# POS310/312 with B45 M/B Installation Guide



POS 310(Black/White)

POS312(Black/White)

## Point-of-Sale Hardware System

Part no. 48200301 July. 2004 (V2.0)

# Safety

### IMPORTANT SAFETY INSTRUCTIONS

- Read these instructions carefully. Keep these instructions for future reference.
- Follow all warnings and instructions marked on the product.
- Do not use this product near water.
- Do not place this product on an unstable cart, stand, or table. The product may fall, causing serious damage to the product.
- Slots and openings in the cabinet and the back or bottom are provided for ventilation; to ensure reliable operation of the product and to protect it from overheating, these openings must not be blocked or covered. The openings should never be blocked by placing the product on a bed, sofa, rug, or other similar surface. This product should never be placed near or over a radiator or heat register, or in a built-in installation unless proper ventilation is provided.
- This product should be operated from the type of power indicated on the marking label. If you are not sure of the type of power available, consult your dealer or local power company.
- Do not allow anything to rest on the power cord. Do not locate this product where persons will walk on the cord.
- Never push objects of any kind into this product through cabinet slots as they may touch dangerous voltage points or short out parts that could result in a fire or electric shock. Never spill liquid of any kind on the product.

## FCC

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

This device may not cause harmful interference.

This device must accept any interference received, including interference that may cause undesired operation.

#### Caution on Lithium Batteries

Danger will explosion if battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

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## 1.Accessory



AC Adapter



Power Cord





Driver Bank

Warranty Card

Folder/File	File Description
<cd>:\B45\B45.htm</cd>	B45 Driver list
<cd>:\B45\VGA_Audio\</cd>	VGA & Audio driver
<cd>:\Common\LAN_drive\ R8139_810x</cd>	LAN driver
<cd>:\Common\MION_Touch</cd>	Touch driver

# 2.I/O Function

(Note: POS312 without I-button function)

### 2.1 Front View



#### 2.3 I/O Ports

#### 2.2 Bottom View





#	Function	#	Function	#	Function	#	Function
1	DC 19V IN	4	LPT	7	COM4	10	DIO1
2	PS/2 Mouse	5	COM1	8	COM3	11	LAN
3	PS/2 Keyboard	6	COM2	9	DIO2	12	USB 1 & 2

### 2.4 Side View



For Keyboard connection, please choose between the PS/2 keyboard on the connector board and the one on the side board.

# 3. Specification

Item		Description		
Main Board		B45		
CPU		GXM 233-266GP		
Core Logic		NS GX1		
LCD size	POS310	10" DSTN-LCD Anti-glare		
	POS312	10.4" TFT LCD		
Brightness	POS310	70~100cd/m <sup>2</sup>		
	POS312	150 cd/m <sup>2</sup>		
Display Fun	ction	(built-in) on NS-CS5530		
Compact Fla	ash	(Secondary/IDE)Type 1, Socket supported		
HDD		(Primary/IDE)Internal Slim type 44pin header (optional)		
RAM		On-board 128MB, 1 x S.ODIMM up to 256MB		
Resolution		800 x 600		
Touch Scree	en	4 Wire Resistive type (Miontec )		
Touch Pane	I	Miontec 4 Wire (COM5)		
Serial Port		6, Pin 1/9 with +5V/+12V, COM4 for Card Reader,		
		COM5 for Touch Screen, COM6 for Customer Display		
Cash Drawe	er	2(with 12V/24V Output, MAX 24V≤2A)		
LPT		1		
USB		2(V1.1)		
PS2		Keyboard x 1, Mouse x 1		
LAN		1, (10/100 Base-T), RTL-8100 Chipset		
Audio		Line Out, System Speaker support (LCD Function Board)		
Magnetic Ca	ard Reader	3 Tracks, Keyboard or RS232 type (COM4) (Optional)		
Customer D	isplay	LED type, (COM6) (Optional)		
Programma	ble Keypad	32 keys with key lock, Smart IC Card Reader (Optional)		
Dallars Key		i-Button Key Reader (Keyboard type, Optional)		
Expansion Slot		Mini PCI Socket		
OS support		Windows 98/CE 4.1, Linux		
Power Supply		AC Adapter: Input 100 ~ 240V, Output 19V/90W		
		Safety: UL, CUL. TUV, CB, CSA		
Spill-proof		Touch Screen Panel		
M/B Dimens	ions	200mm(W) x 185mm(D) x 25mm(H)		
Temperature	9	5°C~ 35°C, operating		
EMI		FCC/CE Class B, VCCI		

# **4.Install External Device**

## 4.1 Install Programmable Keypad



a. Turn over the system before installing the keypad.



b. Loosen the two screws at the side of the system and remove the keypad cover.



c. Turn over the keypad and loosen the back cover four screws.



d. Take off the back cover.



e. Attach the keypad to the side of the system.



f. Tighten the two screws so the keypad can be fully connected to the system.



g. Recover the back cover of the keypad.



h. Attach the keypad to the side of the system and tighten the four screws around the back cover.



