
PS-3710A/PS-3711A Series Hard Disk/SSD Unit Installation Guide

This installation guide covers the following products.

- PS371XA-HD60P
- PS371XA-SD16P

The PS371XA-HD60P is the hard disk unit (HDD unit) for Pro-face's PS-3710A/PS-3711A Series.

The PS371XA-SD16P is the SSD unit for Pro-face's PS-3710A/PS-3711A Series.

This HDD/SSD unit has built-in recording device to be used for loading the IDE I/F of the PS-A

Corresponding units:

PS-3710A/PS-3711A Series
(hereafter referred as the "PS-A")

About the Manual

For the detailed information on PS-A series, refer to the following manuals.

- PS-3710A/PS-3711A Series Hardware Manual

Manuals can be downloaded from Pro-face Home Page.

URL
<http://www.pro-face.com/otasuke/>

Safety Cautions

WARNING

- Be sure to check that the PS-A unit's power is disconnected before installing the unit, in order to prevent an electrical shock.

- Do not attempt to modify or open the HDD/SSD unit, since it can cause a shock or fire.
- When installing the HDD/SSD unit, be sure to read this guide "Installation" section's information completely to insure that the unit is correctly installed.

To Prevent Accidents

- Since the HDD/SSD unit is a precision instrument, be sure it is neither hit by nor pressed strongly against another object. After unpacking, be sure the unit is not dropped or jolted during installation. Also, a PS-A unit built in to a larger unit (i.e. operation panel) should be removed and packed separately prior to shipping.
- Be sure water, liquids or metal particles are not allowed to enter the HDD/SSD unit. Any of these may cause either a breakdown or an electrical shock.
- Do not place or store this unit in a location where there is direct sunlight, excessive heat, dust or vibration.
- Do not store or operate this unit near chemicals, or where there are chemical fumes.
- Do not allow anyone other than Pro-face's own service staff to perform maintenance or adjustments to this unit.
- Do not move or shift the PS-A unit while the HDD/SSD unit is installed and the PS-A unit's power is ON.
- Do not use the HDD/SSD unit in locations where corrosive gasses are present, since they can lead to a hard disk breakdown.
- To prevent the data damage, be sure to shut down the PS-A unit's OS according to the correct procedure before turning OFF the main power.
- To prevent memory leaks, restart the OS periodically.
- The hard disk has the lifetime. To use it longer by steady operation, read the attached "Instructions for Using the Hard Disk" carefully.

- In order to extend the lifetime of the hard disk, Pro-face recommends you set the Windows® [Control panel]-[Performance and Maintenance]-[Power Management option]-[Turn off hard disks] selection to turn the hard disk off when the unit is not being operated. A setting of 5 minutes is recommended.

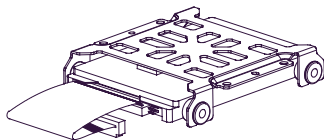
all HDD/SSD data periodically and/or prepare a backup HDD/SSD unit.

Unit Disposal

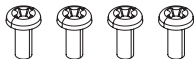
- When this HDD/SSD unit is disposed of, it should be done so according to your country's regulations for similar types of industrial wastes.

Package Contents

- (1) HDD Unit (1)
or SSD Unit (1)



- (2) Attachment Screws (4)



- (3) Jumper Plug (1)
(Attached to the HDD/SSD Unit)
- (4) Installation Guide (1) (This Guide)
- (5) Instructions for Using the Hard Disk (1)
(HDD Unit Only)

Pro-face has taken the utmost care to ensure the quality of this product when it was shipped, however, should, for any reason, problems or damage have occurred during shipping, please contact your Pro-face representative immediately for service.

IMPORTANT

- This HDD/SSD unit has a finite usage lifetime. Therefore, be sure to back up

Hardware Specifications

■ HDD Unit

Features

Capacity	60GB
Average Seek Time	12msec (TYP)
Power Consumption	At Startup : 4.5W (TYP) Read/Write : 1.6/1.6W (TYP) During Wait : 0.2W (TYP)
Interface	Parallel ATA
Operation Lifetime	5 years, or 20,000 operating hours, whichever comes first
Weight	Approx. 150g

IMPORTANT

- The HDD unit's lifetime will vary, depending on the usage conditions and environment. The above value is calculated assuming an ambient temperature of 20°C and 333 hours of operation per month. (HDD access frequency of 20% or less)
- To use the hard disk longer by steady operation, read the attached "Instructions for Using the Hard Disk" carefully.

