

Celeron M 1GHz CPU embedded, Fan-less

## IPC-BX801



\* Specifications, color and design of the products are subject to change without notice.

Model*	OS
IPC-BX801-DC400	-

### Features

#### Ultra-low voltage Celeron M 1GHz, 852GM chip set, and 512MB of memory

The product has a power-saving, high-performance, ultra-low voltage Intel (R) Celeron (R) M processor with 1GHz(FSB400MHz), Intel (R) 852GM chip set, and 512MB of memory.

#### Extended interfaces located at the front for easier maintenance

Extended interfaces such as serial (RS-232C) x 3, USB2.0 x 2, 100BASE-TX x 1 and audio interfaces are all placed at the front, providing excellent maintenance advantages. In addition to a general-purpose analog RGB interface, the product has an LVDS interface, which enables dual screen display.

#### Operation guaranteed in a temperature range from -20 to +60°C with a vibration resistance of 5G and an impact resistance of 100G

The radiation structure with a built-in heater and the cabinet ensures a stable operation at any temperature between -20 and +60 °C. With a vibration resistance of 5G and an impact resistance of 100G, the product can also be used for mobile devices.

#### Safety design required for embedded applications

Unnecessary trouble can be avoided by the use of insulation lock clamps for prevention of cable disconnection and the use of metal fittings for prevention of CF card disconnection.

An abnormal voltage or temperature is detected to shut down the system automatically.

Retention of CMOS data by EEPROM allows the system to start up even when the battery has run out.

Windows XP Embedded EWF function allows the power to be switched off without shutting down the system. For OS-installed Models, Windows XP Embedded EWF function allows the power to be switched off without shutting down the system.

\* EWF (Enhanced Write Filter) is a function specific to Windows XP Embedded that protects the disk from being actually written by redirecting the writing to RAM.

#### The adoption of a fan-less, CF card configuration providing high levels of reliability and quietness

As the cabinet itself forms an aluminum heat sink without a fan and with a CF card (bootable) as the storage device, high levels of reliability and quietness have been achieved.

This product is a small embedded computer that can be used under severe operating conditions such as high/low temperatures and vibrations.

IPC-BX801 Series contains a power-saving high-performance Celeron (R) M process 1GHz, 852GM chip set and 512MB of memory.

A number of extended interfaces such as serial, USB2.0 and LAN are all placed on the front side of the main body for easier maintenance.

Adopting a CF card which has eliminated any moving parts, the product ensures maximum quietness.

Embedded-type CPU and chip set have been adopted. The use of readily available parts ensures the ease of the use of the product. In addition, the use of a Contec-customized BIOS allows support to be provided at the BIOS level.

#### A wide range of power supplies (12 - 24VDC) supported

Supporting a wide range of power supplies (12 - 24VDC) allows the power to be supplied even from the battery inside a mobile device.

#### Various installation methods available

Since the adoption of a CF card and sealed structure frees the product from installation limitations, it can be installed on a ceiling, wall or floor using the attached metal fixings.

### Supported OS

Windows XP Embedded

### Packing List

Name	Pcs.
BOX-PC	1
The attachment fittings	2
Screw complete set for fittings used to attach to the main body	
Three-point sems screw (M4x8)	4
Three-point sems screw (M3x6)	4
Power supply connector complete set	
Housing	1
Contact	4
Cable clamp	2
Product guide(this sheet)	1
IPC Precaution List	1
Royalty consent contract	None
Setup Procedure Document	None
Notes on using Windows XP Embedded	None
IPC-SLIB-01 *1 (User's manual, Driver & Utility Soft Set)	1
Recovery Media	None

\*1 Please confirm latest information on the CONTEC homepage though the user's manual is stored in IPC-SLIB-01.

