

Easy! Smooth!

PL-591*T 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.

The guidebook introduces the procedures to replace your PL-591*T with a unit in the PL3000/PS3000/FP3000 series.

The recommended replacement models are as follows:

Model in use	Replacement model
PL-591*T	PL-3600T
	PS-365*A
	PS-345*A
	FP-3500T (with a commercially available PC)

First Edition: June 2009

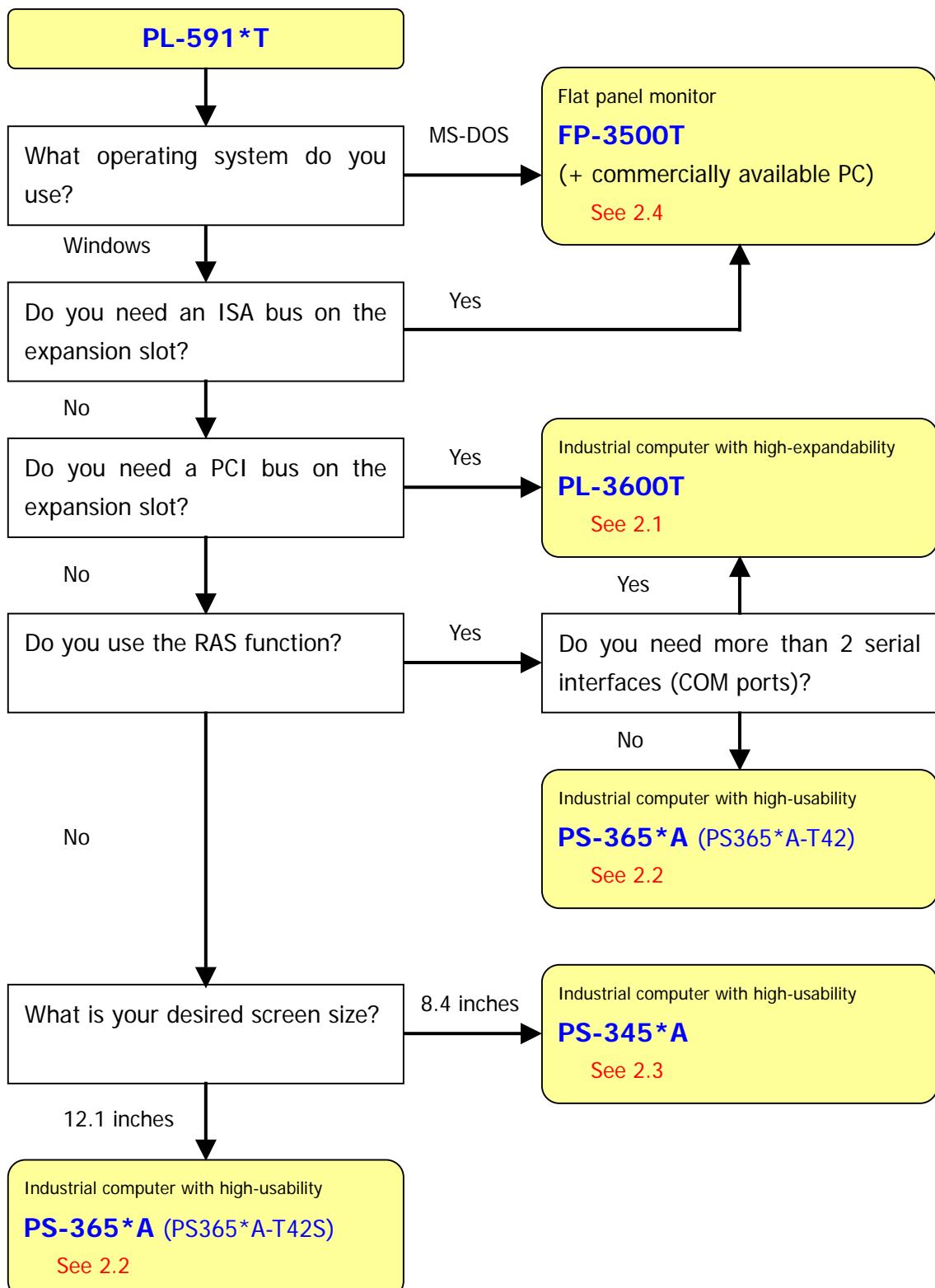
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Chapter 1. Replacement Models for PL-591*T

