PL-FF210
Installation Guide

This Flash File Disk unit is made by the Digital Electronics Company for use with its Panel Computers, hereafter referred to collectively as the "PL".

Corresponding PL units: PL-5900 Series, PL-X900 Series, PL-X920 Series units

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Pro-face: Digital Electronics Corporation (in Japan and other countries)

MS-DOS, Windows: Microsoft Corporation (USA)

⚠ WARNINGS

- **Be sure to check that the Panel Computer's power is disconnected before installing the unit, in order to prevent electrical shock.**

- **Do not attempt to modify or open the PL-FF210, due to the dangers of shock and fire.**

- **When installing the PL-FF210, be sure to read the following "3. Installation" section's information completely to insure that the unit is correctly installed.**

To Prevent Accidents

- Since the PL-FF210 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, any PL built in to a larger unit (i.e. an operation panel) should be removed and packed separately prior to shipping.

- Be sure water, liquids or metal particles are not allowed to enter the unit. Any of these may cause either a breakdown or an electrical shock.

- After turning the unit OFF, wait 5 seconds before turning it ON again.

- Do not store or operate this unit near chemicals, or where there are chemical fumes.

- Do not store or operate this unit in a location where corrosive gases can be generated.

- Do not allow anyone other than Pro-face's own service staff to perform maintenance or adjustments to this unit.

- To prevent damage to file data, be sure to shut down the unit's OS before turning OFF the main power.

Package Contents

Please check that the following items are all included in your package.

■ **PL-FF210** **(1)**
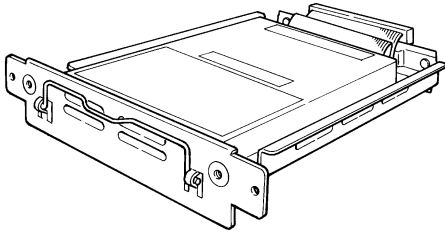
■ **Installation Guide**
(PL-FF210)

Installation Guide

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

1 Hardware Specifications

■ Features

Memory	32MB
Sector Size	512 bytes/sector
Power Consumption	At Startup: 0.23W(TYP) During Read/Write: 0.20W(TYP)/0.23W(TYP) During Wait: 0.01W(TYP)
Interface	ATA - 2 (IDE)
No. of Reads/Writes	300,000
MTBF	2,000,000 hours

■ Environment

Ambient Operating Temperature	0^oC to 50^oC
Ambient Storage Temperature	-10^oC to $+60^oC$
Ambient Humidity	30%RH to 85%RH (no condensation)
Noise Resistance (via noise simulator)	Noise Voltage: 1500Vp-p Pulse Width:50ns, 500ns, 1us
Electrostatic Discharge Immunity	6kV
Vibration Resistance	During Operation - $19.6m/s^2$ (10Hz to 25Hz)

Note:

• **The specification values given here are for reference only.**
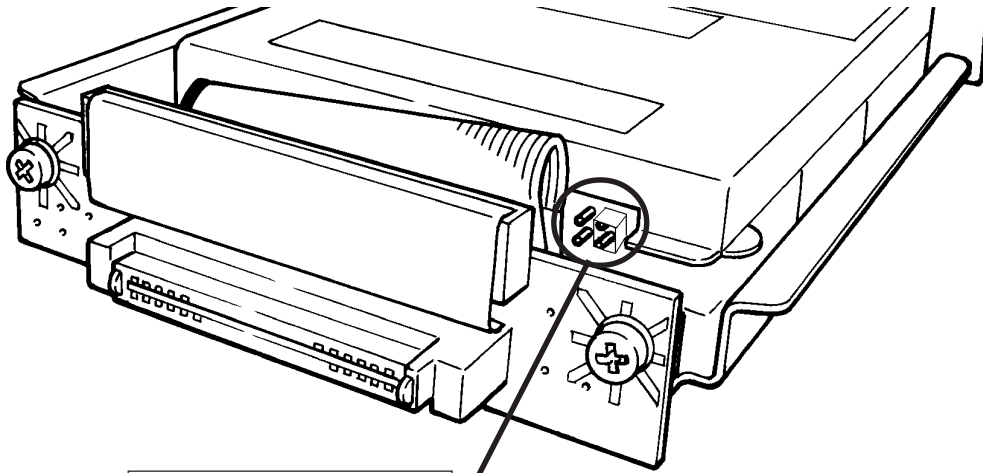
• **Concerning the EPROM's Lifetime:**

  Normal flash EPROM chips have a limit to the number of times they can write or delete data. As a result, data backups should be performed regularly to ensure the safety and integrity of the User's data.

