

Hisense



HK716 All-in-one POS of Sale System

System Integration Manual

Document version 1.0

Copyright Statement

© 2017 Hisense Company Ltd. All Rights Reserved.

All material in this System Integration Manual is the property of Hisense Company Ltd. and its subsidiaries, and is protected under International, US, CANADA, MEXICO copyright and/or other intellectual property laws. Reproduction or transmission of the materials, in whole or in part, in any manner, electronic, print, or otherwise, without the prior written consent of Hisense Company Ltd. is a violation of Hisense Company Ltd. rights under the aforementioned laws.

No part of this publication may be stored, reproduced, transmitted or distributed, in whole or in part, in any manner, electronic or otherwise, whether or not for a charge or other or no consideration, without the prior written permission of Hisense Company Ltd.

Requests for permission to store, reproduce, transmit or distribute materials may be made to one of the following addresses:

China No.399, Songling Road, Laoshan District, Qingdao,
266101, China

Hisense, and any and all other Hisense product names, logo's, slogans or marks are registered trademarks of Hisense Company Ltd. and its subsidiaries. All other trademarks are the property of their respective holders

Safety Notice

Safety notices to follow before installing or using the POS system



Caution:

- Make sure that the voltage of the power outlet is the same as the voltage that's marked on the outside of the POS system.
- Always keep the power cable properly connected and grounded.
- Keep the POS product in a safe, stable place that's away from heavy or sharp objects.
- Install the POS product in a well-ventilated area and use it in a clean and dry place.
- Make sure your USB flash drive or disk does not contain viruses before you insert it into the POS product and always back up important files.
- Use the separate power strips specifically designed for this POS system.
- Do not use loose or damaged power cables.
- Do not touch the power plug with wet hands.
- Do not plug in the AC power cord while you are opening the unit to install features or service this POS product.



Warning

- Static may cause damage to the POS.
- Incorrectly replacing a battery can result in an explosion. Make sure to only replace the battery with the same or equivalent type as recommended by the manufacturer (Hisense). Discard used batteries according to the manufacturer's instructions.
- Do not remove the peripheral device before you turn off the system.
- Turn on the system after you turn on peripheral devices and turn off the peripheral devices after you turn off the system

The manufacturer has the right to modify contents of this manual without prior announcements!

Table of Contents

Table of Contents	4
List of Figures	5
List of Tables.....	6
Section 1. Introduction.....	7
Welcome to the Hisense family!	7
Overview of the Hisense HK716 Series All-in-one POS System.....	7
Section 2. Understanding the HK716 POS.....	8
Understanding the HK716 POS	8
Controls and other Exterior Components	8
Ports	9
Section 3. Installing the POS System	9
Installing the POS System.....	9
Finding the right location to install the POS system.....	9
Connecting a DC power supply cable	10
Section 4. Getting familiar with the HK716 motherboards.....	11
HK716 Motherboard Layout	11
HK716 series Connectors and Functions.....	13
HK716 series Common Jumpers and functions.....	14
HK716 series Display	14
HK716 series Audio Description	16
HK716 series LAN	16
HK716 series USB	16
HK716 series CASH DRAWER.....	16
HK716 series Power connector	17
Section 5. Assembling and Disassembling the POS System	18
Assembling and disassembling the POS.....	18
Back cover disassembly.....	18
Printer disassembly	19
Section 6. Product Specifications.....	20
HK716 Specifications.....	20
Appendix A. Printer settings	21
Configuring the Printer Settings.....	21

List of Figures

Figure 1. Front View of the HK716 POS System	8
Figure 2. Built-in ports of the POS system	9
Figure 3. DC power input	10
Figure 4. DC power supply cable	10
Figure 5. HK716 Motherboard	12
Figure 6. Back cover disassembly.....	19
Figure 7. Printer screw	19
Figure 8. Screenshot of the Apps	21
Figure 9. Screenshot that shows the calculator program	21
Figure 10. Screenshot that shows the printer options.....	22

List of Tables

Table 1. Port Descriptions	9
Table 2. HK716 series Connectors and Functions	13
Table 3. Common Jumper Descriptions	14
Table 4. HK716 series Display description.....	14
Table 5. HK716 series Audio description.....	16
Table 6. HK716 series LAN.....	16
Table 7. HK716 series USB.....	16
Table 8. HK716 series Cash Drawer.....	16
Table 9. HK716 series Power connector.....	17
Table 10. HK716 Specifications	20

Section 1. Introduction

Welcome to the Hisense family!

Welcome to the **Hisense** family! This *Hisense HK716 Series All-in-one POS System Integration Manual* provides steps to install and configure the **Hisense HK716 Series All-in-One Point-of-Sale (POS) System**. In order to install this successfully, you should have an understanding of different programming languages, computer networking, hardware components, application integration and POS systems.

Overview of the Hisense HK716 Series All-in-one POS System

Because we understand that processing sales transactions is an integral part of business, we've designed an all-in-one solution called the **Hisense HK716 All-in-one POS System**. The models have a 14" LED light display for the panel, an ARM processor for powerful speed and many other powerful features to meet the business needs of our customers.

Items that were packaged with the POS system

After you unpack the unit, check to ensure the following items are included inside the package:

- HK716 POS system
- Power adapter
- Power cord

Contact information for questions

If any items are missing from the carton box or you have questions, contact Hisense via email or postal mail.

