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**OPERATION
MANUAL**

Touch POS System SERIES 8300

8300 Manual Changing Note

[illegible]

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CHAPTER 1 Specification Introduction

Preview

Jarltech is defining the New Age of POS with its integrated TouchPOS.

The 8300 is designed on PC base with Pentium III CPU up to 850 MHz; One slot of SDRAM can be up to 256MB; 12.1" TFT-LCD with touch screen; built-in VGA, LAN chip, Internal 1.44MB Floppy Disk Driver; Internal EIDE Hard disk (6.0GB or above); includes Magnetic card reader and 20X2 customer display. Thus designation helps user easy and comfortable to handling.

Jarltech Series 8300 TouchPOS was awarded the Symbol of Excellence Winner, a unique trademark of Taiwan's Quality Revolution.

–Its multi-functional capability makes it suitable for software developments under Windows, UNIX and Windows NT.

Jarltech 8300 is the new age of interactive transaction product, its design for super-market; hotel; convenience store; restaurants and any organization or store that needs point of service. Following description helps user understand what integrated part in 8300 TouchPOS.

■Up Housing (See figure 1-1)

Describes the up side cadre of 8300 TouchPOS

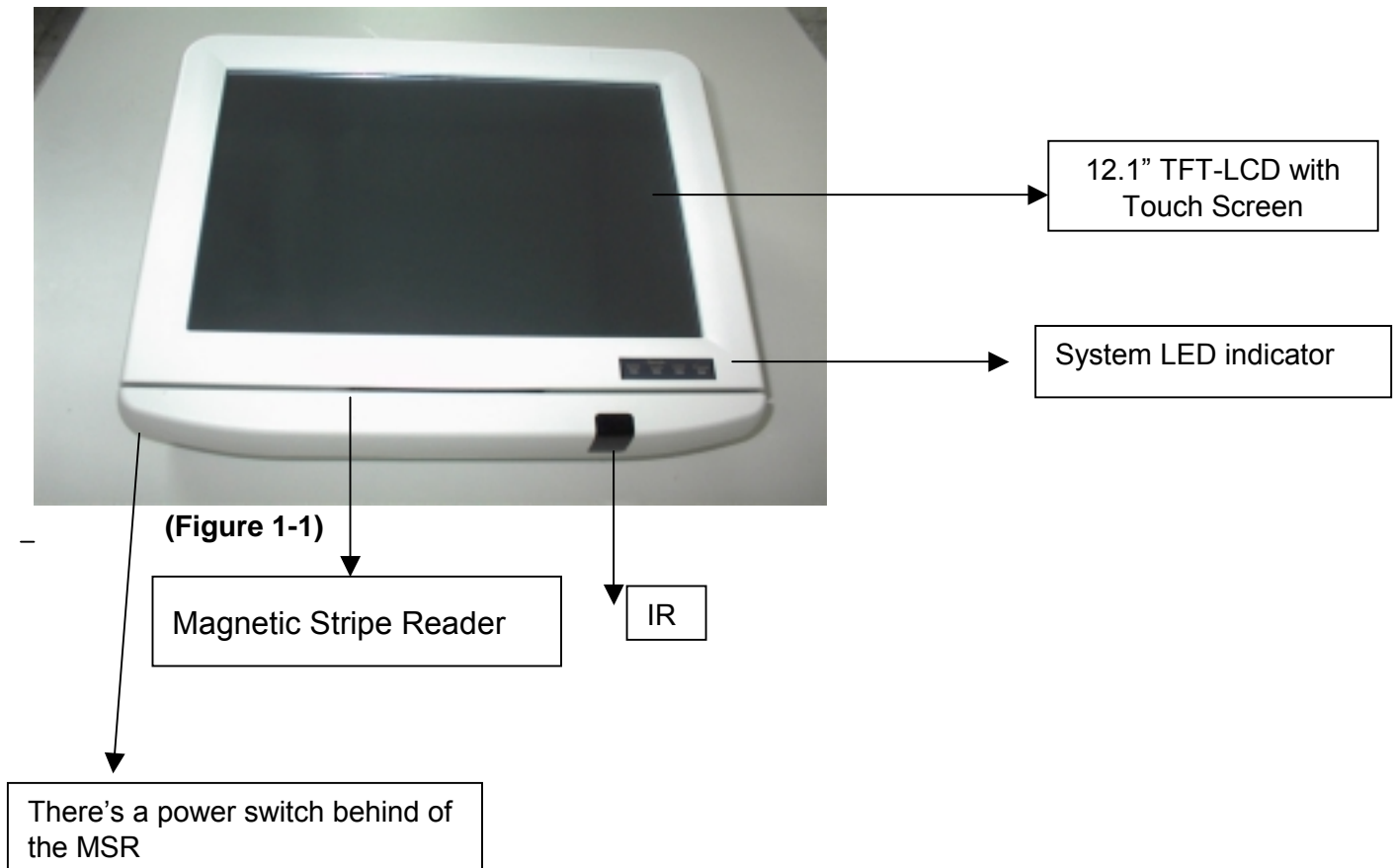
12.1" TFT-LCD with touch screen – User can touch screen to select what he needs without mouse. In restaurant, TouchPOS can easy point out what guest needs and count the price for guest.

LED Indicator – There're MSR LED indicates/ Device Lock LED indicates/ HDD LED indicates/ Power LED indicates.

MSR – Magnetic stripe reader. Used to identify credit card; members..

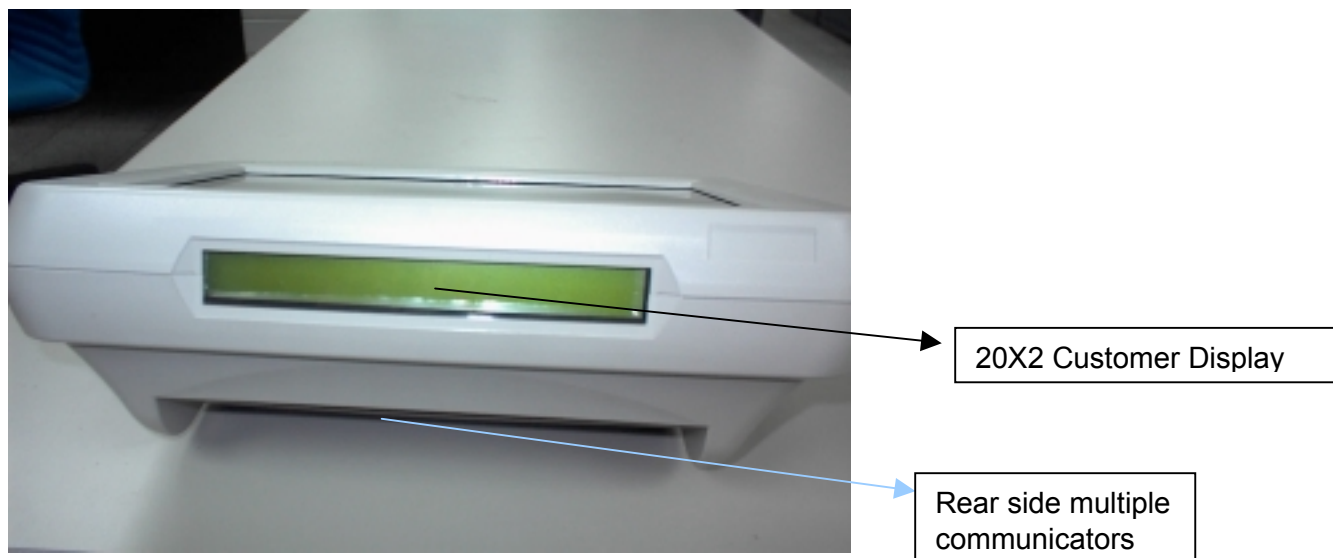
IR – Infrared. For data transmit and receive

Power Switch – A switch for system Power on/off



■ 20X2 Customer Display (Figure 1-2)

