

IPC Series

CD-ROM/DVD-ROM Drive Unit

IPC-CDD-02

User's Manual

© CONTEC

Check Your Package

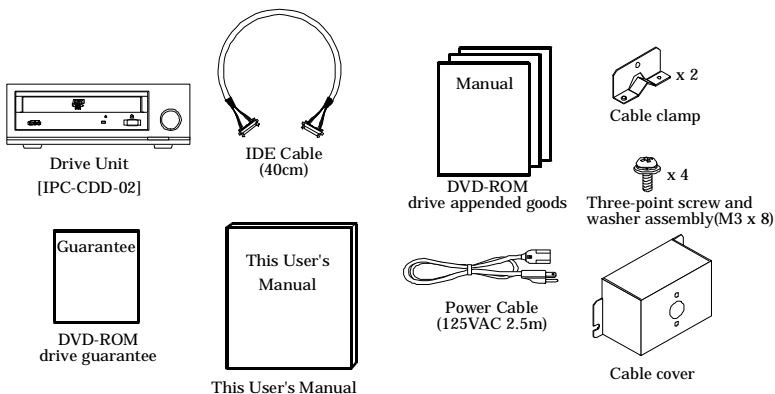
Thank you for purchasing the CONTEC product.

The product consists of the items listed below.

Check, with the following list, that your package is complete. If you discover damaged or missing items, contact your retailer.

Product Configuration List

- Drive Unit [IPC-CDD-02] ...1
- This User's Manual...1
- IDE Cable(40cm)...1
- Power Cable (125VAC 2.5m)...1
- Cable cover...1
- Cable clamp...2
- Three-point screw and washer assembly(M3 x 8)...4
- DVD-ROM drive appended goods...1set
- DVD-ROM drive guarantee...1



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Table of Contents

Check Your Package	i
Copyright	ii
Trademarks.....	ii
1.Before Using the Product	1
About the Drive Unit.....	1
Customer Support	2
Web Site http://www.contec.co.jp/en/	2
Limited One-Year Warranty	2
How to Obtain Service	2
Liability.....	2
Safety Precautions.....	3
Safety Information	3
Handling Precautions	3
Environment.....	4
Inspection	4
Storage	4
2.About Hardware.....	5
Specifications.....	5
External Dimensions.....	7
Hardware setup.....	8
Attachment of an IDE cable cover	8
3.Functions of Components	9
Component Locations.....	9
IDE Interface.....	10

1. Before Using the Product

This chapter provides information you should know before using the product.

About the Drive Unit

This product is a CD-ROM/DVD-ROM drive unit dedicated to the CONTEC box computers [IPC-BX/M630 Series, IPC-BX/M600 Series], CONTEC panel computers [IPC-PT/x630x Series, IPC-PT/x600x Series], and to the personal computer CPU unit [PPC-CPU686(MS)-128] compatible with the Mitsubishi Programmable Logic Controller MELSEC-Q series.

The target device (personal computer) is hereafter abbreviated PC.

For configuration of the system using this drive unit and its connection, refer to the user's manual for each PC.

Customer Support

CONTEC provides the following support services for you to use CONTEC products more efficiently and comfortably.

Web Site <http://www.contec.co.jp/en/>

Latest product information

CONTEC provides up-to-date information on products.

CONTEC also provides product manuals and various technical documents in the PDF.

Free download

You can download updated driver software and differential files as well as sample programs available in several languages.

Note! For product information

Contact your retailer if you have any technical question about a CONTEC product or need its price, delivery time, or estimate information.

Limited One-Year Warranty

CONTEC Interface boards are warranted by CONTEC CO., LTD. to be free from defects in material and workmanship for up to one year from the date of purchase by the original purchaser.

Repair will be free of charge only when this device is returned freight prepaid with a copy of the original invoice and a Return Merchandise Authorization to the distributor or the CONTEC group office, from which it was purchased.

This warranty is not applicable for scratches or normal wear, but only for the electronic circuitry and Driver Unit. The warranty is not applicable if the device has been tampered with or damaged through abuse, mistreatment, neglect, or unreasonable use, or if the original invoice is not included, in which case repairs will be considered beyond the warranty policy.

How to Obtain Service

For replacement or repair, return the device freight prepaid, with a copy of the original invoice. Please obtain a Return Merchandise Authorization Number (RMA) from the CONTEC group office where you purchased before returning any product.

* No product will be accepted by CONTEC group without the RMA number.