Email infopos@hisense.com

Mailing Address No.399, Songling Road, Laoshan District,
Qingdao,266101, China

Website address <http://hics.hisense.com>

Required tools

You will need a Phillips screwdriver to disassemble the POS in order to access the motherboard

Section 2. Understanding the HK716 POS

Understanding the HK716 POS

This section describes the exterior of the POS system, the dimensions at different angles and the input/output ports.

Controls and other Exterior Components

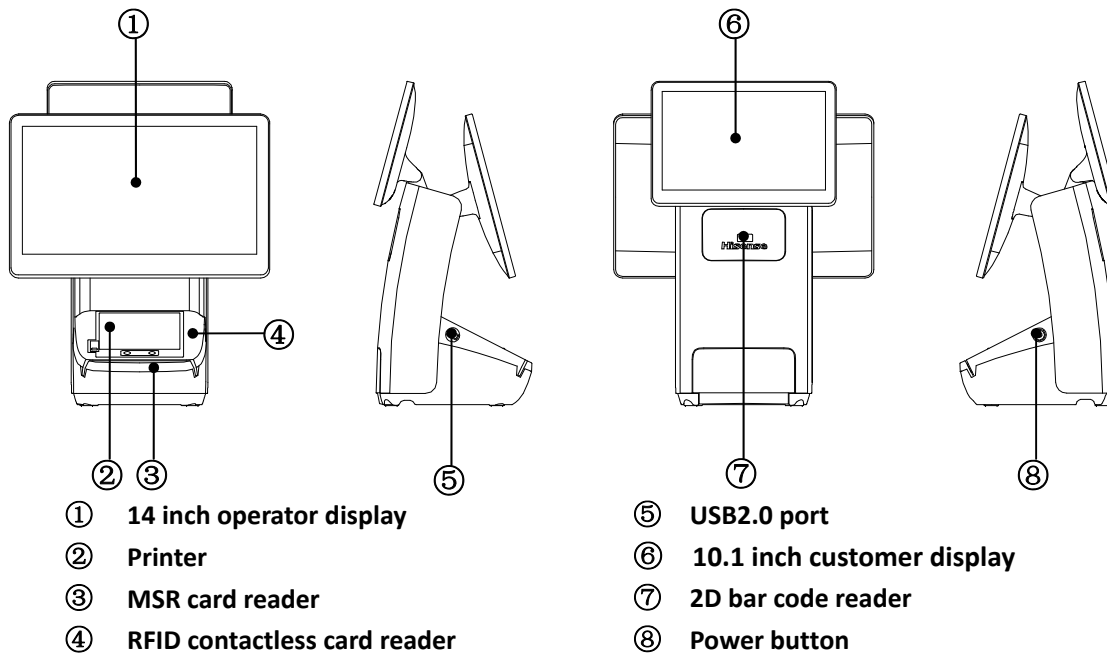


Figure 1. Front View of the HK716 POS System

Disclaimer: The exterior design and specifications for this product may be changed without prior notice in order to improve quality.

Ports

The POS system has 8 built-in ports.

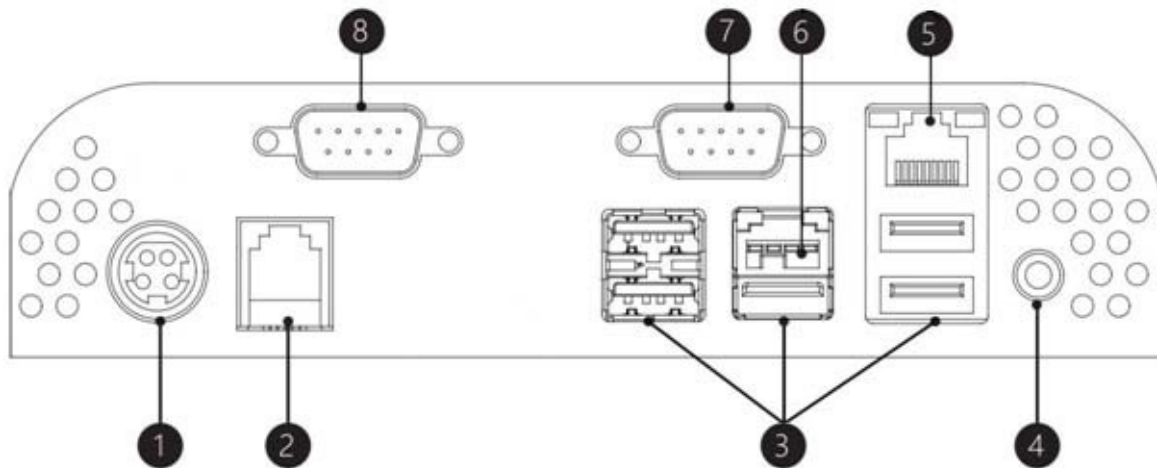


Figure 2 Built-in ports of the POS System

Table 1. Port Descriptions

Port Number	Port Name
1	+24V DC INPUT
2	24V RJ11 cash drawer
3	5*USB
4	Audio
5	100/1000M LAN
6	USB OTG(developer used)
7	COM1
8	COM2

Section 3. Installing the POS System

Installing the POS System

This section provides the steps to install the POS system, connect peripherals and the DC power supply cable.

Finding the right location to install the POS system

It is important to choose a safe and secure place to install the terminal.

- Choose a desk or table which is big and strong enough to support the weight of the system and peripherals.
- Choose a flat, hard surface, carpeted area can generate static electricity that can alter memory or damage system components.
- Make sure to install the system in a well-ventilated place and keep the space free around the system.
- Choose appropriate environmental conditions such as cool and dry places. Avoid humid and dusty places. Also avoid direct sunlight, rapidly changing temperatures, or placing the system near heat sources.

