



OPEN MICROPROCESSOR TRAINER



DL ARM32BIT

TRAINING OBJECTIVES

With this board it is possible to perform experiments on the following subjects:

ARM debug develop environment, ARM assembly instruction, Thumb B assembly instruction, ARM Processor working mode, C language programming, assembly and C language call each other, serial port communication, NAND flash, LED control, 7 segment display, PWM frequency, interruptions, RTC, DA, AD, SD Card Read-Write, 4x4 Key, CAN Bus, RS 485, network communication, VGA display, IIS audio frequency, TFT color LCD, touch screen, Ucos-li transplanted, Ucos-li application, establishment of Linux development environment, bootloader transplanted, Linux core compile and customization, Linux drive, Yaffs file system, Linux application program transplanted.

Complete with technical documentation, experiments manual and software.

Dimensions of the board: 250x250mm.
Weight: 1 kg.

This 32 bit microprocessor trainer can make students understanding ARM and becoming familiar with the programming of the microprocessor and its components.

The kit consists of a module with power supply, with different interfaces and a set of software application.

The development software can run on: Windows XP or Windows 7.

TECHNICAL FEATURES

- S3C2440A with 16/32 bits RISC microprocessor, with ARM920T core, main frequency 400MHz (Max. 533MHz)
 - ✓ About 1.2V internal, 1.8V/2.5V/3.3V memory
 - ✓ 3.3V external I/O
 - ✓ Microprocessor with 16K BI-Cache/16KB D-Cache/MMU
 - ✓ External memory controller (SDRAM Control and Chip Select logic)
 - ✓ LCD controller (up to 4K color STN and 256K color TFT) with LCD-dedicated DMA
 - ✓ 4-ch DMAs with external request pins
 - ✓ 3-ch UART (IrDA 1.0, 64-Byte Tx FIFO, and 64-Byte Rx FIFO) / 2-ch SPIs
 - ✓ 1-ch multi-master IIC-BUS / 1-ch IIS-BUS interface
 - ✓ SD Host interface version 1.0 & MMC Protocol version 2.11 compatible
 - ✓ 2-ch USB Host / 1-port USB Device (ver 1.1)
 - ✓ 4-ch PWM timers & 1-ch internal timer
 - ✓ Watch Dog Timer
 - ✓ 130 general purpose I/O ports / 24-ch external interrupt source
 - ✓ Power control: Normal, Slow, Idle and Sleep mode
 - ✓ 8-ch 10-bit ADC and Touch screen interface
 - ✓ RTC with calendar function
 - ✓ On-chip clock generator with PLL
- Onboard 256 MB Nand Flash
- Onboard 64MB SDRAM and 2MB Nor Flash
- General inputs and outputs with at least 64 ports
- At least 8 Interrupt inputs
- Keyboard with hexadecimal keys
- 7 segments display
- 1 RS 232 serial interface
- 10 bit A/D converter and 8 bit D/A converter
- Interfaces: CAN BUS, 485 BUS, TCP/IP, SD Card, VGA, JTAG, IIS, LCD and touch screen, USB
- Expansion bus for connecting external applications
- Development kit