

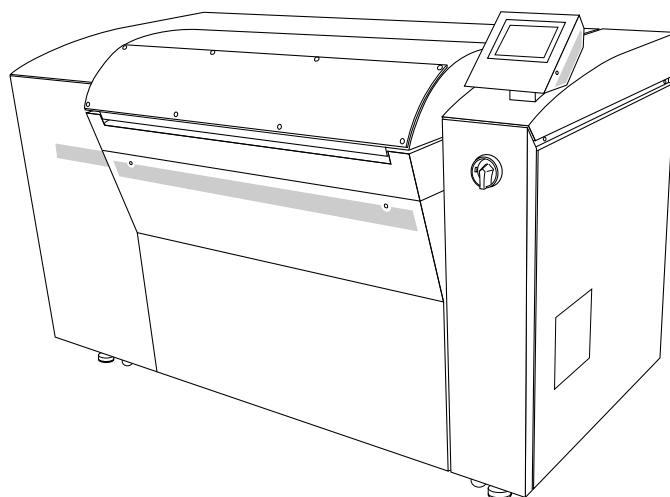
For operators (including
the machine administrator)

USERS MANUAL

Thermal Plate Recorder

late R ite 4300

PT-R4300
Ver. 1.0-



Before attempting to operate this product, you should thoroughly read and fully understand the contents of this manual.

The administrators of the PT-R4300 should not let anyone who does not understand the contents of this manual operate or inspect the PT-R4300.

To Prevent Danger

To prevent accidents from occurring, follow the procedures and cautions indicated in this manual. Safety information for the prevention of danger is given on pages ii and iii, and in Chapter 1, of this manual. From Chapter 2 on, safety information is provided for any work or operation which is potentially dangerous.



A request to the administrators of the PT-R4300

Be sure to deliver this manual by hand to the operators and maintenance personnel for the PT-R4300.

Operation of the PT-R4300

All operators and maintenance personnel for the PT-R4300 must read and understand all the contents of this manual before operating the machine or performing maintenance work on it.

Use and storage of this manual

After reading this manual, keep it nearby the PT-R4300 for immediate reference whenever necessary. As a safeguard in case the manual is lost, write down or make a copy of the Dainippon Screen sales offices and agencies listed at the end of this manual.

WARNING

- Do not turn on the power of the PT-R4300 until you fully understand all of the safety warnings.
- Do not perform any operations not listed in this manual. If instructions in this manual are not followed, a serious accident or disaster may result.

Safety information in the USERS MANUAL

In the text of this manual, we draw your attention to and supply safety information about matters accompanying operations of the PT-R4300 which are potentially dangerous to you or the people around you. Be sure to read this information well and act in accordance with it. As described below, the signal words that accompany this safety information differ according to the level of danger.

WARNING Signal word

This signal word is used for situations where death or serious injury to the user may result if the warning is ignored and the instrument is used improperly.



CAUTION Signal word

This signal word indicates a potentially hazardous situation which, if not avoided or properly handled, could possibly result in minor or moderate injury.



Warning labels

Warning labels have been attached to parts of the PT-R4300 which are of potential danger to operators and maintenance personnel, or which may cause damage. The warning labels are divided into two types depending on the level of danger: “WARNING” and “CAUTION.” As explained below, each type is displayed using a different signal word. Make sure you understand the contents of the labels well and act in accordance with them. Operating the PT-R4300 while ignoring these labels may result in an accident.

Signal word

WARNING WARNING indicates potentially hazardous situations which, if not avoided, could result in death or serious injury.

Signal word

CAUTION CAUTION indicates a potentially hazardous situation which, if not avoided or properly handled, could possibly result in minor or moderate injury.

Compliance with CISPR22 Rules

This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

Compliance with FCC Rules

Notice for the USA

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

Changes or modifications not expressly approved by Dainippon Screen Mfg. Co., Ltd. could void the user's authority to operate the equipment.

Notice for Canada

This Class A digital apparatus meets all requirements of the Canadian Interference-Causing Equipment Regulations.

Cet appareil numérique de la Classe A respecte toutes les exigences du Règlement sur le matériel brouilleur du Canada.

When exporting the PT-R4300

International transfer of this equipment, any of its parts, components and/or software must be carried out in compliance with the relevant laws and ordinances of the country of export and the country of equipment end-use. We do not assume any responsibility or liability for equipment transferred without regard to proper export/import regulations or procedures.

Harmonics experiments

Since the EUT is fall into definition as "high-power equipment (same or over 1kW) for professional use" which is specified in clause 7 of EN 61000-3-2: 1995, the harmonics testing did not applied. Before installing the machine, you may have to acquire the permission of your local electrical power provider.

Liability

- Changes in the specifications may occur due to improvements in the product made without prior notice. Therefore, be aware that it is possible that a portion of this manual may not match exactly with your product.
- Dainippon Screen takes absolutely no responsibility for results that occur if the product is used for purposes or applications other than the original ones intended for the PT-R4300 or other than those expressed in a contract made beforehand.
- Dainippon Screen accepts no responsibility for any damages that occur to the product, programs, or software due to situations that it has no control over such as remodeling, disassembly, misuse, or inadequate environment provided by or performed by the customer.
- Dainippon Screen will bear absolutely no responsibility for any lost profits or damages resulting from the operation of this machine.
- All information appearing in this manual is provided only as a reference for operating the PT-R4300 and, as such, contains no legal value and should in no way be used for any legal purpose.

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Introduction

Thank you for purchasing the Dainippon Screen Thermal Plate Recorder PlateRite 4300.

The PT-R4300 is intended for the purpose of exposing image data on a printing plate by laser.

We are confident that the PT-R4300 will provide you with many years of high quality recording performance.

About this manual

This manual is written for operators of the PT-R4300. It describes operation procedures and safety precautions. All operators of the PT-R4300 should be well grounded in these precautions and make every attempt to use the PT-R4300 safely. Although we have made every attempt to make this manual as clear and accurate as possible, if you notice any omissions, or any section that is unclear or erroneous, please contact Dainippon Screen.

Expressions used in this manual

In this manual, procedures and explanations have alert symbols and signal words to signify degree of importance, similar to safety warnings. These are shown below.



: Indicates items that will cause improper operation if performed. These items must never be performed.



: Indicates items that must be performed for proper operation. These items must always be performed.



: This alerts you that the PT-R4300 has been damaged or that a restoration operation that requires time is taking place and/or that materials are being wasted. Be sure to follow the instructions.



: This provides supplemental explanations and hints for avoiding operational errors.

Other terminology used in this manual

- Unless otherwise specified, the Thermal Plate Recorder PlateRite 4300 will be referred to by PT-R.
- Brackets ([]) are used to enclose the names of menus and buttons.

Related manuals

In addition to this manual, Dainippon Screen also provides the following manual, which is related to the PT-R. Please use in conjunction with the PT-R.

Document name	Parts Code	Contents
SA-L4300 USERS MANUAL	100027911V00	A detailed explanation of the Single Cassette Auto Loader for the PlateRite 4300
MA-L4300 USERS MANUAL	100027914V00	A detailed explanation of the Multi Cassette Auto Loader for the PlateRite 4300
AT-T4000 USERS MANUAL	70199558	A detailed explanation of the Processor Bridge AT-T4000

The structure of this manual

- Chapter 1 Ensuring Safety**
This chapter gives information necessary for safe use of the PT-R.
- Chapter 2 Installing and Moving the PT-R**
This chapter explains precautions for installing and moving the PT-R.
- Chapter 3 Names of Each Part**
This chapter gives an overview of the PT-R and explains its configuration.
- Chapter 4 Basic Operation**
This chapter explains the basic procedures for operating the PT-R.
- Chapter 5 User Menu**
This chapter explains the procedures for setting PT-R parameters.
- Chapter 6 Maintenance**
This chapter explains daily maintenance and inspection procedures for the PT-R.
- Chapter 7 Messages**
This chapter explains the messages that appear in the display of the PT-R operation panel.
- Chapter 8 Jamming**
This chapter explains this typical PT-R problem and the solutions.
- Chapter 9 Technical Information**
This chapter gives technical information on the PT-R.

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Chapter 1








Ensuring Safety

This chapter gives information necessary for safe use of the PT-R.





1. Safety Rules

Please observe the following safety rules.

WARNING

-  The PT-R contains high voltage electrical circuits. Coming into contact with these circuits may result in severe injury and even death. Exercise sufficient caution so as to never touch these circuits.
-  Never allow water to enter the PT-R unit. This may result in electrical shock and damage the unit.
-  Do not operate the unit when there are gas vapors in the air that may ignite or explode.
-  The PT-R is equipped with interlocks to ensure operator safety. With the exception of times when maintenance personnel are performing maintenance procedures, do not disengage these interlocks. Operating the PT-R with the interlocks disengaged may result in serious personal injury.
-  The PT-R has been classified as a Class I Laser Product complying with 21 CFR Chapter 1 Subchapter J, and Class 1 Laser Product based on JIS C6802. Please refer to the list at the end of this manual to consult a Dainippon Screen office or agent regarding problems related to laser operation or regarding laser replacement.
-  Do not perform any adjustments or replacement by yourself of any part or internal structure that you may feel affects laser performance.
-  If any of the doors are opened during exposure, the interlocks will activate and automatically stop the rotation of the rollers, main drum, and feed section, as well as the movement of the transfer unit. However, approximately 4 seconds is required for the main drum to come to a complete stop. Do not under any circumstance touch the main drum until it has come to a complete stop.

 **CAUTION**

-  Before attaching the plate to the PT-R, verify that no paper or pieces of packaging remain on either side of the plate. The thermal laser may cause paper or packaging to ignite and start a fire in the PT-R.
-  The edges of the plate are very sharp. When handling the plate, be sure to use anti-slip protective gloves. If handled with bare hands, the edges of the plate may cause injury.
-  Store plates in a place where the height is appropriate for removal without hurting your back. Repeated strain to the back can lead to lower back pain.
-  Do not put your weight on the punch debris receptacle on the back of the PT-R. Doing so could lead to damage to the tray or an accident resulting from tripping.

CAUTION! Do not cover the PT-R with a cloth or block its air vents in any way.

NOTE Regarding the safety of the PT-R

- **Electrical safety**

The PT-R has been designed, tested, and evaluated in accordance with IEC950 of the “Safety of Information Technology Equipment, Including Electrical Business Equipment” electrical safety standards.

- **Laser safety**





The PT-R has been designed, tested, and evaluated in accordance with the following laser safety standards:

- “U.S. Federal Regulations 21 CFR 1040.10,” which accompany the rules of the “Center of Device and Radiological Health (CDRH)” of the U.S. Food and Drug Administration.
- “Safety of Laser Products” of IEC 60825.
“Equipment Classification”
“Requirement”
“User's Guide”

2. Precautions Regarding the Electrical System

2.1 Power Supply

WARNING



-  To avoid electrical shock accidents from the AC power supply, make sure that the unit is properly grounded in accordance with operation site regulations. Ground the PT-R separately.
-  A readily accessible disconnection device (building side power switch) must be installed in the fixed building wiring before installing the PT-R.
-  Have a qualified electrician select breakers and perform the electrical work.
-  Be sure to verify that both the PT-R and building side power switches are turned off before connecting the power cables of the PT-R to the switchboard.

CAUTION!

- To prevent current overload, install a current breaker at the power supply before connecting the PT-R to the power supply.
- Power cables are not provided in countries outside Japan. Please refer to Chapter 2 “6. Power Supply and Power Cables,” and obtain appropriately rated power cables that conform to the standards of your country or region.

2.2 Precautions Regarding the Handling of Power Cables and Hoses

WARNING

-  If you discover deformations, cracks, or cuts in the surface of a power cable or hose, immediately turn off the power switch, turn the building side power switches to OFF, and contact your nearest Dainippon Screen sales office or agent.
-  Do not step on or forcefully pull a power cable or hose.

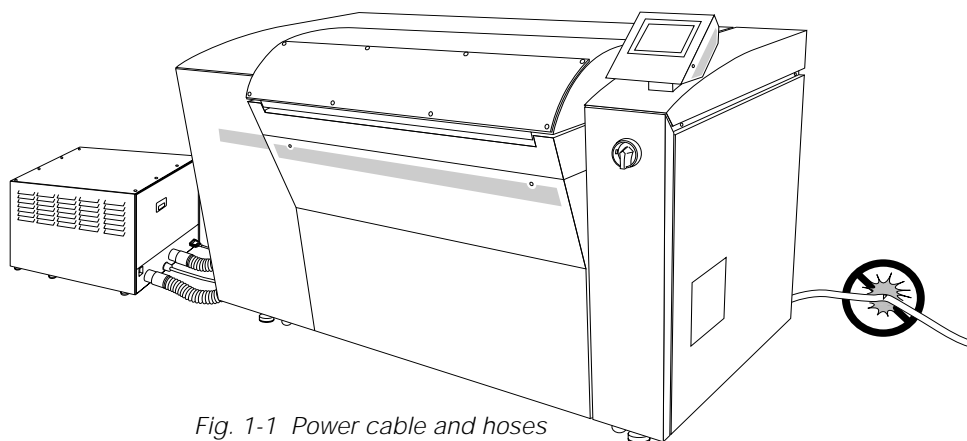


Fig. 1-1 Power cable and hoses

2.3 Performing an Emergency Stop

If trouble occurs during operation and you want to stop the PT-R immediately, press the forced drum stop switch.

When the forced drum stop switch is pressed, it takes approximately 4 seconds for the drum to stop rotating.

CAUTION!

Do not use this switch during normal operation. This switch is only to be used if the drum needs to be stopped in case of an emergency.

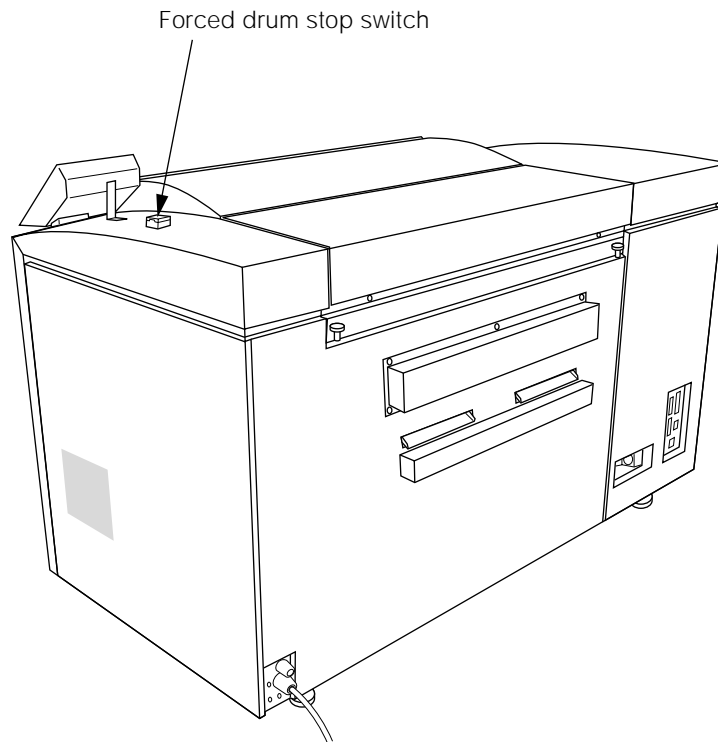


Fig. 1-2 Forced drum stop switch

WARNING

In order to prevent accidents, be sure to turn off both the PT-R and building side power switches after work or before performing maintenance or inspection procedures.

2.4 Handling Power Failures



WARNING

If a power failure in the external power supply occurs, turn off the PT-R and building side power switches in order to prevent accidents.

When the power is restored, turn on the building side power switch and turn the PT-R power switch ON again. For more details, refer to Chapter 4 “3. Turning the Power On and Off.”

3. General Precautions

! WARNING

-  Do not turn on the power switch of the PT-R or attempt operation until you have read this manual well and understand the contents.
-  The operator should wear appropriate clothing.

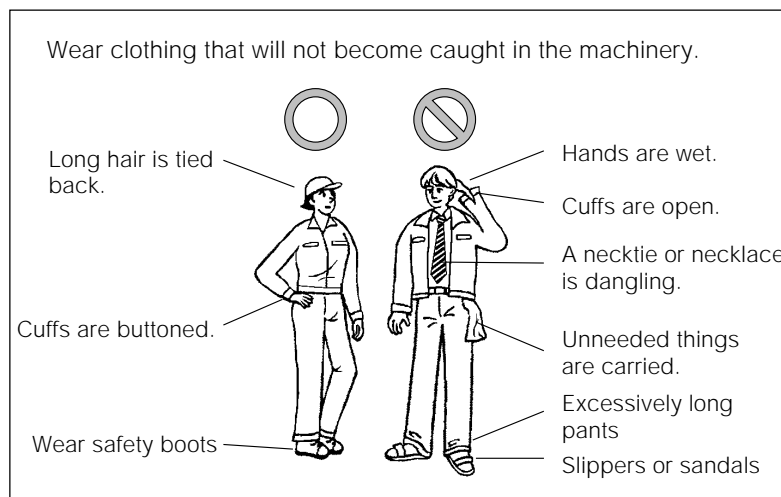







Fig. 1-3 Operator clothing

-  If you discover any abnormality or problem in the PT-R, contact your nearest Dainippon Screen office or agency to have appropriate measures taken.
-  Even in cases where the PT-R is capable of continuous operation, correct unattended operation is not guaranteed. A trained operator who is able to handle emergencies and initial safety measures must be present during operation in case an abnormal situation occurs. Our company offers courses on the proper handling of our products whenever needed. Please attend a course before attempting to operate the PT-R. Application for these courses can be made at any Dainippon Screen office or agency.
-  Do not attempt to operate the PT-R when you are not feeling well.

4. Maintenance

! WARNING

-  Only maintenance personnel who have received the specified training should perform maintenance work on the PT-R.
-  The operator should not under any circumstance turn on the building side and PT-R power switches when a maintenance technician is performing maintenance work.

5. Warning and Caution Labels

To ensure safety, the following warning and caution labels are attached to parts of the PT-R that are potentially dangerous to operators and maintenance personnel. Observe the following safety rules when operating or performing maintenance work on the PT-R.

WARNING

- Follow the instructions on all warning/caution labels.
- Do not erase or deface the instructions on a warning or caution label.
- Do not place objects in front of or cover a warning or caution label.
- If a warning or caution label has peeled off or is dirty, replace it with a new label. Failure to replace the label is extremely dangerous.

NOTE If you need a new warning or caution label, consult your nearest Dainippon Screen sales office or agent listed at the end of this manual.

Fig. 1-4, 1-5, 1-6 and 1-7 below shows which labels are attached to the PT-R and where they are attached. Always follow the instructions on the labels when operating the PT-R.

This label reminds you to remove the interleaf paper from both sides of the plate when you set the plate.

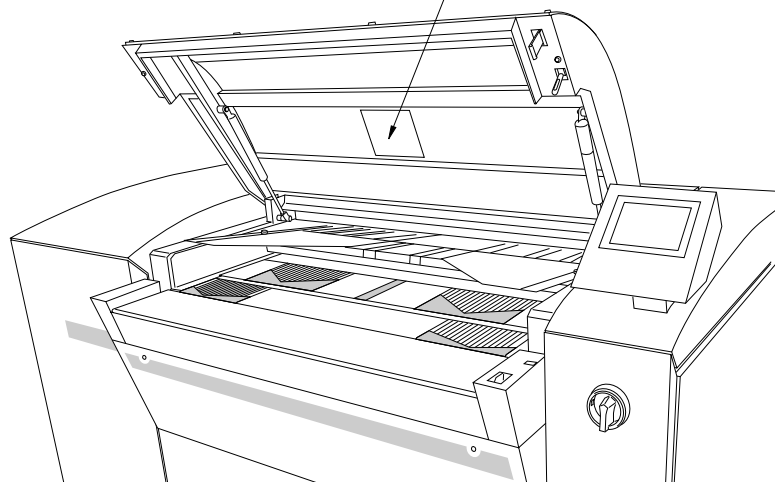
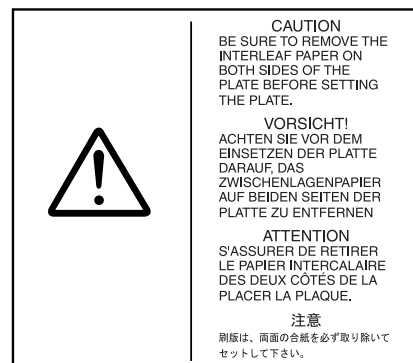
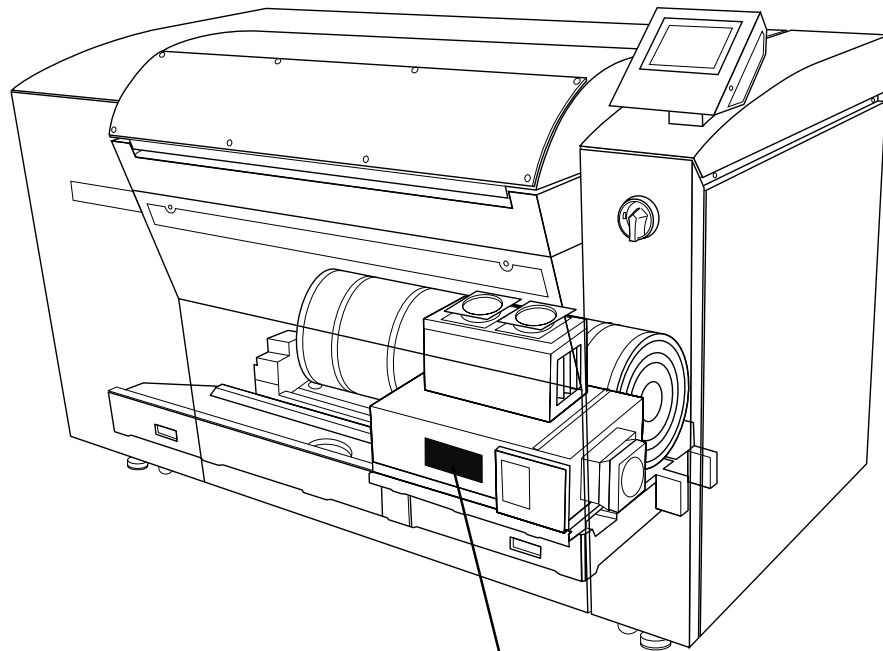


Fig. 1-4 Location of warning and caution labels (1)



Label indication that laser radiation exists inside

不可視レーザー光 ビームも拡散光も危険です 見たり触れたりしないこと 32W MAX CW 808nm クラス4 レーザ製品	INVISIBLE LASER RADIATION AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION 32W MAX CW 808nm CLASS 4 LASER PRODUCT	UNSICHTBAREN LASER-STRAHLUNG BESTRAHLUNG VON AUGEN ODER HAUT DURCH DIREKTE ODER STREUSTRahlung VERMEIDEN! 32W MAX CW 808nm LASER KLASSE 4	RAYONNEMENT LASER NON VISIBLE EXPOSITION DANGEREUSE DE L'ŒIL OU DE LA PEAU AU RAYONNEMENT DIRECT OU DIFFUS 32W MAX CW 808nm APPAREIL À LASER DE CLASSE 4
--	--	--	---

Label indicating the class, power, and wave length of the laser



Label indicating that laser radiation exists inside.

注意 ここを開き、セーフティ インターロックを解除すると 不可視レーザー光が放射す ビームも拡散光も危険です 見たり触れたりしないで 下さい	DANGER INVISIBLE LASER RADIATION WHEN OPEN AND INTERLOCKS DEFEATED. AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION.	VORSICHT! UNSICHTBARE LASERSTRAHLEN, WENN GEÖFFNET UND SICHERHEITSSCHALTER DEAKTIVIERT SIND. VERMEIDEN SIE DIREKTE ODER INDIREKTE BESTRAHLUNG VON AUGEN UND HAUT!	ATTENTION RAYONNEMENT LASER NON VISIBLE DANGEREUX EN CAS D'OUVERTURE ET LORSQUE LA SÉCURITÉ EST NEUTRALISÉE. ÉVITER UN CONTACT DIRECT OU DIFFUS AVEC L'ŒIL OU LA PEAU.
--	--	--	--

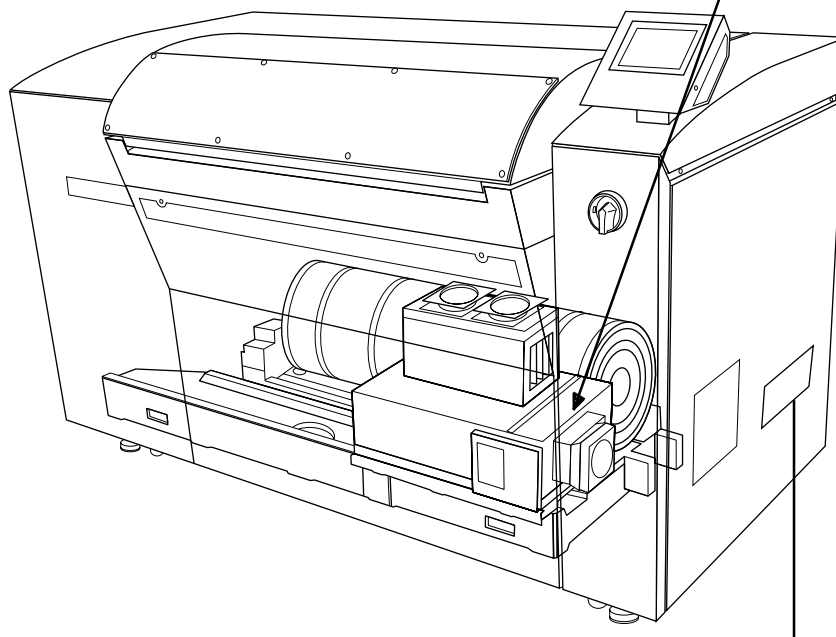
This label warns you that releasing an interlock while an operation door with this label attached is opened may expose you to dangerous invisible laser radiation.

Fig. 1-5 Location of warning and caution labels (2)

Label indicating that laser radiation exists inside.



Label indicating the existence of a laser aperture where the label is attached.



Label indicating high leakage current.



Label indicating that the product meets the requirements for CE marking.



Label indicating that the product complies with FCC rules.

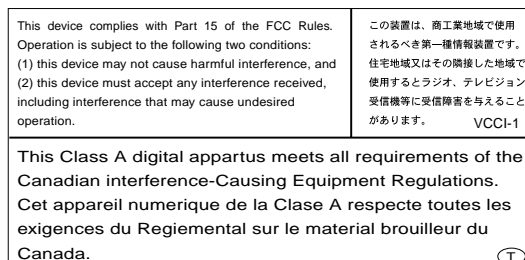
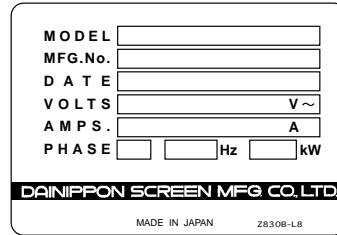


Fig. 1-6 Location of warning and caution labels (3)

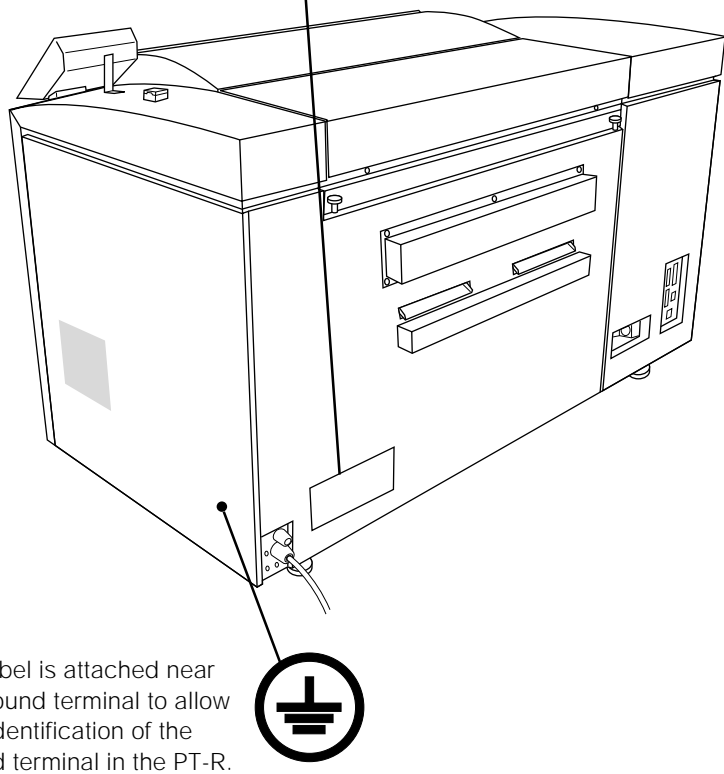
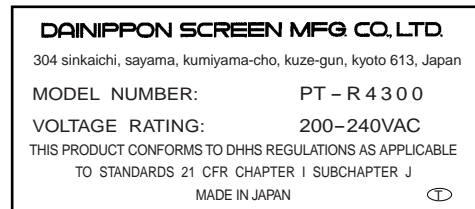
Label indicating that this is a Class 1 Laser Product



Label indicating the power specifications.



Label indicating that the product conforms to CDRH regulations.





This label is attached near the ground terminal to allow easy identification of the ground terminal in the PT-R.

Fig. 1-7 Location of warning and caution labels (4)

6. Interlock System

The PT-R is equipped with an interlock system to protect the operator. When any of the doors is opened, the interlock switch placed at the door activates and cuts off the laser light.

WARNING

-  **With the exception of times when maintenance personnel are performing maintenance procedures, do not disengage the interlocks. Operating the PT-R with the interlocks disengaged may result in serious personal injury.**
-  **If any of the doors are opened during exposure, the interlocks will activate and automatically stop the rotation of the rollers, main drum, and feed section, as well as the movement of the transfer unit. However, approximately 4 seconds is required for the main drum to come to a complete stop. Do not under any circumstance touch the main drum until it has come to a complete stop.**

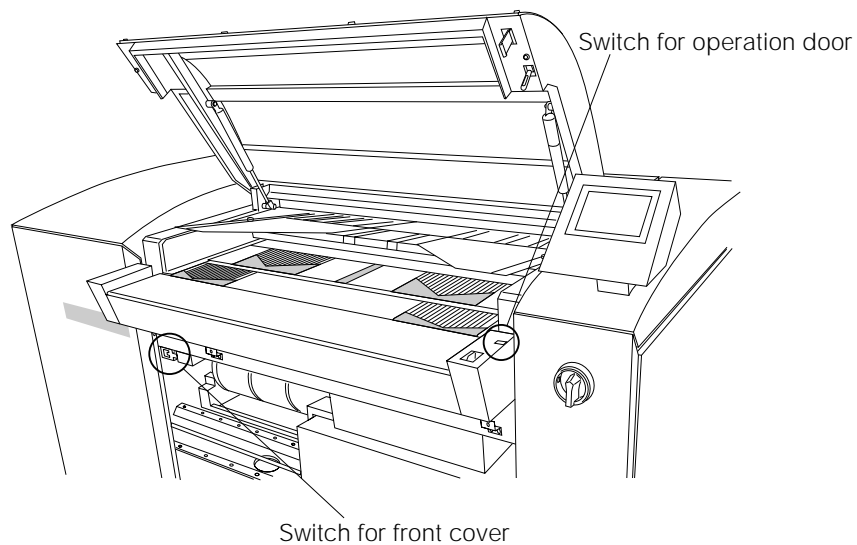


Fig. 1-8 Interlock switches (front)

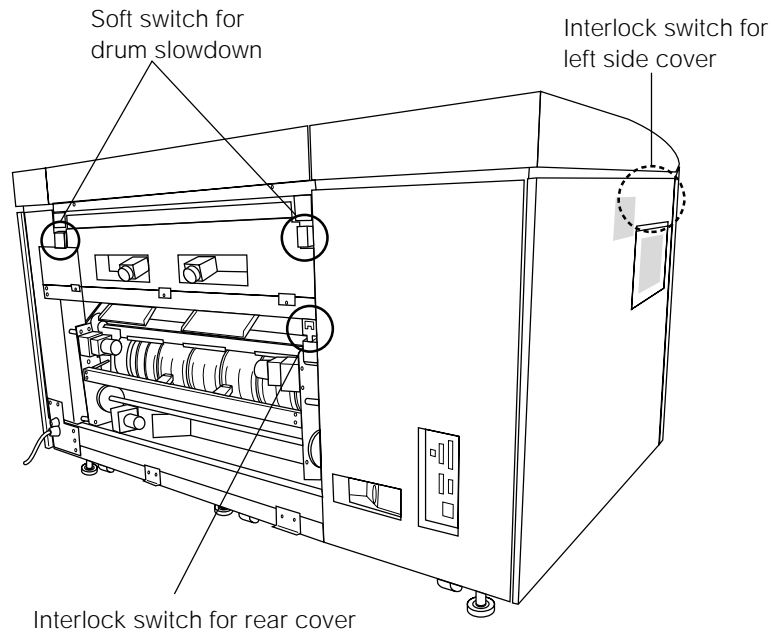


Fig. 1-9 Interlock switches (rear)

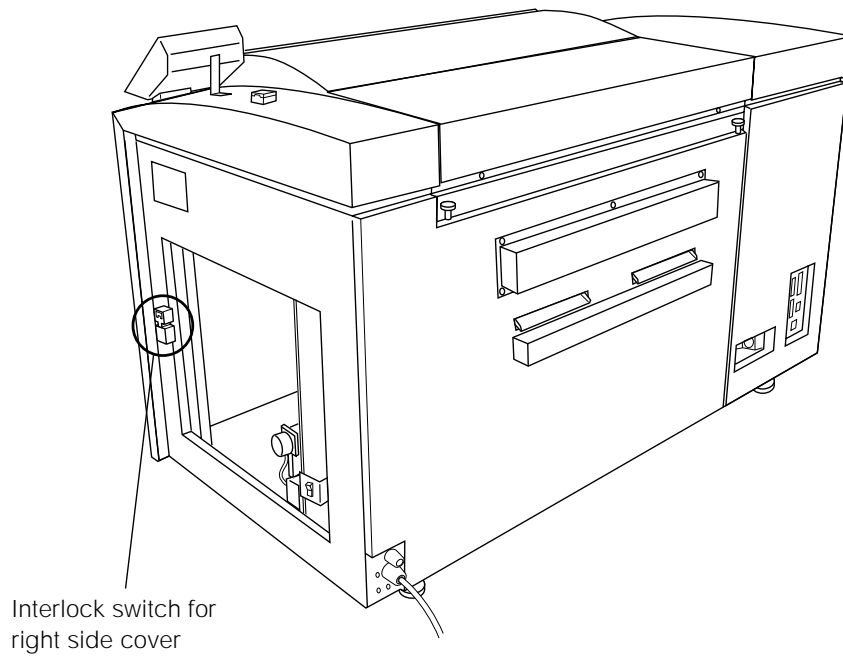


Fig. 1-10 Interlock switches (right side)

7. Disposal of the PT-R



When disassembling the PT-R there are dangerous parts such as the gas spring in the open/close part of the operation door. Because of the danger present when disassembling the PT-R no one other than a specialized engineer who was properly trained at Dainippon Screen should carry this out.

Handling plate and plate punch debris

Please acquire the services of a professional recycling company to take care of used plates and plate punch debris.

Lithium battery handling

A lithium battery is used in the control panel of the PT-R. Under normal use the lithium battery has a life of five to ten years. When it expires it should be disposed of carefully using special procedures for handling harmful substances. When disposing of the PT-R please contact the place of purchase or use the contact information at the end of this manual to request the services of specialized lithium battery removal and disposal personnel.

Disposal of replacement parts and the PT-R itself

When disposing replacement parts or the PT-R itself, please seek advice from the place of purchase or the contact information at the end of this manual, or request the services of a professional disposal company that specializes in recycling. If you have any questions regarding disposal, please consult the place of purchase or contact the Dainippon Screen sales office or agency listed at the end of this manual.

8. Environmental Protection

In March of 2001, Dainippon Screen and all its manufacturing facilities, including affiliate companies, acquired ISO14001 Environment Management System certification. Further to this, Dainippon Screen has and still continues to do its best for environmental preservation by promoting manufacturing practices that do not harm on the environment.

NOTE ISO14001 Environment Management System is an international standard designed to preserve the environment. It places emphasis on the initiative of corporations and organizations to take responsibility for and to actively engage in activities for this purpose. In addition to requiring that environmental regulations be observed and that the environmental impact of corporate activities be reduced, it continually evolves, in accordance with its unique environmental policy, through the formulation, execution, practical review, and amendment of goals. It efficiently promotes activities for environmental preservation by getting manufacturers actively involved in environmental issues and also by obtaining the cooperation of customers through information they provide.

The following are requirements regarding product use and disposal for environmental preservation. Please read thoroughly and faithfully observe the contents in the same manner as you would for safety related cautions.

Environmental regulations

Laws, enforcement ordinances, enforcement regulations and bylaws exist that are meant to protect the environment. Please consult your national, state/province or local government for more information about these and the punishments involved.

Handling of waste item(s) for disposal

Please use the services of a professional disposal company according to the following procedure.

1. Verify that the item(s) to be disposed of is included in the items approved (type of item, type of business, and conditions of authorization) by the national, state/province or local government for disposal by the company in question.
2. Conclude agreements for commission of authority to collect and transport, and commission of authority to dispose.
3. Consign the item(s) for disposal and, if necessary, submit a disposal report to your national, state/provincial or local government.
4. Obtain transport completion and disposal completion documents from the disposal company to verify that the disposal was properly completed.
5. Visit the disposal company and verify that the work was conducted properly according to contract.

Handling of dangerous and toxic waste

The following procedures are required, in addition to the usual handling procedure by disposal companies, for waste such as that which is explosive, poisonous, contagious, or otherwise potentially dangerous to human health or to the environment.

- Verify that the disposal company is properly certified by the national, state/provincial or local government to take responsibility for the handling of dangerous and toxic waste.
- Label the item for disposal to indicate what it is and to indicate that it is a dangerous and/or toxic waste. Making sure it will be distinguished from other waste, request the storage and processing services of the disposal company.
- Submit your official report for disposal of dangerous and toxic wastes by the required date to the applicable department of your national, state/provincial or local government.

Handling of valuable resources

Although materials that can be recycled such as plates (PS plates) do not classify as waste, they should be treated as industrial waste if they will be disposed of as garbage.

Chapter 2

Installing and Moving the PT-R

This chapter explains precautions for installing and moving the PT-R.

1. Installing and Moving the PT-R4300

Installation and moving of the PT-R must be performed by a Dainippon Screen appointed service company or service technician. Dainippon Screen bears absolutely no responsibility for any damage, breakdowns, or malfunctioning resulting from installation or moving by anyone other than a Dainippon Screen appointed service company or service technician, and Dainippon Screen extends no guarantees regarding safety in such a case. If you need to have the PT-R moved or installed, consult one of the Dainippon Screen offices or agency listed at the end of this manual.

2. Installation Location

Do not install the PT-R in any of the following locations, as safety problems, failures, and malfunctioning may result.

- Locations directly exposed to sunlight
- Locations where electrical interference (voltage fluctuations or noise) may occur
- Locations close to machines that emit strong magnetic fields.
- Locations subject to sudden changes of temperature
- Locations close to sources of heat
- Locations with high temperature or high humidity
- Locations subject to vibration
- Unstable locations where the floor is not level
- Locations with dust
- Location subject to condensation
- Locations where the PT-R might be exposed to chemical solutions, smoke, volatile gases, or corrosive gases.

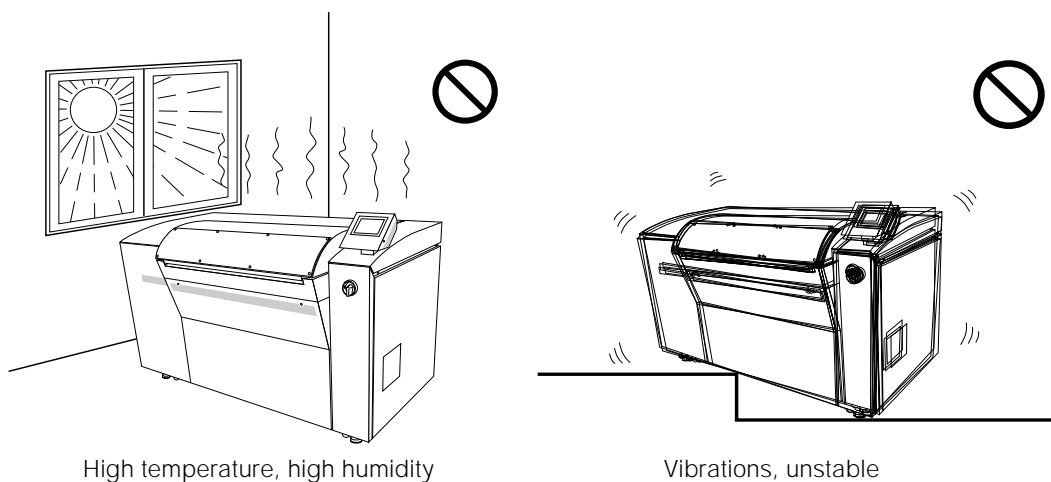


Fig. 2-1 Bad installation locations

3. Space Required for Installation

To allow escape in the event of danger and enable access for maintenance, leave at least 800 mm open around the periphery of the PT-R. Keep the floor free of obstacles and keep a path to the building side power switch clear.

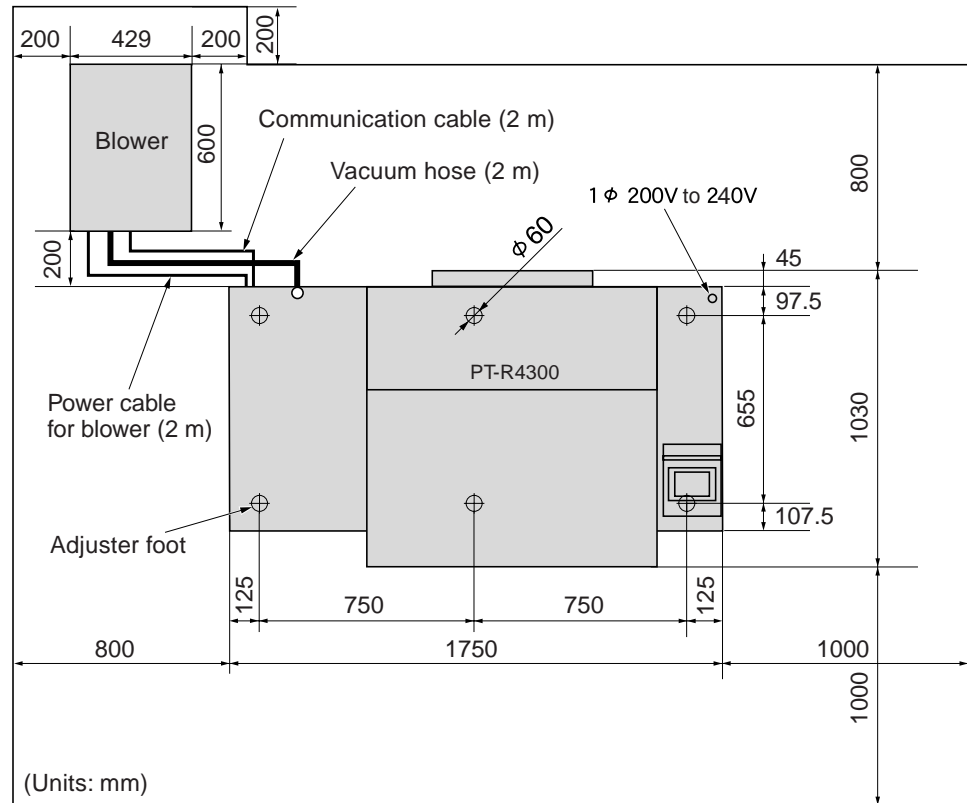


Fig. 2-2 Installation space

CAUTION!

