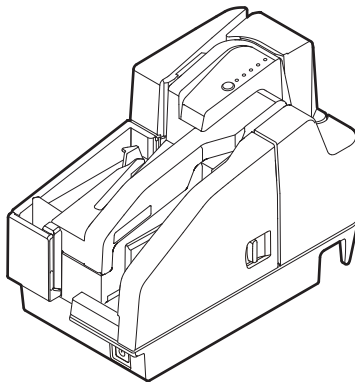


TM-S2000MJ

UV model

User's Manual



Specifications for the TM-S2000MJ

This product differs in function and equipment depending on the combinations of the following specifications.

- ❑ Number of document exit pockets: One-pocket/Two-pocket

Purpose of This Manual

This manual provides information describing basic operations to operators of the TM-S2000MJ to enable safe and correct use of the product. Read this manual carefully before using this product and store it in an accessible location.

Restriction of Use

When this product is used for applications requiring high reliability/safety, such as transportation devices related to aviation, rail, marine, automotive, etc.; disaster prevention devices; various safety devices, etc.; or functional/precision devices, etc.; you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety, such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care, etc., please make your own judgment on this product's suitability after a full evaluation.

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Important Safety Information

Key to Symbols

The symbols in this manual are identified by their level of importance, as defined below. Read the following carefully before handling the product.



WARNING:

Warnings must be followed carefully to avoid serious bodily injury.



CAUTION:

Cautions must be observed to avoid minor injury to yourself, damage to your equipment, or loss of data.



Note:

Notes have important information and useful tips on the operation of your equipment.

Safety Precautions



WARNING:

Shut down your equipment immediately if it produces smoke, a strange odor, or unusual noise. Continued use may lead to fire. Immediately unplug the equipment and contact your dealer or a Seiko Epson service center for advice.

Never attempt to repair this product yourself. Improper repair work can be dangerous.

Never disassemble or modify this product. Tampering with this product may result in injury or fire.

Be sure to use the specified power source. Connection to an improper power source may cause fire.

Do not allow foreign matter to fall into the equipment. Penetration by foreign objects may lead to fire.

If water or other liquid spills into this equipment, unplug the power cord immediately, and then contact your dealer or a Seiko Epson service center for advice. Continued usage may lead to fire.

Do not use aerosol sprayers containing flammable gas inside or around this product. Doing so may cause fire.



CAUTION:

Do not connect cables in ways other than those mentioned in this manual. Different connections may cause equipment damage and burning.

Be sure to set this equipment on a firm, stable, horizontal surface. Product may break or cause injury if it falls.

Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage or fire.

Do not place heavy objects on top of this product. Never stand or lean on this product. Equipment may fall or collapse, causing breakage and possible injury.

Before leaving the product unused for an extended period, make sure the ink cartridge is installed, turn the product off using the power button, and unplug the product to ensure safety.

Notes on Usage

- ☐ Do not open the covers during operation.
- ☐ Make sure that the product is not subjected to any impact or vibration.
- ☐ Do not put any food or drink on the product case.
- ☐ To prevent a paper jam, do not prevent paper from being ejected from the paper exit, and do not pull the paper being ejected.

Notes on Transportation

- ☐ Transport the product with an ink cartridge installed.
- ☐ Transport the product with the ASF guide and the pocket guide tucked in.
- ☐ Be sure to use the power button to turn off the product before transportation.
- ☐ Keep the product upright and horizontal during transportation.

Downloading Drivers, Utilities, and Manuals

Further product information is written in the TM-S2000MJ Technical Reference Guide.

Drivers, utilities, and manuals can be downloaded from one of the following URLs.

