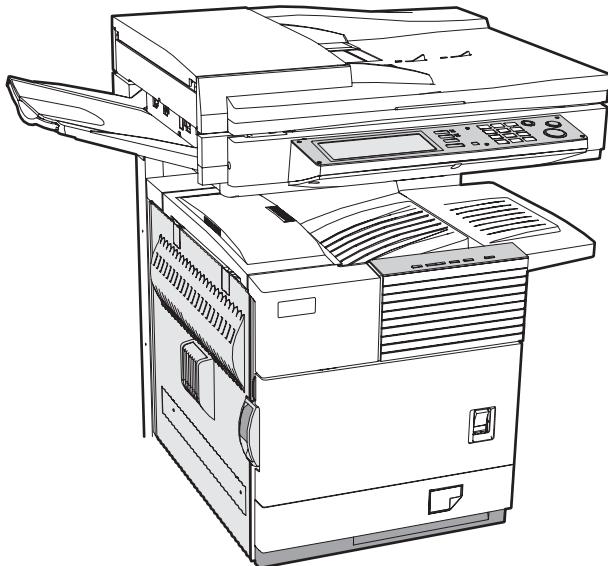


SHARP SERVICE MANUAL

CODE : 00ZARM350/A1E



LASER PRINTER

MODEL **AR-M350**
 AR-M450

OPTIONS AR-EF1 / AR-M11 / AR-RK1

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Parts marked with “” are important for maintaining the safety of the set.

Be sure to replace these parts with specified ones for maintaining the safety and performance of the set.

SHARP CORPORATION

This document has been published to be used for
after sales service only.
The contents are subject to change without notice.



CAUTION

This product is a class 1 laser product that complies with 21CFR 1040.10 and 1040.11 of the CDRH standard and IEC825. This means that this machine does not produce hazardous laser radiation. The use of controls, adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

This laser radiation is not a danger to the skin, but when an exact focusing of the laser beam is achieved on the eye's retina, there is the danger of spot damage to the retina.

The following cautions must be observed to avoid exposure of the laser beam to your eyes at the time of servicing.

- 1) When a problem in the laser optical unit has occurred, the whole optical unit must be exchanged as a unit, not as individual parts.
- 2) Do not look into the machine with the main switch turned on after removing the developer unit, toner cartridge, and drum cartridge.
- 3) Do not look into the laser beam exposure slit of the laser optical unit with the connector connected when removing and installing the optical system.
- 4) The middle frame contains the safety interlock switch.
Do not defeat the safety interlock by inserting wedges or other items into the switch slot.

Cautions on laser

| | | |
|--------------|---|--|
| Wave length | 785 nm +10 nm -15 nm | At the production line, the output power of the scanner unit is adjusted to 0.4 MILLIWATT PLUS 8 % and is maintained constant by the operation of the Automatic Power Control (APC). |
| Pulse times | North America: 35 cpm model: (4.1 μ s \pm 4.1 ns)/7 mm 45 cpm model: (5.7 μ s \pm 5.7 ns)/7 mm Europe: 35 cpm model: (3.8 μ s \pm 3.8 ns)/7 mm 45 cpm model: (4.4 μ s \pm 4.4 ns)/7 mm | Caution This product contains a low power laser device. To ensure safety do not remove any cover or attempt to gain access to the inside of the product. Refer all servicing to qualified personnel. |
| Output power | 0.2 mW - 0.4 mW | |

For North America:

SAFETY PRECAUTIONS

This Digital Equipment is rated Class 1 and complies with 21 CFR 1040.10 and 1040.11 of the CDRH standards. This means that the equipment does not produce hazardous laser radiation. For your safety, observe the precautions below.

- Do not remove the cabinet, operation panel or any other covers.
- The equipment's exterior covers contain several safety interlock switches. Do not bypass any safety interlock by inserting wedges or other items into switch slots.

Caution

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

For Europe:

CLASS 1 LASER PRODUCT

LASER KLASSE 1

LUOKAN 1 LASERLAITE

KLASS 1 LASERAPPARAT

CAUTION

INVISIBLE LASER RADIATION WHEN OPEN INTERLOCKS DEFECTED. AVOID EXPOSURE TO BEAM.

VORSICHT

UNSICHTBARE LASERSTRÄHLUNG WENN ABDECKUNG GEÖFFNET UND SICHERHEITSVERriegelung ÜBERERICKT NICHT DEM STRAHL AUSSETZEN.

ADVARSEL

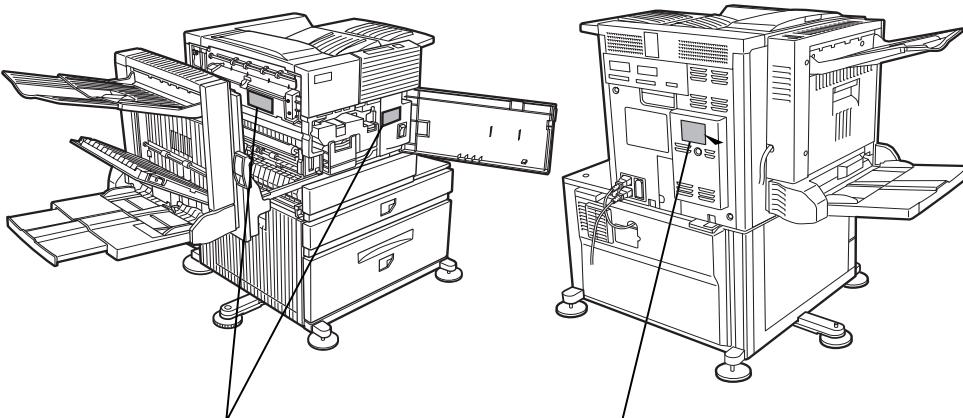
USYNLIG LASERSTRÅLING VED ÅBNING, NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLING.

VAROITUS!

LAITTEEN KÄYTTÄMINEN MUULLA KUIN TÄSSÄ KÄYTTÖOHJEESSA MAINITULLA TAVALLA SAATTAA ALTISTAA KÄYTTÄJÄN TURVALLISUUSLUOKAN 1 YLITTÄVÄLLE NÄKYMÄTTÖMÄLLE LASERSÄTEILYLLE.

VARNING

OM APPARATEN ANVÄNDTS PÅ ANNAT SÄTT ÄN I DENNA BRUKSANVISNING SPECIFICERATS, KAN ANVÄNDAREN UTSÄTTAS FÖR OSYNLIG LASERSTRÅLING, SOM ÖVERSKRIDER GRÄNSEN FÖR LASERKLASS 1.



**CLASS 1
LASER PRODUCT**

LASER KLASSE 1

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[1] PRODUCT OUTLINE

* For the items which are not specified in this Service Manual,
refer to the AR-P350/P450 Service Manual.

A. Scanner unit with duplex SPF (AR-EF1)

This unit is an option scanner unit for the laser printer AR-P350/P450/M350/M450.

By installing this unit to the above laser printer (installation of the AR-RK1 is also required), the printer can work as a digital multi-function device with the following functions:

- 1) Copy function
- 2) Network scanner function
(The AR-NS2, network scanner kit, is required.)
- 3) Fax function (The AR-FX5, fax extending kit, is required.)

B. Multi-function controller (AR-M11)

This unit is a multi-function controller for the laser printer AR-P350/P450.

When installing the AR-EF1 to the above laser printer, the printer controller must be replaced with this multi-function controller.

C. Scanner rack (AR-RK1)

This rack is required when installing the scanner unit (AR-EF1) with duplex DSPF to the laser printer AR-P350/P450/M350/M450.

