD, keypad, rotary encoder a
- Power down for low power consumption
- Clock / alarm functionality
- Compact size

Main Benefits

- Proven reliable solution
- Cost-effective
- Fast design cycle
- High performance
- Suitable for a large variety of consumer electronics products and a large range of markets
- Easy integration with existing products
- Software solution enables high adaptability and "last minute" changes