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



Chapter 2. Specification Comparison

2.1 Specifications of PL-591*T and PL-3600T

		PL-591*T	PL-3600T
CPU		ULV Celeron ® 650MHz	UPI Intel® Core™ Duo 2.0GHz See 3.2
Main Memory		2 slots (Max. 512MB)	UPI 2 slots (Max. 4GB) See 3.3
Graphics		VGA (640 × 480 pixels)	UPI SVGA (800 × 600 pixels)
Display Colors		262,144 colors	
Panel Cut Dimensions (mm [in.])		W291.5 × H251.5 [11.48 × 9.90]	NEW! W295.5 × H243.5 [11.63 × 9.59] See 3.4
External Dimensions (mm [in.]) * The number of slots is that of extension slots.		W311 × H271 × D130 mm [12.24 × 10.67 × 5.12] (PL-5910T: 3 slots)	NEW! W338×H286×D218mm(4 slots) [13.31 × 11.26 × 8.58]
		W311 × H271 × D93 mm [12.24 × 10.67 × 3.66] (PL-5911T: 1 slots)	W338×H286×D166mm(2 slots) [13.31 × 11.26 × 6.54] See 3.4
Interface	Serial	COM1	UPI RS-232C/422/485 (RI/+5V changeover)
		COM2	RS-232C (RI/+5V changeover)
		COM3	RS-232C (RI/+5V changeover)
		COM4	NEW! RS-232C
	Printer		USB See 3.5
	Keyboard		USB See 3.5
	Mouse		USB See 3.5
	USB		UPI USB 2.0 - 4 ports on the side, - 1 port on front
	Ethernet	LAN1	UPI 10BASE-T/100BASE-TX /1000BASE-T
		LAN2	NEW! 10BASE-T/100BASE-TX
RAS		Yes	Yes See 3.6
Disk	FDD	2 modes, 3.5" floppy disk	USB See 3.5

		IDE	- 2.5" HDD unit PL-5910T: 2 slots PL-5911T: 1 slot - 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 3.7
		Sound	No	NEW! Speaker output
		Video	No	NEW! DVI-I output See 3.8
	Expansion Slot		ISA bus × 3 (PL-5910T) * For the 1 st and 2 nd slots, either a PCI or ISA type expansion bus can be used.	NEW! PCI (Rev.2.3) × 4 or 2 See 3.9
			PCI or ISA bus × 1 (PL-5911T)	

2.2 Specifications of PL-591*T and PS-365*A

		PL-591*T	PS-365*A
CPU		ULV Celeron® 650MHz	PL-3650A: Intel® Celeron M 1.5GHz PL-3651A: Intel® ULV Celeron M 1GHz
Main Memory		2 slots (Max. 512MB)	1 slot (Max. 1GB) See 3.3
Graphics		VGA (640 × 480 pixels)	XGA (1,024×768 pixels)
Display Color			262,144 colors
Panel Cut Dimensions (mm [in.])		W291.5 × H251.5 [11.48 × 9.90]	W301.5 × H227.5 [11.87 × 8.96] See 3.4
External Dimensions (mm [in.])	W311 × H271 × D130 mm [12.24 × 10.67 × 5.12] (PL-5910T)		W313×H239×D103mm(PS-3650A) [12.32 × 9.41 × 4.06]
	W311 × H271 × D93 mm [12.24 × 10.67 × 3.66] (PL-5911T)		W313×H239×D60mm(PS-3651A) [12.32 × 9.41 × 2.36] → See 3.4
Interface	Serial	COM1	RS-232C
		COM2	RS-232C (RI/+5V changeover) RS-232C (RI-fixed) (only model with a COM2 port) See 3.10
		COM3	RS-232C (RI/+5V changeover)
	Printer		USB See 3.5
	Keyboard		USB See 3.5
	Mouse		USB See 3.5
	USB		USB 1.1 - 1 port on the side, - 1 port on front USB 2.0 - 4 ports on the side
	Ethernet	LAN1	10BASE-T/100BASE-TX
			10BASE-T/100BASE-TX

	LAN2	No	NEW! 10BASE-T/100BASE-TX /1000BASE-T
	RAS	Yes	Yes (only model with an RAS port) See 3.10
Disk	FDD	2 modes, 3.5" floppy disk	USB See 3.5
	IDE	- 2.5" HDD unit PL-5910T: 2 slots PL-5911T: 1 slot - 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 3.7
	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-5910T) * For the 1 st and 2 nd slots, either a PCI or ISA type expansion bus can be used.	NEW! PCI (Rev.2.2) × 1 (PS-3650A) None slot (PS-3651A) → See 3.9
		PCI or ISA bus × 1 (PL-5911T)	