- **Keep 200 mm open around the periphery of the blower to allow heat dissipation.**
- **A 2-meter vacuum hose is supplied with the PT-R. Do not use a hose different from the hose that is supplied hose, even if you require a hose of different length. Pressures losses caused by a different hose may adversely affect the operation of the blower and cause a malfunction.**

4. Load Tolerance of Building

The site of installation requires a floor load tolerance of at least 4010 N/m² (410 kgf/m²). To prevent the formation of cracks in the floor, it is recommended that the adjuster foot of the PT-R rest on the framework of the building; however, the load on the floor will vary depending on the strength of the floor, the position of the framework, the positioning of the PT-R, and the presence of other heavy objects in the same location. Consult with the designer of the building or other authority.

5. Ground Connections

- In order to prevent electrical shock accidents from the AC power supply, perform grounding connections for the machine only after making sure that the PT-R power switch and the building side power switch are both off.
- Since the leakage current of the PT-R is max. 3.5 mA, be sure to conduct grounding before connecting the power line of the PT-R 3-line cable.

Have a qualified electrician select the above items and perform the connections.

6. Power Supply and Power Cables

- Have electrical work performed by a qualified electrician.
- Make arrangements to obtain the power supply indicated in Chapter 9, “Technical Information.”
- PT-R power is supplied independently from the building side power switch, therefore do not connect other devices to that power switch.
- The allowed range of voltage fluctuation in 200 V-240 V power supply areas is +6%, -10%. If fluctuations in the power supply are greater than this, use a stabilizer.
- A power cable is not provided with products sold outside of Japan. For the PT-R, please obtain an 2.5 mm² × 3-wire power supply cable that complies with the standards of your country and is rated at 300 V AC or higher. If the cable described above does not comply to the standards of the country of installation, please refer to the power supply nameplate attached to the PT-R and provide a cable locally that does comply.

CAUTION!

A readily accessible disconnection device (building side power switch) must be installed in the fixed building wiring before installing the PT-R.

Chapter 3

Names of Each Part

This chapter gives an overview of the PT-R and explains its configuration.

1. The PT-R4300

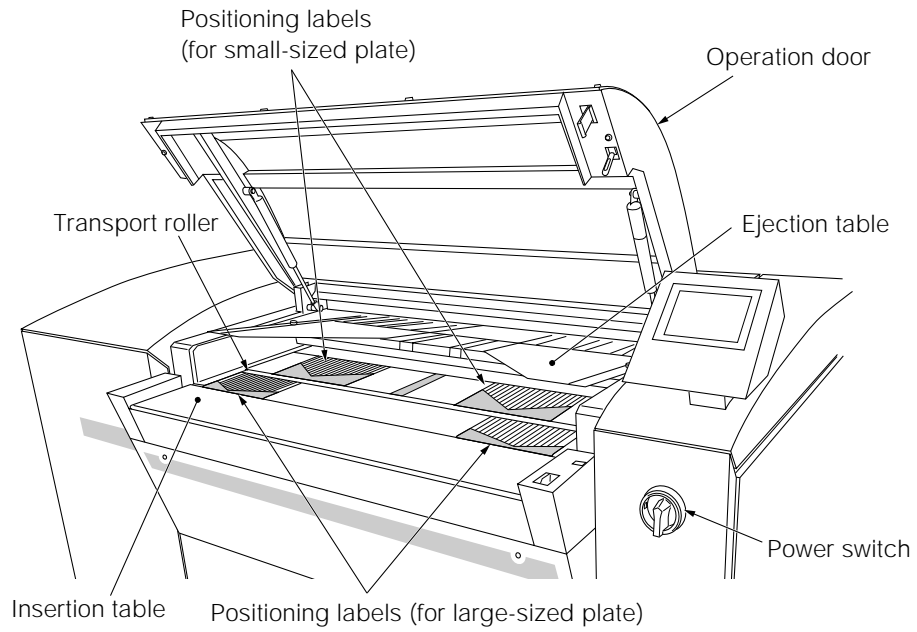


Fig. 3-1 Plate transport section

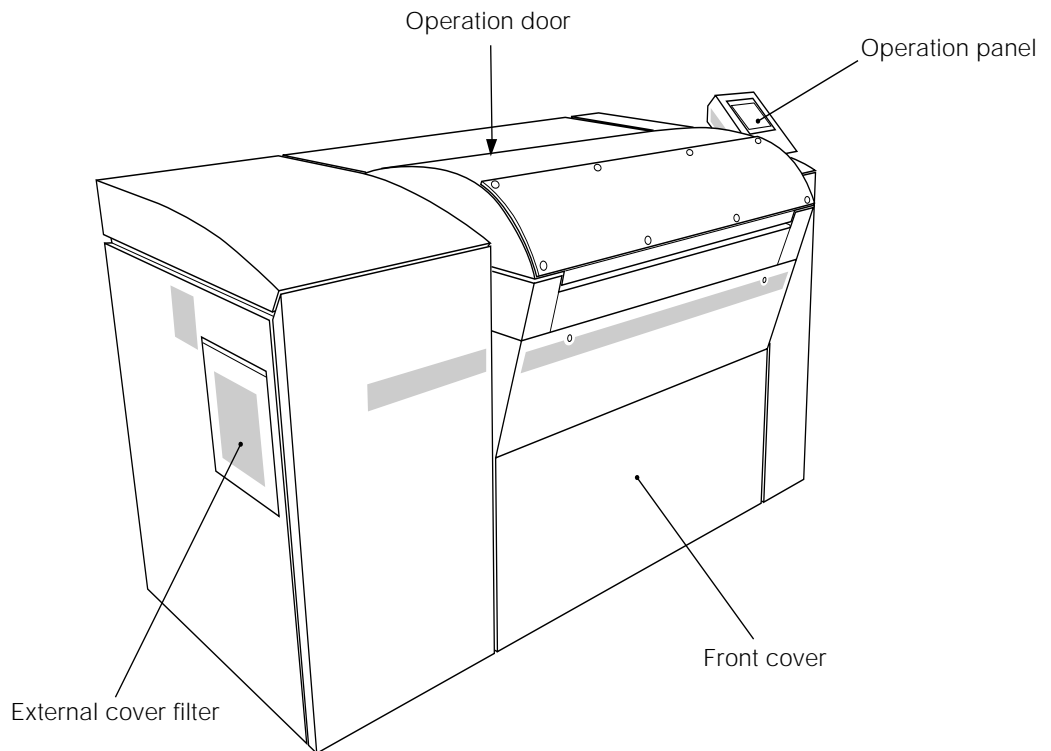


Fig. 3-2 Full view (front and left sides)

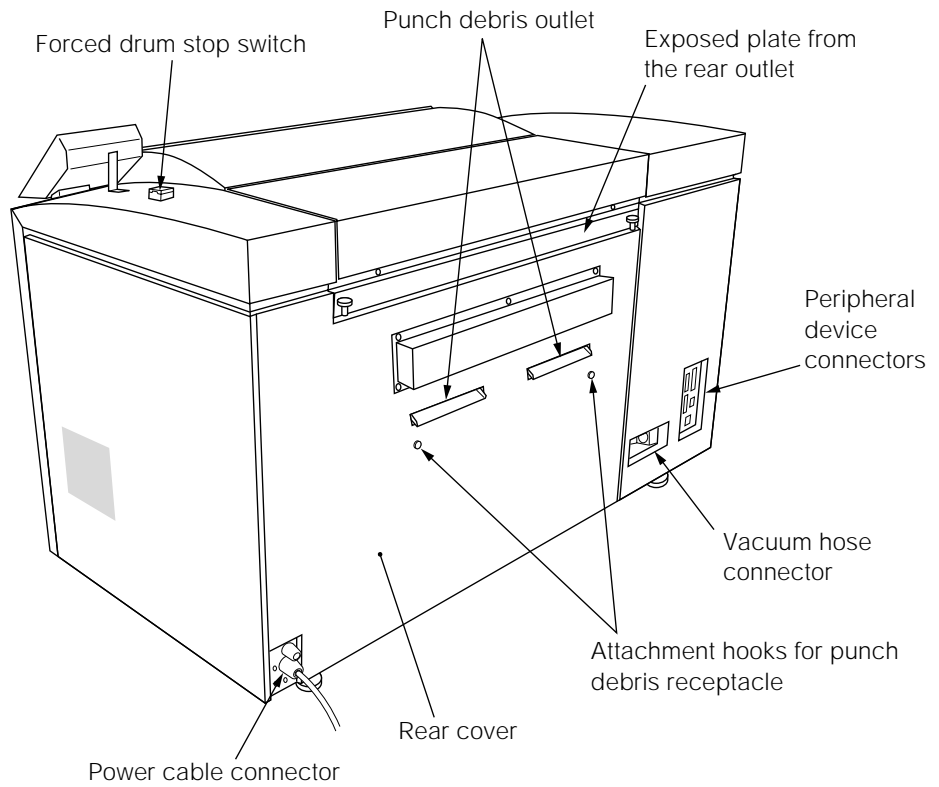


Fig. 3-3 Full view (rear and right sides)

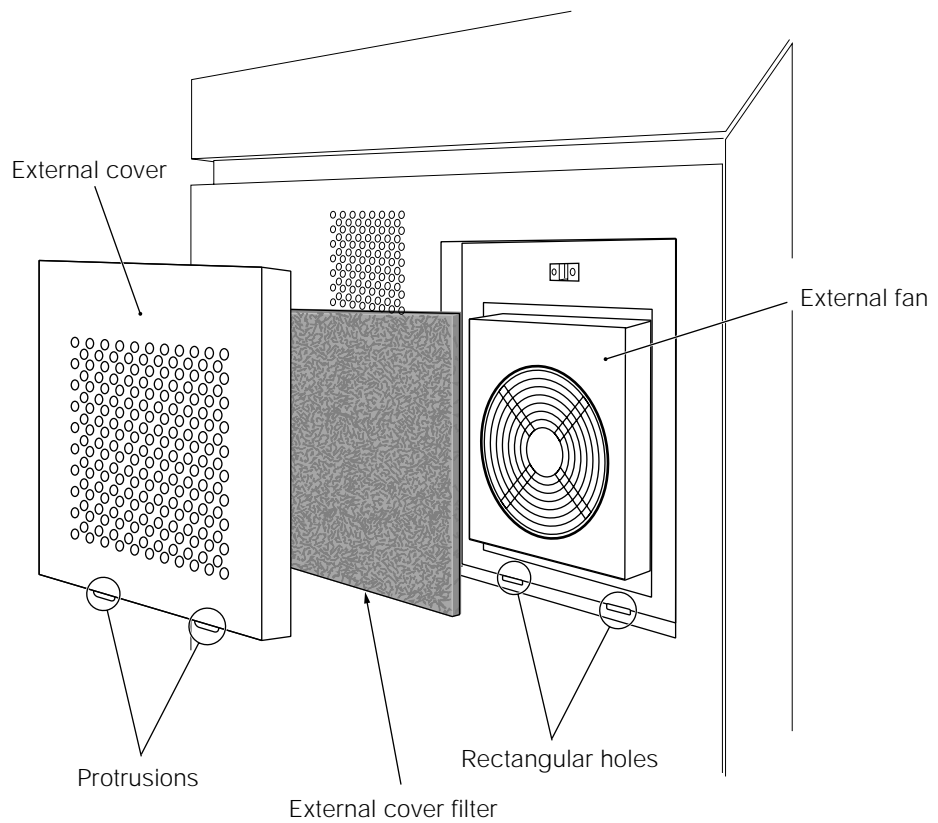


Fig. 3-4 External cover filter

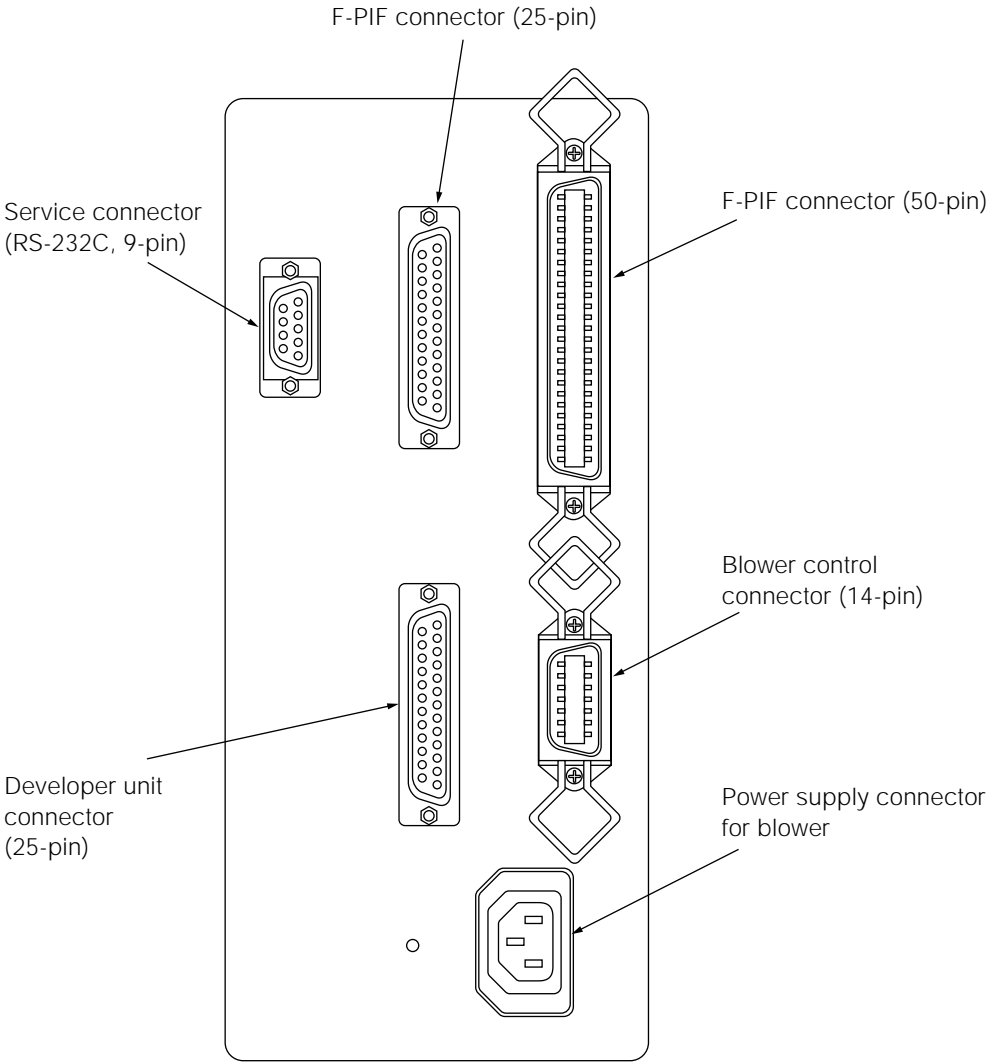


Fig. 3-5 Peripheral device connectors

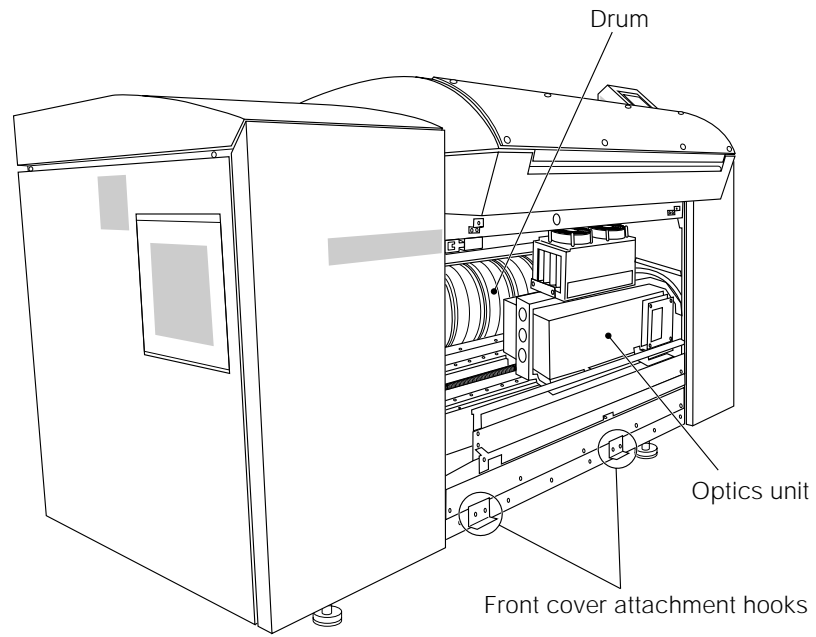


Fig. 3-6 Inside of front cover

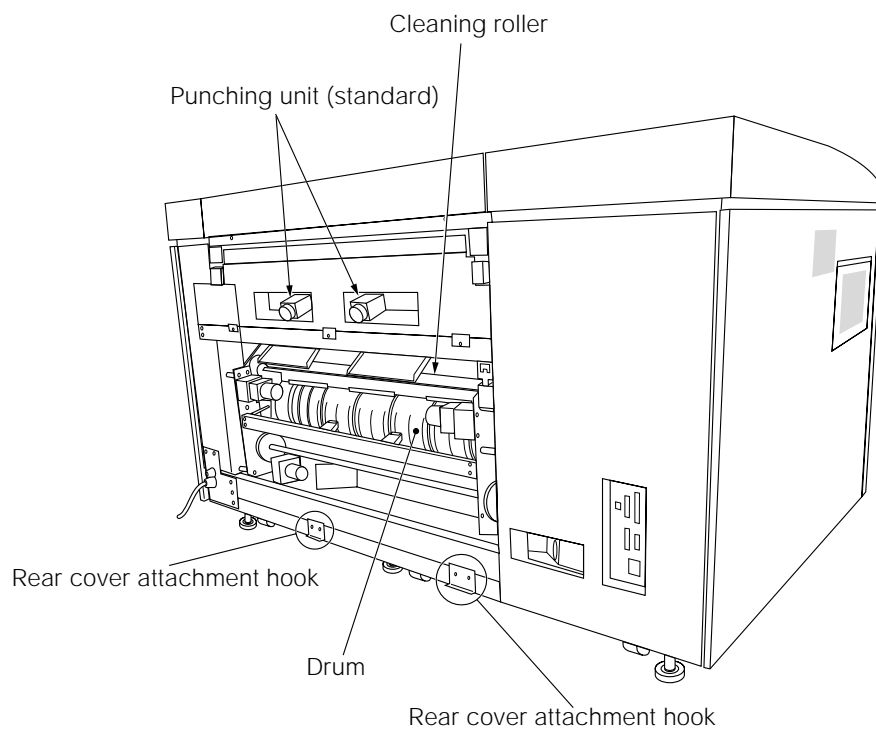


Fig. 3-7 Inside of rear cover

2. Accessories

The following accessories are provided with the PT-R.

2.1 Standard Accessories

Blower unit

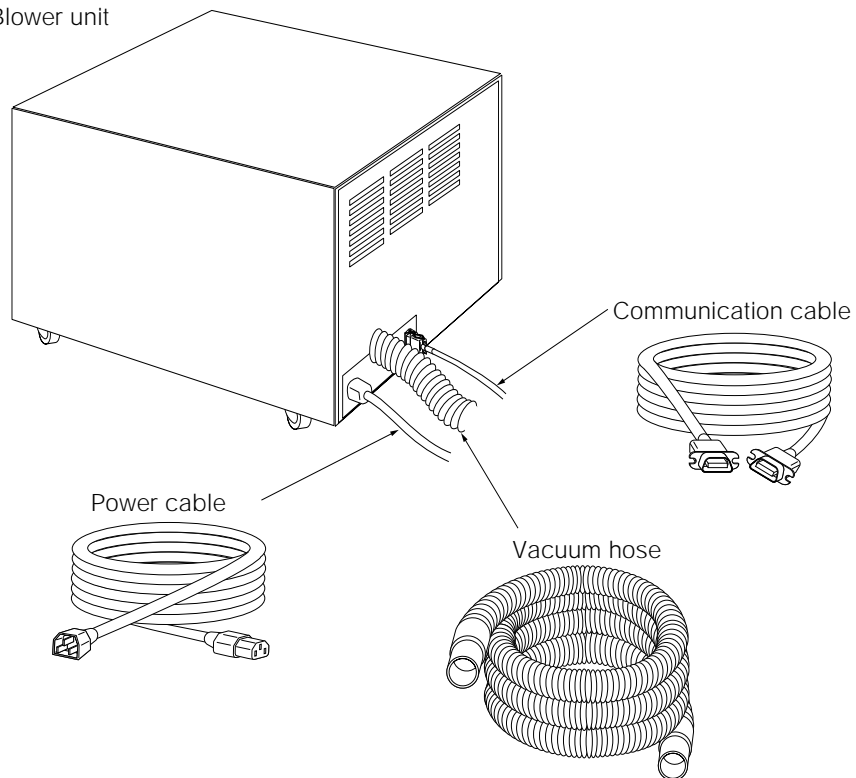
Blower unit

Vacuum hose (2 m)

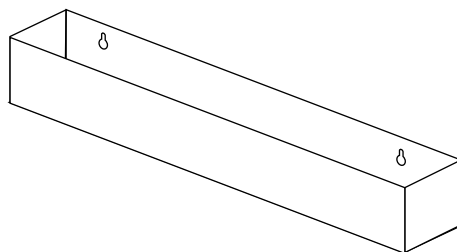
Communication cable (UL2464 AWG24 × 7P, 2 m)

Power cable (0.75 mm² × 3 wires 300V) for blower unit which plugs into PT-R (2 m)

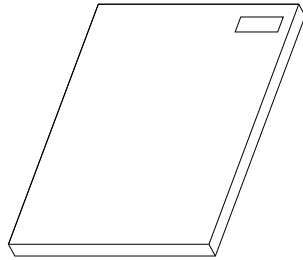
Blower unit



Punch debris receptacle



Users Manual



2.2 Optional Accessories

The following items are available as options. For more information or to place an order, contact one of the Dainippon Screen offices or agents listed at the end of this manual.

Punch unit (types: Dainippon Screen, Bacher, Protocol, Komori, others)

Cassette auto loader (single, multi)

Chapter 4

Basic Operation

This chapter explains the basic procedures for operating the PT-R.

1. Overview

The general procedure for operating the PT-R is explained here. For detailed operating procedures, refer to the appropriate section.

1. Verify that all doors and covers are closed. Turn on the power switch of the peripheral devices first, and then the power switch of the PT-R. For more details, refer to “3.1 Turning On the Power.” A memory check of the PT-R begins. When the memory check ends, the initial screen appears on the display.



Fig. 4-1 Initial screen

2. Press **[START]**. Initialization of the PT-R begins. When initialization ends, the online (Ready) screen appears.

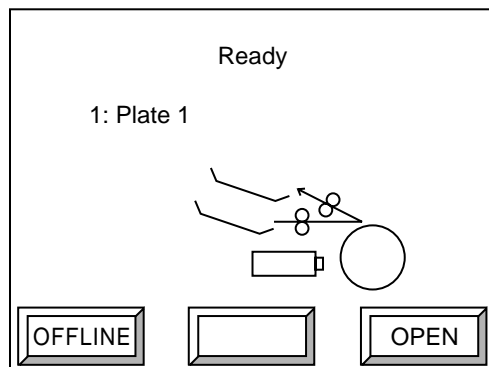


Fig. 4-2 Online (Ready) screen

3. Press **[OFFLINE]**. The display changes to the offline screen.

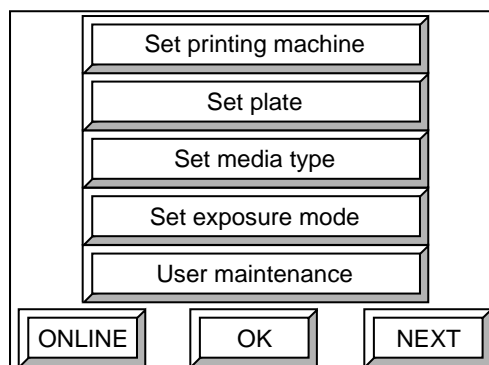


Fig. 4-3 Offline screen

4. Based on the plate to be used, set the proper parameters in “Printing machine information settings,” “Plate settings,” and “Media type settings.” For more details, refer to Chapter 5 “User Menu.”
5. Press **[ONLINE]** to return to the online screen.
6. Initiate output from the host computer.
The following screen appears on the operation panel of the PT-R and the buzzer beeps repeatedly.



Fig. 4-4 Plate set request screen

7. Press **[OK]**. The buzzer stops and the following screen appears.

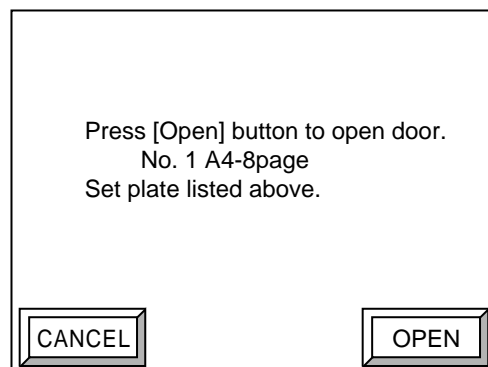


Fig. 4-5 Operation door open screen

8. Press **[OPEN]**. The lock is released and the operation door slightly opens, and set the specified plate. For more details, refer to “8. Online Mode.”
9. Close the operation door to start loading. When loading ends, exposure begins. When exposure ends, the plate is ejected to the ejection table and the operation door opens.
10. Transfer the ejected plate to the online processor.
11. When you are finished, turn off the power switch of the PT-R first, and then the power switch of the peripheral devices. For more details, refer to “3.2 Turning Off the Power.”

2. Connecting the Cables

Verify that all power to the system and host computer is off, and then make sure that the cables are connected correctly. The following diagram shows the cables connected to the PT-R and where they are connected. The cables to be connected are the two PIF cables. (The power cable and communication cable for blower control were connected during installation.) The PIF cable connects the PT-R to the host computer.

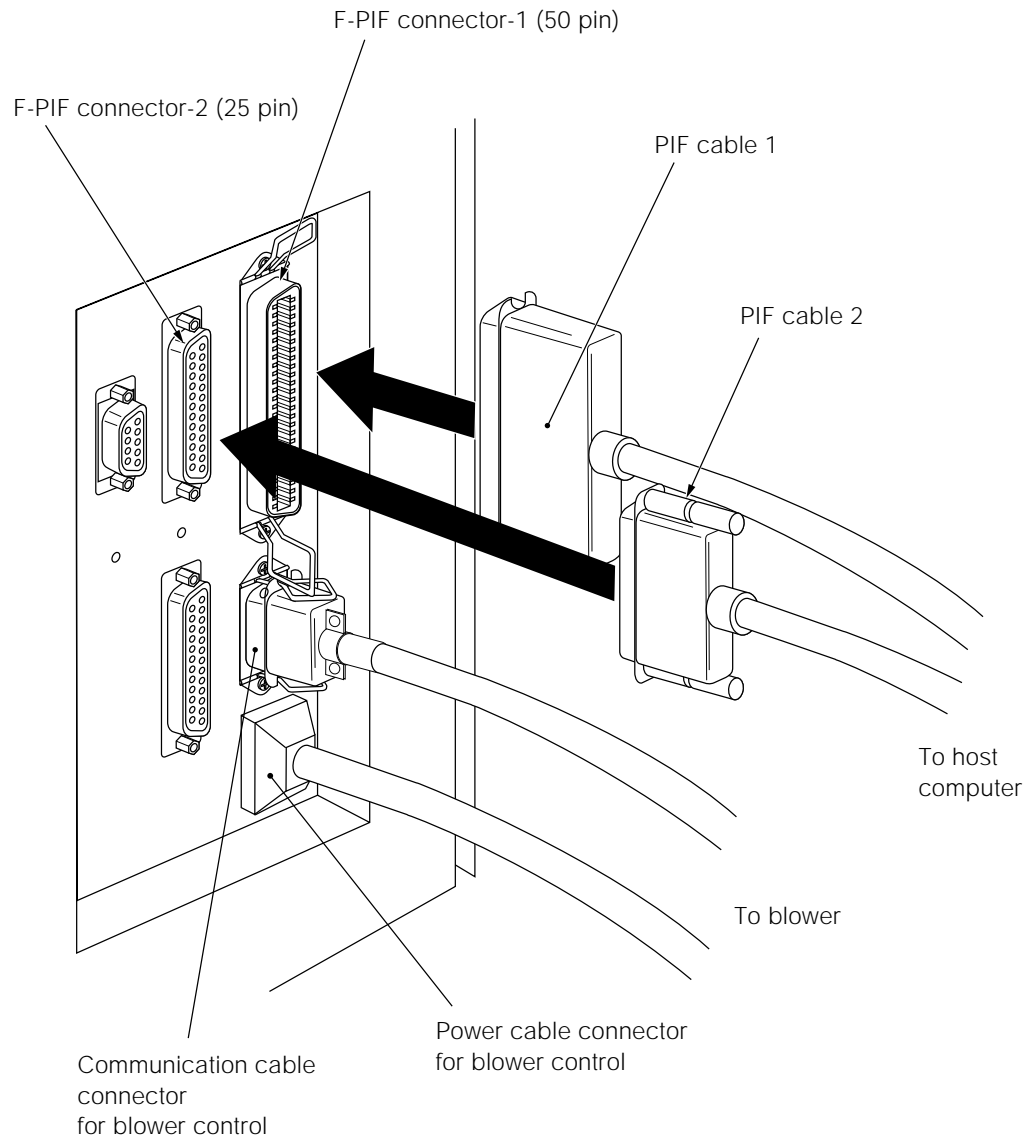


Fig. 4-6 Cable connectors

3. Turning the Power On and Off

CAUTION!

Faulty operation and errors are caused by turning off and then immediately on the PT-R power switch. Wait about five seconds before turning the power switch back on.

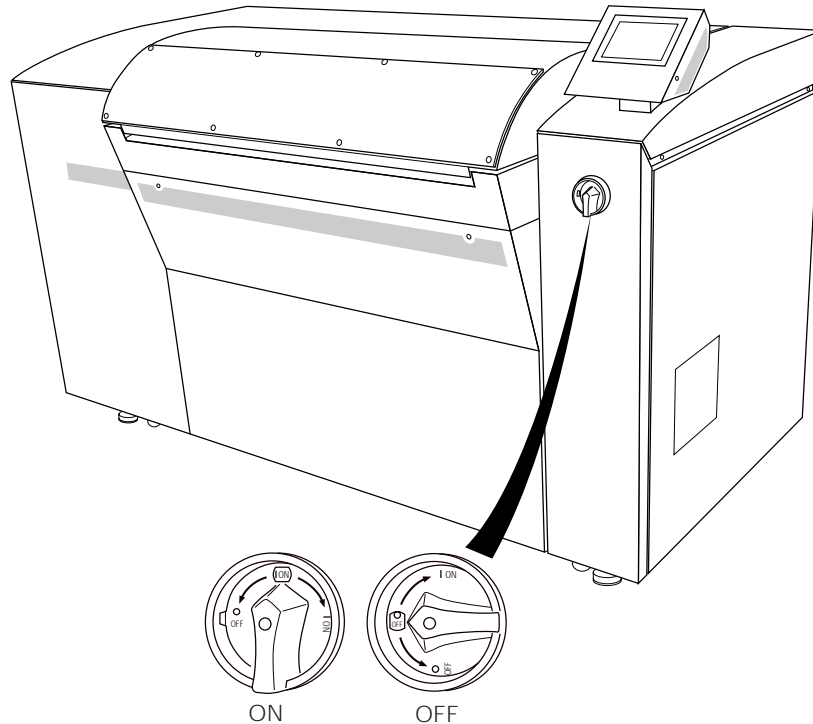


Fig. 4-7 Power switch

3.1 Turning On the Power

CAUTION!

Be sure to turn on the power to the peripheral devices (any optional devices) before you turn on the power to the PT-R.

1. Make sure that the host computer is turned off and that all doors and covers are shut.
2. Turn on the building side power switch.
3. Turn on the power switches of the peripheral devices by throwing the switches to the “|” side.
4. Rotate the power switch lever of the PT-R in the clockwise direction until it is vertical. (Power is being supplied when you can see “| ON” in the power switch window.) A memory check begins.

NOTE

If an error is detected during the memory check, a message will appear on the display. For more details, refer to “4. Messages during Initialization.”

When the memory check ends, **[START]** appears in the display. Press **[START]** to begin initialization of the PT-R.

5. Turn on the power to the host computer by throwing the switch to the “|” side after verifying that PT-R initialization is complete.

3.2 Turning Off the Power

1. Shut down the host computer and turn off the power.
2. Rotate the power switch lever of the PT-R in the counter-clockwise direction until it is horizontal. (Power has been cut when you can see “○ OFF” in the power switch window.)
3. Verify that the PT-R power has been turned off and then turn off the peripheral devices by throwing the switches to the “○” side.
4. Turn off the building side power switch.

 **CAUTION**

After using the PT-R turn off not only the PT-R power, but also the building side power switch.

 **WARNING**

To prevent accidents be sure to turn off the PT-R power switch and turn the building side power switch to OFF before performing maintenance, or troubleshooting.

4. Messages during Initialization

1. When you turn on the PT-R power switch, a memory check begins.

NOTE If a check sum error occurs during the memory check, the following screen will appear. If this screen appears, software must be downloaded from the personal computer. Please contact a Dainippon Screen sales office or agent.

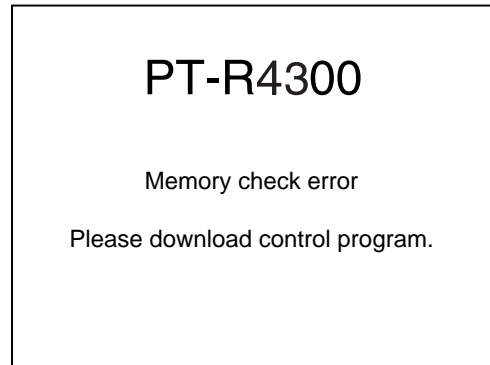


Fig. 4-8 Check sum error screen

When the memory check ends, the initial screen appears.



Fig. 4-9 Initial screen

2. Press **[START]** to begin initialization of the PT-R. The following screen is displayed during initialization.

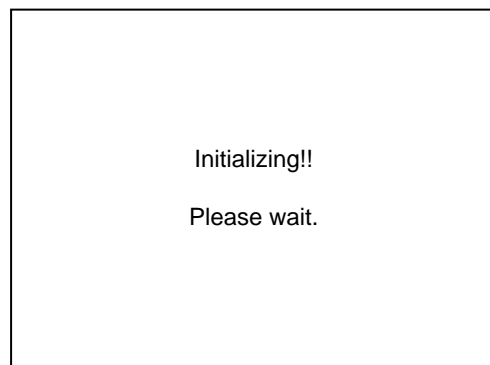


Fig. 4-10 Initialization screen

When initialization ends, the online (Ready) screen appears.

5. Overview of Information Settings

The information settings in the PT-R have the following configuration. This information must be set before a plate can be loaded in the PT-R and exposed.

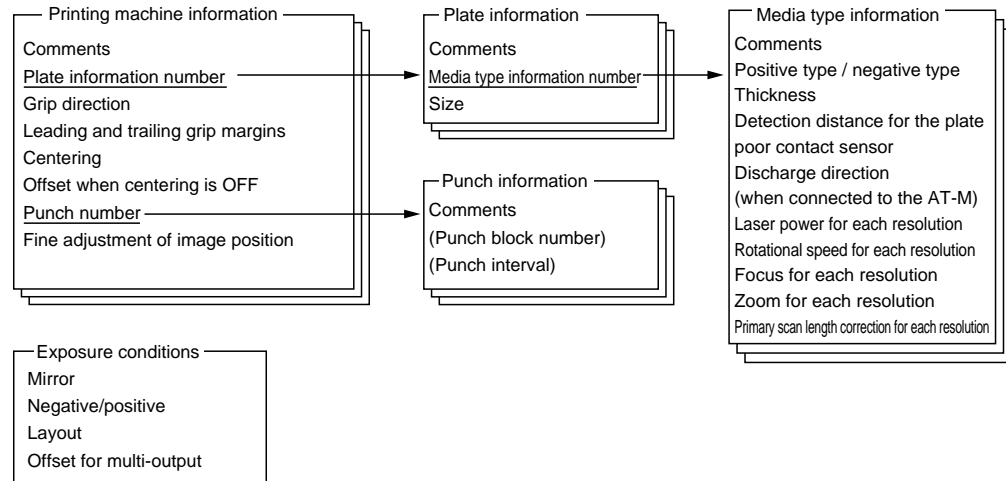


Fig. 4-11 Configuration of information settings

Media type information:

This sets information regarding the plate manufacturer, model number, and thickness. 15 types can be registered. In addition to the 15 types (No. 1 through 15) that can be registered, there are also 15 types (No. 31 through 45) that have been pre-registered, and these can be copied to No. 1 through 15.

Plate information:

This sets the plate size and media type information number. 15 types can be registered.

Printing machine information:

This sets the plate information number, grip, centering, and punch information. 15 types can be registered.

Punch information:

This registers punch comments. 9 types can be registered. (Note that there is a limit to the number of punch units that can be attached.) A service technician sets the punch block number and punch interval when he installs an optional punch mechanism.

Exposure conditions:

Only one type can be registered. These settings are effective regardless of the printing machine information selected.

- NOTE**
- **Set the information in the following order: media type information, plate information, printing machine information, and then exposure conditions. For more details, refer to Chapter 5 "User Menu."**
 - **When you instruct the host computer to output to the PT-R, the plate data set in the printing machine information that was selected when the plate was loaded is automatically selected, and output takes place according to the conditions set in the printing machine information.**

6. Difference in Procedures Depending on Host Computer and Possible Output Image Sizes

When you output an image from the host computer to the PT-R, the related plate is selected by choosing the registered printing machine information. There are two procedures (type A and type B) for selecting registered printing machine information from the host computer, as follows.

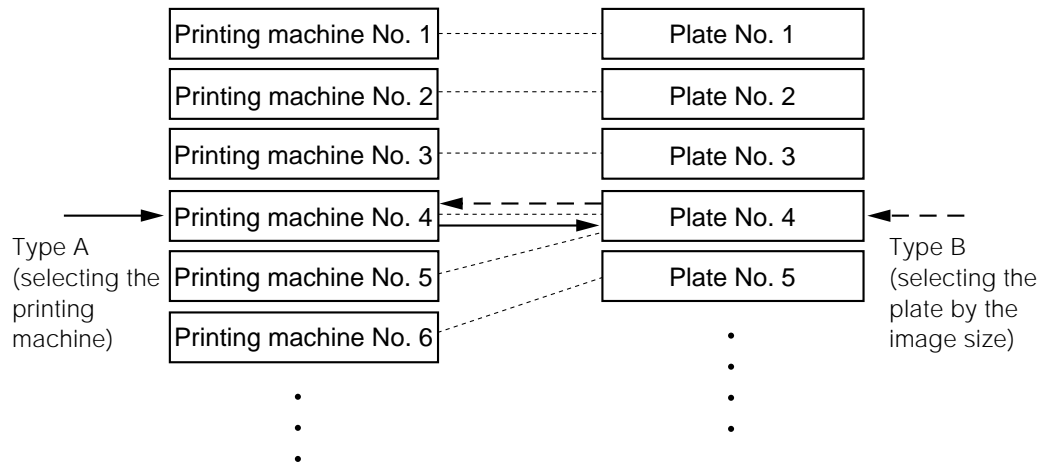


Fig. 4-12 Selecting printing machine information

Type A

Set the number of the printing machine information registered in the PT-R as the information for a virtual printing (or multi-entry) machine. By selecting a virtual printing machine, the PT-R printing machine information will be selected.

The possible output image size is the set plate size minus the leading and trailing grip margins, plus no more than 1.0 mm. (The image position changes depending on the centering and offset settings.)

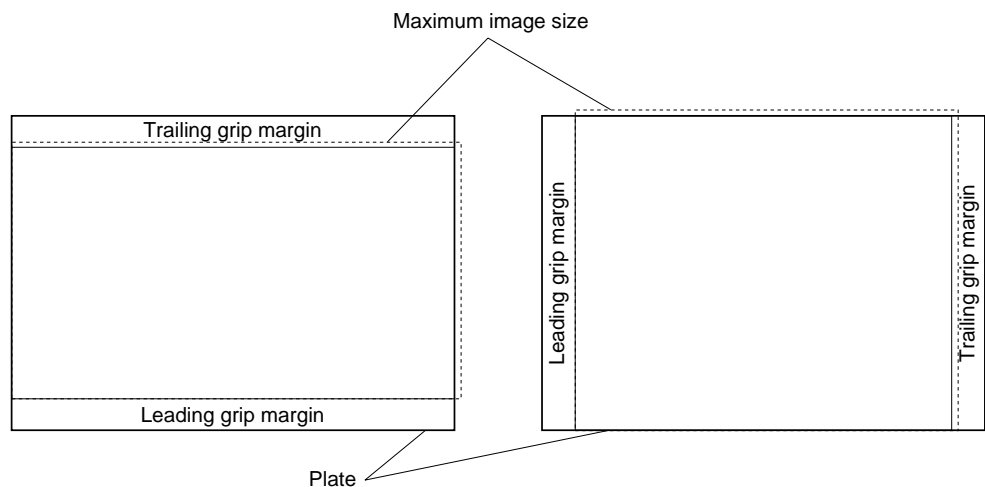


Fig. 4-13 Possible output image size (type A)

Type B

Edit (paginate) and output the image by compliant plate size. Printing machine information that agrees with the output image size is selected (the printing machine information that has a plate size that differs the least within ± 1.0 mm from the image size output from the host computer). If there are two or more printing machine information types that have the same plate size, the type with the lower registration number will be selected.

The possible size of the output image is the plate size within ± 1.0 mm. (Images smaller than this also cannot be output.)

When using type B, “the grip direction,” “leading and trailing grip margins,” “centering,” and “offset when centering is OFF” settings in the printing machine information are ignored (the settings have no meaning because the image to be output is the same size as the plate). Only the “punch selection,” and “fine adjustment of image position” settings are effective.