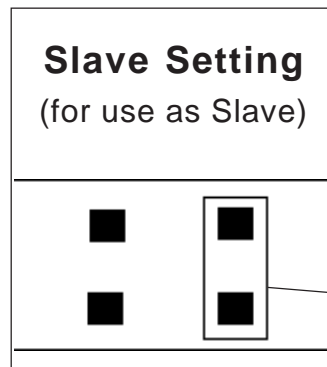 **For detailed read/write information , please contact your local PL distributor.**

2 Flash File Disk Unit Settings

The PL-FF210 is factory set for use as the PL's slave drive, however, if the user desires to change this setting so that the PL-FF210 can be used as the PL's Master drive, follow the procedures given below.
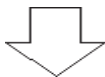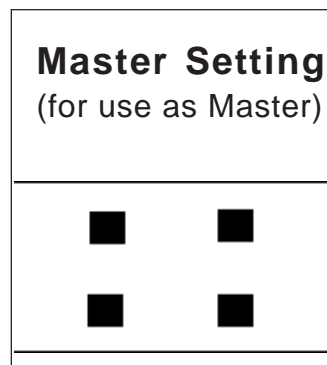
<PL-FF210 Front Face Connector>

1)

Slave Setting
(for use as Slave)

Jumper Plug

2)

Master Setting
(for use as Master)

When using the PL-FF210 as a Master, be sure to remove the right side's jumper plug.

Important

- All PL-5900 series, PL-X900 series and PL-X920 series units are equipped with a built-in Hard Disk Drive (HDD) unit and/or Flash File Disk (FDD) unit. These units, when shipped, are set as the PL's Master.

  When an additional HDD unit (this unit) is used, be sure to set this unit's the jumper plug to Slave.

- Except for the short plug shown here, do NOT use any other short plugs with the PL-FF210, since it can cause a malfunction or damage the unit.
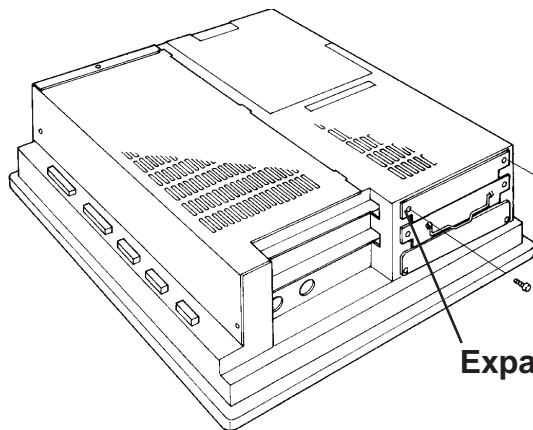
3 Installation

Use the following steps to install the PL-FF210 in the PL. Even though the unit shown below is a PL-X900 Series unit, the PL-5900 and PL-X920 installation procedures are the same.

⚠ **WARNING**

Shock Danger!   Be sure to unplug the PL unit from its power supply prior to installing the PL-FF210.

Expansion Slot 1

1) **Remove the uppermost (Expantion Slot 1) expansion slot cover's two (2) attachment screws.**

Expansion Slot 1

Expansion Slot 0
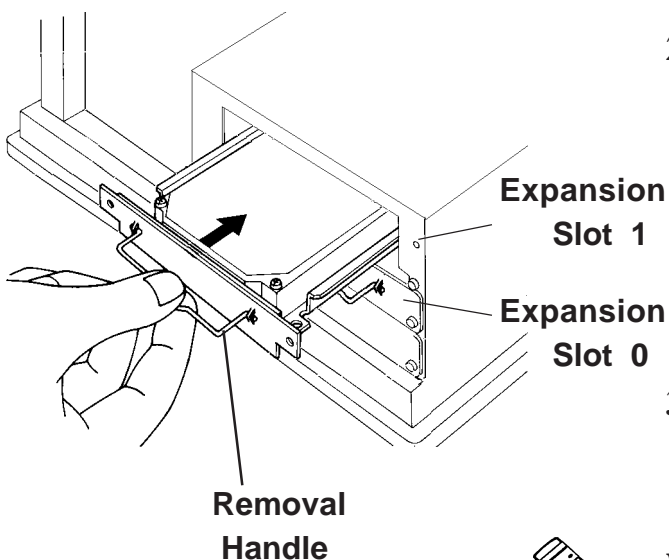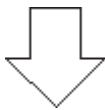
Removal Handle

2) **Hold the PL-FF210's removal handle and slide the unit slowly into the expansion slot, so that the rear face connector is completely inserted into the slot's connector pins.**

3) **Reattach the two (2) expansion slot cover attachment screws.**

Note: **When installing an HDD unit in Expansion Slot 0, use the abovementioned installation procedures.**

4   Hardware Setup

Normally, the factory default Settings should be used.

