QSS-29 Training Materials

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QSS-29 Training Materials

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Chapter 1
Specifications

The point of this chapter

Purpose of study

- Study the specifications of the QSS-29.

  Processing capacity

  Main options

  Spec of PC

How to carry out the training

- Explain, using the Training material.
- Refer to the “Specifications” manual for the details.

Concept

Full digital mini-lab system which outputs from scanning image to the photographic paper by digital signal.
The QSS-29 is designed for a general-purpose machine which can process up to 305 mm paper width.
This is the succeeded machine with the QSS-27.

QSS-2901	:	127 x 89	1,500 prints / hour	
		127 x 89	708 prints / hour	Digital camera/media

Types of QSS-2901

Name of the machine	Specification
QSS-2901 Digital	Standard type
QSS-2901SM Digital	SM type

Explanation of the QSS-2901 system

The QSS-29 consists of the scanner & MLVA printer and the processor.

Name of system:SMP-1700 (Scanner & MLVA printer)
PP-1216 (Paper processor)

What can you do in the QSS-29?

Reflective
FB scanner

Positive films
135 roll/mount
IX240 roll/mount
120

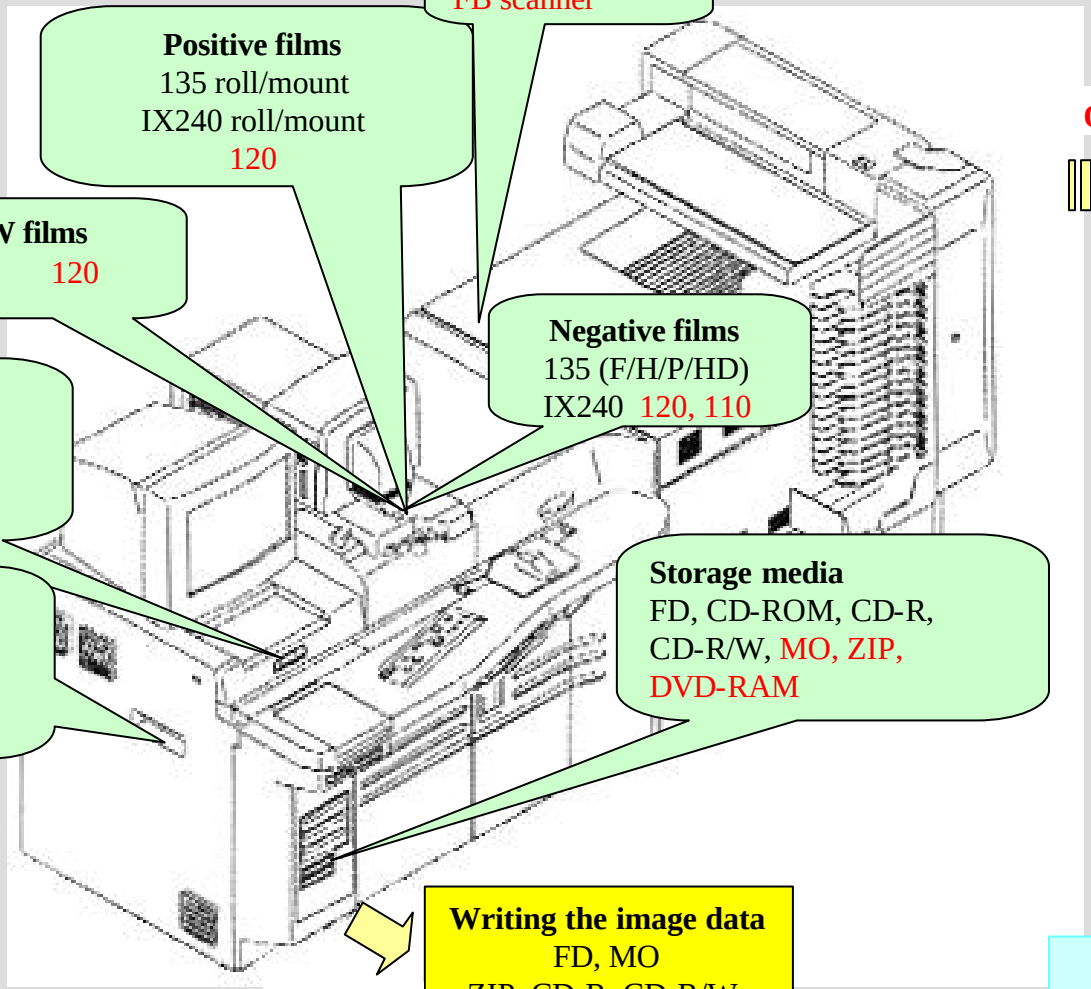
B/W films
135 120

Digital camera
PC card
Smart media
Compact flash

Network correspondence
File sharing
Mail function

Negative films
135 (F/H/P/HD)
IX240 120, 110

Storage media
FD, CD-ROM, CD-R,
CD-R/W, MO, ZIP,
DVD-RAM



Output

Writing the image data
FD, MO
ZIP, CD-R, CD-R/W,
DVD-RAM

Print

Output

Index prints

ID Prints
Package Prints
Post Cards (Greeting Cards)
Calendars
Multi Prints
Letter Prints
Business Cards
WB Prints
Contact Print Style Photos

Time schedule of new functions

Usable media

x = available

Types of media	Input	Output	Note
FD	x	x	Standard equipment
CD-ROM	x		CD-ROM (standard) or CD-R/RW (option) is necessary.
CD-R	x	x	The CD-R/RW drive (option) is necessary.
CD-RW	x	x	The CD-R/RW drive (option) is necessary.
MO	x	x	The MO drive (option) is necessary.
ZIP	x	x	The ZIP drive (option) is necessary.
DVD-RAM	x	x	The DVD-RAM drive (option) is necessary.
Compact flash	x	x	The card reader (option) is necessary.
Smart media	x	x	The card reader (option) is necessary.
PC card	x	x	The card reader (option) is necessary.
Reflective	x		The flatbed scanner (option) is necessary.

***Explain the spec of each drive, etc. separately.**

Processable Format

	Image format
Input	Exif 1.0 JPEG (including Progressive JPEG, CMYK Format) FlashPix Bitmap PSD (including Photo Shop Document, CMYK Format) PCD (Photo CD) PCX, DCX (Paint Brush Format) TGA (Targa)
Output	JPEG (except Progressive JPEG, CMYK Format) FlashPix Bitmap

Processable DVD

Processable DVD	Capacity	Format
DVD-RAM	Single side 2.6G Double side 5.2G	TYPE1 (Cartridge-type, Impossible to remove the disk)
		TYPE2 (Cartridge-type, Possible to remove the disk)
		Disk-type (“Play” only)

Main options

Types of masks	Film type	Size	Note
135240 AFC	Negative/Positive/Black& White/(Roll) Sepia/Black&White (orange base)	135F, H, P, HD IX240	Minimum number of frames:2-frame
120AFC	Negative/Positive/Black& White/(Roll) Sepia/Black&White (orange base)	6x4.5, 6x6, 6x7, 6x8, 6x9	Minimum advance length:43 mm (6 x 4.5 1 frame)
110AFC	Negative	110	Minimum number of frames:3-frame
135/240M MC	Positive (mount)	135F, H, IX240	Length of mount 50 mm x 50 mm Thickness: 1.0 mm – 3.2 mm Glass mount is not available.

Show each AFC.

Options (related to PCs)

Name	Description/Explanation
DIMM	Extended memory unit for 256MB Personal Computer, for the stable use of the Photoshop. **This is compatible with the QSS-28.**
ZIP drive unit	Unit to save/read the image data to a ZIP **This is compatible with the QSS-28.**
MO drive unit	Unit to save/read the image data to a MO **This is compatible with the QSS-28.**
DVD-RAM drive unit	Unit to save/read the image data to a DVD-RAM **This is compatible with the QSS-28.**
CD-R/RW drive unit	Used to save/read the image data to the CD-R/W This is compatible with the QSS-28.
PC card reader/writer	Unit to save/read the image data of digital camera
Flatbed scanner	Used to read the reflective (e.g. photograph) as image data (This is compatible with the QSS-28.)

***The spec, etc is mentioned separately.**

Package contents of image edition

Name	Description/Explanation
Card/Calendar Creation Software (Package-A)	Calendars
	Poster card prints
	Business Cards
	Frame Prints
	Letter printing
	Card Prints
Multi-Frame Print Creation Software (Package-B)	Multi-frame Prints
	Album Prints
	Package Prints
	Contact Print Style Photos
	ID Photos
Red Eye Removal Software	Red eye removal function

Others

Name	Description/Explanation
Digital ICE	Used to remove scratches, etc. from image in negative or positive which is scanned by the built-in scanner. (Software and sticker)
CVP, Ribbon cassette	The ribbon cassette is compatible with the QSS-28.
Monitor hood	This is compatible with the QSS-28.
Pricing unit	Used to calculate prices and issue statements automatically
Extension table	Kit to extend the table in the printer section
Negative cleaner	3-type 100V, 120V, 220V-240V specifications
Sorter modification kit (for 82 prints)	Kit for modifying the print sorter unit to that for 82 prints in one order. Number of orders which can be stocked: 14 (Standard = 17) This is compatible with the QSS-28.
Storage cabinet	2 AFCs can be stored.
One-touch dark bag	Used when paper is repacked to paper magazine (Frame type) This is compatible with the QSS-28.
Cabinet	Cabinet for FBS (Flatbed scanner)

Magazine

Standard magazine	Compatible between Normal and Kodak specification. (Carry out the unit replacement only as it is already adjusted.)
QL magazine	For QL paper (Carry out the unit replacement only as it is already adjusted.) The core unit is different from the standard magazine.

Width Regulation Guide Kit (1)

Name	Magazines	Paper width
Width Regulation Guide Kit (1) (For standard magazine)	Roller guide (1) Width Regulation Guide (movable length:1 mm)	82.5 to 178 mm
Width Regulation Guide Kit (2) (For standard magazine)	Roller guide (2) Width Regulation Guide (movable length:1 mm)	203 to 254 mm
Width Regulation Guide Kit (3) (For standard magazine)	Roller guide (3) Width Regulation Guide (movable length:2 mm)	279 to 305 mm
Width Regulation Guide Kit (4) (For QL magazine)	Roller guide (1) Width Regulation Guide (movable length:1 mm) For QL paper only	89 to 165 mm
Width Regulation Guide Kit (5) (For QL magazine)	Roller guide (2) Width Regulation Guide (movable length:1 mm) For QL paper only	203 to 254 mm

Compatible table of the consumable parts

Scanner + Printer section

Name	QSS-29	QSS-28	QSS-27
Scanner lamp	W407223-01	√	
Air filters (scanner)	A056917-01	√	
MLVA lamp	W407223-01	√	
Air filters (MLVA)	A056917-01		
Ribbon cassette	H086035-01	√	

√ = compatible with the QSS-29

The connector code of scanner lamp is different between the QSS-28/29 and QSS-27.

***For QSS-28/29: White**

***For QSS-27: Black**

Print sizes

Usable paper width	82.5 mm to 305.0 mm
Paper advance length	82.5 mm to 457.0 mm
Maximum print sizes	305.0 mm to 457.0 mm

Usable paper

Maximum diameter of paper	250 mm (180 mm length)
Usable paper	Thin paper (0.2 mm) is supported.

Specifications of personal computers

PC spec table

	Product name	Specifications
CPU	Pentium III	733MHz
Mother board	CT-6BJM	
Memory	PC133	256MB
3.5FDD	TC3MODE PLUS	3 modes
Hard disk	QML-20400LC-A	20GB
CD-ROM drive	CDV-PB40T	40x
Video board	CARD Expert TM64AGP/32	VRAM 32MB
Keyboard (Japanese)	FKB8724-501	
Keyboard (English)	FKB8725-401	
Mouse	Microsoft PS/2 mouse	
OS	Windows 2000 professional	

Spec table of peripherals

	Machine type	Maker	Types of media	Data capacity	Interface
MO	MCE3064SS	FUJITSU		640MB 540MB 230MB 128MB	SCSI-2
Zip	Zip250	Iomega	ZIP	250MB 100MB	IDE (ATAPI)
CD-RW	CDRW-SB124BG	I-O DATA	CD-ROM CD-R CD-RW	640MB	SCSI-2
PC card reader	PCD-47B	Microtek International	Smart media	2 to 64MB	SCSI-2
			Compact flash	4 to 128MB	
			PCMCIA	10 to 85MB	
DVD	LF-D103JD	Panasonic	DVD-RAM	Single side 2.6GB Double side 5.2GB	SCSI-2
			DVD-ROM	Single side 4.7GB	

Spec of flatbed scanner (option)

Machine type	**Astra3400**
Maker	**UMAX**
Color scanning way	**Color CCD (Single Pass)**
Maximum area of scanning	**216 x 297 mm (8.5 x 11.7-inch)**
Optical resolution	**600 x 1200 dpi**
Maximum resolution	**9600 x 9600 dpi**
Interface	**USB**

- AC adapters which are necessary for the flatbed scanner are divided into 8 types depending on the shapes of power supply and plug socket. When you order the flatbed scanner, check the type of power supply and the shape of plug socket for each country.

Chapter 2
Outline of the system

The point of this chapter

Purpose of study

- Explain the outline of the system for the QSS-29.

  Each AFC, MMC, scanner, MLVA, supported media, image size, paper size, Digital-ICE, paper advance system

How to carry out the training

- Explain the items referring to the training materials and using the actual machine.

Light source section in the printer section (Scanner + MLVA)

Light source ：

The halogen lamp of 30.5V and 370W is used for the light source of film scanner.

The lamp and socket are assembled in one, and the heat sink is attached. This is compatible with the QSS-28 scanner.

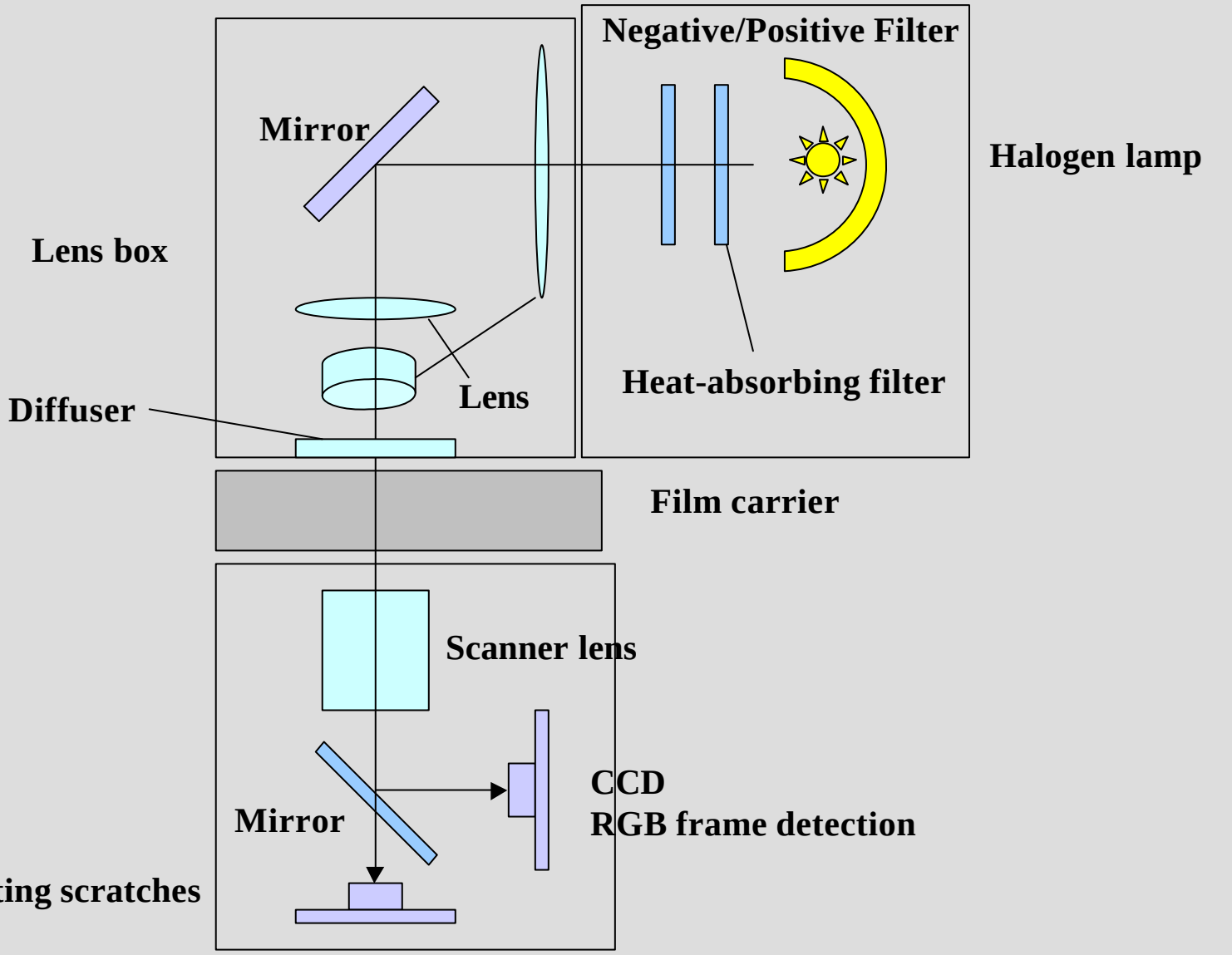
(Refer to the “Compatible table of the consumable parts”.)

Light source parts ：

The reflector is not a consumable part, so it is not need to replace it.

The lens box is slit condenser type. This is compatible with the QSS-28.

Structure of scanner unit



Scanner

Image capture method	
Optical resolution (Main or the CCD line)	Input the one line image with line CCD.
Scan pitch (Sub scanning)	Film is moved.
CCD	Scan RGB each with line CCD (5,000 pixels).
Others	ISL filter*1 is available. Automatic dust and scratch removal for films is available. (Digital ICE) (option)*2

Sticker for permission of use

*1 

*2 

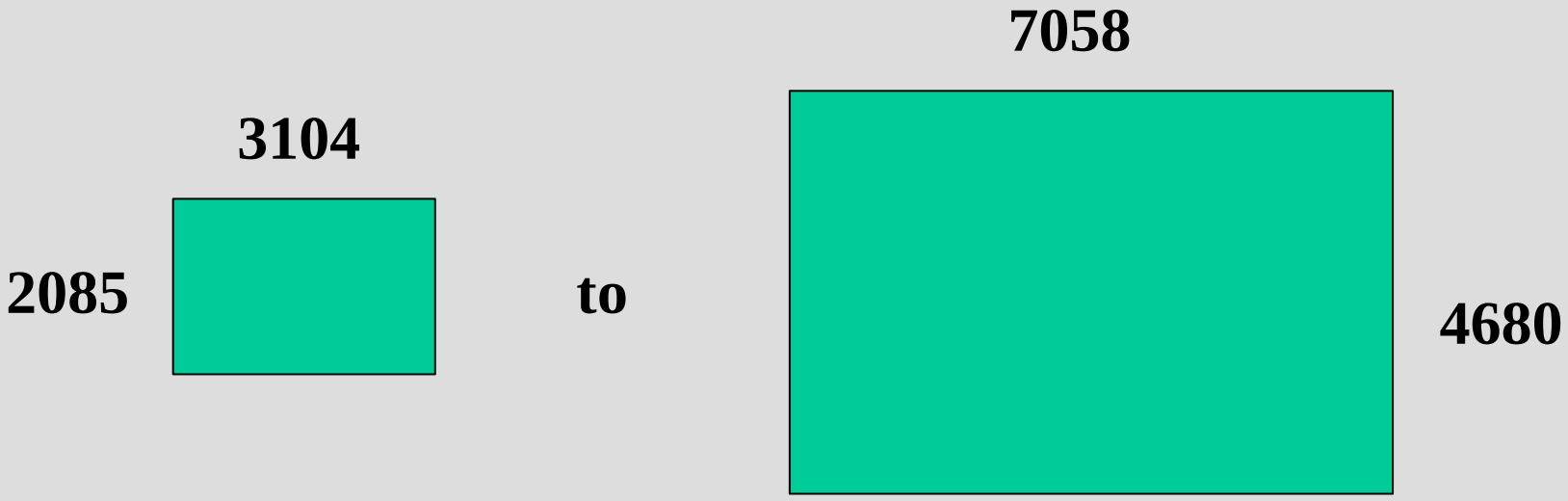
AFC scanning movement

Differences between the QSS-29 and 28		
	AFC for the QSS-29	AFC for the QSS-28
Scanning movement	Pre-scanning + Final Scanning	Final scanning only
Film ejection direction	Return to the film insertion direction side	Ejection to the monitor side

Resolution of the image

- Input resolution (resolution of the image) is different depending on the film size and paper size each.

  Change the resolution of the image by the zoom lens of scanner.



Resolution of the image when scanning 135 film (Unit: pixel)

Resolution of the image (film size each)

Film size	Minimum	Maximum
135F	2058 x 3104	4680 x 7058
135H	2058 x 1451	4680 x 3299
240	1394 x 2093	3170 x 4758
110	1250 x 1645	2500 x 3290
6 x 4.5	4591 x 3362	The resolution of the image is fixed.
6 x 6	4599 x 4530	
6 x 7	4666 x 5617	
6 x 8	4666 x 6290	
6 x 9	4620 x 6727	
135 mount	1397 x 2939	
240 mount	1260 x 2215	

Minimum necessary pixels for each paper size

Size (mm)	Pixel	Size (mm)	Pixel
82.5	1300	178	2803
89	1402	203	3197
102	1606	254	4000
127	2000	305	4803
152	2394	457	7197

Scanning

- The zoom value of scanner is decided on the basis of the smallest among the paper sizes, which are registered in the print channel (C/P/H).

  Example)

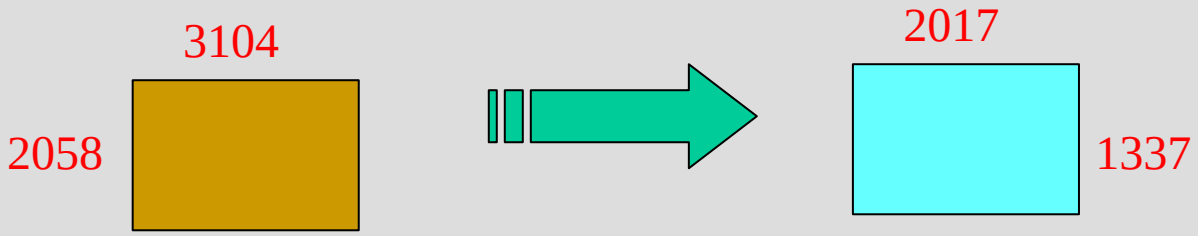
  In the 135F, when setting “C: 89 x 127” and “P: 305 x 457”, the resolution of image is 2058 x 3104.

  The resolution of image for 305 x 457 channel only is 4680 x 7058.

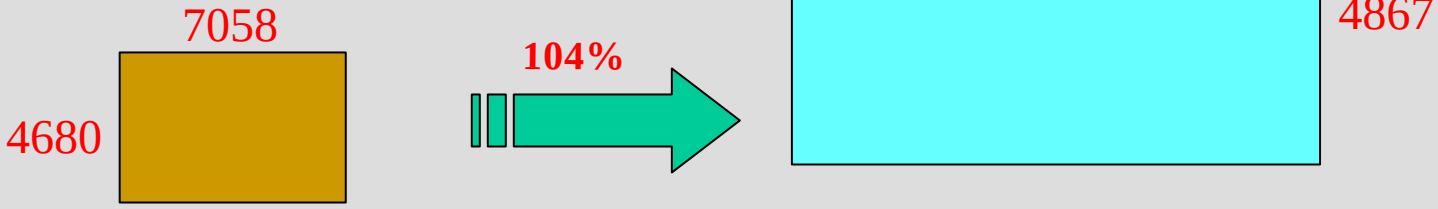
The quality is different depending on the combination of print channel.

Print channel and scanning

In the case of interspersed channel (3R and maximum paper size)



In the case of CH for maximum paper only



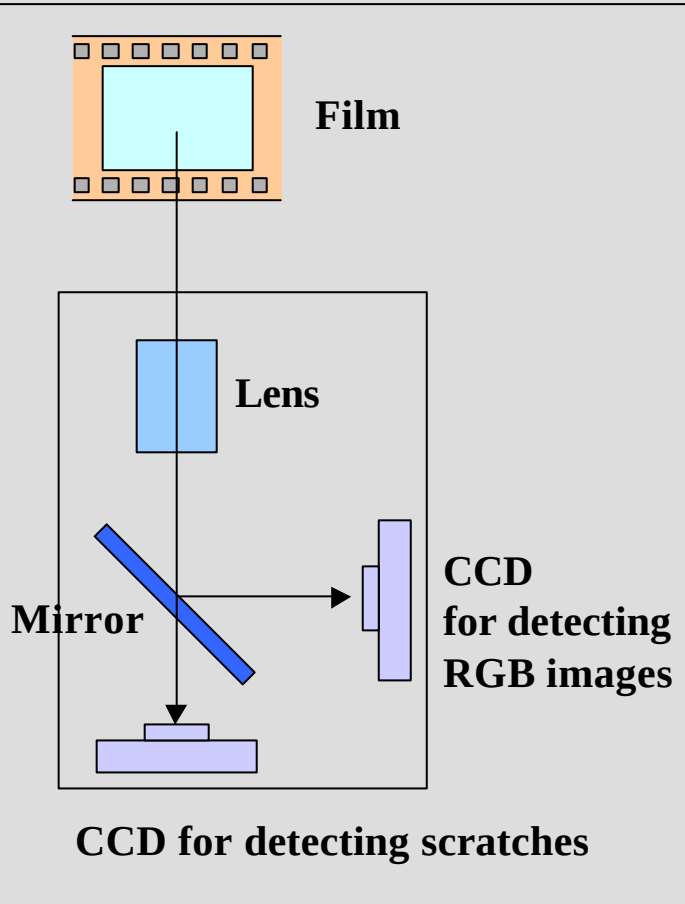
Input data

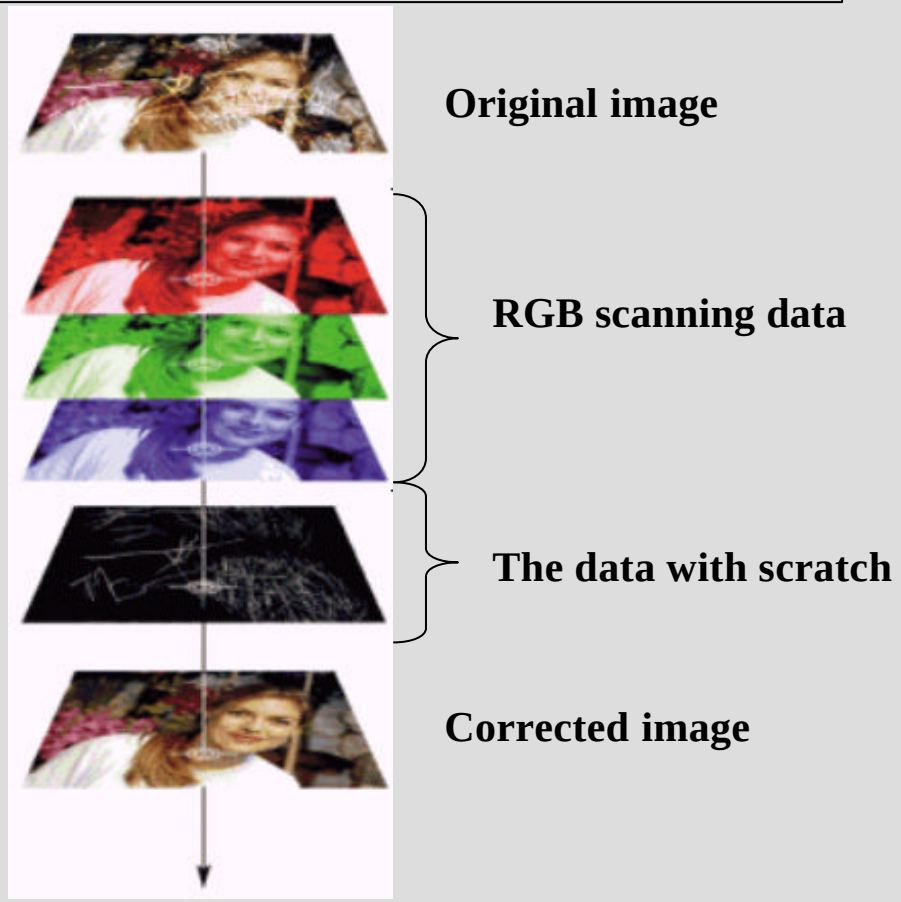
Output data

Pre-scanning

Film sizes	Resolution
135F C/HD/P	257 x 388
135H	257 x 181
240C/HD/P	252 x 442
110	312 x 411
6 x 4.5	286 x 210
6 x 6	286 x 283
6 x 7	291 x 351
6 x 8	291 x 393
6 x 9	291 x 424
135 mount (F/HD/P)	239 x 367
135 mount (H)	239 x 156
240 mount	157 x 276

Digital ICE





The technology to make the images without scratch, dust, etc.
In addition to the CCD which takes the color information of RGB, the another CCD is added. It detects the dust, scratch, etc. on the film. This corrects the scanned image information.