Liability

The obligation of the warrantor is solely to repair or replace the product. In no event will the warrantor be liable for any incidental or consequential damages due to such defect or consequences that arise from inexperienced usage, misuse, or malfunction of this device.

Safety Precautions

Understand the following definitions and precautions to use the product safely.

Safety Information

This document provides safety information using the following symbols to prevent accidents resulting in injury or death and the destruction of equipment and resources. Understand the meanings of these labels to operate the equipment safely.

⚠ DANGER	DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.
⚠ WARNING	WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
⚠ CAUTION	CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury or in property damage.

Handling Precautions

⚠ CAUTION

- Do not use or store the product in a location exposed to extremely high or low temperature or susceptible to rapid temperature changes.
Example:
 - Exposure to direct sun
 - In the vicinity of a heat source
- Do not use the product in extremely humid or dusty locations. It is extremely dangerous to use the product with its interior penetrated by water or any other fluid or conductive dust. If the product must be used in such an environment, install it on a dust-proof control panel, for example.
- Avoid using or storing the device in locations subject to shock or vibration.
- Do not use the product in the vicinity of devices that generate strong magnetic force or noise. Such devices will cause this device to malfunction.
- Do not use or store the product in the presence of chemicals.
- To clean the Drive Unit, wipe it gently with a soft cloth dampened with either water or mild detergent. Do not use chemicals or a volatile solvent, such as benzene or thinner, to prevent peeling or discoloration of the paint.
- CONTEC reserves the right to refuse to service a product modified by the user.
- In the event of failure or abnormality (foul smells or excessive heat generation), unplug the power cord immediately and contact the sales representative you purchased the product from or the CONTEC Information Center.
- Use an AC cable that is compatible with both the rated supply voltage and the receptacle. (The cable provided with the product is for 125VAC.)
- Component Life:
 1. Fan--- Longevity of the fan is approx. 20000 hours when it continues operating at 25 degrees. But the temperature was fallen by used one (high).
* Replacement of expendables is handled as a repair (there will be a charge).

Environment

Use this product in the following environment. If used in an unauthorized environment, the module may overheat, malfunction, or cause a failure.

Operating temperature

5 to 35°C

Humidity

20% to 80%RH (No condensation)

Corrosive gases

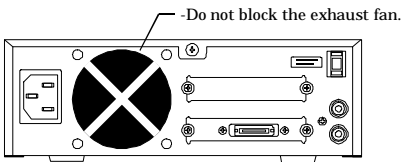
None

Pollution degree

2 or less

Inspection

Inspect the product periodically as follows to use it safely.



Storage

When storing this product, keep it in its original packing form.

- (1) Put the module in the storage bag.
- (2) Wrap it in the packing material, then put it in the box.

2. About Hardware

Specifications

Table 2.1. Function Specifications

Item	Specification
Bus interface	IDE
Cable	Dedicated 40-pin cable, 40cm in length
Formats supported	DVD-ROM(single layer , dual layer) DVD-R(3.95Gbyte, 4.7Gbyte) DVD+R(Version 1.0) DVD-RW(Rev 1.0, 1.1) *1 DVD+RW *1 DVD-RAM(2.6Gbyte/panel, 4.7Gbyte/panel) *1 CD-ROM Mode1&Mode2, CD-ROM XA CD-I, Photo-CD, CD-Extra, CD-TEXT, CD-DA, VideoCD
Disk media supported *2	DVD-ROM, DVD-R, DVD+R, DVD-RW, DVD+RW, DVD-RAM, CD-ROM, CD-R, CD-RW
Maximum data transfer rate	33.3MB/sec(Ultra DMA Mode2)
Maximum read speeds	DVD-ROM: 16X speed (single layer), 12X speed (dual layer) DVD-R:6X speed DVD+R:6X speed DVD-RW:2.5X speed DVD+RW:2.5X speed DVD-RAM:2X speed CD-ROM:48X speed CD-R:40X speed CD-RW:40X speed
Average access time	DVD-ROM:125ms CD-ROM:100ms
Data buffer size	256KB
Master/Slave switching	Selector switch
Cooling device	Rear-panel fan(60mm emission)
External dimensions (mm)	207(W) x 285(D) x 68(H) (Excluding protrusions)
Power supply	90 to 264VAC(47 to 63Hz)continuous input
Power consumption	40VA(Max.)
Weight	Approx. 2.8kg

*1 The drive unit can read only discs formatted in UDF 1.02 or 1.5; it cannot read those formatted in FAT or FAT32.

*2 The drive unit can only read but cannot write to DVD-RAM.

