



**HY17S68 Series
HY17S68-DK02 IDE
Hardware User's Manual**

Table of Contents

1. PACKAGE CONTENTS	4
2. SAFETY PRECAUTIONS	5
3. SOFTWARE INSTALLATION REQUIREMENTS	6
3.1. IDE Software Installation Requirements	6
4. DESCRIPTION OF THE HARDWARE TOOL	7
4.1. Schematic architecture description	7
4.2. Description of control box	7
4.3. Description of In-Circuit Emulator(ICE) Board	8
4.4. ICE board circuit diagram	10
4.5. Control box and ICE board hardware connection steps	11
5. REVISION RECORD	12

HY17S68 Series

HY17S68-DK02 IDE

Hardware User's Manual

Attention:

- 1、HYCON Technology Corp. reserves the right to change the content of this datasheet without further notice. For most up-to-date information, please constantly visit our website: <http://www.hycontek.com>.
- 2、HYCON Technology Corp. is not responsible for problems caused by figures or application circuits narrated herein whose related industrial properties belong to third parties.
- 3、Specifications of any HYCON Technology Corp. products detailed or contained herein stipulate the performance, characteristics, and functions of the specified products in the independent state. We does not guarantee of the performance, characteristics, and functions of the specified products as placed in the customer's products or equipment. Constant and sufficient verification and evaluation is highly advised.
- 4、Please note the operating conditions of input voltage, output voltage and load current and ensure the IC internal power consumption does not exceed that of package tolerance. HYCON Technology Corp. assumes no responsibility for equipment failures that resulted from using products at values that exceed, even momentarily, rated values listed in products specifications of HYCON products specified herein.
- 5、Notwithstanding this product has built-in ESD protection circuit, please do not exert excessive static electricity to protection circuit.
- 6、Products specified or contained herein cannot be employed in applications which require extremely high levels of reliability, such as device or equipment affecting the human body, health/medical equipments, security systems, or any apparatus installed in aircrafts and other vehicles.
- 7、Despite the fact that HYCON Technology Corp. endeavors to enhance product quality as well as reliability in every possible way, failure or malfunction of semiconductor products may happen. Hence, users are strongly recommended to comply with safety design including redundancy and fire-precaution equipments to prevent any accidents and fires that may follow.
- 8、Use of the information described herein for other purposes and/or reproduction or copying without the permission of HYCON Technology Corp. is strictly prohibited.

HY17S68 Series

HY17S68-DK02 IDE

Hardware User's Manual

1. Package Contents

HY17S68-DK02 is an integrated hardware development kit, including ICE (In-Circuit Emulator) Board, Control Box, LCD Board and USB Cable. Integrated hardware development kit helps to develop MCU application program of HY17P6x Series. Through the NB/PC end connection for program compilation and debugging functions, the relevant hardware equipment is as follows:



Model No.	Part Name	Description	Quantity
HY17S68-DK02	1. HY17S68-IM02	HY17S68-L216 ICE Board	1
	2. HY17000-CM01	HY17S Control Box	1
	3. HY10000-AM01	LCD Board	1
	4. Cable line	USB Type A to Mini. B Cable	1
	5. Interface line	6pin/2.54 (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.

HY17S68 Series

HY17S68-DK02 IDE

Hardware User's Manual

3. Software Installation Requirements

3.1. IDE Software Installation Requirements

Minimum System Requirements of operating HY17S68 IDE hardware development tool:

- (1) PC/NB hardware requirement
 - IBM PC compatible X86 system CPU
 - 512 MB Memory (1GB recommended)
 - 1GB Hard disk
- (2) Supported product model
 - HY17P60 and HY17P68 series products
- (3) Hardware support models
 - HY17S68-DK02: HY17S68 IDE hardware development tool
 - (HY17000-CM01 supports firmware version above W15P02.0)
- (4) Software supported version
 - HY17P IDE V1.2 version above : HY17P Series Assembly Language IDE software
 - H08 CIDE V1.2 version above : HYCON 8-bit MCU C Language IDE software
- (5) Operating system requirements
 - Windows XP, Windows Vista, Windows 7, Windows 8, Windows 10
- (6) Applicable interface mode
 - USB Port with HID-compliant device
 - HY17S68-DK02's USB Port driver uses the Windows standard HID driver (Figure 3-1), so user can use it without installing a separate driver.