You cannot do the following with type B.

- Use plates of the same size, which have different thickness.
- Output images which are smaller than the plate size.

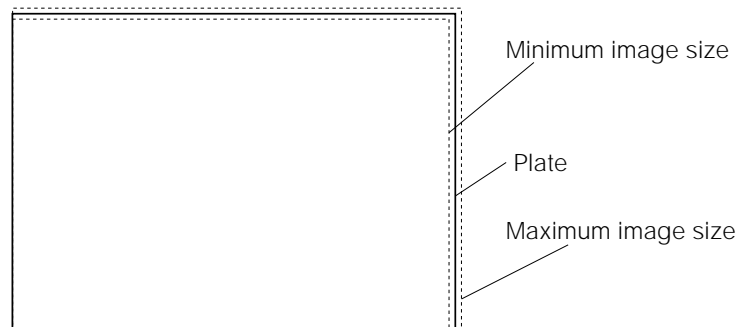


Fig. 4-14 Possible output image size (type B)

AD-RIP, HQ-RIP

You can only use type A.

RENATUS, TaigaSPACE

Both type A and type B can be used with Ver. 4.3 Rev. For Ver. 6.0. When outputting to the PT-R you can select magazines at the output information window. Here, when you select 1 through 15, PT-R printing machine information will be selected (type A). Operation will be type B if magazine selection is set to “Automatic.”

Operation will be type B if the RENATUS or TaigaSPACE version is not those given above.

Trueflow

You can use both type A and type B.

For magazine selection, when you select 1 through 15, the PT-R printing machine information is selected (type A). Operation will be type B if magazine selection is set to “Automatic.”

CAUTION!

When using type B, the output image will exceed the effective exposure area. In this case, the image data outside the effective exposure area is cut off. For more details, refer to “7. Effective Exposure Area.”

NOTE

If multi-output has been selected in the exposure conditions, output will go to the plate currently loaded or the plate loaded immediately before output. In this case, the possible output image size is the same as for type A.

7. Effective Exposure Area

When loading the plate onto the drum of the PT-R, clamps are used to secure the leading and trailing edges. For this reason, the parts of the plate that are hidden by or in the shadow of the clamps cannot be exposed by the laser. The effective exposure area of the PT-R is thus the area of the plate excluding approximately 15 mm at the leading edge and 12 mm at the trailing edge, as shown below.

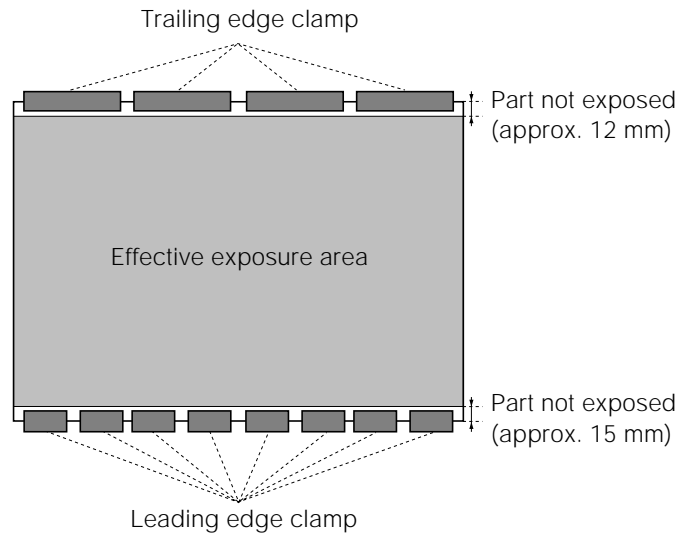


Fig. 4-15 Effective exposure area

CAUTION!

If the leading and trailing grip margins are set to less than 15 mm, or if the image is output using the type B operation method, the output image will exceed the above effective exposure area. In this case, the image data outside the effective exposure area is cut off.

8. Online Mode

The PT-R automatically enters online mode when initialization ends after turning on the power. Online mode is used to receive an image from the host computer and expose it onto the plate.

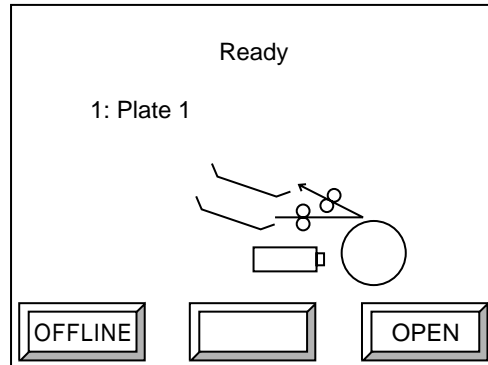


Fig. 4-16 Online screen

Given below are three methods for exposing an image by instruction from the host computer connected to the PT-R.

- Load plate using an exposure instruction from the host computer
- Load plate before an exposure instruction comes from the host computer
- Set next plate while exposure is in progress

! CAUTION

**Be sure to wear anti-slip protective gloves when handling plates.
Otherwise, the plate edges may cut your fingers or hand.**

8.1 Load Plate Using an Exposure Instruction from the Host Computer

This is the normal procedure for exposure.

1. Send the command to begin exposure from the host computer.
The plate set request screen and the buzzer will beep repeatedly.

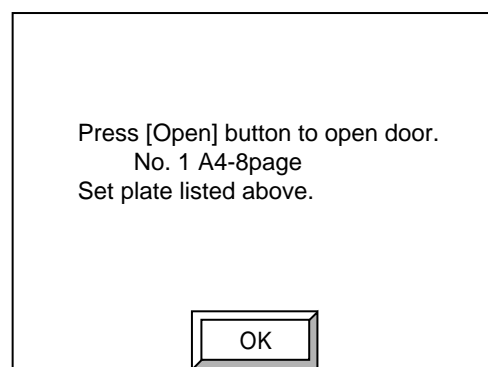


Fig. 4-17 Plate set request screen

2. Press **[OK]**. The buzzer sound will stop and the operation door open screen will appear.

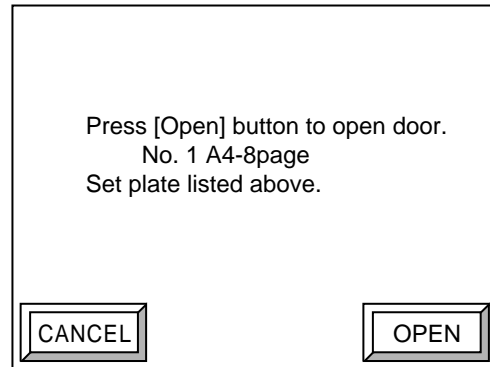


Fig. 4-18 Operation door open screen

3. Press **[OPEN]**. The lock is released and the operation door slightly opens.
4. Place the specified plate on the insertion table and peel off the interleaf paper.

CAUTION!

Be careful of the following when handling plates.

- When storing plates the environment should be the same as that for the PT-R and the plates should be stored in a horizontal or inclined type plate rack.
- Do not load plates into the PT-R that are warped or have bent corners.
- Do not load plates into the PT-R that have been punched.

! CAUTION

Be sure to verify that there are no pieces of packaging or interleaf paper remaining on either side of the plate. There is a danger of the thermal laser starting a fire inside the PT-R.

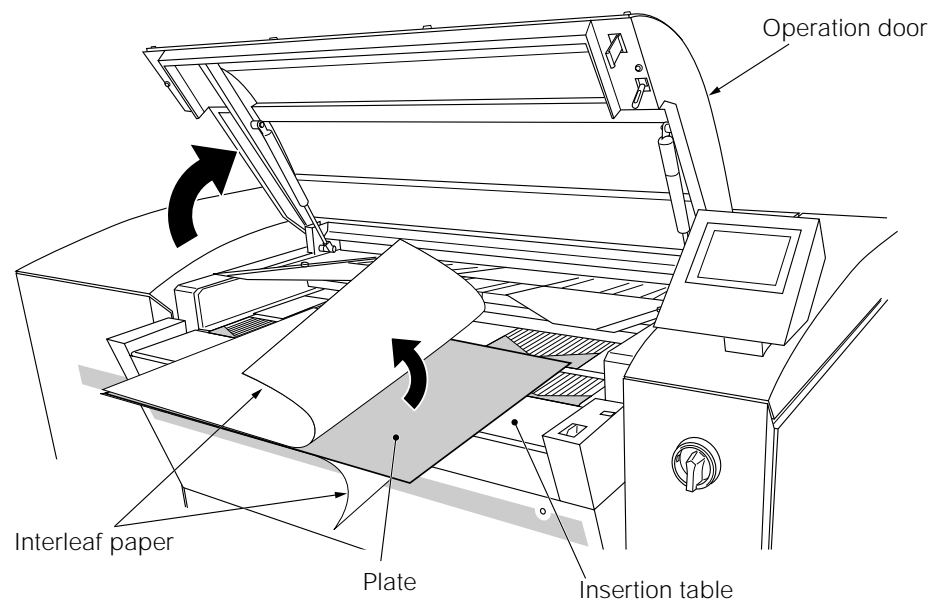


Fig. 4-19 Setting a plate

5. Align the plate on the gradations corresponding to the size of the plate on the left and right positioning labels, and push the plate in until it touches the shutter inside the transport.

NOTE

Since the edges for thin plates (thickness: 0.15, 0.20, etc.) can be easily bent, do not push them in with your hands, but place them on the roller and turn the knob until the plate hits the shutter at the back.

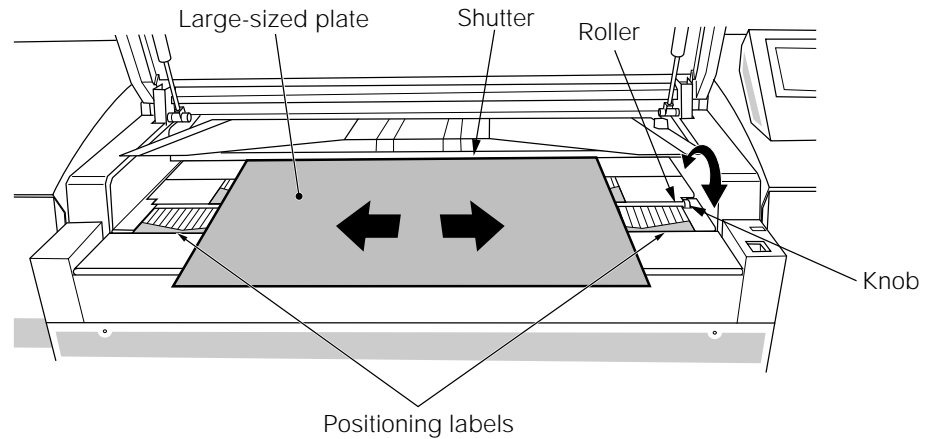


Fig. 4-20 Positioning large-sized plate

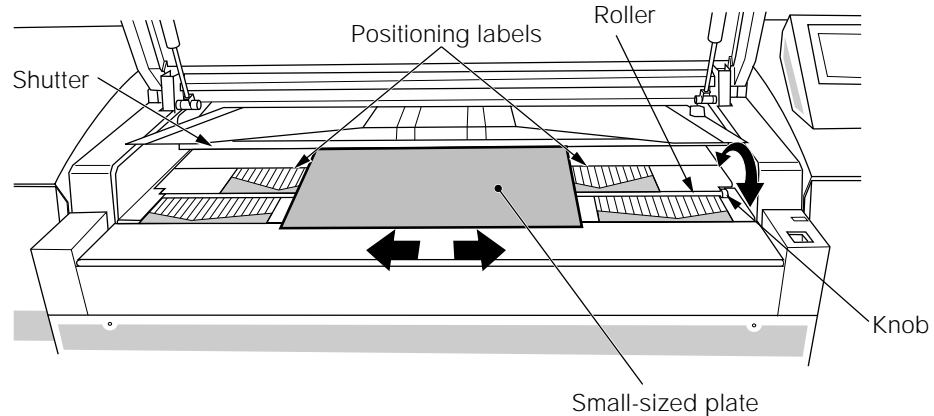


Fig. 4-21 Positioning small-sized plate

6. Close the operation door by hand until it firmly locks. When the door closes, loading begins. When loading is completed, exposure begins. When exposure ends, the plate is ejected to the ejection table and the operation door opens.
7. Remove the exposed plate that was ejected.

8.2 Load Plate before an Exposure Instruction Comes from the Host Computer

The plate can also be loaded before sending an exposure command from the host computer. However, if the loaded plate differs from the plate specifications (size, punch, etc.) in the exposure command from the host computer, it will be necessary to unload the plate and then reload following the procedure in “8.1 Load Plate Using an Exposure Instruction from the Host Computer.”

When doing a type B exposure in multi-output mode, the plate must be loaded according to the procedure explained here or in “8.3 Set Next Plate while Exposure is in Progress.”

1. Press **[OPEN]** at the online (Ready) screen. The lock is released and the operation door slightly opens.
2. Place the plate on the insertion table and peel off the interleaf paper.
3. Align the plate on the gradations corresponding to the size of the plate on the left and right positioning labels, and push the plate in until it touches the shutter inside the transport.
4. Close the operation door by hand until it locks. The plate loading screen will display.

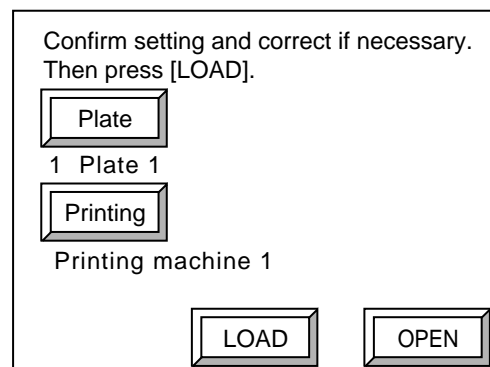


Fig. 4-22 Plate loading screen

5. Check the plate data and printing machine data that appears in the screen, and then press **[LOAD]**. Plate loading begins.

If the plate data in the screen differs from the plate inserted, press **[Plate]** to open the plate selection screen, select the same plate data as the inserted plate, and then press **[OK]**. To change the printing machine data, press **[Printing]** to open the printing machine information setting screen, select the printing machine data to be used, and then press **[LOAD]**.

NOTE

To change the plate data or printing machine data selection, the new selection must be previously registered. For more details, refer to Chapter 5 “3. Setting the Plate” and Chapter 5 “4. Setting the Printing Machine Information.”

8.3 Set Next Plate while Exposure is in Progress

Insertion and ejection of plates is performed on the PT-R using separate insertion and ejection tables, and thus it is possible to set the next plate on the insertion table while exposure is in progress. When this is done, the next plate waits on standby until exposure is completed. When exposure is completed and the exposed plate is ejected to the ejection table, the plate that was on standby is loaded and waits for the exposure instruction from the host computer.

By ejecting the exposed plates during exposure, the next plate can be set and the waiting time for ejecting and setting is minimized. This is recommended to increase productivity with the PT-R.

1. When plate loading is completed, **[OPEN]** will appear in the online screen. Press **[OPEN]**. The lock is released and the operation door slightly opens.
2. Place the plate on the insertion table and peel off the interleaf paper.
3. Align the plate on the gradations corresponding to the size of the plate on the left and right positioning labels, and push the plate in until it touches the shutter inside the transport.
4. Close the operation door by hand until it locks. The plate loading screen will display.

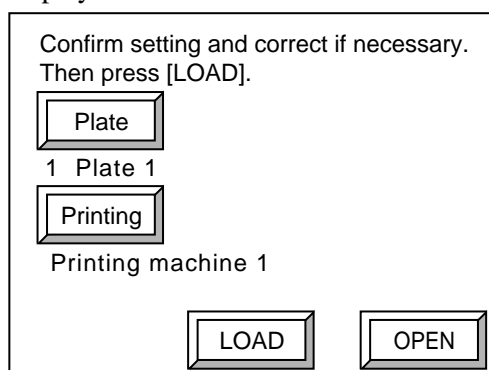


Fig. 4-23 Plate loading screen

5. Check the plate data and printing machine data that appears in the screen, and then press **[LOAD]**. The system begins loading the next plate.

If the plate data in the screen differs from the plate inserted, press **[Plate]** to open the plate selection screen, select the same plate data as the inserted plate, and then press **[OK]**. To change the printing machine data, press **[Printing]** to open the printing machine information setting screen, select the printing machine data to be used, and then press **[LOAD]**.

After punching, the loaded plate waits in standby until the completion of exposure of the previously set plate.

When exposure of the previously set plate ends and the plate is ejected, the next plate loads. When loading is completed, the operation door lock releases, the plate removal request screen is displayed, and the buzzer beeps repeatedly.



Fig. 4-24 Plate removal request screen

6. Press **[OK]** to stop the buzzer and then remove the exposed plate.
7. If another plate is to be set, repeat this procedure from step 2. If no more plates are to be set, close the operation door.

NOTE

When using Version 4.3 Rev. F (or Version 6.0) or later of RENATUS or TaigaSPACE, and YMCK output is selected, the blinking message, “!! The next plate is same, too. !!” is displayed on the online screen during exposure of the first three plates. In this case, the message disappears when the next plate is set.

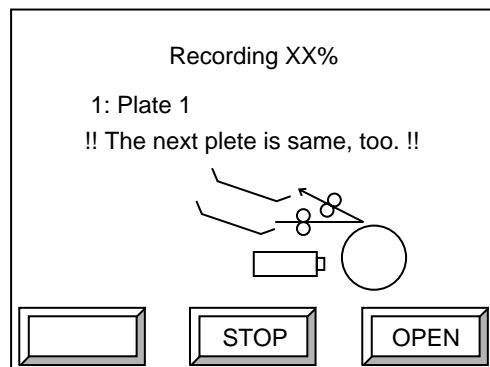


Fig. 4-25 Message screen

Precautions when the STOP button is pressed to stop the PT-R during exposure

Action when STOP button is pressed	Action after STOP button is pressed
Image output from RIP is exposed. (Display shows "Recording".)	Exposure continues from stopped plate according to command to continue from the RIP.
Burn out occurs for blank areas after exposure. (Display shows "Burn-out" when positive plate used.)	The continue command from the RIP allows you to continue with the plate that follows the stopped plate. (The RIP has completed output of that plate and has begun output of the next plate.) Please re-execute the stopped plate. The same is true when an error occurs.

A continue command in this case is as follows:

- Using the AD-RIP: A canceled job cannot be continued, therefore you must re-execute the job.
- Using the RENATUS or TaigaSPACE: Select "Continue" in the error dialog.

When ejecting a plate to the online processor

When eject to an online processor is selected, the following online screen will appear.

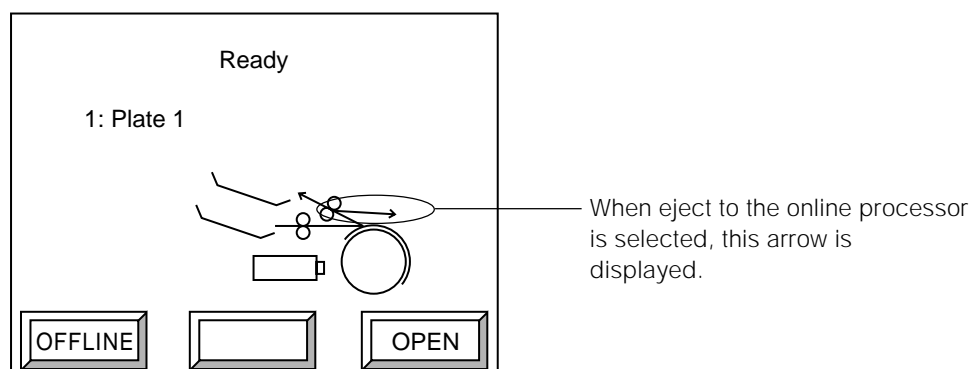


Fig. 4-26 Online screen

When eject to the online processor is selected, the connected bridge, online processor, and stocker must all be in the ready state or the following message will appear during PT-R initialization.

Ex600 or Ex601 : Either the conveyor, processor, or stoker is not turned on or is in the busy status or is in error status.

While ejecting a plate to the online processor, a buzzer will beep at one-second intervals from the beginning of unloading until the completion of output to the bridge. While the buzzer is beeping, do not open the cover of the bridge or the online processor, do not attempt external loading, and do not press the external loading start button. For more details, refer to Chapter 5 "5. Setting the Exposure Conditions" and Chapter 5 "8. Ejecting the Plates."

NOTE For the procedures for using the online processor, refer to the operation manual for the online processor.

Stopping the buzzer when ejecting plates

You can set the machine so that the buzzer will not sound when plates are ejected. For more details, refer to Chapter 5 “19. Turning the Buzzer during Plate Eject On and Off.”

CAUTION! If set not to beep, be sure to check that the arrow on the online screen, which indicates ejecting to the online processor, is not flashing when you want to insert a plate to the bridge.

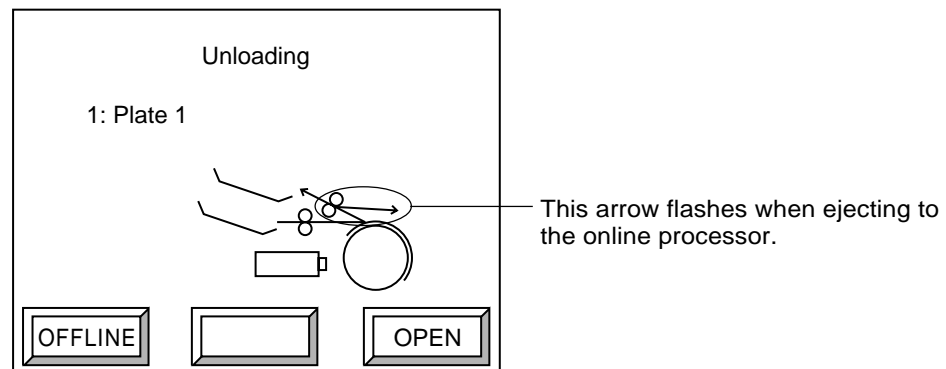


Fig. 4-27 Online (ejecting direction) screen

When the online processor is busy

When a plate is to be ejected from the PT-R and the online processor is busy, it will not be ejected until the online processor goes into standby. Also, if a plate is left on the AT-T, the PT-R will recognize it as being in process and generate a warning message before the plate is ejected.

Precautions when changing AT-T modes

Automatic eject developing is possible with AT-T connection machines. However, do not change AT-T modes (external loading, etc.) or attach/detach the stoker plate receptacle while the PT-R is ejecting plates (while the alarm sounds). Perform AT-T mode changes during exposure leaving enough leeway before plate ejection.

CAUTION! If you change the AT-T mode during ejection from the PT-R or immediately before ejection of plate, an ejection error may result.

Also, if a replenish solution warning from the online processor or stoker plate number warning occurs during AT-T plate ejection, an error may occur after ejection. Check these items before commencing operation so that online processor solution replenishment and waste solution tank errors do not occur.

9. Dot Gain Calibration

Dot gain (dot thickening) occurs as a result of printing and causes the colors of the exposed material to become darker than the colors specified in the PostScript file. For example, a 50% PostScript tint on the screen increases from 65% to 80% when printed on paper due to a dot gain of 15% to 30%. Dot gain is a property of the printing process and does not imply that a printing problem or defect occurred.

Dot gain occurs when the differences between the screen tint measured on the press sheet (effective dot area or “Murray Davices Area”) and continuous tone values specified by PostScript accumulate.

The following are causes of dot gain:

Cause 1: Deviation due to RIP.

RIP processing can cause the occurrence of screen halftone tints that are larger or smaller than the PostScript tints.

Cause 2: The lens in the image exposure system used for exposure of the material, or the chemical processing that follows.

These factors can cause dot enlargement or contraction. The amount of the effect depends on the lens and the resolution of the material.

Cause 3: The exposure step from film to plate. (Omitted in CTP)

This can cause tints to increase on negative film and decrease on positive film. The effect is normally several percent in halftones.

Cause 4: The transfer of ink from the plate to the blanket, and finally to the paper, during the printing process.

This causes ink to spread by several percent. In older CTP plate and image processing systems, the effect is sometimes partially corrected due to the influence of soft dots (the area of dots with ink is larger than the dots seen on the plate).

Cause 5: Light diffusion caused by the paper, called “optical dot gain.”

This states that the ink dot absorbs more incoming light than the dot area on the paper. For example, depending on the paper type, a perfect ink lattice pattern composing a 50% Euclidean absorbs 60% to 75% of the light hitting the paper. Optical dot gain is the primary cause of single dot gain and is impossible to avoid.

The purpose of calibration is not to completely eliminate dot gain so that a 50% PostScript tint creates a 50% effective dot area on the press sheet. If this were done, the resulting printed image would be blurred and lack contrast. The separation table creates CMYK plates based on the assumption that there exists a certain amount of dot gain.

The separation table generally assumes that each PostScript tint is reproduced to the same value on the film. After that, the tints undergo causes 2 through 5 listed on the previous page, and the desired colors are created on the press sheet. If calibration were performed so as to completely eliminate the dot gain, 50% PostScript would create an effective dot area of 50% on the press sheet, not the 70% area that the separation table assumes. Complete elimination would therefore require changing the separation table. While this is technologically possible, it is not practical and not effective.

The general methods for calibrating a plate exposed with the PT-R are as follows:

- **Perform linear calibration on the plate.**

The dot area on the plate will not be exactly equal to that of the PostScript file. When creating a linear plate with the PT-R, perform linear calibration (note that there are some media types that do not require linear calibration).

- **Perform calibration to make the plate match a conventional film-based printed material.**

Linear plates create an overall dot gain that is a few percentage points smaller than plates created from linearly calibrated negative film. This is because linear plates eliminate the dot gain created when the plate is made. Similarly, linear plates print several percentage points thicker than positive plates.

- **To match plates created with conventional positive or negative film to the PT-R, reduce the deviation in highlights and shadows to zero.**

This method is suited to the overall print characteristics of film-based printing, and it offers excellent highlight and shadow reproduction.

- **Calibrate so that the print characteristics of plate printing match standard gain profiles such as those of proofs and SWOP.**

This method is effective for standardizing and equalizing the tone reproduction curves of different printing machines and paper; however, repeated calibrations and corrections are necessary. When measuring the press sheet to adjust the calibration curve, be sure to operate the printing machine using standard solid ink densities and the optimum balance of ink and water.

Chapter 5

User Menu

This chapter explains the procedures for setting PT-R parameters.

1. Offline Mode

1.1 Offline Mode Hierarchy

Press **[OFFLINE]** in the online screen to display the offline screen. To return to the online screen, press **[ONLINE]**. The hierarchy of the offline mode is as shown below. Press **[ESC]** at any screen to return the previous screen.

NOTE Set information in the following order: **Media type, Plate, Printing machine information, and Exposure conditions.**

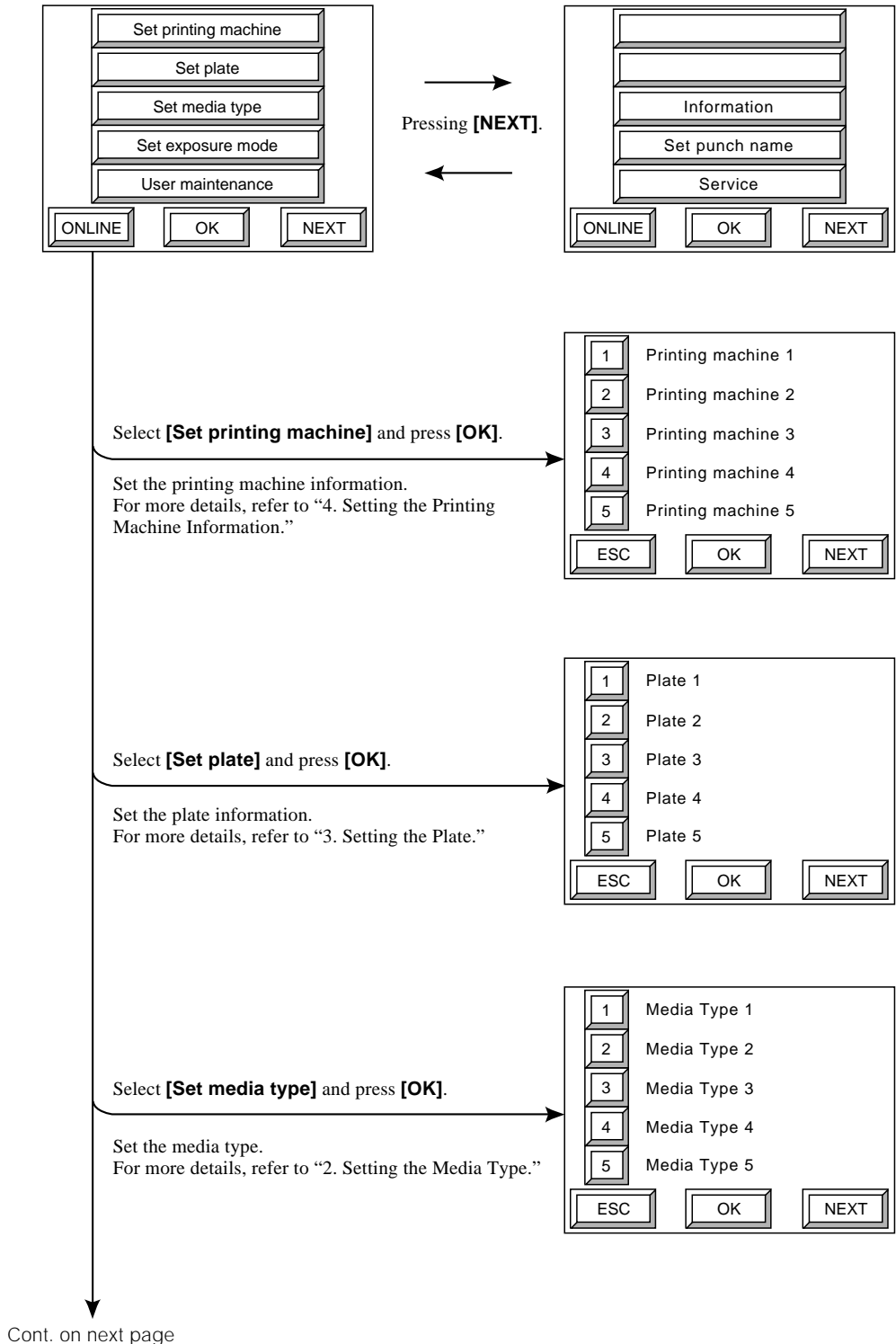
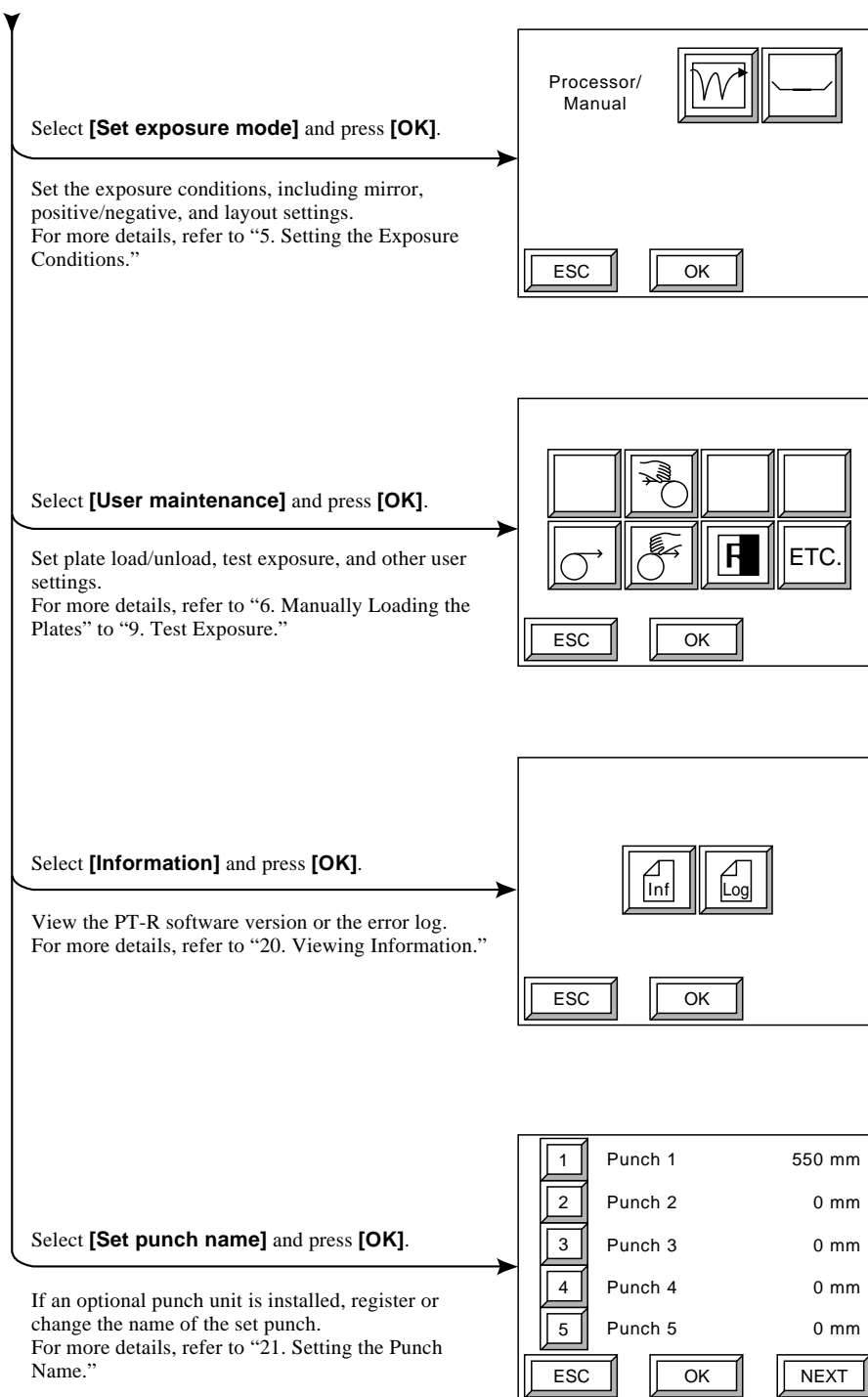


Fig. 5-1 Offline mode (1)

Cont. from previous page



[Service] is used by service technicians. It cannot be used here.

Fig. 5-1 Offline mode (2)

1.2 Steps for Setting the Media Type

Select **[Set media type]** and then press **[OK]** in the offline screen. The media type screen appears. To return to the offline screen, press **[ESC]**. The flow for setting the media type is shown below. Press **[ESC]** at any screen to return the previous screen.

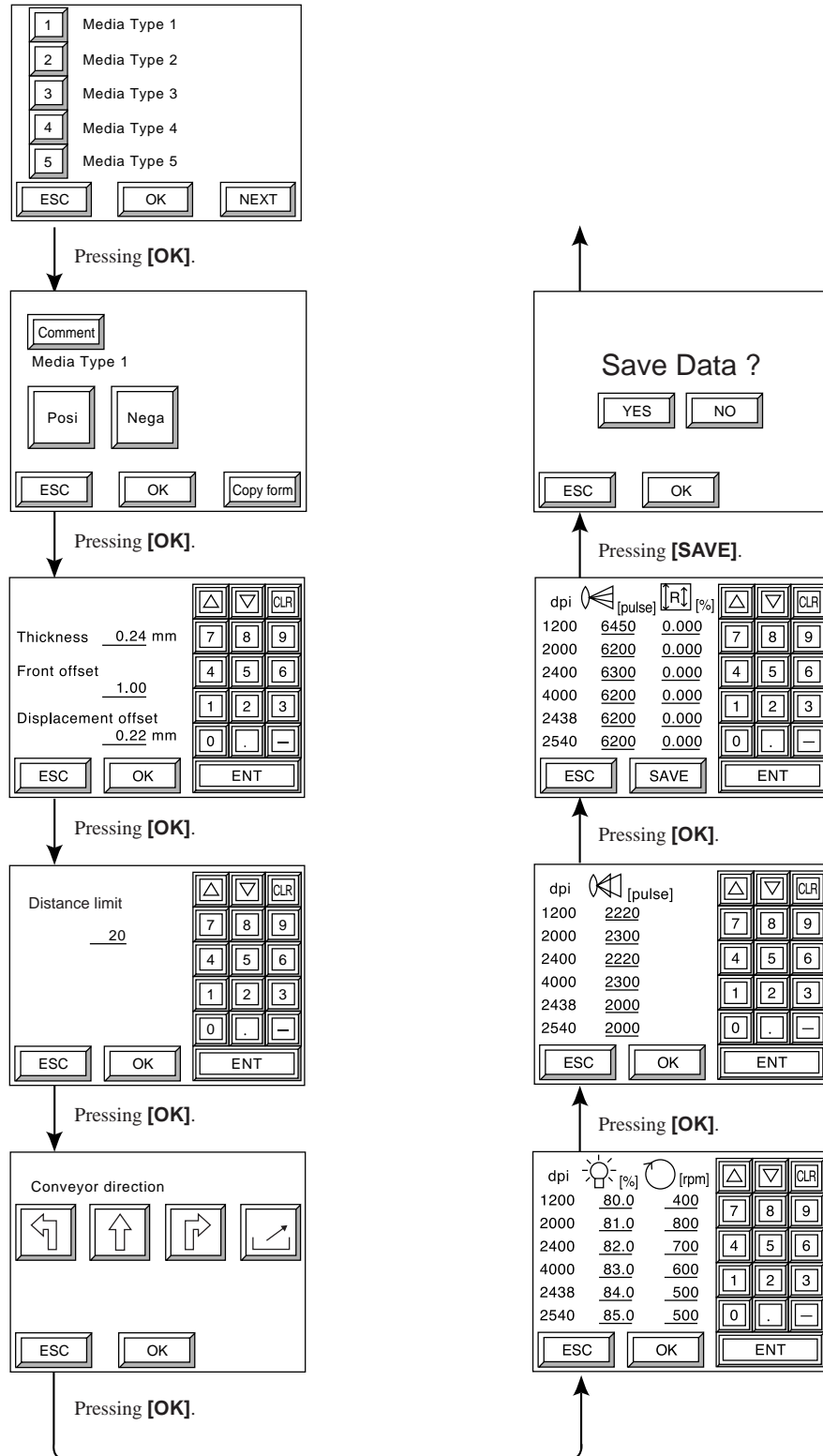


Fig. 5-2 Setting the media type

1.3 Steps for Setting the Printing Machine Information

Select **[Set printing machine]** and then press **[OK]** in the offline screen. The printing machine setting screen appears. To return to the offline screen, press **[ESC]**. The flow for setting the printing machine information is shown below. Press **[ESC]** at any screen to return the previous screen.

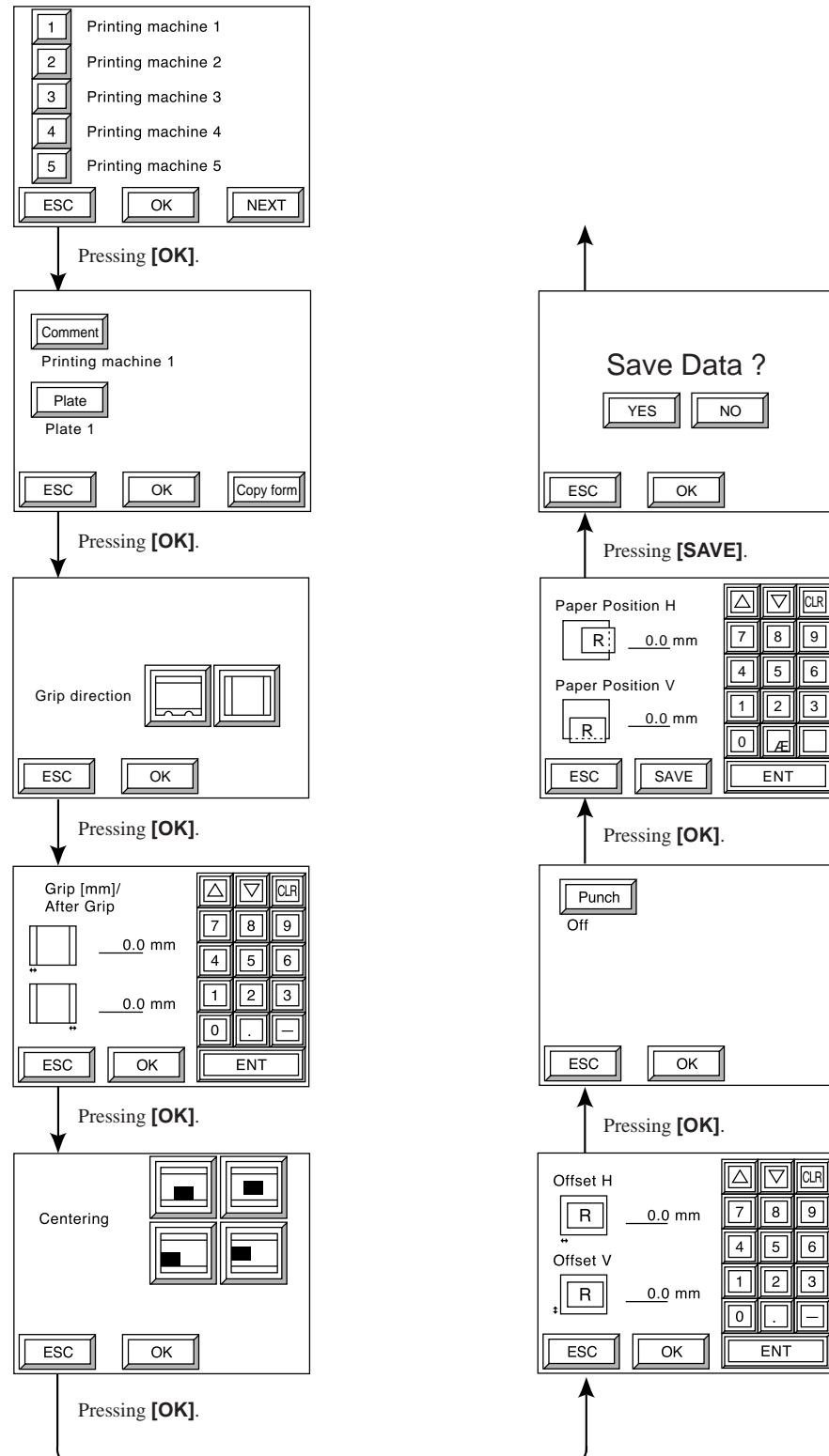



Fig. 5-3 Setting the printing machine information

1.4 User Maintenance Mode Hierarchy

This mode allows the user to load and eject plates, perform test exposures to determine the optimum exposure conditions for a plate, set the date and time, and select the language used in the display.

Press **[User maintenance]** and then press **[OK]** in the offline screen. The user maintenance mode screen appears.

NOTE  is only displayed if an online processor is connected.