To install this rack, the machine must be equipped with the large capacity paper feed desk (AR-D13) or the 3 stage paper feed desk (AR-D14).

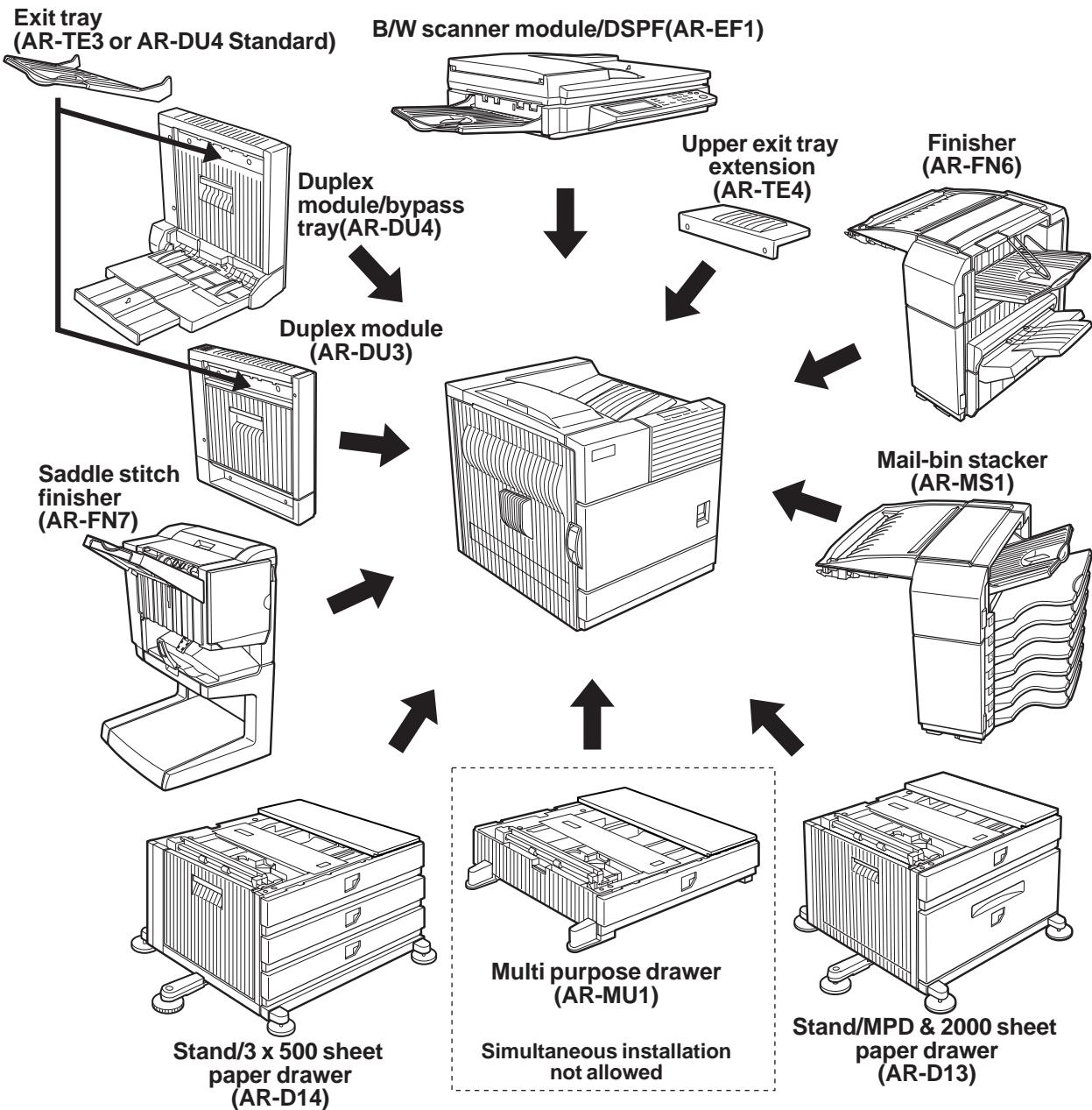
D. AR-M350/M450

This machine is a version of the AR-P350/P450, and is equipped with the multi-function controller as standard equipments.

To install this model, the large capacity paper feed desk (AR-D13) or the 3 stage paper feed desk (AR-D14) is required.

[2] CONFIGURATION

1. System Configurations



2. Standard

| Category | Model Name | Other options required for the installation/mounting. (Options must be ordered separately.) | Remarks |
|-----------------------|------------|---|---------|
| Printer model (35ppm) | AR-P350 | •Multi Purpose Drawer (AR-MU1), or Stand/MPD&2000 Sheet Paper Drawer (AR-D13), or Three paper drawer stand (AR-D14) | |
| Printer model (45ppm) | AR-P450 | •Power Supply Unit (AR-DC1) is required for Stand/MPD&2000 Sheet Paper Drawer (AR-D13) and Three paper drawer stand (AR-D14) | |
| MFP model (35ppm) | AR-M350 | •B/W Scanner module/DSPF (AR-EF1) (Standard) | |
| MFP model (45ppm) | AR-M450 | •Scanner Rack(AR-RK1) (Standard) •Stand/MPD&2000 sheet paper drawer (AR-D13) or Three paper drawer stand (AR-D14) •Power supply unit (AR-DC1) | |

3. List of combination of peripheral devices

As shown in the table below, some other peripheral devices (B) may be needed for installation of a peripheral device (A) and some peripheral devices cannot be installed together.

