



# SPECIFICATION

Type Name :

CTP150

Spec.  
No.

Notes :

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**Revision History**

Rev.	Date	Author	Page	Description
Pre A			All	First edition registration preliminary

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### 1. Product

Card dispenser

This product is compliant to "RoHS" Instruction

### 2. Model

CTP150

### 3. General Description

This product (hereinafter called as CTP) is the device by way of the USB interface, and performs the issuance of the IC/Magnetic card under control of the system of the customer side (hereinafter called as HOST).

CTP is equipped with a printer unit and a card reversing unit, so it is possible to print on both sides of the card.

CTP can operate the following.

- 1) Writing of data to the magnetic stripe.
- 2) Communication between Host and the IC chip of the IC card.

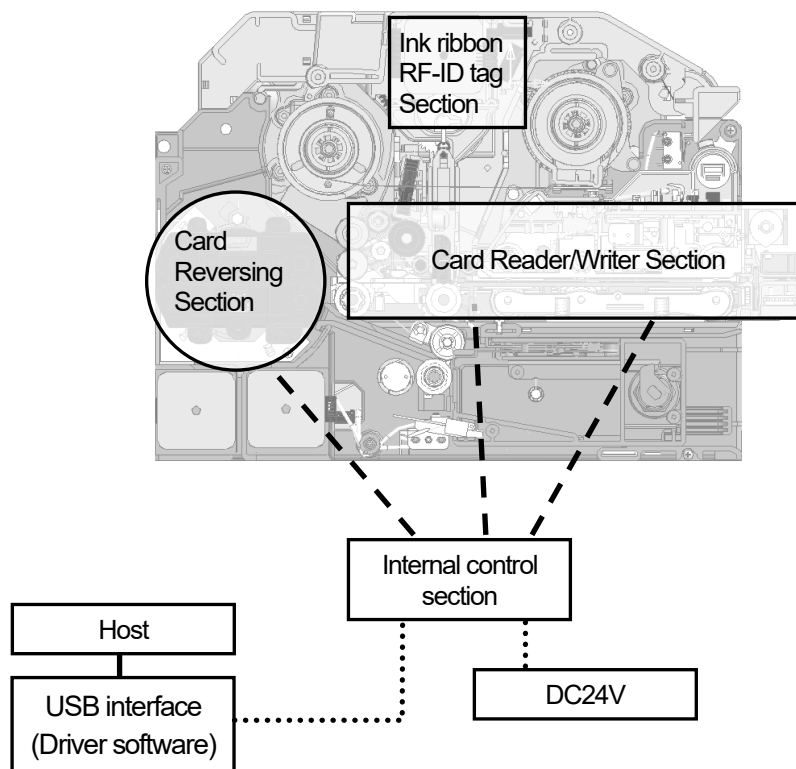
After these functions, CTP presents the card from the front gate of the card reader.

Also, CTP is able to take the card into the unit again from the front gate of the card reader.

Software is stored in flash ROMs, it can be changed by downloading from the HOST.

### 4. Machine Structure

Outline of the control system configuration



#### 4.1 USB Interface

USB2.0 Full-speed (12Mbps)

USB Interface circuit administrates a data transfer between a HOST computer and a CTP Unit.

The USB HUB is connected to the HOST computer in a USB 2.0 Hi-speed transfer mode.

On the other hand, internal control section is connected to the USB HUB in a Full-speed transfer mode.

#### 4.2 Internal Control

Internal control administrates movement control, data transaction and information transaction with outside devices.

#### 4.3 IC/Magnetic Card Reader / Writer (hereafter refer as ICRW)

ICRW writes a HOST data into the magnetic stripe on the card, and reads and verifies.

ICRW controls an interface between the HOST computer and an IC chip in the card.

#### 4.4 Contactless IC card communication (CCU)

The CCU is for communicating with the contactless IC card in the ICRW.

ISO/IEC 14443

#### 4.5 Detection function about the ink ribbon

Ink ribbon RF-ID tag : Some ink ribbon cassettes have an RF-ID that identifies the ink ribbon and detects the remaining amount.

IC chip : Mifare Ultralight

Note: RF-ID tag and Contactless IC card communication are not performed at the same time.

#### 4.6 Cover

For maintenance of the exchange of ink ribbon cartridge, such as removal of jam card, opening and closing of the cover of the printer unit is possible.

Lock lever : Lock opening and shutting structure with a green lever.

Opening and shutting detection sensor  
: detect a lock state of the lock lever.

Head Up/Down knob : Thermal head raising and lowering is possible by turning a part of the green knob.

Interlock function : When the cover is open, the power supply of the live system. (DC +24V) is disconnect.

Note: When you open a cover, please turn off a power supply by all means. In addition, please confirm that a print head in the printer central part is an upper position before opening a cover.

Refer to 11.7 Note7.

