POSIFLEX ™

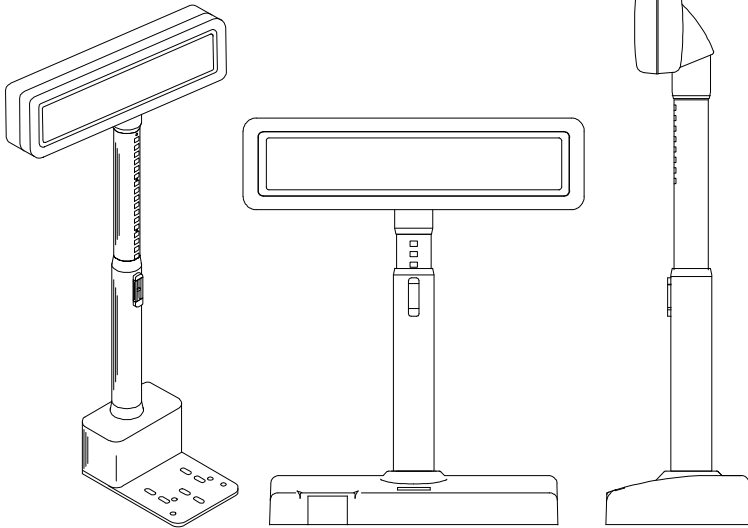# PD- 2100 / 2200 Series

USER' S MANUAL

**VFD CUSTOMER DISPLAY for
ALPHANUMERICAL DISPLAY
in 2 x 20 format**

Rev. : B2

SOME IMPORTANT NOTES

FCC NOTICE

This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions manual, may cause interference to radio communications. It has been tested and found to comply with limits for a Class A digital device pursuant to subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against interference when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference in which case the user at his own expense will be required to take whatever measures to correct the interference.

WARRANTY LIMITS

Warranty will terminate automatically when the machine is opened by any person other than the authorized technicians. The user should consult his/her dealer for the problem happened. Warranty voids if the user does not follow the instructions in application of this merchandise. The manufacturer is by no means responsible for any damage or hazard caused by improper application.

ABOUT THIS MANUAL

This manual assists the user to utilize the VFD customer display PD-2100 and PD-2200 series. Both series provide versatile font formats and support various instruction sets. These series of products receive instructions in serial communication protocols and is capable of entering pass through mode for PD-2200 so that all instructions received pass on to next connected serial device if properly configured.

The manufacturer of the PD-2100 and PD-2200 series heartily apologizes to the user for reserving the right to change or to modify this manual without notice due to the rapid and constant progress and improvement on science and technology. The user may always obtain the most up to date information through any of our web sites: http://www.posiflex.com.tw, http: //www.posiflexuk.com, http://www.posiflexusa.com.

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TABLE OF CONTENTS

I. FEATURES

- Bright green vacuum fluorescent display
- Two-line display with 20 characters per line
- Large characters for easy viewing (11.25mm by 7.2mm)
- Long life and trouble free operation
- Secure construction with bumper best for screw on operation in PD2100 series. Generous base best for freely stand alone application in PD2200 series.
- Two adjustable viewing angles
- Pole height adjustable
- Display frame is horizontally slidable, and 360° rotatable freely
- Brightness adjustable by software
- Simple installation
- Direct interface connection with computers and peripherals
- Standard Serial Interface for both series and with pass through capability for PD2200 series.
- Multiple choices for power supply source.
- Support Euro Code Page

II. MODEL NUMBERS

Model number	Base (mm)	Interface	Connector	Power source	Code Page
PD2100S/X	Cushioned small housing 80 x 60 x 51	RS232	5pin DIN	12V AC from adaptor	U + J
PD2100S-EU/X					U + E
PD2100S				+12V DC from PC	U + J
PD2100S-EU					U + E
PD2200A/X	Large housing 220 x 110 x 41	RS232+	25 pin DF, 9 pin DM	12V AC from adaptor	9 pages
PD2200A				+12V DC from PC	
PD2200B/X			9 pin DF, 9 pin DM	12V AC from adaptor	
PD2200B				+12V DC from PC	
PD2201	N. A.	RS232+	10 pin RJ-45	+5V DC from POS system	