- Select the appropriate voltage. Connect all the equipment into an isolated outlet to prevent static electricity and short circuit.
- Choose a location where sufficient power outlets are available for printers and other peripheral devices.
- Do not install the POS system near electromagnetic and electrical devices, such as phones and electric motors, which can cause system damage.
- The socket-outlet should be installed near the equipment and easy to access.

Connecting a DC power supply cable

Connect the [DC power cable] to the [DC power input] at the bottom of the system.

Note: You can use a 100V - 240V adapter with this POS system.



You should only use the manufacturer (Hisense) adapter with this POS system. Hisense will not be held liable for any damages caused by using products made by other manufacturers.(if not supply by Hisense)



Figure 3. DC power input

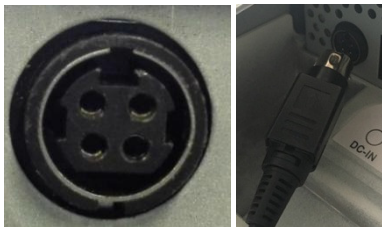
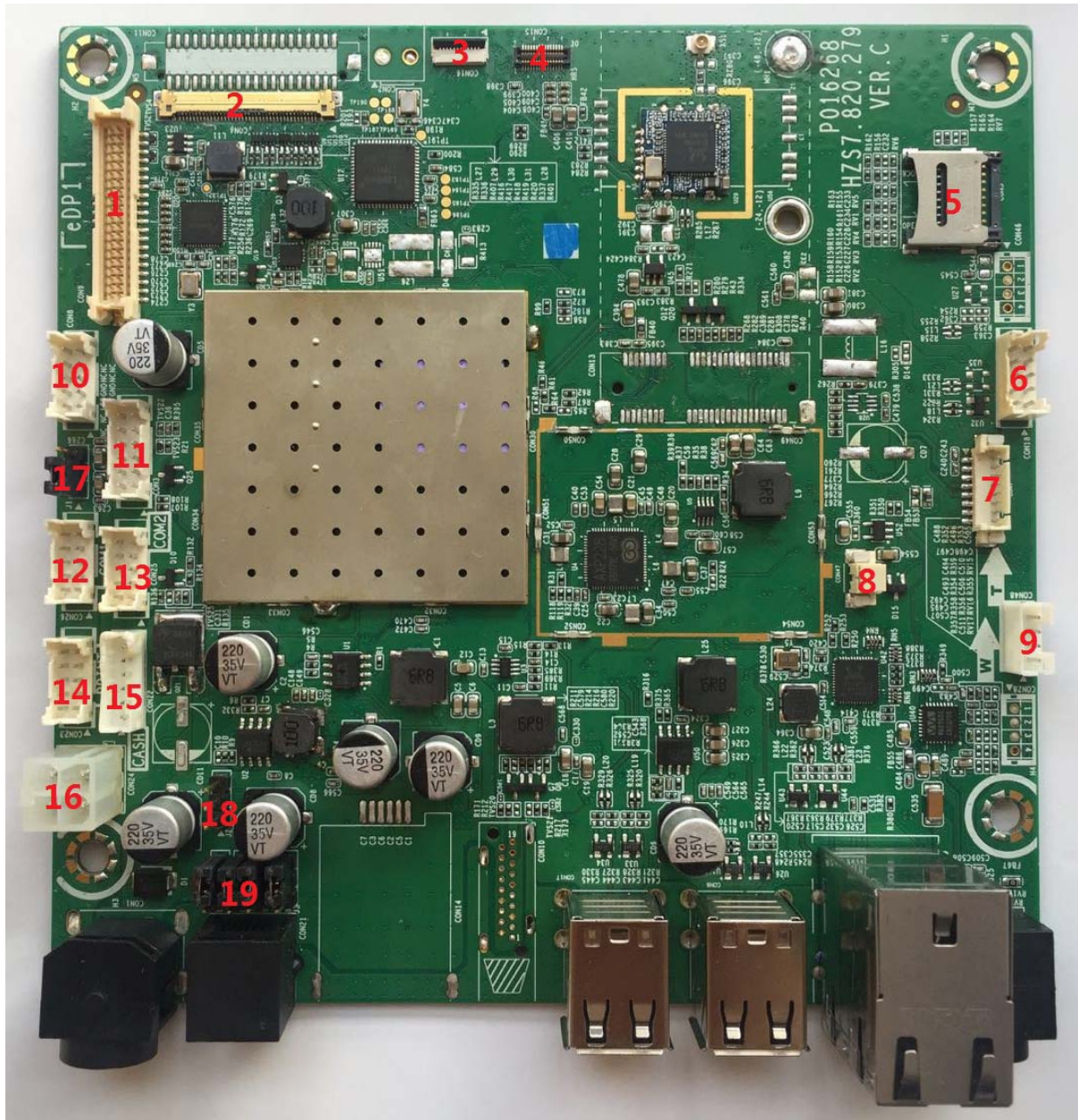