Table 2.2. General Specifications

Parameter		Requirement description
Power supply specifications		
Allowable instantaneous		Less than 10ms
power outage		One minute each for 1.5 kVAC (input-FG)
Dielectric strength		50M Ω (500VDC)
Ambient specifications		
Operating temperature		5 to 35°C
Storage temperature		-10 to 60°C
Humidity		20 to 80%RH(No condensation)
Operating ambience		Not to be excessive
Operating altitude		2000m or less *1
Pollution degree *2		2 or less
Line-noise resistance	Line noise	AC line/2kV, Signal line/1kV (IEC1000-4-4Level 3, EN61000-4-4Level 3)
	Static voltage resistance	Contact discharge/4kV (IEC1000-4-2Level 2, EN61000-4-2Level 2)
		Atmospheric discharge/8kV (IEC1000-4-2Level 3, EN61000-4-2Level 3)
Vibration resistance	During operation	10 to 150Hz, 2.45m/s ² (0.25G) 40 min. each in x, y, and z directions (JIS C0040-compliant, IEC68-2-6-compliant)
	Not during operation	10 to 150Hz, 9.8m/s ² (1.0G) 40 min. each in x, y, and z directions (JIS C0040-compliant, IEC68-2-6-compliant)
Impact resistance	During operation	58.8m/s ² (6.0G) 11-ms half-sine wave. x, y, and z directions (JIS C0041-compliant, IEC68-2-27-compliant)
	Not during operation	98m/s ² (10G) 11-ms half-sine wave. x, y, and z directions (JIS C0041-compliant, IEC68-2-27-compliant)
Tray load/eject		30,000 times
Mounting orientation		Horizontal only *3 Tilt: Within $\pm 5^\circ$ horizontally (both lengthwise and widthwise)
Grounding		Class D grounding (previous class 3 grounding)

*1 The drive may fail and cannot be used in an environment in which the air is compressed to over the atmospheric pressure generated at an altitude of around 0m.

*2 The index indicating the degree to which conductive substances are generated in the operating environment.

Pollution level 2 indicates the environment that generates only nonconductive pollutants while allowing accidental condensation to cause temporary conduction.

*3 The drive unit cannot be mounted vertically.

External Dimensions

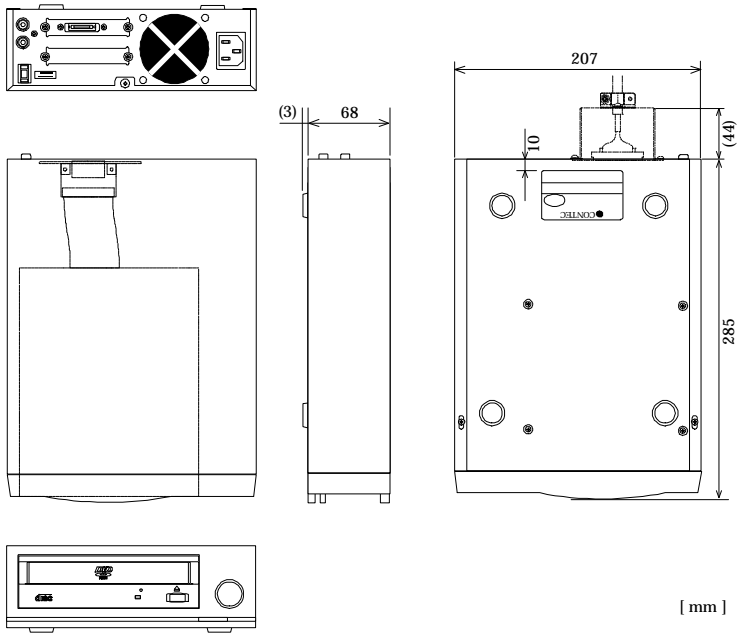


Figure 2.1. External Dimensions

Hardware setup

Attachment of an IDE cable cover

Attach the supplied cable cover or clamp using the supplied screw (M3 x 8) or it that has been installed on the main unit.

