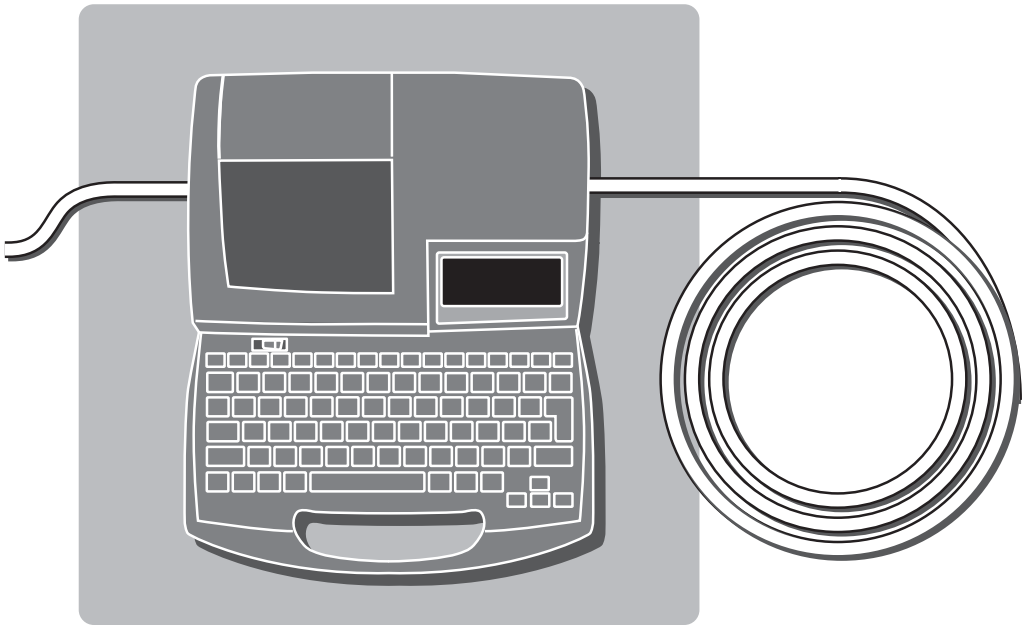
Canon

Mk2600

CABLE ID PRINTER

User's Guide



Please read this guide before operating this product.
After you finish reading this guide, store it in a safe place for future reference.

Trademarks

- "Canon" and the Canon logo are the registered trademarks or the trademarks of Canon Inc.

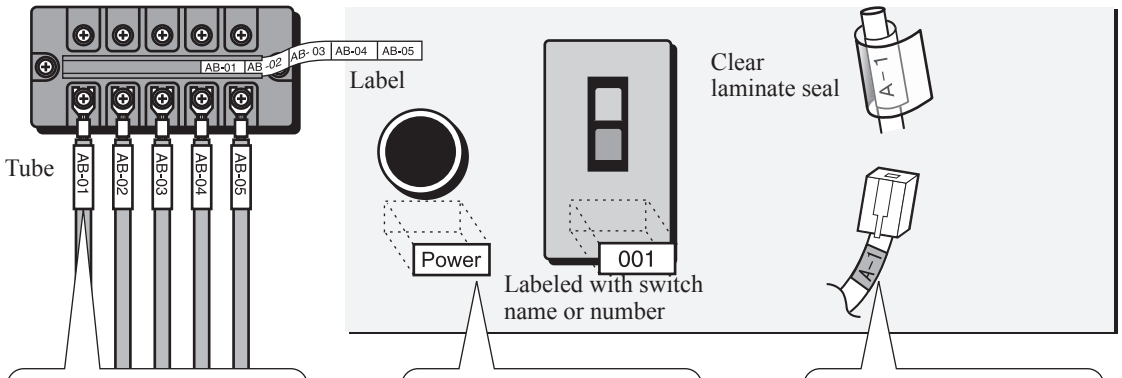
Notices

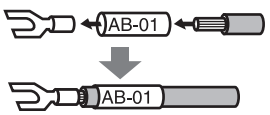
- The contents of this document may not be duplicated in whole or in part by any means without permission.
- The information in this document is subject to change without notice.
- In no event shall Nisca Corporation bear any responsibility for any direct or indirect damages arising from the use of our product.
- In no event shall Nisca Corporation bear any responsibility for any direct or indirect damages resulting from the improper use of our product by the customer, or from modifications or changes made to our product by the customer.
- If you find any errors or omissions in this document, or if you have any questions concerning this document, contact your nearest dealer.
- It is recommended that the data created and saved with this printer be stored in another storage device such as the hard disk of the personal computer. (Use the included PC connection kit to back up the data.) We assume no responsibility for the loss caused by data disappearance due to a machine failure, repair, inspection, or weak battery as well as the carry-over loss.

Copyright ©2016 Nisca Corporation all rights reserved.

A Vital Tool for Electrical Facilities
Introducing the Mk2600

When you open a power distribution panel, you are confronted with an array of tightly packed terminals, circuit breakers, and switches, and these myriad devices are connected by a maze of cables. If each device and cable is not clearly labeled with a symbol or a number, maintenance can become a nightmare. In such electrical facilities, it is common practice to use printed tube to identify cables and printed labels to identify switches. The printer is used to print such labels and tube.





Easy yet high-quality printing

Printing tube

The Mk2600 can print tube that identify cables: “AB-01” or “+20V”, for example. Because the tube that is used is available commercially, the Mk2600 provides an economical solution. The Mk2600 can also be used to print on heat shrink tube.

Label switches clearly

Printing labels

The Mk2600 can also be used to print label tape (sold separately). Because labels that correspond to specific cable tube labels can be printed and applied to the corresponding devices, using such labels results in improved efficiency.

Label with clear adhesive lamination

Wrap around tape with printable and laminating layers

When applied after printing, the printing is covered by plastic laminating film, protecting the characters from scratching.
Adheres to cables after they have been connected.

Main Features

1 Compact and easy to carry

In addition to being compact at 250 mm (W) x 300 mm (D) x 85 mm (H), the printer also has a lightweight design (2kg), making it easy to transport to the site of electrical facilities. Overall, the printer greatly increases work efficiency.

2 Fast printing

When printing at fast speed, the printer can easily print 42 tube segments per minute.*

*When a tube is cut into to 20mm segments and five “3mm 100%” characters are printed in the half cutting mode. (This feature is available only for printing on tube.)

3 Supports a variety of printing media

The printer can print on tube, label tape, heat shrink tube, wrap around tape, plate and 4mm I.D. strip. (To print on other than commercially available tube and plate, a special cassette is needed.)

4 Legible printing even in cool environments

Install the optional Tube Warmer to print legibly in environments as cool as 5°C.

5 Many functions not normally found in a hand-portable machine

Includes a variety of standard features such as adjustable character size, spacing and margins, and file saving capabilities that are hard to imagine in such a light-weight machine.

Contents

Explanation of Symbols....4
Safety Precautions....5
Quick Guide to Using the Printer....12

Part 1 Before You Begin (Preparation)

1.1 Names and Functions of Parts....18

Main Unit....18

LCD screen....20

Keyboard....22

1.2 Connecting the AC Adapter....24

1.3 Use the PC Connection Kit....26

Part 2 Basic Operations

2.1 Printing on Tube and Clear Tube....28

Prep 1 Install cassettes....28

Prep 2 Insert tube....30

Prep 3 Turn the power switch on....31

Step 1 Input characters....32

Step 2 Print....35

2.2 Printing on Label Tape, Heat Shrink Tube, and 4mm I.D. Strip....36

Prep 1 Install cassettes....36

Prep 2 Turn the power switch on....39

Step 1 Input characters....40

Step 2 Print....42

2.3 Printing on Wrap around Tape....43

Prep 1 Installing cassettes....43

Prep 2 Install the wrap around tape guide....44

Prep 3 Turn the power switch on....45

Step 1 Input characters....46

Step 2 Print....46

2.4 Printing on Plates....48

Prep 1 Install cassettes....48

Prep 2 Insert plate....50

Prep 3 Turn the power switch on....51

Step 1 Input characters....52

Step 2 Print....55

Part 3 Character Input

3.1 Inputting Characters....58

Inputting characters....58

3.2 Inputting Symbols....59

Inputting symbols....59

3.3 Deleting Characters, Creating New Pages, Moving the Cursor....61

Deleting or changing characters....61

Deleting all entered text data....62

Insert mode and overwrite mode....63

Creating a new page....64

Moving the cursor....65

Part 4 *Advanced Operations*

4.1 Changing the Characters and the Number of Lines 68

Changing character size 68

Changing the spacing between characters69

Adding an underline to “6” and “9” 70

Adding a frame to characters.....71

Printing on two lines or three lines 72

4.2 Editing Pages 74

Pages 74

Copying and pasting pages 75

Cutting and pasting pages.....77

Inserting pages.....79

Deleting pages 80

Dividing pages.....81

Combining pages 83

4.3 Saving, Retrieving and Deleting Character Data 85

Files and Folders.....85

Saving character data 86

Loading character data 88

Deleting character data.....90

Renaming a folder.....92

4.4 Various Printing Functions..... 94

Printing count and printing range.....94

Changing the printing orientation.....97

Changing the length and the character alignment 99

Printing a specific page multiple times (Continuous Print) 103

Printing text with sequential numbers (Numbering print).....105

Adjusting the printing start position and vertical position 108

Printing centerlines.....110

Printing with short pitch width 111

Printing result obtained by specifying a character alignment mode and a multiple line centering mode 112

Adjusting the printing density.....113

Changing the printing speed.....114

4.5 Changing the Cutting Method 115

Half cuts and full cuts.....115

Turning off half cuts.....115

Making a full cut after a specific number of tube segments.....117

4.6 Other Operations 118

Removing the print media.....118

Changing the display contrast 120

Turning off sounds.....121

Turning off clear tube reverse.....121

Restoring the initial settings.....122

Part 5 *Maintenance*

5.1 If a Tube or Label Tape Becomes Jammed..... 124

Action to Take against Media Jam (When the “Media JAM” message is displayed) 124

Actions to Take against Other Jams (When the “Media Jam” message is not displayed) 126

When a Tube or Label Tape is Not Ejected/Fed 128

5.2 What To Do If the Cutter Is Getting Blunt..... 130

Changing the cutting depth 130

Reducing the cutting speed 132

5.3 Replacing the Cutter 133

5.4 Replacing the Cassette..... 136

Replacing the ribbon cassette 136

Replacing a tube or the label tape cassette 137

5.5 Maintenance..... 138

Cleaning the printer.....138

Cleaning the transport rollers.....138

Cleaning the print head.....140

Cleaning/Replacing the tube cleaner for attachment 140

Part 6 Appendices

6.1 Consumable Supplies and Options 142

Consumable supplies.....142

Options.....143

6.2 Message List 144

6.3 Troubleshooting 147

6.4 List of Symbols 150

6.5 List of Function 151

6.6 Main Specifications 152

Explanation of Symbols

The meanings of the symbols that are used in this manual are explained below.

WARNING A precaution to be followed to use the printer in safe is written. Failure to follow it can result in fatal or serious injury. Be sure to follow it.

CAUTION A precaution to be followed to use the printer in safe is written. Failure to follow it can result in an injury. Be sure to follow it.

CAUTION A precaution to be followed to use the printer properly is written. Failure to follow it can break the printer or damage other products. Be sure to follow it.

important An important notice or restriction to be followed to prevent troubles due to improper operation is written. Be sure to read it.

Note Supplementary information is provided to facilitate operation.

Memo Supplementary information about the operational procedure is written.

Indicates a page that should be referenced in regards to a specific operation. Refer to the information on that page.

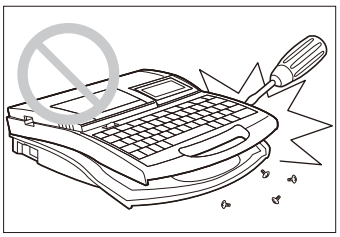
[ ] Indicates a key that should be pressed on the keyboard.

Safety Precautions

In order to ensure safe operation of the printer, be certain to observe the following safety precautions.

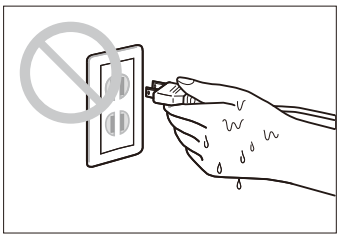
important The shape of the power plug varies according to country.

⚠ WARNING



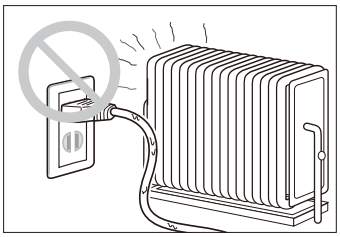
Do not disassemble or modify the unit

Disassembling or modifying the unit could cause a fire or damage the unit.



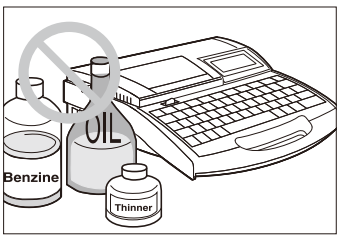
Do not handle the power cord with wet hands

Do not attempt to plug in or unplug the AC adapter plug, etc., while your hands are wet. Doing so could result in electric shock.



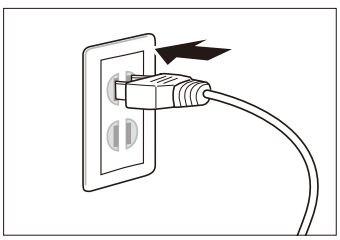
Do not place the unit in the vicinity of heating devices

Do not place the unit or the AC adapter cord in the vicinity of heating devices. Doing so could cause the unit or the cord to melt, which could result in fire or electric shock.



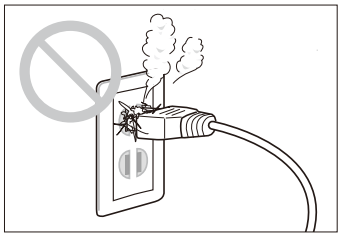
Keep away from paint thinner, etc.

Do not place the unit near alcohol, paint thinner, or other flammable solvents. The solvents could come into contact with internal electric components and cause a fire or electric shock.



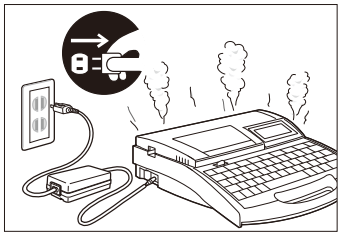
Plug the power cord in securely

Be sure to plug the AC adapter plug into the power outlet securely. Failing to do so could result in a fire or electric shock.



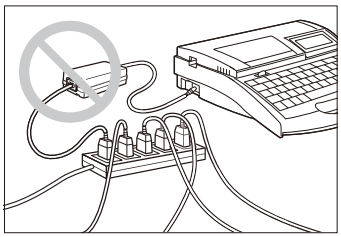
Always keep the AC plug clean

Clean the AC adapter plug periodically. If dust, dirt, soot, etc., is allowed to accumulate on the plug, the dust could absorb moisture, creating an insulation fault that could cause a fire.



Do not continue to use the unit if an abnormality develops

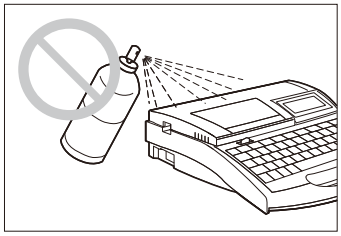
If the unit begins to smoke or emit an unusual odor, turn the power switch off immediately, unplug the AC adapter plug from the power outlet, and then contact your nearest dealer. Continuing to use the unit after an abnormal condition has developed could result in fire or electric shock.



Do not connect to a multi-outlet adapter or extension cord

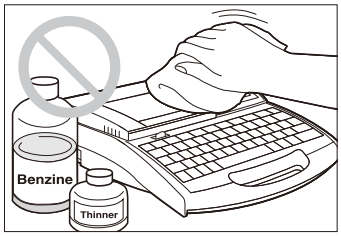
Do not connect this unit to a multi-outlet adapter or extension cord. Doing so could result in fire or electric shock.

Do not power on with the power cord tied. It can cause fire or electrical shock.



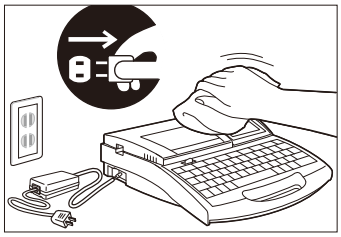
Do not use sprays, etc., in the vicinity of the unit

Do not use flammable sprays in the vicinity of this unit. The spray could come into contact with internal components of the unit, resulting in a fire or electric shock.



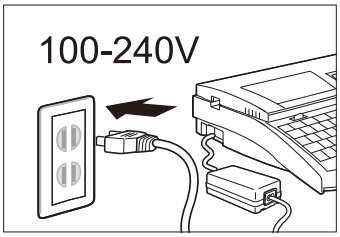
Do not clean with paint thinner, etc.

If it is necessary to wipe dirt off the unit, use gauze that has been dampened with water and then thoroughly wrung out. Never use flammable solvents such as alcohol, benzene or paint thinner. The solvents could come into contact with internal electric components and cause a fire or electric shock.



Turn the unit off for cleaning

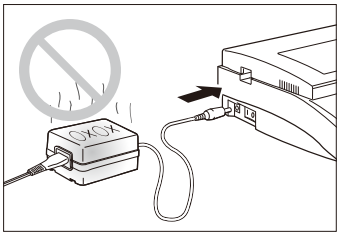
Before cleaning the unit, turn the power off and unplug the AC adapter from the power outlet. Injury could result if the power switch is inadvertently left in the “ON” position and the unit is put into operation.



Use a 100-240V AC power supply

Use only at the indicated power voltage.

Use at voltage between 100 and 240V AC. If not, it may result in fire, electrical shock or machine failure.



Do not use any AC adapter or cord other than the included one

Use only the included AC adapter (N14584) and cord. Using any AC adapter or cord other than the included one can result in fire, electric shock, or printer failure. Do not use the included AC adapter for any other product. Fire or electric shock can result.

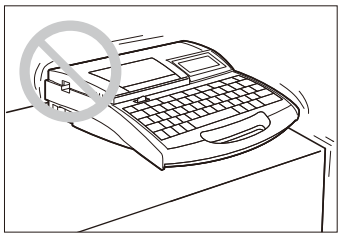
When it thunders at a short distance, remove the power plug from the outlet

When it thunders at a short distance, remove the power plug from the outlet. If not, it may result in fire, electric shock, or machine failure.

Do not damage the AC adapter and cord

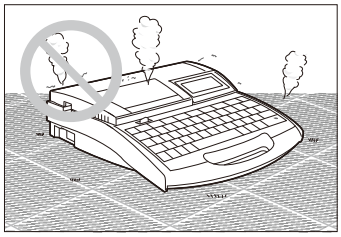
Do not damage, pull excessively, or modify the AC adapter and cord. Do not place a heavy thing on the AC adapter and cord. A short-circuit can be caused at the damaged portion, resulting in a fire or electric shock.

⚠ CAUTION



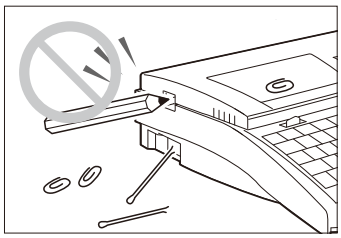
Do not place the unit on an unstable surface

Do not place the unit on an unstable surface or a surface that is subject to vibration. The unit could fall or tip over and cause injury.



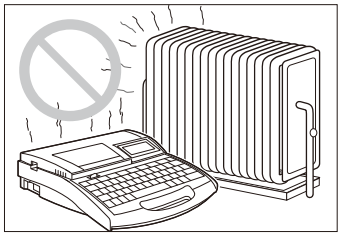
Do not place the unit on a carpet

Do not place the unit directly on a rug or carpet. Fibers and dust from the carpet can get inside of the unit and cause a fire.



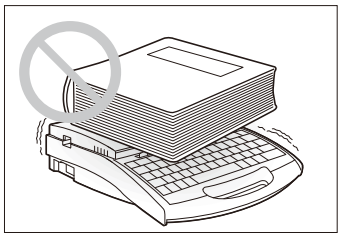
Do not insert foreign objects inside the unit

Do not drop or insert foreign objects such as clips or staples in the opening for the AC adapter, cutter section, or inside the printer. Otherwise it may cause fire, electrical shock, machine failure, or injury.



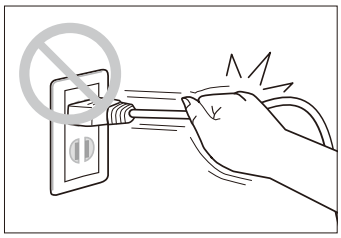
Protect the unit from humidity and dust

Do not operate or store the unit in a hot and humid environment, in a dusty environment, in an area exposed to direct sunlight, or near an open flame. Doing so could result in fire or electric shock.
Be sure to observe the storage and operating environment condition.
Operating environment: 15-32.5°C, RH 10-85%
Storage environment: 5-35°C, RH 10-90%



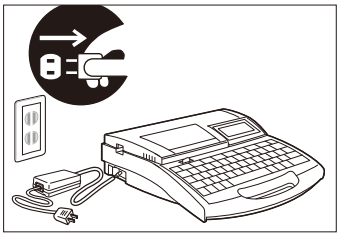
Do not place heavy objects or metal objects on the unit

Do not place heavy objects on the unit. Doing so could damage the unit.
Do not place metal objects such as accessories or containers such as cup containing water or fluid. Touching the electrical parts inside the printer can cause short circuit and may result in fire or electrical shock.



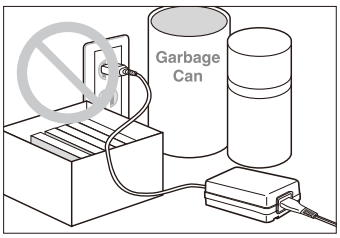
Handle the AC adapter carefully

When unplugging the power cord from an outlet, grasp the plug itself; do not pull on the cord. Pulling on the cord could damage the cord, which could result in fire or electric shock. Furthermore, always be sure to turn the power switch on the unit “OFF” before unplugging or plugging in the AC adapter.



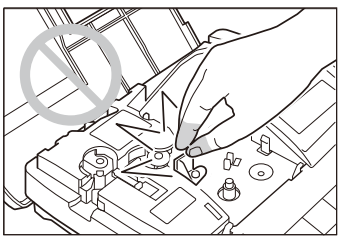
Unplug the unit when not in use

If the machine will not be used for a long time, unplug the AC adapter from the power outlet. Otherwise, electrical leakage may occur, and fire could result if dust has accumulated.



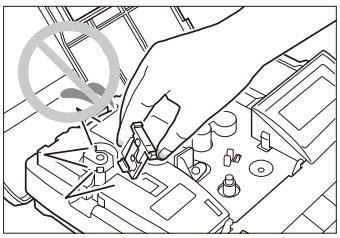
Keep the area around the AC adapter clear

In order to allow you to unplug the AC adapter quickly in an emergency, do not place other objects around the outlet. Inability to unplug the unit quickly in an emergency could result in fire or electric shock.



Do not touch the print head

Do not touch the print head while it is printing or immediately after printing. Doing so could result in a burn.



Do not touch the cutter

This unit has a built-in cutter. To avoid injury, read this manual thoroughly and handle the cutter carefully.

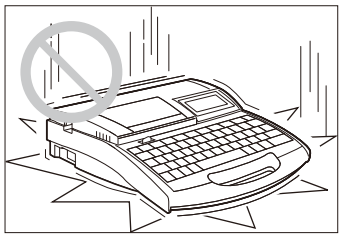
Keep small children away from the consumable

Always keep the consumable such as ribbon cassette, cleaner, etc., out of the reach of small children to avoid accidents.

Securely hold the handle of the printer

To avoid personal injury, securely hold the handle of the printer when carrying it.

CAUTION

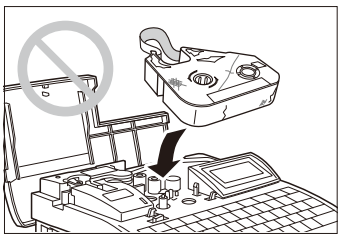


Handle the unit gently

Do not subject the unit to strong impacts. Doing so could damage the unit.

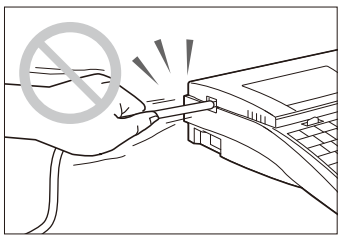
Do not operate the keyboard roughly

Do not handle the keyboard roughly when typing. Rough handling could result in damage to the unit.



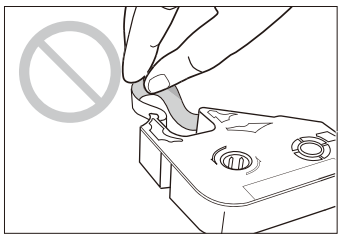
Do not re-use ribbons or label tape

Do not attempt to re-use ribbons or label tape. Doing so could damage the unit.



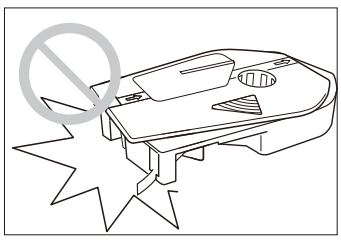
Do not attempt to pull tube out

Do not pull on a tube or tape while printing is in progress. Doing so could result in poor printing quality or malfunction.



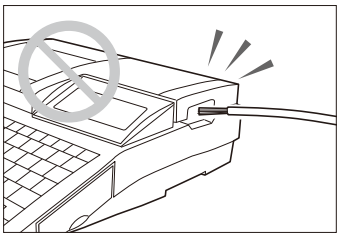
Do not touch ink ribbon

To avoid poor printing results with oil on your skin or staining your hands, do not touch ink ribbon.



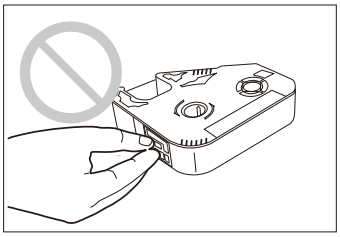
Using only cassettes designed for this unit

Use only the specified types of ribbon cassettes, tube attachments, etc. Never try to disassemble a cassette and install a new ribbon. Doing so can result in poor printing quality or damage to the equipment.



Do not feed wires into the unit

The purpose of this unit is to print on tube or labels. This unit cannot print directly on wires or cables, so do not attempt to feed wires or cables into the unit. Doing so could result in damage to the unit.



Do not touch the connector (metal part)

Do not touch the connection terminal (metal part) of the cassette. Doing so could cause an improper recognition of the cassette.

Do not leave the machine unused for a long time

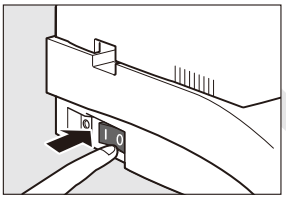
Do not leave the printer in a sun-heated vehicle or any other extreme environment for an extended period.

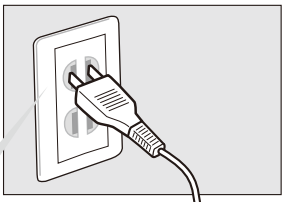
Quick Guide to Using the Printer

This section explains the basic use of the printer for people who want to start using it quickly. Although the printer features a wide variety of functions, this section explains only the most basic sequence of operations: installing accessories → turning on the power → inputing characters → printing. Refer to the main body of this manual for more specific details on the functions of the printer.

Installing Accessories

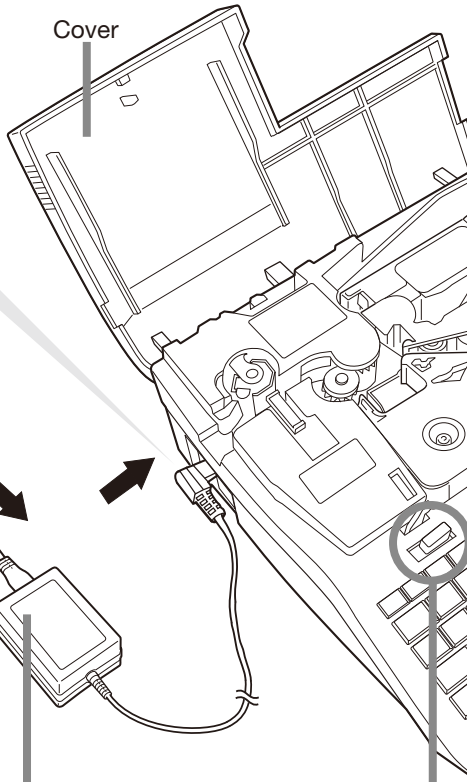
1 Check that the power switch is turned off.





Household power outlet

important The shape of the power plug varies according to country.



2 Attach the AC adapter (N14584).

3 Open the cover.

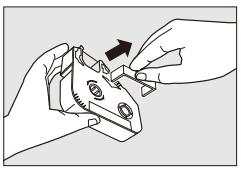
- Move this lever to the left, and then open the cover.

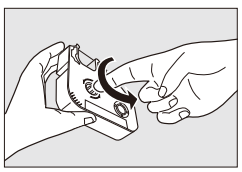
4 Install the ribbon cassette.

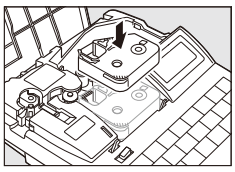
- Remove the stopper and take up any slack in the ribbon.
- Push the cassette in until it clicks into the place.

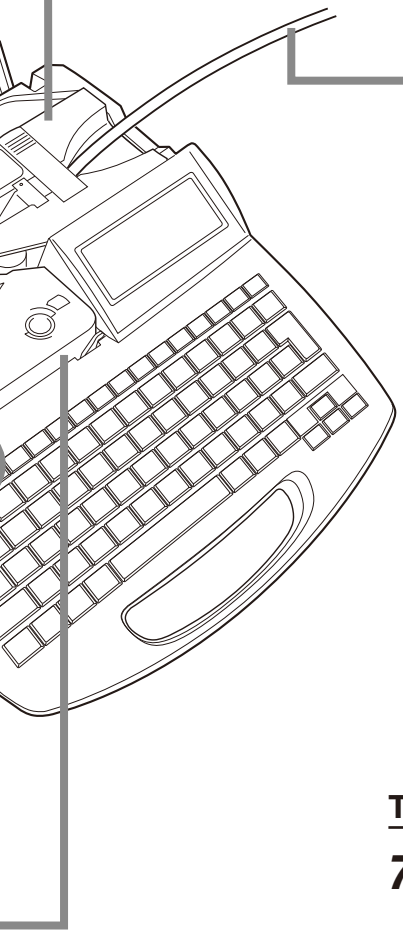
CAUTION **Do not touch the connector (metal part)**

Do not hold the connection terminal (metal part) of the cassette. Doing so could cause an improper recognition of the cassette.



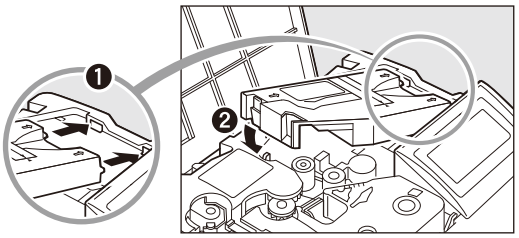






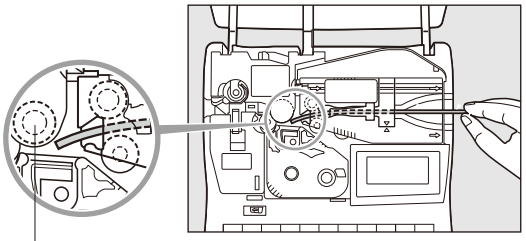
5 Install the tube attachment.

- Align the hooks on the tube attachment with the holes in the printer.
- Push the tube attachment in until it clicks into the place.



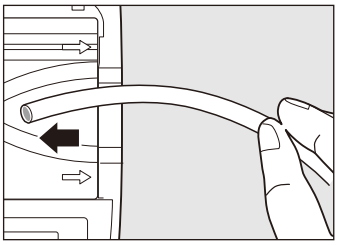
6 Insert a tube.

- Push the tube in until its tip touches the transport roller 2.



Transport roller 2

- Insert the tube with the warp oriented as shown in the figure.
  If the tube is inserted in a wrong orientation, it can jam and cause a feed error.



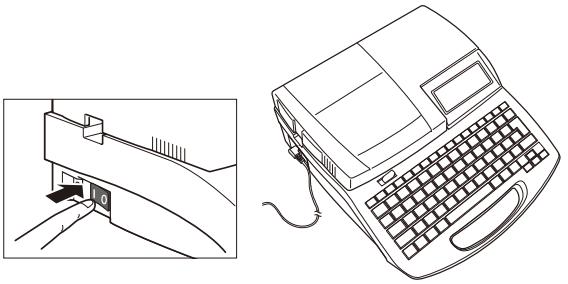
Turn the power switch on.

7 Close the cover.

- Close the cover completely so that it clicks shut.

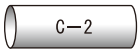
8 Turn on the power switch.

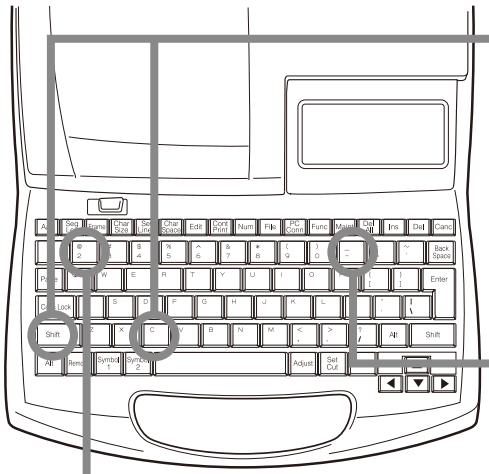
- Character input display appears after displaying the ribbon cassette information.



Inputting Characters

[Example] Printing “C-2” on a 3.0mm-diameter tube

Printed results 



9 While holding down [Shift], press [C].

C■

10 Press [-].

C - ■

11 Press [2].

C - 2■

If you accidentally input an incorrect character

ex. Although you meant to enter “C-2”, you entered “C=2” by mistake.