Note:

1. In column "Interface": + means capability for pass through connection.
2. In column "Code page" U means US Code Page, J means JPN Code Page, E means EU Code Page which contains Euro dollar sign and 9 pages include PC437, Katakana, PC580 Multilingual, PC860 Portuguese, PC863 Canadian French, PC865 Nordic, Russia, Albic and PC858 the code page contains Euro dollar sign at position D5h.
3. For "/X" models, power plug type must be specified.

III. CARTON CONTENTS

1. Pole display, pre-assembled (with COM port terminator plugged in PD2200A and PD2200A/X).
2. User' s Manual.
3. Pass through terminator (for PD2200A/X and PD2200A only and is already plugged at bottom of PD)
4. Metal stand plate with mounting screws (for PD2100S/X, PD2100S-EU/X, PD2100S and PD2100S-EU only).
5. Power supply & Signal cable:

Model number	Power Supply	Interface Cable
PD2100S/X	Power adaptor specified per country type	20863012510 (CCBLA - 125A) – a DB-9F to DIN-5M RS232 cable
PD2100S-EU/X		
PD2200A/X		20863036900 (CCBLA-369) – a DB-9F to DB-25M RS232 cable
PD2200B/X		20863137200 (CCBLA-372) – a DB-9F to DB-9M RS232 cable
PD2100S	Power kit incl. power supply cable (inside PC) 39212001000 (CCBLA-141 on I/O plate) and power supply cable (to PD) 20863041100 (CCBLA-411)	20863012510 (CCBLA - 125A) – a DB-9F to DIN-5M RS232 cable
PD2100S-EU		
PD2200A		20863036900 (CCBLA-369) – a DB-9F to DB-25M RS232 cable
PD2200B		20863137200 (CCBLA-372) – a DB-9F to DB-9M RS232 cable

IV. INSTALLATION

A. Signal connection

1. For PD2100S/X, PD2100S-EU/X, PD2100S, PD2100S-EU

1. Take off the metal plate on the Pole display base cabinet by loosening the screws.
2. Connect the DIN 5 pin plug of the cable CCBLA - 125A to the female DIN 5 pin jack inside the base cabinet and connect the DB9 connector of cable CCBLA - 125A to serial port COM1 or COM2 of the computer.

To COM port

DIN jack

DIN plug
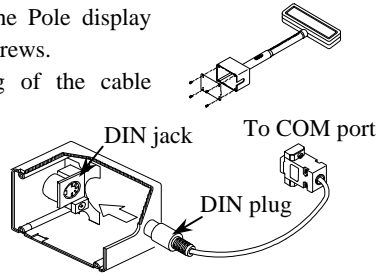
2. For PD2200A/X, PD2200A

Connect the DB9 female connector of the signal cable CCBLA - 369 to the COM port of PC and connect the DB25 male connector of the signal cable CCBLA – 369 to the DB25 female connector in the base of the PD.

3. For PD2200B/X, PD2200B

Connect the DB9 female connector of the signal cable CCBLA - 372 to the COM port of PC and connect the DB9 male connector of the signal cable CCBLA – 372 to the DB9 female connector in the base of the PD.