2.3 Specifications of PL-591*T and PS-345*A

		PL-591*T	PS-345*A
CPU		ULV Celeron® 650MHz	Intel® ULV Celeron® M (1GHz)
Main Memory		2 slots (Max. 512MB)	1 slot (Max. 1GB) See 3.3
Graphics		VGA (640 × 480 pixels)	SVGA (800 × 600 pixels)
Display Colors		262,144 colors	
Panel Cut Dimensions (mm [in.])		W291.5 × H251.5 [11.48 × 9.90]	W218.5 × H165.5 [8.60 × 6.52] See 3.4
External Dimensions (mm [in.])		W311 × H271 × D130 mm [12.24 × 10.67 × 5.12] (PL-5910T)	W230×H177×D120mm(PS-3450A) [9.06 × 6.97 × 4.72]
		W311 × H271 × D93 mm [12.24 × 10.67 × 3.66] (PL-5911T)	W230×H177×D65mm(PS-3451A) [9.06 × 6.97 × 2.56] → See 3.4
Interface	Serial	COM1	RS-232C
		COM2	RS-232C/422/485 (RI/+5V changeover)
		COM3	USB See 3.5
	Printer		USB See 3.5
	Keyboard		USB See 3.5
	Mouse		USB See 3.5
	USB		USB 2.0 - 4 ports on the bottom
	Ethernet	LAN1	10BASE-T/100BASE-TX
		LAN2	10BASE-T/100BASE-TX /1000BASE-T, Wake On LAN compatible
RAS		Yes	No
Disk	FDD	2 modes, 3.5" floppy disk	USB See 3.5

		IDE	- 2.5" HDD unit PL-5910T: 2 slots PL-5911T: 1 slot - CD-ROM drive × 1	NEW! - 2.5" HDD × 1 (Primary master) - CF card slot × 2 (Primary slave and secondary master)
		Sound	No	NEW! Stereo speaker output
	Expansion Slot		ISA bus × 3 (PL-5910T) * For the 1 st and 2 nd slots, either a PCI or ISA type expansion bus can be used. PCI or ISA × 1 (PL-5911T)	NEW! PCI (Rev.2.2) × 1 (PS-3450A) None slot (PS-3451A) → See 3.9

2.4 Specifications of PL-591*T and FP-3500T (with commercially available PC)

		PL-591*T	FP-3500T (+ commercially available PC)
CPU		ULV Celeron ® 650MHz	Depends on the connected PC
Main Memory		2 slots (Max. 512MB)	Depends on the connected PC
Graphics		VGA (640 × 480 pixels)	
Display Colors		262,144 colors	
Panel Cut Dimensions (mm [in.])		W291.5 × H251.5 [11.48 × 9.90]	NEW! W301.5 × H227.5 [11.87 × 8.96] See 3.4
External Dimensions (mm [in.])		W311 × H271 × D130 mm [12.24 × 10.67 × 5.12] (PL-5910T)	NEW! W317 × H243 × D58 mm [12.48 × 9.57 × 2.28] See 3.4
Interface	Serial	COM1	RS-232C
		COM2	RS-232C (RI/+5V changeover)
		COM3	RS-232C (RI/+5V changeover)
		COM	No
	Printer		Centronics standard (SPP/ECP/EPP equivalent)
	Keyboard		Depends on the connected PC
	Mouse		Depends on the connected PC
	USB		Cannot be used under the MS-DOS environment See 3.11
	Ethernet	LAN1	10BASE-T/100BASE-TX
	RAS		Yes
Disk	FDD	2 modes, 3.5" floppy disk	Depends on the connected PC
	IDE	- 2.5" HDD unit PL-5910T: 2 slots PL-5911T: 1 slot - CD-ROM drive × 1	Depends on the connected PC

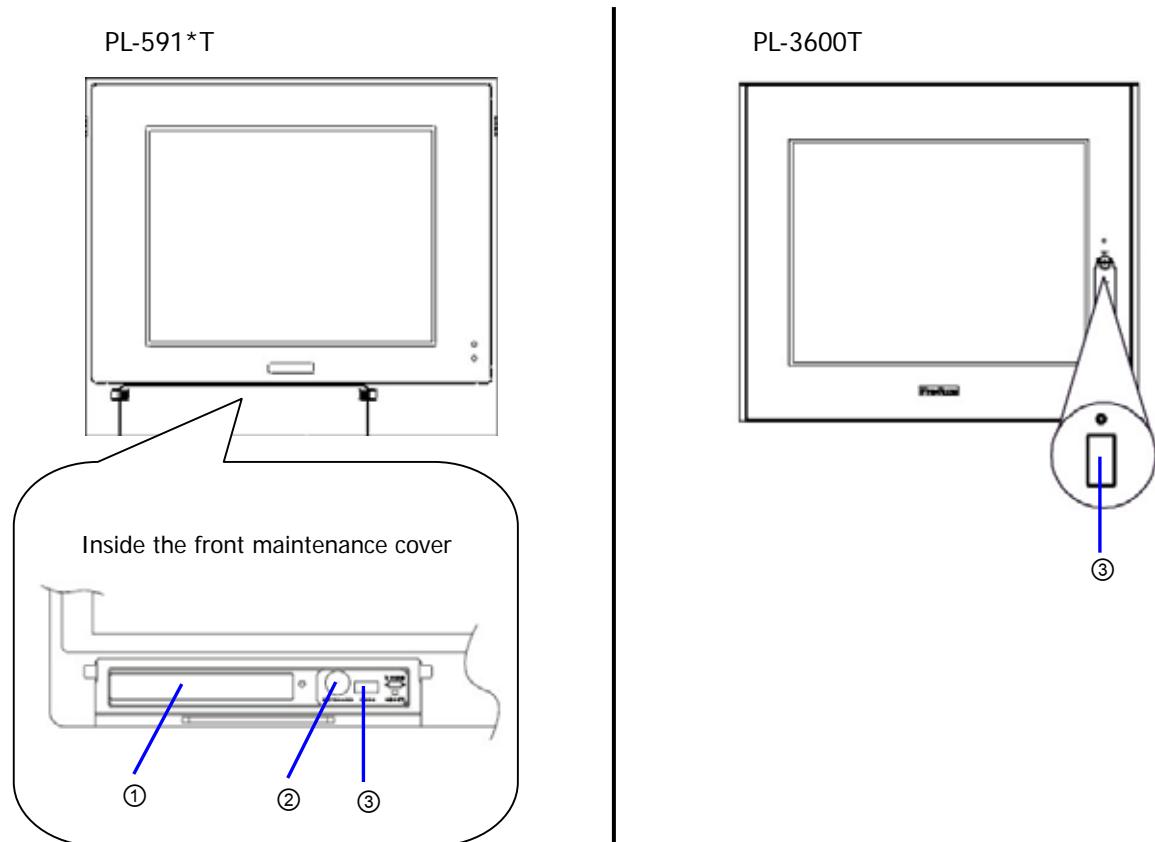
	Video	No	NEW! Analog RGB input × 1 DVI-D input × 1
Expansion Slot	ISA bus × 3 (PL-5910T) * For the 1 st and 2 nd slots, either a PCI or ISA type expansion bus can be used. PCI or ISA bus × 1 (PL-5911T)	Depends on the connected PC	