Environment

Surrounding Air Temperature	PS-3710A	5°C to 50°C
	PS-3711A	5°C to 45°C
Storage Temperature	-20°C to +60°C	
Ambient Humidity	10%RH to 90%RH (no condensation) (Wet bulb temperature: 29°C or less)	
Storage Humidity	10%RH to 90%RH (no condensation) (Wet bulb temperature: 39°C or less)	
Noise Immunity (via Noise Simulator)	Noise Voltage: 1,500Vp-p Pulse Width: 50ns, 500ns, 1μs	
Electrostatic Discharge Immunity	6kV	
Vibration Resistance	4.9m/s ² (10Hz to 25Hz) (When Operating)	
Concussion Resistance	3,920m/s ² (1ms, Half-sine shock pulse) (When Shipping)	

IMPORTANT

- Using the HDD unit in an environment that is excessively hot and/or humid will shorten the disk's usage lifetime. A wet bulb temperature of 29°C or less is recommended. This is equivalent to the following data.

Temperature	at 35°C	at 40°C
Humidity	no higher than 64%RH	no higher than 44%RH

■ SSD Unit

Features

Capacity	16GB
Power Consumption	2.5W (MAX)
Interface	Parallel ATA
Weight	Approx. 150g

Environment

Surrounding Air Temperature	0°C to 50°C
Storage Temperature	-20°C to +60°C
Ambient Humidity	10%RH to 90%RH (no condensation)
Storage Humidity	10%RH to 90%RH (no condensation)
Noise Immunity (via Noise Simulator)	Noise Voltage: 1,500Vp-p Pulse Width: 50ns, 500ns, 1μs
Electrostatic Discharge Immunity	6kV
Vibration Resistance	IEC61131-2 compliant 5 to 9Hz single-amplitude 3.5mm 9 to 150Hz constant-accelerated velocity 9.8m/s ² X, Y, Z directions for 10 cycle (100 minutes)

IMPORTANT

- The SSD unit has a limited number of writes. Exceeding the guaranteed number of writes could make it impossible to read and write data, or systems may become unstable resulting in malfunctions.
- You can calculate the expected lifetime of the SSD unit based on the number of writes.

$$\text{Expected lifetime (years) based on the number of writes} = \frac{\text{SSD memory capacity [MB]} \times \text{Guaranteed number of writes}}{\text{Amount of data written each minute [MB]} \times \text{Number of writes per minute} \times 525,600 \text{ [minutes]}}$$

SSD memory capacity: 15,631 MB

Guaranteed number of writes: 1 hundred thousand




The expected lifetime when writing 512 MB of data once per minute is approximately 6 years.

Depending on the system and software, data writes may actually be run several times even when only one write command is made. This can lead to actual lifetimes significantly different from expected lifetimes.

In order to make more accurate lifetime predictions, please use Pro-face's System Monitor, which is included with the PS-A unit.

Hard Disk Unit Settings

The PS371XA-HD60P is one of the options for PS-A, when shipped, set as the PS-A's Slave drive (Second Drive). When using the PS371XA-HD60P as the PS-A's Master drive, be sure to remove the jumper plug as follows;




PS371XA-HD60P	Master	Slave (Factory Settings)
 jumper pin		 jumper plug

IMPORTANT

- If PS-A unit has this HDD Unit as a built-in hard disk, the HDD unit, when shipped, is set as the PS-A's Master. If set as the PS-A's Slave, be sure to use the jumper plug included in the package, since it can cause a malfunction or damage the unit.
- As for PS-A unit built-in Windows® XP Embedded (CF Card drive) and PS371XA-HD60P use the CF Card drive and the HDD unit as the factory settings (CF Card drive is set to the PS-A's Master drive and HDD unit is set to the PS-A's Slave drive).

