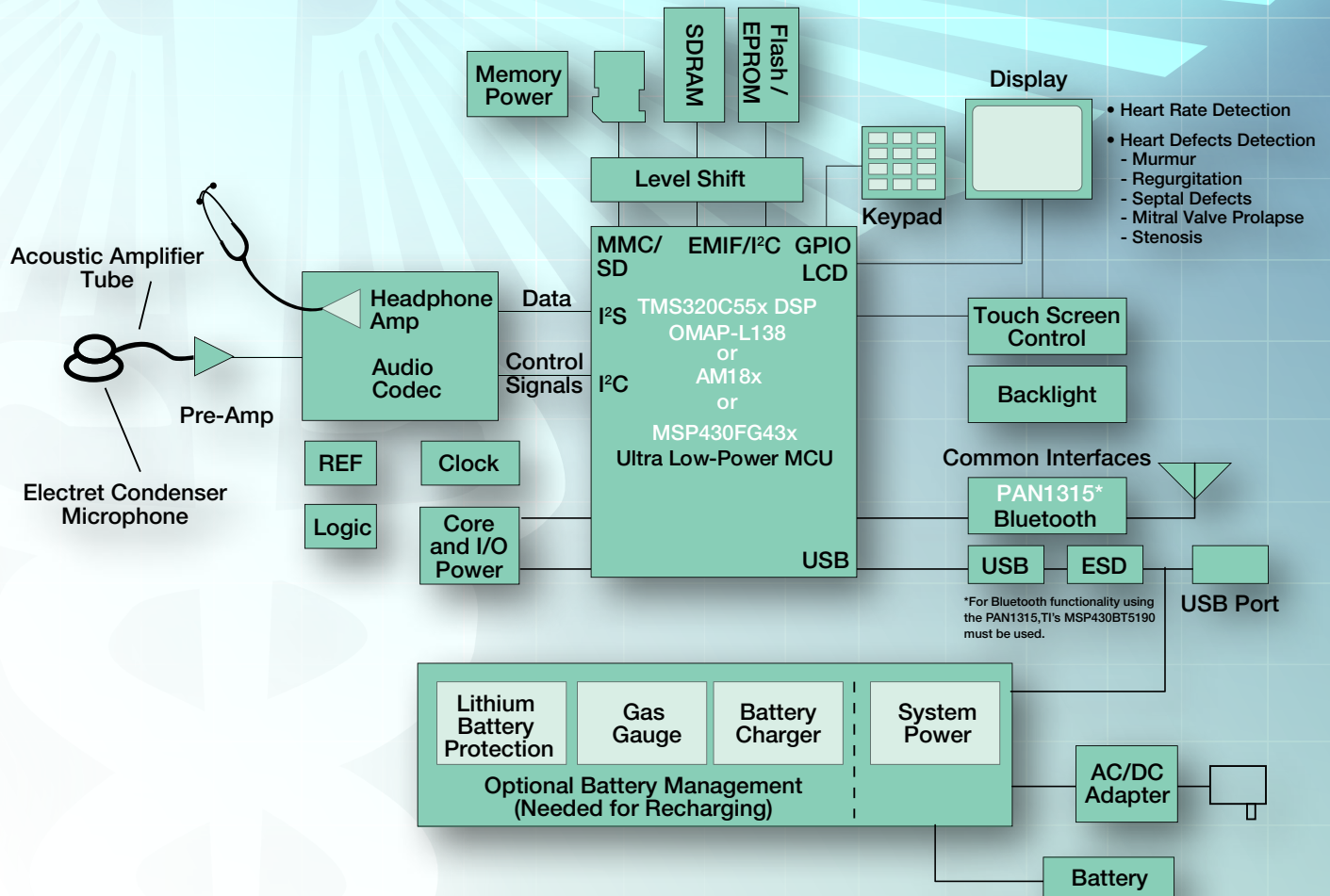


Digital Stethoscope

SOLUTIONS APPLICATION SHEET

Digital Stethoscope



Arrow Electronics Medical

[See back for solution descriptions >>](#)

Arrow Electronics Medical is fully dedicated to serving the needs of medical original equipment manufacturers (OEMs), systems integrators, and the EMS industry with services and expertise that are unmatched in the industry. We deliver the value you require in a full-service supply chain partner through engineering services, supply chain solutions, and end-of-life support. We provide a superior level of medical technology expertise, and help you accelerate your time to market for your next innovative medical device. From components to complete integrated solutions, Arrow can help you succeed in today's demanding and ever-changing medical marketplace.