Chapter 3. Compatibility of Hardware

3.1 Locations of Interfaces

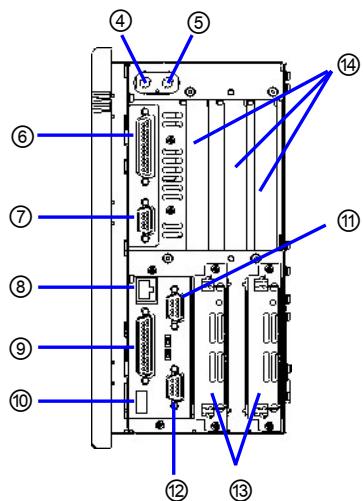
3.1.1 PL-591*T and PL-3600T (2-slot type)

- ◆ Front faces of PL-591*T and PL-3600T



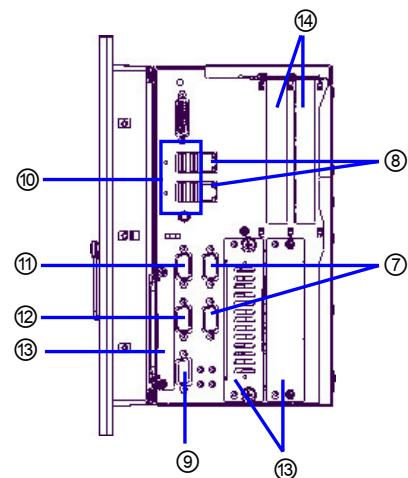
♦ Side faces of PL-591*T and PL-3600T

PL-591*T



* PL-5911T has 1 slot of ⑬ and ⑭ each.

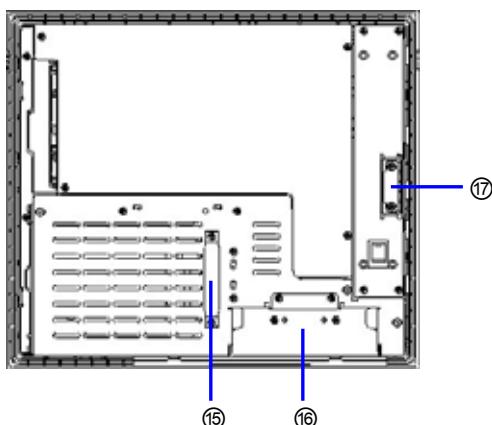
PL-3600T



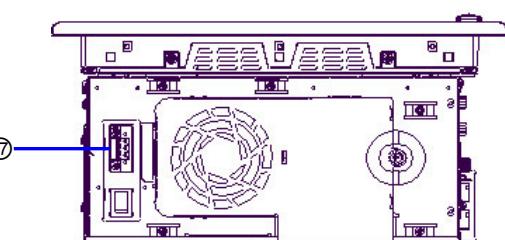
* A 4-slot type PL unit has 4 slots of ⑭.

