

THERMAL PRINTER

TSP2000 SERIES

***USER'S MANUAL
MODE D'EMPLOI
BEDIENUNGSANLEITUNG
MANUALE DI ISTRUZIONI***



**Federal Communications Commission
Radio Frequency Interference
Statement**

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

For compliance with the Federal Noise Interference Standard, this equipment requires a shielded cable.

This statement will be applied only for the printers marketed in U.S.A.

**Statement of
The Canadian Department of Communications
Radio Interference Regulations**

This digital apparatus does not exceed the Class A limits for radio noise emissions from digital apparatus set out in the Radio Interference Regulations of the Canadian Department of Communications.

Le présent appareil numérique n'émet pas de bruits radioélectriques dépassant les limites applicables aux appareils numériques de la classe A prescrites dans le Règlement sur le brouillage radioélectrique édicté par le ministère des Communications du Canada.

The above statement applies only to printers marketed in Canada.

**CE
Manufacturer's Declaration of Conformity**

EC Council Directive 89/336/EEC of 3 May 1989

This product, has been designed and manufactured in accordance with the International Standards EN 50081-1/01.92 and EN 50082-1/01.92, following the provisions of the Electro Magnetic Compatibility Directive of the European Communities as of May 1989.

EC Council Directive 73/23/EEC and 93/68/EEC of 22 July 1993

This product, has been designed and manufactured in accordance with the International Standards EN 60950, following the provisions of the Low Voltage Directive of the European Communities as of July 1993.

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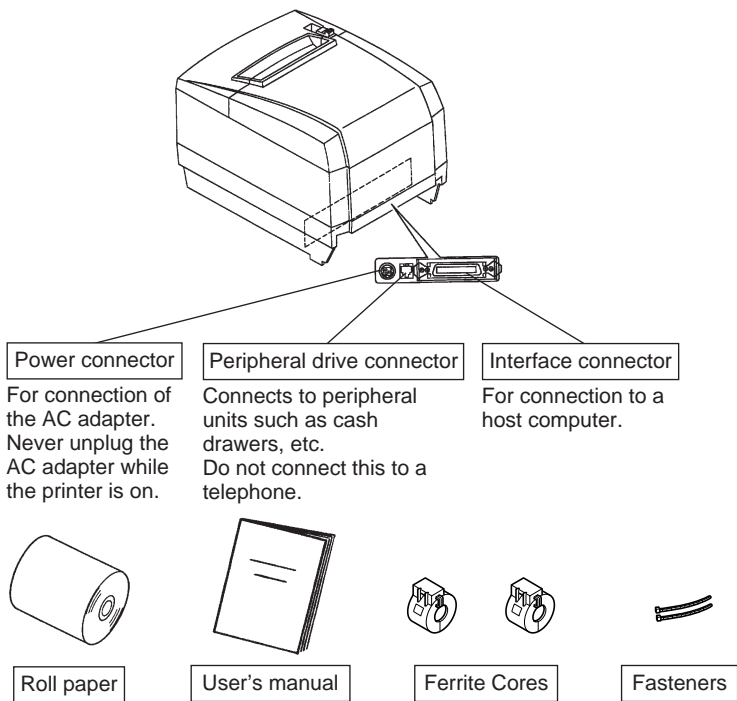
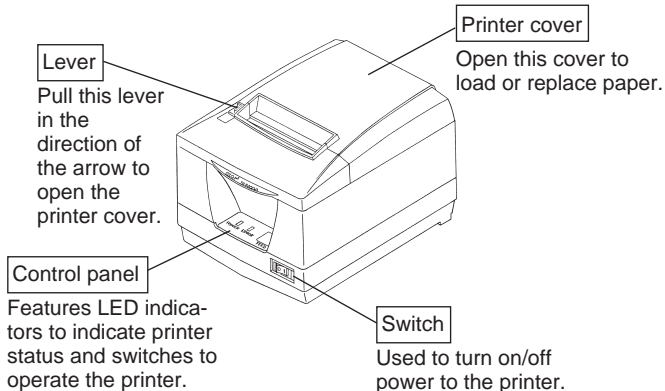
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Please access the following URL

http://www.star-micronics.co.jp/service/frame_sp_spr_e.htm

for the lastest revision of the manual.

1. Parts Identification and Nomenclature



Choosing a place for the printer

Before actually unpacking the printer, you should take a few minutes to think about where you plan to use it. Remember the following points when doing this.

- ✓ Choose a firm, level surface where the printer will not be exposed to vibration.
- ✓ The power outlet you plan to connect to for power should be nearby and unobstructed.
- ✓ Make sure that the printer is close enough to your host computer for you to connect the two.
- ✓ Make sure that the printer is not exposed to direct sunlight.
- ✓ Make sure that the printer is well away from heaters and other sources of extreme heat.
- ✓ Make sure that the surrounding area is clean, dry, and free of dust.
- ✓ Make sure that the printer is connected to a reliable power outlet. It should not be on the same electric circuit as copiers, refrigerators, or other appliances that cause power spikes.
- ✓ Make sure that the room where you are using the printer is not too humid.

2. Consumable Parts and AC Adapter

When consumable parts have run out, use those specified in the table below. Make sure that the AC adapter specified in the table is used.

Use of consumable parts or AC adapter which are not specified in the table may result in damage to the printer, fire or electric shock.

| Parts Name | Specifications |
|-----------------------------------|--|
| Roll paper | Thermal paper Thickness: 0.06 to 0.08 mm Width: $80_{-1.0}^0$ mm Outer roll diameter: $\phi 90$ mm or less Core outer diameter: $\phi 18_{0}^{+0.5}$ mm Core inner diameter: $\phi 12 \pm 0.5$ mm Recommended paper (normal type paper) TF50KS-E2C (Nippon Paper Industries) P220AG (Mitsubishi Paper Mills Limited) Recommended paper (medium image stability paper) PD-160R-N (Oji Paper Co., Ltd.) Recommended paper (high image stability paper) AFP235 (Mitsubishi Paper Mills Limited) |
| AC adapter (Option) UP06021240 | Input: 100 to 240 V AC, 50-60 Hz Output: 24 V DC $\pm 5\%$, 2.5 A |

Important!

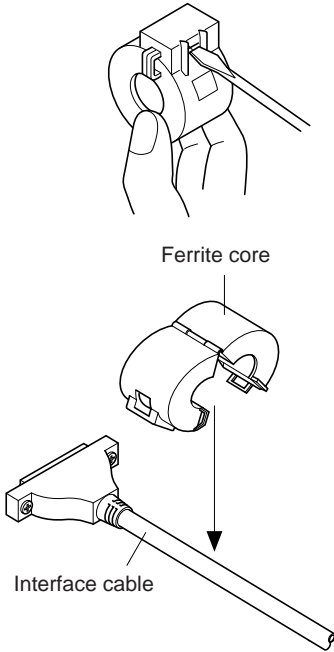
Access the following URL for the information of the recommended paper.
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3. Connecting Cables and AC Adapter

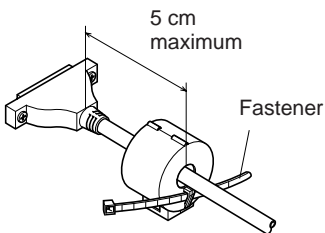
3-1. Interface Cable

3-1-1. Ferrite Core Installation

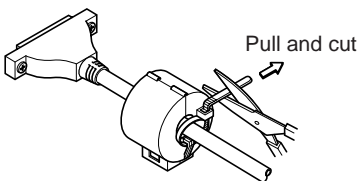
- (1) Affix the ferrite core onto the cable as shown in the illustration below.



- (2) Pass the fastener through the ferrite core.



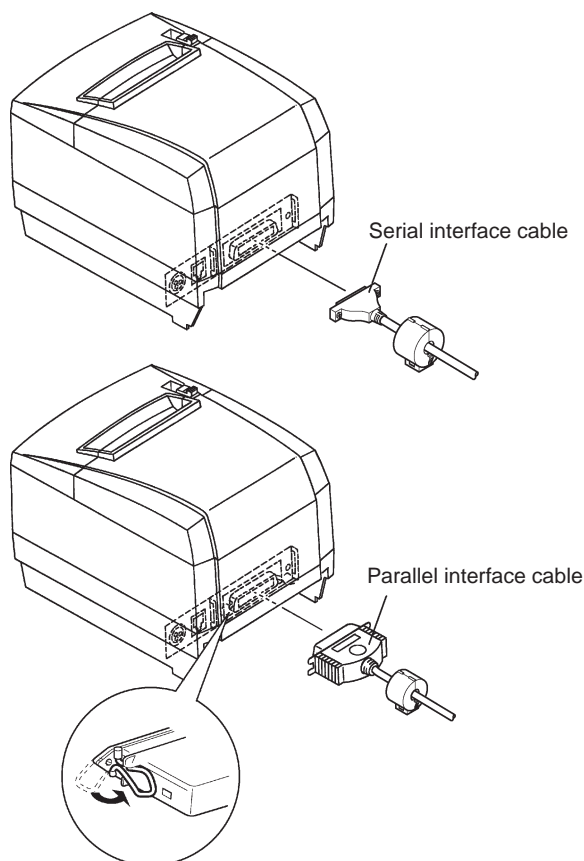
- (3) Loop the fastener around the cable and lock it. Use scissors to cut off any excess.



3-1-2. Connecting the Interface Cable

Note: Before connecting/disconnecting the interface cable, make sure that power to the printer and all the devices connected to the printer is turned off. Also make sure the power cable plug is disconnected from the AC outlet.

- (1) Connect the interface cable to the connector on the rear panel of the printer.
- (2) In the case of a serial interface, tighten the connector screws. In the case of a parallel interface, fasten the connector clasps.



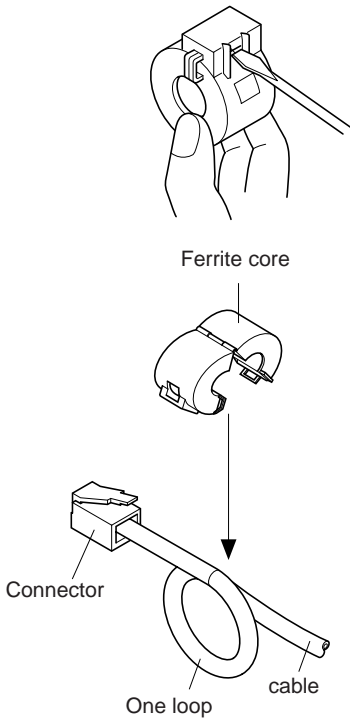
3-2. Connecting to a Peripheral Unit

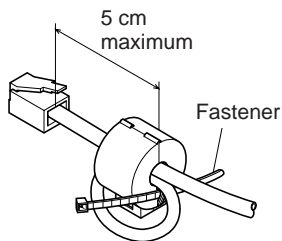
You can connect a peripheral unit to the printer using a modular plug. The following describes how to install the ferrite core and make the actual connection. See “Modular plug” on page 98 for details about the type of modular plug that is required. Note that this printer does not come with a modular plug or wire, so it is up to you to obtain one that suits your needs.

Important!

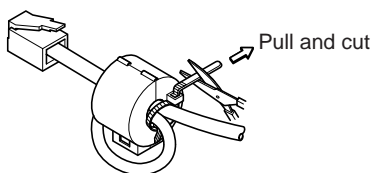
Make sure that the printer is turned off and unplugged from the AC outlet and that the computer is turned off before making connections.

- (1) Affix the ferrite core onto the modular wire as shown in the illustration below.





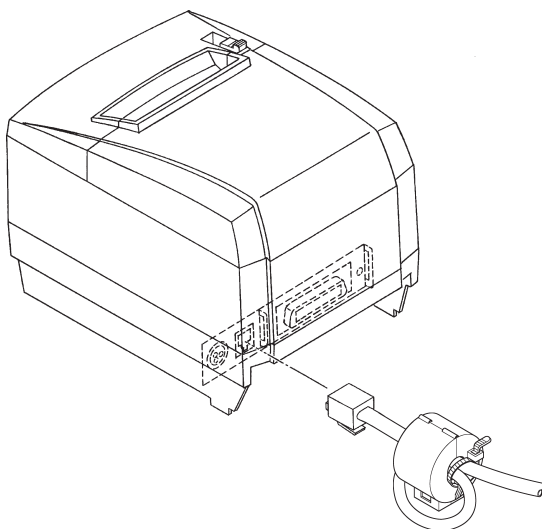
- (2) Pass the fastener through the ferrite core.



- (3) Loop the fastener around the cable and lock it. Use scissors to cut off any excess.
- (4) Plug one end of the modular cable into the modular jack of the peripheral.
- (5) Remove the modular jack cover from the back of the printer and plug the other end of the modular cable into the jack of the printer.

Note: Before connecting/disconnecting the peripheral drive cable, make sure that power to the printer and all the devices connected to the printer is turned off. Also make sure the power cable plug is disconnected from the AC outlet.

- (1) Connect the peripheral drive cable to the connector on the rear panel of the printer.



3-3. Connecting the Optional AC Adapter

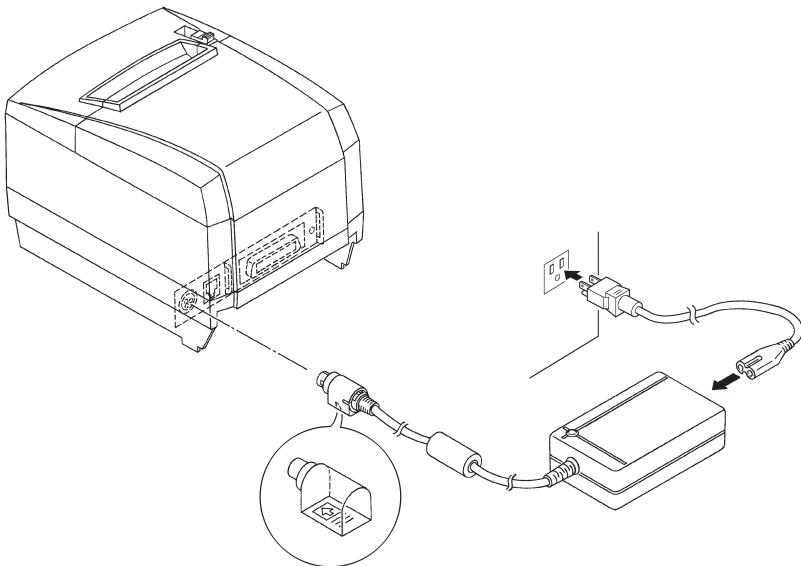
Note: Before connecting/disconnecting the AC adapter, make sure that power to the printer and all the devices connected to the printer is turned off. Also make sure the power cable plug is disconnected from the AC outlet.

(1) Connect the AC adapter to the power cable.

Note: Use only the standard AC adapter and power cable.

(2) Connect AC adapter to the connector on the printer.

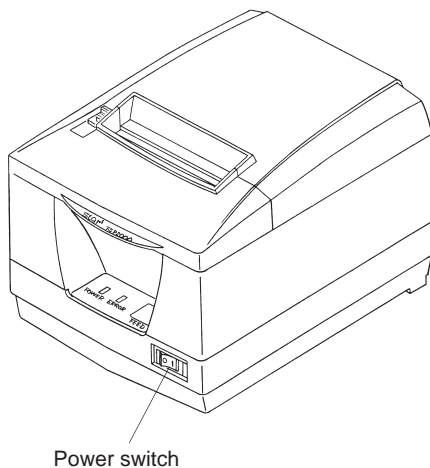
(3) Insert the power cable plug into an AC outlet.



3-4. Turning Power On

Make sure that the AC adapter has been connected as described in 3-3.

- (1) Set the power switch located on the front of the printer to on.
The POWER lamp on the control panel will light up.



Important!

We recommend that you unplug the printer from the power outlet whenever you do not plan to use it for long periods. Because of this, you should locate the printer so that the power outlet it is plugged into is nearby and easy to access.

4. Control Panel

4-1. PAPER FEED Switch

Each time this switch is pressed, the paper feeds on line. When it is kept depressed, the paper feeds continuously.





Note: This switch will be ineffective if no paper is loaded.

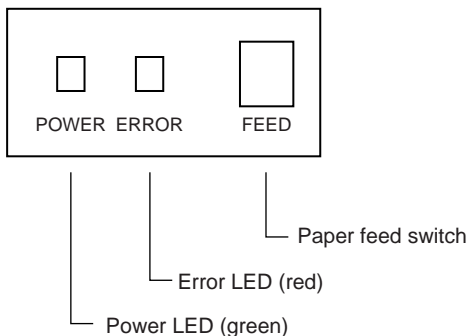
4-2. POWER LED (green LED)

This LED lights up when the power switch is set to on and power is supplied to the printer.

4-3. ERROR LED (red LED)

This LED lights up or blinks when any of the following errors occurs.

| | Error LED flashing pattern | Error description |
|----------------|---|----------------------------------|
| Light on |  | Printer cover is open |
| Light flashing | | Paper has run out |
| Light on |  | Paper is about to run out |
| Light flashing | | |
| Light on |  | Abnormal head temperature (90°C) |
| Light flashing | | Malfunction in head connection |
| Light on |  | Automatic cutter error |
| Light flashing | | |



5. Loading Paper

5-1. Loading New Roll Paper

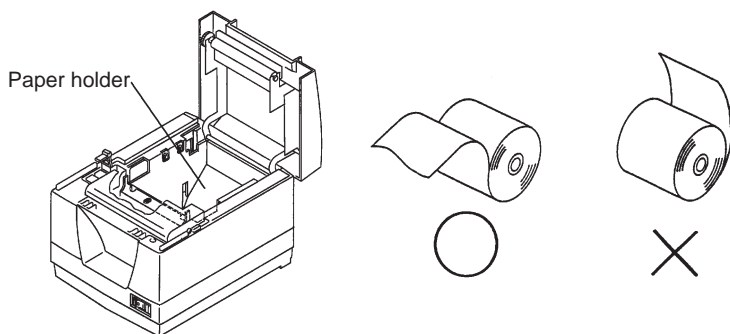
(1) Pull the lever toward you to open the printer cover.

Note: Make sure that the lever is pulled until it stops at the stopper. If the lever is not pulled up to the stopper, the printer cover may not open.

(2) Peel the adhesive end off the paper.

Note: Make sure that the entire adhesive area is removed, since no printing can be performed on that area.

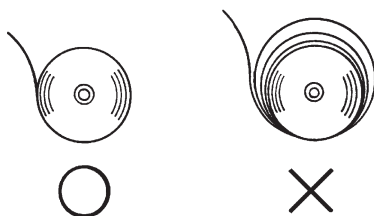
(3) Position the paper in the direction as shown below and place it into the paper holder gently.



Note 1: Make sure that the paper is not deformed. If a roll paper like those shown below is used, a malfunction may result.