1 Press [◀] and [▶], and move the cursor box to the position of the “2” .

C = 2

2 Press [Back Space].

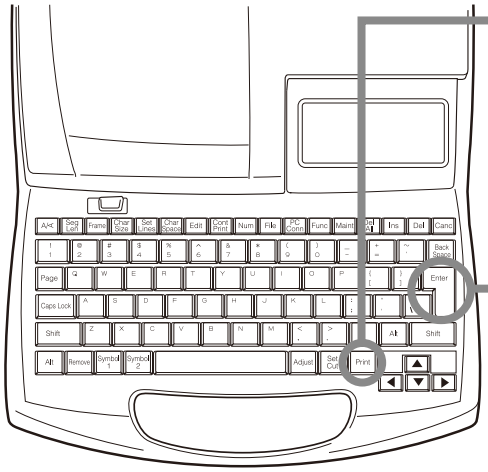
- The “=” disappears.

C 2

3 Press [-].

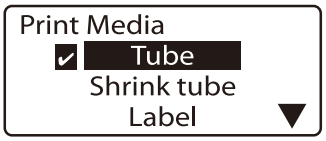
C - 2

Printing



12 Press [Print].

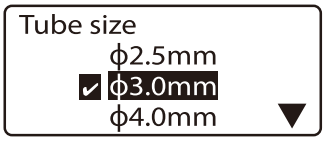
- Make sure that “Tube” is selected.



Memo “No ribbon cassette” is displayed if the ribbon cassette is not installed. Install the ribbon cassette.
“No ribbon information. No ribbon amount displayed. Press enter” is displayed if the information cannot be read due to the ribbon cassette failure and so forth. If this message is displayed, follow the instruction on the screen.

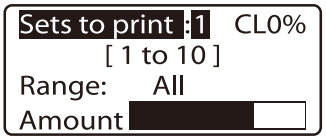
13 Press [Enter].

- Make sure that “ϕ3.0mm” is selected.



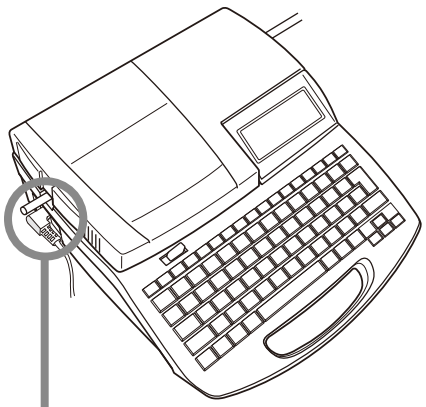
14 Press [Enter].

- Make sure that “Sets to print” is “1”.



15 Press [Enter].

- The tube is automatically fed into the printer and printing begins.
- Once printing is completed, the tube is cut automatically.



16 Take out the cut tube.

Part 1
Before You Begin (Preparation)

This section describes preparations and some things you should know before entering characters.

1.1 Names and Functions of Parts 18

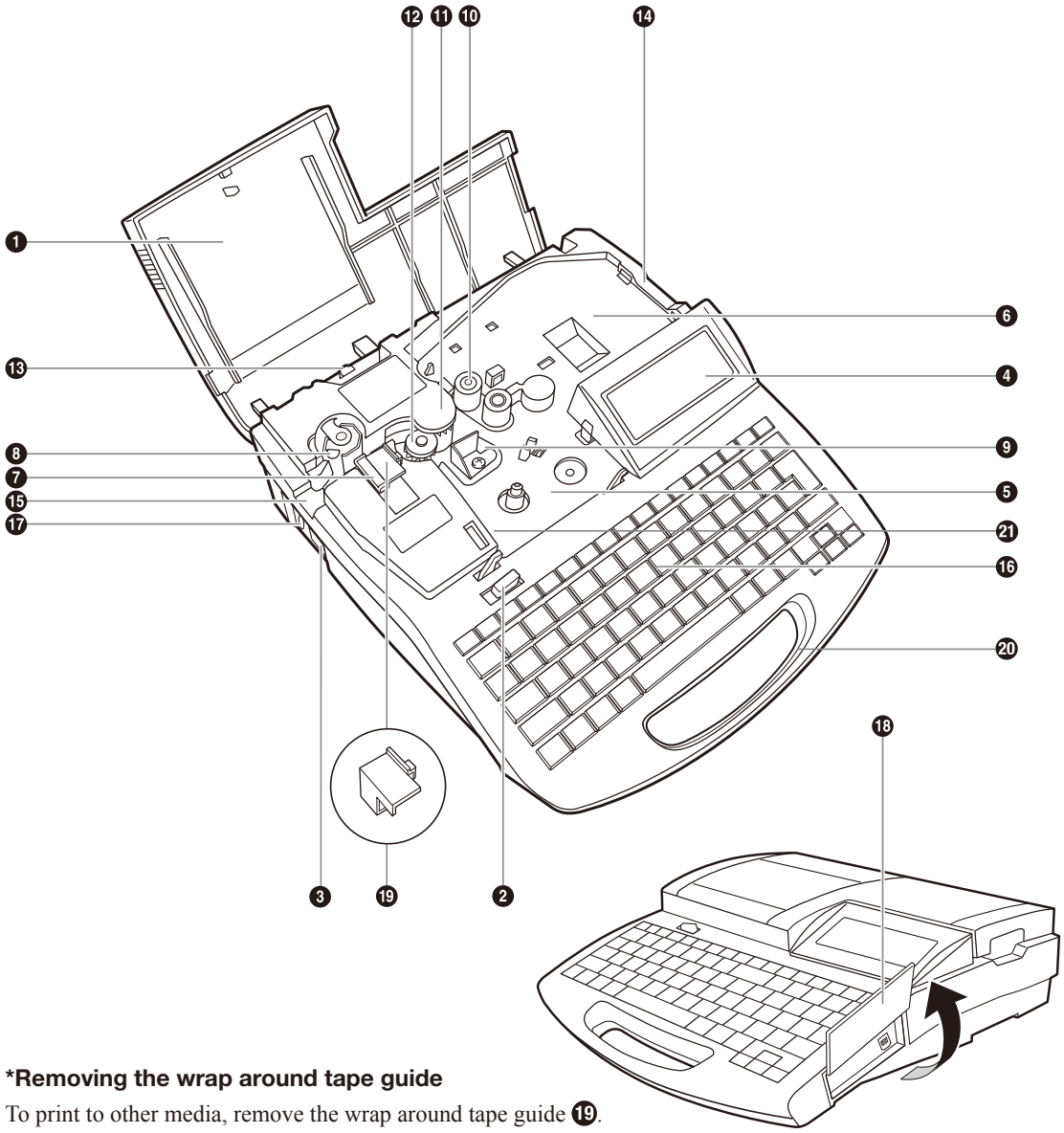
Main Unit 18
LCD screen.....20
Keyboard 22

1.2 Connecting the AC Adapter..... 24

1.3 Use the PC Connection Kit . 26

1.1 Names and Functions of Parts

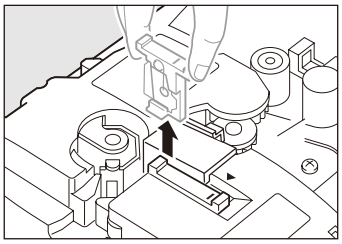
Main Unit



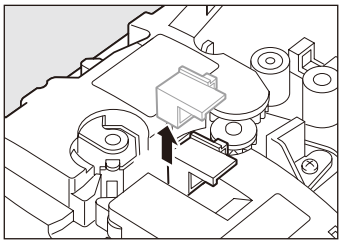
***Removing the wrap around tape guide**

To print to other media, remove the wrap around tape guide ⓳.

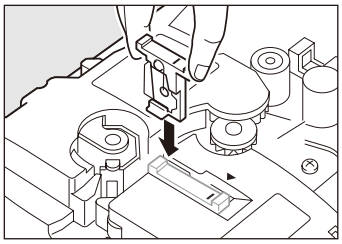
1. Pull out the cutter.



2. Pull out the wrap-around tape guide.



3. Reinstall the cutter.



❶ Cover
Open this cover when you need to load a cassette or tube.

❷ Cover release
Pull this lever to the left to open the cover.

❸ Power switch
Use this switch to turn the power on and off. Flip the switch to the "|" position to turn the power on, and flip the switch to the "○" position to turn the power off.

❹ LCD screen
Displays text that has been input or the information about settings.

❺ Ribbon cassette holder
Place the ribbon cassette here.

❻ Mounting location for attachment or printing media cassette
Mount the tube attachment or label tape cassette here. The optional Tube Warmer also mounts here.

❼ Cutter
The cutter cuts printing media automatically. The cutter can be replaced.

❽ Cutter receiver
This is the receiver for the cutter blade when cutting printing media. When the cutter is replaced, the cutter receiver is replaced at the same time.

❾ Print head
This device prints by applying heat to a ribbon. As it becomes very hot, not touch this device while printing is in progress or immediately after printing.

❿ Transport roller 1
This roller feeds printing media to the print head.

⓫ Transport roller 2
This roller feeds printing media past the print head.

⓬ Transport roller 3
This roller feeds printed printing media to the cutter.

⓭ Transport roller 3 release lever
Pull this lever to the right to release transport roller 3. Use this lever when clearing jammed printing media.

⓮ Media intake
Insert tube or plate here (when attachment installed).

⓯ Outlet
Printed printing media emerge here.

⓰ Keyboard
Input text to be printed and data for settings through this keyboard.

⓱ AC adapter connector
Connect the AC adapter cable here.

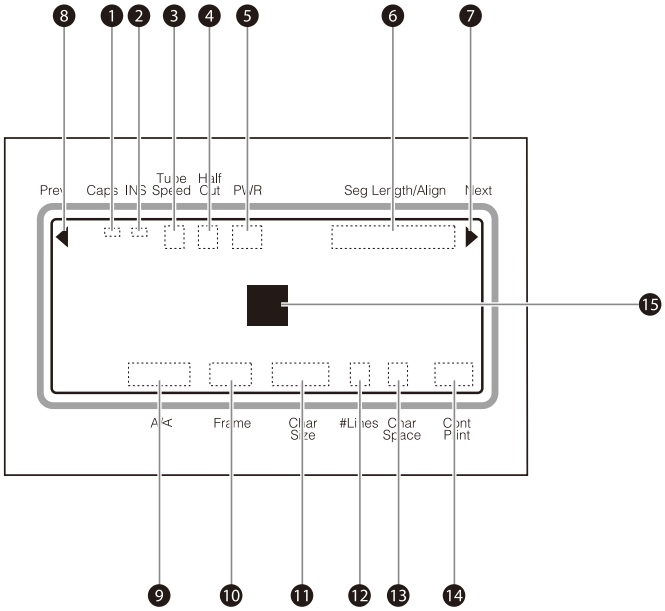
⓲ Interface cover
Open this cover to connect the USB cables of the PC connection kit.

⓳ Wrap around tape guide
This guide is installed when printing on wrap around tape. Remove it when printing to other media.

⓴ Handle
Hold this handle when carrying the printer.

㉑ Connector for ribbon cassette
This is to read out information of the ribbon cassette. Do not touch and deform the connector.

LCD screen



❶ Caps Lock

Indicates whether the Caps Lock mode is active.

▬ : Active, so all alphabetic characters are entered in uppercase.

(no indication): Normal(inactive)

❷ Insert/Overwrite mode indicator

Indicates which of the two input modes is selected: insert mode or overwrite mode.

▬ : Insert mode

(no indication): Overwrite mode

❸ Printing speed indicator

Indicates which printing speed has been selected: high, middle, or low.

H : High

M : Middle

L : Low

❹ Half cutting mode indicator

Indicates the half cutting mode that was selected for a single printing operation in which multiple tube segments or label tape are printed and then cut apart. Note that the half cutting mode is selected by pressing [Set Cut]

: Half cut.

| : Not half cut, but a solid line is printed showing where to cut with scissors, etc.

⋮ : Not half cut, but a dotted line is printed showing where to cut with scissors, etc.

(No indication):Not half cut, and no cutting line is printed.

❺ Power indicator

Indicates that the AC adapter is properly connected.

: AC adapter

❻ Seg Length/Alignment/margin indicator

Indicates either “Seg Length”, the length of one tube segment(or one label); “Alignment”, whether text is centered or left-justified; or “margin”.

❼ Next page indicator

Indicates that another page exists following the currently displayed page.

❽ Previous page indicator

Indicates that another page exists prior to the currently displayed page.

❾ Printing orientation indicator

Indicates which printing orientation has been selected: “horizontal/horizontal character”, “vertical/vertical character”, or “vertical/horizontal character”.

H/H: Horizontal/horizontal character

V/V: Vertical/vertical character

V/H: Vertical/horizontal character

❿ Frame indicator

Indicates the type of frame that has been selected to print around text.

⓫ Character size indicator

Indicates the selected printing character size. When 50% character size width is selected, “▮” is displayed next to the size.

⓬ Line number indicator

Indicates the number of lines selected for printing, either one line, two lines or three lines.

⓭ Character spacing indicator

Indicates the selected character spacing.

N(Narrow): Standard character spacing (no extra spacing)

M(Medium): Moderate character spacing (approximately 0.5mm between characters)

W(Wide): Wide character spacing (approximately 1.0mm between characters)

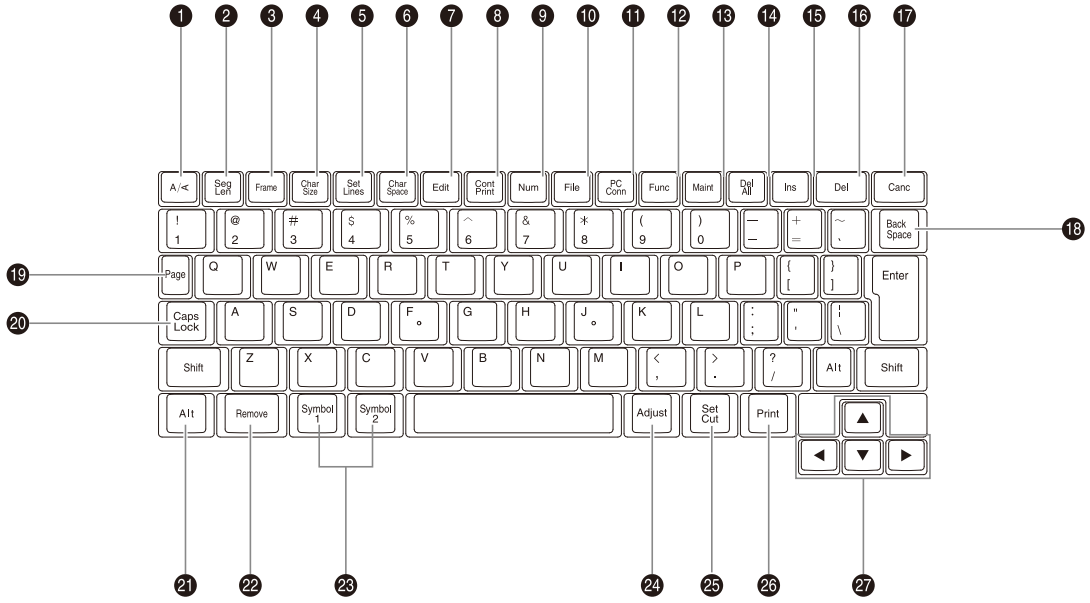
⓮ Continuous printing indicator

Indicates for how many times (how many pages) the currently displayed character data will be printed.

⓯ Cursor

The cursor appears as a rectangle (■). Text is input at the cursor position.

Keyboard



❶ [A/≺] (page 97)
Use this key to change the printing orientation.

❷ [Seg Len] (page 99)
Use this key to change the cutting length (the length of one tube or one label tape), the character alignment (left-justified or centered), and the margin.

❸ [Frame] (page 71)
Use this key to add a border around text.

❹ [Char Size] (page 68)
Use this key to change the character size.

❺ [Set Lines] (page 72)
Use this key to change the number of lines.

❻ [Char Space] (page 69)
Use this key to change the spacing between characters.

❼ [Edit] (page 74 to 84)
Use this key to insert, delete, copy, cut and paste pages.

❽ [Cont Print] (page 103)
Use this key to print a specific page multiple times (continuous printing).

❾ [Num] (page 105)
Use this key to print numbered character data (numbered printing).

❿ [File] (page 85 to 93)
Use this key to save text data that has been input, and to retrieve saved data.

⓫ [PC Conn]
Use this key when the printer is connected to the PC using the USB cable contained in the PC connection kit.

⓬ [Func]
Use this key
to adjust the printing density (page 113),
to select the printing speed (page 114),
to set the operation sound (page 121),
and so forth.

⓭ [Maint]
Use this key to feed a printing media forward or backward (pages 126 and 128), to replace the cutter (page 133), to forcibly full cut a tube or label tape (page 131), and so forth.

⓮ [Del All] (pages 62 and 122)
Use this key to delete all of the text data that is currently displayed, or to restore the initial settings.

⓯ [Ins] (page 63)
Use this key to switch between insert mode and overwrite mode.

⓰ [Del]
Use this key to delete character data that has been input. When this key is pressed, the character marked by the cursor is deleted.

⓱ [Canc]
Use this key to return to the previous display in the setup display, or to cancel a printing operation. If the setup display is currently displayed, hold down the [Shift] key while pressing the [Canc] key to return to the text input display. To cancel the current printing operation immediately, without waiting for the printing or cutting operation to end, hold down this key until the printer begins to beep.

⓲ [Back Space]
Use this key to delete character data that has been input. Each time this key is pressed, the character that precedes the cursor is deleted.

⓳ [Page]
Use this key to find out what page is currently being displayed. The free memory capacity is also displayed simultaneously.

⓴ [Caps Lock]
Press this key to switch character input between uppercase and lowercase.

㉑ [Alt]
To input symbols, use this key to select or delete characters.

㉒ [Remove] (page 118)
Use this key to eject a printing media.

㉓ [Symbol 1] ,[Symbol 2] (page 59)
Use this key to input symbols.

㉔ [Adjust]
Use this key to adjust the printing start position (page 108), to adjust the depth and speed of half cutting and full cutting (pages 130 and 132), and so forth.

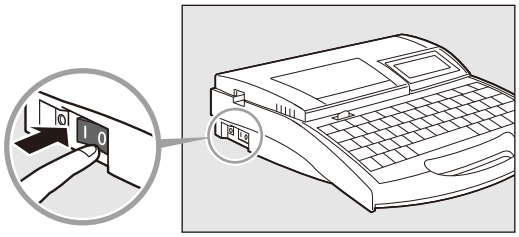
㉕ [Set Cut] (pages 115 and 116)
Use this key to select whether or not to use half cutting, and when to make a full cut.

㉖ [Print]
Use this key to print the entered text on a printing media.

㉗ Direction keys
Use these keys to make selections on the setup display and in the menus, and to move the cursor on the text input display. Also on the text input display, hold down the [Shift] key while pressing these keys to jump either one page back or one page ahead.

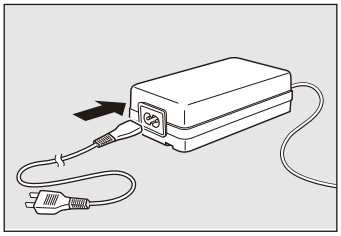
1.2 *Connecting the AC Adapter*

1 Make sure that the power switch is off.

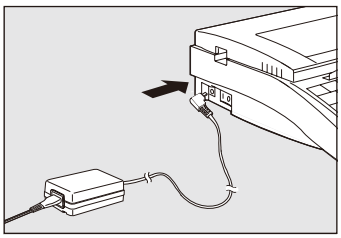


2 Plug the power cord into the AC adapter (N14584).

Plug it in all the way.

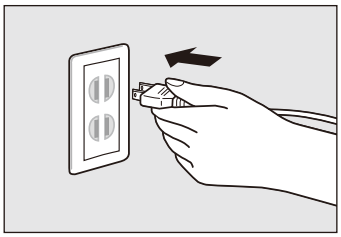


3 Plug the AC adapter into the printer.



4 Plug the AC adapter power plug into a 100-240V power outlet.

Plug it in all the way.



important The shape of the power plug varies according to country.

⚠ WARNING

Do not handle the power cord with wet hands

Do not plug in or unplug the AC adapter while your hands are wet. Doing so could result in electric shock.

Do not connect to a multi-outlet adapter or extension cord

Do not connect this unit to a multi-outlet adapter or extension cord. Doing so could result in fire or electric shock.

Do not power on with the power cord tied. It can cause fire or electrical shock.

Push the plug in all the way

Push the AC adapter power plug all of the way into the power outlet. Failure to do so could result in fire or electric shock.

Do not use any AC adapter or cord other than the included one

Never use any other AC adaptor or cord than the included one. Using it can result in fire, electric shock, or printer failure. Do not use the included AC adapter for any other product. Fire or electric shock can result.

Use a 100-240V AC power supply

Use at voltage between 100 and 240V AC. If not, it may result in fire, electrical shock or machine failure.

When it thunders at a short distance, remove the power plug from the outlet

When it thunders at a short distance, remove the power plug from the outlet. If not, it may result in fire, electric shock, or machine failure.

Do not damage the AC adapter and cord

Do not damage, pull excessively, or modify the AC adapter and cord. Do not place a heavy thing on the AC adapter and cord. A short-circuit can be caused at the damaged portion, resulting in a fire or electric shock.

Handle the AC adapter carefully

When unplugging the power cord from an outlet, grasp the plug itself; do not pull on the cord. Pulling on the cord could damage it, which could result in injury, fire or electric shock.

⚠ CAUTION

Keep the area around the AC adapter clear

In order to allow you to unplug the AC adapter quickly in an emergency, do not place other objects around the outlet. An inability to unplug the unit quickly in an emergency could result in fire or electric shock.

important

About the memory backup battery

If the memory backup battery starts become weak, the message shown below is displayed when the printer is turned on. If you continue to use the printer without replacing the battery, the memory backup battery will become completely dead, and the next time that the printer is turned off all data and settings will be lost. If this message appears, be sure to contact your dealer.

Memory backup
battery low.

Contact dealer.

After reading this message, press any key to continue.

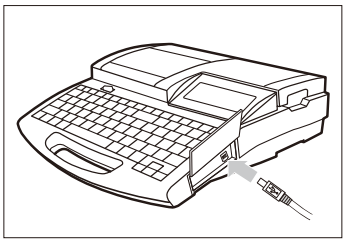
If the memory backup battery becomes completely dead, the message shown below is displayed when the printer is turned on. If this message appears, be sure to contact your dealer. If you continue to use the printer without replacing the battery, the printer may operate incorrectly.

Memory backup
battery exhausted.
Resetting memory.

1.3 Use the PC Connection Kit

Install the printer diver and application in the PC in advance.
For details on how to use the PC connection kit, refer to “Application Software for Mk2600” and the printer driver contained in the included Software CDROM.
To use the PC connection kit, connect the printer to the PC as shown.

1 Connect the printer to the PC using the included USB cable.



- Insert the type-B (square) plug of the USB cable in the USB socket on the printer, and insert the other plug of the USB cable in the USB socket on the PC.

*You may have to adjust the segment length for each printing media. For more details, refer to Note, “Adjusting the segment length” (page 101).

Part 2
Basic Operations

This section describes the basic steps to take before printing.

2.1 Printing on Tube and Clear Tube 28

Prep 1 Install cassettes 28
Prep 2 Insert tube.....30
Prep 3 Turn the power switch on 31
Step 1 Input characters.....32
Step 2 Print 35

2.2 Printing on Label Tape, Heat Shrink Tube, and 4mm I.D. Strip 36

Prep 1 Install cassettes 36
Prep 2 Turn the power switch on 39
Step 1 Input characters.....40
Step 2 Print 42

2.3 Printing on Wrap around Tape 43

Prep 1 Installing cassettes 43
Prep 2 Install the wrap around tape guide.....44
Prep 3 Turn the power switch on 45
Step 1 Input characters.....46
Step 2 Print 46

2.4 Printing on Plates..... 48

Prep 1 Install cassette.....48
Prep 2 Insert plate.....50
Prep 3 Turn the power switch on 51
Step 1 Input characters.....52
Step 2 Print 55

2.1 Printing on Tube and Clear Tube

The procedure for printing on tube or clear tube is shown below.

Prep 1 Install cassettes

▼

Prep 2 Insert tube

▼

Prep 3 Turn the power switch on

▼

Step 1 Input characters

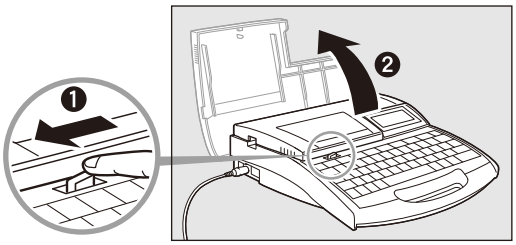
▼

Step 2 Print

Prep 1 Install cassettes

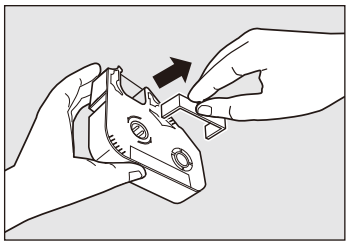
Install the ribbon cassette and the tube attachment.

1 Open the cover.



2 Take up any slack in the ribbon.

- Remove the stopper and then take up any slack in the ribbon.

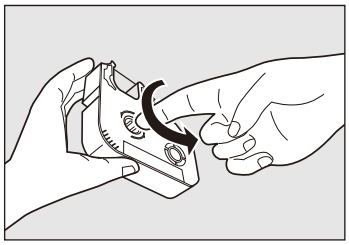


Memo

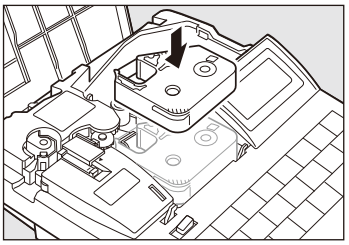
The printer cannot detect the ribbon if it has any slack. Always be sure to take up slack in the ribbon when installing the ribbon cassette.

Memo

Dispose the removed stopper according to local government regulation.



3 Install the ribbon cassette into the printer.



- Push the cassette in until it clicks into the place.

Memo

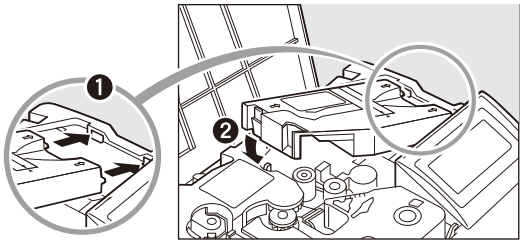
If the ribbon cassette is loose, the ribbon may not be detected, so be sure to press it in until it clicks.

CAUTION **Do not touch the connector (metal part)**

Do not hold the connection terminal (metal part) of the cassette. Doing so could cause an improper recognition of the cassette.

4 Install the tube attachment into the printer.

- Align the tabs on the tube attachment with the holes in the printer, and then push the tube attachment in until it clicks into the place.

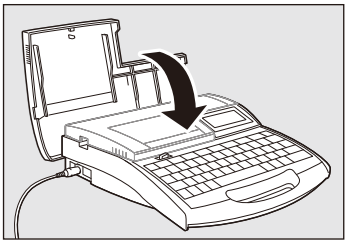


5 Remove the wrap around tape guide.

- page 18.

6 Close the cover.

- Close the cover completely so that it clicks shut.



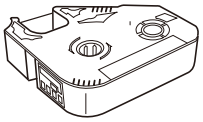
Note

Ink ribbon cassette and tube attachment

The ink ribbon cassette and tube attachment shown below are supplied with the printer.

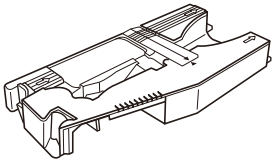
Ink ribbon cassette

The ink ribbon cassette contains a ribbon that contains special ink. The ink is printed on a tube or label tape by applying heat to the ribbon.



Tube attachment

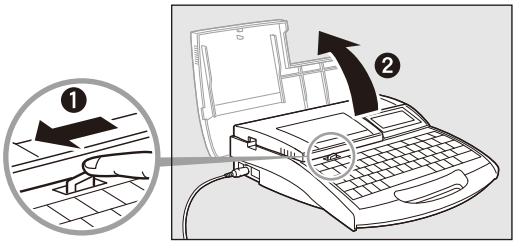
The tube attachment is used to print characters on a tube. It feeds a tube into the printer.



Prep 2 Insert tube

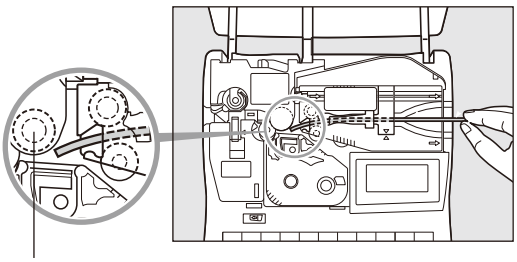
Tube is not provided with the printer; it must be purchased separately. The printer can print on tube with a diameter ranging from 2.5mm to 6.5mm. Note that the printer will not print properly on tube that is bumpy, dirty, or of uneven thickness.

1 Open the cover.



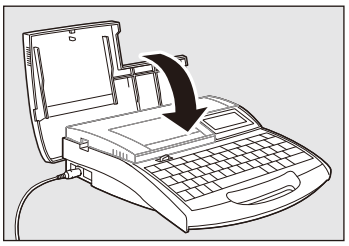
2 Insert a tube.

- Insert the tube into the intake, and push the tube in until it touches the transport roller 2.



3 Close the cover.

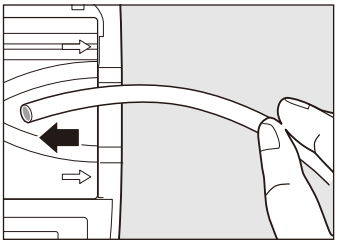
- Close the cover completely so that it clicks shut.



important

Pay attention to warp of the tube.

Insert the tube with the warp oriented as shown in the figure. If the tube is inserted in a wrong orientation, it can jam and cause a feed error.



CAUTION

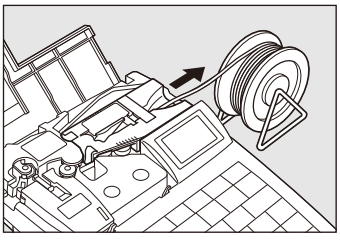
When tube presence cannot be detected

Depending on the type of tube, this machine may be unable to detect whether the tube is present. In such cases, use the clear tube mode for printing. However, in the clear tube mode, the machine cannot detect when the tube supply has run out.
When the tube supply has run out, hold down [Canc] until the printer beeps.

Note

When using a tube reel

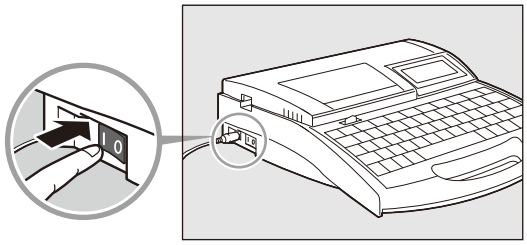
Adjust the tube reel so that the load does not exceed 4.9N (500gf). If the load is too great, the tube will stretch and the cutting position will shift.



Prep 3 Turn the power switch on

Before turning the power switch on, make sure that the cassettes and tube have been inserted properly, that the cover is closed, and that the AC adapter has been properly connected.

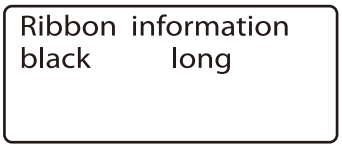
1 Press the "|" side of the power switch.



- The startup display appears.

Startup display

- Character input display appears after displaying the ribbon cassette information.



Ribbon cassette information display

Memo

The character input display appears immediately if no ribbon cassette is installed.

* If the display remains blank, refer to "Troubleshooting" (page 147).

important

Do not turn the power switch on and off rapidly

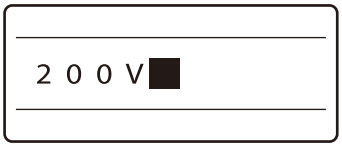
Turning the power switch on and off rapidly and repeatedly can cause misoperation and the loss of stored data.

Step 1 Input characters

ex. Print four each of the following tube segments.

Tube to be used: ϕ3.0mm

1 Input “200V”

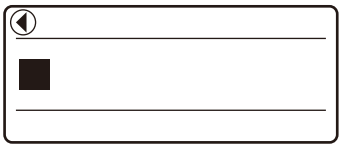


Memo

To input uppercase letters or the characters appearing on the upper half of the keycaps, press and hold the [Shift] key, and then press the desired key. If you input a wrong character by mistake, press [Back Space] to delete the character and then input the correct character.

2 Press [Enter].

- A new page appears, and the system awaits input of more character data.



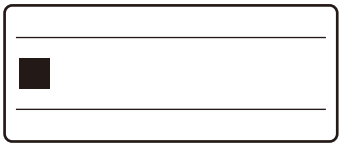
Indicates that another page precedes the currently displayed page.

3 Input “Pump Room”.

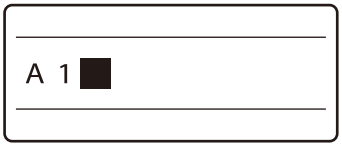
If you input a wrong character
Press [Back Space] to delete the character and then input the correct character.

4 Press [Enter].

- A new page appears, and the system awaits input of more character data.



5 Input “A1”.



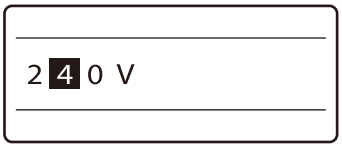
Note

If you accidentally input an incorrect character

Follow the procedure described below to make changes if you accidentally input an incorrect character.

ex. You meant to input “200V” but accidentally input “240V”

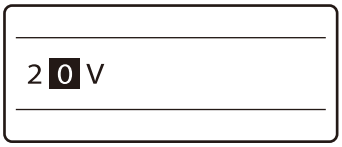
1. Press [◄] or [►] and move the cursor (■) to the “4”.



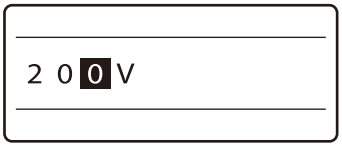
2. Press [Del] to delete the “4”.

Memo

If you press [Back Space] instead of [Del], the character to the left of the cursor (“2” in this case) is deleted.



3. Press “0” to input the correct character.



Note

Deleting all entered text

Follow the procedure described below to delete all characters input on all pages.

1. Press [Del ALL].
- The Delete All selection display appears.

2. Press [▲] or [▼] to select “Text only”, and then press [Enter].
- The deletion confirmation display appears.

Memo

When only the text is deleted, settings such as Orientation, Character Size, Seg Length, Frame, Lines, Character Space, Continuous Print, and Numbering remain unchanged.