♦ Rear face of PL-591*T and bottom face of PL-3600T

PL-591*T



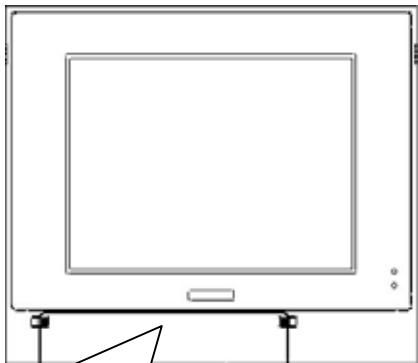
PL-3600T



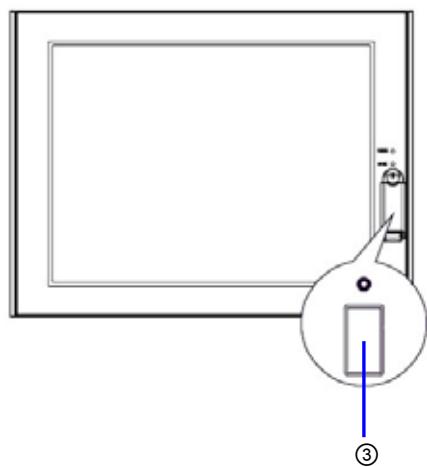
3.1.2 PL-591*T and PS-365*A

- ♦ Front faces of PL-591*T and PS-365*A

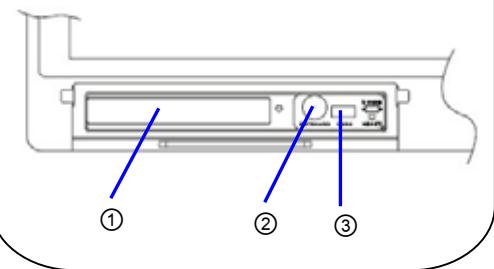
PL-591*T



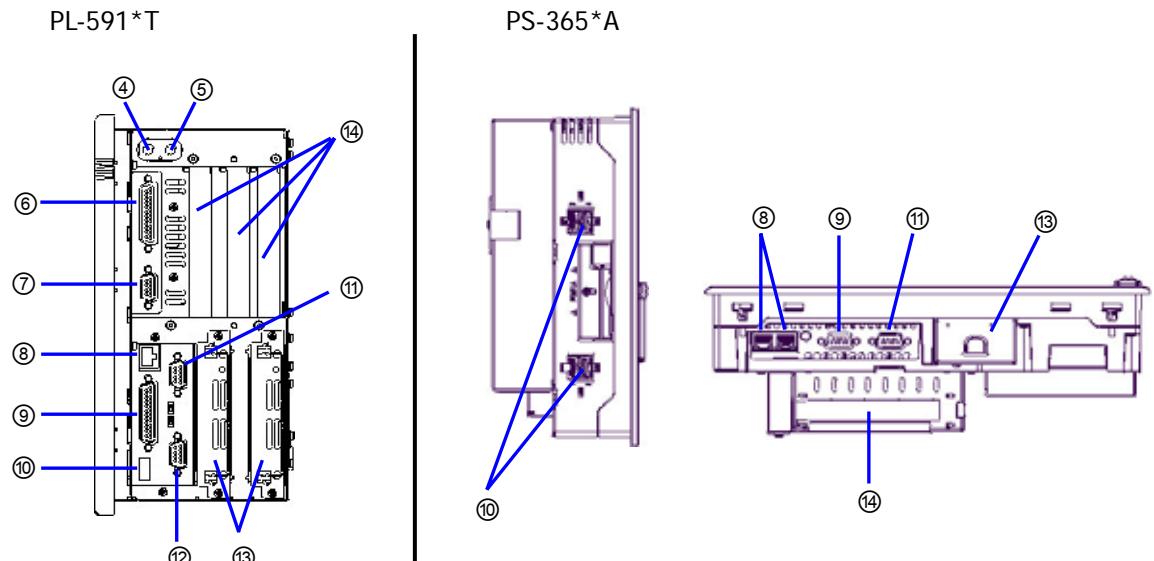
PS-365*A



Inside the front maintenance cover