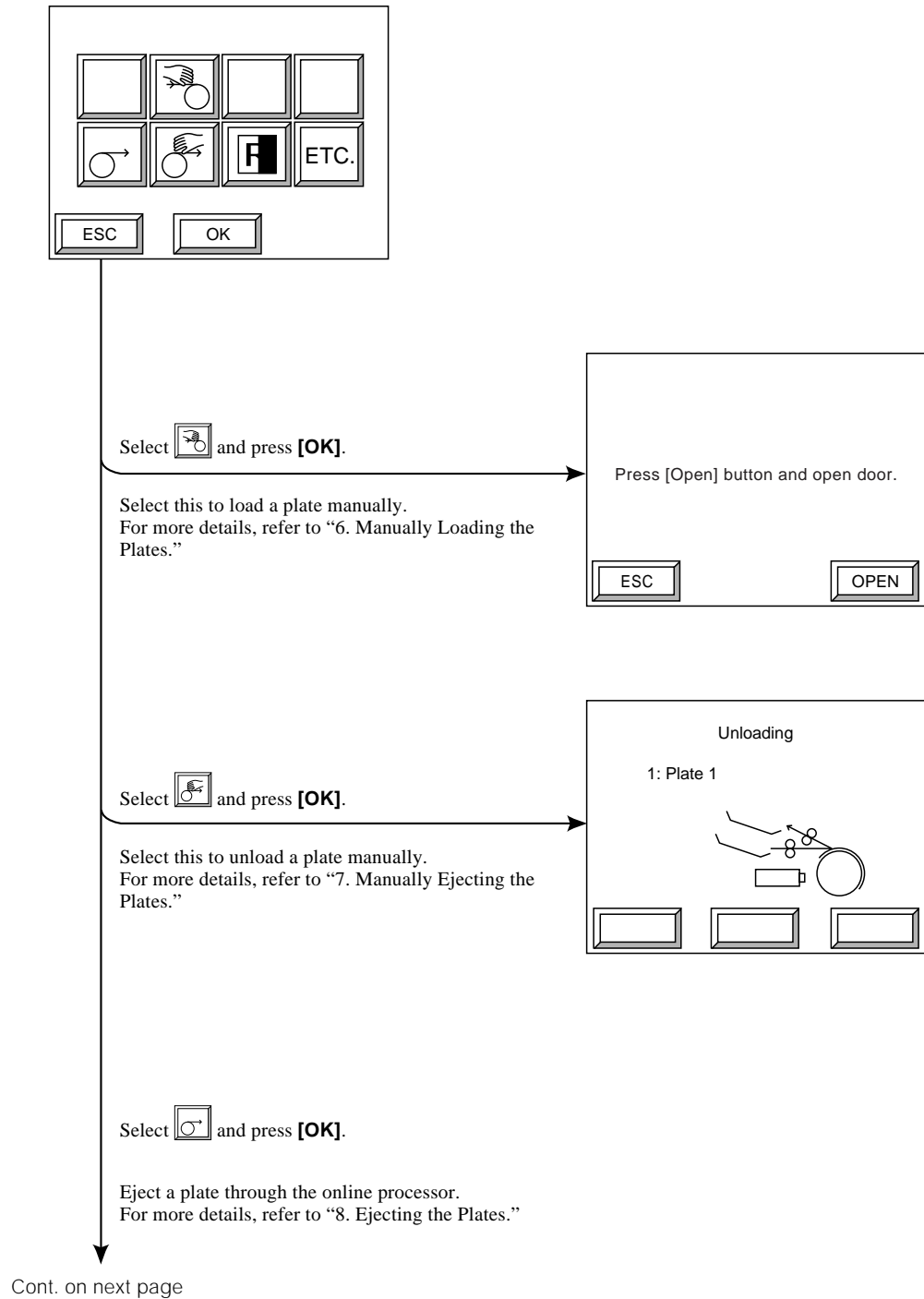

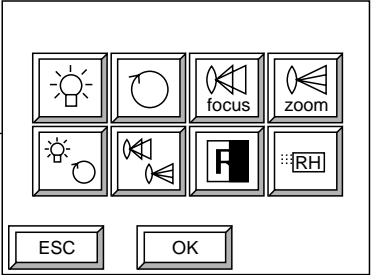



Fig. 5-4 User maintenance mode (1)

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Select  and press [OK].

Select this to perform a test exposure.
For more details, refer to “9. Test Exposure.”



Select  and press [OK].

Select this to set other user parameters.
For more details, refer to “10. Setting the Date and Time” to “19. Turning the Buzzer during Plate Eject On and Off.”

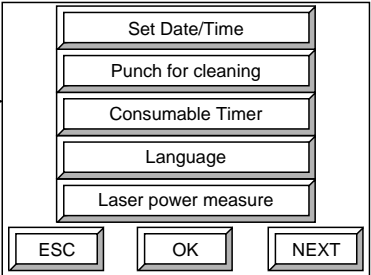


Fig. 5-4 User maintenance mode (2)

1.5 User Settings Hierarchy

Use this to make various settings such as the date, time, and display language. Select **[ETC.]** and then press **[OK]** in the user maintenance mode screen. The user setting selection screen appears. The hierarchy of the user setting selection is as shown below.

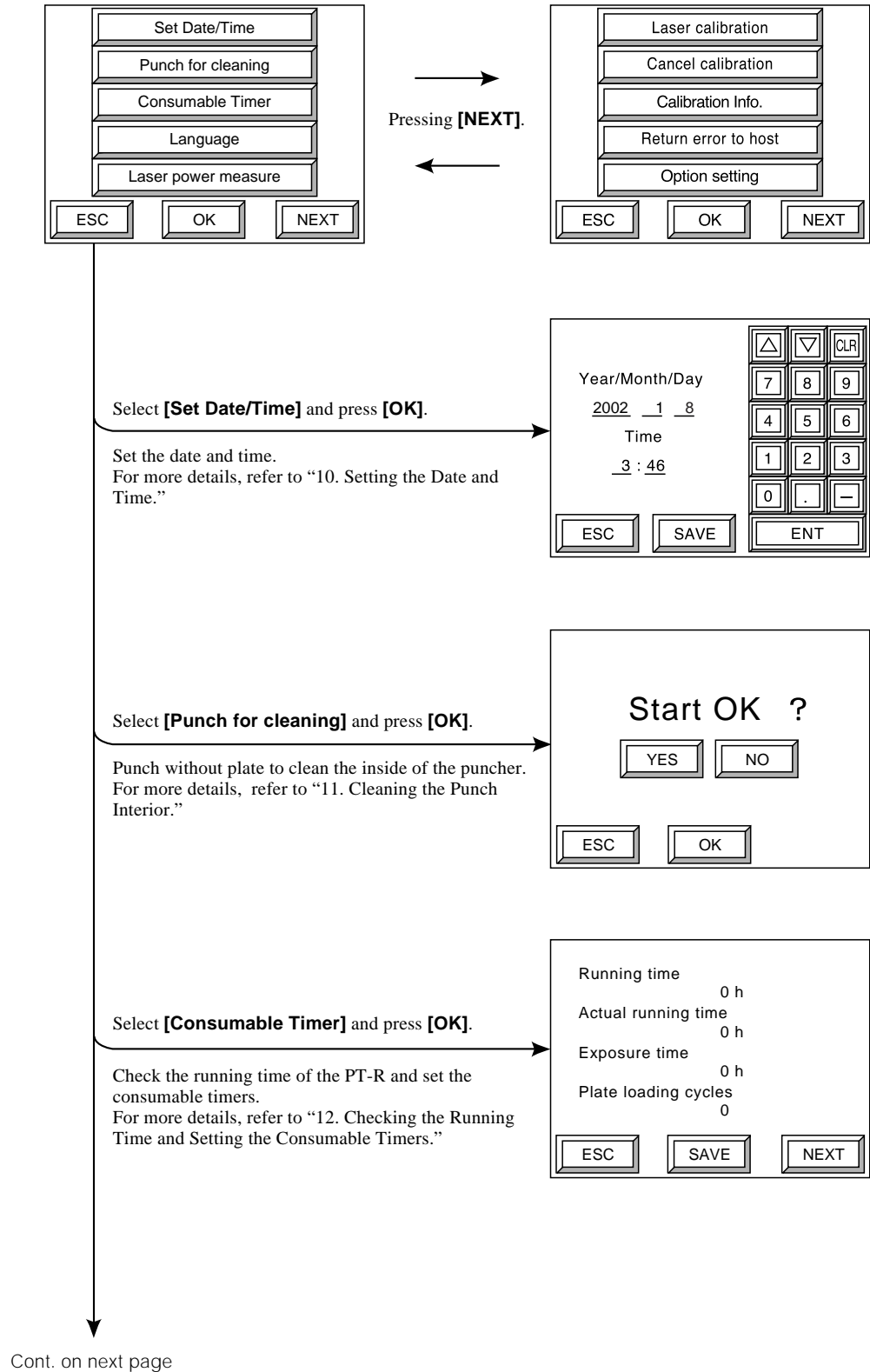
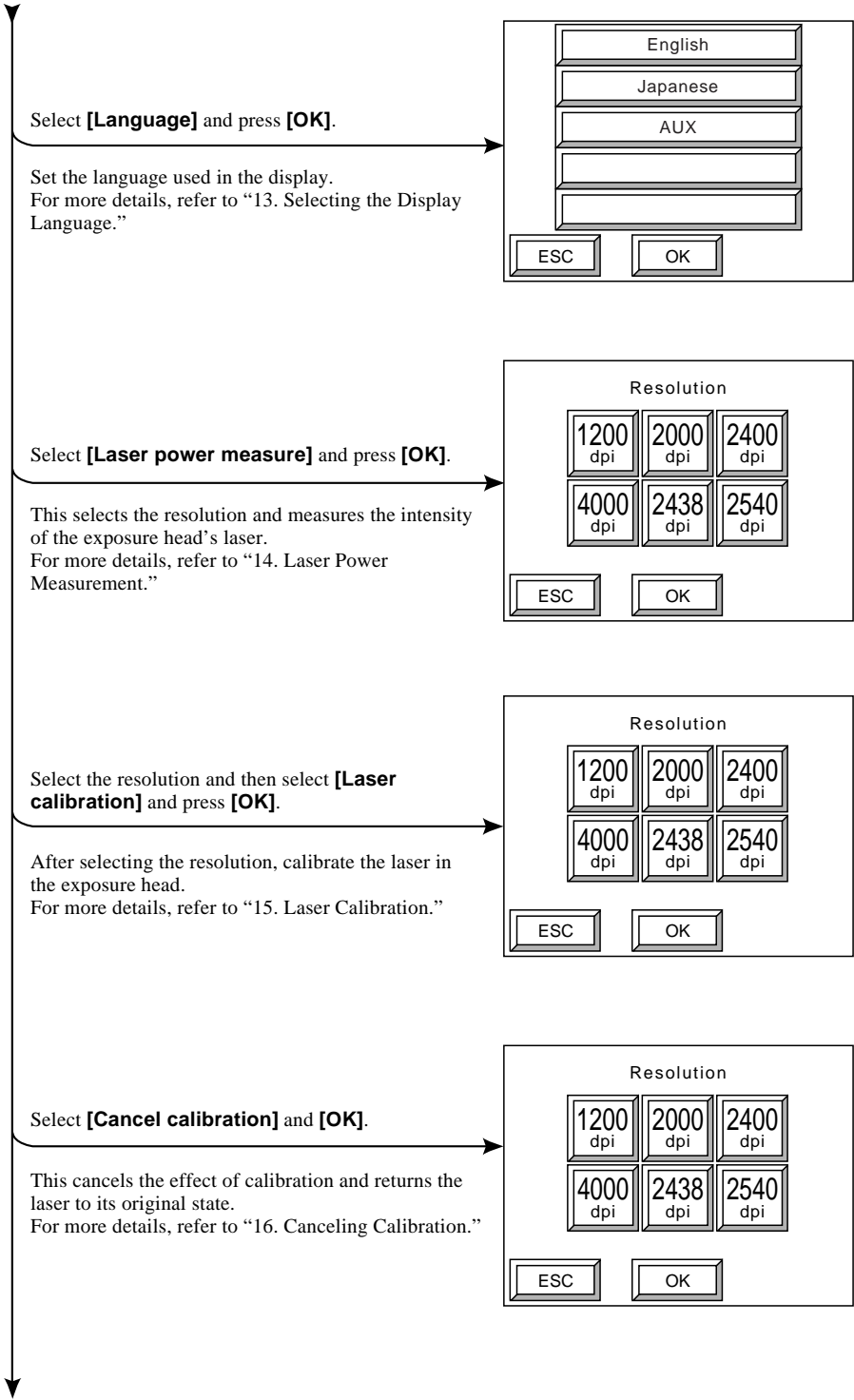


Fig. 5-5 User setting selection mode (1)

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Fig. 5-5 User setting selection mode (2)

Cont. from previous page

Select **[Calibration info.]** and press **[OK]**.

This checks the state of calibration of the exposure head's laser.
For more details, refer to "17. Calibration Information."

Calibration period:				xx h
Time to next calibration:				xx h
Reso.	Channel	Pow.	Cal.	Warning
1200	xxch	xxx%	xx	Exxxx
2000	xxch	xxx%	xx	Exxxx
2400	xxch	xxx%	xx	Exxxx
4000	xxch	xxx%	xx	Exxxx
2438	xxch	xxx%	xx	Exxxx
2540	xxch	xxx%	xx	Exxxx

Select **[Return error to host]** and press **[OK]**.

When PT-R power is turned OFF during exposure, as well as in other cases, an interrupt command is sent to the host computer.
For more details, refer to "18. Sending an Interrupt Command to the Host Computer."

Start OK ?

Select **[Option setting]** and press **[OK]**.

This turns on and off the buzzer that sounds when plates are ejected to the online processor.
For more details, refer to "19. Turning the Buzzer during Plate Eject On and Off."

Buzzer while trans.

Fig. 5-5 User setting selection mode (3)

2. Setting the Media Type

The information for a maximum of 15 media types can be registered. The procedure for setting the information is as follows in 2.1 to 2.9. (Refer to the setting hierarchy in “1.2 Steps for Setting the Media Type.”)

To save the data after you have completed the settings, press **[OK]** several times.

Display the zoom value and absolute precision correction value setting screen (Fig. 5-15) and press **[SAVE]**. When the save confirmation screen is displayed (Fig. 5-16) do step 3 in section 2.9.

2.1 Selecting the Negative/Positive Type

Here, as an example, the setting of Media Type 1 will be explained.

1. Select **[Set media type]** in the offline screen and press **[OK]**.
The media type selection screen appears.

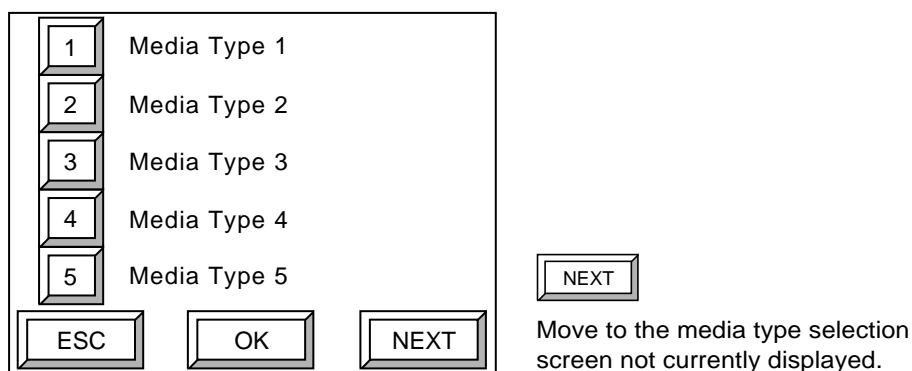


Fig. 5-6 Media type selection screen

2. Select **[1]** and then press **[OK]**.
The negative/positive type selection screen appears.

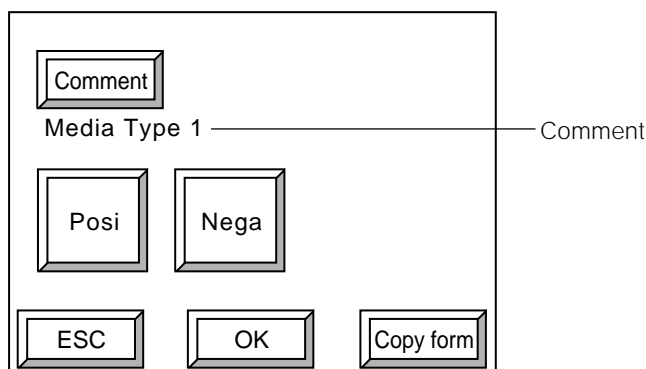


Fig. 5-7 Negative/positive type selection screen

[Posi] : Positive type (ink does not adhere to exposed parts of the plate)

[Nega] : Negative type (ink adheres to exposed parts of the plate)

3. Select the plate type and press **[OK]**.
The plate thickness setting screen appears.

[NOTE] When positive plate is exposed, the section exterior to the image will burn out.

2.2 Entering Comments

Add a file name for saved data.

1. Press **[Comment]** in the negative/positive type selection screen.
The comment entry screen appears.

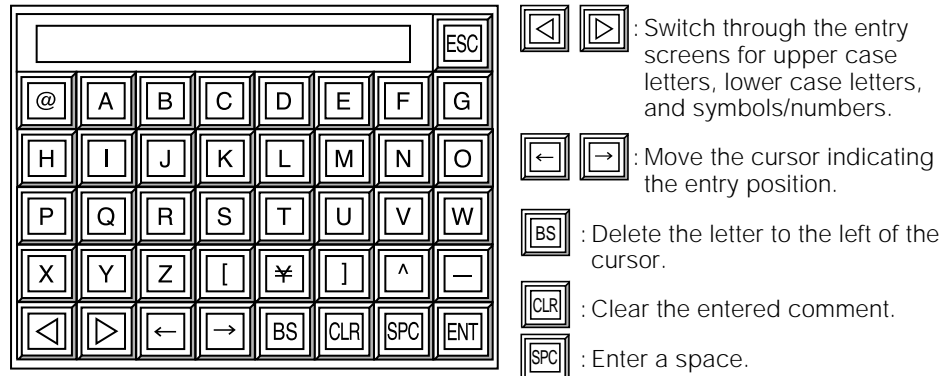


Fig. 5-8 Comment entry screen

2. Enter a comment and then press **[ENT]**. You will return to the negative/positive type selection screen, and the entered comment will appear below **[Comment]**.

2.3 Copying Preset Plate Type Information

Copy the preset plate type information.

1. Press **[Copy form]** in the negative/positive type selection screen. The preset plate type information screen appears.

[NOTE] If the manufacturer and model number are the same but the thickness is different, you will have to register the media type information individually.

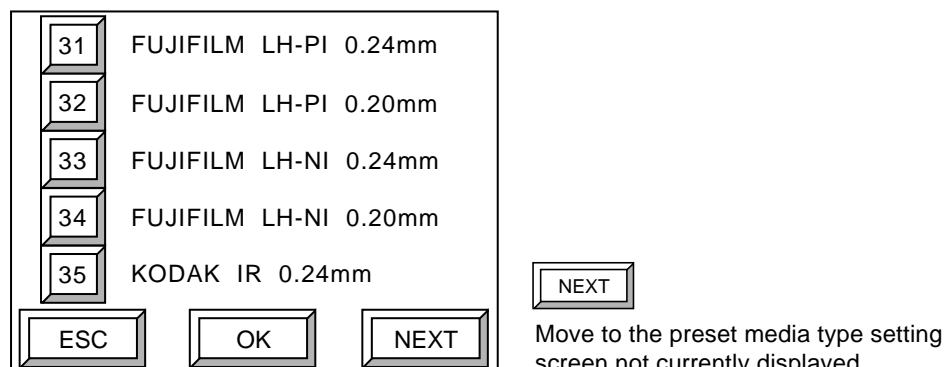


Fig. 5-9 Preset plate type information screen

- Press **[NEXT]**. If the information (manufacturer, model number, and thickness) in one of the preset media types 31 to 45 is the same as the media you intend to use, press that number to select it, then press **[OK]**.

The selected media type information will be copied to Media Type 1 and you will return to the negative/positive type selection screen.

NOTE If the media type information to be used is not preset in one of the types 31 to 45, follow these steps or contact a Dainippon Screen sales office or agent:

- Copy a media type from 31 to 45 that has the same thickness as your media.
- Perform a test exposure and set the optimum focus value.

2.4 Setting the Plate Thickness

Set the plate thickness.

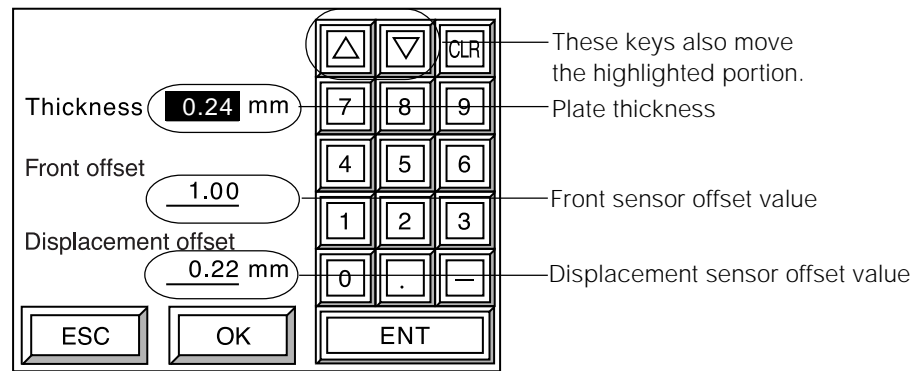


Fig. 5-10 Plate thickness setting screen

- Enter the plate thickness and press **[ENT]**.
- When entry is complete, press **[OK]**.
The detection distance setting screen for the plate poor contact sensor appears.

NOTE Front sensor offset value and displacement sensor offset value is automatically adjusted, so entry is unnecessary.

2.5 Setting the Detection Distance for the Plate Poor Contact Sensor

Set the detection distance for the plate displacement sensor.

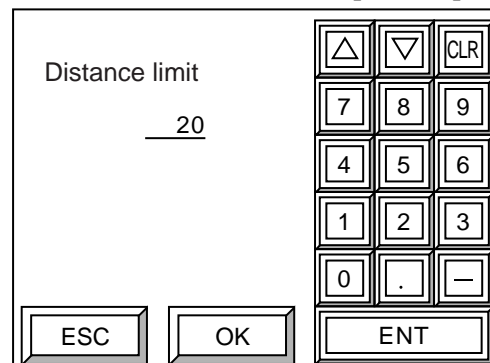


Fig. 5-11 The detection distance setting screen for the plate poor contact sensor

1. Enter the detection distance for the plate poor contact sensor and press **[ENT]**.

CAUTION!

Do not change the value unless instructed to do so by a service technician. Enter this value correctly. If an incorrect value is entered, plate displacement will not be detected accurately during high-speed drum rotation and this may result in damage to the PT-R.

2. When entry is complete, press **[OK]**. The plate ejecting direction selection screen appears.

2.6 Selection of Plate Eject Direction

When you connect an AT-M type bridge, you can select the ejecting direction (or set to external discharge) for each type of plate. There are three ejecting directions: left, right, and straight.

NOTE

When an AT-M type bridge is not connected the plate ejecting direction selection screen is not displayed.

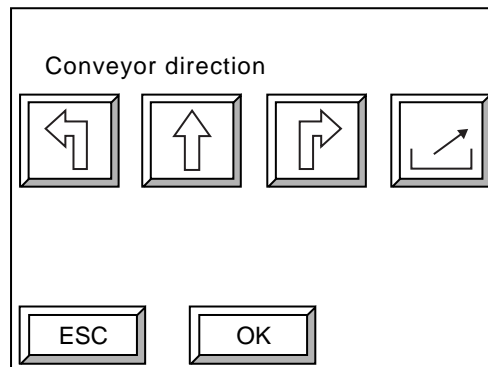


Fig. 5-12 Plate ejecting direction selection screen



When left is selected



When straight is selected



When right is selected



When external discharge is selected

When the AT-M type bridge is installed, it is set so that switching of the ejection direction can only be done for the direction the online processor or the stoker is connected.

If a direction is selected that the connected AT-M type bridge cannot switch to, an error will occur when a plate is ejected.

NOTE

- **The direction of the arrow in the icon on the screen is the ejecting direction as seen from the front of the PT-R.**
- **Please select the ejecting direction for all registered media types that will be used.**

1. Select the ejecting direction (or external discharge) and press **[OK]**. The laser power and drum rpm setting screen appears.

2.7 Setting the Laser Power Value and Drum Rpm Value

Set, for the plate, the laser power values and drum rpm values for each resolution.

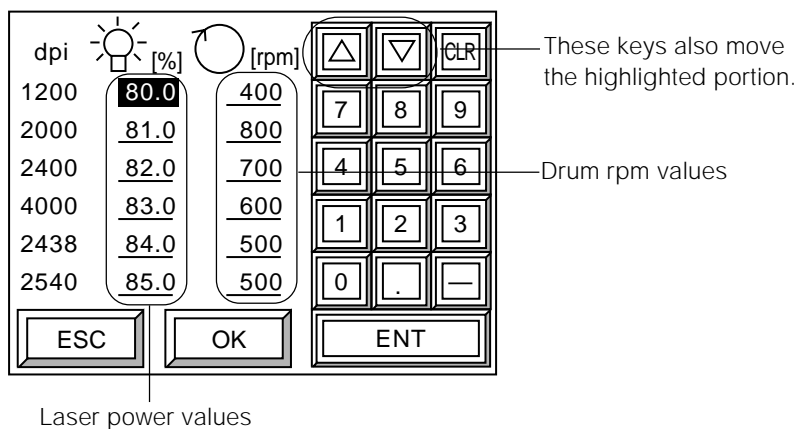


Fig. 5-13 Laser power and drum rpm setting screen

1. The highlight moves between the laser power values and drum rpm values each time you press **[ENT]**. Enter each value and press **[ENT]**.
2. When entry is complete, press **[OK]**.
The focus setting screen appears.

NOTE Perform a test exposure as explained to determine the optimum laser power values and drum rpm values, and enter these values as explained. For more details, refer to “9. Test Exposure.”

2.8 Setting the Focus Value

Set, for the plate, the focus value for each resolution.

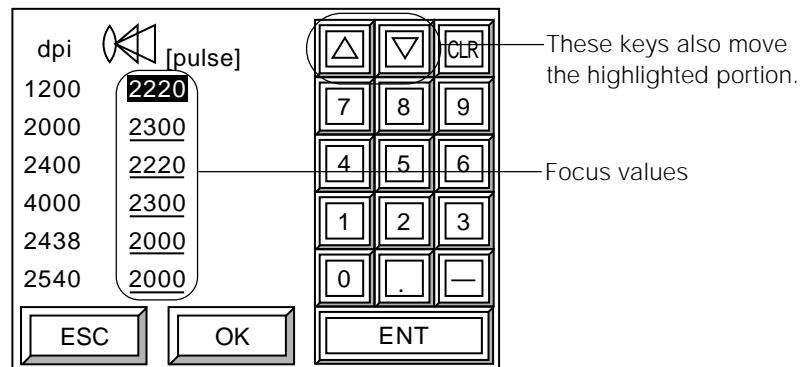


Fig. 5-14 Focus setting screen

1. The highlight moves each time you press **[ENT]**. Enter focus value and then press **[ENT]**.
2. When entry is complete, press **[OK]**.
The zoom value and absolute precision correction value setting screen appears.

- NOTE**
- To check the focus value settings or perform a text exposure to determine the optimum focus values, refer to "9. Test Exposure."
 - A focus value of 1 pulse corresponds to $1\mu\text{m}$. The larger the focus value, the closer the focus point moves toward the drum. For example, if the focus value of a plate with thickness = 0.24 mm is 2000, the focus value of a 0.30 mm plate will be approximately 1940 ($0.30 - 0.24 \text{ mm} = 60\mu\text{m}$, hence $2000 - 60 = 1940$).

2.9 Setting the Zoom Value and Absolute Precision Correction Value

For each resolution of the plate, set the zoom value and the absolute precision correction value for the primary scanning direction.

NOTE The absolute precision correction value is a correction of the length of the primary scanning direction. For example, if this value is initially 0 and an image is exposed that is 800 mm in the primary scanning direction, but the exposed image is actually 799 mm, entering a correction value of $(800 - 799)/800 \times 100 = 0.125(\%)$ will cause the correct length to be exposed.

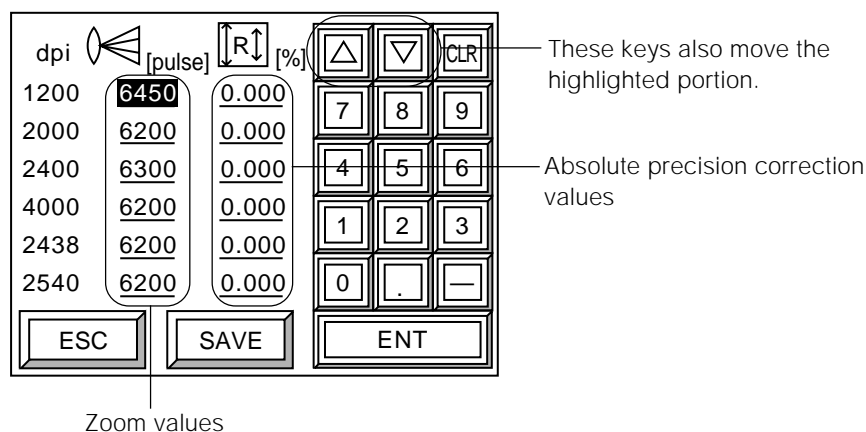


Fig. 5-15 Zoom value and absolute precision correction value setting screen

1. The highlight moves between the zoom values and the absolute precision correction values each time you press [ENT]. Enter each value and press [ENT].

NOTE To check the zoom value and absolute precision correction value settings, or perform a text exposure to determine the optimum zoom values and absolute precision correction values, refer to "9. Test Exposure."

2. When entry is complete, press [SAVE]. The save confirmation screen appears.

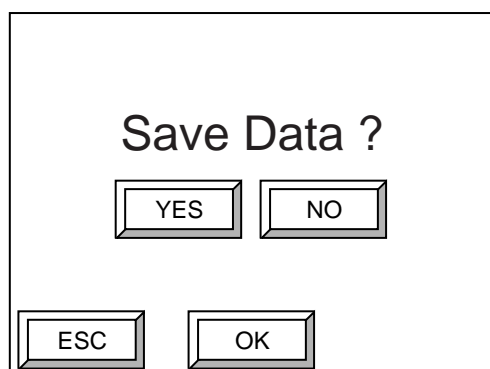


Fig. 5-16 Save confirmation screen

3. To save all of the set information as one Media Type 1, press [YES] and then [OK]. Data is saved and the screen returns to the media type selection screen. To not save, press [NO] and then [OK]. The screen returns to the media type selection screen.

3. Setting the Plate

The information for a maximum of 15 media types can be registered. The procedure for setting the information is as given in 3.1 to 3.3, below.

To save the data after you have completed the settings, press **[OK]** several times.

Display the plate size setting screen (Fig. 5-21) and press **[SAVE]**. When the save confirmation screen (Fig. 5-22) is displayed do step 4 in section 3.3.

3.1 Selecting the Media Type

Here, as an example, the setting of Plate 1 is explained.

1. Press **[Set plate]** and then **[OK]** in the offline screen.
The plate selection screen appears.

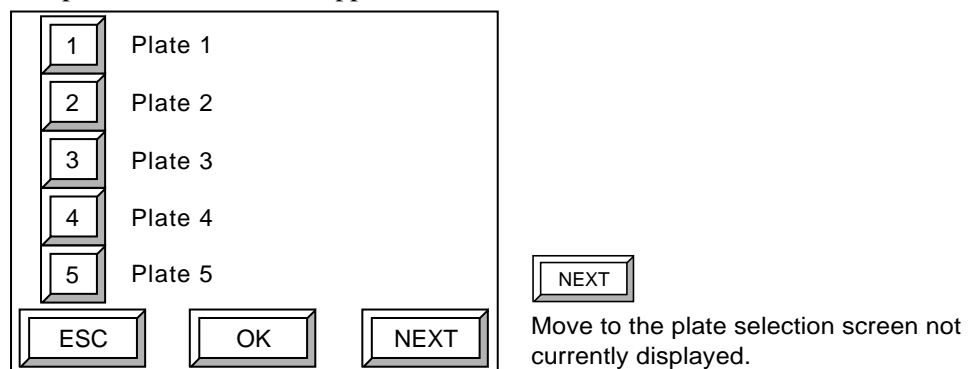


Fig. 5-17 Plate selection screen

2. Select **[1]** and then press **[OK]**.
The comment/media type setting screen will appear.

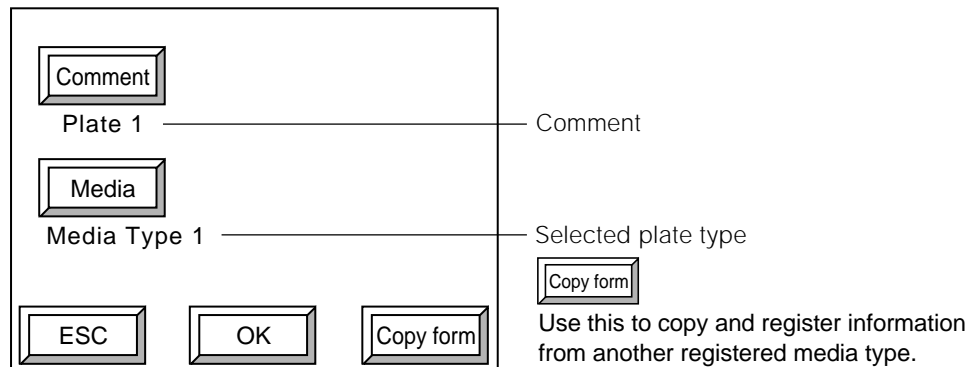


Fig. 5-18 Comment/media type setting screen

3. Press **[Media]**.
The media type selection screen appears.

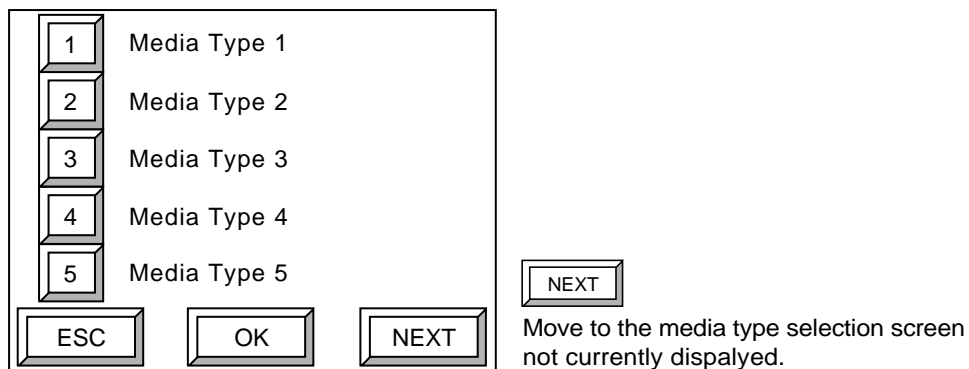


Fig. 5-19 Media type selection screen

NOTE For the procedure for registering media types, see “2. Setting the Media Type.”

4. Press **[OK]**. The plate size setting screen appears.

3.2 Entering Comments

Add a file name for registered data.

1. Press **[Comment]** in the comment/media type setting screen. The comment entry screen will appear.

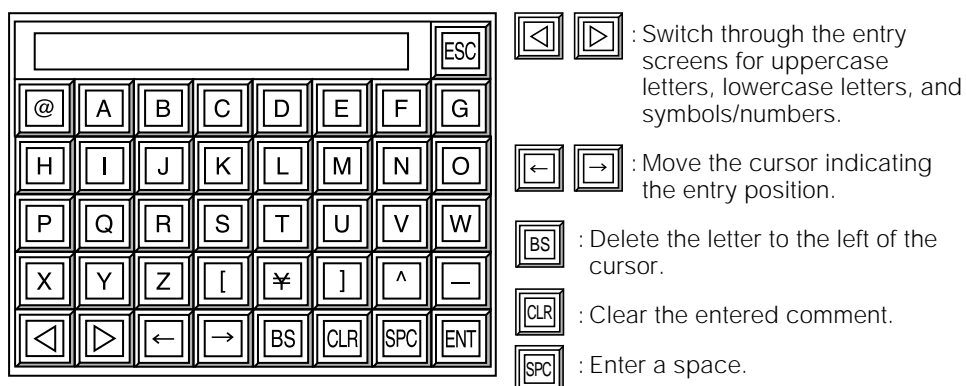


Fig. 5-20 Comment entry screen

2. Enter a comment and then press **[ENT]**. You will return to the comment/media type setting screen, and the entered comment will appear below **[Comment]**.

NOTE The comment entered here will appear in the screen that asks you to set a plate and the screen that asks you to select a plate to be set. We recommend that you enter the size name, size, and thickness (and the media type name when using multiple media types) as shown in the following example.

A4-8 page 650*550 0.24mm
A4-8 page 650*550 0.24mm LH-P1

3.3 Setting the Plate Size

Set the plate size. The size to be set is the total area including the print area and the leading and trailing grip settings.

NOTE The maximum plate size that can be set is 830 × 660 mm, and the minimum size is 324 × 370 mm.

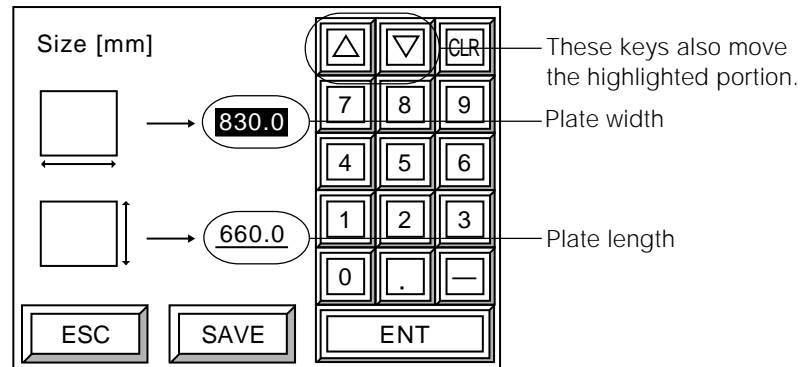


Fig. 5-21 Plate size setting screen

1. At the plate size setting screen, enter the plate width and then press **[ENT]**. The highlight will move to the plate length setting.
2. Enter the plate length and then press **[ENT]**.
3. When entry is complete, press **[SAVE]**. The save confirmation screen appears.

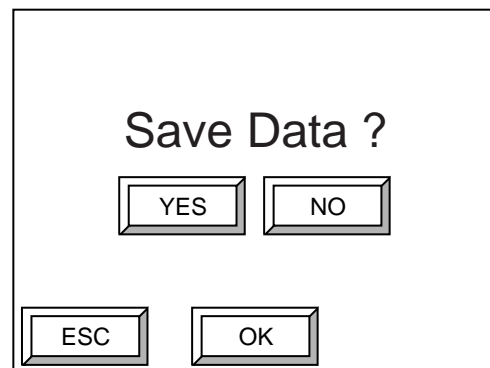


Fig. 5-22 Save confirmation screen

4. To save all of the entered information as Plate 1 data, press **[YES]** and then **[OK]**. Data is saved and screen returns to the plate selection screen.

To not save, press **[NO]** and then **[OK]**. The screen returns to the plate selection screen.

4. Setting the Printing Machine Information

Up to 15 sets of output conditions such as the media type, leading grip margin, trailing grip margin and image centering can be associated and saved as printing machine information. Up to 15 different printing machine information types can be registered. The procedure for registering printing machine information is given in 4.1 to 4.8, below. (Refer to the setting configuration in “1.3 Steps for Setting the Printing Machine Information.”)

To save the data after you have completed the settings, press **[OK]** several times. Display the image position fine adjustment screen (Fig. 5-34) and press **[SAVE]**. When the save confirmation screen is displayed (Fig. 5-35) do step 4 in section 4.8.

4.1 Selecting the Plate

Here, as an example, the setting of Printing machine 1 is explained.

1. Press **[Set printing machine]** and then press **[OK]** in the offline screen. The printing machine information setting screen appears.

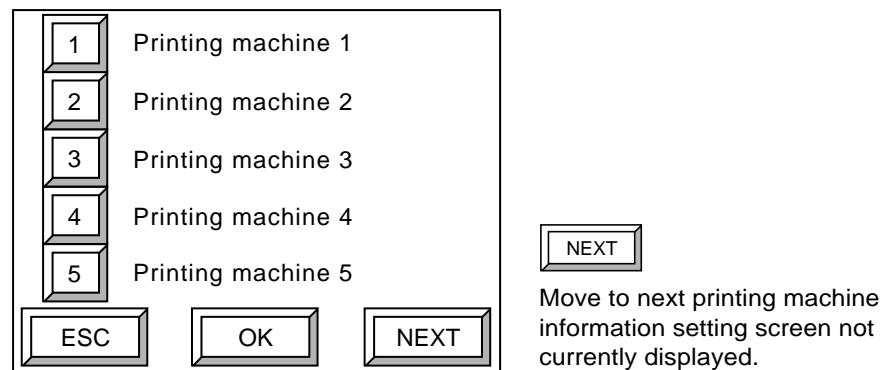


Fig. 5-23 Printing machine information setting screen

2. Select **[1]** and then press **[OK]**. The comment/plate setting screen appears.

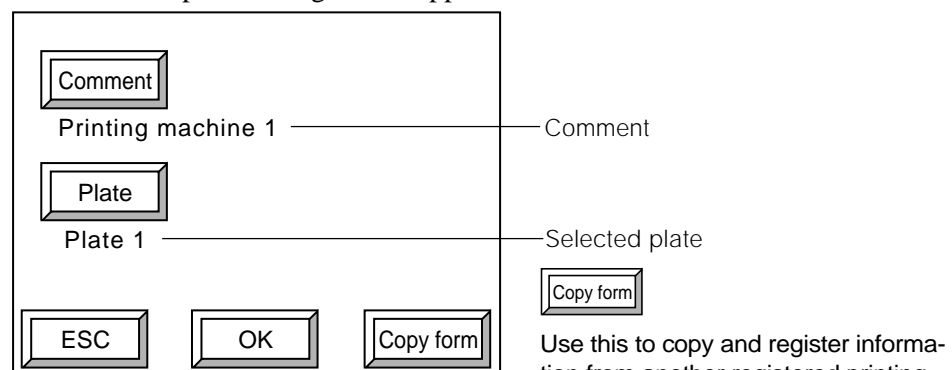


Fig. 5-24 Comment/plate setting screen

- Press **[Plate]** in the comment/plate setting screen.
The plate selection screen appears.