#### 4.7 Card Reversing section

This section has a function of switching the front and back of the card.

It is also used for card transfer and capture.

## 5. Physical function

## 5.1 Appearance

Appearance drawing No. : X01A337A01

## 5.2 Mass

Approximately : Approximately 7.0 kg

## 5.3 Usable card

(1) Magnetic card ISO/IEC 7810, 7811/1-6

(2) IC card ISO/IEC 7816 (see 11.4 Note4) (Contact position: Front side, lower position)  
 EMV '96 ver 3.1.1  
 EMV2000 ver 4.0  
 EMV Version 4.1  
 EMV Version 4.2  
 EMV Version 4.3  
 EMV Standard is given higher priority than ISO Standard when there are any discrepancy between them.

(3) Contactless IC card

ISO/IEC14443 Type A and Type B  
 NXP MIFARE ® (Standard 1K / 4K, Ultralight, DESFire, Prox)

\*Please give us the information on the actual card to use.  
 Since characteristics vary depending on the card,  
 it may be necessary to confirm beforehand.

## 5.4 Power supply requirement

Voltage : +24V  $\pm$ 10% DC

Ripple : Less than 200 mVp-p

Current consumption

Waiting : 0.5A or less

Card movement : 2.5A or less

Peak current : 4.0A or less (50ms or less)

Inrush current : 7.0A or less (1ms or less)

RF Tag Communication : 0.6A or less

When a primary power supply is a state of ON, and ON does the second power supply, a plunge electric current is the large electric current which it is simplistic, and flows through the condenser.

## 6. Environmental condition

### 6.1 Operating temperature/humidity

Card conveyance, Card reading

+10 ~ +45 degrees C, 20% ~ 80%RH

### 6.2 Storage temperature/humidity

-5 ~ +50 degrees C, 20% ~ 80%RH

Conditions:

Storing CTP for 12 hours at the normal conditions (refer to 11.1 Note1) without any operation after keeping it at the above storage temperature and humidity for 96 hours without operation, no functional error is found.

Ink ribbon cartridge is excluded. Please store ink ribbons in a location that is not to be heated. (Keep at room temperature)

### 6.3 Allowable inclination

Horizontal  $\pm$  3 degrees

## 7. Electromagnetic compatibility (EMC)

Make sure to earth ground the frame ground of the CTP.

The grounding is an important safety feature.

## 8. Reliability

### 8.1 Life

ICRW

1,000,000 card pass or 7 years

One time card pass means the round pass with forward and backward movement.

IC contact movement is assumed 3 times out of 10 card passes.

1000 passes / card maximum.

## 9. Physical level

## 9.1 Explanation for signals and PIN assignments

(1) USB Interface connector is specified as Type-B

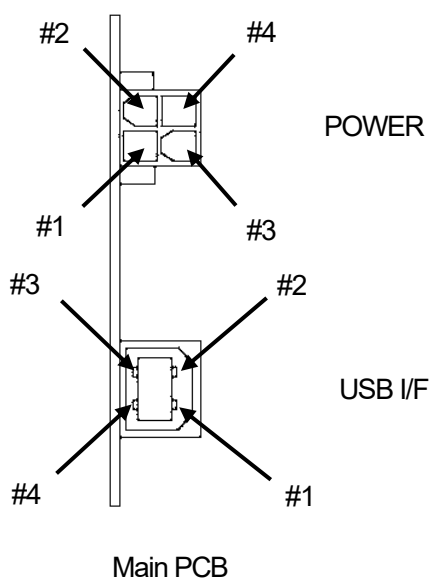
Pin assignments: below table

Pin No.	Signal name	I/O	Function
1	V <sub>BUS</sub>	--	Power
2	D-	I/O	USB Data (-)
3	D+	I/O	USB Data (+)
4	GND	--	Signal Ground (0V)

(2) Power connector 39-29-1048 (MOLEX)

Pin assignments: below table

Pin No.	Signal name	I/O	Function
1	+24V	I	+24V DC (main power supply)
2	+24V	I	+24V DC (main power supply)
3	GND	O	PCB Ground (0V)
4	GND	O	PCB Ground (0V)



## 9.2 Electrical characteristics

Maximum length of cable: Less than. 3 m



## 10. Notes

## 10.1 Note1. Normal Conditions

Temperature	20 degrees C $\pm$ 5 degrees C
Humidity	35%~60% RH
Mounting	Horizontal (Mounting plate on horizontal surface)

