



DIGITAL SIGNAL PROCESSING TRAINER

MODEL - DSP100

This trainer has been designed with a view to provide practical and experimental knowledge of digital signal processing.



SPECIFICATIONS

1. Texas Instrument's TMS320C6713 DSP operating at 225 Mhz.
2. Embedded USB JTAG controller with plug and play drivers, USB cable included
3. TLV320AIC codec
4. 2M x 32 on board SDRAM
5. 512K bytes of on board Flash ROM
6. 3 expansion connectors (Memory Interface, Peripheral Interface, and Host Port Interface)
7. On board IEEE 1149.1 JTAG connection for optional emulator debug
8. Four 3.5 mm. audio jacks (microphone, line-in, speaker, and line out)
9. 4 user definable LEDs
10. 4 position dip switch, user definable
11. +5 Volt operation only, power supply included
12. Compatible with Spectrum Digital's DSK Wire Wrap Prototype Card
13. TMS320C6713 DSK specific Code Composer Studio from Texas Instruments
14. Test/sample code provided to reduce coding time
15. Compatible with Win 2000/XP/Windows 7 and National Instruments LabView Embedded 2.0
16. RoHS Compliant
17. Accessories:
 1. Books for Digital Signal Processing : 10 Nos in pdf Format
 2. Mp4 Video Class for Embedded Systems : 40 Classes in Mp4 on DVD / Pen Drive
 3. TMS320C6713 DSK Board
 4. Code Composer Studio for C6713 DSK Software CD
 5. USB Cable
 6. AC Power Cord and Power Supply
 7. Manual with Practicals

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Dealer:-

EXPERIMENTS

1. Introduction to Code composer studio (CCS)
 - Linear and Circular convolution.
 - Low pass filter an audio signal input to DSK with FIR filter.
 - Low pass filter an audio signal input to DSK with IIR filter.
 - To generate sine wave using lookup table with table values generated within the programme.
2. Real time FIR/IIR filter incorporating pseudorandom noise as input, using TMS320C67x
3. Real-time adaptive filter for noise cancellation using TMS320C67x
4. Filtering a speech/audio signal to remove noise using TMS320C67x
5. Design a notch filter for removing powerline noise from ECG signal using TMS320C67x
6. Design a high pass filter for removing baseline wandere from ECG signal using TMS320C67x
7.
 - i. Matrix/vector multiplication using TMS320C67x
 - ii. Sine generation with 4 points using TMS320C67x
8.
 - i. Multiplication of two arrays using TMS320C67x
 - ii. Background for digital filtering using TMS320C67x
9. Data acquisition (Input) and Display (output) using TMS320C67x
10.
 - i. Eight-point complex FFT using C code
 - ii. Eight-point FFT with real-valued Input, using mixed C and TMS320C67x code
11. Adaptive filter for noise cancellation using C code
12. Discrete cosine transform (DCT) implementation on TMS320C67x