Corrections by Digital ICE

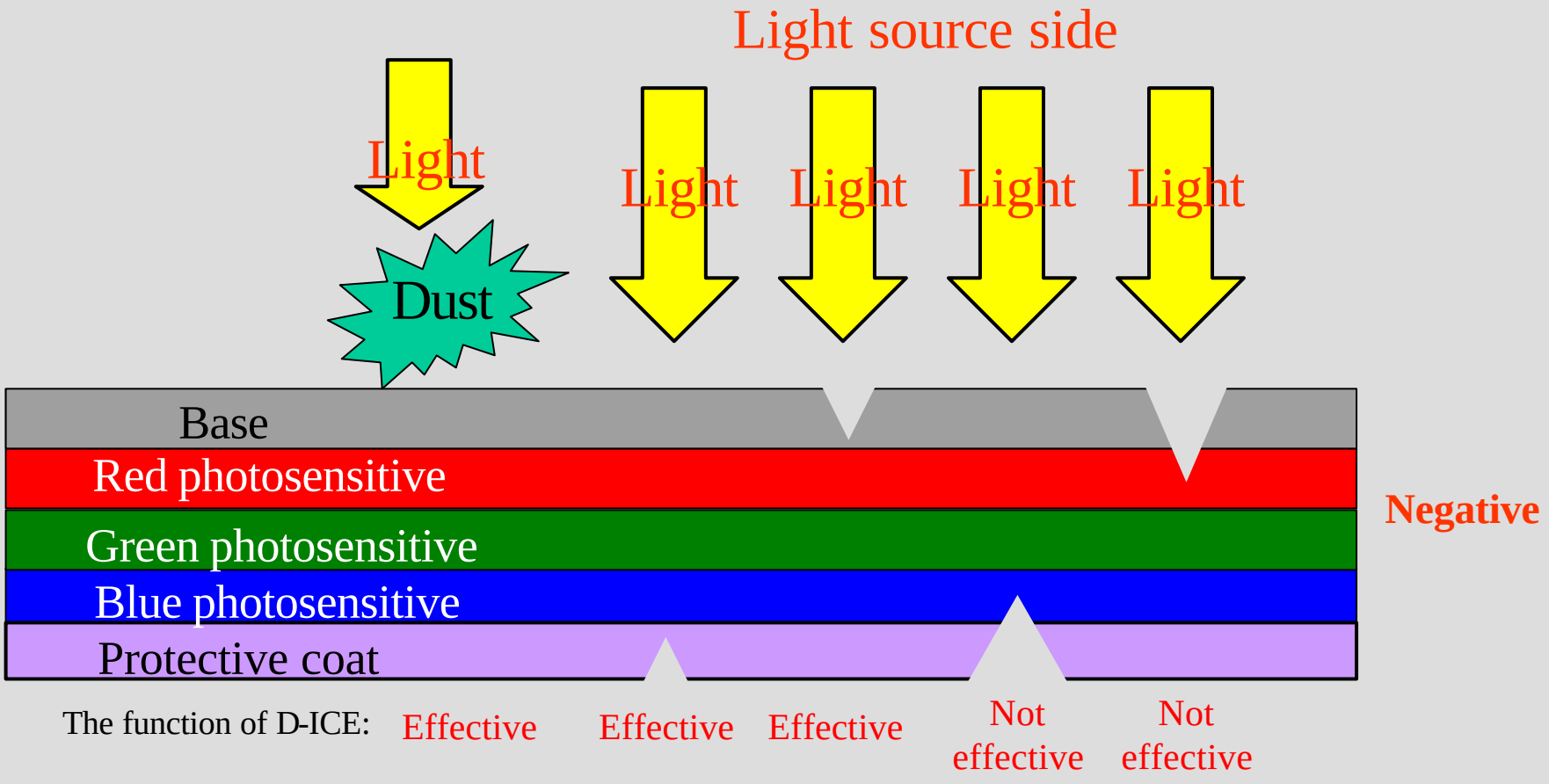
Comparison table with the conventional models

	QSS-29, 28	QSS-27 (DLS)
Correct function	The image is corrected automatically by Digital ICE (option)	No correct function. Option software for DLS
Processing ability	The processing ability does not change even when this is functioned.	Processing ability is decreased at 20 %.

The conditions for functioning the Digital ICE

	QSS-29	QSS-28	QSS-27 (DLS)
PCB, power supply	Already attached when shipping from the factory	Replace the image input PCB with the D-ICE PCB (option). Attach DC power supply 3.	None
Installing the software	Reading the software of Digital ICE (Z809072-01)	Read the system software program of D-ICE PCB. (The program is included in the same CD with the other program.)	Install the software from CD.
Registration in the mode	Mark the check box in the “Operator selection” .	Mark the check box in the “Operator selection” .	Register it in the “Key Operator Mode”

Scratches and dust which can be corrected



When it is possible to correct

(Example: In case of color negative)

Colorimeter

* The colorimeter is adopted for the precise color matching when carrying out the CMS.

* The conventional colorimeter measures the density of the color of the paper. Therefore, there is a difference between the actual print and the measured value.

*This colorimeter has an ability to distinguish like from the human's eye, and the precision of color matching between the monitor and print is up.

* There are three types of colorimeter
– spectrophotometer, colorimeter, densitometer.
The colorimeter is used for the QSS-28.

* The colorimeter can measure the color in CIE-XYZ/Lab value, and color matching for difference devices is possible.

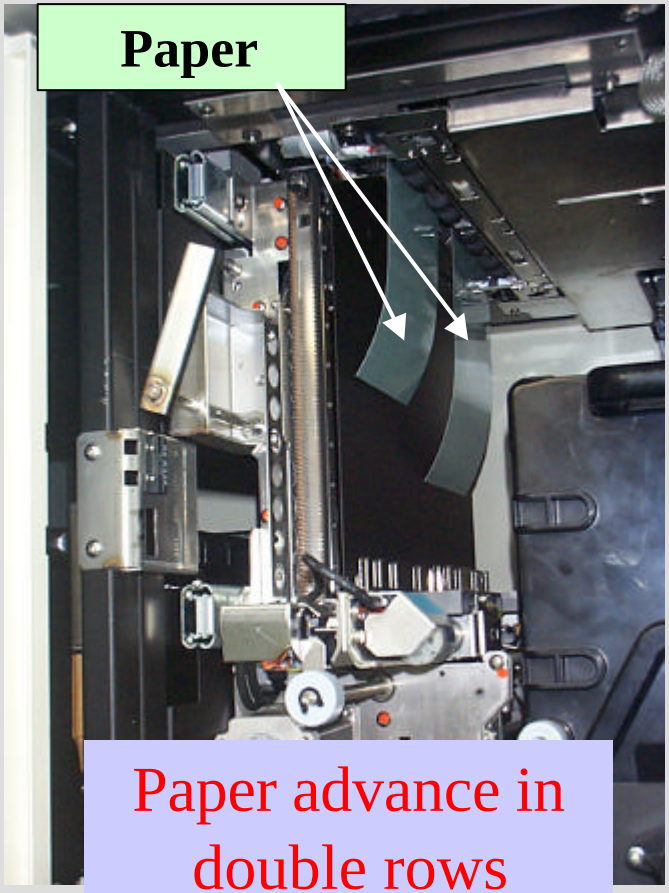
Paper sizes and advance way

Paper advance

In the QSS-29, there are two types of advance way.
Paper advance in single row, Paper advance in double rows
The condition of paper advance is basically as follows.

Condition of paper advance	Advance way
Paper width : 82.5 mm to 152 mm Paper advance length: 216 mm or less	In double rows
Paper width : 165 mm or more Paper advance length: 216.1 mm or more	In single row

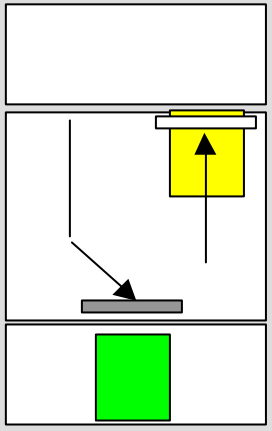
Explain in the “Movements” for the details of movements.



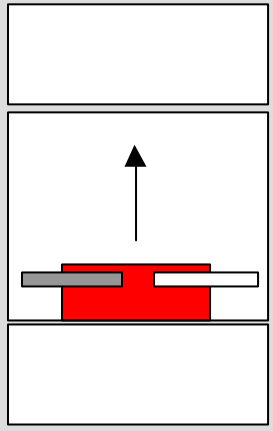
The paper lane selection is carried out in the paper advance section before exposure.

The lane is selected by the arms.

Paper advance in double rows



Paper advance in single row



Check the actual machine.

MLVA

MLVA: Abbreviation of Micro Light Valve Array

Exposure engine which is also used for the QSS-27.

A set of shutters controlled by voltage.

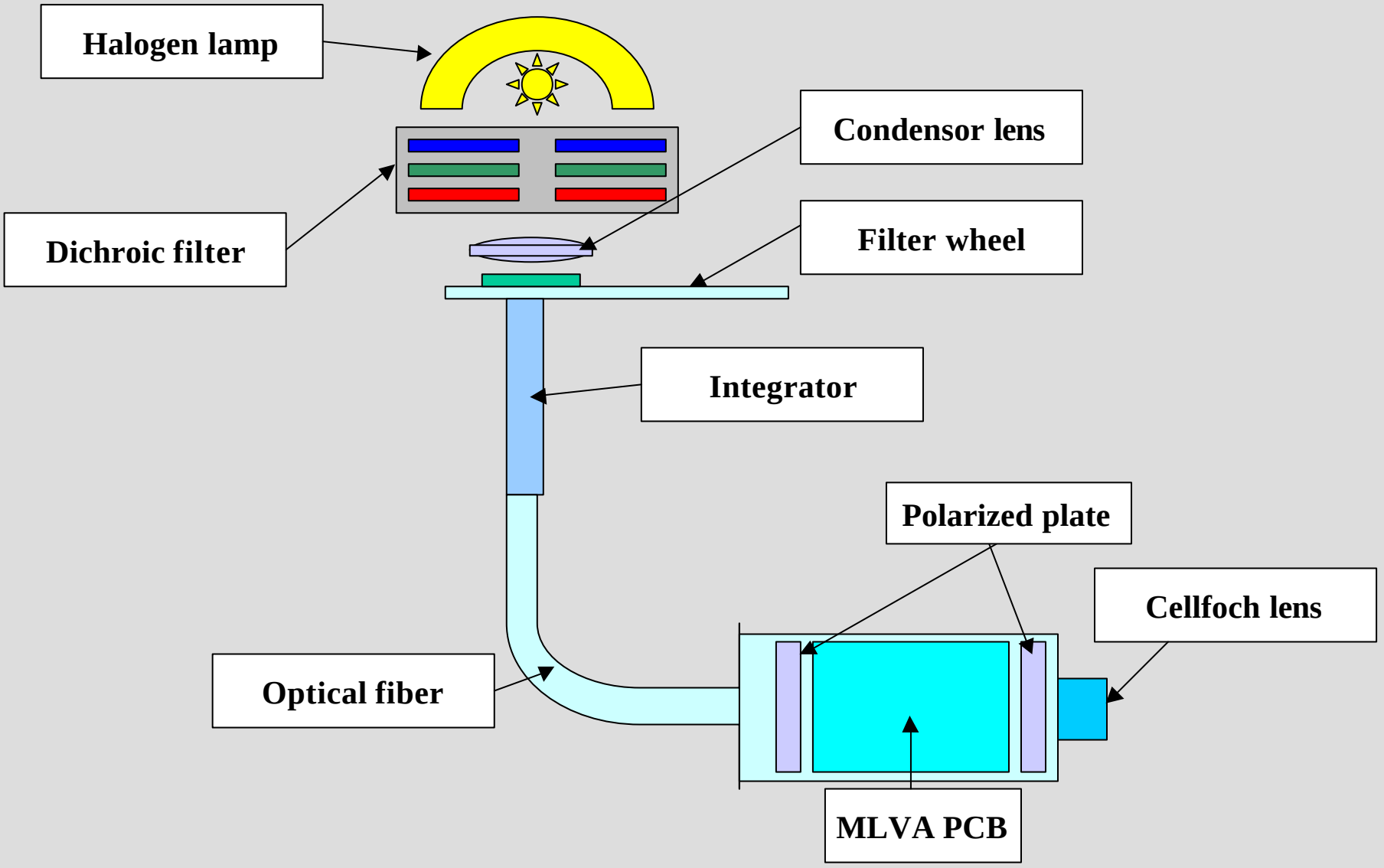
The MLVA of the QSS-29 is small, comparing with that of the QSS-27.

The MLVA is not compatible between the QSS-27 and the QSS-29.

MLVA exposure engine (Exposure section)

Exposure way	Line exposure method by the MLVA engine
Output gradation	1024 gradation
Maximum exposure width	323.088 mm±0.1 mm
Print resolution	400 dpi
Exposure speed	25.4 mm/sec
Halogen lamp	30.5V, 370W

MLVA unit structure



Explanation of the MLVA unit

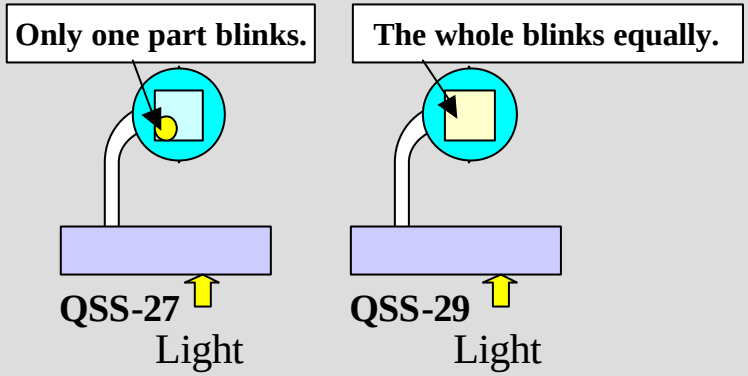
Halogen lamp	Original light source for the image exposed to the paper.
Dichroic filter	Adjust the density for paper each type.
Fan	Integrator cooling fan
Condensor lens	Collect the light together effectively.
Filter wheel	It rotates 12,000 times in a minute, and the white light is diffracted into BGR.
Integrator	Role like a mirror tube
Optical fiber	It transmits the light from integrator to MLVA.
Polarized plate	It penetrates the vibration of light in certain direction.
MLVA PCB	By turning the voltage ON to the polarized light, change the vibration direction of light, and adjust the light intensity of transmission.
Cellfoch lens	Refracting lens to expose the light onto the paper.

MLVA differences between the QSS-29 and the 27

	MLVA (QSS-29)	MLVA (QSS-27)
Cellfoch lens	**Arranged in 4-line**	**Arranged in 2-line**
Filter wheel unit	**Frosted glass is added for improving the diffusion**	**Glass tube**
Optical fiber	**The arrangement of fiber is not fixed.**	**The arrangement of fiber is fixed.**
Condenser lens	**Attached**	**None**
Fan	**Attached**	**None**

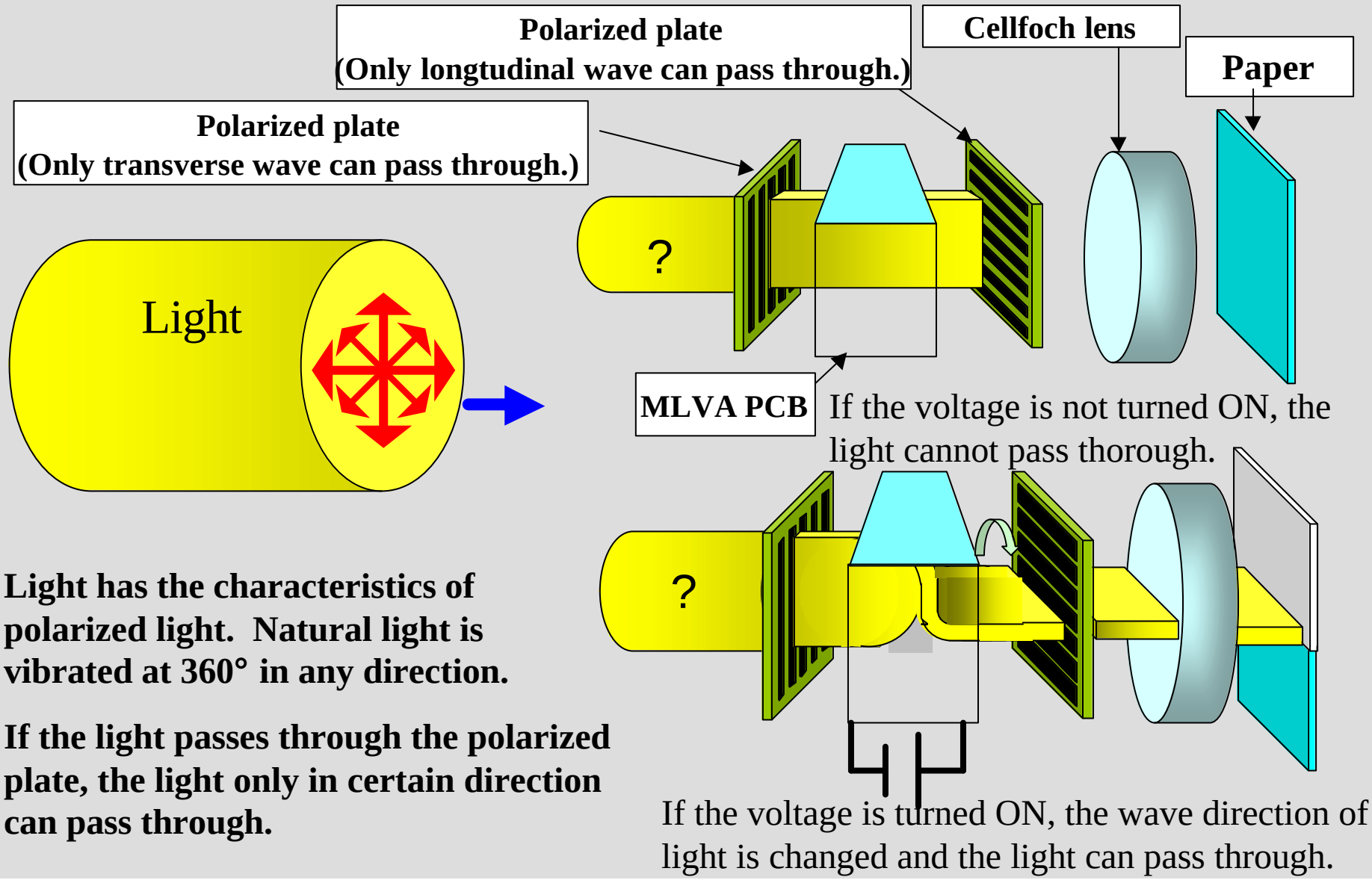
Improvements/modification and effects of QSS-29

Improvements /modification	**Effects**	**Note**
Condenser	Increase the intensity.	Added from the QSS-29
Diffuser	Remove the unevenness of light for halogen lap.	Added from the QSS-29
Fan	Protect the integrator from the high temperature.	Added from the QSS-29
Integrator	Diffuse and mix the light.	Similar with the QSS-27
Optical fiber	Change the position whether the light is gathered by the optical fiber.	Comparing with the QSS-27, the diffusion status is improved by changing the route of optical fiber
Cellfoch lens	The light amount is increased.	QSS-29: 4-line QSS-27: 2-line



Effect by changing the route of optical fiber

Structure of the MLVA (shutter)

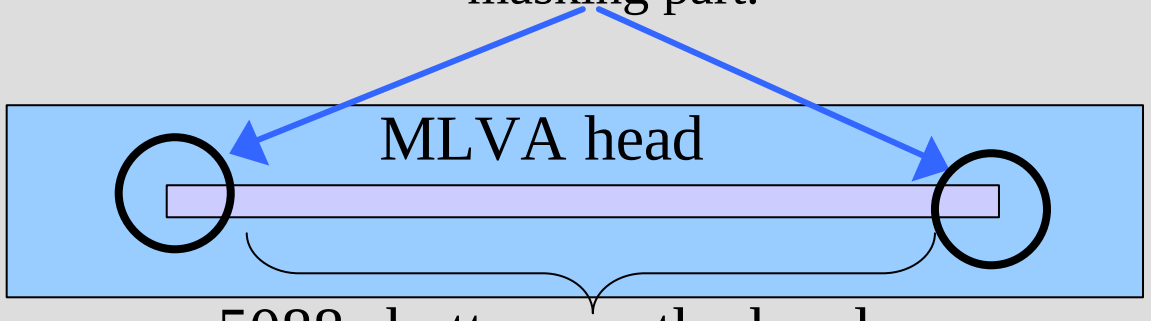


Light has the characteristics of polarized light. Natural light is vibrated at 360° in any direction.

If the light passes through the polarized plate, the light only in certain direction can pass through.

Exposure section of the MLVA

32 shutters on the right and left side on the masking part.



5088 shutters on the head

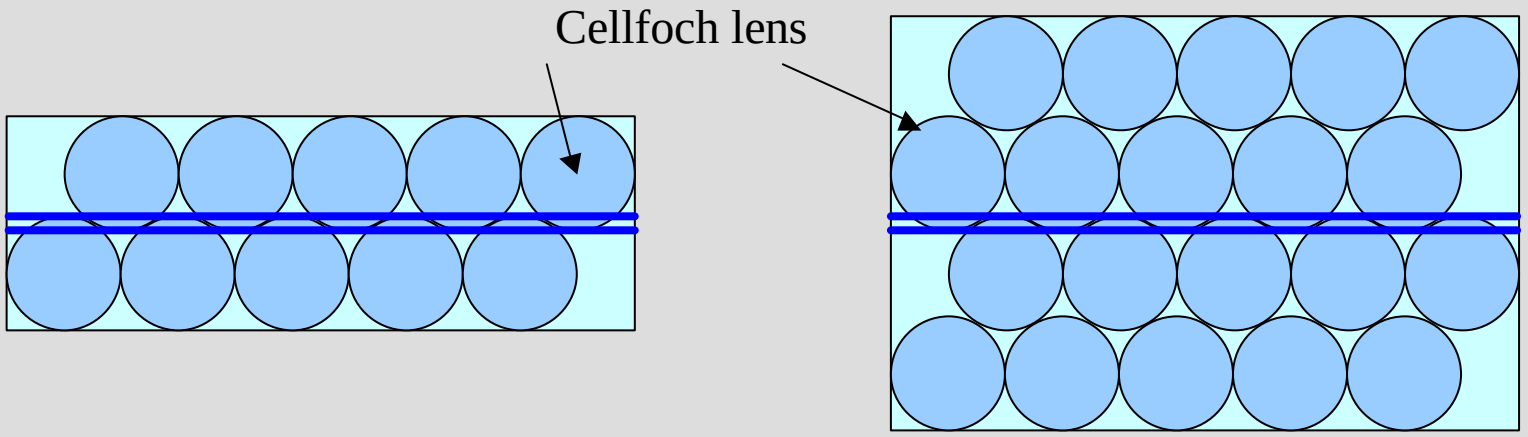
MLVA head cellfoch lens

Collect the light from the shutter with the cellfoch lens.

Cellfoch lens

QSS-27

QSS-29



In the QSS-27, the cellfoch lens is in double rows.

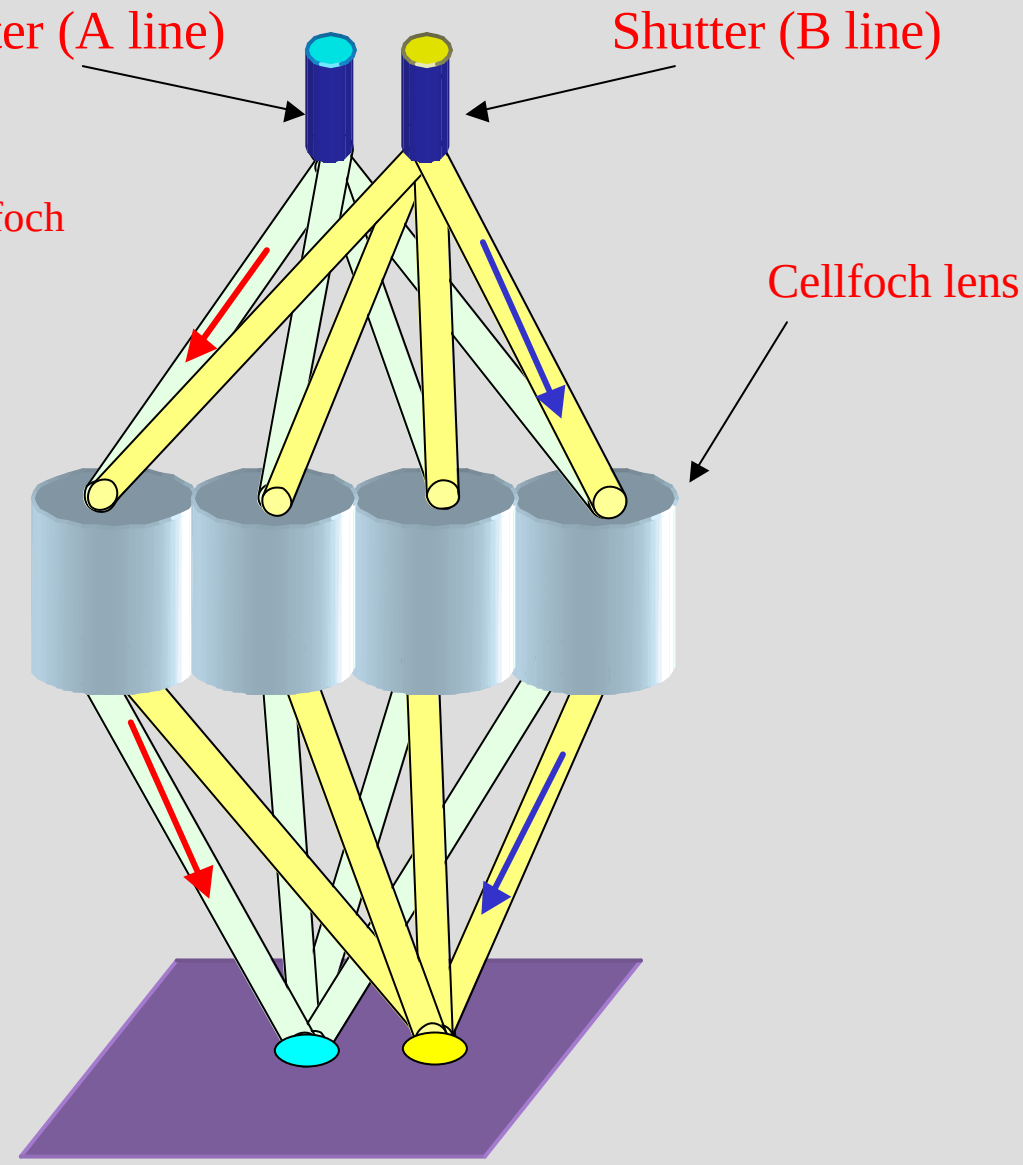
In the QSS-29, the cellfoch lens is in four rows.

So, the light intensity is increased.

Comparing with the QSS-27, the value of D max. is improved

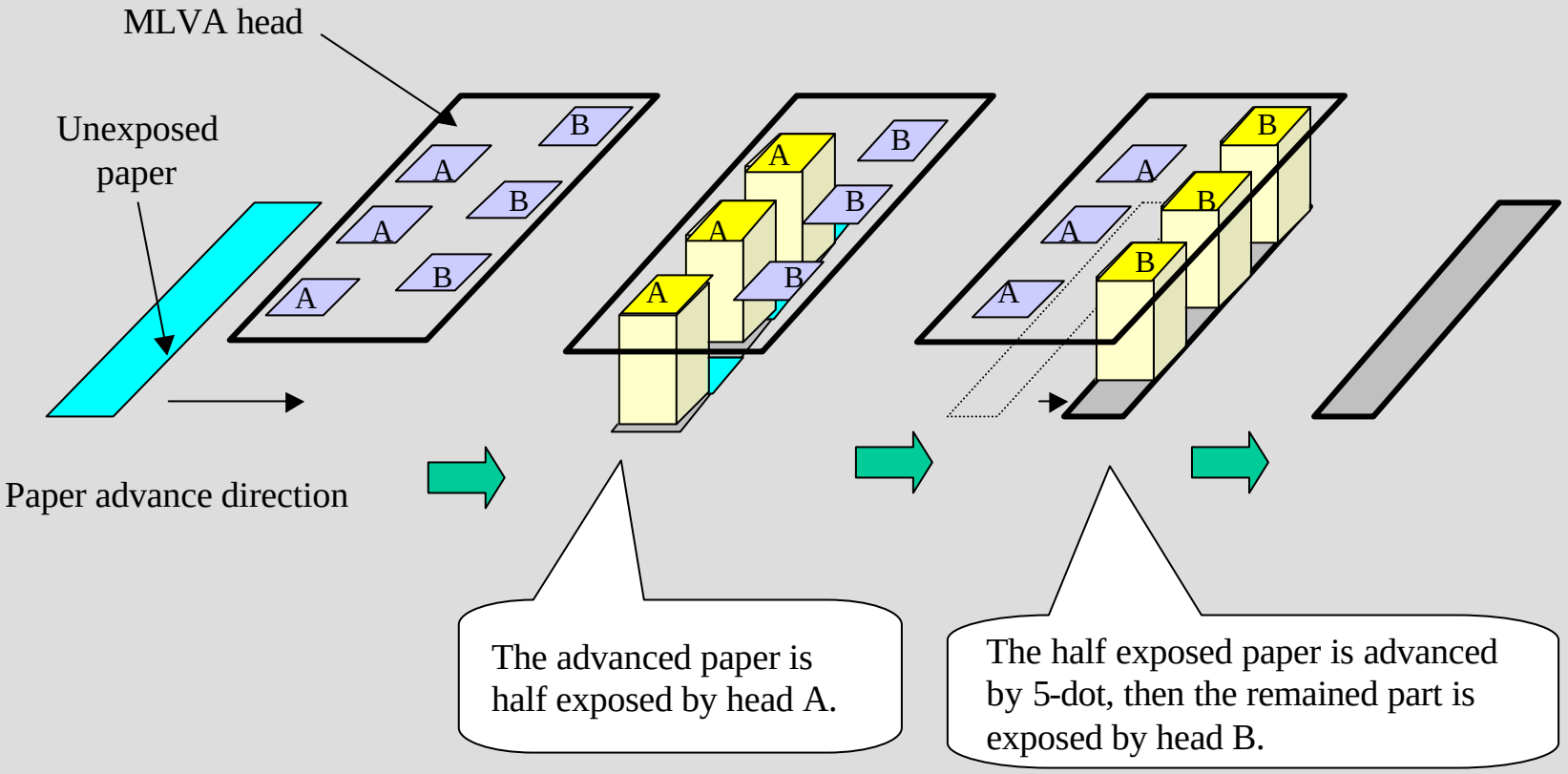
by increasing the light intensity.

As for the characteristic of cellfoch lens, the incidence angle and outgoing beam angle are same.



MLVA exposure

Model figure of exposure



Chapter 3
Operations

The point of this chapter

Purpose of study

- Study the operations for users.