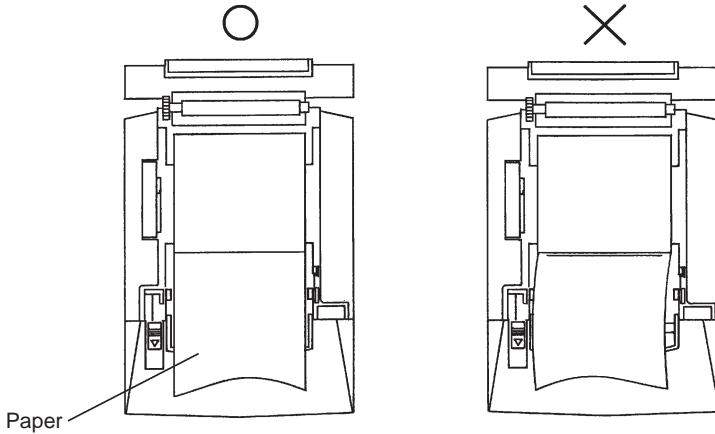


Note 2: If the paper sags as shown below after it has been loaded into the paper holder, make the paper taut.

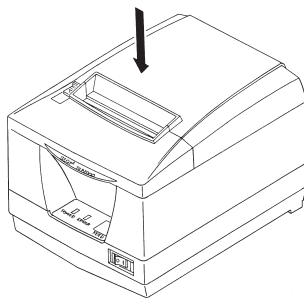


(4) Make sure that the paper is positioned straight, then close the printer cover gently.

Note 1: Make sure that the paper is positioned straight. If the printer cover is closed with the paper skewed as shown below, a paper jam may result.



Note 2: Lock the printer cover by pressing on the center of the cover (indicated by an arrow in the figure below). If any part of the cover other than the center is pressed, the cover may not be locked properly. This may sometimes disables printing.



- (5) If the power switch is set to OFF, set it to ON to turn on the printer. Make sure that the ERROR LED is not lit.
- Note:** While the ERROR LED is lit, the printer will not accept any commands such as the print command, so make sure that the printer cover is locked properly.
- (6) Once the printer cover is locked, the paper end will be ejected and the end cut off automatically.

5-2. Removing Remaining Paper

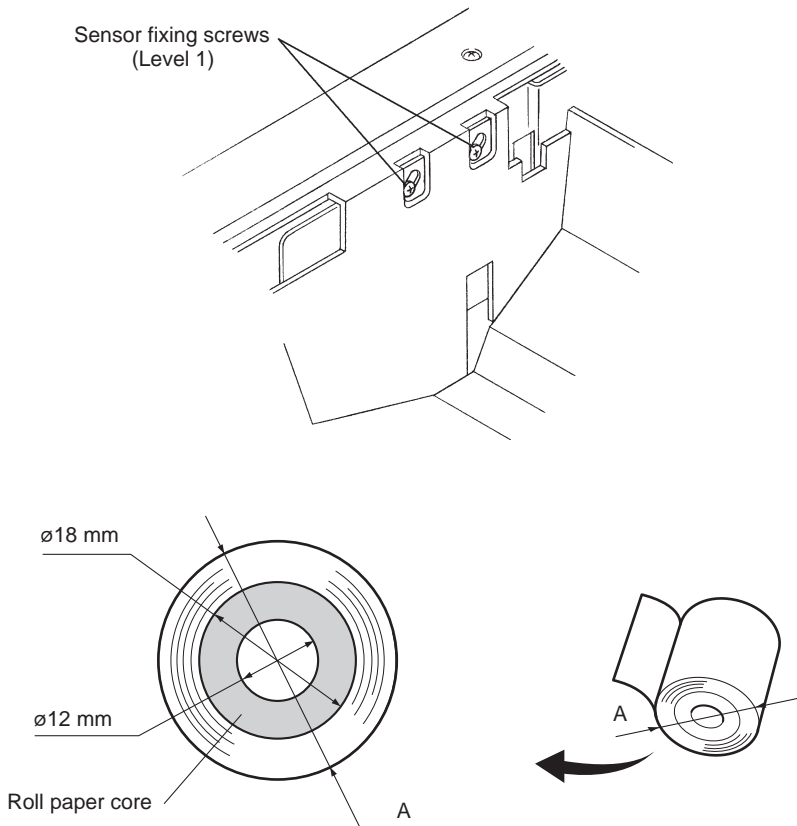
- (1) Pull the lever toward you to open the printer cover.
- Note:** Make sure that the lever is pulled until it stops at the stopper. If the lever is not pulled up to the stopper, the printer cover may not open.
- (2) Remove the remaining paper.

6. Near-end Sensor

This printer is equipped with a sensor that detects when a roll of paper is near the end. Read the following if you are going to use this sensor.

- (1) Pull the lever in the direction indicated on it, and then open the printer cover.
- (2) Loosen the two sensor fixing screws.
- (3) Slide the sensor unit up or down, and then adequately tighten its screws.

The following table shows the diameter of the paper that would remain on the roll in order for the sensor, installed at the specified sensor fixing screw position, to detect it.



(4) Insert the paper roll, and check that the sensor correctly detects that the paper roll is about to run out.

Error LED LED goes out when there is paper.
LED flashes when the paper is about to run out.

| Diameter of remaining paper A | Screw position |
|-------------------------------|------------------|
| Approx. \varnothing 22 mm | Level 1 (bottom) |
| Approx. \varnothing 26 mm | Level 2 (top) |

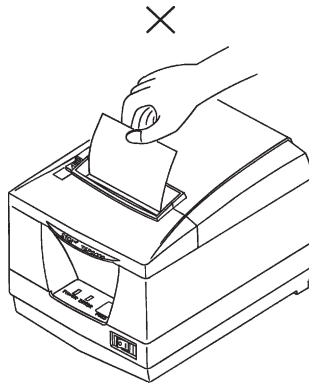
Cautions

- 1) The factory setting is level 1.*
 - 2) Always use a paper roll with a core that has an inside diameter of 12 mm and an outside diameter of 18 mm in order to ensure proper detection of the remaining paper amount.*
-

7. Preventing and Clearing Paper Jams

7-1. Preventing Paper Jams

The paper should not be touched during ejection and before it is cut. Pressing or pulling the paper during ejection may cause a paper jam, paper cutting failure or line feed failure. Do not open the printer cover during cutting.



7-2. Removing Paper Jam

If a paper jam occurs, clear it as described below.

- (1) Set the power switch to off to turn off power to the printer.
- (2) Pull the lever toward you to open the printer cover.

Note: Make sure that the lever is pulled until it stops at the stopper. If the lever is not pulled up to the stopper, the printer cover may not open.

- (3) Remove the jammed paper.

Note: Take care not to damage the printer when removing the jammed paper. Since it is easy to damage the thermal head in particular, take care not to touch it.

- (4) Position the roll paper straight and close the printer cover gently.
- Note 1:** Make sure that the paper is positioned straight. If the printer cover is closed with the paper skewed, a paper jam may result.
- Note 2:** Lock the printer cover by pressing on the center of the cover. If any part of the cover other than the center is pressed, the cover may not be locked properly. This may sometimes disable printing.
- (5) Set the power switch to on to turn on power to the printer. Make sure that the ERROR LED is not lit.
- Note:** While the ERROR LED is lit, the printer will not accept any commands such as the print command, so make sure that the printer cover is locked properly.

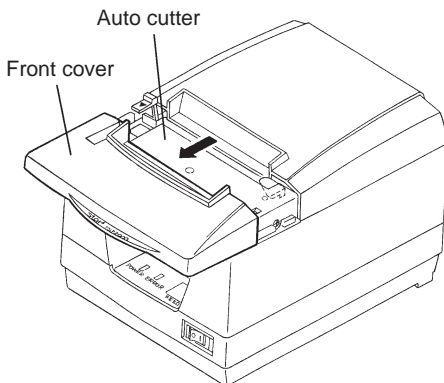
7-3. Releasing a Locked Cutter

If the auto cutter locks up or fails to cut the paper, follow the steps below.

Caution

Since working on the cutter may be dangerous, be sure to turn off the printer first.

- (1) Set the power switch to OFF to turn off the printer.
 - (2) Slide off the front cover to reveal the auto cutter.
 - (3) Remove any jammed paper.
- Note:** Be careful not to damage the printer while removing any jammed paper. Since the thermal print head is particularly sensitive, be sure not to touch it.

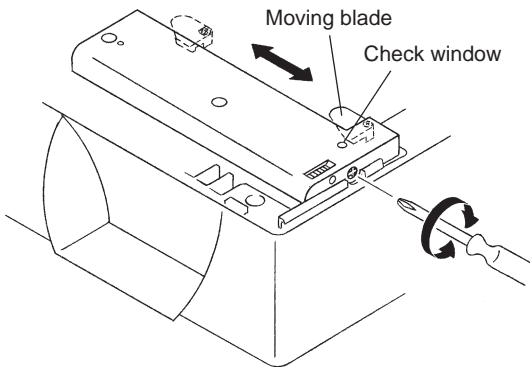


- (4) If the cutter's moving blade is protruding, use a Phillips screwdriver to turn the Phillip-head screw and return the moving blade to its home position. When the check window is completely white, the moving blade is at its home position.

Note 1: Do not apply extreme pressure to the moving blade.

Note 2: If the moving blade is protruding too much, the printer cover cannot be opened. Trying to open the printer cover may damage the cutter.

- (5) Open the printer cover, remove any jammed paper, and then re-install the paper roll.
- (6) Install the front cover, and then set the power switch to ON.



8. Test Print Method

8-1. Producing a Test Print

To start test print, set the power switch to off, set the paper in place, then set the power switch to on while holding down the FEED switch. Release the switch within three seconds.

When a certain amount of printing is performed, the printer will cut the paper and stop automatically.

8-2. Hexadecimal Dump

This prints data sent from the host in hexadecimal format and in the corresponding ASCII characters. This is useful for debugging applications and for analyzing scrambled characters.

Starting and stopping Hex Dump printing

While holding down the Feed switch, turn the power on. Hold down the switch for five seconds; Hex Dump will begin operation when the switch is released. If the switch is released within three seconds, the Self Test will run.

Stop Hex Dump by turning the power off.

The received data is printed as follows.

| | | |
|---------|-------------------------|------------|
| 000000 | 20 21 22 23 24 25 26 27 | !"#\$%&' |
| 000008 | 28 29 2A 2B 2C 2D 2E 2F | ()*+, -./ |
| 000010 | 30 31 32 33 34 35 36 37 | 01234567 |
| Address | Hexadecimal data | ASCII data |

9. Periodical Cleaning

Printed characters may become partially unclear due to accumulated paper dust and dirt. To prevent such a problem, paper dust collected in the paper holder and paper transport section and on the surface of the thermal head must be removed periodically. Such cleaning is recommended to be carried out once a month.

9-1. Cleaning the Thermal Head

To remove blackish dust collected on the surface of the thermal head, wipe it with alcohol (IPA).

Note: The thermal head is easy to damage, so clean it gently with a soft cloth. Take sufficient care not to scratch it when cleaning it.

9-2. Cleaning the Paper Holder

Use a soft cloth to remove paper dust from the paper holder and paper transport section.

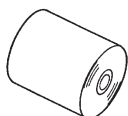
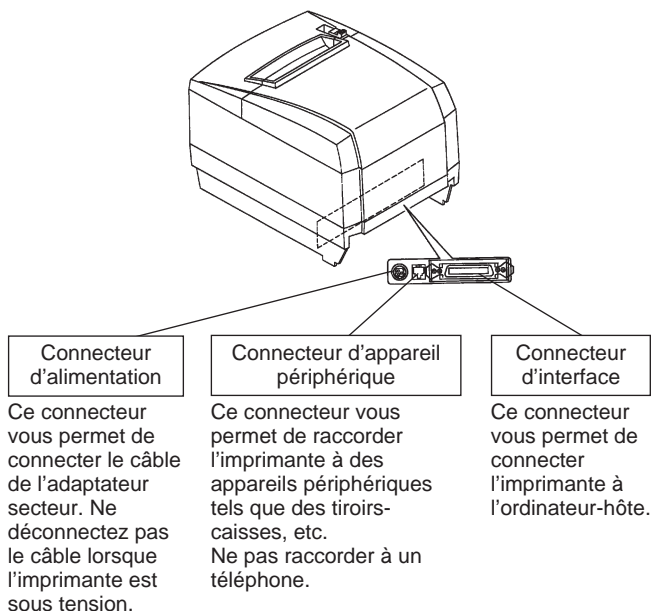
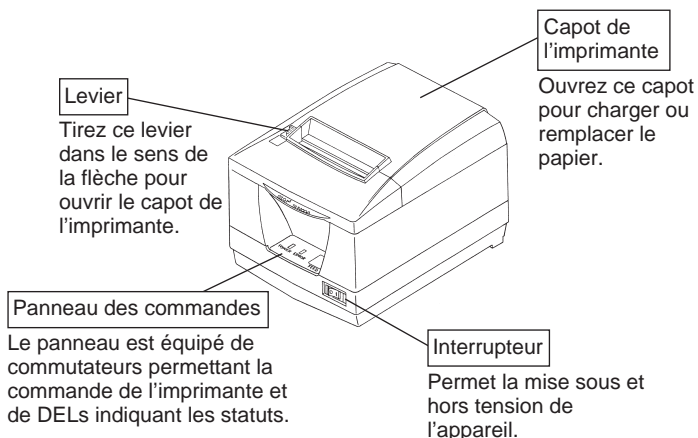
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L'appendice n'est pas traduit.

Pour obtenir la dernière version de ce manuel, consultez l'adresse URL suivante:
http://www.star-micronics.co.jp/service/frame_sp_spr_e.htm.

1. Identification des pièces et nomenclature



Rouleau de papier



Mode d'emploi



Tore de ferrite



Attache

Emplacement de l'imprimante

Avant de déballer l'imprimante, déterminez l'emplacement où vous souhaitez l'installer. Veuillez observer les points ci-dessous lors de votre choix.

- ✓ Choisissez une surface stable et de niveau sur laquelle l'imprimante ne sera exposée à aucune vibration.
- ✓ Assurez-vous que l'emplacement dispose d'une prise secteur proche et d'accès aisé.
- ✓ Assurez-vous que la distance entre l'imprimante et l'ordinateur-hôte vous permet de les raccorder aisément.
- ✓ Assurez-vous que l'imprimante n'est pas exposée directement aux rayons du soleil.
- ✓ Tenez l'imprimante à l'écart des sources de chaleur importante, telles que les appareils de chauffage, etc.
- ✓ Assurez-vous que le lieu où vous souhaitez installer l'imprimante est propre, sec et n'est pas poussiéreux.
- ✓ Assurez-vous que la prise secteur à laquelle vous raccordez l'imprimante délivre une tension stable. Evitez de raccorder l'imprimante à la prise secteur d'un circuit alimentant de gros consommateurs de courant, tels qu'un photocopieur, réfrigérateur, etc.
- ✓ Assurez-vous que le lieu où vous installez l'imprimante n'est pas excessivement humide.

2. Consommables et adaptateur secteur

Il convient d'utiliser exclusivement les types de papier figurant dans le tableau ci-dessous. Veuillez également à utiliser l'adaptateur secteur qui figure dans le tableau.

L'utilisation d'un type de papier et d'adaptateur ne figurant pas dans le tableau risque d'endommager l'imprimante, de causer un incendie ou une décharge électrique.

| Nom de pièce | Caractéristiques |
|--|---|
| Rouleau de papier | Papier thermique Épaisseur: 0,06 à 0,08 mm Largeur: $80 \begin{smallmatrix} 0 \\ -1,0 \end{smallmatrix}$ mm Diamètre extérieur du rouleau : $\varnothing 90$ mm ou moins Diamètre extérieur du support de rouleau : $\varnothing 18 \begin{smallmatrix} +0,5 \\ 0 \end{smallmatrix}$ mm Diamètre intérieur du support de rouleau : $\varnothing 12 \pm 0,5$ mm Papier conseillé (pour impression thermique normale) TF50KS-E2C (Nippon Paper Industries) P220AG (Mitsubishi Paper Mills Limited) Papier conseillé (pour stockage de durée moyenne) PD-160R-N (Oji Paper Co., Ltd.) Papier conseillé (pour stockage de longue durée) AFP235 (Mitsubishi Paper Mills Limited) |
| Adaptateur secteur (optionnel) UP06021240 | Entrée: 100 à 240 V CA, 50-60 Hz Sortie: 24 V CC ± 5 %, 2,5 A |

Attention!

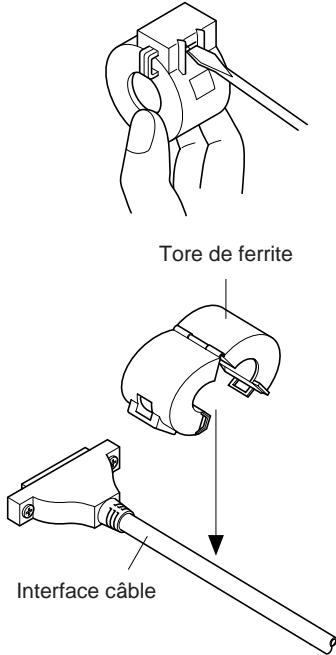
Pour obtenir des informations concernant le papier recommandé, consultez l'adresse URL suivante : <http://www.star-micronics.co.jp/>.

3. Câbles de connexion et adaptateur secteur

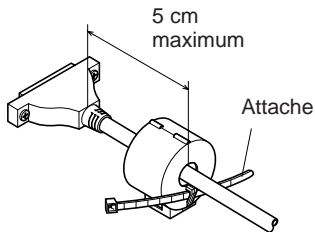
3-1. Câble d'interface

3-1-1. Installation du tore de ferrite

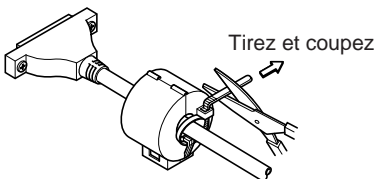
- (1) Fixez le tore de ferrite sur le câble comme illustré.



- (2) Passez l'attache dans le tore de ferrite.



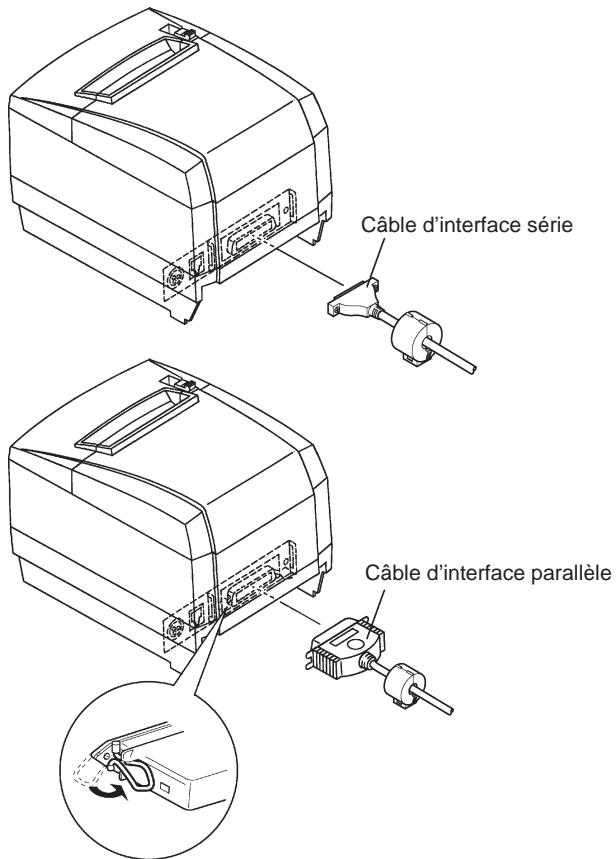
- (3) Passez l'attache autour du tore de ferrite et serrez-la. Coupez l'extrémité de l'attache à l'aide de ciseaux.



