EMBEDDED SYSTEM AND RTOS ARM9 TRAINER

MODEL - ARM-9-RTOS

This trainer has been designed with a view to provide practical and experimental knowledge of ARM9 family embedded processor.

SPECIFICATIONS

1.	CPU	:	Samsung S3C2440A (ARM920T), 400MHz, max. 533Mhz
2.	RAM	:	64MByte SDRAM
			32bit Bus
	Clock	:	100MHz Clock
3.	Flash	:	64MByte or 128MByte Nand Flash
			2MByte Nor Flash with Bios
4.	System Clock	:	12Mhz Crystal

5. LCD :

4 wire resistive touch screen interface

STN-Displays

4bit dual scan, 4bit single scan or 8bit single scan display type monochrome, 4 gray levels, 16 gray levels, 256 colors or 4096 colors

Max: 1024x768

TFT-Display

1, 2, 4 or 8 bpp palletized color displays

16 or 24 bpp non-palletized true-color displays

Max: 1024x768, 64k colors

6. Interface and Resource

1 10/100M Ethernet RJ-45 (DM9000)

3 Serial Ports (1 RS232)

1 USB Host

1 USB Device

1 SD-Card Interface

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Dealer:-

1 Audio Output
1 Audio Input
1 Microphone
4 User LEDs
6 User Buttons
1 PWM Buzzer
1 Adjustable Resistance (for ADC testing)
1 I2C EEPROM
1 Real Time Clock with Battery (RTC)
1 20pin Camera Interface (2.0mm)
1 34pin GPIO (2.0mm)
1 40poin System Bus (2.0mm)
1 10pin JTAG (2.0mm)

7. OS Support : Linux 2.6,
   Android,
   Windows CE 5 and 6
8. Books for Embedded Systems : 10 Nos in pdf Format
9. Mp4 Video Class for Embedded Systems : 40 Classes in Mp4 on DVD / Pen Drive

EXPERIMENTS

1. Download pre-configured Kernel Image, File System, bootloader to target device- ARM9.
2. Writing simple application using embedded linux on ARM9.
3. Writing "Hello World" device Driver. Loading into & removing from Kernel.
4. Write a program for I2C based RTC using embedded linux on ARM9.
5. Using Device driver for GPIO, write a program to blink LED.
6. Write a program for External Interrupt.
7. Interfacing of LEDS and Keyboard using Linux OS
8. Interfacing of graphic LCD using Linux OS.
9. Interfacing ADC and DAC using Linux OS.
10. To study & Understand Linux Device Driver Development
11. To study & Understand Windows Embedded System.
12. To study and port android os on board.