CAMBRIDGE ENGINEERNG - SERVICIES

Cambridge Engineering provides Technical Audit Services, System Analysis and Design Services to the electronics industry. We have worked on a broad range of systems, and have in-depth experience in the areas of Signal Processing, Data Transmission, Navigation, Communication and Wireless Systems. Starting with customer generated product, system and cost goals, we select appropriate technologies, develop a design approach, select components, and create a prototype system. We work independently or with your engineering staff. Throughout the design process, we provide a complete transfer of both the final design and the underlying concepts to assure your
understanding of the product.

We have developed numerous "Mixed Signal" systems, and can assist in determining the right balance between analog and digital solutions, and in selecting between custom and programmable system elements.

Recent and current programs include:

- Design Audit of VHF data telemetry communication system
- Development of RFID antennas for use in metallic environments.
- Development of a DSP/DDS base GMSK modulator for U.S. Coast Guard
- Design, prototyping and testing of the radar control component of an Integrate Bridge System
- Analysis and Measurement of UWB (ultra-wideband) techniques for position determination
- The application of DSP to mobile radio design
- Support of SQM Advanced GPS Receiver Development Program
- Support of Panama Canal Electronic Vessel Tracking and Navigation Systems Program
- Design and implementation of a Multiple frequency, MSK Beacon Receiver test set and modulator
- Development of Beacon Data Receivers for receiving differential GPS data transmitted in the 300 kHz Beacon band
- Development of Magnetic (Loop) & Electrostatic (Whip) antennas for use in the Low and Medium frequency bands, e.g., Loran-C MSK Beacons, etc.
- Development of integrated GPS/Beacon antenna systems
- Development of Integrated GPS/Beacon Receivers employing NMEA and custom communication protocols
- Design and implementation of a Microprocessor-based antenna tuning electronics for the Omega / VLF navigation system electronics upgrade
- Design and implementation of a Direct Digital Synthesis, Digital Signal Processing system to coherently generate and phase / time correct VLF Navigation Signals
- Design and implementation of an Automatic Blink System for the FAA/USCG LORAN-C stations, including a One-PPS modification to facilitate LORAN-C/GPS time synchronization
- Development of data acquisitions software for use in the initial USCG evaluation of the feasibility of transmitting DGPS data on radio beacon
- Performance of studies related to the implementation of 900 MHz spread spectrum and frequency hopping data links using DSP techniques
- Development of PCMCIA card, 900 MHz data link for the transmission of SMPTE time codes
- Performance of studies related to time of emission control (TOE) of the French Navy & Northern European (NELS) Loran-C systems