3-1-2. Connexion du câble d'interface

Remarque: Avant de connecter ou déconnecter le câble d'interface, veillez à ce que l'imprimante et tous les appareils qui y sont connectés soient hors tension. Veillez également à débrancher le câble d'alimentation de la prise secteur.

- (1) Connectez le câble d'interface à la borne figurant sur le panneau arrière de l'imprimante.
- (2) Dans le cas d'une interface série, resserrez les vis du connecteur. Dans le cas d'une interface parallèle, fixez le connecteur avec les fermoirs.



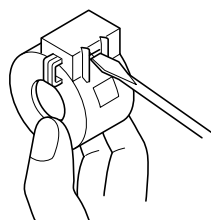
3-2. Raccordement d'un appareil périphérique

Vous pouvez raccorder un appareil périphérique à l'imprimante à l'aide d'une fiche modulaire. Nous expliquons ci-dessous comment installer le tore de ferrite et faire le raccordement proprement dit. Pour les détails sur le type de fiche modulaire à utiliser, reportez-vous à la page 98. Notez que le fil ou la fiche modulaires ne sont pas fournis avec l'imprimante. Vous devrez donc vous les procurer.

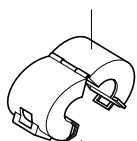
Attention!

Assurez-vous que l'imprimante est hors tension, qu'elle est débranchée de la prise secteur et que l'ordinateur est hors tension avant d'effectuer les connexions.

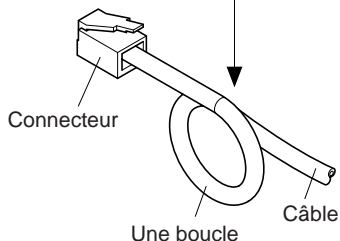
- (1) Fixez le tore de ferrite sur le câble modulaire comme illustré ci-dessous.

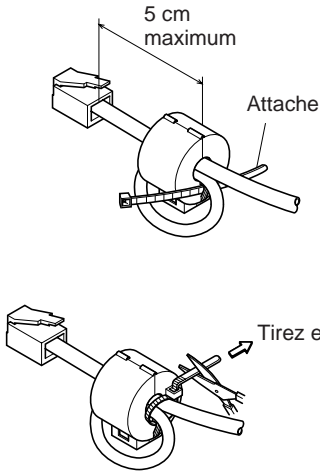


Tore de ferrite



- (2) Passez l'attache dans le tore de ferrite.

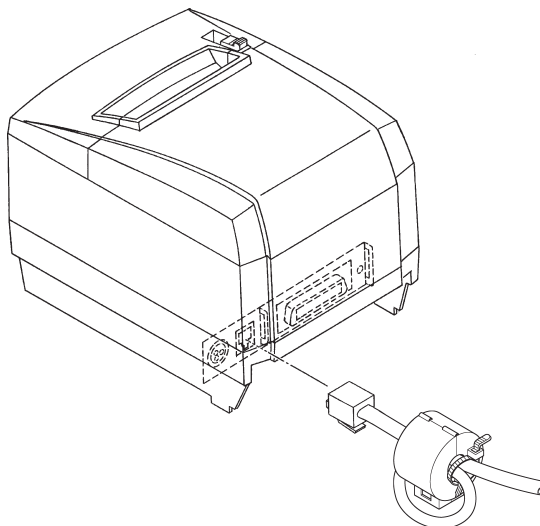




- (3) Passez l'attache autour du tore de ferrite et serrez-la. Coupez l'extrémité de l'attache à l'aide de ciseaux.
- (4) Raccordez une extrémité du câble modulaire à la prise modulaire du périphérique.
- (5) Retirez le cache de prise modulaire au dos de l'imprimante, et raccordez l'autre extrémité du câble modulaire dans la prise de l'imprimante.

Remarque: Avant de connecter ou déconnecter le câble du pilote de périphérique, veillez à ce que l'imprimante et tous les appareils qui y sont connectés soient hors tension. Veillez également à débrancher le câble d'alimentation de la prise secteur.

- (1) Connectez le câble de pilote de périphérique à la borne figurant sur le panneau arrière de l'imprimante.



3-3. Connexion de l'adaptateur secteur optionnel

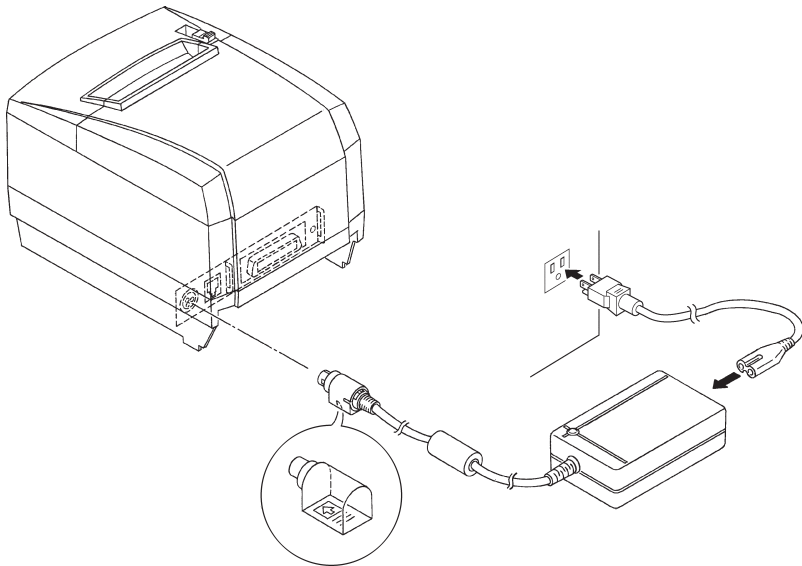
Remarque: Avant de connecter ou déconnecter l'adaptateur secteur, veillez à ce que l'imprimante et tous les appareils qui y sont connectés soient hors tension. Veillez également à débrancher le câble d'alimentation de la prise secteur.

(1) Connectez l'adaptateur secteur au câble d'alimentation.

Remarque: Utilisez exclusivement l'adaptateur secteur et le câble d'alimentation destinés à l'imprimante.

(2) Connectez l'adaptateur secteur à la borne de l'imprimante.

(3) Branchez la prise du câble d'alimentation à la prise secteur.

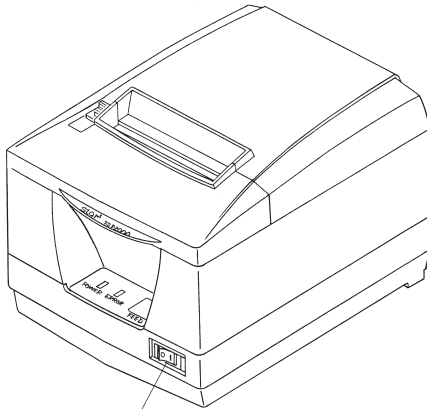


3-4. Mise sous tension de l'imprimante

Assurez-vous d'avoir bien connecté l'adaptateur secteur comme décrit à la section 3-3.

(1) Placez l'interrupteur d'alimentation, situé à l'avant de l'imprimante, sur la position sous tension.

La DEL POWER s'allume au panneau des commandes.



Interrupteur
d'alimentation

Attention!

Nous vous recommandons de débrancher l'imprimante du secteur lorsque vous ne comptez pas l'utiliser pendant une période prolongée. Par ailleurs, veuillez lors de l'installation à ce que la prise secteur alimentant l'imprimante soit proche et d'accès facile.

4. Panneau des commandes

4-1. Touche d'avance de papier PAPER FEED

Le papier avance d'une ligne à chaque pression sur cette touche. Une pression continue sur la touche fera avancer le papier de façon continue.



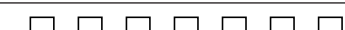

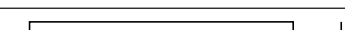

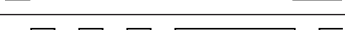

Remarque: Une pression sur cette touche n'a d'effet que si du papier est chargé dans l'imprimante.

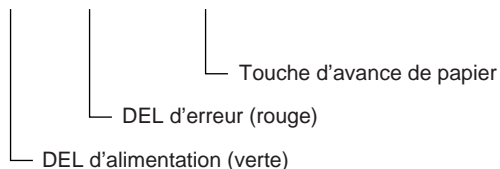
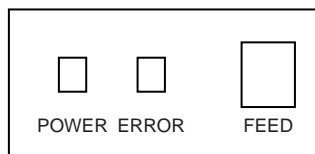
4-2. DEL d'alimentation POWER (DEL verte)

Cette DEL s'allume lorsque l'interrupteur d'alimentation est placé sur hors tension et que l'appareil est alimenté par le secteur.

4-3. DEL d'erreur ERROR (DEL rouge)

Cette DEL s'allume ou clignote lorsqu'une des erreurs énumérées ci-dessous se produit.

| | Mode d'éclairage de la DEL d'erreur | Description de l'erreur |
|-------------|---|---|
| Allumée |  | Capot d'imprimante ouvert |
| Clignotante |  | Papier épuisé |
| Allumée |  | Le papier est presque épuisé |
| Clignotante |  | |
| Allumée |  | Température anormale de la tête d'imprimante (90°C) |
| Clignotante |  | Dysfonctionnement dans la connexion de la tête |
| Allumée |  | Erreur de l'unité de découpage automatique |
| Clignotante |  | |



5. Chargement du papier

5-1. Chargement d'un rouleau de papier neuf

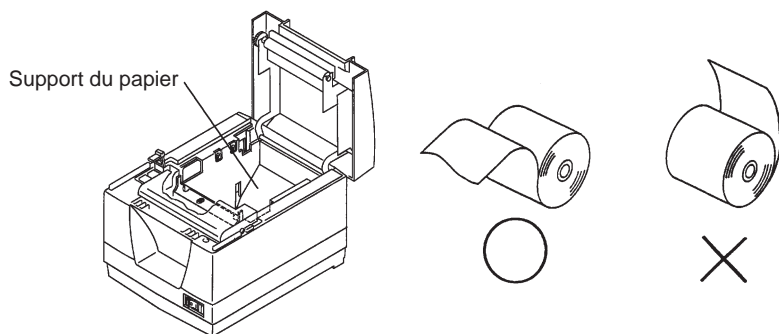
(1) Tirez le levier vers le bas afin d'ouvrir le capot de l'imprimante.

Remarque: Veillez à tirer le levier tout à fait jusqu'à sa butée. Si le levier n'est pas tiré tout à fait, le capot pourrait ne pas s'ouvrir.

(2) Retirez l'adhésif de l'extrémité du papier.

Remarque: Veillez à bien retirer l'intégralité de l'adhésif. En effet, l'impression ne peut s'effectuer sur celui-ci.

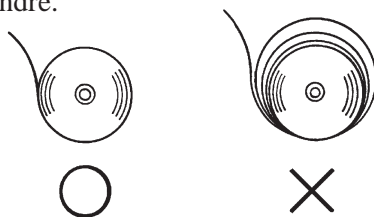
(3) Placez le papier dans la direction indiquée ci-dessous et insérez-le avec soin dans le support du papier.



Remarque 1: Veillez à ce que le rouleau de papier soit en bon état. Si le rouleau est déformé comme illustré ci-dessous, des problèmes risquent de survenir.

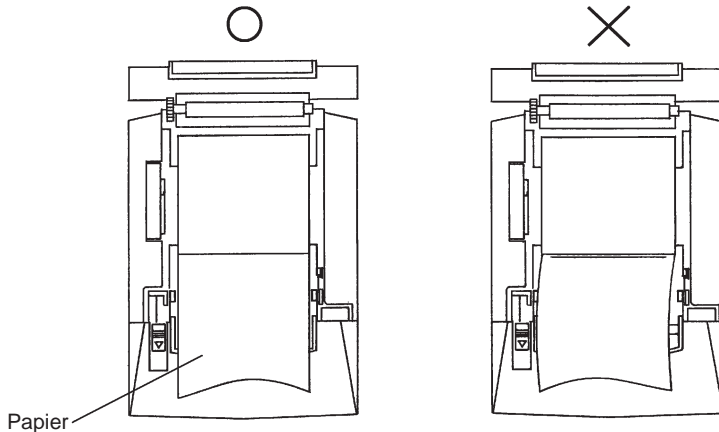


Remarque 2: Si le papier se déroule comme illustré ci-dessous après son chargement dans le support de papier, il convient de le tendre.

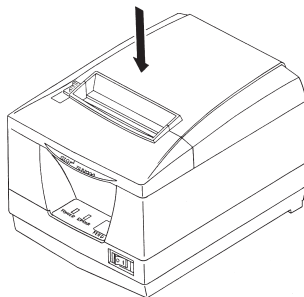


(4) Veillez à ce que le papier soit placé bien droit, puis refermez doucement le capot de l'imprimante.

Remarque 1: Le papier doit être placé bien droit. Si vous refermez le capot de l'imprimante alors que le papier est de travers (voir illustration), un bourrage peut se produire.



Remarque 2: Verrouillez le cache de l'imprimante en appuyant à l'endroit du capot repéré par la flèche dans l'illustration ci-dessous. Si vous appuyez à tout autre endroit, le capot risque de ne pas être verrouillé, ce qui pourrait empêcher l'impression.



(5) Si l'interrupteur d'alimentation est sur la position hors tension OFF, réglez-le sur la position sous tension ON pour mettre l'imprimante sous tension. Assurez-vous que la DEL ERROR n'est pas allumée.

Remarque: Tant que la DEL ERROR est allumée, l'imprimante n'accepte aucune commande. Il faut donc veiller à ce que le capot de l'imprimante soit verrouillé.

(6) Une fois que le capot d'imprimante est verrouillé, l'extrémité du papier sera éjectée et coupée automatiquement.

5-2. Retrait du papier

(1) Tirez le levier vers le bas afin d'ouvrir le capot de l'imprimante.

Remarque: Veillez à tirer le levier tout à fait jusqu'à sa butée. Si le levier n'est pas tiré tout à fait, le capot pourrait ne pas s'ouvrir.

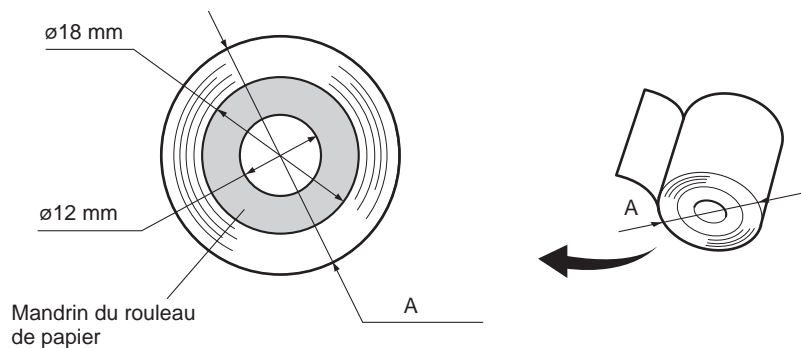
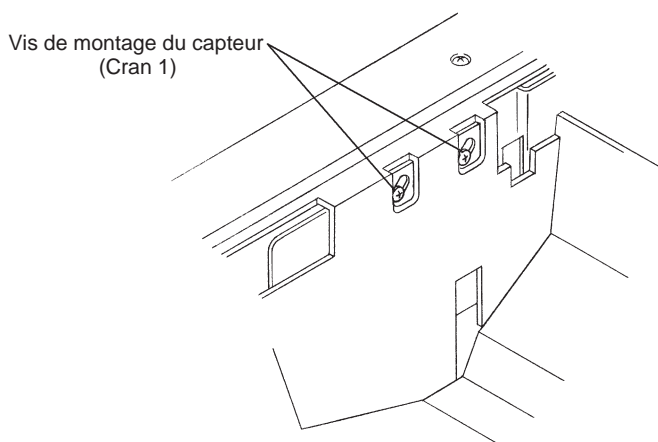
(2) Retirez le papier.

6. Capteur de fin de rouleau

Cette imprimante est équipée d'un capteur détectant l'approche de la fin de rouleau. Pour savoir comment utiliser cette fonction, lire les instructions ci-dessous.

- (1) Tirez sur le levier dans le sens indiqué dessus, puis ouvrez le capot de l'imprimante.
- (2) Desserrez les deux vis de montage du capteur.
- (3) Faites glisser le capteur vers le haut ou vers le bas, puis serrez correctement ses vis.

Le tableau suivant indique le diamètre du papier devant rester sur le rouleau afin que le capteur installé dans la position spécifiée de la vis de montage du capteur puisse le détecter.



(4) Insérez le rouleau de papier, puis vérifiez que le capteur identifie correctement le moment où le papier va être épuisé.

DEL d'erreur La DEL s'éteint quand il y a du papier.

La DEL clignote quand le papier va être épuisé.

| Diamètre du papier restant A | Position de la vis |
|------------------------------|--------------------|
| Environ \varnothing 22 mm | Cran 1 (bas) |
| Environ \varnothing 26 mm | Cran 2 (haut) |

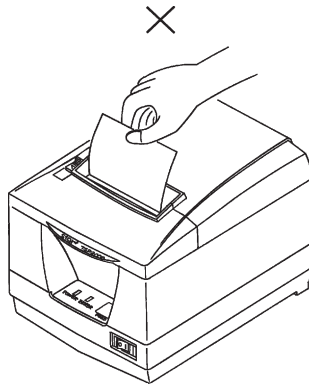
Attention

- 1) Le capteur de fin de rouleau est positionné sur le cran 1 à la sortie d'usine.*
 - 2) Afin d'assurer une détection correcte de la quantité de papier restant sur le rouleau, toujours employer un rouleau de papier dont les diamètres interne et externe du rouleau de carton correspondent respectivement à 12 mm et 18 mm.*
-

7. Prévention et correction de bourrages de papier

7-1. Prévention des bourrages de papier

Il convient de ne jamais toucher le papier pendant son éjection et avant qu'il soit coupé. Appuyer ou tirer sur le papier pendant son éjection risque de provoquer un bourrage, des problèmes de coupure ou d'avance de ligne. Ne pas ouvrir le capot d'imprimante pendant la coupure.



