Pro-face®

Easy! Smooth!

PL-5700 Series

Replacement Guidebook

Preface

Thank you very much for using Pro-face panel computers. Thanks to your continued support, the 10.4-inch PL-5910 series introduced in January 2005 and its previous models PL-5700 series and PL-5900 series have been sold as MS-DOS compatible panel computers for years.

However, under the harsh circumstances for supply continuance of Pro-face products, in accordance with supply discontinuance of important components such as IDE-interfaced FDD drives and HDD drives in the market, we will discontinue the PL-5910 series, MS-DOS-compatible models, and 10.4" panel computers. *1

We hope this guidebook will help you with replacement with new Pro-face panel computers.

*1: The date of discontinuance and the last date of order will be officially announced separately. We will continue to offer repair services for the seven years from the announcement of this discontinuance on our website. The repair service may be terminated earlier depending on the stock condition of repair parts, or the repairing prices may be changed. For more details, please contact your nearest Pro-face or local distributor.

This guidebook introduces the procedures to replace your unit in the PL-5700 series with the PL3000/PS3000/FP3000 series.

The recommended replacement models are as follows:

Model in use	Replacement model
PL-5700 Series	**PL-3600T**
	PS-365*A
	PS-345*A
	FP-3500T
	(with a commercially available PC)

First Edition: June 2009

Table of Contents

Chapter 1. Replacement Models for PL-5700 Series

Find the model best suited to your environment with the following flow chart:

PL-5700 Series

What operating system do you use?

MS-DOS →

Flat panel monitor
FP-3500T
(+ commercially available PC)
See 2.4

Windows

Do you need an ISA bus on the expansion slot?

Yes →

No

Do you need a PCI bus on the expansion slot?

Yes →

Industrial computer with high-expandability
PL-3600T
See 2.1

No

Do you use the RAS function?

Yes →

Do you need more than 2 serial interfaces (COM ports)?

Yes →

No →

Industrial computer with high-usability
PS-365*A (PS365*A-T42)
See 2.2

No

What is your desired screen size?

8.4 inches →

Industrial computer with high-usability
PS-345*A
See 2.3

12.1 inches

Industrial computer with high-usability
PS-365*A (PS365*A-T42S)
See 2.2

Chapter 2. Specification Comparison

2.1 Specifications of PL-5700 Series and PL-3600T

			PL-5700 Series		PL-3600T
CPU			AM5x86 (133MHz) manufactured by AMD	UP!	Intel® Core™ Duo 2.0GHz See 3.2
L2 Cache Memory			256KB (when an optional memory board is installed on)	UP!	2M (CPU built-in) See 3.2
Main Memory			2 slots (Max. 32MB)	UP!	2 slots (Max. 4GB) See 3.3
Display Type		PL-570*T1	TFT color LCD	UP!	TFT color LCD
		PL-570*S1	STN color LCD		
		PL-570*L1	Monochrome LCD		
Graphics			VGA (640 × 480 pixels)	UP!	SVGA (800 × 600 pixels)
Display Colors		PL-570*T1	65,536 colors	UP!	262,144 colors
		PL-570*S1	8 colors (halftone by thinned-out frame)		
		PL-570*L1	2 colors (halftone by thinned-out frame)		
Panel Cut Dimensions (mm [in.])			W292 × H252 [11.5 × 9.92]		W295.5 × H243.5 [11.63 × 9.59] See 3.4
External Dimensions (mm [in.]) * The number of slots is that of extension slots.			W312 × H272 × D129.3 mm [12.28 × 10.71 × 5.09] (PL-5700T: 3 slots)	NEW!	W338×H286×D218mm(4 slots) [13.31 × 11.26 × 8.58]
			W312 × H272 × D96.3 mm [12.28 × 10.71 × 3.79] (PL-5701T: 1 slots)		W338×H286×D166mm(2 slots) [13.31 × 11.26 × 6.54] See 3.4
Interface	**Serial**	**COM1**	RS-232C	UP!	RS-232C/422/485 (RI/+5V changeover)
		COM2	RS-232C (RI/+5V changeover)		RS-232C (RI/+5V changeover)
		COM3	RS-485		RS-232C
		COM4	No	NEW!	RS-232C
	Printer		Centronics standard (SPP/ECP/EPP equivalent)		USB See 3.5
	Keyboard		PS/2		USB See 3.5

Mouse		PS/2	USB	See 3.5
USB		No	**NEW!** USB 2.0 - 4 ports on the side, - 1 port on front	
Ethernet	**LAN1**	10BASE-T/10BASE-2/ 10BASE-5 (when an optional LAN board is installed on the expansion slot)	**UP!** 10BASE-T/100BASE-TX /1000BASE-T	
	LAN2	No	**NEW!** 10BASE-T/100BASE-TX	
RAS		No	**NEW!** Yes	
Disk	**FDD**	2 modes, 3.5" floppy disk	USB	See 3.5
	IDE	- 2.5" HDD unit or flash file disk unit × 1 - CD-ROM drive × 1	**NEW!** - CF card slot × 1 (Type I/II compatible) - DVD drive × 1	
	Serial ATA	No	**NEW!** Serial ATA Rev.1.0a × 2 2.5" HDD unit or SSD unit	See 3.6
Memory Card		JEIDA Ver.4.1-compliant IC memory card	No	
Flash Memory		Flash ROM slot × 1	No	See 3.12
Sound		No	**NEW!** Speaker output	
Video		No	**NEW!** DVI-I OUT	See 3.7
Expansion Slot		ISA bus × 3 (PL-5700*1) ISA bus × 1 (PL-5701*1)	**NEW!** PCI (Rev.2.3) × 4 or 2 See 3.8	

