

Operating Instructions

Memory Card Drive





Before operating this product, please read the instructions carefully and save this manual for future use.





For AJ-PCD20P and AJ-PCD20E/EJ

WARNING:

This apparatus must be earthed.

To ensure safe operation the three-pin plug must be inserted only into a standard three-pin power point which is effectively earthed through the normal house-hold wiring.

Extension cords used with the equipment must be three-core and be correctly wired to provide connection to earth. Wrongly wired extension cords are a major cause of fatalities.

The fact that the equipment operates satisfactorily does not imply that the power point is earthed and that the installation is completely safe. For your safety, if in any doubt about the effective earthing of the power point, consult a qualified electrician.

WARNING:

- To reduce the risk of fire or electric shock, do not expose this equipment to rain or moisture.
- To reduce the risk of fire or electric shock, keep this equipment away from all liquids. Use and store only in locations which are not exposed to the risk of dripping or splashing liquids, and do not place any liquid containers on top of the equipment.

CAUTION:

To reduce the risk of fire or electric shock and annoying interference, use the recommended accessories only.

CAUTION:

The mains plug of the power supply cord shall remain readily operable.

The AC receptacle (mains socket outlet) shall be installed near the equipment and shall be easily accessible.

To completely disconnect this equipment from the AC mains, disconnect the mains plug from the AC receptacle.

indicates safety information.

Notice (U.S.A. only):

Disposal may be regulated in your community due to Environmental considerations. For disposal or recycling information, please visit Panasonic website: http://www.panasonic.com/environmental or call 1-888-769-0149.

Manufactured by: Panasonic Corporation, Osaka, Japan Importer's name and address of pursuant to EU rules: Panasonic Testing Centre Panasonic Marketing Europe GmbH Winsbergring 15, 22525 Hamburg, Germany

For AJ-PCD20P

FCC NOTICE

Declaration of Conformity

Model Number: AJ-PCD20P Trade Name: Panasonic Responsible Party: Panasonic Corporation of North America One Panasonic Way, Secaucus, NJ 07094

Support contact: 1-800-524-1448

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

To assure continued compliance, follow the attached installation instructions and do not make any unauthorized modifications.

CAUTION:

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

The user may find the booklet "Something About Interference" available from FCC local regional offices helpful.

FCC Warning: To assure continued FCC emission limit compliance, follow the attached installation instructions and the user must use only shielded interface cables when connecting to host computer or peripheral devices. Also, any unauthorized changes or modifications to this equipment could void the user's authority to operate this device.

NOTIFICATION (Canada)

This class B digital apparatus complies with Canadian ICES-003.

indicates safety information.

For AJ-PCD20E/EJ

Caution for AC Mains Lead

FOR YOUR SAFETY PLEASE READ THE FOLLOWING TEXT CAREFULLY.

This product is equipped with 2 types of AC mains cable. One is for continental Europe, etc. and the other one is only for U.K.

Appropriate mains cable must be used in each local area, since the other type of mains cable is not suitable.

FOR CONTINENTAL EUROPE, ETC.

Not to be used in the U.K.



FOR U.K. ONLY

This appliance is supplied with a moulded three pin mains plug for your safety and convenience.

A 13 amp fuse is fitted in this plug. Should the fuse need to be replaced please ensure that the replacement fuse has a rating of 13 amps and that it is approved by ASTA or BSI to BS1362. Check for the ASTA mark \Leftrightarrow or the BSI mark \Leftrightarrow on the body of the fuse.

If the plug contains a removable fuse cover you must ensure that it is refitted when the fuse is replaced.

If you lose the fuse cover the plug must not be used until a replacement cover is obtained.

A replacement fuse cover can be purchased from your local Panasonic Dealer.

indicates safety information.

EEE Yönetmeliğine Uygundur. EEE Complies with Directive of Turkey.