Figure 3-1

HY17S68 Series

HY17S68-DK02 IDE

Hardware User's Manual

4. Description of the hardware tool

4.1. Schematic architecture description

- HY17000-CM01 (control box) is the connecting device between HY17S68-IM02 ICE Board and HY17P Series IDE software.
- Connect with HY17S68-IM02 ICE board through Interface line (6Pin/2.54mm).
- Connect with HY17P Series IDE software through USB line, the connection diagram is as follows:



Figure 4-1

4.2. Description of control box

The control box (model: HY17000-CM01) is universal for HY17P series products (as shown in Figure 4-2). The following is the introduction of the control box:



Figure 4-2

(1) Power LED

Function : POWER LED

Item	Name	Description
L1	Power LED	Green light, when the USB Port is connected to a computer or a 5V power supply through a USB cable, when the green light is on, it means that the control box is normally powered.

HY17S68 Series

HY17S68-DK02 IDE

Hardware User's Manual

(2) Debug Port

Function: IDE communication interface port, used to connect with the Debug interface of the ICE Board to control the chip.

The function is defined as follows:

Item	Name	Description
1	VSS	Power ground
2	SCK	SCK Pin of Control Box and ICE board
3	VDD	Power output 4.5V
4	CS	CS Pin of Control Box and ICE board
5	SDI	SDI Pin of Control Box and ICE board
6	SDO	SDO Pin of Control Box and ICE board

(3) USB Port

Function : USB Port

Description: Mini B Cable connector

4.3. Description of In-Circuit Emulator(ICE) Board

The ICE board (model: HY17S68-IM02) is commonly used for HY17P6x series products (see Figure 4-3). This ICE board is mainly used for IDE hardware tools, which can be used to emulate chips and develop debugging. The following describes the appearance and functions of the ICE board:

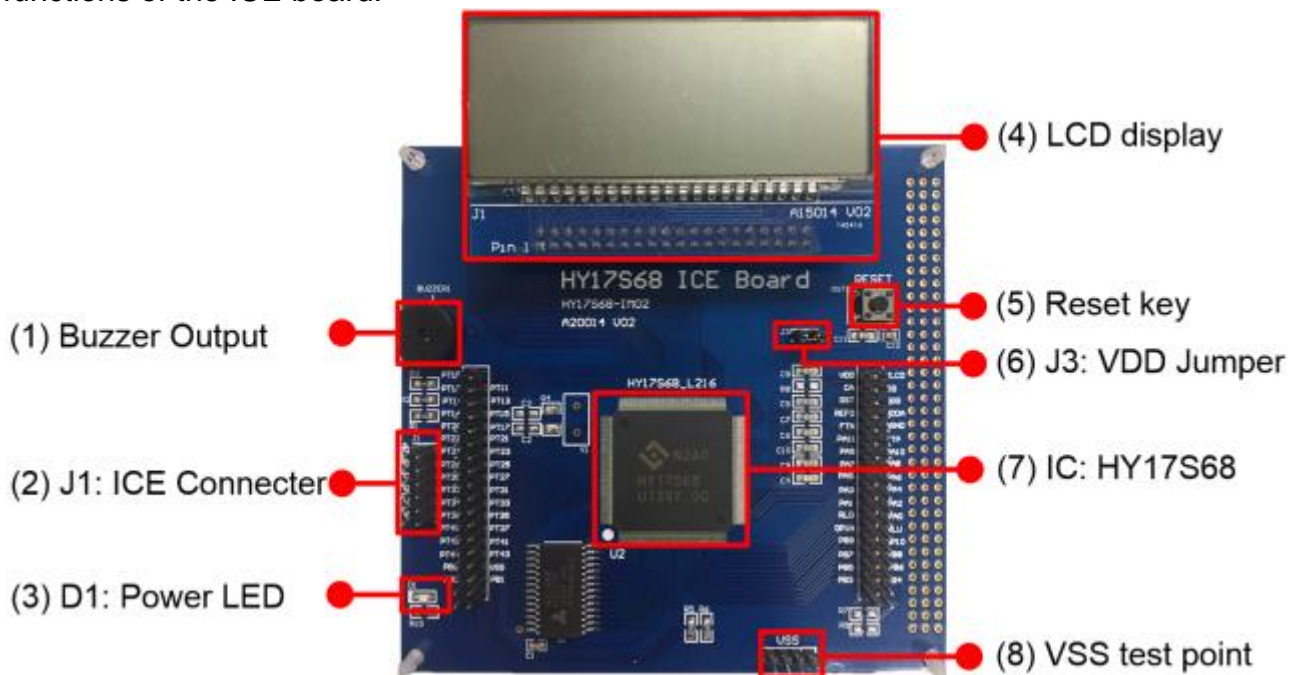


Figure 4-3

(1) Buzzer Output

Function: can make the buzzer sound

(2) J1: ICE Connector

HY17S68 Series

HY17S68-DK02 IDE

Hardware User's Manual

Function: connect with the control box (HY17000-CM01) to emulate the operation of the chip.