2.2 Specifications of PL-5700 Series and PS-365*A

			PL-5700 Series	PS-365*A
CPU			AM5x86 (133MHz) manufactured by AMD	UP! PL-3650A: Intel® Celeron M 1.5GHz PL-3651A: Intel® ULV Celeron M 1GHz
L2 Cache Memory			256KB (when an optional memory board is installed on)	UP! 512KB (CPU built-in)
Main Memory			2 slots (Max. 32MB)	UP! 1 slot (Max. 1GB) See 3.3
Display Type	PL-570*T1		TFT color LCD	UP! TFT color LCD
	PL-570*S1		STN color LCD	
	PL-570*L1		Monochrome LCD	
Graphics			VGA (640 × 480 pixels)	UP! XGA (1,024×768 pixels)
Display Colors	PL-570*T1		65,536 colors	UP! 262,144 colors
	PL-570*S1		8 colors (halftone by thinned-out frame)	
	PL-570*L1		2 colors (halftone by thinned-out frame)	
Panel Cut Dimensions (mm [in.])			W292 × H252 [11.5 × 9.92]	NEW! W301.5 × H227.5 [11.87 × 8.96] See 3.4
External Dimensions (mm [in.])			W312 × H272 × D129.3 mm [12.28 × 10.71 × 5.09] (PL-5700T)	NEW! W313×H239×D103mm(PS-3650A) [12.32 × 9.41 × 4.06]
			W312 × H272 × D96.3 mm [12.28 × 10.71 × 3.79] (PL-5701T)	W313×H239×D60mm(PS-3651A) [12.32 × 9.41 × 2.36] → See 3.4
Interface	Serial	COM1	RS-232C	UP! RS-232C/422/485 (RI/+5V changeover)
		COM2	RS-232C (RI/+5V changeover)	RS-232C (RI-fixed) (only model with a COM2 port) See 3.9
		COM3	RS-485	USB See 3.5

Printer		Centronics standard (SPP/ECP/EPP equivalent)	USB	See 3.5
Keyboard		PS/2	USB	See 3.5
Mouse		PS/2	USB	See 3.5
USB		No	NEW!	USB 1.1 - 1 port on front USB 2.0 - 4 ports on the side
Ethernet	**LAN1**	10BASE-T/10BASE-2/ 10BASE-5 (when an optional LAN board is installed on the expansion slot)	UP!	10BASE-T/100BASE-TX
	LAN2	No	NEW!	10BASE-T/100BASE-TX /1000BASE-T
RAS		No	NEW!	Yes (only model with an RAS port) See 3.9
Disk	**FDD**	2 modes, 3.5" floppy disk	USB	See 3.5
	IDE	- 2.5 " HDD unit or flash file disk unit × 1 - CD-ROM drive × 1	NEW!	CF card slot × 1 (Type I/II compatible)
	Serial ATA	No	NEW!	Serial ATA Rev.1.0 × 1 2.5" HDD unit See 3.6
Memory Card		JEIDA Ver.4.1-compliant IC memory card		No
Flash Memory		Flash ROM slot × 1		No See 3.12
PCMCIA		No	NEW!	PC card slot, card bus-compatible * Excluding zoomed video and sound functions Type II × 1
Sound		No	NEW!	Stereo speaker output
Expansion Slot		ISA bus × 3 (PL-5700*1)	NEW!	
		ISA bus × 1 (PL-5701*1)		PCI (Rev.2.2) × 1 (PS-3650A) None slot (PS-3651A) → See 3.8