B. Power connection & Mounting

1. Using power adaptor

Always check the specification of the power adaptor against the power socket before making any connection. Always keep the insertion of the power adaptor into the power socket
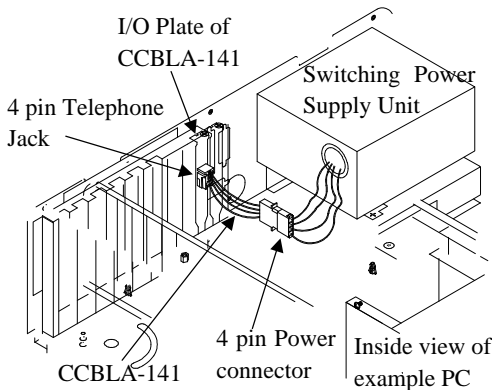
DC Jack

From Power Adaptor
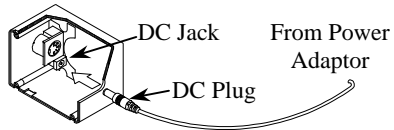
DC Plug

as the very last step of the whole installation procedure. Connect the 2.5φ/5.5φ DC plug of the AC adapter to the 2.5φ/5.5φ DC jack inside or at bottom of the base cabinet. The above drawing shows the example in PD2100 series. For PD2200 series, you may now place the base on a horizontal surface and prepare to power on. However, some mounting operations are applicable to PD2100 series:

1. Put the metal plate back and fix the screws.
2. Mount the pole display stand plate to the metal plate of base cabinet with screws and mount the pole display stand plate to your Posiflex cash drawer (CR310X or CR320X) or on the cashier's dash.
3. Plug the adapter into power outlet.

Base cabinet
Stand plate
Bottom view of cash drawer

2. Using power from PC
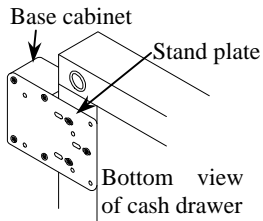
I/O Plate of CCBLA-141
Switching Power Supply Unit
4 pin Telephone Jack
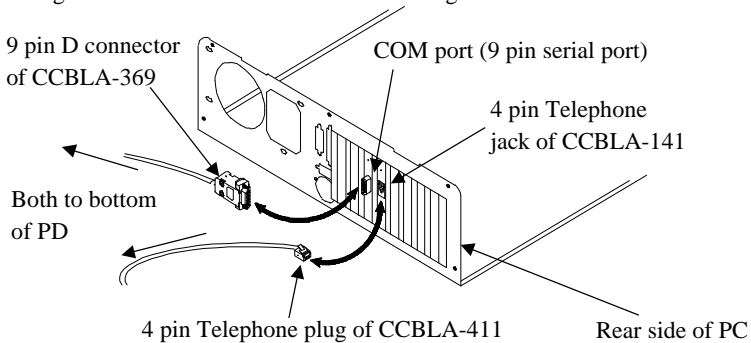4 pin Power connector
CCBLA-141
Inside view of example PC

Install the cable CCBLA-141 with I/O plate in the power kit into the hosting PC for obtaining DC power as shown in the left drawing. However, it is absolutely important to **turn all the power off** before removing any case or connecting any cable. Followings are step-by-step instructions for installing this cable.

1. Make sure the PC to supply power is turned off.
2. Open the case of PC according to its relevant manual.
3. Select one I/O plate position on rear window of PC to install the I/O plate of CCBLA-141.
4. Select one set of large 4 pin connector from the switching power supply unit of PC and connect the male 4 pin connector of CCBLA-141 to the connector from power supply. Connect the female 4 pin

connector of CCBLA-141 to the I/O device of PC such as a HDD if necessary.

5. Assemble the case of PC back.

Then referring to drawing below to complete the basic power and signal cabling. Note the PC should remain OFF during the connection.

9 pin D connector of CCBLA-369

COM port (9 pin serial port)

4 pin Telephone jack of CCBLA-141

Both to bottom of PD

4 pin Telephone plug of CCBLA-411

Rear side of PC

1. Connect the 4 pin telephone plug of CCBLA-411 to the 4 pin telephone jack on the I/O plate of CCBLA-141 which has been mounted as described above.

2. Insert the DC plug of CCBLA-411 into the jack at the bottom of the base of PD in the same way as the power adaptor. Let the cables come out of the bottom of PD2200 series through the opening at the back of base so that the PD can stand securely.