FOR U.K. ONLY



How to replace the fuse

1. Open the fuse compartment with a screwdriver.



2. Replace the fuse.



Table of Contents

Read this first! 2 Overview 6 Features 6
Supplied Accessories (A.I-PCD20P/A.I-PCD20F/F.I)
Parts and their Functions 7
Front Panel 7
Rear Panel
Power Switch Box (AJ-PCD20EJ only)
Inserting a P2 Card
Write-protection of P2 Card
Installation
To Connect the P2 drive to a Personal Computer for External Use
To Mount the P2 drive in a Personal Computer 5-type Bay
IEEE1394b Driver for Windows
1) Before installation
2) Installation of the IEEE1394b driver15
3) Confirmation of installation of the IEEE1394b driver
IEEE1394b Driver for Macintosh 18
Installation of the IEEE1394b driver
Specifications

Microsoft and Windows are registered trademarks of Microsoft Corporation in the United States.

Macintosh and Mac OS are registered trademarks of Apple Inc. of the United States. Other names of companies and products are trademarks or registered trademarks of the respective companies.

- In these instructions, Microsoft[®] Windows[®], Windows[®] XP Professional, Windows[®] 7 Professional, Windows[®] 7 Ultimate, and Windows[®] 8 are referred to as "Windows", "Windows XP Professional", "Windows 7 Professional", "Windows 7 Ultimate", and "Windows 8", respectively.
- Similarly, in these instructions, Macintosh[®] and Mac OS[®] X are referred to as "Macintosh" and "Mac OS X" respectively.
- In these instructions, a P2 card and memory card adapter (AJ-P2AD1) are collectively referred to as "P2 card".

Software information for this product

Customer advisory: This product includes software licensed under the GNU General Public License (GPL) and GNU Lesser General Public License (LGPL); customers have the right to download, modify, and redistribute source code for this software.

Descriptions of the GPL and LGPL are stored on the installation CD included with this camerarecorder. See the folder named \LDOC. (The description is the original (written in English)). To download the relevant source code, visit

http://pro-av.panasonic.net/.

Please note that we cannot answer any questions you may have about the content, etc. of any source code you may obtain from the above Web site.

While AJ-PCD20 is connected to the personal computer, install the required drivers from the CD-ROM.

For details, refer to the install manual and "IEEE1394b Driver for Windows" (page 14) or "IEEE1394b Driver for Macintosh" (page 18) in this document.

Overview

The AJ-PCD20 (hereinafter referred to as "P2 drive") is a data transfer device that uses a USB 2.0 or IEEE1394b interface and is designed only for P2 cards.

The P2 drive is capable of making high-speed transfers of clip data shot with a memory card camera recorder for P2 cards to a personal computer (Windows/Macintosh).

This device supports not only the transferring and copying of clips recorded on P2 cards, but also direct editing.

Features

- The P2 drive features five card slots.
- It enables high-speed data transfer using a USB 2.0 or IEEE1394b interface.
- It can be used as either an external or an internal drive.
- A memory card adapter (AJ-P2AD1) can be used. This feature is supported with firmware version 3.00 or later of the unit. For the latest information on firmware, visit the following Web site. http://pro-av.panasonic.net/

Supplied Accessories (AJ-PCD20P/AJ-PCD20E/EJ)

AC adapter	Rubber feet (4)	Mounting screws (8)
	\bigcirc	Щ.
Power cable for AC adapter	CD-ROM	Power switch box
For AJ-PCD20P	٢	
For AJ-PCD20E/EJ (continental Europe,etc)		

Parts and their Functions

Front Panel



(1) Power Indicator

This indicator lights up in green when the P2 drive is running.

(2)Status Indicator

This indicator lights up in green during access to a P2 card.

<Note>

Do not remove the P2 card during access of the card, otherwise files may be corrupted, or the P2 card may fail.

(3)Card Slots

The P2 drive's card slots are designed for P2 cards.

The P2 drive does not operate with cards other than P2 cards.

(4) EJECT Button

To remove a P2 card, press this button so that the button pops out, then press it in again.

<Note>

For Macintosh only: To remove a P2 card, drag the icon of the P2 card to "Trash," and then press the EJECT button after confirming that the P2 card icon disappears.

Rear Panel



The picture shows the rear panel with its cover removed.

(1)USB 2.0 connector (Type B)

This connects a USB cable. Use a USB cable (shielded) compliant with USB 2.0.