7-2. Correction de bourrages de papier

En cas de bourrage de papier, procédez comme suit afin d'y remédier :

- (1) Mettez l'appareil hors tension.
- (2) Tirez le levier tout à fait vers le bas afin d'ouvrir le capot de l'imprimante.
Remarque: Veillez à tirer le levier jusqu'à sa butée. Si le levier n'est pas tiré tout à fait, le capot pourrait ne pas s'ouvrir.
- (3) Retirez le papier bloqué.
Remarque: Veillez à ne pas endommager l'imprimante lors du retrait du papier bloqué.
Veillez particulièrement à ne pas toucher la tête d'impression thermique en raison de sa fragilité.

(4) Veillez à insérer le rouleau de papier tout droit et refermez avec soin le capot de l'imprimante.

Remarque 1: Le papier doit être placé bien droit. Si vous refermez le capot de l'imprimante alors que le papier est de travers (voir illustration), un bourrage peut se produire.

Remarque 2: Verrouillez le cache de l'imprimante en appuyant à l'endroit du capot repéré par la flèche dans l'illustration ci-dessous. Si vous appuyez à tout autre endroit, le capot risque de ne pas être verrouillé, ce qui pourrait empêcher l'impression.

(5) Mettez l'imprimante sous tension. Assurez-vous que la DEL ERROR n'est pas allumée.

Remarque: Tant que la DEL ERROR est allumée, l'imprimante n'accepte aucune commande. Il faut donc veiller à ce que le capot de l'imprimante soit verrouillé.

7-3. Libération d'une unité de découpage bloquée

Si l'unité de découpage automatique se bloque ou ne coupe pas le papier, suivez les étapes ci-dessous.

Attention

Le travail sur l'unité de découpage étant dangereux, n'oubliez pas de mettre avant tout l'imprimante hors tension.

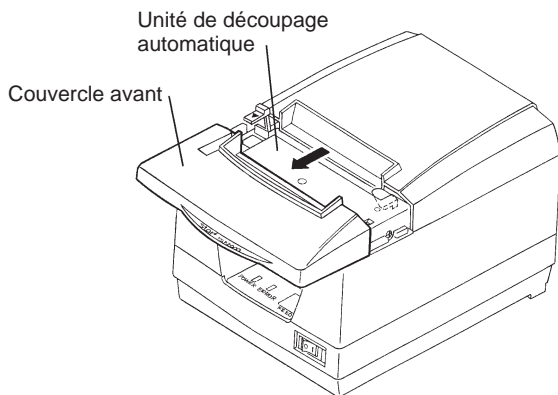
(1) Réglez l'interrupteur d'alimentation sur la position hors tension OFF pour mettre l'imprimante hors tension.

(2) Faites glisser le couvercle avant pour dégager l'unité de découpage automatique.

(3) Enlevez le papier coincé.

Remarque: Faites attention à ne pas endommager l'imprimante pendant que vous enlevez le papier coincé.

La tête d'impression thermique étant particulièrement sensible, veillez à ne pas la toucher.



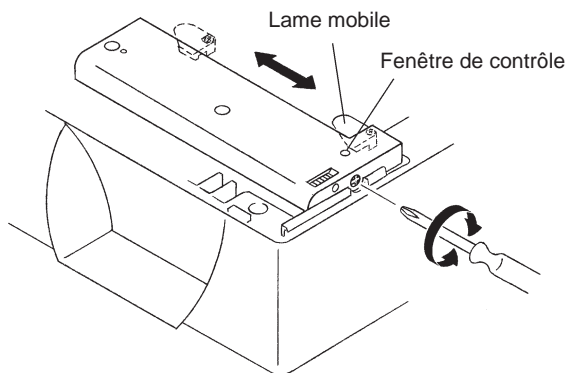
- (4) Si la lame mobile de l'unité de découpage dépasse, utilisez un tournevis cruciforme pour tourner la vis cruciforme et ramener la lame dans sa position d'origine.

Quand la fenêtre de contrôle est complètement blanche, la lame mobile est dans sa position d'origine.

Remarque 1: N'appliquez pas de pression excessive sur la lame mobile.

Remarque 2: Si la lame mobile dépasse trop, le capot de l'imprimante ne pourra pas être ouvert. Vous risquez d'endommager l'unité de découpage automatique en essayant d'ouvrir le capot de l'imprimante.

- (5) Ouvrez le capot de l'imprimante, enlevez le papier coincé, puis remettez le rouleau de papier en place.
- (6) Installez le couvercle avant, puis réglez l'interrupteur d'alimentation sur la position sous tension.



8. Test d'impression

8-1. Exécution d'un test d'impression

Avant d'effectuer un test d'impression, commencez par mettre l'imprimante hors tension, insérez le papier, puis remettez l'imprimante sous tension tout en maintenant la touche d'avance FEED enfoncée. Relâchez la pression sur la touche dans les trois secondes qui suivent.

Après avoir imprimé pendant un certain temps, l'imprimante coupe le papier et s'arrête automatiquement.

8-2. Vidage hexadécimal

Cette commande entraîne l'impression des données envoyées par l'hôte dans le format hexadécimal et dans les caractères ASCII correspondants. Cette fonction est pratique pour le débogage des applications et l'analyse des caractères embrouillés.

Lancement et arrêt de l'impression de vidage hexadécimal

Tout en maintenant la touche d'avance de papier enfoncée, mettez l'appareil sous tension. Maintenez la touche enfoncée pendant cinq secondes ; le vidage hexadécimal commencera quand vous relâcherez la pression sur la touche. Si vous relâchez la pression sur la touche dans les trois secondes, l'autotest commencera.

Arrêtez le vidage hexadécimal en mettant l'appareil hors tension.

Les données reçues sont imprimées comme suit :

| | | |
|---------|-------------------------|---------------|
| 000000 | 20 21 22 23 24 25 26 27 | !"#\$%&' |
| 000008 | 28 29 2A 2B 2C 2D 2E 2F | ()*+, -./ |
| 000010 | 30 31 32 33 34 35 36 37 | 01234567 |
| Adresse | Données hexadécimales | Données ASCII |

9. Nettoyage

Les caractères imprimés pourraient devenir partiellement illisibles en raison de l'accumulation de la poussière de papier et de crasse. Afin de prévenir ce genre de problème, il convient de nettoyer régulièrement la poussière qui s'accumule sur le support de papier, les passages du papier et la surface de la tête d'impression. Il est recommandé d'effectuer ce nettoyage une fois par mois.

9-1. Nettoyage de la tête d'impression

Nettoyez la poussière noirâtre accumulée sur la surface de la tête d'impression à l'alcool isopropylique.

Remarque: La tête d'impression thermique est fragile, il convient donc de procéder avec précaution. Prenez soin de ne pas la griffer.

9-2. Nettoyage du support de papier

Nettoyez la poussière de papier accumulée sur le support de papier et sur les passages du papier à l'aide d'un chiffon doux.

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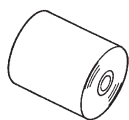
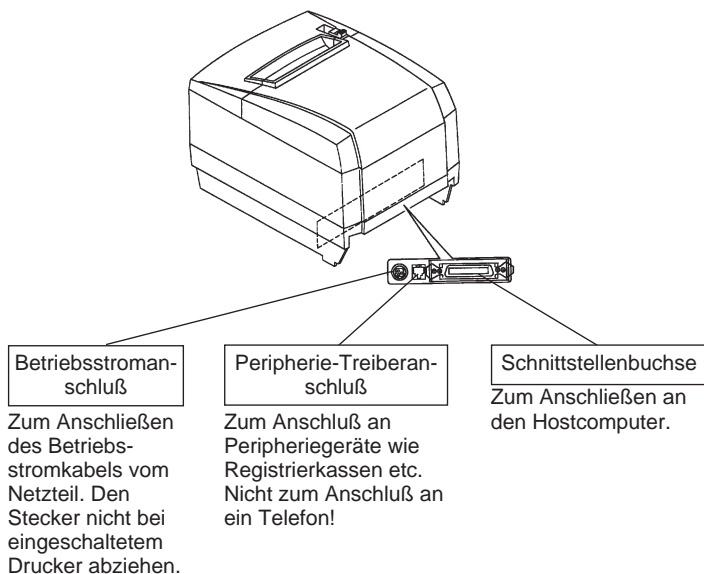
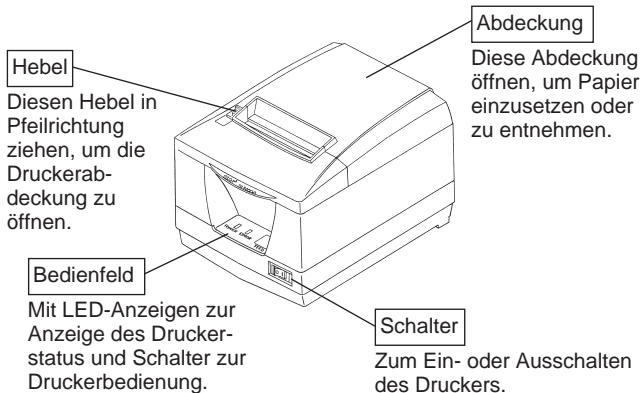
Der Anhand dieser Bedienungsanleitung ist nur in englischer Sprache.

Bitte wenden Sie sich an die folgende Internet-Address:

http://www.star-micronics.co.jp/service/frame_sp_spr_e.htm,

wenn Sie die neueste Revision dieses Handbuches lesen möchten.

1. Beschreibung und Bezeichnung der Geräteteile



Rollenpapier



Bedienungsanleitung



Ferritkern



Befestigungsband

Wahl eines Aufstellungsorts für den Drucker

Bevor Sie den Drucker auspacken, sollten Sie einige Minuten damit verbringen, einen geeigneten Aufstellungsort auszusuchen. Denken Sie dabei an die folgenden Punkte:

- ✓ Den Drucker auf einem flachen, aber festen Untergrund aufstellen, wo keine Vibrationen vorhanden sind.
- ✓ Die verwendete Steckdose soll in der Nähe und frei zugänglich sein.
- ✓ Sicherstellen, daß der Drucker nahe genug am Computer ist, um die Geräte mit dem Druckerkabel verbinden zu können.
- ✓ Sicherstellen, daß der Drucker vor direktem Sonnenlicht geschützt ist.
- ✓ Sicherstellen, daß der Drucker ausreichend weit von Heizkörpern entfernt steht.
- ✓ Dafür sorgen, daß die Umgebung des Druckers sauber, trocken und staubfrei ist.
- ✓ Sicherstellen, daß der Drucker an eine einwandfreie Stromzufuhr angeschlossen ist. Er sollte nicht an Steckdosen angeschlossen werden, an denen bereits Geräte mit möglichen Netzstörungen wie Kopierer, Kühlschränke u.a. angeschlossen sind.
- ✓ Den Drucker nicht an Orten mit hoher Luftfeuchtigkeit aufstellen.

2. Verbrauchsteile und Netzteil

Wenn die Verbrauchsteile verbraucht sind, besorgen Sie Ersatz entsprechend der unten gezeigten Tabelle.

Verwendung von Verbrauchsteilen oder Netzteilen, die nicht den unten aufgeführten Beschreibungen entsprechend, kann zu Schäden am Drucker, Bränden oder elektrischen Schlägen führen.

| Bezeichnung | Beschreibung |
|---------------------------------|--|
| Rollenpapier | Thermopapier Dicke: 0,06 bis 0,08 mm Breite: $80 \begin{smallmatrix} 0 \\ -1,0 \end{smallmatrix}$ mm Rollen-Außendurchmesser: $\phi 90$ mm oder weniger Kern-Außendurchmesser: $\phi 18 \begin{smallmatrix} +0,5 \\ 0 \end{smallmatrix}$ mm Kern-Innendurchmesser: $\phi 12 \pm 0,5$ mm Empfohlenes Papier (normales Thermopapier) TF50KS-E2C (Nippon Paper Industries) P220AG (Mitsubishi Papier Mills Ltd.) Empfohlenes Papier (Papier mit mittlerer Bildstabilität) PD-160R-N (Oji Papier Co.) Empfohlenes Papier (Papier mit langer Haltbarkeit) AFP235 (Mitsubishi Papier Mills Ltd.) |
| Netzteil (option) UP06021240 | Eingang: 100 bis 240 V WS, 50-60 Hz Ausgang: 24 V GS ± 5 %, 2,5 A |

Wichtig!

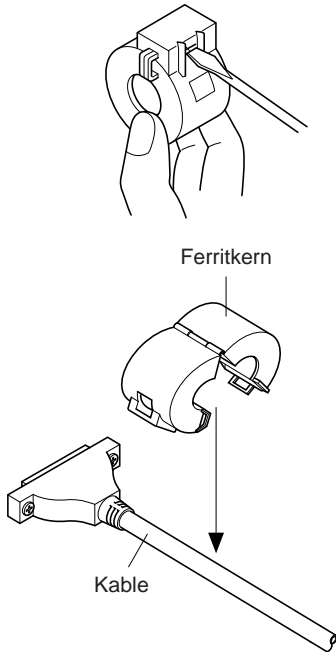
Empfehlungen zu den zu verwendenden Papiersorten sind im Internet bei der folgenden URL erhältlich: <http://www.star-micronics.co.jp/>

3. Anschlußkabel und Netzteil

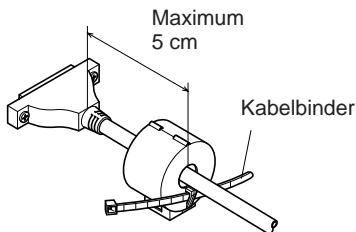
3-1. Schnittstellenkabel

3-1-1. Anbringen des Ferritkerns

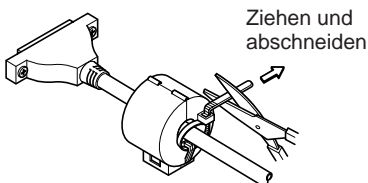
- (1) Befestigen Sie den Ferritkern am Kabel, wie das in der folgenden Abbildung gezeigt wird.



- (2) Führen Sie den Kabelbinder durch den Ferritkern.



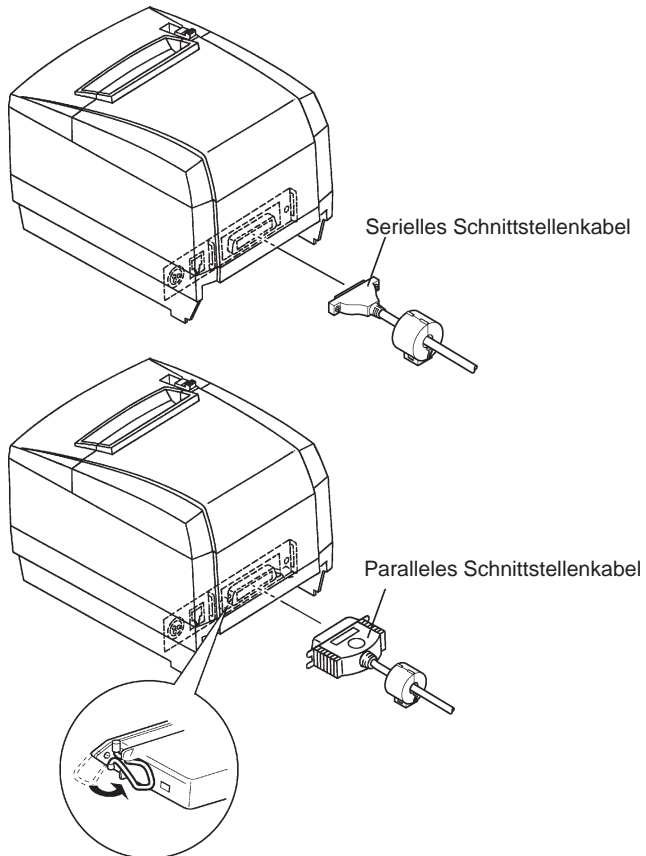
- (3) Führen Sie den Kabelbinder um das Kabel und sperren Sie ihn. Schneiden Sie überschüssiges Band mit einer Schere ab.



3-1-2. Anschließen des Schnittstellenkabels

Hinweis: Vor dem Anschließen/Abtrennen des Schnittstellenkabels stellen Sie sicher, daß der Drucker und alle angeschlossenen Gerät ausgeschaltet sind. Außerdem sollte der Netzstecker abgezogen sein.

- (1) Schließen Sie das Schnittstellenkabel an die Buchse an der Rückseite des Druckers an.
- (2) Bei einer seriellen Schnittstelle ziehen Sie die Steckerschrauben fest. Bei einer parallelen Schnittstelle befestigen Sie die Steckerklammern.



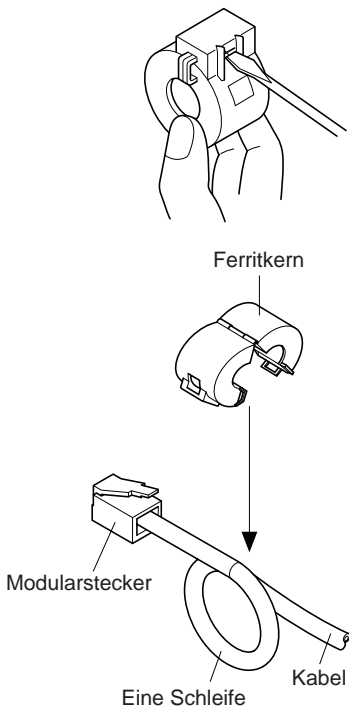
3-2. Anschluß an ein Peripheriegerät

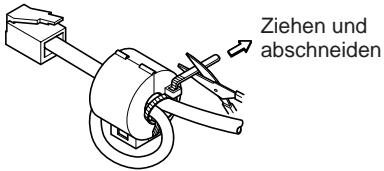
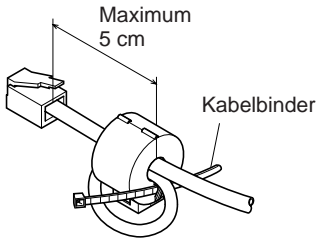
Es kann ein Peripheriegerät an den Drucker mit einem Modularstecker angeschlossen werden. Im folgenden wird beschrieben, wie der Ferritkern angebracht und die Verbindung hergestellt wird. Siehe "Modularstecker" auf Seite 98 für den Typ von Modularstecker, der dazu erforderlich ist. Beachten Sie, daß der Drucker nicht mit einem Modularstecker oder Kabel ausgestattet ist. Diese Teile müssen vom Anwender besorgt werden.

Wichtig!

Vor dem Anschließen der Kabel sicherstellen, daß der Drucker ausgeschaltet und vom Netz getrennt ist.

- (1) Befestigen Sie den Ferritkern am seriellen Kabel, wie das in der folgenden Abbildung gezeigt wird.





(2) Den Kabelbinder durch den Ferritkern führen.

