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# **HY17M24 Started Evaluation Kit Hardware User Manual**

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# HY17M24 Started Evaluation Kit Hardware User Manual

## 1. Package Contents

HY17M24-DS01 is an entry-level evaluation kit tool for the HY17M24 series products, which includes accessories such as HY10000-CM01 (HY-Dongle), HY17M24-AM03 (Target Board), and Interface line. The relevant hardware equipment is shown in the following figure:

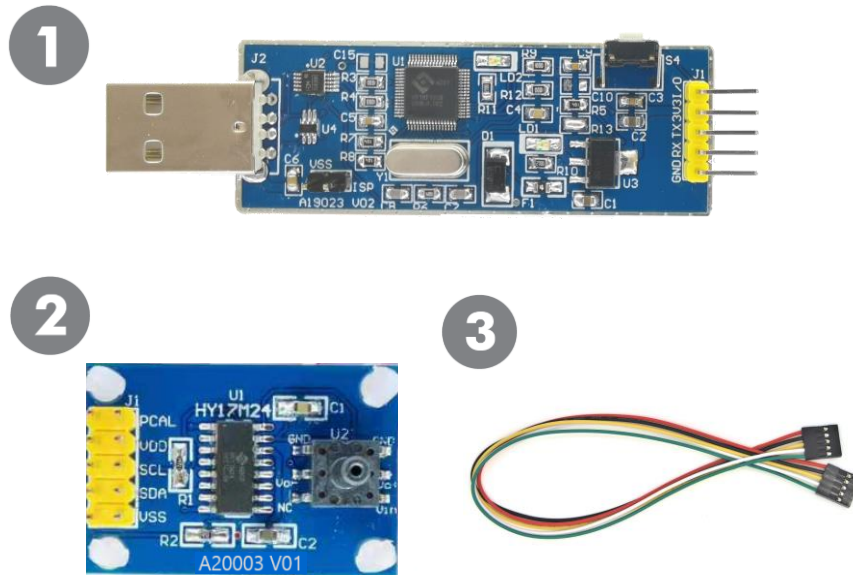


Figure 1-1

<i>Model No.</i>	<i>Part Name</i>	<i>Description</i>	<i>Quantity</i>
HY17M24-DS01	1. HY10000-CM01	HY-Dongle Board	1
	2. HY17M24-AM03	HY17M24 Target Board	1
	3. Interface line	5pin to 5pin (2.54mm pitch)	1

Table 1-1

## 2. Safety Precautions

- Do not place heavy objects on the display panel, in order to avoid damage caused by stress.
- Place the application display boards at steady place, so as to avoid falling damage.
- Do not use this product with the input voltage which is not meeting the electrical specifications, in order to avoid working abnormally or damage.
- Avoid application display boards being touched by liquid, dirt and avoid being exposed to moisture during operation. This application should be kept in a dry environment, so as not to affect the function and performance.
- Remove the power supply when not using it.
- When following status occurred, please remove the power supply immediately, and contact our engineer.
  - Power Supply line is worn or damaged.
  - Power source (battery) connected but no any light on while operating.
  - Component off.

## 3. Software installation requirements

### 3.1. Software installation requirements

The configuration required to run the HY17M24-DS01 kit is as follows:

- (1) PC/NB hardware requirements:
  - X86 system CPU compatible with IBM PC
  - 512 MB memory (recommended 1GB)
  - 1GB HD hard disk space
- (2) Supported product models:
  - HY17M series products
- (3) Supported hardware models:
  - HY17M24-DS01: HY17M24 started evaluation kit
- (4) Software support version:
  - UART 1CH ENOB V1.0 and above
- (5) Operating system requirements:
  - Windows XP, Windows Vista, Windows 7, Windows 8, Windows 10
- (6) Applicable interface mode:
  - USB Port with CH340 driver.

### 3.2. Software installation.

#### (1) Installation of USB Port Driver

The HY17M24-DS01 uses the USB-SERIAL CH340 driver for its USB Port (as shown in Figure 3-1). If the driver is not already installed on your computer, you can download and install the CH340 Driver yourself.