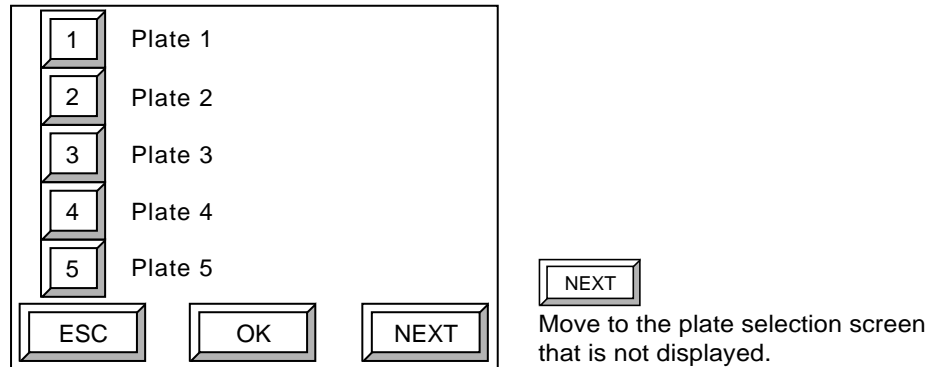


Fig. 5-25 Plate selection screen

[NOTE] For the procedure for registering plates, see “3. Setting the Plate.”

- Press **[OK]**. The grip direction setting screen appears.

4.2 Entering Comments

Add a file name for registered data.

- Press **[Comment]** in the comment/plate setting screen.
The comment entry screen appears.

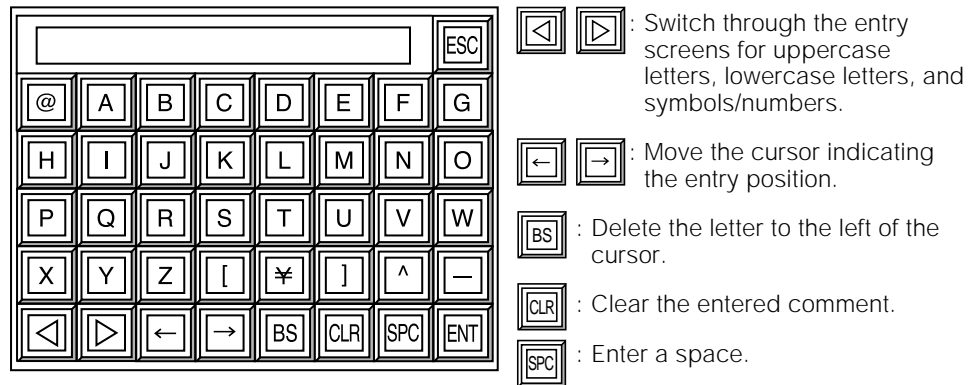


Fig. 5-26 Comment entry screen

- Enter a comment such as the name of the printing machine and press **[ENT]**. You will return to the comment/plate setting screen and the entered comment will appear below **[Comment]**.

4.3 Setting the Grip Direction

Set the direction of plate gripping.

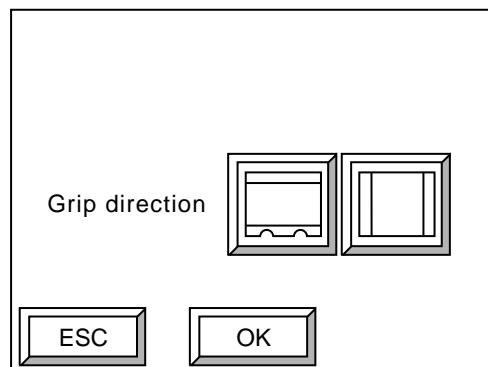


Fig. 5-27 Grip direction setting screen



: Select horizontal gripping (at the top and bottom) of the plate.

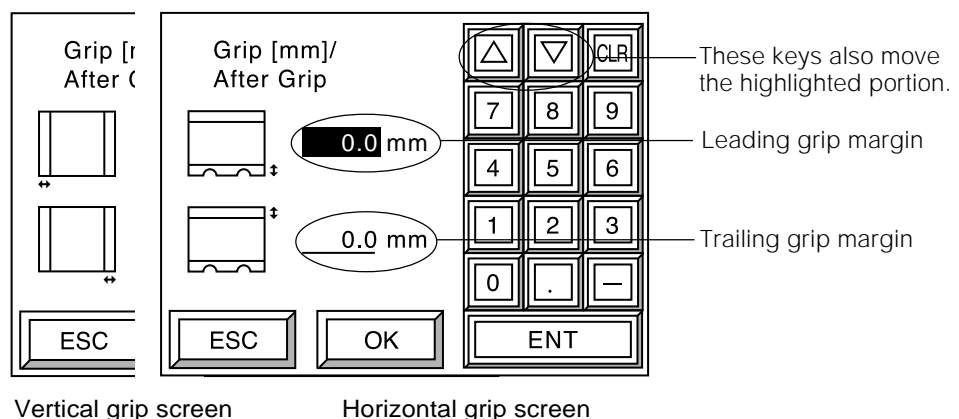


: Select vertical gripping (at each side) of the plate.

1. Select the grip direction and then press **[OK]**.
The leading and trailing grip setting screen appears.

4.4 Setting the Leading and Trailing Grip Margins

Set the leading and trailing grip margins (the length of the offset from the edges of the plate to the print area). The positions of the leading and trailing grip margins will differ depending on the grip direction setting explained in “4.3 Setting the Grip Direction.”



Vertical grip screen

Horizontal grip screen

Fig. 5-28 Leading and trailing grip setting screen

1. Enter the leading grip margin and then press **[ENT]**. The highlight will move to the trailing grip margin setting.
2. Enter the trailing grip margin and then press **[ENT]**.
3. When entry is complete, press **[OK]**.
The image centering setting screen appears.

4.5 Setting the Image Centering Method

The image centering function is used to center the image data in the center of the print area minus the leading and trailing grip margins. (The following screen illustration assumes that the grip direction has been set to horizontal gripping.)

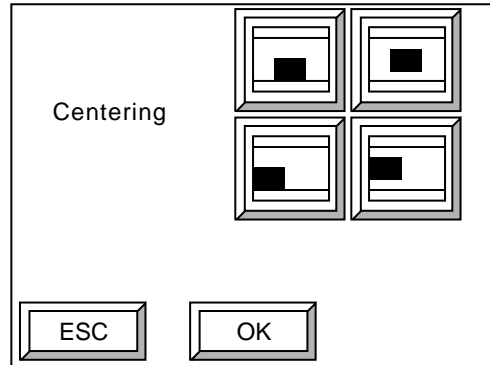


Fig. 5-29 Image centering setting screen

- | | |
|--|--|
| | Primary scanning direction (vertical): centering OFF
Secondary scanning direction (horizontal): centering ON |
| | Primary scanning direction (vertical): centering ON
Secondary scanning direction (horizontal): centering ON |
| | Primary scanning direction (vertical): centering OFF
Secondary scanning direction (horizontal): centering OFF |
| | Primary scanning direction (vertical): centering ON
Secondary scanning direction (horizontal): centering OFF |

1. Select the centering method and then press **[OK]**.
The image offset setting screen appears.

4.6 Setting the Image Offset

If centering in either or both of the scanning directions was set to OFF in the procedure described in “4.5 Setting the Image Centering Method” the offset value (the image output position on the plate) for the non-centered scanning direction can be adjusted. (The following explanation assumes that centering in both the primary and secondary scanning directions has been set to OFF.)

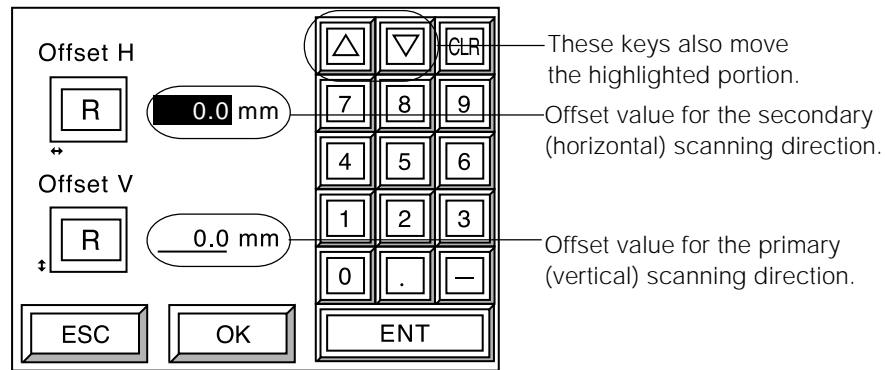


Fig. 5-30 Image offset setting screen

1. Enter the offset value for the secondary (horizontal) scanning direction and then press **[ENT]**. The highlight will move to the offset value setting for the primary (vertical) scanning direction.
2. Enter the offset value for the primary (vertical) scanning direction and then press **[ENT]**.
3. When entry is complete, press **[OK]**.
The punch setting screen appears.

NOTE If image centering is set to ON in the primary (vertical) scanning direction and OFF in the secondary (horizontal) scanning direction, an offset value can only be set for the secondary (horizontal) scanning direction. Likewise, if image centering is set to OFF in the primary (vertical) scanning direction and ON in the secondary (horizontal) scanning direction, an offset value can only be set for the primary (vertical) scanning direction. If image centering is set to ON in both scanning directions, the image offset setting screen will not appear.

The following diagrams show the relation of the image centering and offset value settings to the image output position.

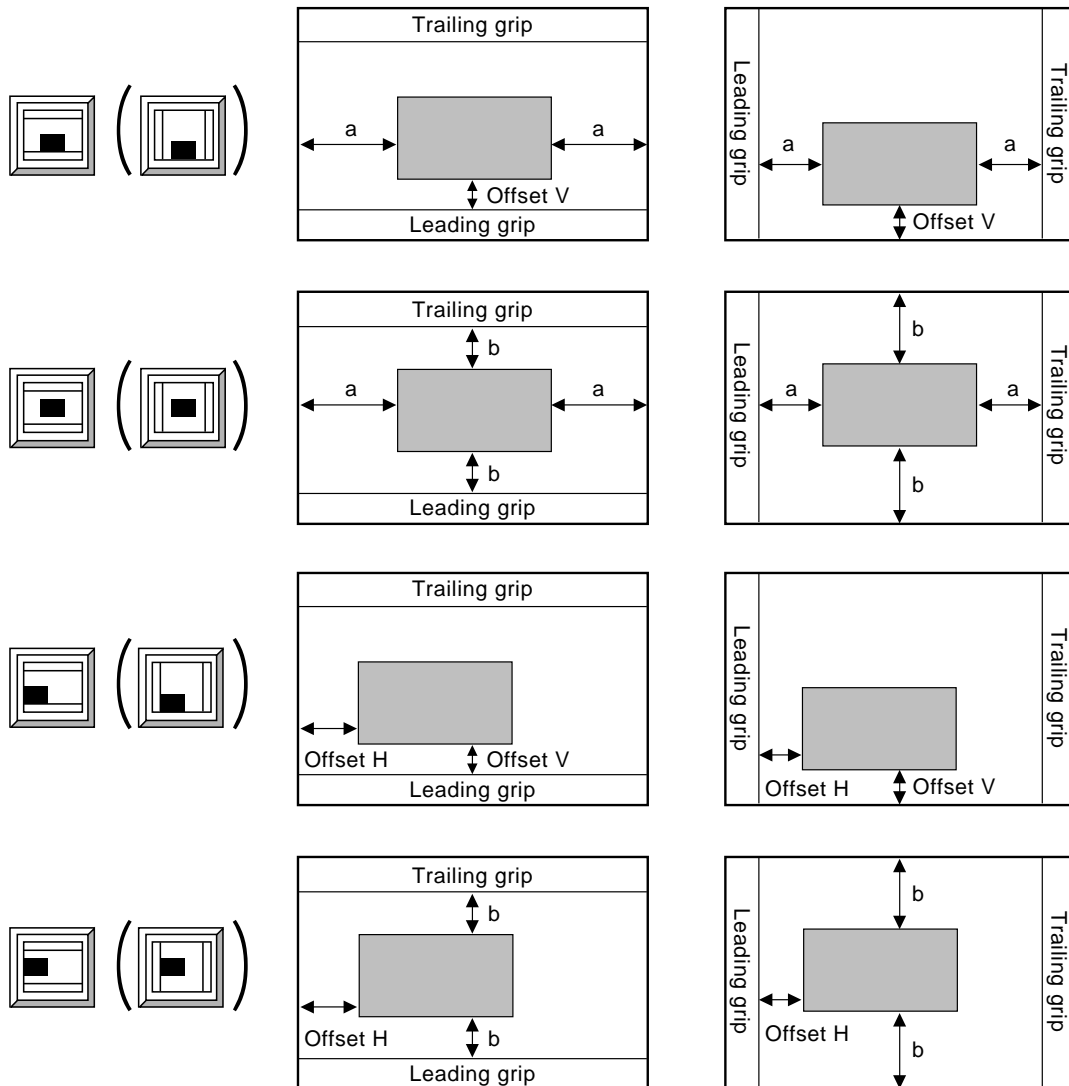
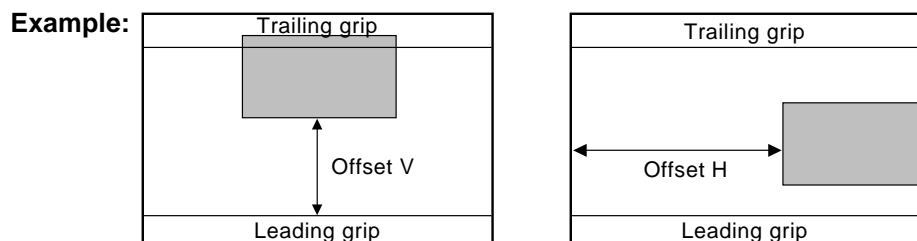


Fig. 5-31 Relation of image output positions

- NOTE**
- When an image is output from the host computer, an error will occur if the image is moved by an offset setting to the point that it extends beyond the plate size minus the leading and trailing grip settings.



- If multi-output has been selected in the exposure condition settings, the settings for image centering in the secondary scanning direction and image offset in the secondary scanning direction will be ignored.

4.7 Setting the Punch

Set the punch type and punch for drum positioning pins.

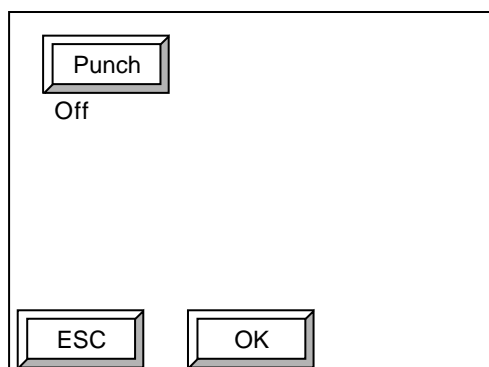


Fig. 5-32 Punch setting screen

1. Press **[Punch]**.
The punch selection screen appears.

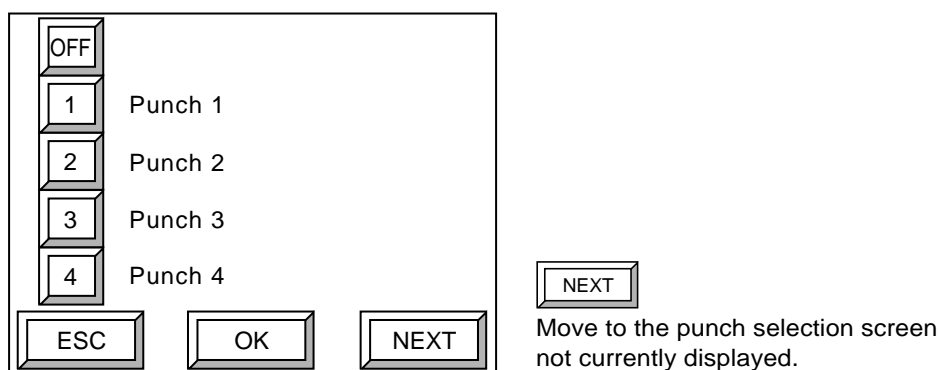


Fig. 5-33 Punch selection screen

[NOTE] If **[OFF]** is selected, the plate will not be punched.

2. Select the desired punch type from the registered punch types and then press **[OK]**.
The punch type will be linked to Printing machine 1, and you will return to the punch setting screen.

[NOTE] For the procedure for setting punch types, refer to “21. Setting the Punch Name.”

3. After punch selection is complete, press **[OK]**.
The image position fine adjustment screen appears.

4.8 Fine Adjustment of the Image Position

Perform fine adjustment (shifting the print area) of the image output position on the plate.

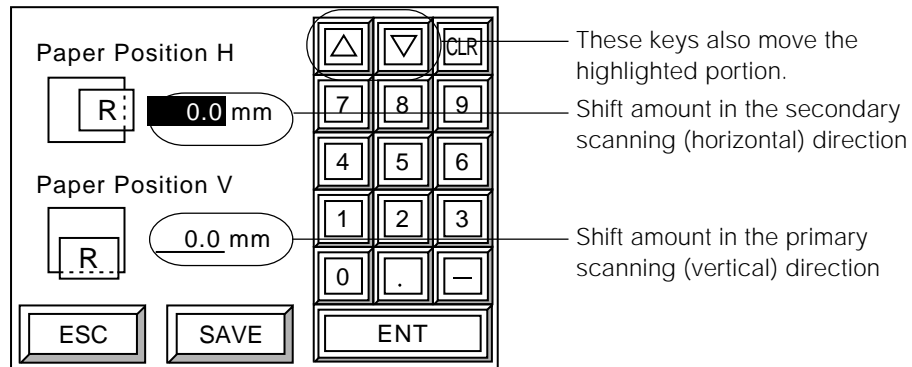


Fig. 5-34 Image position fine adjustment screen

1. Enter the desired shift in the secondary scanning (horizontal) direction and then press **[ENT]**. The highlight will move to the shift setting in the primary scanning direction.
2. Enter the desired shift amount in the primary scanning (vertical) direction and then press **[ENT]**.
3. After input is complete, press **[SAVE]**.
The save confirmation screen appears.

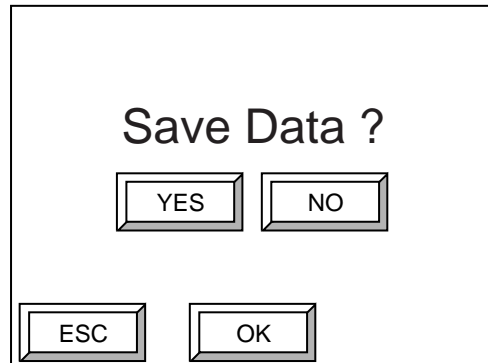


Fig. 5-35 Save confirmation screen

4. Press **[YES]** and then **[OK]** to save all the information you set as Printing machine 1 data. The data is saved and you are returned to the printing machine information setting screen.

If you want to cancel the save, press **[NO]** and then **[OK]**. You then return to the printing machine information setting screen.

CAUTION!

The PT-R printing machine settings enable adjustment of the image output position using such settings as the "Paper Position" setting. Also, there is a limit of 9 mm for settings that exceed the plate size. However, even if set up so as not to exceed the job size, slight computational error during RIP processing can increase the size (no more than several tenths of a millimeter).

In this case, even if the PT-R settings are correct, an error may occur that prevents printing. For this reason, take such computational error into consideration when setting PT-R parameters.

5. Setting the Exposure Conditions

Set the plate ejection method for output, and select mirror output, positive/negative output, and exposure conditions for the layout method.

1. Select **[Set exposure mode]** in the offline screen and press **[OK]**. The ejection method selection screen appears. (If an online processor is not connected, the exposure condition setting screen (Fig. 5-37) will appear instead of the ejection method selection screen.)

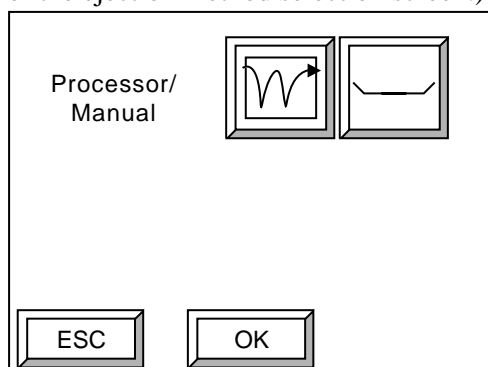


Fig. 5-36 Ejection method selection screen



: Eject an exposed plate from the rear outlet of the PT-R (if an online processor is connected, the plate will pass through the online processor).



: Eject an exposed plate to the PT-R's ejection table.

2. Select the ejection method and press **[OK]**. The exposure condition setting screen appears.

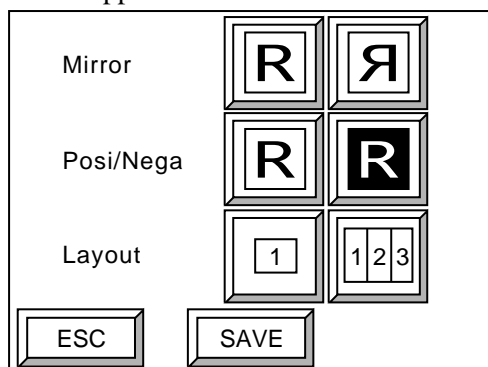


Fig. 5-37 Exposure condition setting screen

Mirror:



: Not mirror output



: Mirror output

Posi/Nega:






: Positive output



: Negative output

CAUTION!

- Do not perform mirror output. When exposure takes place in mirror output mode, spiral correction is reversed, producing a skewed image.
- Do not set negative output (exposure condition) for a positive plate. If a negative output setting (exposure condition) is used for output on a positive plate, exposure remnants may occur on the burn out edges. If negative output is necessary, use the RIP invert function.

NOTE Normally  is selected and the host computer outputs a positive image. The PT-R checks whether the media type is set to positive or negative and then adjusts exposure so that a positive image is output. If the image output from the host computer is a negative image, select  in the exposure condition setting screen. However, for positives, since exposure occurs at the burning out border when  is selected, please set the RIP for negatives.

Layout:



: Output a single image (output one image on one plate)



: Output multiple images (output several images on one plate)

CAUTION! Do not change the setting from multi output to single output with a plate loaded on the drum. If you change from multi output to single output with a plate loaded on the drum, multiple exposure may occur on the next output, or the plate may be ejected without being burned out. If a plate is loaded, eject the plate before changing the setting.

NOTE Normally single output is used. Use multi-output for the following situations:

- When you want to output the same image several times to one plate while changing exposure conditions such as the laser power each time after exposure is complete.
- When you want to output several images to one plate without using pagination.

CAUTION! Multi-output is for exposure and test printing for such purposes as dot gain adjustment. We do not recommend using a plate exposed using multi-output for actual, finished-work printing. Take careful note of the following when doing multi-output.

- Do not attempt to cancel output from the host computer by such means as pressing [STOP] or [CANCEL] on the PT-R operation panel. Doing so may cause faulty exposure.
- Do not set the next plate while an exposure is in progress.

3. Select the desired exposure condition and press **[SAVE]**.
The save confirmation screen appears.

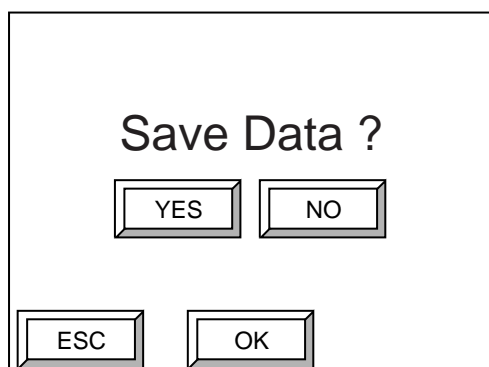


Fig. 5-38 Save confirmation screen.

4. Press **[YES]** and then **[OK]** to save all of the condition settings. The data is saved and you are returned to the offline screen.

If you want to cancel the data save, press **[NO]** and then **[OK]**. You then return to the offline screen.

Multi-output

If the length of the subsequent image to be exposed is longer in the feed direction than the remaining available exposure area (length) on the plate, the plate will be ejected.

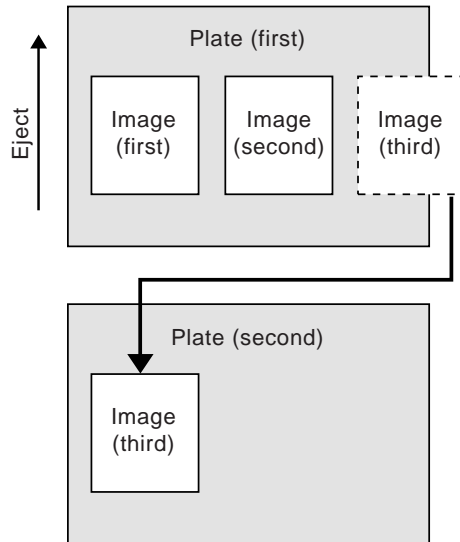


Fig. 5-39 Overview of multi-output

If centering in the secondary scanning direction is set to ON in the printing machine settings, exposure of the initial image will begin at a position 5 mm from the edge of the plate (or the leading grip). A 5 mm gap is automatically inserted between each image.

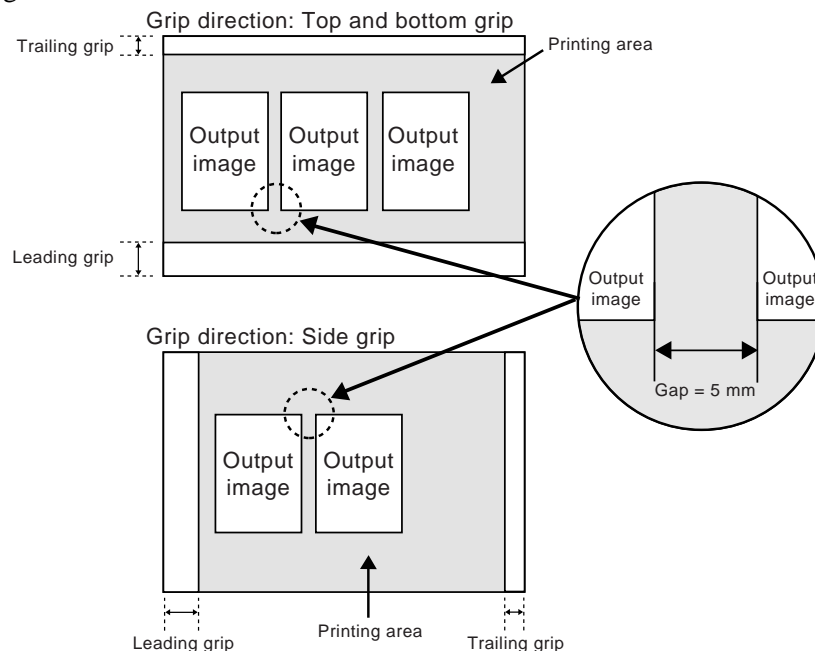



Fig. 5-40 Gaps between multi-output images

NOTE

When performing multi-output using a positive-type plate, the 5 mm gap before the first image, the 5 mm gap between images, and the gap from the edge of the last image to the edge of the plate will be burned out. The burn-out after the last image is executed before ejecting.

6. Manually Loading the Plates

When performing a test exposure, the plate must be manually loaded in the PT-R.

1. Select  in the user maintenance mode screen and press **[OK]**.
The operation door open screen appears.

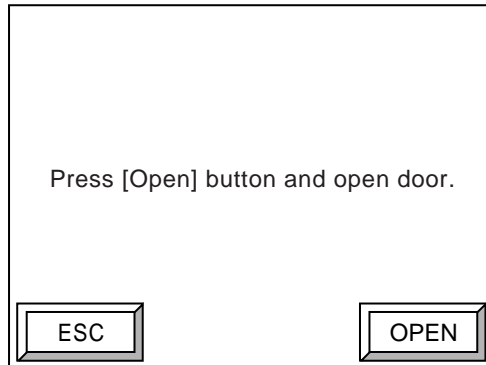


Fig. 5-41 Operation door open screen

2. Press **[OPEN]**.
After the operation door close screen appears, the lock is released and the operation door opens.

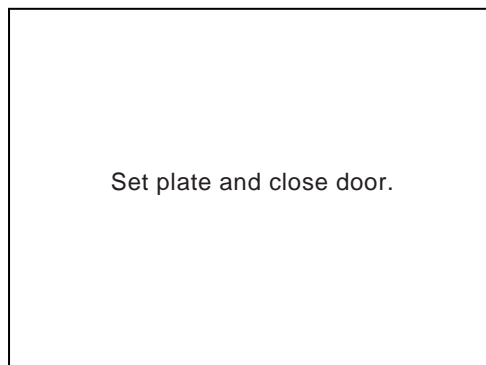


Fig. 5-42 Operation door close screen

3. Set the plate and close the operation door by hand until it locks.
The plate loading screen appears.

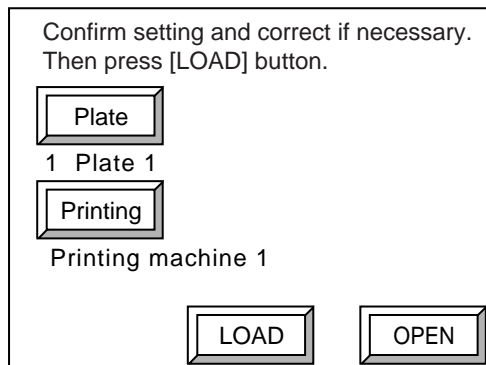


Fig. 5-43 Plate loading screen



Opens the operation door. Use this when a plate with the wrong size has been inserted.

4. Check the information shown in the screen and then press **[LOAD]**.

Plate loading begins. If necessary, press **[Plate]** or **[Printing]** to change the plate data or printing machine data.


NOTE To change the plate data or the printing machine data, the new data must already be registered. For more details, refer to “3. Setting the Plate” and “4. Setting the Printing Machine Information.”

When the plate is loaded, the PT-R automatically adjusts the drum balancer. When adjustment ends, the user maintenance mode screen automatically reappears.

7. Manually Ejecting the Plates

When a test exposure ends, execute manual unloading and eject the plate from the inside of the PT-R.

NOTE If a positive-type plate is exposed when multi-output is set, burn-out is executed and then the plate is ejected.

1. Select  in the user maintenance mode screen and then press **[OK]**. The unloading screen is displayed. When the plate is ejected, the lock automatically releases and the operation door opens.

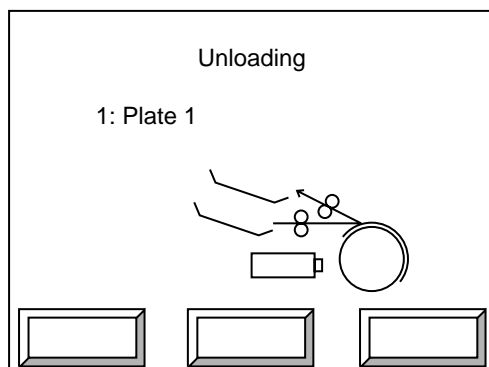



Fig. 5-44 Unloading screen

2. Remove the plate. Return to the user maintenance mode screen.

8. Ejecting the Plates


This function ejects through the online processor a plate loaded in the PT-R.

NOTE If a positive-type plate is exposed when multi-output is set, burn-out is executed and then the plate is ejected. For the procedures for using the online processor, refer to the operation manual for the online processor.

1. Select  in the user maintenance mode screen and then press **[OK]**. The plate will be ejected through the online processor. When ejecting is completed you will return to the user maintenance mode screen.

9. Test Exposure

NOTE For the test exposure, begin with a rough estimated initial value and large incremental value. Then examine the exposure conditions and make the minute adjustments of the values.

Perform test exposures to set values for the laser power, drum rpm, focus, and zoom suitable for the plate to be used for printing. Select  in the user maintenance mode screen and then press **[OK]**. The test exposure selection screen appears.

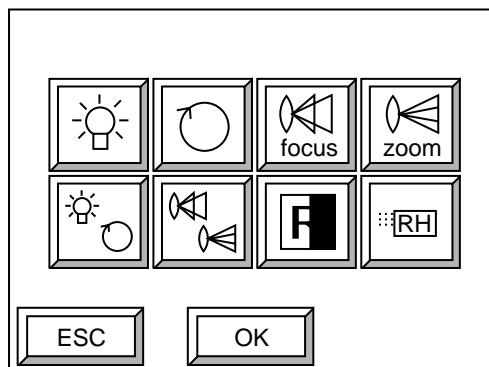










Fig. 5-45 Test exposure selection screen

-  : Perform a test exposure to adjust the laser power.
-  : Perform a test exposure to adjust the drum rpm.
-  : Perform a test exposure to adjust the focus.
-  : Perform a test exposure to adjust the zoom.
-  : Perform a exposure to simultaneously adjust the laser power and drum rpm.
-  : Perform a test exposure to simultaneously adjust the focus and zoom.
-  : Perform an exposure for the test pattern registered in the PT-R.
-  : Adjustment mode for service. Cannot be used here.

- NOTE**
- Be sure to load the plate manually before performing a test exposure. For more details, refer to “6. Manually Loading the Plates.”
 - The “Setting the printing machine information” and “Setting the exposure conditions” are ignored when a test exposure or test pattern exposure is performed. The start position for exposure in the primary scanning direction is approximately 25 mm from the bottom edge of the plate and the end position is approximately 25 mm from the top edge. Both positions are fixed. When a positive-type plate is exposed, burn-out is not performed.

9.1 Test Exposures for Adjusting the Laser Power, Drum Rpm, Focus, and Zoom

The procedure for performing test exposures for adjusting the laser power, drum rpm, focus value, and zoom value is explained here. The test exposure setting screen for laser power adjustment is used as an example.

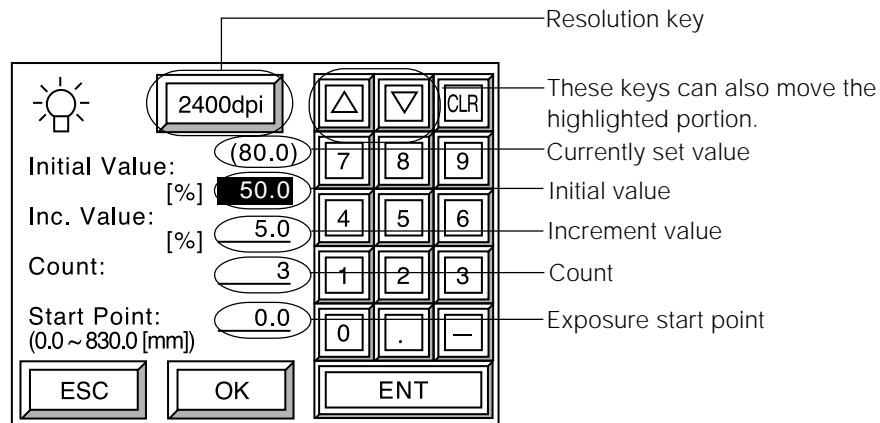


Fig. 5-46 Test exposure setting screen

- NOTE**
- In the above screen, the value in parentheses above the initial value shows the laser power value (or rpm, focus value, or zoom value) in the media type selected when the plate was loaded. Use it as a reference when performing the test exposure.
 - The initial value is the first laser power (or drum rpm, focus value, or zoom value) used in the test exposure.
 - The increment value indicates the amount of change from the initial value. For example, if the laser power increment value is set to 10%, output will take place at increments of 10% from the initial value.
 - The count is the number of times the test exposure is to be carried out. For example, if the initial value of laser power adjustment is 50%, the increment value is 10%, and the count is 5, exposure will take place five times beginning at 50% and incrementing by 10% to 60%, 70%, 80%, and 90%.
 - The exposure start point is the distance from the plate edge to the point where the test exposure begins. This value is updated (moved to the next possible exposure position) each time a test exposure ends.
1. Press the resolution key and select the resolution value. With each press of the key the setting changes as follows: 1200 dpi → 2000 dpi → 2400 dpi → 4000 dpi → 2438 dpi → 2540 dpi → 1200 dpi.
 2. Enter what you think is the best initial value and then press **[ENT]**. The highlight will move to the increment value setting.
 3. Enter the desired increment value and then press **[ENT]**. The highlight will move to the count setting.
 4. Enter the desired count and then press **[ENT]**. The highlight will move to the exposure start point setting.
 5. Enter the exposure start point and then press **[ENT]**.

- NOTE**
- When performing a test exposure, the settings for the media type registered in the data that is selected when the plate is loaded are used for settings other than the initial value, increment value, and count (in the case of a laser power test exposure, the drum rpm, focus value, and zoom value settings).
 - To set the initial value, increment value, count, and exposure start point, refer to “Table 5-1 Input ranges” and set the values paying attention to the following points:
 - The initial value must be equal to or more than the minimum limit.
 - [Initial value + increment × (count - 1)] must be equal to or less than the maximum limit.
 - [Test exposure start point + 35 × (count - 1)] must be equal to or less than the horizontal size of the plate.

6. When entry is complete, press **[OK]**.
The test exposure confirmation screen appears.

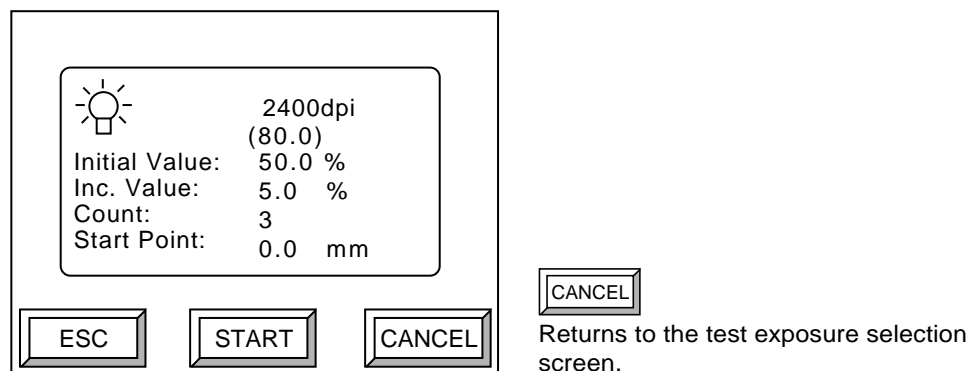


Fig. 5-47 Test exposure confirmation screen

7. Check the displayed information and then press **[START]**.

The test exposure begins using the set information. (The test exposure exposes over a 30 mm width and automatically inserts a 5 mm gap between exposures.)

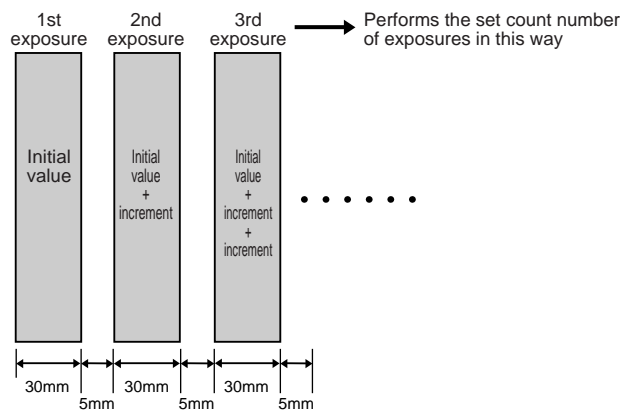


Fig. 5-48 How exposures are performed during a test exposure

When the test exposure is completed, the test exposure selection screen reappears.

- NOTE** For the test exposure, begin with a rough estimated initial value and large incremental value. Then examine the exposure conditions and make the minute adjustments of the values.

Table 5-1 Input ranges

	Laser power	Drum rpm	Focus	Zoom
Lower limit	30 %	600 min ⁻¹ (rpm)	101 pulse	201 pulse
Upper limit	100 %	1000 min ⁻¹ (rpm)	4000 pulse	9970 pulse

9.2 Test Exposure for Simultaneous Adjustment of Laser Power and Drum Rpm, or Focus and Zoom

The procedure for performing a test exposure for simultaneously adjust the laser power and drum rpm, or focus and zoom, is explained here.

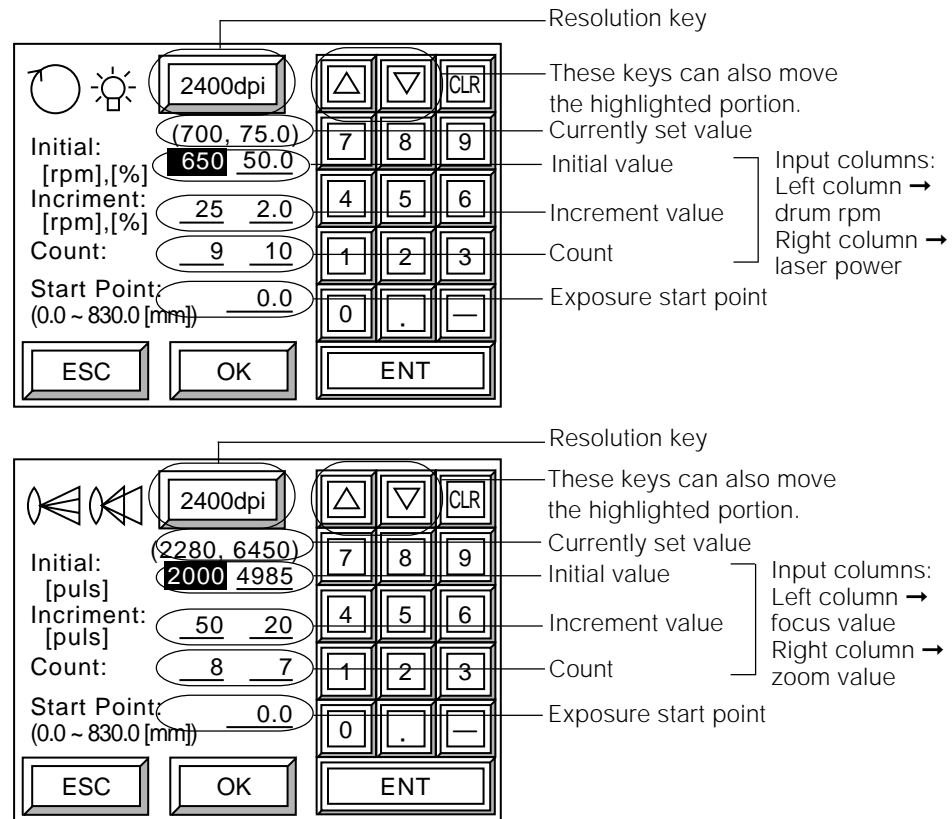


Fig. 5-49 Test exposure (simultaneous adjustment) setting screen

- NOTE**
- In the above screen, the values in parentheses above the initial values show the drum rpm, laser power, focus, and zoom values in the media type selected when the plate was loaded. Use it as a reference when performing the test exposure.
 - The initial value is the first laser power and drum rpm (or focus value and zoom) used in the test exposure.
 - The increment value indicates the amount of the change from the initial value. For example, if the laser power increment value is set to 10%, output will take place at increments of 10% from the initial value.
 - The count is the number of times the test exposure is to be carried out.
 - The exposure start point is the distance from the plate edge to the point where the test exposure begins. This value is updated (moved to the next possible exposure position) each time a test exposure ends.
1. Press the resolution key and select the resolution value. With each press of the key the setting changes as follows: 1200 dpi → 2000 dpi → 2400 dpi → 4000 dpi → 2438 dpi → 2540 dpi → 1200 dpi.
 2. Enter what you think is the best initial drum rpm (or focus value) and then press **[ENT]**. The highlight will move to the right initial value setting.