<Note>

The P2 drive supports USB 2.0 only. It does not support personal computers compliant with USB 1.1. For Macintosh, USB 2.0 operations are not guaranteed.

(2)IEEE1394b connector

This connects an IEEE1394b cable.

- When cables are connected to both the USB 2.0 connector and IEEE1394b connector, only the interface that was connected first after turning on the power is available.
- For Windows 8, IEEE1394b operations are not guaranteed.

(3) DC IN 16V Socket

For external use of the P2 drive, connect an AC adapter to this socket.

For the AJ-PCD20EJ only: For external use of the P2 drive, connect the power switch box to this socket.

(4)DC IN 12V Socket

To use the P2 drive mounted in a personal computer, connect one of the power supply connectors inside the personal computer to this socket. (See page 12)

<Note>

Do NOT supply power to both the DC IN 12V socket and DC IN 16V socket at the same time.

(5)Cable Clamp

Use this clamp to secure the AC adapter cable when connecting the P2 drive to a personal computer for external use of the Drive.

For the AJ-PCD20EJ only: Use this clamp to secure the power switch box cable when connecting the P2 drive to a personal computer for external use of the drive.

(6)Antitheft Lock

A commercially available antitheft cable can be connected to this lock.

Power Switch Box (AJ-PCD20EJ only)



During external use of the P2 drive, connect the power switch box between the drive and the AC adapter.

When the power switch box is connected, you can use the switch to turn off the P2 drive instead of unplugging the power cord.

(1)DC IN Socket

Connect the AC adapter to this socket.

<Note>

Do not connect anything other than the supplied AC adapter.

(2) DC OUT connector

Connect this to the DC IN 16V socket on the P2 drive.

(3)Switch

Turn ON the switch when using the P2 drive. Turn OFF the switch when the P2 drive is not in use. When the drive is connected to a personal computer, perform the safe hardware removal procedure of your OS before turning OFF the switch.

For Windows XP

Select "Safely Remove Hardware" in the "Task Tray" and stop the "Panasonic P2 Series USB/SBP2 Device" before turning OFF the switch.

For Windows 7

Click the arrow pointing up in the "Task Tray", select "Safely Remove Hardware and Eject Media", and perform one of the following.

During USB connection:

If "Eject P2 drive" is enabled, select "Eject P2 drive" and turn OFF the switch. If "Eject P2 drive" is enabled but "P2 Drive" does not appear, remove all inserted P2 cards before turning OFF the switch.

During 1394 connection:

Remove all of the P2 cards that appear under "MATSHITA AJ-PCD20 #1" before turning OFF the switch.

For Windows 8

Click the up arrow in the task tray in the desktop screen and then select "Safely Remove Hardware and Eject Media" before turning OFF the switch.

If "Eject P2 drive" is active, select this item before turning OFF the switch. If the ejecting of P2 cards is enabled without "P2 Drive" being displayed, eject all of the P2 cards and then turn OFF the switch.

For Macintosh

Drag and drop the P2 card icon into "Trash", and confirm that the P2 card icon disappears before turning OFF the switch.

<Notes>

- Turning OFF the switch during data transfer may result in loss of data.
- Failure to perform the safe hardware removal procedure before turning OFF the switch may result in loss of data.

Inserting a P2 Card

When inserting a P2 card into the slot in the P2 drive, make sure you keep the card horizontal as you ease it in.

Forcing the card in on an angle may cause a problem.



Write-protection of P2 Card

A P2 card has a write-protect switch. Setting this switch to "PROTECT" can prevent writing and deleting of data.

Note: The write-protect switch is not effective when the P2 card is inserted in the P2 drive. Make sure you remove the P2 card from the P2 drive, set the switch, then re-insert the card, in order to effect the switch setting.



Installation

There are two ways to connect the P2 drive to a personal computer (Windows/Macintosh) :

- 1. Using the P2 drive as an external drive connected to a personal computer (Windows/Macintosh)
- 2. Mounting the P2 drive in a 5-type bay of a desktop personal computer (Windows)

To prevent the writing and deleting of data when using a memory card adapter (AJ-P2AD1), set the memory card write-protect switch on the adapter.