2.3 Specifications of PL-5700 Series and PS-345*A

			PL-5700 Series	PS-345*A
CPU			AM5x86 (133MHz) manufactured by AMD	**UP!** Intel® ULV Celeron® M (1GHz)
L2 Cache Memory			256KB (when an optional memory board is installed on)	No
Main Memory			2 slots (Max. 32MB)	**UP!** 1 slot (Max. 1GB) See 3.3
Display Type	**PL-570*T1**		TFT color LCD	**UP!** TFT color LCD
	PL-570*S1		STN color LCD	
	PL-570*L1		Monochrome LCD	
Graphics			VGA (640 × 480 pixels)	**UP!** SVGA (800 × 600 pixels)
Display Colors	**PL-570*T1**		65,536 colors	**UP!** 262,144 colors
	PL-570*S1		8 colors (halftone by thinned-out frame)	
	PL-570*L1		2 colors (halftone by thinned-out frame)	
Panel Cut Dimensions (mm [in.])			W292 × H252 [11.5 × 9.92]	**NEW!** W218.5 × H165.5 [8.60 × 6.52] See 3.4
External Dimensions (mm [in.])			W312 × H272 × D129.3 mm [12.28 × 10.71 × 5.09] (PL-5700T) W312 × H272 × D96.3 mm [12.28 × 10.71 × 3.79] (PL-5701T)	**NEW!** W230×H177×D120mm(PS-3450A) [9.06 × 6.97 × 4.72] W230×H177×D65mm(PS-3451A) [9.06 × 6.97 × 2.56] → See 3.4
Interface	**Serial**	**COM1**	RS-232C	RS-232C
		COM2	RS-232C (RI/+5V changeover)	**UP!** RS-232C/422/485 (RI/+5V changeover)
		COM3	RS-485	USB See 3.5
	Printer		Centronics standard (SPP/ECP/EPP equivalent)	USB See 3.5
	Keyboard		PS/2	USB See 3.5
	Mouse		PS/2	USB See 3.5
	USB		No	**UP!** USB 2.0 - 4 ports on the bottom

Ethernet	**LAN1**	10BASE-T/10BASE-2/ 10BASE-5 (when an optional LAN board is installed on the expansion slot)	**UP!**	10BASE-T/100BASE-TX	
	LAN2	No	**NEW!**	10BASE-T/100BASE-TX /1000BASE-T, Wake On LAN compatible	
Disk	**FDD**	2 modes, 3.5" floppy disk	USB	See 3.5	
	IDE	- 2.5" HDD unit or flash file disk unit × 1 - CD-ROM drive × 1	**NEW!**	- 2.5" HDD × 1 (Primary master) - CF card slot × 2 (Primary slave and secondary master)	
Memory Card		JEIDA Ver.4.1-compliant IC memory card	No		
Flash Memory		Flash ROM slot × 1	No	See 3.12	
Sound		No	**NEW!**	Stereo speaker output	
Expansion Slot		ISA bus × 3 (PL-5700*1)	**NEW!** PCI (Rev.2.2) × 1 (PS-3450A) None slot (PS-3451A) → See 3.8		
		PCI or ISA bus × 1 (PL-5701*1)			

2.4 Specifications of PL-5700 Series and FP-3500T (with commercially available PC)

			PL-5700 Series	FP-3500T (+ commercially available PC)
CPU			AM5x86 (133MHz) manufactured by AMD	Depends on the connected PC
L2 Cache Memory			256KB (when an optional memory board is installed on)	Depends on the connected PC
Main Memory			2 slots (Max. 32MB)	Depends on the connected PC
Display Type	PL-570*T1		TFT color LCD	UP! TFT color LCD
	PL-570*S1		STN color LCD	
	PL-570*L1		Monochrome LCD	
Graphics			VGA (640 × 480 pixels)	
Display Colors	PL-570*T1		65,536 colors	UP! 262,144 colors
	PL-570*S1		8 colors (halftone by thinned-out frame)	
	PL-570*L1		2 colors (halftone by thinned-out frame)	
Panel Cut Dimensions (mm [in.])			W292 × H252 [11.5 × 9.92]	NEW! W301.5 × H227.5 [11.87 × 8.96] See 3.4
External Dimensions (mm [in.])			W312 × H272 × D129.3 mm [12.28 × 10.71 × 5.09] (PL-5700T) W312 × H272 × D96.3 mm [12.28 × 10.71 × 3.79] (PL-5701T)	NEW! W317 × H243 × D58 mm [12.48 × 9.57 × 2.28] See 3.4
Interface	Serial	COM1	RS-232C	Depends on the connected PC
		COM2	RS-232C (RI/+5V changeover)	Depends on the connected PC
		COM3	RS-485	Depends on the connected PC
		COM	No	NEW! For screen data transfer
	Printer		Centronics standard (SPP/ECP/EPP equivalent)	Depends on the connected PC
	Keyboard		PS/2	Depends on the connected PC
	Mouse		PS/2	Depends on the connected PC

	USB		No	Cannot be used under the MS-DOS environment See 3.11
	Ethernet	**LAN1**	10BASE-T/10BASE-2/ 10BASE-5 (when an optional LAN board is installed on the expansion slot)	Depends on the connected PC
	Disk	**FDD**	2 modes, 3.5" floppy disk	Depends on the connected PC
		IDE	- 2.5" HDD unit or flash file disk unit × 1 - CD-ROM drive × 1	Depends on the connected PC
	Memory Card		JEIDA Ver.4.1- compliant IC memory card	No
	Flash Memory		Flash ROM slot × 1	No See 3.12
	Video		No	NEW! Analog RGB input × 1 DVI-D input × 1
Expansion Slot			ISA bus × 3 (1 slot on PL-5701*1)	Depends on the connected PC

