

# PL-HD110

## Operation Instructions

This hard disk unit is made by the Digital Electronics Company for use with its Panel Computer Series (which is hereafter referred to as the " PL") device unit. This unit is provided as a replacement unit for maintenance.

Corresponding Product: PL-6700 Series Units

All product names used in this document are the trademarks of their respective manufacturers.

Proface: Digital Electronics Corporation

MS-DOS, Windows: Registered trademarks of the Microsoft Corporation



### Warning - Safety Precautions

- Be sure to check that the PL unit's power is disconnected before installing the PL-HD110 in the PL in order to prevent electrical shock.
- Do not attempt to modify or open the PL-HD110, due to the danger of shock or fire.
- When installing the PL-HD110, be sure to read this document's "2. Installation" section completely to insure that the unit is correctly installed.

### To Prevent Accidents

- Since the PL-HD110 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, when a PL containing a preinstalled PL-HD110 is built in to a larger unit (i.e. an operation panel) , the PL-HD110 should be removed from the PL and packed separately prior to shipping the larger unit.
- 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.
- 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.

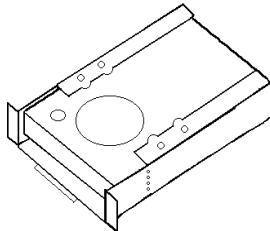
- Do not attempt to exchange the PL-HD110 with a new unit while the PL is in operation.
- Do not use the PL in areas containing inert gasses. They can lead to an HDD malfunction.
- The PL-HD110 has a finite usage lifetime. Therefore, be sure to back up all HDD data regularly or use a backup HDD unit.
- 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 included in your package.

■ **PL - HD110**

(1)



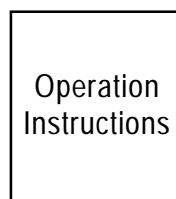
■ **Attachment Screws**

(2)



■ **Operation Instructions** (1)

(PL-HD110)



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

### ■ Performance Specifications

Memory Capacity	2.1Gbytes
Sector Size	512 bytes
No. of Disks	1
No. of Logic Heads	2
No. of User Cylinders	9280
Seek Time	13msec (TYP)
Power Consumption	At Startup: 4.7W(TYP) Read/Write: 2.0W/2.1W (TYP) During Wait: 0.3W(TYP)
Interface	E-IDE
Lifetime	5 years, or 20,000 operating hours, whichever comes first



- ***The PL-HD110 has a finite usage lifetime. Therefore, be sure to back up all HDD data regularly or prepare a backup HDD unit.***
- ***The HDD unit's lifetime depends on the type of usage and surrounding environment, which may either lengthen or shorten the figure given here. This figure is for reference purposes only.***

## ■ Environment Specifications

Operating Temperature	5 to 40 °C
Storage Temperature	-10 to 60 °C
Ambient Humidity	30 to 85% (no condensation)
Noise Resistance ( via Noise Simulator)	Noise Voltage: 1500Vp-p
	Pulse Width: 50ns, 500ns, 1μs
Static Electricity Resistance	4kV
Vibration Resistance	(During operation) 0.5G (10 to 25Hz)
Shock Resistance	(Stationary) 200G



- ***The environment specifications given here are for a PL that is built into a metal panel.***
- ***The Digital Electronics Corporation does not guarantee the preservation of any data stored on the HDD if the HDD has an accident, malfunctions or is damaged in any way. Therefore, the regular backing up of important HDD data to either a floppy disk, or other type of suitable magnetic media is strongly recommended.***
- ***This HDD has a finite usage lifetime. The lifetime figure given in this document's Performance Specifications is for reference, and the regular exchanging of the current HDD unit for a new HDD unit is strongly advised.***

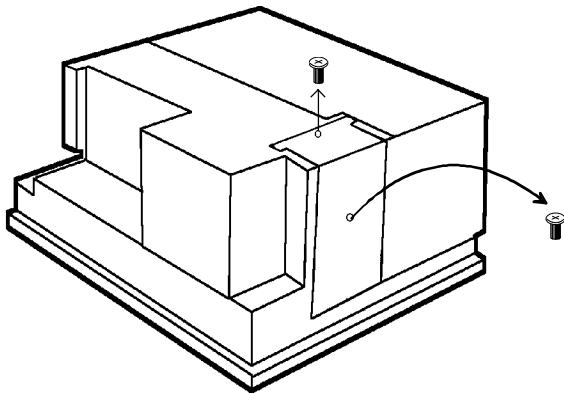
## 2 Installation

The procedures shown here are for exchanging the PL's existing PL-HD110 with a new PL-HD110.