3. Now the user may turn on the PC (and the PD when it is PD2200 series) for application unless the user wants to use PD for pass through purpose (PD2200 series only).

3. Using power from POS system

This super convenient power supply method applies only to PD2201 when installed in a Posiflex PST POS system or PD2200B when connected to a Posiflex POS system after proper setting for power in COM port. The power connection is already done when the signal connection is completed.

C. Connect for Pass Through Operation

In PD2200A models the jumper settings are internally set to pass through mode, while the PD is delivered with a COM port terminator on the 9 pin male connector at the bottom of PD. In this way, the PD serves the non-pass-through operation well. For pass through operation, the user has to merely remove this COM port terminator and connect the pass through connected device in stead. Please reserve the COM port terminator in a safe place in case the non-pass-through operation would be required in the future. In PD2200B models the COM port terminator is no longer required. The hardware handshaking signals are taken care of automatically.
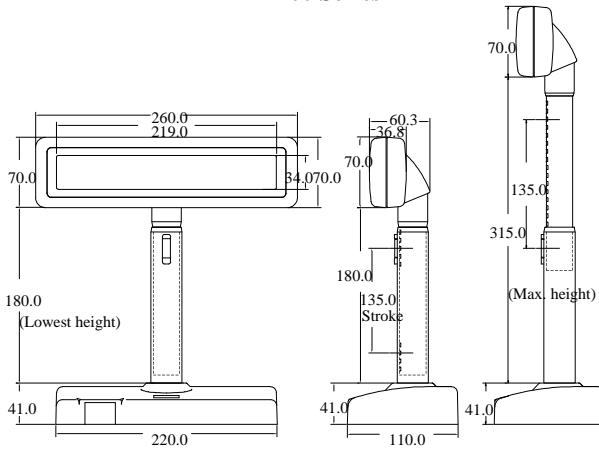
D. After Powering Up

A firmware version as power on sign will appear for a while. Then a blinking block-shaped cursor will appear at the left-most digit of the top row for Noritake emulation mode and no cursor will appear for other emulation modes. The installation is now completed.

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V. MECHANICAL FEATURES
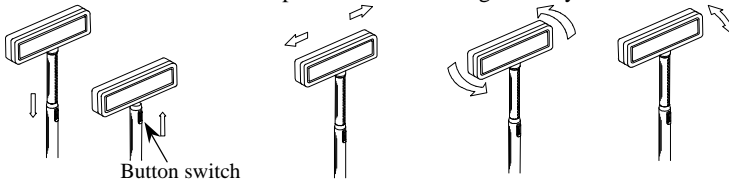
A. Dimension Drawings
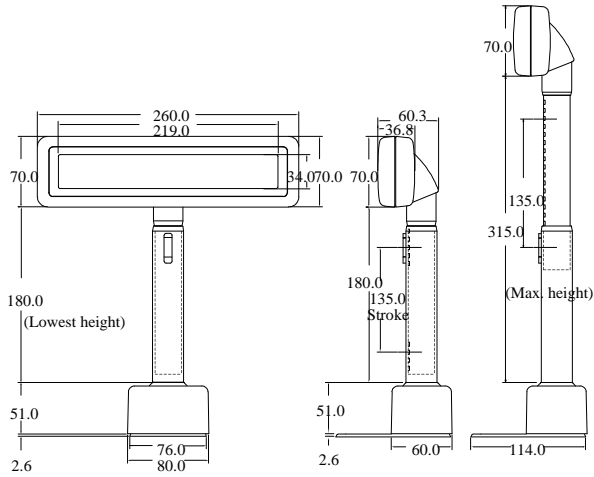
PD2100 Series

PD2200 Series

B. Display Frame Common Features

In addition to the above drawings given, both the PD2100/PD2200 series are delicately designed to have in common the following user-friendly mechanical features for most up-to-date store management systems.

