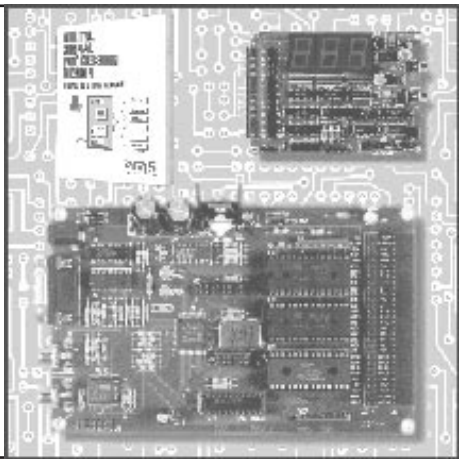
EZ-DSP Tutor

Digital Signal Processing

Digital Signal Processing Design Using the TMS320C5X



SPECIFICATIONS

- TMS 320C52 CPU with Crystal Oscillator of 40.00MHz
  - Enhanced TMS320 architectural design for increased performance and versatility
  - Modular architectural design for fast development of spin-off devices
  - Advanced IC processing technology for increased performance
  - Downward source-code compatibility with 'C1x and 'C2x DSPs for fast and easy performance upgrades
  - Enhanced TMS320 instruction set for faster algorithms and for optimized high-level language operation
  - New Static design techniques for minimizing power consumption and maximizing radiation hardness
- 64 KB RAM and 32 KB Monitor
- 14 Bit codec single channel, input/output voice quality analog interface.
  - 1 single chip D/A and A/D conversion with 14 bits of dynamic range
  - Variable sampling rate and filtering
  - 2's complement data format
  - Single 5V supply
  - Serial port interface
- Terminal I/O port is RS 232 compatible
- 60 pin Bus containing address/data and control signal to connect experimental board and for future expansion.
- Operating Temperature: +25°C
- Storage Temperature: -40 to +85°C
- Relative Humidity: 0 to 90% (non condensing)
- Dimensions: 4.050" (10,287 cm) Width & 4.925" (12.510 cm) Length

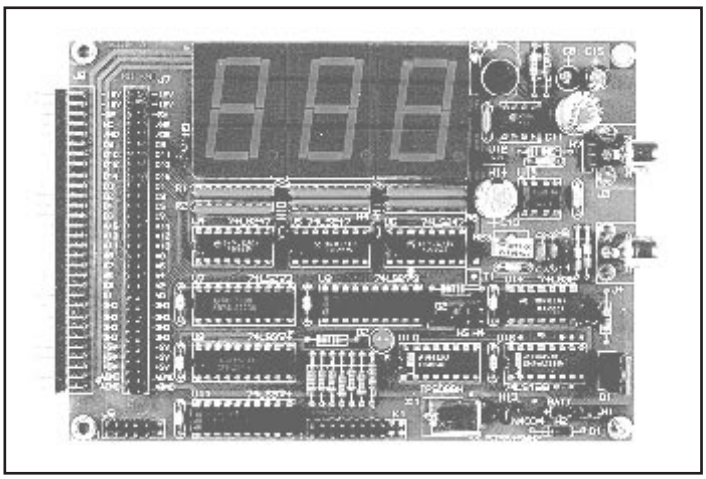
With **Experimental Board having following features:**

- 3 Seven Segment Display
- Onboard mike interface & speaker interface.
- With keyboard interface and key pad 3 x 4 matrix
- Onboard DTMF generator

With **Main Board & Lab board**, user can do **following experiments:**

- Add two (64 bit signed) numbers and store result
- Multiply two (32 bit) numbers and store result
- Echo out an audio signal
- Add two numbers and store result
- Add "echo" to audio signal
- Generates a sinusoidal signal
- A-Law compandor
- Generate a pseudo random binary sequence
- 80 tap FIR low pass filter
- 10^{th} order IIR filter
- Generate DTMF tons
- DTMF detection
- Speech ("vowel") recognition
- Data that corresponds to a 941Hz sinusoidal signal
- Data that corresponds to a 1477Hz sinusoidal signal.

With descriptive manual specifying various steps in the form of lessons to follow to learn about DSP and its application with programmes.



Lab Project Board

Several lab project boards are available which are compatible with the DSP Tutor board. The lab project board covers a variety of different subjects such as speech recognition, image processing, instrumentation, communication and multimedia.

Note: Specifications can be changed and added without notice in our constant efforts for improvement.