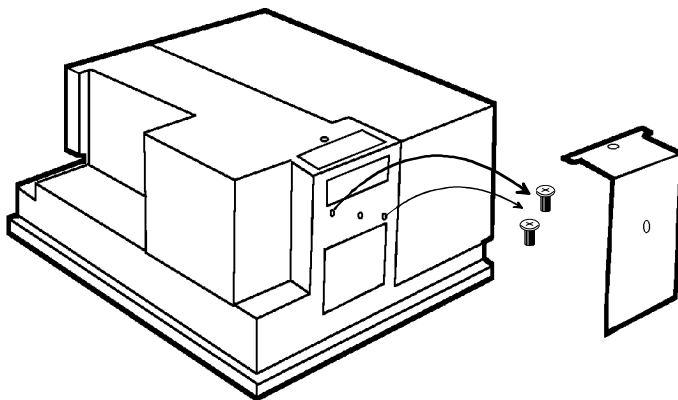
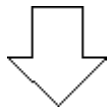


### WARNING

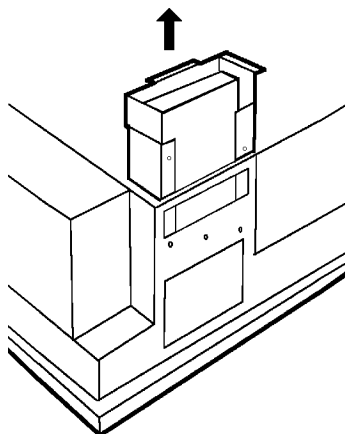
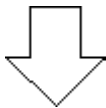
**WARNING:** Shock Danger! Be sure to disconnect the PL unit's power supply prior to installing the PL-HD110.



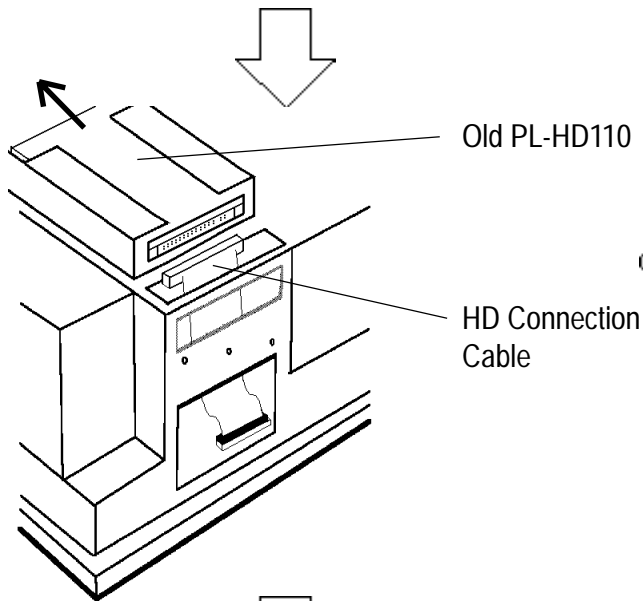
- 1) Remove the HDD unit protective cover's 2 attachment screws.



- 2) Remove the HDD cover and unscrew the HDD unit's 2 set screws.



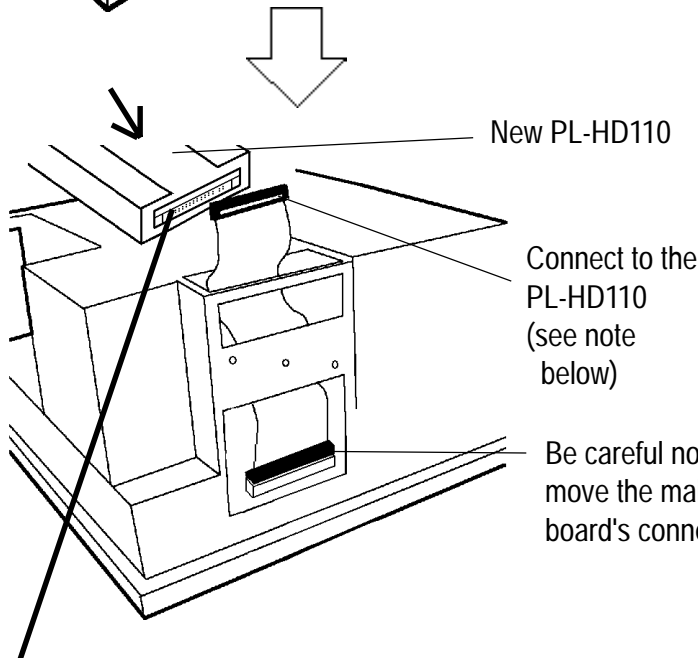
- 3) Pull the HDD unit up, out of its holder.



4) Disconnect the old PL-HD110 unit from the HDD connection cable.