| | | B | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-------------------------------------|------------------------------------|----------------------------|-----------------|---|-------------------------|-----------------|----------------------|----------------------------------|------------------------|---------------------------|---------------|------------------------|----------|------------------|-----------|---------------------------|------------|---------------------------------|-------------------|-------------------|-------------------------------|-------------------------|-------------------|-------------------|-----------------|--|
| A | Related for scanner feature | | B/W scanner module/DSPF *3 | AR-EF1 | — | B/W scanner module/DSPF | Scanner rack | Multi purpose drawer | Stand/3 x 500 sheet paper drawer | Stand/MPD & 2000 sheet | Duplex module/bypass tray | Duplex module | Saddle stitch finisher | Finisher | Mail-bin stacker | Exit tray | Upper exit tray extension | Punch unit | Multi-function controller board | Print server card | PS3 expansion kit | Network scanner expansion kit | Facsimile expansion kit | Fax memory (8 MB) | Power supply unit | Hard disk drive | |
| | Scanner rack | *3 | AR-RK1 | O ^{*1} | — | X | O ^{*1} | | | | | | | | | O | | | | | | | | O | | | |
| | Related for paper feed unit | | Multi purpose drawer | AR-MU1 | X | X | — | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | X | | |
| | Stand/3 x 500 sheet paper drawer | AR-D14 | | | | X | — | X | X | | | | | | | | | | | | | | | O | | | |
| | Stand/MPD & 2000 sheet paper drawer | AR-D13 | | | | X | X | — | | | | | | | | | | | | | | | | O | | | |
| | Duplex module/bypass tray | AR-DU4 | | | | O ^{*1} | — | | X | | | | | | | X | X | | | | | | | O ^{*2} | | | |
| | Duplex module | AR-DU3 | | | | O ^{*1} | — | | | | | | | | | | | | | | | | | O ^{*2} | | | |
| | Output units | | Saddle stitch finisher | AR-FN7 | | X | O ^{*1} | X | O | — | X | X | X | X | X | | | | | | | | | O | O | | |
| | Finisher | AR-FN6 | | | | O ^{*1} | | | | X | — | X | X | X | X | | | | | | | | | O | O | | |
| | Mail-bin stacker | AR-MS1 | | | | O ^{*1} | | | | | X | — | X | X | X | | | | | | | | | O | | | |
| Related for extension of functions and others | | Exit tray *4 | AR-TE3 | | | | | O ^{*1} | X | X | X | — | | | X | | | | | | | | | | | | |
| Related for extension of functions and others | | Upper exit tray extension | AR-TE4 | | | | | | | X | X | | | X | X | | | | | | | | | | | | |
| Related for extension of functions and others | | Punch unit | AR-PN1 | | X | O ^{*1} | X | O | O | X | X | X | X | X | X | | | | | | | | | O | | | |
| Related for extension of functions and others | | PS3 expansion kit | AR-PK1 | | | | | | | | | | | | | | | | | | | | | | | | |
| Related for extension of functions and others | | Network scanner expansion kit | AR-NS2 | O ^{*1} | O | X | O ^{*1} | | | | | | | | | | O | O | — | | | | | | | | |
| Related for extension of functions and others | | Facsimile expansion kit | AR-FX5 | O ^{*1} | O | X | O ^{*1} | | | | | | | | | | O | O | — | | | | | | | | |
| Related for extension of functions and others | | Fax memory (8 MB) | AR-MM9 | O ^{*1} | O | X | O ^{*1} | | | | | | | | | | O | | O | — | O | — | O | | | | |
| Related for extension of functions and others | | Power supply unit | AR-DC1 | | | | | | | | | | | | | | | | | | | | | | — | | |
| Related for extension of functions and others | | Hard disk drive | AR-HD3 | | | | | | | | | | | | | | | | | | | | | | | — | |
| Related for extension of functions and others | | Multi-function controller board *3 | AR-M11 | O ^{*1} | O | X | O ^{*1} | | | | | | | | | | — | | | | | | | | | | |
| Related for extension of functions and others | | Print server card | AR-NC5J | | | | | | | | | | | | | | — | | | | | | | | | | |

O = Must be installed together.

O^{*1} = Any of the units must be installed together.

O^{*2} = Must be installed for installation of the stand/3 x 500 sheet paper drawer or the stand/MPD & 2000 sheet paper drawer.

X = Cannot be installed together.

*3 = Standard

*4 = AR-DU4 Standard

[3] SPECIFICATIONS

1. Basic Specification

A. Base Engine (AR-M350/M450)

(1) Form

| | |
|-----------------|--------------|
| AR-M350/AR-M450 | Console type |
|-----------------|--------------|

(2) Engine speed

| Paper size | AR-M350 | AR-M450 |
|------------------|---------|---------|
| A4, 8.5" x 11" | 35ppm | 45ppm |
| A5R/5.5" x 8.5"R | 35ppm | 45ppm |
| B5 | 35ppm | 45ppm |
| B4/8.5" x 14 | 20ppm | 22ppm |
| A3/11" x 17" | 17ppm | 20ppm |

(3) Engine composition

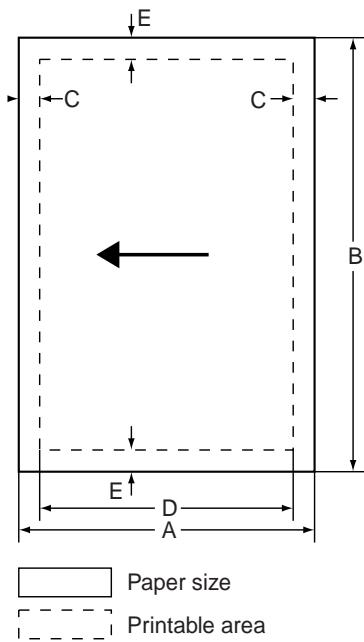
| | |
|---------------------|--|
| Photoconductor type | OPC (diameter of photoconductor : ø30mm) |
| Record method | Electrophotograph (laser) |
| Development method | Dry-type dual-component magnetic brush development |
| Charge method | Charged saw-tooth method |
| Transfer method | Transfer roller |
| Cleaning method | Counter blade |
| Fusing method | Heat roller |
| Used toner disposal | Toner recycling system |

(4) Engine resolution

| | |
|------------|---------------------------|
| Resolution | Write :600dpi |
| Smoothing | Write :1200dpi equivalent |
| Gradation | Write :2 levels |

(5) Printable area

The print area of this product is shown below.



If a printer driver for Windows or Macintosh is used for printing, the printable area will be smaller. The actual printable area depends on the printer driver to be used.

(in mm)

| Paper size | A | B | C | D | E |
|-------------------|-----|-----|---|-----|---|
| A3 | 297 | 420 | 4 | 289 | 4 |
| B4 | 257 | 364 | 4 | 242 | 4 |
| A4 | 210 | 297 | 4 | 202 | 4 |
| B5 | 182 | 257 | 4 | 168 | 4 |
| A5 | 148 | 210 | 4 | 140 | 4 |
| Japanese postcard | 100 | 148 | 4 | 92 | 4 |
| Ledger | 279 | 432 | 4 | 271 | 4 |
| Legal | 216 | 356 | 4 | 208 | 4 |
| Foolscap | 216 | 330 | 4 | 208 | 4 |
| Letter | 216 | 279 | 4 | 208 | 4 |
| Executive | 184 | 267 | 4 | 183 | 4 |
| Invoice | 140 | 216 | 4 | 132 | 4 |
| Com-10(envelope) | 105 | 241 | 4 | 97 | 4 |
| C5(envelope) | 162 | 229 | 4 | 154 | 4 |
| Monarch(envelope) | 98 | 191 | 4 | 90 | 4 |
| DL(envelope) | 110 | 220 | 4 | 102 | 4 |
| ISO B5(envelope) | 176 | 250 | 4 | 168 | 4 |

(6) Warm-up

| | |
|----------------------|--|
| Warm-up time | less than 80 seconds |
| Pre-heat requirement | Required |
| Jam recovery time | Target: about 30 seconds (Under standard condition of 60 seconds left after side cover opening, polygon motor halt) |

(7) Power source

| Voltage | 100V system | 200V system |
|------------|-------------|-------------|
| 100-127V | 220-240V | |
| Frequency | 50/60Hz | 50/60Hz |
| Power cord | | |

(8) Power consumption

| | AR-M350 | AR-M450 |
|----------------------|---------|---------|
| Max. Power consump. | 1350W | 1350W |
| Average waiting mode | 1200W | 1200W |

(9) Energy Star benchmark

| | AR-M350 | AR-M450 |
|-----------------------------------|---------|---------|
| Low power mode | 40W | 75W |
| Transition time to Low power mode | 60min | 60min |

(10) Noise

| | AR-M350 | AR-M450 |
|-----------------|----------------|----------------|
| At working | less than 6.7B | less than 6.7B |
| At waiting mode | less than 4.8B | less than 4.8B |

* Showing noise benchmark in each model as a whole system.