I. Now the keypad is fully installed.

## 4.2 Install Cash Drawer



You can install a cash drawer through the cash drawer port. Please confirm the pin assignment before installation.

## 4.2.1 Cash Drawer Pin Assignment

Pin	Signal	Pin	Signal
1	GND	7	GND
2	DOUT bit0	8	DOUT bit2
3	DIN bit0	9	DIN bit2
4	12V/24V	10	12V/24V
5	DOUT bit1	11	DOUT bit3
6	GND	12	GND





### 4.2.2Cash Drawer Controller register description

The Cash Drawer Controller use two I/O addresses to control Cash Drawer –Cash Drawer Control Register and Cash Drawer Status Register.

4.2.2.1Cash Drawer Cont	rol Register
-------------------------	--------------

Register Location:	I/O port 206h
Attribute:	Write
Size:	8bit



- Bit 7-3: Reserved
- Bit 2: Cash Drawer2 "DOUT bit2" pin output control.
  - = 1: Opening the Cash Drawer 2
  - = 0: Allow close the Cash Drawer 2
- Bit 1: Reserved
- Bit 0: Cash Drawer1 "DOUT bit0" pin output control.
  - = 1: Opening the Cash Drawer 1
  - = 0: Allow close the Cash Drawer 1

4.2.2.2Cash Drawer Status RegisterRegister Location:I/O port 206hAttribute:ReadSize:8bit

 7
 6
 5
 4
 3
 2
 1
 0

 X
 X
 X
 X
 X
 X
 X
 X
 X

 Cash Drawer1 "DIN bit0" pin input status
 Cash Drawer2 "DIN bit1" pin input status

 Reserved

- Bit 7-2: Reserved
- Bit 1: Cash Drawer2 "DIN bit1" pin input status.
  - = 1: the Cash Drawer2 opened or not exist.
  - = 0: the Cash Drawer2 closed.
- Bit 0: Cash Drawer1 "DIN bit0" pin input status.
  - = 1: the Cash Drawer1 opened or not exist.
  - = 0: the Cash Drawer1 closed.

### 4.2.3Cash Drawer control command example

Use Debug.EXE program under DOS or Windows98

Command	Cash Drawer 1
O 206 01	Opening
O 206 00	Allow to close

Set the I/O address 206h bit0 =1 for opening Cash Drawer1 by "DOUT bit0" pin control.

Set the I/O address 206h bit0 =0 for allow close Cash Drawer1.

-		
	Command	Cash Drawer 2
	O 206 04	Opening
	O 206 00	Allow to close
	Set the I/O address 206	Sh bit2 =1 for opening Cash Drawer2 by "DOUT bit2" pin

Set the I/O address 206h bit2 =1 for opening Cash Drawer2 by "DOUT bit2" pir control.

Set the I/O address 206h bit2 =0 for allow close Cash Drawer2.

	Command	Cash Drawer
	I 206	Check status
	The I/O address 206h b	bit0 =1 mean the Cash Drawer1 is opened or not exist.
$\triangleright$	The I/O address 206h b	bit0 =0 mean the Cash Drawer1 is closed.
$\triangleright$	The I/O address 206h b	bit1 =1 mean the Cash Drawer2 is opened or not exist.
$\triangleright$	The I/O address 206h I	oit1 =0 mean the Cash Drawer2 is closed.

## 5. Disassemble Procedures



a. Turn over the system and remove the stand by loosening the three screws.



b. Loosen the screw fastening the power cover and the power bracket.



c. Remove the power supply.



d. Loosen the screw fastening the power bracket and the base chassis.



e. Remove the power bracket.



f. Loosen the two screws fastening the keypad cover.



g. Remove the keypad cover and loosen the screw fastening the LCD panel rear cover and LCD panel.



h. Loosen the screw fastening the jumper setting cover and the base chassis to remove it.



i. Loosen the screws fastening the LCD panel rear cover and the panel to remove it.



j. Disconnect the keypad cable





k. Press the button to remove the CF card.