SSD Unit Settings

The PS371XA-SD16P is one of the options for PS-A, when shipped, set as the PS-A's Master drive (First Drive). When using the PS371XA-SD16P as the PS-A's Slave drive, be sure to remove the jumper plug as follows;

PS371XA-SD16P	Master (Factory Settings)	Slave
 jumper pin	 jumper plug	

IMPORTANT

- If PS-A unit has this SSD Unit as a built-in SSD disk, the SSD unit, when shipped, is set as the PS-A's Master. If set as the PS-A's Slave, be sure to remove the jumper plug, since it can cause a malfunction or damage the unit.
- As for PS-A unit built-in Windows® XP Embedded (CF Card drive) and PS371XA-SD16P use the CF Card drive and the SSD unit as the factory settings (CF Card drive is set to the PS-A's Master drive and SSD unit is set to the PS-A's Slave drive).

Installation

WARNING

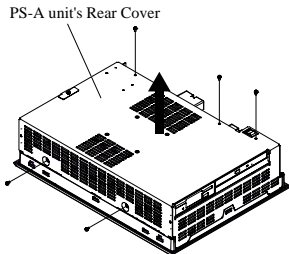
- Shock Danger! Be sure to unplug the PS-A unit from its power supply prior to installing the HDD/SSD unit.

IMPORTANT

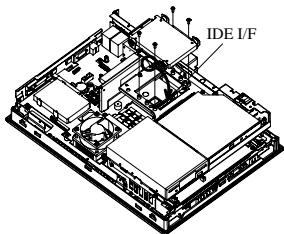
- Since the HDD/SSD unit is a precision instrument that has a low resistance to shocks, be sure it is neither hit by nor pressed strongly against another object when installing it.
- Even when the PS-A unit's screen display disappears, the power might be distributed inside (such as the "Standby" status etc). Be sure to confirm that the power cable on the rear side of the PS-A unit is OFF.

■ When attaching the HDD/SSD to the PS-3710A

- (1) Place the PS-A unit face down and unscrew five (5) attachment screws. (See diagram).
- (2) Lift the PS-A unit's Rear Cover off of the PS-A unit.



- (3) Insert the HDD/SSD unit cable connector completely into the IDE I/F. Attach HDD/SSD unit using four (4) attachment screws. The torque should be 0.5 to 0.6 N·m.

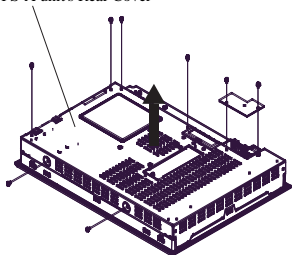


- (4) Replace the PS-A unit's Rear Cover and reattach five (5) attachment screws. The torque should be 0.5 to 0.6 N·m.

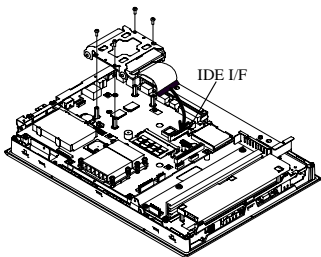
■ When attaching the HDD/SSD to the PS-3711A

- (1) Place the PS-A unit face down and unscrew eight (8) attachment screws. (See diagram).
- (2) Lift the PS-A unit's Rear Cover off of the PS-A unit.
As for AC type, remove the power cover as shown below.

PS-A unit's Rear Cover



- (3) Insert the HDD/SSD unit cable connector completely into the IDE I/F. Attach the HDD/SSD unit using four (4) attachment screws. The torque should be 0.5 to 0.6 N·m.



- (4) Replace the PS-A unit's Rear Cover and reattach eight (8) attachment screws. As for AC type, replace the power cover and reattach the screws. The torque should be 0.5 to 0.6 N·m.

Inquiry

Do you have any questions about difficulties with this product? Please access our site anytime that you need help with a solution.

<http://www.pro-face.com/otasuke/>

Note

Please be aware that Digital Electronics Corporation shall not be held liable by the user for any damages, losses, or third party claims arising from the uses of this product.

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