(11) Dimensions

| | |
|---------------------------------|--|
| External dimensions (WxDxH) | 428x552x469 (Only main unit) (mm) 16.9"x21.7"x18.5" |
| Occupied space dimensions (WxD) | 963x685 (mm) *1 37.7"x26.8" |
| Weight | Approx.39kg (Only main unit) Approx.99kg *1 |

*1: with B/W scanner module/DSPF, Scanner rack, Large capacity paper feed desk, Power supply unit and Upper exit tray extension

B. Document Feeding Equipment

(1) One-drawer tray (included in the base engine)

| | | | |
|-----------------------------------|--|-------------------|--|
| Paper feed method | One-drawer tray | | |
| Sizes to be fed | A4, B5, 8.5" x 11" | | |
| Paper capacity | 500 sheets (at 80g/m ²) | | |
| Media available for paper feeding | Plain paper 60 - 105g/m ² , 16 - 28lbs | | |
| Paper type | Plain, recycled, pre-printed, pre-punched, color, letter head | | |
| Paper size switching | To be switched by user (paper size to be entered from the operation panel). | | |
| Dehumidification heater | Not provided | | |
| Balance detection | Provided (paper empty and 3 steps) | | |
| Default size setting | 100V system 8.5" x 11" | 200V system A4 | |
| Mounting/demounting of the tray | Provided | | |

C. Output Equipment

(1) Face-down Exit Tray (included in the base engine)

| | |
|--------------------------------|--|
| Output position/method | Face-down output at the upper side of main unit |
| Output paper capacity | 400 sheets (80g/m ² sheet) |
| Output paper size | A3, B4, A4, A4R, B5, B5R, A5R 11 " x 17", 8.5" x 14", 8.5" x 13", 8.5" x 11 ", 8.5" x 11 "R, 5.5" x 8.5"R Executive, postal card, Monarch (98 x 191) Com-10 (105 x 241), DL (110 x 220), C5 (162 x 229), ISO B5 (176 x 250) |
| Spec of media for paper output | Tracing paper : 52 ~ 59g/m ² / 14 ~ 15lbs Plain paper : 60 ~ 128g/m ² / 16 ~ 34lbs Index paper : 176g/m ² / 47lbs Cover paper : 205g/m ² / 54 ~ 55lbs Transparency firm |
| Remaining paper detection | Not provided |
| Exit tray full detection | Provided |

2. Specific Function

A. Printer Function

(1) Platform

| |
|---|
| IBM PC/AT (Include compatible machine) |
| Macintosh (680x0), Power Macintosh, iMac, G3Macintosh |

* For Macintosh OS, the AR-PK1 is required.

(2) Support OS

| | |
|----------------------------|-------------------------|
| Custom PS | Windows 95/98/Me |
| | Windows NT 4.0 |
| | Windows 2000 |
| | Mac OS 7.6 to Mac OS 9 |
| Custom PCL5e/6(XL) SPDL | Windows 95/98/Me |
| | Windows NT 4.0 |
| | Windows 2000 |
| PPD | Windows 95/98/Me |
| | Windows NT 4.0 |
| | Windows 2000 |
| | Mac OS 8.5.1 - Mac OS 9 |

* For Macintosh OS, the AR-PK1 is required.

(3) PDL emulation

| |
|--|
| PCL6 compatible, PCL5e compatible, PostScript Level 2 compatible, PostScript 3 compatible |
|--|

(4) Print Function

a. General

| When an optional PS3 expansion kit is installed | | | | |
|---|--------------------|--------------------|------------------|--------------------|
| Function | PCL5e/ PCL6 | PS | PPD (Windows) | PPD (Macintosh) |
| Copies | 1 - 999 | 1 - 999 | 1 - 999 | 1 - 999 |
| Orientation | Yes | Yes | Yes | Yes |
| Duplex print | Yes | Yes | Yes | Yes |
| Saddle stitch | Yes | Yes | No | N/A |
| Binding edge | Left/top/ right | Left/top/ right | Long/short | Long/short |
| N-up | 2/4/6/8 | 2/4/6/8 | 2/4*3*4 | 2/4/6/9/16 |
| N-up direction | Fixed | Fixed | Fixed | Selectable |
| N-up border line | Yes | Yes | Yes(always) | Yes |

b. Paper input

| When an optional PS3 expansion kit is installed | | | | |
|---|----------------|--------|------------------|--------------------|
| Function | PCL5e/ PCL6 | PS | PPD (Windows) | PPD (Macintosh) |
| Paper size | Yes | Yes | Yes | Yes |
| Custom paper size | 1 size | 1 size | 3 sizes*3*5 | N/A |
| Source selection | Yes | Yes | Yes | Yes |
| Different first page | Yes | Yes | N/A | Yes |
| Transparency inserts | Yes | Yes | N/A | Yes |

c. Paper output

| When an optional PS3 expansion kit is installed | | | | |
|---|----------------|-----|------------------|--------------------|
| Function | PCL5e/ PCL6 | PS | PPD (Windows) | PPD (Macintosh) |
| Output tray selection | Yes | Yes | Yes | Yes |
| Mail bin | Yes | Yes | Yes | Yes |
| Staple | Yes | Yes | Yes | Yes |
| Offset | Yes | Yes | Yes | Yes |
| Punch | Yes | Yes | Yes | Yes |

d. Graphic

| When an optional PS3 expansion kit is installed | | | | |
|---|----------------|-------------------------|------------------|--------------------|
| Function | PCL5e/ PCL6 | PS | PPD (Windows) | PPD (Macintosh) |
| Resolution | 600/300 dpi | 600 dpi | 600 dpi | 600 dpi |
| Halftone | N/A | Yes | Yes | N/A |
| Graphic mode | Yes | N/A | N/A | N/A |
| Smoothing | Yes | Yes | Yes | Yes |
| Toner save | Yes | Yes | Yes | Yes |
| Photo enhancement | Yes*8 | Yes | N/A | N/A |
| Negative image | N/A | Yes | Yes | Yes |
| Mirror image | N/A | Horizontal/ vertical | Horizontal | Yes |
| Zoom | N/A | N/A | Yes | Yes |
| Fit to page | Yes | Yes | N/A | N/A |

e. Font

| | | When an optional PS3 expansion kit is installed | | |
|---------------|--------------------------------|---|-----------------------------|--------------------|
| Function | PCL5e/ PCL6 | PS | PPD (Windows) | PPD (Macintosh) |
| Resident font | 45 fonts | 136 fonts | 136 fonts*6 | 35 fonts |
| Download font | Bitmap TrueType, Graphic | Bitmap Type1 TrueType | Bitmap Type1 TrueType | N/A |

f. Others

| | | When an optional PS3 expansion kit is installed | | |
|---------------------------|----------------|---|------------------|--------------------|
| Function | PCL5e/ PCL6 | PS | PPD (Windows) | PPD (Macintosh) |
| Watermark*7 | Yes | Yes | Yes | Yes |
| Overlay | Yes | Yes | N/A | N/A |
| Job retention*1 | Yes | Yes | N/A | Yes |
| Account control | Yes | Yes | N/A | Yes |
| Custom settings | Yes | Yes | N/A | N/A |
| Automatic configuration*2 | Yes | Yes | N/A | Yes |
| Job end notification | Yes | Yes | N/A | N/A |

- * 1 In the models without a hard disk drive, an optional hard disk drive must be installed.
- * 2 Functions when peripheral devices are installed.
- * 3 Not supported in the Windows NT 4.0 environment.
- * 4 2/4/6/9/16 is supported in the Windows 2000 environment.
- * 5 Only one size is supported in the Windows 2000 environment.
- * 6 Only 35 fonts are supported in the Windows NT 4.0 environment.
- * 7 This function is limited for PPD.
- * 8 PCL6 only

(5) Compatibility

| | |
|--------------------------|---|
| PCL 5e compatibility | Target for PCL5e is to be compatible with HP LaserJet 4000. Small margin difference, rendering difference by different font family, default and transfer function difference are not to be included in the compatibility. All the PJL commands are not necessarily included in the compatibility. |
| PCL6 compatibility | Target for PCL6 is to be compatible with HP LaserJet 4000. Small margin difference, rendering difference by different font family, default and transfer function difference are not to be included in the compatibility. All the PJL commands are not necessarily included in the compatibility. |
| PostScript Compatibility | Roman PostScript is targeted to be compatible with Adobe PostScript as performed in HP LaserJet 4000. Small margin difference, rendering difference by different font family, default and transfer function difference are not to be included in the compatibility. |

B. Expanded RAM

Installation of an expanded RAM will avoid the following status.