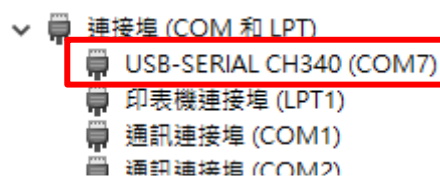

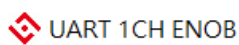


Figure 3-1

#### (2) Installation of ADC Signal Analysis Software

To install the software for ADC signal analysis, first decompress the HY17M24-EVP-V1\_0 software package, and then decompress the compressed file UART-1CH-ENOB-V1\_0 within it. You can then install the  setup software by running the extracted file. Once the installation is complete, you can open the software  by running the file located in the directory \HYCON\UART 1CH ENOB.

**Note:** Please run the software as an administrator.

## 4. Introduction of Started Evaluation Kit

### 4.1. Architecture Description

The HY10000-CM01 (HY-Dongle) serves as a control device between the HY17M24-AM03 (Target Board) and the ADC signal analysis software. It is used as an evaluation tool by connecting it to the HY-Dongle USB port. Please refer to the assembly diagram below for more information:



Figure 4-1

### 4.2. Introduction to HY-Dongle

The HY-Dongle Board (Model: HY10000-CM01) is compatible with HYCON 8-bit and 32-bit MSP series products (as shown in Figure 4-2). By default, it uses I2C to communicate with the Target Board and sends the sampled ADC signal through USB communication to the ADC signal analysis software on the computer. The following is an introduction to the control board:

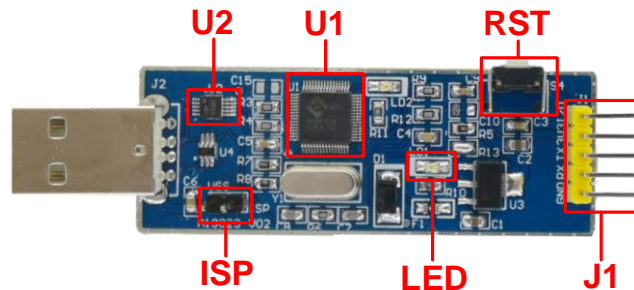


Figure 4-2

- (1) U1  
Function: The main chip of HY-Dongle Board, using HYCON's 32-Bit Flash type MCU, Model: HY16F198B (LQFP64).
- (2) U2  
Function: Control chip for CH340 USB to UART.
- (3) LED  
Function: HY-Dongle power indicator, LED light on means that HY-Dongle power supply is normal.

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(4) J1

Function: Communication interface between HY-Dongle and Target Board.

Description: HY-Dongle supports UART, I2C, User define 3-wire protocol and Target Board communication.

(5) RST

Function: Reset button of HY-Dongle.

(6) ISP

Function: Online firmware update for HY-Dongle.

Description: After ISP is shorted, the HY16F198B Bootloader function can be used to update the HY-Dongle to support HYCON products at any time. The HY-Dongle program code supporting HY17M24-AM03 is pre-burned and does not require additional settings for operation. Please contact HYCON FAE if you need to use this function to change the HY-Dongle program code.

**Note: The above only explains the basic functions that will be used by the HY10000-CM01 (HY-Dongle Board). For other unlisted components, please refer to the circuit diagram or contact HYCON's FAE technical support.**