  Printing operations

  Turning ON/OFF the power supply

  Status display of LED

  Setup during the start-up checks

  Input from the flatbed scanner

  Printing in the “Edit” mode

  Details of back print data

  Index prints

How to carry out the training

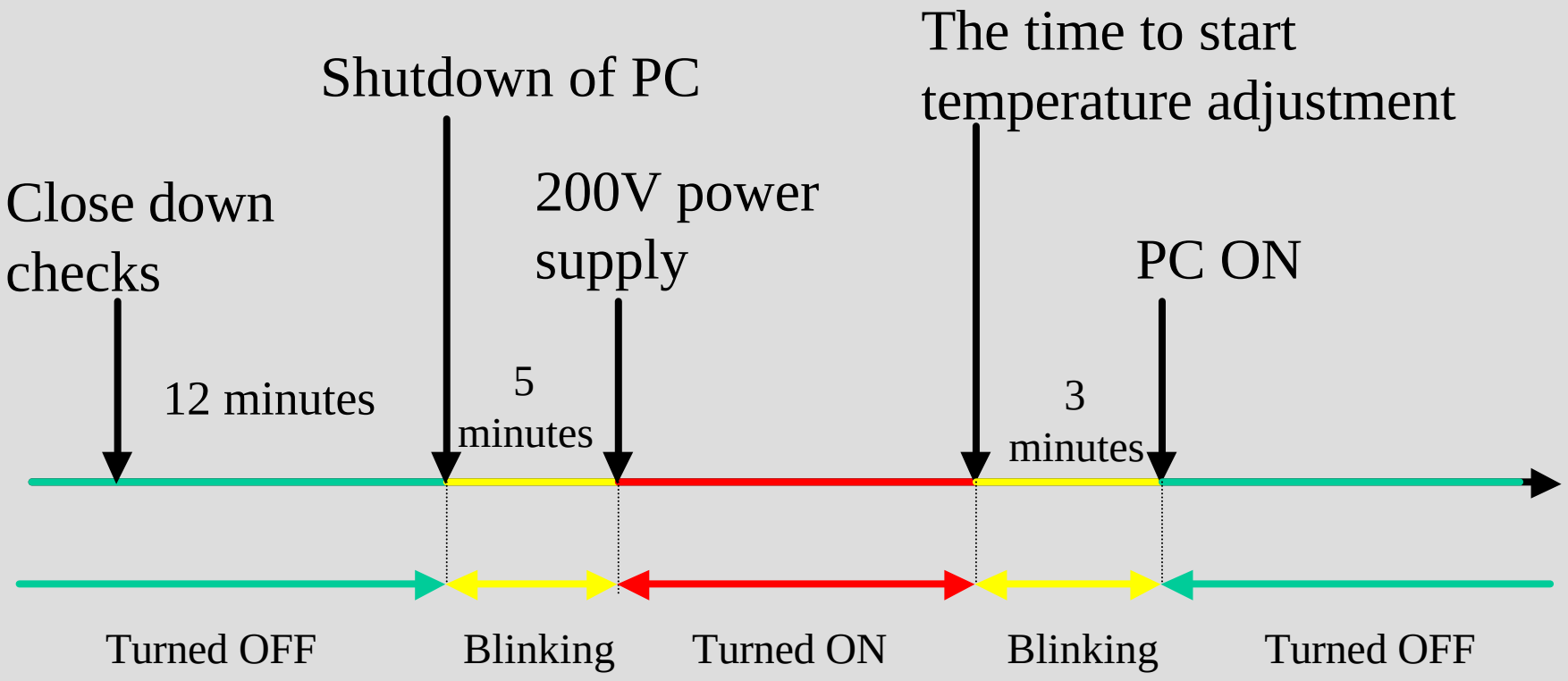
- Carry out the practical training, or explain the items using the sample prints.

Explanation of operations

* Explain with the actual machine.
  - Start-up checks
  - Explanation of [ORDER] display
  - Explanation of [MENU] display
  - Explanation of [HELP]

* Explanation of printing operations
  - Carry out the practical training.

ON/OFF procedure of power supply



Manual sorter switch

Normal shutdown movement

(Close-down check is completed.)

Lamp is OFF.

“Program timer is activating.” is displayed (on the monitor).

The PC is shutdown. (12 minutes later after the close-down check)

The switch of QO is turned ON.

The power supply (200V supply) is OFF. (17 minutes later after the close-down check.)

The power supply of peripheral CPU and cooling fan is OFF.

Normal start up movement (when the program timer is activated.)

During the Program timer

(“17 minutes later after the close down check” to “The time to start the temperature adjustment”)

(The time to start the temperature adjustment)

The power supply is ON. (200V supply) The power supply of peripheral CPU is ON.

The PC is started up. (3 minutes later after the power supply is ON.)

“The processing solution temperatures are being adjusted” is displayed (on the monitor).

After the temperature adjustment is completed, “Would you like to proceed to the operation mode?” is displayed (on the monitor).

Press [YES] key to go to the operation mode.

How to start-up except from the program timer

(when the breaker is turned ON)

•When starting up during the program timer

(“17 minutes later after the close down check” to “The time to start the temperature adjustment”)

The power supply of input section and output section is turned ON by pressing the QO switch for 2 seconds or more.) Then, the PC starts up 3 minutes later.

•When starting up during the shutdown of PC

(“For 17 minutes after 12 minutes have passed after the “Close down check”

Until “The power supply is turned OFF”)

Press the QO switch for 2 seconds or more. The power supply is turned OFF, and the power supply of printer section and processor section is turned ON. Then, the PC starts up 3 minutes later.

•When starting up in the cases below

“The processing solution temperatures are being adjusted”

“12 minutes have passed after the close down check is completed.”

“Would you like to proceed to the operation mode?” is displayed by pressing the key of keyboard. Press [YES] key to go to the operation mode.

How to start-up after the breaker is turned OFF

*** When turning the breaker OFF during the program timer**

("17 minutes later after the close down check" to "The time to start the temperature adjustment")

The program timer becomes activating by turning the breaker ON. The power supply of printer section and processor section is turned ON by pressing the QO switch for 2 seconds or more. Then, the PC is started up 3 minutes later.

*** When turning the breaker OFF except the case "during the program timer",**

The power supply of printer section and processor section is turned ON by turning the breaker ON.

Then, the PC starts up 3 minutes later.

***When the PC does not start up (error)**

Turn the breaker OFF and attach the jumper for start-up on the J/P678 of power PCB 2. Then, turn the breaker ON.

Cautions when turning OFF the breaker

*** When turning OFF the breaker in the case of trouble shooting, etc., Turn OFF the scanner lamp and MLVA lamp. After 10 minutes or more have passed, turn OFF the breaker. If you do not do so, the lamp may be damaged.**

How to turn OFF the breaker

*** How to turn OFF the breaker after the close down check**
(e.g. When you do not use the function of the program timer)
When 12 minutes have passed after the close down check is completed, the shutdown of PC is started. When 17 minutes have passed after the close down check is completed, the power supply is turned OFF. At this time, turn OFF the breaker.

*** When turning the breaker OFF in the case of troubleshooting, etc, press [F] key in the "Close down check" mode and select "Turn OFF the power supply". After confirming that the power LED of PC is OFF, turn OFF the breaker.**

How to turn OFF the breaker when the PC is locked

1. **Check the LED of HD.**

   When the LED of HD is lighting or blinking, the HD is activating.

   If turning the power supply OFF when the HD is activating, the HD may be damaged.

   Wait until the LED is turned OFF.

2. **Turn OFF the power supply of PC by pressing the SW of PC for 4 seconds or more.**

3. **Turn OFF the breaker of processor.**

   Wait for approx. 10 seconds after turning the breaker OFF. And then turn the breaker ON.

How to turn OFF the breaker in an emergency

*** When turning OFF the breaker in an emergency, turn OFF the breaker of the processor.**

The UPS starts up and the PC is shutdown. (for a few minutes to 20 minutes)

Status display of the processor

Status lamp of processor	Condition of display	Note
Lighting Green 	The temperature adjustment is completed.	
Blinking Green 	During the program timer (From “After the close down checks is completed.” to “The time to start the temperature adjustment”)	**Slow blinking**
Blinking Green 	The temperatures are being adjusted.	**Fast blinking**
Blinking Red 	When it is impossible to activate the temperature adjustment (When the error occurs or the interlock switch is activated.)	**Slow blinking**
Dark 	The input section is not started-up.	

Sorter switch	Condition of display	Note
Dark 	The PC is functioning.	
Blinking 	While the PC is being started-up, 5 minutes after turning OFF the PC in the close down checks.	**Slow blinking**
Lighting 	During the program timer or the power supply of PC is turned OFF.	

Status display of AFC

Ready lamp	Condition of display
Lighting Green	Processing films is possible. (You can insert a film.)
Blinking Green 	Film is being processed. (You cannot inset a film).
Blinking Red 	Films cannot be processed. (You cannot process a film.) *The error occurs. (You cannot process a film.) * The error occurs. (You cannot print.)
Dark 	Films cannot be processed.(You cannot process a film.) *When the “Film” is not selected for “Image input” in the print channel setting. *During the start-up checks and close-down checks *During the program timer *When the message “Insert a film.” does not appear on the adjustment mode. *During the initial movement

Setup during the start-up checks

Daily setup	Execute once a day for each paper type to be used.
	Correct the temporary aging of exposure engine, light source and processing solution.
	Make a 18-step test print.
Weekly setup	Execute once a week. This is displayed instead of the daily setup.
	After carrying out the daily setup, carry out the printer profile calibration to correct the temporary aging of data characteristics for each printer. (Execute it for each paper type).
	Make test prints. 18-step setup prints (daily setup) 16-step setup prints (printer profiles)
	Carry out the uniformity (calibrator).
Monthly setup	Execute once a month. After completing the daily setup and weekly setup, execute it.
	Carry out the monitor profile calibration to correct the temporary aging of monitor.
	Measure the monitor directly by the calorimeter.

Daily setup flow

Make a test print (18-step setup print)

When the light source upgrading (auto) (135 lane) is carried out during the program timer

Light source upgrading (135 lane)

When the light source upgrading (auto) (135 lane) is not carried out during the program timer

Calorimeter calibration

Measure a test print.

Registration

Uniformity (calibrator)

When the uniformity is not carried out during the program timer.

Weekly setup flow

Daily setup is completed.

↓

Make a test print. (16-step setup print)

↓

Measure a test print.

↓

Update the Printer profile data.

↓

Uniformity (calibrator)

↓

Registration

When the uniformity is not carried out during the program timer.

Monthly setup flow

Daily or weekly setup is completed.

↓

Monitor color and temperature adjustment

↓

Monitor brightness adjustment

↓

Measure the monitor display.

↓

Monitor calibration

and updating the monitor profile

Printing in the Edit mode

Post cards

INDEX1

Package prints

Composite prints of frame and letter

INDEX3

Others

*Calendar Prints

*Letter prints

*Photo Business Cards

*ID Photos

Details of the back print

* Film and media except 240

NORITSU <12> 005 ? FBS 12

(X) (I) (K) (D) (E) (F)

284 15 +1+1+1+1 +30 AC01 Acs –10 Ach -10 AS02 SA200 GR10 RE01 SF02 FC01 XF02 R090 Z80

(J) (L) (M) (N) (O) (P) (Y) (Z) (Q) (R) (S) (T) (V) (W)

* For 240 (TYPE1)

BIRTHDAY EL25 MGhi FFn BVvh Alh PAc SUn CH1 LAB01 ©CD 12

(A) (B) (C) (D) (E) (F)

01.05.29 11:57A 001-001 (12) 284 005 15 +1+1+1+1 +30 *Digital correction data

(G) (H) (I) (J) (K) (L) (M) (N) (Same with films except 240)

* For 240 (TYPE2)

BIRTHDAY EL25 MGhi FFn BVvh Alh PAc SUn CH1

(A) (B)

29/MAY/01 11:57A ID001-001 (12)FTPM LAB01 ?

(G) (H) (I) (C) (D)

Details of the back print

* Editing

BIRTHDAY 123 ? 12
(A) (K)(D)(F)
284 15 < CUSTOMERINFO.mdb 1234
(J) (L) (1) (2)

* Back print data only for editing

(1)	File name for customer information	(2)	Customer number for customer information

(A)	Title	(K)	Print count
(B)	Camera information	(L)	Print channel
(C)	LAB ID	(M)	Color, density correction (YMCD)
(D)	Copyright mark	(N)	Scanner correction
(E)	Input medias	(O)	Auto contrast correction value
(F)	Template	(P)	Auto sharpness correction value
(G)	Date, Time 240 TYPE2: the month is displayed in 3 letters (English letter).	(Q)	Red-eye correction value
		(R)	Soft focus correction value
		(S)	Color conversion Color image: FC Monochrome: MoF Sepia: SeF
(H)	Film ID (FID) 240TYPE2: ”ID” is displayed before the number.	(T)	Cross filter correction value
		(V)	Rotation angle of the image
(I)	Frame number 240TYPE2: FTPM or SERIES is displayed after the frame number.	(W)	Zoom and crop of the image
		(X)	Backprint
		(Y)	Chroma correction
(J)	Order number	(Z)	Graininess repression correction

Index print sizes

* Normal index prints

Name	3HS	3R	3HD	3W	4R	4HD	5R
Sizes	82.5 x 158	89 X 127	89 x 158	89 x 178	102 x 152	102 x 178	127 x 178
135/120/110	△	√	√	-	√	√	√
240	-	√	√	√	√	√	√
Medias	-	-	-	-	√	-	-

Name	6R	6HD	6W	8R	8HD
Sizes	152 x 203	152 x 254	152 x 305	203 x 305	203 x 356
135/120/110	√	√	√	√	√
240	√	√	√	√	√
Medias	-	-	-	√	-

√ : Available

△ : Available with 20 frames or more

— : Not available

Types of index prints

Normal index prints	Make normal index prints. The data for displaying on the PJP mode is used.
Label index prints	Index print for the media case size of storage media No index print for smart media, PC and compact flash
Contact Print Style Photos	Make Contact Print Style Photos. IX240 and medias are not supported.

Background color for index prints

*8 colors can be selected as a background color of an index print.

1. Gray 
2. White 
3. Pink 
4. Yellow 
5. Orange 
6. Green 
7. Light blue 
8. Purple 

Label index prints

Types of media	FD	MO	Zip	CD
Size	89 x 114	89 x 117	97 x 120	120 x 120
Format (number of frames)	6, 20, 35	6, 20, 35	6, 20, 35	80
Note	The number of frames are switched automatically.	The number of frames are switched automatically.	The number of frames are switched automatically.	The number of frames are fixed.

Index print sizes for Contact Print Style Photos

Paper sizes for 6-frame

Name	CP6_1	CP6_2	CP6_3	CP6_4	CP6_5	CP6_6	CP6_7
Paper width (minimum width)	82.5 mm or more	82.5 mm or more	120 mm or more	165 mm or more	203 mm or more	240 mm or more	240 mm or more
Paper advance length	228.6mm	228.6mm	228.6mm	228.6mm	228.6mm	228.6mm	263 mm

Paper sizes for 4-frame

Name	CP4_1	CP4_2	CP4_3	CP4_4	CP4_5	CP4_6	CP4_7	CP4_8
Paper width	82.5 mm or more	82.5 mm or more	120 mm or more	152 mm or more	152 mm or more	152 mm or more	152 mm or more	152 mm or more
Paper advance length	152 mm	152 mm	152 mm	152 mm	191 mm	227 mm	263 mm	300 mm

Name	CP4_9	CP4_10	CP4_11
Paper width	152 mm or more	152 mm or more	152 mm or more
Paper advance length	336 mm	372 mm	407 mm

Size:

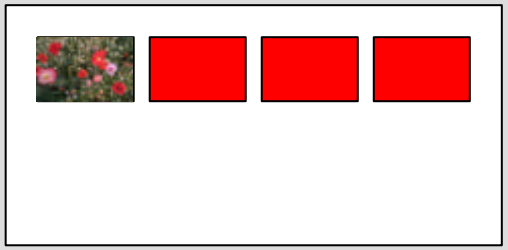
When printing the paper to be used with the minimum necessary paper width.

Only 135F is supported.

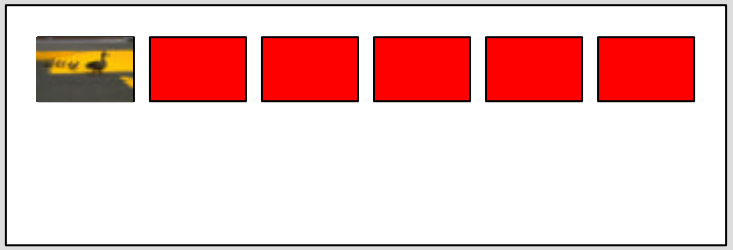
Index print sizes

*Contact index prints

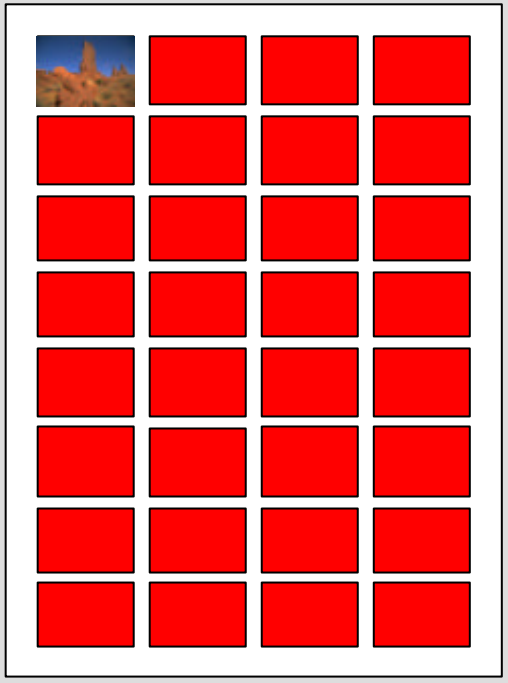
CP4_1



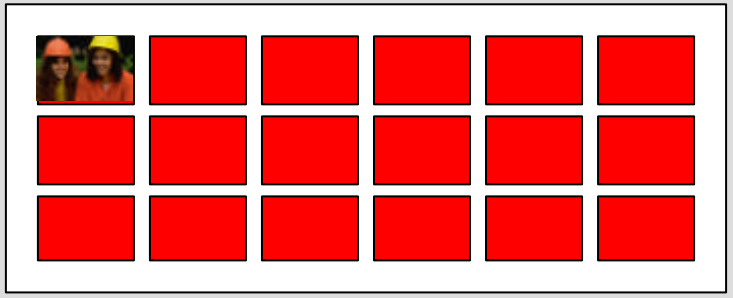
CP6_1



CP4_8



CP6_3



Practical training

*Carry out the practical training.

- How to exit from the close down checks mode.
- How to finish the application.
- When carrying out the close down checks, set the 135/240AFC to 135 lane.

Explanation of modes

* Explain the modes, checking the actual machine.

Chapter 4
Installation

The point of this chapter

Purpose of study

- Study so that the trainees can install the QSS-29 (SMP-1700, PP-1216).

  The width for carrying a machine

  Outdrawing

  Parts required when installing a machine

  PC peripherals

  Setting the language specification

How to carry out the training

- The trainee will provide an oral explanation of the caution points, referring to “Installation Manual” and a machine.
- Carry out the mechanical adjustment or installation of options in the other chapter. You do not carry out the practical training here.

The width to carry a machine

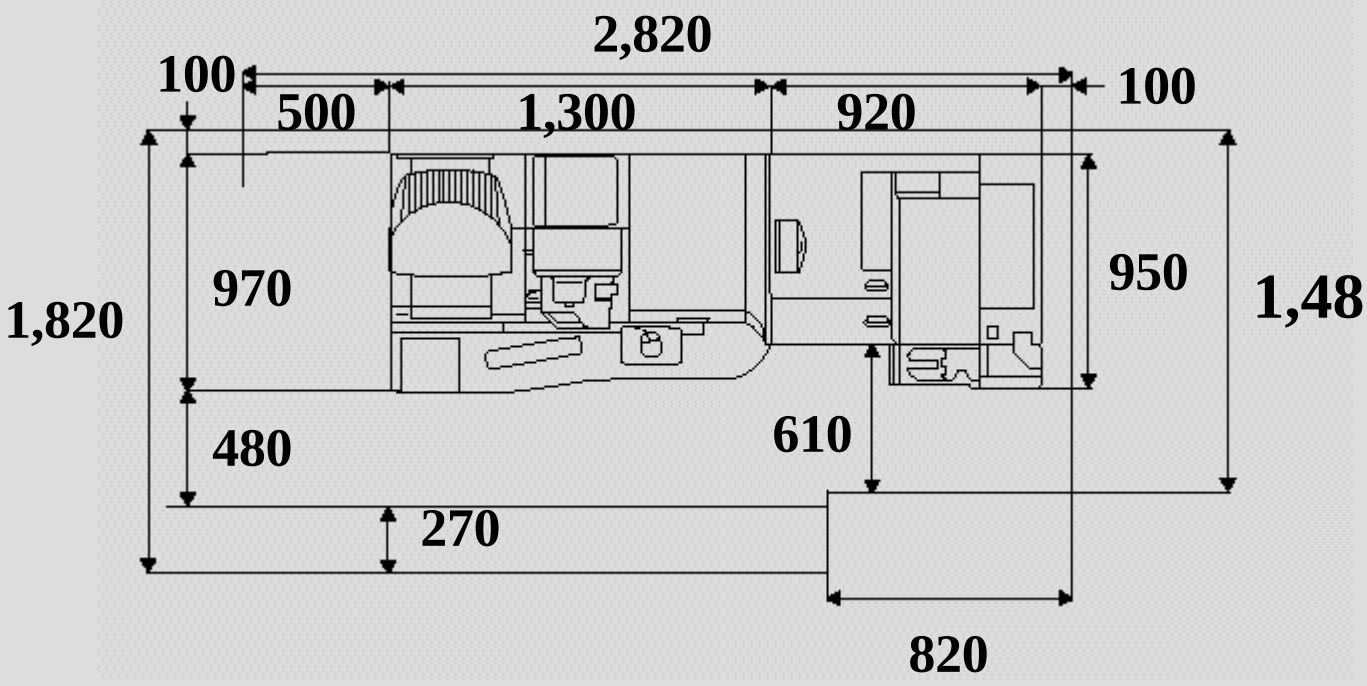
Unit : mm

System name	The minimum height	The minimum width
SMP-1700	1,350	970 (770*)
PP-1216	1,500	780

*As for the SMP-1700, when removing the table, front cover and PC main body, the minimum width for carrying a machine is 770 mm.

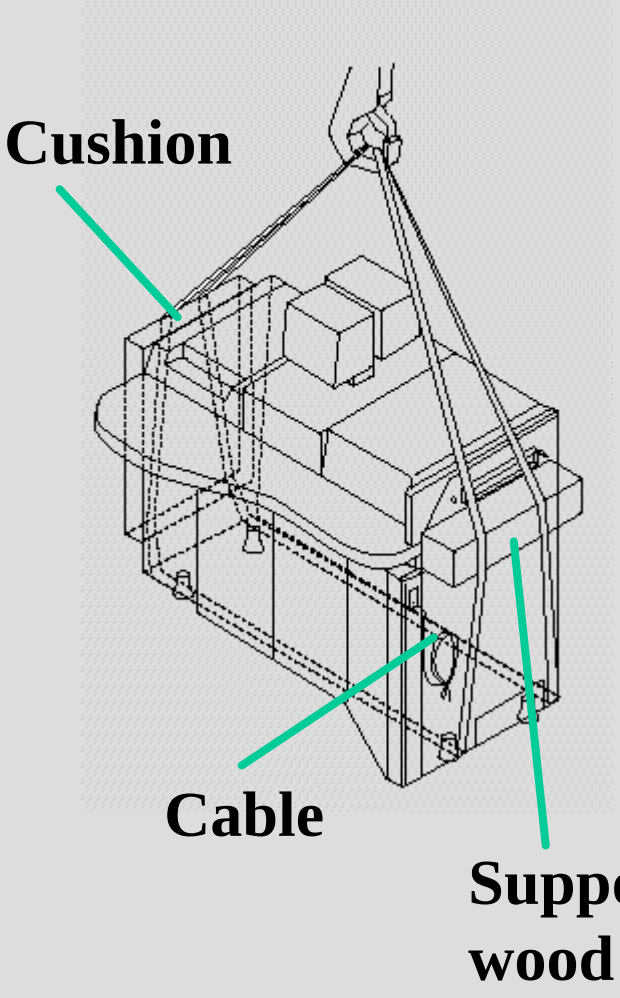
The space for installation

Unit : mm



Refer to the Specification Manual for the details.

Lifting the machine (SMP-1700)



***Lift a machine with rope,**

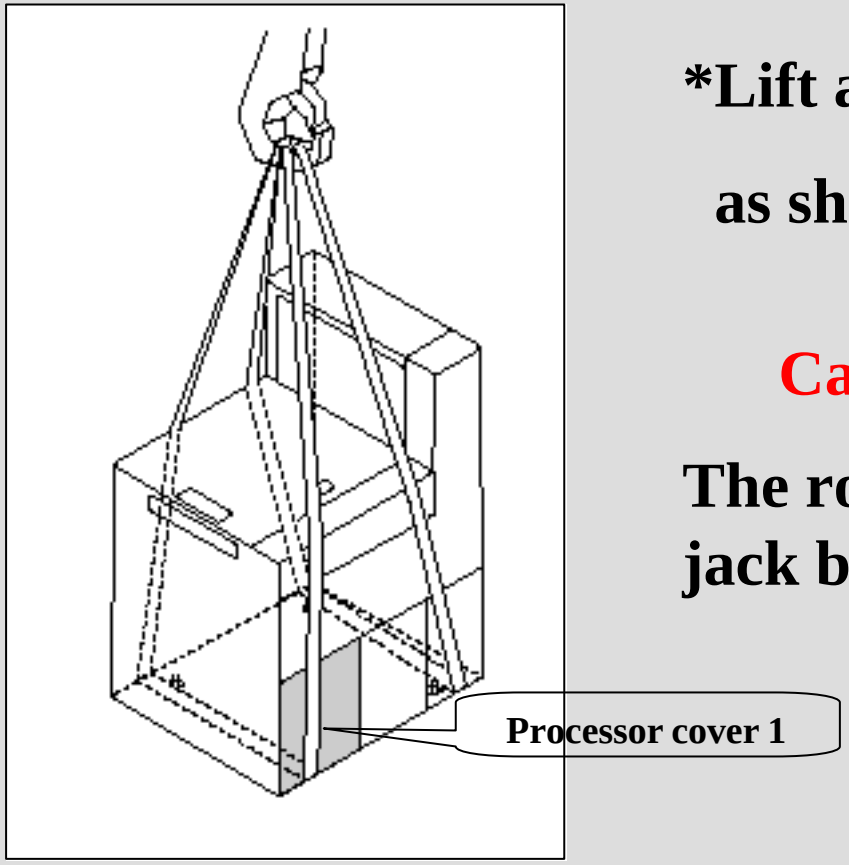
as shown in the illustration.

Caution

***Place the cushion and support wood, referring to the “Indication of lifting the machine” manual.**

***Be careful so that the cable is not caught between the support wood and the frame of main body.**

Lifting the machine (Processor section)



***Lift a machine with rope,**

as shown in the illustration.

Caution

The rope should be outside of the jack bolts.

Packing items (SMP-1700)

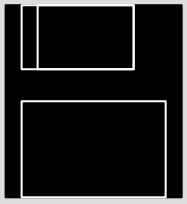
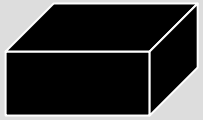
Packing parts	
SMP-1700 main body	Scanner/MLVA halogen lamp
Pressure guide	Ribbon cassette
Scanner/MLVA light source unit	Filter case
Personal computer	Monitor stand
Computer keyboard	Mouse pad
Mouse	Flatbed scanner
Intermediate jack-bolt	Magazine shutter open/close roller Magazine pressure
Monitor	Lens box unit

The Magazine is shipped with the machine main body.

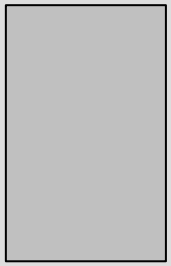
Packing items (PP-1216)

Chemical filters	Dryer rack (upper) (depending on the shipping condition)
Print conveyor unit	
Print classification unit	

Packing items (accessories)

Types	Name		Description
	INITIAL DATA 1	For SMP	Contains the adjustment data for each machine One FD for the printer section and processor section each.
	INITIAL DATA 2	For PP	
	MLVA DATA1		Contains the adjustment data for MLVA inner calibration. Contains the necessary data for uniformity.
	MLVA DATA2		
	MLVA DATA3		
	SYSTEM PROGRAM		Contains the necessary system files to activate the system
	PROFILE DATA		Contains the profile data
	PC attachments		Recovery CD for OS, Operator's Manual, driver software, etc. Necessary for the maintenance of the PC attachments

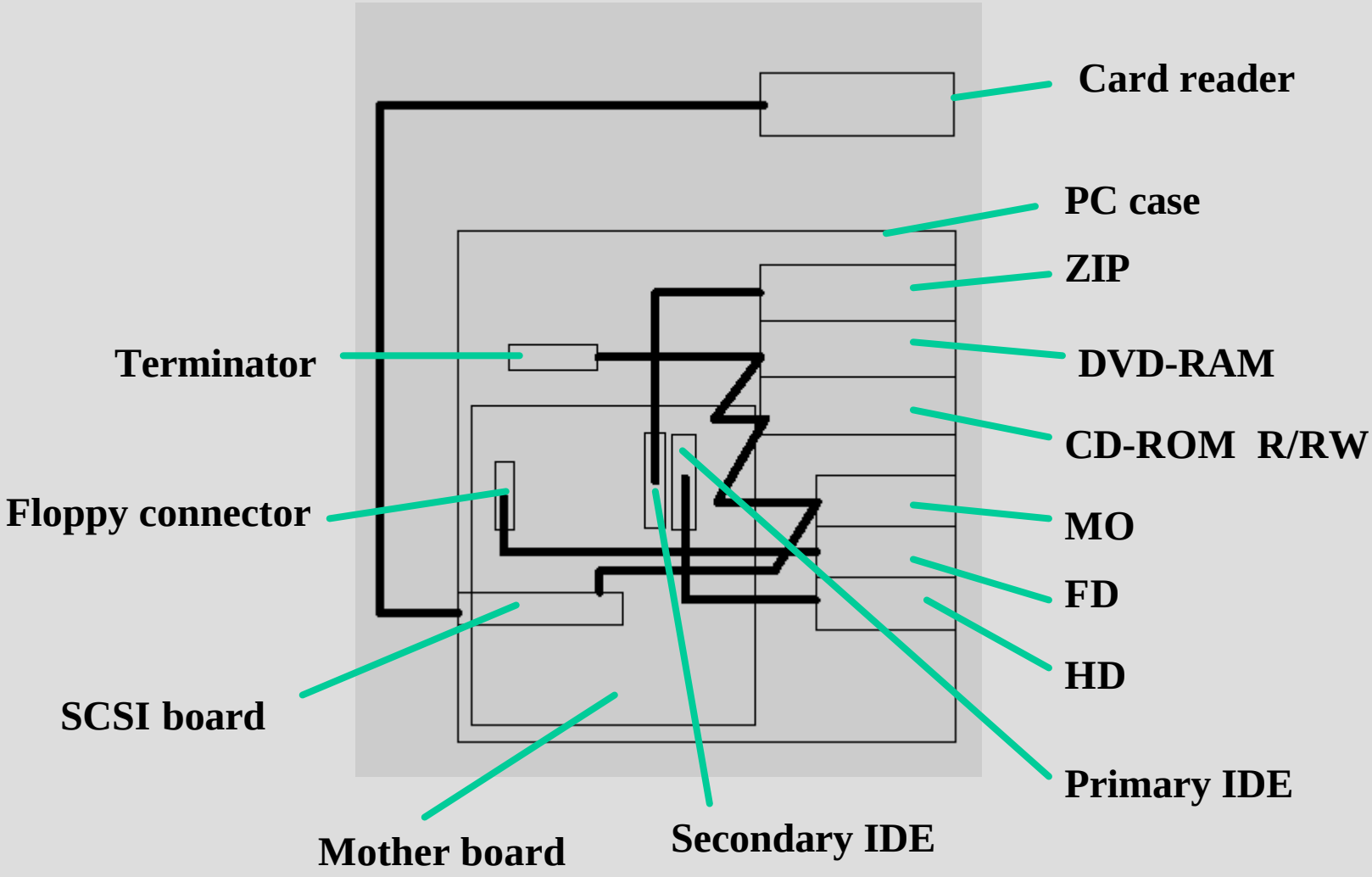
Packing items (Sample prints)

Magazine mount A 	Magazine mount B 	Sample 1 	Sample 2 	Sample 3 	Sample 4 
Zigzagging check of magazine mount A and B Exposed image correction Arm Vertical Error Correction (Master)	Uniformity	Banding	For checking the print		

Practical training

*** Install a machine, referring to the Installation Manual.**

Location of PC peripherals



SCSI ID No.

