



**STAND ALONE TERMINAL
FOR VISUAL CARD READER / WRITER
MCD2000**

Installation Guide & Specifications

Thank you for choosing the MCD2000 Stand Alone Terminal for Visual Card Reader/Writer.

This "Installation Guide & Specifications" includes very important instructions for safety.

Please read this manual before you start the system, and follow the instructions.

Star Micronics Co., Ltd.

Special Products Operating Division

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1. HANDLING NOTES

At the installation:

- 1) Use the attached cable to connect to Visual Card reader/writer. Do not connect other type of cable, such as telephone cable, LAN cable, and so on.
- 2) Install MCD2000 on a flat surface. Minimize any shock or vibration to the terminal, as shock or vibration may cause injury and/or failure.
- 3) Keep the MCD2000 away from hands of the children.
- 4) Do not use or leave the MCD2000 in direct sunshine or near a source of heat such as fire or stove. It may cause generation of heat which can bring failure, malfunction, skin burn, etc.
- 5) Keep the MCD2000 away from liquids such as water, oil, etc. Do not use or leave MCD2000 in high humidity.
- 6) Keep the MCD2000 reader/writer away from dust, metal powder, etc.
- 7) Keep the MCD2000 away from corrosive gases, flammable gas, chemicals or steams. Exposure may cause generation of heat, electric shock, malfunction, etc.
- 8) Keep the MCD2000 reader/writer away from magnetic sources to avoid erasing or damaging data stored on card.
- 9) Do not install the MCD2000 close to other electrical noise generation devices, such as an electrical motor, etc. This may cause malfunction, failure, etc.
- 10) Provide enough room around the MCD2000 reader/writer. If not, it may cause generation of heat, malfunction, failure, etc.
- 11) Always make sure the power of Visual Card reader writer is turned OFF before connecting to MCD2000.

During the operation:

- 1) Use the memory card that is specified by Star Micronics Co., Ltd. Otherwise, it may cause malfunction, failure, etc.
- 2) Do not insert the memory card in the unspecified direction. It may cause malfunction.
- 3) Do not connect/disconnect the cable while the power is ON.
- 4) When the unusual (such as noise, stench, smoke, fire, etc.) is found, turn off the power immediately. Then disconnect the plug. If the MCD2000 reader/writer being kept using, it may cause failure, skin burn, etc. Contact our sales/tech support team for repair.
- 5) Do not use the MCD2000 when the environment (such as temperature, humidity) changes drastically. It may cause dew condensation which can bring malfunction, etc. Leave the MCD2000 in the new environment at least for one hour, before re-start.
- 6) Do not use the MCD2000 under dew condensation. It may cause malfunction, failure, electric shock, etc.
- 7) Do not disassemble, modify and repair the MCD2000 by yourself. It may cause malfunction, failure, injury, etc. Contact our sales/tech support team for repair.
- 8) Avoid cleaning with thinner, alcohol, etc.

2. OUTLINE

The MCD2000 is a input terminal with LCD display, which enables customer to use as a stand-alone system with STAR's Visual Card reader/writer. By using optional memory card, customer can record transaction data, etc., and also data transfer to PC is possible.

The MCD2000 has three interfaces to connect to peripheral, which enables the expansion of the system.

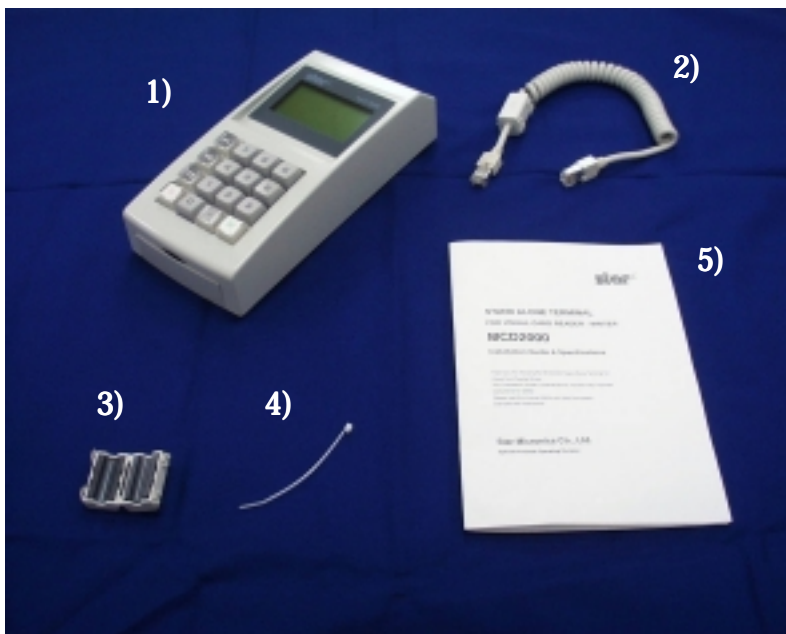
The main features of the MCD2000 series are as follows:

- With no exclusive-use P.O.S. or PC host required, a loyalty card system can be started.
- Operation is easy as the user only has to follow instruction on LCD display.
- Because 8MB/PCMCIA memory card can be mounted, it is possible to stored transaction data and to download the data to PC.
- Three additional interfaces allows many kinds of expanded system.

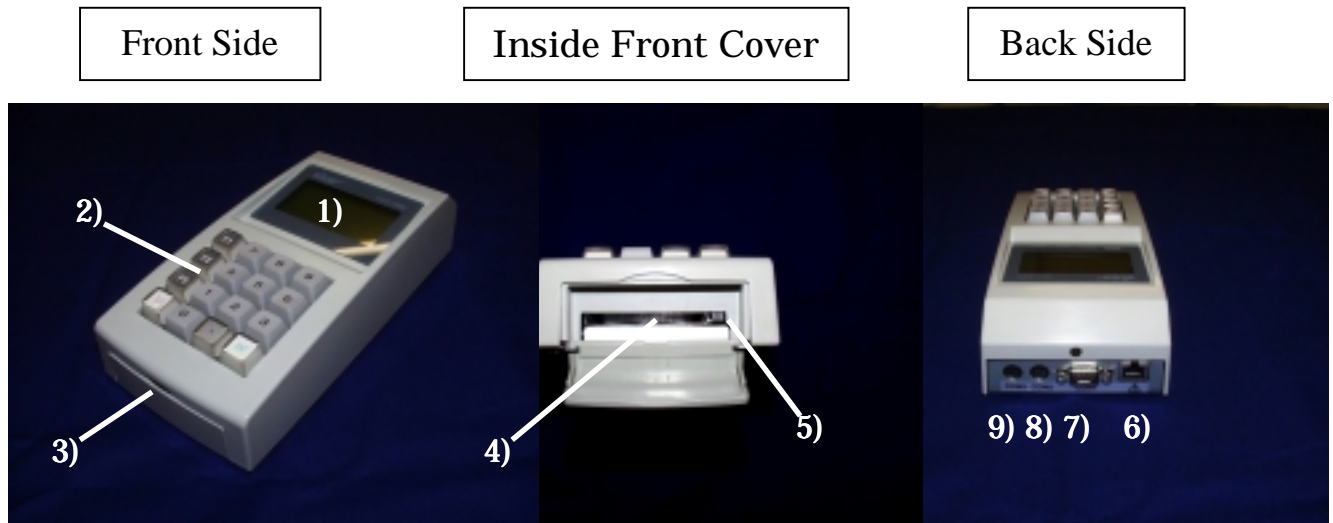
3. UNPACKING

After unpacking the unit, check that all the accessories are included in the individual box.

- 1) MCD2000 unit
- 2) Curl Code (attached cable)
- 3) Ferrite Core
- 4) Fastener Band
- 5) Installation Guide & Specifications (this manual)



4. APPEARANCE AND NOMENCLATURE



| | |
|-------------------|--|
| 1) LCD Display | Display the instruction and data |
| 2) Keyboard | Select functions and input data |
| 3) Front Cover | Avoid an accidental disconnection of memory card |
| 4) PCMCIA Slot | Insert memory card |
| 5) Eject Button | Reject memory card |
| 6) Modular Jack | Connect to Visual Card reader/writer |
| 7) Interface COM1 | Expand the system |
| 8) Interface COM2 | Expand the system |
| 9) Interface COM3 | Expand the system |