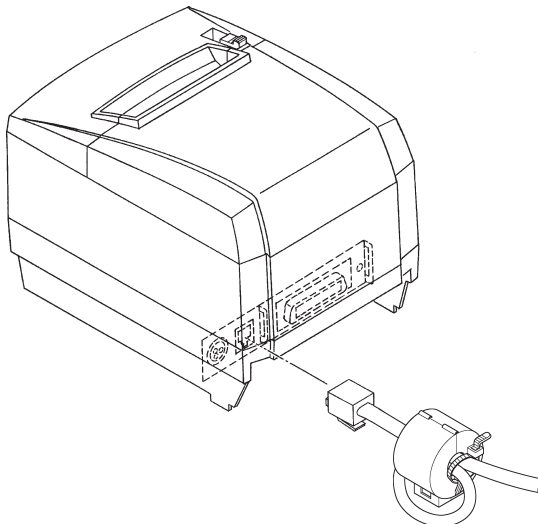
(3) Das Befestigungsband um das Kabel wickeln und sperren. Schneiden Sie überschüssiges Band mit einer Schere ab.

(4) Einen Stecker des Modulkabels in die Modularbuchse am Peripheriegerät stecken.

(5) Die Modularbuchsenabdeckung von der Rückseite des Druckers abnehmen, und den anderen Stecker des Modulkabels in die Modularbuchse am Drucker stecken.

Hinweis: Vor dem Anschließen/Abtrennen des Schnittstellenkabels stellen Sie sicher, daß der Drucker und alle angeschlossenen Gerät ausgeschaltet sind. Außerdem sollte der Netzstecker abgezogen sein.

(1) Schließen Sie das Peripheriegeräte-kabel an die Buchse an der Rückseite des Druckers an.



3-3. Anschließen des optionalen Netzteils

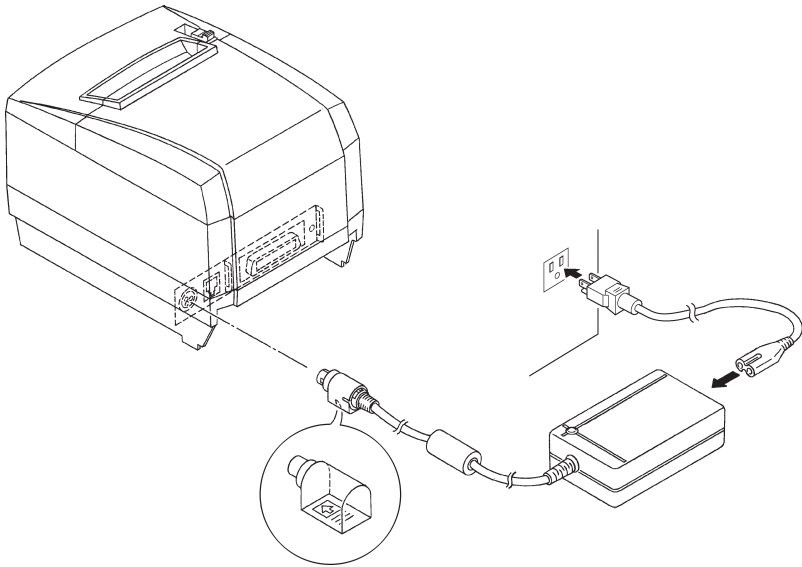
Hinweis: Vor dem Anschließen/Abtrennen des Netzteils stellen Sie sicher, daß der Drucker und alle angeschlossenen Gerät ausgeschaltet sind. Außerdem sollte der Netzstecker abgezogen sein.

(1) Schließen Sie das Netzteil an das Netzkabel an.

Hinweis: Verwenden Sie nur das vorgesehene Netzteil und Netzkabel.

(2) Das Netzteil am Stecker des Druckers anschließen.

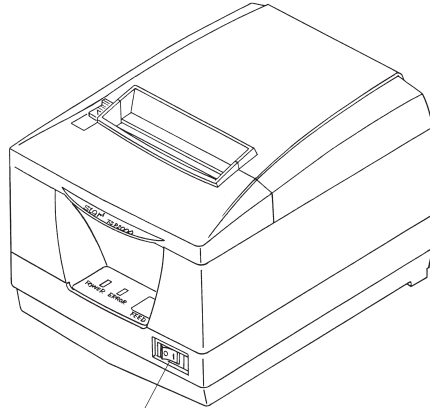
(3) Stecken Sie den Netzstecker des Netzteils in eine Steckdose ein.



3-4. Einschalten

Stellen Sie sicher, daß das Netzteil angeschlossen ist, wie in 3-3 beschrieben.

- (1) Den Netzschalter vorne am Gerät auf Ein (ON) stellen. Das POWER-Lämpchen am Bedienfeld leuchtet auf.



Netzschalter

Wichtig!

Wir empfehlen, den Netzstecker aus der Steckdose zu ziehen, wenn der Drucker längere Zeit lang nicht benutzt werden soll. Der Drucker sollte vorzugsweise an einem Platz aufgestellt werden, der leichten Zugang zur Netzsteckdose gewährt.

4. Bedienfeld

4-1. Papiereinzugknopf (PAPER FEED)

Bei jedem Drücken dieses Knopfes wird das Papier um eine Zeile vorgeschoben. Wenn der Knopf gedrückt gehalten wird, wird das Papier kontinuierlich vorgeschoben.

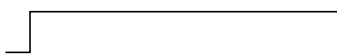

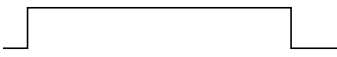


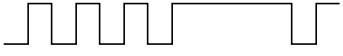
Hinweis: Dieser Knopf ist unwirksam, wenn kein Papier eingelegt ist.

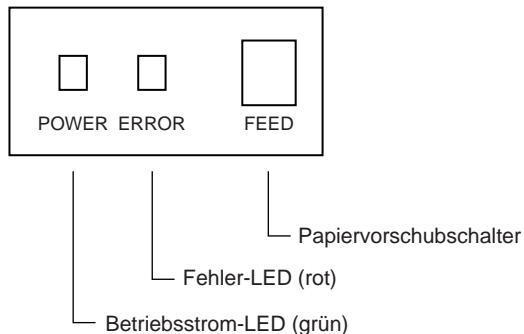
4-2. Netz-LED (POWER) (grüne LED)

Diese LED leuchtet auf, wenn der Netzschalter in Ein-Stellung ist und Betriebsstrom am Drucker anliegt.

4-3. Fehler-LED (ERROR) (rote LED)

Diese LED leuchtet oder blinkt, wenn einer der folgenden Fehler auftritt.

| | Fehler-LED Blinkmuster | Fehlerbeschreibung |
|----------|--|--------------------------------|
| Leuchtet |  | Druckerabdeckung offen |
| Blinkt |  | Papier verbraucht |
| Leuchtet |  | Das Papier ist fast verbraucht |
| Leuchtet |  | Anormale Kopftemperatur (90°C) |
| Blinkt |  | Fehlfunktion in Kopfverbindung |
| Leuchtet |  | Automatikschneidwerk-Fehler |



5. Einlegen von Papier

5-1. Einlegen einer neuen Papierrolle

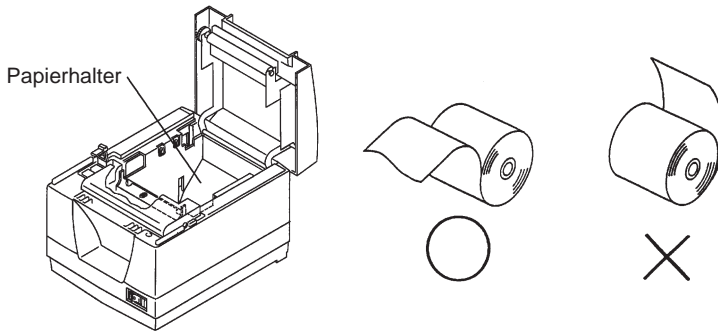
(1) Ziehen Sie den Hebel nach vorne, um die Druckerabdeckung zu öffnen.

Hinweis: Stellen Sie sicher, daß der Hebel gezogen wird, bis er am Anschlag stoppt. Wenn der Hebel nicht bis zum Anschlag gezogen wird, kann es sein, daß sich die Druckerabdeckung nicht öffnen läßt.

(2) Das Klebestück am Papierende abziehen.

Hinweis: Stellen Sie sicher, daß der gesamte Kleberegion entfernt ist, da in diesem Bereich nicht gedruckt werden kann.

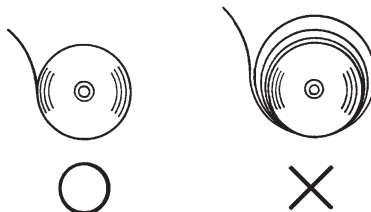
(3) Positionieren Sie das Papier wie in der Abbildung unten gezeigt, und setzen Sie es vorsichtig in den Papierhalter ein.



Hinweis 1: Stellen Sie sicher, daß das Papier nicht verformt ist. Wenn eine Papierrolle wie die unten gezeigte verwendet wird, können Betriebsstörungen auftreten.

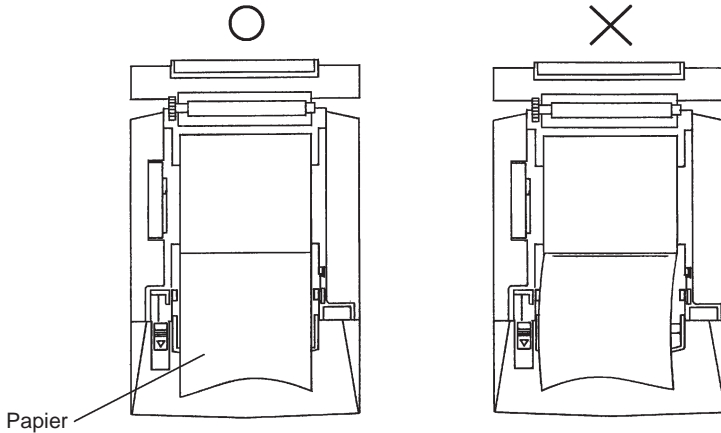


Hinweis 2: Wenn das Papier durchhängt wie unten gezeigt, nachdem es eingesetzt ist, ziehen Sie es straff.

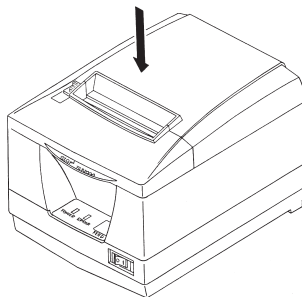


(4) Stellen Sie sicher, daß das Papier gerade ausgerichtet ist, und schließen Sie die Druckerabdeckung vorsichtig.

Hinweis 1: Stellen Sie sicher, daß das Papier gerade ausgerichtet ist. Wenn die Druckerabdeckung bei schief liegendem Papier geschlossen wird, wie unten gezeigt, kann ein Papierstau auftreten.



Hinweis 2: Sperren Sie die Druckerabdeckung durch Drücken auf die Mitte der Abdeckung (in der Abbildung unten durch einen Pfeil gekennzeichnet). Wenn ein anderer Teil der Abdeckung als die Mitte gedrückt wird, kann die Abdeckung nicht richtig geschlossen werden. Dadurch kann u.U. der Druck unmöglich werden.



(5) Wenn der Netzschalter auf Aus (OFF) gestellt ist, auf Ein (ON) stellen, um den Drucker einzuschalten. Stellen Sie sicher, daß die ERROR-LED nicht leuchtet.

Hinweis: Während die ERROR-LED leuchtet, akzeptiert der Drucker keine Befehle wie Druckbefehl; stellen Sie deshalb sicher, daß die Abdeckung richtig geschlossen ist.

(6) Wenn die Druckerabdeckung verriegelt ist, wird das Papierende ausgegeben, und das Ende automatisch abgeschnitten.

5-2. Entfernen des restlichen Papiers

(1) Ziehen Sie den Hebel nach vorne, um die Druckerabdeckung zu öffnen.

Hinweis: Stellen Sie sicher, daß der Hebel gezogen wird, bis er am Anschlag stoppt. Wenn der Hebel nicht bis zum Anschlag gezogen wird, kann es sein, daß sich die Druckerabdeckung nicht öffnen läßt.

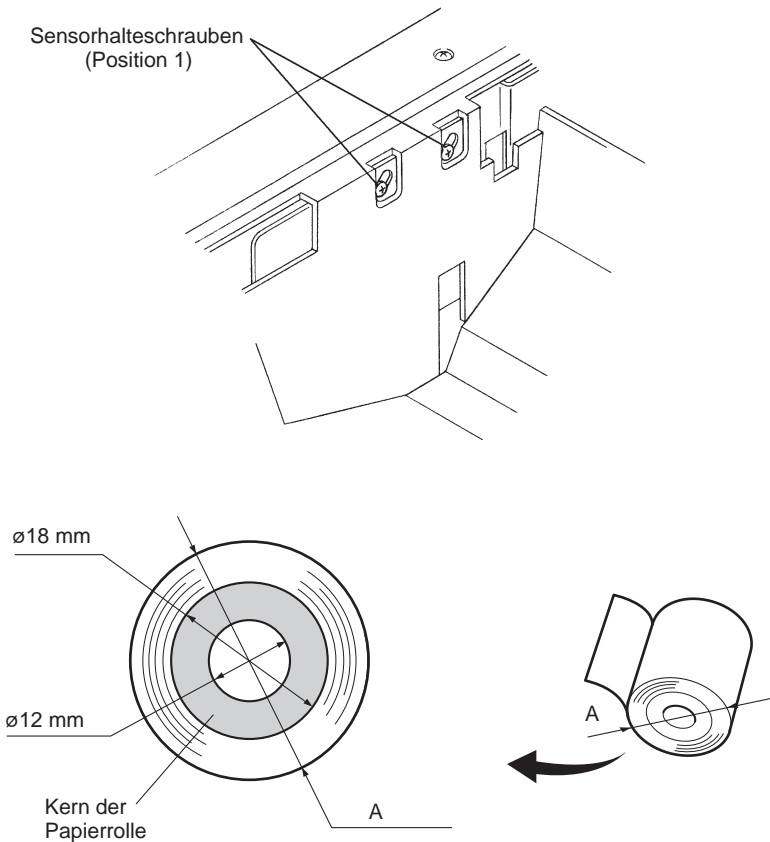
(2) Entfernen Sie das verbleibende Papier.

6. Papiervorrat-Sensor

Der Drucker ist mit einem Sensor ausgestattet, der erkennt, wenn das Ende einer Papierrolle fast erreicht ist. Zum Einsatz dieses Sensors wie folgt verfahren.

- (1) Den Hebel in der angezeigten Richtung ziehen, und dann die Druckerabdeckung öffnen.
- (2) Die beiden Sensorhalteschrauben lösen.
- (3) Die Sensoreinheit nach oben oder unten schieben, und dann die Schrauben richtig festziehen.

Die folgende Tabelle zeigt den Durchmesser des Papiers, das auf der Rolle bleiben würde, damit der Sensor, an der richtigen Sensorschraubenposition installiert, es erkennen kann.



(4) Die Papierrolle einsetzen, und prüfen ob der Sensor richtig erkennt, daß das Papier fast verbraucht ist.

Fehler-LED Die LED geht aus, wenn Papier vorhanden ist.

Die LED blinkt, wenn das Papier fast verbraucht ist.

| Durchmesser des verbleibenden Papiers A | Schraubenposition |
|---|--------------------|
| Ca. \varnothing 22 mm | Position 1 (unten) |
| Ca. \varnothing 26 mm | Position 2 (oben) |

Vorsichtsmaßnahmen

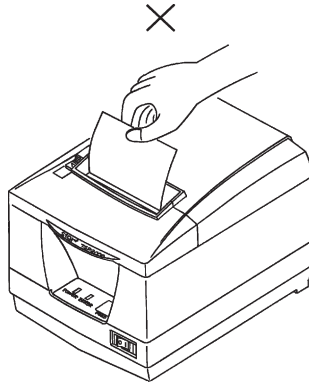
1) *Die werksseitige Einstellung ist Position 1.*

2) *Immer eine Papierrolle mit einem Kern verwenden, der einen Innendurchmesser von 12 mm und einen Außendurchmesser von 18 mm hat, um richtige Erkennung der Restpapiermenge zu gewährleisten.*

7. Verhindern und Beheben von Papierstau

7-1. Verhindern von Papierstau

Das Papier soll beim Ausgeben und vor dem Schneiden nicht berührt werden. Wenn das Papier beim Ausgeben gedrückt oder gezogen wird, kann ein Papierstau, ein Abschneidfehler oder ein Zeilenvorschubfehler verursacht werden. Nicht die Druckerabdeckung während des Abschneidens öffnen.



7-2. Beheben von Papierstau

Wenn ein Papierstau auftritt, beheben Sie ihn wie folgt.

(1) Stellen Sie den Netzschalter auf Aus, um den Drucker auszuschalten.

(2) Ziehen Sie den Hebel nach vorne, um die Druckerabdeckung zu öffnen.

Hinweis: Stellen Sie sicher, daß der Hebel gezogen wird, bis er am Anschlag stoppt. Wenn der Hebel nicht bis zum Anschlag gezogen wird, kann es sein, daß sich die Druckerabdeckung nicht öffnen läßt.

(3) Entfernen Sie das gestaute Papier.

Hinweis: Achten Sie darauf, den Drucker beim Entfernen des gestauten Papiers nicht zu beschädigen. Insbesondere der Thermaldruckkopf läßt sich leicht beschädigen; achten Sie darauf, ihn nicht zu berühren.

(4) Stellen Sie sicher, daß das Papier gerade ausgerichtet ist, und schließen Sie die Druckerabdeckung vorsichtig.

Hinweis 1: Stellen Sie sicher, daß das Papier gerade ausgerichtet ist. Wenn die Druckerabdeckung bei schief liegendem Papier geschlossen wird, kann ein Papierstau auftreten.

Hinweis 2: Sperren Sie die Druckerabdeckung durch Drücken auf die Mitte der Abdeckung. Wenn ein anderer Teil der Abdeckung als die Mitte gedrückt wird, kann die Abdeckung nicht richtig geschlossen werden. Dadurch kann u.U. der Druck unmöglich werden.

(5) Stellen Sie den Netzschalter in Ein-Stellung, um den Drucker einzuschalten. Stellen Sie sicher, daß die ERROR-LED nicht leuchtet.

Hinweis: Während die ERROR-LED leuchtet, akzeptiert der Drucker keine Befehle wie Druckbefehl; stellen Sie deshalb sicher, daß die Abdeckung richtig geschlossen ist.

7-3. Freigeben eines gesperrten Schneidmessers

Wenn das automatische Schneidmesser sperrt oder das Papier nicht schneidet, wie folgt verfahren.

Achtung:

Da Arbeiten am Schneidmesser gefährlich sein können, immer zuerst den Drucker ausschalten.

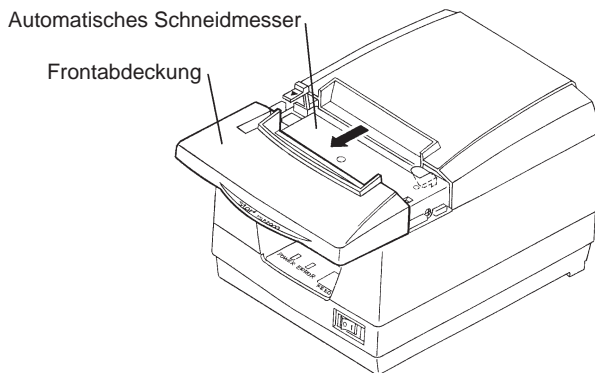
(1) Den Netzschalter auf Aus (OFF) stellen, um den Drucker auszuschalten.