Drive	ID No.	Note
MO	0	
CD-ROM, CD-R/W	1	
PC card	2	
Smart media	3	
Compact flash	4	
None	5	Not in use
DVD-RAM	6	
SCSI board	7	
ZIP	-	Secondary IDE
HD	-	Primary IDE
FD	-	FD connector
Flatbed scanner	-	USB

Cautions when attaching the PC peripherals at site

√ = **necessary**

Drive	Installing the drives	Confirming the SCSI ID settings
ZIP		
MO		√
CD-R/RW		√
DVD-RAM	√	√
Card reader		√
Flatbed scanner	√	

Allocation of drives

- The drive letter differs depending on the installing turn of the drive.
- Set the drive allocation in the “Media setting” of “Option registration” by the drive letter of OS.

  If you set the wrong drive letter, the malfunction occurs. (e.g. it accesses to the wrong drive.)

  Be sure to set the drives correctly. Set the same drive with the drive letter of OS.
- The drive letters below are fixed.

  A: FD C: Hard disk
- Refer to the Service Manual [3871] for the allocation of drives.

Setting the language specifications

- When you use it in the other languages except English, it is necessary to set the dictionary of language which is to be used. And install the translated QSS message data.
- When the various kinds of functions (e.g. postal code dictionary) are necessary, carry out the setting again.

Chapter 5
Setup

The point of this chapter

Purpose of study

- Study about the setup.

  Print channel setting

  Monitor setup

  Paper specification registration

  Initial setup

  Emulsion number change

  Scanner slope correction

How to carry out the training

- Carry out the practical training, or explain the items using the sample prints.

Setup when installing a machine

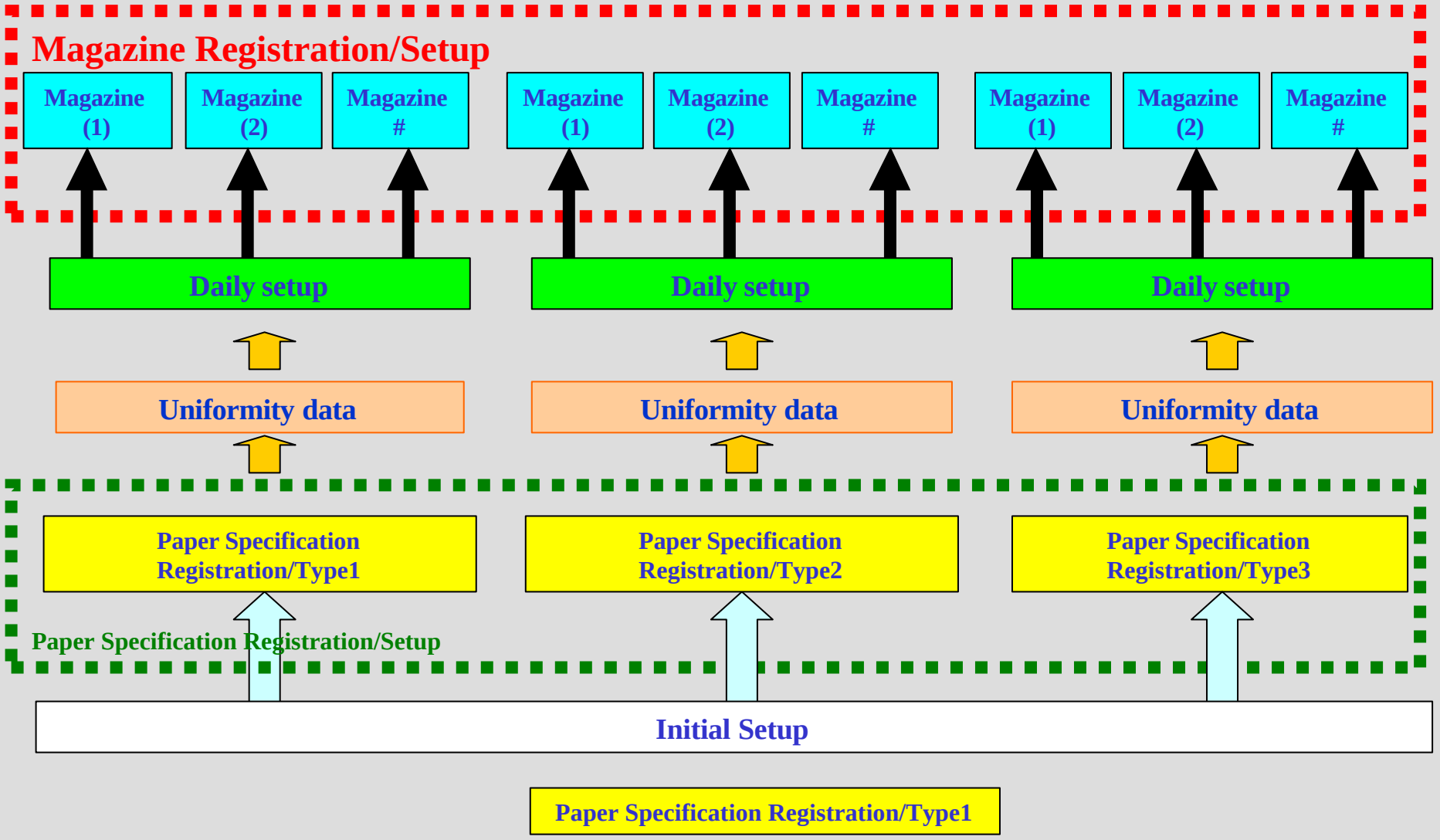
- There are two patterns of setup procedure when installing a machine to shorten the installing time. There are two procedures for the conditions below.

  During the temperature adjustment

  After the setup is completed.

- It is not always necessarily to follow the procedure except for the setup when installing a machine.

Structure of the setup data



Setup flow

Explain the setup flow when carrying out the installation.

(e.g.) The prepared paper types

Paper type1 : EDGE8	89 mm	127 mm
Paper type 2: ROYAL8	102 mm	254 mm
Paper type3: FA9	203 mm	305 mm

This time, carry out the setup for 3 types of paper and 6 paper magazines.

Here, the main paper type which is used for the initial setup is EDGE8 89 mm.

Paper type 1 Registration

Paper Specification Registration / Setup

Paper type 1 Registration [1]

89(1)-

89 mm → 89 mm (1)

Register “EDGE8” for [Paper type 1] and set “89(1)” for [Paper magazine Registration].

Initial setup

Paper type 1 setup [2]

89 mm (1)

89 (1)-

89 mm (1)

89 (1) OK

Next, carry out the setup for the other paper types except [Paper type 1] [3]

Or carry out the setup for the paper with different paper width and different surface. [4]

Other paper type registration except Paper type 1

Paper Specification Registration / Setup

Other paper type except paper type 1 Registration [3]

102 mm → 102 mm (2) (102 (2) -)

Register “ROYAL8” for [Paper type 2] and set “102(2)” for [Paper magazine Registration].

102 mm (2) → 102 (2) OK

203 mm → 203 mm (3) (203 (3) -)

Register “FA9” for [Paper type 3] and set “203 (3)” for [Paper magazine Registration].

203 mm (3) → 203 (3) OK

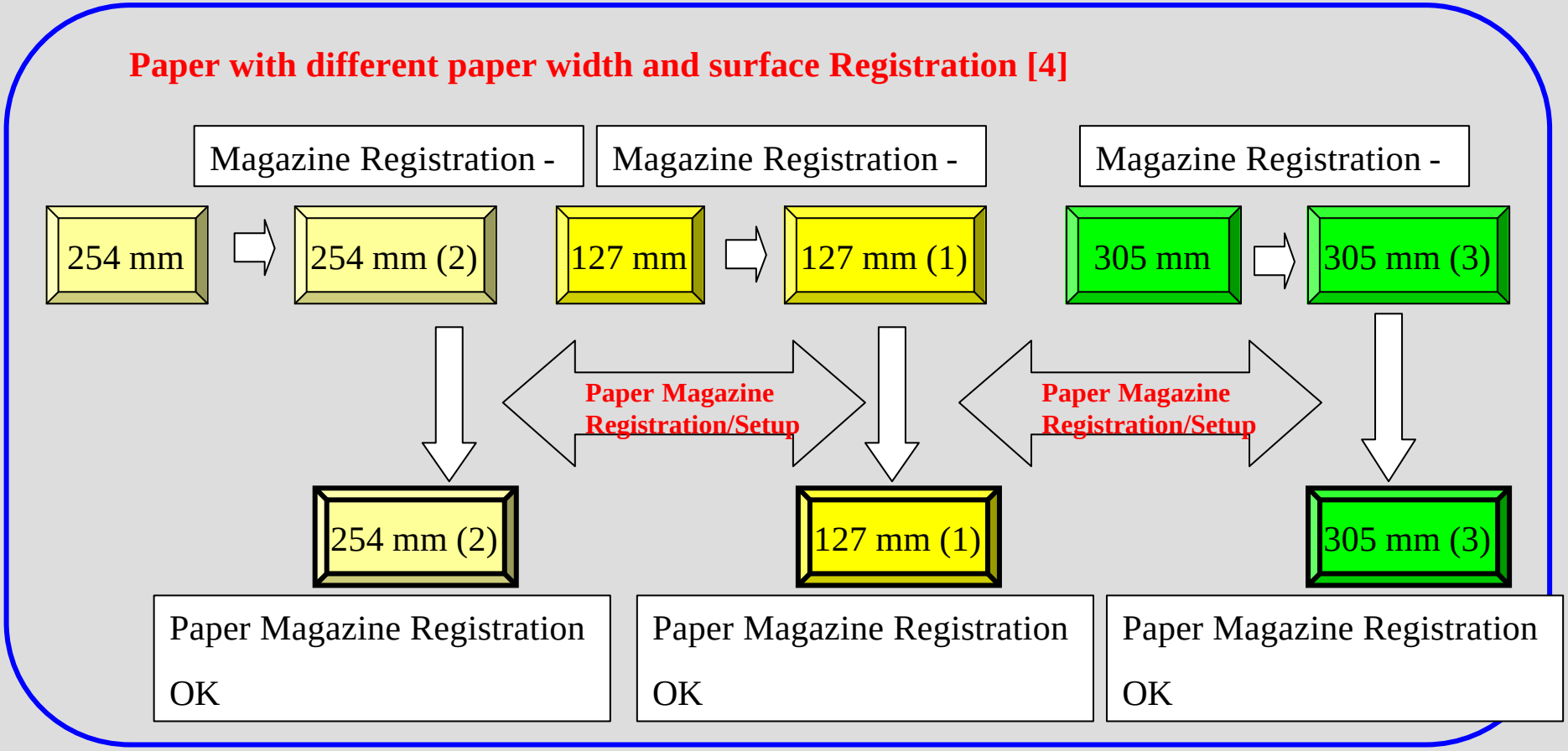
Paper Specification Registration /Setup

Next, carry out the setup for the paper with different paper width and different surface. [4]

Paper with different paper width and surface Registration

Paper Magazine Registration / Setup

Paper with different paper width and surface Registration [4]



Initial setup flow

1. Reading the initial data

This mode is not in use.

2. Load voltage adjustment

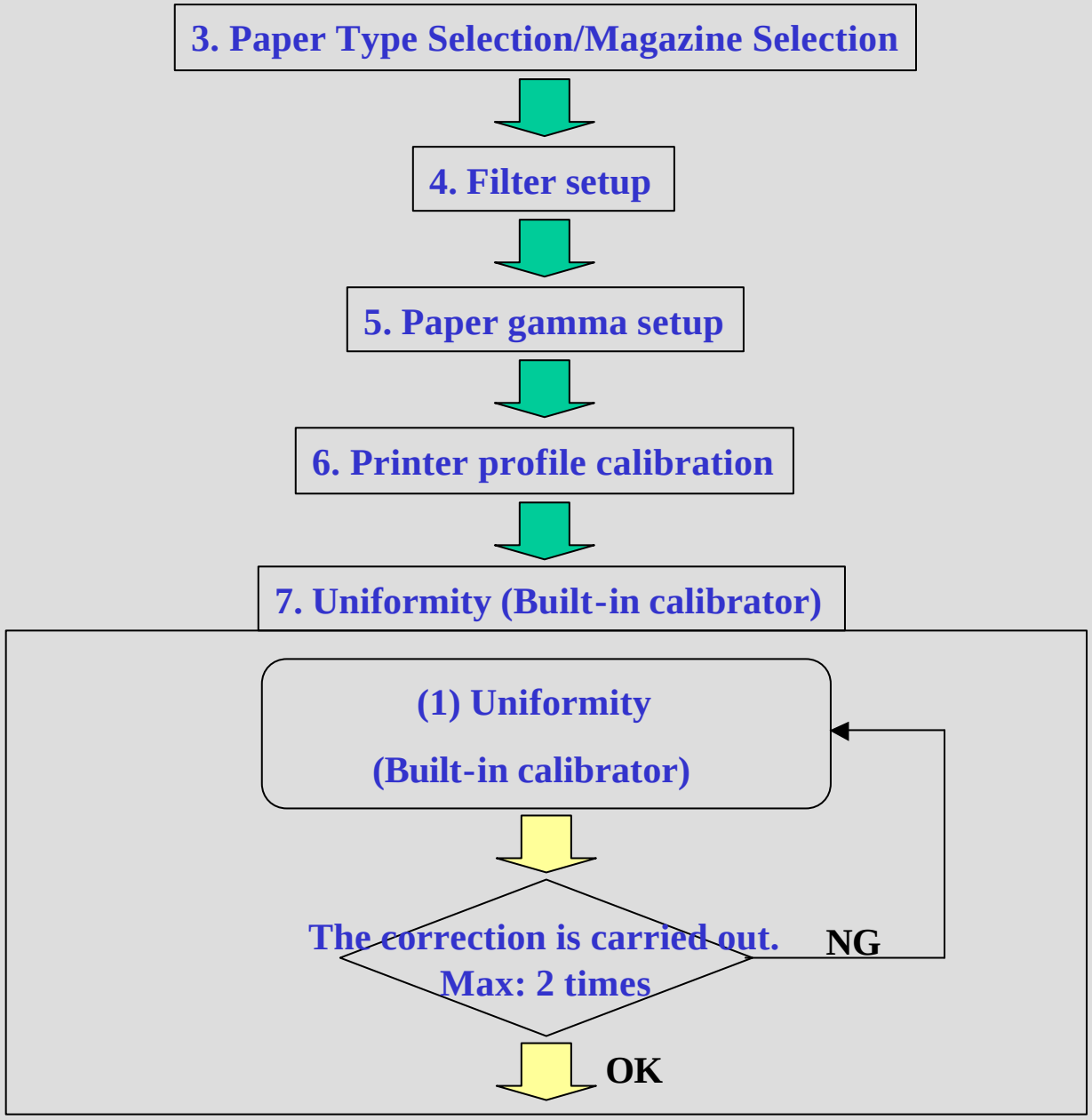
(1) Gain adjustment

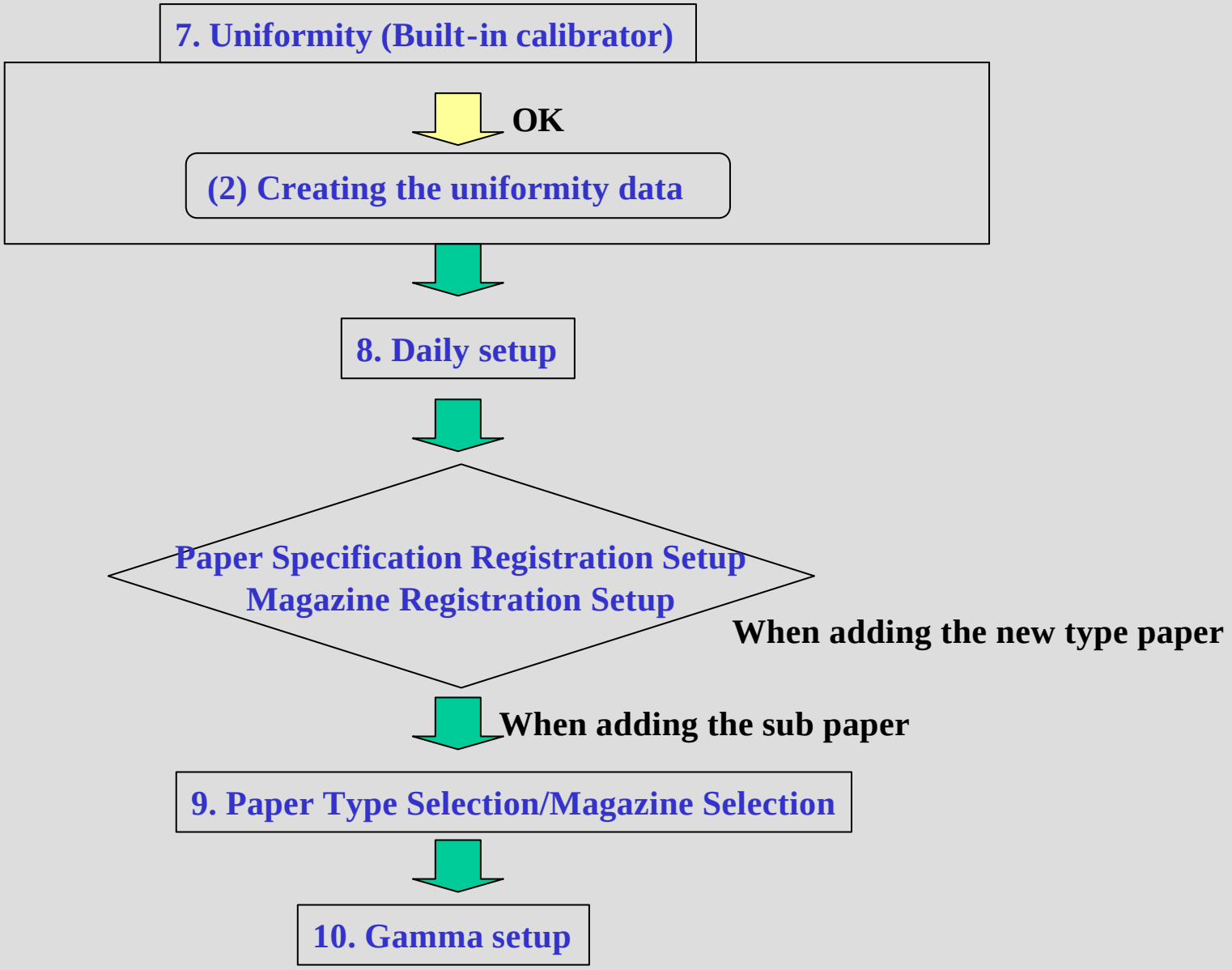
(2) Load Voltage adjustment

(3) Uniformity (Built-in calibrator)

(The correction is done roughly in the first correction.)

(4) Creating the uniformity data


3. Paper Type Selection/Magazine Selection
4. Filter setup
5. Paper gamma setup
6. Printer profile calibration
7. Uniformity (Built-in calibrator)
(1) Uniformity
(Built-in calibrator)
The correction is carried out.
Max: 2 times
NG
OK


7. Uniformity (Built-in calibrator)
OK
(2) Creating the uniformity data
8. Daily setup
Paper Specification Registration Setup
Magazine Registration Setup
When adding the new type paper
When adding the sub paper
9. Paper Type Selection/Magazine Selection
10. Gamma setup

Details of the Initial setup

1. Load Voltage adjustment (approx. 13 minutes)

The most appropriate load voltage for R, G, B each of MLVA head is calculated by the built-in calibrator.

2. 18-gradation print

The specific characteristics of each MLVA is calculated by fixing the dichroic position.

3. Filter setup (maximum: 3 times)

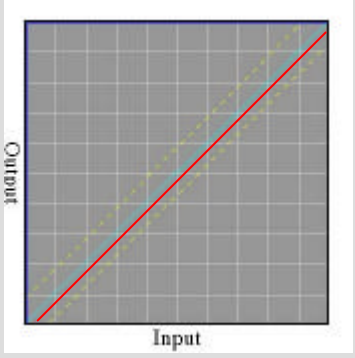
Based on the inner data, adjust the position of dichroic filter to get the standard density.

3. Paper gamma setup (max: 3 times)

The difference of color characteristics (paper + solution + light amount) for each machine is corrected, and make a rough estimate of the parameter to get the target density.

4. Printer profile (complete in 1 time)

Carry out the printer color matching for each paper type. This is carried out based on the profile data which has already been registered.



This graph is the result of test print measurement. Three lines for B, G, R are displayed.

It is ideal if all of three lines slant at the angle of 45°.

This is the standard for checking the tendency of calibrated data.

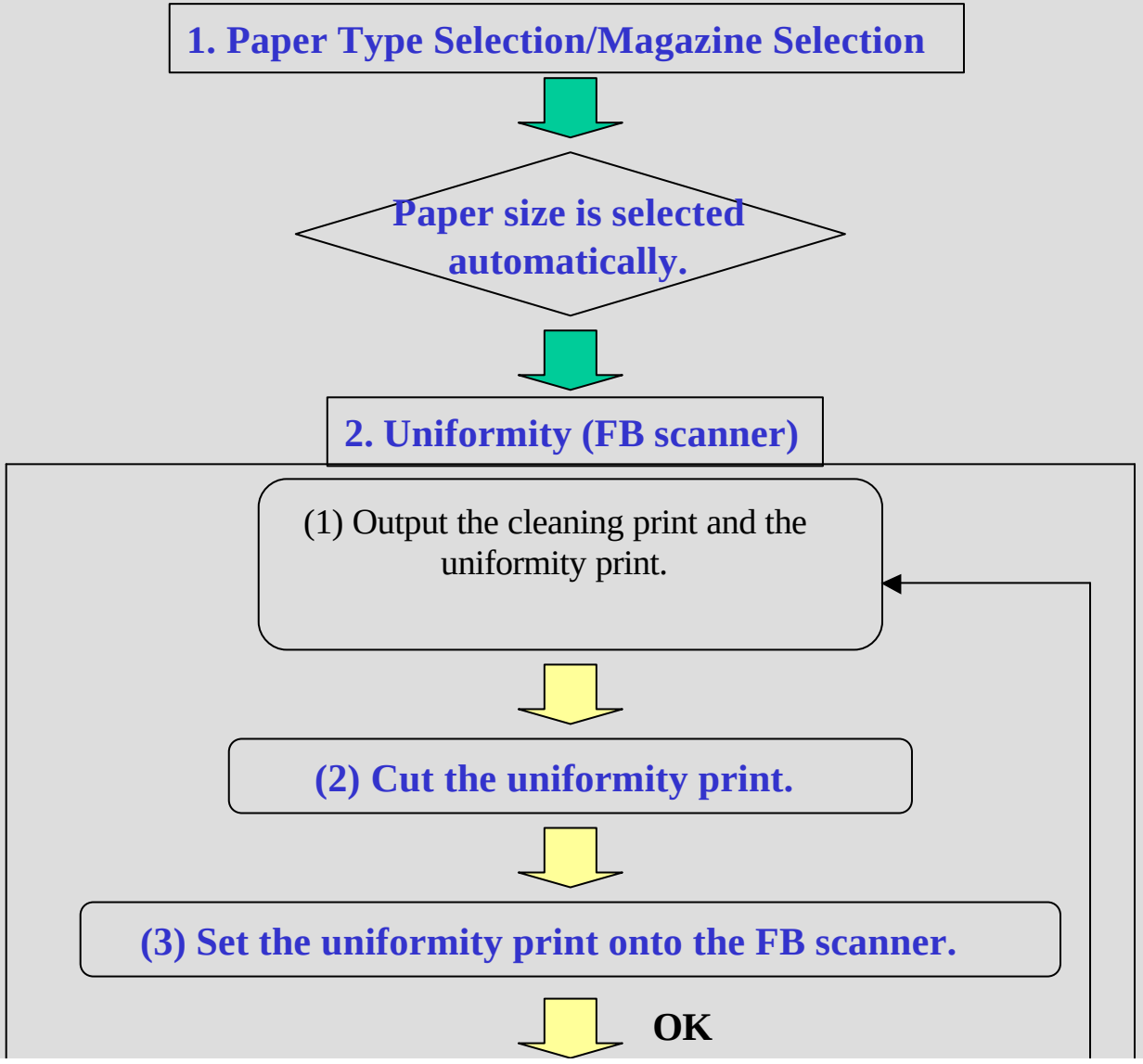
5. Uniformity (calibrator data)

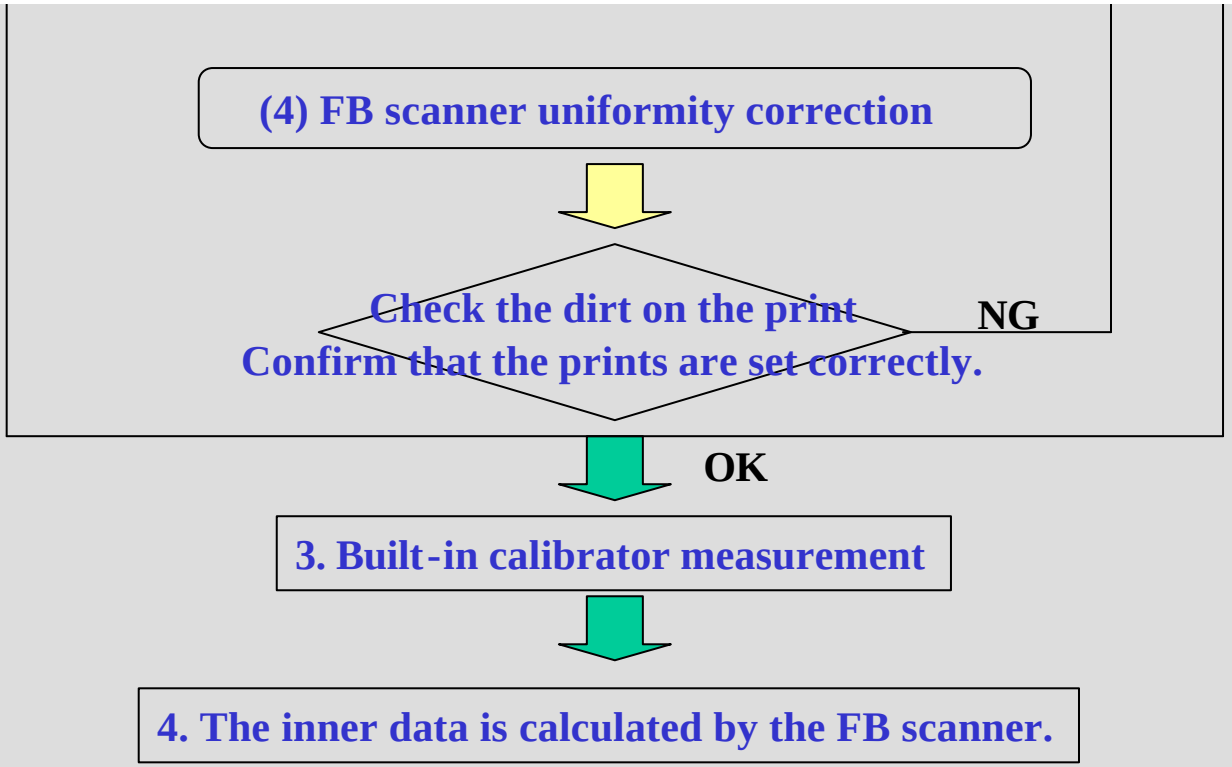
Carry out the uniformity calibration with the calibrator of MLVA unit.

6. Daily setup

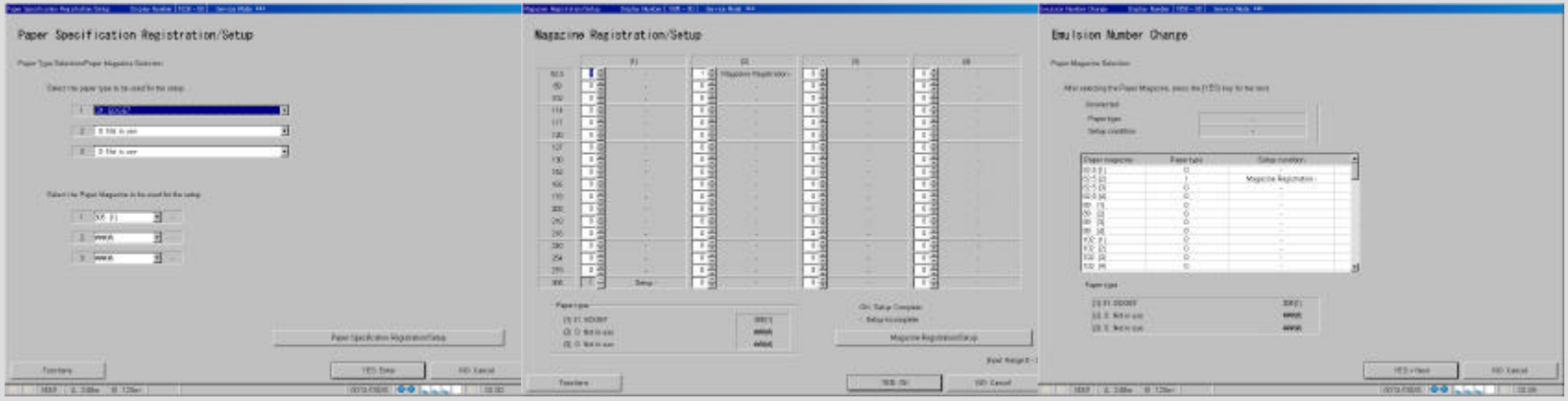
Correct the color and density which are changed when carrying out the uniformity calibration.