3. Enter the desired initial laser power (or zoom value) and then press **[ENT]**. The highlight will move to the left increment value setting.
4. Enter the desired increment value for the drum rpm (or focus value) and then press **[ENT]**. The highlight will move to the right increment value setting.
5. Enter the desired increment value for the laser power (or zoom value) and then press **[ENT]**. The highlight will move to the left count setting.
6. Enter the desired count for the drum rpm (or focus value) and then press **[ENT]**. The highlight will move to the right count setting.
7. Enter the desired count for the laser power (or zoom value) and then press **[ENT]**. The highlight will move to the exposure start point setting.

NOTE If the initial value for the laser power is 50%, the increment is 10%, and the count is 5, and the initial value for the drum rpm (min^{-1}) is 450, the increment is 50, and the count is 6, exposure will take place five times beginning at a laser power of 50% and incrementing by 10% to light intensities of 60%, 70%, 80%, and 90%, and then six times beginning at a drum rpm (min^{-1}) of 450 and incrementing by 50 to drum rpm (min^{-1}) of 500, 550, 600, 650, and 700.

8. Enter the exposure start point and then press **[ENT]**.

NOTE

- When performing a test exposure (simultaneous adjustment), the settings for the media type registered in the plate data that is selected when the plate is loaded are used for settings other than the initial value, increment value, and count (in the case of a laser power and drum rpm test exposure, the focus value and zoom value settings).
- To set the initial value, increment value, count, and exposure start point, refer to "Table 5-1 Input ranges", under "9.1 Test Exposures for Adjusting the Laser Power, Drum Rpm, Focus, and Zoom" and set the values while paying attention to the following points:
 - The initial value must be equal to or more than the minimum limit.
 - $[\text{Initial value} + \text{increment} \times (\text{count} - 1)]$ must be equal to or less than the maximum limit.
 - $[\text{Test exposure start point} + 35 \times (\text{horizontal count} - 1)]$ must be equal to or less than the horizontal size of the plate.
 - $[\text{Test exposure start point} + 100 \times (\text{vertical count} - 1)]$ must be equal to or less than $[\text{vertical size of plate} - 40 \text{ mm}]$.

9. When entry is complete, press **[OK]**.
The test exposure confirmation screen appears. (The confirmation screen for simultaneous adjustment of the laser power and drum rpm.)

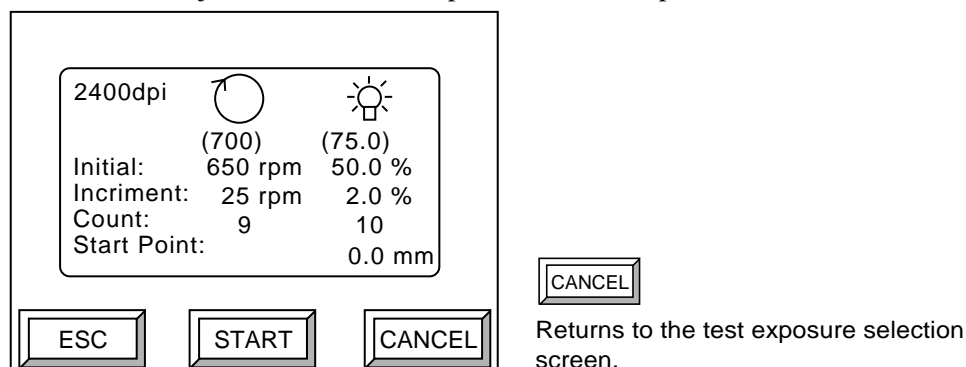
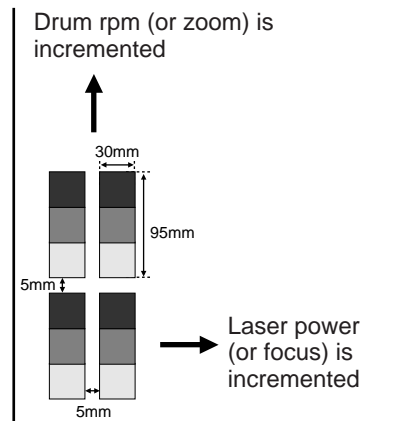





Fig. 5-50 Test exposure (simultaneous adjustment) confirmation screen

10. Check the displayed information and then press **[START]**.
The test exposure begins using the set information.
Test exposure for simultaneous adjustment exposes the patterns shown in the following diagram incrementing the laser power (or focus value) in the secondary scanning direction and the drum rpm (or zoom) in the primary scanning direction.



	Laser power Drum rpm	Focus Zoom (Negative plate)	Focus Zoom (Positive plate)
	Dot percentage = 97%	Dot percentage = 100%	Dot percentage = 0%
	Dot percentage = 50%	Dot percentage = 85%	Dot percentage = 85%
	Dot percentage = 3%	C1 pattern	C1 pattern

(Refer to Fig. 5-54 for the pattern images)

Fig. 5-51 Test exposure (simultaneous adjustment)

When the test exposure is completed, the test exposure selection screen reappears.

NOTE For the test exposure, begin with a rough estimated initial value and large incremental value. Then examine the exposure conditions and make the minute adjustments of the values.

9.3 Exposing a Test Pattern

Expose a test pattern registered in the PT-R.

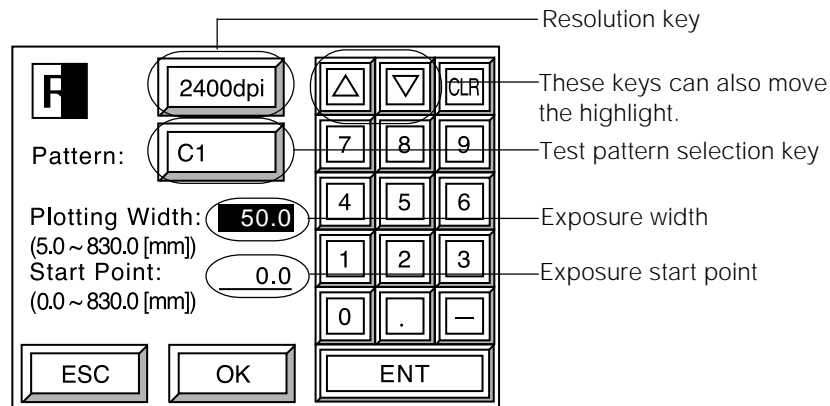


Fig. 5-52 Setting screen for test pattern exposure

1. Press the resolution key and select the resolution value. With each press of the key the setting changes as follows: 1200 dpi → 2000 dpi → 2400 dpi → 4000 dpi → 2438 dpi → 2540 dpi → 1200 dpi.
2. The test pattern changes each time the test pattern selection key is pressed. Press the key until the desired test pattern appears.

NOTE For the test patterns, refer to “Table 5-2 Test patterns.”

3. Enter the exposure width of the test pattern and then press **[ENT]**. The highlight will move to the exposure start point.
4. Enter the exposure start point and then press **[ENT]**.

NOTE The exposure start point is the distance from the plate edge where the test exposure begins. This value is updated (moved to the next possible exposure position) each time a test exposure ends.

5. When entry is complete, press **[OK]**. The confirmation screen for test pattern exposure appears.

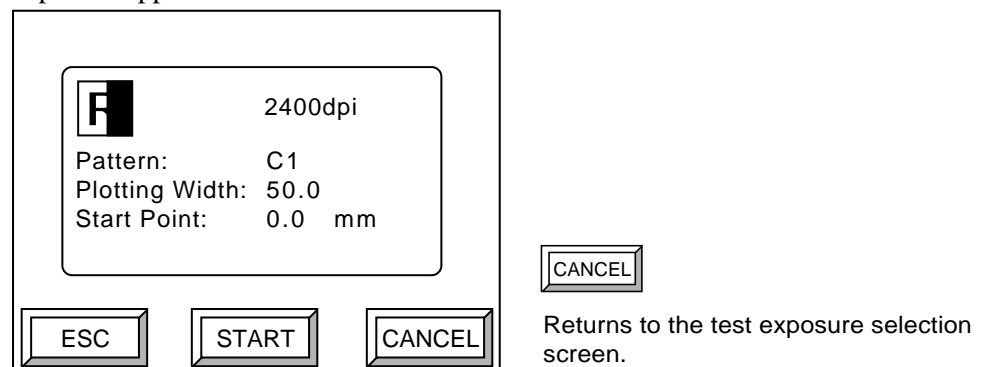


Fig. 5-53 Confirmation screen for test pattern exposure

6. Check the information shown and then press **[START]**. The test pattern exposure will begin using the set information. When the test exposure is completed, the test exposure selection screen reappears.

Table. 5-2 Test patterns

Pattern name	Dot %	Dot angle	Line number / pitch	Remarks
Dot 0%	0%	0°	4000 dpi: 250 lines/inch	Pseudo dots (refer to Fig. 5-54)
Dot 3%	3%		2400 dpi: 150 lines/inch	
Dot 5%	5%		2000 dpi: 125 lines/inch	
Dot 10%	10%		1200 dpi: 75 lines/inch	
Dot 15%	15%		2540 dpi: 159 lines/inch	
Dot 50%	50%		2438 dpi: 152 lines/inch	
Dot 85%	85%			
Dot 90%	90%			
Dot 95%	95%			
Dot 97%	97%			
Dot 100%	100%			
Grid			4000 dpi: 1.63 × 1.52 mm 2400 dpi: 2.71 × 2.54 mm 2000 dpi: 3.25 × 3.05 mm 1200 dpi: 5.42 × 5.08 mm 2540 dpi: 2.56 × 2.40 mm 2438 dpi: 2.67 × 2.50 mm	Grid pattern (refer to Fig. 5-54)
Hor L&S 1			Horizontal direction: 1 line - 1 space	Lines and spaces (refer to Fig. 5-54)
Hor L&S 2			Horizontal direction: 2 lines - 2 spaces	
Ver L&S 1			Vertical direction: 1 line - 1 space	
Ver L&S 2			Vertical direction: 2 lines - 2 spaces	
C1	Continuous exposure of C1 pattern (refer to Fig. 5-54)			

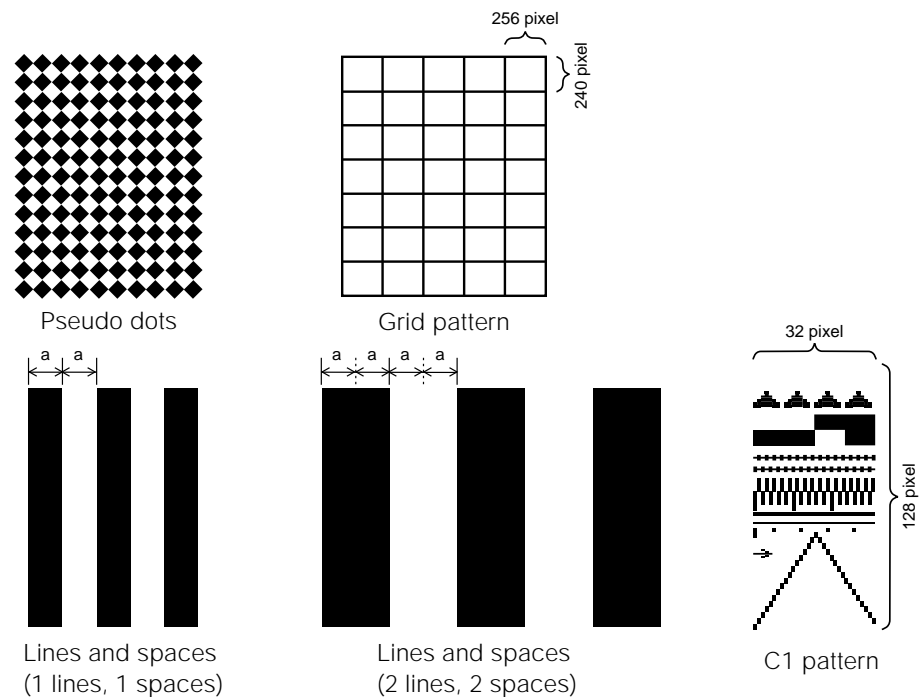


Fig. 5-54 Pattern images

10. Setting the Date and Time

Set the date and time.

1. Select **[Set Date/Time]** in the user setting selection screen and then press **[OK]**. The date and time setting screen appears.

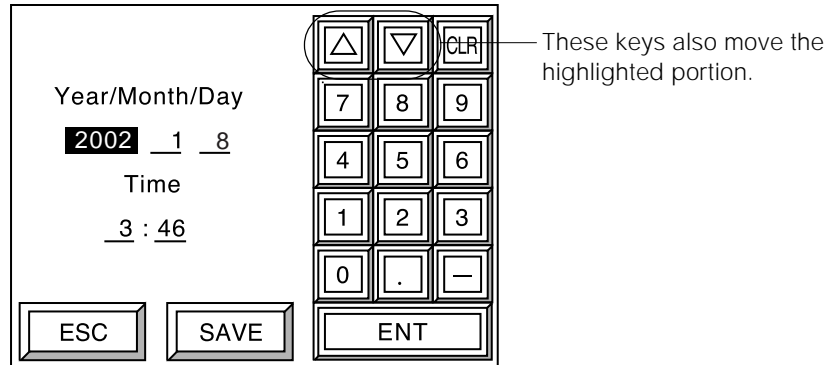


Fig. 5-55 Date and time setting screen

2. With each press of **[ENT]** the highlighted display moves as follows: Year → Month → Day → Hour → Minute → Year. Enter the respective values and press **[ENT]**.
3. After input is complete, press **[SAVE]**. The save confirmation screen appears.

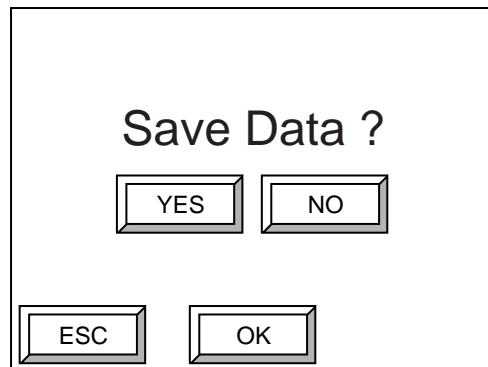


Fig. 5-56 Save confirmation screen

4. Press **[YES]** and then **[OK]** to save the date and time setting. The data is saved and you then return to the user setting selection screen.

If you want to cancel the save, press **[NO]** and then **[OK]**. You then return to the user setting selection screen.

[NOTE] Image output will not be affected if the date and time setting is wrong.

11. Cleaning the Punch Interior

Activate idle punching to clean the inside of the punching machine.

1. Select [**Punch for cleaning**] in the user setting selection screen and press [**OK**]. The punch for cleaning screen appears.

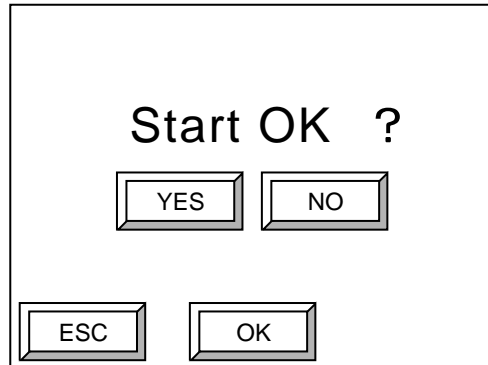


Fig. 5-57 Punch for cleaning screen

2. Press [**YES**] and then [**OK**] to activate idle punching. Idle punching is activated and you are then returned to the user setting selection screen.

When you do not want to perform idle punching press [**NO**] and then [**OK**]. You are returned to the user setting selection screen.

12. Checking the Running Time and Setting the Consumable Timers

View the running time of the PT-R and the number of exposures performed, and set the consumable timer for replacement of consumables.

1. Select **[Consumable Timer]** in the user setting selection screen and then press **[OK]**. The consumable timer setting screen (1) appears.

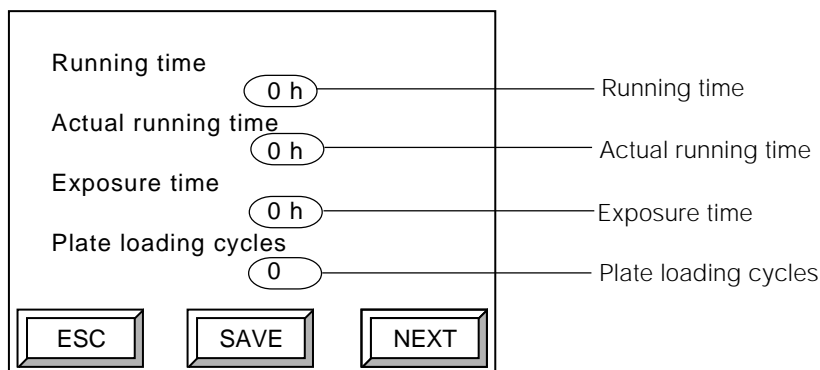


Fig. 5-58 Consumable timer setting screen (1)

- Running time The total time the power has been on.
- Actual running time The time the PT-R has actually been in operation (loading and unloading plates and exposing).
- Exposure time The amount of time exposure has been performed.
- Plate loading cycles The number of times plates have been loaded.

2. When the following screen appears, press **[NEXT]**.

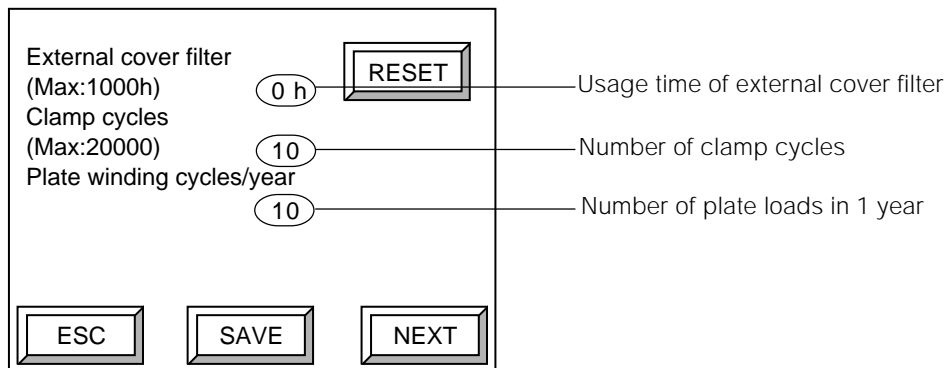


Fig. 5-59 Consumable timer setting screen (2)

- External cover filter When the running time reaches the maximum time (1000 hours), a message appears telling you to replace the external cover filter. After replacing the external cover filter, press **[RESET]** to reset the usage time to “0 h.”
- Clamp cycles After replacing the clamp the number of plate loads is displayed.
- Plate winding cycles/year .. This counter counts the number of times plates are loaded per year.

3. When the following screen appears, press **[NEXT]**.

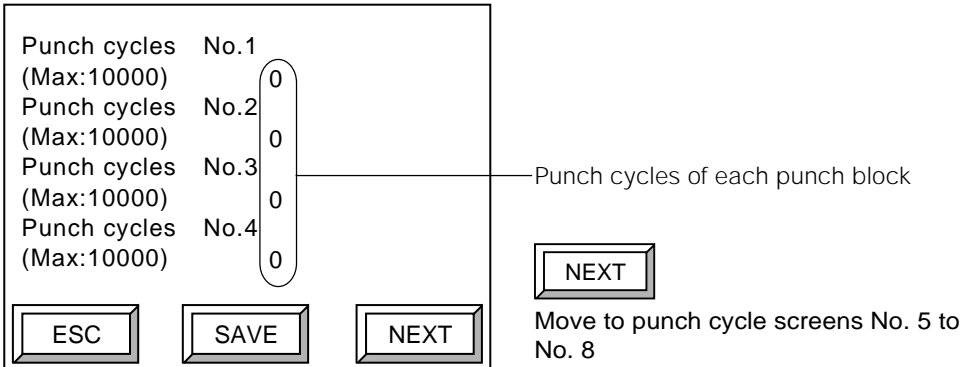


Fig. 5-60 Consumable timer setting screen (3)

Punch cycles The number of punches performed is displayed for each punch block

Press **[NEXT]** again and the screen will change to the consumable timer setting screen (1).

Press **[SAVE]** on any screen and the save confirmation screen appears.



Fig. 5-61 Save confirmation screen

4. To save the consumable timer information, press **[YES]** and then **[OK]**. The data is saved and you are returned to the user setting selection screen.

If you do not wish to save the consumable timer information, press **[NO]** and then **[OK]**. You are returned to the user setting selection screen.

13. Selecting the Display Language

You can change the language used in the display.

1. Press **[Language]** and then **[OK]** in the user setting selection screen. The display language selection screen appears.

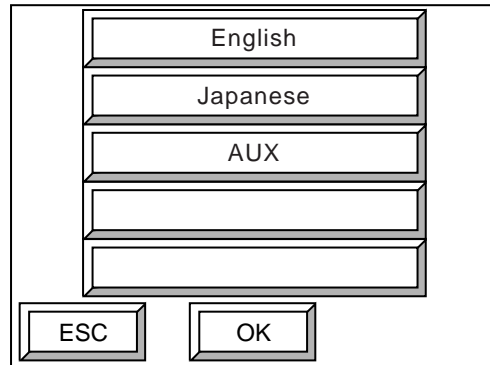
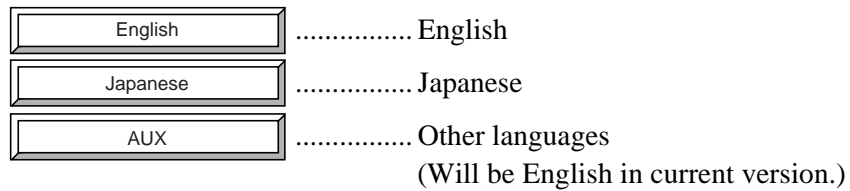


Fig. 5-62 Display language selection screen



2. Select the language you wish to display and then press **[OK]**. You then return to the user setting selection screen.

14. Laser Power Measurement

With this function, you can check if the PT-R is properly calibrated at a specific laser power.

1. Select [**Laser power measure**] in the user setting selection screen and press [**OK**]. The resolution selection screen appears.

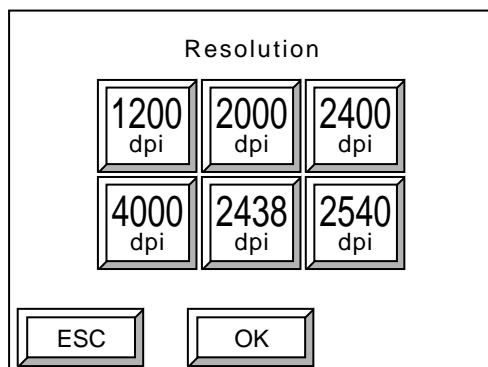


Fig. 5-63 Resolution selection screen

2. Press the button for the desired measurement resolution and press [**OK**]. The measurement start confirmation screen appears.



Fig. 5-64 Measurement start confirmation screen

3. Select [**YES**] and press [**OK**]. The laser power measurement begins.

The measurement will finish after approx. 60 seconds and then the measurement results screen for channels 0 to 31 will be displayed.

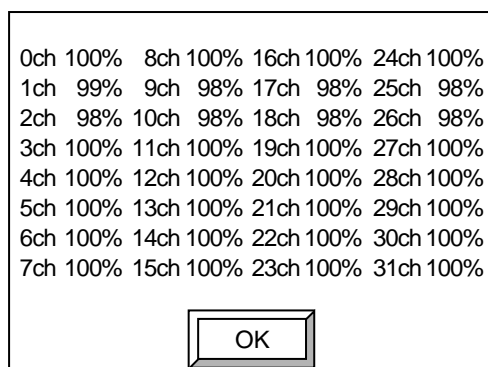


Fig. 5-65 Measurement results screen

This screen shows you the laser power percentage for a specific laser power for each channel. If the laser power percentage for each channel is between 95% and 105%, then there is no problem with exposure quality.

NOTE If there is a channel at 94% or below, or a channel at 106% or above, then perform laser calibration. For more details, refer to “15. Laser Calibration.”

4. Press **[OK]**. Return to the user setting selection screen.

15. Laser Calibration

Calibrate the laser head for each resolution.

1. Select **[Laser calibration]** in the user setting selection screen and then press **[OK]**. The resolution selection screen appears.

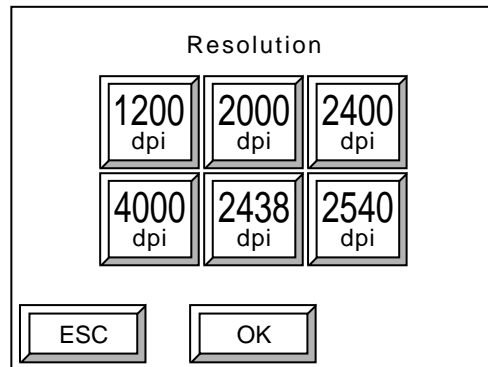


Fig. 5-66 Resolution selection screen

2. Press the button for the desired calibration resolution and then press **[OK]**. The channel selection screen appears.

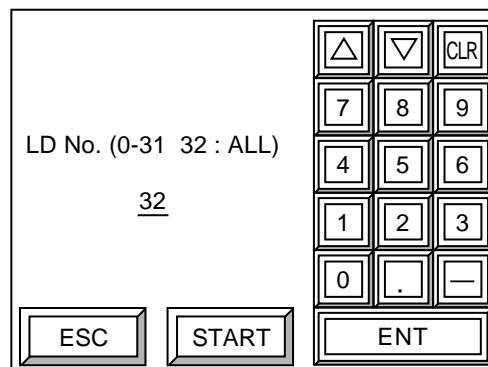


Fig. 5-67 Channel selection screen

3. Enter the channels you wish to calibrate (normally you will want to enter 32 to calibrate all channels) and then press **[ENT]**.
4. After input is complete, press **[START]**.

Calibration is begun and the calibration screen appears.



Fig. 5-68 Calibration screen

NOTE Calibration of one channel takes approximately 20 seconds, and calibration of all channels takes approximately two minutes.

When calibration ends, the user setting selection screen reappears.

16. Canceling Calibration

On rare occasions the exposure quality may be worse after calibrating from the user setting screen or by automatic calibration than it was before calibration. In this case, cancel the effect of calibration and restore the laser to its previously calibrated state.

1. Select **[Cancel calibration]** in the user setting selection screen and then press **[OK]**. The resolution selection screen appears.

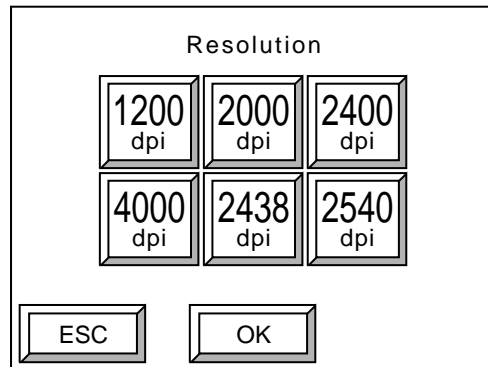


Fig. 5-69 Resolution selection screen

2. Press the resolution button for which you want to cancel calibration and then press **[OK]**.
The calibration cancel selection screen appears.

The dates and calibration states of the last five calibrations are displayed. For information on display of the calibration state, refer to “17. Calibration Information”.

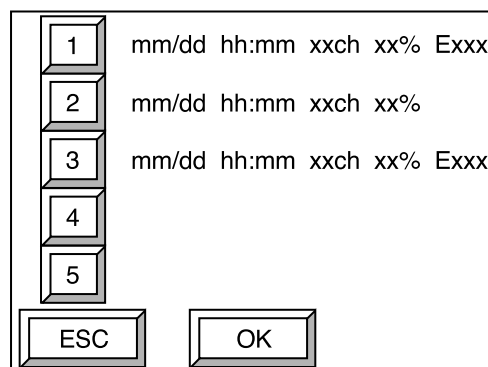


Fig. 5-70 Calibration cancel selection screen

3. Select the number of the calibration you want to restore and press **[OK]**. The calibration cancel confirmation screen appears.

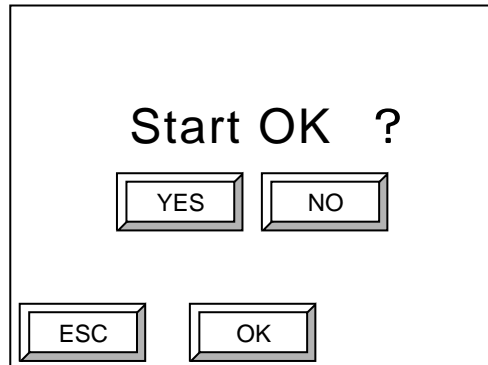


Fig. 5-71 Calibration cancel confirmation screen

4. Press **[YES]** and then press **[OK]** to return to the past calibration state that you selected. You will be returned to the user setting selection screen.

Press **[NO]** and then press **[OK]** if you do not wish to return to the past calibration state. You will be returned to the user setting selection screen.

17. Calibration Information

This displays the calibration state of the laser head.

1. Select [**Calibration information**] in the user setting selection screen and press [**OK**]. The calibration information screen appears.

Calibration period:		xx h		
Time to next calibration:		xx h		
Reso.	Channel	Pow.	Cal.	Warning
1200	xxch	xxx%	xx	Exxxx
2000	xxch	xxx%	xx	Exxxx
2400	xxch	xxx%	xx	Exxxx
4000	xxch	xxx%	xx	Exxxx
2438	xxch	xxx%	xx	Exxxx
2540	xxch	xxx%	xx	Exxxx

ESC

Fig. 5-72 Calibration information screen

Calibration period: Automatic calibration is performed each time the indicated number of exposure hours elapses.
(Normally 10 hours.)

Time to next calibration: This shows the exposure time remaining until the next automatic calibration.

The following information is displayed for each resolution.

Channels used

32ch This indicates that the laser is calibrated to expose using the laser diodes of all 32 channels.

0 to 15ch A number of laser diodes in channels 16 to 31 cannot be calibrated to the set laser power, thus the laser head is calibrated for exposure using channels 0 to 15.

16 to 31ch A number of laser diodes in channels 0 to 15 cannot be calibrated to the set laser power, thus the laser head is calibrated for exposure using channels 16 to 31.

Pow. This indicates the percent of the set laser power to which the laser head has been calibrated. Normally this is 100%. A value less than 100% means that some channels cannot be calibrated to the set laser power and thus calibration is performed with a reduced laser power so that exposure takes place at a laser power higher than the laser power set for the plate type (this does not affect exposure quality). If the value displayed is “????,” calibration did not take place normally (thus exposure quality will be adversely affected).

Cal. When the exposure time indicated in “Calibration period:” elapses and calibration is required, “req.” will appear until calibration is performed. After calibration is performed, “done” will appear.

Warning This displays the code of warnings or errors that occurred during calibration. Nothing will appear if calibration was completed normally.

NOTE It is normal when “32ch” appears for the channels used, “100%” appears for the laser power, and nothing appears under “Warning.” If this does not appear, please contact a Dainippon Screen sales office or agent.

Automatic calibration

To maintain excellent exposure quality, the laser is automatically calibrated after every 10 hours of exposure. This automatic calibration is performed, as necessary, before exposure begins after reception of an exposure instruction from the host computer. Calibration is completed in one or two minutes, after which exposure begins. The online screen appears as follows during calibration.

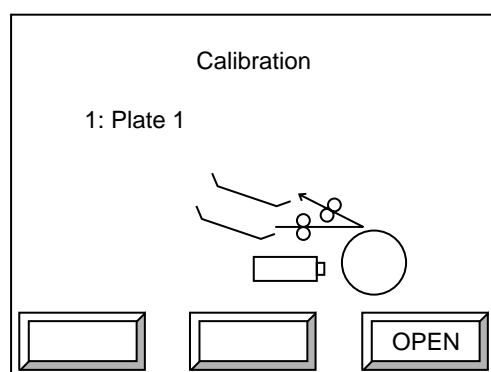


Fig. 5-73 Online screen (during calibration)

NOTE The automatic calibration interval of ten hours approximately equals 315 plates when 650 × 550 mm plates are exposed at 2400 dpi.

How calibration is performed

Calibration in the user setting screen and automatic calibration is performed as follows:

1. All channels (32 channels) are calibrated to the set laser power. When calibration to the set laser power is completed, the system checks to see if any channels are nearing life-over. If not, calibration ends. If there are channels nearing life-over, the following warning will appear:

Ex816: Some LD is nearing the end of its usable life. Contact our office or agency and ask to replace them.

Calibration ends when the warning message screen is closed.

2. If there are any channels that do not calibrate to the set laser power, the system checks to see if all plates of printing machine settings No. 1 through 15 can be exposed at the laser power of the channel having the least laser power. If so, calibration is performed once again to the laser power of the least power channel. In this case, the following warning will appear:

Ex819: Some LD cannot be calibrated to target power. Contact our office or agency and ask to replace them.

Calibration ends when the warning message screen is closed.

3. If calibration is not possible using step 2, the system checks to see if either channels 0 to 15 or channels 16 to 31 meet the condition of step 2. If so, recalibration takes place at the laser power of the least power channel, and either channels 0 through 15 or channels 16 through 31 are set to expose. In this case, the following warning will appear:

**Ex81A: Some LD cannot be calibrated to target power.
Contact our office or agency and ask to replace them.**

When the laser is calibrated in this way, the exposure time will double because only 16 of the 32 channels are used.

Even if one of messages 1 to 3 appears, image quality will not be affected. However, because there is a channel nearing life-over, please contact a Dainippon Screen sales office or agent to have the laser diode replaced.

If calibration is not possible even with method 3, the following error message will appear:

**Exxxx: Some LD cannot be calibrated to target power.
Contact our office or agency and ask to replace them.**

If this error occurs, exposure can be performed after the error is cleared; however, the image quality may be affected (unevenness, etc.). Please contact a Dainippon Screen sales office or agent to have the laser diode replaced.

Measuring the laser power

The PT-R measures the laser power at the first exposure after startup and each time 24 plates have been exposed. "Measurement" is displayed in the online screen during measurement.

Calibration is automatically performed when the result of a measurement shows that one of the lasers has deviated from the standard laser power. A message like the following will be displayed to inform you that, even though calibration was correctly performed, some of the plates in the previous batch of 24 may have been exposed with the incorrect laser power.

EX82A: Since the light intensity of laser diodes is detected as having deviated more than 5% from the specified value, the equipment executes the calibration.

If a warning message is displayed during automatic calibration

If a warning message is displayed as a result of automatic calibration, the flashing message "LD intensity corrected before plate No. xxx" will later be displayed below the plate display in the online screen.

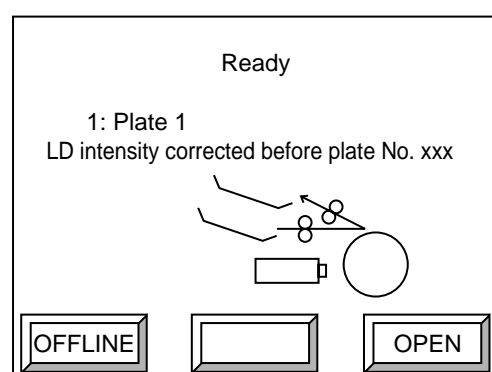


Fig. 5-74 Online screen (warning message)

“XXX” starts from 0 and counts up with each plate load. This display takes precedence over the displays “The next is the same plate.” and “Please wait.” and does not disappear when the power is turned off. It will disappear when calibration is performed.

For more details, refer to “15. Laser Calibration.”

If “LD intensity corrected before plate No. xxx” is displayed

1. At the error log outline screen check to see if there are any laser-related errors or warnings that occurred during exposure of the xxx number of plates.
For more details, refer to “20. Viewing Information.”
2. If there is only one error or warning message recorded, the plate before plate xxx or some of the 24 plates before that may have been exposed with the incorrect laser power. Proceed with work only after sufficiently inspecting these plates.
3. If there are two or more error or warning messages recorded, the plates indicated in 2 as well as some of the following exposed xxx No. plates may have been exposed with the incorrect laser power. Proceed with work only after sufficiently inspecting these plates.
4. Perform calibration in order to make the message “LD intensity corrected before plate No. xxx.” disappear.
5. Open the calibration information screen and the laser power measurement screen, and continue using the PT-R only after verifying the condition of the laser head for which calibration was performed.

If you have any questions please consult a Dainippon Screen office or agent.

18. Sending an Interrupt Command to the Host Computer

Interruption during exposure cannot be performed from RENATUS, TaigaSPACE or other host computers. When PT-R power is turned OFF during exposure and in other cases, an interrupt command is sent to the host computer.

1. Press **[Return error to host]** and then press **[OK]** in the user setting selection screen. The interrupt command verification screen appears.

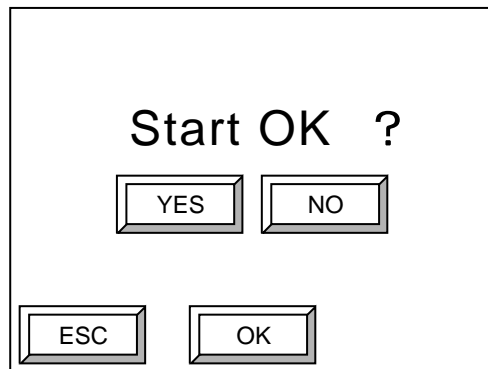


Fig. 5-75 Interrupt command verification screen

2. Press **[YES]** and then **[OK]** when you want to send an interrupt command. The interrupt command is sent to the host computer and you are returned to the user setting selection screen.
Press **[NO]** and then **[OK]** when you do not want to send an interrupt command. You are returned to the user setting selection screen.

19. Turning the Buzzer during Plate Eject On and Off

When exposed plates are ejected to the online processor, a buzzer beeps at one-second intervals to indicate that you cannot insert plates to the bridge while this action is in progress. The buzzer can be set not to sound.

1. Select **[Option setting]** at the user settings selection screen and press **[OK]**. The option setting screen appears.

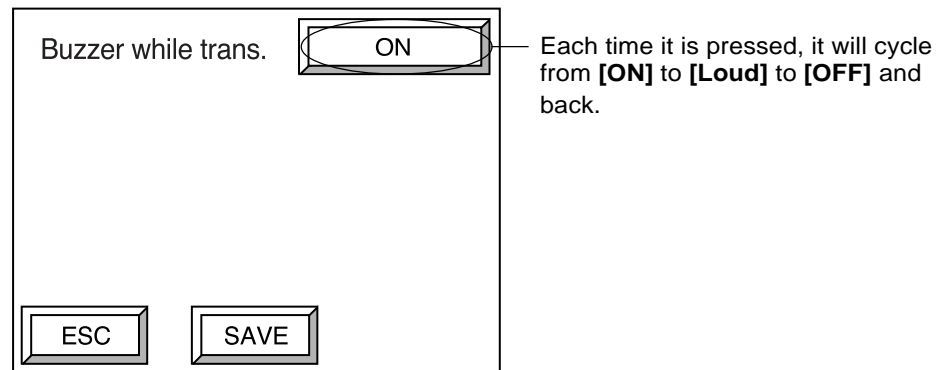


Fig. 5-76 Option setting screen

- : Buzzer beeps when plate is ejected.
- : The buzzer sounds loudly when the plate is ejected.
- : Buzzer does not beep when plate is ejected.

2. Choose either one and then press **[SAVE]**. You are returned to the user setting selection screen.

20. Viewing Information

You can view the version number of the software currently installed in the PT-R, and the automatically created error log that shows the errors that have occurred.

1. Select **[Information]** and then press **[OK]** in the offline screen.
The information mode screen appears.

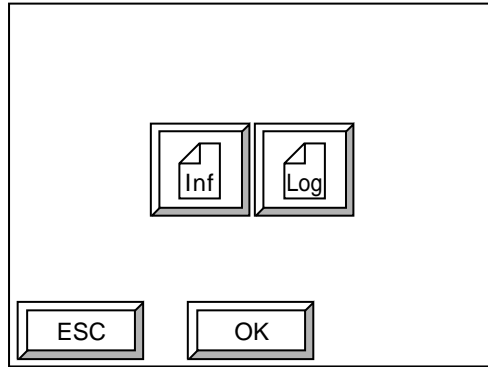



Fig. 5-77 Information mode screen

Select  and then press **[OK]**. The software version screen appears.

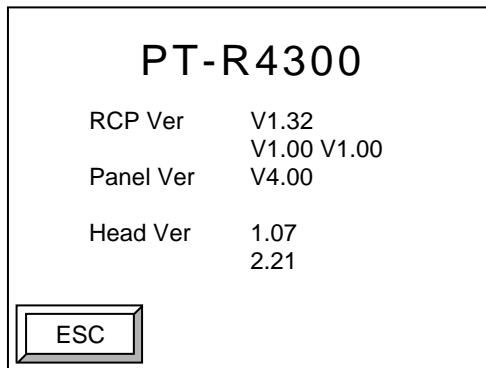

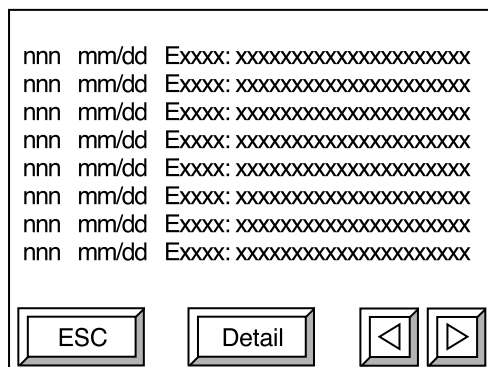


Fig. 5-78 Software version screen

Select  and then press **[OK]**. The error log outline screen appears.



Move to an error log outline screen not currently displayed.

Fig. 5-79 Error log outline screen

21. Setting the Punch Name

When an optional punch unit is installed, a service technician will set the punch number (1 to 9) where the punch is installed to enable the punch, and the punch hole pitch. The punch can be used at this point; however, to make it easier to select a punch in the printing machine settings, you can assign a name to the punch.

The following explanation uses the example of a Komori punch installed in Punch 1 with a punch hole pitch of 550 mm.