- 1) Time out error reduction
- 2) Spool time reduction
- 3) Avoidance of VM error / memory full

Use a commercially available RAM of the following specifications.
If a RAM which does not meet the specifications is installed, it may cause a trouble such as that it is not recognized or its capacity is not correctly recognized.

<Specification>

| | |
|---------------|---|
| DIMM TYPE | 168pin 3.3V Unbuffered SDRAM DIMM Non-ECC |
| DIMM capacity | 64MByte, 128MByte, 256MByte |
| CAS LATENCY | CL=2 |
| SDRAM CLOCK | For PC100, PC133 |
| SPD | Supporting |
| Parity | Not support |
| ECC | Not support |

<Operation-assured Memory> (As of March / 2001)

| Manufacture | Capacity | Model name | RAM CHIP name | Note |
|------------------------|----------|-------------------|---------------------|------|
| Kingston Technology | 128MB | KVR133X64C3/128 | HYB39S64800BT-7.5 | |
| | 128MB | KVR133X64C3-128 | D456821G-A75-9JF | |
| | 256MB | KVR133X64C3-256 | HY57V28820AT-H | |
| Viking Comporments | 64MB | VIK8641CL2 | μPD456841G5-A80-9JF | |
| | 64MB | VIK8641CL2 | D456841G5-A80-9JF | |
| | 128MB | VIK6642CL2 | TC59SM708FT-80 | |
| | 128MB | VIK6642CL2 | D4564841G5-A80-9JF | |
| | 256MB | VIK2642CL2 | TC59SM708FT-80 | |
| Memory Card Technology | 64MB | DM864VS65804X-7G | GM72V66841XT75 | |
| | 128MB | DM1665VS65804X-7G | HY57V64820HG | |

C. Scanner function

(1) Scanner function

| | |
|--------------|---|
| Scanner mode | Scan to E-mail (Internet FAX) Scan to Server (Client PC) |
|--------------|---|

(2) Support System

| | |
|-----------------|---------------------------|
| Embedded server | SMTP server FTP server |
| Protocol | TCP/IP |

(3) Support Image

| | |
|--------------------|---|
| Format | TIFF, PDF, TIFF-F |
| Compression method | Uncompressed, G3(1-dimension) *1, G4 *2 *1 G3 (1-dimension) = MH (Modified Huffman) *2 G4 = MMR (Modified MR) |
| | |

(4) Transmission Mode

| | |
|--------------------------------|---|
| DSPF/OC transmission switching | O (Switching during the reading is not feasible) |
|--------------------------------|---|

(5) Image Process

| | |
|------------------------|---|
| Half tone reproduction | Equivalent to 256 levels |
| Exposure adjustment | Light / Auto / Dark |
| Quality selection | Half-tone ON/OFF |
| Resolution* | Normal (200x200dpi) Fine (300x300dpi) Super fine (400x400dpi) Ultra fine (600x600dpi) Varies with the file type/transmission method |

(6) Original Memory

| | |
|------------------|-----------------------------------|
| Standard | Commonly use ERDH area of memory. |
| Memory expansion | Special : As per ERDH memory |

(7) Specified Destination

| | |
|-----------------------|--|
| Specified destination | Specifying by one-touch or group |
| One-touch* | Max. 500 destinations (in conjunction with the one-touch dial of FAX) Max. 100 destinations can be registered for FTP and Desktop. |
| Group* | To be registered in one-touch |
| Program | O |

(8) Specified Multiple Destinations

| | |
|-------------------------------|--|
| Specified destination | Specifying by one-touch or group |
| No. of registration | Max. 300 items (in conjunction with those of FAX) |
| Sequential broadcasting | O (E-mail only. It is not available for FTP/Desktop.) |
| Simultaneous FAX transmission | O (Specifying multiple destinations of FAX, E-mail or FTP and broadcasting by a single scan) |

O : Available

(9) Functions

| | | |
|------------------------|-----------------------------------|--|
| Transmitting functions | Rotating transmission | O (to be matched with FAX specification) |
| | Long length original transmission | X |
| | Verification stamp function | Option |
| Report/list functions | Transmit/receive record | O |
| | Transmit/receive result | O |
| | Address/phone directory list | O |
| | Group list | O |
| | ID/sender list | O |
| | Program list | O |

D. Copy function

(1) Copy Speed

| | AR-M350 | | | AR-M450 | | |
|----------------------------|---|-----------|-------------|---------|-----------|-------------|
| | Actual | Reduction | Enlargement | Actual | Reduction | Enlargement |
| A4, 8.5"x11" | 35 | 35 | 35 | 45 | 45 | 45 |
| A4R, 8.5"x11"R | 25 | 25 | 25 | 30 | 30 | 30 |
| A5R, 5.5"x8.5"R, Invoice-R | 35 | 35 | 35 | 45 | 45 | 45 |
| B5 | 35 | 35 | 35 | 45 | 45 | 45 |
| B5R, Executive-R | 25 | 25 | 25 | 30 | 30 | 30 |
| B4, 8.5"x14" | 20 | 20 | 20 | 22 | 22 | 22 |
| A3, 11"x17" | 17 | 17 | 17 | 20 | 20 | 20 |
| Extra, Envelope | 17 | 17 | 17 | 20 | 20 | 20 |
| Japan P/C | In case of printing on post card, engine speed can vary with system configuration, because next paper is fed after machine completely output previous page. | | | | | |

* Figures in reduction/enlargement are represented by those at the ratio to show slowest speed

(2) First Copy Time

Conditions: A4 or 8.5"x11"P from front tray of PPC, without HDD and with polygon motor running.

| | AR-M350 | AR-M450 |
|-------------------|-----------------------|-----------------------|
| Document glass *1 | Less than 5.3 seconds | Less than 4.6 seconds |
| DSPF | Less than 6.0 seconds | Less than 5.3 seconds |

*1 During OC/high-speed mode

(3) Job Speed

| | AR-M350 | AR-M450 |
|----------|--------------|--------------|
| S → S *1 | 33 cpm (94%) | 42 cpm (93%) |
| S → D *2 | 32 cpm (91%) | 40 cpm (88%) |
| D → D *3 | 32 cpm (91%) | 40 cpm (88%) |

*1 S → S : A4 / 8.5" x 11"P original 5 sheets copy 5sets

*2 S → D : A4 / 8.5" x 11"P original 10 sheets copy 5sets

*3 D → D : A4 / 8.5" x 11"P original 5 sheets (10 pages) copy 5sets

Note: First copy time has been factored into calculation resulting in reduced CPM.