Important

Note:
- **All the following explanation screens use the PL's factory settings (default settings).**
- **Certain BIOS screen items may differ from those shown here due to new Versions.**

1)   Connect a keyboard to the PL.

2)   Turn the PL unit's power ON.

3)   When the "Press <DEL> to enter SETUP" message appears, press your PC's DEL key.

The Setup utility will start. Select the [STANDARD CMOS SETUP] and the following screen will appear.

When using a PL-X900 series unit:

```
                    ROM PCI/ISA BIOS(2A5LEU1C)
                       STANDARD CMOS SETUP
                        AWARD SOFTWARE, INC.

   Date (mm:dd:yy): Wed,Jul 2 1998

   Time (hh:mm:ss): 14 : 50 : 3

                    CYLS. HEADS PRECOMP LANDZONE SECT0RS MODE
   Drive C :Auto( 0b)    0      0      0       0        0      AUTO
   Drive D :Auto( 0b)    0      0      0       0        0      AUTO

   Drive A :1.44M,3.5 in.
                                      Base Memory :     640K
                                      Extended Memory: 31744K
                                      Other Memory:     384K
   Video :            EGA/VGA
   VGA_Text Mode:     Normal
   Halt On:           All, But Keyboard    Total Memory:    32768K

   ESC:Quit        ↑↓→←: Select Item         PU/PD/+/-: Modify
   F1:Help                   (Shift)F2: Change Color
```

Operation Keys

Displays the keys used (enabled) during Setup, and their

function(s)

Help Information Display Area

Provides detailed information about the currently highlighted

(cursor position) item

System Settings Area

Displays the current System Settings for each Menu area

4) Confirm that both the C and D drives are set to [Auto]. This designates that when the PL is started up, the hard disk's parameters are automatically read out and used. If [Auto] is not selected, be sure to change this setting to [Auto]. The [Auto] setting is factory set and recommended for most users.

5) Press the [ESC] key to call up the [SAVE & EXIT SETUP] menu.

When using a PL-5900/PL-X920 series unit:

1) Connect a keyboard to the PL.

2) Turn the PL unit's power ON.

3) When the "Press <DEL> to enter SETUP" message appears, press your PC's DEL key. The Setup utility will start.

Select the [STANDARD CMOS SETUP] screen, and from there, select either the IDE Primary Master or IDE Primary Slave menus. Next, the following screen will appear.

```
         CMOS Setup Utility - Copyright (C) 1984-2000 Award Software
                             IDE Primary Master
    ┌──────────────────────────────────────────────┬──────────────────────┐
    │  IDE HDD Auto-Detection    Press Enter        │      Item Help       │
    │                                               ├──────────────────────┤
    │   IDE Primary Master    Auto                  │   Menu Level ▶ ▶     │
    │   Access Mode           Auto                  │                      │
    │                                               │   To auto-detect the │
    │   Capacity              10056 MB              │   HDD's size, head...on │
    │                                               │   this channel       │
    │   Cylinder              19485                 │                      │
    │   Head                  16                    │                      │
    │   Precomp               0                     │                      │
    │   Landing Zone          19484                 │                      │
    │   Sector                63                    │                      │
    │                                               │                      │
    │                                               │                      │
    ├───────────────────────────────────────────────┴─────────────────────┤
    │ ↑↓→←:Move  Enter:Select  +/-/PU/PD:Value  F10:Save  ESC:Exit  F1:General Help │
    │       F5:Previous Values    F6:Fail-Safe Defaults    F7:Optimized Defaults │
    └─────────────────────────────────────────────────────────────────────┘
```

4) Confirm whether "AUTO" is selected in the Master and Slave screens. If AUTO is selected in both, disk parameters will be automatically read when the PL is turned ON. If AUTO is not selected, change these settings to AUTO. The factory setting is AUTO and recommended for most users. (When using both FFD and HDD units.)

5) After changing all settings, press the ESC key and select [Save and EXIT Setup] to save the settings.

5 Software Setup

After completing the hardware setup, in order to save data and application(s) to the FFD, use your OS (MS-DOS or Windows) to create partitions and format (initialize) the unit. Please consult your OS's operation manual for details about these procedures.

> **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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