1. Select **[Set punch name]** and then press **[OK]** in the offline screen. The punch data screen appears.

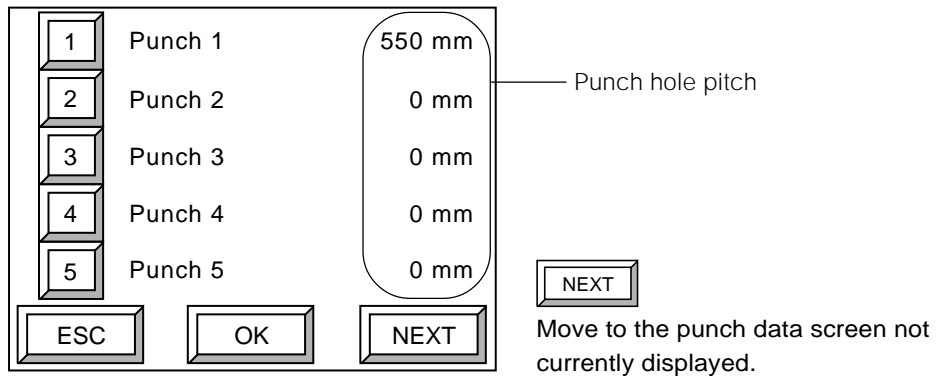


Fig. 5-81 Punch data screen

2. Select **[1]** and then press **[OK]**. The punch name entry screen appears.

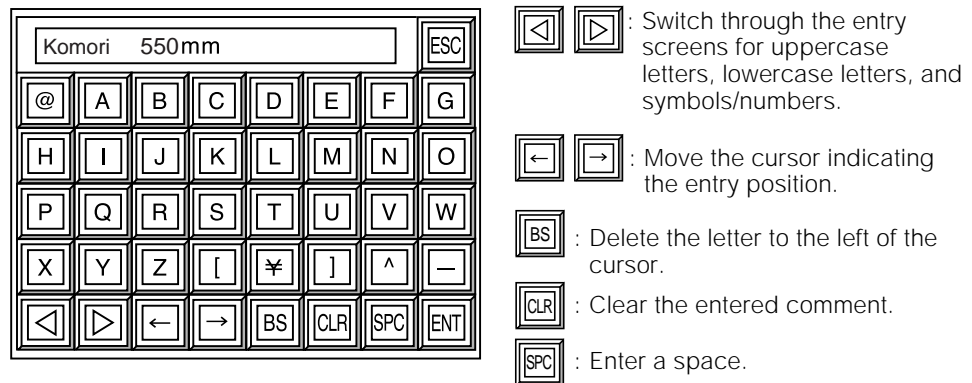


Fig. 5-82 Punch name entry screen

3. Enter a name for Punch 1 (for example, “Komori 550 mm”). After input is complete, press **[ENT]**. The save confirmation screen appears.

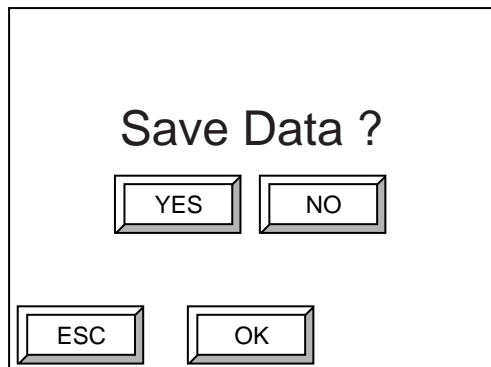


Fig. 5-83 Save confirmation screen

4. To save the name for Punch 1, press **[YES]** and then **[OK]**. The data is saved and you are returned to the offline screen.

Press **[NO]** and then **[OK]** if you do not want to save the data. You are returned to the offline screen.

Chapter 6

Maintenance

This chapter explains daily maintenance and inspection procedures for the PT-R.

! WARNING

- Be sure to turn off the power of the PT-R before attempting any maintenance or inspection procedures. There is a danger of electrical shock if inspection or maintenance is performed with the power on.
- Never remove a cover unless instructed to do so as part of an inspection or maintenance procedure. Removing a cover may cause exposure to dangerous laser radiation.

! CAUTION

Be very careful not to drop the rear cover on your feet when removing or installing it.

1. Cleaning the Drum

! CAUTION

Obey the following in order to prevent fires.

- When applying alcohol to a cloth do so at a place not located near the PT-R.
 - Do not let alcohol get onto the drum.
 - Keep the amount of alcohol used for the cloth to a minimum (so that alcohol does not drip after wringing).
1. Turn off the PT-R.
 2. Loosen the two thumb screws on the top edge of the rear cover.

! WARNING

Do not under any circumstances remove screws or covers not indicated in this step.

3. Pull the rear cover toward you and up to remove it.

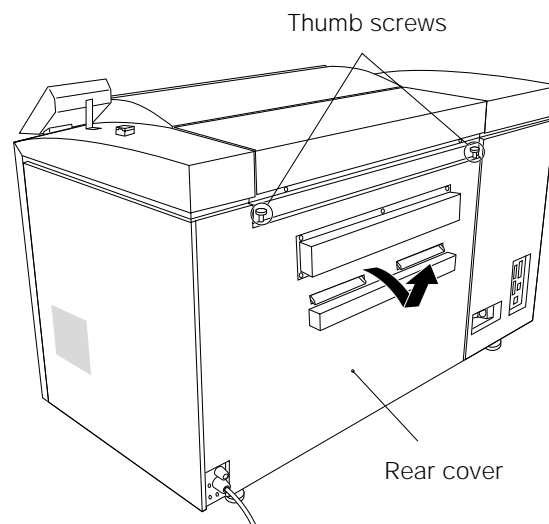


Fig. 6-1 Removing the rear cover

4. While rotating the drum by hand, wipe the surface of the drum with a cloth moistened with ethyl alcohol or film cleaner (the cloth should soft, clean and produce little cotton dust).

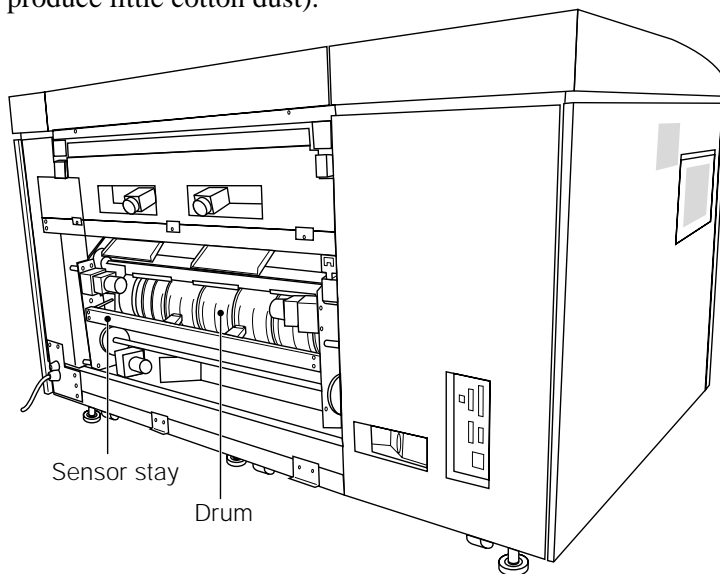


Fig. 6-2 Inside of rear face

CAUTION!

When cleaning the drum surface, do not touch the sensor stay. Doing so may alter the position of the sensor itself.

5. When you have finished cleaning the drum, place the bottom edge of the rear cover onto the two hooks on the unit and attach the cover so that the thumb screws are aligned with the screw holes.

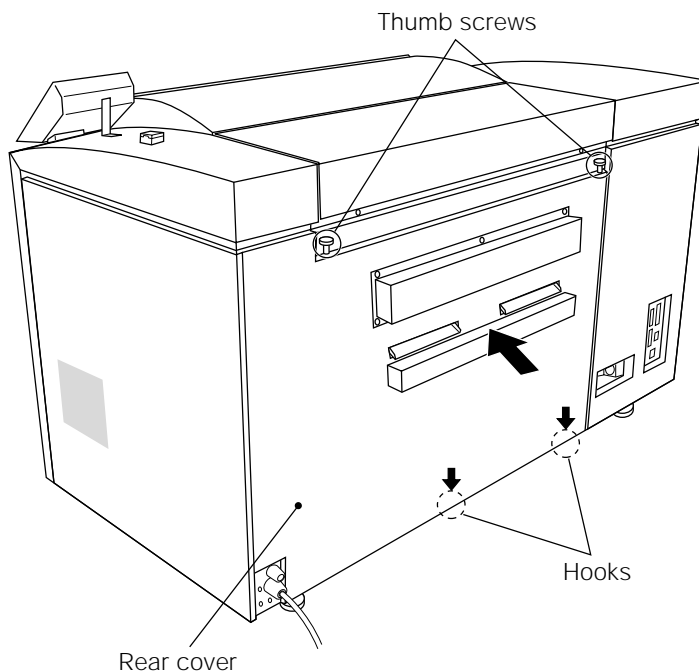


Fig. 6-3 Attaching the rear cover

6. Tighten the thumb screws until they no longer turn.

CAUTION!

The interlock function will be activated. Even if plate loading and ejecting are possible when the thumb screws are not completely tightened, an error may occur during exposure. Also, if you tightened too much, resonance may occur at the rear cover.

2. Removing Punch Debris

It is necessary to remove the punch debris that results from hole punching on a regular basis. Be sure to remove punch debris regularly as explained below.

1. Slide the punch debris receptacle upward to remove it from the installation hooks on the rear cover. Then remove the punch debris receptacle.

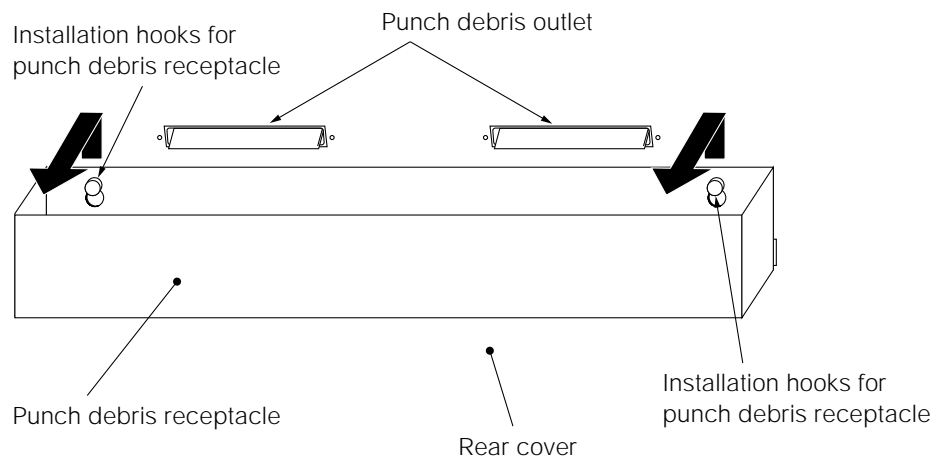


Fig. 6-4 Punch debris discharge section

2. After collecting the punch debris, reattach the punch debris receptacle.

NOTE The punch debris may overflow if not removed.

3. Cleaning the Roller

3.1 Cleaning the Cleaning Roller

Clean the cleaning roller by following the procedure given below.

! WARNING

- Do not under any circumstance remove screws or covers not indicated in this step.
- Do not touch the drum and sensor stay.

1. Turn off the PT-R.
2. Loosen the two thumb screws at the top of the rear cover.
3. Pull the rear cover toward you and up to remove it.

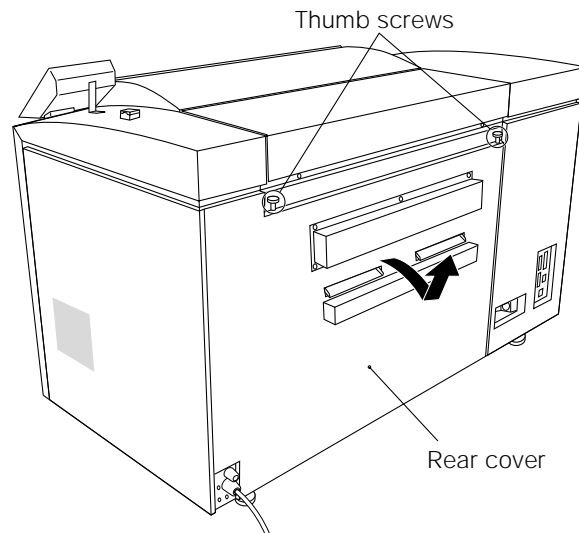


Fig. 6-5 Removing the rear cover

4. Loosen the thumb screws at the supports (one at each end) for the cleaning roller (brown) and lift up the retainers that hold down the cleaning roller.

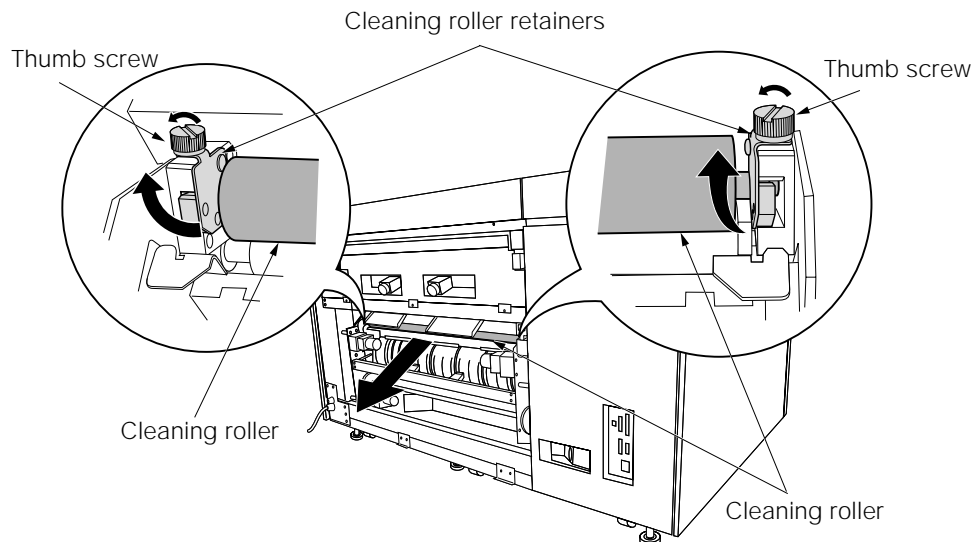


Fig. 6-6 Inside of rear side of unit

5. Remove the cleaning roller (brown).
6. Wipe clean the cleaning roller with a rag, or other piece of cloth, soaked in water (make sure the cloth is free of lint, soft, and clean).

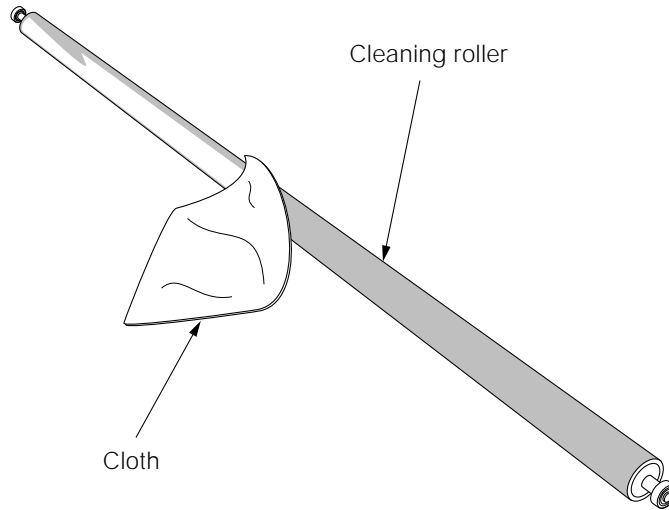


Fig. 6-7 Cleaning roller

7. Insert the cleaning roller (brown) back into its supports.
8. Close the retainers down on the cleaning roller and firmly tighten the two thumb screws.

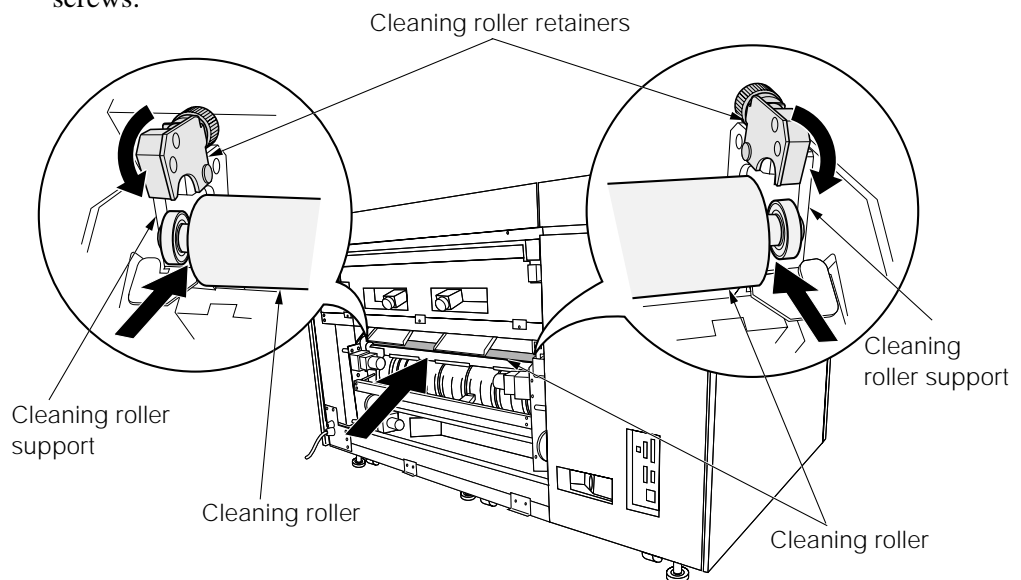


Fig. 6-8 Internal rear view

9. Set the bottom edge of the rear cover on the two hooks on the unit, and attach the cover so that the thumb screws align with the thumb screws holes.

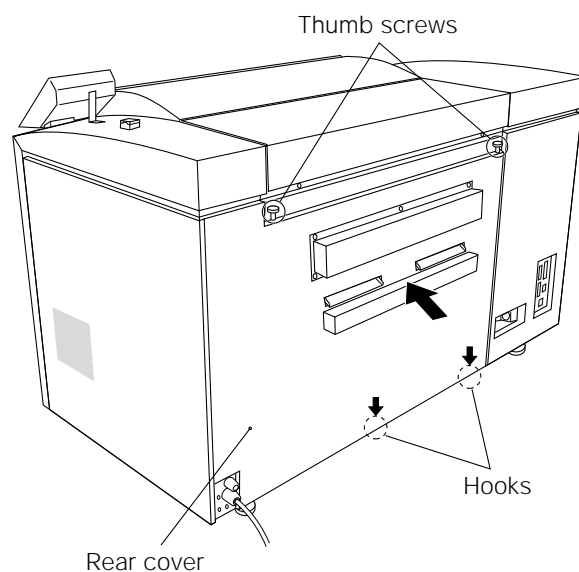


Fig. 6-9 Attaching the rear cover

10. Tighten the thumb screws until they no longer turn.

CAUTION!

If the thumb screws are not completely tightened, the interlock function will be activated. Even if plate loading and ejecting are possible when the thumb screws are not completely tightened, an error may occur during exposure. When the strongly tightened the rear cover may resonate.

3.2 Cleaning the Insertion Roller

Clean the insertion roller by following the procedure given below.

1. Press **[OPEN]** at the online (Ready) screen. The lock is released and the operation door slightly opens.
2. Turn off the PT-R.
3. Remove the thumb screws holding the ejection table (one at each end) and remove the ejection table.

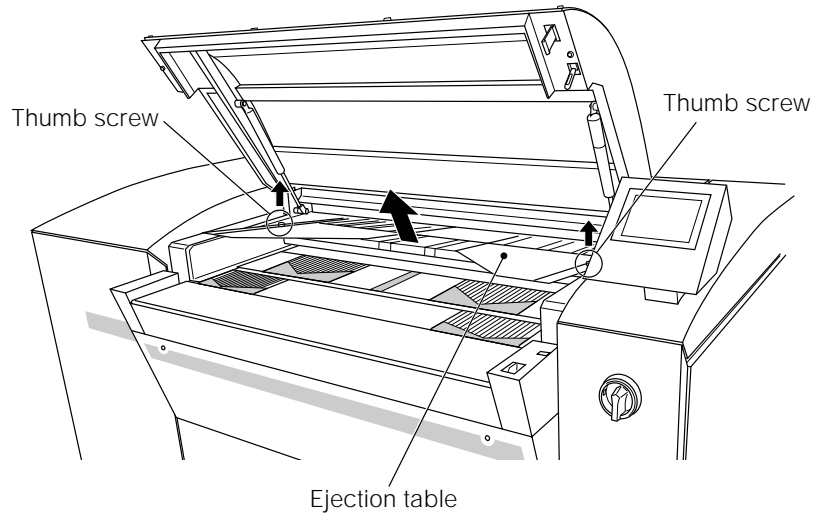


Fig. 6-10 Removing the ejection table

4. Pull up the supports for the retainer roller.

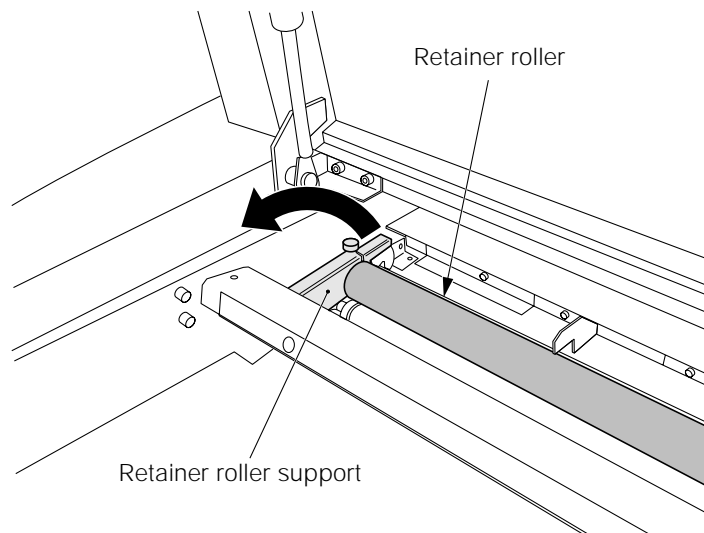


Fig. 6-11 Retainer roller

5. Loosen the thumb screw of the securing bracket for the insertion roller.
6. Slide the insertion roller to the right, lift up the left end, and remove the insertion roller.

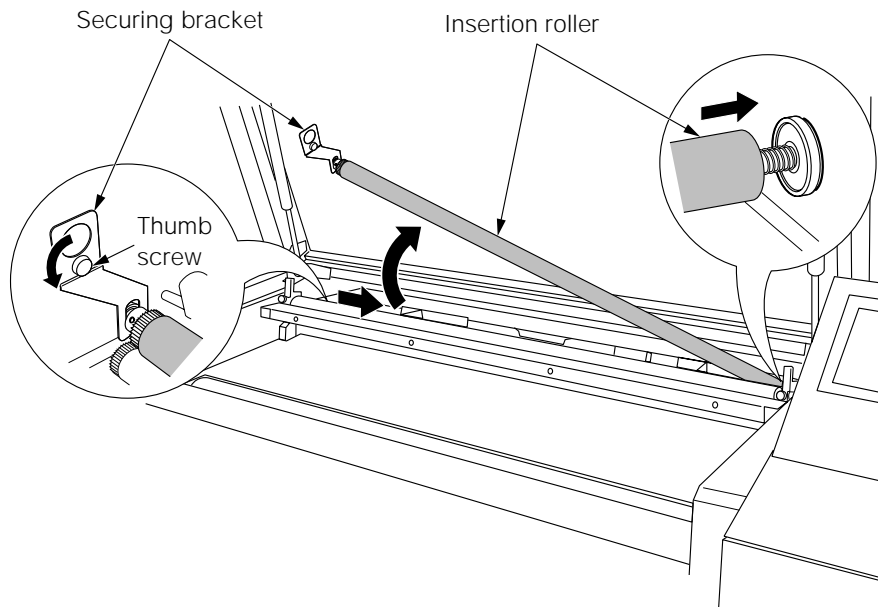


Fig. 6-12 Removing the insertion roller

7. Wipe clean the insertion roller with a rag, or other piece of cloth, soaked in water (make sure the cloth is free of lint, soft, and clean).

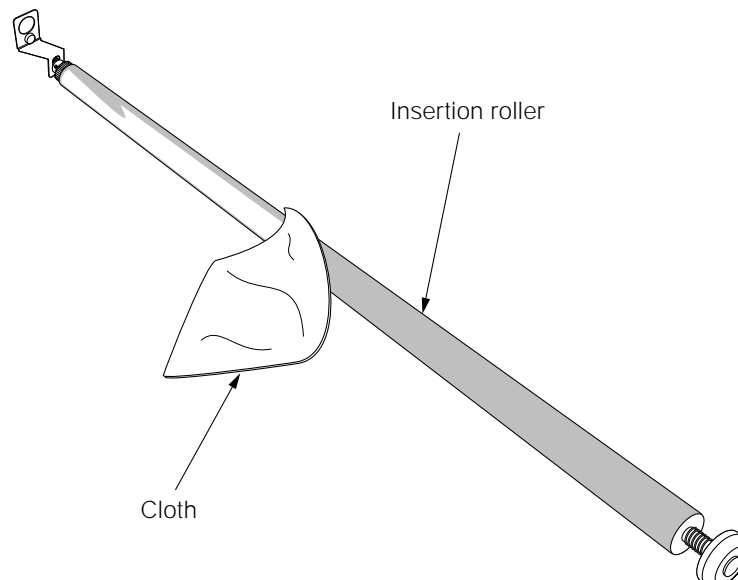


Fig. 6-13 Insertion roller

8. Align the right end of the insertion roller into its installation hole in the PT-R and install the insertion roller as shown in the figure below. Then tighten the thumb screw at the securing bracket to secure the insertion roller in place.

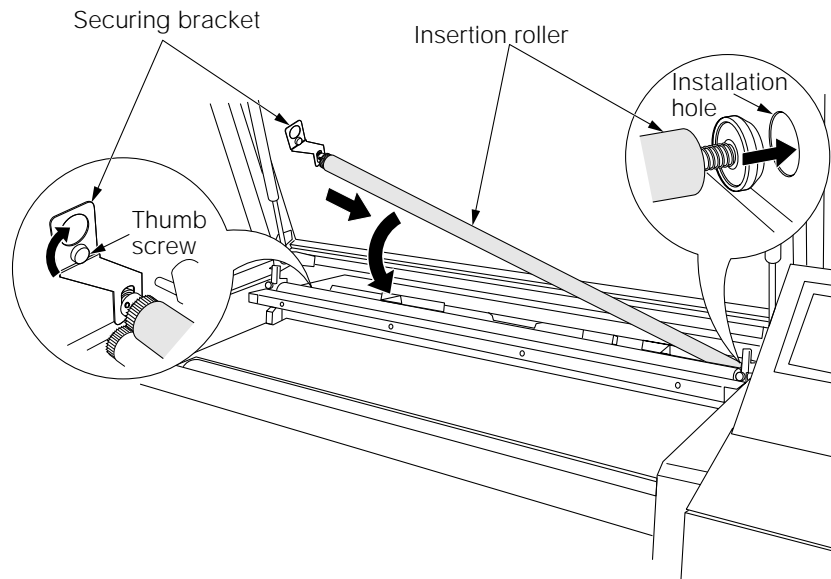


Fig. 6-14 Installing the insertion roller

9. Return the retainer roller to its original position.
10. Return the ejection table to its original position and tighten the thumb screws to secure it in place.

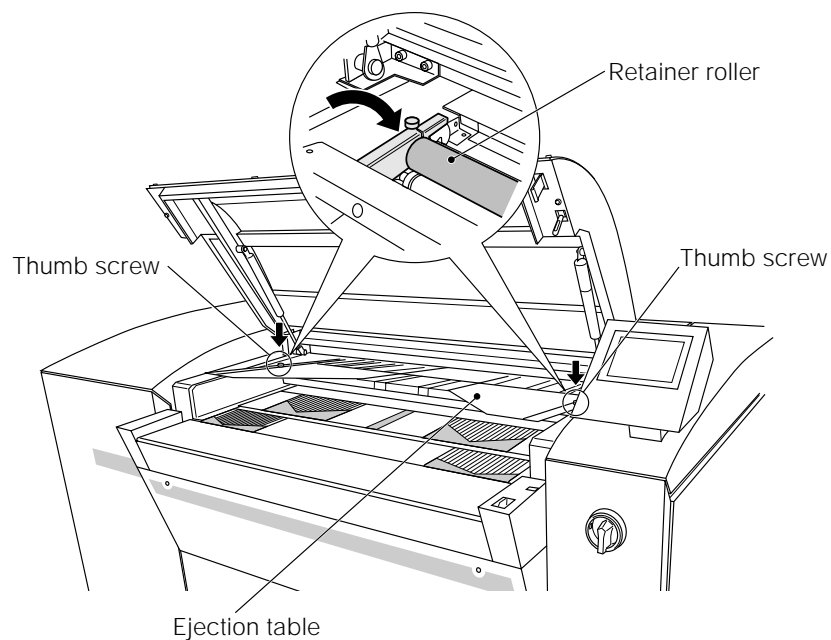


Fig. 6-15 Installing the ejection table

11. Close the operation door until they lock shut.

3.3 Cleaning the Transport Roller

Clean the transport roller by following the procedure given below.

1. Press **[OPEN]** at the online (Ready) screen. The lock is released and the operation door slightly opens.
2. Turn off the power switch.
3. Using a moist cloth (a soft, clean cloth with minimal fluff), wipe clean the roller while rotating it.

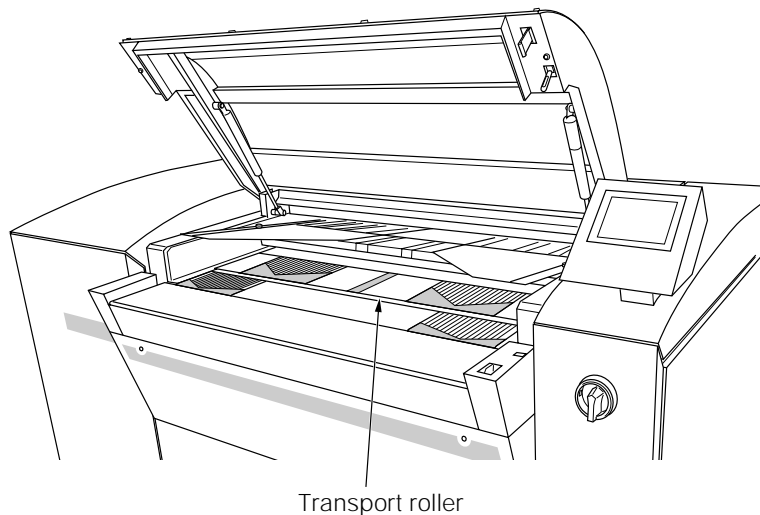


Fig. 6-16 Transport roller

4. Close the operation door until they lock shut.

4. Cleaning the External Cover Filter

Clean the external cover filter by following the procedure given below.

1. Remove the external cover, and then remove the external cover filter from the external cover.

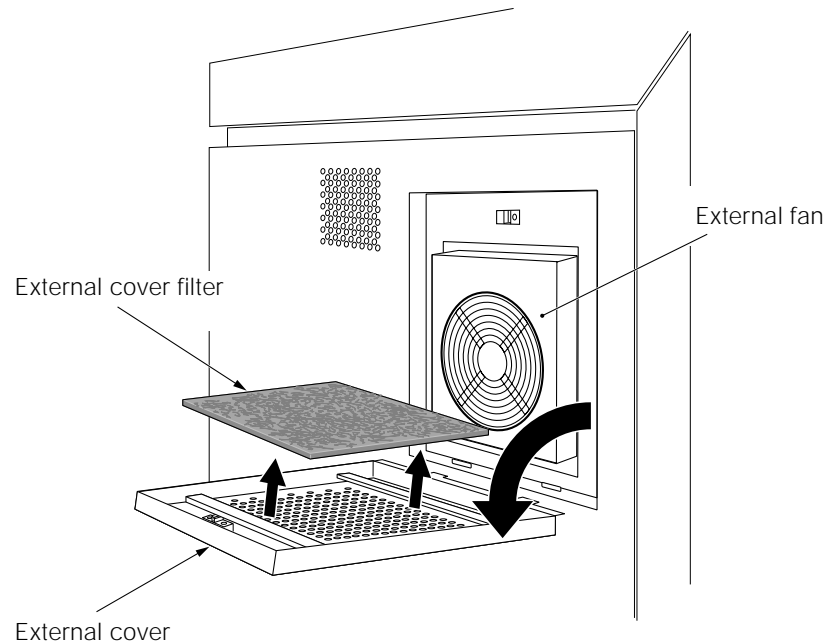


Fig. 6-17 Removing the external cover filter

2. Wash the external cover filter with water or a neutral detergent.
3. Allow the external cover filter to dry completely, and then reinsert it in the external cover.
4. Align the two tabs on the bottom of the external cover with the rectangular holes on the unit, and insert the external cover into the unit.

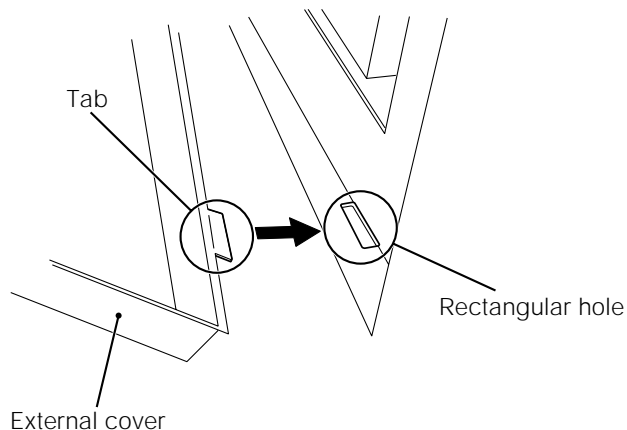


Fig. 6-18 Attaching the external cover filter

5. Reset the consumable timer in the user settings. For more details, refer to Chapter 5 “12. Checking the Running Time and Setting the Consumable Timers.”

Year _____ Month _____ PT-R4300 Maintenance and Inspection Chart _____ Supervisor _____

Part	Work	Date							Interval
		1	2	3	4	5	6	7	
Punch debris	Remove punch debris from the punch debris receptacle.								Once a month
Drum	Wipe the unclean area with a soft, clean, cloth (with a minimum of lint) that has been wet with ethyl alcohol or film cleaner.								Once a month
Cleaning roller	Wipe with a soft, clean cloth (minimal lint) moistened with water.								Once a month
Plate insertion roller	Wipe with a soft, clean cloth (minimal lint) moistened with water.								Once a month
External cover filter	Remove the filter from the external cover and wash it with water or a neutral detergent. Allow filter to dry completely after washing.								Once a month
Optical system filter	CAUTION You must not do this yourself. Contact a Dainippon Screen sales office or agency for replacement.								Once every 500 hours or 3 months

SCREEN

1. Read the USERS MANUAL well.
2. After performing inspection, mark the date column with a check.
3. Make copies of this page and use one for each month.

5. Maintenance Parts

5.1 Consumables

The following parts are consumables, and therefore a charge is required to purchase the parts and have replacement work done even if the warranty period has not expired.

To maintain the performance of the PT-R, we recommend regular inspections and prompt replacement of consumable parts.

No.	Parts name	Parts code	Replacement quantity	Average lifetime
1	Optical filter element	————	One	500 hours
2	External cover filter	————	One	1,000 hours
3	Punch block	————	1 set	20,000 punches
4	Trailing edge clamp	————	1 set	20,000 times

* Average lifetimes will vary depending on conditions of usage (i.e., input power, environment, temperature, humidity, routine maintenance).

* Fuses are not considered to be consumables; however, a charge is required.

* Please note that the quantity required for each part varies by part.

5.2 Information to be Specified when Ordering Parts

When ordering a replacement part, give the information listed below by referring to the nameplate on the PT-R.

1. Do you need only the part, or do you need the replacement work done as well?
2. Information on nameplate of unit:
 - Model
 - Mfg. no.
 - Date (of manufacture)
3. Names and quantities of parts required and delivery date.

Chapter 7

Messages

This chapter explains the messages that appear in the display of the PT-R operation panel.

1. Display of Operation Request Messages

When certain operations are required of the operator by output command from the host computer or other reasons. A message like one of those shown in Fig. 7-1 through Fig. 7-15 and Fig. 7-17 through Fig. 7-19 will appear in the display and a buzzer will beep intermittently. If this occurs, follow the command of the request message.

NOTE When the message in Fig. 7-1 or Fig. 7-2 is displayed, the lock is released and the operation door opens.

Remove exposed plate and close door

This message appears if a plate remains on the ejection table during plate ejection.



Fig. 7-1 Plate removal request message (1)

Press **[OK]** to stop the buzzer. Remove the plate from the ejection table and then close the operation door.

Remove plate in transport unit and close door Process resumes when door is closed

This message may appear if a plate remains on the ejection table during plate ejection.

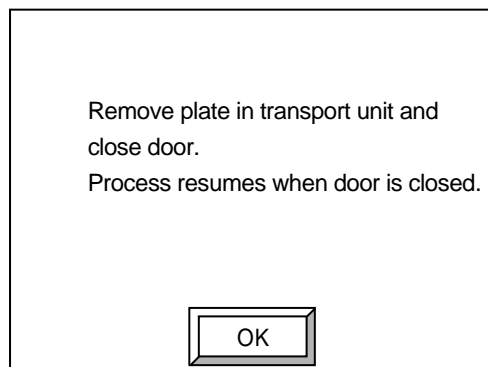


Fig. 7-2 Plate removal request message (2)

Press **[OK]** to stop the buzzer. **[CANCEL]** appears.

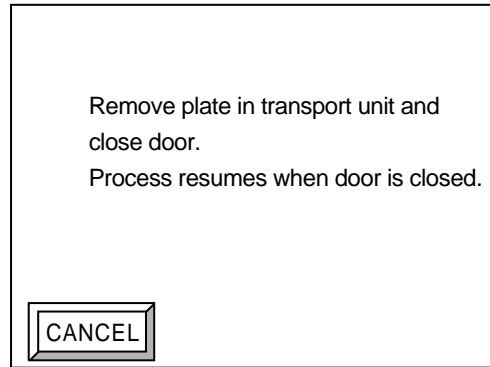


Fig. 7-3 Plate removal request message (3)

Remove the plate from the ejection table and then close the operation door. If you press **[CANCEL]** without closing the operation door, the process will be cancelled.

Close door to unload plate

This message appears if the operation door is open during plate ejection.

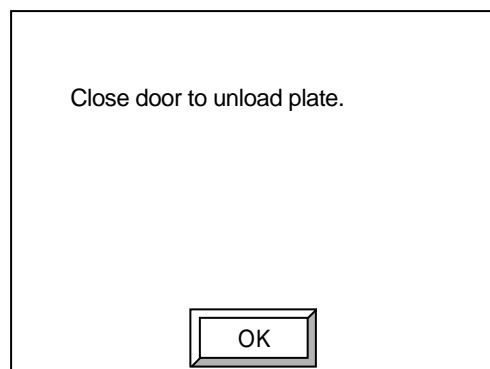


Fig. 7-4 Plate ejection preparation request message

Close the operation door.

Press [OPEN] button and open door Set plate listed above

This message appears if it is necessary to set a plate due to the output command from the host computer.

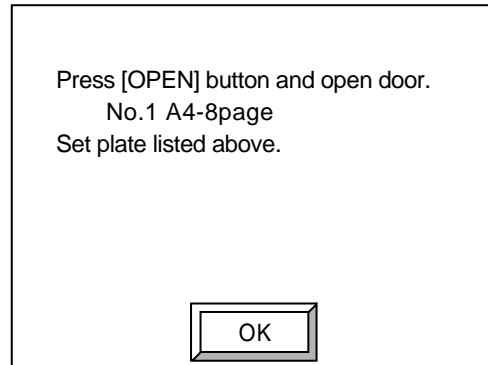


Fig. 7-5 Plate request message (1)

Press [OK] to stop the buzzer. [OK] disappears. [CANCEL] and [OPEN] will appear.

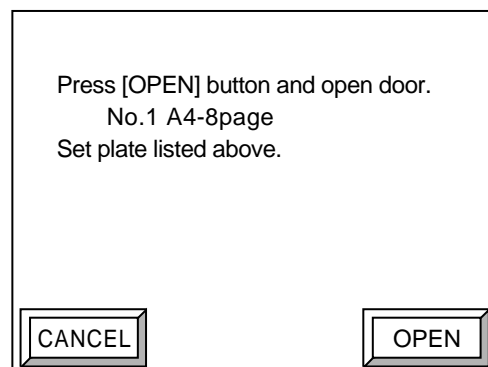


Fig. 7-6 Plate request message (2)

At this screen, if you press [OPEN], [OPEN] disappears.

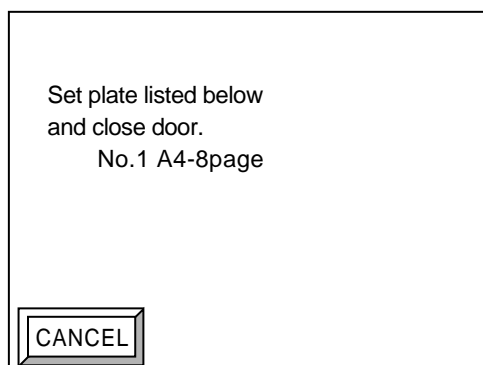


Fig. 7-7 Plate request message (3)

Set the plate indicated on the screen to the insertion table and close the operation door.

At this screen, if you press [CANCEL], the output from the host computer is cancelled, and a message informing that output has been cancelled appears at the host computer.

Set Plate Listed below and Close Door

This message appears if the operation door is open when it is necessary to set a plate due to the output instructions from the host computer.

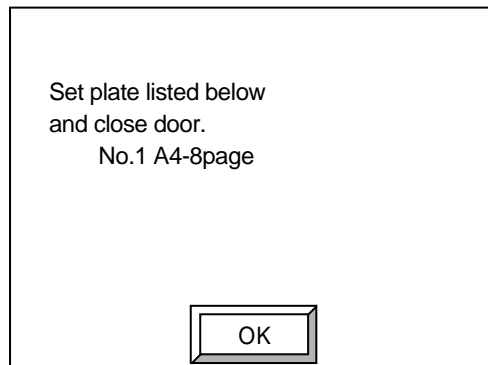


Fig. 7-8 Plate request message (4)

Press **[OK]** to stop the buzzer. **[OK]** disappears. **[CANCEL]** will appear.

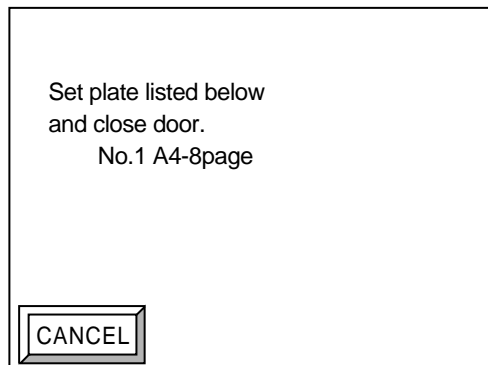


Fig. 7-9 Plate request message (5)

Set the plate that is requested in the message on the insertion table and close the operation door. At this screen, if you press **[CANCEL]**, the output from the host computer is cancelled, and a message informing that output has been cancelled appears at the host computer.

Either conveyor, processor, or stocker is not turned on or is in busy status or is in error status. Operation will resume when the ready status is reached. When REMOVE is pressed, the exposed plate will be discharged onto the discharge table. When CANCEL is pressed, operation will be canceled.

This message appears when plate ejection to an online processor is selected. An exposed plate cannot be ejected and the next exposure requested by the host computer cannot be performed because the bridge, online processor or stocker is not turned on, an error has occurred, or one of the units is busy.