(2) Die Frontabdeckung abschieben, um das Schneidmesser freizulegen.

(3) Gestautes Papier entfernen.

Hinweis: Darauf achten, nicht den Drucker nicht beim Entfernen von gestautem Papier zu beschädigen.

Da der Thermalkopf besonders empfindlich ist, darauf achten, ihn nicht zu berühren.

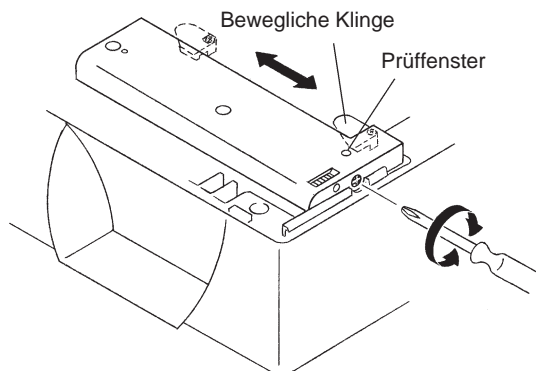


- (4) Wenn die bewegliche Klinge des Schneidmessers hervorsteht, mit einem Kreuzschlitzschraubenzieher die Kreuzschlitzschraube drehen, und die bewegliche Klinge in Grundstellung zurückstellen. Wenn das Prüffenster vollständig weiß ist, ist die bewegliche Klinge in Grundstellung.

Hinweis 1: Nicht starken Druck auf die bewegliche Klinge ausüben.

Hinweis 2: Wenn die bewegliche Klinge zu sehr hervorsteht, kann die Druckerabdeckung nicht geöffnet werden. Wenn versucht wird, die Abdeckung zu öffnen, kann das Schneidmesser beschädigt werden.

- (5) Die Druckerabdeckung öffnen, gestautes Papier entfernen, und dann die Papierrolle wieder einsetzen.
- (6) Die Frontabdeckung wieder einsetzen, und den Netzschalter auch Ein (ON) stellen.



8. Testdruck-Verfahren

8-1. Erstellen eines Testdrucks

Zum Starten des Testdrucks schalten Sie den Drucker mit dem Netzschalter aus, setzen das Papier richtig ein, und schalten dann den Drucker bei gedrückt gehaltener FEED-Knopf ein. Den Schalter innerhalb von drei Sekunden freigeben. Der Testdruck stoppt automatisch nach dem Ausdruck der vorgegebenen Druckmenge, und der Drucker schneidet das Papier ab.

8-2. Sedezimaler Datenausdruck

Dies druckt vom Hostgesendete Daten im Sedezimalformat und den entsprechenden ASCII-Zeichenaus. Dies ist nützlich zum Debugging von Applikationen und zum Analysieren verzerrter Zeichen.

Starten und Stoppen des Sedezimal-Datenausgabedrucks

Während der Vorschubschalter gedrückt gehalten wird, das Gerät einschalten. Den Schalter fünf Sekunden lang gedrückt halten; der Sedezimal-Datenausgabedruck beginnt, wenn der Schalter losgelassen wird. Wenn der Schalter innerhalb von drei Sekunden losgelassen wird, wird der Selbsttest ausgeführt.

Sedezimal-Datenausgabedruck durch Ausschalten abbrechen.

Die empfangenen Daten werden wie folgt ausgedruckt.

| | | |
|---------|-------------------------|-------------|
| 000000 | 20 21 22 23 24 25 26 27 | !"#\$%&' |
| 000008 | 28 29 2A 2B 2C 2D 2E 2F | ()*+, -./ |
| 000010 | 30 31 32 33 34 35 36 37 | 01234567 |
| Adresse | Sedezimale Daten | ASCII-Daten |

9. Regelmäßige Reinigung

Die Druckzeichen können durch Ansammlung von Papierstaub und anderem Schmutz unscharf werden. Um das zu verhindern, muß im Papierhalter und in der Papiertransportstufe angesammelter Staub von Zeit zu Zeit entfernt werden. Eine derartige Reinigung sollte etwa einmal im Monat ausgeführt werden.

9-1. Reinigen des Thermalkopfes

Zum Entfernen von schwärzlichem Staub auf der Oberfläche des Thermalkopfes diesen mit Isopropylalkohol (IPA) abwischen.

Hinweis: Der Thermalkopf läßt sich leicht beschädigen. Zum Abwischen immer einen sehr weichen Lappen verwenden und sicherstellen, daß er nicht zerkratzt wird.

9-2. Reinigen des Papierhalters

Verwenden Sie einen weichen Lappen zur Entfernung von Papierstaub vom Papierhalter und aus der Papiertransportstufe.

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L'Appendice appare solo nella sezione in inglese di questo manuale.

Visitare il seguente indirizzo URL

http://www.star-micronics.co.jp/service/frame_sp_spr_e.htm

per accedere alla versione più recente del manuale.

1. Identificazione delle parti e nomenclatura

Leva

Tirare questa leva in direzione della freccia per aprire il coperchio della stampante.

Coperchio stampante

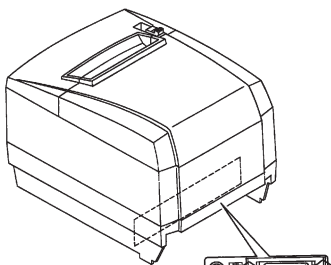
Aprire questo coperchio per inserire o sostituire la carta.

Pannello di controllo

Dispone di indicatori LED che indicano lo stato della stampante e di interruttori per controllare la stampante.

Interruttore

Usarlo per accendere/spengere la stampante.



Connettore di alimentazione

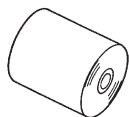
Per il collegamento del trasformatore CA. Non scollegare mai il trasformatore CA mentre la stampante è accesa.

Connettore di controllo periferiche

Per il collegamento a unità periferiche come registri di cassa, ecc. Non collegarlo ad un telefono.

Connettore interfaccia

Per il collegamento al computer ospite.



Carta in rotolo



Manuale dell'utilizzatore



Anello di ferrite



Fascettadi fissaggio

Scelta di un luogo per la stampante

Prima di disimballare la stampante, decidere dove si desidera installarla. Tenere presenti i seguenti punti.

- ✓ Scegliere una superficie stabile e in piano, dove la stampante non sia esposta a vibrazioni.
- ✓ La presa di corrente che si intende usare per la stampante deve essere vicina e libera da ostacoli.
- ✓ La stampante deve essere abbastanza vicina al computer da permettere il collegamento tra i due.
- ✓ Assicurarsi che la stampante non sia esposta alla luce solare diretta.
- ✓ Assicurarsi che la stampante sia lontana da caloriferi e altre fonti di calore elevato.
- ✓ Assicurarsi che l'area circostante sia pulita, asciutta e priva di polvere.
- ✓ Assicurarsi che la stampante sia collegata ad una presa di corrente affidabile. Non deve essere la stessa presa di corrente di copiatrici, frigoriferi e altre apparecchiature che causano picchi di corrente.
- ✓ Assicurarsi che la stanza dove si usa la stampante non sia troppo umida.

2. Parti soggette a consumo e trasformatore CA

Quando le parti soggette a consumo si sono esaurite, usare quelle specificate nella seguente tabella. Assicurarsi di usare il trasformatore CA specificato nella tabella.

L'uso di parti soggette a consumo o di un trasformatore CA diversi da quanto specificato nella tabella può causare danni alla stampante, incendi o scosse elettriche.

| Nome della parte | Specifiche |
|--|---|
| Carta in rotolo | Carta termica Spessore: Da 0,06 a 0,08 mm Larghezza: $80 \begin{smallmatrix} 0 \\ -1,0 \end{smallmatrix}$ mm Diametro esterno rullo: $\phi 90$ mm o meno Diametro esterno nucleo: $\phi 18 \begin{smallmatrix} +0,5 \\ 0 \end{smallmatrix}$ mm Diametro interno nucleo: $\phi 12 \pm 0,5$ mm Carta consigliata (carta termica generica) TF50KS-E2C (Nippon Paper Industries) P220AG (Mitsubishi Paper Mills Limited) Carta consigliata (carta a stabilità immagine media) PD-160R-N (Oji Paper Co., Ltd.) Carta consigliata (carta conservabile per lunghi periodi) AFP235 (Mitsubishi Paper Mills Limited) |
| Trasformatore CA (opzionale) UP06021240 | Ingresso: Da 100 a 240 V CA, 50-60 Hz Uscita: 24 V CC ± 5 %, 2,5 A |

Importante!

Accedere alla seguente URL per informazioni sulla carta consigliata.
<http://www.star-micronics.co.jp/>

3. Cavi di collegamento e trasformatore CA

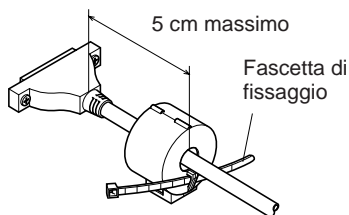
3-1. Cavo interfaccia

3-1-1. Installazione dell'anello di ferrite

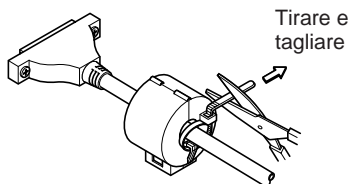
- (1) Fissare l'anello di ferrite al cavo come mostrato nell'illustrazione qui sotto.



- (2) Far passare la fascetta di fissaggio attraverso l'anello di ferrite.



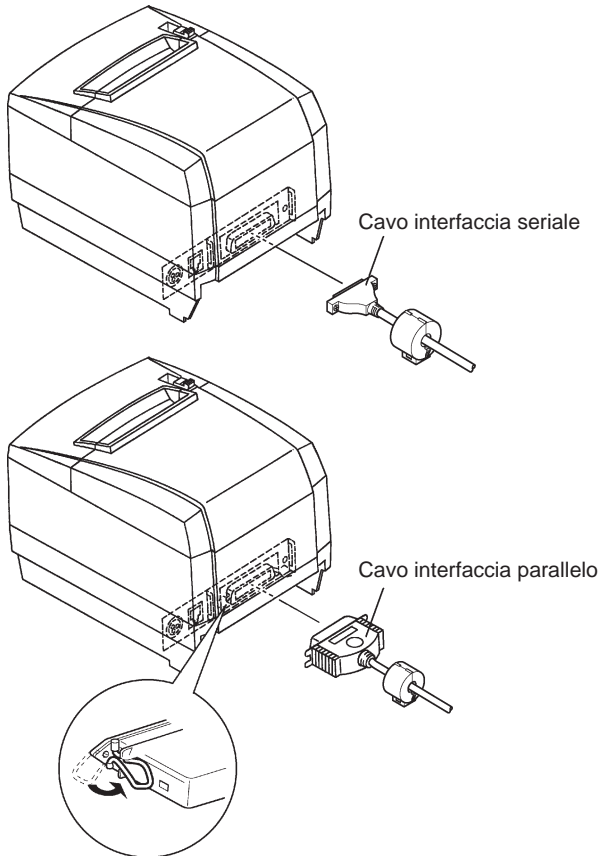
- (3) Avvolgere la fascetta intorno al cavo e fissarla. Usare delle forbici per tagliare la parte in eccesso.



3-1-2. Collegamento del cavo interfaccia

Nota: Prima di collegare/scollegare il cavo interfaccia, assicurarsi che la stampante e tutti i dispositivi collegati alla stampante siano spenti. Inoltre assicurarsi che la spina del cavo di alimentazione sia scollegata dalla presa di corrente.

- (1) Collegare il cavo interfaccia al connettore sul pannello posteriore della stampante.
- (2) Nel caso di un'interfaccia seriale, serrare le viti del connettore. Nel caso di un'interfaccia parallelo, fissare i morsetti del connettore.



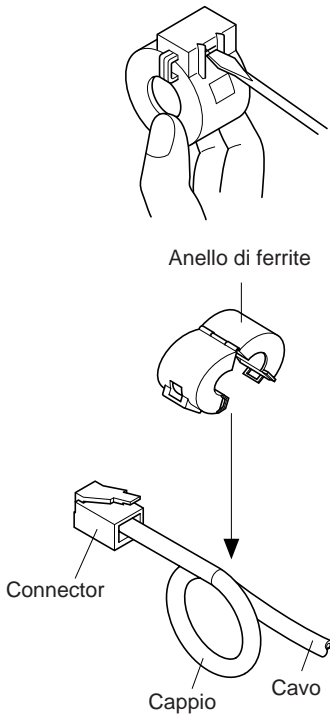
3-2. Collegamento ad un'unità periferica

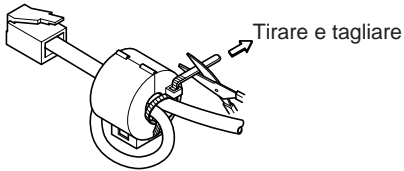
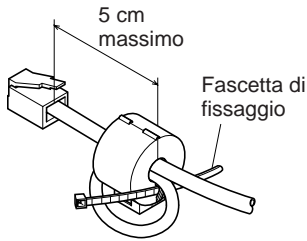
Si può collegare un'unità periferica alla stampante usando una spina modulare. Di seguito descriviamo come installare l'anello di ferrite ed eseguire il collegamento. Vedere "Modulare necessario" a pagina 98 per dettagli sul tipo di spina modulare necessario. Notare che la stampante non è dotata di spina o filo modulare, che devono essere acquistati in base alle esigenze di impiego.

Importante!

Assicurarsi che la stampante sia spenta e scollegata dalla presa di corrente e che il computer sia spento prima di eseguire il collegamento.

- (1) Fissare l'anello di ferrite al cavo modulare come mostrato nell'illustrazione qui sotto.





(2) Far passare la fascetta di fissaggio attraverso l'anello di ferrite.

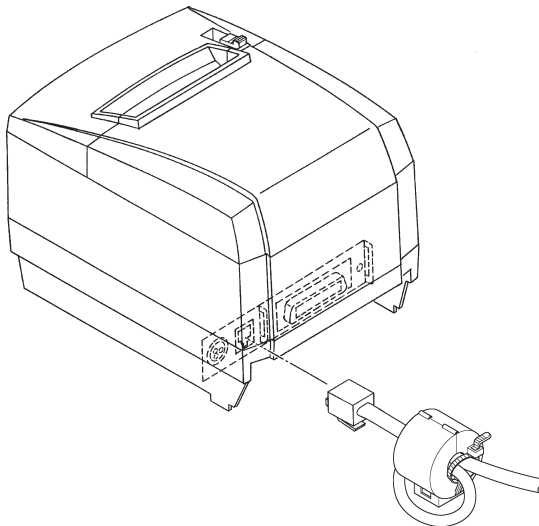
(3) Avvolgere la fascetta intorno al cavo e fissarla. Usare delle forbici per tagliare la parte in eccesso.

(4) Collegare un capo del cavo modulare alla presa modulare della periferica.

(5) Rimuovere il coperchio presa modulare dal retro della stampante e collegare l'altro capo del cavo modulare alla presa sulla stampante.

Nota: Prima di collegare/scollegare il cavo di controllo periferiche, assicurarsi che la stampante e tutti i dispositivi collegati alla stampante siano spenti. Inoltre assicurarsi che la spina del cavo di alimentazione sia scollegata dalla presa di corrente.

(1) Collegare il cavo di controllo periferiche al connettore sul pannello posteriore della stampante.



3-3. Collegamento del trasformatore CA opzionale

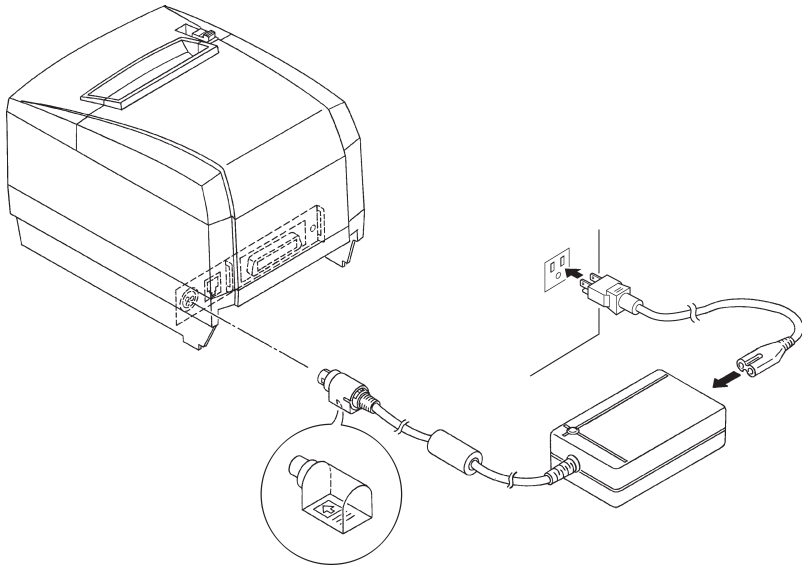
Nota: Prima di collegare/scollegare il trasformatore CA, assicurarsi che la stampante e tutti i dispositivi collegati alla stampante siano spenti. Inoltre assicurarsi che la spina del cavo di alimentazione sia scollegata dalla presa di corrente.

(1) Collegare il trasformatore CA al cavo di alimentazione.

Nota: Usare solo il trasformatore CA e cavo di alimentazione standard.

(2) Collegare il trasformatore CA al connettore sulla stampante.

(3) Collegare la spina del cavo di alimentazione ad una presa di corrente.

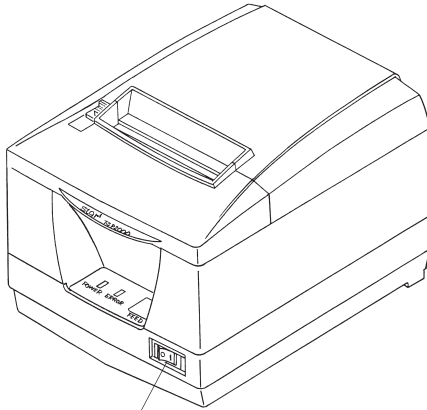


3-4. Accensione

Assicurarsi che il trasformatore CA sia stato collegato come indicato nella sezione 3-3.

(1) Regolare su ON l'interruttore di alimentazione situato sul davanti della stampante.

La spia POWER sul pannello di controllo si illumina.



Interruttore di alimentazione

Importante!

Consigliamo di scollegare la stampante dalla presa di corrente quando si prevede di non usarla per un lungo periodo. Per questo motivo, la stampante deve essere collocata in modo che la presa di corrente sia vicina e facilmente accessibile.

4. Pannello di controllo

4-1. Interruttore PAPER FEED

A ciascuna pressione di questo interruttore la carta avanza di una riga. Se si tiene premuto l'interruttore, la carta avanza continuamente.