## Specification

Model	Specification	
CPU	Ultra Low Voltage Intel(R) Celeron(R) M Processor 1GHz(FSB400MHz)	
Chip set	Intel(R) 852GM + ICH4	
Memory	L2 Cache	None
	Main memory	512MB, 200pin SO-DIMM socket x 1, PC2100(DDR266) DDR SDRAM support
	BIOS ROM	128KB E0000H - FFFFFH (Phoenix)
Video	Controller	Built in Intel 852GM
	Video RAM	Main memory shared
	Video BIOS	48KB (C0000H - CBFFFF)
	Display I/F	Analog RGB I/F x 1 (15pin HD-SUB connector x 1) LVDS I/F x 1(26pin half pitch connector x 1)
System resolution *1	RGB	640 x 480, 800 x 600, 1,024 x 768, 1,152 x 864, 1,280 x 600, 1,280 x 720, 1,280 x 768, 1,280 x 960, 1,280 x 1,024, 1,400 x 1050, 1,600 x 900, 1,600 x 1,200, 1,856 x 1392, 1,920 x 1080, 1,920 x 1,200 (16,770,000 colors), 1,920 x 1440 (65,536 colors)
	LVDS	640 x 480, 800 x 600, 1,024 x 768 (260,000 colors)
Audio	AC97 compliant LINE OUT : $\phi$ 3.5 Stereo mini jack Full-scale output level 1.5Vrms (Typ.), Dual 50mW Amplifier MIKE IN : $\phi$ 3.5 mono mini jack Full-scale input level 1.6Vrms (Typ.)	
CF card slot	CF CARD Type I, II x 1 (dedicated to memory card, selectable PrimaryMaster, PrimarySlave) bootable None	
Recovery IDE connector (R-IDE)	Equipped with 36pin half pitch connector (Connect the CD-ROM/DVD-ROM drive to the Primary using the dedicated optional cable) (left surface)	
SecondaryIDE	None	
Serial I/F	RS-232C (general-purpose) : 3ch (SERIAL PORT1, 2, 3) 9pin D-SUB connector (male) Baud rate : 50 - 115,200bps For touch panel communication : 1ch (SERIAL PORT4) in LVDS connector For communication with activation control microcontroller : 1ch (SERIAL PORT5) *3	
LAN	I/F	100BASE-TX/10BASE-T RJ-45 connector
	Controller	Built in Intel ICH4
USB I/F	2ch (USB 2.0-compliant)	
Keyboard/mouseI/F	None *4	
General-purpose I/O	None	
Watch dog timer	Software programmable, 255 level (1sec - 255 sec) Causes a reset upon time-out.	
Expansion board slot	None	
RTC/CMOS	Lithium backup battery life : 10 years or more The real-time clock is accurate within $\pm$ 3 minutes (at 25°C) per month (ICH4 integrated RTC).	
Power supply *5	Input supply voltage	12 - 24VDC $\pm$ 5%
	Current consumption	When the usual time : 12V2.2A/24V1.1A(Max.) When the heater is ON : 12V5.6A/24V 2.8A(Max.)
	External device power supply capacity	- Power connector for R-IDE I/F +5V: 500mA - CF card slot +3.3V: 500mA - USB I/F +5V: 1A (500mA x 2)
	Physical dimensions (mm)	166(W) x 152(D) x 56(H) (No protrusions)
Weight	About 1.6kg	

\*1 When setting the "Internal DDC ROM" to the "Enable (default)", the max. resolution is SXGA.

\*3 It is used with the system so the user cannot use it.

\*4 Use USB I/F for the keyboard/mouse.

\*5 Use the 3mm or less cables for connection.

## Installation Environment Requirements

Parameter	Requirement description		
Ambient specifications	Operating temperature	-20 - 60°C *6	
	Storage temperature	-20 - 60°C	
	Humidity	10 - 90%RH (No condensation) *7	
	Floating dust particles	Not to be excessive	
	Corrosive gases	None	
	Line-noise resistance	Line noise	AC line/ $\pm$ 2kV *8, Signal line/ $\pm$ 1kV (IEC61000-4-4 Level 3, EN61000-4-4 Level 3)
		Static electricity resistance	Contact discharge $\pm$ 4kV (IEC61000-4-2 Level 2, EN61000-4-2 Level 2) Atmospheric discharge $\pm$ 8kV (IEC61000-4-2 Level 3, EN61000-4-2 Level 3)
	Vibration resistance	Sweep resistance 10 - 57Hz/semi-amplitude 0.375mm 57 - 200Hz/5.0G 40 min. each in x, y, and z directions (JIS C0040-compliant, IEC68-2-6-compliant, JISD1601 class A 3-compliant)	
	Impact resistance	100G, half-sine shock for 6 ms in x, y, and z directions (JIS C0041-compliant, IEC68-2-27-compliant)	
	Grounding	Class D grounding (previous class 3 grounding) SG-FG/continuity	

\*6 Varies depending on the installation direction. For more details on this, please refer to "Chapter3 Installation Requirements".

