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**ANALOG DEVICES' BLACKFIN® AND FACTUM'S MIDDLEWARE ENABLE  
SINGLE-CHIP SOLUTION FOR DAB/DAB+/DMB RECEIVERS**

*First single-chip solution with DLS, SLS, and EPG and audio/image/video processing for  
Eureka 147 receiver designs*

**NORWOOD, MA — January 26, 2009** — Analog Devices, Inc. today announced that the newest version of DAB/DAB+/DMB (Digital Audio Broadcasting/Digital Multimedia Broadcasting) middleware from [Factum Electronics AB](#), a leading supplier of software and systems for digital multimedia broadcasting, is now available on ADI's low-power, high-performance [Blackfin® BF5xx](#) processors.

Pairing the Blackfin processor with Factum middleware enables a single-chip module that is the industry's first to bring DLS (Dynamic Label Segment), SLS (Slideshow), and EPG (Electronic Programme Guide) data services together with audio, image, and video decoding capabilities for the next generation of handheld mobile receivers and kitchen radios with displays or screens.

Receivers equipped to handle multimedia formats -- including text and images -- supported by the growing set of the [Eureka 147 family of DAB/DAB+/DMB standards](#) require a processor able to deliver high performance at low power, and in a small form factor. Applications with these design demands benefit from the converged microcontroller and signal processor functionality provided by Blackfin. This DSP + MCU convergent processing drives down bill-of-materials cost for digital radio receivers and other price-sensitive consumer electronics products.

“Supporting the latest DAB, DAB+, and DMB multimedia data services in a single-chip solution promises to bring advanced functionality to the market in the next wave of digital radio receivers and at lower prices,” said Quentin Howard, president of the WorldDMB Forum. “Commercially available technologies with advanced features such as the module produced by the collaboration of Factum Electronics and Analog Devices are an essential element which enable consumer electronics manufacturers to make devices delivering the media experience consumers expect.”

Factum’s complete range of middleware modules for data services not only reduces development time for receiver manufacturers, but also they support receiver stability and quality of service. Offerings include FIC (Fast Information Channel), DLS, SLS, EPG, TPEG (Transport Protocol Experts Group), and BWS (Broadcast Website).

This middleware is built upon Factum’s extensive experience as a head-end system manufacturer, and leverages the company’s expertise in developing, testing, validating, and supporting middleware products for chipset, terminal, and receiver manufacturers.

To complement Factum’s middleware, ADI is providing a system solution for DAB/DAB+/DMB receivers -- including essential software modules such as MPEG2 TS demuxer, HE-AAC decoder, H.264 decoder, MP2 decoder, JPEG decoder, PNG decoder, and high-quality GUI -- which all execute on a single Blackfin processor. LCD, remote control, and keypad are supported along with control of the DAB/DAB+/DMB front-end tuner by Blackfin. With the complete TCP/IP stack and various popular audio decoders (MP3, WMA, Real, and AAC) running on the Blackfin processor, Internet radio (for example, vTuner and SHOUTcast™) along with a host of Internet music services (such as Rhapsody®) are supported as well.

Audio post-processing routines from [Audyssey](#), which include BassXT, Dynamic EQ, and EQ, also run on the same Blackfin processor to enhance listening pleasure dramatically.

The programmability of the Blackfin processor will speed future implementation of new functionality, such as Journaline® and Intellitext, because the embedded software can be modified instead of the chip.

“Australian radio broadcasters going digital in May 2009 plan to provide listeners with a full range of digital services, including multimedia features such as Programme Guides and

Slideshow, from day one of the DAB+ digital radio launch,” said Joan Warner, chief executive officer, Commercial Radio Australia. “We want listeners to be able to choose from a selection of well-priced receivers. Tested, production-ready silicon and middleware, such as Analog Devices and Factum are providing, are a must-have ingredient for the manufacturers bringing receivers into the market.”

### **Learn More**

Visit [www.analog.com/Blackfin](http://www.analog.com/Blackfin) for additional information. For ongoing news and developments, follow Blackfin at <http://twitter.com/Blackfin>.

Details about the Eureka 147 family of standards are available from The WorldDMB Forum at [www.worlddab.org](http://www.worlddab.org).

### **About Factum Electronics**

Factum Electronics AB ([www.factum.se](http://www.factum.se)), a wholly owned subsidiary of Effnet Holding AB (First North Nasdaq OMX: EFFN, [www.fffnetholding.se](http://www.fffnetholding.se)), is a world leader in the areas of DAB (Digital Audio Broadcasting), DAB+, DMB (Digital Multimedia Broadcasting), and NICAM, digital stereo sound for television broadcasting. Factum Electronics develops and sells system solutions for signal encoding, decoding, and processing and serves professional broadcasting customers in more than 40 countries. Additionally, Factum Electronics develops and sells middleware for receiver chip manufacturers and test & monitoring equipment.

### **About Analog Devices**

Innovation, performance, and excellence are the cultural pillars on which Analog Devices has built one of the longest standing, highest growth companies within the technology sector. Acknowledged industry-wide as the world leader in data conversion and signal conditioning technology, Analog Devices serves over 60,000 customers, representing virtually all types of electronic equipment. Celebrating 40 years as a leading global manufacturer of high-performance integrated circuits used in analog and digital signal processing applications, Analog Devices is headquartered in Norwood, Massachusetts, with design and manufacturing facilities throughout the world. Analog Devices’ common stock is listed on the New York Stock Exchange under the ticker “ADI” and is included in the S&P 500 Index.

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