Chapter 3. Compatibility of Hardware

3.1 Locations of Interfaces

3.1.1 PL-5700 Series and PL-3600T (2-slot type)

◆ Front faces of PL-5700 Series and PL-3600T
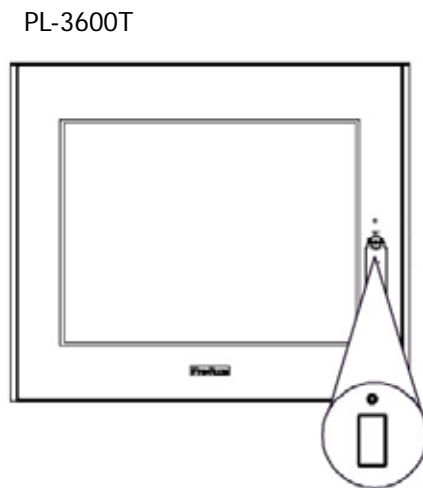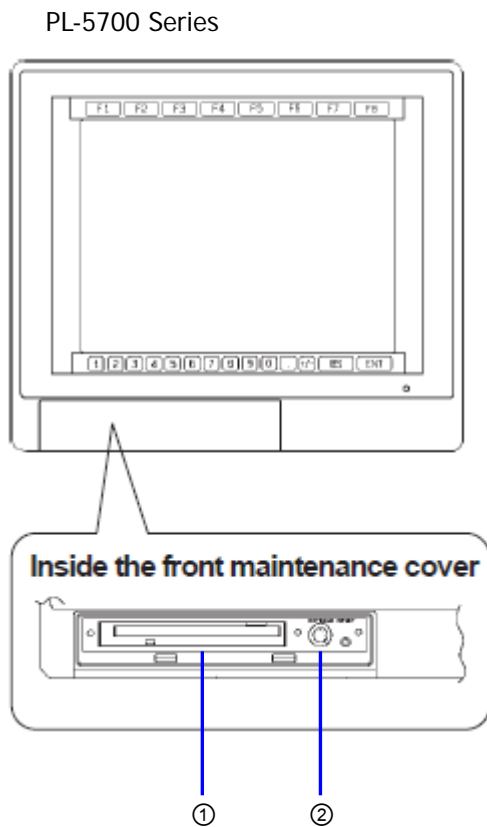
PL-5700 Series

PL-3600T

Inside the front maintenance cover

① ②
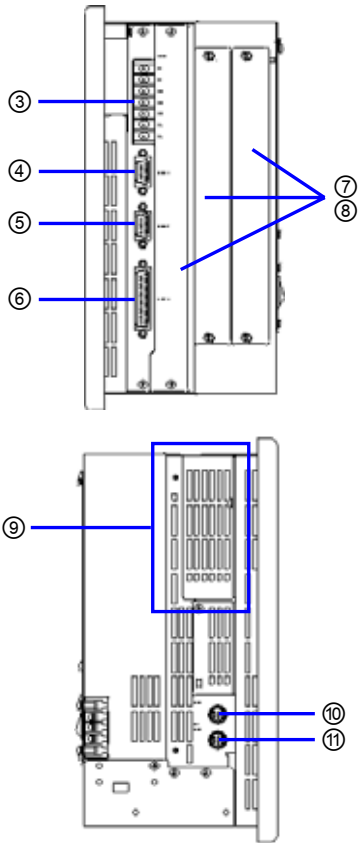
◆ Side faces of PL-5700 Series and PL-3600T

PL-5700 Series
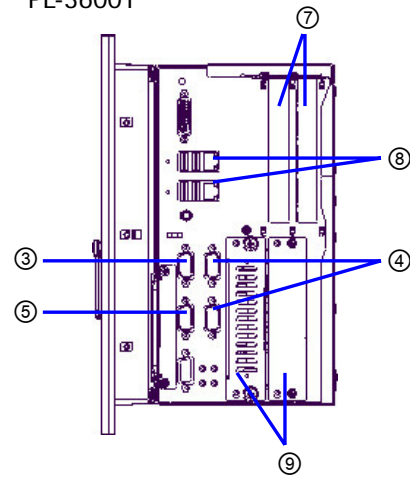
PL-3600T

*   A 4-slot type PL unit has 4 slots of ⑦.

*   PL-5701*1 has only 1 slot of ⑦ on the left.

◆ Rear face of PL-5700 Series and bottom face of PL-3600T

PL-5700 Series
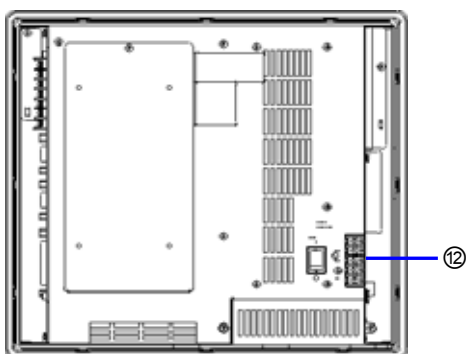
PL-3600T
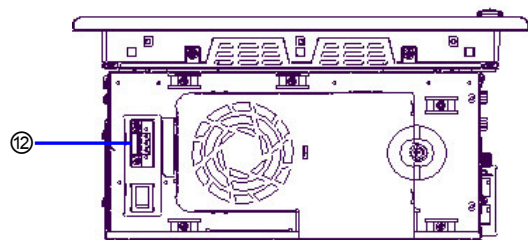
3.1.2 PL-5700 Series and PS-365*A