\*7 Although an anti-condensation sheet is placed inside the cabinet of this product, this is not a guaranteed anti-condensation measure.

\*8 When AC/DC power unit "LDA100W-24-SN" (by Cosel) is used

## List of Options

### CF Card

CF-1GB-A	1GB CompactFlash for Fix Disk
CF-2GB-A	2GB CompactFlash for Fix Disk
CF-4GB-A	4GB CompactFlash for Fix Disk
CF-8GB-A	8GB CompactFlash for Fix Disk

### TFT color liquid-crystal display

< Analog RGB types >

FPD-H21XT-AC	(15 inch 1024 x 768 dots, Panel mounted type)
FPD-L21ST-AC	(12.1 inch 800 x 600 dots, Panel mounted type)
FPD-M21VT-AC	(10.4 inch 640 x 480 dots, Panel mounted type)

< LVDS types >

FPD-H71XT-DC1 *1	(15 inch 1024 x 768 dots, Panel mounted type)
FPD-L71ST-DC1 *1	(12.1 inch 800 x 600 dots, Panel mounted type)
FPD-S71VT-DC1 *1	(6.5 inch 640 x 480 dots, Panel mounted type)
FPD-H75XT-DC1 *1	(15 inch 1024 x 768 dots, Panel mounted type)
FPD-L75ST-DC1 *1	(12.1 inch 800 x 600 dots, Panel mounted type)
FPD-M75VT-DC1 *1	(10.4 inch 640 x 480 dots, Panel mounted type)

\*1 Please Purchase an optional cable for connection [FPD-26M26M-005, FPD-26M26M-020, FPD-26M26M-050].

### Connection cable

FPD-26M26M-005	LVDS cable (0.5m)
FPD-26M26M-020	LVDS cable (2m)
FPD-26M26M-050	LVDS cable (5m)

### CD-ROM/DVD-ROM drive

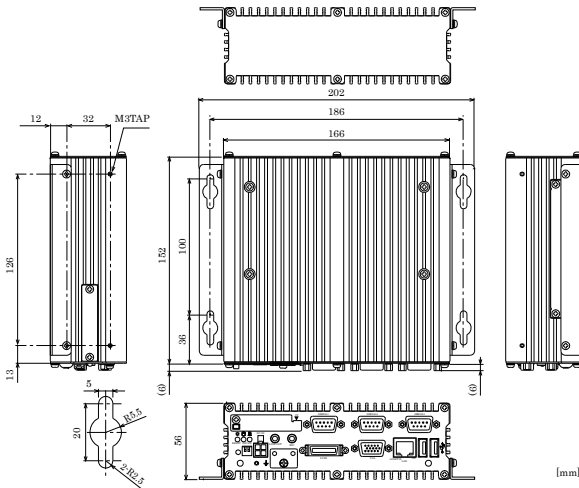
IPC-CDD-03 *2	CD-ROM/DVD-ROM drive
IPC-CDC-04	CD-ROM/DVD-ROM drive cable

\*2 Please Purchase an optional cable for connection [IPC-CDC-04].

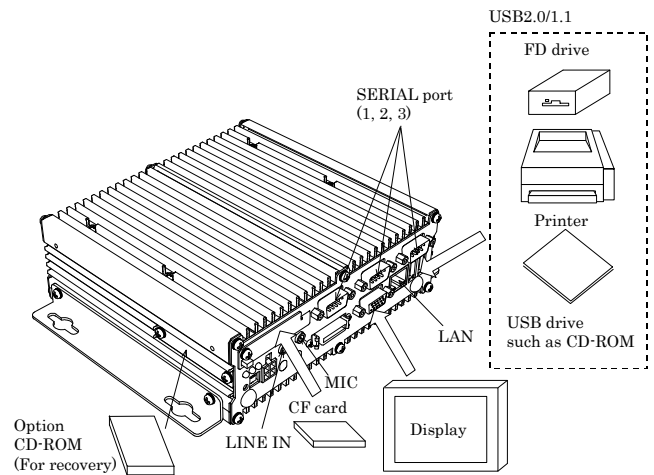
### Ferrite Core

FRC3013A-3	Ferrite Core 30/13mm (3pieces)
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## Physical Dimensions



## System Configuration



## Component Life

### (1) Battery

The internal calendar clock and CMOS RAM are backed by a Lithium primary battery.  
 The backup time at a temperature of 25°C with the power disconnected is 10 years or more.