♦ Side face of PL-591*T and side and rear faces of PS-365*A

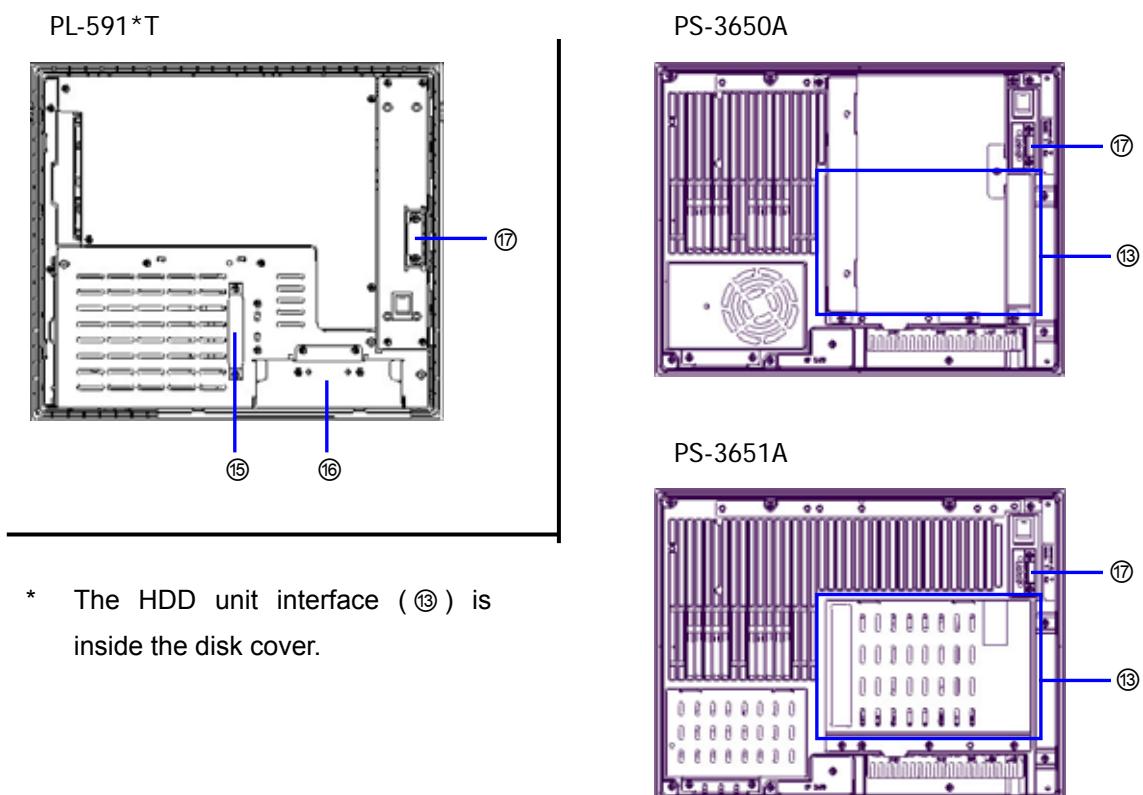


* PL-5911T has 1 slot of ⑬ and ⑭ each.

* PS-3651A is not equipped with ⑭.

* Models without an RAS port are equipped with ⑦ instead of ⑨. **See 3.10**

♦ Rear faces of PL-591*T and PS-365*A

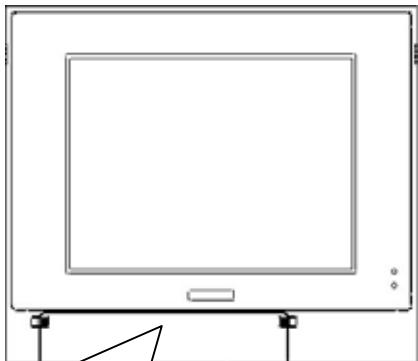


* The HDD unit interface (⑬) is inside the disk cover.