◆ Front faces of PL-5700 Series and PS-365*A

PL-5700 Series   PS-365*A

Inside the front maintenance cover

① ②
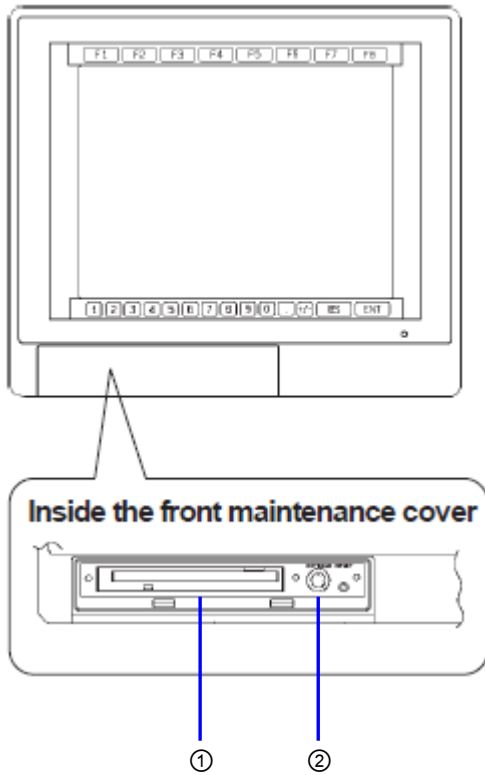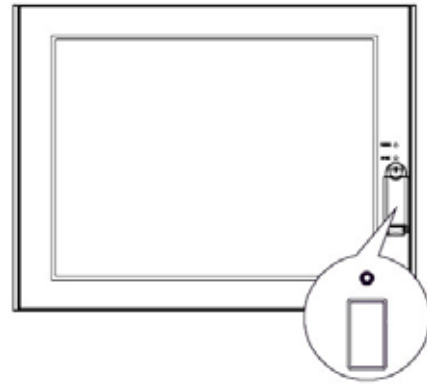
◆ Side and rear faces of PL-5700 Series and bottom and rear faces of PS-365*A

PL-5700 Series
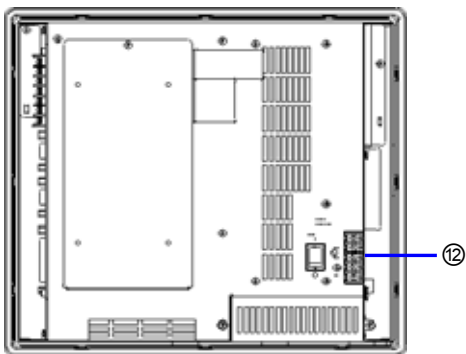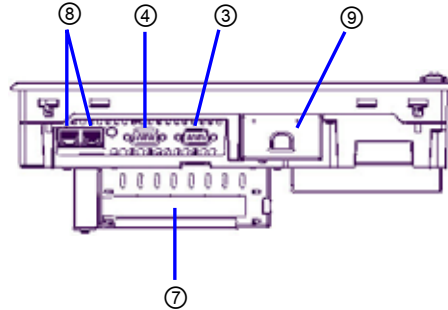
PS-365*A

* PS-3651A is not equipped with ⑦.

* ④ is on the models without an RAS port.
  See 3.9

PS-3650A

* PL-5701*1 has only 1 slot of ⑦ on the left.
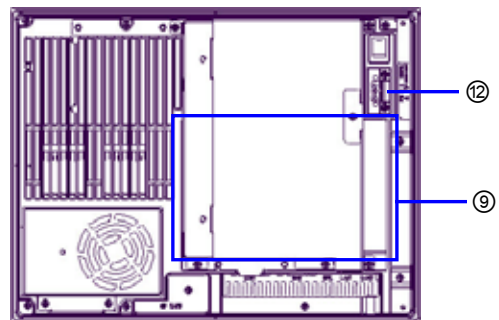
PS-3651A
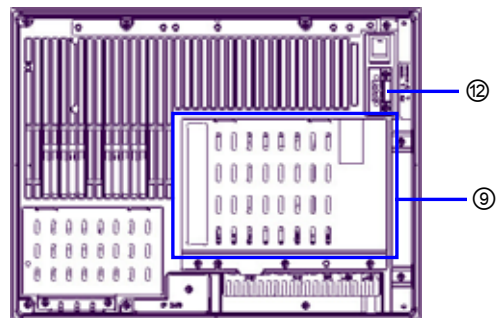
* The HDD unit interface (⑨) is inside the disk cover.