Uniformity flow




(4) FB scanner uniformity correction
Check the dirt on the print
Confirm that the prints are set correctly.
NG
OK
3. Built-in calibrator measurement
4. The inner data is calculated by the FB scanner.

Paper registration and setup



Kinds of registration	Contents
Paper Specification Registration/Setup	Register the paper type and the magazine which are to be used. Up to 3 types can be set.
Magazine Registration/Setup	When newly adding the paper with different paper width and different paper surface, register a new magazine and carry out the correction.
Emulsion number change	Correct this when the paper specification and the emulsion number is changed.

Print channel setting

	QSS-29	QSS-27
Name of CH	Input freely	Input freely
Paper setting	Input freely	Input freely
Print type	Select from “Normal Print”, “Edit”, “Package” and “Album”.	When making a special print, go from the “Image Edition”
Input media	Select from 15 types (films and storage media)	When printing from the storage media, go from the “Image Edition”
Print name	Set and input freely	Set freely
Print size	3 types (C, P, H)	Set freely
WB width	3 types (C, P, H) This can be set only for “Normal Print”.	3 types (C, P, H)
Image magnification	3 types (C, P, H) This can be set only for “Normal Print” and “Album”. Input range: 1 to 200 % Initial value: 100% The rate of image magnification is calculated automatically depending on the paper advance length and paper width.	This can be set from “Print size” in the **“Printing from negative/positive”** Input range: 0 to 400 % Initial value: 100%
Exposure position correction	3 types (C, P, H)	3 types (C, P, H)

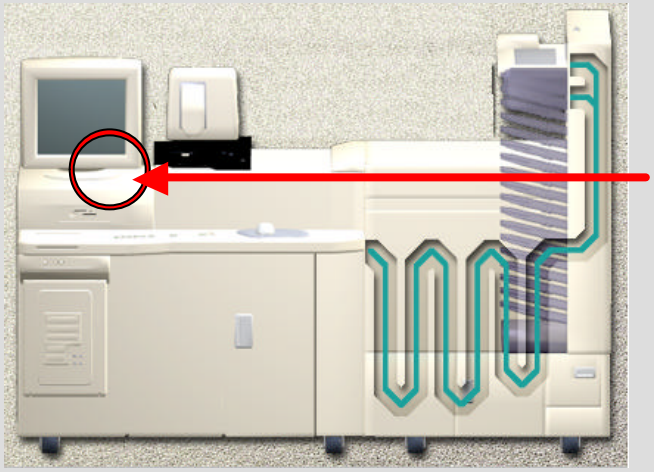
	QSS-29	QSS-27
CVP ON/OFF	Set for each channel	←
Front print	Set only for “Normal Print” Common for C, P, H	←
Index size	Can be set for 135/120/110, 240, media each. Contact print setting can be set for 135/120/110. Normal index print: 13 kinds Contact Print Style index print: 18 kinds Set for “Normal Print” and “Package” only.	Set by pressing F1 in the **“Printing from negative (positive)”** Normal index print: 8 kinds
Paper magazine for index print	Set the magazine for outputting the index print	←
Output media	The compression level of images can be set when saving the data to the media. When storing the images to media, the label index print is made automatically.	Set by pressing F2 in the **“Printing from negative (positive)”** Normal index print: 6 kinds
Quality	The image size and quality can be set for each media.	←

Monitor setup

1. Monitor brightness adjustment

* Color and temperature setting (6500K)
* Contrast adjustment
* Brightness setting

Adjust it, referring to the Operator's Manual of the display monitor.



Adjust the color of the monitor here.

2. Monitor profile calibration

Monitor setup

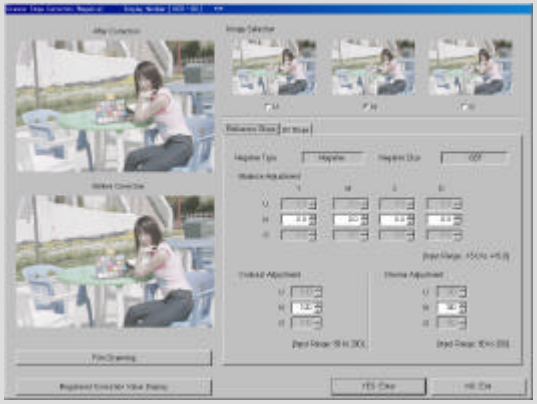
3. Monitor gamma correction

The difference occurs between the color of print and that of monitor, depending on the light source of the place where you work.

Improve the precision of color matching by setting the color difference freely.

Make a test print, compare the color chart with the monitor and adjust it.

Comparison of the scanner slope correction for films



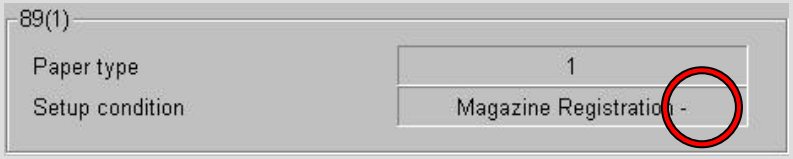
QSS-29

QSS-27

	Corrections in the QSS-29	Corrections in the QSS-27
Film type	**Negative/Positive** 135F, P, H, HD, 110, 240 6 x 4.5, 6 x 6, 6 x 7, 6 x 8, 6 x 9	←
Slope	Master, Reference + DX	←
U.N.O	Correct, checking the images.	Impossible to check the images
How to input	Input the value. Balance memory shift is not available	Balance memory shift is available
Other corrections	Carry out the contrast and saturation adjustment, checking the images.	No function

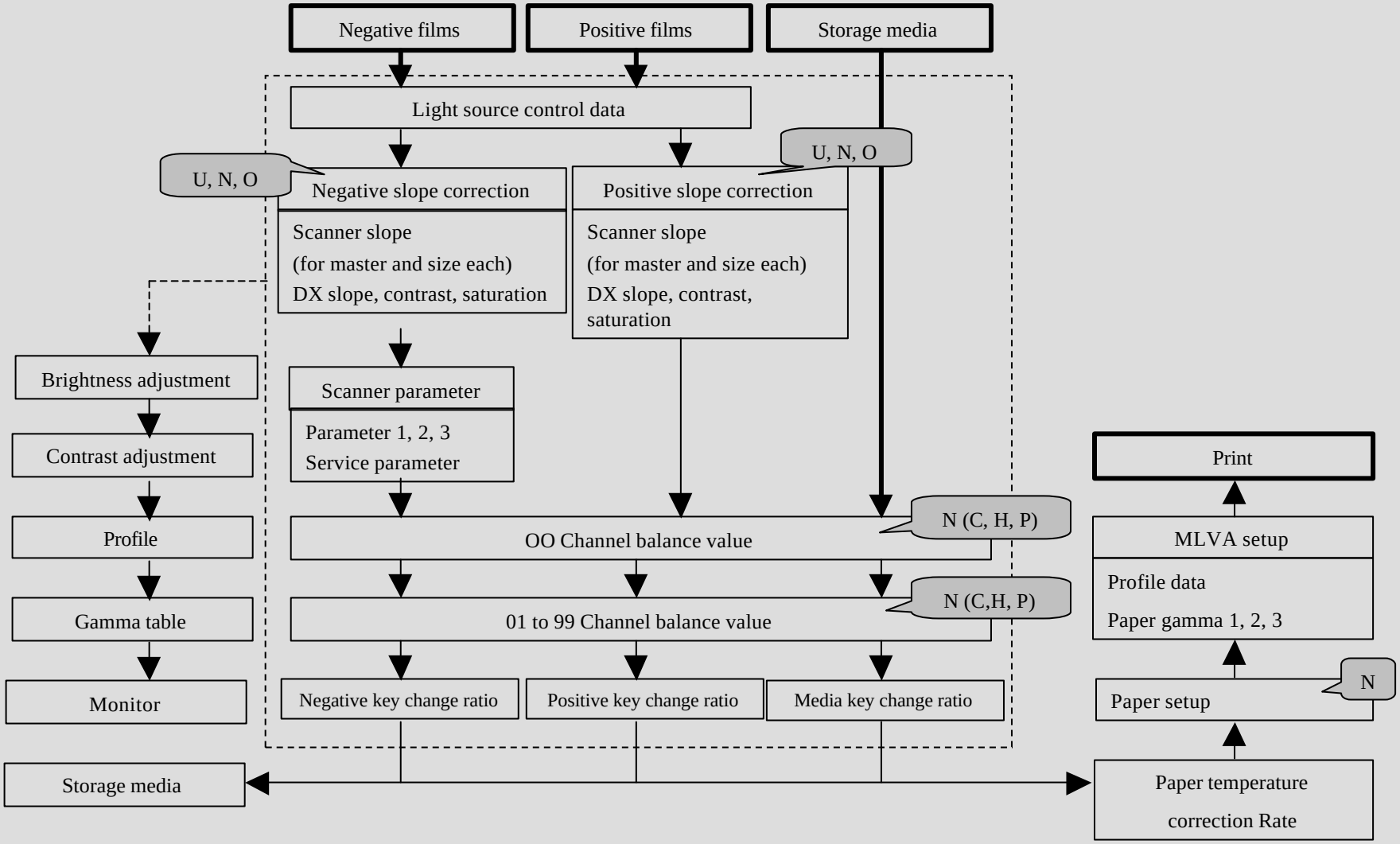
Emulsion number change

You can check the setup status which is used for emulsion number change.
"OK" or "-" is displayed.
The emulsion number change is possible when "OK" is displayed for the paper setup or magazine registration.
In the other cases, set it so that "OK" is displayed. After that, carry out the emulsion number change.



Sign	
Setup -	[Paper Specification Registration Setup] has never been carried out or has not been completed yet.
Setup OK	[Paper Specification Registration Setup] has been completed successfully.
Magazine Registration -	Not to be registered in the [Magazine which is to be used for the setup]. Only [Magazine Registration] is carried out. But, [Magazine Registration Setup] has never been carried out or has not been completed yet.
Magazine Registration OK	Not to be registered in the [Magazine which is to be used for the setup]. Only [Magazine Registration] is carried out. And, [Magazine Registration Setup] has been completed successfully.
--	Both of [Magazine which is to be used for the setup] and [Magazine Registration] are not be carried out.

Color data configuration



DSA data configuration

DSA master data	
Negative	Type 1, 2, 3
Positive	Type 1, 2, 3
Media	Type 1, 2, 3
FB scanner	Type 1, 2, 3

DSA 00 print channel	
Negative	Print size C, P, H
Positive	Print size C, P, H
Media	Print size C, P, H
FB scanner	Type 1, 2, 3

DSA 01 to 99 print channel	
Negative	Print size C, P, H
Positive	Print size C, P, H
Media	Print size C, P, H
FB scanner	Type 1, 2, 3

DSA PJP	
Negative	Contrast (Highlight, Shadow, Whole), Sharpness, Saturation, Graininess repression
Positive	Contrast (Highlight, Shadow, Whole), Sharpness, Saturation, Graininess repression
Media	Contrast (Whole), Sharpness, Saturation
FB scanner	Contrast (Whole), Sharpness, Saturation

DSA reprint	
Negative	Contrast (Highlight, Shadow, Whole), Sharpness, Saturation, Graininess repression
Positive	Contrast (Highlight, Shadow, Whole), Sharpness, Saturation, Graininess repression

Each DSA correction value exists separately.

On the DSA screen of PJP, the total correction value is displayed. And, you can also do the correction here.

The limits of total value for each correction value are as follows.

Auto contrast (The whole): -10 to +10

Auto contrast (Shadow) : -10 to +10

Auto contrast (Highlight) : -10 to +10

Auto sharpness : -10 to +10

Saturation : 50 to 200

Graininess Repression : 0 to 10

Printer profile

The profile data which is gotten from the initial setup is stored in the following place.

The printer profile calibration data only is stored in the file which was made automatically in the setup procedure during the installation.

PRN_DIR (The place where the printer profile data and the printer calibration data is stored)		
File name	Contents	Note
p009####.nkp	Basic data for making the printer profile (The data which was registered when shipping from the factory.)	
p009####.cal	Basic data for the printer calibration data (Cal which was registered when shipping from the factory)	
p109####.nkp	Printer profile calibration (The file which is to be stored at site)	This setup is for service personnel

Printer profile form

p 0 09 2D 00.nkp

Chemical specification (No setting for chemical type each)

Number which means paper type (e.g. ROYAL8 Refer to the next page.)

Number which means the QSS-29 Make “p109##00.nkp” based on 2 files.

File which is registered when shipping a machine from the factory

P009##00.cal

Only “extension” is different from the “p009##00.nkp”, and be sure to use those as a set.

p1 09##00.nkp

The file which is created and stored at site

(This is created and stored when carrying out the “Printer profile calibration” and “Weekly setup”.)

Sign which means the paper type

BA-03Y	1A	SUPRA3	29	Crystal Archive type 60	38
QA7	1B	PRESTIGE	2A	Crystal Archive type 6C	39
SA-C	1C	ULTRA3	2B	Crystal Archive professional MP	3A
PORTRA3	1D	EDGE8	2C	Konica writable mat	3B
QX3	1E	ROYAL8	2D	Konica post card	3C
EDGE7	1F	DURA LIFE	2E	AGFA Professional Laser Paper	3D
ROYAL7	20	EXTAMAX RA	2F	Portrait	3E
QA-GD	21	SUPER FA TYPE-D	30	Russel Color paper type 2	3F
FA9	22	FA9 CLP C	31	Russel Premium color paper	40
TYPE11	23	FA9 CLP P	32	IP RA_1M	41
BA-02A	24	Crystal Archive professional type SP (EU)	33	IP RA_24M	42
CRYSTAL ARCHIVE	25	Crystal Archive professional type SP (USA)	34	IP RA.1K	43
DIGITAL2976	26	Crystal Archive professional type C	35	Shared file	00
Kodak DAYLIGHT	27	Crystal Archive professional type S	36		
DIGITAL3	28	Fuji Color Professional SFA-P	37		

The above numbers are allocated for each specification by selecting the specification of printer profile.

In the above table, all of the paper type is not supported with the QSS-29.

You have to check whether the profile data is available or not for paper type each.

Each printer profile

(e.g.) ROYAL8

p0092D 00.nkp

p0092D00. cal

Standard data which is used for the setup

There are“nkp.file” and “cal.file” as a set for each paper type.

Each media

- Light source registration control data
- Positive slope correction
- Negative slope correction
- Scanner parameter
- Each channel balance value
- Each key change ratio
- Paper setup
- Paper temperature change ratio

p1092D00.nkp

Specific setup data

The setup data is created, and it is used in the following steps (for updating the data in the “Printer profile calibration” and “Weekly setup”).

Print

Monitor profile

Brightness adjustment/Monitor profile calibration

From the QSS-28, the colorimeter is used for the color management between the monitor and print.

The data which is gotten from the colorimeter is stored into the following place.

MON_DIR (The place where the monitor profile data and the monitor gamma adjustment data is stored)		
File name	Contents	Note
m0010000.nkp	For making the monitor profile (The data which was made when shipping from the factory.)	
m1010000.nkp	Monitor profile calibration (File which is created at site) Data control file for service personnel	
m2010000.nkp	File which is created at the same time of monitor profile calibration Data control file for users Update the data when carrying out the Monthly setup.	

Monitor profile form

m 0 01 ## ##.nkp

Number which means monitor of the QSS-29

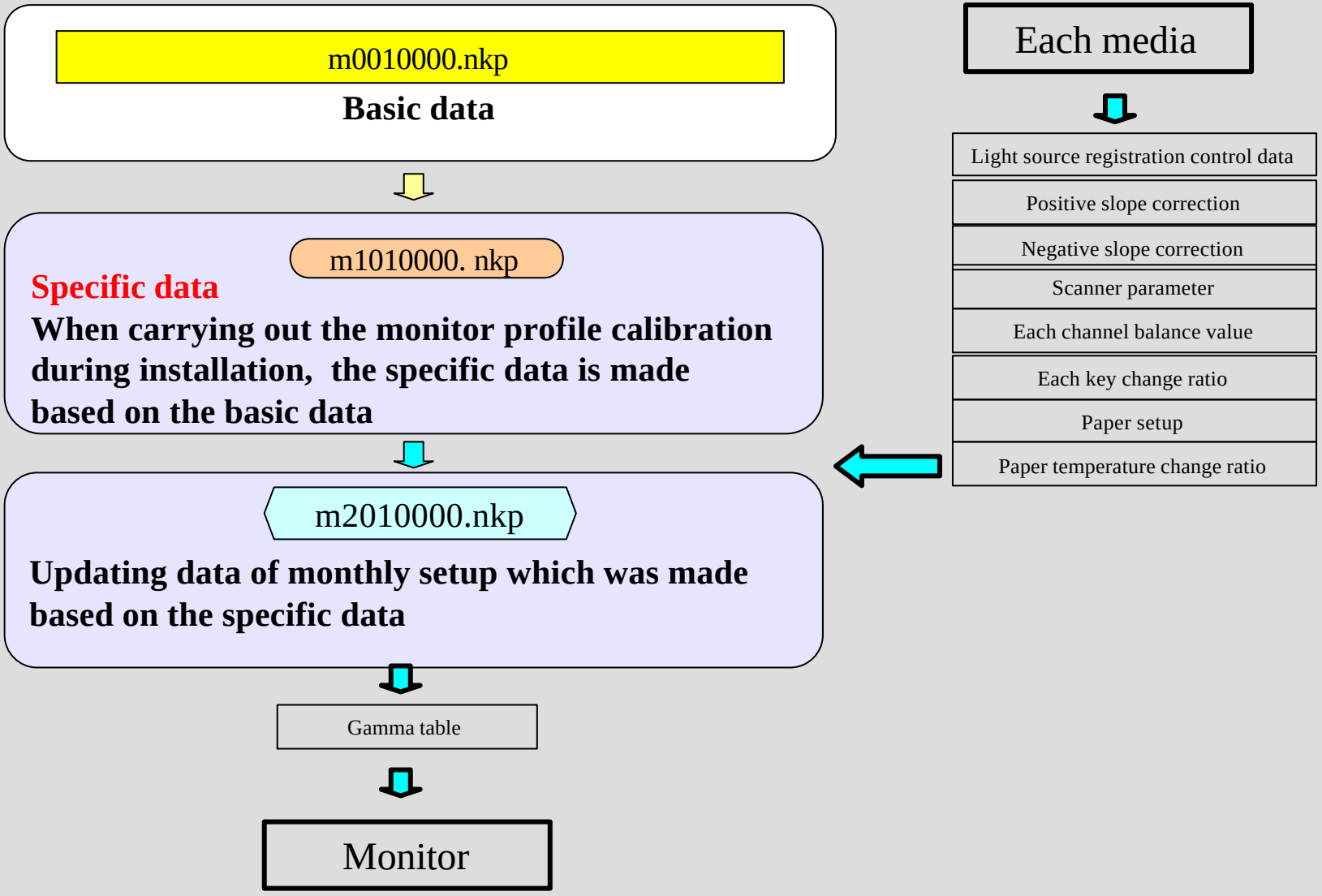
0: File which is registered when shipping a machine from the factory

1: File for monitor profile calibration which is executed at site

2: File for monthly setup which is executed at site

About the monitor profile, the other files are created based on “m001###.nkp”.

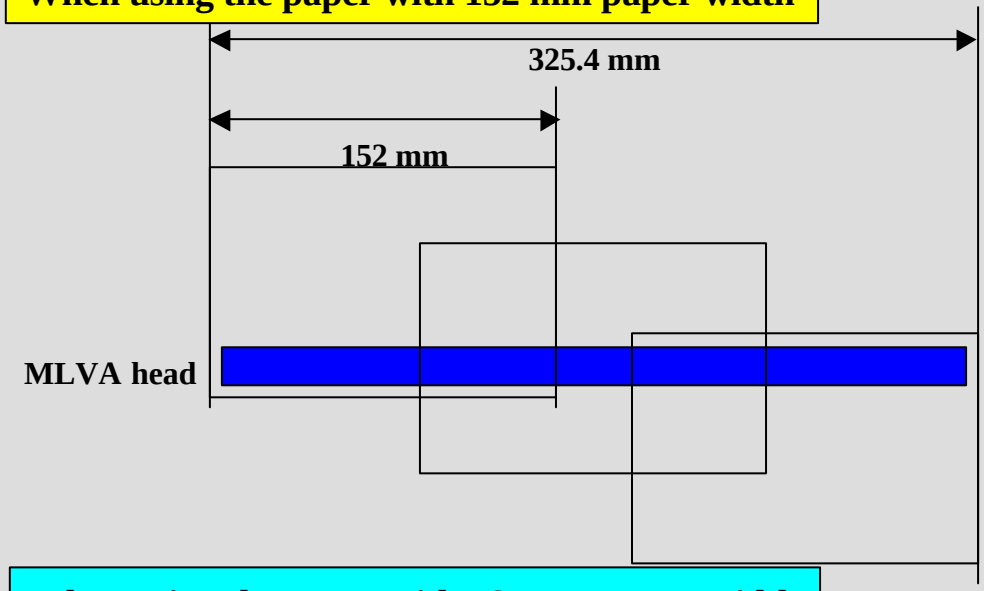
Monitor profile flow



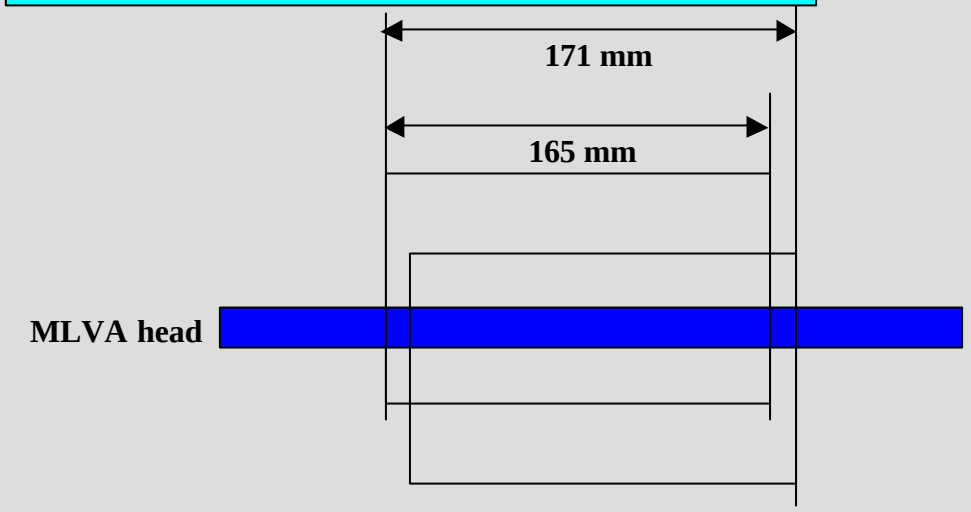
Paper distribution for uniformity

Paper width to be used	Uniformity range	Number of prints
82.5 mm	255.6 mm	6
89 mm	262.0 mm	5
102 mm	274.6 mm	3
114 mm	287.0 mm	3
117 mm	290.0 mm	3
120 mm	293.0 mm	3
127 mm	300.0 mm	3
130 mm	303.2 mm	3
152 mm	325.4 mm	3
165 mm	171.0 mm	2
178 mm	184.0 mm	2
203 mm	209.0 mm	2
210 mm	216.0 mm	2
216 mm	222.0 mm	2
240 mm	246.0 mm	2
254 mm	260.0 mm	2
279 mm	285.0 mm	2
305 mm	311.0 mm	2

When using the paper with 152 mm paper width



When using the paper with 165 mm paper width



Chapter 6
Mechanical adjustment

The point of this chapter

Purpose of study

- Study about the mechanical adjustment.

  135/240AFC

  Scanner/MLVA lamp section

  Paper advance section

How to carry out the training

- Carry out the practical training mainly and explain the cautions, referring to the materials.

Practical training

* Remove and attach the scanner.
  - Swing and Tilt Adjustment
  - Light axis adjustment
  - Light source registration
  - Focus adjustment
* Show the scanner unit for disassembling to the trainee.

Practical training

* Adjustment of each AFC.
  - Remove and attach the advance unit.
  - Remove and attach the turn belt (lower).
  - MMC head height adjustment
* Mechanical adjustment (Paper Supply Section)
  - Remove the magazine mount.
  - Remove and attach the paper supply unit.
  - Adjust the paper cutter and replace the manual cutter.
* Remove the Lane Select Advance Unit.
  - Show the arm section for disassembling to the trainees.

Practical training

* Remove the Exit Advance Unit.
  - Position adjustment
* Remove the intermediate advance unit.
  - Pressure adjustment
  - Cautions when replacing and attaching the motor.
* Remove and attach the MLVA.
* Remove and attach the Exposure Advance Unit.
  - Caution when handling the flat cable.
  - When attaching the Exposure Advance Unit, tighten the screws with pressing them against MLVA head side.

Mechanical adjustment

1. AFC

Point 1: In some of the sensor, only connector section itself can be replaced. The other sensor should be replaced as a whole of sensor PCB.

Point 2: After replacing the AFC, the AFC focus adjustment for each magnification is necessary for each AFC to be used.

2. Scanner lamp light source unit

Point 1: No need to replace the reflector (Cleaning only)

3. Scanner unit

Point 1: No disassembling (If you disassemble it, it will result in the warranty becoming invalid.)

4. Calorimeter

Point 1: The colorimeter has its own data. (The attached FD contains it.)

Mechanical adjustment

5. MLVA lamp light source unit

Point 1: After replacing the dichroic filters, the stop position adjustment of the dichroic filter is necessary.

Point 2: The stopper is added for Y and M filters.

Point 3: No need to replace the reflector (Cleaning only)

6. Filter wheel unit

Point 1: There is no compatibility with the filter wheel unit of the QSS-27.

The shape of connection section with the MLVA head is different from that of the QSS-27.

Point 2: Improvement

The uniformity will not be defective only after removing and reattaching the filter wheel unit.

(The uniformity will not be defective also when removing and reattaching the MLVA lamp light source unit.)

Mechanical adjustment

7. Magazine mount

Point 1: Possible to remove and reattach the magazine amount without tools.

Point 2: Zigzagging adjustment of paper supply unit is possible by adjusting the positions of positioning pins (for magazine mount A, B).

Point 3: When carrying out the zigzagging adjustment of magazine mount, the following adjustments are necessary.

- Head height adjustment of magazine mount
- Position adjustment of magazine mount
- Position adjustment of magazine detection sensor

Point 4: The position adjustment of paper end sensor A is necessary for magazine mount A.

8. Paper supply unit

Point 1: The position adjustment is not necessary even after removing and reattaching the unit. Because the position of unit is regulated by the positioning pins.

Mechanical adjustment

9. Paper advance unit

Point 1: The position adjustment is not necessary even after removing and reattaching the unit. Because the position of unit is regulated by the positioning pins.

Point 2: There are two pressure pins in the arm section of paper advance unit. Impossible to adjust the pressure power adjustment of pressure pins only itself.

10. CVP (Correction Value Print) unit

Point 1: The ink ribbon cassette is smaller than the conventional ones.

Point 2: The special ink which will not stick around is used. It is improved, comparing with the conventional ones.

11. Intermediate advance unit

Point 1: When removing the intermediate advance unit, remove it after moving the exposure advance unit to the escape position.

Mechanical adjustment

12. Exposure advance unit

Point 1: Carry out the exposure advance unit zigzagging adjustment in the “Exposure Advance Unit Zigzagging Adjustment”mode.

13. MLVA unit

Point 1: The MLVA unit is replaced only itself, so no adjustments are required after replacing the MLVA head (only itself), MLVA temperature control unit and calibrator.

Point 2: The light amount of MLVA light source is increased. So two cooling fans are attached for preventing the optical fiber cable of MLVA unit from the heat.

Point 3: The interlock switch is attached to the MLVA cooling fan. When the MLVA cooling fan malfunctions or the interlock switch of MLVA cooling fan is removed, the lamp of MLVA does not turn ON.

Mechanical adjustment

14. Exit advance unit

Point 1: When attaching the exit advance unit, attach it so that you can put the positioning pins (two) into the holes on the positioning plate (frame section) smoothly.

Mechanical adjustment (options)

1. 135/240MMC

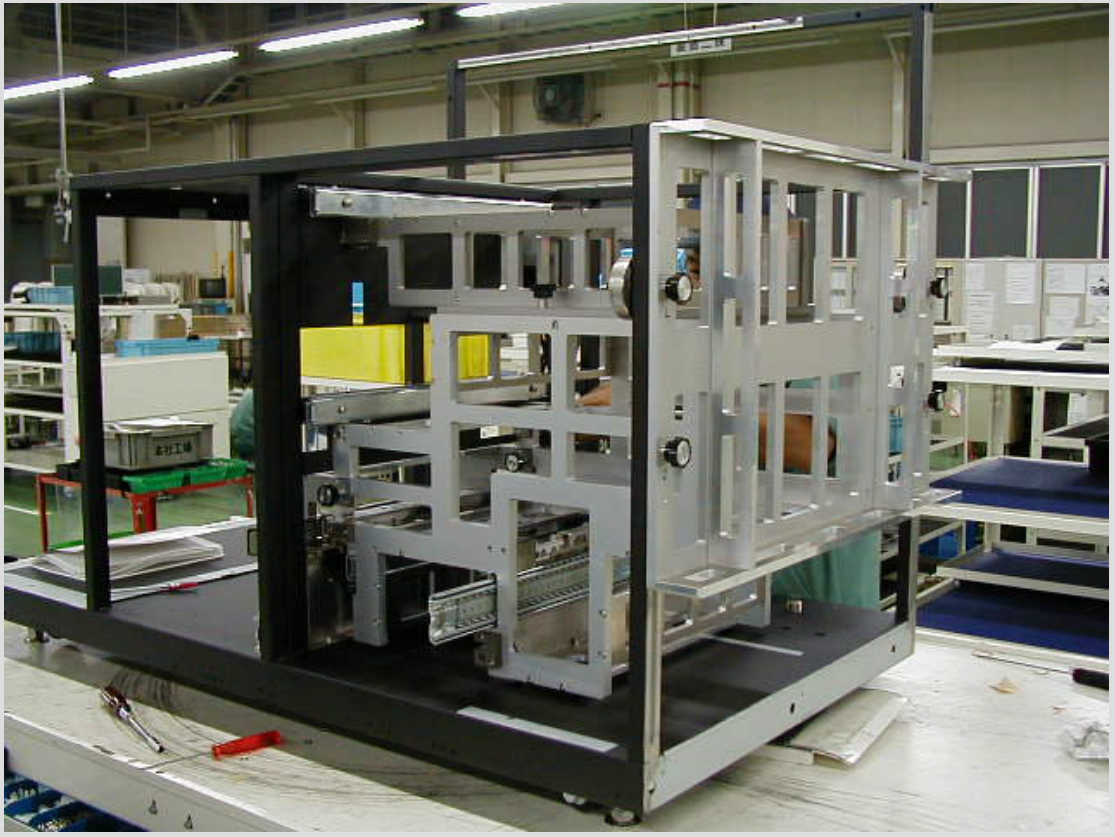
Point 1: Explain the position adjustment of AF sensors.