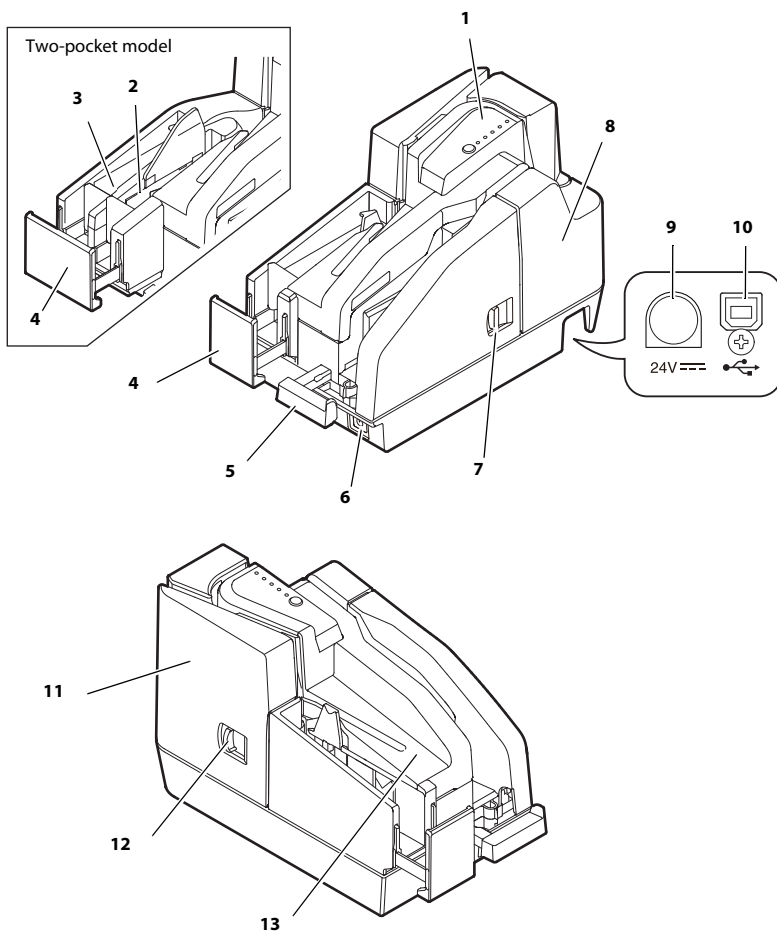
For customers in North America, go to the following web site:

<http://www.epson.com/support/>

For customers in other countries, go to the following web site:

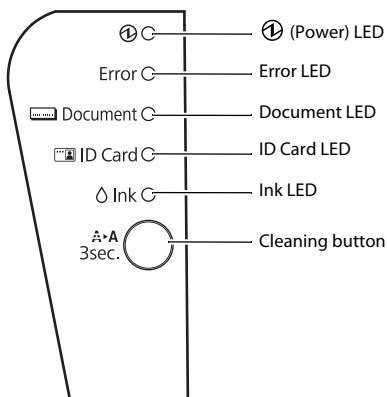
<http://download.epson-biz.com/?service=pos>

Part Names



- | | |
|--------------------------|------------------------------|
| 1. Control panel | 8. MICR cover |
| 2. Sub pocket | 9. Power supply connector |
| 3. Main pocket | 10. USB connector (Type B) |
| 4. Pocket guide | 11. Scanner cover |
| 5. ASF guide | 12. Scanner cover open lever |
| 6. Power button | 13. Ink cartridge cover |
| 7. MICR cover open lever | |

Control Panel



① (Power) LED

Comes on when the product is on.

Flashes while some operations such as turning power on/off, ink charging, or cleaning, are executed.

Note:

Be sure not to turn off the product or open the covers while ① (Power) LED is flashing.

Error LED

Comes on when the product is offline (except during self-test, and cleaning).

Flashes when an error occurs. (See “Troubleshooting” on page 18.)

Document LED

Comes on when the product is ready to process cut sheet paper in the ASF or while the product is processing cut sheet paper.

Flashes when the product is waiting for cut sheet paper insertion.

ID Card LED

Comes on when ID card is set and the product is ready to process it.

Flashes when the product is waiting for ID card insertion or removal.

Ink LED

Comes on when no ink cartridge is installed or it is time to replace the ink cartridge.

Flashes when ink is low.