I. Lift the base chassis.



m. Disconnect the connector board cable, audio cable and the connector board power cable.



n. Loosen the screws fastening the mother board and the LCD panel.



o. Loosen the two screws fastening the mother board and the bridge board.



p. Lift the bridge board and disconnect the panel signal cable.



q. Press the heat sink clip and lift it.





r. Remove the heatsink.



s. Disconnect the card reader cable.



t. Disconnect the I-button and the LED cable.



u. Disconnect the inverter cable.



v. Disconnect the touch panel cable.



w. Disconnect the two hexagonal screws.



x. Loosen the screws fastening the mother board and the LCD panel and remove it..

# 6. Jumper Setting

## 6.1 Main Board Jumper Setting



#### 6.1.1 PS2 Card Reader Selection (Add-on Card Reader or not)

Function	JP1 (1-2), (3-4)
Yes	OPEN
No	SHORT

#### 6.1.2 I-Button Selection Clear CMOS (Mount U12 or not) \* Factory Default Setting

Function	JP2	
	1-2	3-4
*Yes	OPEN	OPEN
No	SHORT	SHORT

#### 6.1.3 CMOS Clear Selection

Function	JP3 (SHORT)
* Normal	1-2
Clear	2-3

#### 6.1.4 CRT Interface: JP4

#### 6.1.5 Keypad Selection

Function	JP5
*Yes	OPEN
No	SHORT

#### 6.1.6 CPU Type & CPU Core Voltage Selection

Function	JP6			JP7		
	1-2	3-4	5-6	1-2	2-3	
GXM-233(2.9V)	SHORT	OPEN	OPEN	SHORT		
GXLV-233(2.5V)	SHORT	OPEN	OPEN		SHORT	
GXM-266(2.9V)	OPEN	OPEN	OPEN	SHORT		

#### 6.1.7 GPIO SET (Reserved) JP500

Note:





## 6.2 Connector Board Jumper Setting



a. This is the POS310 connector Board. Turn over the board...



b. And you will see JP1 and JP2 at the back.



c. The Connector Board Jumper location of POS 310/312

### 6.2.1 JP1



#### 6.2.1.1 Cash drawer

	CASH DRAWER								
Pin (JP1)	1-2	3-4	5-6	7-8	9-10				
Default				$\bullet$	•				
Function	NC	+24V	+24V	+12V	+12V				

#### 6.2.1.2 COM1 and COM2

	COM2				COM1							
Pin (JP1)	11-12	13-14	15-16	17-18	19-20	21-22	23-24	25-26	27-28	29-30	31-32	33-34
Default												
Function	+12V	5V	RI	+12V	5V	DCD	+12V	5V	RI	+12V	5V	DCD
Pin(COM)		Pin 9			Pin 1			Pin 9			Pin 1	

### 6.2.2 JP2



COM4					COM3							
Pin (JP2)	1-2	3-4	5-6	7-8	9-10	11-12	13-14	15-16	17-18	19-20	21-22	23-24
Default												
Function	+12V	5V	RI	+12V	5V	DCD	+12V	5V	RI	+12V	5V	DCD
Pin(COM)		Pin 9 Pin 1		Pin 9			Pin 1					

Note:





# 7. Windows CE Installation Guide

7.1Touch calibration.



+	TouchScreen Calibration	
	Please touh on the center of target	
	Press ESC key to break calbration	
Start TSWCECCP		4. <b>7</b> 3 12:02 FM

a. Click control panel and double Click the "Touch Screen Calibration" icon.

CALIBRATION IS COMPLETE For test, touch on the screen and check cursor position. To sere new calibration, dick Yes button. To restore old calibration, dick No Yes No	
Press EBC key to break calbration	

c. Click "Yes" on the check video alignment window.

b. Touch the targets with your finger for alignment.

## 7.2 Network connect setting -- Onboard LAN





b.