(4) Continuous Copy

| | |
|----------------------|-----------|
| Max. multiple number | 999 pages |
|----------------------|-----------|

(5) Copy Ratio

| | |
|---------------------|---|
| Copy ratio | AB series : 25%, 70%, 81%, 86%, 100%, 115%, 122%, 141%, 400% Inch series : 25%, 64%, 77%, 100%, 121%, 129%, 400% |
| Zoom | 25 - 400% 25 - 200% (Copy from DSPF) |
| Independent scaling | Not provided |

(6) Exposure/Copy Quality Process

| | |
|-----------------|--|
| Exposure mode | Binary: Text(auto/manual), Text/photo, Photo 256 levels: Not provided |
| Manual steps | 9 steps |
| Smoothing | Standard |
| Toner save mode | Standard |

(7) Copy Function

| | | |
|------------------|---------------------------------|---|
| Function | APS | O |
| | AMS | O |
| | Paper type select | O By type setting |
| | Auto tray switching | O |
| | Rotation copy | O |
| | Electronic sort | O |
| | Rotation sort | X |
| | Reserved copy | O |
| | Prior tray setting | X |
| | Recall/register of program | O |
| | Proof copy | X |
| | Preheat function | O To be set up by key operator |
| | Auto power shut-off function | O To be set up by the key operator program |
| | Account control | O 100 accounts |
| | Communication support (RIC) | O |
| | Card counter support | Only provided the connector |
| | Coin vendor support | Only provided the connector |
| Special function | Margin shift | O |
| | Edge erase / Center erase | O |
| | Dual page copying | O |
| | Covers | X |
| | Transparency insert | X |
| | Centering | X |
| | Multi shot (N in 1) | O (2 in 1 / 4 in 1) |
| | Pamphlet copy | O |
| | 2-sided copy orientation change | O |
| | Large capacity original mode | O (Max. 140 pages) |
| | B/W reverse | X |
| | Shading | X |
| | Mirror image | X |
| | Repeat | X |
| | Date stamp | X |
| | Stamp | X |
| | Page stamp | X |
| | Zaurus print | X |

O : Standard Function

X : Not provided

3. B/W Scanner Module (DSPF)

(1) Form

Scanner (Document glass) / DSPF standard
Operation panel integral type
(common hardware for all the destinations)

(2) Destination judgment

When connected with a base engine, the type (Japan domestic 100V, overseas 100V or overseas 200V systems) is detected and the settings will accordingly be changed.

(3) Resolution / Gradation

| Reading resolution (dpi) | Copy mode | | | | |
|---|----------------------------|------------|-------------|------------|------------|
| | Magnification | 25~99 | 100 | 101~200 | 201~400 |
| | OC | 600x600 | 600x600 | 600x600 | 600x600 |
| | OC (High speed): | 600x600 | 600x300 | 600x600 | 600x600 |
| | DSPF/ SPF(standard) | 600x300 | 600x300 | 600x600 | - |
| | DSPF/SPF (high quality) | 600x600 | 600x600 | 600x600 | - |
| Input and transmitting resolution (dpi) | FAX transmit mode | | | | |
| | Selection mode | Standard | Fine | Super fine | Ultra fine |
| | Input resolution: OC | 600x391.2 | 600x391.2 | 600x391.2 | 600x391.2 |
| | Input resolution: DSPF | 600x300 | 600x300 | 600x300 | 600x300 |
| | Transmitting resolution | 203.2x97.8 | 203.2x195.6 | 203.2x391 | 406.4x391 |
| | Scanner mode | | | | |
| | Selection mode | Standard | Fine | Super fine | Ultra fine |
| | Input resolution: OC | 600x391.2 | 600x391.2 | 600x391.2 | 600x600 |
| | Input resolution: DSPF | 600x300 | 600x300 | 600x300 | 600x300 |
| | Transmitting resolution | 200x200 | 300x300 | 400x400 | 600x600 |
| | Reading level | | | | |
| | 256 tones | | | | |
| Exposure lamp | Electrodeless xenon lamp | | | | |
| | Output level | | | | |
| Binary | | | | | |

(4) Document Glass

| | | |
|---|---|--|
| Reading area | 297x431.8(mm) 11.7"x17" | |
| Original alignment | Left edge / Rear corner alignment | |
| Original size detection | Provided (Standard size only) | |
| Sizes to be detected | Automatic (one detection unit to be used with software modification by destination) | |
| Inch-1 (Default at overseas 100V base engine) | 11"x17", 8.5"x14", 8.5"x11", 8.5"x11"R, 5.5"x8.5" | |
| Inch-2 | 11"x17", 8.5"x13", 8.5"x11", 8.5"x11"R, 5.5"x8.5" | |
| AB-1(Default at Japan domestic 100V / overseas 200V base engines) | A3, B4, A4, A4R, B5, B5R, A5A3, B4, A4, A4R, A5 | |
| AB-2 | A3, A4R, A5, 216x330 mm | |

(6) Power Source

Supplied from the main unit

(7) Dimensions

| | |
|---------------------------------|---|
| External dimensions (WxDxH) | 808 x 619x180 mm |
| Occupied space dimensions (WxD) | 945 x 619 mm (When the tray is extended) |
| Weight | Approx. 19.5 kg |

(8) Display device at scanner part

| | |
|---------------------------|---|
| Type | Dot map LCD, touch panel |
| Display dot number | 640 x 240 dots (dot pitch 0.24x0.24 mm) |
| LCD operating dimension | 153.5 x 57.5 mm |
| LCD back-light | Fluorescent tube method |
| LCD brightness adjustment | Provided |

(9) Key

| | |
|---------------------|---|
| Mode selection area | Job status key Printer mode key (online display LED/data in-memory display LED) Scan/Fax mode key (busy display LED/data in-memory display LED) Copy mode key User definition key |
| Basic input area | Start key CA key 10-key Clear key * key # key |

(10) Touch sense method

Resistive film method

(11) Used character in the LCD

| | |
|--------------|-----------------------|
| Dot | 8 x 16 , 16 x 16 dots |
| Bold display | O |

4. Rack for Scanner

(1) Dimensions

| | |
|---------------------------------|--|
| Strength | 60 kg |
| External dimensions (WxDxH) | 30 x 415 x 860 mm (Single goods) |
| Occupied space dimensions (WxD) | 575 x 415 mm (State of installation) (2pieces) |
| Weight | Approx.5 kg (2pieces) |

| | | |
|------------------|---|---|
| OR guide display | Rear left side (Print display) | Original reference position "⇒" |
| | Left side OR guide (Print display) | (From the Interior side) [5-1/2]•[A5E]•[B5E]•[A4E/A5]• [8.5"]•[B4/B5]•[11"]•[A3/A4] |
| | Interior side OR guide (Print display) | (From the left side) [5-1/2]•[A5]•[B5]•[A4/A5E]• [8-1/2]•[B5E]•[11"]•[A4E]•[13"]• [14"]•[B4]•[A3]•[17"] |
| | Interior side OR guide | Book marks are at A4 and 8-1/2 positions. |
| | | The position available to attach the staple position guide label when the optional finisher (desktop console type) is equipped. |