Cleaning button

Pressing this button for three seconds or more starts the print head cleaning. (See “Cleaning the Print Head” on page 16.)

Setting up the Product

To set up the product, follow the steps below.

1. Installing the product (See “Installing the Product” on page 7.)
2. Connecting the USB cable (See “Connecting the USB Cable” on page 8.)
3. Connecting the AC adapter (See “Connecting the AC Adapter” on page 8.)
4. Turning on the product (See “Tuning on/off the Product” on page 9.)
5. Installing the ink cartridge (See “Installing and Replacing the Ink Cartridge” on page 9.)
6. Operation check with test print (See “Test Printing” on page 11.)

Installing the Product

When installing the product, make sure of the following:

- ☐ Leave enough space around the product to open the covers, the ASF tray, and the pocket guide.
- ☐ Do not place the product near any magnetic fields to avoid decreasing the MICR recognition rate. Especially, when you install the product near a display device, check the recognition rate of the MICR reader.
- ☐ Install the product horizontally.
- ☐ Make sure cords and foreign objects are not caught in the product.
- ☐ Remove the shock-absorbing materials in the product and fixing tape before use.

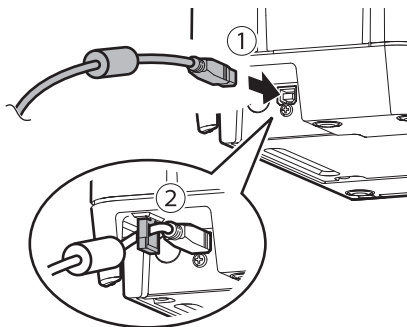
Connecting the USB Cable



Note:

Do not turn on the product before installing the necessary drivers.

1. Connect the USB cable to the USB (Type B) connector.
2. Fix the USB cable with the cable hook to prevent the USB cable from falling off.



3. Connect the USB cable to the host computer.

Connecting the AC Adapter

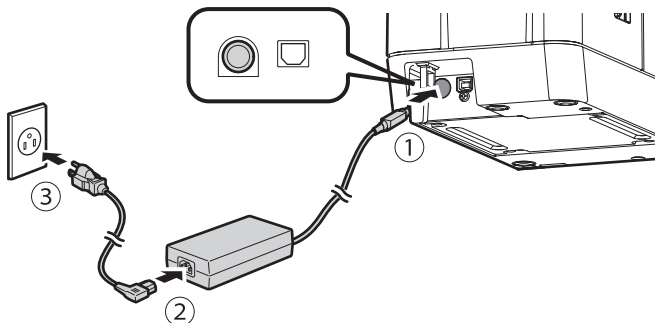
Follow the steps below to connect the AC adapter.



CAUTION:

Be sure to use the specified AC adapter [PS-180 (Model: M159D/M159E)]. Connection to an improper power source may cause fire or shock.

1. Connect the AC cable to the AC adapter.
2. Connect the DC cable of the AC adapter to the power supply connector on the product.
3. Insert the AC cable plug into a socket.



Tuning on/off the Product

To turn on the product, press the power button on the front side of the product.

To turn off the product, press the power button for 3 seconds or more until  (Power) LED goes off.



CAUTION:

When turning off the product, make sure the AC cable is connected to the product and a wall socket, and always use the power button.