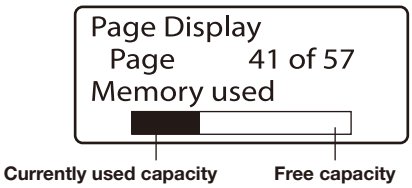
3. Press [◄] or [►] to select “Yes”, and then press [Enter].
- When the message shown at right appears, text data on all pages is deleted.

Note

Number of characters that can be input

The printer can accept data input of totalling approximately 5000 characters on all pages combined; if the printer's capacity is exceeded, the message "Not enough memory Character input is no longer possible." appears. If this occurs, save all text data (refer to "Saving character data" on page 86), delete all characters that are displayed on the display (refer to Memo on the previous page, "Deleting all entered text"), and then continue inputting new characters.

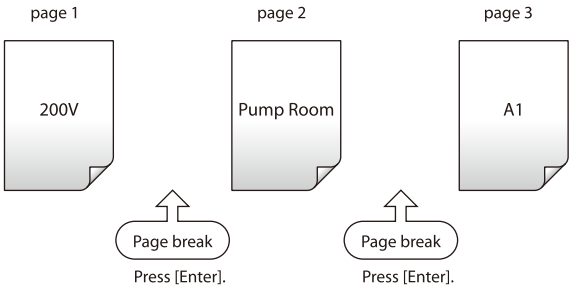
You can also press [Page] to display the following display, where you can check how much space is available.



Note

What is a page?

As used in relation to the printer, the term "page" has special meaning. The text entries "200V", "Pump Room" and "A1" that were input in the procedure described on page 32 are actually input on three separate pages. A new page is created automatically whenever you enter characters and press [Enter].



Note

Viewing data from a previous page

If there is a page preceding the currently displayed page, "◀" appears in the upper left corner of the display. If you press the [◀] key and move the cursor to the left past the first character that is currently displayed on the display, the display will change to show the character data from the preceding page. You can also jump directly to the preceding page by pressing [Shift] + [◀].

If there is a page that following the currently displayed page, "▶" appears in the upper right corner of the display. If you press the [▶] key and move the cursor to the right past the last character that is currently displayed on the display, the display will change to show the character data from the next page. You can also jump directly to the next page by pressing [Shift] + [▶].

Indicates that there is a page preceding the current page.

Indicates that there is a page following the current page.

Step 2 Print

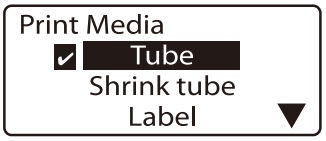
Once the characters have been input, begin printing.

1 Press [Print].

- The print media selection display appears.

Memo
"No ribbon cassette" is displayed if the ribbon cassette is not installed. Install the ribbon cassette.
"No ribbon information. No ribbon amount displayed. Press enter" is displayed if the information cannot be read due to the ribbon cassette failure and so forth. If this message is displayed, follow the instruction on the screen.

Memo
What is "print media"?
Print media is the material that you are printing on, such as a tube, heat shrink tube, label tape, wrap around tape, 4mm I.D. strip, plate, or clear tube.

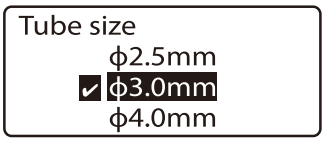


A check mark ☑ is displayed next to the currently selected print media.

2 Press [▲] or [▼] to select "Tube", and then press [Enter].

- The tube size (inner diameter) selection display appears.

Printing on clear tube
Press [▲] or [▼] to select "Clear tube" and then press [Enter].



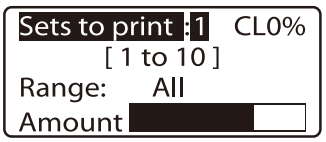
A check mark ☑ is displayed next to the currently selected tube size.

3 Press [▲] or [▼] to select "ϕ3.0mm", and then press [Enter].

- The sets to print and range setting display appears.

Select the correct tube size
Printing will not be performed correctly if you do not select the correct tube size.

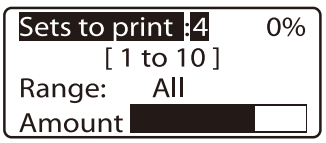
Memo
Rough amount of the remaining ink ribbon is displayed as shown. When the information of the cassette is not properly retrieved, the amount of the ribbon does not appear.



4 Press [▲] or [▼] to select "Sets to print", and then press [4].

- The result of this operation is that the character data for three pages is printed four times.

Memo
If "Range: all" is not selected, press [▲] or [▼] to select "Range", and then press [◄] or [►] to select "All"

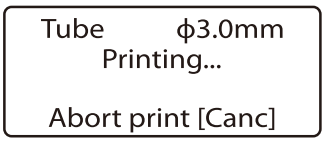


Make sure that "Range: All" is displayed.

5 Press [Enter].

- Printing begins.

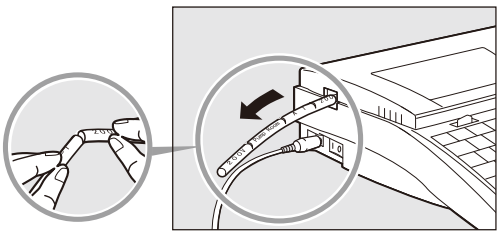
Canceling printing
If you press [Canc], the message "Aborting print" appears and printing is aborted. In this case, the tube that is currently being printed is cut and then ejected.



6 Take out the tube.

- A half-cut tube is ejected.

If a tube jams
Hold down [Canc] until the printer beeps. The printer stops all operations immediately. In this case, the tube is not cut and it is not ejected. Refer to "If a Tube or Label Tape Becomes Jammed" (page 124) and take out the jammed tube.



The tube is half-cut to permit easy cutting by hand.

2.2 *Printing on Label Tape, Heat Shrink Tube, and 4mm I.D. Strip*

Print the text by the following operating procedure. Prepare the following according to the type of media to be printed

- To print on label tape: label tape cassette
- To print on heat shrink tube: heat shrink tube cassette
- To print on 4mm I.D. strips: 4mm I.D. strip cassette

These cassettes are not include with the machine: they must be purchased separately. Contact your dealer for details.

Prep 1 Install cassettes

▼

Prep 2 Turn the power switch on

▼

Step 1 Input characters

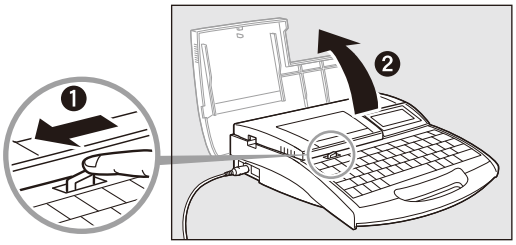
▼

Step 2 Print

Prep 1 Install cassettes

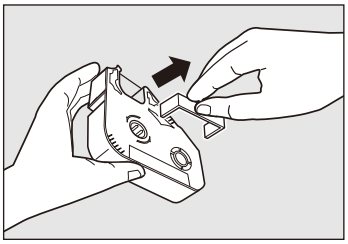
Install the ribbon cassette and the label tape cassette. Note that this explanation assumes that you will be printing on label tape. If you will be printing on heat shrink tube or 4mm I.D. strip, simply substitute heat shrink tube cassette or 4mm I.D. strip cassette for label tape cassette as appropriate.

1 Open the cover.



2 Take up any slack in the ribbon.

- Remove the stopper and then take up any slack in the ribbon.

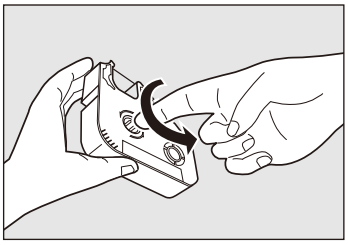


Memo

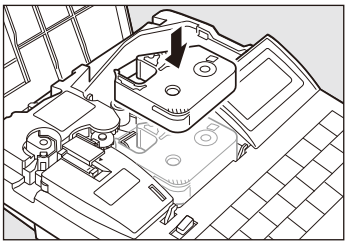
The printer cannot detect the ribbon if it has any slack in the ribbon. Always be sure to take up slack in the ribbon when installing a cassette.

Memo

Dispose the removed stopper according to local government regulation.



3 Install the ribbon cassette into the printer.



- Push the cassette in until it clicks into the place.

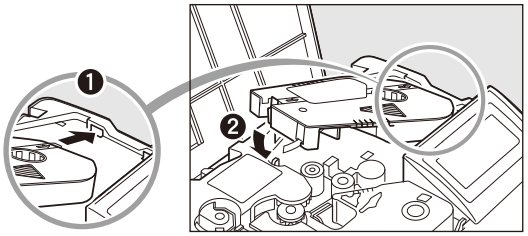
Memo

If the ribbon cassette is loose, the ribbon may not be detected, so be sure to press it in until it clicks.

CAUTION **Do not touch the connector (metal part)**

Do not hold the connection terminal (metal part) of the cassette. Doing so could cause an improper recognition of the cassette.

4 Install the label tape cassette into the printer.



- Align the tab on the label tape cassette with the hole in the printer, and then push the cassette in until it clicks into the place.

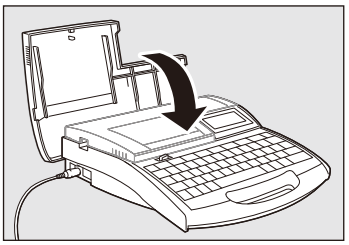
Memo

Confirm that the release paper is not peeled when setting the label cassette. Before setting, cut the part where the release paper is peeled or the end is not straight.

5 Remove the wrap around tape guide.

• page 18.

6 Close the cover.



- Close the cover completely so that it clicks shut.

Note

Various cassettes

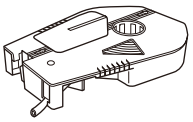
These cassettes must be purchased separately. Contact your nearest dealer for details.

Label tape cassette

This is used to print characters on label tape.

Heat shrink tube cassette

This is used to print characters on heat shrink tube.



Wrap around tape cassette

This is used to print on wrap around tape.

4mm I.D. strip cassette

This is used to print characters on 4mm I.D. strip.

important

Do not install the wrong type of cassette

The printer can print on tube, clear tube, label tape, heat shrink tube, wrap around tape, plate, and 4mm I.D. strip, but each requires a different type of cassette. Loading a wrong type of cassette makes it impossible to print characters properly.

When printing on tube or plate

Install the ribbon cassette and tube attachment in the machine.
If the wrap around tape guide or media cassette is already installed, remove it first.
Note that the attachment does not come with tube or plate; they must be purchased separately.

When printing on label tape, heat shrink tube or 4mm I.D. strip

Install the ribbon cassette and the appropriate cassette in the machine.
The wrap around tape guide and attachment are not used, so if they are already installed, remove them first.

When printing on wrap around tape

Install the ribbon cassette, the wrap around tape cassette and wrap around tape guide in the machine. The tube attachment is not used, so if it is already installed, remove it first.

Note

What to do if the label tape becomes stuck inside the cassette

Ordinarily, the tip of the label tape protrudes from the cassette as shown in Fig. 1, but sometimes the label tape becomes wound all the way into the cassette, as shown in Fig. 2. In this case, pull the label tape out as shown in Fig. 3. If you do not pull the label tape out before installing the cassette, the message “Start of media not detect.” appears and the printer can not print. This message can be cleared by pressing [Canc].

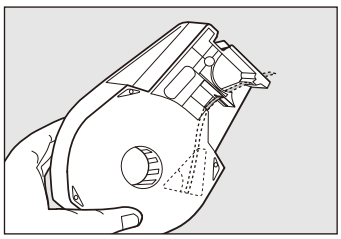


Fig. 1
The label tape should be set as shown here.

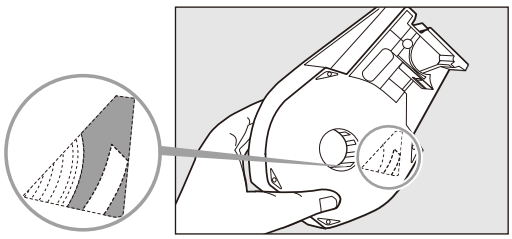


Fig. 2
Here, the label tape has become wound up inside of the cassette.

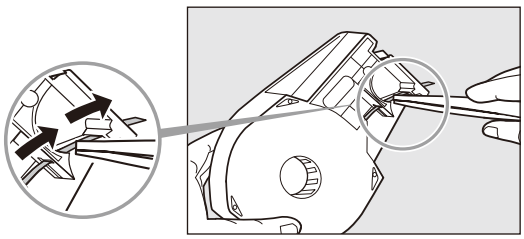
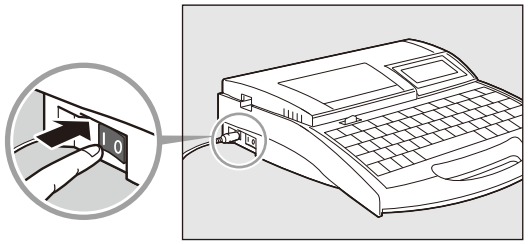


Fig. 3
Use tweezers to pull out the label tape to the prescribed position.

Prep 2 Turn the power switch on

Before turning the power switch on, make sure that the cassettes have been inserted properly, that the cover is closed, and that the AC adapter is connected.

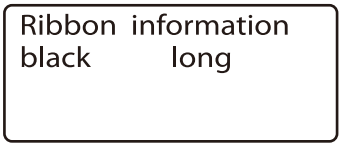
1 Press the "|" side of the power switch.



- The startup display appears.

Startup display

- Character input display appears after displaying the ribbon cassette information.



Ribbon cassette information display

Memo

The character input display appears immediately if no ribbon cassette is installed.

* If the display remains blank, refer to "Troubleshooting" (page 147).

important **Do not turn the power switch on and off rapidly**

Turning the power switch on and off rapidly and repeatedly can cause misoperation and the loss of stored data.

Step 1 Input characters

ex. Print the following label tape.

10W	+12V --12V	Relay

Label tape being used: 9mm label tape

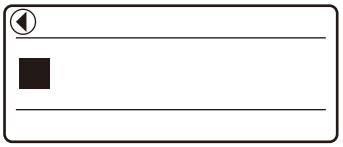
1 Input “10W”.

Memo

If you accidentally input an incorrect character, press [Back Space] to delete the character and then input the correct one.

2 Press [Enter].

- A new page appears, and the system waits for input of more character data.



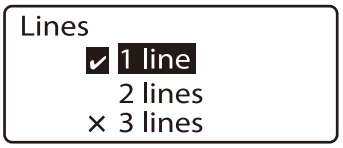
Indicates that another page precedes the currently displayed page.

3 Press [Set Lines].

- Since the middle label has two lines press [Set Lines] to change the Lines setting.

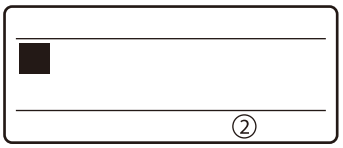
Memo

An “×” appears next to number of lines that are not available.



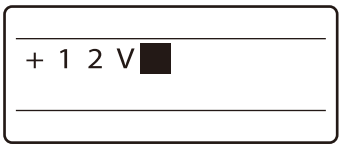
A check mark ☑ indicates the number of lines that is currently selected.

4 Press [▲] or [▼] to select “2 lines” and then press [Enter].



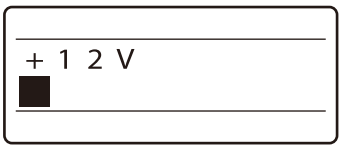
The input display now has two lines.

5 Input “+12V”.



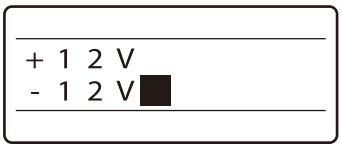
6 Press either [▼] or [►].

Memo
If you press [Enter] instead of [▼] or [►], a new page is created.



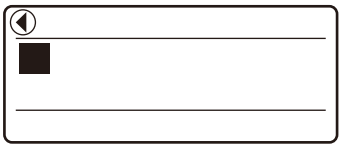
The cursor moves to the second line.

7 Input “-12V”.



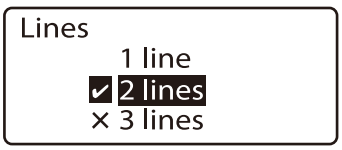
8 Press [Enter].

- A new page appears, and the system waits for input of more character data.



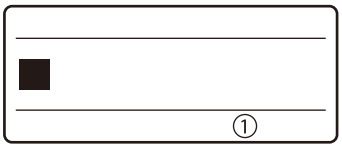
9 Press [Set Lines].

- Since the third label has just one line, press [Set Lines] to change the Line setting for the third label.



A check mark ☑ indicates the number of lines that is currently selected.

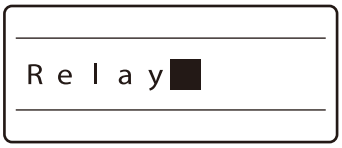
10 Press [▲] or [▼] to select “1 line” and then press [Enter].



The input display now has one line.

11 Input “Relay”.

If you input the wrong character
Press [Back Space] to delete the character and then input the correct one.

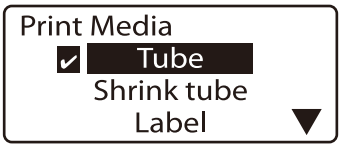


Step 2 Print

Once the characters have been input, begin printing.

1 Press [Print].

• The print media selection display appears.



A check mark ☑ is displayed next to the currently selected print media.

Memo

"No ribbon cassette" is displayed if the ribbon cassette is not installed. Install the ribbon cassette.

"No ribbon information. No ribbon amount displayed. Press enter" is displayed if the information cannot be read due to the ribbon cassette failure and so forth. If this message is displayed, follow the instruction on the screen.

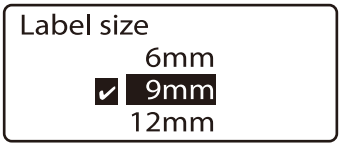
Memo

What is "print media"?

Print media is the material that you are printing on, such as a tube, heat shrink tube, label tape, wrap around tape, 4mm I.D. strip, plate, or clear tube.

2 Press [▲] or [▼] to select "Label", and then press [Enter].

• The label tape size (width) selection display appears.



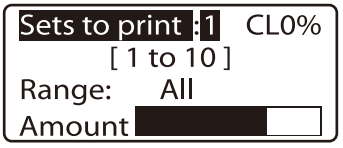
A check mark ☑ is displayed next to the currently selected label tape size.

Memo

If 4mm I.D. strip is the selected media, the size display does not appear.

3 Press [▲] or [▼] to select "9mm", and then press [Enter].

• The sets to print and range setting display appears.



Make sure that "Range: All" is displayed.

Memo

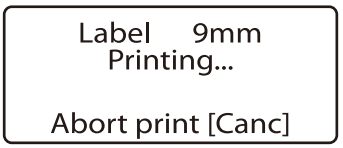
If "Range: all" is not selected, press [▲] or [▼] to select "Range", and then press [◄] or [►] to select "All".

Memo

Rough amount of the remaining ink ribbon is displayed as shown. When the information of the cassette is not properly retrieved, the amount of the ribbon does not appear.

4 Press [Enter].

• Printing begins.



Canceling printing

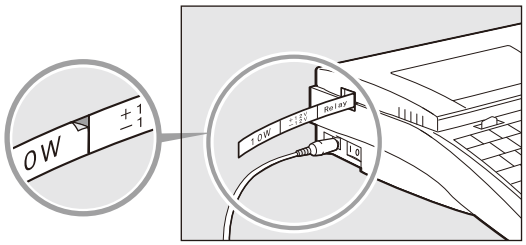
If you press [Canc], the message "Aborting print" appears and printing is aborted. In this case, the label tape that is currently being printed is cut and then ejected.

5 Take out the label.

• A half-cut label is ejected.

If label tape jams

Hold down [Cancel] until the printer beeps. The printer stops all operations immediately. In this case, the label tape is not cut and it is not ejected. Refer to "If a Tube or Label Tape Becomes Jammed" (page 124) and take out the jammed label tape.



A small notch is cut between each label so that the labels can be easily separated.

2.3 Printing on Wrap around Tape

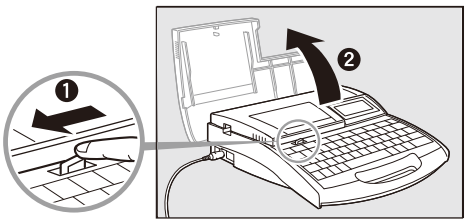
Wrap around tape consists of a printable part and a transparent laminate. It is used for indicating the destinations of cables.
Prepare a wrap around tape cassette and print characters by the following procedure.
Note that a wrap around tape cassette is not supplied with the machine; it must be purchased separately.

Prep 1 Installing cassettes
▼
Prep 2 Installing the wrap around tape guide
▼
Prep 3 Turn the power switch on
▼
Step 1 Input characters
▼
Step 2 Print

Prep 1 Installing cassettes

Install a ribbon cassette and the wrap around tape cassette.

1 Open the cover.



2 Take up any slack in the ribbon.

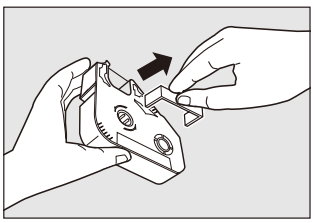
- Remove the stopper and then take up any slack in the ribbon.

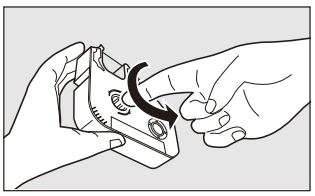
Memo

The printer cannot detect the ribbon if it has any slack in the ribbon. Always be sure to take up slack in the ribbon when installing a cassette.

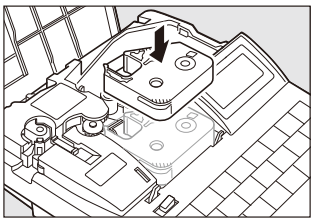
Memo

Dispose the removed stopper according to local government regulation.





3 Install the ribbon cassette in the printer.



- Push the cassette in until it clicks into the place.

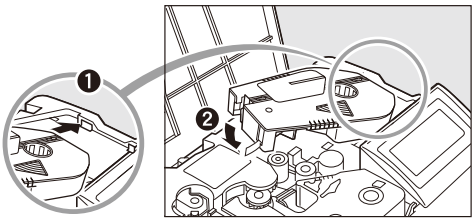
Memo

If the ribbon cassette is loose, the ribbon may not be detected, so be sure to press it in until it clicks.

CAUTION **Do not touch the connector (metal part)**

Do not hold the connection terminal (metal part) of the cassette. Doing so could cause an improper recognition of the cassette.

4 Install the wrap around tape cassette into the printer.



- Align the tab on the wrap around tape cassette with the hole in the printer, and then push the cassette in until it clicks into the place.

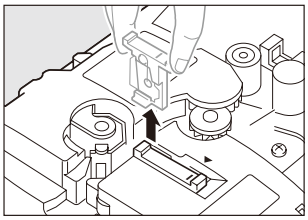
Prep 2 Install the wrap around tape guide

Install the wrap around tape guide

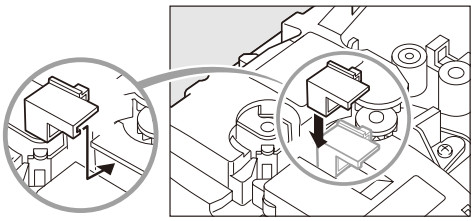
Memo

If the wrap around tape guide has been installed, verify that it is installed correctly.

1 Pull out the cutter.

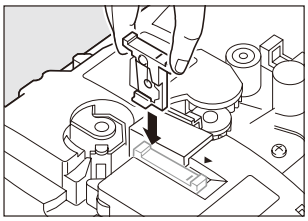


2 Install the wrap around tape guide.



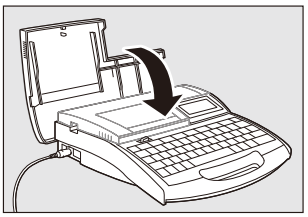
- Press the guide firmly so that it hooks under the ledge in the machine.

3 Install the cutter.



- To ensure correct orientation, align the "-" mark on the cutter with the "◀" mark as shown, and insert the cutter all the way in.

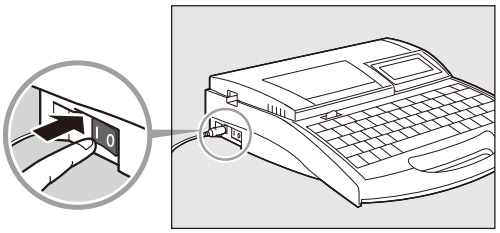
4 Close the cover.



Prep 3 Turn the power switch on

Before turning the power switch on, make sure that the cassettes have been inserted properly, that the cover is closed, and that the AC adapter is connected.

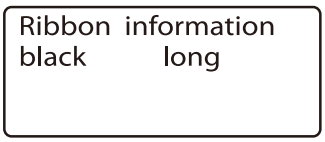
1 Press the "|" side of the power switch.



- The startup display appears.

Startup display

- Character input display appears after displaying the ribbon cassette information.



Ribbon cassette information display

Memo

The character input display appears immediately if no ribbon cassette is installed.

* If the display remains blank, refer to "Troubleshooting" (page 147).

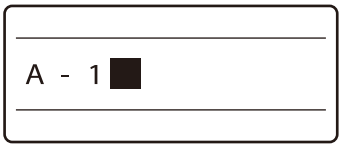
important **Do not turn the power switch on and off rapidly**

Turning the power switch on and off rapidly and repeatedly can cause misoperation and the loss of stored data.

Step 1 Input characters

ex. create three pieces of wrap-around tape of the following types.

1 Input “A-1”.



Step 2 Print

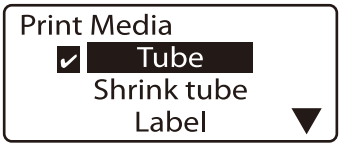
Once the characters have been input, begin printing.

1 Press [Print].

- The print media selection display appears.

Memo
“No ribbon cassette” is displayed if the ribbon cassette is not installed. Install the ribbon cassette.
“No ribbon information. No ribbon amount displayed. Press enter” is displayed if the information cannot be read due to the ribbon cassette failure and so forth. If this message is displayed, follow the instruction on the screen.

Memo
What is “print media”?
Print media is the material that you are printing on, such as a tube, heat shrink tube, label tape, wrap around tape, 4mm I.D. strip, plate, or clear tube.



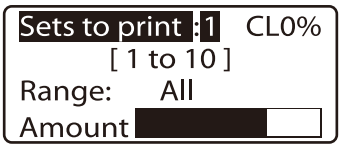
A check mark ☑ is displayed next to the currently selected print media.

2 Press [▲] or [▼] to select “Wrap around”, and press [Enter].

- The sets to print and range setting display appears.

Memo
If “Range: all” is not selected, press [▲] or [▼] to select “Range”, and then press [◄] or [►] to select “All”.

Memo
Rough amount of the remaining ink ribbon is displayed as shown. When the information of the cassette is not properly retrieved, the amount of the ribbon does not appear.



Make sure that “Range: All” is displayed.

3 Press [3] and then [Enter].

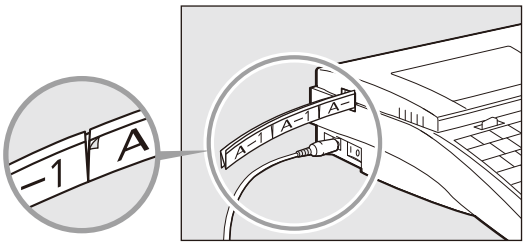
- Three pieces are printed.

Canceling printing
If you press [Canc], the message “Aborting print” appears and printing is aborted. In this case, the tape that is currently being printed is cut and then ejected.

4 Take out the wrap around tape.

- A half-cut tape is ejected.

If tape jams
Hold down [Cancel] until the printer beeps. The printer stops all operations immediately. In this case, the tape is not cut and it is not ejected. Refer to “If a Tube or Label Tape Becomes Jammed” (page 124) and take out the jammed tape.



The tape is half-cut so that it can be easily separated by hand.

Note

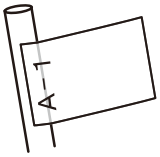
Attaching the wrap-around tape

1. Peel the printed film from the wrap around tape backing.

Memo

When wrapping, the laminating cover should overlap the printed part sufficiently. We therefore recommend using with cable of ϕ3 to ϕ7.6 mm.

2. Attach the tape to the cable as shown in the diagram, starting from the printed end.

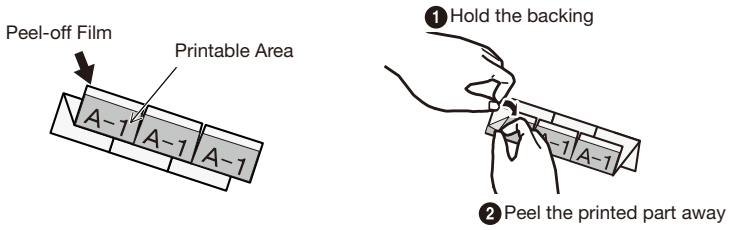


3. Wrap the transparent laminating portion so that it covers the printed part.

Note

If the film does not peel away from the backing

Because wrap around tape has a strong adhesive, it may be hard to peel the film off the backing. Refer to the following diagram for the peeling method.



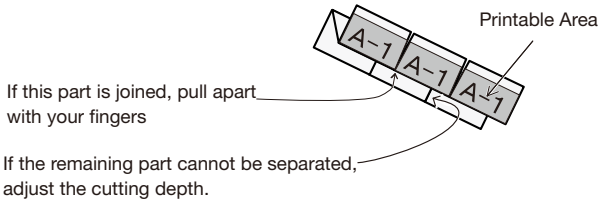
Note

If the cut is too shallow

Wrap around tape is thicker than typical label tape, so the half-cut may be shallower. In this case, refer to “What To Do If the Cutter Is Getting Blunt” on page 130 to adjust cutting depth. If it still does not cut, replace with new cutter. (page 133)

Memo

If the half-cut is too shallow, the film may not peel from the backing properly.



important

Nisca Corporation shall not be responsible for damages that might result from the tape peeling off, or from fading of the printing on the tape.

2.4 Printing on Plates

The procedure for printing on plates is shown below.

Prep 1 Install cassettes

▼

Prep 2 Insert plate

▼

Prep 3 Turn the power switch on

▼

Step 1 Input characters

▼

Step 2 Print

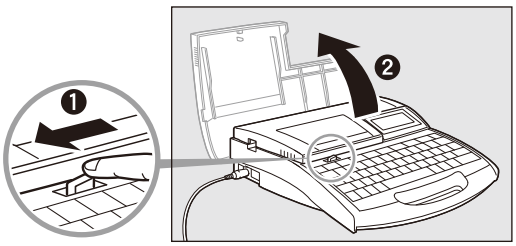
Prep 1 Install cassettes

Install the plate ribbon cassette and the plate attachment.

Memo

This device may not print properly on some types of plate. Please contact your nearest dealer for details.

1 Open the cover.



2 Take up any slack in the ribbon.

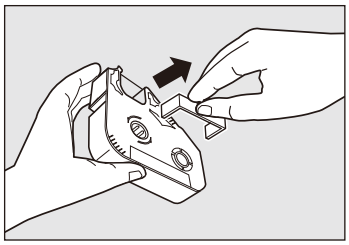
- Use the plate ribbon cassette.
- Remove the stopper and then take up any slack in the ribbon.

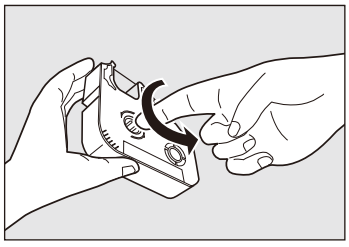
Memo

The printer cannot detect the ribbon if it has any slack in the ribbon. Always be sure to take up slack in the ribbon when installing the ribbon cassette.

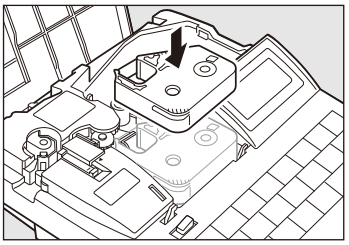
Memo

Dispose the removed stopper according to local government regulation.





3 Install the ribbon cassette into the printer.



- Push the cassette in until it clicks into the place.

Memo

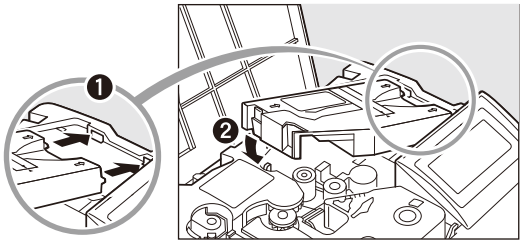
If the ribbon cassette is loose, the ribbon may not be detected, so be sure to press it in until it clicks.

CAUTION **Do not touch the connector (metal part)**

Do not hold the connection terminal (metal part) of the cassette. Doing so could cause an improper recognition of the cassette.

4 Install the plate attachment into the printer.

- Align the tabs on the plate attachment with the holes in the printer, and then push the plate attachment in until it clicks into the place.

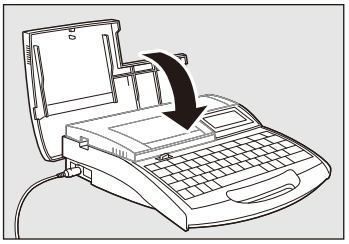


5 Remove the wraparound tape guide.

- page 18.

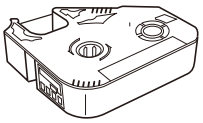
6 Close the cover.

- Close the cover completely so that it clicks shut.



important

Use only a plate ink ribbon cassette!

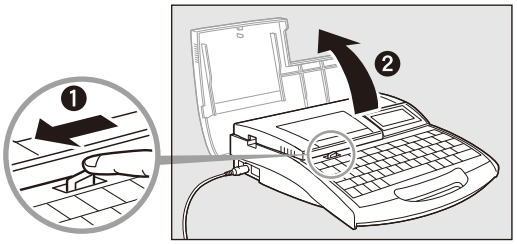


A special ribbon cassette is required for printing on plates.
The supplied ink ribbon cassette will not print properly on plate media.
This cassette is not included with this product, so contact your nearest dealer.
*The tension of the ink ribbon dedicated to the plate was factory-adjusted.