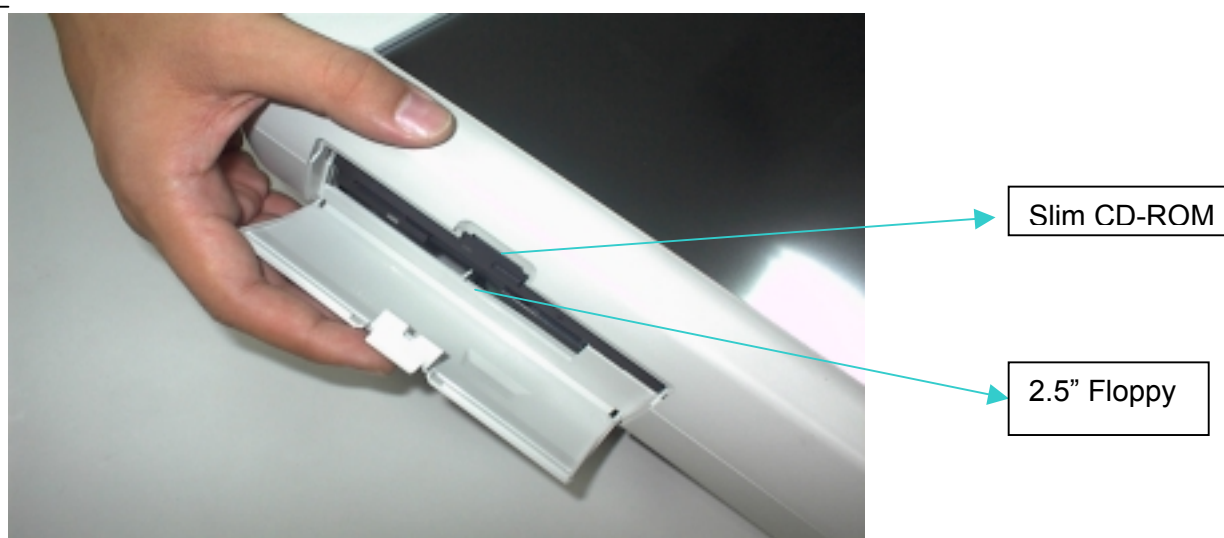
This is an excellent tool for managing point-of-sale communications with the customer - presenting product descriptions and costs, advertising messages, customer greetings and appreciation messages in 20 characters by 2 lines. It's recognized what POS system inputs, and controlled by COM4.



(Figure 1-2)

■ Sideward of 8300(Figure 1-3)

Open the cover, there're 3.5" Floppy and 24X slim CD-ROM inside.

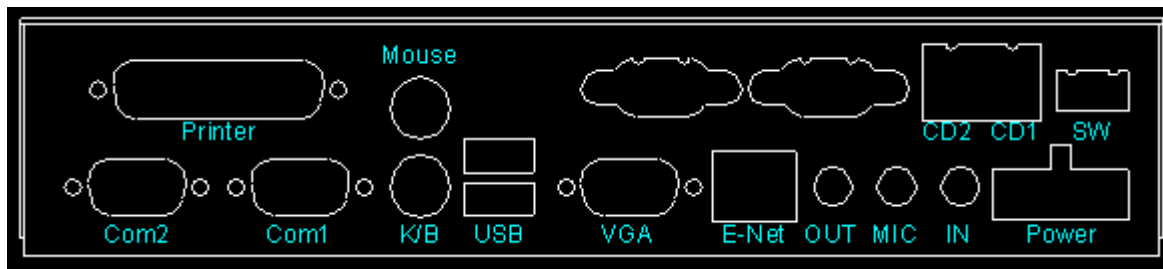


(Figure 1-3)

■ Rear Side (Figure 1-4; 1-5)

The rear side of 8300 introduced multiple input-output ports, Ethernet communication and USB port...etc.

Printer: Standard DB25 Pin parallel port.



(Figure 1-4)

COM1/COM2: Standard DB9 PIN Serial port (Please see Figure 1-4 for COM port arrangement)

Mouse: PS2 mouse socket

K/B: PS2 Keyboard socket

USB: USB port X 2

VGA: 15 Pins VGA Connector

E-Net: Ethernet connector

Multi-Media: Line Out / MIC / Line-In

CD1/CD2: Cash Draw 1(beside SW) and Cash Draw 2

SW: Switch button – SW1 SW2 SW3 SW4 SW5; ↓ = ON, ↑= OFF

Power: Connect to ATX power supply

CHAPTER 2 Package List with drivers' Installation

Reviewing Packing List

This 8300 TouchPOS includes:

- 1 pce TouchPOS main unit
- 1pcs Universal Switching Power supply
- 1 pce power core
- 21 pies Diskettes or 1 pce CD
- This manual

System Drivers Installation

This session introduces the ways to install the drivers under both Windows/98SE and windows/NT platforms for system peripherals, such like VGA display, Touch Panel, Ethernet, etc. For more details about installation under each platform, please refer the document files on each attached driver diskettes or CD.

Installation drivers under Windows 98SE/ME platform

When the first installation of Windows 98SE all most the drivers will be installed properly besides the VGA, Sound, and Touch Panel's drivers.

This section introduces user how to install the VGA, Sound and Touch Panel's drivers. User is suggested to follow the next installation sequence:

Step1:

When the system restarts properly then run the W98600.EXE, which user also can find from the attached diskette or CD to install the "Chips and Tech. 69000 PCI" VGA adapter.

Step2:

Run "Add new hardware" of "Control panel" and give source path from the attached CD-ROM to install the ESS Solo-1 Audio driver

Step3:

Use mouse right button to click the "Network Neighborhood" icon -> "Properties" and follow the guidance on the screen to install the Intel 82559 LAN driver for windows98 from the attached diskette or CD-ROM. Restart the system

Step4:

Installation touch panel drivers under Windows 98SE/ME platform

- To install the software to your computer, you must have Windows 98 (or Windows ME) system running and a PenMount Windows 98/ME driver. If you have an older version PenMount Windows's 98/ME driver installed in your system, please remove it first.
- Follow the steps below to install the PenMount Windows 98/ME driver.
- Insert PenMount Windows's 98/ME driver to your computer. From the "Start" menu, select "Run". There is one entry "setup.exe" in PenMount Windows's 98/ME driver. Use browse to find it or type in "X:\setup.exe" to execute it.
- The screen displays PenMount Logo and "PenMount Utilities Setup", and then show 'PenMount Utilities for Win98/ME' screen plus "welcome" message appears. Select "Next".
- The next screens are "Software License Agreement" and "Information", select "Yes" and "Next".
- The next screen is "Choose Destination Location". It is for Setup installing PenMount Utilities in the folder: C:\Program Files\PenMount\Win9X, select "Next" or modify the folder name you like to use.
- The next screen is "Select Program Folder, the default is set at "PenMount Utilities", select "Next" or change it.
- The screen is showing "Start Copying Files", select "Next" for starting copy files to system.
- The screen now is "Setup Complete", select "Finish". Now, the system will ask you to reboot the computer. After rebooting the touch panel can work well.

- The 'PenMount Utilities' now is in the 'Programs', you could have the 'PenMount Monitor' appeared in the menu bar for easily selecting PenMount functions.

We suggest you do "Calibrate" now to adjust the screen and touch cursor matched properly, from 'PenMount Utilities', select 'Calibrate' from "PenMount Control Panel".

Installation drivers under Windows NT V.40 workstation

Follow the next installation sequence:

Step1:

After Windows NT installed and reboot, double click the [**Change**] icon from Display Properties-> Settings-> Display Type menu to install the C&T 69000 VGA driver from attached CD-ROM.

Restart the system.

Step2:

Use mouse right button to click the "Network Neighborhood" icon -> "Properties" and follow the guidance on the screen to install the Intel 82559 LAN driver for Windows NT from the attached diskette or CD-ROM. Restart the system.

Step3:

Click "Multi media" from "Control panel", and select "Add new " from selection buttons, give sources path and find ES1938/1941/1946 PCI Audio Driver.. to install the ESS Solo-1 Audio driver.

Step 4:

Installation touch panel drivers under Windows NT V.40 workstation

To install the software to your computer, you must have Windows NT4 system running. If you have an older version PenMount Windows NT4 driver installed in your system, please remove it first.

Follow the steps below to install the PenMount Windows NT driver.

- Insert PenMount Windows NT4 driver diskette to your FDD. From the "Start" menu, select "Run". There is one entry "setup.exe" in PenMount Windows NT4 driver. Use browse to find it or type in "A:\setup.exe" to execute it.
- The screen displays PenMount Logo and SETUP utility, then show the installation wizard and start to copy "PenMount Windows NT4 Driver Installation". Select "Next".
- The next screens is "Software License Agreement", select "Yes".
- The next screen is "Information", select "Next".
- The next screen is "Choose Destination Location", it is for Setup installing PenMount Utilities in the folder: C:\Program Files\PenMount\NT, select "Next" or modify the folder name you like to use.
- The next screen is "Select Program Folder, the default is set at "PenMount Utilities", select "Next" or change it.
- After selecting well, the screen is showing "Start Copying Files", select "Next" for starting copy files to system.
- The screen now is "Setup Complete", and show "PenMount Control Panel". Set 'Configure' now. Use "DETECT" icon to choose the COM port and IRQ no.
- System will ask you to reboot. Reboot the system to completely install PenMount NT4 driver. After rebooting, PenMount Windows NT4 driver is installed well. The 'PenMount Utilities' now is in the 'Programs', you could have the 'PenMount Monitor' appeared in the menu bar for easily selecting PenMount functions.