Installing and Replacing the Ink Cartridge

Notes on Using the Ink Cartridge

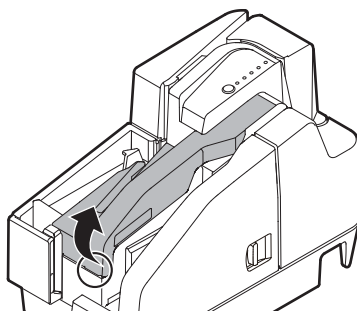
- ☐ Read the manual included with the ink cartridge before use.
- ☐ When the ink cartridge is installed for the first time, the product uses ink to prepare for printing (ink charging).
- ☐ Cartridge yields vary based on such usage environment and conditions.
- ☐ To insure print quality, some ink remains in the cartridge after the Ink LED comes on.
- ☐ Epson recommends the use of genuine Epson ink cartridges. The use of non-genuine ink may cause damage that is not covered by Epson's warranties, and under certain circumstances, may cause erratic product behavior.
- ☐ Do not touch the IC chip on the side of the ink cartridge.
- ☐ Do not remove the ink cartridge except when replacing it with a new one.
- ☐ Do not open the ink cartridge until you are ready to install it.
- ☐ After installing an ink cartridge, use it up within 6 months.
- ☐ Use the ink cartridge before the expiration date printed on its package and on the ink cartridge itself.
- ☐ Do not puncture the convex part of the bottom of the ink cartridge or remove the transparent film on the bottom of the ink cartridge.
- ☐ A used cartridge may have some ink on the convex part of the bottom of the cartridge. Avoid touching that part to keep your hands clean.
- ☐ Dispose of the used ink cartridges according to the laws or regulations in your country and region.
- ☐ To transport or store this product for a long period after once using this product, make sure the ink cartridge is installed in the product.
- ☐ This product may automatically run maintenance operations at night or when the power is turned on to maintain print quality. As a result of these maintenance operations, you may need to replace the ink cartridge. In this case, replace the ink cartridge with a new one.

Installing and Replacing the Ink Cartridge

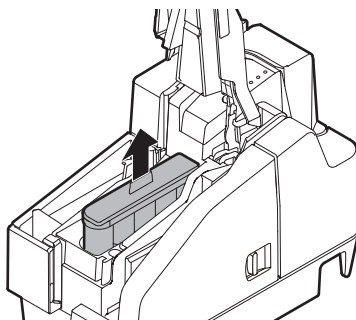
When ink is low in the ink cartridge, the Ink LED flashes. When the Ink LED as well as the Error LED come on, printing stops and it is time to change the ink cartridge.

Follow the steps below to install the ink cartridge into the product for the first time or replace it with a new one.

1. Turn on the product.
2. Put your finger under the left side of the ink cartridge cover and pull it up to open it.



3. If there is a used ink cartridge, remove the ink cartridge by pulling up the tab on the top of the cartridge while holding the product.



4. Remove a new ink cartridge from its package.



Note:

Be sure to use a new ink cartridge. Do not install a used ink cartridge.

5. Install the ink cartridge in the correct direction, and push it until it clicks in place.

6. Close the ink cartridge cover.



Note:

- When you first use the product, installing an ink cartridge begins charging the ink supply. Ink charging takes approximately four minutes and Ⓜ (Power) LED flashes during that time.
- When the ink cartridge cover is closed, cleaning of the print head starts automatically to ensure consistent print quality. During the cleaning, Ⓜ (Power) LED flashes.



CAUTION:

Never take the following actions during Ⓜ (Power) LED flashes.

- Tilting the product
- Opening the covers
- Turning off the power

Doing so will cause a significant amount of ink to be consumed.

7. Make sure Ⓜ (Power) LED turns on after flashing.

Test Printing

After the product setup or when the product is not operating correctly, you can check the product operation with test printing. If the product performs pattern printing when you follow the steps below, the product is operating normally.



Note:

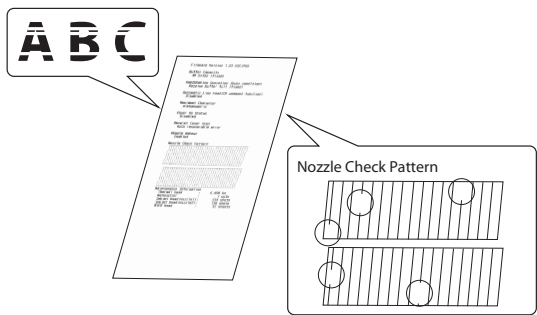
- For test printing on cut sheet paper, use the included cut sheet paper (normal paper of 70 mm {2.76"} width and 152 mm {5.98"} long or larger).
- Do not use thermal roll paper.
- If the check doesn't feed correctly, perform the self-test using 3 of the provided new cut sheets. If the printer has not been used for three months or more, please perform this self-test print procedure, and repeat until the unit feeds correctly.