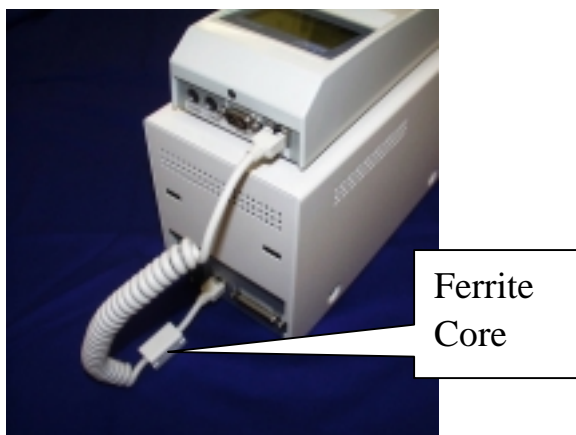
5. CONNECTION TO EXTERNAL UNITS AND SETTING

The connectable Visual Card reader/writer types are as follows:

- MCP200 series
- MCP300 series (modular jack type only)
- TCP100 series
- TCP2000 series

<Connection to the Modular Jack of MCD2000>

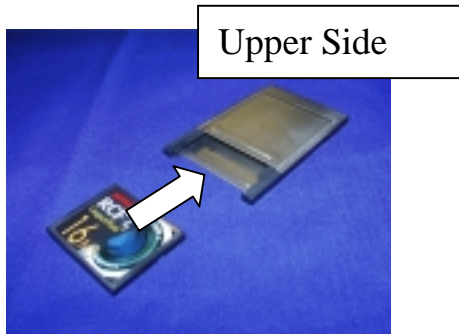
- 1) Pull out the AC cable of Visual Card reader/writer, and change the setting of interface to connect to modular jack. (Refer to the manual of each reader/writer for the detail.)
- 2) Plug the closer side to ferrite core of the curl code to Visual Card reader/writer, and the other side to the MCD2000. (Refer to the following picture)



- 3) When using memory card, open the front cover of the MCD2000, and insert the card into the PCMCIA Slot.
- 4) Pull in the AC cable of Visual Card reader/writer, and turn power switch ON. Then, make sure the wall socket is grounded.

<Insertion of Memory Card>

- 1) Turn the power of Visual Card reader/writer OFF.
- 2) Insert the Compact Flash to the adapter. (Refer to the following picture)



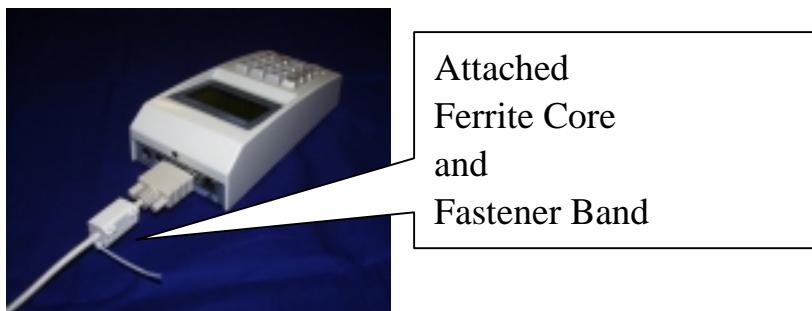
- 3) Open the front cover of the MCD2000, and insert the Compact Flash and the adapter into the PCMCIA slot correctly.
- 4) Close the front cover of the MCD2000.

<Ejection of PCMCIA Memory Card>

- 1) Turn the power of Visual Card reader/writer OFF.
- 2) Open the front cover of the MCD2000, then push the eject button and pull out the memory card.
- 3) Close the front cover of the MCD2000.

<Connection of Serial Interface (RS-232C)>

When connecting serial interface cable, always put the ferrite core, which is included in the package, to the cable. Then, bundle with the fastener band at the other side of the interface connector. (Refer to the following picture)



When you connect the serial cable to any different connector, consult your dealer in advance.

The interface assignment is as follows.