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## 4.3. HY-Dongle Schematic

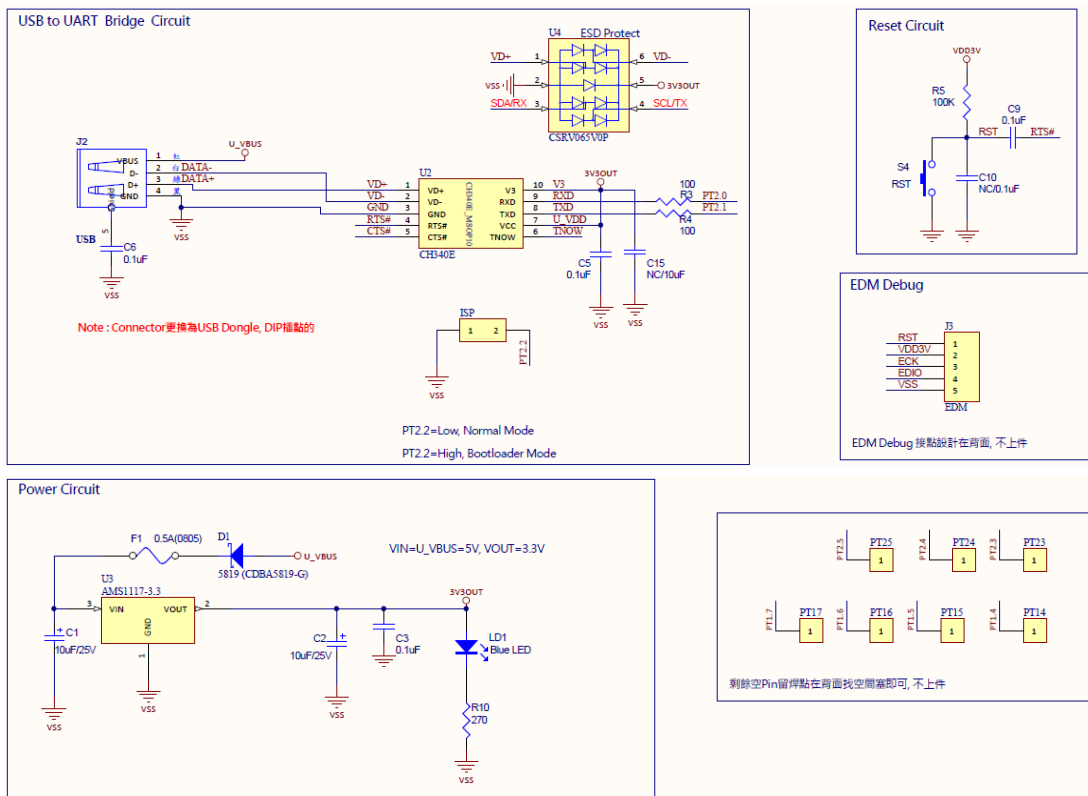
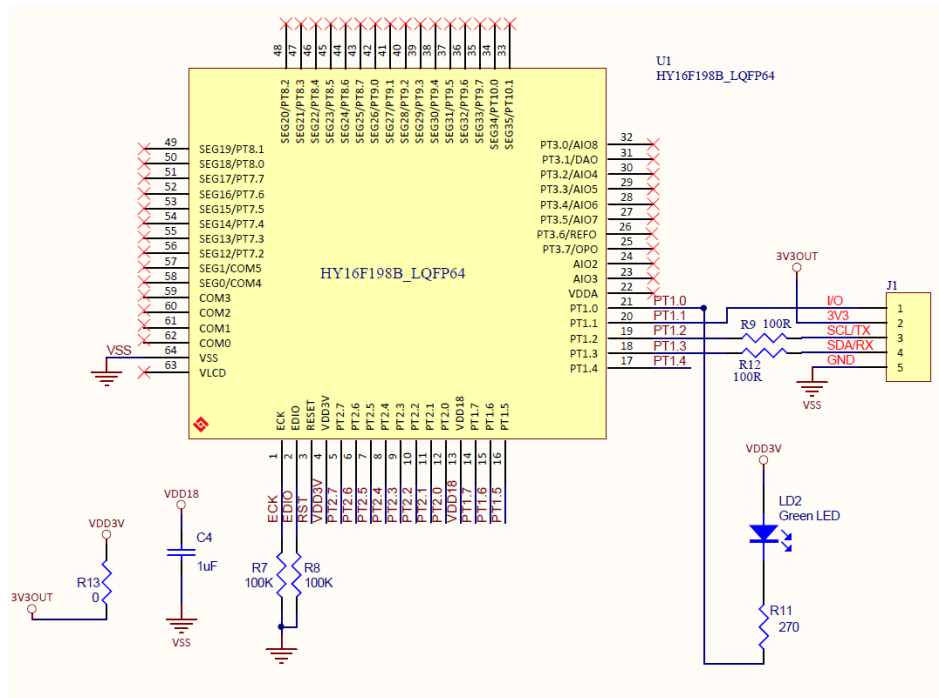


Figure 4-3

Note: This HY-Dongle Board circuit diagram "HY10000-CM01\_HY-Dongle\_A19023 V02.pdf" is placed in HY17M24-DS01 directory (HY17M24-EVP-V1\_0 \Schematic) can be used for reference.