- Do 'Calibrate' now, from "PenMount Control Panel" of 'PenMount Utilities' in 'Programs.

Installation drivers under Windows 2000

Follow the next installation sequence:

Step1:

After Windows NT installed and reboot, double click the [**Change**] icon from Display Properties-> Settings-> Display Type menu to install the C&T 69000 VGA driver from attached CD-ROM.

Restart the system.

Step2:

Use mouse right button to click the "Network Neighborhood" icon -> "Properties" and follow the guidance on the screen to install the Intel 82559 LAN driver for Windows NT from the attached diskette or CD-ROM. Restart the system.

Step3:

Click "Multi media" from "Control panel", and select "Add new " from selection buttons, give sources path and find ES1938/1941/1946 PCI Audio Drover.. to install the ESS Solo-1 Audio driver.

Step 4:

Installation touch panel drivers under Windows 2000:

To install the software to your computer, you must have Windows 2000 system running.

If you have an older version PenMount for Windows 2000 driver installed in your system, please remove it first.

Follow up the steps below to install the PenMount Windows 2000 driver.

Insert PenMount drivers CD-ROM. Plug PenMount DMC9000 control board connector to Serial port.

And you need to search new device from "Start /Setting /Control Panel /System /Hardware /Device Manager/ Mouse".

Then system will find the new device "DMC9000".

Please select the CD-ROM to start installation

- The screen displays copying "installation wizard" and "PenMount Utilities Installation" screen plus "welcome" message appear. Select "Next".
- The next screens are "Software License Agreement", select "I accept" and "Next".
- The next screen is "Ready to Install the Program", Select "Install".
- The next screen is "InstallShield Wizard Completed ", Select "Finish".

Note: Touch Panel was fixed to COM3, IRQ=11 and I/O address=3E8H by factory

CHAPTER 3 Utilities

This chapter is introducing 8300 TouchPOS Utilities.

■ 8300 Programming Tools

There's a programming tool helps user control 8300 behaviour with parameters changing.

This tool provides user to change parameters of 8300 data from EEPROM.

Click "JP-8300 peripherals programming tools" of "Jaritech Tools" from Windows "Start" menu, you'll see the window as following (Figure 3-1). The totally items from EEPROM are:

- RS232 Baud rate
- RS232 protocol
- Customer display backlight
- Customer display Contrast
- Main LCD panel backlight
- Main LCD panel Contrast
- Cash drawer 1 open period
- Cash drawer 2 open period
- Cash drawer debouch voltage
- MCR Track 1 setting
- MCR Track 2 setting
- MCR Track 3 setting
- MCR setting
- MCR Track 1 Prefix setting
- MCR Track 1 Suffix setting
- MCR Track 2 Prefix setting
- MCR Track 2 Suffix setting
- MCR Track 3 Prefix setting
- MCR Track 3 Suffix setting
- MCR all Tracks prefix setting
- MCR all Tracks Suffix setting

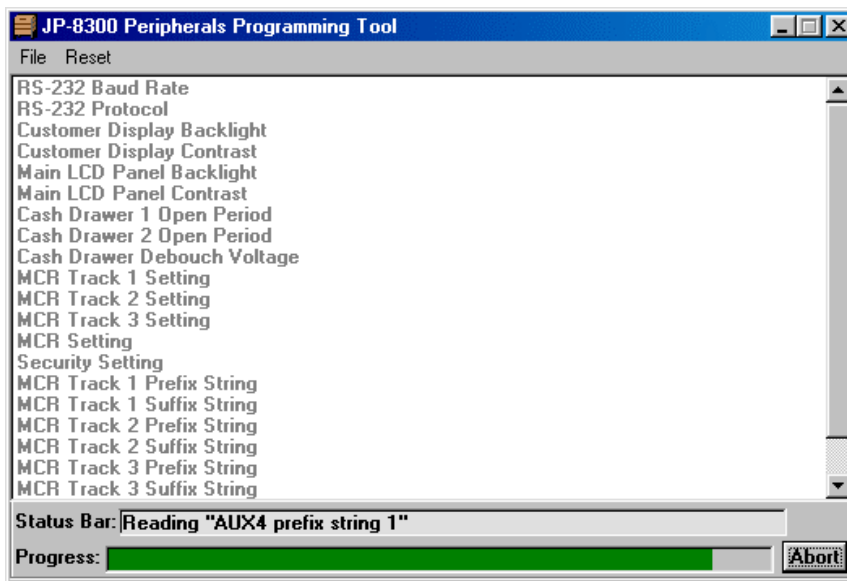


Figure 3-1

1. Change Values of each item(See figure 3-2):

Click each item (which is what you desire to change) in JP-8300 peripherals programming tools window; a new small window will pops up and allowing you to change values in a pull up list.

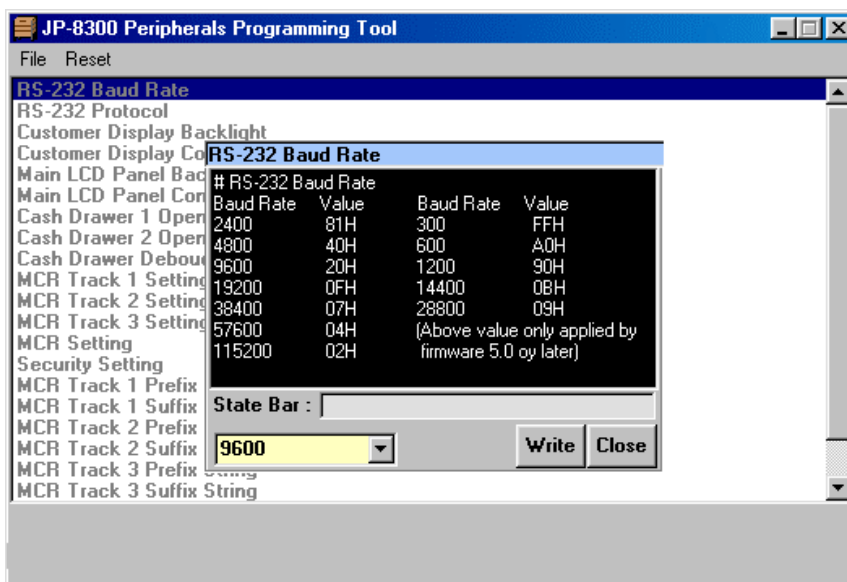


Figure 3-2

2. Save setting and load setting(See figure 3-3):

You can save configurations to a file, and you can load file contains configuration that

you saved before.

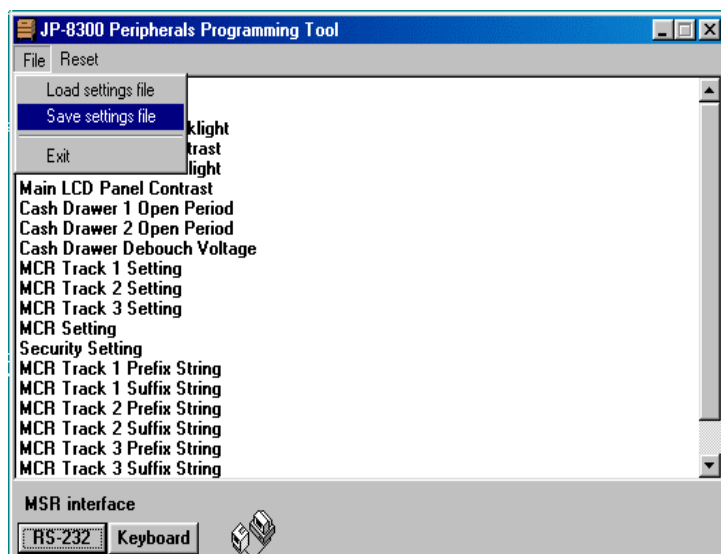


Figure 3-3

■ 8300 Flash Tool

JP8300_Flash.EXE: This tool will help you to flash new versions firmware.

Following steps describe how flash tool works?