Figure 4. DC power supply cable

Section 4. Getting familiar with the HK716 motherboards

HK716 Motherboard Layout



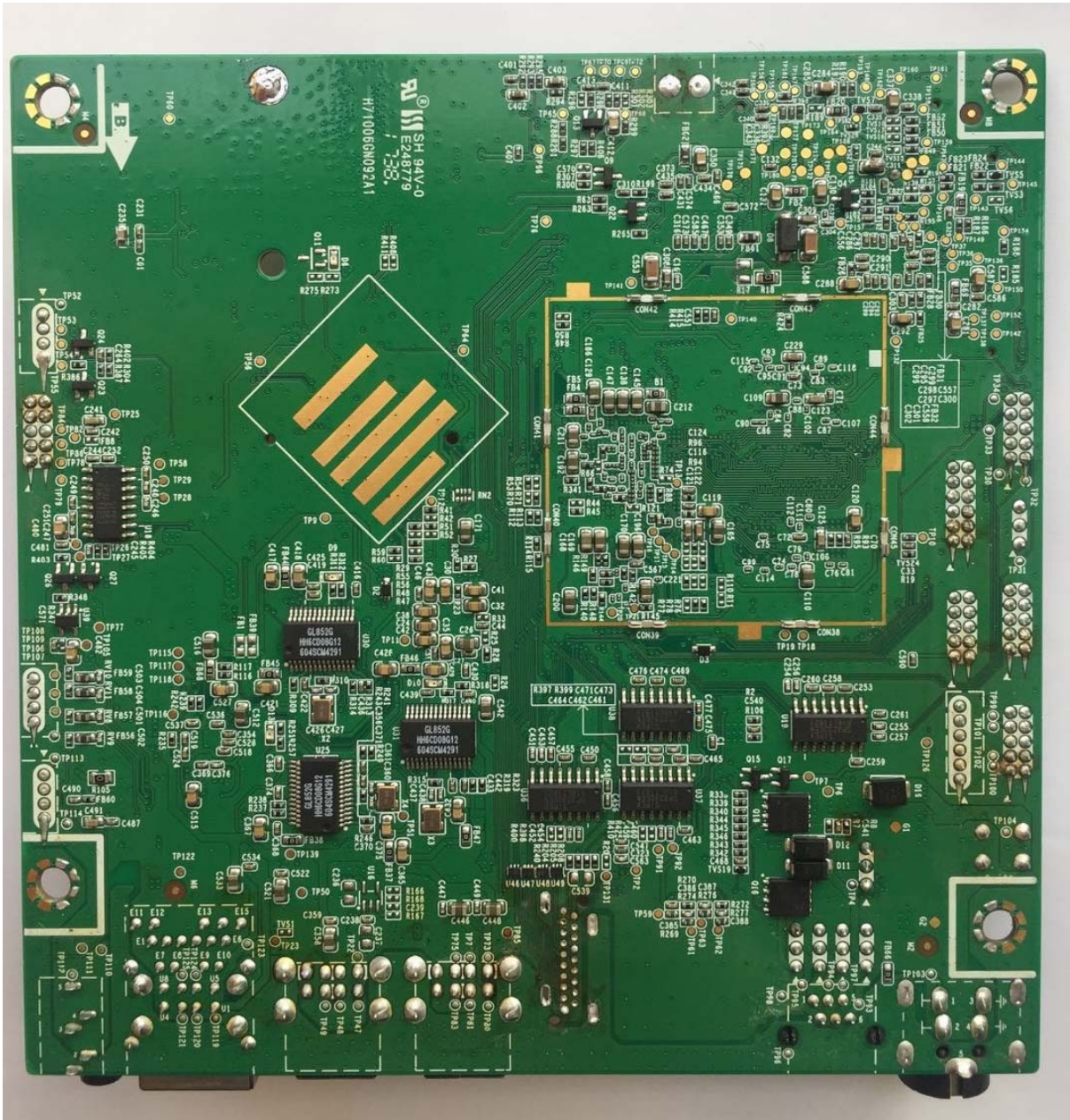


Figure 2. HK716 Motherboard



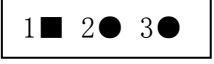
HK716 series Connectors and Functions

Table 2. HK716 series Connectors and Functions

Marks on Mainboard	Ports	Port specification
1. CON9	eDP Main screen signal 2* 20 pin x1set	Main screen signal
2. CON4	LVDS zero lift drag 40 pin x1set	10.1 inch second screen signal
3. CON16	Serial port 12PIN FPC socket	connect to 2D scanner
4. CON15	MIPI Camera signal 30 pin x1set	connect to camera
5. CON5	TF card slot	TF card
6. CON18	USB pin wafer2.0 2* 5 pin x1set	lateral USB
7. CON7	Serial port pin wafer1.25 1* 8pin x1set	NFC and MSR
8. CON47	RTC battery wafer1.25 1* 2pin x1set	RTC
9. CON48	Speaker pin wafer2.0 1* 4 pin x1set	Speaker
10. CON8	Serial port COM4 pin wafer2.0 2* 5 pin x1set	VFD
11. CON3	Button board pin wafer2.0 2* 6 pin x1set	Power On/Off
12. CON26	Serial port COM1 pin wafer2.0 2* 5 pin x1set	COM1
13. CON25	Serial port COM2 pin wafer2.0 2* 5 pin x1set	COM2
14. CON23	Serial port pin wafer2.0 2* 5 pin x1set	Printer
15. CON22	Printer drive cash drawer pin wafer2.0 1* 6 pin x1set	Cash box
16. CON24	1* 4pin 24V DC OUT socket (With protection circuit)	Printer module power supply
17. J1	1* 3 wafer2.0 jumpers x1set	VFD power 5V/12V electric level jumper
18. J2	1* 3 wafer2.0 jumpers x1set	Cash Drawer power 24V/12V electric level jumper(Only for Mainboard drive cash drawer condition)
19. J3 J4 J5 J6	1* 3 wafer2.0 jumpers x4set	Jumper to select Mainboard drive or printer drive cash drawer,details show in table3