3.1.3 PL-5700 Series and PS-345*A

◆ Front faces of PL-5700 Series and PS-345*A
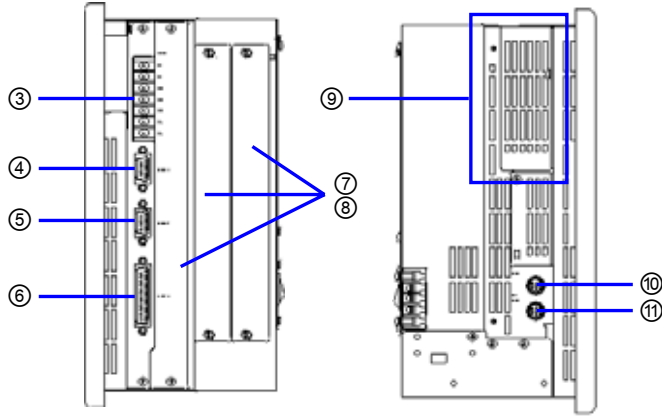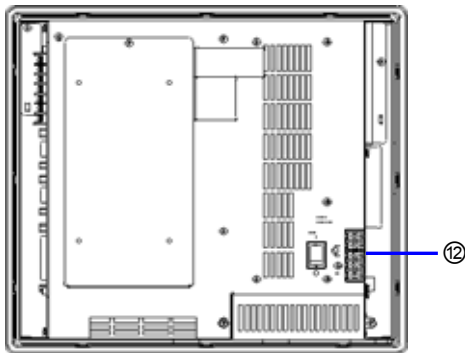
PL-5700 Series

PS-345*A

Inside the front maintenance cover

①   ②
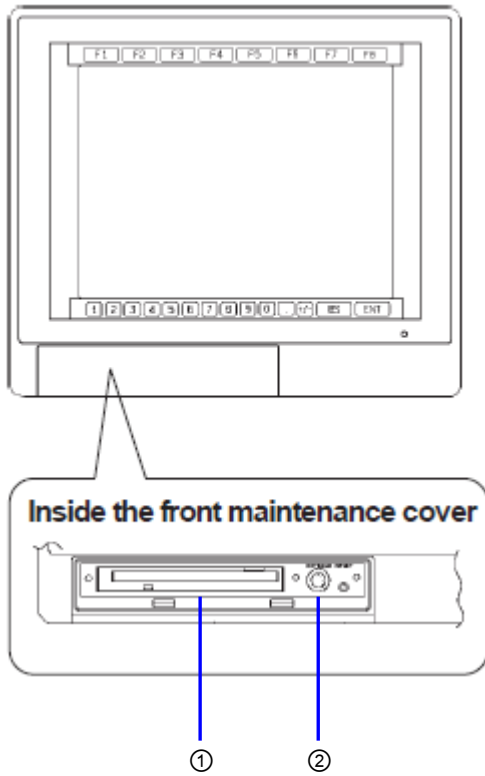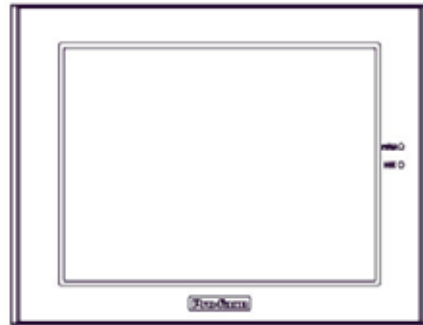
◆ Side and rear faces of PL-5700 Series and left, bottom, and rear faces of PS-345*A
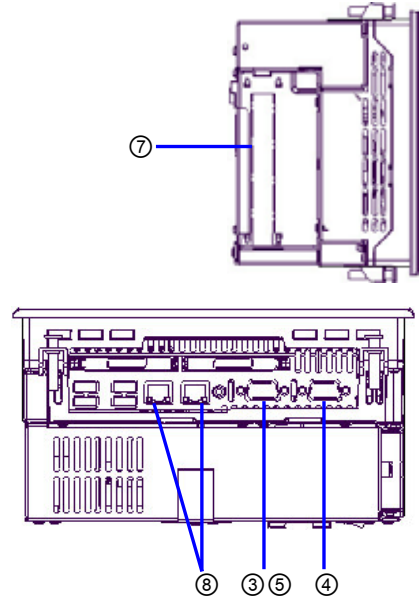
PL-5700 Series

③
④
⑤
⑥
⑦
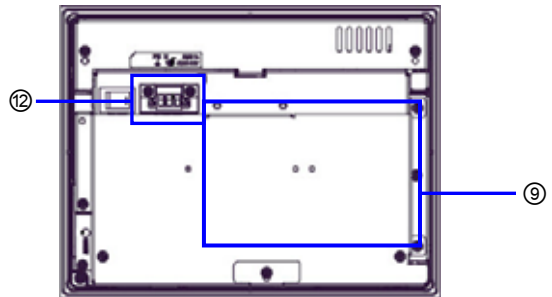⑧
⑨
⑩
⑪

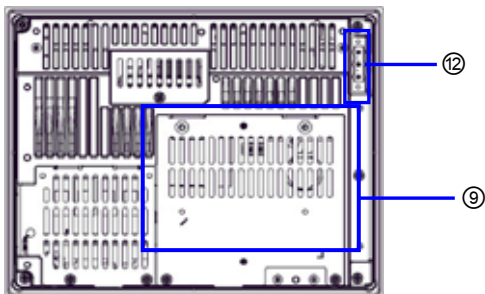*   PL-5701*1 has only 1 slot of ⑦ on the left.