Make sure all the covers are closed, and while pressing the cleaning button, turn on the product. After the Document LED flashes, set 3 pieces of cut sheet paper in the ASF. (For how to set the cut sheet paper, see "Inserting Cut Sheet Paper" on page 13.)

Test printing is completed when "**** completed****" is printed after a certain amount of printing.

When printout is faint

When printout of "Nozzle Check Pattern" is faint or uneven as the illustration below, the print head may need to be cleaned.

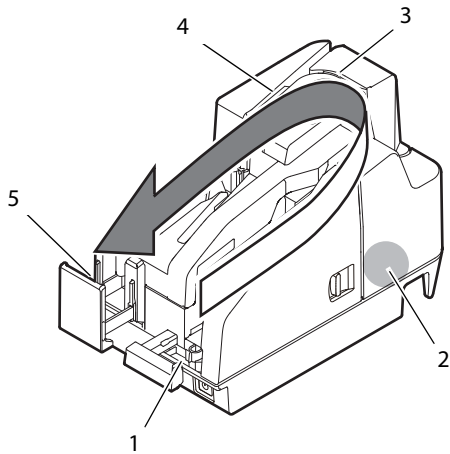


See “Cleaning the Print Head” on page 16 to clean the print head.

Processing Cut Sheet Paper

Flow of Processing Cut Sheet Paper

From cut sheet paper is inserted until ejected, the product processes it in the following order.



1. Auto sheet feeder (ASF) section: feeds the cut sheet paper.
2. MICR reader section: reads magnetic ink characters on the cut sheet paper.
3. Printer section: prints on the cut sheet paper.
4. Scanner section: scans both sides of the cut sheet paper.
5. Pocket section: ejects the processed cut sheet paper.

Inserting Cut Sheet Paper

You can put up to 100 sheets of cut sheet paper in the ASF.

 **Note:**

Use cut sheet paper (single-ply) that meets the specifications. (See “Specifications” on page 20.)

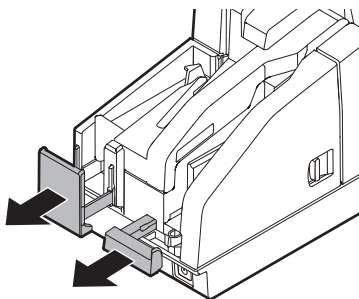
Do not insert any paper that has clips or staples.

Make sure the cut sheet paper is flat, without curls, folds, or wrinkles.

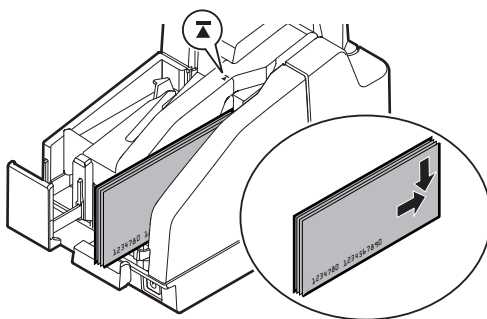
1. Pull out the ASF guide and the pocket guide appropriately for the size of the cut sheet paper to be set.

 **CAUTION:**

To avoid a paper jam, always pull out the pocket guide before processing cut sheet paper.



2. Make sure the Document LED is flashing.
3. Set the cut sheet paper in the ASF with the edges aligned to the paper setting mark  on the right side of the ink cartridge cover.



Follow the precautions below.

- Set the sheets with the face on which you want to print facing inside.
- To scan checks or read the magnetic ink characters with MICR, set the sheets with the part of the magnetic ink characters facing outside and down.
- To set multiple sheets, align them neatly on the bottom-right (insertion side) corner.

⚠ CAUTION:

If the documents are inserted without being aligned, they may not be fed at all, or a paper jam or incorrect feeding of multiple sheets may result.