HK716 series Common Jumpers and functions

Table 3.Common Jumper Descriptions

Jumper	Pin	Function	Setting	
J1	3-pin	Power Select for VFD	1-2 5V 2-3 12V	
J3 J4 J5 J6	3-pin	CASH1 CASH2 Select CASH1:Mainboard drive cash drawer(Optional) CASH2:Printer drive cash drawer(Default)	1-2 CASH1 2-3 CASH2 (4 groups of jumpers select 1-2 at the same time,then CASH1 works, while 2-3 is selected at same time to CASH2, otherwise cash drawer will be invalid , 2 CASH drawer opposite, don't support simultaneous work)	
J2	3-pin	Power Select for Cash Drawer	1-2 12V 2-3 24V	

HK716 series Display

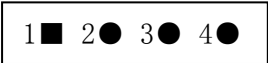
Table 4. HK716 series Display description

Display		Description
Interface	EDP (prime/ 2nd)	2*20Pin, 24bit
	LVDS (2nd)	1*LVDS (zero lift drag)
Display Mode	Dual display	Support extended display

Interface defined	2*20 PIN EDP CONNECTOR			
	PIN Defined:			
	Pin No.	Function	Pin No.	Function
	1	NC	21	GND
	2	GND	22	Enable
	3	Lane1_N	23	PWM
	4	Lane1_P	24	NC
	5	GND	25	NC
	6	Lane0_N	26	PWR
	7	Lane0_N	27	PWR
	8	GND	28	PWR
	9	AUX_CH_P	29	PWR
	10	AUX_CH_N	30	NC
	11	GND	31	NC
	12	VCC	32	NC
	13	VCC	33	NC
	14	TEST	34	NC
	15	GND	35	VCC(3.3V)
	16	GND	36	SDA
	17	HPD	37	SCL
	18	GND	38	RST
	19	GND	39	INT
	20	GND	40	GND
	Onboard LVDS defined: (2*6 2.0mm PHD Header)			
	1	+3.3V	2	+3.3V
	3	GND	4	GND
	5	LVDS_CLKM	6	LVDS_CLKP
7	GND	8	LVDS_Y3M	
9	LVDS_Y3P	10	GND	
11	LVDS_Y2M	12	LVDS_Y2P	
13	GND	14	LVDS_Y1M	
15	LVDS_Y1P	16	GND	
17	LVDS_Y0M	18	LVDS_Y0P	
19	GND	20	TEST POINT	
21	TEST POINT	22	GND	
23	GND	24	BACKLIGHT_EN	
25	BACKLIGHT_PWM	26	GND	
27	CTP_INT	28	CTP_RST	
29	CTP_SCL	30	CTP_SDA	
31	GND	32	+3.3V	
33	GND	34	VLED+	
35	VLED1-	36	VLED2-	
37	VLED3-	38	VLED4-	
39	GND	40	GND	

HK716 series Audio Description

Table 5. HK716 series Audio description

Audio	Description								
Audio Code	WM8960								
Rear IO Type	HP Connector								
Onboard audio pin	PIN defined <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>1</td> <td>SPK_LP</td> <td>2</td> <td>SPK_LN</td> </tr> <tr> <td>3</td> <td>SPK_RP</td> <td>4</td> <td>SPK_RN</td> </tr> </table> 	1	SPK_LP	2	SPK_LN	3	SPK_RP	4	SPK_RN
1	SPK_LP	2	SPK_LN						
3	SPK_RP	4	SPK_RN						
PIN Type	1*4Pin 2.0mm wafer box								

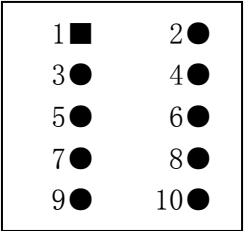
HK716 series LAN

Table 6. HK716 series LAN

LAN	Description
LAN IC	RTL8211E 100M/1000M
PIN TYPE	RJ45

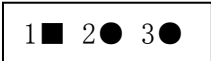
HK716 series USB

Table 7. HK716 series USB

USB	Description																				
Connector type	6 x USB2.0																				
Rear connector	5																				
Onboard connector	USB PIN defined (2*5pin PHD Header 2.0mm) : <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>1</td> <td>VCC</td> <td>2</td> <td>VCC</td> </tr> <tr> <td>3</td> <td>HUB2_DM2</td> <td>4</td> <td>NC</td> </tr> <tr> <td>5</td> <td>HUB2_DM2</td> <td>6</td> <td>NC</td> </tr> <tr> <td>7</td> <td>GND</td> <td>8</td> <td>GND</td> </tr> <tr> <td>9</td> <td>GND</td> <td>10</td> <td>GND</td> </tr> </table> 	1	VCC	2	VCC	3	HUB2_DM2	4	NC	5	HUB2_DM2	6	NC	7	GND	8	GND	9	GND	10	GND
1	VCC	2	VCC																		
3	HUB2_DM2	4	NC																		
5	HUB2_DM2	6	NC																		
7	GND	8	GND																		
9	GND	10	GND																		
PIN type	2X5pin PHD Header 2.0mm																				

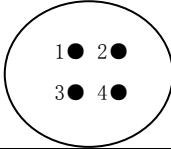
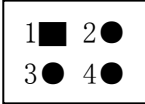
HK716 series CASH DRAWER