Look to Arrow Medical to help with your next design:

- Unmatched industry expertise
- FDA expertise and certifications
- Unrivalled engineering support
- Broad medical linecard
- Manufacturing capabilities
- Global logistics services
- EOL support

For more information on Arrow's Medical solutions visit www.arrow.com/medical call Arrow Medical at 866-260-1401, or email medicalsolutions@arrow.com



Digital stethoscope applications present significant design challenges. The need for extended battery life, high precision, and fast response time, without significantly increasing power consumption, requires both design savvy and next generation components. That's where we come in. Arrow's partnership with Texas Instruments and Panasonic offers a portfolio of processors, instrumentation and buffer amplifiers, power and battery management, audio codices, and both wired- and wireless-interface devices that is ideal for digital stethoscope applications. With decades of proven experience, our combined efforts have yielded increased lifecycles while decreasing time to market. We've helped enhance performance and increase reliability. So kick off your next medical application design with the industry's most innovative technology from your most trusted source—Arrow Electronics.



Texas Instruments

Single-Lead Processor Solution MSP430FG43x MCUSeries

- MCU configurations with two 16-bit timers
- High-performance 12-bit A/D converter. Dual 12-bit D/A converter
- Three configurable operational amplifiers
- One universal synchronous/asynchronous communication interface (USART), DMA, 48 I/O pins
- Liquid Crystal Display (LCD) driver
- Ultra low-power consumption—active mode: 300 μ A at 1 MHz, 2.2V standby mode: 1.1 μ A and off mode (RAM retention): 0.1 μ A

Multi-Lead Processor Solutions Low-Power ARM + DSP or ARM Only—OMAP-L1x or AM18x Processors:

- ARM9 and ARM9-plus-DSP architectures
- Variety of peripherals for networking
- Linux or WinCE for ARM and/or DSP/BIOS™ real-time kernel for operating system flexibility
- Power consumption ranges from 7 mW in standby to 400 mW total power
- Liquid Crystal Display (LCD) driver

Ultra Low Power TMS320C55x Fixed-point DSP

- Broad portfolio of the industry's lowest power DSP
- Total power consumption at <0.15mW/MHz
- Standby power consumption at <0.12mW
- Performance up to 600 MIPS

Data Converter Solutions TLV320AIC3254 Ultra Low Power Stereo Audio Codec With Embedded miniDSP

- Stereo Audio DAC with 100dB SNR
- 4.1mW Stereo 48ksps DAC Playback
- Stereo Audio ADC with 93dB SNR
- 6.1mW Stereo 48ksps ADC Record
- PowerTune™
- Extensive Signal Processing Options
- Embedded miniDSP

Panasonic Electronic Components

Visit www.panasonic.com/ti for Bluetooth RF Module design-in assistance.

- Powerful, highly flexible, cost effective RF modules
- Applications: Wide variety of wireless Personal Area Network (PAN) applications
- New extended range products and small footprints
- Network firmware flexibility

PAN1315ETU Series (Easy-To-Use)

- Plug directly into evaluation kits
- Header connectors simplify prototype wiring and field trials

New PAN1315 Host-Controlled Interface (HCI) Bluetooth RF module

- Utilizes the TI CC2560 Bluetooth core integrated circuit
- Easy-to-use module format
- Tiny footprint—only 58.5 mm²
- Accommodates PCBs pad pitch of 1.3 mm
- As little as two layers for easy implementation and manufacturing
- Programmable output power for transmission distance and power consumption management
- For Bluetooth functionality using the PAN1315, TI's MSP430BT5190 must be used

Panasonic OEM Batteries

BR and CR Lithium Cells

- Reliable and safe
- Applications: Low power consuming compact cordless devices, glucose meters, pain management, hearing aids, and memory backup

Lithium Cylindrical Cells

- High durability and stability
- Applications: Electronic measurement equipment, AEDs, and infusion pumps

VRLA

- Maintenance-free, long service life
- Quick chargeability
- Applications: Backup power, wheelchairs, and emergency lighting

Alkaline

- Excellent storage life and resistance to leakage
- Applications: Electronic door locks and other cordless products