2. Paper magazines

Point 1: The paper guide is different depending on the paper sizes to be used.

Point 2: The magazine should be replaced as a whole set.
(It is impossible to replace one part only itself.)

Tools for assembling the QSS-29



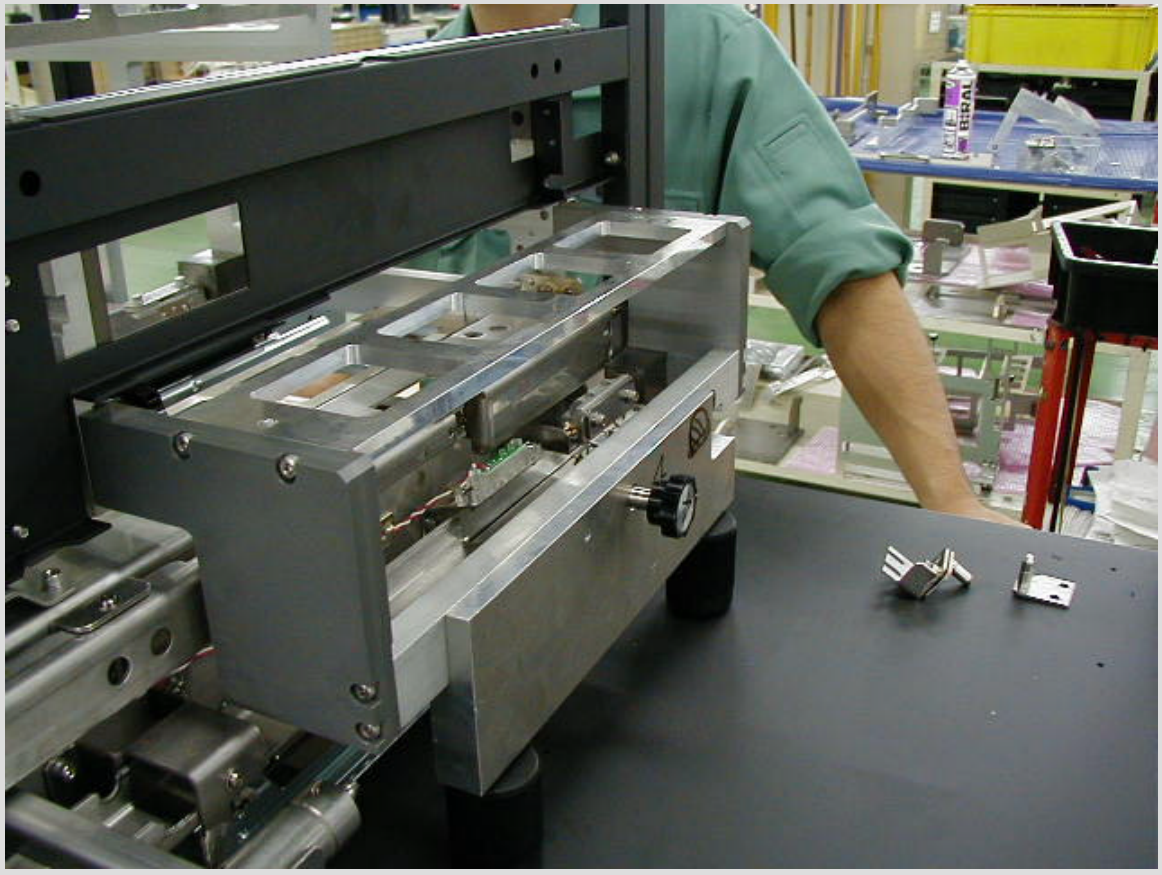
? Decide the following positions.

*** Rail of paper advance unit**

*** Rail of magazine mount B**

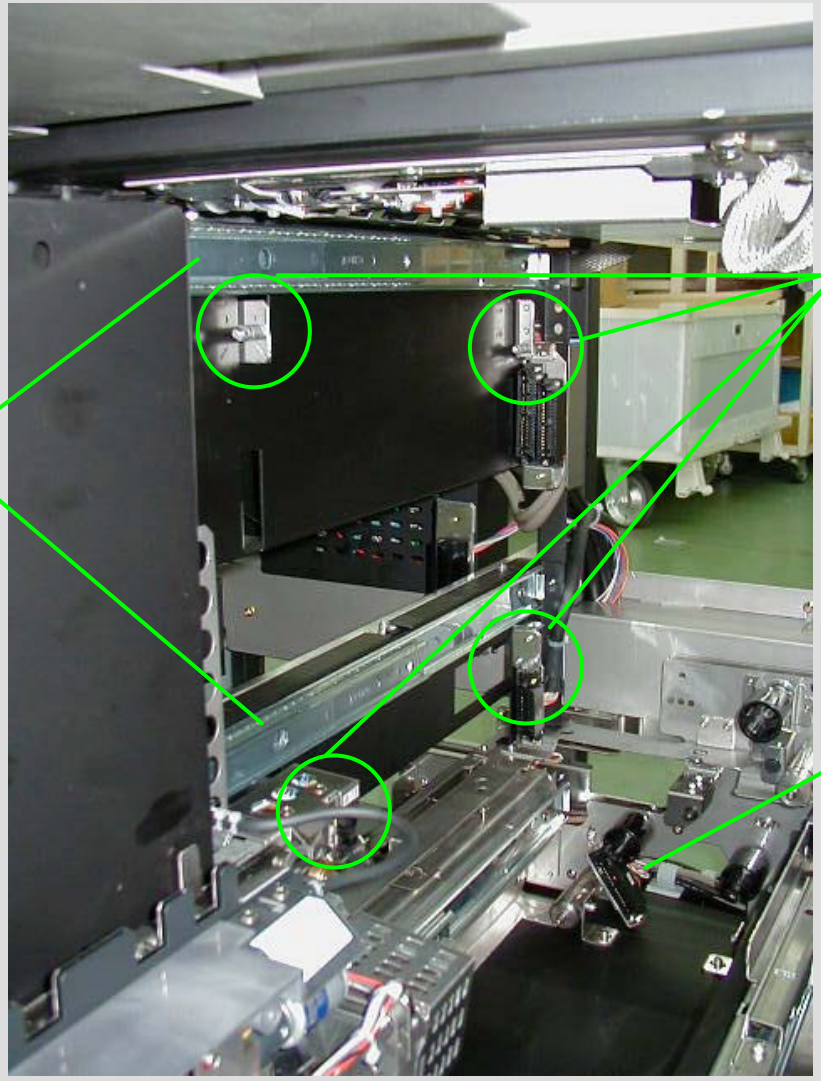
*** The position where the paper is loaded**

Tools for assembling the QSS-29



? Decide the position of positioning pin (forward) for magazine mount A.

Screws which should not be touched



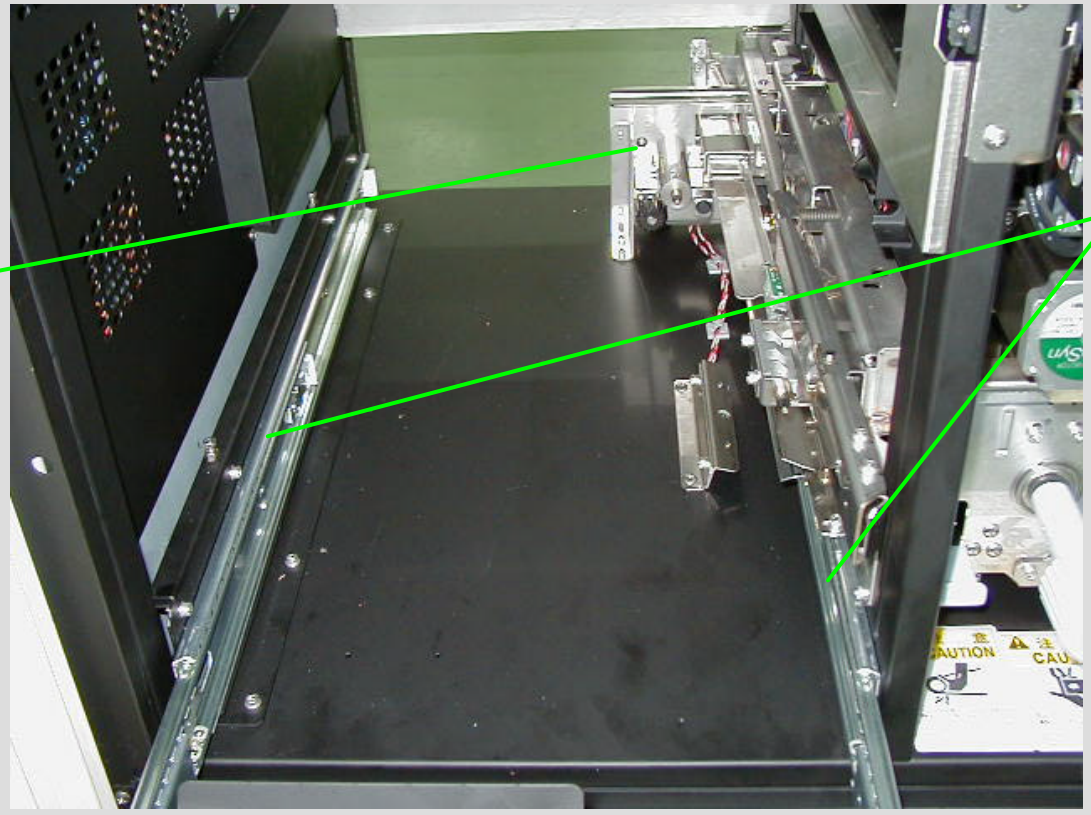
Positioning pins of paper advance unit

Rail of paper advance unit

Magazine drive unit

(magazine B side)

Screws which should not be touched



Magazine drive unit

(magazine A side)

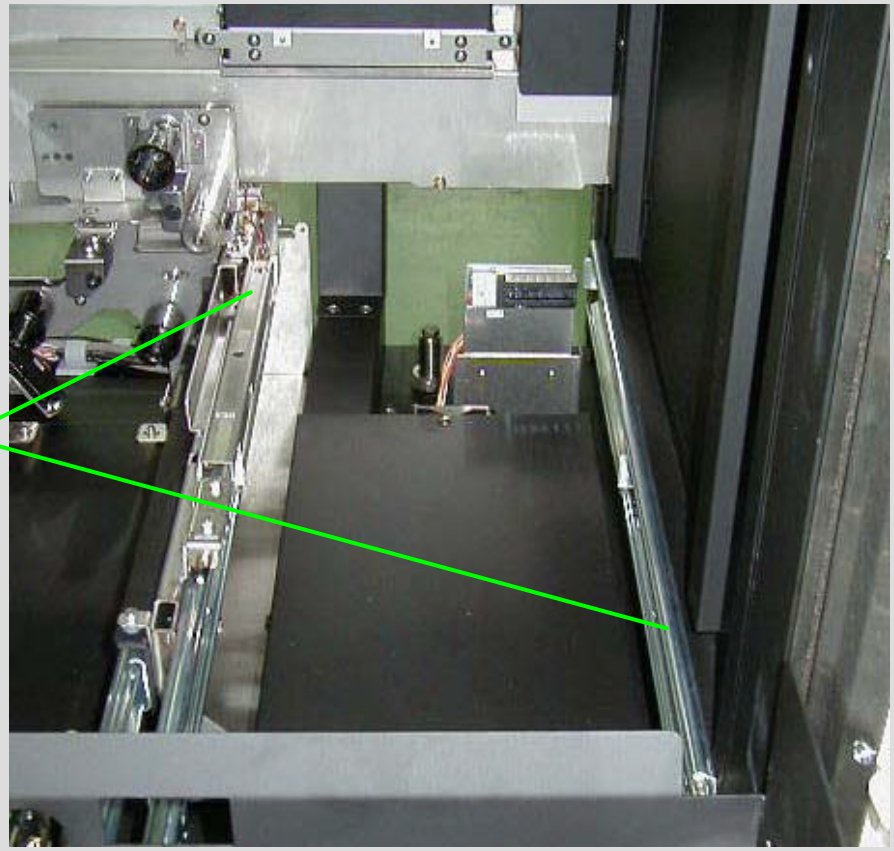
Rail of magazine mount A

(Head height adjustment screws)

Screws which should not be touched

Rail of magazine mount B

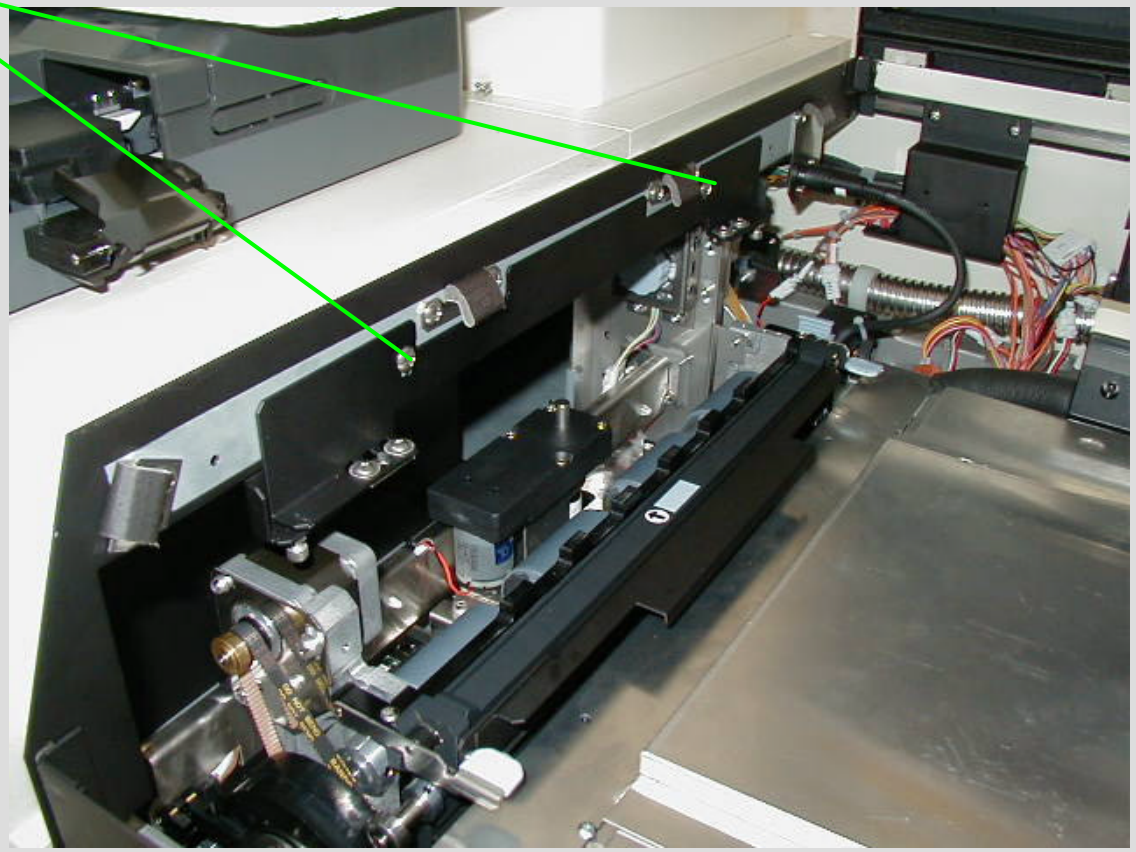
(Head height adjustment screws)



Screws which should not be touched

Exit advance unit

Positioning plate

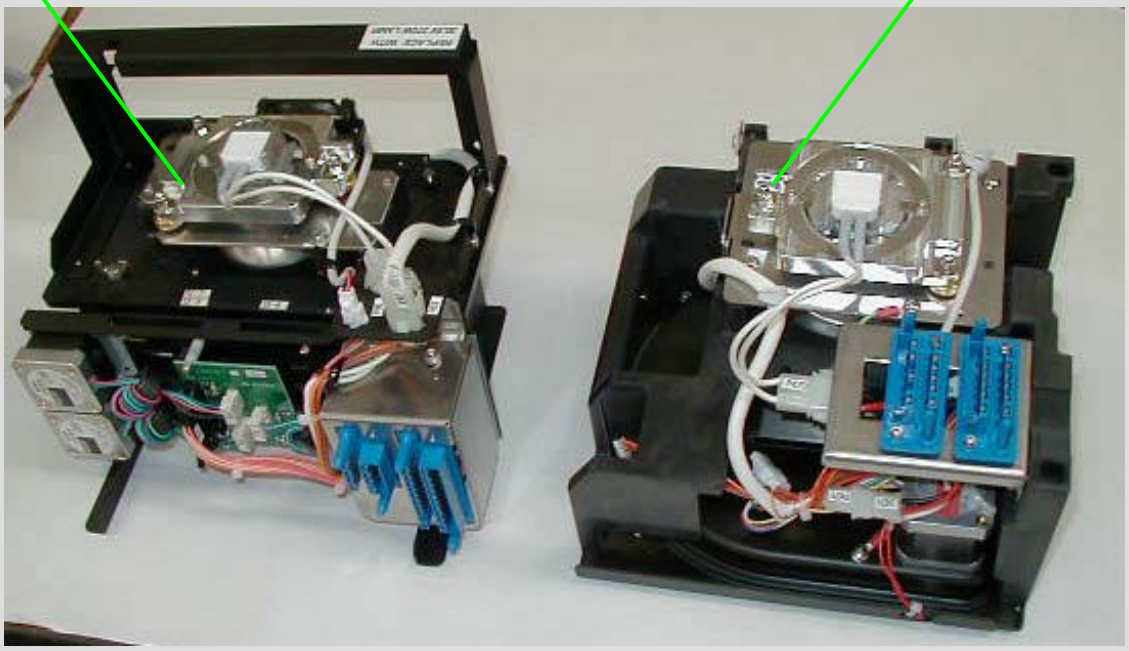


Screws which should not be touched

MLVA lamp light source unit

(Head height adjustment screw)

Scanner lamp light source unit
(Head height adjustment screw)



Maintenance and adjustment

* Paper Advance length Correction
* Dichroic filter Position Adjustment
* Inner Calibrator Gain Adjustment
* Scanner filter Position Adjustment
* Paper Pressure Operation Correction

As for the correction value, input the following number.

“Print No. which the banding does not appear on” added “2” makes [Correction value].

Practical training

* Recovery
* Install the QSS software.
* Install the driver.
* Software upgrading

Chapter 6-1
Paper zigzagging adjustment

The point of this chapter

Purpose of study

- Study about the paper zigzagging adjustment in the “Printer mechanical adjustment”.

How to carry out the training

- Carry out the practical training mainly and explain, referring to the materials.

Zigzagging adjustment (Printer section)

1. Zigzagging adjustment of the magazine mount

   Point 1: Carry out the zigzagging adjustment between magazine mount A, B and the loading unit.

2. Zigzagging adjustment of the exposure advance unit

   Point 1: Carry out the zigzagging adjustment of exposure advance unit only.

3. Zigzagging adjustment in single row

   Point 1: Hold the paper by the both of arms in the paper advance unit.

   Carry out the zigzagging adjustment of paper width.

4. Exposure center correction (master)

Zigzagging adjustment (Printer section)

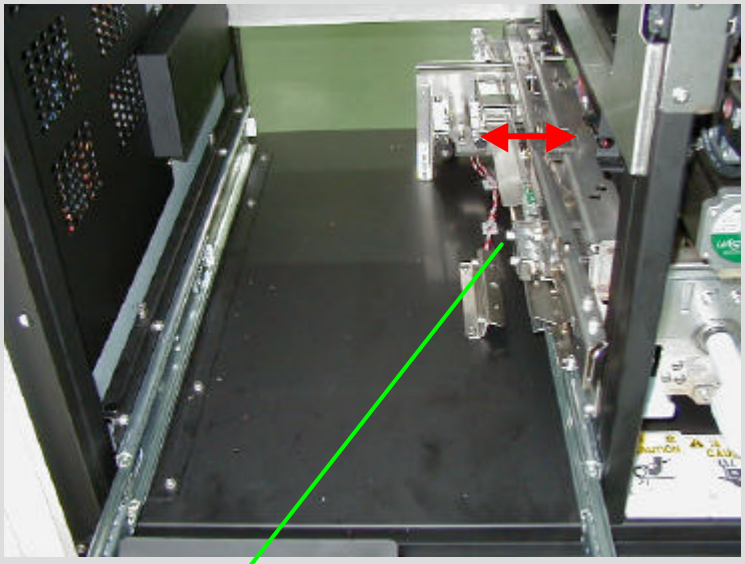
5. Paper supply unit

Point 1: Carry out the zigzagging adjustment of the intermediate advance unit.

Zigzagging adjustment (Magazine mount)

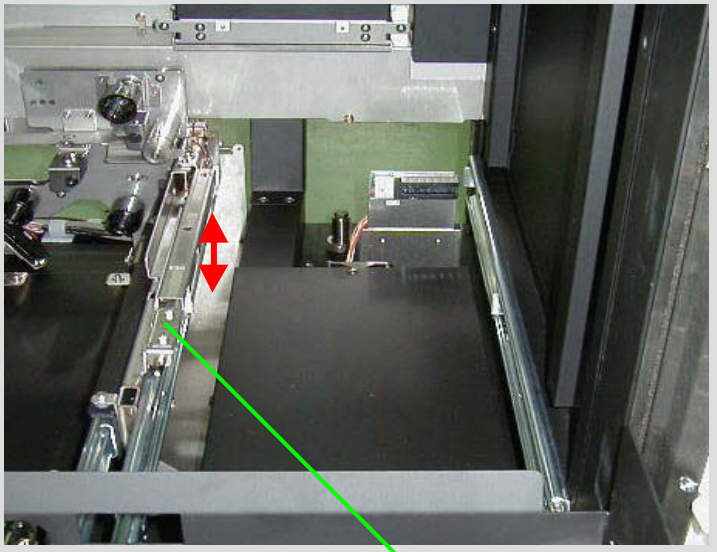
Zigzagging adjustment of magazine mount A, B

Procedure 1: Adjust the positioning pins.



Positioning pin

Magazine mount (A) side



Positioning pin

Magazine mount (B) side

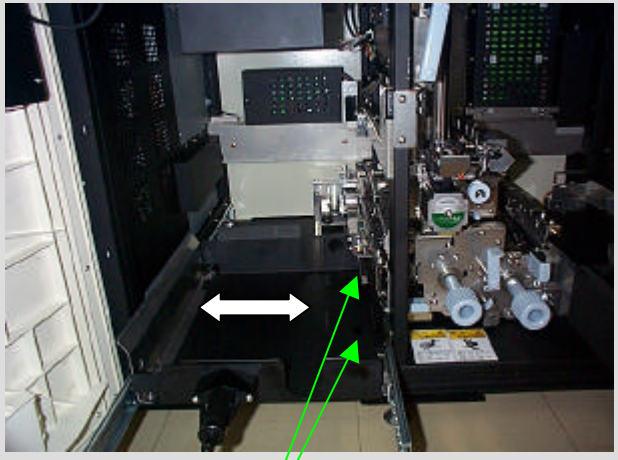
NOTE

Carry out the zigzagging adjustment of magazine mount A, B by moving the positioning pins toward the arrow direction.

Zigzagging adjustment (Magazine mount)

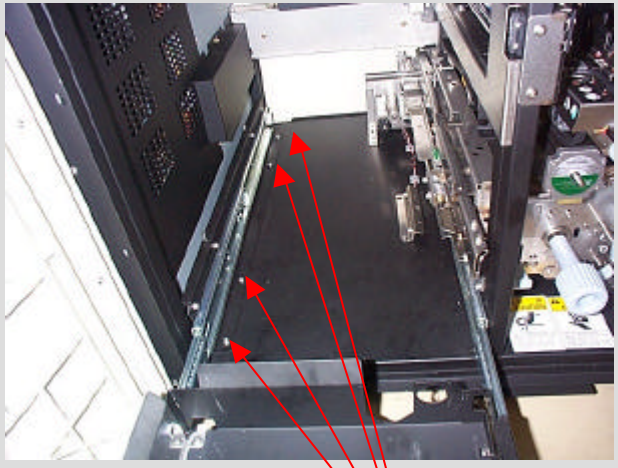
Procedure 2: Adjustment of magazine mount A

(Adjust so that the you can take the positioning pins in and out smoothly.)



Loosen 2 fixing screws.

(Magazine mount A)



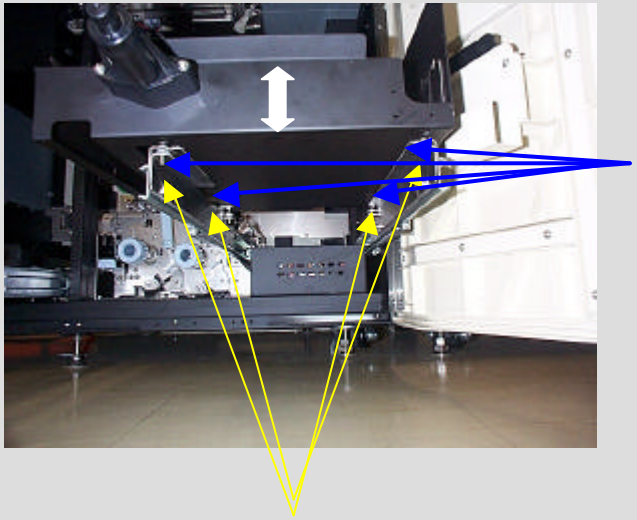
Loosen 4 fixing screws of the metal fittings for fixing the rail.

(Magazine mount A)

Zigzagging adjustment (Magazine mount)

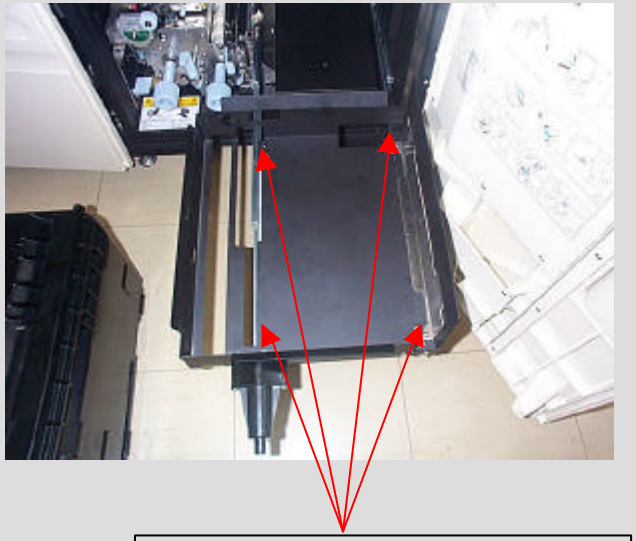
Procedure 3: Adjustment of magazine mount B

(Adjust so that the you can take the positioning pins in and out smoothly.)



Loosen 4 fixing screws of the metal fittings for fixing the rail.

(Magazine mount B)

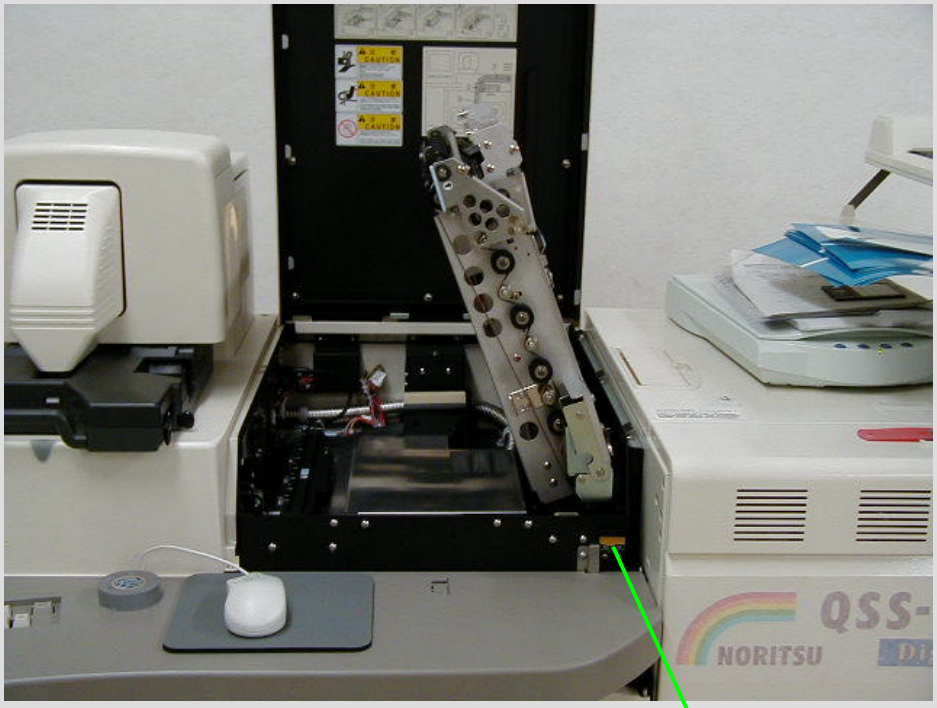


Adjust 4 adjusting screws.

(Magazine mount B)

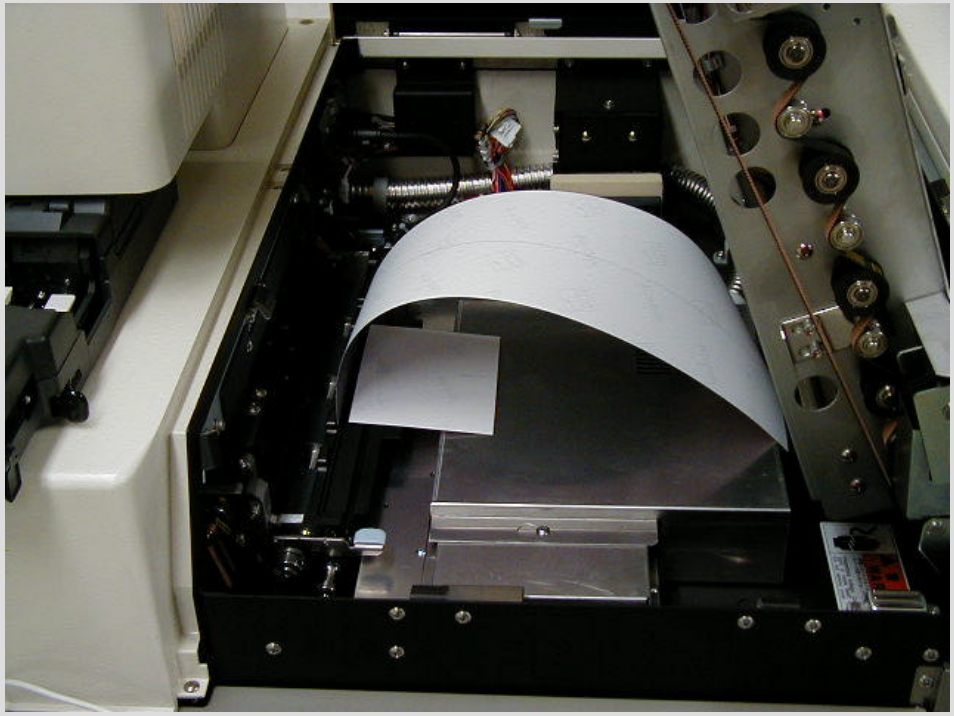
Zigzagging adjustment (Magazine mount)

Procedure 1: Set the magnet with the upper cover open.