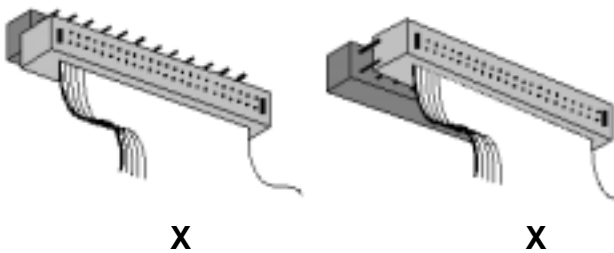
• **Be sure not to bend any of the HDD's connector pins while removing the cable's connector.**



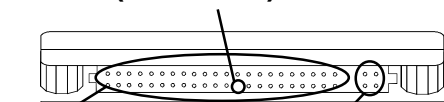
5) Reattach the connection cable to the new PL-HD110's connector.

### **Caution**

If the hard disk unit's connector is attached incorrectly, there is a possibility of damage to the unit. Please follow the instructions given here carefully.



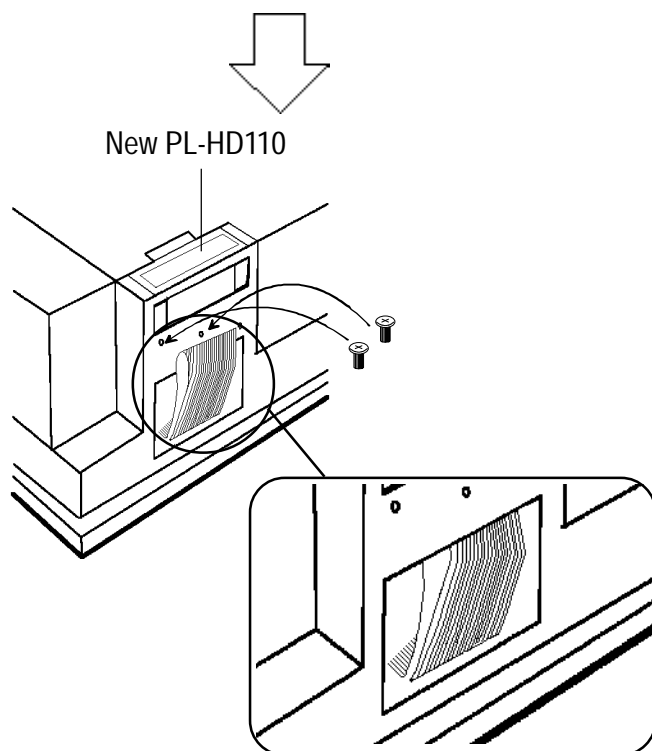
<Figure 1 - PL-HD110 Connector>  
Cable Inversion Prevention Pin (Removed)



Connect the cable here

Do not use these pins

Be sure the hard disk unit cable's connector is not skewed from its correct attachment position due to attaching the new PL-HD110. A loose connection can cause damage to the unit.



6) Secure the HDD unit in place with its 2 attachment screws.

7) Fold the HDD's cable so that it looks like the picture, insert the folded cable's end into the HDD's holder slot, and reattach the HDD's cover.



• ***Be sure that the cable is not pinched by either the PL's chassis or the attachment screws.***

### **3 Checking the HDD Unit's Connection**

- 1) Connect a keyboard to the PL unit.
- 2) After confirming that the PL-HD110 is securely connected to the PL unit, turn the PL unit ON.
- 3) When the message "Press <DEL> to Enter SETUP" appears, press the [DEL] key.

The setup utility will then start and the following screen will appear.

ROM PCI/ISA BIOS(2A51IU1C)  
CMOS SETUP UTILITY  
AWARD SOFTWARE, INC.

Date (mm:dd:yy): Wed, Jul 2 1997  
Time (hh:mm:ss): 14 : 50 : 3

HARD DISKS	TYPE	SIZE	CYLS	HEAD	PRECOMP	LANDZ	SECTOR	MODE
Primary Master	:Auto	0	0	0	0	0	0	AUTO
Primary Slave	:Auto	0	0	0	0	0	0	AUTO

Drive A : 1.44M , 3.5 in.

Drive B : None

VGA Text Mode :Expansion

VGA Graphic Mode:Expansion

Flippy3 Mode Support:Disabled

LCD & CRT : Both

Halt On :All Errors

Base Memory : 640K

Extended Memory : 31744K

Other Memory : 384K

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Total Memory : 32768K

ESC : Quit : Select Item PU/PD/+/- : Modify

F1 : Help (Shift)F2 : Change Color

4) The PL will then automatically detect the HDD unit. Use the "Primary Master" data shown in the above screen to confirm this. When the "Primary Master" screen item is selected, after the PL starts up, if the Primary Master's "TYPE" and "MODE" selections read [AUTO] the hard disk's parameters are automatically read in and will appear in this screen.

If the Primary Master's "TYPE" and "MODE" setting is not currently selected [AUTO], please use the cursor keys to set the "TYPE" and "MODE" selections to [AUTO].

## 4 Software Setup

After completing the PL-HD110's installation, in order to save data and application(s) to the PL-HD110, use the PL's OS (MS-DOS or Windows) to create partitions and format (initialize) the hard disk. Please consult your OS's operation manuals for details.