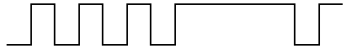
Nota: Questo interruttore non funziona se non è inserita carta.

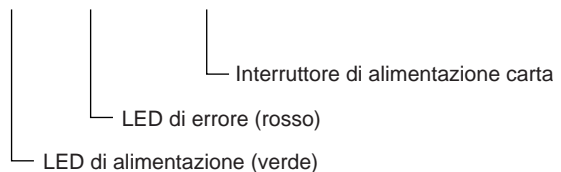
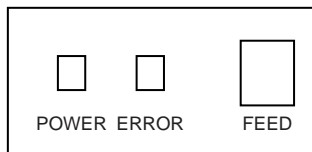
4-2. Spia POWER (LED verde)

Questa spia a LED si illumina quando l'interruttore di alimentazione è attivato e la stampante riceve alimentazione.

4-3. Spia ERROR (LED rosso)

Questa spia a LED si illumina o lampeggia quando si verifica uno dei seguenti errori.

| | Ritmo di lampeggiamento del LED di errore | Descrizione dell'errore |
|-------------------|--|--------------------------------------|
| Spia illuminata |  | Il coperchio stampante è aperto |
| Spia lampeggiante | | La carta è esaurita |
| Spia illuminata |  | La carta è quasi esaurita |
| Spia lampeggiante | | |
| Spia illuminata |  | Temperatura testina anomala (90°C) |
| Spia lampeggiante | | Disfunzione nel collegamento testina |
| Spia illuminata |  | Errore taglierina automatica |
| Spia lampeggiante | | |



5. Caricamento della carta

5-1. Caricamento di un nuovo rotolo di carta

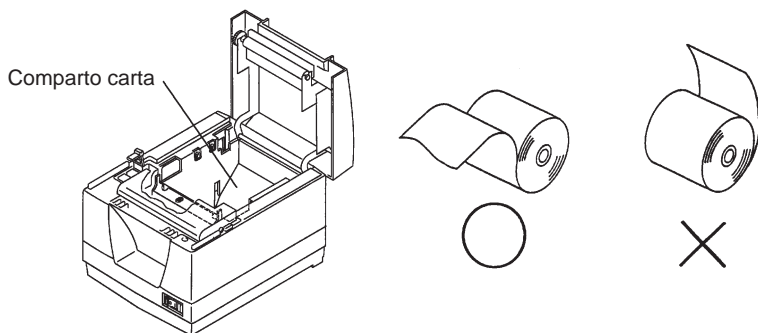
(1) Tirare la leva verso di sè per aprire il coperchio stampante.

Nota: Assicurarsi di tirare la leva fino a che si arresta al fermo. Se la leva non viene tirata fino al fermo, il coperchio stampante può non aprirsi.

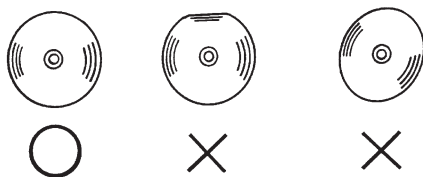
(2) Togliere l'adesivo dall'estremità della carta.

Nota: Assicurarsi di rimuovere completamente la parte adesiva, perché la stampa non può essere eseguita su quella parte.

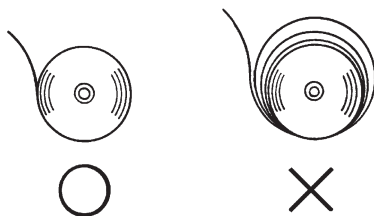
(3) Orientare la carta come indicato sotto e inserirla delicatamente nel comparto carta.



Nota 1: Assicurarsi che il rotolo non sia deformato. Se si usa un rotolo come quelli mostrati sotto, ne possono risultare problemi di funzionamento.

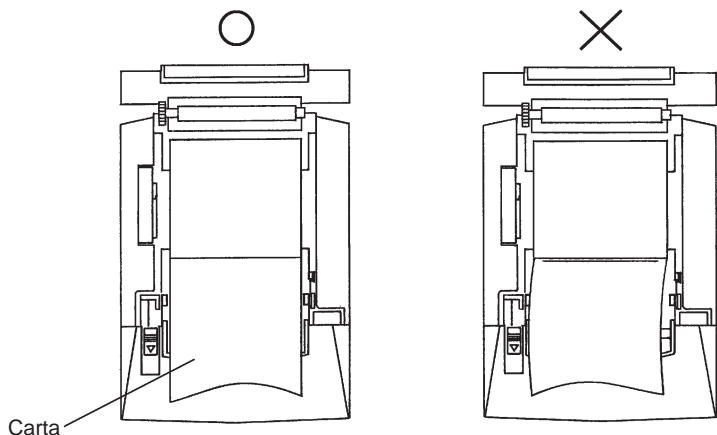


Nota 2: Se la carta è allentata come mostrato sotto dopo che è stata inserita nel comparto carta, tenderla bene.

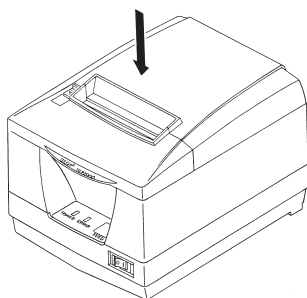


(4) Assicurarsi che la carta sia collocata ben diritta e quindi chiudere delicatamente il coperchio stampante.

Nota 1: Assicurarsi che la carta sia ben diritta. Se si chiude il coperchio stampante con la carta storta come mostrato sotto, si può verificare un inceppamento della carta.



Nota 2: Bloccare il coperchio della stampante premendo sul centro del coperchio (indicato dalla freccia nella figura sotto). Se si preme una parte del coperchio diversa dal centro, il coperchio può non bloccarsi correttamente. Questo a volte rende impossibile la stampa.



(5) Se l'interruttore di alimentazione è regolato su OFF, regolarlo su ON per accendere la stampante. Assicurarsi che la spia ERROR non sia illuminata.

Nota: Mentre la spia ERROR è illuminata, la stampante non accetta alcun comando come il comando di stampa, per cui assicurarsi che il coperchio della stampante sia bloccato correttamente.

(6) Una volta che il coperchio stampante è stato bloccato, l'estremità della carta fuoriesce e viene tagliata automaticamente.

5-2. Rimozione della carta rimanente

(1) Tirare la leva verso di sé per aprire il coperchio della stampante.

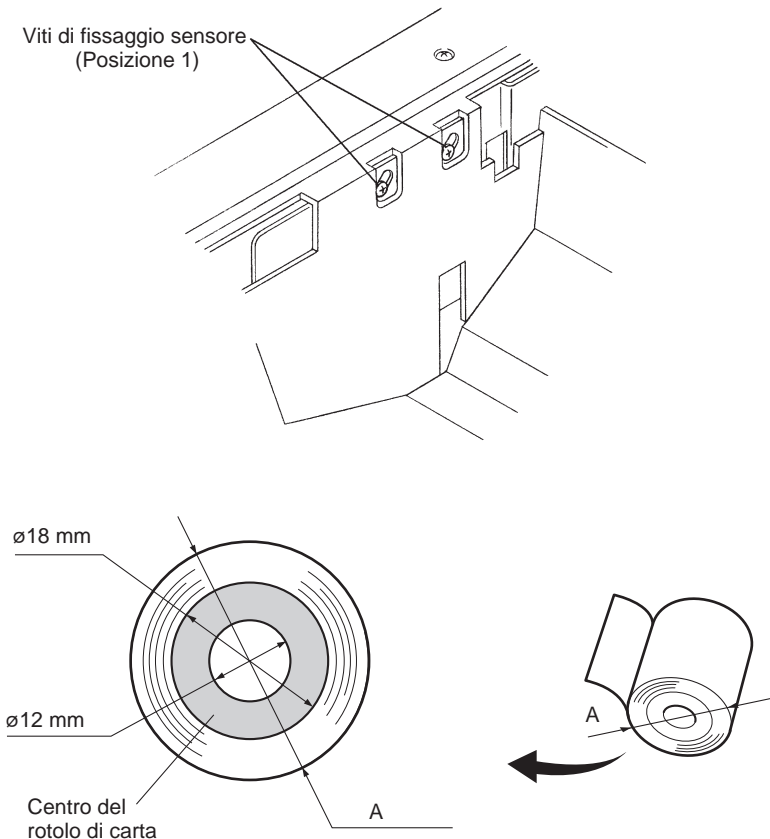
Nota: Assicurarsi di tirare la leva fino a che si arresta al fermo. Se la leva non viene tirata fino al fermo, il coperchio stampante può non aprirsi.

(2) Estrarre la carta rimanente.

6. Sensore di rilevamento fine carta

Questa stampante è dotata di un sensore in grado di rilevare quando un rotolo di carta sta per terminare. Leggere le seguenti istruzioni se si intende utilizzare questa funzione.

- (1) Tirare la leva nella direzione indicata su di essa e quindi aprire il coperchio della stampante.
- (2) Allentare le due viti di fissaggio del sensore.
- (3) Spostare l'unità sensore in alto o in basso e quindi serrare bene le sue viti.
La seguente tabella mostra il diametro della carta che deve rimanere sul rullo perché il sensore, installato alla specifica posizione di vite di fissaggio sensore, possa individuarne la presenza.



(4) Inserire il rotolo di carta e controllare che il sensore rilevi correttamente che il rotolo sta per finire.

LED di errore Il LED non sia illuminata quando c'è carta.

Il LED lampeggia quando la carta è quasi esaurita.

| Diametro della carta rimanente A | Posizione vite |
|----------------------------------|---------------------|
| Circa \varnothing 22 mm | Posizione 1 (fondo) |
| Circa \varnothing 26 mm | Posizione 2 (cima) |

Attenzione

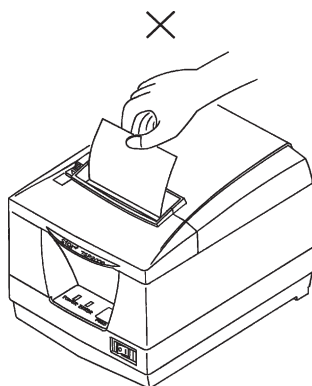
1) *L'impostazione di fabbrica è la posizione 1.*

2) *Per garantire un corretto rilevamento della quantità di carta rimanente, utilizzare sempre rotoli di carta con una bobina avente un diametro interno di 12 mm ed un diametro esterno di 18 mm.*

7. Prevenzione e soluzione degli inceppamenti della carta

7-1. Prevenzione degli inceppamenti della carta

La carta non deve essere toccata durante l'espulsione e prima che sia tagliata. Se si preme o si tira la carta durante l'espulsione si può verificare un inceppamento della carta, un mancato taglio della carta o un avanzamento di riga mancato. Non aprire il coperchio stampante durante il taglio.



7-2. Eliminazione degli inceppamenti della carta

Se si verifica un inceppamento della carta, eliminarlo come descritto di seguito.

- (1) Regolare l'interruttore di alimentazione su OFF per spegnere la stampante.
- (2) Tirare la leva verso di sé per aprire il coperchio stampante.
Nota: Assicurarsi di tirare la leva fino a che si arresta al fermo. Se la leva non viene tirata fino al fermo, il coperchio stampante può non aprirsi.
- (3) Rimuovere la carta inceppata.

Nota: Fare attenzione a non danneggiare la stampante quando si rimuove la carta inceppata. Poiché la testina di stampa in particolare viene danneggiata facilmente, fare attenzione a non toccarla.

(4) Collocare diritto il rotolo di carta e chiudere delicatamente il coperchio stampante.

Nota 1: Assicurarsi che la carta sia ben diritta. Se si chiude il coperchio stampante con la carta storta, si può verificare un inceppamento della carta.

Nota 2: Bloccare il coperchio della stampante premendo sul centro del coperchio. Se si preme una parte del coperchio diversa dal centro, il coperchio può non bloccarsi correttamente. Questo a volte rende impossibile la stampa.

(5) Regolare su ON l'interruttore di alimentazione per accendere la stampante. Assicurarsi che la spia ERROR non sia illuminata.

Nota: Mentre la spia ERROR è illuminata, la stampante non accetta alcun comando come il comando di stampa, per cui assicurarsi che il coperchio della stampante sia bloccato correttamente.

7-3. Rilascio della taglierina bloccata

Se la taglierina automatica si blocca o non taglia la carta, procedere come segue.

Cautela:

Poiché lavorare con la taglierina può essere pericoloso, non dimenticare di spegnere prima la stampante.

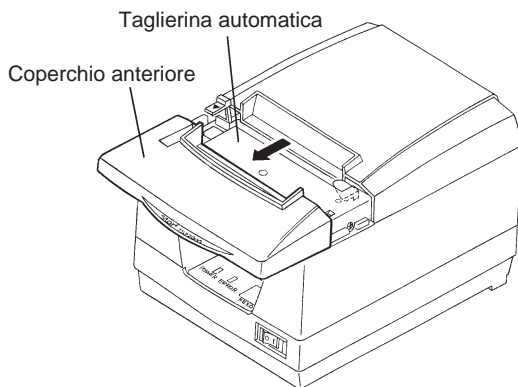
(1) Regolare l'interruttore di alimentazione su OFF per spegnere la stampante.

(2) Spostare il coperchio anteriore per scoprire la taglierina automatica.

(3) Rimuovere eventuale carta inceppata.

Nota: Fare attenzione a non danneggiare la stampante durante la rimozione della carta inceppata.

Poiché la testina di stampa termica è particolarmente sensibile, fare attenzione a non toccarla.

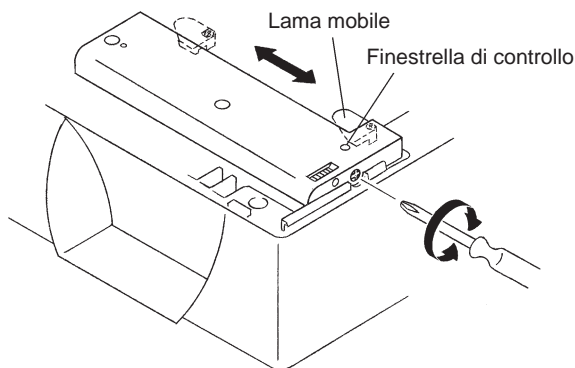


- (4) Se la lama mobile della taglierina sporge, usare un cacciavite Philips per girare la vite a testa Philips e riportare la lama mobile alla sua posizione di partenza. Quando la finestrella di controllo appare completamente bianca, la lama mobile è nella sua posizione di partenza.

Nota 1: Non applicare estrema pressione alla lama mobile.

Nota 2: Se la lama mobile sporge eccessivamente, non è possibile aprire il coperchio stampante. Se si tenta di aprire il coperchio stampante si può danneggiare la taglierina.

- (5) Aprire il coperchio stampante, rimuovere eventuale carta inceppata e quindi reinstallare il rotolo di carta.
- (6) Installare il coperchio anteriore e quindi regolare l'interruttore di alimentazione su ON.



8. Metodo per la stampa di prova

8-1. Produzione di uno stampato di prova

Per avviare la stampa di prova, regolare su OFF l'interruttore di alimentazione, inserire la carta e quindi regolare l'interruttore di alimentazione su ON tenendo premuto il interruttore FEED. Rilasciare l'interruttore entro tre secondi.

Quando è stata eseguita una certa quantità di stampa, la stampante taglia la carta e si ferma automaticamente.

8-2. Scaricamento esadecimale

Questo stampa i dati inviati dall'ospite in formato esadecimale e nei caratteri ASCII corrispondenti. Questo è comodo per eliminare errori dalle applicazioni e per analizzare caratteri confusi.

Avvio ed arresto della stampa a scaricamento esadecimale

Tenendo premuto l'interruttore Feed, accendere l'unità. Tenere premuto l'interruttore per cinque secondi; l'operazione di scaricamento esadecimale inizia quando si rilascia l'interruttore. Se si rilascia l'interruttore entro tre secondi, viene eseguito l'autocolloido.

Spegnere l'unità per interrompere lo scaricamento esadecimale.

I dati ricevuti sono stampati come segue.

| | | |
|-----------|-------------------------|------------|
| 000000 | 20 21 22 23 24 25 26 27 | !"#\$%&' |
| 000008 | 28 29 2A 2B 2C 2D 2E 2F | ()*+, -./ |
| 000010 | 30 31 32 33 34 35 36 37 | 01234567 |
| Indirizzo | Dati esadecimale | Dati ASCII |

9. Pulizia periodica

I caratteri stampati possono diventare parzialmente poco chiari a causa dell'accumulo di polvere di carta e sporcizia. Per evitare tale problema, è necessario rimuovere periodicamente la polvere di carta accumulata nel comparto carta, nella sezione di trasporto carta e sulla superficie della testina termica. Si consiglia di eseguire questa pulizia una volta al mese.

9-1. Pulizia della testina termica

Per rimuovere la polvere nerastra accumulata sulla superficie della testina di stampa, passarla con alcool (IPA)

Nota: La testina termica si danneggia facilmente, per cui pulirla delicatamente con un panno morbido. Fare attenzione a non graffiarla durante la pulizia.

9-2. Pulizia del comparto carta

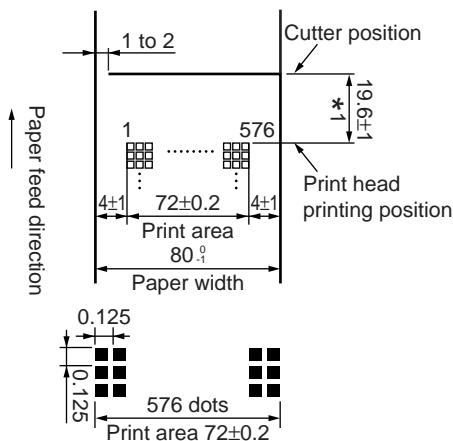
Usare un panno morbido per eliminare la polvere di carta dal comparto carta e dalla sezione di trasporto della carta.

Appendix A: Specifications

A-1. General Specifications

- | | |
|-----------------------------|--|
| (1) Printing method | Direct line thermal printing |
| (2) Print speed | Max. 75 mm/s |
| (3) Dot density | 203 dpi: 8 dots/mm (0.125 mm/dot) |
| (4) Number of print columns | 48 (12 × 24 dots) 64 (9 × 24 dots): ESC/POS mode only |
| (5) Roll paper | Refer to chapter 2 for details on the recommended roll paper. Paper width: 80 $^{0}_{-1.0}$ mm Roll diameter: ø90 mm or less External diameter of core: ø18 $^{+0.5}_{0}$ mm Internal diameter of core: ø12 ± 0.5 mm |
| (6) Bar codes | UPC-A, UPC-E, JAN 13 (EAN), JAN 8 (EAN), CODE 39, CODE 93, CODE 128, ITF, CODA BAR |
| (7) Sensor | Paper end, cover open, paper near end, abnormal print head temperature |
| (8) Overall dimension | 144 (W) × 195 (D) × 138 (H) (mm) |
| (9) Weight | Approx. 1.48 kg |

Print Area



Unit : mm

Note *1 Since the firmware automatically feeds the paper 5 mm after it is cut, the top cutter margin becomes 24.6 ± 1.