To Connect the P2 drive to a Personal Computer for External Use

1 Attach the rubber feet to the dimples on the base of the P2 drive.



- $2\,$ Start the personal computer.
- Plug the AC adapter supplied with the P2 drive into the DC IN 16V socket on the P2 drive.

The P2 drive will start.



For the AJ-PCD20EJ only:

Plug the power switch box supplied with the P2 drive into the DC IN 16V socket on the P2 drive, then plug the supplied AC adapter into the power switch box. The P2 drive will start when you turn ON the switch.



<Note>

Disconnect the AC mains plug from the AC mains socket when not in use.

4

(To be connected by USB 2.0)

Plug a USB 2.0 cable B connector into the USB connector on the P2 drive. then plug the other end (A connector) of the USB 2.0 cable into the USB 2.0 port on the personal computer.



USB 2.0 connector

<Note>

No USB 2.0 cable is supplied with the P2 drive in the package. Use a commercially available USB 2.0 cable (shielded).

Take care to use a USB cable that is no longer than 3 metres. The P2 drive may not operate properly with a cable longer than 3 metres.

For Macintosh, USB 2.0 operations are not guaranteed.

- 5 (To be connected by IEEE1394b) Connect the P2 drive to the personal computer with a IEEE1394b cable.



IEEE1394b connector

<Notes>

 No IEEE1394b cable is supplied with the P2 drive in the package. Use a commercially available IEEE1394b cable.



1394b cable 9-pin type

- Do not apply force when connecting IEEE1394b cable to IEEE1394b connector as this may damage the connector.
- When using 9-pin type 1394b - 6-pin type 1394a converter cables, check the shape of the terminal before connecting the 6-pin connector to the unit (PC). Connecting a connector



1394a cable 6-pin type

upside down may damage the parts inside the unit and cause malfunctioning.

Verify that the personal computer recognises the P2 drive.

<Notes>

 In Windows XP. some card slots of the P2 drive may be assigned drive names that have already been assigned to existing networks. Reassign network drive names if your personal computer does not display all five card slots.

- In Windows XP, to remove a USB cable or an IEEE1394b cable, select "Safely Remove Hardware" in the "Task Tray" and stop the "Panasonic P2 Series USB/SBP2 Device" before removing the cable.
- In Windows 7, to remove a cable, click the arrow mark on the "Task Tray", select "Safety Remove Hardware and Eiect Media". and then proceed as follows.

For USB connection:

If "Eject P2 drive" is active, select this item before removing the cable. If the ejecting of P2 cards is enabled without "P2 Drive" being displayed, eject all of the P2 cards and then disconnect the cable.

For IEEE1394 connection:

Remove all the P2 cards shown under "MATSHITA AJ-PCD20 #1" before removing the cable.

• In Windows 8, click the up arrow in the task tray in the desktop screen and then select "Safely Remove Hardware and Eject Media" before disconnecting the cable.

If "Eject P2 drive" is active, select this item before removing the cable. If the ejecting of P2 cards is enabled without "P2 Drive" being displayed, eject all of the P2 cards and then disconnect the cable.

- In Windows XP and Windows 7, if connection is made by IEEE1394b, all the five card slots may not be displayed. In this case, remove the IEEE1394b cable and connect it again.
- In Macintosh, to remove an IEEE1394b cable, drag the icon of the P2 card to "Trash" and then confirm that the P2 card icon disappears before removing the cable.

To Mount the P2 drive in a Personal Computer 5-type Bay

 $m{l}$ Turn OFF the personal computer's power.

 $2\,$ Undo the six screws and remove the cover.



J Mount the P2 drive in a 5-type bay on the personal computer. Use the screws supplied with the P2 drive for mounting.

Please refer to your computer's instruction manual for guidance in mounting to 5-type bay drives.



(the other side is the same.)

<Notes>

- The P2 drive may not be able to be fastened securely in some types of personal computers.
- If all 5-type bays are occupied, you will need to remove one of the built-in drives to make room for the P2 drive.
- The P2 drive should be used in a personal computer whose design allows the front panel of the Drive to be manipulated.