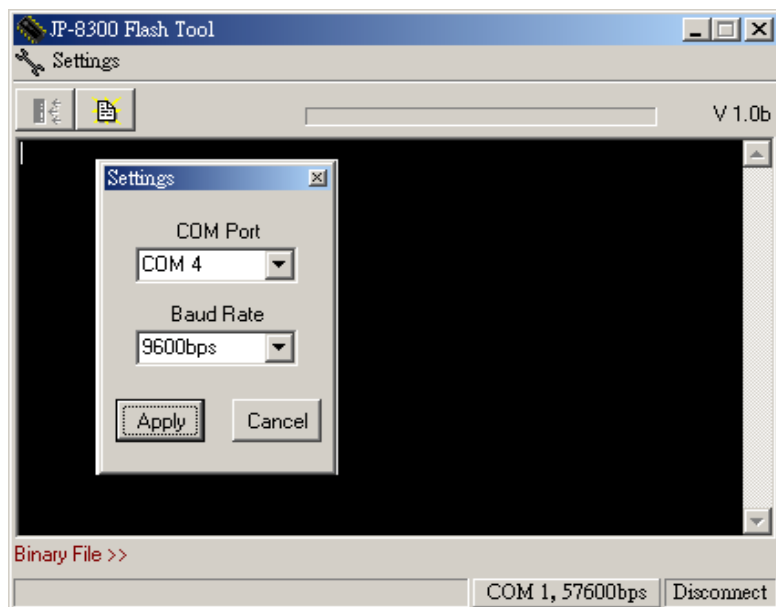


Figure 3-4

1. Copy JP8300_Flash.exe to your HDD, and execute it under windows operating system.
2. Press “Setting” of the function bar to select COM port and Baud Rate. Default setting is

on COM4 with 9600bps (See figure 3-4).

3. Click second icon (Looking for binary file's path) of icon bar to open binary file.
4. Click first icon (Flash button) of icon bar to start flash, it'll connect COM 4 first, and then the result will appears in flash window. The binary file and setting status will also show on the bottom. (See figure 3-5).

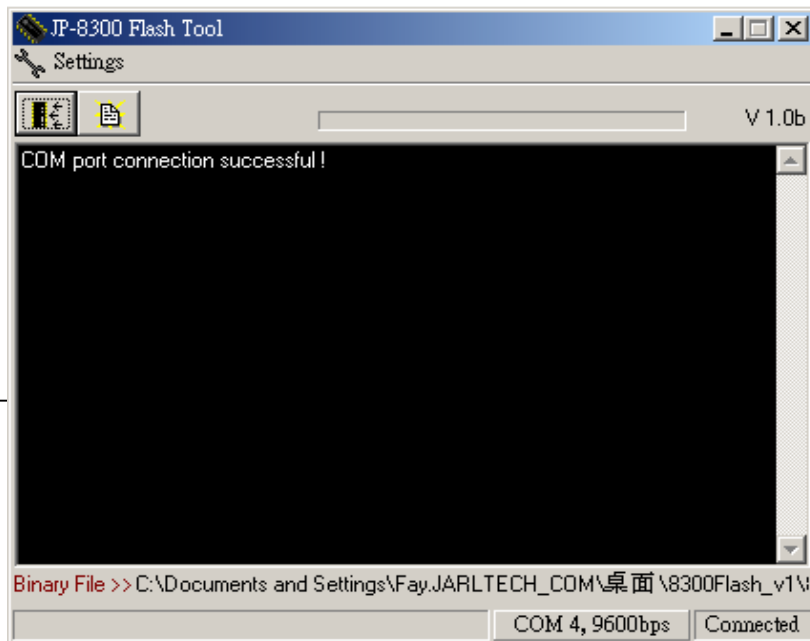


Figure 3-5

CHAPTER 4

Commands for Peripheral Controlling

This chapter describes some commands used to duly control the peripherals in the application software. The internal peripherals such as magnetic card reader (MCR), internal customer display by special command sequences, which are sent to COM4. Whereas the programmers can use COM1 and COM2 for any external device and program those interfaces directly as if he would do on a "normal" PC, COM3 and COM4 are reserved for special purpose:

- * COM3 is used for the internal connection of the touch panel and cannot be used for any user purpose.
- * COM4 is connected to the internal peripheral controller. All peripherals communication of Touch POS was emulated to use with the COM 4 Port. Its default parameter was set by factory as:

COM4, 9600 Bps, 8 data bit, 1 stop bit, none parity, handshake enable

*** handshake RTS/ CTS: RTS=1:enable, RTS=0:disable**

All the commands are initiated by [ESC] (Dec 27, Hex 1B) character. Any string not beginning with [ESC] is interpreted as a display string that will be directly sent and displayed to the internal customer display (optional).

Example in QBASIC:

Display the string "Hello World!" on the internal customer display, if your Touch POS is equipped with this display.

```
OPEN "COM4: 9600,N, 8,1,DS0" FOR OUTPUT AS #1
PRINT #1, "Hello World!"
CLOSE #1
```

(Please note: All the examples in this manual are just samples to clarify the differences. They don't really work, since QBASIC only accepts COM1 and COM2)

There are 2 groups of command set of the peripheral controller offered. One was named "**System Command**" which should be used to perform all the functions of the peripherals. Another group, "**The peripherals programming commands**", should be used to setup the internal parameters for each peripheral.

Following two sections are the descriptions about these 2 groups of command.

1. System Commands - Command set of the peripherals

Command Format	ESC + data
----------------	------------

Example: Move the cursor location to the second raw and the last column on Customer Display

Description: Send "0x1b""0x28""0x32""0x44" to COM4

I.e. Send "ASC (27)""ASC (40)""ASC (50)""ASC (68)" to COM4

Example in QBASIC: OPEN "COM4: 9600,N, 8,1,DS0" FOR OUTPUT AS #1

PRINT #1, CHR\$ (27)+CHR\$ (40)+CHR\$ (50)+CHR\$ (68)
CLOSE #1

Data		Description
by Hex	By Dec	
Internal customer display commands		
0x20	32	Clear customer display & move cursor to first digit
0x21	33	Move cursor to first digit
0x22	34	Set customer display cursor on
0x23	35	Set customer display cursor off
0x24	36	Set customer display blinking on
0x25	37	Set customer display blinking off
0x26	38	Set customer display on
0x27	39	Set customer display off
0x28+y+x	40+ y + x	Move customer cursor to y, x y range : Hex 31~32 (Dec 49~50) x range : Hex 31~44 (Dec 49~68)
0x29+n	41+ n	Set customer display contrast n range : Hex 1~22 (Dec 1~34)
0x2A+ n	42+ n	Set customer display backlight n range : Hex 1~40 (Dec 1~64)
0x2D	45	Save customer display contrast value to EEPROM
0x2E	46	Save customer display backlight value to EEPROM
Main 12.1” flat panel commands		
0x2C+ n	44+ n	Set main LCD panel display backlight n range : Hex 50~FF (Dec 80~255)
0x2F	47	Save main LCD panel contrast value to EEPROM
0x30	48	Save main LCD panel backlight value to EEPROM
Other peripherals commands		
0x31	49	Short Buzzer sound (only for the firmware 5.0 or later)
0x32	50	Normal Buzzer sound (only for the firmware 5.0 or later)
0x33	51	Long Buzzer sound (only for the firmware 5.0 or later)
0x34	52	Open Cash Drawer 1 Return value: ESC+”8”+”1”+”A” means Drawer1 still closed. ESC+”8”+”1”+”B” means Drawer1 still opened.
0x35	53	Open Cash Drawer 2 Return value: ESC+”8”+”2”+”A” means Drawer2 still closed. ESC+”8”+”2”+”B” means Drawer2 still opened.
0x3A	58	Detect Cash Drawer 1 sensor Return value: ESC+”8”+”1”+”A” means Drawer2 still closed. ESC+”8”+”1”+”B” means Drawer2 still opened.
0x3B	59	Detect Cash Drawer 2 sensor Return value: ESC+”8”+”2”+”A” means Drawer2 still closed. ESC+”8”+”2”+”B” means Drawer2 still opened.

Enable / Disable devices Commands

0x82	130	Enable MCR
0x83	131	Disable MCR
0x84	132	Enable TK1 only
0x85	133	Disable TK1 only
0x86	134	Enable TK2 only
0x87	135	Disable TK2 only
0x88	136	Enable TK3 only
0x89	137	Disable TK3 only
0x8A	138	Enable Buzzer
0x8B	139	Disable Buzzer
0x94	148	Enable Cash Drawer 1
0x95	149	Disable Cash Drawer 1
0x96	150	Enable Cash Drawer 2
0x97	151	Disable Cash Drawer 2
0x9C	156	Enable Customer Display (Normal mode)
0x9D	157	Disable Customer Display (Freezed message)
0xF0	240	Enable FDD
0xF1	241	Disable FDD
0xF2	242	Enable PC/AT keyboard
0xF3	243	Disable PC/AT keyboard
0xFD	253	Reset all parameters back to the default value.
0xFE	254	Read the version Number of this Touch POS Controller return: 1b+1b+ version data + 0D+0A
0xFF	255	Enter programming Mode

€ Current Mark

“€” Character will be available from firmware version 2.24 the ASCII code is: 80Hex (128 Dec)

Following is a sample in QBASIC for sending the “€” character to 20x2 display:

OPEN "COM4: 9600,N, 8, 1, DS0" for output AS #1

PRINT #1, CHR\$(128)