4. After setting the cut sheet paper, release it immediately.

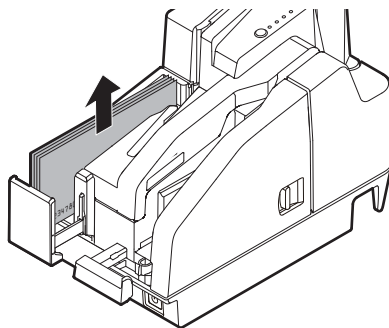
⚠ CAUTION:

Do not open the covers while processing is in progress.

Do not insert an ID card into the ID card insertion slot while processing cut sheet paper.

Ejecting Cut Sheet Paper

Remove the cut sheet paper when it is ejected.



For two-pocket models, paper may be ejected separately into the main pocket and the sub pocket depending on your application.

⚠ CAUTION:

To prevent a paper jam, do not leave more than 100 sheets in the pocket (for two-pocket models, 100 sheets in the main pocket and 50 sheets in the sub pocket) while processing cut sheet paper.

Scanning ID Cards

Follow the steps below to scan both side of an ID card.



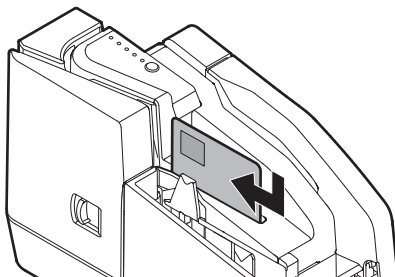
Note:

Use an ID card which meets the specifications. (See “Specifications” on page 20.)

Make sure that the ID card is flat and does not have excessive bending, cracks, folds, or embossing.

Do not touch the external terminal when using an IC card.

1. Make sure the ID Card LED is flashing.
2. Put the ID card in the insertion slot on the right side of the pocket with its photo side facing the pocket, and slide it along the bottom of the slot.



3. When the card starts feeding, release it immediately.



CAUTION:

When the ID card is feeding, a part of it comes out of the card carrier slit at the back of the product. Be sure not to block this slit.

Do not touch the ID card when it is being ejected. Doing so may cause distortion and other problems with the scanned data.

Do not open the covers while processing is in progress.

4. When the ID card is ejected and the ID Card LED flashes, remove the ID card from the slot.

Cleaning

Cleaning the Product Case

Be sure to turn off the product, and wipe the dirt off the product case with a dry cloth or a damp cloth.



CAUTION:

Never clean the product with alcohol, benzene, thinner, or other such solvents. Doing so may damage or break the parts made of plastic and rubber.

Cleaning the Print Head

When printing becomes faint or uneven although the Ink LED is not on or flashing, the print head may need to be cleaned.

In this case, press the cleaning button on the control panel for 3 seconds or more to start the print head cleaning. During the cleaning, ① (Power) LED flashes.

When ① (Power) LED comes on after flashing, the print head cleaning is completed.



CAUTION:

Never take the following actions during ① (Power) LED flashes.

- Tilting the product
- Opening the covers
- Turning off the power

Doing so will cause a significant amount of ink to be consumed.



Note:

The cleaning process uses some ink. Do not run cleaning when it is unnecessary.

Cleaning the MICR Head

When the MICR head becomes dirty, the product cannot read the magnetic ink characters normally.

Clean the MICR head every 6 months or every 100,000 passes by setting the following cleaning sheet in the same way as cut sheet paper. (See “Inserting Cut Sheet Paper” on page 13.)

KIC Team, Inc.

- Waffletechnology® MICR cleaning card (model:CS1B15WS)
- Epson Check Scanner Cleaning Kit (model:KWEPS-KCS2)



Note:

Use a cleaning sheet only one time; then discard it.

It is recommended to clean the MICR head once per week or once every 2,000 sheets for good reading results.

It is recommended to clean the scanner after cleaning the MICR head.