Zigzagging adjustment (Magazine mount)

Procedure 2: Make a print with the minimum width which is used in the “Exposure Center Correction (Master)” ? ”FUNCTION”.

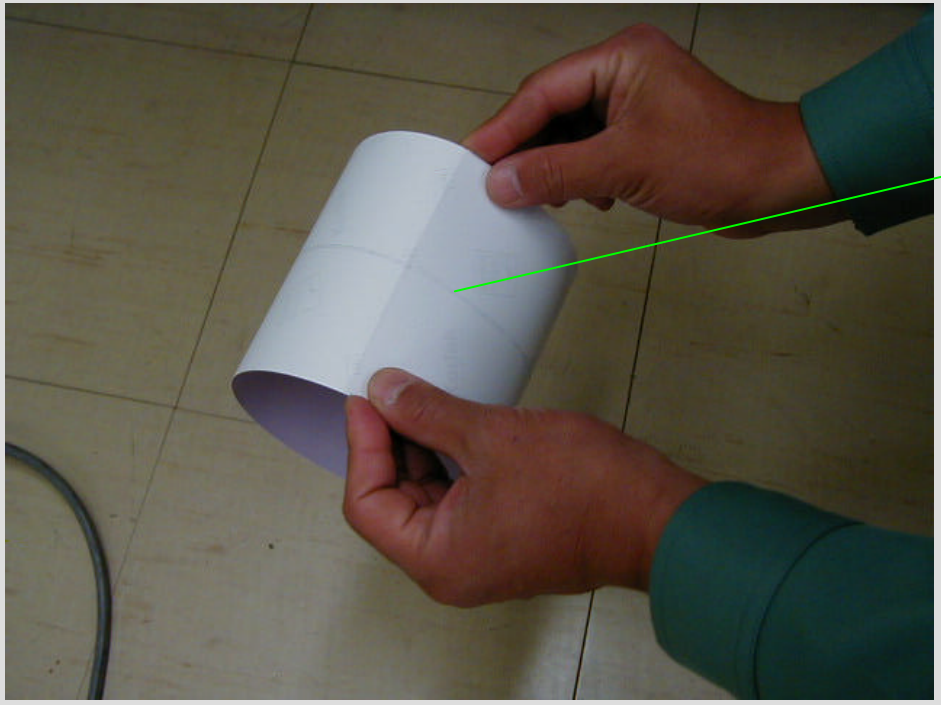


NOTE

The error message “No. 6036 Paper has jammed in the Exit Paper Advance Section” appears, but clear the error and continue.

Zigzagging adjustment (Magazine mount)

Procedure 3: Put the both side of test print together, and check the zigzagging.



CVP

(Correction Value Print)

NOTE

Adjust the positioning pins of magazine A, B each so that the gap (width) of CVP on the test print is within 0.3 mm.

Zigzagging adjustment (Exposure advance unit)

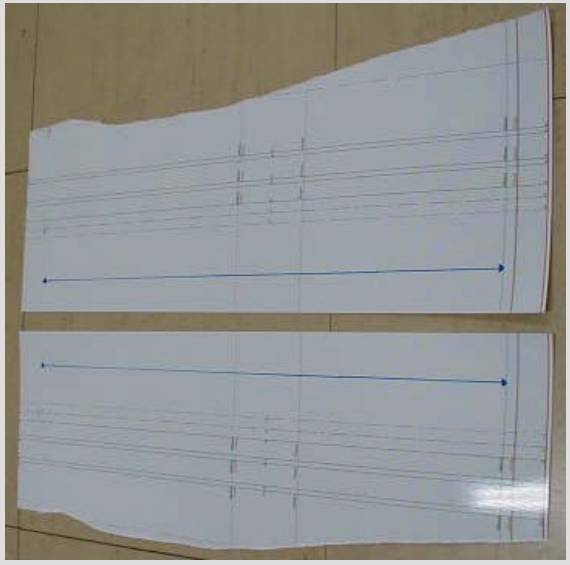
Zigzagging adjustment of exposure advance unit

(pressure roller 2, 3)

Procedure 1: Make a print with the maximum width which is used in the "Exposure Advance Unit Zigzagging Adjustment"

? "FUNCTION".

Procedure 2: Check the paper zigzagging amount of test print which is made in the Procedure 1.



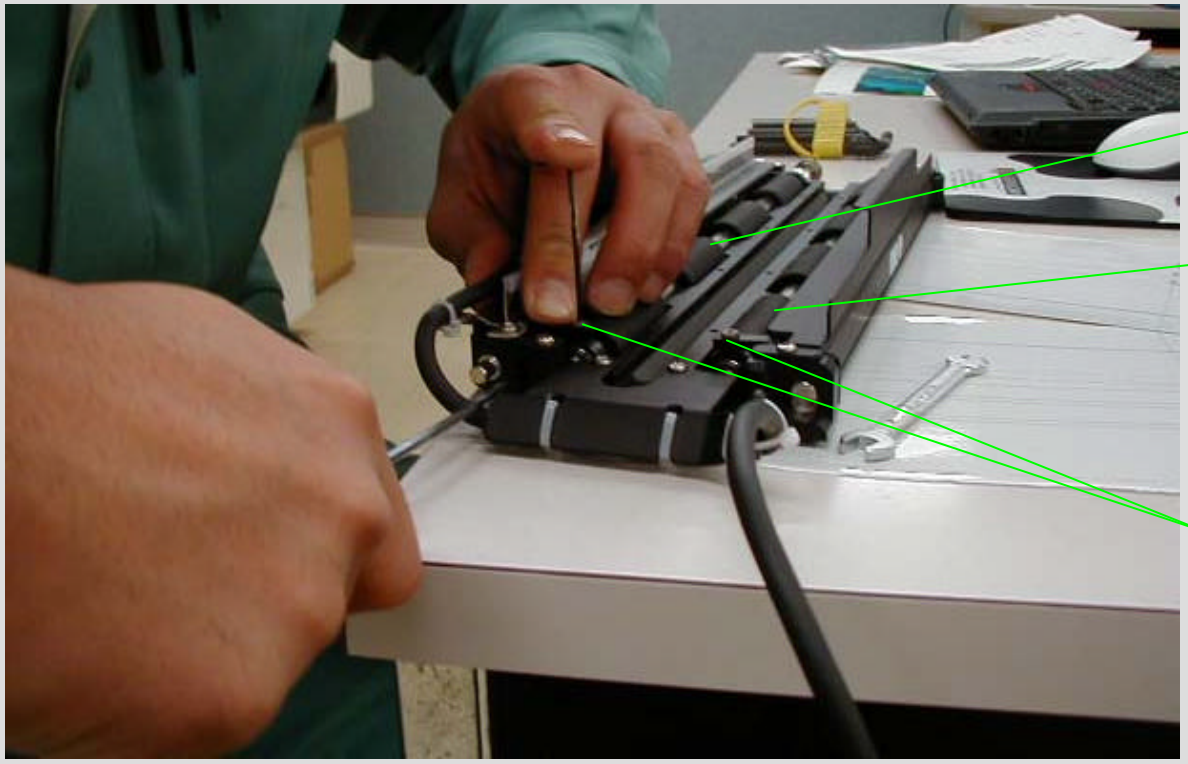
NOTE

As shown in the left illustration, tear the test print in half.

And, check the zigzagging amount on left and right side.

Zigzagging adjustment (Exposure advance unit)

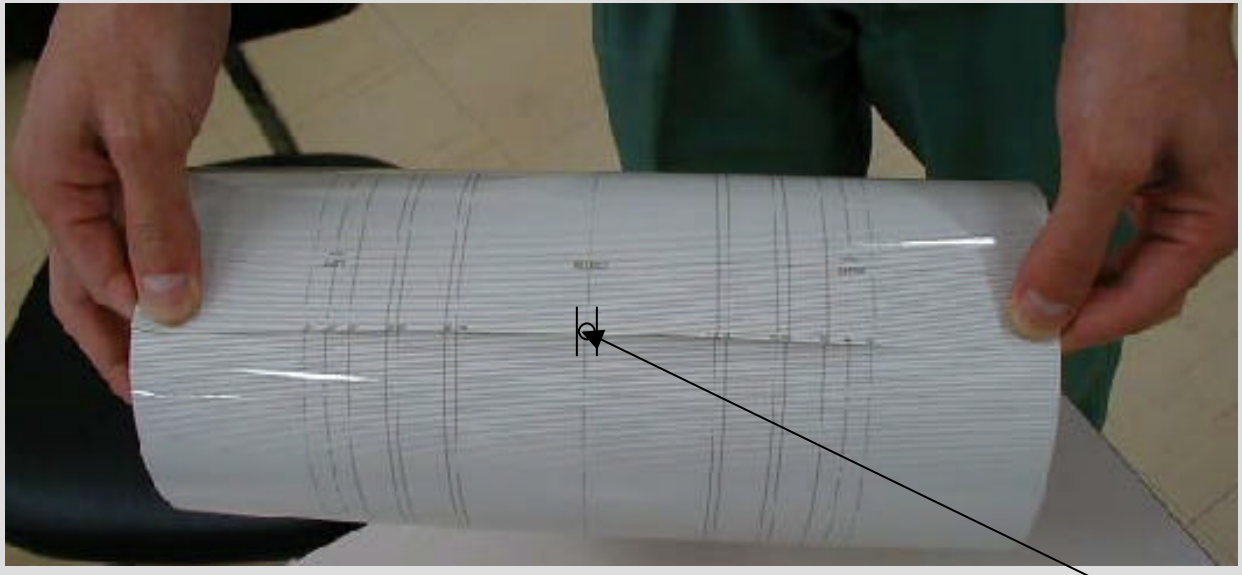
Procedure 3: Adjust the zigzagging, losing the fixing screw and lock nut of pressure roller 2, 3. Then, adjust with the adjusting screw.



Zigzagging adjustment in single row

Zigzagging adjustment in single row

Procedure 1: If the adjustment is necessary, make a print with the maximum width which is used in the “Arm Vertical Error Correction (Master)”? ”FUNCTION”.



NOTE

Check the position of standard line on the print.

The gap should be within 0.3 mm, as shown in the illustration.

(The gap of standard line between the leading edge and rear edge of the paper)

Zigzagging adjustment in single row

Procedure 2: If the adjustment is necessary, make a correction for "Magazine A" and "Magazine B" in the "Arm Vertical Error Correction (Master)" mode.

NOTE**********

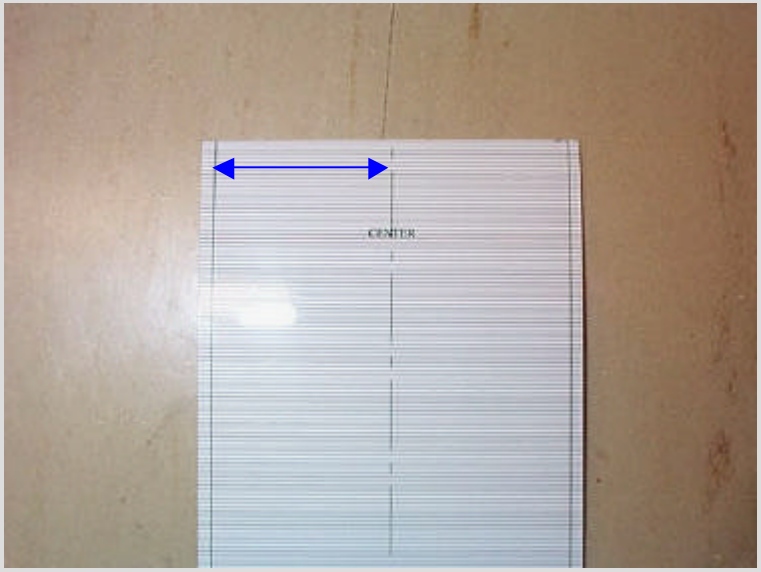
"Arm Vertical Error Correction (Master)" is effective for the paper width with 120 mm or more.

* The paper with the width 120 mm or more is advanced by both arms (right/left) in single row.
* The paper with the width 117 mm or more is advanced by arm (left) only.

Exposure Center Correction (Master) Adjustment Procedure

Exposure Center Correction (Master)

Procedure 1: Make a print in the “FUNCTION” of “Exposure Center Correction (Master)”.



NOTE

Check that the length of arrow on the test print is half of the name of paper width.

As for the paper to be used as a test print, use the paper with minimum width which is used in the machine.

Zigzagging adjustment (Printer section)

Procedure 2: If the adjustment is necessary, make a correction for “Magazine A” and “Magazine B” in the “Exposure Center Correction (Master)” mode.

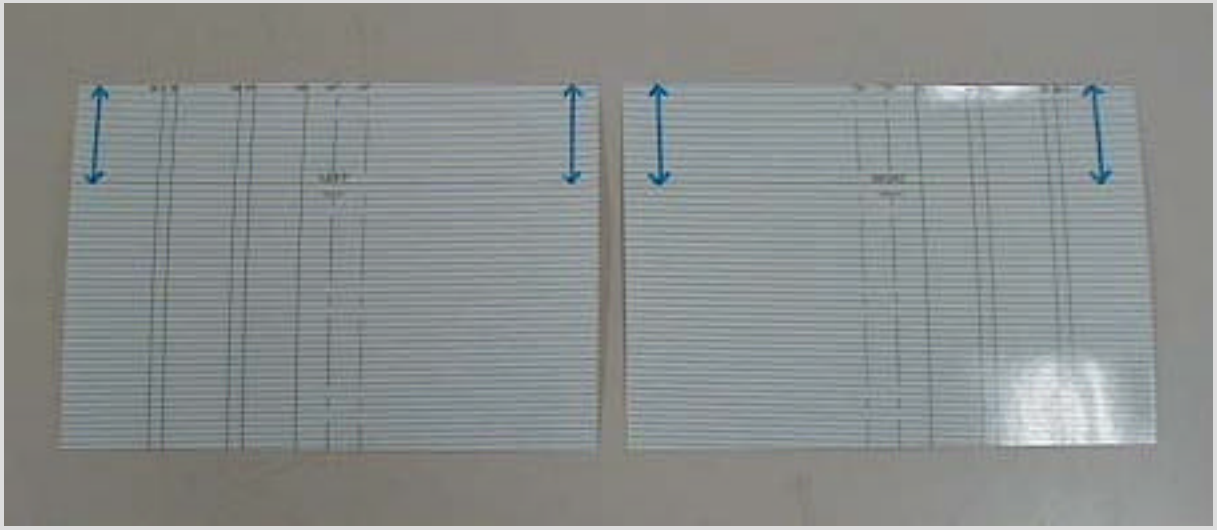
NOTE**********
The Exposure Center Correction should be carried out for magazine mount A, B each.

Pressure balance adjustment of intermediate advance unit

Pressure balance adjustment of intermediate advance unit

Procedure 1: Make a print in the “Exposure Center Correction (Master)”
? ”FUNCTION”.

LEFT RIGHT



NOTE

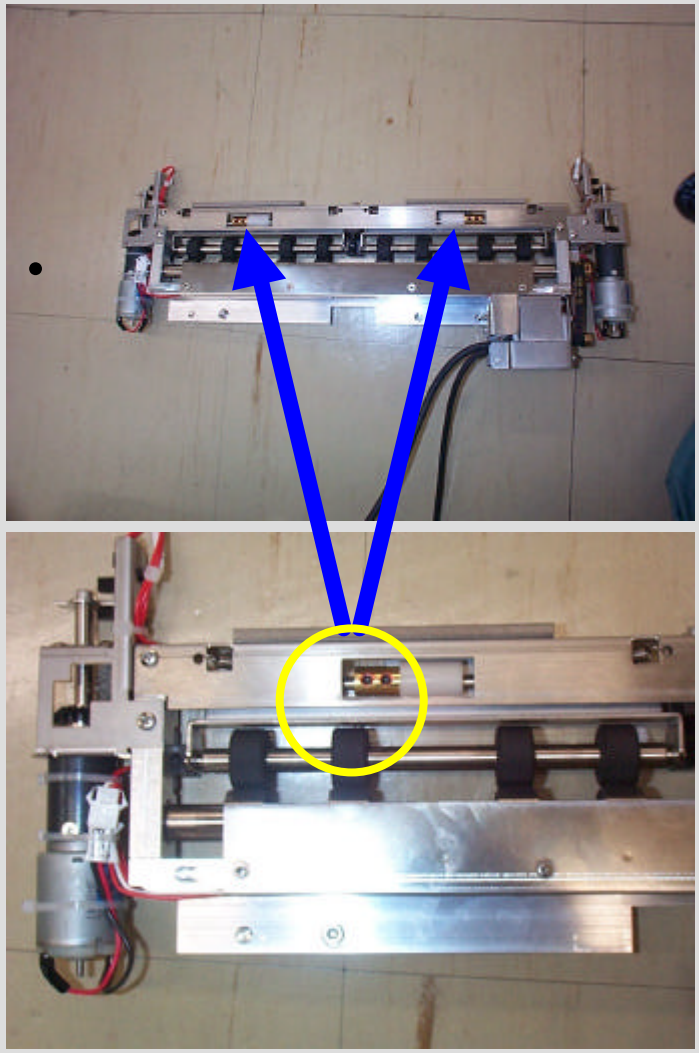
Check that the length of arrow on the test print is within + 0.5 mm to –0.5 mm.

Pressure balance adjustment of intermediate advance unit

Pressure balance adjustment of intermediate advance unit

Procedure 2: Make a print in the “Exposure Center Correction (Master)”
? ”FUNCTION”.

Zigzagging adjustment (Printer section)



Fasten the set screws on the cam on the right side and left side.

Adjust so that the gap between the pressure roller (outside) and advance roller is 0.01 mm to 0.2 mm.

Total: 4 points

Chapter 7
Service items

The point of this chapter

Purpose of study

- Study each data flow when printing.
  Movement sequence
  Data calibration
  Data flow for each print
  Maintenance and adjustment
- Study the cautions when replacing PCBs.

How to carry out the training

- Explain the items, referring to the training materials and a machine.
- Explain the PCBs which are necessary to be replaced with care.

Movement sequence

* Have the trainees read Chapter 5, and give a test.

Cautions when replacing PCBs

Printer section

PCB	D	J	S	B	V	Others
Image processing PCB	1	1	1	-	-	Replace after removing it with the plate.
Image correction PCB	1	-	1	-	-	Replace after removing it with the plate.
Printer control PCB	1	1	1	1	-	
D-ICE PCB (option)	1	1	1	-	-	Replace after removing it with the plate.
AFC/scanner control PCB	1	-	1	1	-	Sensor standard adjustment for each AFC
Colorimeter control PCB	1	-	1	-	-	“Paper Front End Advance Length Correction” and “Paper Feed Error Correction” in the “Colorimeter Unit Adjustment”

D: : DIP switch setting (Set it as same as before replacing.)

J: : Confirming the connector for the jumper (Set it as same as before replacing).

S: : Reading the System program

B: Reading the backup data

V: Necessary to adjust the potentiometer

1: Execute

- : Not execute

Cautions when replacing PCBs

Printer section

PCB	D	J	S	B	V	V̲	Others
Printer I/O PCB 1	-	-	-	-	-	-	
Printer I/O PCB 2	-	-	-	-	-	-	
Printer I/O PCB 3	-	-	-	-	-	-	
Pre-amplifier PCB	-	-	-	-	-	-	Carry out the inner calibrator gain adjustment.
Calibrator connecting PCB	-	-	-	-	-	-	Be careful of connecting the sheet cable.
Scanner lamp power supply	-	-	-	-	-	-	Confirm that the voltage (scanner lamp connector section) is DC+27.7V±0.3V.
MLVA lamp power supply	-	-	-	-	-	1	Adjust VR2 so that the voltage is DC+27.7V±0.3V at the connector in the MLVA lamp house.

Cautions when replacing PCBs

Printer section

PCB	D	J	S	V	Others
Multi power supply	-	-	-	1	Adjust VR1 so that the voltage is DC+5.15±0.05V at the connector in the power supply section.
Printer power supply	-	-	-	-	
D-ICE power supply	-	-	-	-	

Processor section

PCB	D	J	S	B	V	Others
Processor control PCB	1	1	1	1	-	
SM I/O PCB	-	-	-	-	-	Sensor sensitivity adjustment for replenisher solution sensor
Processor power supply	-	-	-	-	1	

Cautions when replacing PCBs

Options

PCB	D	J	S	B	V	V̲	Others
PU control PCB	1	-	1	1	-	-	
CVP PCB	-	-	-	-	-	1	

Cautions when replacing PCBs

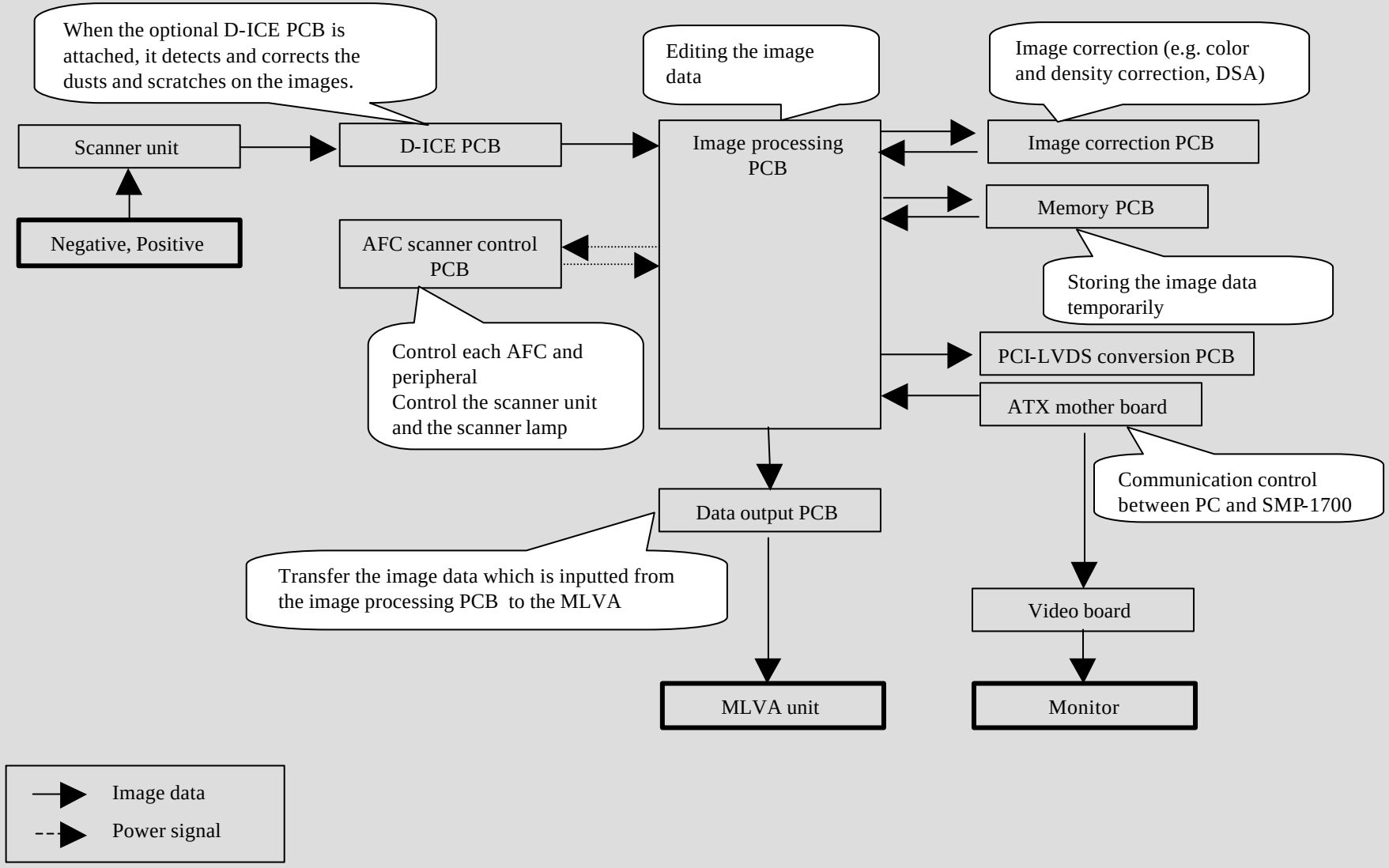
Personal computers

PCB	D	J	S	B	V	Others
ATX mother board	-	1	-	-	-	BIOS setting
ATX power supply battery pack	-	-	-	-	-	Turn ON the ATX power supply
Hard disk drive	-	1	1	1	-	Following the recovery procedure, it is necessary to carry out the items below. Reading the OS Reading the QSS software Reading the DVD-RAM driver (option) Reading the driver of flatbed scanner (option) Reading the profile data Reading the backup data Setting each drive allocation

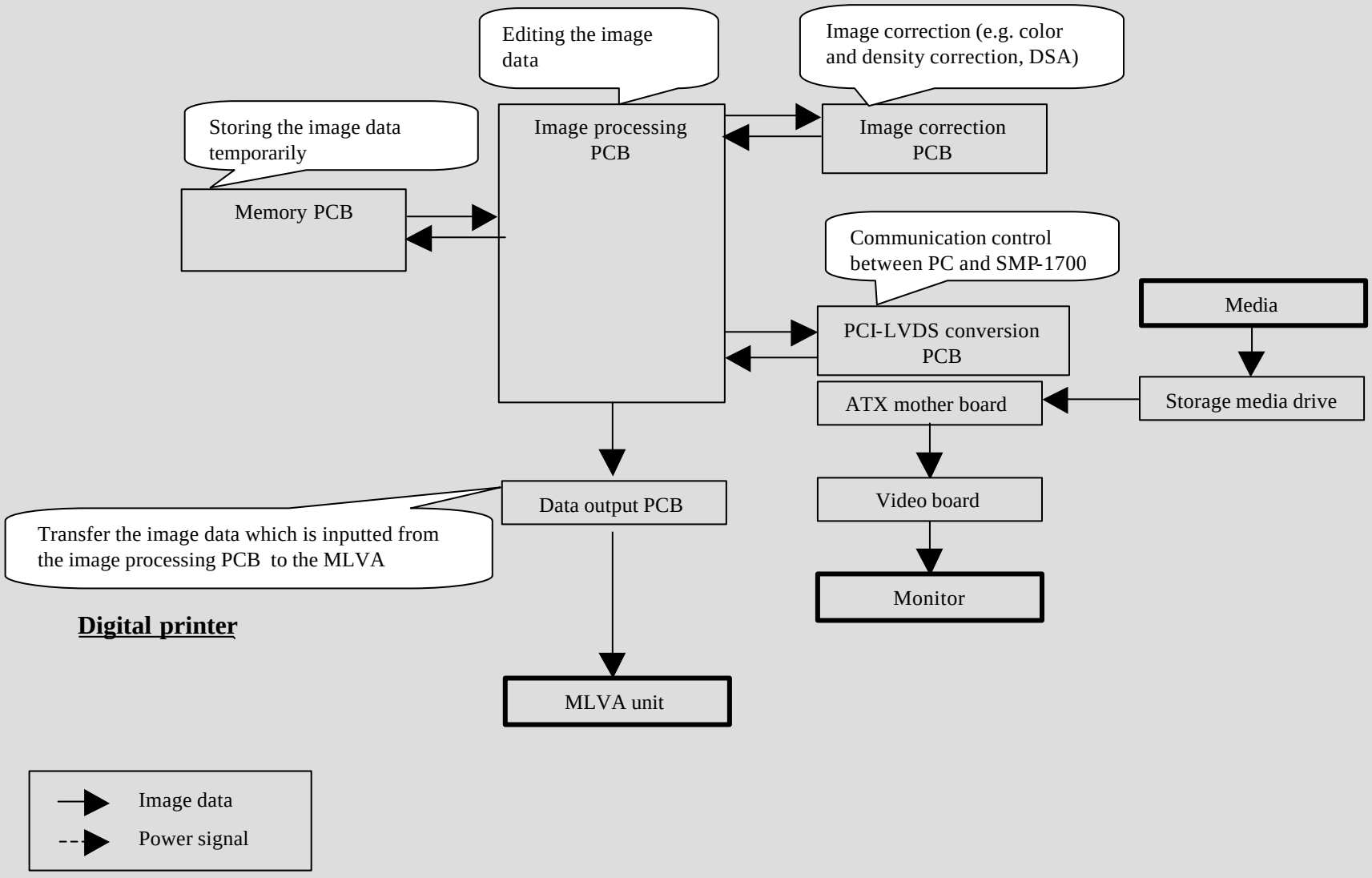
SMP-1700 Components of service parts (Z019507-01)

Mother board (For PC-NRT- 3)	Video card	CD-ROM drive	Mouse
CPU (Pentium III 733MHz)	SCSI card	Floppy disk drive	
DIMM (256MBPC133)	Non-stop power supply	Hard disk drive	

Data flow when printing (Negative, Positive)



Data flow when printing (Media)