(5) DSPF/SPF

| | | |
|---------------------------------|--|---|
| Type | DSPF | One-scan-dual-side scanning method DSPF with OC integrated |
| Scan speed | Standard mode | 45 opm |
| | High quality mode | 22.5 opm |
| Original alignment | Center alignment | |
| Original size | A3, B4, A4, A4R, B5, B5R, A5, A5R11"x17", 8.5"x14", 8.5"x13", 8.5"x11", 8.5"x11"R, 5.5"x8.5", 5.5"x8.5"R (in Fax mode : long-length paper up to 800mm is applicable) | |
| Original paper weight | 50~128g/m ² , 15~34lbs | |
| Original stack capacity | Max. 50 sheets (max. 30 sheets for A3, B4, 11"x17", 8.5"x14") (When, however, exceeding 105g/m ² and A3, B4, 11"x17", 8.5"x14", max. 15 sheets) or, Total thickness less than 6.5mm (at 50~80g/m ² , 15~21lbs) 5.0mm (at 80~128g/m ² , 21~34lbs) | |
| Not transportable original type | Transparency film, secondary original paper, tracing paper, carbon paper, thermal paper, original with crumple/crimp/rip, original with attachment/clipping, original with many punch holes (with 2 or 3 holes acceptable), original preprinted with ink-ribbon. | |
| Original size detection | Provided | |
| Sizes to be detected | Automatic (one detection unit to be used with software modification by destination) | |
| | Inch-1 (Default at overseas 100V base engine) | 11"x17", 8.5"x14", 8.5"x11", 8.5"x11"R, 5.5"x8.5" |
| | Inch-2 | 11"x17", 8.5"x13", 8.5"x11", 8.5"x11"R, 5.5"x8.5" |
| | AB-1(Default at Japan domestic 100V / overseas 200V base engines) | A3, B4, A4, A4R, B5, B5R, A5, A3, B4, A4, A4R, A5, 8.5"x11", 216x330 mm |
| | AB-2 | A3, B4, A4, A4R, A5, B5, B5R, 216x330 mm, 8.5"x11" |
| Original tray guide display | Center of the tray (inscribed display) | Original reference position "←" Original face-down placement indication "↑" |
| | Original Guide (inscribed display) | (From Center) [B5E]•[A4E/A5]•[8.5"]•[B4/B5]• [11"]•[A3/A4] |
| | | The position available to attach the staple position guide label when the optional finisher (desktop console type) is equipped. |

* For the items which are not specified in this Service Manual, refer to the AR-P350/P450 Service Manual.

[4] CONSUMABLE PARTS

1. Supply system table

A.USA

| NO | Name | Content | Life | Product name | Remark |
|----|-----------------------|--|--|-----------------------------|---|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450NT (*1 AR-450NT-J) | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450ND | |
| 3 | Drum | Drum | x1 | AR-450DR | |
| 4 | 50K maintenance kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | 50K AR-450KC1 | |
| 5 | 100K maintenance kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K AR-450KA1 | |
| 6 | Upper heat roller kit | Upper heat roller Fusing separation pawl (Upper) | x1 x4 | 200K AR-450UH | |
| 7 | Lower heat roller kit | Lower heat roller Fusing separation pawl (Lower) | x1 x2 | 200K AR-450LH | |
| 8 | Cleaner blade | Cleaner blade | x10 | 50K(x10) AR-450CB | AR-450CB=(AR-450BL)x10 |
| 9 | Cleaning roller | Cleaning roller Bearing | x10 x20 | 200K(x10) AR-450CR | AR-450CR=(AR-450RC)x10 |
| 10 | Staple cartridge | Staple cartridge | x3 | 3000x3 AR-SC1 | Common with cartridge for AR-FN4 & AR-FN6 |
| 11 | Staple cartridge | Staple cartridge | x3 | 5000x3 AR-SC2 | Common with cartridge for AR-FN7 |

*1: For USA Government

Note1: Print on Master/individual carton:Toner/Developer in 2 languages (English/French), DR in 4 languages (English/French/German/Spanish).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

B.CANADA/Latin America

| NO | Name | Content | Life | Product name | Remark |
|----|------------------|---|--|------------------|---|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450NT | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450ND | |
| 3 | Drum | Drum | x1 | AR-450DR | |
| 4 | 50K PM kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | 50K AR-450KC | |
| 5 | 100K PM kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K AR-450KA | |
| 6 | 200K PM kit | Upper heat roller Lower heat roller Fusing separation pawl (Upper) Fusing separation pawl (Lower) Cleaning roller Bearing | x1 x1 x4 x2 x1 x2 | 200K AR-450KB | |
| 7 | Staple cartridge | Staple cartridge | x3 | 3000x3 AR-SC1 | Common with cartridge for AR-FN4 & AR-FN6 |
| 8 | Staple cartridge | Staple cartridge | x3 | 5000x3 AR-SC2 | Common with cartridge for AR-FN7 |

Note1: Print on Master/individual carton:Toner/Developer in 2 languages (English/French), DR in 4 languages (English/French/German/Spanish).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

C.Europe/Australia/New Zealand

| NO | Name | Content | Life | Product name | Remark |
|----|------------------|---|--|--------------|-------------------------------|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450T | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450DV | |
| 3 | Drum | Drum | x1 | AR-450DM | |
| 4 | 50K PM kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | 50K | AR-450KC |
| 5 | 100K PM kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K | AR-450KA |
| 6 | 200K PM kit | Upper heat roller Lower heat roller Fusing separation pawl (Upper) Fusing separation pawl (Lower) Cleaning roller Bearing | x1 x1 x4 x2 x1 x2 | 200K | AR-450KB |
| 7 | Staple cartridge | Staple cartridge | x3 | 3000x3 | AR-SC1 |
| 8 | Staple cartridge | Staple cartridge | x3 | 5000x3 | AR-SC2 |

Note1: Print on Master/individual carton:4 languages (English/French/German/Spanish).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

D.Middle East/ Africa

| NO | Name | Content | Life | Product name | Remark |
|----|------------------|---|--|--------------|-------------------------------|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450FT | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450SD | |
| 3 | Drum | Drum | x1 | AR-450DR | |
| 4 | 50K PM kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | 50K | AR-450KC |
| 5 | 100K PM kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K | AR-450KA |
| 6 | 200K PM kit | Upper heat roller Lower heat roller Fusing separation pawl (Upper) Fusing separation pawl (Lower) Cleaning roller Bearing | x1 x1 x4 x2 x1 x2 | 200K | AR-450KB |
| 7 | Staple cartridge | Staple cartridge | x3 | 3000x3 | AR-SC1 |
| 8 | Staple cartridge | Staple cartridge | x3 | 5000x3 | AR-SC2 |

Note1: Print on Master/individual carton:4 languages (English/French/German/Spanish).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

E.Israel/Russia/CIS/Philippines

| NO | Name | Content | Life | Product name | Remark |
|----|------------------|---|--|--------------|---|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450FT | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450SD | |
| 3 | Drum | Drum | x1 | AR-450DR | |
| 4 | 50K PM kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | AR-450KC | |
| 5 | 100K PM kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K | AR-450KA |
| 6 | 200K PM kit | Upper heat roller Lower heat roller Fusing separation pawl (Upper) Fusing separation pawl (Lower) Cleaning roller Bearing | x1 x1 x4 x2 x1 x2 | 200K | AR-450KB |
| 7 | Staple cartridge | Staple cartridge | x3 | 3000x3 | AR-SC1 |
| 8 | Staple cartridge | Staple cartridge | x3 | 5000x3 | AR-SC2 |
| | | | | | Common with cartridge for AR-FN4 & AR-FN6 |
| | | | | | Common with cartridge for AR-FN7 |

Note1: Print on Master/individual carton:4 languages (English/French/German/Spanish).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

F.Asia

| NO | Name | Content | Life | Product name | Remark |
|----|------------------|---|--|--------------|---|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450ST | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450SD | |
| 3 | Drum | Drum | x1 | AR-450DR | |
| 4 | 50K PM kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | AR-450KC | |
| 5 | 100K PM kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K | AR-450KA |
| 6 | 200K PM kit | Upper heat roller Lower heat roller Fusing separation pawl (Upper) Fusing separation pawl (Lower) Cleaning roller Bearing | x1 x1 x4 x2 x1 x2 | 200K | AR-450KB |
| 7 | Staple cartridge | Staple cartridge | x3 | 3000x3 | AR-SC1 |
| 8 | Staple cartridge | Staple cartridge | x3 | 5000x3 | AR-SC2 |
| | | | | | Common with cartridge for AR-FN4 & AR-FN6 |
| | | | | | Common with cartridge for AR-FN7 |