Prep 2 Insert plate

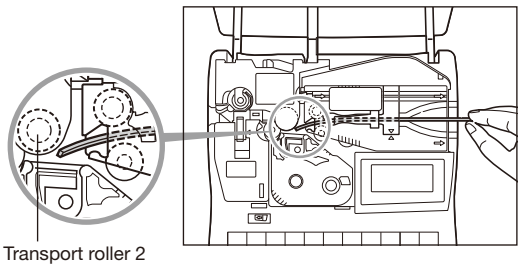
Plates are not provided with the printer; they must be purchased separately. The printer can print on from 8.0mm to 10mm plates. Note that the printer will not print properly on plates that are bumpy, dirty or of uneven thickness.

1 Open the cover.



2 Insert a plate.

- Insert the plate into the intake, and push it in until it touches the transport roller 2.

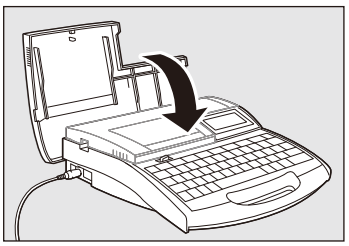


3 Close the cover.

- Close the cover completely so that it clicks shut.

Memo

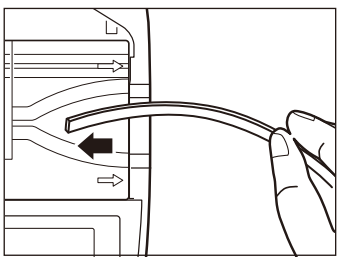
Printing may not be performed properly if the surface of the plate is unsuitable.



important

Pay attention to warp of the plate.

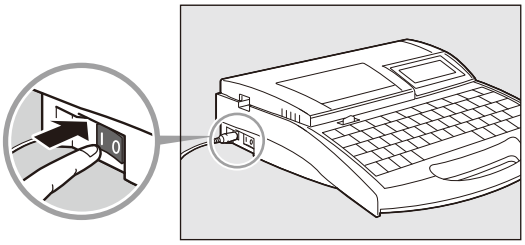
Insert the plate with the warp oriented as shown in the figure. If the plate is inserted in a wrong orientation, it can jam and cause a feed error.



Prep 3 Turn the power switch on

Before turning the power switch on, make sure that the cassettes and plate have been inserted properly, that the cover is closed, and that the AC adapter is properly connected.

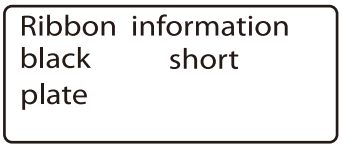
1 Press the "|" side of the power switch.



- The startup display appears.

Startup display

- Character input display appears after displaying the ribbon cassette information.



Ribbon cassette information display

Memo

The character input display appears immediately if no ribbon cassette is installed.

* If the display remains blank, refer to "Troubleshooting" (page 147).

important

Do not turn the power switch on and off rapidly

Turning the power switch on and off rapidly and repeatedly can cause malfunction and the loss of stored data.

Step 1 Input characters

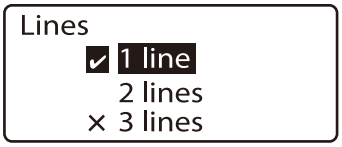
ex. Print the following plates.

A–1	B–1	C–1
A–2		C–2

Plate being used: 8mm plate

1 Press [Set Lines].

- Since the first plate has two lines, press [Set Lines] to change the Lines setting.

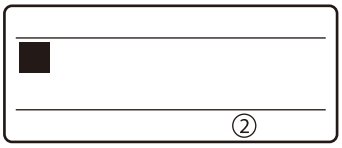


A check mark ☑ indicates the number of lines that is currently selected.

2 Press [▲] or [▼] to select “2 lines” and then press [Enter].

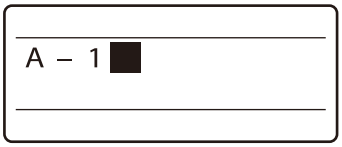
Memo

An “×” appears next to number of lines that are not available.



The input display now has two lines.

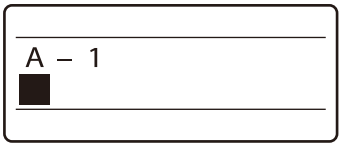
3 Input “A-1”.



4 Press either [▼] or [►].

Memo

If you press [Enter] instead of [▼] or [►], a new page is created.

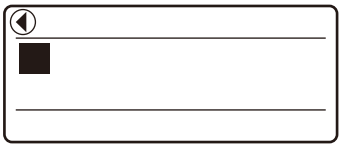


The cursor moves to the second line.

5 Input “A-2”.

6 Press [Enter].

- A new page appears, and the system waits for input of more character data.



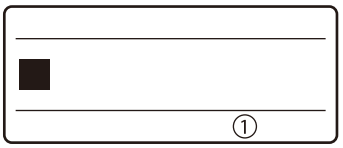
Indicates that another page precedes the currently displayed page.

7 Press [Set Lines].

- Since the second plate has just one line, press [Set Lines] to change the Line setting for the second plate.

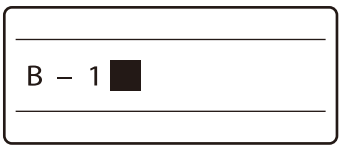
A check mark ☑ indicates the number of lines that is currently selected.

8 Press [▲] or [▼] to select “1 lines” and then press [Enter].



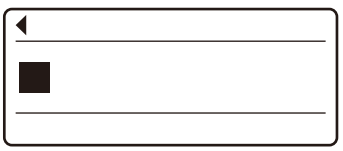
The input display now has two lines.

9 Input “B-1”.



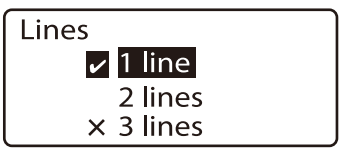
10 Press [Enter].

- A new page appears, and the system waits for input of more character data.



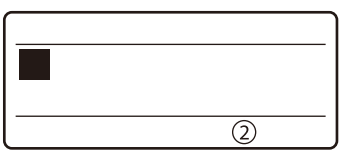
11 Press [Set Lines].

- Since the third plate has two lines, press [Set Lines] to change the Line setting for the third plate.



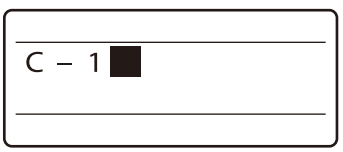
A check mark ☑ indicates the number of lines that is currently selected.

12 Press [▲] or [▼] to select “2 lines” and then press [Enter].



The input display now has two lines.

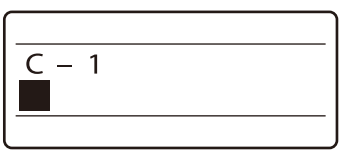
13 Input “C-1”.



14 Press either [▼] or [►].

Memo

If you press [Enter] instead of [▼] or [►], a new page is created.

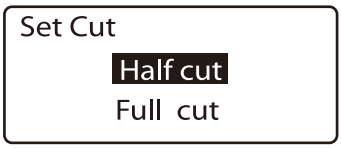


The cursor moves to the second line.

15 Input “C-2”.

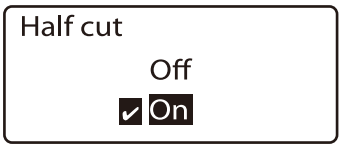
16 Press [Set Cut].

- The Set cut selection display appears.



17 Press [▲] or [▼] to select “Half cut” and then press [Enter].

- The Half cut selection display appears.

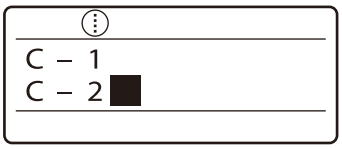


18 Press [▲] or [▼] to select “Off” and then press [Enter].

- The Cut line selection display appears.

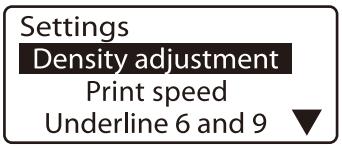
19 Press [▲] or [▼] to select “Dotted” and then press [Enter].

- Now the cut line is printed as a dotted line.
  The media cannot be cut in the plate mode.



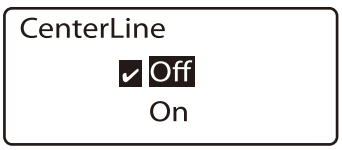
20 Press [Func].

- The Function selection display appears.



21 Press [▲] or [▼] to select “CenterLine” and then press [Enter].

- The Center line selection display appears.



22 Press [▲] or [▼] to select “On” and then press [Enter].

- The character input display reappears.

Step 2 Print

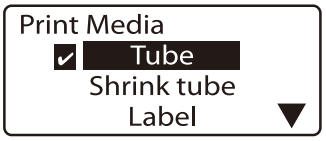
Once the characters have been input, begin printing.

1 Press [Print].

- The print media selection display appears.

Memo
"No ribbon cassette" is displayed if the ribbon cassette is not installed. Install the ribbon cassette.
"No ribbon information. No ribbon amount displayed. Press enter" is displayed if the information cannot be read due to the ribbon cassette failure and so forth. If this message is displayed, follow the instruction on the screen.

Memo
What is "print media"?
Print media is the material that you are printing on, such as a tube, heat shrink tube, label tape, 4mm I.D. strip, clear tube, wraparound tape or plate.

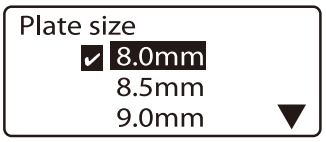


A check mark ☑ is displayed next to the currently selected print media.

2 Press [▲] or [▼] to select "Plate", and then press [Enter].

- The plate (width) selection display appears.

Memo
The plate size must be set accurately. If the correct plate size is not selected, printing will not proceed correctly.



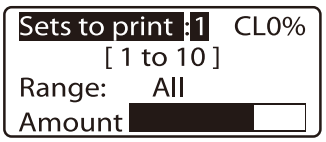
A check mark ☑ is displayed next to the currently selected plate size.

3 Press [▲] or [▼] to select "8.0mm", and then press [Enter].

- The sets to print and range setting display appears.

Memo
If "Range: All" is not selected, press [▲] or [▼] to select "Range", then press [◄] or [►] to select "All".

Memo
Rough amount of the remaining ink ribbon is displayed as shown. When the information of the cassette is not properly retrieved, the amount of the ribbon does not appear.

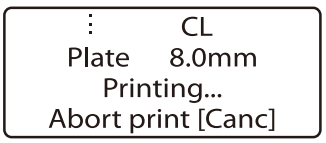


If CL is displayed, a centerline is printed.

4 Press [Enter].

- Printing begins.

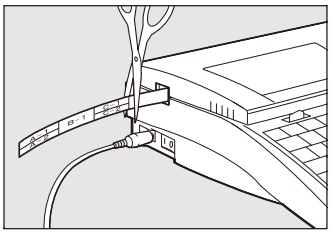
Canceling printing
If you press [Canc], the message "Aborting print" appears and printing is aborted.



5 Take out the plate.

- Cut the plate with scissors.

If a plate jams
Hold down [Canc] until the printer beeps. The printer stops all operations immediately. Refer to "If a Tube or Label Tape Becomes Jammed" (page 124) and take out the jammed plate.



Note In the plate mode, plates are neither cut in half nor cut fully. If characters are printed on a plate with "On" selected on the Half cut selection display, a solid cut line is printed automatically.

Note When a page is repeatedly printed in the continuous printing mode, the actual segment length may be different from the specified one. To adjust it, refer to Note, "Adjusting the segment length" (page 101).

Note For details on printing characters on the plate, refer to "Printing with short pitch width" (page 111).

Part 3
Character Input

This section explains how to input characters and symbols, and how to delete and change characters.

3.1 Inputting Characters..... 58

Inputting characters.....58

3.2 Inputting Symbols 59

Inputting symbols 59

3.3 Deleting Characters, Creating New Pages, Moving the Cursor..... 61

Deleting or changing characters.....61
Deleting all entered text data.....62
Insert mode and overwrite mode.....63
Creating a new page.....64
Moving the cursor.....65

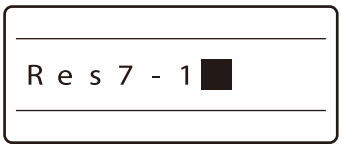
3.1 *Inputting Characters*

■ Inputting characters

Input the following characters:

ex. Res 7-1

1 Input “Res 7-1”.



Memo

To input uppercase letters or the characters that appear on the top half of the keycaps, hold down the [Shift] key while pressing the desired key.

If you input an incorrect character

Press [Back Space] to delete the character and then input the correct one.

Note

To input uppercase letters only

If you only want to input uppercase characters (for example, “SYSTEM”), it is more convenient to press the [Caps Lock] key than type while holding down the [Shift] key. When you press the [Caps Lock] key, letters are input as uppercase letters and the system is set to “Caps Lock input mode.” If you want to input a lowercase letter while in Caps Lock input mode, simply type it while holding down the [Shift] key.

3.2 Inputting Symbols

Inputting symbols

Input the following characters:

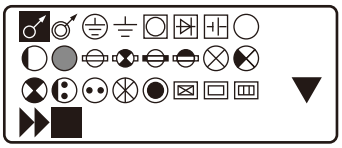
ex. ⏚ 250Ω

Memo

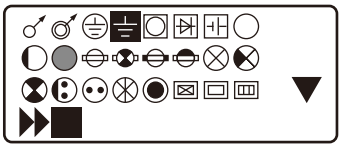
When the character size is set to 1.3 mm, no symbol can be entered.

1 Press [Symbol 2].

- The symbol selection display appears.

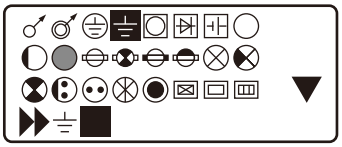


2 Press [◄], [▲], [►], or [▼] to select "⏚".



3 Press [Enter].

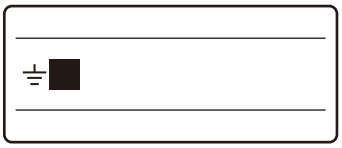
If you input an incorrect symbol
Delete the symbol by holding down the [Alt] key while pressing [Back Space] and then input the correct one. You can also move the cursor by holding down the [Alt] key while pressing [◄] or [►].



⏚ is displayed.

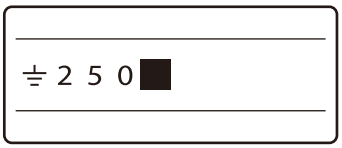
4 Hold down [Alt] and press [Enter].

- This inputs the symbol "⏚".



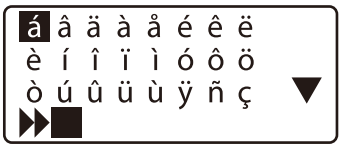
5 Input "250".

If you input an incorrect character
Press [Back Space] to delete the character and then input the correct one.



6 Press [Symbol 1].

- The symbol selection display appears.



7 Press [◄], [▲], [►], or [▼] to select "Ω".

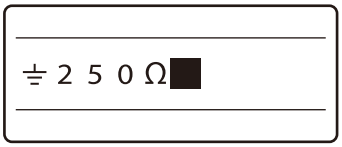
8 Press [Enter].

If you input an incorrect symbol
Delete the symbol by holding down the [Alt] key while pressing [Back Space] and then input the correct one. You can also move the cursor by holding down the [Alt] key while pressing [◄] or [►].

Ω is displayed.

9 Hold down [Alt] and press [Enter].

- This inputs the symbol “Ω”.



3.3 Deleting Characters, Creating New Pages, Moving the Cursor

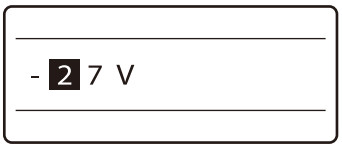
Deleting or changing characters

There are two methods for deleting characters: one uses the [Back Space] key, and the other uses the [Del] key.

ex. Change “-27V” to “+24V”

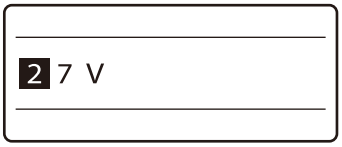
1 Move the cursor to the “2” to the right of the “-”.

- Press [◀] or [▶] to move the cursor.

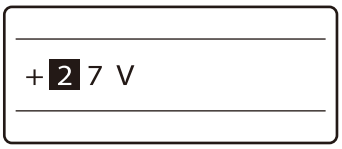


2 Press [Back Space] to delete the “-”.

- The [Back Space] key deletes the character that is located to the left of the cursor.

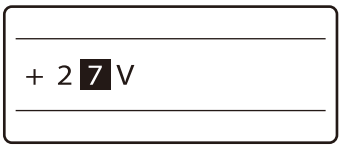


3 Press [+].



4 Move the cursor to the “7”.

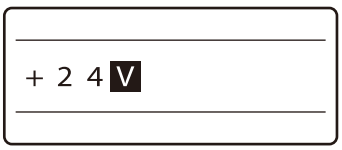
- Press [◀] or [▶] to move the cursor.



5 Press the [Del] key to delete the “7”.

- The [Del] key deletes the character at the cursor.

6 Press [4].



Deleting all entered text data

It is possible to delete all text on all pages in a single operation. There are two alternatives: “Text only” or “Text + settings.”

Text only

This operation deletes the text on all pages, but leaves the settings from the final page.

Text + settings

This operation deletes the text on all pages, and restores the initial values for the settings such as character size and character spacing.

ex. Delete text on all pages, and restore the initial values for settings such as character size.

1 Press [Del All].

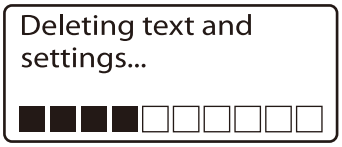
- The Delete All selection display appears.

2 Press [▲] or [▼] to select “Text + settings”, and then press [Enter].

- The deletion confirmation display appears.

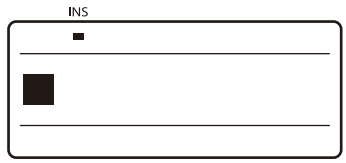
3 Press [◄] or [►] to select “Yes”, and then press [Enter].

- After the display at right appears, display returns to the character input display.

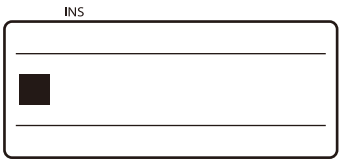


Insert mode and overwrite mode

Press the [Ins] key to toggle between “insert mode” and “overwrite mode.” To determine which is the current mode, check the upper left corner of the display. If the insert mark (▬) appears, input is in the insert mode; otherwise, input is in the overwrite mode.

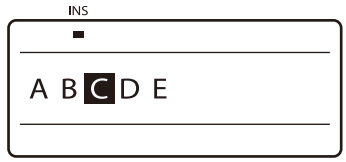


Insert mode



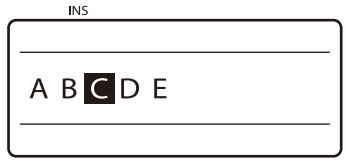
Overwrite mode

Starting from the state shown in Screen 1 below, if “A” is input in insert mode, the display will change to “ABACDE”, since the character that is input is inserted to the left of the cursor. If the same operation is performed in overwrite mode (Screen 2), the result is “ABADE”, since the “C” where the cursor is located is replaced with “A”.



Screen 1 (in insert mode)

The character is inserted to the left of the cursor.

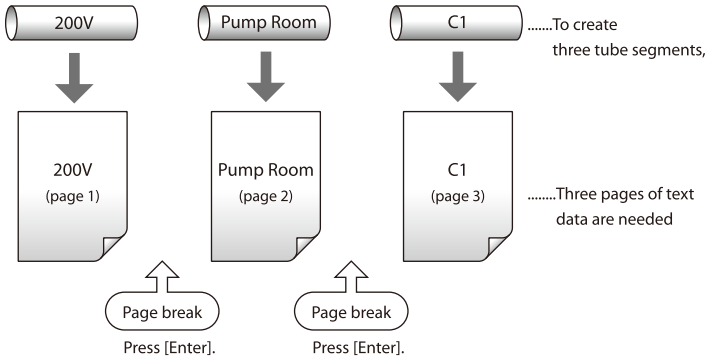


Screen 2 (in overwrite mode)

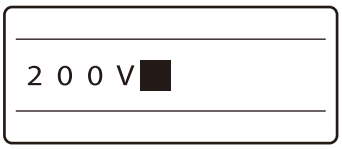
The character where the cursor is positioned is overwritten with the new character.

Creating a new page

In order to print three tube segments as shown below, a total of three pages of character data must be created. This is accomplished by creating a page break between each page of text data. When a page break is created, a new page is created automatically.

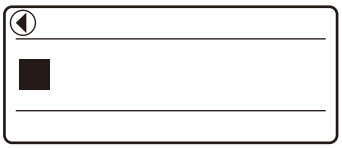


1 Input “200V”.



2 Press [Enter].

- This operation creates a page break. A new page is created and the system waits for input of more text.



The ◄ mark indicates that there is a page preceding that currently displayed. This shows that the page break was created correctly.

Moving the cursor

The cursor can be moved to the beginning of the line, to the end of the line, or to the preceding or following page.

Moving to the beginning of the line

- Press [Shift] + [▲] .

The cursor moves to the beginning of the line.

Moving to the end of the line

- Press [Shift] + [▼].

The cursor moves to the end of the line.

Moving to the preceding page

- Press [Shift] + [◀] .

The cursor moves to the beginning of the preceding page.

Moving to the following page

- Press [Shift] + [▶] .

The cursor moves to the beginning of the following page.

Part 4
Advanced Operations

This chapter explains how to change characters and the number of lines, how to edit pages, how to save text data, and how to perform various printing functions.

4.1 Changing the Characters and the Number of Lines..... 68

Changing character size.....68
Changing the spacing between characters.....69
Adding an underline to “6” and “9”.....70
Adding a frame to characters.....71
Printing on two lines or three lines.....72

4.2 Editing Pages..... 74

Pages.....74
Copying and pasting pages.....75
Cutting and pasting pages.....77
Inserting pages.....79
Deleting pages.....80
Dividing pages.....81
Combining pages.....83

4.3 Saving, Retrieving and Deleting Character Data..... 85

Files and Folders.....85
Saving character data.....86
Loading character data.....88
Deleting character data.....90
Renaming a folder.....92

4.4 Various Printing Functions.. 94

Printing count and printing range.....94
Changing the printing orientation.....97
Changing the length and the character alignment.....99
Printing a specific page multiple times (Continuous Print).....103
Printing text with sequential numbers (Numbering print).....105
Adjusting the printing start position and vertical position.....108
Printing centerlines.....110
Printing with short pitch width.....111
Printing result obtained by specifying a character alignment mode and a multiple line centering mode.....112
Adjusting the printing density.....113
Changing the printing speed.....114

4.5 Changing the Cutting Method..... 115

Half cuts and full cuts.....115
Turning off half cuts.....115
Making a full cut after a specific number of tube segments.....117

4.6 Other Operations..... 118

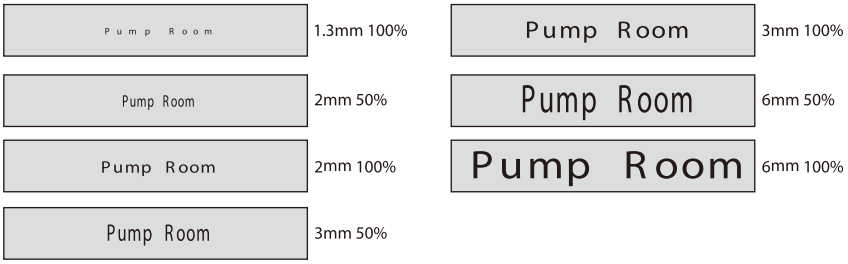
Removing the print media.....118
Changing the display contrast.....120
Turning off sounds.....121
Turning off clear tube reverse.....121
Restoring the initial settings.....122

4.1 Changing the Characters and the Number of Lines

This section explains various character and line-related functions, such as changing the size of printed characters, widening the spacing between characters, and printing on two lines.

■ Changing character size

It is possible to change the size and width of printed characters. There are seven choices available for the size and width of printed characters. Initially, “3mm 100%” is selected.



Memo

The size and width of printed characters can be changed for individual pages.

ex. Select “3mm 50%” as the character size.

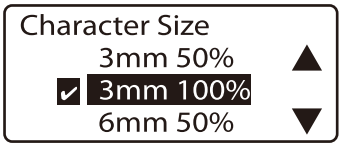
1 Input the characters.

2 Press [Char Size].

- The Character Size selection display appears.

Memo

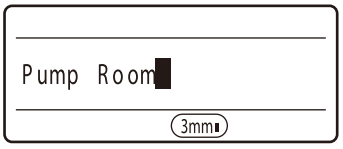
An “×” appears next to character sizes that are not available.



A check mark ☑ is displayed next to the currently selected character size.

3 Press [▲] or [▼] to select “3mm 50%”, and then press [Enter].

- The display returns to the character input display; you can now begin printing in the new size.



The selected character size appears. If a “half” size is selected, the display characters also change to half size.

Note

Character sizes that cannot be selected (printed)

- Most symbols print at normal size, even if half is selected as the character size.
- If “2 lines” is selected, the “6mm” character size cannot be selected.
- Printing on three lines is possible only when the character size is 1.3 mm.
- If the cut length is specified by the user, some character sizes might not be available, depending on the text data that is input.

Changing the spacing between characters

The spacing between printed characters can be changed as desired. There are three possible spacings of printed characters, as shown below. Initially, “Narrow” is selected.

Pump Room — Narrow : No extra space between characters

Pump Room — Medium : 0.5mm between characters

Pump Room — Wide: 1.0mm between characters

Spacing for horizontal printing　　Spacing for vertical printing

Memo

The spacing between printed characters can be changed for individual pages.

ex. set the spacing between characters to “Wide”.

1 Input the characters.

2 Press [Char Space].

- The Character Space selection display appears.

A check mark ☑ is displayed next to the currently selected character spacing.

3 Press [▲] or [▼] to select “Wide”, and then press [Enter].

- The display returns to the character input display; you can now begin printing with the new spacing.

The selected character spacing appears.

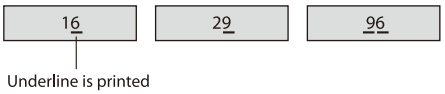
Note

Character spacings that cannot be selected (printed)

- If the segment length is specified by the user, some character spacings might not be available, depending on the text data that is input.

Adding an underline to “6” and “9”

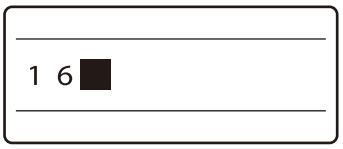
In order to make it easier to distinguish sixes and nines, both characters can be printed with an underline. Initially, the printer prints sixes and nines without an underline.



Memo

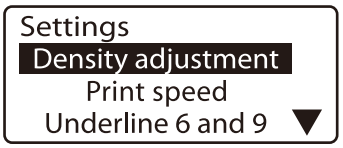
This function cannot be changed for individual pages.

1 Input the characters.



2 Press [Func].

- The Settings display appears.



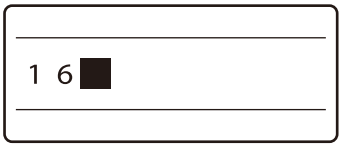
3 Press [▲] or [▼] to select “Underline 6 and 9”, and then press [Enter].

- The “Underline 6 and 9” selection display appears.

A check mark ☑ is displayed next to the currently selected setting.

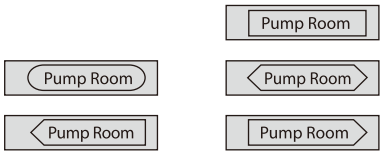
4 Press [▲] or [▼] to select “On”, and then press [Enter].

- The display returns to the character input display; you can now begin printing with the new setting.



Adding a frame to characters

It is possible to add various types of frames to characters as shown below. Initially, the printer is set to print without frames.



Memo
Different types of frames can be specified for individual pages.

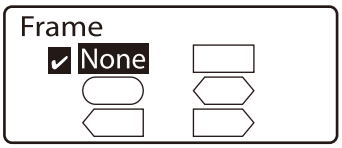
Memo
When the segment length is shorter than 6 mm, you cannot set a frame.

ex. Add a square frame ▭ to text.

1 Input the characters.

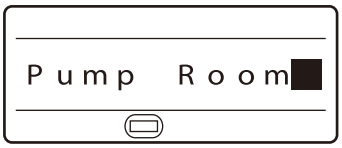
2 Press [Frame].

- The frame selection display appears.



3 Press [▲] or [▼] , [◀] and [▶] to select "▭", and then press [Enter].

- The display returns to the character input display; you can now begin printing with the new frame.



The selected frame appears.

Note

Frames when using two-line or three-line printing
Depending on character size, segment length, and so forth, frames may not print correctly around text that is printed on two lines or three lines. Furthermore, frames may not print correctly around large-size characters, even when printing on just one line.

Printing on two lines or three lines

It is possible to print on two lines or three lines as shown below. Initially, the printer is set to print on one line.

Memo
The number of lines to be printed can be changed for individual pages.

ex. Create the following labels:

Two-line printing

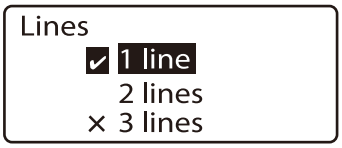
+12V
- 12V

Three-line printing

A－1
A－2
A－3

1 Press [Set Lines].

- Since the first label has two lines, you must first press [Set Lines].

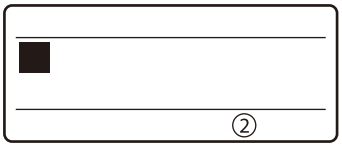


A check mark ☑ is displayed next to the currently selected number of lines.

2 Press [▲] or [▼] to select “2 lines”, and then press [Enter].

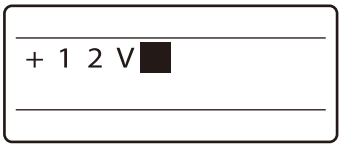
- The character input display changes to two lines.

Memo
An “×” appears next to number of lines that are not available.



The selected number of lines is displayed.

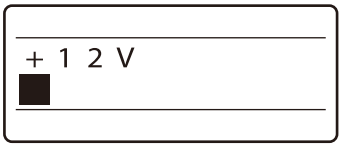
3 Input “+12V”.



The characters are input on the first line.

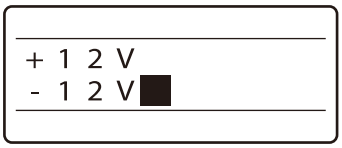
4 Press [▼] or [▶].

Memo
If you press [Enter] instead of [▼] or [▶], a new page is created.



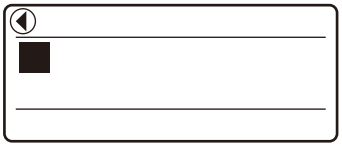
The cursor moves to the second line.

5 Input “-12V”.



6 Press [Enter].

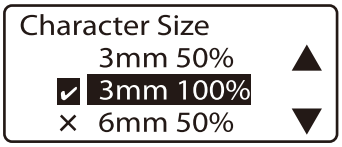
- A new page is created, and the printer waits for the next character to be input.



Indicates that another page precedes the currently displayed page.

7 Press [Char Size].

- The Character Size selection display appears.

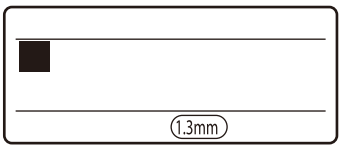


8 Press [▲] to select “1.3mm 100%”, and then press [Enter].

- The display returns to the character input display.

Memo

When printing characters on three lines, set the character size to “1.3 mm” before selecting “Number of lines”. You can select the “3 lines” only when the characters size is set to “1.3 mm”.



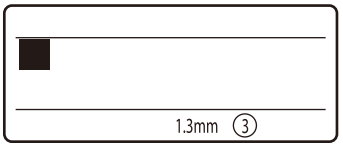
9 Press [Set Lines].

- Since the second label has only one line, you must press [Set Lines] again.

A check mark ☑ is displayed next to the currently selected number of lines.

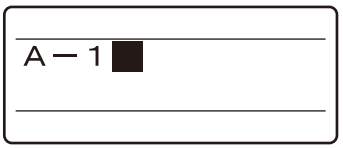
10 Press [▲] or [▼] to select “3 lines”, and then press [Enter].

- The character input display changes to three lines.



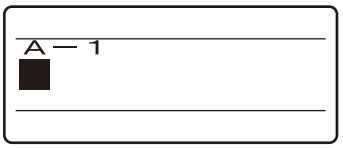
The selected number of lines is displayed.

11 Input “A-1” .

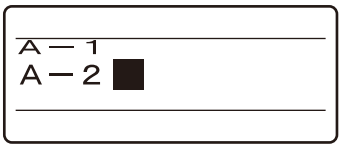


12 Press [▼] or [►].

- The cursor moves to the second line.

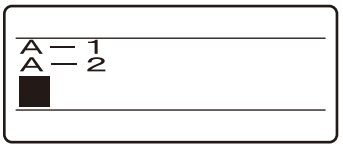


13 Input “A-2” .



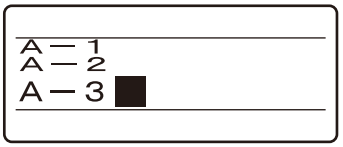
14 Press [▼] or [►].

- The cursor moves to the third line.



15 Input “A-3” .

- Perform the printing operation.



Note

After entering characters, change the number of lines

To change two lines to one line, or to change three lines to two lines or one line after entering characters, edit the created data in the desired line number and then select [Set Lines].

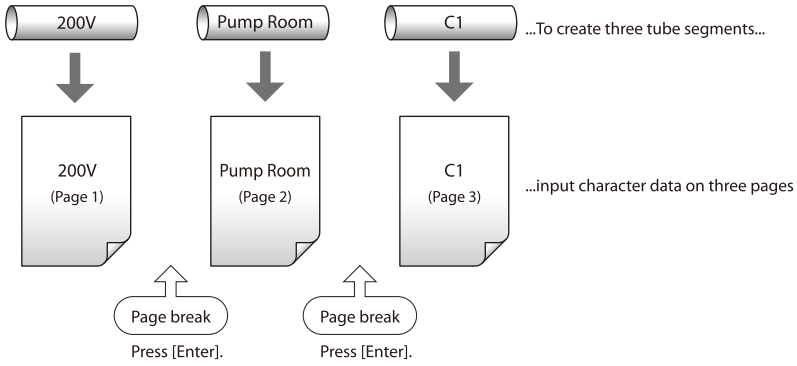
Note

Using two-line printing when printing on tube, heat shrink tube or 4mm I.D. strip can result in part of the printing being missing or in incorrect printing. Correct printing may also be impossible with some character sizes.

