DARR84 Wireless Audio Processor

Highly-Integrated, Multi-Application, Tri-Band (2.4, 5.2 and 5.8 GHz) Audio Processor

Summary

The DARR84 is a highly-integrated wireless audio processor which extends Microchip's KleerNet™ technology interoperability. The fundamental core of the DARR84 is derived from the very popular and successful DARR83 processor. The DARR84 integrates a 16-bit audio DAC plus headphone amplifier, as well as an analog audio input, including ADC and microphone amplifier to reduce overall solution costs. The DARR84 runs on two AAA batteries and headphones and headsets. Target applications include gaming, VOIP and high-end audio devices. Microchip's DARR84 supports multiple RF bands and frequencies within each RF band (2.4, 5.2 and 5.8 GHz) and incorporates Wireless DNA technology which effectively manages common interference sources such as Wi-Fi®, Bluetooth® and microwave ovens, among others. The DARR84 also has an integrated SRC, making it easy to support multiple audio sampling rates.



Highlights

- Highly-integrated wireless audio processor
- 16-bit HD stereo DAC, including headphone amplifier
- 16-bit mono ADC, including microphone amplifier
- Up to two uncompressed stereo audio channels
- Bi-directional audio support, allowing simultaneous Rx and Tx on a single device
- Supports operation via charging circuit or two AAA batteries
- Higher integration supports smaller speaker and headset reference designs
- Antenna diversity algorithms in the baseband processor minimize fading and multi-path effects
- Complete KleerNet technology compatibility enables easy connectivity to other KleerNet technology devices
- Configurable, low latency enables simple Dolby® certification

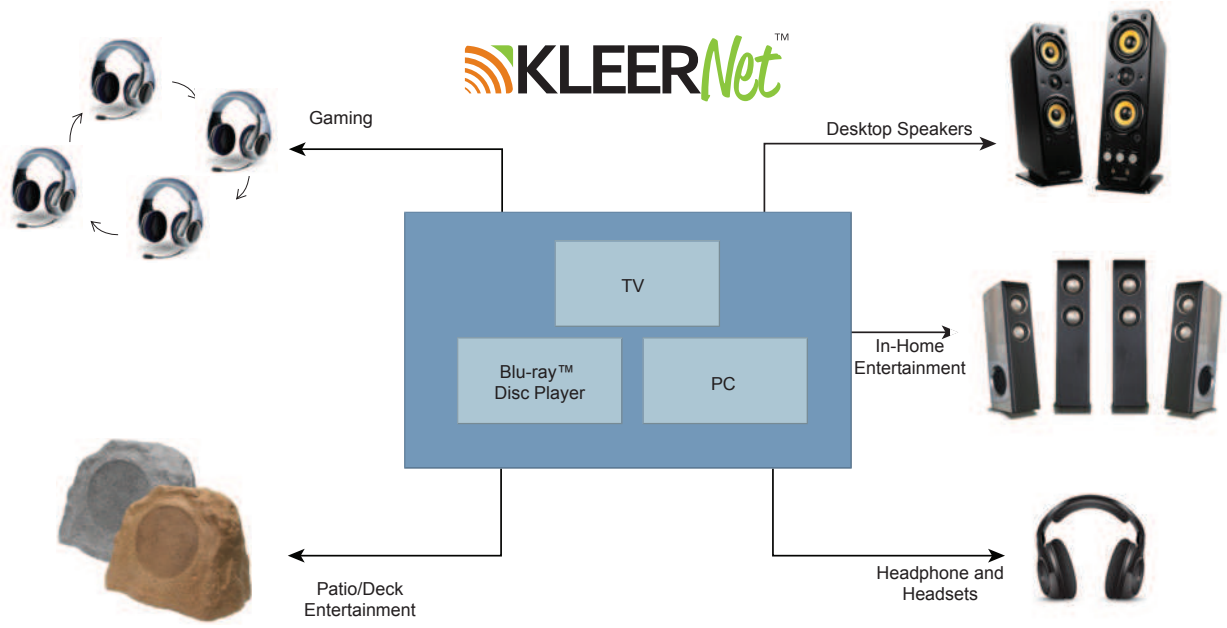
Target Applications

- Wireless headphones
- Wireless headsets
- Wireless soundbars and sub-woofers
- Gaming and VOIP headsets
- Wireless microphones
- Wireless speakers
- Battery-powered speakers

Key Features	Benefits
Wireless DNA technology	Reduces interference commonly associated with other RF devices such as Wi-Fi® , Bluetooth® , microwave ovens and DECT phones
Supports point to multi-point audio	Allows multiple receivers to listen to same audio stream
Supports antenna diversity algorithims	Required to support robust wireless link and audio performance
Well-suited for stereo and surround speakers	Allows the user to place speakers anywhere in the room while enjoying clear, interference-free, HD DVD quality audio
16-bit HD stereo DAC and headphone amplifier	Reduces BOM cost and size of headphone/headset solutions, without compromising audio quality
16-bit mono ADC and microphone amplifier	Well-suited for voice-enabled headsets
Uncompressed, bit-true audio transmissions	Zero impact on quality under normal wireless conditions
Low-latency audio transfer; default at <20 ms	Complies with Dolby certification requirements
Integrated 8052 MCU	Enables KleerNet™ audio networking technology, without compromising solution cost and size

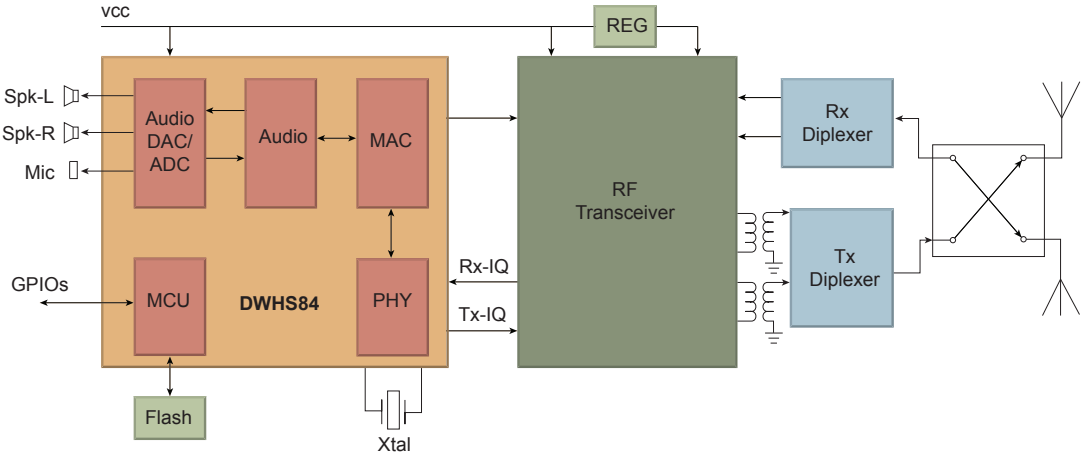
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What is KleerNet Technology?



- Open interoperability with multiple consumer electronics brands
- High-quality, wireless audio streaming from content-rich sources such as PC, TV and mobile platforms
- Higher quality audio streaming compared to Bluetooth and Wi-Fi
- Robust link and automatic network configuration for ease of use

DARR84-based KleerNet Technology Headset Reference Block Diagram



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www.microchip.com/wirelessaudio

Visit our web site for additional product information and to locate your local sales office.

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