PS-3450A

⑦

⑧ ③⑤ ④

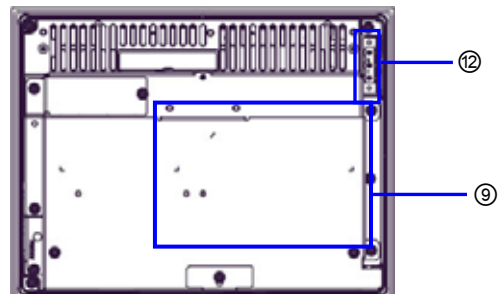*   PS-3451A is not equipped with ⑦.

⑫

PS-3450A-T41

⑫
⑨

PS-3451A

⑫
⑨

PS-3450A-T41-V24

⑫
⑨

*   The HDD unit interface (⑨) is inside the disk cover.

3.1.4 PL-5700 Series and FP-3500T

◆ Front faces of PL-5700 Series and FP-3500T

PL-5700 Series

FP-3500T

Inside the front maintenance cover
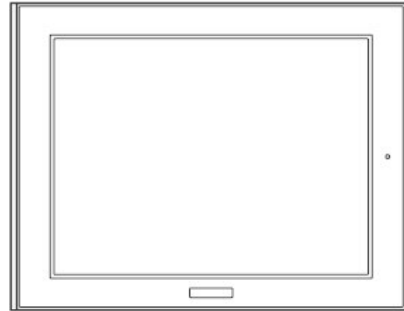
①   ②
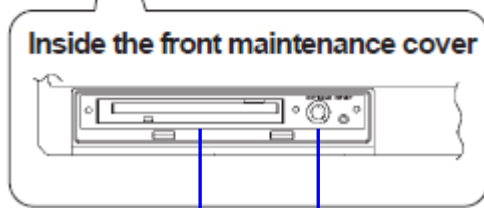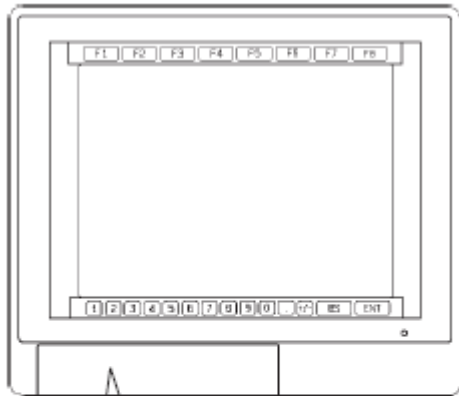
◆ Side faces of PL-5700 Series and bottom face of FP-3500T

PL-5700 Series

③
④
⑤
⑥
⑦
⑧
⑨
⑩
⑪

*   PL-5701*1 has only 1 slot of ⑦ on
    the left.

FP-3500T

◆ Rear faces of PL-5700 Series and FP-3500T

PL-5700 Series

⑫

FP-3500T

⑫

3.1.5 Interface Names

	PL-5700 Series	PL3000/PS3000 Series
①	Floppy disk/memory card insertion slot	-
②	Keyboard connector (PS/2)	-
③	Serial interface (RS-485)	Serial interface (RS-232C/RS-422/RS-485)
④	Serial interface (RS-232C)	
⑤	Serial interface (RS-232C, +5V output)	
⑥	Printer connector	-
⑦	Expansion slot	
⑧	Ethernet connector (when attaching an LAN board to the expansion slot)	Ethernet connector
⑨	HDD slot	HDD slot / CF card slot
⑩	Mouse connector (PS/2)	-
⑪	Keyboard connector (PS/2)	-
⑫	Power terminal block	Power connector

3.2 CPU

As for PL-3600T, the BTO menu allows you to change the CPU from Intel® Core™ Duo 2.0GHz to Intel® Celeron® M 440 1.86GHz (L2 cache memory: 1M, built-in). For the details, contact your nearest Pro-face office or local distributor.

3.3 Main Memory

The PL3000 series and the PS3000 series are different in memory type from the PL-5700 series. The memory used in the PL-5700 series cannot be installed on the replacement unit. According to the specifications of Windows, the allowed size of memory area on PL-3600T is approximately 3.5GB even if you install a 4GB memory.

3.4 Panel Cut Dimensions / External Dimensions

The PL3000 series, the PS3000 series, and the FP-3500T series are different in panel cut dimensions and external dimensions from the PL-5700 series. Make sure to check the dimensions fit for your environment before use.

3.5 Printer, PS/2, Floppy Disk Drive, Serial Interface

To connect a printer, keyboard, mouse, or floppy disk drive to the PL3000 series or the PS3000 series, the peripheral must be USB-compliant.

A Centronics-interfaced printer can be connected by using a commercially available Centronics-USB converter. To connect a serial-interfaced peripheral, use a commercially available serial-USB conversion cable.

3.6 Hard Disk

The PL3000 series and the PS3000 series are different in hard disk interface standard from the PL-5700 series. The type of OS preinstalled hard disk needs to be one for the PL3000/PS3000 series.