4.2 Editing Pages

Pages

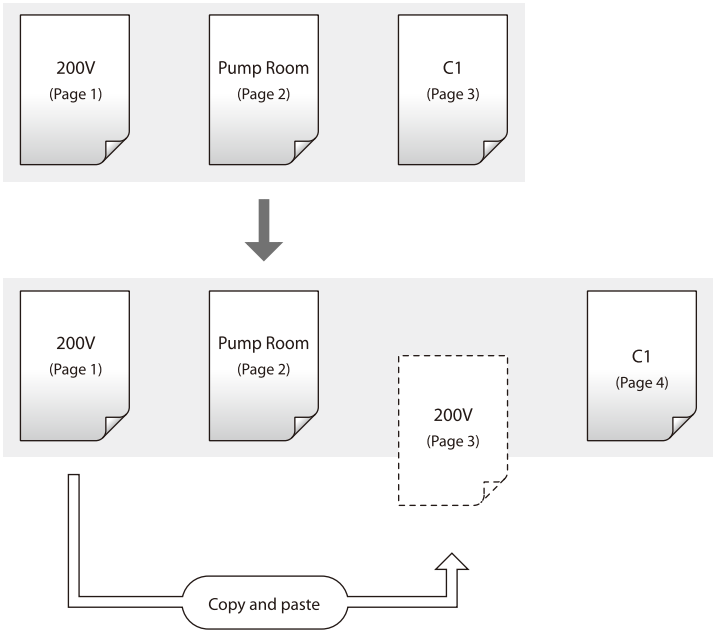
Assume that we want to create three tube segments as shown below. First, we input “200V” on the character input display, and this character data is automatically placed on the first page. After the characters have been input, pressing [Enter] creates a new (second) page; we can then input the characters “Pump Room” on this new page. Pressing [Enter] is referred to as “creating a page break”. This is the means by whitch new pages are created. By inputting characters on three pages in this fashion, we can print these three tube segments.



Copying and pasting pages

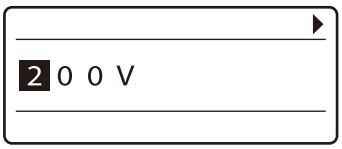
It is possible to copy an entire page of character data and paste it onto a new page immediately before or after another existing page.

ex. Paste the character data “200V” from page 1 to a new page immediately following page 2.



1 Press [Shift] + [◀] to display the page to be copied.

- Display the character data from page 1.



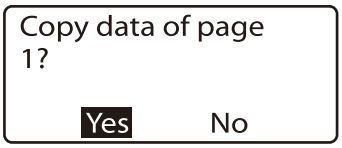
Press [Shift] + [◀] until “◀” is no longer displayed.

2 Press [Edit].

- The Page Edit display appears.

3 Press [▲] or [▼] to select “Copy”, and then press [Enter].

- A copy confirmation display appears.



4 Press [◄] or [►] to select “Yes”, and then press [Enter].

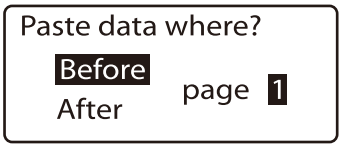
- After the display shown at right is displayed, the character input display re-appears. This indicates that the character data from page 1 has been copied.

5 Press [Edit].

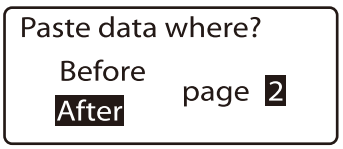
- The Page Edit display appears.

6 Press [▲] or [▼] to select “Paste”, and then press [Enter].

- The system asks where you want to paste the copied data.



7 Specify the destination where you want to paste the copied data.



Press [◄] or [►] to select the page, and press [▲] or [▼] to select the position (before or after the page) where you want to paste the data.

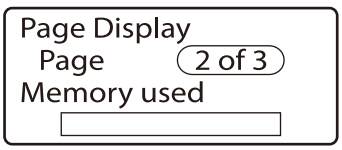
8 Press [Enter].

- After the display shown at right is displayed, the character input display re-appears. This indicates that the character data from page 1 has now been pasted after page 2.

Note

Displaying the current page number

If you want to know the page number of the currently displayed character data, press [Page]. Press any key to return to the character input display.

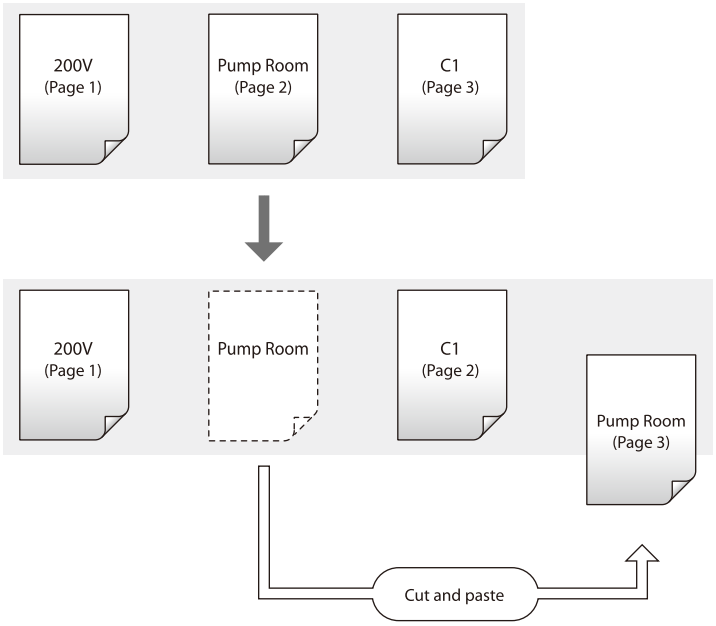


This indicates that there are a total of three pages, and the currently selected page is page 2.

Cutting and pasting pages

It is possible to cut an entire page of character data and paste it onto a new page immediately before or after another existing page. Use this function to move a page.

ex. Cut the character data “Pump Room” from page 2 to a new page following the last page.



1 Press [Shift] + [◀] or [Shift] + [▶] and display the page to be cut.

- Display the character data from page 2.

Memo

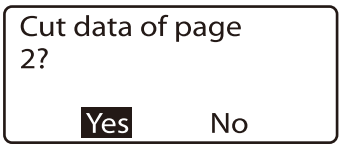
You can press [Page] to quickly find out which page is currently being displayed. Press any key to return to the character input display.

2 Press [Edit].

- The Page Edit display appears.

3 Press [▲] or [▼] to select “Cut”, and then press [Enter].

- The cut confirmation display appears.



4 Press [◄] or [►] to select “Yes”, and then press [Enter].

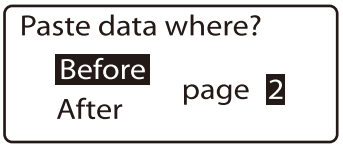
- After the display shown at right appears, display returns to the character input display. This indicates that the character data from page 2 has been cut.

5 Press [Edit].

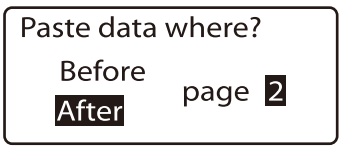
- The Page Edit display appears.

6 Press [▲] or [▼] to select “Paste”, and then press [Enter].

- The system asks where you want to paste the data that was cut.



7 Specify where you want to paste the character data.



Press [◄] or [►] to select the page, and press [▲] or [▼] to select the position (before or after the page) where you want to paste the data.

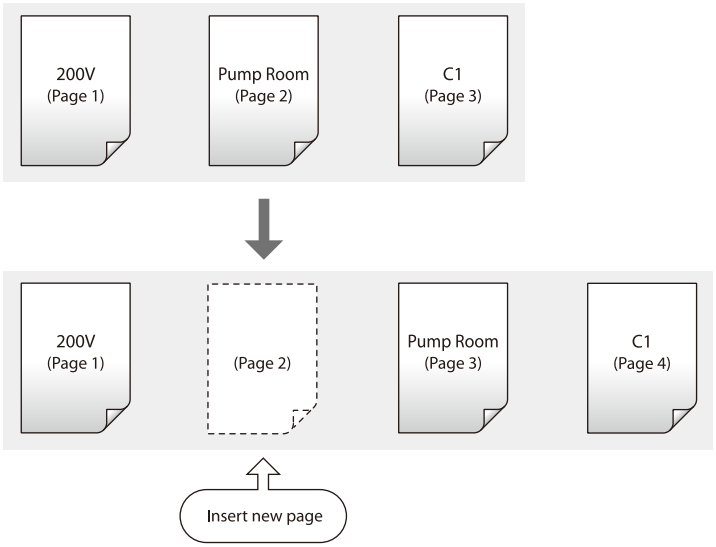
8 Press [Enter].

- After the display shown at right appears, display returns to the character input display. This indicates that the character data from page 2 has been moved to the last page.

Inserting pages

It is possible to insert blank pages. Use this function if you want to insert a new page in a specific location after you have already input character data for several pages.

ex. Insert a blank page between page 1 and page 2.



1 Press [Shift] + [◀] or [Shift] + [▶] and display page 2.

- Because the blank page will be inserted in front of the currently displayed page, display the page that will follow the blank page.

Memo

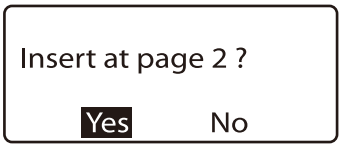
You can press [Page] to quickly find out which page is currently being displayed. Press any key to return to the character input display.

2 Press [Edit].

- The Page Edit display appears.

3 Press [▲] or [▼] to select “Insert”, and then press [Enter].

- The insert confirmation display appears.



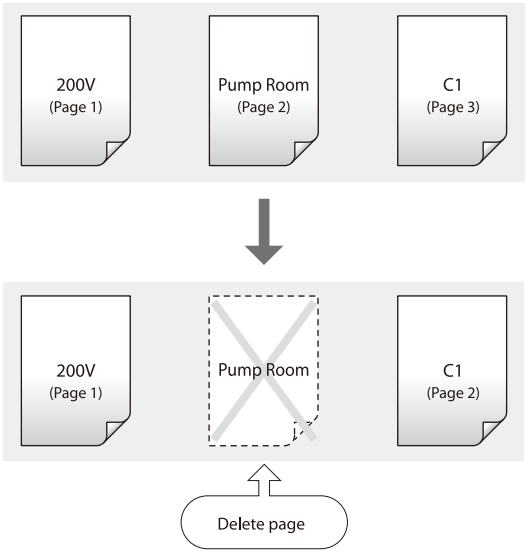
4 Press [◀] or [▶] to select “Yes”, and then press [Enter].

- After the display shown at right appears, the newly inserted page is displayed. This indicates that a new page has been inserted between page 1 and page 2.

Deleting pages

It is possible to delete specific pages. If you delete a page, the character data that was input on that page is also deleted.

ex. Delete page 2.



1 Press [Shift] + [◀] or [Shift] + [▶] and display the page to be deleted.

- Display the character data on page 2.

Memo

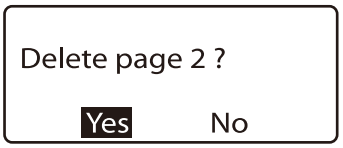
You can press [Page] to quickly find out which page is currently being displayed. Press any key to return to the character input display.

2 Press [Edit].

- The Page Edit display appears.

3 Press [▲] or [▼] to select “Delete”, and then press [Enter].

- The delete confirmation display appears.



4 Press [◀] or [▶] to select “Yes”, and then press [Enter].

- After the display shown at right appears, the page following the page deleted is displayed.

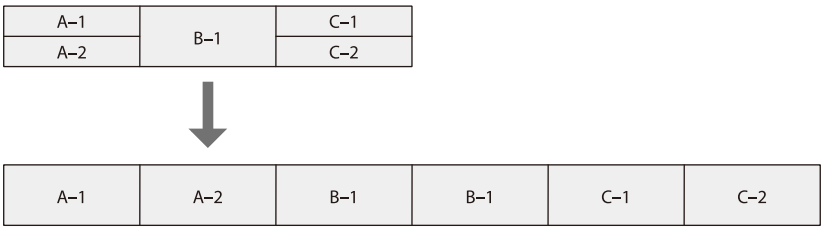
Dividing pages

Data entered in two lines on one page can be divided into two pages.

Memo

The first line becomes the first page, and the second line the second page.

ex. On all pages, data entered in two lines is divided into separate pages.



1 Press [Edit].

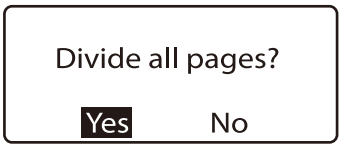
- The Page Edit display appears.

2 Press [▲] or [▼] to select “Division”, and then press [Enter].

- The Page division selection display appears.

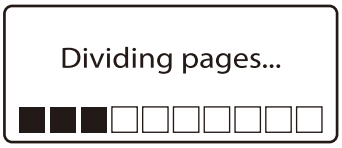
3 Press [▲] or [▼] to select “All”, and then press [Enter].

- The division confirmation display appears.



4 Press [◀] or [▶] to select “Yes”, and then press [Enter].

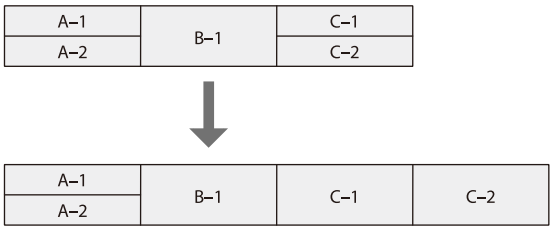
- After the display shown at right is displayed, the final divided page appears.



Note

Dividing at a specified page

ex. Divide only the third page.

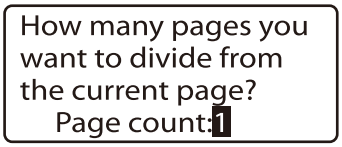


1. Move the cursor (■) to the first page you want to divide.

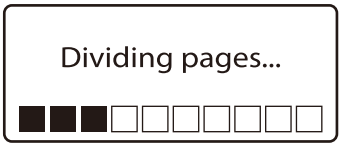
2. Press [Edit].
- The Page Edit display appears.

3. Press [▲] or [▼] to select “Division”, and then press [Enter].
- The Page division selection display appears.

4. Press [▲] or [▼] to select “Specify”, and then press [Enter].



5. Input “1” for the number of pages to divide from the current page, and then press [Enter].
- After the display shown at right is displayed, the final divided page appears.



Note

Page Division

- When a page with one line is divided, the same data is duplicated on the newly created page.
- The page on which characters are entered on three lines cannot be divided.
- Page division is disabled when sequential numbers are enabled.
- When a page is divided, the following settings revert to their default values.
  Orientation: Hor/Hor char, Character Size: 3mm 100%, Character Space: Narrow, Seg Length: Automatic, Continuous print: 1

Segment Length may be changed when character size reset to 3mm Normal. Data that would extend beyond the 150mm Segment Length is deleted, so we recommend saving data to a file before dividing pages.

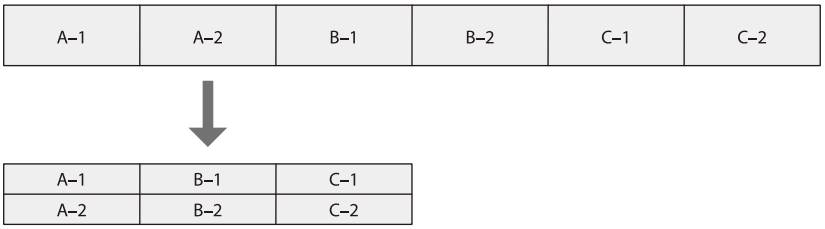
Combining pages

Two pages of data can be combined into two lines on a single page.

Memo

Data from the earlier page is on the first line, and that on the latter page is on the second line.

ex. Six pages of data is combined into three pages.



1 Press [Edit].

- The Page Edit display appears.

2 Press [▲] or [▼] to select “Combining”, and then press [Enter].

- The Page combining selection display appears.

3 Press [▲] or [▼] to select “All”, and then press [Enter].

- The combine confirmation display appears.

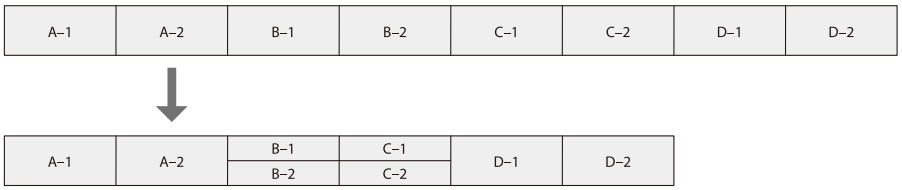
4 Press [◀] or [▶] to select “Yes”, and then press [Enter].

- After the display shown at right is displayed, the final combined page appears.

Note

Combining from a specified page

ex. Combine only the third through sixth pages.



1. Move the cursor (■) to the first page you want to combine.

2. Press [Edit].

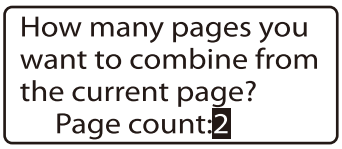
- The Page Edit display appears.

3. Press [▲] or [▼] to select “Combining”, and then press [Enter].

- The Page combining selection display appears.

4. Press [▲] or [▼] to select “Specify”, and then press [Enter].

- The combine confirmation display appears.



5. Input “4” for the number of pages to combine from the current page, and then press [Enter].

- After the display shown at right is displayed, the final combined page appears.

Note

Page Combining

- Pages for which sequential numbers are set or pages on which characters are entered on two lines or three lines cannot be combined.
- When pages are combined, the following settings revert to their default values:
  Orientation: Hor/Hor char, Character Size: 3mm 100%, Character Space: Narrow, Seg Length: Automatic, Continuous print: 1

Segment Length may be changed when character size reset to 3mm Normal. Data that would extend beyond the 150mm Segment Length is deleted, so we recommend saving data to a file before combining pages.

4.3 Saving, Retrieving and Deleting Character Data

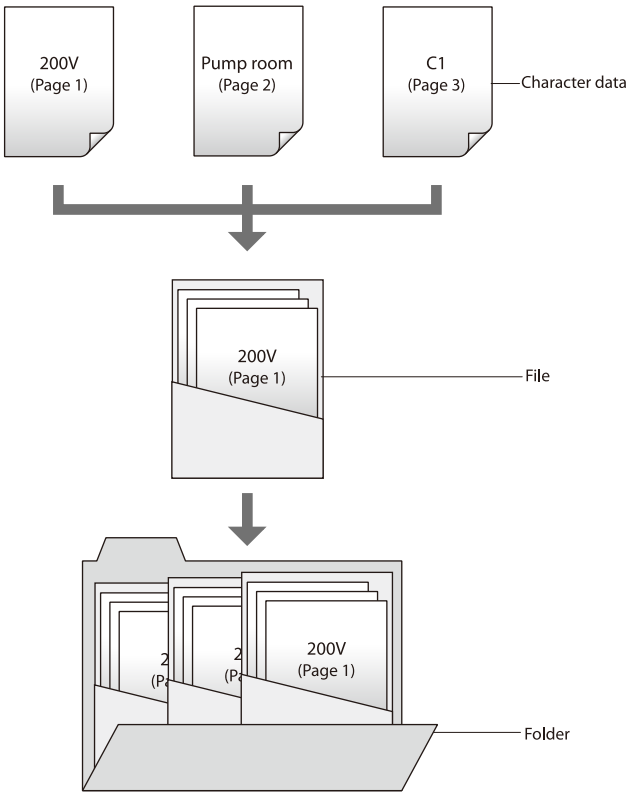
Files and Folders

You can save character data that you have created in “files” in the printer’s internal memory. When you save a file, you have to assign it a file name; the purpose of the file name is to allow you to quickly identify the data that is stored in that file.

The printer also has three preset folders; when you save a file, you can save the file in one of these ten folders. In other words, a folder can be viewed as a “container” or “holder” of files. Naturally, multiple files can be stored in a folder.*

Although files can be deleted, folders cannot. Initially, the folders are named “Folder 1” to “Folder 10”, but you can rename these folders as desired.

* One folder can hold up to 99 files, assuming each file contains approximately 60 characters.



important **To prevent accidental erasure of the saved data**

The machine has a built-in memory backup battery for retaining the saved data. If the following message appears on the screen, make a backup copy of the saved data and save it to a PC immediately, then contact your nearest dealer.

Memory backup battery low.

Contact dealer.

Saving character data

Character data that has been created can be stored in files.

Memo

A total of approximately 60,000 characters of character data can be saved. For example, if you have already saved a file containing 50 characters, an additional 59,950 characters can be saved.

ex. Save the character data that has been created in a file named “Switch 1” inside “Folder 2”.

1 Press [File].

- The file operation selection display appears.

2 Press [▲] or [▼] to select “Save”, and then press [Enter].

- The folder selection display appears.

3 Press [▲] or [▼] to select “Folder 2”, and then press [Enter].

- The file name input display appears.

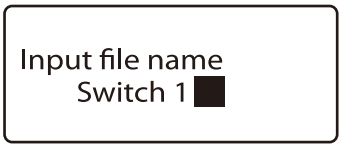
Memo

File names may contain up to 8 characters.

4 Input “Switch 1”.

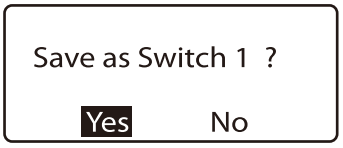
Memo

If you accidentally input an incorrect character, press [Back Space] to delete it and then input the correct character.



5 Press [Enter].

- The save confirmation display appears.



6 Press [◄] or [►] to select “Yes”, and then press [Enter].

- After the display at right appears, the display returns to the character input display.

important **Do not turn the power off during file saving.**

Turning the power off during file saving can damage data.

Note **The maximum number of files that can be saved is 99**

The maximum number of files that can be saved in one folder is 99. If an attempt is made to save more than 99 files in a folder, the message “Already 99 files in selected folder.” appears.

Note **Overwriting files**

If an attempt is made to save a file with the same name as a previously saved file, the message “XXXX (file name) already exists. Overwrite?” If it is OK to overwrite the file, select “Yes”. If you want to save the file under a different name and not overwrite the original file, select “No”.

Note **Renaming of file**

You cannot rename a file. To rename a file, follow the procedure described in “Loading character data” (page 88) to save it as a new file. Next, follow the procedure described in “Deleting character data” (page 90) to delete the file which is no longer required.

Loading character data

There are two methods for retrieving character data that has been stored in files: “New” and “Add”.

Loading with “New”

When character data (file) is retrieved, the character data that is currently displayed is deleted and is replaced with the retrieved character data.

Loading with “Add”

When the character data (file) is loaded, it is added following the last page of the data that is currently displayed.

It is possible to load the settings associated with character data as well as the chracter data itself. For example, if wide character spacing was set for some character data that was saved, there are two possibilities for loading as shown below.

Loading with “Text only” specified

Only character data is loaded. For example, if narrow character spacing is set for the character data that is currently displayed, the original wide character spacing setting of the character data that is being loaded is ignored and standard character spacing is used.

Loading with “Text + settings” specified

Both character data and associated settings are loaded together. For example, even if narrow character spacing is set for the character data that is currently displayed, the character data that is loaded is displayed with its original wide character spacing. Note that when loading with “Add”, the settings of previously input character data are not affected.

ex. Append the character data in the file “Switch 1” inside “Folder 2” to the character data that is currently being displayed, and load the settings also.

1 Press [File].

- The file operation selection display appears.

2 Press [▲] or [▼] to select “Load”, and then press [Enter].

- The retrieval selection display appears.

Memo

If no files have been saved, the message “No files.” appears, and then the display returns to the character input display.

3 Press [▲] or [▼] to select “Add”, and then press [Enter].

- The Add selection display appears.

4 Press [▲] or [▼] to select “Text + settings”, and then press [Enter].

- The Choose Folder display appears.

5 Press [▲] or [▼] to select “Folder 2”, and then press [Enter].

- The Choose File display appears.

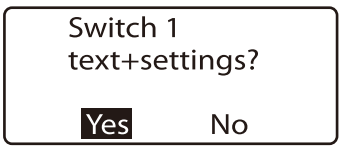
Memo

If no files have been saved in the selected folder, the message “No files in selected folder.” appears and the display returns to the folder selection display.

“*” appears next to the names of files that cannnot be loaded because of their data size.

6 Press [▲] or [▼] to select “Switch 1”, and then press [Enter].

- The “Add” loading confirmation display appears.



7 Press [◀] or [▶] to select “Yes”, and then press [Enter].

- After the display at right appears, the last page of the loaded character data is displayed.

Deleting character data

It is possible to delete character data files that have been saved. There are three different modes for deleting files: “One file”, “Folder contents” and “All files”.

One file

Deletes only one file in a folder.

Folder contents

Deletes all files within a folder.

All files

Deletes all files within all folders.

ex. Delete the file “Switch 1” within “Folder 2”.

1 Press [File].

- The file operation selection display appears.

2 Press [▲] or [▼] to select “Delete”, and then press [Enter].

- The deletion selection display appears.

Memo

If no files have been saved, the message “No files.” appears, and then the display returns to the character input display.

3 Press [▲] or [▼] to select “One file”, and then press [Enter].

- The Choose Folder display appears.

Memo

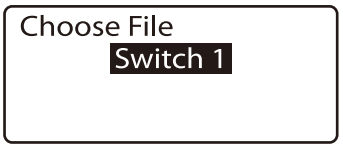
If “All files” is selected, the message “Delete all saved files?” appears. Select “Yes” and press [Enter] to delete all files. If “Folder contents” is selected, proceed to step 4, select the folder, and then select “Yes” and press [Enter] to delete all files in that folder.

Memo

If no files have been saved in the selected folder, the message “No files in selected folder.” appears and the display returns to the Choose Folder display.

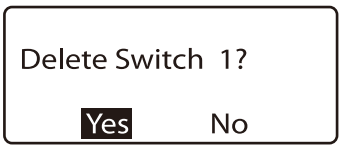
4 Press [▲] or [▼] to select “Folder 2”, and then press [Enter].

- The Choose File display appears.



5 Press [▲] or [▼] to select “Switch 1”, and then press [Enter].

- The deletion confirmation display appears.



6 Press [◄] or [►] to select “Yes”, and then press [Enter].

- After the display at right appears, the display returns to the character input display.

Renaming a folder

Although the printer has ten predefined folders (“Folder 1” to “Folder 10”), these folders can be renamed freely.

ex. Rename “Folder 2” as “BREAKERS”.

1 Press [File].

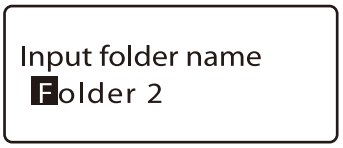
- The file operation selection display appears.

2 Press [▲] or [▼] to select “Save”, and then press [Enter].

- The Choose Folder display appears.

3 Press [▲] or [▼] to select “Folder 2”, and then press [Space].

- The Input folder name display appears.
- Use [Del] to delete all of the characters.



4 Input “BREAKERS”.

Memo

If you accidentally input an incorrect character, press [Back Space] to delete it and then input the correct character.

5 Press [Enter].

- The display returns to the Choose Folder screen.

6 Press [Shift] + [Canc].

- The display returns to the character input display.

Note

Restoring the original folder name

To restore the original folder names (“Folder 1” to “Folder 10”) when the folder names have been changed, follow the procedure described below.

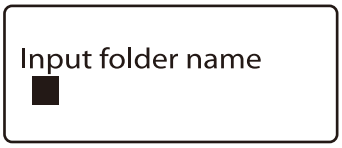
ex. Restore the name “Folder 2” to the folder named “BREAKERS”.

1. Press [File].
- The file operation selection display appears.

2. Press [▲] or [▼] to select “Save”, and then press [Enter].
- The Choose Folder display appears.

3. Press [▲] or [▼] to select “BREAKERS”, and then press [Space].
- The Input folder name display appears.

4. Use [Del] to delete all of the characters.



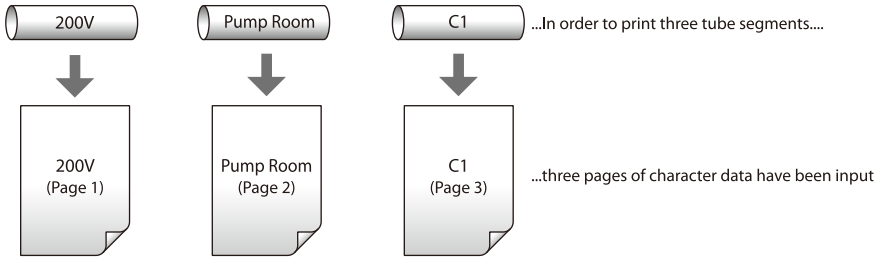
5. Press [Enter].
- The original folder name has now been restored.

6. Press [Shift] + [Canc].
- The display returns to the character input display.

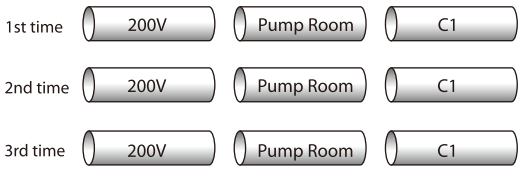
4.4 Various Printing Functions

■ Printing count and printing range

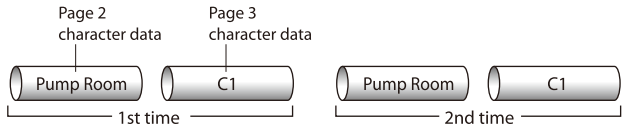
For the sake of example, assume that the following character data for printing three tube segments has been input.



If "3" is set as the sets to print, tube segments are printed as shown below. In short, the three pages of character data are printed three times, resulting in a total of nine tube segments.



If "2" is set as the sets to print and "Start page: 2" and "End page: 3", tube segments are printed as shown below.



The sets to print can be set to any value from "1" to "10"; the print range can be selected from among "All", "Cursor", and "Specified".

All

The character data from all pages is printed.

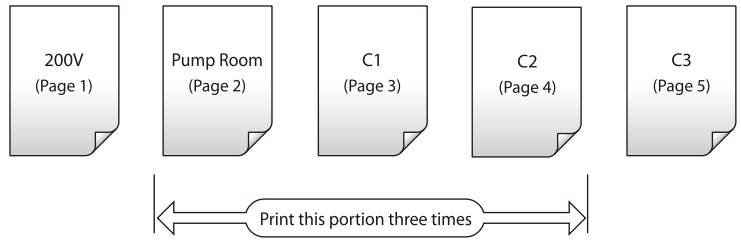
Cursor

The character data from the page where the cursor is located is printed.

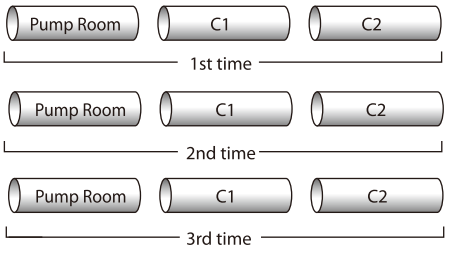
Specified

Only pages in the range specified by "Start page" and "End page" are printed. For example, to print only pages 5 through 12, set "Start page: 5" and "End page: 12".

ex. Create the character data shown below and then use that data to produce tube segments as shown in the example below by printing the character data from pages 2 to 4 as follows.

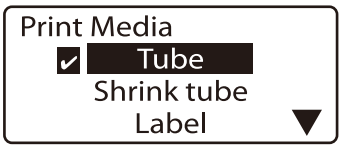


Output Example



1 Press [Print].

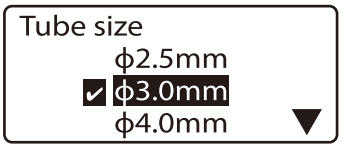
- The Print Media selection display appears.



A check mark ☑ is displayed next to the currently selected print media.

2 Press [▲] or [▼] to select “Tube”, and then press [Enter].

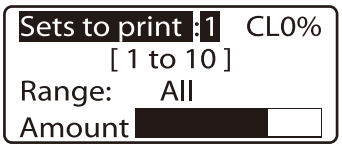
- The Tube size selection display appears.



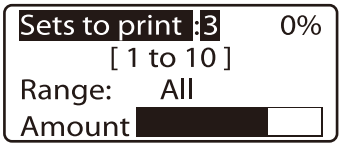
A check mark ☑ is displayed next to the currently selected tube size.

3 Press [▲] or [▼] to select “ϕ3mm”, and then press [Enter].

- The Sets to print and Range setting display appears.



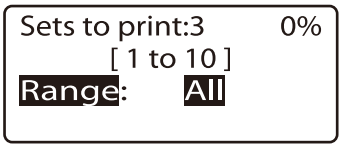
4 Press [▲] or [▼] to select “Sets to print”, and then press [3].



Memo

If you input the wrong number by mistake, press [Back Space] to delete the number and then input the correct number.

5 Press [▲] or [▼] to select “Range”.

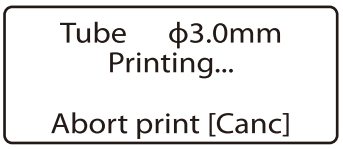


6 Press [◄] or [►] and then select “Specified”.

7 Press [▲] or [▼] to select “Start page”, and then press [2].

8 Press [▲] or [▼] to select “End page”, and then press [4].

9 Press [Enter].



- Printing begins.

Canceling printing

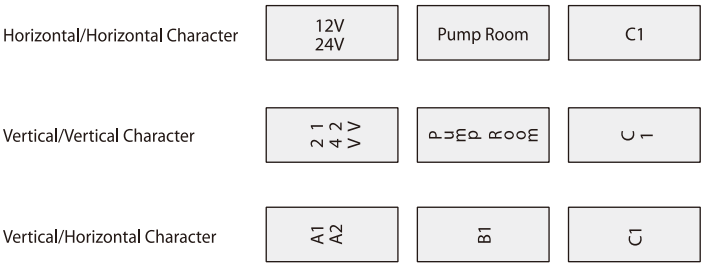
If you press [Canc], the message “Aborting print.” appears and printing is aborted. In this case, the tube that is currently being printed is cut and then ejected.

If a tube jams

Hold down [Canc] until the printer beeps. The printer stops all operations immediately. In this case, the tube is not cut and it is not ejected. Refer to “If a Tube or Label tape Becomes Jammed” (page 124) and take out the jammed tube.

Changing the printing orientation

It is possible to print characters with their orientation changed as shown below. And it is also possible to change the orientation on a page basis or for all pages together after entering characters.



