Complete Signal Processing Engineering Services

Applied Signal Processing, Inc. (ASP) specializes in real-time control and analysis of acoustic signals, including speech, audio, and active sound and vibration control. ASP has extensive experience in developing digital signal processing (DSP) software for automotive applications. We can create unique prototype systems for our customers and then develop the DSP software and hardware for the final product.

Live Data eXchange (LDX™)
This tool provides the ability to communicate between the PC and target DSP device during DSP execution, without halting the processor. It does not require a DSP emulator and allows access to all variables in the symbol table, without recompiling the DSP code.

Custom System Solutions
ASP can provide hardware and software to engineer a custom solution for your application.
- DSP Application Software
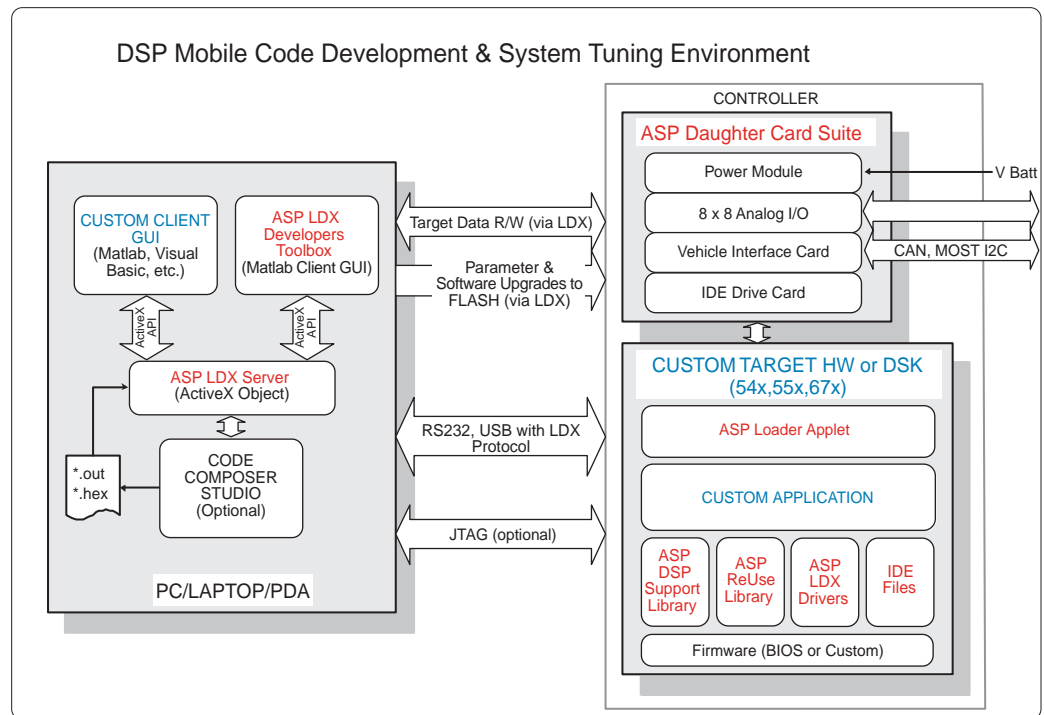- Hardware Design
- Windows Interface Applications

TI DSP Boot Loader Framework
The Loader Applet is a small DSP program, which when integrated with ASP's LDX™ environment, provides robust bootloading of DSP Applications from a flash device. It allows users to upgrade a DSP application through a serial interface, without the need for a JTAG emulator connection.

DSP Libraries
The libraries are C-callable, hand-written, assembly functions. We have libraries for the following Texas Instruments DSP families:
- C3x Floating Point
- C54x Fixed Point
- C55x Fixed Point
- C67x Floating Point

DSP Mobile Code Development & System Tuning Environment

CONTROLLER

ASP Daughter Card Suite
- Power Module
- 8 x 8 Analog I/O
- Vehicle Interface Card
- IDE Drive Card

V Batt

CAN, MOST I2C

CUSTOM CLIENT GUI (Matlab, Visual Basic, etc.)

ASP LDX Developers Toolbox (Matlab Client GUI)

Target Data R/W (via LDX)

Parameter & Software Upgrades to FLASH (via LDX)

ActiveX API

ActiveX API

ASP LDX Server (ActiveX Object)

*.out
*.hex

CODE COMPOSER STUDIO (Optional)

RS232, USB with LDX Protocol

JTAG (optional)

PC/LAPTOP/PDA

CUSTOM TARGET HW or DSK (54x,55x,67x)

ASP Loader Applet

CUSTOM APPLICATION

ASP DSP Support Library

ASP ReUse Library

ASP LDX Drivers

IDE Files

Firmware (BIOS or Custom)

Digital Hardware Design
- TI Fixed and Floating Point DSP Families
- PIC and Motorola Microcontrollers
- Real-time Data Acquisition Systems
- Multi-processor systems
- RS-232 and I^{2}C Serial Interfacing

Analog Hardware Design
- Electro-acoustic System Analysis
- Low-noise Microphone Preamplifiers and Interface Design
- A/D and D/A Mixed Signal Design
- Linear and PWM Audio Power Amplification Design

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