3.1.3 PL-591*T and PS-345*A

- ♦ Front faces of PL-591*T and PS-345*A

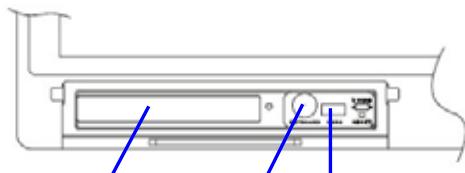
PL-591*T



PS-345*A

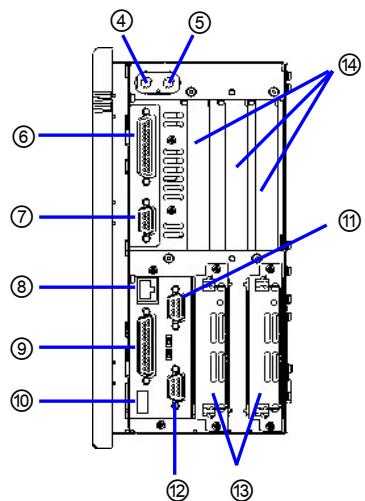


Inside the front maintenance cover

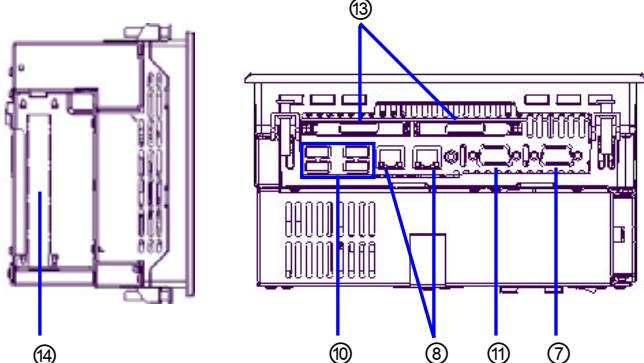


- ♦ Side face of PL-591*T and left and bottom faces of PS-345*A

PL-591*T



PS-3450A

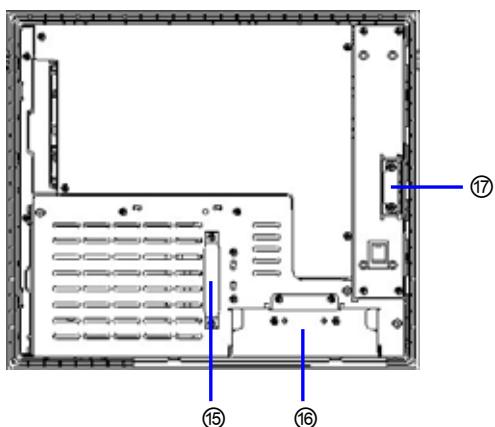


* PL-5911T has 1 slot of ⑬ and ⑭ each.

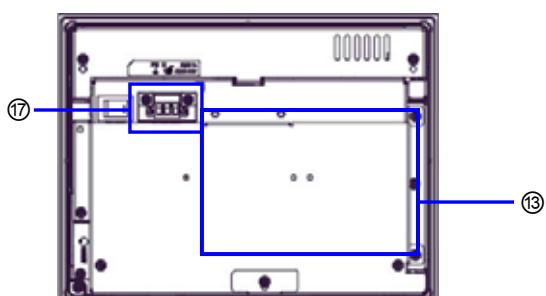
* PS-3451A is not equipped with ⑭.

- ♦ Rear faces of PL-591*T and PS-345*A

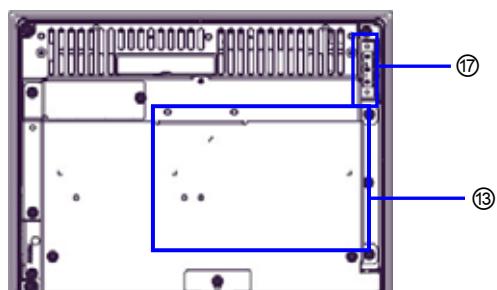
PL-591*T



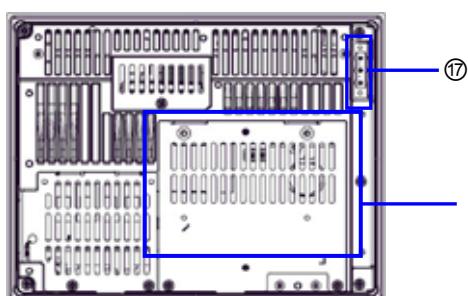
PS-3450A-T41



PS-3450A-T41-V24



PS-3451A

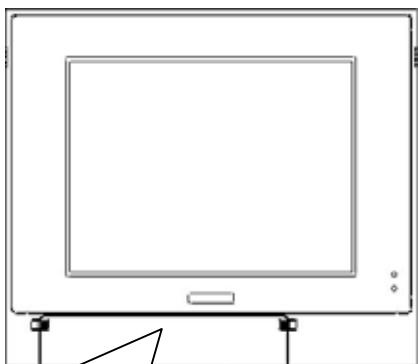


* The HDD disk interface (⑬) is inside the disk cover.