COM1

- 1) Applicable connector : DDK: 17LE-13090-27 (male)
- 2) Mating connector : D-sub 9 pin (female)
- 3) Connector terminals : See the table below

| Pin # | Signal Name | Direction | Function |
|-------|-------------|-----------|--|
| 1 | NC | - | Not connected |
| 2 | RXD | In | Received data |
| 3 | TXD | Out | Transmitted data |
| 4 | DTR | Out | Data terminal ready (Always ON after reset) |
| 5 | S-GND | - | Signal ground |
| 6 | DSR | - | Data set ready |
| 7 | RTS | Out | Request to send (Always ON after reset) |
| 8 | CTS | In | Transmission available |
| 9 | NC | - | Not connected |

Connector settle screw is #4-40UNC.

COM2, COM3

- 1) Applicable connector : JST: MD-S8100-90 (female)
- 2) Mating connector : Mini-DIN type 8 pin (male)
- 3) Connector terminals : See the table below

| Pin # | Signal Name | Direction | Function |
|-------|-------------|-----------|------------------------|
| 1 | RTS | Out | Request to send |
| 2 | CTS | In | Transmission available |
| 3 | TXD | Out | Transmitted data |
| 4 | S-GND | - | Signal ground |
| 5 | RXD | In | Received data |
| 6 | NC | - | Not connected |
| 7 | NC | - | Not connected |
| 8 | NC | - | Not connected |

Memory Card Interface

- 1) Standard: PCMCIA (ver.2.0) compatible
- 2) Card Voltage: 5/3.3V, 400mA
- 3) Recommended Applicable Card:

Flash memory card HB286008A3 (Hitachi)

Compact flash HB286008C3 (Hitachi) *1

*1. PC card adapter is required when compact flash is used.

6. TROUBLESHOOTING

Difficulties when the power is turned on.

| Symptom | | Possible cause | Remedy |
|---|------------------------------------|--|--|
| Power is not turned ON | Nothing is displayed on LCD | Curl code is not properly connected | Plug the curl code properly |
| | | The power of Visual Card reader/writer is not turned ON | Turn the power ON |
| | | MCD2000 is not adjusted properly | Turn the power OFF, and consult your technical support |
| | | MCD2000 is broken | |
| Power is tuned ON, but the MCD2000 does not work properly | The characters are disorder on LCD | MCD2000 is broken | Consult your technical support |
| | Error message is displayed on LCD | The setting is not done properly, buttry is not enough, or MCD2000 is broken | Consult your technical support |

Difficulties during the operation

| Symptom | | Possible cause | Remedy |
|--|--|--|---|
| Input is not possible | Key is not accepted | The setting is not done properly, or MCD2000 is broken | Consult your technical support |
| Peripherals, such as printer or modem, does not work | | Cable is not connected properly | Connect the cable properly |
| | | Cable is connected to different port | Connect the proper port |
| | | The power of peripheral is not turned ON | Turn the power ON |
| | | The peripheral is broken | Fix the peripheral |
| Error message is displayed on LCD | The message is about card jamming | Card is jamming inside Visual Card reader/writer | Take out the card, and use another card |
| | The message is about memory card error | Memory card is not inserted properly | Connect the memory card properly |
| | | Memory card is disorder | Replace the memory card |
| | | Different type of memory card is used | Use the suggested type of memory card |
| | The other type of message is displayed | The setting is not done properly, or MCD2000 is broken | Consult your technical support |

7. GENERAL SPECIFICATIONS

| | |
|----------------------------------|--|
| LCD Display | 64 dot (V) * 128 dot (H) graphic LCD 16 characters * 4 lines (Alphanumeric: 16x8 dot font) |
| Input-key | 16 keys (0 to 9, •, CLR, ENT, F1 to F3) Clear key top is used at •, CLR, ENT, and F1 to F3. Therefore, customers can rename the name of keys as they like. |
| PC Card Interface | 1 slot (Applicable for PCMCIA Flash ROM Card) Please refer to page 9 for recommended applicable card type. |
| External Interface | 1 port of RS-232C compatible serial interface (9-pins) 2 ports of RS-232C compatible serial interface (Mini-DIN) |
| Interface for card reader/writer | 1 port of serial interface (Also supplies electric power) |
| Internal Clock | Quartz clock with date adjustment function |
| Battery Life | Approx. 5 years (depends on operating environment) |
| Power Supply | 5V +-5%, 0.2A (supplied from STAR reader/writer) |
| External Dimensions | 106(W)*54(H)*209(D)mm |
| Weight | Approx. 0.7kg |



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