Data flow when storing the images

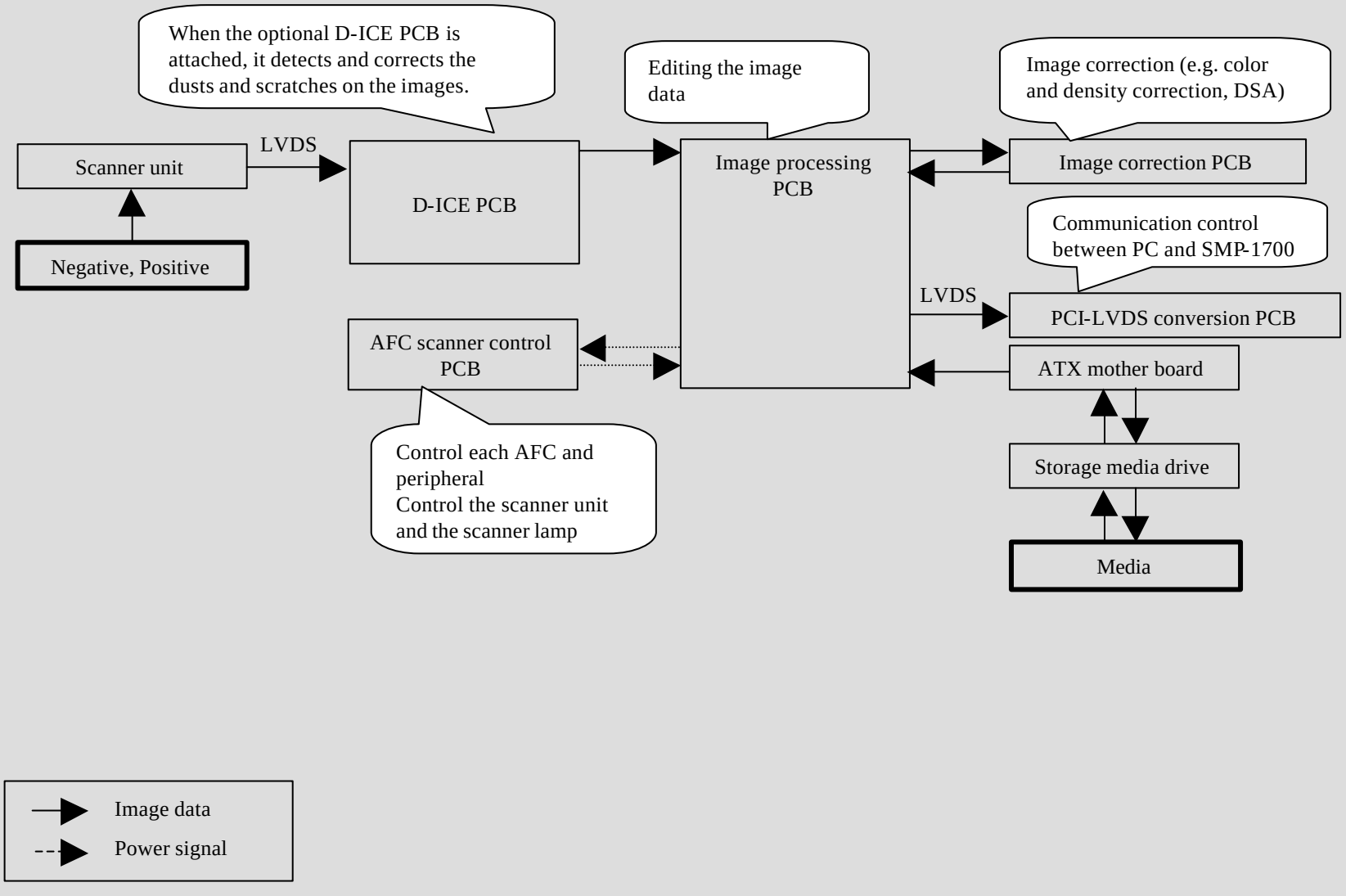
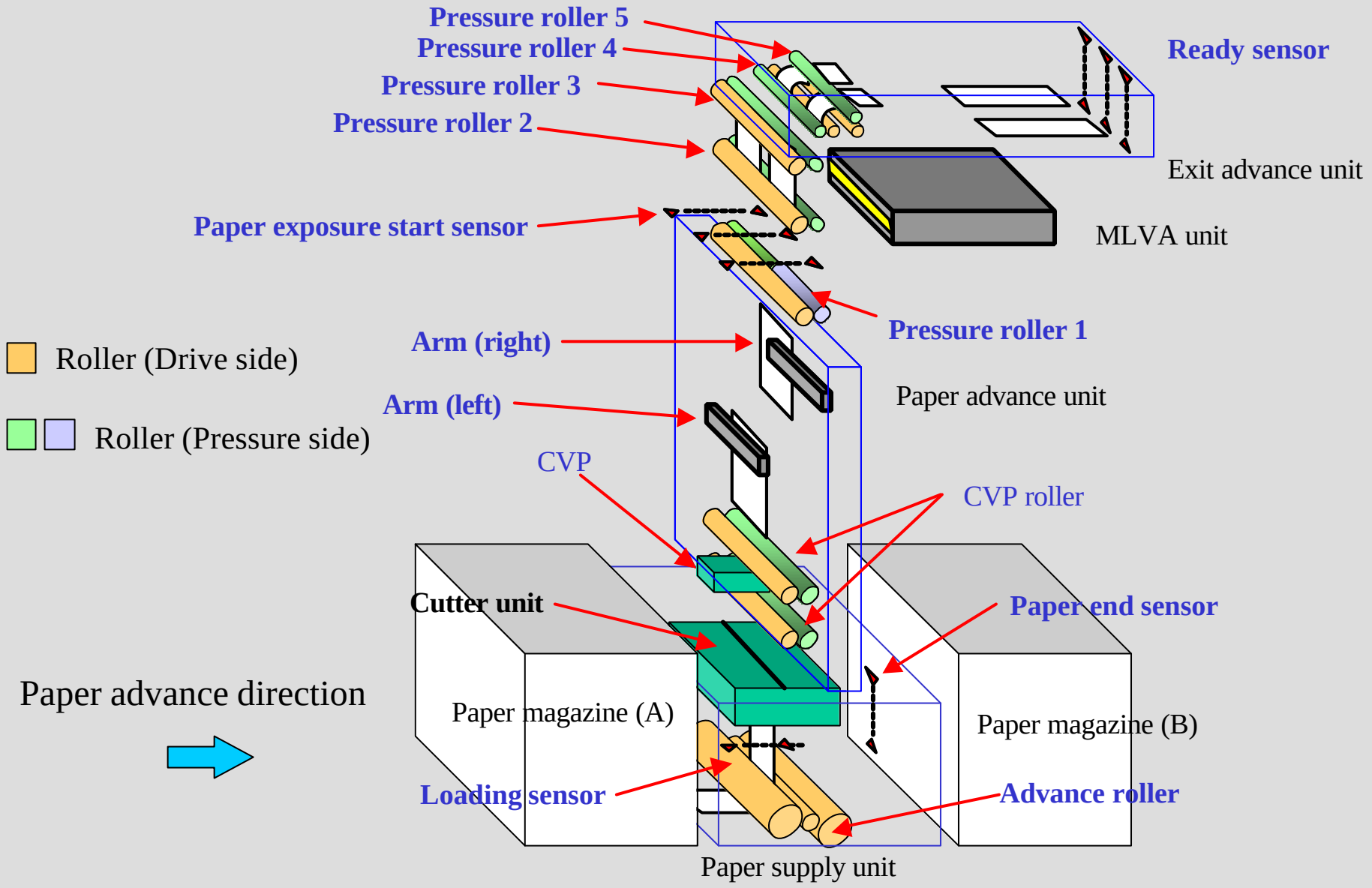
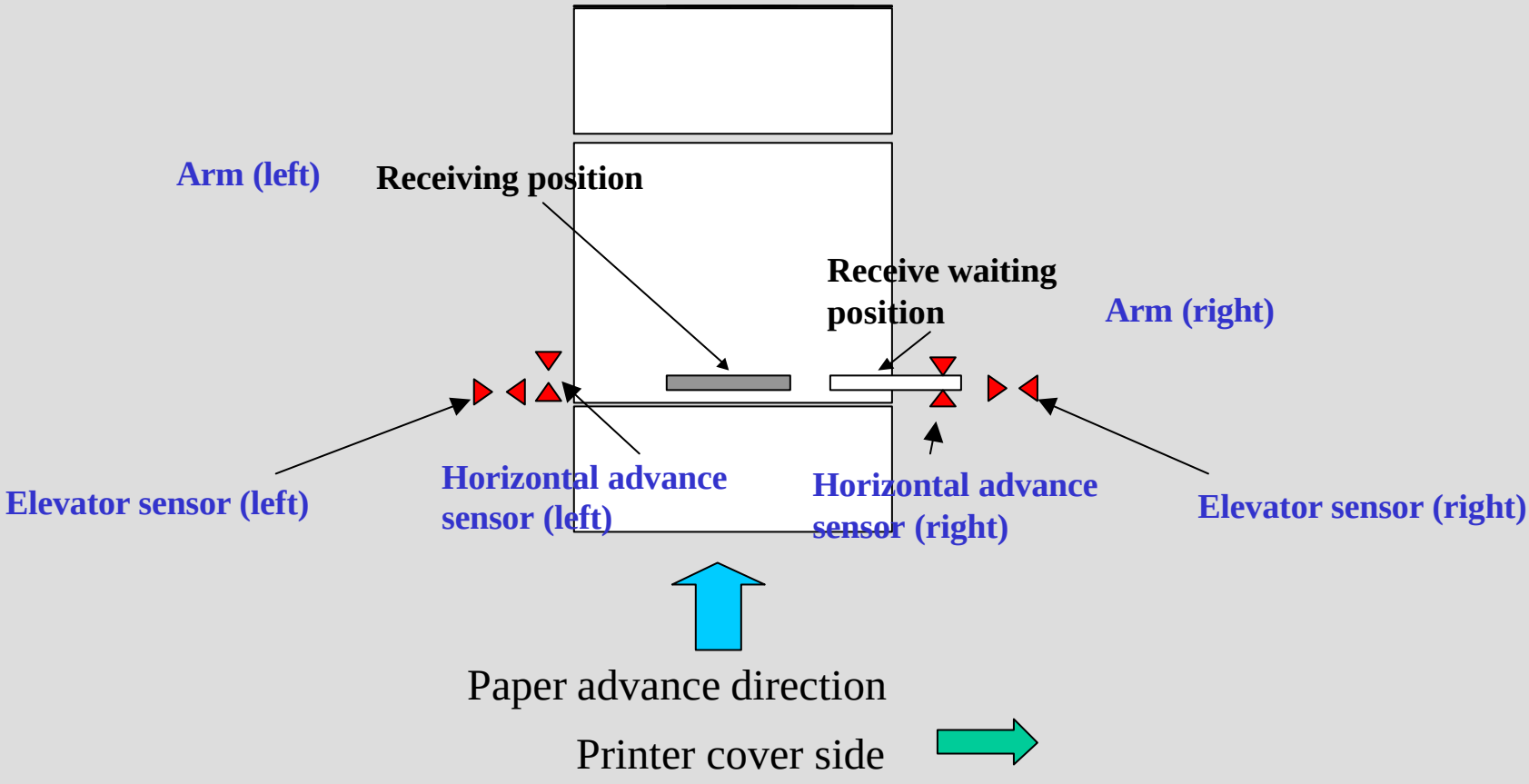


Illustration (Printer advance section)



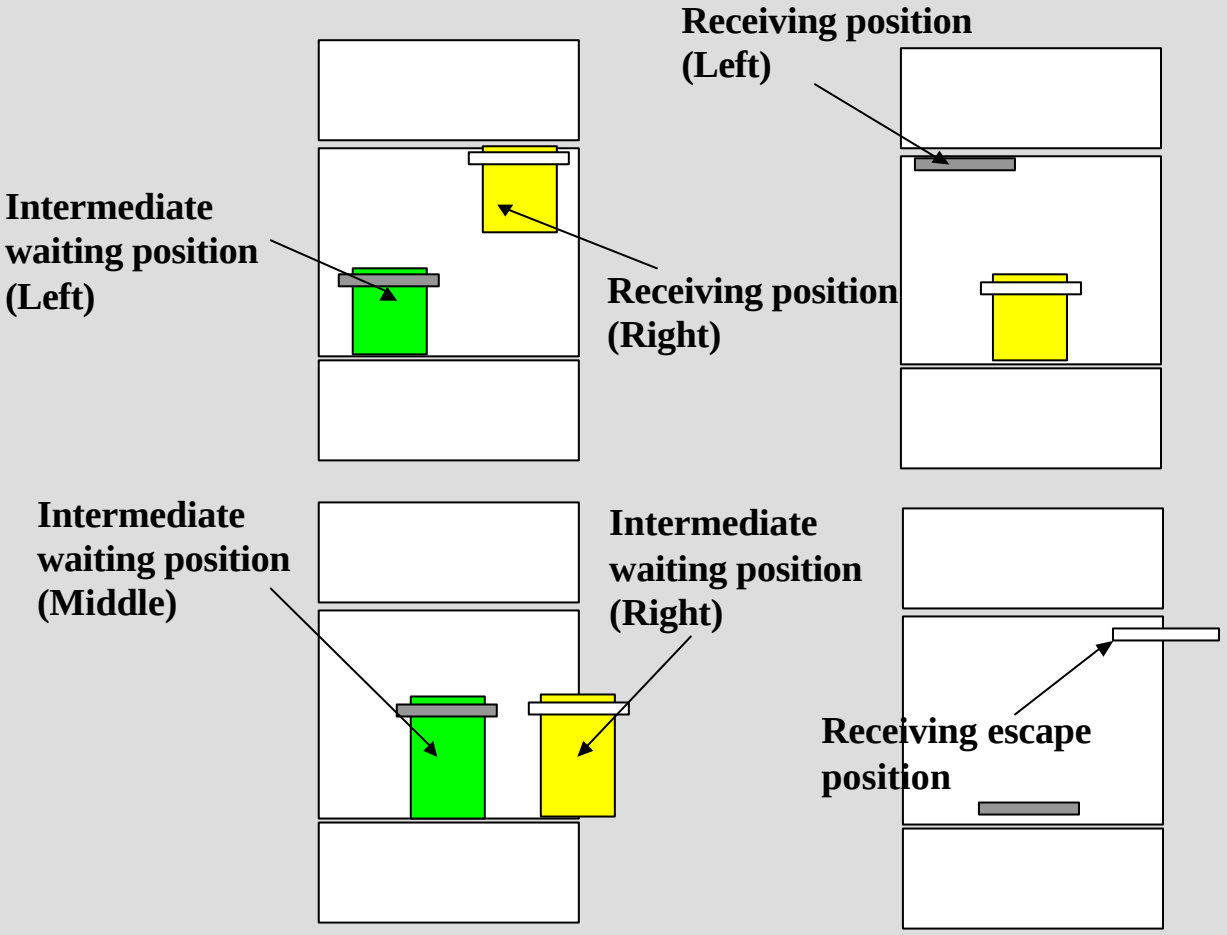
Arm operation (paper advance unit)

Standard arm position (paper advance unit)

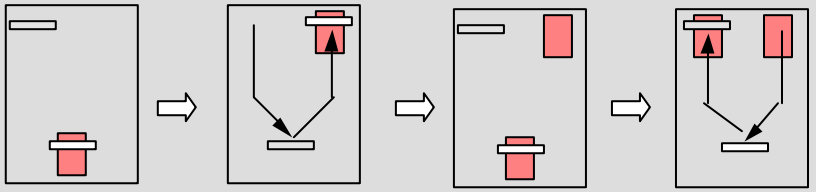
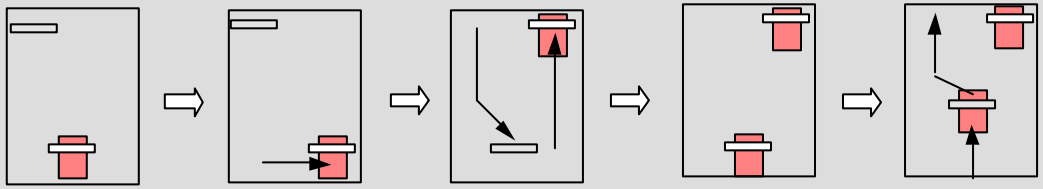
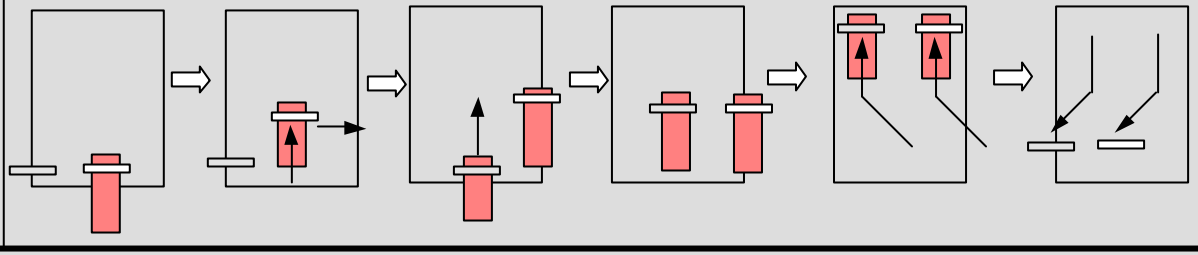


Arm operation (paper advance unit)

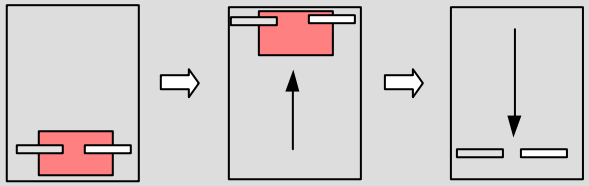
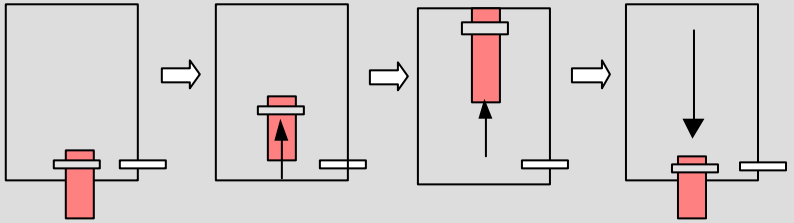
Standard arm position (paper advance unit)



Arm operation for paper size each

Paper advance length	Arm operation
Paper width: 82.5 to 152.0 mm Paper advance length: 82.5 to 119.9 mm Arm (right) and Arm (left) activate alternately.	
Paper width: 82.5 to 152.0 mm Paper advance length: 120.0 to 151.9 mm Arm (right) and Arm (left) activate alternately in a straight line	
Paper width: 82.5 to 152.0 mm Paper advance length: 152.0 to 216.0 mm Arm (right) and Arm (left) activate at the same time	

Arm operation for paper size each

Paper advance length	Arm operation
*Paper width: 120 mm or more Paper advance length: 216.1 mm or more *Paper width: 152 mm or more	 Arm (right) and Arm (left) activate at the same time.
*Paper width: 117 mm or less Paper advance length: 216.1 mm or more Paper advance in single row by arm (left)	

Errors and countermeasures

*Film jam

*Paper jam

Maintenance

*Time to replace

*Cleaning the drives

Service Manual 8001

Chapter 8
QSS-NET

The point of this chapter

Purpose of study

- Study the QSS-NET

How to carry out the training

- Explain, using the training materials and machine.

Outline

QSS Remote Service tool (QSS-NET+pcAnywhere)

*This has two functions below.

Data collection function of QSS-NET

Remote control function of pcAnywhere

However, it functions only under the Windows 2000 (which is the same OS with the QSS).

Components

(Customer's site)

*Modem

*Driver of modem

*QSS Remote Service tool

(Each service base)

*Windows 2000

*Modem

*Driver of modem

*pcAnywhere (goods on the market)

*QSS-Net 2000

Comparison (support tool)

*QSS-2701

QSS-NET

*QSS-2711DLS

pcAnywhere

*QSS-2801/02

QSS Remote Service Tool

*QSS-2901

QSS Remote Service Tool

Comparison between QSS-NET and pcAnywhere

	Support tool	In case of ON-line	Data collection	Software upgrading	Mail function	Supported OS
QSS-2701	QSS-NET	Only maintenance data can be checked/set. (You can operate only QSS data.)	Historical error, maintenance data collection can be possible.	Remote software upgrading (It is possible to send all data in one time.)	Possible to send a mail both from the QSS-2701 and QSS-NET	Win95/98
QSS-2711DLS	pcAnywhere	Setting is possible with all remote on the DLS PC	Impossible (Possible only in the on-line)	When upgrading, you can select the necessary data separately.	Chatting is available.	Win3.1 to Win2000
QSS-2801/02	QSS Remote Service tool	Setting is possible with all remote on the PC	Historical error, maintenance data collection can be possible.	Remote software upgrading (It is possible to send all data in one time. When upgrading, you can select the necessary data separately.)	Possible to send a mail both from the QSS-2801/02 and QSS-NET Chatting is available.	Win2000
QSS-2901						

Setting procedure

(Customer's site)

1. NMC2 setting
2. Registration of modem
3. Installing the modem driver
4. Installing the QSS Remote Service tool
5. NMC setting (on the QSS)

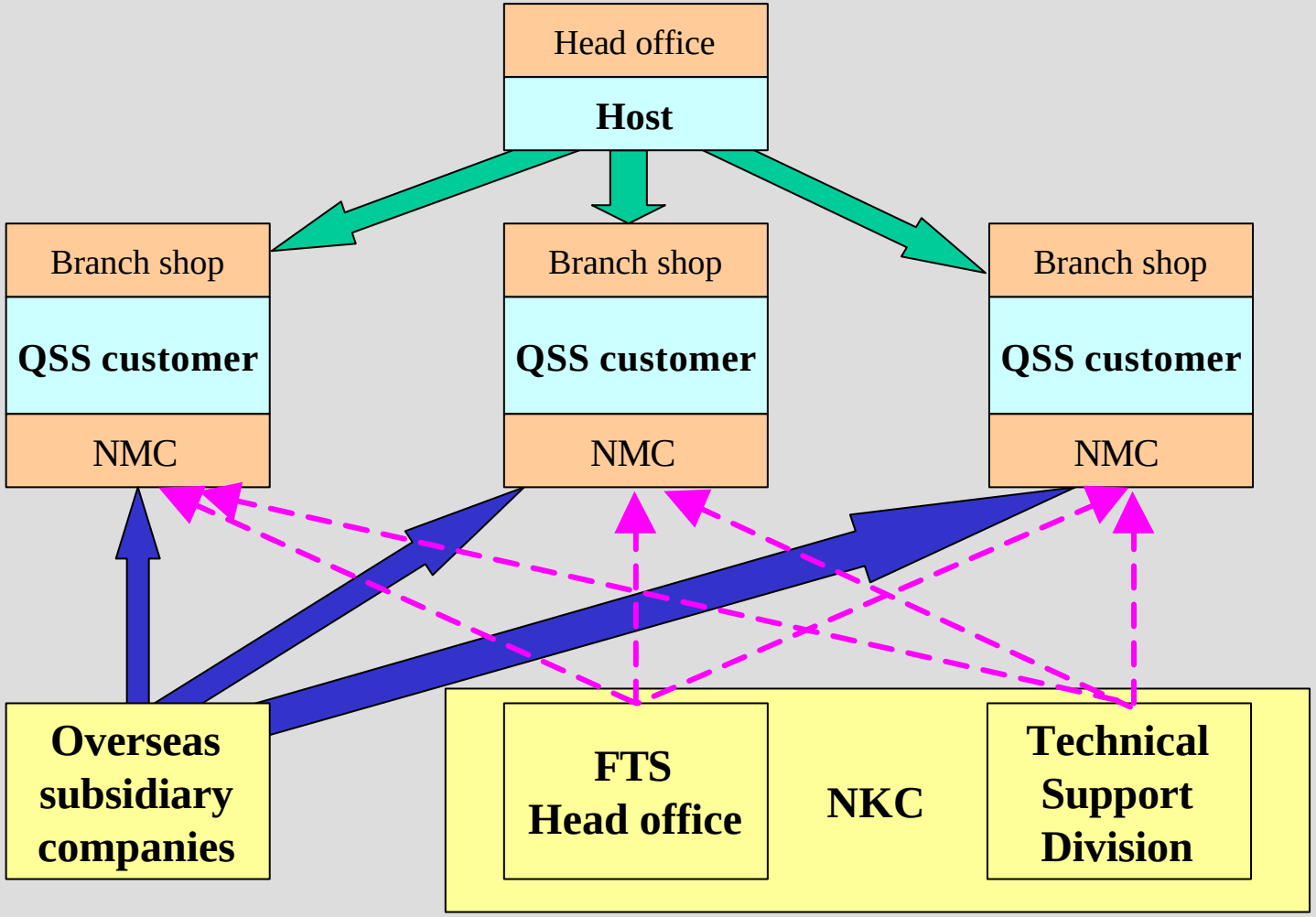
(Each service base)

1. Installing the modem driver
2. Installing the pcAnywhere
3. Installing the QSS NET 2000

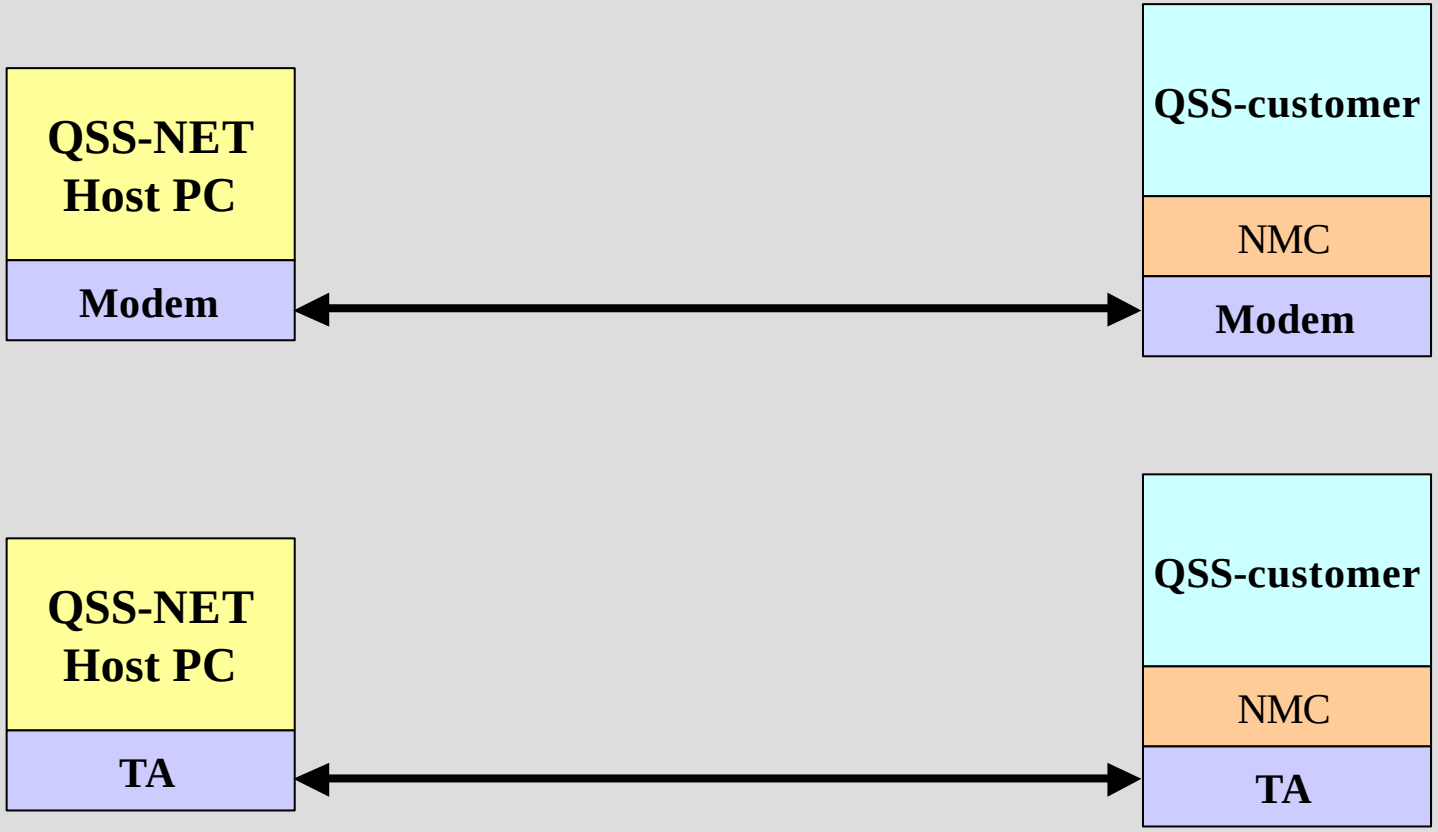
Necessary hardware

Use modems and TAs which are for Windows2000.

Support route



Telephone lines



Practical training

- Installation (setting)
- Operation way
  - *Remote connection
    - How to input the special password
    - How to invalid the keyboard operation on the QSS side
- Receiving and sending the mail
- Chat
- Collecting the data (Historical errors,etc.)
- Remote upgrading

Cautions

- When remote connected, do not use the function of ”Output check”.
- The color and resolution of the scanning display (e.g. PJP) is not same with the QSS.
- You cannot check the display of “Input check” on time from the Remote side.
- When remote connected, the connection will be cut compulsory if you do not do anything for 5 minutes or more.
- When remote connected, lock the keyboard of the QSS side.

Chapter 9
Replenishment devices

The point of this chapter

Purpose of study

- Study the change points from the conventional SM machines.

How to carry out the training

- Explain using the training materials.

Change points from the conventional machines

SM Forced replenishment

- **Purpose**

To reduce what the processing solution remains in the SM Replenishment package.

1. Environmental regulation measures in the Northern America

   If the users throw away the package, it is necessary to keep the condition

   – remained amount < 3% of package amount -.

2. Problem of solution control

- **Software switch [SM replenishment setting ON/OFF]**

There is the software switch [SM replenishment setting ON/OFF] in the [Machine Specification].

ON: The Forced replenishment is carried out.

OFF: The Forced replenishment is not carried out.

With this switch, you can select ‘ON’ or ‘OFF’ for the Forced replenishment, to avoid the problem temporarily when the error occurs. It should usually be set “ON”.

- **[SM Forced Replenishment amount setting ON/OFF]**

(Scheduled to available after the mass production shipping)

When the processing solution level is too low, the Forced Replenishment Movement activates the replenishment pump to replenish the other solution in the same package forcely.

The processing solution level detection is carried out and the solution level is detected for each chemical.

Or, the replenishment pump is stopped for each chemical when it reaches at the limit amount.

The limit amount of the forced replenishment is set in the [SM Forced Replenishment Amount setting] of [Total Replenishment Amount].

Change points from the conventional machines

• Attention [Replace the Replenishment Package with a new one.]

This attention is displayed in the conditions below.

Attention No.	The condition of occurrence	SM Replenishment setting
700-##	Forced Replenishment was not carried out.	OFF/ON
705-##	Forced Replenishment was carried out.	ON

• The Replenishment pump is changed and the separate detection function for each solution sensor is added.

Type-O belloz pump is changed to type-2. Purpose: Reducing the time for forced replenishment

: Improving the stability of remained capacity

And, the solution level is detected separately for the processing solution sensor each.

(Change of SM I/O PCB: Refer to page 7.)

• Amount Remaining Detection is removed. **(Scheduled to available after the mass production shipping)**

The Package Amount setting is removed because the package amount may be changed in the future.

At the same time, the remained detection errors and the mode below are removed.

Check the remaining amount. Reset the amount? Package Remaining setting mode