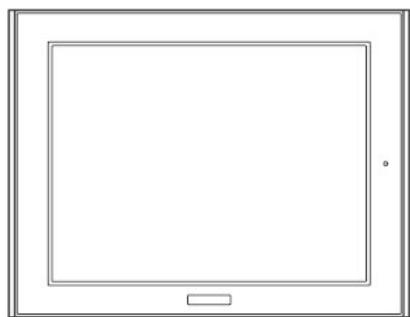
3.1.4 PL-591*T and FP-3500T

- ♦ Front faces of PL-591*T and FP-3500T

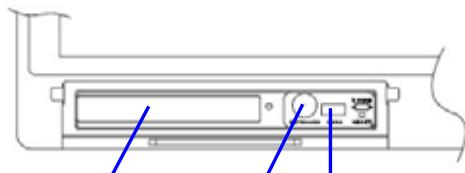
PL-591*T



FP-3500T

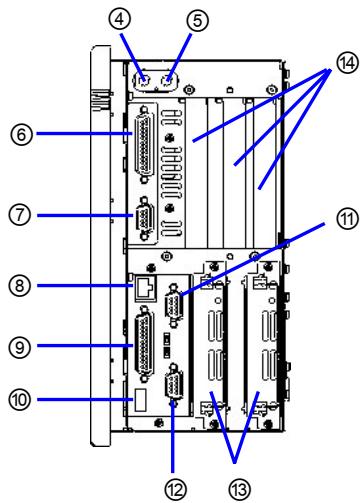


Inside the front maintenance cover

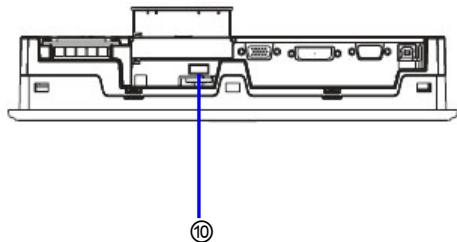


- ♦ Side face of PL-591*T and bottom face of FP-3500T

PL-591*T



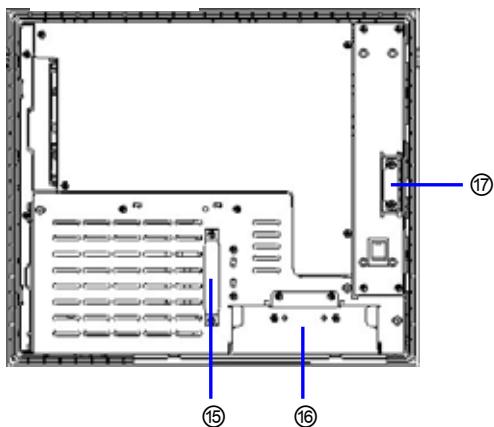
FP-3500T



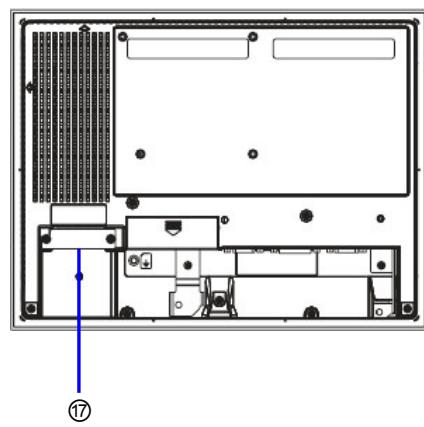
* PL-5911T has 1 slot of (13)
and (14) each.

- ♦ Rear faces of PL-591*T and FP-3500T

PL-591*T



FP-3500T



3.1.5 Interface Names

	PL-591*T	PL3000/PS3000 Series
①	FDD front face blank panel	-
②	Keyboard connector (PS/2)	-
③	USB (USB2)	USB
④	Keyboard connector (PS/2)	-
⑤	Mouse (PS/2)	-
⑥	Printer connector	-
⑦	Serial interface (RS-232C)	
⑧	Ethernet connector	
⑨	RAS connector	
⑩	USB connector (USB1)	USB connector
⑪	Serial interface (RS-232C, +5V changeover)	Serial interface (RS-232C/RS-422/RS-485)
⑫	Serial interface (RS-232C, +5V changeover)	
⑬	HDD/CF card unit expansion slot	HDD/CF card unit expansion slot
⑭	Expansion slot	
⑮	CD-ROM drive RS-232/RS-485 conversion unit	-
⑯	FDD rear face blank panel	-
⑰	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 PL-591*T. The memory used in PL-591*T 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 and the PS3000 series, and the FP-3500T series are different in panel cut dimensions and external dimensions from PL-591*T. 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 RAS Interface

The RAS interfaces on the PL3000 series and the PS3000 series (PS365*A-T42) are female 9-pin D-sub ports and that of PL-591*T is a male 25-pin D-Sub port. Because of the different pin-outs and shapes of the ports, you need to rewire the cable.

3.7 Hard Disk

The PL3000 series and the PS3000 series are different in hard disk interface standard from PL-591*T. The type of OS preinstalled hard disk needs to be one for the PL3000/PS3000 series.

3.8 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.

3.9 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.

3.10 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

3.11 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).

3.12 Optional Products

The following optional products for PL-591*T can be also used with the PL3000/PS3000 series:

Optional product	Model	Description
CF card	CA3-CFCALL/128MB-01	TYPE1 128MB
	CA3-CFCALL/256MB-01	TYPE1 256MB
	CA3-CFCALL/512MB-01	TYPE1 512MB
	CA6-CFCALL/1GB-01	TYPE1 1GB
RS-232C/RS-485 Conversion unit *	PL-RC500	Converts the RS-232C interface to the RS-485 interface.
Hub	SPIDER8TX-PRO	Industrial Ethernet hub DC24V
Installation fastener	CA3-ATFALL-01	Used for installation of a PL unit.

- * The RS-232C/RS-485 conversion unit can be connected to the COM2 port on PL-3600T, the COM1 on PS-365*A, or the COM2 on PS-345*A. However, it is only PS-365*A that the conversion unit can be installed on.

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		Win XP		Win XPE	
					E/J	ML	E/J	ML	E/J	ML
PL-591*T	Yes	No	No	Yes	Yes	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 PL-591*T 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-591*T 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 PL-591*T 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 DLL 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 PL-591*T 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-591*T	MS-DOS	No	No	Yes	No	No	No	No	No
	WinNT	Yes	No	Yes	Yes	Yes	Yes	No	Yes
	Win2000	Yes	No	Yes	Yes	Yes	Yes	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