(3) D1: Power LED

Function: Connect to the control box (HY17000-CM01), when power is supplied, D1 on the ICE board will be on constantly

(4) LCD display(4COM*17SEG)

Function: Mainly control the use of LCD display.

(5) Reset Key

Function: Reset ICE to use.

(6) J3:VDD Jumper

Function: Provide HY17S68 power supply (4.5V)

(7) IC: HY17S68

Function: Emulation chip, used to emulate the use of HY17P6x series chips

(8) VSS Test point

Function: Use for grounding test

HY17S68 Series HY17S68-DK02 IDE Hardware User's Manual

4.4. ICE board circuit diagram

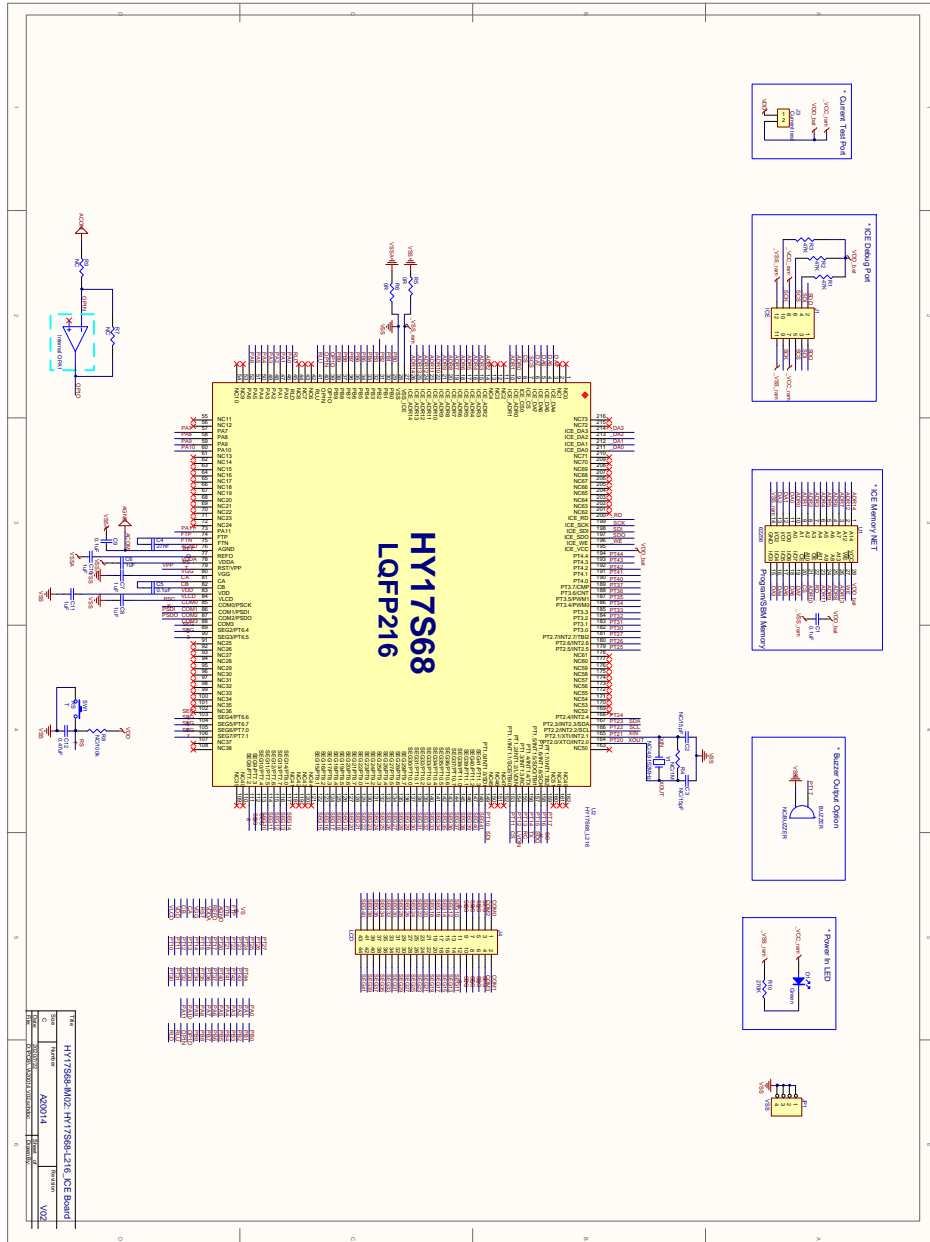


Figure 4-4

Note : The ICE board circuit diagram is placed in the IDE software folder,
 "A20014 V02_HY17S68-IM02_HY17S68-L216 ICE Board.pdf"
 The Assembly IDE folder path is: "HYCON\HY17P IDE\ICESchematic"
 The H08 CIDE folder path is: "HYCON\H08 CIDE\ICESchematic\HY17P"