Table 8. HK716 series Cash Drawer

CASH DRAWER	Description				
Connector type	RJ11				
PIN defined	1.GND 2.CD_OPEN 3.CD_SENSE 4.+24V 5.NC 6.GND				
Voltage select	JCASH <table border="1" style="display: inline-table; margin-left: 20px;"> <tr> <td>1-2</td> <td>12V</td> </tr> <tr> <td>2-3</td> <td>24V</td> </tr> </table> 	1-2	12V	2-3	24V
1-2	12V				
2-3	24V				

HK716 series Power connector

Table 9. HK716 series Power connector

24V DC	+24V 4 PIN DC JACK defined: 1. 24V 2. 24V 3. GND 4. GND	
	+24V 2*2 PIN CONNECTOR 1. GND 2. GND 3. 24V 4. 24V	

Section 5. Assembling and Disassembling the POS System

Assembling and disassembling the POS

This section provides the steps to assemble and disassemble the POS system.

Back cover disassembly

To disassemble the POS, first take off the back cover.

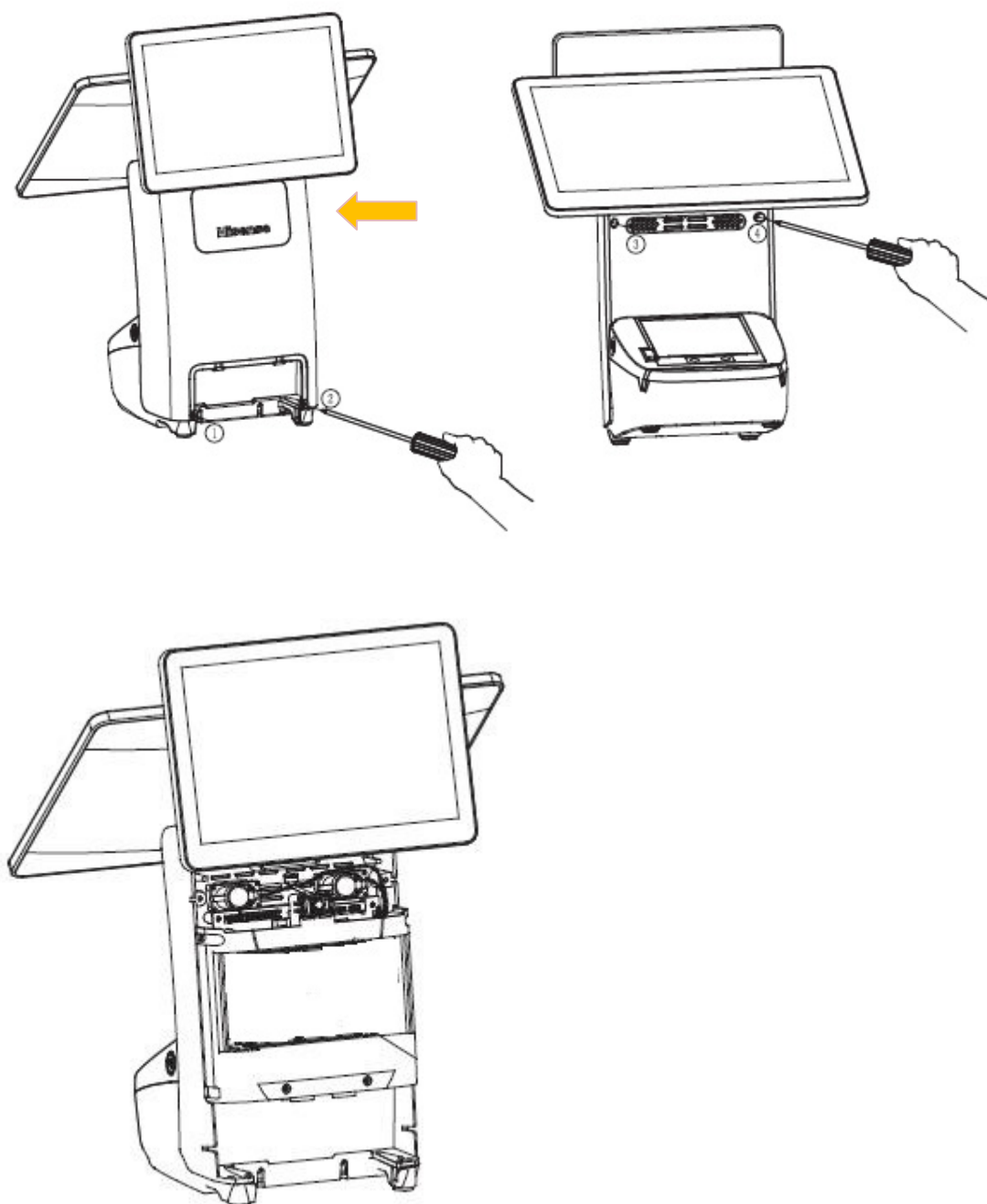


Figure 6. Back cover disassembly

Printer disassembly

To disassemble the printer, connect the cables. Next, fix on the screws.