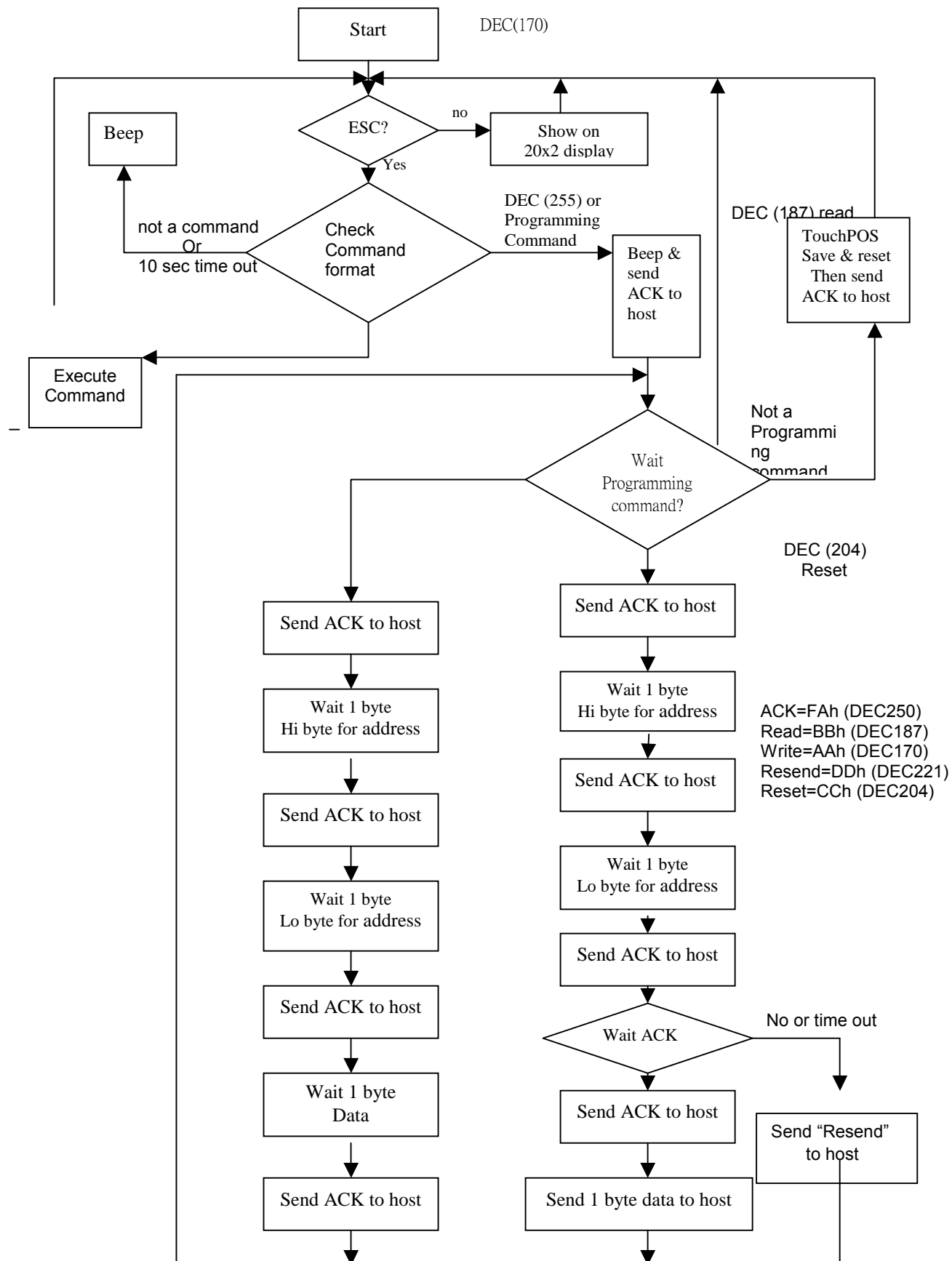
CLOSE #1

2. To setup the Peripherals

In some circumstance, user needs to change the individuality of each peripheral for a long time.

For example, they may want to lock up input device like as FDD and PS/2 keyboard, change the communication speed, the prefix & suffix of card reader... etc. Following section introduce user the commands to program or set up these peripherals and save them into specific memory area.

TouchPOS COM4 I/O commands Flow Chart



Yes

3. Peripheral Commands – Command setting for control peripherals

3-1. Syntax:

To change the setting of each peripheral, user is noted to save a value into a specific memory address, which has 2 bytes, as following section description.

Example: To change Baud Rate for all the peripherals into 57600 bps

HOST (PC)	↔	TouchPOS	Description
ESC+DEC255	→		Enter the program mode
DEC170	→		Writing Announcement
DEC128	→		Send Hi Byte of address first
	←	DEC250	Echo ACK to HOST
DEC001	→		Send Low Byte of address for Baud Rate
	←	DEC250	Echo ACK to HOST
DEC004	→		Set Baud Rate = 57600 bps
	←	DEC250	Echo ACK to HOST
DEC204	→		Save, exit program mode and then reset the system

3-2. Programming Command Definition:

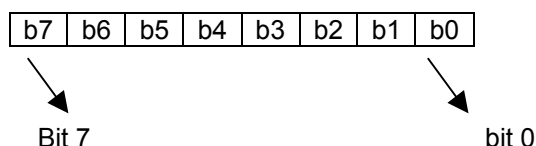
Following Command Characters should be leaded by ESC character

Command Character		Function
Hex	DEC	
1Bh	027	ESC Command leading character
FFh	255	Enter the program mode
AAh	170	Write value to specific address
BBh	187	Read value from specific address
CCh	204	Save settings, exit program mode and then reset the system with the new settings
DDh	221	Ask HOST or PC to re-send the command
FAh	250	Acknowledge (only for firmware 5.0 or later)

4. Programming Address and its Value

4-1. Hi Byte=80h

Note:



Low Byte	Default value	Description
00h	AA	Show statuses: System had been programmed. The else value means that this system is never programmed

01	20	RS-232 baud rate			
		Baud Rate	Value	Baud Rate	Value
		2400	81h	300	FFh
		4800	40h	600	A0h
		9600	20h	1200	90h
		19200	0Fh	14400	0Bh
		38400	07h	28800	09h
		57600	04h		
115200	02h				
02	80	RS-232 protocol			
		Bit 0=x x=0 : 1 stop bit , x=1 : 2 stop bit			
		Bit 1=x x=0 : odd parity , x=1 : even parity			
		Bit 2=x x=0 : no parity check , x=1 : parity check			
		Bit 7=x x=0 : no flow control , x=1 : RTS/CTS flow control (Note: If stop bit=2 then the parity will be always “1”)			
03	32	Customer display backlight Value range: Dec1 ~ Dec 64(Dec 64: max light)			
04	03	Customer display contrast Value range: Dec1 ~ Dec 34(Dec 1: darkness)			
05	FF	Main LCD Panel backlight Value range: Dec 80 ~ Dec 255(Dec255: max light)			
06	7E	Main LCD Panel contrast (DSTN LCD only) Value range: Dec50 ~ Dec 185(Dec 50: sharp)			
07	0F	Cash drawer 1 open period Value range: dec 01~40 (0.5sec ~ 3sec)			
08	0F	Cash drawer 2 open period Value range: dec 01~40 (0.5sec ~ 3sec)			
09	FF				
0A	50	MCR track 1 setting			
		Bit 7=x don't care			
		Bit 6=1 enable track1			
		Bit 5=1 send prefix			
		Bit 4=1 send suffix			
		Bit 3=1 send LRC			
		Bit 2=1 send start sentinel			
		Bit 1=1 send end sentinel			
0C	50	MSR track 2 setting			
		Bit 7=x don't care			
		Bit 6=1 enable track2			
		Bit 5=1 send prefix			
		Bit 4=1 send suffix			
		Bit 3=1 send LRC			
		Bit 2=1 send start sentinel			
		Bit 1=1 send end sentinel			
0E	50	MSR track 3 setting			
		Bit 7=x don't care			
		Bit 6=1 enable track3			
		Bit 5=1 send prefix			
		Bit 4=1 send suffix			
		Bit 3=1 send LRC			
		Bit 2=1 send start sentinel			
		Bit 1=1 send end sentinel			