3.7 DVI-I Interface

A DVI monitor cannot be connected for dual-monitoring outputting from PL-3600T. Connect an analog RGB monitor via an RGB conversion cable.

3.8 Expansion Slot

The PL3000 series and the PS3000 series do not support the ISA bus. To use an ISA bus board, connect a PC equipped with an ISA bus to the FP-3500T unit.

2 slots or 4 slots for PCI bus slot can be chosen from the BTO menu of PL-3600T. For the details, contact your nearest Pro-face office or local distributor.

3.9 COM2 and RAS Connectors on PS-365*A

The COM2 port and the RAS port on PS-365*A are mutually exclusive as follows:

	COM2 port	RAS port
PS-365*A (PS365*A-T42)	No	Yes
PS-365*A (PS365*A-T42S)	Yes	No

3.10 USB Interface on FP-3500T

This USB port is an interface used for screen data transfer and for upstream of a USB hub. It is supported by Windows 2000 (SP4) and Windows XP (SP1 or later).

3.11 Optional Products

The following optional product for the PL-5700 series can be also used with the PL3000/PS3000 series:

Optional product	Model	Description
Hub	SPIDER8TX-PRO	Industrial Ethernet hub DC24V

3.12 Flash Memory

The PL3000 series and the PS3000 series don't require to start MS-DOS by setting a flash ROM board as a boot drive because they are panel computers for Windows. If you want to add drives by using flash memory, use commercially sold USB flash memories.

Chapter 4. Compatibility of Software

4.1 Supported Operating Systems

Operating systems each model supports are as follows:

Model	OS									
	MS-DOS	Win95	Win98SE	WinNT	Win2000		WinXP		WinXPE	
					E/J	ML	E/J	ML	E/J	ML
PL-5700 Series	Yes	Yes	No	No	No	No	No	No	No	No
PL-3600T	No	No	No	No	Yes *1	Yes *1 *2	Yes	Yes	No	Yes
PS-365*A	No	No	No	No	No	No	Yes	Yes	No	Yes
PS-345*A	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes
FP-3500T *3	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

*1: OS preinstalled SSD units are not sold.

*2: OS preinstalled HDD units for the Core Duo CPU are not sold.

*3: Supported only by the touch panel function. Check if the connecting PC supports the operating systems above.

4.2 Compatibility of MS-DOS

Both of the PL3000 series and the PS3000 series don't support MS-DOS, and the MS-DOS environment in the PL-5700 series cannot be shifted to the replacement model.

For the operation of the FP-3500T unit under an MS-DOS environment by connecting it to a commercially available PC, though the software for PL-5700 series cannot be used, the touch panel communication program for FP-3500T is available. Download the program from the following page of our website and install it on the PC connecting to the FP-3500T unit.

For shift of general MS-DOS software, conform to the software's operation environment.

	URL	File
Touch Panel Communication Program for FP-3500T	http://www.pro-face.com/otasuke/download/freesoft/atph.htm	FPATPH_060926.EXE

4.3 Compatibility of Windows

While software for the PL-5700 series is not available with the PL3000 series or the PS3000 series, other software of similar quality, such as mouse emulator, is available.   See 4.4

Software created referring to API-DLL needs to be reprogrammed in the DDL file for the PL3000/PS3000 series. For the setups of the operating system and the software for the PL3000/PS3000 series, see the following manual:

For shift of general Windows software, conform to the software's operation environment.

Model	Manual	URL	Page
PL-3600T	PL3000 Series Reference Manual	http://www.pro-face.com/otasuke/files/manual/pl_hard/PL3000_eng.pdf - page=14	14
PS-365*A	PS3650A / PS3651A Series Reference Manual	http://www.pro-face.com/otasuke/files/manual/pdf/PS-365XA_eng.pdf - page=8	8
PS-345*A	PS-3450A / PS-3451A Reference Manual	http://www.pro-face.com/otasuke/files/manual/psa_hard/ps345xae.pdf - page=8	8

If you connect a commercially available PC to the FP-3500T unit, though the PL-5700 series software cannot be used, the mouse emulation software for FP-3500T is available. Download the program from the following page from our website and install it on the PC connecting to the FP-3500T unit.

	URL	File
Mouse Emulation Software for FP-3500T	http://www.pro-face.com/otasuke/download/freesoft/tp_driver_upddver3.htm	UPDD_30846P.EXET

4.4 Comparison of Applicable Programs

Model	OS	Graphic Accelerator driver	Audio	Keyboard Emulator	RAS	LAN	Chipset	ATA	Backlight Saver
PL-5700 Series	MS-DOS	No	No	Yes	No	No	No	No	No
	Win95	Yes	No	Yes	No	No	No	No	Yes
PL-3600T	Win2000	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	WinXP	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	WinXPE	No	No	Yes	Yes	No	No	No	Yes
PS-365*A	WinXP	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	WinXPE	No	No	Yes	Yes	No	No	No	Yes
PS-345*A	Win2000	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	WinXP	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
	WinXPE	No	No	Yes	Yes	No	No	No	Yes