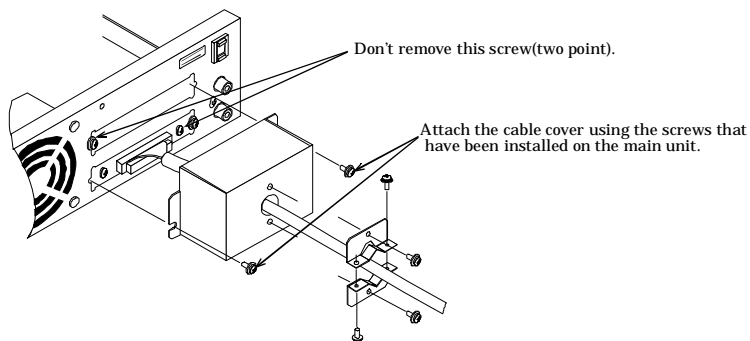
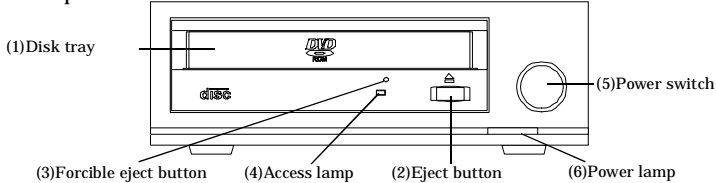


Figure 2.2. Attachment of an IDE cable cover

3. Functions of Components

Component Locations

Front panel



Rear panel

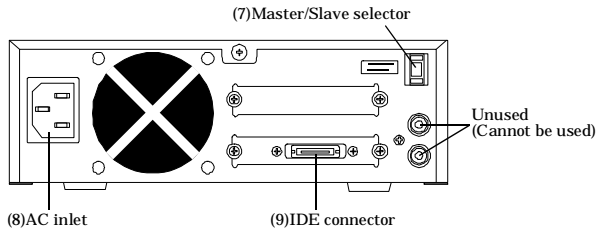


Figure 3.1. Component Locations

Component Functions

Table 3.1. Component Functions

No.	Name	Function
(1)	Disk tray	Loads a Disk
(2)	Eject button	Opens and closes the Disk tray.
(3)	Forcible eject button	Accepts a forcible eject pin used when the eject button fails to eject the Disk tray.
(4)	Access lamp	Comes on when data is read from the CD.
(5)	Power switch	Turns on the drive unit.
(6)	Power lamp	Remains on when AC power has been supplied to the drive unit with the AC power switch on.
(7)	Master/slave selector	Sets the drive unit as the master or slave device. 1: Master 2: Slave 0, 3 to 6: Invalid Use the up and down buttons to switch between master and slave. Default 1: Master
(8)	AC inlet	Connect the attached AC cable.
(9)	IDE connector	Connect the attached IDE cable.

⚠ CAUTION

- Turn on this drive unit before turning on the PC.
- When this drive unit has been connected to the PC, the PC may fail to operate normally with the drive's power off. To use the PC with the drive's power off, unplug the IDE cable in advance.
- Before changing the master/slave setting or plugging or unplugging the cable, always ensure that both of the drive unit and PC are off. Performing such operations with the drive unit or PC powered can cause their malfunction or fault.
- To manually unload a disc using the forcible eject hole, turn off the drive unit, leave it for at least one minute, then insert a pin or straightened paper clip into the eject hole to eject the disc tray.
- To connect this drive unit to a disk unit [PPC-HDD(MS) or PPC-SDD(MS)-xx], connect the IDE interface connector on the disk unit to the PC CPU unit [PPC-CPU686(MS)-128] using an IDE cable and the IDE connector on this drive unit to the extended IDE interface connector on the disk unit using another IDE cable. After connecting them, set the master/slave selector appropriately.

IDE Interface

Use the attached IDE cable to connect this drive unit to the IDE connector on the PC or on the front of the disk unit. For the system configuration and connections, consult the user manual for your PC.

Table 3.2. IDE Connector

Connector type 40-pin Half-pitch connector(1.27 mm pitch)					
Pin No.	Single name	Input/Output	Pin No.	Single name	Input/Output
1	RESET#	Output	21	GND	---
2	DD7	I/O	22	DD8	I/O
3	DD6	I/O	23	DD9	I/O
4	DD5	I/O	24	DD10	I/O
5	DD4	I/O	25	DD11	I/O
6	DD3	I/O	26	DD12	I/O
7	DD2	I/O	27	DD13	I/O
8	DD1	I/O	28	DD14	I/O
9	DD0	I/O	29	DD15	I/O
10	GND	---	30	N.C.	---
11	DDRQ	Input	31	GND	---
12	DIOW#	Output	32	GND	---
13	DIOR#	Output	33	GND	---
14	IO CHRDY#	Input	34	DALE	Output
15	DDACK#	Output	35	GND	---
16	INTRQ	Input	36	Reserve	---
17	DA1	Output	37	Reserve	---
18	DA0	Output	38	DA2	Output
19	CS1#	Output	39	CS3#	Output
20	DACT#	Output	40	GND	---