10	C6	MSR setting Bit 7=1 ISO MSR enable Bit 5=0 Scan Code mode Bit5=1 : ALT Mode Bit 4=x don't care Bit 3=x don't care Bit 2=1 Enable MSR prefix Bit 1=1 Enable MSR suffix
11	00	MSR KB wedge Inter-Scan Code delay (0 – 255msec)
12	00	MSR KB wedge Inter-Message delay (0 – 255msec)
16	FF	Security Setting Bit 0=x x=0 : lock FDD read/write , x=1 : unlock FDD Bit 1=x x=0 : lock PC keyboard and KB wedge MSR x=1 : unlock PC Keyboard and KB wedge MSR Bit 2=x x=0 : lock PC keyboard only x=1 : unlock PC keyboard Bit 7=x x=0 : Disable beep sound. Bit 7=x x=1 : Enable beep sound.
20~27	"TK1"	MSR track 1 prefix string
28~2F	[ENTER] (0DH)	MSR track 1 suffix string
30~37	"TK2"	MSR track 2 prefix string
38~3F	[ENTER] (0DH)	MSR track 2 suffix string
40~47	"TK3"	MSR track 3 prefix string
48~4F	[ENTER] (0DH)	MSR track 3 suffix string
50~57	<0x1b>,"5"	MSR prefix string
58~5F	<0x0d> , <0x0a>	MSR suffix string
A0~C7	"Welcome to TouchPOS"	Power on show message on the customer display.
User definable characters (for Customer 20x2 display) User can program up to 7 user-defined characters for 20x2 display in TouchPOS. User can use this for foreign characters or for a little graphics. First, user must define character matrix (5x8 dots) and save this matrix to 8 specific addresses as bellowing with the Programming Commands (i.e. ESC+DEC255+DEC170etc, see also Table-1). After that user can just send ASC (001) to the COM4 to show up the first defined characters on 20x2 display.		
Address	ASCII	Define the custom character

68 ~ 6F	ASC (001)	Example: (x don't care, 0 : no dot, 1 : show dot)									
		Bit	7	6	5	4	3	2	1	0	
		68h	x	x	x	1	1	1	1	1	// save ASC(031) to Address(68h)
		69h	x	x	x	1	0	0	0	1	// save ASC(017) to Address(69h)
		6Ah	x	x	x	1	1	0	0	1	// save ASC(025) to Address(6Ah)
		6Bh	x	x	x	1	0	1	0	1	// save ASC(021) to Address(6Bh)
		6Ch	x	x	x	1	0	0	1	1	// save ASC(019) to Address(6Ch)
		6Dh	x	x	x	1	0	0	0	1	// save ASC(017) to Address(6Dh)
		6Eh	x	x	x	1	0	0	0	1	// save ASC(017) to Address(6Eh)
		6Fh	x	x	x	1	1	1	1	1	// save ASC(031) to Address(6Fh)
After all 8 definitions then send ASC(001) to show up this “□” character on the display.											
70 ~ 77	ASC (002)	Custom character 2 (The definition is same as above)									
78 ~ 7F	ASC (003)	Custom character 3 (The definition is same as above)									
80 ~ 87	ASC (004)	Custom character 4 (The definition is same as above)									
88 ~ 8F	ASC (005)	Custom character 5 (The definition is same as above)									
90 ~ 97	ASC (006)	Custom character 6 (The definition is same as above)									
98 ~ 9F	ASC (007)	Custom character 7 (The definition is same as above)									
MSR Scan Code table (KB wedge only)											
This table is for the MSR which sets the bit 6 of address 8010h to 1 for KB wedge, and bit 5 sets to 0 for Scan code mode, the customer can follow this table to define the prefix and suffix string for the special key of Keyboard. For example, if users want to define the MSR Track1 prefixes string to [F1] + [PageUp] + [TAB], then the prefix string for track1 in address 8020h ~ 8027h should be: Dec129+Dec11+Dec143.											

00h	0	Reserve	90h	144	[Pad *]
01h	1	[Up]	91h	145	[Pad -]
02h	2	[Down]	92h	146	[Pad 7]
03h	3	[Right]	93h	147	[Pad 8]
04h	4	[Left]	94h	148	[Pad 9]
05h	5	[Insert]	95h	149	[Pad 4]
06h	6	[Delete]	96h	150	[Pad 5]
07h	7	[Home]	97h	151	[Pad 6]
08h	8	[End]	98h	152	[Pad 1]
09h	9	[Pad /]	99h	153	[Pad 2]
0Ah	10	Reserve	9Ah	154	[Pad 3]
0Bh	11	[Page Up]	9Bh	155	[Pad 0]
0Ch	12	[Page Down]	9Ch	156	[Pad.]
0Dh	13	[ENTER]	9Dh	157	[Pad +]
0Eh	14	[Pad Enter]			
20h~	32~	Standard ASCII characters			
7Fh	127				
80h	128	[ESC]			
81h	129	[F1]			
82h	130	[F2]			
83h	131	[F3]			
84h	132	[F4]			
85h	133	[F5]			
86h	134	[F6]			
87h	135	[F7]			
88h	136	[F8]			
89h	137	[F9]			
8Ah	138	[F10]			
8Bh	139	[F11]			
8Ch	140	[F12]			
8Dh	141	[Enter]			
8Eh	142	[Backspace]			
8Fh	143	[Tab]			

5. 8300 Controller board Switch settings and Digital I/O control

5.1. 8300 Controller board Switch Settings:

ON/OFF SW	ON	OFF
SW1	Cash Drawer port for 12V	Cash Drawer port for 24V
SW2	Reserve	
SW3	Reserve	
SW4	MSR RS232 wedge	MSR KB wedge
SW5	PC COM4 released for users to enable digital I/O function.	PC COM4 be used for 8300 controller board & disable digital I/O functions.

5.2. 8300 Digital I/O Control:

Write 1 byte data to 400H (After PC boot up, the value of all bits is 0)

0/1 Bit No.	0	1
Bit 0	Reserve	
Bit 1	Reserve	
Bit 2	Off cash drawer 1	Trigger cash drawer 1
Bit 3	Off cash drawer 2	Trigger cash drawer 2
Bit 4	to unlock PC keyboard	to lock PC keyboard
Bit 5	unlock PC Floppy drive	to lock PC Floppy drive
Bit 6	Reserve	
Bit 7	to turn On TFT LCD backlight	to turn off TFT LCD backlight

Note:

Please do not set Bit 2 or Bit 3 (open cash drawer 1/2) to 1 (active)

For more then 1.5 sec, normally, set bit to 1 for 1 sec, then set bit to 0.

Read 1 byte data from 400H:

<div>0/1 Bit No.</div>	0	1
Bit 0	Cash Drawer 1 close	Cash Drawer 1 be open
Bit 1	Cash Drawer 2 close	Cash Drawer 2 be open

Note:

1. You cannot read 400H to check Bit 2 ~ bit7 value directly, so you need to save the 400H status.
2. Cash drawer status is to detect a switch which built in cash drawer.

If there is no switch in the cash drawer then the value will be always 1 (opened)

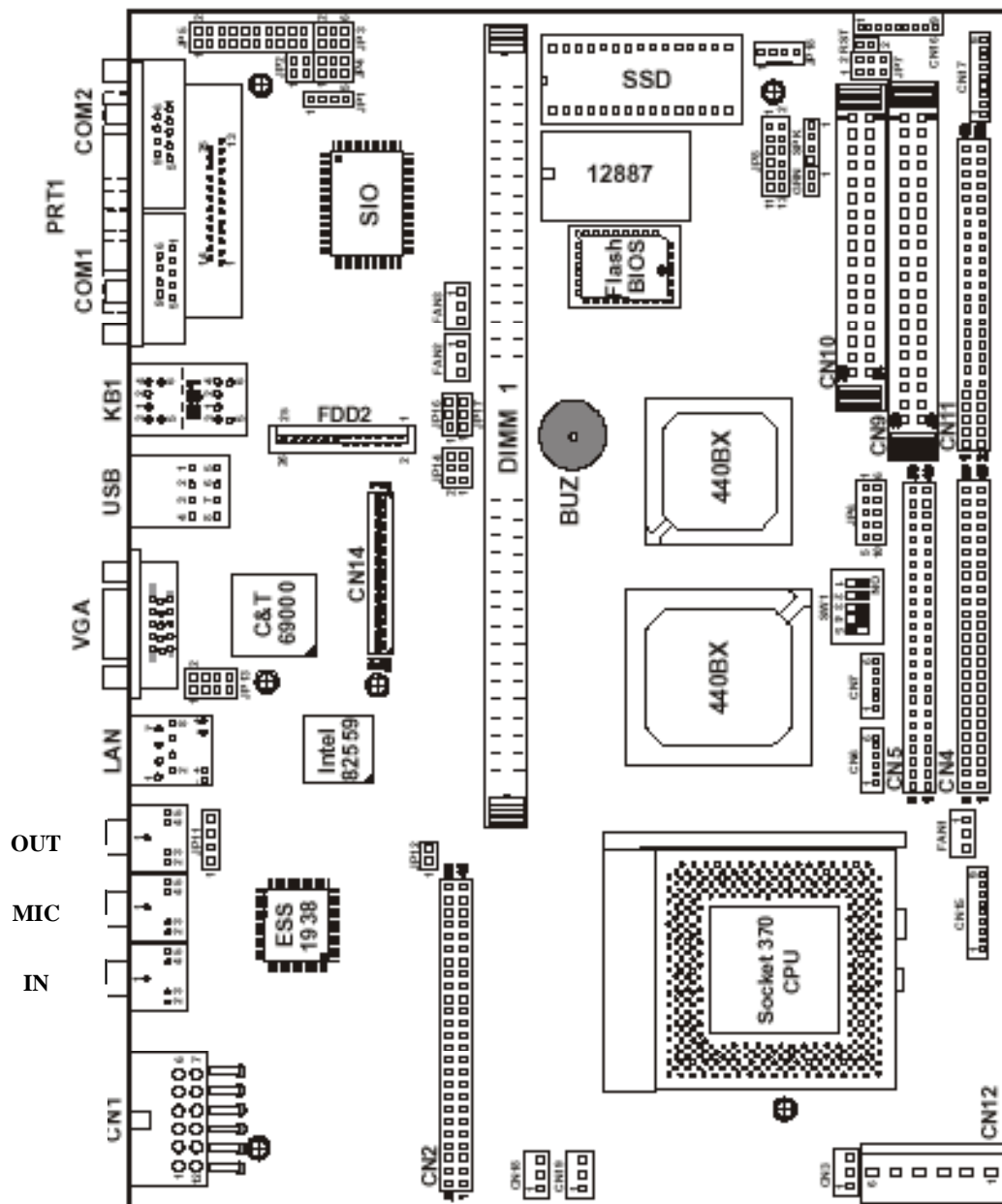
3. Bit 2 ~ Bit 7: Reserve (No any function, value will be always 1)