Plug a USB 2.0 cable B connector into the USB connector on the P2 drive. then plug the other end of the USB 2.0 cable into the USB 2.0 port on the personal computer.



USB 2.0 connector

<Note>

USB 2.0 connector pinouts vary according to the type of motherboard type. Check your computer's instruction manual before purchasing a commercially available USB 2.0 cable (shielded).

5

Connect the P2 drive to the internal power cable (4 pins) of the personal computer.



 ${f 6}\,$ Start the personal computer and verify that it recognises the P2 drive.

<Note>

In Windows XP, some card slots of the P2 drive may be assigned drive names that have already been assigned to existing networks. Reassign network drive names if your personal computer does not display all five card slots.

This driver is for the IEEE1394b interface for the P2 card on this unit.

1) Before installation

System requirements for the IEEE1394b driver are as follows.

- OS: Windows XP Professional (SP3) 32 bit Windows 7 Professional (SP1) 32 bit/64 bit Windows 7 Ultimate (SP1) 32 bit/64 bit
- RAM: Windows XP: 512 MB or more Windows 7 (32 bit): 1 GB or more Windows 7 (64 bit): 2 GB or more
- CPU: Pentium[®]4 1.5 GHz or higher is recommended

<Notes>

- Writing onto P2 cards using IEEE1394b interface is not supported in Windows 7.
- Drive names cannot be changed when connection is made by IEEE1394b in Windows 7.
- An IEEE1394b connection is not supported in Windows 8.

With Windows XP

Before installing the IEEE1394b driver, install the update program provided by Microsoft in accordance with the following procedures.

If the updates are not installed, a sufficient transfer rate may not be obtained.

- **I** Open the Web browser and navigate to the Microsoft website.
- 2 Enter "KB885222" in the search column on the website, and then press the search button.

3 Click the link for "Performance of 1394 devices may decrease after you install Windows XP Service Pack 2", which is indicated as a search result.

4 Read the information on the displayed page, then download and install the update program on the personal computer.

With Windows 7

Before installing the IEEE1394b driver, make the following settings.

Otherwise, operation may become unstable.

- I Click "Start", right-click "Computer", and select "Property" to display the system properties. Then click "Device manager" at the top-left corner of the window.
- 2 Right-click "**** 1394 OHCI Compliant Host Controller" under "IEEE 1394 bus host controllers" ("****" may be replaced with a device name), and select "Update Driver software...".
- **3** Select "Browse my computer for driver software", and click "Let me pick from a list of device drivers on my computer".
- 4 Select "1394 OHCI Compliant Host Controller (Legacy)" in the displayed driver list, and click "Next" to complete installation.
- 5 Repeat the above settings for all "1394 OHCI Compliant Host Controller" under "1394 bus host controller", if they exist.

2) Installation of the IEEE1394b driver

Install the IEEE1394b driver in accordance with the following procedures.

<Note>

The IEEE1394b driver is installed for each unit connected to a personal computer. If you use more than one unit on a single personal computer, install the drivers for the respective units separately. If the IEEE1394b driver are not installed, a sufficient transfer rate may not be obtained.

- I In accordance with the descriptions in "4. Installation of the P2 Software" (from pages 5 to 8 of the installation manual), install the software up to Procedure No. 9.
- 2 When the window shown in Figure 9 of Procedure No. 9 (page 8 in the installation manual) is displayed, select "AJ-PCD20 (P2 drive) 1394 driver" and then click OK.
- **3** When the message "Please connect AJ-PCD20 (P2 drive) by 1394" is displayed, connect this unit to the personal computer using IEEE1394b. Confirm that all five drive letters of this unit are displayed and then press Install.

<Note>

When the unit is connected to a personal computer through USB, remove the USB cable and then connect using IEEE1394b.

- 4 The warning box may be displayed; in such a case, click "Continue Anyway". The warning box may be displayed two or more times.
- 5 In accordance with the instructions on the screen, complete the installation and restart the personal computer.

3) Confirmation of installation of the IEEE1394b driver

When using IEEE1394b, only one AJ-PCD20 can be connected to the personal computer. If two or more AJ-PCD20 units are connected simultaneously, operations cannot be guaranteed.