If entered characters are expected to be omitted from the page after the orientation is changed on a page basis, it is not possible to select such an orientation with the “Page” option. And it is not possible to change the orientation to “Vertical / Horizontal Character” after entering characters.

Memo

Once character data has been entered, the “Vert/Hor char” selection can no longer be made. In this case, you must first delete all character data, then make the “Vert/Hor char”selection and re-enter the character data.

Memo

Printing might not be performed correctly in some orientations, depending on the settings for the media size and the character size.

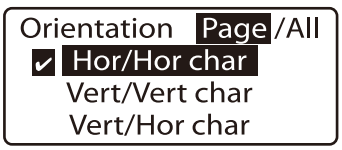
ex. Print label tape (12mm wide) as shown below.

1 Press [A/≺].

- The Orientation display appears.

Memo

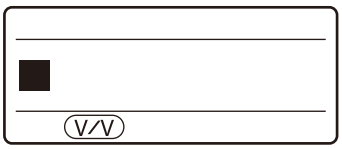
To change orientation of all pages after entering characters, press [▼] or [►] to select “All”.



Confirm that “Page” is selected.

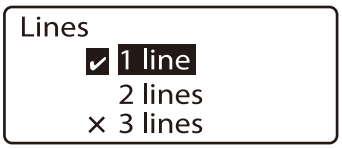
2 Press [▲] or [▼] to select “Vert/Vert char”, and then press [Enter].

- The character input display appears.



3 Press [Set Lines].

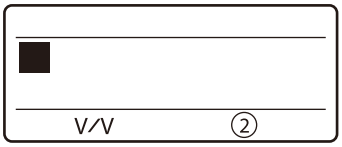
- This is because you are going to input two lines.



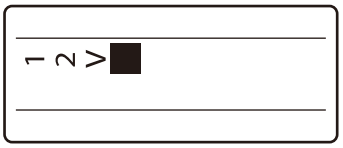
A check mark ☑ is displayed next to the currently selected number of lines.

4 Press [▲] or [▼] to select “2 lines”, and then press [Enter].

- The character input display now shows two lines.



5 Input “12V”.

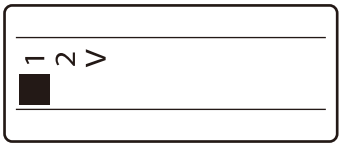


Confirm that the characters that are input are displayed on their side.

6 Press [▼] or [►] .

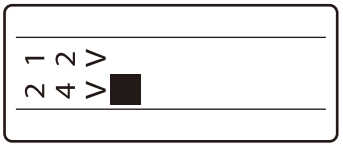
Memo

If you press [Enter] instead of [▼] or [►], a new page is created.



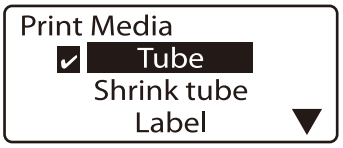
The cursor moves to the second line.

7 Input “24V”.



8 Press [Print].

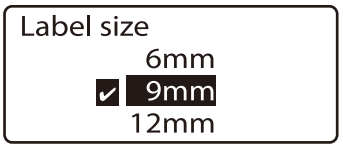
- The Print Media selection display appears.



A check mark ☑ is displayed next to the currently selected print media.

9 Press [▲] or [▼] to select “Label”, and then press [Enter].

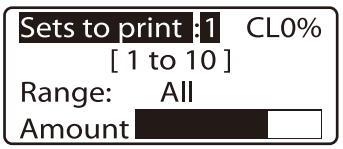
- The label tape size (width) selection display appears.



A check mark ☑ is displayed next to the currently selected label tape size.

10 Press [▲] or [▼] to select “12mm”, and then press [Enter].

- The sets to print and range setting display appears.



11 Press [Enter].

- Printing begins.

Note

Precaution to Follow When Changing the Character Orientation for All Pages Together

When the print orientation is changed to “Horizontal/Horizontal Character” or “Vertical/Vertical Character”, characters which cannot be in the page are deleted. When changing the orientation of the characters on multiple pages by selecting “All”, characters which cannot be in the pages are deleted together from all pages. To avoid deleting the input characters, save the data to a file before changing the orientation.

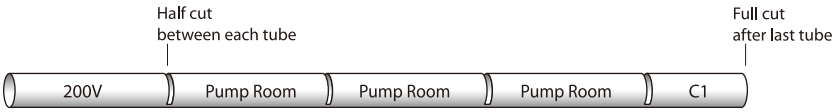
Changing the length and the character alignment

After each tube or label is printed, it is output in a “Half cut” condition*. The length between half cuts is called the “segment length”. There are two modes for setting the segment length: “Automatic” and “Specify”. Furthermore, the positioning of characters printed on a tube or label is called the “Alignment”. There are two settings: “Centered” and “Left”.

* Initial setting

Memo

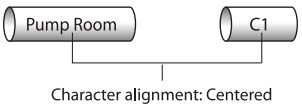
The segment (cutting) length and character position can be set independently for each page.



Automatic

The optimal segment length is selected automatically, based on the number of characters input, the size of the characters, and the character spacing. The character alignment is “centered”. “Automatic” is the initial setting.

Because the length of each tube is determined automatically on the basis of the number of characters, the size of the characters, and the spacing between each character, tube segments will be of different lengths if they have different numbers of characters.

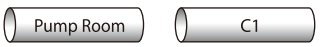


Specify

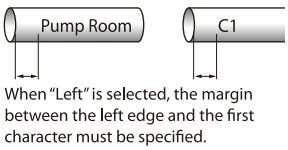
The segment length is specified by the user. The segment length can be specified in steps of 0.25 mm within the range of 2 mm to 150 mm. If “Automatic” is set and one tube is produced with four characters while another is produced with two characters, the tube with two characters will be shorter. (Refer to the diagram above.) In this situation, you can have the two-character tube and the four-character tube cut to the same length by selecting “Specify” and then setting the four-character tube segment length. The character alignment can be selected as either “Centered” or “Left”.

If the segment length is specified, the tube length is always the same, regardless of whether two or four characters are printed.

• Character alignment: Centered



• Character alignment: Left



Note

About the Printing Performed with the Segment Length Specified

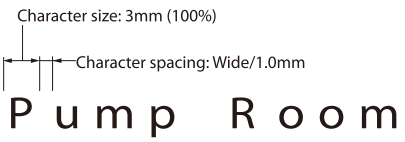
When the specified segment length is shorter than 8.5 mm, the printer specifications change depending on the media type. Refer to “List of Function” (page 151).

Note

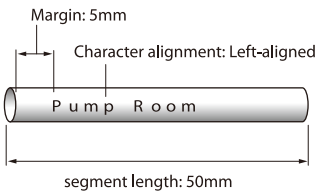
Depending on print media characteristics and the environment in which the printer is being used, the segment length and the margins may vary slightly from the set values. The settings should only be considered as guidelines. The characteristics of tube in particular can cause significant variances. For details on how to make adjustments for these variances, refer to “Adjusting the printing start position and vertical position” (page 108).

ex. Print the following character data with 50 mm specified as the segment length, “Normal” for the plate printing area, “Left” for character alignment, and 5 mm as the margin.

Character data



Final output

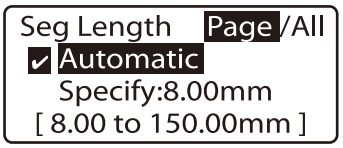


1 Press [Seg Len].

- The segment length selection display appears.

Memo

When the specified segment length is shorter than 8.5 mm, the printer specifications change depending on the media type. Refer to “List of Function” (page 151).



Confirm that “Page” is selected.

2 Press [▲] or [▼] to select “Specify”, and then input “50” (the segment length).

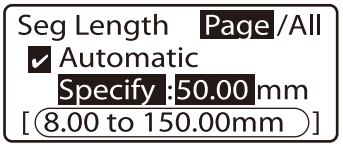
If you accidentally input an incorrect number, press [Back Space] to delete the number and then input the correct one.

Memo

To change the segment length of all pages after entering characters, press [◄] or [►] to select “All”.

Memo

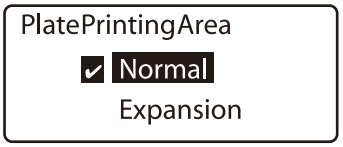
Some segment length cannot be specified depending on the character size.



segment length range that can be specified

3 Press [Enter].

- The Plate Printing Area selection display appears.



4 Press [▲] or [▼] to select “Standard”, and then press [Enter].

- The character alignment selection display appears.

5 Press [▲] or [▼] to select “Left”, and then input “5” (the margin).

If you accidentally input an incorrect number, press [Back Space] to delete the number and then input the correct one.

Memo

If ”Normal” is selected on the Plate Printing Area selection display, you can specify the left-justification margin between 2 mm and 5 mm.
If you select “Expansion,” you cannot specify the left-justification margin. It is fixed at 0 mm.

Memo

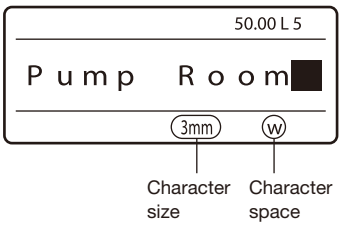
If “Expansion” is selected on the Plate Printing Area selection display, only plates can be used as the printing media.

Press [Enter].

- The display returns to the character input display.

6 Input character data in accordance with conditions.

- "Changing character size" (page 68)
- "Changing the spacing between characters" (page 69)



7 Perform the printing operation.

Note

Changing segment length of all pages

If "All" is selected on the Seg Length selection display, characters typed exceeding the specified segment length are deleted. If 2.00 mm is specified as the segment length, all characters are deleted even when a page containing "6mm 100%" characters exists. For this page, 2.00 mm is temporarily specified as the segment length and "6mm 100%" is temporarily specified as the character size and therefore you cannot enter any character. Select "Automatic" on the Seg Length selection display or change the character size before entering characters.
It is recommended that you save the file before selecting "All" on the Cut Length selection display.

Note

Expanding the Plate Printing Area

For the procedure to follow after selecting "Expansion" on the Plate Printing Area selection display, refer to "Printing with short pitch width" (page 111).

Note

Adjusting the segment length

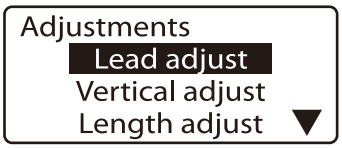
You can adjust the set segment length by ±5%.

1. Press [Adjust].
- The Print Media selection display appears.

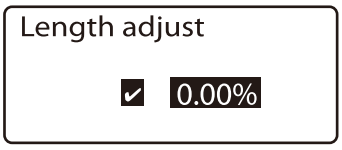
2. Press [▲] or [▼] to select the print media, and then press [Enter].
- Press [Enter] to display the Adjustments display.

Memo

This segment length adjustment is intended for use with labels, and may not produce the corresponding effect with other media.



3. Press [▲] or [▼] to select "Length adjust", and then press [Enter].
- The Length adjust selection display appears.



4. Press [◄] or [►] to select the adjust-ment value, and then press [Enter].

- The correction value can be specified with the [+] or [-] key and numeric keys.

Memo

You can input a correction value for negative correction. However, if there is no correction space (part other than characters), no more correction can be made.

Memo

The minimum unit of correction which is handled internally is 0.085 mm.

Memo

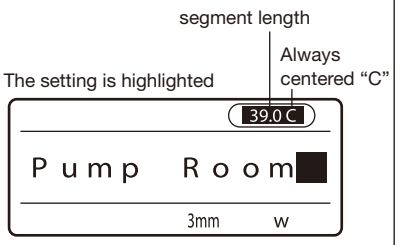
If you input the wrong number by mistake, press [Back Space] to delete the number and then input the correct number.

Note

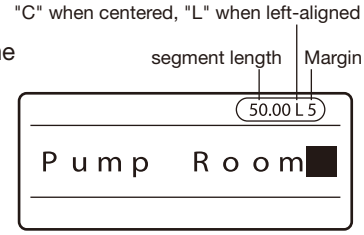
Segment length and character alignment screen display

The segment length and character alignment settings can be confirmed on display.

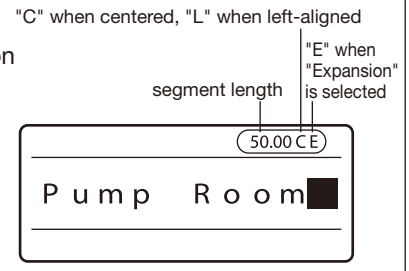
When segment length setting is “Automatic”



When “Specify” is selected on the Seg Length selection display and “Normal” is selected on the Plate Printing Area selection display



When “Specify” is selected on the Seg Length selection display and “Expansion” is selected on the Plate Printing Area selection display



Memo

Use [◄] and [►] to set values to the right of the decimal point when setting the label length.

Printing a specific page multiple times (Continuous Print)

Assume that you want to produce the following tube segments.

Memo

The number of continuous printings can be set from 1 to 100 for each page.

Fig. 1

In this case, it might seem acceptable to create the character data shown below, but what if you wanted to print 20 tube segments labeled “Pump Room” instead of three? Not only would creating 20 pages with the “Pump Room” character data take a lot of time, it would also use a lot of memory.

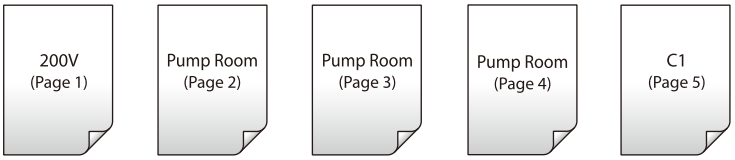


Fig. 2

In a case such as that shown in Fig. 1, you can obtain the same results by creating the character data shown below and then printing page 2 (“Pump Room”) three times. The function that prints multiple copies of a specific page is called “Continuous Print”.

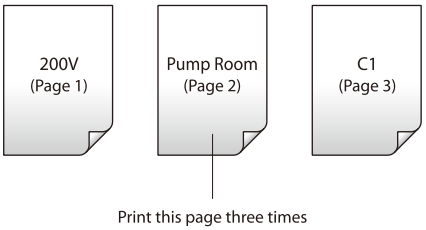
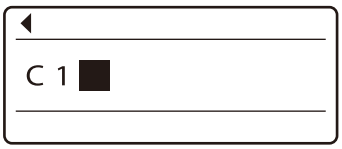


Fig. 3

ex. Produce the tubes shown in Fig. 1.

1 Input the character data shown in Fig. 3.



2 Display the page for which you wish to use continuous print.

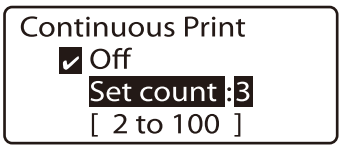
- Press [Shift] + [◀] or [Shift] + [▶] and display the page in which “Pump Room” has been input.

3 Press [Cont Print].

- The continuous print selection display appears.

4 Press [▲] or [▼] to select “Set count”, and then input “3” (continuous printing count).

If you accidentally input an incorrect number, press [Back Space] to delete the number and then input the correct one.



Range of values that can be specified for continuous print

5 Press [Enter].

- The display returns to the character input display.

The count that was set for continuous print is displayed.

6 Perform the printing operation

Note

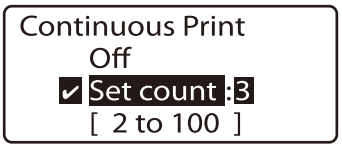
Canceling continuous print

Cancel continuous print by following the procedure described below.

1. Display the page for which you want to cancel continuous print.

2. Press [Cont Print].

- The Continuous Print selection page appears.



3. Press [▲] or [▼] to select “Off”, and then press [Enter].

- The display returns to the character input display.

Confirm that “1” is displayed for the continuous printing count.

Note

Continuous print setting also applies to new pages

Refer to Fig. 3 on the previous page. Assume that the continuous print setting has been made for the “C1” page instead of the “Pump Room” page. If a new page is created after the “C1” page, the continuous print setting that is in effect for the “C1” page is also automatically applied to the new page.

Printing text with sequential numbers (Numbering print)

Assume that you want to produce the following tubes.

Memo

Serial characters can be set in only one place on a page.

Fig. 1

The portion of the character data consisting of numbers from 1 to 10 is incremented (or decremented) by "1" each time it is printed, and is called the "number portion". The remaining portion of the character data is called the "common portion". (Fig. 2)

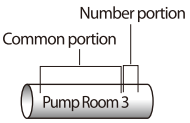


Fig. 2

To print tubes that contain a number portion such as those shown in Fig. 1, it is not necessary to explicitly create ten pages with character data ranging form "Pump Room 1" to "Pump Room 10" (as shown in Fig. 3). Instead, you need only create one page of character data consiting of a common portion and a number portion as shown in Fig. 4, and then print that page.

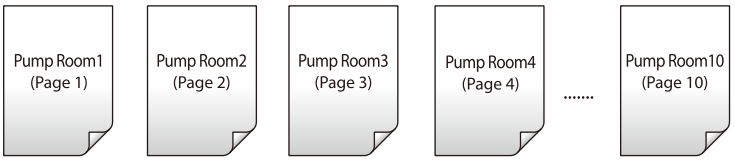


Fig. 3

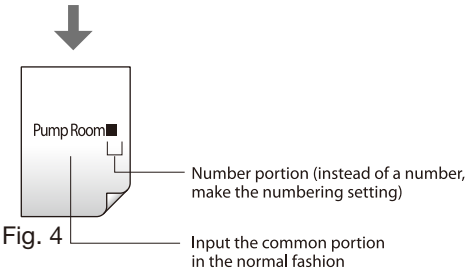


Fig. 4

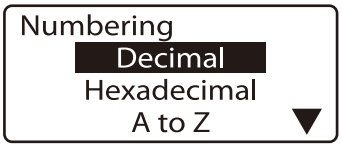
ex. Produce the tubes shown in Fig. 1.

1 Input "Pump Room".

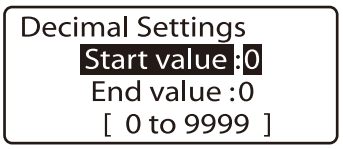
- This is the common portion.

2 Press [Num].

- The Numbering display appears.



3 Press [▲] or [▼] to select “Decimal”, and then press [Enter].



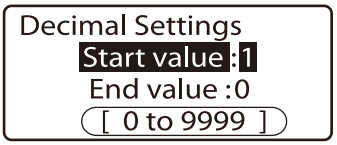
- The decimal numbering setting display appears.

Memo

In addition to decimal numbering, you can also specify hexadecimal or alphabetical numbering. For details, refer to Memo on the next page, “Various types of numbered printing”.

If you accidentally input an incorrect number, press [Back Space] to delete the number and then input the correct one.

4 Press [▲] or [▼] to select “Start value”, and then input “1”.



Range of numbers that can be entered.

- The display for specifying the start value and end value appears.

Numbering in descending order

For example, if you enter “10” as the start value and “5” as the end value, you can set up numbering in descending order (10, 9, 8, 7, 6, 5).

5 Press [▲] or [▼] to select “End value”, and then input “10”.

6 Press [Enter].

- The Padding character setting display appears.

Memo

For details on “Padding character”, refer to Memo, “Padding character” on the next page.

7 Press [▲] or [▼] to select “None”, and then press [Enter].

The number portion is displayed with a N̄.

- The number portion has now been input.

Memo

Numbering can only be set in one location per page. To cancel numbering, simply use the [Back Space] key to delete the number portion.

8 Perform the printing operation.

- Even though only one page with character data has been created, character data from “Pump Room 1” to “Pump Room 10” is printed.

Note **Printing Two or More Pages**

When there are two or more input data pages and one or more of them are blank due to deletion of text, the blank pages are fed idly (space characters are printed).

Note **Numbering print can be used together with continuous print.**

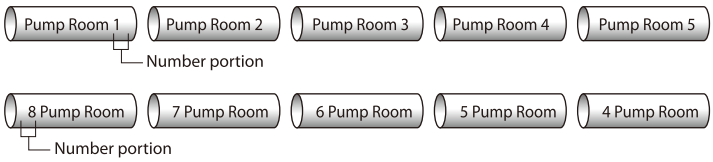
ex. Continuous print set to 2 and numbering print set for decimal values from 1 to 8.

Note

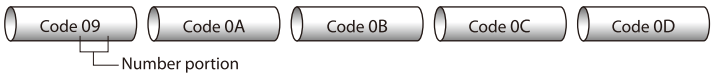
Various types of numbering print

The following different types of numbering print are possible. The selection of the type is made in step 3 on the preceding page.

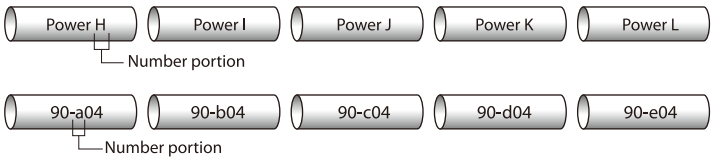
For decimal numbering: Select “Decimal” in step 3.



For hexadecimal numbering: Select “Hexadecimal” in step 3.



For alphabetical numbering: Select “A to Z” or “a to z” in step 3.



Note

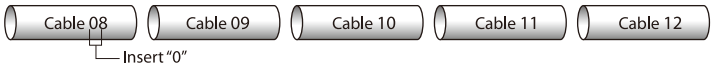
Padding character

For example, if the numbers in the number portion run from 8 to 12, the number of digits needed for “8” and “9” differs from the number of digits needed for “10” through “12”. In this case, it is possible to insert either a “0” or a space in front of the “8” and “9” so that the number of digits is the same as for “10” through “12”. This function is called “Padding character”. Note that the padding character setting display (step 7 on the preceding page) does not appear if all of the numbers in the number portion have the same number of digits or if “alphabet” was selected for numbering.

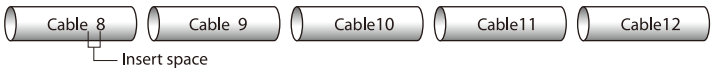
When “Padding character” is off

When “Padding character” is on

- When inserting zeroes



- When inserting spaces



Adjusting the printing start position and vertical position

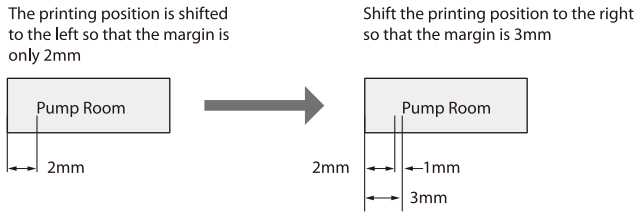
When printing, enviromental factors or characteristics of the print media may cause printing to start slightly out of position or to be shifted slightly in the vertical direction so that character data is not printed correctly, even though the correct print media type and size are selected. In such cases, you can shift the printing position slightly up/down or left/right.

Memo

The printing start position can be set independently for each print media.

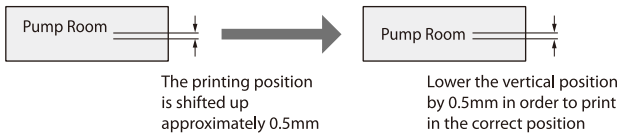
Case 1

The character alignment is set to “Left” and the margin was set to “3mm”. However, when actually printed, the margin is only 2mm.



Case 2

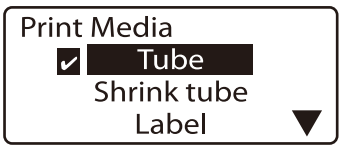
Printing is shifted up about 0.5mm.



ex. When printing on label tape (12mm wide), the phenomena described in case 1 and case 2 both occur simultaneously. Make the appropriate adjustments.

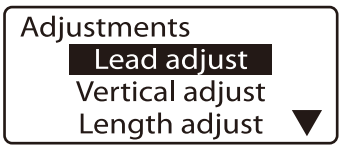
1 Press [Adjust].

- The Print Media selection display appears. First, shift the printing start position 1mm to the right.



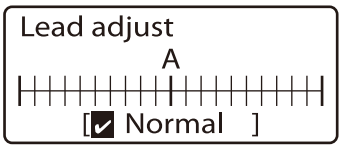
2 Press [▲] or [▼] to select “Label”, and then press [Enter].

- This selects the print media for which the adjustment is to be made.
- When [Enter] is pressed, the Adjustments display appears.



3 Press [▲] or [▼] to select “Lead adjust”, and then press [Enter].

- The Lead adjust selection display appears.



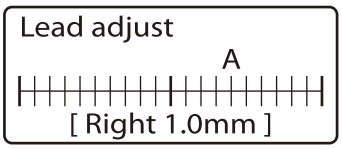
Indicates that the printing start position is at the normal setting (with no adjustment).

4 Press [►] four times; “Right 1.0mm” is displayed.

- Pressing [►] increases the value in steps of 0.25mm.

Memo

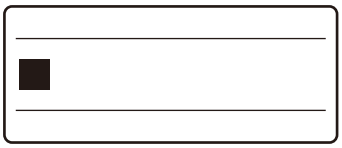
Press [◄] to move the printing start position to the left.
The printing start position can be adjusted up to 2.5 mm to the left or right.



Confirm that the printing start position is now “Right 1.0mm”.

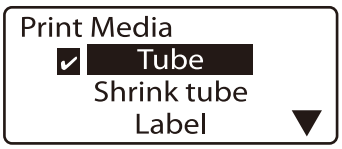
5 Press [Enter].

- The display returns to the character input display. The printing start position has now been shifted 1mm to the right. Next, move the vertical position down 0.5mm.



6 Press [Adjust].

- The Print Media selection display appears.

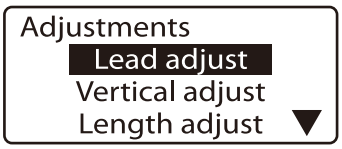


7 Press [▲] or [▼] to select “Label”, and then press [Enter].

- The Adjustments screen appears.

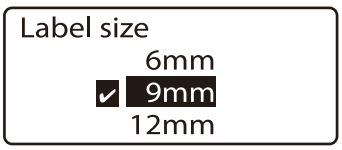
Memo

The vertical position can also be set separately for each print media.



8 Press [▲] or [▼] to select “Vertical adjust”, and then press [Enter].

- The print media size selection screen appears.

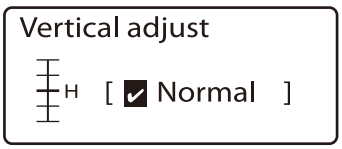


9 Press [▲] or [▼] to select “12mm”, and then press [Enter].

- This selects the print media size for which the adjustment is to be made.
- When [Enter] is pressed, the vertical adjustment selection display appears.

Memo

When the print media is 4mm I.D. strip or wrap around tape, size selection is skipped.



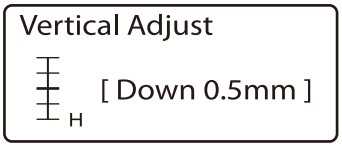
Indicates that the vertical position is at the standard setting (with no adjustment).

10 Press [▼] two times; “Down 0.5mm” is displayed.

- Pressing [▼] increases the value in steps of 0.25mm.

Memo

Press [▲] to move the vertical position up.
Height can be adjusted up to 0.5 mm upwards or downwards.



Confirm that the vertical position is now “Down 0.5mm”.

11 Press [Enter].

- The display returns to the character input display. The vertical position has now been shifted down by 0.5mm.

Printing centerlines

When printing two lines per page, a centerline can be printed between the lines.

Memo

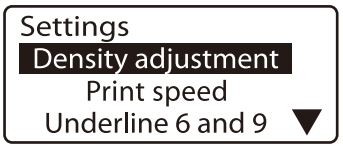
This function cannot be changed from one page to another. Centerlines cannot be printed on pages with only one line or three lines.

ex. Print the centerline as follows.

+12V
- 12V

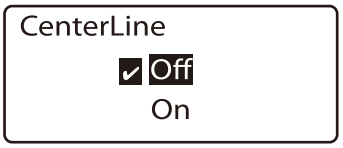
1 Press [Func].

- The Function selection display appears.



2 Press [▲] or [▼] to select “CenterLine”, and then press [Enter].

- The Centerline selection display appears.



3 Press [▲] or [▼] to select “On”, and then press [Enter].

- The display returns to the character input display. Centerlines are enabled.

Printing with short pitch width

By selecting "Expansion" on the Plate Printing Area selection display and selecting character size and number of lines accordingly, the printable number of characters within the short pitch will increase.

Memo

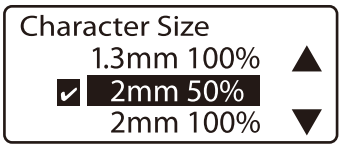
If “Expansion” is selected on the Plate Printing Area selection display, only plates can be used as the printing media.

Printing on a plate for a narrow width terminal block.

ex. Create the following plate for 5mm wide terminal block.
Print the following 5 characters on a plate in 5mm width.

1 Press [Char Size].

- Press [▲] or [▼] to select [2mm 50%].



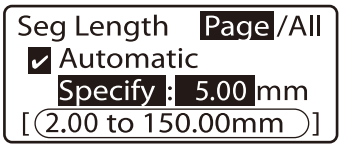
2 Press [Set Lines].

- Press [▲] or [▼] to select [2 lines].

A check mark ☑ is displayed next to the currently selected number of lines.

3 Press [Seg Len].

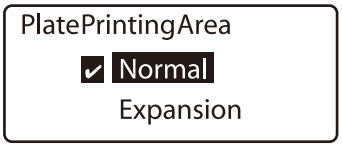
- Press [▲] or [▼] to select “Specify”.
- Press [5], and then input “5”mm as the segment length.
- Press [Enter].



segment length range that can be specified

Plate Printing Area

- Press [▲] or [▼] to select [Expansion].
- Press [Enter].



- The message appears.
- Press [Enter].

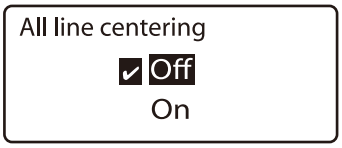
If “Expansion” is selected on the Plate Printing Area selection display, only plates can be selected as the printing media.

Alignment

- Press [▲] or [▼] to select [Centered].
- Press [Enter].

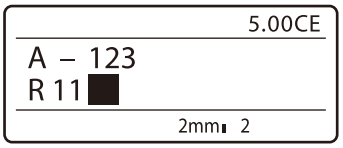
All line centering

- Press [▲] or [▼] to select [On].
- Press [Enter].



4 Input characters.

- Input “A-123”, press [▼], and then input “R11”.
- Perform the printing operation.



Note
- Only 1.3mm double-byte characters can be set to three lines.
- The maximum number of printable characters depends on segment length setting.

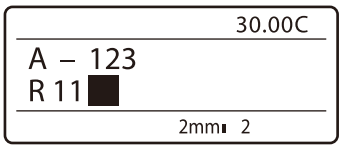
Note
If you wish to increase the number of printable characters
When “Normal” is selected on the Plate Printing Area selection display, spaces are automatically inserted at the left and right of the print. When “Expansion” is selected, the printing area expands all over the segment length without inserting any space.

Note
If you wish to adjust the segment length
For how to adjust the printing result finely, refer to Note, “Adjusting the segment length” (page 101).

■ Printing result obtained by specifying a character alignment mode and a multiple line centering mode ■

The printing result varies depending on the choice of a character alignment mode and a multiple line centering mode.

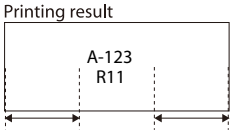
Input characters
1st line: A-123
2nd line: R11



Case 1

Cut length = 30 mm, Plate Printing Area = Normal, Character size = 2 mm/1-byte, Number of lines = 2 lines, Character alignment = Centered, Multiple line centering = On

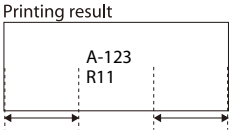
Printing result



Case 2

Cut length = 30 mm, Plate Printing Area = Normal, Character size = 2 mm/1-byte, Number of lines = 2 lines, Character alignment = Centered, Multiple line centering = Off

Printing result



Case 3

Cut length = 30 mm, Plate Printing Area = Normal, Character size = 2mm/1-byte, Number of lines = 2 lines, Character alignment = Left/2 mm

Printing result

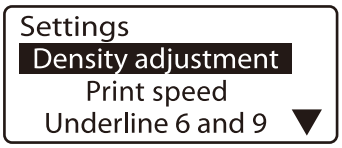
Adjusting the printing density

Printing may be too dark or too light in some cases, depending on the environment in which the printer is used and the characteristics of the print media. In such cases, adjust the printing density. The printing density can be adjusted to five levels.

ex. Printing on a tube is too light, so increase the printing density.

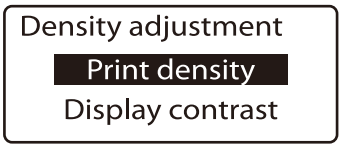
1 Press [Func].

- The Settings display appears.



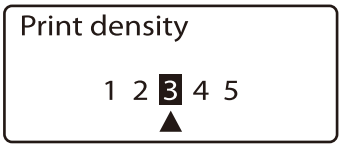
2 Press [▲] or [▼] to select “Density adjustment”, and then press [Enter].

- The Density adjustment display appears.



3 Press [▲] or [▼] to select “Print density”, and then press [Enter].

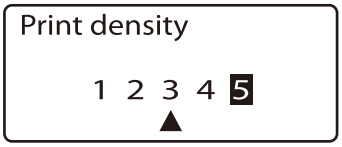
- The Print density selection display appears.



The [▲] indicates that the current print density is “3” (the standard setting).

4 Press [►] twice to select “5”.

- Print density “1” is the lightest print density, and print density “5” is the darkest print density.



Memo

Press [◄] to make the printing density lighter.

5 Press [Enter].

- The display returns to the character input display. Maximum density is now selected.

Changing the printing speed

It is possible to change the printing speed. However, if the printing speed is too fast for the environment in which the printer is used and the characteristics of the print media, printing may shift out of position or be otherwise affected. The print speed can be set to one of three levels: “Low*”, “Middle*” or “High*”.

*When “Low” is selected, characters can be printed on 30 tube segments/min. When “Middle” is selected, characters can be printed on 35 tube segments/min. When “High” is selected, characters can be printed on 30 tube segments/min. (The segment length is 20 mm, five “3mm 100%” characters are entered, and each tube is cut into two segments. This feature is available only for printing on tube.)

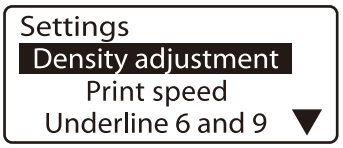
Note

If the characters printed at a temperature below 20°C with “High” selected on the Print speed selection display are faint, select a lower printing speed.

ex. Set the print speed to “Low”.