Cleaning the Scanner

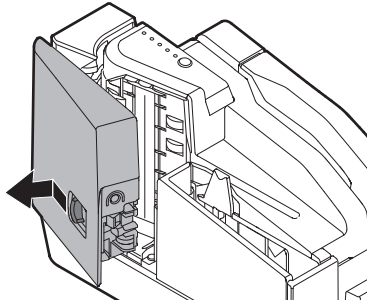
If the glass of the scanner gets soiled from ink or paper dust, the quality of scanned data may deteriorate. Clean the glass every 6 months or every 100,000 passes by following the steps below.



Note:

It is recommended to clean the scanner once per week or once every 2,000 sheets for good reading results.

1. Pull the scanner cover open lever and open the scanner cover by pulling it outward.

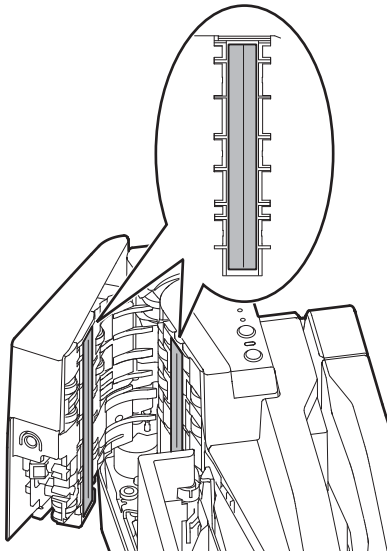


2. Lightly wipe 2 parts of glass areas with a soft, dry cloth.

⚠ CAUTION:

Do not use synthetic detergent, benzine, water, or other liquid for cleaning. Doing so may result in a stain.

When the glass of the scanner is smeared with oil, grease or other unremovable substance, wipe it with a cloth lightly dipped in alcohol. However, never apply any liquid directly to the glass of the scanner.



3. Close the scanner cover firmly until it clicks in place.

Troubleshooting

Error LED is on or flashing

- ☐ Make sure that all the covers are properly closed.
- ☐ When the Ink LED is on, see “Installing and Replacing the Ink Cartridge” on page 10 to replace the ink cartridge with a new one.
- ☐ When paper or an ID card is jammed, remove the jammed paper referring to “Paper or ID card is jammed.”
- ☐ Printing stops if the surroundings of the print head overheats, and resumes automatically when it cools.
- ☐ Turn off the product, and after 10 seconds, back on. If the Error LED is still flashing, the product may require servicing.

Printout is faint

When printout is faint, the print head may be dirty. See “Cleaning the Print Head” on page 16 to clean the print head.

Scanned data or reading result of the magnetic ink characters is not normal

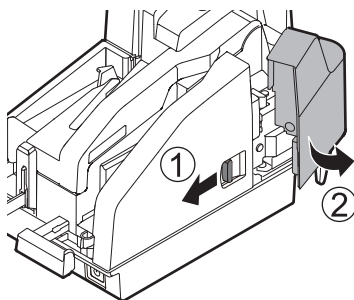
- ☐ When the scanned data is not normal, the glass of scanner may be dirty. See “Cleaning the Scanner” on page 16 to clean the glass of scanner.
- ☐ When the magnetic ink characters cannot be read normally, the MICR head may be dirty. See “Cleaning the MICR Head” on page 16 to clean the MICR head.

Paper or ID card is jammed

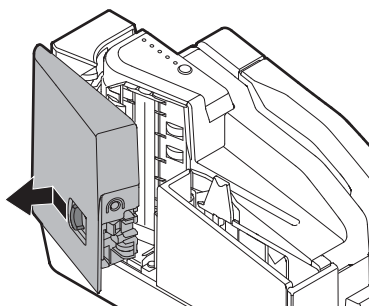
When cut sheet paper is jammed

Depending on where the paper is jammed, open the MICR cover or scanner cover, and remove the jammed paper.

To open the MICR cover, pull the MICR cover open lever and open the MICR cover by pulling it outward.