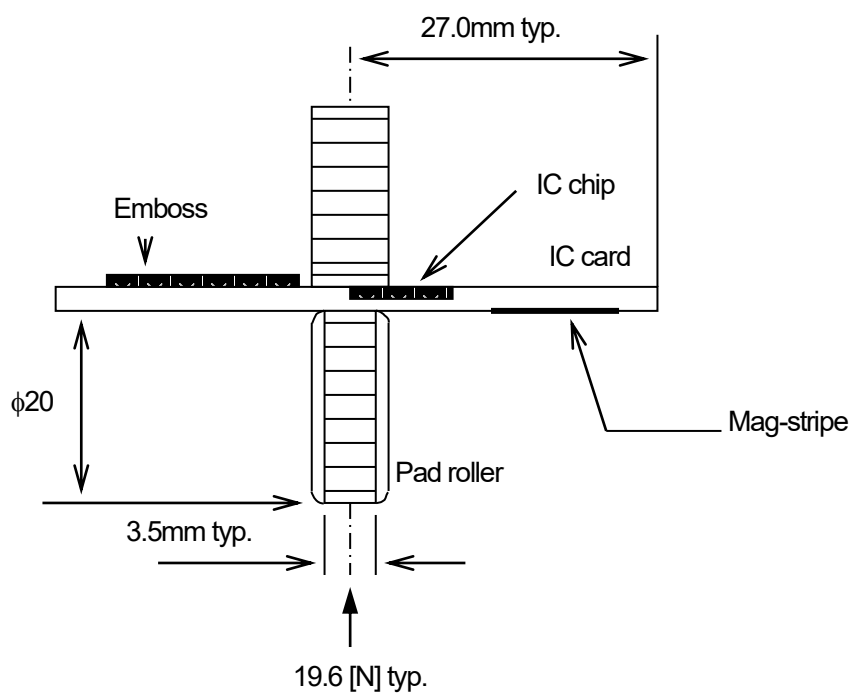
## 10.2 Note2.

Details of specific evaluation method for each characteristics are described in this document.  
And details of quality assurance program are negotiated under separate agreement.

## 10.3 Note3.

The location of the card driving roller in CTP and the area of IC chip are overlapped.  
The card driving mechanism gives pad roller pressure onto IC card chip.  
The pad roller is located in the opposing side of the card driving roller.  
The IC cards must be endurable against the aforementioned pressure.

The pressure given onto the IC cards are as follows;



## 10.4 Note4.

Care for handling the cards

In case the cards are kept under the condition that ISO/IEC magnetic stripe on Low-Co card and Japanese domestic JIS type2 magnetic stripe on the card (CTP does not support JIS type2 track read/write operation.) are laid so that those overlap each other , there is a possibility of the demagnetization of the data on ISO/IEC stripe.

In case Low-Co card and High-Co card is kept with overlapping each other, there is a possibility of the demagnetization of the data on Low-Co card.

## 10.5 Note5.

The missing corner card.

In the case that the magnetic data is written on the missing corner card, the physical position of the track and skew of ISO/IEC standard is not guaranteed.

## 10.6 Note6.

Because there is that the irregularities and scratches and edge of the card surface is cause of failure of the magnetic read / write error, please provide sufficient quality control of the card.

(We recommend that you make a contract with the card manufacturer about the quality of the card.)

**NOTICE*****Information to user (FCC section 15.105)***

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 or more 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.

***Information to user (FCC section 15.21)***

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

***Special accessories (FCC section 15.27)***

A USB cable with ferrite cores provided with this equipment (ELECOM U2C-BF30BK) must be used for connection to the host device in order to comply with the FCC emission limits.

**Instruction for Host Devices*****Equipment label (FCC Section 15.19)***

i. The following sentence has to be displayed on the outside of the host device in which this transmitter module is installed.

**“Contains FCC ID: WJ6ICM0M003A-M”**

ii. The following statement shall be displayed in a conspicuous location on the host device.

**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.**

The following information shall be contained in the user's manual of the host device.

***Information to user (FCC section 15.105)***

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 or more of the following measures:

- Reorient or relocate the receiving antenna.
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KDB996369 Items		Description
2.2	List of applicable FCC rules	Part 15 Subpart C
2.3	Summarize the specific operational use conditions	Not applicable
2.4	Limited module procedures	Not applicable – Single Modular
2.5	Trace antenna designs	Not applicable– Not trace antenna design
2.6	RF exposure considerations	See page 10
2.7	Antennas	Integrated antenna, Loop type
2.8	Label and compliance information	Product has FCC ID, Host equipment shall have 'Contains FCC ID' with the FCC ID of module.
2.9	Information on test modes and additional testing requirements	<p>The test is performed by a command from the host equipment. (The command is executed from maintenance mode.)</p> <p>If the command is not executed, no radio waves will be carrier on.</p> <p>When the "cZMM" command is executed, the radio wave carrier is turned on. Also, if you execute the "cZMO" command, the radio wave will be turned off.</p>
2.10	Additional testing, Part 15 Subpart B disclaimer	This equipment complies with FCC Part 15 subpart C rules. Host equipment shall comply with FCC Part 15 Subpart B rules containing this equipment.