1 Press [Func].

- The Settings display appears.

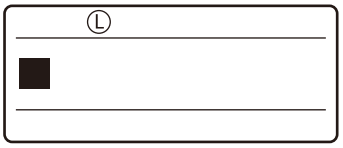


2 Press [▲] or [▼] to select “Print speed”, and then press [Enter].

- The Print speed selection display appears.

3 Press [▲] or [▼] to select “Low”, and then press [Enter].

- The display returns to the character input display. The print speed has now been set to Low.



If “L” is displayed, the print speed has been set to “Low”. “M” and “H” are displayed for “Middle” and “High” respectively.

Note

Printing Speed

You can select a printing speed from among low speed, middle speed, and high speed. The actual printing speed varies depending on the media type.

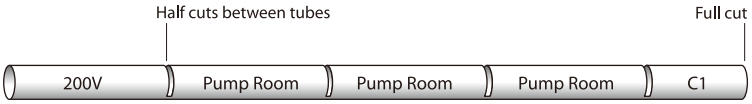
mm/sec

Printing media	Printing speed	Cut	Not cut
Tube Clear tube	Low	18.5	
	Middle	25	20
	High	40	
Heat-shrinkable tube 4 mml. D. strip Label Wraparound tape	Low Middle	25	20
	High	40	
Plate	Low Middle	Cannot be cut.	18.5
	High		40

4.5 Changing the Cutting Method

Half cuts and full cuts

If you examine a long tube that has been printed and output, you will see notches between each segment. These notches allow you to break the individual tube segments apart by hand. The same is true for label tape. The notches make it easy to peel each label off. These notches are called “Half cut”. After the last tube or label tape, a complete cut is made. This is called a “Full cut”.



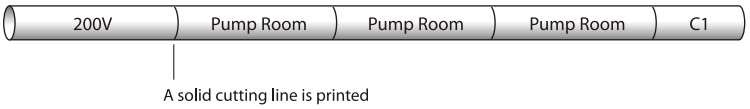
Memo

Plates cannot be cut.

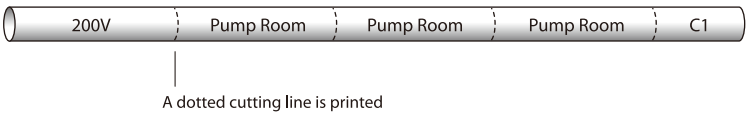
Turning off half cuts

Instead of making half cuts, you can print a cutting line. The cutting line can be either a solid line or a dotted line. It is also possible to print without either half cuts or cutting lines.

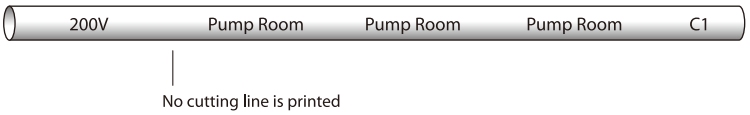
No half cut, solid cutting line



No half cut, dotted cutting line



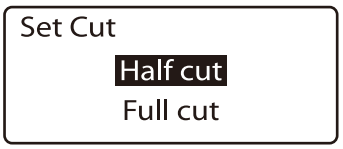
No half cut, no cutting line



ex. Turn off half cuts and print a dotted cutting line.

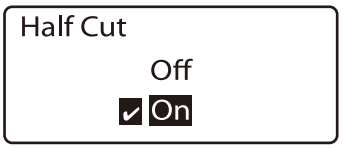
1 Press [Set Cut].

- The Set Cut display appears.



2 Press [▲] or [▼] to select “Half cut” and then press [Enter].

- The Half Cut display appears.



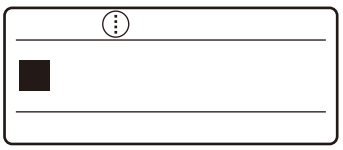
Initially, “On” is selected for the half cut setting.

3 Press [▲] or [▼] to select “Off” and then press [Enter].

- The Cut Line display appears.

4 Press [▲] or [▼] to select “Dotted” and then press [Enter].

- The display returns to the character input display.



The cut line is indicated as a dotted line.

Making a full cut after a specific number of tube segments

For example, if character data as shown in Fig. 1 is input and the number of tube segments to be printed is set as “3”, tube segments are produced as shown in Fig. 2.

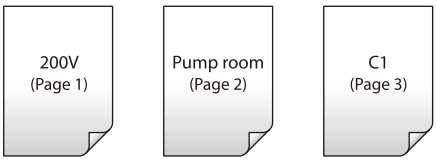


Fig. 1

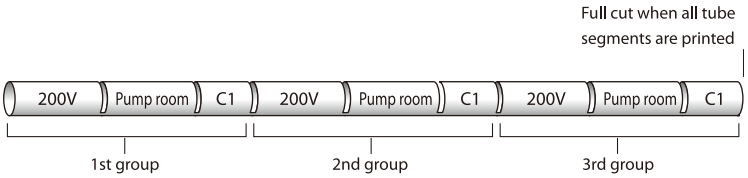


Fig. 2

Initially, the printer is set to make one full cut after all tube segments are printed, but it is possible to change this setting so that a full cut is made after a certain number of tube segments are printed, as shown in Fig. 3.

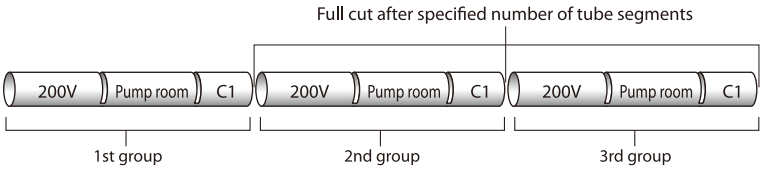
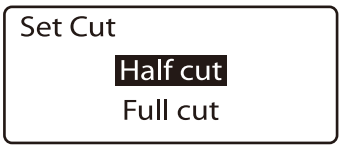


Fig. 3

ex. Make a full cut after every specified number of tube segments.

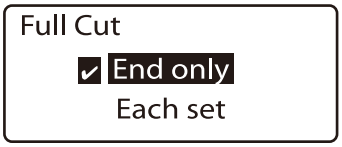
1 Press [Set Cut].

- The Set Cut display appears.



2 Press [▲] or [▼] to select “Full cut”, and then press [Enter].

- The Full Cut display appears.



Initially, “End only” is selected, which makes a full cut only after all tube segments have been printed.

3 Press [▲] or [▼] to select “Each set”, and then press [Enter].

- The display returns to the character input display.

4.6 Other Operations

Removing the print media

When changing the print media from tube to label tape, or from label tape to tube, it is necessary to take out the media that is currently set in the printer. However, because the printer feeds tube or label tape into its transport rollers, it is not possible to simply pull out the current media. It is first necessary to perform the operation described below to release the tube or label tape that has been fed into the unit.

Memo

These operations are the same for heat shrink tube, wrap around tape, 4mm I.D. strip, plate and clear tube.

Memo

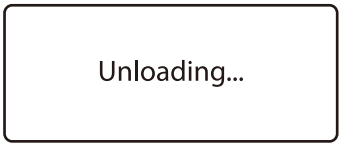
Even after the printing media has been removed, the printer operates.

1 Press [Remove].

- A confirmation display appears.

2 Press [◀] or [▶] to select “Yes” and then press [Enter].

- The display at right appears, and the tube or label tape is released by the transport rollers.

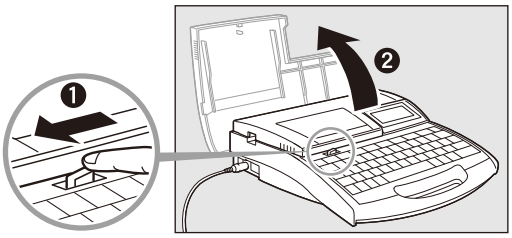


Once the preparations described above have been completed, take out the printing media as described below. For details on how to load the new printing media, refer to “Part 2”.

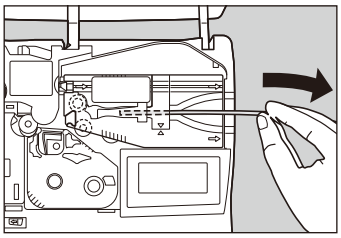
Memo

After pressing [Enter], use the feed function if the tube or label is not released from the transport roller (unable to remove) even after the printer has stopped. (“When a Tube or Label Tape is Not Ejected/Fed” (page 128))

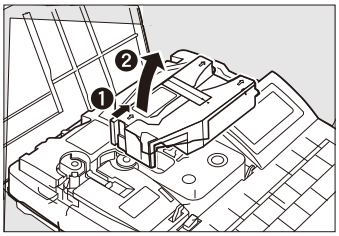
3 Open the cover.



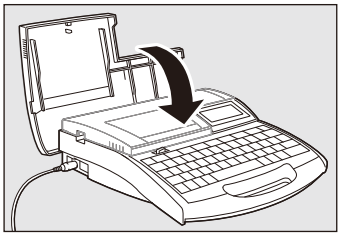
4 (Tube and plate only) Pull the tube or plate out of the attachment.



5 Detach the attachment or the media cassette from the printer.



6 Close the cover.

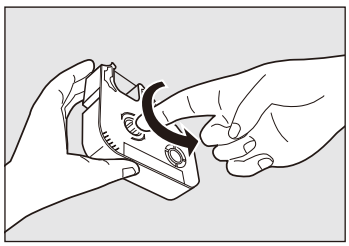


7 Prepare to print.

- See “Part 2 Basic Operation” for information on how to set the print media.

important **Confirm that the ribbon is not slacked.**

Tighten the ribbon if the ribbon is slacked when removing the tube or label tape.



Changing the display contrast

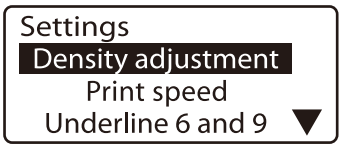
The display can be difficult to see, depending on the ambient brightness and the viewing angle. If the display is difficult to see, adjust the display contrast. The display contrast can be set to any of nine levels.

ex. Because the display is faint, increase the display contrast two steps.

> Note Intensity of the back light is not adjustable.

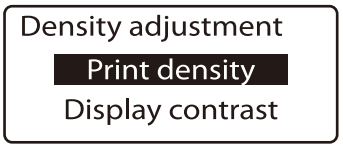
1 Press [Func].

- The Settings display appears.



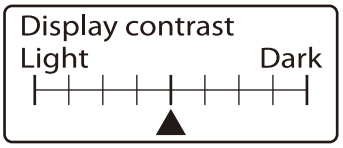
2 Press [▲] or [▼] to select “Density adjustment”, and then press [Enter].

- The Density adjustment display appears.



3 Press [▲] or [▼] to select “Display contrast”, and then press [Enter].

- The Display contrast display appears.

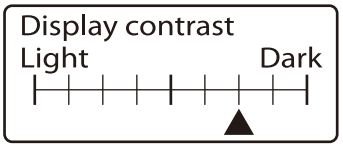


[▲] indicates the current display contrast.

4 Press [►] twice.

Lowering the display contrast

Press [◄] to lower the display contrast.



5 Press [Enter].

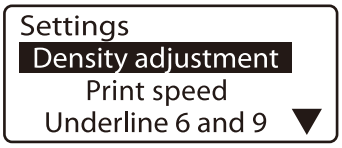
- The display returns to the character input display.

Turning off sounds

Follow the procedure described below to turn off sounds such as the warning sound and the key touch sound for operations other than character input.

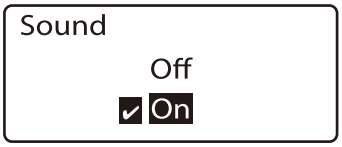
1 Press [Func].

- The Settings display appears.



2 Press [▲] or [▼] to select “Sound”, and then press [Enter].

- The Sound display appears.



3 Press [▲] or [▼] to select “Off”, and then press [Enter].

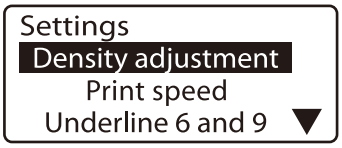
- The display returns to the character input display.

Turning off clear tube reverse

It is possible to disable clear tube reverse (rewind operation).

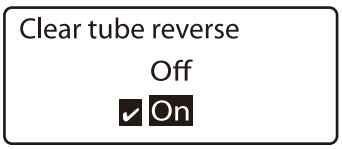
1 Press [Func].

- The Settings display appears.



2 Press [▲] or [▼] to select “Clear tube reverse”, and then press [Enter].

- The Clear tube reverse selection display appears.



3 Press [▲] or [▼] to select “Off”, and then press [Enter].

- The display returns to the character input display.

Restoring the initial settings

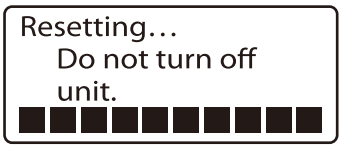
It is possible to restore all settings to their initial values.

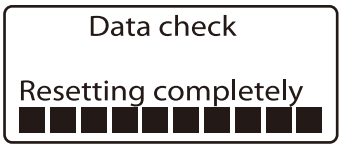
1 Hold down [Del All] while turning the power switch on.

- The initialization confirmation display appears.

2 Press [◄] or [►] to select “Yes” and then press [Enter].

- After the screen shown at right appears, the display returns to the character input display.





important **The saved files will be erased when initialized.**
The settings are returned to the factory settings when initialized. Therefore, note that all current data and saved files will be erased.

Part 5
Maintenance

This section explains how to clear jammed print media, such as a tube or label tape, what action to take if the cutter does not cut anymore, and other maintenance matters.

5.1 If a Tube or Label Tape Becomes Jammed..... 124

Action to Take against Media Jam (When the “Media JAM” message is displayed).....124
Actions to Take against Other Jams (When the “Media JAM” message is not displayed).....126
When a Tube or Label Tape is Not Ejected/Fed.....128

5.2 What To Do If the Cutter Is Getting Blunt..... 130

Changing the cutting depth.....130
Reducing the cutting speed 132

5.3 Replacing the Cutter..... 133

5.4 Replacing the Cassette 136

Replacing the ribbon cassette.....136
Replacing a tube or the label tape cassette 137

5.5 Maintenance..... 138

Cleaning the printer 138
Cleaning the transport rollers 138
Cleaning the print head 140
Cleaning/Replacing the tube cleaner for attachment.....140

5.1 *If a Tube or Label Tape Becomes Jammed*

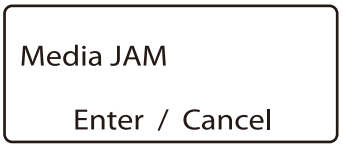
If a tube or tape is jammed during printing, a “Media JAM” message is displayed on the LCD and the printer stops. Remove the jammed tube or tape according to the messages shown on the display.

If you cannot do this because the “Media JAM” message is not shown although a tube or tape is jammed or you have turned off the printer after display of the “Media JAM” message, use the feed function of the printer to remove the jammed printing media.
“Actions to Take against Other Jams (When the “Media JAM” message is not displayed)” (page 126)

■ Action to Take against Media Jam (When the “Media JAM” message is displayed) ■

When the printer stops printing due to a jammed tube or tape and consequently the “Media JAM” message is displayed, remove the jammed tube or tape following the procedure mentioned below.

1 Make sure that the “Media JAM” message is displayed on the LCD.



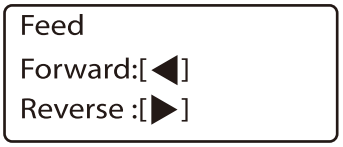
- If the “Media JAM” message is not displayed or it has disappeared because you have turned off the printer, take an appropriate action according to “Actions to Take against Other Jams (When the “Media JAM” message is not displayed)” (page 126).

Memo

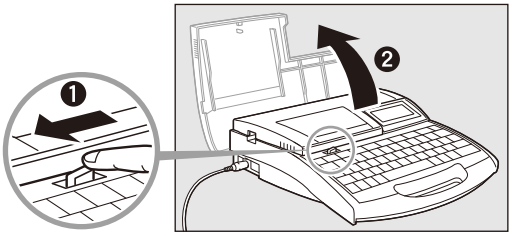
If you select “Cancel”, the “Media JAM” message disappears and the input display is displayed again, causing you to exit from the jam clearing procedure. In this case, refer to “Actions to Take against Other Jams (When the “Media JAM” message is not displayed)” (page 126).

2 Press the [Enter] key.

- The Feed display appears.

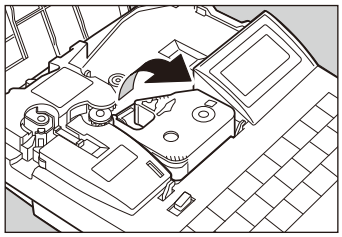


3 Open the cover.

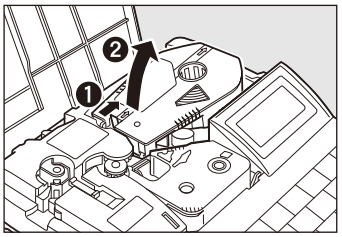


4 Remove the ribbon cassette from the printer.

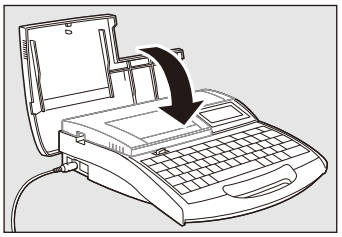
If the ribbon winds itself around some parts inside the printer and therefore the ribbon cassette cannot be removed, proceed to step 5 without removing it.



5 Remove the label tape if it is loaded.
If the label tape winds itself around some parts and therefore it cannot be removed, proceed to step 6 without removing it.

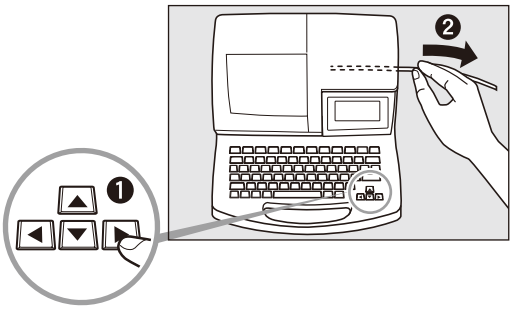


6 Close the cover.



7 Pull out the printing media while pressing the [►] key continuously to feed the tube reverse.
If you cannot pull out the printing media by feeding the tube reverse, press the [◄] key to feed the tube forward.

- While you keep pressing the [►] or [◄] key, the tube is continuously fed reverse or forward.

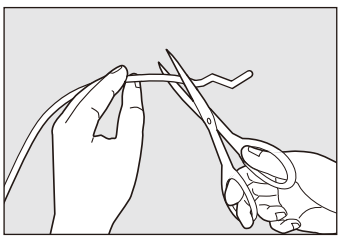


If the ribbon cassette could not be removed in step 4 or the label tape could not be removed in step 5, open the cover and check whether the ribbon cassette or label tape can be removed.
If ribbon cassette or label tape can be removed, remove it and close the cover.
If ribbon cassette or label tape cannot be removed, close the cover and keep pressing the [►] or [◄] key to check whether the ribbon cassette or label tape can be removed. Open/close the cover and keep pressing the [►] or [◄] key repeatedly until the ribbon cassette or label tape can be removed.

8 Feed the tube reverse (by pressing the [►] key) or forward (by pressing the [◄] key) repeatedly to pull out the printing media completely.

9 Cut out the bent or damaged portion of the jammed printing media or the printed portion of the printing media if it exists.

- Thus, the printing media removal procedure is completed.



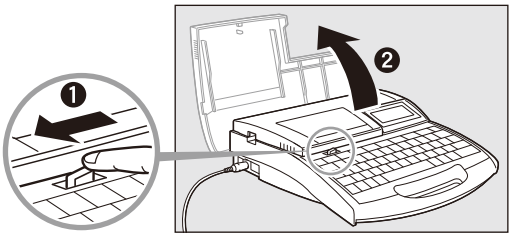
10 Make preparations for printing (Part 2 “Basic Operations”).
Open the cover, load the removed ribbon cassette, tube, or label tape, and then close the cover.
Press the [Canc] key to return to the character input display.

■ Actions to Take against Other Jams (When the “Media JAM” message is not displayed) ■

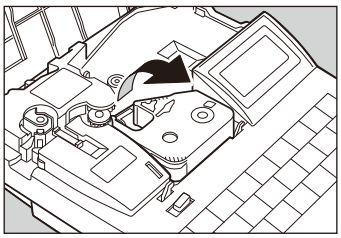
The tube or tape may wind itself around the roller inside the printer when it is ejected improperly after printing or it is improperly fed after replacement. If you happen to turn off the printer after “Media JAM” message is displayed and as a consequence you cannot clear the jam according to the messages, you can remove the jammed printing media using the Feed function in the maintenance mode.

1 When the printer is operating (printing), keep pressing the [Canc] key until a “peep” sound is heard.
If the printer is not powered, turn it on.

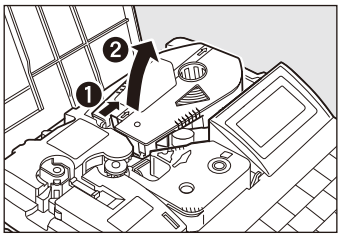
2 Open the cover.



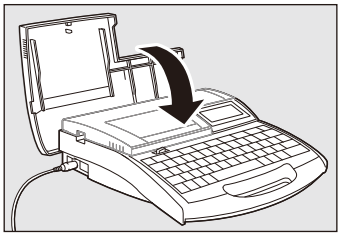
3 Remove the ribbon cassette from the printer.
If the ribbon winds itself around some parts inside the printer and therefore the ribbon cassette cannot be removed, proceed to step 4 without removing it.



4 Remove the label tape if it is loaded.
If the label tape winds itself around some parts and therefore it cannot be removed, proceed to step 5 without removing it.



5 Close the cover.

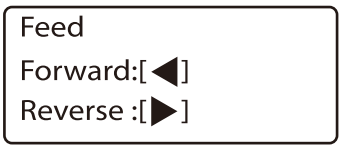


6 Press the [Maint] key.

- A function selection display appears.

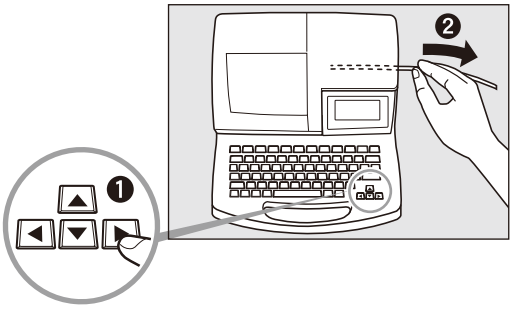
7 Select “Feed” by pressing the [▲] or [▼] key, and then press the [Enter] key.

- A display indicating how to feed the printing media forward or reverse appears.



8 Pull out the printing media while pressing the [►] key continuously to feed the tube reverse. If you cannot pull out the printing media by feeding the tube reverse, press the [◄] key to feed the tube forward.

- While you keep pressing the [►] or [◄] key, the printing media is continuously fed reverse or forward.

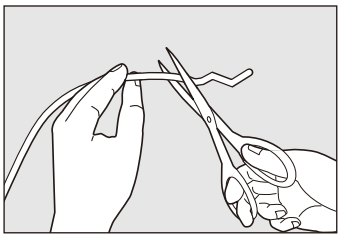


If the ribbon cassette could not be removed in step 3 or the label tape could not be removed in step 4, open the cover and check whether the ribbon cassette or label tape can be removed.
If the ribbon cassette or label tape can be removed, remove it and close the cover.
If ribbon cassette or label tape cannot be removed, close the cover and keep pressing the [►] or [◄] key to check again whether the ribbon cassette or label tape can be removed. Open/close the cover and keep pressing the [►] or [◄] key repeatedly until the ribbon cassette or label tape can be removed.

9 Feed the tube reverse (by pressing the [►] key) or forward (by pressing the [◄] key) repeatedly to pull out the printing media completely.

10 Cut out the bent or damaged portion of the jammed printing media or the printed portion of the printing media if it exists.

- Thus, the printing media removal procedure is completed.



11 Make preparations for printing (Part 2 “Basic Operations”).
Open the cover, load the previously removed ribbon cassette, tube, or label tape, and then close the cover.
Press the [Canc] key to return to the character input display.

When a Tube or Label Tape is Not Ejected/Fed

Using the Feed function in the maintenance mode allows you to feed the tube or label tape loaded in the printer.

Note that this function should be used only when the tube or label tape is not ejected or fed properly. Feeding the tube or label tape continuously can damage the printing media or winds the ribbon of the ribbon cassette around other parts, causing a jam.

Memo

For example, use the Feed function in the following cases:

- Printing media is not released from the feed roller even when you press the [Remove] key to replace the printing media.
- The printer is operating but printing media is not ejected after completion of printing.

In this case, the tube or label tape may be jammed inside the printer. Open the cover and check whether the tube or label tape is jammed. If it is jammed, follow the jam removal procedure. Refer to "Actions to Take against Other Jams (When the "Media JAM" message is not displayed)" (page 126).

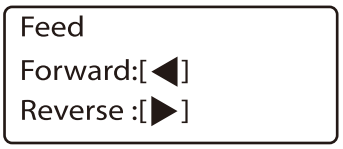
1 When the printer is operating (printing), keep pressing the [Canc] key until a "peep" sound is heard.
If the printer is not powered, turn it on.

2 Press the [Maint] key.

- A function selection display appears.

3 Select "Feed" by pressing the [▲] or [▼] key, and then press the [Enter] key.

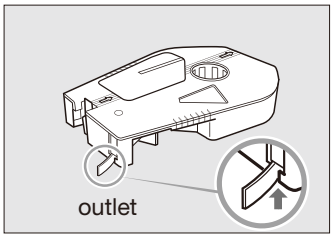
- A display indicating how to feed the printing media forward or reverse appears.



4 Keep pressing the [◀] or [▶] key to feed the printing media to the desired position.

important **Check that paste is not stuck to the outlet of label tape cassette.**

Label tape can be jammed when paste remains stuck to the outlet of label tape cassette. Open the cover and check whether paste is not stuck to the outlet of label tape cassette. If paste is stuck, take it off.

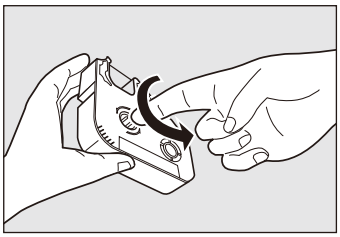


important **Avoid excessive reverse.**

If you feed the label tape excessively in the reverse direction, the leading edge of the label tape enters the cassette. Refer to Note, “What to do if the label tape becomes stuck inside the cassette” (page 38).

important **Check the ribbon for slack.**

The ribbon of the ribbon cassette can slacken when it is fed reverse. Open the cover and check whether the ribbon is slack. If it is slack, take up the slack.



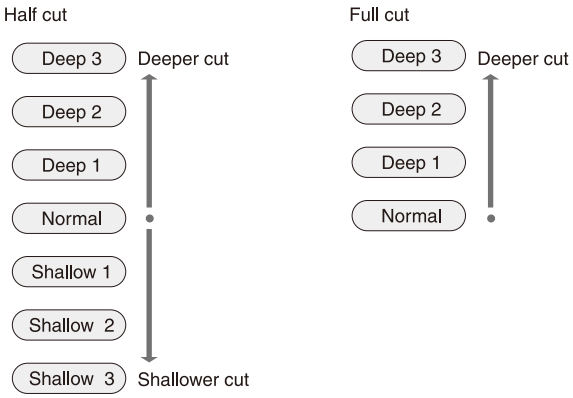
5.2 What To Do If the Cutter Is Getting Blunt

Changing the cutting depth

If the cutter does not cut tube or label tape properly, try changing the cutting depth. The cutting depth for half cuts and for full cuts can be adjusted as described below. In addition, these adjustments can be made separately for each type of print media.

Memo

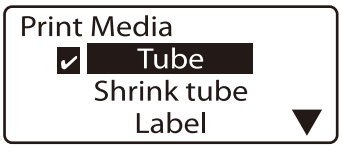
If half cuts are made so deeply that they completely cut through the tube, adjust cutting to a shallower depth.
Note that a deeper cutting depth will cause the cutter and the cutter receiver to wear out more quickly.



ex. Full cuts of label tape are not complete cuts, so increase the cutting depth by one step.

1 Press [Adjust].

- The Print Media display appears.

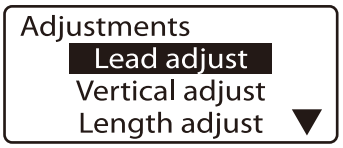


2 Press [▲] or [▼] to select “Label”, and then press [Enter].

- Select the print media for which the adjustment is to be made.
- Press [Enter] to display the Adjustment display.

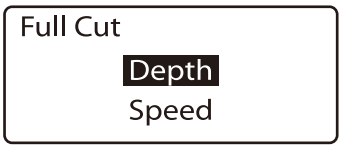
Memo

The cutting depth can be set separately for each type of print media.



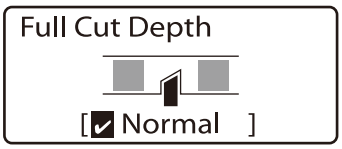
3 Press [▲] or [▼] to select “Full cut”, and then press [Enter].

- The Full Cut display appears.



4 Press [▲] or [▼] to select “Depth”, and then press [Enter].

- The Full Cut Depth display appears.



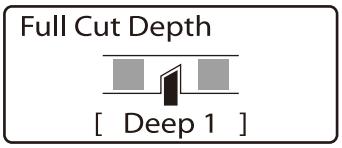
Indicates that the cutting depth is at the standard setting.

5 Press [▲] once, so that “Deep 1” appears.

- Each time [▲] is pressed, the cutting depth increases by one.

Memo

When adjusting the depth for a half cut, pressing [▼] reduces the depth.



Confirm that the cutting depth is “Deep 1”.

6 Press [Enter].

- The display returns to the character input display. The cutting depth is now one step deeper.

Note

What to do if the cutter still does not cut well (Force full cut)

If the cutter will not cut well no matter how much you adjust the cutting depth, try using “Force full cut”. When force full cut is performed, the cutter cuts to the deepest depth possible. If the cutter still does not cut even when using force full cut, the cutter needs to be replaced. For details on the replacement procedure, refer to “Replacing the cutter” (page 133).

1. Press [Maint].

- The Maintenance display appears.

2. Press [▲] or [▼] to select “Force full cut”, and then press [Enter].

- The full cut confirmation display appears.

3. Press [◄] or [►] to select “Yes”, and then press [Enter].

- A full cut is made.

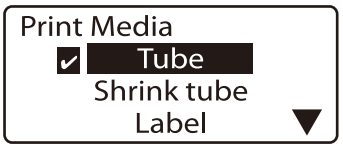
Reducing the cutting speed

If cutting is not performed smoothly for certain types of tube or label tape, try reducing the cutting speed. The cutting speed can be adjusted to one of two levels (“Normal” and “Low”) for half cuts and for full cuts, respectively. This adjustment can also be made separately for different types of print media.

ex. Full cutting does not work well, so reduce the cutting speed.

1 Press [Adjust].

- The Print Media display appears.

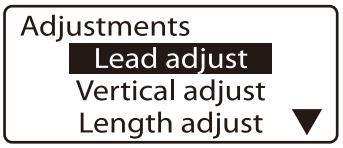


2 Press [▲] or [▼] to select “Tube”, and then press [Enter].

- Select the type of print media for which the adjustment is to be made.
- Press [Enter] to display the Adjustments display.

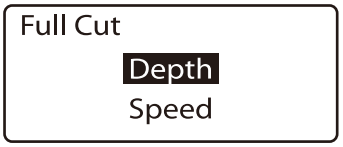
Memo

The cutting speed can be set separately for different types of printing media.



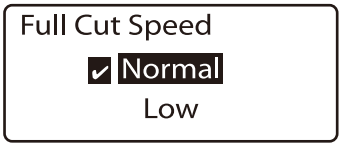
3 Press [▲] or [▼] to select “Full cut”, and then press [Enter].

- The Full Cut display appears.



4 Press [▲] or [▼] to select “Speed”, and then press [Enter].

- The cutting speed adjustment display appears.



Indicates that the cutting speed is set to the normal setting.

5 Press [▲] or [▼] to select “Low”.

6 Press [Enter].

- The display returns to the character input display. The cutting speed has now been reduced.

5.3 Replacing the Cutter

If tube or label tape is not fully separated even with forced full cutting (page 131), the cutter should be replaced. When replacing the cutter, be sure to replace the cutter receiver at the same time. Contact your nearest dealer for details on how to obtain a replacement cutter.

Memo

If half cuts are too deep even though the cutting depth has been adjusted to the shallowest level, it is possible that the cutter receiver is worn.

⚠ CAUTION

Follow procedures!

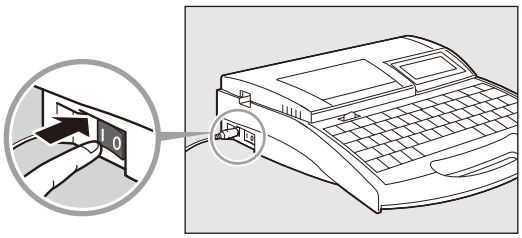
The cutter is designed so that you cannot touch it directly, but it is possible that mishandling could expose the blade, creating a risk of injury. Do not attempt any operation that is not described in this manual. Furthermore, be sure to carefully follow the procedures described in this manual.

Dispose of the old cutter immediately

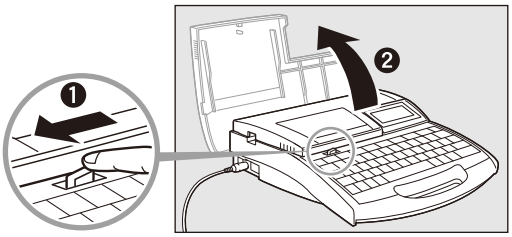
Do not keep the old cutter after you have replaced it; dispose of it right away. The cutter poses a risk of injury to small children, etc.
Discard the removed cutter immediately in compliance with local regulations regarding the disposal of such items.

1 Turn the power switch off.

- Press the "O" side.

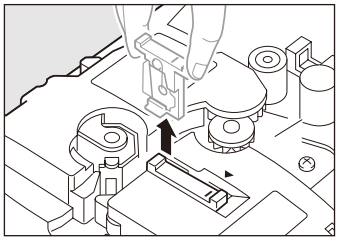


2 Open the cover.



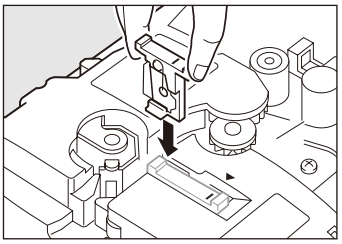
3 Pull out the cutter.