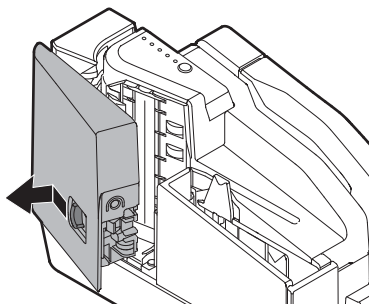


To open the scanner cover, pull the scanner cover open lever and open the scanner cover by pulling it outward.



When an ID card is jammed

1. Pull the scanner cover open lever and open the scanner cover by pulling it outward.



2. Remove the jammed ID card.
3. Close the scanner cover firmly until it clicks in place.

Specifications

		One-pocket model	Two-pocket model
Operating environment	CPU	Minimum Specification: At least a Pentium4 2.0 GHz or the equivalent Recommended Specification: At least IntelCore2Duo 1.8GHz or the equivalent	
	Memory	Minimum Specification: At least 512 MB or above the minimum operating system requirement Recommended Specification: At least 1 GB or above the minimum operating system requirement	
	HDD	Free space of more than 30 MB (Before installing the driver)	
	Interface	USB2.0 Hi-speed	
Processing speed		max. 200 dpm	
Cut sheet paper unit	Printing method	Line ink jet with ink jet head (360 nozzles in 2 lines)	
	Paper dimensions	Size: 60 to 120 mm (H) × 120 to 235 mm (L) {2.36" to 4.72" (H) × 4.72" to 9.25" (L)} Thickness: 0.075 to 0.2 mm {0.003" to 0.008"} (only single-ply can be used)	
Scanner unit	Scanning method	Contact image sensor (CIS)	
	Paper dimensions	Same as above cut sheet paper	
	ID card specifications	Reading media: ISO/IEC7810 compliant (without embossed effect) Size: 53.92 to 54.18 mm (H) × 85.47 to 85.90 mm (L) {2.12" to 2.13" (H) × 3.36" to 3.38" (L)} Thickness: 0.5 + 0.84 mm {0.02" + 0.03"}	
MICR recognition method		Magnetic bias	
Auto sheet feeding capacity		100 sheets or fewer (when paper thickness is 0.13 mm {0.005"} or less) ^{*1}	
Pocket storage		100 sheets or fewer (when paper thickness is 0.13 mm {0.005"} or less)	Main pocket: 100 sheets or fewer (when paper thickness is 0.13 mm {0.005"} or less) ^{*1} Sub pocket: 50 sheets or fewer (when paper thickness is 0.13 mm {0.005"} or less) ^{*2}
Ink cartridge		Exclusive ink cartridge: SJIC18(K), Color of ink: Black	
Interface		USB (Type B) [compliance: USB 2.0, communication speed: Hi-Speed (480 Mbps)/Full-Speed (12 Mbps)] ^{*3}	
Power supply		AC adapter: PS-180 (Model: M159D/M159E), Supply voltage: DC + 24 V ± 7%	
Temperature	Operating	10 to 35°C {50 to 95°F}	
	Storage	When packed for shipping (ink not charged): -20 to 60°C {-4 to 140°F} When ink is charged: -20 to 40°C {-4 to 104°F}	
Humidity	Operating	20 to 80% RH	
	Storage	When packed for shipping (ink not charged): 5 to 85% RH When ink is charged: 25 to 85% RH	
Overall dimensions (H × W × D)		177 × 142 × 263.8 (374.8) mm {6.97" × 5.59" × 10.39" (14.76")} ^{*4}	177 × 167 × 298.8 (409.8) mm {6.97" × 6.58" × 11.76" (16.13")} ^{*4}
Weight (mass)		Approx. 4.5 kg {9.9 lb}	Approx. 4.5 kg {9.9 lb}

dpm: documents per minute, Mbps: megabits per second

*1: The total thickness of the stacked sheets must be 13 mm {0.51"} or less (including uneven sheets due to folds, etc.)

*2: The total thickness of the stacked sheets must be 6.5 mm {0.26"} or less (including uneven sheets due to folds, etc.)

*3: When using a Full-Speed USB interface, the product performance declines.

*4: The values in the brackets are when the pocket guide is fully pulled out.