

# STM32F103ZE ARM-CM3 Board Getting Started V1.0



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### 1. Packing List

- (1) One STM32F103ZE ARM-CM3 Board
- (2) One 2.4 inches TFT LCD (240\*320)
- (3) One RS-232 Serial Cable
- (4) One USB A-B cable
- (5) One CD-ROM
- (6) Packing List
- (7) Getting Started – this paper

### 2. STM32F103ZE Board Picture

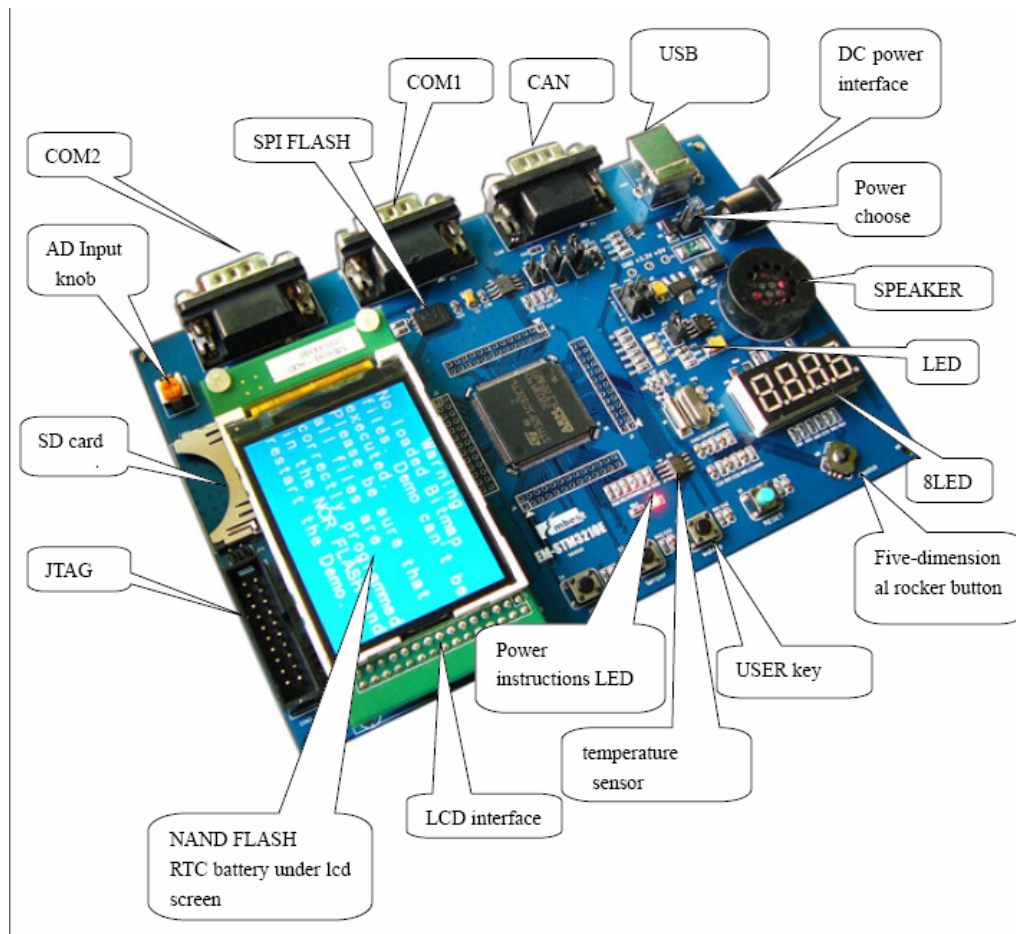


Figure 1.0 STM32F103ZE Board

### 3. Power Supply

STM32F103ZE Board has two power supplies; you can choose one of the following ways to supply power through JP5:

- (1) Through the motherboard power CN1 supply 5V DC.
- (2) Through the motherboard USB port (CON1) supply power, the power current is less than 500mA.