For Windows XP Professional,

Click "MATSHITA AJ-PCD20 #1 IEEE 1394 SBP2 Device" listed under "Disk drives," then click on the "Driver" tab in the "MATSHITA AJ-PCD20 #5 IEEE 1394 SBP2 Device" property panel. "Provider" - "Panasonic" is set.



For Windows 7,

Click "Driver" in the property panel of each of the five disk drives under "Disk drives", "Panasonic" is displayed as "Provider".



<Note>

Depending on the environment, the "Disk drive" indication (five) may be replaced with "MATSHITA AJ-PCD20 #1 IEEE1394 SBP2 Device" to "MATSHITA AJ-PCD20 #5 IEEE1394 SBP2 Device", or with "Panasonic P2 Series SBP2 Device" (five).

IEEE1394b Driver for Macintosh

This driver is for the P2 card on this unit. By installing this driver, it is possible to connect to this unit to the Macintosh using IEEE1394b (Firewire 800) to transfer data at a higher rate.

Installation of the IEEE1394b driver

For the driver installation procedure, refer to "2. Installation of the P2 Software" in the installation manual in the Manuals folder on the CD-ROM.

<Note>

Reinsert the P2 card if the P2 card icon is not displayed.

<Reference>

Occasionally, a message regarding "Device Removal" may be displayed when the P2 drive is connected and the Macintosh is turned on. The same message may also be displayed when reinserting the P2 card because the P2 card icon is not displayed, but this is not a malfunction. Click "OK" and proceed to use the card.

Specifications

DC 16 V, 0.6 A

(when used with AC adapter)

DC 12 V, 0.8 A (when mounted in a personal computer)

indicates safety information.

External dimensions ($W \times H \times D$)

148.4 mm \times 42.5 mm \times 199.5 mm (5-7/8 inches \times 1-11/16 inches \times 7-7/8 inches) (excluding protruding parts)

Weight

1.2 kg (2.6 lb)

[Environmental conditions]

Operating temperature

0 °C to +40 °C (32 °F to +104 °F)

Operating humidity

0% to 90% (w/o condensation)

[Personal Computer System Requirements]

OS (proper operation guaranteed)

Windows XP Professional (SP3) 32 bit Windows 7 Professional (SP1) 32 bit/64 bit Windows 7 Ultimate (SP1) 32 bit/64 bit Windows 8 32 bit/64 bit Mac OS X 10.6.8 Mac OS X 10.7.4 Mac OS X 10.8.1

Main Memory

Windows XP: 512 MB or more Windows 7 (32 bit) and Windows 8 (32 bit): 1 GB or more Windows 7 (64 bit) and Windows 8 (64 bit): 2 GB or more

Interface

USB Ver. 2.0 compliant IEEE1394b compliant

[Card slots]

PC card Type II \times 5 (CardBus compliant)

[AC adapter]

Power Source: AC 100 - 240 V, 1.20 A, 50-60 Hz

Power Output: DC 16.0 V, 3.75 A

indicates safety information.

The latest driver information can be viewed at the following website.

http://pro-av.panasonic.net/

Information on Disposal for Users of Waste Electrical & Electronic Equipment (private households)



This symbol on the products and/or accompanying documents means that used electrical and electronic products should not be mixed with general household waste.

For proper treatment, recovery and recycling, please take these products to designated collection points, where they will be accepted on a free of charge basis. Alternatively, in some countries you may be able to return your products to your local retailer upon the purchase of an equivalent new product.

Disposing of this product correctly will help to save valuable resources and prevent any potential negative effects on human health and the environment which could otherwise arise from inappropriate waste handling. Please contact your local authority for further details of your nearest designated collection point.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.

For business users in the European Union

If you wish to discard electrical and electronic equipment, please contact your dealer or supplier for further information.

Information on Disposal in other Countries outside the European Union

This symbol is only valid in the European Union.

If you wish to discard this product, please contact your local authorities or dealer and ask for the correct method of disposal.

Panasonic Corporation

Web Site: http://panasonic.net