## 4.4. Introduction to Target Board

Target Board (Model: HY17M24-AM03) is commonly used in HY17M24 series products (as shown in Figure 4-4). This Target Board can be used as a demonstration board in addition to ADC signal analysis software.

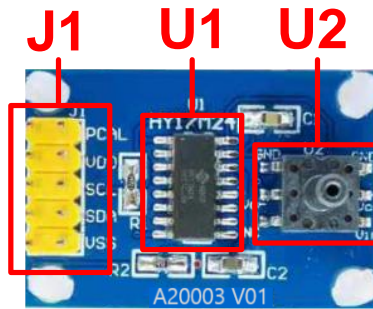


Figure 4-4

**Note:** When HY17M24-AM03 is used as the Target Board of the ADC signal analysis tool, the HY17M24\_ADC\_UART (Project placed in: HY17M24-EVP-V1\_0 \Sample\_Code directory) programs can be burned in HY17M24-SOP16 (U1) chips and can be directly used with software, the burning method Please refer to the H08 CIDE software instructions.

- (1) U1  
Function: Target Board main chip, using HYCON's 8-bit MTP type MCU, model: HY17M24 (SOP16).
- (2) U12  
Function: The sensor of the Target Board. It can be used for pressure sensor SOP6 package general type.

- (3) J1  
Function: communication port of the target chip  
Description: The function is defined as follows

Pin	Name	Direction
1-1	PCAL	HAO correction
2-2	VDD	The Chip Power
3-3	SCL	Communication of SCL
4-4	SDA	Communication of SDAL
5-5	VSS	Ground

Table 4-1

**Note:** The above only explains the basic functions that HY17M24-SOP16 Target Board will use, other parts not listed please refer to the schematic or to contact HYCON's FAE technical support.

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## 4.5. Target Board Schematic