Elle         Edit         Yiew         Adv.           Make New Connection         VMIN1         VMIN1	anced real as the second secon	(?) [X]	Ele     Edit     View     Advanced     X (1)       Image: Second se		? 🗴
	Microsoft null Ethernet Miniport Driver' Settings     OK       IP Address     Name Servers       An IP address can be automatically assigned to this computer. If your network does not automatically assign P addresss, add your network administrator for an address, and then type it in the space     Optian an IP address via DHOP Secily an IP address via DHOP Secily an IP address.       P address sat your network administrator for an address, and then type it in the space     Specify an IP address.       Unret Mask:     Image: Im		Microsoft null Ethernet Mir IP Address Name Servers Name server addresses may be automatolaly assigned if DHCP is enabled on this adapter. You can specify additional WINS or DNS resolvers in the space provided.	Prmary QNS: Prmary WDNS: Secondary WDNS:	
🔊 Start 🛛 🖓 Control Panel	Network Connections	12:09 PM	🐉 Start 🛛 🖉 Control Panel 💦 Network Cor	mettors	↓ <mark>⊅</mark> ∄12:10 PM @

c. Identify the IP address.

d. Input the name servers of DNS/WINS.



e. The IP address will be automatically disturbed on DHCP if don't identify it. The default connect type is set to DHCP protocol.

## 7.3 Wireless LAN notice and installation.

Cause of B45 BIOS cannot support both of WinCE and other OS(Win98, Win95, Linux...), so we define 2 kind of BIOS for support the different OS.

Standard Bios file name	WinCE Bios file name			
B450xxx.bin	B451xxx.bin			

Cause of the wireless driver limitation, it cannot use the same IRQ with onboard Realtek LAN. If your system cannot free more than 2 IRQ for PCI devices, please only choose one of the onboard LAN or MiniPCI (Wireless LAN) device which enabled by B45/B46 WinCE BIOS.



a.The control function in BIOS setup program "PnP/PCI CONFIGURATION" / "Onboard LAN controller" and "MiniPCI device controller".



 b. The Setup page will be shown when W-LAN is detected. You can choose one of the available AP.



c. Wireless function connected successfully.

7.4 Network connect setting -- Dial-up Network





a. Click the Control Panel.

b. Click the Network and Dial-up connections

Ele Edit View Advagced V 19 View View View View View View View View	· 『 声』 [2] 御山	?     X       File     Edit       Solution     Make New Connection	t View Advanced X		? X
	Make New Connection     X       Type a name for the connection:			Modem  COM1 Modem Select a modem:  Selec	
Start D Control Panel	ر محرک (Network Connections	2:10 PM 💋	Control Panel	Network Connections	<b>↓7</b> ) 12:11 PM @

- c. Click the Make New Connection and choose the connection type. Input the new connection name and click the Next button.
- d. Choose the modem connect port and input else settings.



### 7.5 Windows CE Update

About the Windows CE update, just need upgrade the Windows CE image file. The Windows CE image file put in your boot storage, like the hard disk, and the file name is NK.BIN. You can copy the WinCE image file into your boot storage to replace the old Windows CE image file. The below show you how to update Windows CE image example under DOS and Windows CE.

7.5.1 Update Windows CE image example under DOS DOS command: copy c:\45C1E02.bin d:\nk.bin

7.5.2 Update Windows CE image example under Windows CE -- update the local storage's Windows CE image file by network.

7.5.2.1 Rename or Delete the old Windows CE image file.



🗐 README.TXT

c.Rename the old Windows CE image file -- NK.BIN to NK-old.BIN

7.5.2.2 Copy the new Windows CE image file for network:





a. Open the" Windows Explorer" program

<u>F</u> ile	<u>E</u> dit	View	<u>G</u> o	F <u>a</u> vorites	$\leftarrow$		8 💷 -
Addr	ess 🕅	igelfeng	\share	!			
Name						Size	Туре
450	1C02a.	bin				30.1MB	BIN File
🖻 B45	Oper	n				33.8MB	BIN File
	Cu <u>t</u>						
	<u>C</u> opy	1					
	Dele	te					
	Rena	a <u>m</u> e					
	Prop	erties					

c.Find the new Windows CE image file and copy it.

b. Choose "Network" folder

7.5.2.3 Paste the new Windows CE image file into hard disk and rename to NK.BIN.

DRVSPACE.BIN BEBOOT.BIN	Arrange Icons
lo.sys ∎ IO.sys	Refresh
🔊 Jordan-AirTime	<u>P</u> aste
LOADCEPC.EXE MSDOS	Paste <u>S</u> hortcut
MSDOS.BAK	<u>N</u> ew Folder
MSDOS.SYS	Properties

a.	Paste the new	Windows	CE imag	ge file ir	nto
	hard disk				

	MSDOS.BAK
,	MSDOS.SYS
Ĩ	NETLOG.TXT
	NK.BIN
۰,	NK-old.BIN
Ĩ	README.TXT
,	SBOOT.BIN
×,	SCANDISK.LOG
×,	SETUPLOG.OLD
Ë	SETUPLOG.TXT

c. Finish. Restart your system will load the new Windows CE image file.