A-2. Print Specifications

- (1) Print width 72 mm (576 dots)
- (2) Character size Front A: 1.50 × 3.00 mm
Front B (ESC/POS mode only): 1.13 × 3.00 mm
- (3) Character structure Front A: 12 × 24 dots
Front B (ESC/POS mode only): 9 × 24 dots
- (4) Character set ASCII: 96
Extended graphics: 128 × 8
International: 32

A-3. Auto Cutter Specifications

- (1) Partial cut Cutting with one point left uncut
- (2) Cutting frequency Max. 30 cuts per minute
- (3) Thickness of paper Max. 0.08 mm

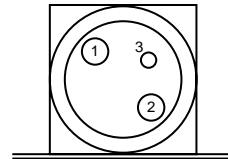
A-4. Interface

- (1) Interface RS232C serial interface or Two-way parallel interface (IEEE1284)
- (2) Command ESC/POS™ commands or Star commands

A-5. Power Supply

- (1) AC Adaptor UP06021240, switching type
- (2) Input 100 to 240V AC, 50/60 Hz
- (3) Output DC 24V±5%, 2.5A MAX
- (4) Power Consumption Operating: Approx. 65 VA (at print duty 14%)
Stand-by: Approx. 5 VA
- (5) Power Connector

| Pin No. | Signal name | Function | I/O direction |
|---------|-------------|-------------|---------------|
| 1 | +24V | Drive power | IN |
| 2 | SG | Signal GND | |
| 3 | N.C. | | |



<Viewed from Connector Surface>

Note 1: This power connector is used to supply the control and mechanical sections of the printer.

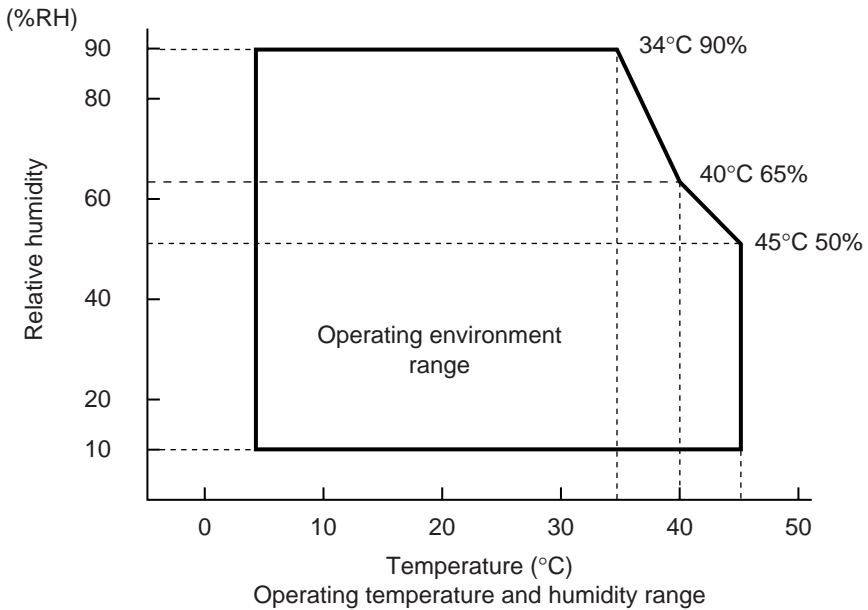
Important!

- When using a printer power supply other than the optional AC adaptor (UP06021240), be sure that the following cautions are observed.
- Use a power supply of DC 24 V \pm 5% and more than 2.5 A.
- Be careful about installing the printer in an area where there is noise. Take the appropriate measures to protect against electrostatic AC line noise, etc.

A-6. Environmental Requirements

(1) Operating

Temperature 5°C to 45°C
Humidity 10% to 90%



APPENDIX

(2) Transport/storage (when packed)

Temperature -10°C to 50°C
Humidity 10% to 90%

A-7. Reliability

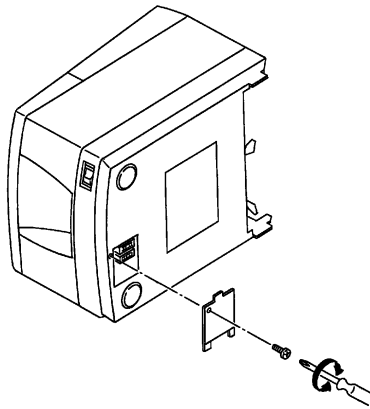
- (1) MCBF 12.5 million lines
- (2) Print head life Pulse durability: 100,000,000 pulses or more
 Wear resistance: 50 km or more
- (3) Cutter life 0.5 million cuttings (with designated paper)

Appendix B: Dip Switch Setting

Two DIP switches are provided at the bottom of the printer, and can be set as given in the table below. Be sure to set the power switch to off before changing the settings. It is recommended to use a pointed item like a pen or flat-blade driver screw to change the settings. The settings will become effective when the power switch is set to on again.

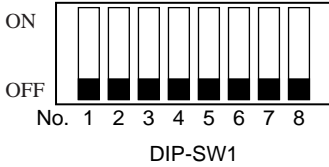
The following is the procedure for changing the settings on DIP switches.

1. Make sure the printer is turned off.
2. Remove the screw from the DIP switch cover. Then take off the DIP switch cover, as shown in the illustration below.



3. Set the switches using a pointed tool, such as a pen or flat-blade screwdriver.

B-1. Serial Interface Type



DIP-SW 1

| Switch | Function | ON | OFF |
|--------|--------------------------------|-------------------|-----------------|
| 1 | Data receive error | Error is ignored. | “?” is printed. |
| 2 | Receive buffer size | 68 bytes | 4 k bytes |
| 3 | Handshaking | XON/XOFF | DTR/DSR |
| 4 | Data bit | 7 bits | 8 bits |
| 5 | Parity check | Yes | No |
| 6 | Parity | Even | Odd |
| 7 | Baud rate | 19200 bps | 9600 bps |
| 8 | Automatic status back function | Valid | Invalid |

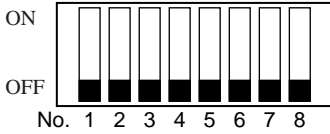
DIP-SW 2

| Switch | Function | ON | OFF |
|--------|--|---------------------|--------------------------------|
| 1 | Handshaking conditions (conditions for BUSY) | Receive buffer full | Offline or receive buffer full |
| 2 | <FF> Code (Star mode) | Cut Command | Form Feed |
| | Graphic Adjustment (ESC/POS mode) | 180 DPI | 203 DPI |
| 3 | Print density | See Table 1. | |
| 4 | | | |
| 5 | Should not be changed (Should be set to off) | — | — |
| 6 | Command emulation | ESC/POS mode | Star mode |
| 7 | Pin #25 (INIT) reset signal | Valid | Invalid |
| 8 | Pin #6 (DSR) reset signal | INIT | DSR |

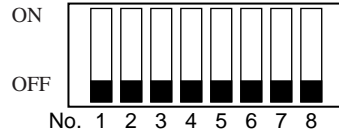
Table 1 Print Density

| Print Density | SW2-3 | SW2-4 |
|--------------------|-------|-------|
| Power economy mode | ON | ON |
| Standard | OFF | OFF |
| ↕ | ON | OFF |
| Dark | OFF | ON |

B-2. Parallel Interface Type



DIP-SW1



DIP-SW1

DIP-SW 1

| Switch | Function | ON | OFF |
|--------|---|----------|-----------|
| 1 | Auto CR | Valid | Invalid |
| 2 | Receive buffer size | 68 bytes | 4 k bytes |
| 3 | Should not be changed (Should be set to off) | — | — |
| 4 | Device ID reply | Valid | Invalid |
| 5 | Automatic status back function | Valid | Invalid |
| 6 | Negotiation status back function | Valid | Invalid |
| 7 | Treatment of missing data during reverse mode | Store | Delete |
| 8 | Cut position adjust *1 | Valid | Invalid |

*1 ESC/POS mode only

DIP-SW 2

| Switch | Function | ON | OFF |
|--------|--|---------------------|--------------------------------|
| 1 | Handshaking conditions (conditions for BUSY) | Receive buffer full | Offline or receive buffer full |
| 2 | <FF> Code (Star mode) | Cut Command | Form Feed |
| | Graphic Adjustment (ESC/POS mode) | 180 DPI | 203 DPI |
| 3 | Print density | See Table 2. | |
| 4 | | | |
| 5 | Should not be changed (Should be set to off) | — | — |
| 6 | Command emulation | ESC/POS mode | Star mode |
| 7 | Always OFF | Should be set off | |
| 8 | | | |

Table 2 Print Density

| Print Density | SW2-3 | SW2-4 |
|--------------------|-------|-------|
| Power economy mode | ON | ON |
| Standard | OFF | OFF |
| ↕ | ON | OFF |
| Dark | OFF | ON |

Appendix C: Parallel Interface

The two-way parallel interface is compatible with the IEEE1284 compatibility mode, nibble mode and byte mode. Refer to the separate programmer's manual for details.

C-1. Table of Connection Signals for Each Mode

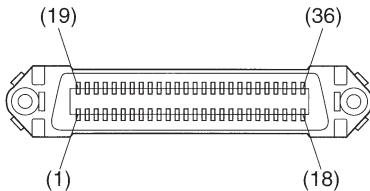
| Pin No. | Direction | Compatibility Mode Signal Name | Nibble Mode Signal Name | Byte Mode Sginal Name |
|---------|-----------|--------------------------------|-----------------------------|--------------------------|
| 1 | In | STB | Host Clock | Host Clock |
| 2 | In/Out | DATA0 | DATA0 | DATA0 * ¹ |
| 3 | In/Out | DATA1 | DATA1 | DATA1 * ¹ |
| 4 | In/Out | DATA2 | DATA2 | DATA2 * ¹ |
| 5 | In/Out | DATA3 | DATA3 | DATA3 * ¹ |
| 6 | In/Out | DATA4 | DATA4 | DATA4 * ¹ |
| 7 | In/Out | DATA5 | DATA5 | DATA5 * ¹ |
| 8 | In/Out | DATA6 | DATA6 | DATA6 * ¹ |
| 9 | In/Out | DATA7 | DATA7 | DATA7 * ¹ |
| 10 | Out | ACK OUT | Ptr Clock * ¹ | Ptr Clock * ¹ |
| 11 | Out | BUSY OUT | Busy/DATA3,7 * ¹ | Busy |
| 12 | Out | PE OUT | AkDR/DATA2,6 * ¹ | AkDR |
| 13 | Out | SELECT OUT | Xflg/DATA1,5 * ¹ | Xflg |
| 14 | In | AUTOFD IN | HOSTBUSY * ¹ | HOSTBUSY * ¹ |
| 15 | | NC | NC | NC |
| 16 | | GND | GND | GND |
| 17 | | FG | FG | FG |
| 18 | OUT | Logic H | Logic H | Logic H |
| 19 | | GND | GND | GND |
| 20 | | GND | GND | GND |
| 21 | | GND | GND | GND |
| 22 | | GND | GND | GND |
| 23 | | GND | GND | GND |
| 24 | | GND | GND | GND |
| 25 | | GND | GND | GND |
| 26 | | GND | GND | GND |
| 27 | | GND | GND | GND |
| 28 | | GND | GND | GND |
| 29 | | GND | GND | GND |
| 30 | | GND | GND | GND |

| Pin No. | Direction | Compatibility Mode Signal Name | Nibble Mode Signal Name | Byte Mode Sginal Name |
|---------|-----------|--------------------------------|---|----------------------------|
| 31 | In | $\overline{\text{INT IN}}$ | $\overline{\text{INT IN}}$ | $\overline{\text{INT IN}}$ |
| 32 | Out | $\overline{\text{ERROR OUT}}$ | $\overline{\text{DATAAV}}/\overline{\text{DATA0.4}}^{*1}$ | $\overline{\text{DATAAV}}$ |
| 33 | | GND | GND | GND |
| 34 | Out | DKSTS | — | — |
| 35 | Out | Logic H | Logic H | Logic H |
| 36 | In | $\overline{\text{SELECT IN}}$ | 1284 Active ^{*1} | 1284 Active ^{*1} |

^{*1} During Reverse mode

C-2. Function for Compatibility Mode

| Pin No. | Signal Name | IN/OUT | Function |
|---------|-------------------------------|--------|--|
| 1 | $\overline{\text{STB}}$ | IN | Signals when data is ready to be read. Signal goes from HIGH to LOW (for at least 0.5 microsec.) when the data is available. |
| 2-9 | DATA0-7 | IN | These signals provide the information of the first to eighth bits of parallel data. Each signal is at HIGH level for a logical 1 and at a LOW level for a logical 0. |
| 10 | $\overline{\text{ACK OUT}}$ | OUT | LOW pulse acknowledges receipt of the data. |
| 11 | BUSY OUT | OUT | When this signal goes to LOW, the printer is ready to accept data. When the printer is in one of the conditions below, "HIGH" is set. 1. Data is being entered 2. Off line 3. Error condition |
| 12 | PE OUT | OUT | This signal indicates the status of the paper sensor. |
| 13 | SELECT OUT | OUT | This signal is HIGH when the printer is online. |
| 14 | AUTO IN | IN | This signals that the printer is processing a paper feed command from a host computer. |
| 15 | NC | | Unused |
| 16 | GND | | Signal ground |
| 17 | FG | | Chassis ground, isolated from logic ground |
| 18 | Logic High | | |
| 19-30 | GND | | Twisted pair return the signal to ground level. |
| 31 | $\overline{\text{INT IN}}$ | IN | When this signal goes to LOW, the printer is reset to its power-on condition. |
| 32 | $\overline{\text{ERROR OUT}}$ | OUT | This signal is normally HIGH. This signal goes to LOW to signal that the printer cannot print due to an error condition. |
| 33 | GND | | External ground |
| 34 | DKSTS | OUT | |
| 35 | Logic High | | |
| 36 | $\overline{\text{SELECT IN}}$ | IN | Puts printer in Select mode |



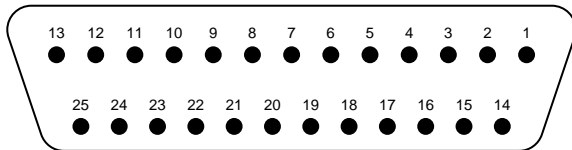
This connector mates with an Amphenol 57-30360 connector

Parallel interface connector (printer side)

Appendix D: Serial Interface

D-1. RS-232C Connector

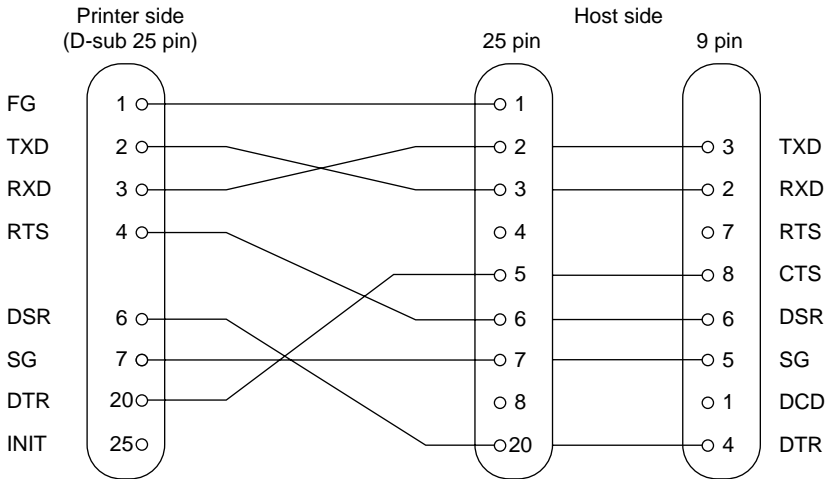
| Pin No. | Signal name | Function | I/O direction | Pin No. | Signal name | Function | I/O direction |
|---------|-------------|-----------------|---------------|---------|--------------------------|---------------------|---------------|
| 1 | FG | Frame ground | | 14 | – | | |
| 2 | TXD | Send data | OUT | 15 | – | | |
| 3 | RXD | Receive data | IN | 16 | – | | |
| 4 | RTS | Request to send | OUT | 17 | – | | |
| 5 | – | | | 18 | – | | |
| 6 | DSR | Data set ready | IN | 19 | – | | |
| 7 | SG | Signal GND | | 20 | DTR | Data terminal ready | OUT |
| 8 | – | | | 21 | – | | |
| 9 | – | | | 22 | – | | |
| 10 | – | | | 23 | – | | |
| 11 | – | | | 24 | – | | |
| 12 | – | | | 25 | $\overline{\text{INIT}}$ | Reset | IN |
| 13 | – | | | | | | |



<Viewed from Connector Surface>

D-2. Cable Connections

The followings are a recommended interface cable connections.



Note Use shielded wire less than 3m in length.

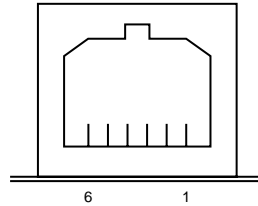
D-3. Electrical Characteristics

| Voltage | Data signal | Control signal | Binary status |
|-------------|-------------|----------------|---------------|
| -3V to -15V | Mark | OFF | 1 |
| +3V to +15V | Space | ON | 0 |

Appendix E: Peripheral Unit Drive Circuit

E-1. Peripheral Drive Connector

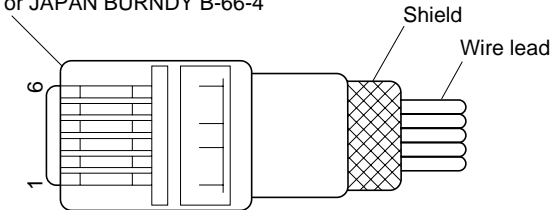
| Pin No. | Signal name | Function | I/O direction |
|---------|-------------|----------------|---------------|
| 1 | FG | Frame ground | — |
| 2 | DRD1 | Drive signal 1 | OUT |
| 3 | +24V | Drive power | OUT |
| 4 | +24V | Drive power | OUT |
| 5 | DRD2 | Drive signal 2 | OUT |
| 6 | DRSNS | Sense signal | IN |



<Viewed from Connector Surface>

Modular plug

Modular plug: MOLEX 90075-0007,
AMP641337, or JAPAN BURNDY B-66-4



- Notes**
1. A shield cable must be used.
 2. It is not possible to drive two drives simultaneously.
 3. The peripheral drive duty must satisfy the following:
ON time / (ON time + OFF time) \leq 0.2
 4. The resistance of the peripheral drive solenoid must be 24 Ω or higher.
If it is lower than 24 Ω , over-current may flow into the solenoid, causing the solenoid to burn.



**ELECTRONIC PRODUCTS DIVISION
STAR MICRONICS CO., LTD.**

536 Nanatsushinnya, Shimizu, Shizuoka,
424-0066 Japan
Tel: 0543-47-0112, Fax: 0543-48-5013

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