4.5. Control box and ICE board hardware connection steps

- (1) Confirm that J3 (VDD Jumper) of the ICE board is short-circuited together.
- (2) The Interface lines are respectively connected to the Debug port of the control box and the ICE Connector (J1) of the ICE board.
- (3) Use USB Cable to connect to the USB Port of the control box and the USB Port of the computer (the Power LED will be on at this time).
- (4) After Step1~3 (as shown in Figure 4-5), it means that the hardware of the control box and the ICE board are properly connected.

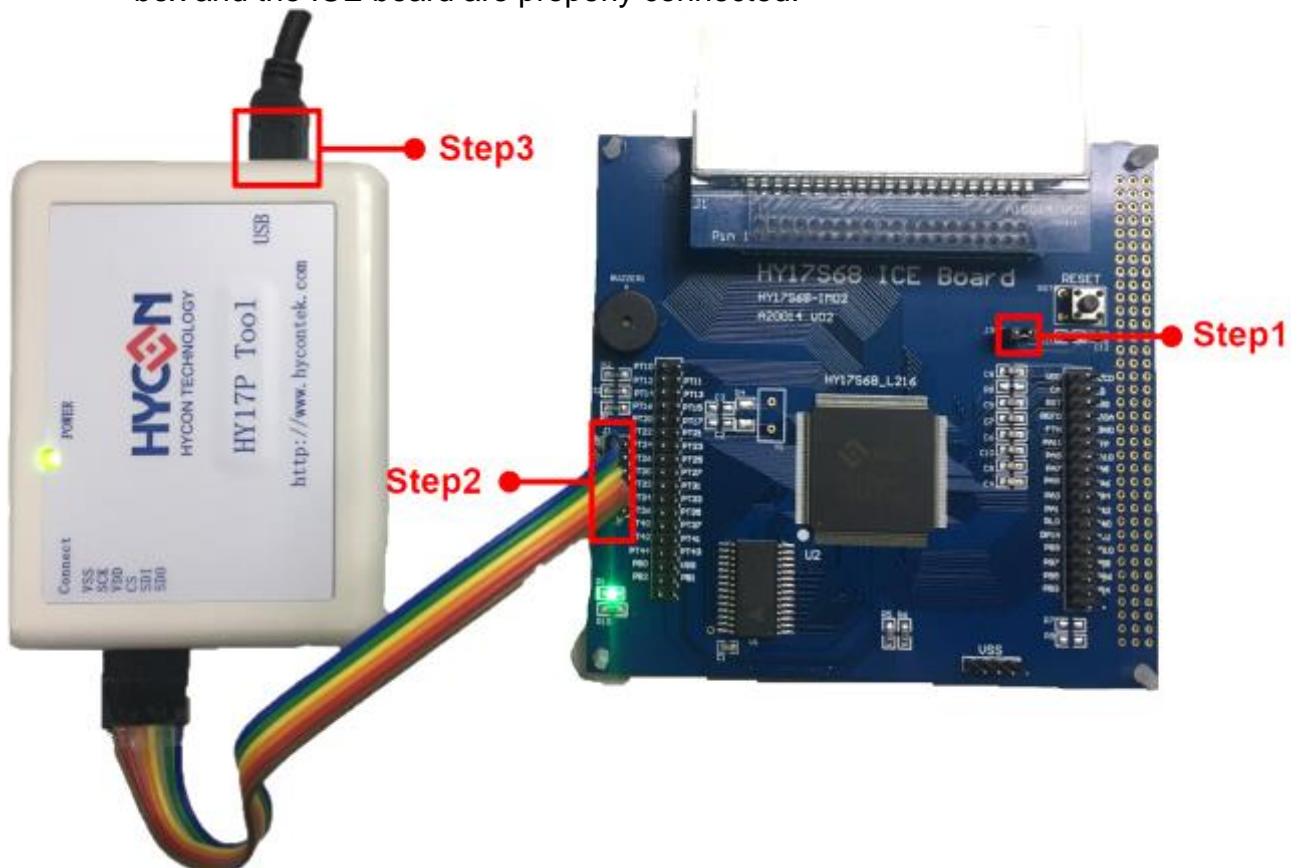


Figure 4-5

HY17S68 Series

HY17S68-DK02 IDE

Hardware User's Manual



5. Revision Record

Version	Page	Date	Summary
V01	All	2020/07/30	First version