Note: Do not screw too hard (**tight**)

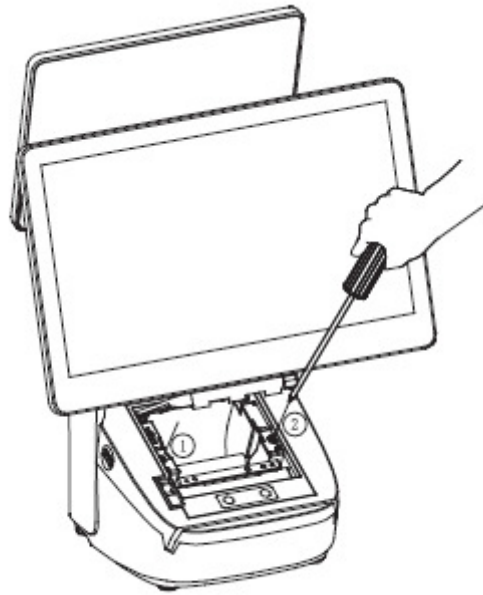


Figure 7. Printer screw

Section 6. Product Specifications

HK716 Specifications

Table 10. HK716 Specifications

Item		Description
Model		HK716
System	CPU	Samsung S5P6818 Cortex-A53 Octa core CPU, clock speed 1.4GHz
	Memory	DDRIII 2G
LCD Touch Panel	LCD Size	14 inch
	Brightness	350 cd/m ²
	Resolution	1366×768
	Touch Screen	capacitive true flat touch
Storage	Flash Memory	eMMC 16GB Nand Flash (Standard)
I/O Ports	Serial Ports	2* standard RS-232 COM(COM1\COM2);
	USB	7* USB 2.0
	LAN	1 * RJ-45 (100M/1000Mbps Gigabit LAN)
	Audio	1 * Line-out
	Cash Drawer	1 * RJ-11 12V/24V for cash drawer
Power	Power Adapter	Adapter (DC 24V, 3.75A)
Peripheral	Build-in Customer Display	2×20 characters VFD or 10.1 inch LCD(1280*800)
	Build-in Printer	2"/3" thermal printer(COM)
	MSR	3 Tracks (COM)
	Optional Peripheral	RFID
Optional Peripheral	Scanner	2D barcode scanner (COM)
Environment	Operating Temperature	5°C - 40°C
	Operating Humidity	40% - 90%

Appendix A. Printer settings

Configuring the Printer Settings

Use the **ProductTest** software to change the functional parameter of the printer.

Choose the **calculator** program.

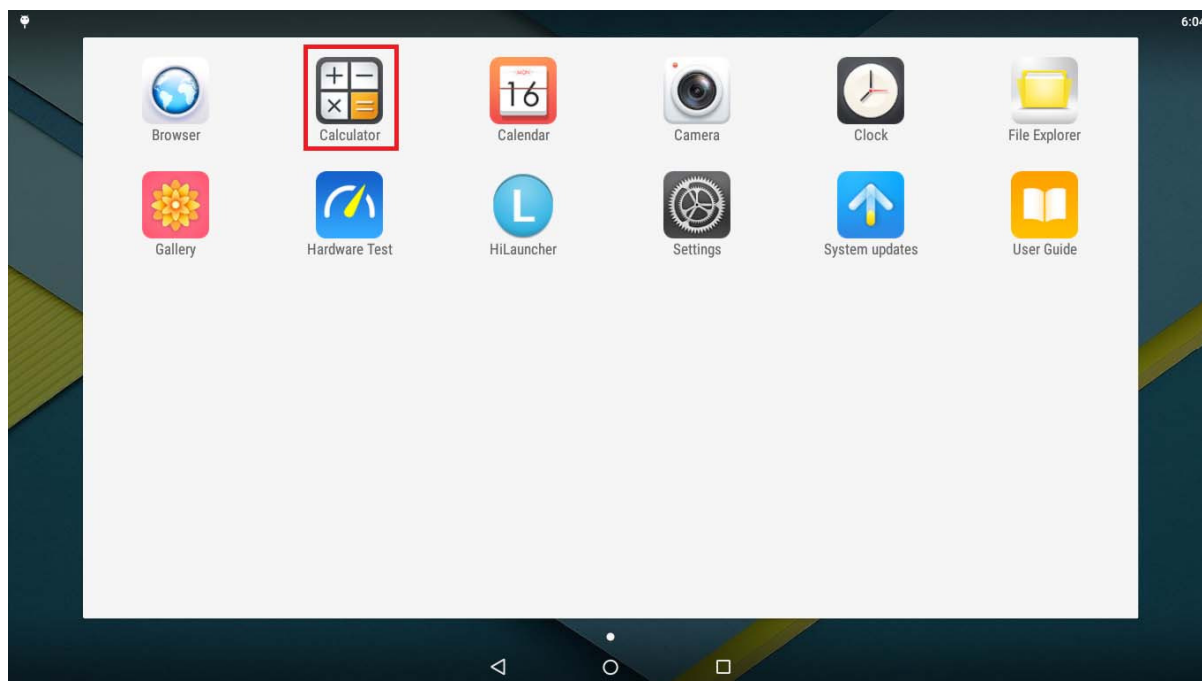


Figure 8. Screenshot of the Apps

Enter "**sin**" "**cos**" "**tan**" "**7**", the ProductTest program will be invoked automatically.