📛 WORK	
45C1C0	2A.BIN
🛋 45C1S	Open
🔊 45C2C	Cut
45C2C	cu <u>r</u>
🗟 AA.BA	⊆opy
🖻 ASD.L 🌔	Delete
AUTO	
	Rena <u>m</u> e
	P <u>r</u> operties
	AECIDALINAK

b. Rename the new Windows CE image file to NK.BIN

Remark: WinCE ability of PNP (Plug and Play) is weakness. Don't change the Bios setting after complete "Load Setup Default" and insert any device after Power-on.

# 8.Install touch driver on DOS mode

Driver path in Driver Bank: COMMON\MION\_Touch\DOS\



a. Input command "install C:" to install the driver to C



b. Input Command "m" to install driver

Hori



c. Input command "s" to run Touch screen control panel window.



Acceleration

51	andard UGA Node =	03 Text 00x25 16	color
UGA OOh	VGA 11h	VBE 109h	VBE 115h
UGA 01h	VGA 12h	VBE 10Ah	VBE 116h
UGA OZh	VGA 13h	VBE 10Bh	VBE 117h
WGA 03h	VBE 100h	UBE 10Ch	VBE 118h
UGA OTA	VBE 101A	UBE 105h	VUE 119h
UC6 065	UBE 1028	URF 10Fh	URE 11RA
USA 07h	URF 104h	URE 11Ah	VIC TION
( ) UGA ODh	VBE 105h	UBE 111h	
( ) UGA OEh	VBE 106h	VBE 112h	
( ) UGA OFh	VBE 107h	UN VBE 113h	
( ) UGA 18h	( ) VBE 108h	( ) VBE 114h	
	C4114	r	×1+
-	other	Real Property lies	

e. Select "VGA 3h" and then click "Start"

	VGH	<b>40</b> m			11		1001	
	1100	101		TH.	1	URE	108h	
	VGA	OFh		C	D	VBE	107h	
	VGA	0Eh		1	2	VBE	106h	
	VGA	ODh				VBE	105h	
	VGA	07h				VBE	104h	
	VGA	06h				VBE	103h	
	VGA	05h				VBE	102h	
	VGA	04h				VBE	101h	
•	VGA	03h				VBE	100h	
	VGA	02h				VGA	13h	
	•	UGA UGA UGA UGA UGA UGA UGA UGA	UGA 01h UGA 02h UGA 03h UGA 04h UGA 05h UGA 06h UGA 07h UGA 07h UGA 0Dh UGA 0Fh	UGA 01h UGA 02h VGA 03h UGA 04h UGA 05h UGA 06h UGA 07h VGA 07h UGA 0Dh UGA 0Eh UGA 0Fh	UGA 01h UGA 02h VGA 03h UGA 04h UGA 05h UGA 06h UGA 07h UGA 0Dh UGA 0Eh UGA 0Fh	UGA 01h UGA 02h VGA 03h UGA 04h UGA 05h UGA 05h UGA 06h UGA 07h UGA 0Dh UGA 0Eh () UGA 0Fh ()	UGA 01h UGA UGA 02h UGA UGA 03h UBE UGA 04h UBE UGA 05h UBE UGA 06h UBE UGA 07h UBE UGA 07h UBE UGA 0Dh UBE UGA 0Eh UBE UGA 0Fh () UBE	UGA 01h       UGA 12h         UGA 02h       UGA 13h         UGA 03h       UBE 100h         UGA 04h       UBE 101h         UGA 05h       UBE 102h         UGA 06h       UBE 103h         UGA 07h       UBE 104h         UGA 0Dh       UBE 105h         UGA 0Eh       UBE 106h         UGA 0Fh       UBE 107h



f-1. Touch the targets for alignment.



f-2. Touch the targets for alignment.



f-3. Touch the targets for alignment.



f-4. Touch the targets for alignment.



f-5 Touch the targets for alignment.

Note: You also can select other VGA mode you want. Please follow the installation step e.

For Example: VGA 3h=> Text 80\*25 16 color

VGA 4h=> Graph 320\*200 4 color