



# APPLIED SIGNAL PROCESSING, INC. DSP & EMBEDDED SOLUTIONS

1981 N. Kollath Rd. Verona, WI 53593 / 608.441.9921 / Fax: 608.646.0311 / www.appliedsignalprocessing.com

## BACKGROUND

Applied Signal Processing, Inc. provides custom engineered solutions and contract engineering services for Digital Signal Processing and Embedded Systems. We are specialists in Digital Signal Processing, Active Sound and Vibration Control, Acoustics, Audio, Echo Cancellation and Voice Signal Processing with our staff having authored over 20 patents in those areas. Applied Signal Processing has experience in creating and delivering production solutions in the automotive, industrial, and aerospace industries. Our most notable achievement was providing the production DSP software to Volkswagen of Germany for the Digital Voice Enhancement (DVE) interior communication system offered on the 2004 EuroVan.

We are able to help our customers in all phases of the product lifecycle from concept to production and we specialize in quickly bringing ideas to the feasibility and prototype stage. Through our experienced engineering staff, reference design frameworks and our "Rapid Development Programs", we accelerate customers through the learning curve and compress project timelines. Contact us today we'll show you how Applied Signal Processing's vast experience in DSP and Embedded systems can make your next DSP project a success!

## CONSULTING – Define a Solution

- Acoustics
- DSP Algorithm Development
- Active Noise and Vibration Control
- DSP & Microcontroller Hardware Design
- Analog Hardware Design
- Patents and Intellectual Property

## FRAMEWORKS & PRODUCTS – Quickly Create a Solution

- Software Libraries for Texas Instruments C33x, C54x, C55x families
- FAT32 Compatible File System for TI DSP.
- Reference HW and SW Designs:
  - Boot Loader Applet (Robust launch and upgrade of DSP application)
  - 8 x 8 Voice Band C54x & C55x DSP Hardware with firmware I/O Shell
  - C28x, C55x, C64x, C67x, DM64x, C645x Hard Drive, Secure Digital, and Compact Flash FAT32 Interface
  - C64x, C67x, C55x Stereo IDE Hard Drive Recorder (Streams 16bit 44KHz Stereo Audio directly to disk.)
  - DSP to Microcontroller Interfaces
  - Software UART
- TI DSK/EVM Compatible Daughter Cards
  - Vehicle Interface Card (CAN, I2C, etc)
  - Automotive Power Supply Card (Mobile power to the DSK)
  - Mass Storage: SD/Compact Flash/Hard Drive.
- Rapid Development Programs
  - Active Sound and Vibration Control
  - Digital Voice Enhancement

## TOOLS – Refine and Validate a Solution

- Live Data Exchange™ (PC to DSP HW serial Interface)
- Q-Smart™ Watch Window – Code Composer Studio Plug-in
- Custom Windows and Matlab based System Test and Monitoring Applications

## APPLICATION EXPERIENCE

- Active Noise Control
- Digital Voice Enhancement
- Noise Reduction Algorithms
- Acoustic Echo Cancellation
- CELP 4.8Kbps voice encoder/decoder
- 2048 and 4096 Point FFTs.
- GPS Interface to DSP
- CAN, I2C, RS-232, IDE, SPI, SD/MMC, CF
- Texas Instruments DSP - C3x, C54x, C55x, C64x and C67x; Motorola micro, PIC micro
- ASM, C, C++, Windows Visual C++, Windows Drivers, ActiveX Controls, Matlab/Simulink

## CUSTOMERS

- Siemens Automotive
- Volkswagen of Germany
- LEAR Corporation
- Volkswagen of America
- John Hopkins University
- Northrop Grumman
- The Naval Surface Warfare Center
- ClearOne Communications
- Rockwell Collins

*Applied Signal Processing is a member of the Texas Instruments and Matlab third party networks.*

*Ideas Realized ✧ Concepts Demonstrated ✧ Solutions Delivered*