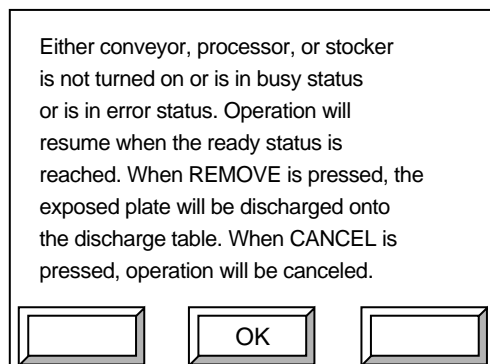


Fig. 7-10 Plate ejection request screen (1)

Press **[OK]** to stop the buzzer. **[OK]** disappears. **[CANCEL]** and **[REMOVE]** will appear.

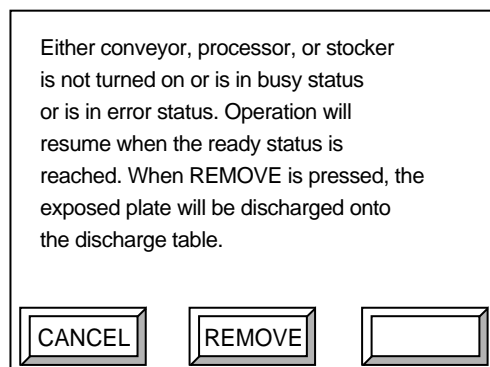


Fig. 7-11 Plate ejection request screen (2)

Select one of the three following procedures.

- Check whether the power to the bridge, online processor or stocker is off. Or, check to see if there is a cause of the error and remove it. When the bridge, online processor and stocker are all in the ready state, the exposed plate will automatically be ejected to the online processor. The next plate will load and exposure will continue. (The screen will revert to the original screen.)
- If **[REMOVE]** is pressed, the exposed plate will be ejected to the ejection table. The next plate will load and exposure will continue. (The screen will revert to the original screen.)
- If **[CANCEL]** is pressed, the exposed plate will be ejected to the ejection table. Output from the host computer will be canceled.

If **[CANCEL]** or **[REMOVE]** is pressed, the following screen will appear and the exposed plate will be ejected to the ejection table.

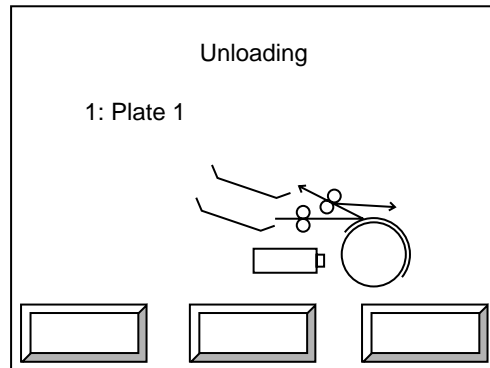


Fig. 7-12 Plate ejecting screen

When ejecting is completed, the following screen will appear.

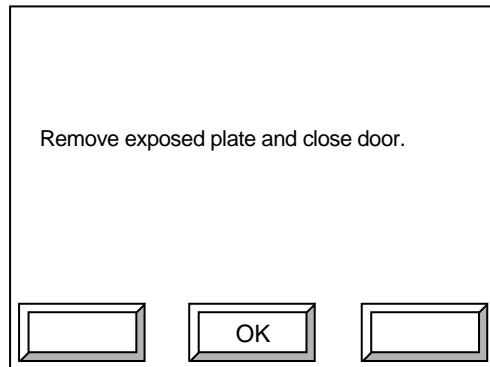


Fig. 7-13 Plate remove request screen (1)

Press **[OK]** to stop the buzzer. **[OK]** disappears. **[CANCEL]** and **[REMOVE]** will appear.

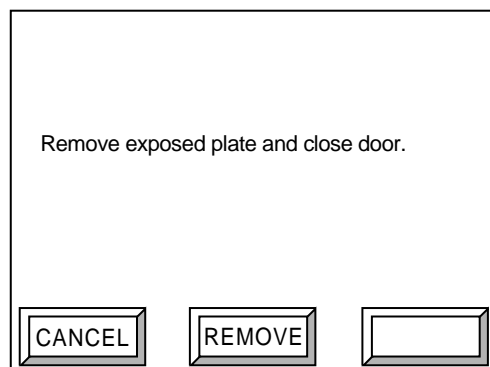


Fig. 7-14 Plate remove request screen (2)

Remove the plate from the ejection table and close the operation door.

If you pressed **[REMOVE]** and remove the plate, the screen will revert to the original screen after the operation door is closed and the next exposure will begin.

If you pressed **[CANCEL]** and remove the plate, the online screen (Ready) will appear after the operation door is closed.

Either the conveyor, processor, or stoker is not turned on or is in the busy status or is in error status. Operation will resume when the ready status is reached. When REMOVE is pressed, the exposed plate will be discharged onto the discharge table

This message appears when plate ejection to an online processor is selected and an exposed plate cannot be ejected because the bridge, processor or stoker is not turned on, an error has occurred, or one of the units is busy.

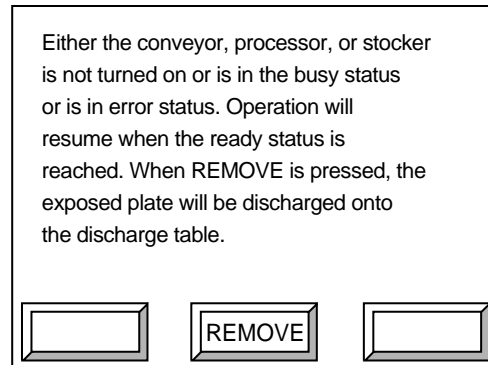


Fig. 7-15 Plate remove request screen (1)

Select one of the following procedures.

- Check whether the power to the bridge, online processor or stoker is off. Or, check to see if there is a cause of the error and remove it. When the bridge, online processor and stoker are all in the ready state, the exposed plate will automatically be ejected to the online processor.
- Press **[REMOVE]** to eject the exposed plate to the ejection table.

2. Warning Messages

If a mistaken operation is performed or if it becomes necessary to warn the operator for some reason, a four-digit hexadecimal error code “Exxxx” and an error message like the following will appear in the display.

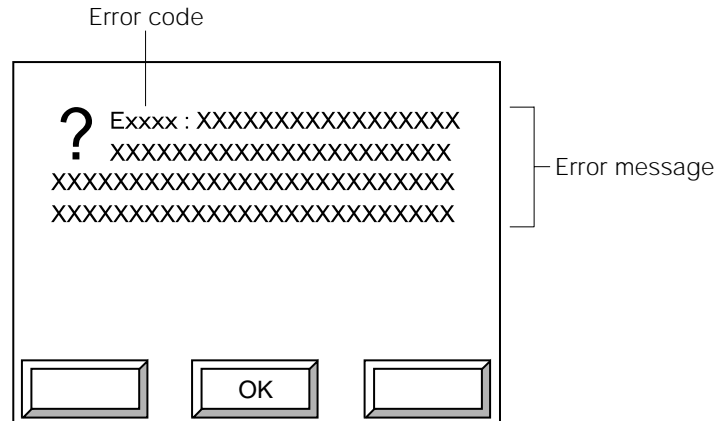


Fig. 7-16 Warning message screen

The last three digits of the four-digit hexadecimal error code describe the contents of the error. The first digit of the error code is a code used inside the machine to determine the degree of the error or the procedure for resetting the error. For more details, refer to “4. Error Code/Error Message.”

2.1 If There is a Mistaken Operation

A screen like the one shown in Fig. 7-16 above will appear and the buzzer will beep. Press **[OK]** to return to the original screen (or its previous menu screen) and resume operations.

2.2 Getting the Attention of the Operator during Operation

A screen like the one shown in Fig. 7-16 above will appear and the buzzer will beep continuously until **[OK]** is pressed. When **[OK]** is pressed, the previous screen reappears and operation resumes.

3. Error Displays

If an error occurs, the following screen appears and the buzzer beeps continuously.

NOTE The “Exxxx” displayed in the upper left hand corner of the screen is four-digit hexadecimal error code. The last three digits of the four-digit hexadecimal error code describe the contents of the error. The first digit of the error code is a code used inside the machine to determine the degree of the error or the procedure for resetting the error. For more details, refer to “4. Error Code/Error Message.”

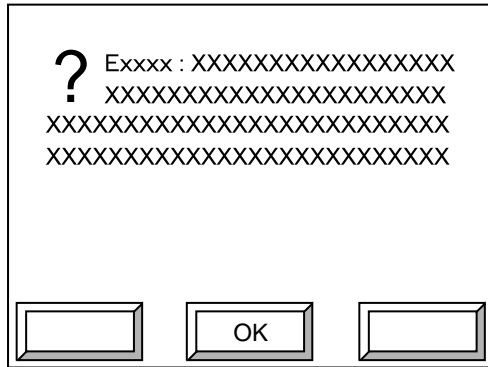


Fig. 7-17 Error display screen (1)

At this time, press **[OK]** displayed to stop the buzzer and bring up the following screen. This screen provides a brief description of the error.

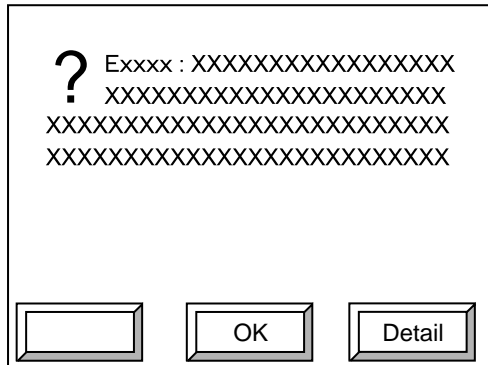


Fig. 7-18 Error display screen (2)

For a more detailed description, press **[Detail]**. The following screen will appear with the detailed error message.

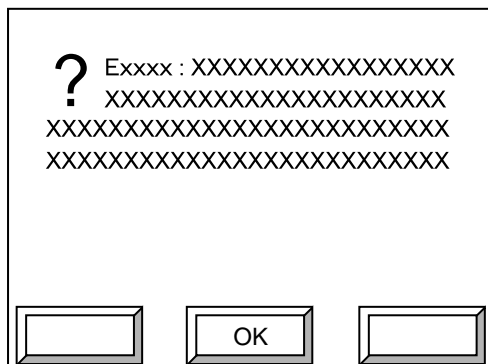


Fig. 7-19 Detailed error message screen

Press **[OK]** at the detailed error message screen to return to the original error message screen (the screen shown on the above).

3.1 Errors that Do Not Need to be Reset

If there is no need to perform anything to reset the error, pressing **[OK]** at the error display screen will bring back the original screen (or its previous menu screen) so you can resume operation.

3.2 Errors that Need to be Reset

If the error requires you to reset the error before you can resume operations, pressing **[OK]** at the error display screen will bring up one of the screens shown on the following page. Pressing **[ESC]** on these screens will return you to the error display screen and pressing **[Detail]** brings up the detailed error message.

Press **[START]** button Pressing **[START]** button begins initialization

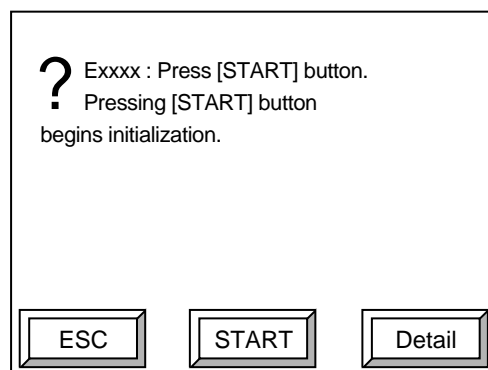


Fig. 7-20 Error reset request screen (1)

Press **[START]** to begin initialization (error reset). After initialization is properly completed, you will return to the original screen (or the previous menu screen).

Remove plate in transport unit and close door. Initialization begins when door is closed.

This message appears if it is necessary to remove a plate from the transport unit before starting initialization (error reset).

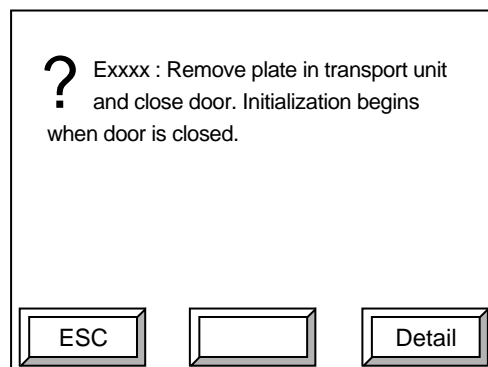


Fig. 7-21 Error reset request screen (2)

Remove the plate from the transport unit (insertion table, ejection table, or both) and then close the operation door. When the operation door is closed, initialization will begin. After initialization is properly completed, you will return to the original screen (or the previous menu screen).

Close door. Initialization begins when door is closed

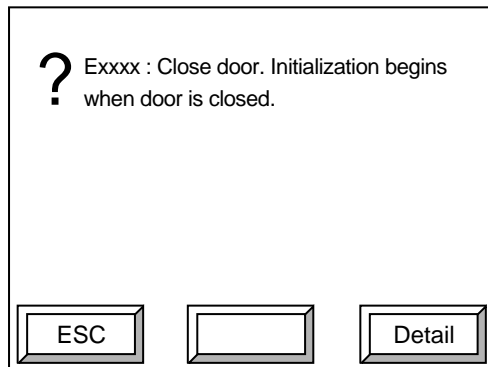


Fig. 7-22 Error reset request screen (3)

When the operation door is closed, initialization (error reset) will begin. After initialization is properly completed, you will return to the original screen (or the previous menu screen).

4. Error Code/Error Message

The “Exxxx” error code is a four-digit hexadecimal error code. The last three digits of the four-digit hexadecimal error code describe the contents of the error and the first digit is a code used inside the machine to determine the degree of the error or the procedure for resetting the error.

Exxxx : Mechanical error

This message is displayed if a plate jams or some other mechanical error occurs while the plate is being transported. Press **[Detail]** for more detailed information.

Exxxx : Electrical error

This message appears if an error occurs in the electrical circuitry during exposure. Press **[Detail]** for more detailed information.

Exxxx : Exposure head error

This message appears if an error occurs concerning the exposure head. Press **[Detail]** for more detailed information.

Exxxx : System error

If this message appears, it is most likely a problem with the controlling software. Call a Dainippon Screen sales office or agency. Press **[Detail]** for more detailed information.

Exxxx : Remove plate in transport unit

This message appears when there is a plate in the transport section when there must not be one (during initialization, etc.). Press **[Detail]** for more detailed information.

Exxxx : Plate size is incorrect

This message appears if a plate size different from the size specified by an operation request is loaded, if a plate size different from the size selected during loading is loaded, or if the size entered when setting the plate settings was incorrect.

Exxxx : Plate conveyance to conveyor error

This message is displayed when the plates are select for ejection to the online processor and an error occurs during the transfer of the plate from the PT-R to the bridge.

Open the conveyor cover and remove the plate. After closing the conveyor cover when the plate is removed, press the START button. Initialization begins when the START button is pressed.

If the “Exxxx: Error occurred during transfer of plate to conveyor” error occurs, this message is displayed if **[OK]** on the error display screen is pressed. After opening the bridge cover, removing the plate, and then closing the bridge cover, press **[START]**. Initialization (error resetting) will begin when **[START]** is pressed.

Exxxx : Some LD cannot be calibrated to target power. Contact our office or agency and ask to replace them.

This message is displayed if an LD (laser diode) is found that could not be adjusted to the specified laser power when calibration was performed. Once this error occurs and error resetting is performed, exposure can be performed, but the image quality will be affected (irregularities may occur). Contact a Dainippon Screen agency or sales office and request for the replacement of the laser diode. Once this message appears, it will be displayed as a warning after every fourth exposure performed until the laser diode is replaced and laser calibration is performed.

Ex400 : Plate has already been loaded.

This message appears if a plate is trying to be loaded when there is already a plate loaded.

Ex401 : Plate has not been loaded.

This message appears if a plate is trying to be ejected when there is no plate loaded.

Ex402 : Door is open.

This message appears if the operation door is opened. Close the operation door.

Ex143 : A plate remains on the discharge table in the transport unit.

This message appears when there is a plate at the ejection table when there must not be one in the transport section (during initialization, etc.). Remove the plate at the ejection table.

Ex144 : A plate remains on the insertion table in the transport unit.

This message appears when there is a plate at the insertion table when there must not be one in the transport section (during initialization, etc.). Remove the plate at the insertion table.

Ex14C : Front, rear or side cover is open. (Some interlock switch are OFF.)

This message appears when either the front, rear, or right side cover is not attached.

Attached the detached cover.

Ex14E : Thumb screw is not tightened securely on the rear cover. (The servo stop switch is OFF.)

This message appears when the hold-down screw for the rear cover is not completely tightened or when the drum stop switch is being pressed. Fully tighten the rear cover hold-down screw.

Ex14F : A plate exists on the discharge table in the transport unit during initialization.

This appears if a plate exists on the ejection table in the transport section during initialization. Remove the plate from the ejection table and close door. The initialization operation will resume.

Ex150 : A plate exists on the insertion table in the transport unit during initialization.

This appears if a plate exists on the insertion table in the transport section during initialization. Remove the plate from the insertion table and close door. The initialization operation will resume.

Ex156 : The size check program of the centering function detects that the measured plate size is longer than expected one.

This appears when the plate that is set is longer in the x (horizontal) direction than expected by the machine. Check the plate size.

Ex157 : The size check program of the centering function detects that the measured plate size is shorter than expected one.

This appears when the plate that is set is shorter in the x (horizontal) direction than expected by the machine. Check the plate size.

Ex186 : Drum's vacuum pressure is not sufficient.

This message appears if for some reason the vacuum of the drum has decreased. Check if a blower hose or something has come loose.

Ex188 : Drum operation is halted due to low pressure in the drum.

This message appears if the drum is stopped due to a lack of vacuum.

Ex189 : Door is open.

This message appears if the operation door is opened. Close the operation door.

Ex18A : Door does not open.

This message appears if the operation door did not open. Press [OK]. If [OPEN] appears, press [OPEN] to open the operation door.

If [OPEN] does not appear, insert a long, thin rod into the hole below the lock of the operation door and use the rod to unlock the lock, and then open the door.

Ex18C : Blower does not operate (check if power to blower is not turned on, if control cable is not connected, or if blower is malfunctioning).

This message appears if the blower is not turned on, if the communications cable is not connected, or if the blower is malfunctioning. Check if the blower is turned on or if the communications cable is connected. If they are, then the blower is malfunctioning.

Ex18E : Door does not open, because some interlock switch are OFF (front cover or rear cover is open).

This appears if the front cover, rear cover, or right side cover is opened when you open the operation door. Replace the open cover.

Ex1C8 : A slipping paper under a plate was detected.

This appears when the interleaf paper on the underside of the plate is detected when the plate is set at the insertion table.

Ex1C9 : When alignment is performed, plate set position is out of range.

This appears when the position the plate is set at the insertion table is more than 15 mm off the proper set position. Remove the plate, perform initialization, and then re-set the plate properly.

Ex600 :**Ex601 : Either the conveyor, processor, or stocker is not turned on or is in the busy status or is in error status.**

This warning message appears when plate eject to an online processor is selected and the bridge, online processor or stocker is not turned on, an error has occurred, or one of the units is busy. The message also appears if the bridge, online processor or stocker turns off, an error occurs, or a unit becomes busy while a plate is being transferred from the PT-R to the bridge.

Ex80C : The result of the calculation [Initial value + increment value × (repetition - 1)] exceeds the upper limit value.

This message appears if a setting for the test exposure exceeds a maximum limit.

Ex80D : (The result of the calculation [Exposure starting point + (pattern width + gap) × (repetition - 1)] exceeds the plate size.

This message appears if a setting for the test exposure has the exposure extend off the plate.

Ex80E : The specified plate is not linked with the printer's data.

This message appears if the plate loaded is not contained in the selected printing machine data.

Ex811 : Plate (printer) size specified by host computer is not registered

This message appears when exposure is performed from a type B host computer (RENATUS or TaigaSPACE, etc.), and the plate size specified by the host computer is not contained in the selected printing machine data. Confirm that the selected plate size is registered and that the plate data is registered in the printing machine data.

Ex812 : Image size specified by host computer is larger than allowable output image size

This message appears if the specified image size from the host computer is larger than 830 mm × 660 mm, or is larger than the possible output size for the specified printing machine data if virtual printer is selected when exposure is performed from a type A host computer (HQ-RIP, etc.). Confirm the output image size and the possible output size for the selected printing machine data.

Ex813 : Current offset of printing machine settings cause image to extend off plate

This message appears if the image size specified by the host computer is within the allowable exposure area, but the image extends outside of the allowable exposure area because of the offset settings in the secondary and primary scanning directions set for the printing machine information (image positioning offset setting). Confirm the image positioning offset settings.

Ex814 : Current offset of printing machine settings cause image to extend off plate

This message appears if the image size specified by the host computer is within the allowable exposure area, but the image extends outside of the allowable exposure area because of the positioning settings in the secondary and primary scanning directions set for the printing machine information (image positioning fine adjustment). Confirm the image positioning settings.

NOTE

The allowable exposure area is the maximum plate size of 830 × 660 mm plus 9 mm on each the top, bottom, left, and right.

Ex816 : Some LD is nearing the end of its usable life. Contact our office or agency and ask to replace them.

This message is displayed if a LD (laser diode) nearing the end of its usable life is detected when calibration is performed. (refer to “How calibration is performed” on page 5-53) Even if this message is displayed, the image quality will not be affected. However, a channel is nearing life-over, so contact a Dainippon Screen sales office or agency and request for the replacement of the laser diode.

Once this message is displayed, the same message will be displayed every time the PT-R is turned on until you have the laser diode replaced and perform calibration.

Ex81A : Some LD cannot be calibrated to target power. Contact our office or agency and ask to replace them.

This warning message appears when a LD (laser diode) could not be calibrated to the set laser power and thus was calibrated to a lowered target power (refer to “How calibration is performed” on page 5-53). The image quality is not affected when this message appears. However, as there is a channel nearing life-over, please contact a Dainippon Screen sales office or agent to have the laser diode replaced.

Ex81B : Some LD cannot be calibrated to target power. Contact our office or agency and ask to replace them.

This warning message appears when there is a LD (laser diode) that cannot be calibrated even when the target power is lowered and thus the laser is calibrated to use only half of the 32 channels (16 channels) for exposure (refer to “How calibration is performed” on page 5-53). The image quality is not affected when this message appears; however, the time required for exposure will double. As there is channel that has reached life-over and can no longer be used, please contact a Dainippon Screen sales office or agent to have the laser diode replaced.

Ex81C : Some LD cannot be calibrated to target power. Contact our office or agency and ask to replace them.

This error occurs when exposure is not possible at the LD (laser power) because there was an attempt to increase the laser power setting following calibration to a lowered target power due to the presence of a laser diode that could not be calibrated to the original set laser power (refer to “How calibration is performed” on page 5-53). If this error occurs, perform laser calibration in user maintenance.

Ex81D : Temperature of environment rises. Lower temperature of the environment.

This warning message appears when the ambient temperature exceeds 28°C.
Lower the ambient temperature.

Ex81E : Temperature of environment lowers. Increase temperature of the environment.

This warning message appears when the ambient temperature is less than 17°C.
Raise the ambient temperature.

Ex81F : Sensor for temperature of environment has not been connected.

This message is displayed if communication with the sensor for measuring the environment temperature fails twice.

Ex820 : Trail clamps are nearing the end of its usable life. Please contact our office or agency and ask to replace them.

If this message appears please contact a Dainippon Screen office or agent and request a trail clamp replacement.

Ex821 : The clamps have been used for more than the endurance time. Please contact our office or agency and ask to replace them.

This message will appear if you did not replace the trail clamp after the message “Ex820: Trail clamps are nearing the end of its usable life...” appeared and the loading/ejecting process was carried out another 2000 times. If this message appears please quickly contact a Dainippon Screen office or agent and request a trail clamp replacement.

Ex824 : Calibration must be done because there is some LD which doesn't reach the target power. But, LD calibration can not processed because temperature of LD block is too low.

When laser intensity is measured periodically, this type of error will occur when calibration could not proceed because the temperature inside the machine was too low. This is despite the fact that calibration was determined as necessary after finding a laser that did not reach the specified intensity.

If this error occurs, raise the working environment temperature and perform laser calibration from the user maintenance screen.

If you cancel this error you can expose only 23 plates after which the same error will occur when exposing the 24th plate. Be aware that there could be unevenness in image quality until calibration is performed.

Ex82A : Since the light intensity of laser diodes is detected as having deviated more than 5% from the specified value, the equipment executes the calibration.

This warning message is displayed if automatic calibration was executed as a result of detection of laser intensity deviation during the laser measurement that occurs every 16 plates. Carry out a check of the previously exposed plate in accordance with the explanation in “If a warning message is displayed during automatic calibration” under Chapter 5 “17. Calibration Information”. After doing so, please perform laser calibration in the user maintenance screen.

ExEF5 : LD calibration can not processed because temperature of LD block is too low.

This message is displayed if the internal temperature of the PT-R is so low (below 20°C) that laser calibration cannot be performed.

Exexx : Temperature of the LD block in the exposure head rises. Lower temperature of the environment.

Exexx : Temperature of the LD block in the exposure head rises. Wait for a while until temperature inside the machine falls down.

Exexx : Temperature of the LD block in the exposure head lowers. Increase temperature of the environment.

Exexx : Temperature of the LD block in the exposure head lowers. Wait for a while until temperature inside the machine rises.

Exexx : The exposure head has dew. Wait for a while until temperature inside the machine rises.

Exexx : The exposure head has dew. Raise temperature of the environment slowly.

Exexx : The exposure head has dew. Lower humidity.

Exexx : It is just before an exposure head has dew. Wait for a while until temperature inside the machine rises.

Exexx : It is just before an exposure head has dew. Increase temperature of the environment slowly.

Exexx : It is just before an exposure head has dew. Lower humidity.

Exexx : Temperature of the radiator in the exposure head rises. Lower temperature of the environment.

Exexx : Temperature of the radiator in the exposure head rises. Wait for a while until temperature inside the machine falls down.

Exexx : Temperature of the radiator in the exposure head rises. Please call a serviceman.

Exexx : Temperature inside the machine around the exposure head rises. Lower temperature of the environment.

Exexx : Temperature inside the machine around the exposure head rises. Wait for a while until temperature inside the machine falls down.

Exexx : Temperature inside the machine lowers.

Exexx : Temperature inside the machine lowers. Increase temperature of the environment.

When there is a problem with the ambient temperature or humidity, one of the above warning or error messages will appear. Resolve the problem as directed by the message.

5. Service Calls

WARNING

If an (A) or (B) service call error occurs you must call a Dainippon Screen office or agent without fail. Wait for help or proceed with the error recovery procedure in accordance with the instructions you are given by the service technician.

There are two types of service calls, (A) and (B), depending on the nature of the error. They are defined as follows.

- (A): This type of error involves the rear edge clamp. This type of error cannot be cleared without the help of a certified Dainippon Screen service technician. After such an error even power switch operation does not work. Please call a Dainippon Screen office or agent as soon as possible.
- (B): This type of error occurs during plate transfer (during drum winding, etc.) and cannot be cleared automatically. However, if the plate that caused the error is removed from the PT-R, it may be possible to recover from this error after turning the power off and on. For this type of error be sure to call a Dainippon Screen office or agent and proceed with the error recovery procedure only after receiving instructions from a service technician.

CAUTION!

Never remove a plate that is wound on the drum (when the rear edge clamp is attached to the plate). This could permanently damage to the PT-R.

Example: If there is a plate wound on the drum when an error, the type of which cannot be recovered from automatically, occurs during punching of the next plate, initialization begins after turning the power off and on if the plate is removed. The plate that was being wound on the drum is then automatically discharged.

NOTE

The PT-R is designed not to initialize when power is turned off and on after appearance of service call screens (A) or (B) (error recovery not attempted).

Chapter 8

Jamming

This chapter explains this typical PT-R problem and the solutions.

1. Plate Jam Removal

To protect the PT-R, plates are not automatically discharged in the event of a plate jam. Accordingly, it is required that you open the rear cover of the PT-R and remove the plate. When doing so, **[Remove]** will appear on the lower left of the error message screen.

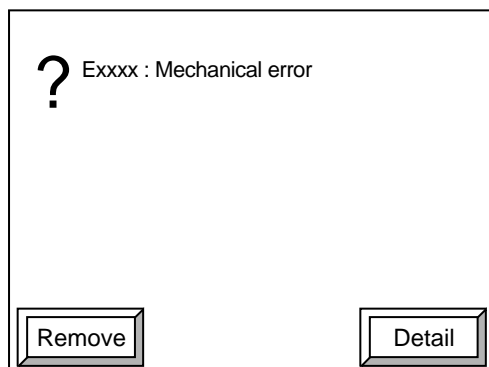


Fig. 8-1 Error message screen (example)

This type of error message screen is displayed when a plate transfer related error occurs (when the plate is gripped by the leading edge clamp).

NOTE **[Remove]** is displayed regardless of the plate size.

Press **[Remove]** when this error message is displayed. The plate size is determined in preparation for removal. (The criterion for determining plate size is whether the plate length is 500 mm or longer, or less than 500 mm. This is because the plate cannot be removed from the rear, where the leading edge clamp is open, when the plate is less than 500 mm.)

When the plate length is 500 mm or longer

1. After pressing **[Remove]** the plate removal preparation screen appears while the PT-R performs preparations for plate removal.

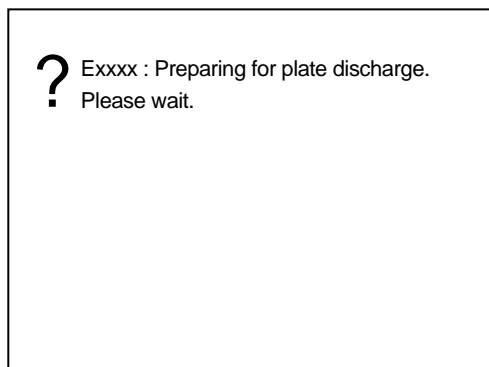


Fig. 8-2 Plate removal preparation screen

NOTE During this procedure, the drum will be spinning and noises that the plate is being shifted inside the PT-R will be heard. These are normal and do not constitute a problem.

After plate removal preparation is completed, the plate removal screen appears.

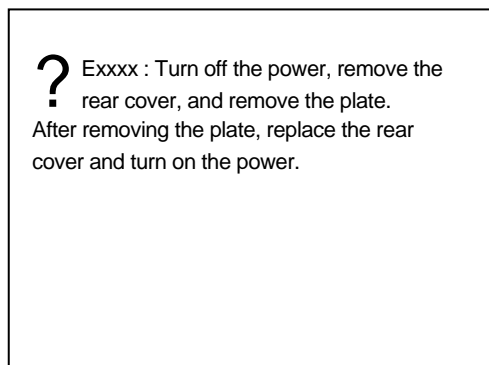


Fig. 8-3 Plate removal screen

CAUTION!

If an error occurs at this time during operation, operation cannot be continued. A service call (B) is required. Please contact a Dainippon Screen office or agent.

2. Turn off the PT-R. Loosen the screws of the rear cover and remove the rear cover. For more details, refer to Chapter 6 “1. Cleaning the Drum” steps 1 and 2.
3. If you can see the plate below the drum as shown below, remove it by pulling it out with both hands. If the plate is in the gap between the drum and the engine base, insert your hand into the gap and pull it out.

CAUTION

When removing the plate, wear anti-slip protective gloves so that you do not cut your hands on the plate.

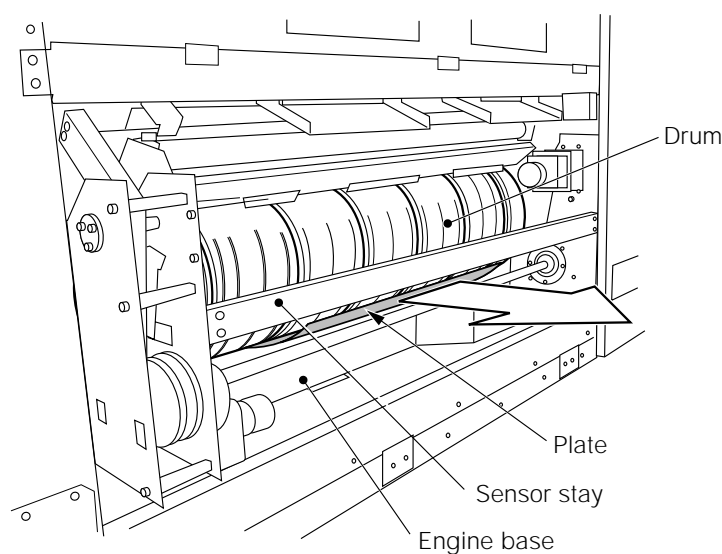


Fig. 8-4 Pull out the plate (500 mm or longer)

CAUTION!

Avoid, as much as possible, touching the sensor stay. Also, a strong load should not be applied.

4. After you have removed the plate, reattach the rear cover to its original position. For more details, refer to Chapter 6 “1. Cleaning the Drum” steps 5 and 6.

CAUTION!

Be sure to sufficiently tighten the rear cover screws. If the screws are not properly tightened, an error will occur during exposure. Also, if you tightened too much, resonance may occur at the rear cover.

5. Turn on the power to the PT-R and press **[START]**. Shortly after, the error resetting screen 1 will appear and the buzzer will sound.

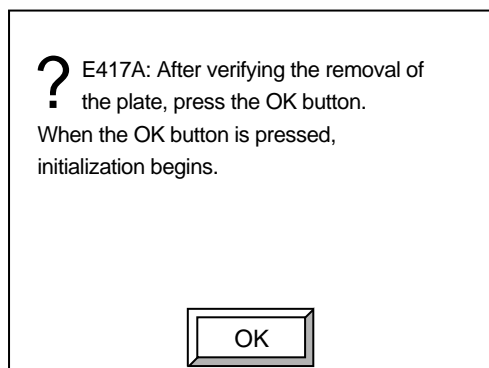


Fig. 8-5 Error resetting screen 1

6. Verify that the plate has been successfully removed and press **[OK]**. The buzzer stops and error resetting screen 2 appears.

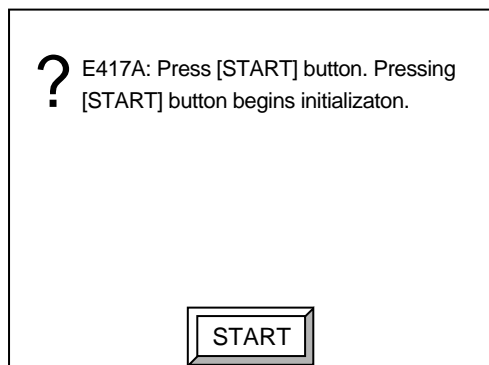


Fig. 8-6 Error resetting screen 2

7. Press **[START]**. Initialization begins.

CAUTION!

Be sure to press [START] after removing the plate. If you press [START] before removing the plate, you might damage the PT-R. If you have not removed the plate by this time, then turn off the PT-R again and remove the plate. In this case, after you remove the plate and turn on the PT-R, this error resetting screen will not appear.

When plate length is less than 500 mm

1. The error message screen appears after pressing **[Remove]**.

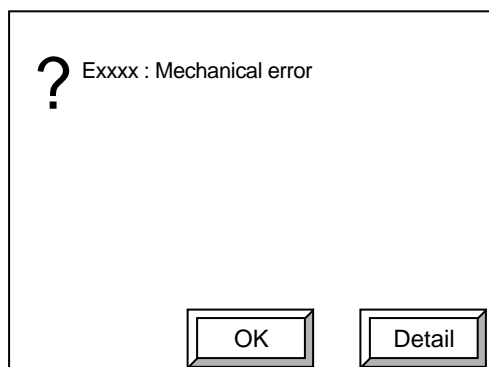


Fig. 8-7 Error message screen (example)

2. Press **[OK]**. The service call (B) screen appears. Please contact an office or agency of Dainippon Screen.

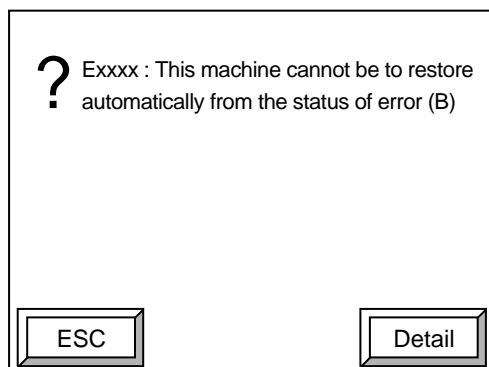


Fig. 8-8 Service call (B) screen

3. Turn off the power to the PT-R if you are removing a plate yourself according to the instructions of a service technician. Next, loosen the hand screw of the rear cover and remove the rear cover. For more details, refer to Chapter 6 "1. Cleaning the Drum" steps 1 and 2.

4. Since the drum is free (it only takes light force to rotate it), hold it and rotate it slowly, up to down, until you can see the leading edge clamp.
5. While pushing the lower part of the leading edge clamp (indicated by arrow), remove the plate from the leading edge clamp.

⚠ CAUTION

- Pulling the plate too strongly may cause it to jump out with considerable force because of the drum inertia. Pull it out gently.
- When removing the plate, wear anti-slip protective gloves so that you do not cut your hands on the plate.

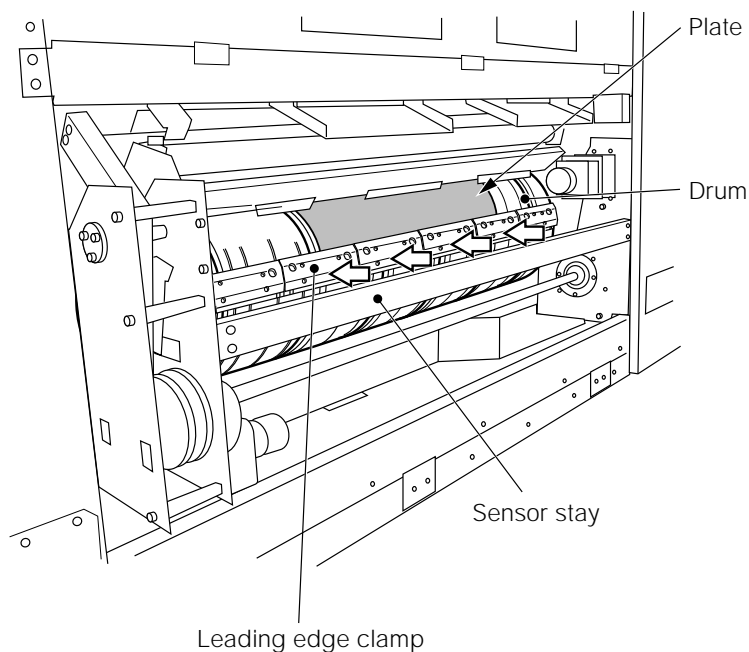


Fig. 8-9 Pull out the plate (less than 500 mm)

6. If the plate slips away from the leading edge clamp, pull the plate from the drum with both hands and remove it.
7. After you have removed the plate, reattach the rear cover to its original position. For more details, refer to Chapter 6 “1. Cleaning the Drum” steps 5 and 6.

CAUTION!

**Avoid, as much as possible, touching the sensor stay.
Also, a strong load should not be applied.**

8. Turn on the power to the PT-R and press **[START]**. Initialization begins.

Chapter 9

Technical Information

This chapter gives technical information on the PT-R.

1. Specifications

Model:	PT-R4300
Recording method:	External-drum-type Exposure
Laser source:	32-ch laser diode
Print plate size:	324 × 370 mm to 830 × 660 mm
Effective exposure area:	324 × 343 mm to 830 × 633 mm
Print plate type:	Thermal (infrared) photosensitive material
Print plate thickness:	0.15 to 0.3 mm
Resolution:	1200, 2000, 2400, 4000, 2438, 2540 dpi
Standalone repetitive accuracy:	±5 μm
Productivity:	20 plates/hour (2400 dpi) size can be made to A4-8 pages (724 × 615 mm)
Interface:	F-PIF
Printing plate loading:	Manual loading (standard), auto-loading (optional: with auto-loader)
External dimensions (width × depth × height):	1750 × 1030 × 1178 mm
Weight:	645 kg (1422 lbs)
Operating environment:	Guaranteed operation temperature range: 21 to 25 °C (69.8 to 77 °F) (with no sudden changes within a short time period) (Operating temperature range: 18 to 26 °C) Humidity: 40 to 70% RH (no condensation or sudden changes)
Storage environment:	Temperature: 10 to 40 °C (32 to 122 °F); Humidity: 25 to 75% RH (no condensation)
Power supply:	1ø, 200 to 240 V +6-10%, 50/60 Hz, 4.0 kW (Note: +6-10% refers to the maximum allowed fluctuation; it does not indicate a variation rate)
Heat generation:	13760 kJ (3440 kcal or 13652 BTU)
Sound pressure level:	Less than 69.7 dB (A)
Grounding:	Grounding resistance must be in accordance with operation site regulations.
Standard accessories:	Blower unit Punch debris receptacle Users Manual
Optional accessories:	Punch unit (type: Dainippon Screen, Bacher, Protocol, Komori, others) Cassette auto loader (single, multi)

2. External Dimensions

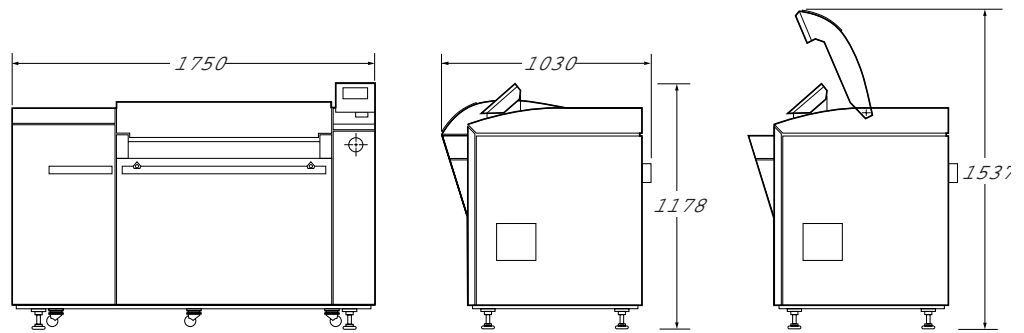


Fig. 9-1 PT-R4300 external dimensions

(Units: mm)

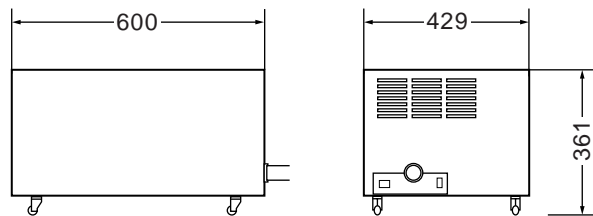


Fig. 9-2 Blower external dimensions

(Units: mm)

Thermal Plate Recorder

~~Plate~~ ~~ite~~ 4300

PT-R4300

Ver. 1.0-

USERS MANUAL

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