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# **ARM9** Development Board with

# 3.5' Touch LCD - S3C2440

# Quick Start Guide



General Electronics Tech. Nan Shan Ave 3003. NanShan dist. Shenzhen, 518000 China Phone: +86 137 2877 2361 E-Mail: service@ge-th.com MSN: Rockylou84@hotmail.com WebSite : http://www.ge-th.com



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# **CONTENTS**

- 4 OVERVIEW
- 🜲 🛛 BOARD FEATURES
  - 1. CPU
  - 2. SDRAM
  - 3. LCD
  - 4. INTERFACE AND RESOURCE
  - 5. OSCILLATOR FREQUENCY
  - 6. REAL TIME CLOCK (RTC)
  - 7. EXPANSION INTERFACE
  - 8. DIMENSIONS
  - 9. OS SUPPORT
- **4** PACKAGE CONTENTS
- DVD-ROM CONTENTS
- 🜲 IMAGES
- **4** TECHNICAL SUPPORT



The ARM 9 Development Board from GE-TH can be used to evaluate and demonstrate the capabilities of Samsung S3C2440A ARM9 processors. This board comes with 3.5' TFT LCD – Touch screen, **4**0 MHz Clock Frequency, 64 MB of SDRAM, 128 MB /256 MB /512 MB / 1G of NAND Flash and 2MB of NOR Flash. The board measures 10 cm x 10 cm, ideal for learning about ARM systems or integrating into numerous products and porting Windows CE or Embedded Linux.

#### **BOARD FEATURES**

CPU - Samsung S3C2440A 400MHz (Max frequency- 533Mhz)

#### **SDRAM**

♣64 MB SDRAM

♣32-bit Data Bus width

♣100 MHz Clock

### FLASH

**4**128 MB /256 MB /512 MB / 1G Nand Flash

<sup>♣</sup>2 MB Nor Flash, BIOS installed

# LCD

**4**4 wire resistive Touch Screen Interface

- Company : NEC
- Panel Type : TFT
- Resolution : 320 x 240 RGB
- **4**Reflectivity : 7
- <sup>4</sup>Illumination : 90 cd/m
- Contrast 10:1

Display Mode: 80:1 Transmissive



**Shape Size** : 64.0 (H) 85.0 (V) 4.13 (D) (mm)

- **4**Active Area : 53.64 (H) 71.52 (V) (mm)
- **Dot Pitch** : 74.5 x 223.5mm
- Backlight Type: LED

#### **INTERFACE AND RESOURCE**

- **↓** 10/100M Ethernet RJ-45(DM9000)
- **4** 3 Serial Ports (One RS232 with CTS and RTS)
- 📥 One USB Host
- **4** One USB Slave Type B
- 4 One SD Card Interface
- 4 One Stereo audio output Interface, One MIC Interface
- **4** One 10-Pin JTAG Interface
- ♣ Four USER LED's
- 📥 Six USER buttons
- ♣ One PWM Controlled Buzzer
- 4 One POT can be used for A/D converter adjust
- ♣ One AT24C08 for I2C test
- **4** One 20-Pin Camera Interface
- One Battery for RTC
- 4 One Power In (5V), with switch and lamp



## **OSCILLATOR FREQUENCY**

🜲 12 MHz

### RTC

♣ Internal and battery backed

#### **EXPANSION INTERFACE**

- ♣ One 34-Pin 2mm GPIO Interface
- **4** One 40-Pin 2mm System Bus Interface

#### DIMENSIONS

🜲 100 x 100 (mm)

#### **OS SUPPORT**

- **Linux 2.6.13**
- 🜲 Linux 2.6.29
- Windows CE.Net 5.0

#### **PACKAGE CONTENTS**

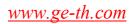
- 4 1 x S3C2440 board (Preload with Linux)
- 🜲 1 x Serial cable
- 1 x Net cable
- 🜲 1 x USB cable
- 1 x 5V power adapter
- 4 1 x Parallel port wiggler JTAG emulator (for H-JTAG)
- 4 1 x DVD-ROM with product reference
- 4 1 x TFT LCD: 3.5", 240x320, with touch panel



#### **DVD-ROM CONTENTS**

- H-JTAG Debugger
- Windows Flash Programmer SJF2440
- Linux Nand Flash Programmer Jflash-2440 (source code included)
- Serial tool CRT, dnw
- Bitmap to C Language transfer tool
- USB Driver (WindowXP/2000)
- ✤ Vivi source code (Linux Boot loader)
- LED test program (ADS 1.20 project)
- 2440 test program (ADS 1.20 project) include:
  Key test, RTC test, ADC test, IIS Audio play (.wav), IIS Audio record, Touch screen test, I2C test, Samsung 3.5"LCD, 640 x 480 TFT test
- Windows CE 5.0 BSP and sample project files.
- Fre-compiled WinCE 5.0 image for evaluation
- Linux tool and kernel source code
  - ARM-linux-gcc-4.3.2 with EABI
  - yaffs2 file system image maker -mkyaffs2 image
    - Linux-2.6.29 for S3C2440 kernel source code (include DM9000, LCD driver, Audio, Touch screen, YAFFS Source code, SD Card, RTC, Expand serial driver, USB Camera, USB Mouse and Keyboard, U-Disk)
- Pre-compiled Linux image for evaluation
- 4 Qtopia 2.2.0 source codes, web browser source codes
- uCos2 source code and binary images
- Schematics (Protel99SE/PDF format)
- User Manual

NOTE: Linux kernel will be upgraded to new version accordingly.





# **IMAGES**





www.ge-th.com



### TECHNICAL SUPPORT

If you are experiencing a problem that is not described in this manual, please contact us. Email can be sent to service@ge-th.com.

- We will reply your email within 24 hours!
- 7 days a week, 365 days a year support!

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General Electronics Tech. Nan Shan Ave 3003. NanShan dist. Shenzhen, 518000 China Phone: +86 137 2877 2361 E-Mail: service@ge-th.com MSN: Rockylou84@hotmail.com WebSite : http://www.ge-th.com