The outside signal of DC5V input side (CN1) is negative, the inside is the opposite, please see the following figure:

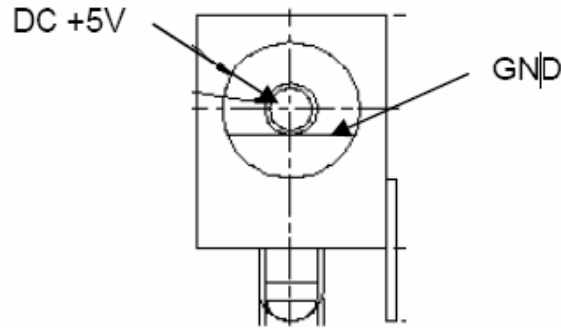


Figure 2.0 Power supply

#### 4. Start selection

STM32F103ZE Board can get started through following three ways:

- (1) Start from the user's flash memory
- (2) Start from the system memory
- (3) Start from the embedded SRAM

Setting the sub-panel DIP switches (SW1 and SW2) to select the start-up mode

SW1	SW2	Start-up mode
x	0	Start from the user's flash memory
0	1	Start from the system memory
1	1	Start from the embedded SRAM

#### 5. Hardware Requirements

In order to make good use of this STM32F103ZE ARM-CM3 Board,

We recommend you to prepare the following hardware devices:

- (1) One STM32F103ZE ARM-CM3 Board.
- (2) A PC with either of the following:
  - ◆ Two unused USB ports—one to supply power to the board and one for downloading and debugging.
  - ◆ An unused RS-232 COM port for Flash In-System Programming (ISP) via the Serial Interface.
- (3) One USB-JTAG Adapter.  
 You should prepare a JTAG Adapter which is able to debug cortex-m3 based processor, You can either use Keil ULink2 or **Emlink for ARM** produced by Embest.
- (4) Two USB cables.
- (5) Double Female Serial Cable

#### 6. Software Requirements

We recommend you to reach the following software requirements for embedded development based on STM32F103ZE processor.

##### (1) Windows Operating System

The Keil  $\mu$ Vision tool chain runs in these Windows Operating Systems:

- ◆ Microsoft Windows 2000
- ◆ Microsoft Windows XP

##### (2) Tools and Examples

To compile, link, and run applications on the STM32F103ZE Evaluation Board, please

install the following products on your pc:

- ◆ Keil UVision IDE  
You can purchase the Keil UVision IDE, such as RealView MDK-ARM from Keil Corporation, or you can also download the evaluation version of RealView MDK for free of charge. Of course, you can use other IDE as well, such as IAR EWARM, but we suggest you using Keil UVision IDE, then you can use the example programs we provide in CD-ROM, otherwise, they would be useless.
- ◆ Example programs written for the STM32F103ZE . These example programs are stored in the CD-ROM accompany with the STM32F103ZE board.

## 7. Technical Data

Parameter	Description
Supply Voltage	5 Volts DC (provided by the USB bus of a PC)
Supply Current	180mA typical, 200mA maximum
XTAL Frequency	8 MHz
Microcontroller	STMicroelectronics STM32F103ZE
Peripherals	1 × RS232 Interface, 1 × CAN Interface, 1 × USB Interface, 1 × Color graphic display (240x320), 1 × MicroSD Memory Card connector, 1 × JTAG Interface, 4 × Push buttons (Reset, Wake Up, Tampering, User), 1 × Joystick (5-position), 1 × Analog Input (connected to potentiometer), 1 × Analog Output (connected to speaker by default)
Board Size	110mm x 140mm (4.33" x 5.5")

## 8. Test this board

- (1) Start the PC
- (2) Connect relevant devices
  - ◆ Connect COM1 interface of the board to the COM interface of the PC by using a serial port cable for the information display and input;
  - ◆ Connect the PC's USB port to the USB port on board by using a USB cable for USB communication and power supply; the power LED lights when power is applied to the board.
- (3) When the board electrifies, press the Reset button on the board, then watch the phenomenon displaying on the LCD screen
- (4) Start the hyperterminal on the PC, press the Reset button on the board again, will you see the phenomenon displaying on the hyperterminal, and then run relevant programs according to the instructions refered on the hyperterminal.

## 9. What is in the CD-ROM?

- (1) Documents -- user manual, data sheet and the other development document.
- (2) Images -- image files for this product.
- (3) Software -- software programs or this product.
- (4) Tools -- the utilities tools and software.