CHAPTER 5

Hardware Configuration

5-1. COMPONENT LOCATIONS

8300 Connector, Jumper and Component locations



5-2. HOW TO SET THE JUMPERS

You can configure your board by setting the jumpers. Jumper is consists of two or three metal pins with a plastic base mounted on the card, and by using a small plastic "cap", Also known as the jumper cap (with a metal contact inside), you are able to connect the pins. So you can set-up your hardware configuration by "opening" or "closing" pins.

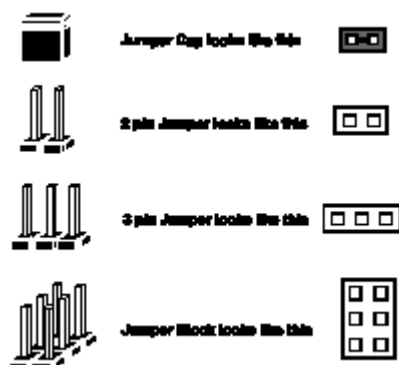
The jumper can be combined into sets that called jumper blocks. When the jumpers are all in the block, you have to put them together to set up the hardware configuration. The figure below shows how this looks like.

JUMPERS AND CAPS

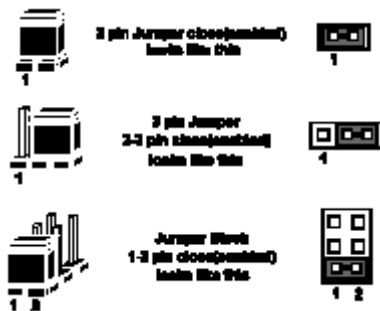


If a jumper has three pins (for example, labelled PIN1, PIN2, and PIN3), You can connect PIN1 & PIN2 to create one setting and shorting. You can either connect PIN2 & PIN3 to create another setting. The same jumper diagrams are applied all through this manual. The figure below shows what the manual diagram looks like and what they represent.

JUMPER DIAGRAMS



JUMPER SETTINGS



5-3. COM PORT CONNECTOR

COM1 : COM1 Connector

The COM1 Connector assignments are as follows :

PIN	ASSIGNMENT
1	DCD
2	TIN
3	ROUT
4	DTR
5	GND
6	DSR
7	RTS
8	CTS
9	RI

COM2 : COM2 Connector

The COM2 Connector assignments are as follows :

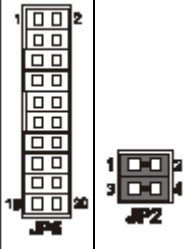
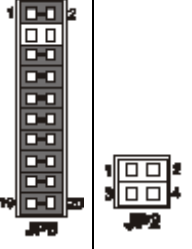
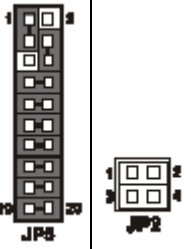
PIN	ASSIGNMENT		
	RS-232	RS-422	RS-485
1	DCD	TX-	TX-
2	TIN	TX+	TX+
3	TX	RX+	RX+
4	DTR	RX-	RX-
5	GND	GND	GND
6	DSR	RTS-	NC
7	RTS	RTS+	NC
8	CTS	CTS+	NC
9	RI	CTS-	NC

5-4. RS232/422/485 (COM2) SELECTION

JP5, JP2 : RS-232/422/485 Selection

COM2 is selectable for RS-232, 422, 485 function.

The jumper settings are as follows:




COM 2 Function	RS-232 JP5 JP2		RS-422 JP5 JP2		RS-485 JP5 JP2	
Jumper setting (pin closed)	Open	1-2 3-4	1-2 5-6 7-8 9-10 11-12 13-14 15-16 17-18 19-20	Open	1-3 4-6 7-8 9-10 11-12 13-14 15-16 17-18 19-20	Open
Jumper illustration						

*** Manufactory default --- RS-232.

5-5. COM1 RI & VOLTAGE SELECTION

JP3: COM1 RI & Voltage Selection




The selections are as follows:

SELECTION	JUMPER SETTINGS (pins closed)	JUMPER ILLUSTRATION
+5V	1-2	
RI	3-4	
+12V	5-6	

5-6. COM2 RI & VOLTAGE SELECTION

JP4: COM1 RI & Voltage Selection

The selections are as follows:

SELECTION	JUMPER SETTINGS (pins closed)	JUMPER ILLUSTRATION
+5V	1-2	
RI	3-4	
+12V	5-6	

5-7. KEYBOARD CONNECTOR

KB1 : PC/AT Keyboard Connector

The jumper settings are as follows:

PIN	ASSIGNMENT
1	KB DATA
2	KDATC
3	KB GND
4	KB +5V
5	KCLKC

5-8. MOUSE CONNECTOR

MS1 : PS/2 Mouse Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	MDATC
2	NC
3	MS GND

4	MS +5V
5	MCLKC

CN7 : Mouse Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	5VSB
2	MCLKT
3	MDATT
4	MCLKC
5	MDATC
6	GND



5-9. UNIVERSAL SERIAL BUS CONNECTOR

USB: Universal Serial Bus Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	VCC
2	USBP0-
3	USBP0+
4	GND
5	GND
6	VCC
7	USBP1C-
8	USBP1C+
9	GND
10	GND

5-10. EXTERNAL SPEAKER CONNECTOR

SPK : External Speaker Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	VCC
2	Speaker Signal (Buz)
3	Speaker Signal (Buz)
4	Speaker Signal (Buz)

5-11. VGA CONNECTOR

VGA : VGA Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	RED
2	GREEN
3	BLUE
4	NC
5	GND
6	GND
7	GND
8	GND
9	NC
10	GND
11	NC
12	NC
13	HSYNC
14	VSYNC
15	NC

5-12. HARD DISK DRIVE CONNECTOR

CN9: Hard Disk Drive Connector

The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	PRSTDRV-	2	GND
3	PIDED7	4	PIDED8
5	PIDED6	6	PIDED9
7	PIDED5	8	PIDED10
9	PIDED4	10	PIDED11
11	PIDED3	12	PIDED12
13	PIDED2	14	PIDED13
15	PIDED1	16	PIDED14
17	PIDED0	18	PIDED15
19	GND	20	NC
21	R PDREQ	22	GND
23	R PDIOW-	24	GND
25	R PDIOR-	26	GND
27	PIORDY	28	PULL LOW
29	RPDACK-	30	GND
31	RIRQ14	32	NC
33	R PDA1	34	NC
35	R PDA0	36	R PDA2
37	R PCS1-	38	R PCS3-

39	IDEACTP-	40	GND
----	----------	----	-----

CN11: Hard Disk Drive Connector

The pin assignments are as follows:

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	AUXAL	2	AUXAR
3	GND	4	GND
5	BRSTD RV-	6	SIDED8
7	SIDED7	8	SIDED9
9	SIDED6	10	SIDED10
11	SIDED5	12	SIDED11
13	SIDED4	14	SIDED12
15	SIDED3	16	SIDED13
17	SIDED2	18	SIDED14
19	SIDED1	20	SIDED15
21	SIDED0	22	R SDREQ
23	GND	24	R SDIOR-
25	R SDIOW-	26	GND
27	SIORDY	28	RSDACK-
29	RIRQ15	30	NC
31	R SDA1	32	NC
33	R SDA0	34	R SDA2
35	R SCS1-	36	R SCS3-
37	IDEACTS-	38	VCC
39	VCC	40	VCC
41	VCC	42	VCC
43	GND	44	GND
45	GND	46	GND
47	GND	48	GND
49	NC	50	NC

5-13. PRINTER CONNECTOR

PRT : Printer Connector

The pin assignments are as follows :

PIN	ASSIGNMENT	PIN	ASSIGNMENT
1	PSTROBJ	14	PAUTOFDJ
2	PP0	15	PERRORJ
3	PP1	16	PINITJ
4	PP2	17	PSLCTINJ
5	PP3	18	GND
6	PP4	19	GND
7	PP5	20	GND
8	PP6	21	GND
9	PP7	22	GND

10	PACKJ	23	GND
11	PBUSY	24	GND
12	PPE	25	GND
13	PSLCT	26	NC

5-14. CPU FAN CONNECTOR

FAN3 : CPU Fan connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	GND
2	+12V
3	FAN3 IN

5-15. LAN CONNECTOR

LAN: LAN Connector

The pin assignments are as follows:

PIN	ASSIGNMENT
1	TX+
2	TX-
3	RX+
4	ISOLATED GND
5	ISOLATED GND
6	RX-
7	ISOLATED GND
8	ISOLATED GND
9	PULL HI
10	LED – Green
11	PULL HI
12	LED - Yellow

5-16. POWER CONNECTOR

CN1 : Power Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	NC

2	GND
3	VCC
4	GND
5	5VSB
6	+12V
7	VCC
8	VCC
9	GND
10	PWR ON-
11	GND
12	-12V

5-17. POWER OUT CONNECTOR

CN12 : Power Out Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	VCC
2	VCC
3	+12V
4	+12V
5	GND
6	GND

5-18. MICROPHONE CONNECTOR

MIC : Microphone Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	GND
2	MIC-IN
3	GND
4	NC
5	MIC-VDD

CN19 : Microphone Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
-----	------------

1	MIC-VDD
2	GND
3	MIC-IN

5-19. LINE-IN CONNECTOR

LINE : Line-In Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	GND
2	LINE-R
3	GND
4	GND
5	LINE-L

5-20. LINE-OUT CONNECTOR

SPK : Line-Out Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	GND
2	SPK-L
3	SPK-L (PIN3)
4	SPK-R (PIN4)
5	SPK-R

CN18 : Line-Out Connector

The pin assignments are as follows :

PIN	ASSIGNMENT
1	SPK-L (PIN3)
2	GND
3	SPK-R (PIN4)

 CN18 Connector is only available when SPK (Line-Out Connector) is in not occupied.

5-21. LAN ENABLE/DISABLE SELECTION

JP16 : LAN Enable/disable Selection

The selections are as follows:

FUNCTION	JUMPER SETTINGS (pin closed)
ENABLE	1-2
DISABLE	2-3

5-22. SOUND ENABLE/DISABLE SELECTION

JP12: Sound Enable/Disable Selection

The selections are as follows:

FUNCTION	JUMPER SETTINGS (pin closed)
ENABLE	CLOSED
DISABLE	OPEN

5-23. INFRARED PORT

JP18: Infrared Port

The pin assignment is as follows:

PIN	ASSIGNMENT
1	VCC
2	IRRX
3	GROUND
4	IRTX

CHAPTER 6**Hardware Specification****Standard Configurations:**

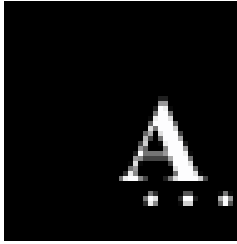
- 12" TFT colour display with touch screen
- Intel CPU Celeron 600(up to 850MHz)
- 128MB RAM(up to 256MB)
- One internal floppy disk drive
- One internal EIDE hard disk drive(2.5 or 3.5 type)
- 2 RS232 COM ports
- 2 USB ports
- 1 Parallel port
- 1 10/100 base-T Ethernet interface
- 1 PS/2 Mouse port
- 1 PS/2 Keyboard port
- Built-in sound card(MIC, SPK, Line-In, CD Audio-in)
-

Integrated Options:

- 12" Dual-lamps TFT colour display
- Intel CPU Pentium-III(up to 850MHz)
- One Infrared port(Support V1.0 SIR protocol)
- Disk on chip memory(up to 144MB)
- Magnetic stripe reader
- 20 Characters x 2lines LCD customer display
- 2 Cash Drawer ports

Physical:

- Dimensions:27.5(W)x29.5(L)x13.5(H)
- Weight:6 Kgs

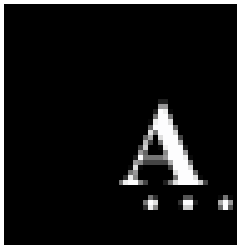


Appendix I: Setting for “Boot On LAN”

JP-8300 provides “Boot On LAN” function when user using JP-8300 without HDD’ FDD and/or CD-ROM. It helps user easy to connect Network (server) via Boot On LAN function.

The following information indicates user “How to set-up Boot On LAN”?

1. Ensure you’ve connected RJ45 cable from JP-8300 “E-NET” socket to your network(server).
2. Then go to CMOS setting.
3. In CMOS setting, select page “Advanced BIOS Features”.
4. Change “First Boot Device” item to “LAN”.
5. Press “Esc” and save setting with “Save & Exit Setup”.
6. Restart system.
7. Press “F8”, when “Boot ON LAN” wizard indicates next step.
8. The following processes will provide by each Server Administrator.



Appendix II: Power Supply

1. General Requirements:

The power supply is designed for electronic data processing equipment. There are five DC outputs: +5V, +12V, -12V, +3.3V & +5VSB and it will provide power to all system components.

2. Input Requirements:

- This power supply operates from 100~130Vrms or 200 to 240Vrms

The Power supply operates from an AC mains frequency of 50 or 60 Hz

The AC mains steady-state RMS. Input current shall be:

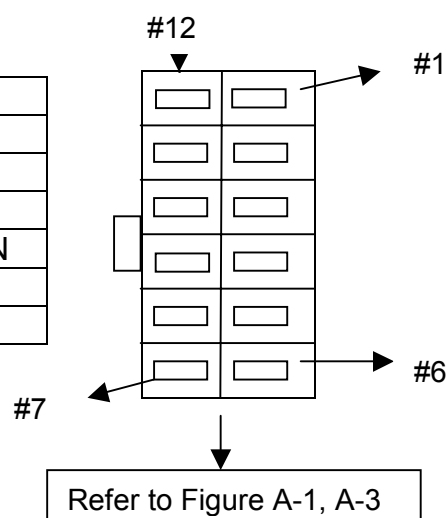
4.0 amps maximum / 115Vrms, 60Hz

2.0 amps maximum / 230Vrms, 50Hz

3. ATX 12pins connector pin-out:

Pin No.	Signal	Pin No.	Signal
#1	3.3V	#7	5V
#2	GND	#8	5V
#3	5V	#9	GND
#4	GND	#10	Power ON
#5	5V standby	#11	GND
#6	12V	#12	-12V

Figure A-1



Note: Maximum continuous power output is 150W (+5 & +3.3V total 75W Max.)

■ Diagramming Power Supply

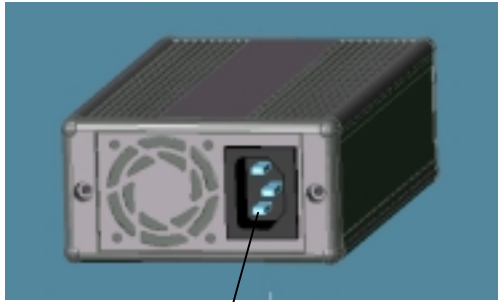


Figure A-2

Input: Insert power cord

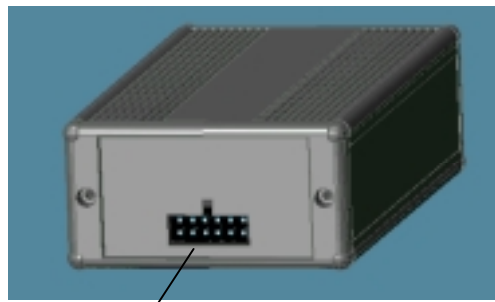


Figure A-3

Output: Details pin-out, please refer to figure A-1

4. Power On / Off:

- Press the power button (which is behind MSR of 8300 unit right side) to power on, and press again to power off (please refer to figure 1-1).



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