- Dispose of the old cutter right away. When disposing of the cutter, do not touch it anywhere other than where indicated in the figure.

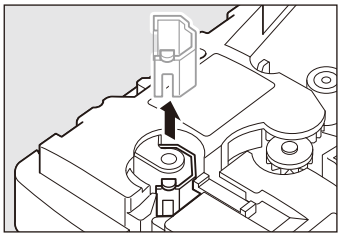


4 Install the new cutter.

- To ensure correct orientation, align the "-" mark on the cutter with the "◀" mark as shown, and insert the cutter all the way in.

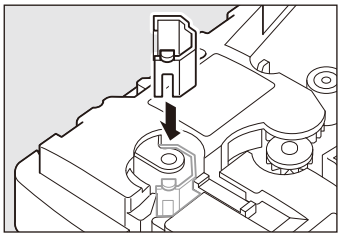


5 Pull out the cutter receiver.



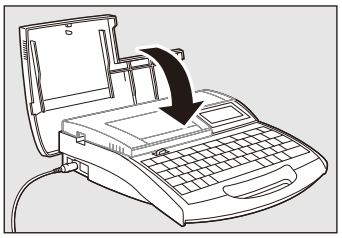
6 Insert the new cutter receiver.

- Push the cutter receiver in as far as it will go.



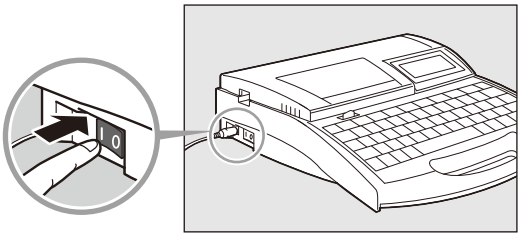
Be sure that the cutter receiver is facing in the correct direction.

7 Close the cover.



8 Turn the power switch on.

- Press the "|" side.



9 Press [Maint].

- The Maintenance display appears.

10 Press [▲] or [▼] to select “Replace cutter”, and then press [Enter].

- After the display shown at right appears, the display returns to the character input display.

Memo

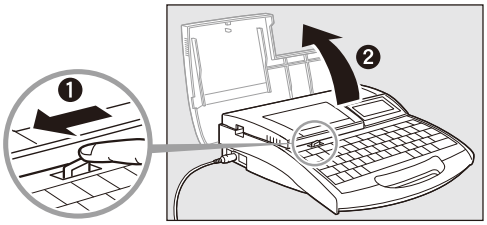
The setting that was made in the section “Changing the cutting depth” (page 130) returns to its original value.

5.4 Replacing the Cassette

Replacing the ribbon cassette

If the message “End of ribbon.” appears while printing is in progress, replace the ribbon cassette as shown below. Contact your nearest dealer to purchase replacement ribbon cassettes.

1 Open the cover.

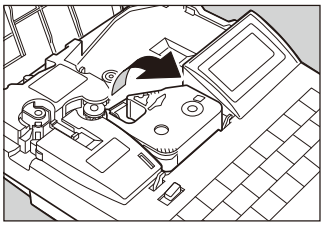


2 Detach the ribbon cassette.

- Pull the cassette out toward you.

Memo

Place the removed ribbon cassette into the plastic bag, then discard it immediately in compliance with local regulations regarding the disposal of such items.



3 Take up any slack in the new ribbon.

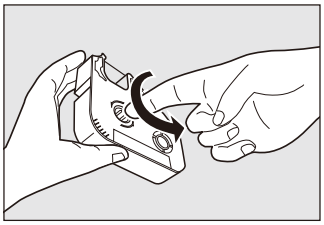
- Remove the stopper and then fix the slack in the ribbon.

Memo

The printer cannot detect the ribbon if it has any slack in the ribbon. Always be sure to take up slack in the ribbon when installing a cassette.

Memo

Dispose the removed stopper according to local government regulation.

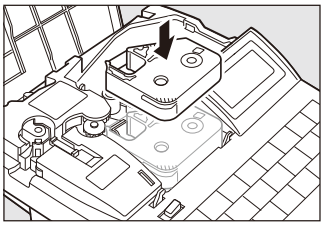


4 Install the new ribbon cassette.

- Push the cassette in until it clicks into the place.

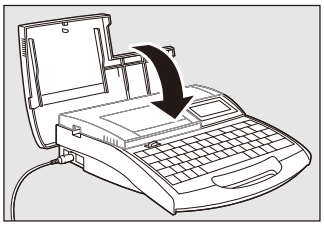
Memo

If the ribbon cassette is loose, the ribbon may not be detected, so be sure to press it in until it clicks.



CAUTION **Do not touch the connector (metal part)**
Do not hold the connection terminal (metal part) of the cassette. Doing so could cause an improper recognition of the cassette.

5 Close the cover.



6 Press [Enter].

- Printing resumes from the page following the page that was interrupted.

Replacing a tube or the label tape cassette

Remove the tube or label tape cassette as follows, and install a new one.
Contact your dealer if you need to purchase tube or label tape cassettes.

Memo

The same procedure as for a label tape cassette applies when using heat shrink tube, wrap around tape and 4mm I.D. strip. Clear tube and plate is handled in the same way as regular tube.

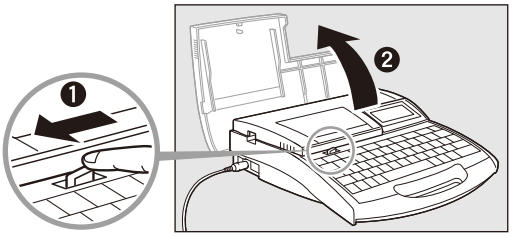
1 Press [Remove] and then [Enter].

- Media is ejected in the opposite direction.

Memo

After pressing [Enter], use the feed function if the tube or label is not released from the transport roller (unable to remove) even after the printer has stopped. (“When a Tube or Label Tape is Not Ejected/Fed” (page 128))

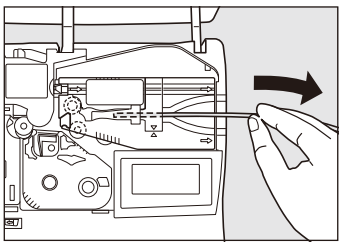
2 Open the cover.



3 (Tube and plate only) Pull the tube or plate out of the attachment.

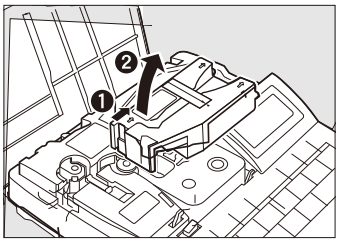
Memo

Dispose the used tubes and label cassettes according to local government regulation.



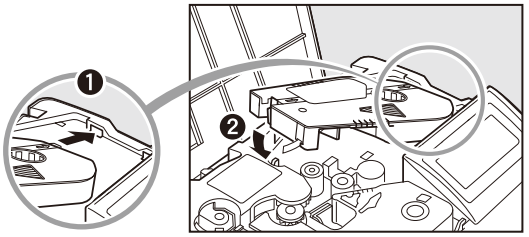
4 Remove the tube attachment or label cassete from the machine.

- While pulling the lever to the right, lift and detach the label tape cassette.



5 Install the new tube or label tape cassette.

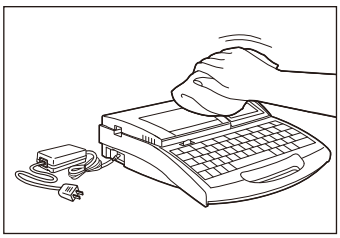
- See “Part 2 Basic Operation” for detail.



5.5 Maintenance

Cleaning the printer

Wipe the body with a cloth that has been dampened with water and then wring out thoroughly. Do not use alcohol, benzene, or other solvents. Doing so could not only damage the finish, but could also damage the unit itself.



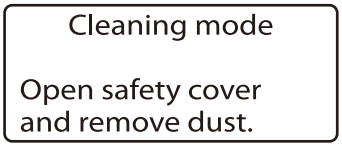
Cleaning the transport rollers

Use gauze to wipe away any dirt on the transport rollers. If the transport roller is extremely dirty, place a few drops of water on the gauze, wring the gauze out gently, and then wipe the dirt away. Never use alcohol, benzene, or other solvents. If such chemicals get inside the unit, they could damage it.

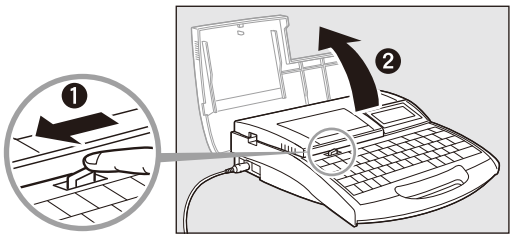
1 Press [Maint].

- The Maintenance display appears.

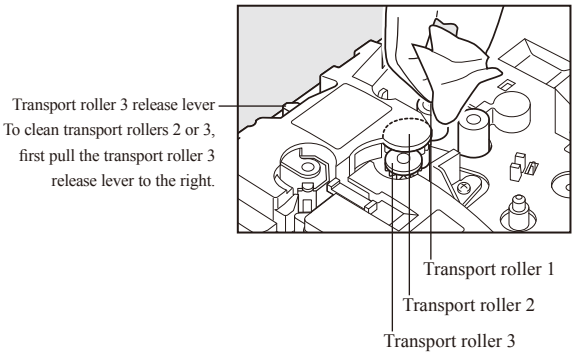
2 Press [◄] or [▼] to select “Cleaning”, and then press [Enter].



3 Open the cover.

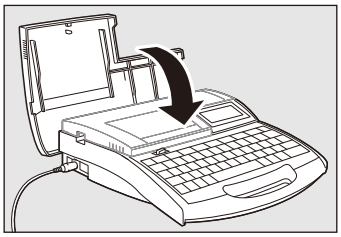


4 Clean the transport rollers.



5 Close the cover.

- The transport rollers rotate.



6 Repeat steps 3 to 5.

Memo

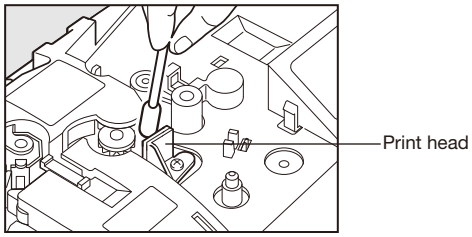
The roller rotates one revolution when the cover is opened and closed six times.

7 Press [Canc].

- The message disappears, and the display returns to the character input display.

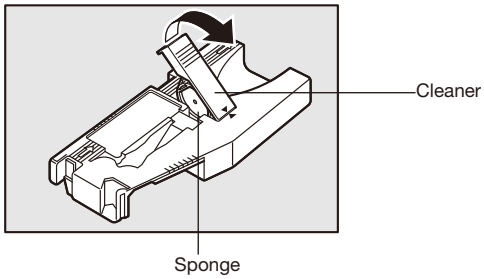
■ Cleaning the print head

Use a cotton swab to clean dirt from the print head. Be very careful not to scratch the head. Also, always be sure to turn the power switch off before beginning to clean the print head. If the print head is extremely dirty, place a few drops of water on the cotton swab, and then wipe the dirt away. Never use alcohol, benzene, or other solvents. Such chemicals could damage the unit.



■ Cleaning/Replacing the tube cleaner for attachment

The attachment has a cleaner that removes dirt from the surface of media.
Remove the cleaner as shown in the illustration, and then clean the sponge to remove accumulated dirt.
When the sponge becomes damaged, replace the cleaner.
Contact your nearest dealer to purchase replacement tube cleaners.



Part 6
Appendices

These appendices describe consumable supplies and options, the list of symbols, and the main specifications of the printer.

6.1 Consumable Supplies and Options 142

Consumable supplies 142
Options 143

6.2 Message List..... 144

6.3 Troubleshooting 147

6.4 List of Symbols 150

6.5 List of Function..... 151

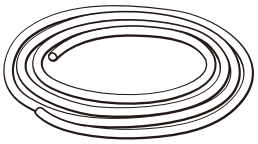
6.6 Main Specifications..... 152

6.1 Consumable Supplies and Options

Consumable supplies

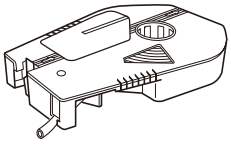
The consumable supplies used by the printer are listed below. Contact your nearest dealer to purchase supplies.

Tube



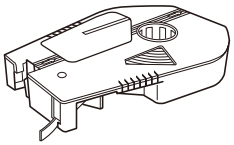
Purchase any commercially available tube with an inner diameter ranging from ϕ 2.5mm to 6.5mm. The thickness of usable tubes is 0.5 mm.

Heat shrink tube cassette (white, yellow)



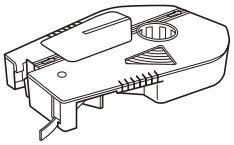
Purchase only special cassette.

Label tape cassette (white, yellow, silver)



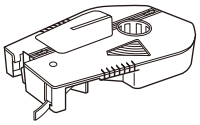
Purchase only special cassette.

4mm I.D. strip cassette (white, yellow)



Purchase only special cassette.

Wrap around tape cassette (white).



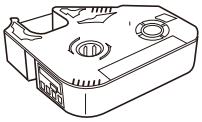
Purchase a special cassette.

Plate

Purchase any commercially available 0.5mm-thick plate with width of 8 to 10mm.

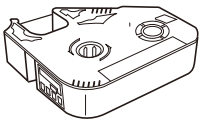
Printing may not be possible on some types of plate. Ask your supplier for details.

Ink ribbon cassette (black, white)



Purchase only special cassette.

Plate ink ribbon cassette (black)

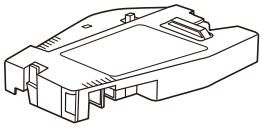


Purchase only special cassette.

Options

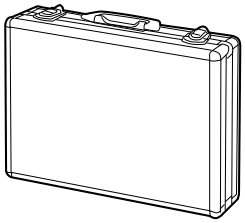
The following options are available. Contact your nearest dealer for details.

Tube Warmer



Tube Warmer warms the tube that has harden with cold. Using the tube warmer enables clear printing in low temperature environment.

Hard Case



Hard Case designed to protect this printer from impact. You can print characters with the printer put in this case.

List of options

Tube Warmer
Tube Attachment
Plate Attachment
AC adapter
Soft case
Hard case
Wrap around tape guide

List of consumable supplies

Cassettes
Ink ribbon cassette (black, white)
Plate ink ribbon cassette (black)
Label tape cassette (white)
6mm
9mm
12mm
Label tape cassette (yellow)
6mm
9mm
12mm
Label tape cassette (silver)
6mm
9mm
12mm
Heat shrink tube cassette (2:1 shrinkage)
ϕ 3.2mm • White
• Yellow
ϕ 4.8mm • White
• Yellow
ϕ 6.4mm • White
• Yellow
Heat shrink tube cassette (3:1 shrinkage)
ϕ 3.0mm • White
• Yellow
ϕ 6.0mm • White
• Yellow
Wrap around tape (white)
4mm I.D. strip (white, yellow)

Miscellaneous
Cutter set
Cleaner set
Warmer cleaner set
Plate cleaner set

6.2 Message List

Message	Description	Action
Cannot modify.	An attempt was made to select an unavailable setting.	Check the User's Guide and make the correct setting.
Input value out of range.	An attempt was made to input a value that is outside of the settable range.	Check the User's Guide and make the correct setting.
In Vert/Hor char, Character Space setting not possible.	An attempt was made to select the character spacing when the printing orientation is set as “Vert/Hor char”.	The character spacing cannot be selected when the printing orientation is set as “Vert/Hor char”.
No data to paste.	The paste operation was attempted while there was no page data to be pasted.	Prepare data to be pasted by cutting or copying a page.
Not enough memory. Character input is no longer possible.	An attempt was made to input characters when there was insufficient free space in memory.	Delete some input data to free up some space.
Length exceeded. Input data exceeds set length.	An attempt was made to input a value that is outside of the settable range.	Check the User's Manual and make the correct setting.
Numbering already set for this page.	An attempt was made to set the numbering function a second time on a page in which numbering was already set.	The numbering setting can only be made once per page.
Char limit exceed. Exceeded maximum Number of characters	An attempt was made to input characters in excess of the number of characters that can be input.	Input only the allowed number of characters.
xxxxxx already exists. Change the folder name	An attempt was made to specify a folder name that already exists.	Specify a different folder name.
Not enough memory. Cannot save any more files.	An attempt was made to save a file while there was insufficient free space remaining.	Delete any unnecessary files to create free space.
No files.	An attempt was made to load or delete a file even though no files have been saved.	Confirm the file save destination folder. Save the file once more.
No files in selected folder.	An attempt was made to load or delete a file in a folder even though no files have been saved in that folder.	
Already 99 files in selected folder.	An attempt was made to save more than 99 files in a single folder.	Either delete any unnecessary files and then save the desired files in that folder, or else save the files in a different folder.
Symbol can not be input with1.3mm font.	Symbols cannot be entered when the character size is set to 1.3 mm.	Change the character size to a value other than 1.3 mm.
Number of the characters over. Cannot change.	An attempt was made to select “Auto” on the Segment Leng selection display for the page in which a maximum number of characters were input with “Expansion” selected on the Plate Printing Area selection display.	Delete characters to reduce the number of characters to a changeable one, and then change the setting.

Message	Description	Action
Cannot input. Change length or character size.	The specified character size or segment length does not allow you to input characters.	Change the segment length or character size.
Don't operate. 3 lines in the page.	The page to be divided or combined contains data entered on three lines.	Edit or delete the pages on which characters are entered on three lines.
No character data.	An attempt was made to print even though no character data exists.	Input character data before printing.
No media.	An attempt was made to print while no printing media has been loaded.	Load the print media and then press [Enter] to begin printing.
No Ribbon cassette.	An attempt was made to print while no ribbon cassette was installed.	Install a ribbon cassette.
End of media. Pull out print media.	The end of the printing media was reached while printing was in progress.	Take out the printing media from the printer, and replace it with new printing media.
Replace print media.	The printing media was removed after the "End of media" message was displayed.	Insert the new printing media and then press [Enter] to resume printing.
End of ribbon Replace ribbon cassette.	The end of the ribbon cassette was reached while printing was in progress.	Install a new ribbon cassette, and then press [Enter] to resume printing.
Start of media not detect. Remove media between print head and cutter.	An operation was attempted while the printing media was not inserted properly. A printing media is jammed between the print head and cutter.	Take out the printing media, re-install it correctly, and then press [Enter]. Remove the printing media between the print head and cutter, and then press [Enter].
Cannot initialize print head position.	It is impossible to initialize the print head position for some reason.	Press [Enter]. If the same message appears again, contact your dealer.
Cannot move print head to print position.	It is impossible to move the print head to the printing position for some reason.	Press [Enter]. If the same message appears again, contact your dealer.
Cannot initialize cut position.	It is impossible to initialize the cutter position for some reason.	Press [Enter]. If the same message appears again, contact your dealer.
Data check Resetting completely	An error was found in the data for some reason, so all of the data was initialized.	Set up the printer functions again. Check the saved data, and then enter/save data again.
Close cover and press any key.	An operation was attempted while the cover was open.	Close the cover and press any key.
Power turned off when saving file. Checking saved data.	The power was turned off while a file was being saved. Any bad data will be deleted.	Check the saved files. Enter/save again the data being input or the file not saved.
Power turned off when loading file. Resetting input data.	The power was turned off while a file was being loaded. The input data will be deleted.	
Power turned off when deleting file. Checking saved data.	The power was turned off while a file was being deleted.	Check the saved files. Delete the files that have not yet been deleted.
Memory backup battery low. Contact dealer.	The memory backup batteries do not have adequate capacity.	Contact your dealer.

Memory backup battery exhausted. Resetting memory.	Because the memory backup batteries do not have adequate capacity, the data settings have been initialized.	Contact your dealer.
Media JAM Enter/Cancel	Tube or label tape is jammed.	Refer to “If a Tube or Label Tape Becomes Jammed” and remove the jammed object.
Printing... Ribbon will end soon	Remaining ribbon is low when printing. (approximately 10m remaining)	Have a new ribbon cassette ready. Replace with new ribbon cassette if printing a long document.
No ribbon information. No ribbon amount displayed. Press enter	The printer could not properly communicate with the ribbon cassette. Or, the end of the ribbon has been reached and the relevant information has been written on the ribbon.	Follow the instruction on the screen.
If PlatePrintingArea is Expansion, the media become only the Plate.	“Expansion” has been selected on the Plate Printing Area selection display.	Only plates can be used as printing media. If you wish to print characters on another media, select “Auto” on the Seg Length selection display according to “Printing with short pitch width” (page 111) or “Changing the length and the character alignment” (page 99).

6.3 Troubleshooting

Symptoms	Cause	Action
The display remains blank when the power is turned on.	The AC adapter is not connected properly.	Turn the power switch off, and then make sure that the AC adapter is securely plugged into the power outlet and is connected to the main unit. Then turn the power back on.
	You are not using an AC adapter that is made for use with the printer.	Use an AC adapter that is specifically intended for the printer. Using another AC adapter could result in circuit damage or overheating.
	A cause other than the above.	Restore all settings to their initial values. (page 122)
The startup display remains on the display; the input display does not appear.	Bad input data.	Restore all settings to their initial values. (page 122)
The printer does not print, or does not print correctly.	No character data has been input.	The printing operation cannot be performed if no character data has been input. Either input character data, or else load a file and prepare character data.
	The size of the printing media that was selected for printing does not match the size of the printing media that has actually been loaded in the printer.	Confirm the size of the printing media that is loaded in the printer, and then select the same size.
	The printing start position and the printing vertical position are not set correctly.	Refer to “Adjusting the printing start position and vertical position” (page 108) and make the correct settings.
	The ribbon cassette has not been set correctly.	Detach the ribbon cassette, take up the slack, and then reinstall the ribbon cassette.
	The attachment or media cassette has not been installed correctly.	Detach the attachment or the media cassette and then install it again.
	The print media is crushed, twisted, or otherwise misshapen.	Cut off the misshaped portion and then install the media again. Use printing media that is not misshaped.
	The print media is dirty.	Remove the dirt.
	The transport rollers are dirty.	Refer to “Cleaning the transport rollers” (page 138) and clean the transport rollers.
	The print head is dirty.	Refer to “Cleaning the print head” (page 140) and clean the print head.
	Tube cleaner is dirty.	Refer to “Cleaning/Replacing the tube cleaner for attachment” (page 140) and wipe the dirt with sponge.
	Tube cleaner is worn.	Replace with new cleaner. Contact your nearest dealer to purchase replacement tube cleaners.

Symptoms	Cause	Action
Surface of the print media is dirty.	When transporting the tube, the edge of it touched the ribbon cassette and smeared.	Wipe the dirt from the printed material with dry cloth.
The print media is not fed into the printer.	The load placed on the tube when supplying the tube is too heavy.	Minimize the load that is placed on the tube. The tube cannot be transported if the load exceeds 4.9N (500gf). (page 30)
	The transport rollers are dirty, causing the media to slip.	Refer to “Cleaning the transport rollers” (page 138) and clean the transport rollers.
	The print media transport path is dirty.	Clean away the dirt.
	The operating environment is unsuitable for the printer.	Use the printer in an environment where the temperature ranges from 15°C to 32.5°C, and the humidity ranges from 10% to 85%RH. if the optional Tube Warmer is used, the printer can be used in an environment as cool as 5°C.
The print media is not ejected.	The print media is jammed.	Refer to “If a Tube or Label Tape Becomes Jammed” (page 124) and clear the jam.
The tube is cut at an angle.	The tube is transported to the printer twisted.	If the tube is curled, it cannot be transported straight and the end may be cut at an angle. Untwist the tube as much as possible before printing especially when printing on a long tube.
Label tape cut improperly.	A wrap-around tape guide for wrap-around tape is attached.	Detach it if attached.
Full cutting cannot be made on 12mm label tape.	Cut is crooked because something is preventing proper ejection at the ejection end of the printer.	Do not place objects at the ejection end of the printer when printing.
Half cuts cannot be made.	The cutter or the cutter receiver is not installed correctly.	Refer to “Replacing the cutter” (page 133) and install the cutter correctly.
	The cutter depth or speed is not set properly.	Refer to “Changing the cutting depth” (page 130) or “Reducing the cutting speed” (page 132) and make the appropriate adjustments.
	The cutter is worn.	Refer to “Replacing the cutter” (page 133) and replace both the cutter and the cutter receiver.
Half cuts are made too deep.	The cutter receiver is worn.	Refer to “Replacing the cutter” (page 133) and replace both the cutter and the cutter receiver.
	The cutter or the cutter receiver is not installed correctly.	Refer to “Replacing the cutter” (page 133) and install the cutter correctly.
	The cutter depth or speed is not set properly.	Refer to “Changing the cutting depth” (page 130) or “Reducing the cutting speed” (page 132) and make the appropriate adjustments.
Full cuts cannot be made	The cutter is worn.	Refer to “Replacing the cutter” (page 133) and replace both the cutter and the cutter receiver.

Torn ribbon	The tube is stained with sticky matter similar to the glue.	Use a clean tube.
Cannot select printing media other than the plate.	There is a page for which “Expansion” was selected on the Plate Printing Area selection display.	Select “Auto” on the Seg Length selection display according to "Printing with short pitch width” (page 111) and “Changing the length and the character alignment” (page 99).

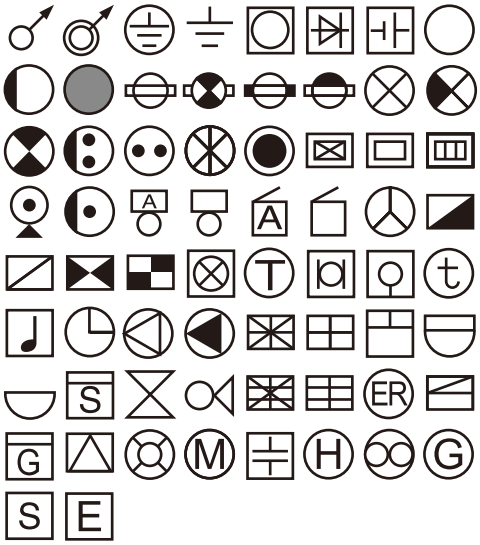
* The defective jack of the AC adapter cannot be repaired. Please purchase a new AC adapter from your nearest dealer.
* Between the printing start point and the point about 60 mm away from it, the tube is cut to a length which is slightly shorter than the specified segment length due to the machine structure.

6.4 *List of Symbols*

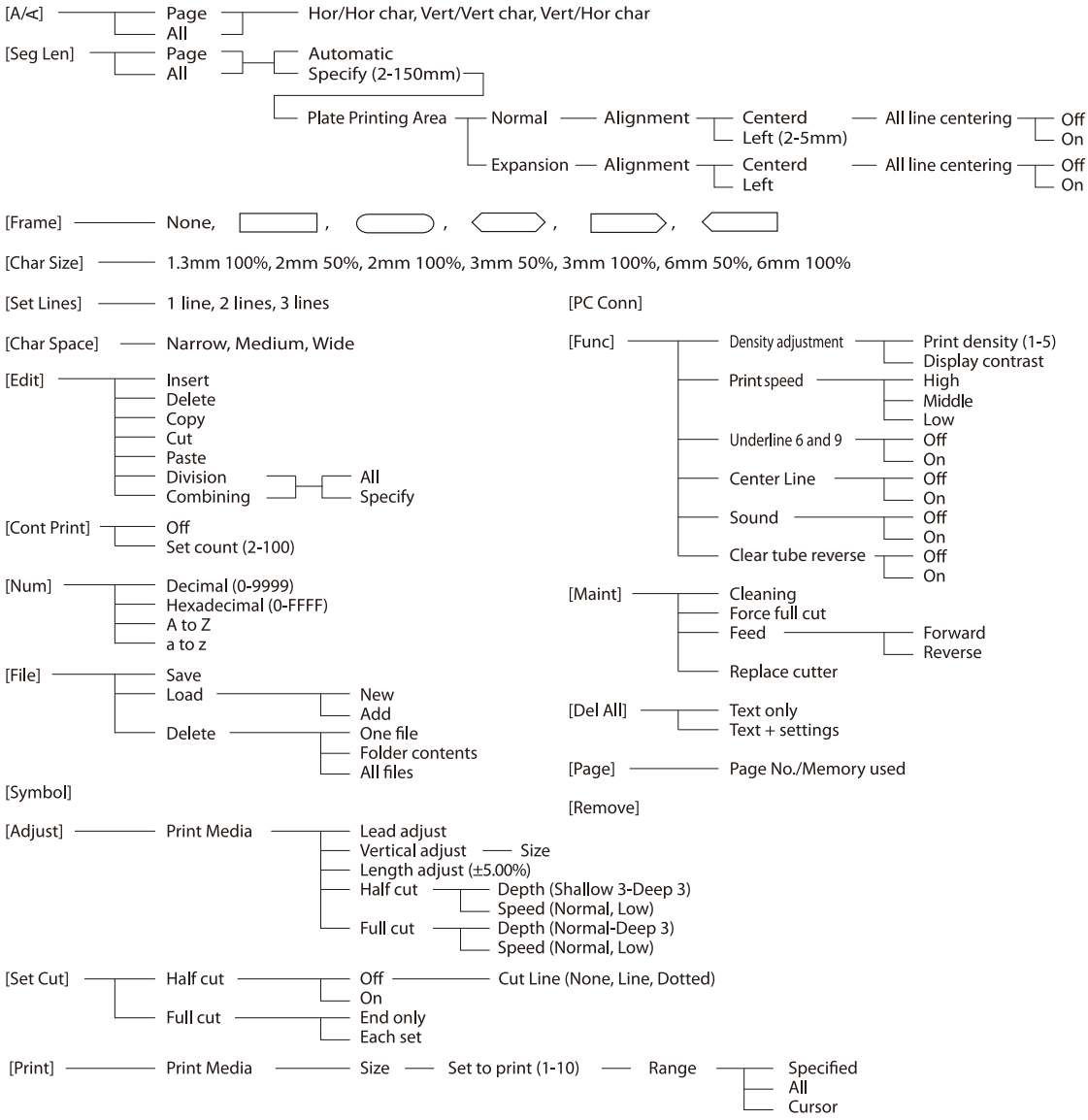
Symbol 1

á â ä à å é ê ë
è í î ï ì ó ô ö
ò ú û ü ù ÿ ñ ç
Ä Å É Ö Ü Ñ Ç ª
º æ Æ ¿ ¡ ß µ Ω
¢ £ ¥ ₧ ƒ

Symbol 2



6.5 List of Function



*About the Printing Performed with the Segment Length Specified

The following table summarizes the specifications to conform to when printing characters **with "Normal" specified on the Plate Printing Area selection display and a value less than 8.5 mm specified on the Seg Length selection display:**

Media	Specifications applied when **the segment length is specified to a value less than 8.5 mm**
Plate	A segment length can be specified, but only [Centered] can be specified as the character alignment.
Label	A segment length can be specified, but only [Centered] can be specified as the character alignment. * Characters may not be centered when "Half Cut" is set to "On". When the label is half cut with the segment length of 3.5mm or less, consider the following: • Use the 9mm/12mm-width label. • Cut depth adjustment is required. (page 130)
Tube 4mm I.D. Strip Clear tube Heat shrink tube Wrap around tape	If you specify a segment length, it is automatically changed to "Automatic" to maintain the print quality during actual printing. (The left and right margin become 2.0 mm or wider respectively.)

6.6 Main Specifications

Printing method	Thermal transfer using one-line head
Resolution	300dpi
Printing speed	Tube: High speed mode (40 mm/sec), Middle speed mode (25 mm/sec), Low speed mode (18.5 mm/sec) Label: High speed mode (40 mm/sec), Middle/Low speed mode (25 mm/sec)
Throughput	High speed mode (42 tube segments/min), Middle speed mode (35 tube segments/min), Low speed mode (30 tube segments/min) (Printing conditions: Printing media =Tube, Segment length = 20 mm, Characters to print = Five “3mm 100%” characters, Half/full cutting setting = Half cutting, Cutting strength: Normal)
Ink ribbon	Special cassette (black, white)
Character print size	1.3mm full-width, 2, 3 and 6mm (each full and half-width)
Input system	Notebook computer keyboard
Display system	LCD (160 x 64 dots) with backlight
Number of display characters	Input data 10 characters x 2 lines (for normal size)
Internal memory	Printing character data storage of approximately 5,000 characters File storage of approximately 60,000 characters Note: Internal battery preserves memory for about 5 years
Cutting method	Automatic half cut, automatic full cut
Power supply	Custom AC adapter (N14584) Nisca Corporation Input voltage: AC100V to 240V 50/60Hz
PC interface	USB 2.0 Full-Speed, Used with the PC Connection Kit.
Operating environment	15 to 32.5°C*; 10 to 85%RH (with no condensation) * With the optional Tube Warmer installed, the printer can also be used at lower temperatures (5°C to 18°C).
Storage environmert	5 to 35°C, 10 to 90%RH
External dimensions	250 (W) x 300 (D) x 85 (H) mm
Weight	2.0kg (not including accessories)

Printing Media

Tube	Tube: ϕ 2.5 to 6.5 mm inside diameter, 0.5 mm thickness * Before using a tube, be sure to check whether characters can be printed on it.
Heat shrink tube	Cassette (white, yellow) 2:1 shrinkage: ϕ 3.2, ϕ 4.8 or ϕ 6.4 mm diameter, 5 m length 3:1 shrinkage: ϕ 3.0 or ϕ 6.0 mm diameter, 5 m length
Label tape	Cassettes (white, yellow, silver) in 6, 9 or 12 mm width, 30 m length (ex. silver: 27 m length)
Wrap around tape	Cassettes (white for printing part, other part is transparent) 8 m rolls, 33 mm length, width settable from 8 to 150 mm by cutting length setting
4mm I.D. strip	Cassettes (white, yellow) in 4.0 mm width, 5m length
Plate	Commercially available plate: 8 to 10mm width, 0.5mm thickness * Before using a plate, be sure to check whether characters can be printed on it.

- Contact your nearest dealer for details concerning other types of print media that can be used.
- Specifications are subject to change without notice.
- Printing may not be possible on some types of commercially available tube or plate. Before using it, be sure to check whether characters can be printed on it.

PUB. 4Y5-8715-010
©Nisca Corporation 2016
PRINTED IN JAPAN