Button switch

The display panel of PD2100/PD2200 series can be moved or rotated/tilted both vertically and horizontally

The overall pole height can be adjusted freely by pulling the button switch and match it to one of the concave cavities on inner pole at a proper height. Overall height of PD2100 series is adjustable from 309mm to 444mm and overall height of PD2200 series is adjustable from 291mm to 426mm.

The display frame can be slid left-and-right-wise for a total sliding distance of 100mm. It can also be rotated horizontally for almost 360 degree, however, the rotation is limited to within 360 degree to avoid the internal cable to be broken. It can further be tilted to offer 2 different viewing angles ---14.5°, 30° from the vertical position.

C. Cushion Against Shock Coming from Any Direction for PD2100 Series

Another special delicate design at bottom of PD2100S is a cushion mechanism to survive an inevitable crash or damage on pole display from certain absent - minded customers, playing children and so on. It will absorb any external stress or bump to avoid any damage of the device.

D. Stand - Plate Accessory for PD2100 Series

The stand - plate accessory is designed to fix pole display device either on the desk with (or without) screws or at the bottom of CR3100/3200 series cash drawers.

VI. COMMAND EMULATION

This VFD customer display provides several software programming emulation modes for display control. The emulation mode is defined by adjusting the DIP SW on the back as in the following table. Switching these DIP switches may require some proper tool or special effort. The switch positions must be changed only when power turned off. The relationship is tabulated below.

SW1
Push up to switch on   SW2
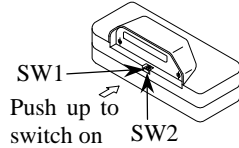
For PD2100:

Emulation Mode	Futaba	Noritake	Aedex	Epson
SW 1	on	off	on	off
SW 2	on	on	off	off

For PD2200 and PD2201:

Emulation Mode	UTC (/Futaba)	Noritake	Aedex (/ADM)	Epson
SW 1	on	off	on	off
SW 2	on	on	off	off

The parenthesized Futaba and ADM modes can be accessible when the internal jumper JP3 is opened. The followings are some brief introduction of the emulation modes as they are compared to each other:

Mode	Futaba	Noritake	Aedex	ADM	Epson
Cursor	Blinking Block	Blinking Block	N.A.	N.A.	Non-displayable
Default mode	V. scroll up	Overwrite	N.A.	N.A.	Overwrite
User defined font	N.A.	2 characters	N.A.	N.A.	2 characters
Brightness control	YES	YES	NO	NO	YES
Pass through function	YES	YES	YES	NO	YES
Leading code change	YES	YES	YES	NO	NO
Code page select	YES	YES	NO	NO	YES
Timer clock	NO	NO	NO	NO	YES

To display the Euro-dollar sign on the Euro code page supported models, please select code page 13(Hex) and display code D5(Hex). Please visit our web site http://www.posiflex.com.tw for details on software commands if required.

VII. SPECIFICATIONS

A. Optical

Number of digits	20 digits/row, 2 rows
Dot matrix	5 X 7 dots
Digit height	11.25 mm
Digit width	7.2 mm
Color	Green, λ = 505 nm

B. Mechanical

Weight	0.7 kg (1.5 lbs)
Height	309 ~ 444 mm (For PD2100 series)
	291 ~ 426 mm (For PD2200 series)
Width	260 mm
Depth	60 mm (For PD2100 series)
	110 mm (For PD2200 series)

C. Electrical

Power (Applied to adapter)

Input:	120VAC, 60 Hz or 220VAC, 50 Hz
Output:	12VAC heavy duty, 1.2 A (min.)

Power from PC:	+ 12VDC

Power from Posiflex POS system:

	+ 5VDC (PD2201)
	+ 12VDC (PD2200B)

D. Environmental

Operating temperature	0° to + 40°C
Storage temperature	-20° to + 70°C
Relative humidity	90%, non-condensing
Vibration	4 G
Shock	40 G

WARNING: If the user opens the pole display housing to make any change, all the product warranty will be voided.