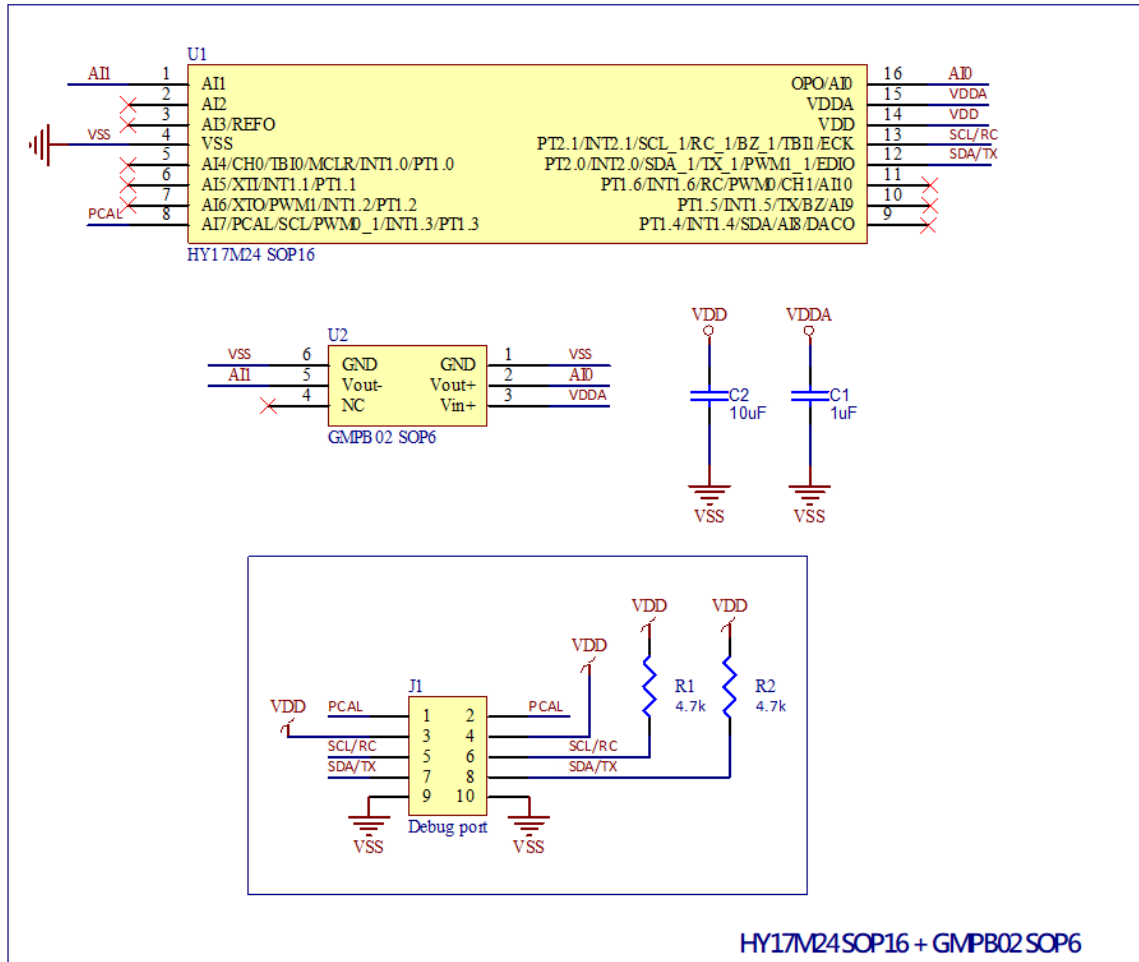


Figure 4-5

Note: This Target Board schematic "HY17M24-AM03\_Target Board\_A20001 V01.pdf" is placed in HY17M24-DS01 directory (HY17M24-EVP-V1\_0 \Schematic) can be used for reference.

## 4.6. Steps to connect HY-Dongle and Target Board

Step1: Use Interface Line to connect to HY-Dongle's J1 and Target Board's J1.

Step2: Connect the HY-Dongle to the USB port of the computer (the L1 LED will be on).

Step3: After Step1 and 2 (as shown in Figure 4-6), you can start to operate the software.

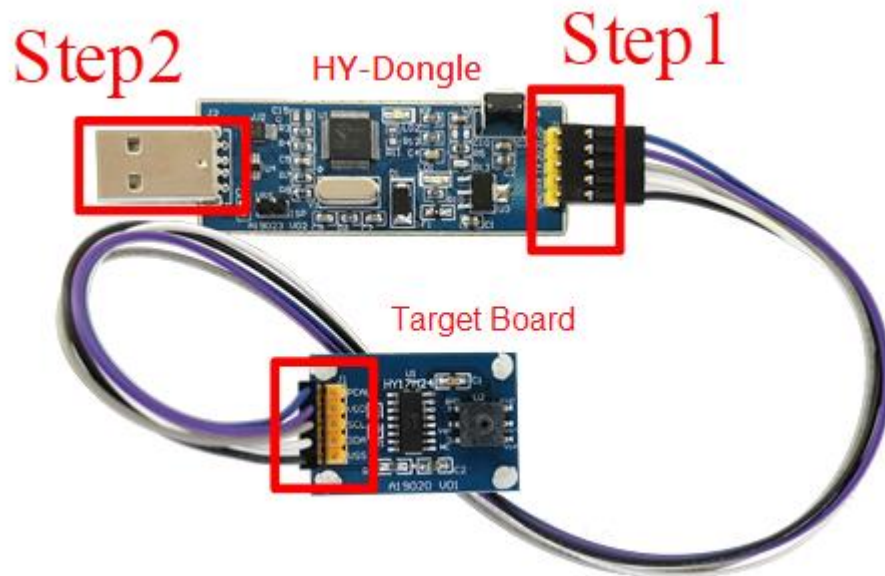


Figure 4-6

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## 5. Revisions

The following describes the major changes made to the document, excluding the font and punctuation changes.

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Version	Page	Date	Revision Summary
V01	ALL	2023/06/05	First edition