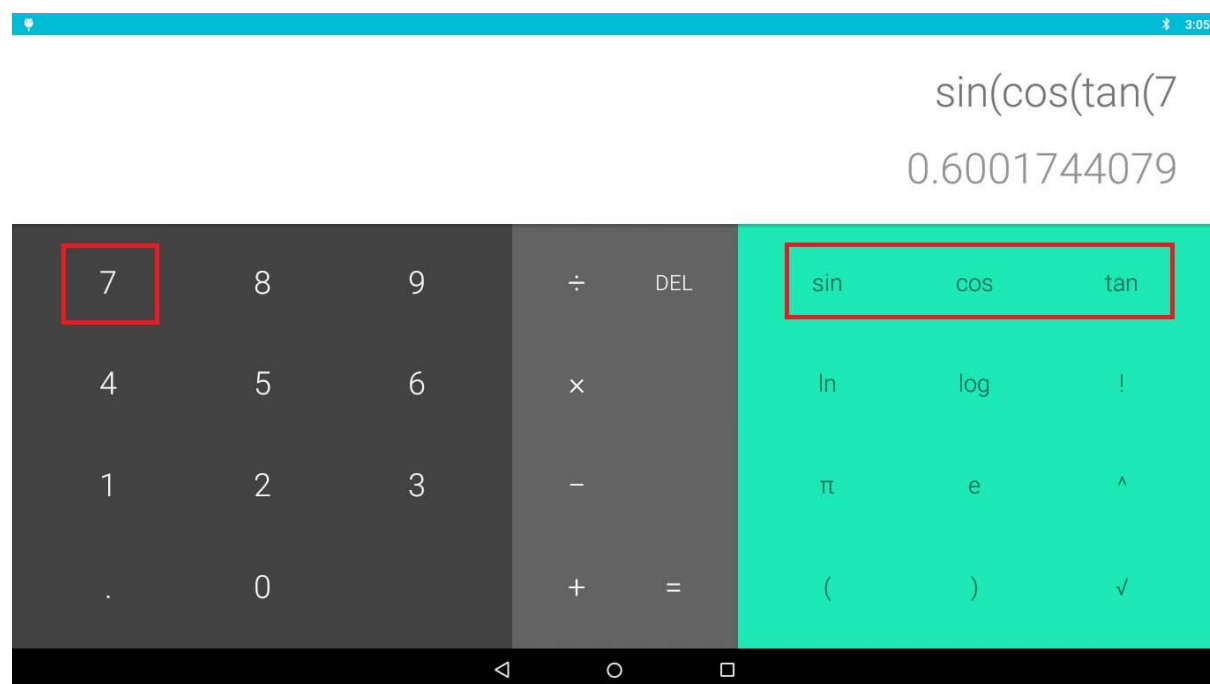


Figure 9. Screenshot that shows the calculator program

Choose Baudrate options. You can choose 58mm or 80mm for the type of printer. You can also change the baud rate by choosing the correct current baud rate and the desired baud rate. Click **SetBaudRate** button and finish printer setting.

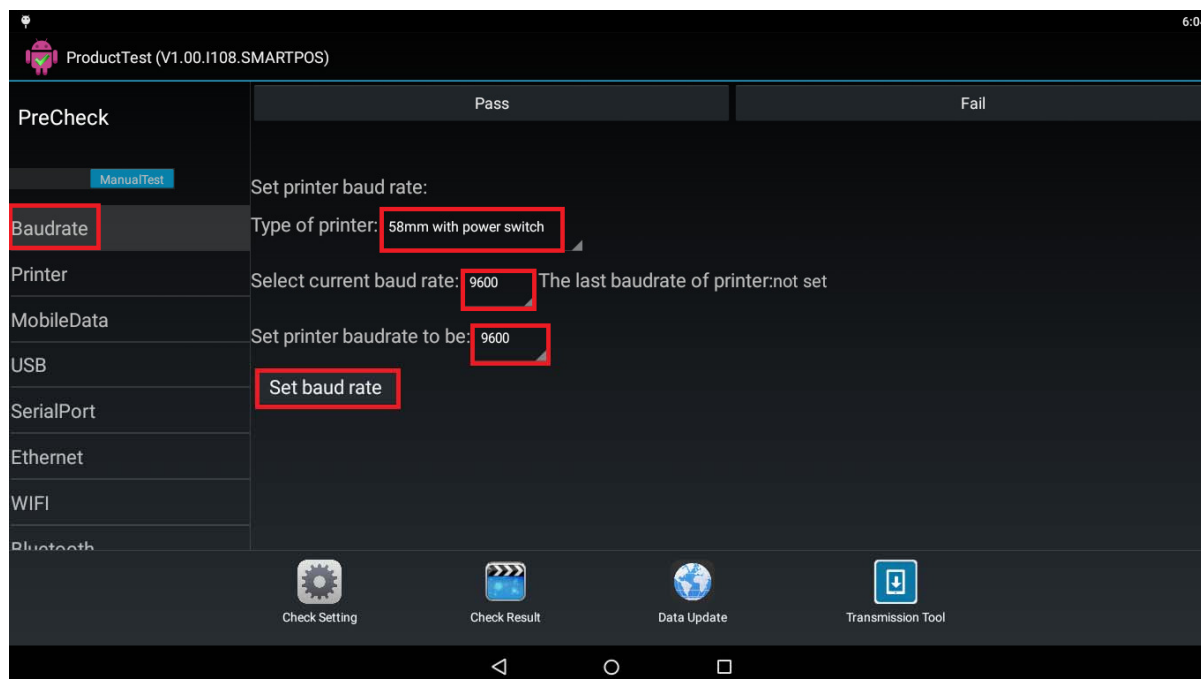


Figure 10. Screenshot that shows the printer options

Restart the printer after setting.

FCC Statement

Any Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) This device may not cause harmful interference, and
- (2) This device must accept any interference received, including interference that may cause undesired operation.

FCC Radiation Exposure Statement:

This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator & your body.

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.