



Experience that Matters...

## Cardiovascular Products

The staff at Quest Product Development has worked on a number of Class II products and SBIR funded cardiac research programs. These include traditional defibrillators, EKG monitors electronics, and the coordinating of mechanical intervention with the EKG signal. Critical elements in the design and development process include:



- Amplification of high impedance signals common in EKG and EEG
- High SNR differential amplifiers
- Display of real-time signals
- Spectral analysis and extraction of specific signals for real-time decision making
- Use of high-quality differential instrumentation amplifiers
- Embedded control application specific software and RTOS integration
- Management of EKG/EEG signals in the analog and digital domain

Familiarity with industry standards and FDA regulations

- ♦ Safety Standards, 60601-1
- ♦ Consensus Standards, AAMI 3-51 and 3-63
- ♦ 21 CFR 820

## Technical Experience

Key technical experience in the cardiac market place includes:

- Synchronization of EKG signal elements with other hardware
- SBIR Phase I, II grant for Cardiac Synchronization Technology: An Improved Therapy for Pulseless Cardiac Arrest, to develop a new CPR therapy for resuscitation of sudden cardiac arrest, 2005, 2008.
- STTR Phase II grant for MicroFlex Tools to Improve Sinus Diagnostics and Surgery for early-stage medical device technology development. Technology that will ultimately be utilized in cardiac applications, 2008.
- STTR Phase I grant MicroFlex Tools to Improve Sinus Diagnostics and Surgery, 2005.
- Defibrillator design
- Medtronic Atakr-RF filter design
- Medtronic AxiemII-design of the analog sensing, patient isolation, and telemetry signals.
- RF amplifier design for “welding” tissue. Utilized with metalized proteins to minimize patient bleeding.