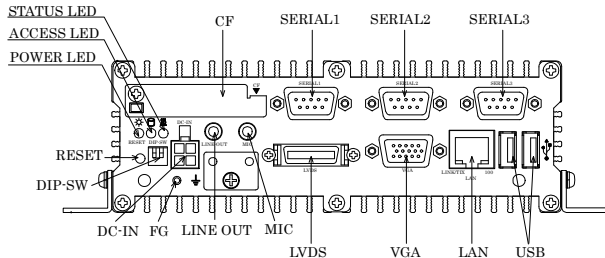
### (2) CF

The OS-installed model uses a CF card in the OS storage area.  
 Estimated failure rates: 100,000 rewrite cycles, 1,000,000 hours MTBF

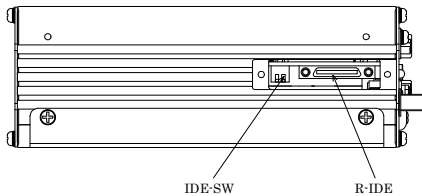
\* Replacement of expendables is handled as a repair (there will be a charge).

## Component Name

### Front View



### Side View



Name	Function
DIP-SW	Mode switch
RESET SW	Hardware reset switch
POWER LED	Power ON display LED
ACCESS LED	IDE disk access display LED
STATUS LED	Heater status LED
DC-IN	DC power input connector
MIC	Mike in (φ3.5 PHONE JACK)
LINE OUT	Line out (φ3.5 PHONE JACK)
LAN	Ethernet 100BASE-TX/10BASE-T RJ-45 connector
USB	USB port connector x 2
SERIAL1	Serial port 1 connector (9pin D-SUB/male)
SERIAL2	Serial port 2 connector (9pin D-SUB/male)
SERIAL3	Serial port 3 connector (9pin D-SUB/male)
VGA	Display (15pin D-SUB/male)
LVDS	LVDS (26pin half pitch connector)
IDE SW	Master, Slave setting by CF card
R-IDE	Recovery IDE connector (36pin)
CF	CF card slot (primary IDE connection)

## Installation Requirements

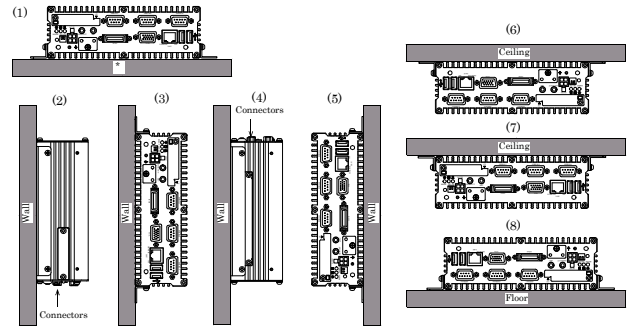
Take care that the operating temperature range may be limited depending on the installation direction.  
 In addition, take appropriate measures so that the ambient temperature falls within the range of installation environment conditions, such as keeping the system unit well-ventilated and sufficiently spaced its surroundings.  
 With a vibration resistance of 5G and an impact resistance of 100G, the product can also be installed in a mobile device.

Installation direction for use in an operation temperature range from -20°C to +60°C : (1)

Installation direction for use in an operation temperature range from -20°C to +55°C : (1), (2), (3), (4), (5)

Installation direction for use in an operation temperature range from -20°C to +50°C : All

### Installation Orientation



### CAUTION

Cooling air must be blown to this product, if it is used at a high temperature, even when the temperature is within the range of the temperature specifications.

### Distances between the BOX-PC and Its Vicinity