Note1: Print on Master/individual carton:4 languages (English/French/German/Spanish).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

G.Hong kong

| NO | Name | Content | Life | Product name | Remark |
|----|------------------|---|--|--------------|-------------------------------|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450ST-C | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450SD-C | |
| 3 | Drum | Drum | x1 | AR-450DR-C | |
| 4 | 50K PM kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | 50K | AR-450KC |
| 5 | 100K PM kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K | AR-450KA |
| 6 | 200K PM kit | Upper heat roller Lower heat roller Fusing separation pawl (Upper) Fusing separation pawl (Lower) Cleaning roller Bearing | x1 x1 x4 x2 x1 x2 | 200K | AR-450KB |
| 7 | Staple cartridge | Staple cartridge | x3 | 3000x3 | AR-SC1 |
| 8 | Staple cartridge | Staple cartridge | x3 | 5000x3 | AR-SC2 |

Note1: Print on Master/individual carton:2 languages (English/Chinese).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

H.Taiwan

| NO | Name | Content | Life | Product name | Remark |
|----|------------------|---|--|--------------|-------------------------------|
| 1 | Toner CA(Black) | Toner(Toner : Net Weight 814g) | 27K | AR-450FT-T | *Life setup is based on A4 6% |
| 2 | Developer | Developer(Developer : Net Weight 450g) | 100K | AR-450SD-C | |
| 3 | Drum | Drum | x1 | AR-450DR-C | |
| 4 | 50K PM kit | Cleaner blade Drum separation pawl Screen grid Toner reception seal Side malt F Side malt R Charging plate | x1 x4 x1 x1 x1 x1 x1 | 50K | AR-450KC |
| 5 | 100K PM kit | Transfer roller Discharging plate Paper dust removing unit DV blade DV side seal F DV side seal R | x1 x1 x1 x1 x1 x1 | 100K | AR-450KA |
| 6 | 200K PM kit | Upper heat roller Lower heat roller Fusing separation pawl (Upper) Fusing separation pawl (Lower) Cleaning roller Bearing | x1 x1 x4 x2 x1 x2 | 200K | AR-450KB |
| 7 | Staple cartridge | Staple cartridge | x3 | 3000x3 | AR-SC1 |
| 8 | Staple cartridge | Staple cartridge | x3 | 5000x3 | AR-SC2 |

Note1: Print on Master/individual carton:4 languages (English/French/German/Spanish).

Note2: Packed with machine: DR 50K/Developer UN/Process UN

Note3: The other maintenance parts which are not listed above are registered as service parts.

2. Production number identification

A. Drum cartridge

The lot number, printed on the front side flange, is composed of 10 digits, each digit showing the following content:

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|----|

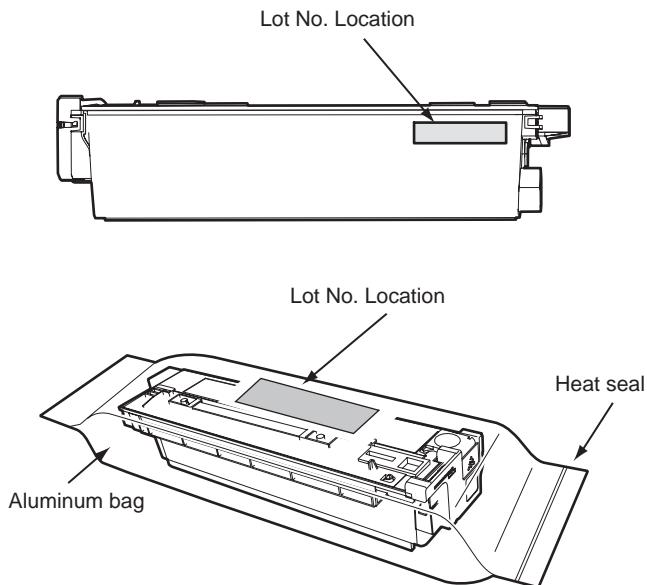
- 1 Number
For this model, this digit is 2.
- 2 Letter
Indicates the model conformity code. T for this model.
- 3 Number
Indicates the end digit of the production year.
- 4 Number or X, Y, Z
Indicates the production month.
X stands for October, Y November, and Z December.
- 5/6 Number
Indicates the production day on the month.
- 7 Number or X, Y, Z
Indicates the month of packing.
X stands for October, Y November, and Z December.
- 8/9 Number
Indicates the day of the month of packing.
- 10 Letter
Indicates the production factory. "A" for Nara Plant.

B. Toner cartridge

The lot number is composed of 7 digits each digit indicates the following. The lot number shall be printed in the position shown below.

| | | | | | | |
|---|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 |
|---|---|---|---|---|---|---|

- 1 Version number (A - sequentially revised)
- 2 Numeral figure
Indicates the end digit of the production year.
- 3 Letter
Indicates the production factory. (B for SOCC)
- 4 Destination code
- 5,6 Numeral figures
Indicates the production day.
- 7 Numeral figure or X, Y, Z
Indicates the production month.
X stands for October, Y November, and Z December.



C. Developer cartridge

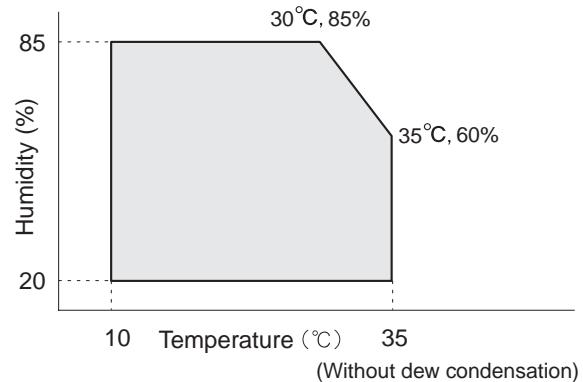
The lot number is composed of 10 digits each digit indicates the following. The lot number is printed on the bag.

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|----|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|----|

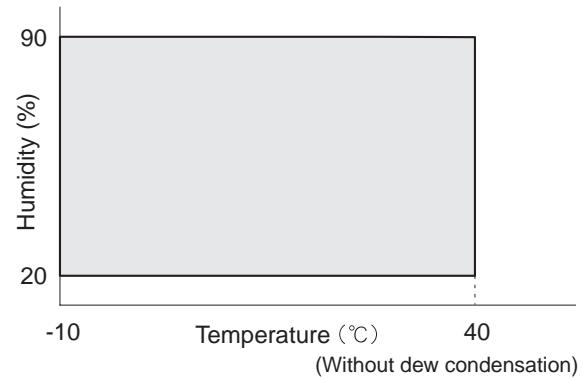
- 1 Number
For this model, this digit is 2.
- 2 Letter
Indicates the model conformity code. T for this model.
- 3 Number
Indicates the end digit of the production year.
- 4 Number or X, Y, Z
Indicates the production month.
X stands for October, Y November, and Z December.
- 5/6 Number
Indicates the production day on the month.
- 7 Number or X, Y, Z
Indicates the month of packing.
X stands for October, Y November, and Z December.
- 8/9 Number
Indicates the day of the month of packing.
- 10 Letter
Indicates the production factory. "A" for Nara Plant.

3. Environmental conditions

A. Operating conditions

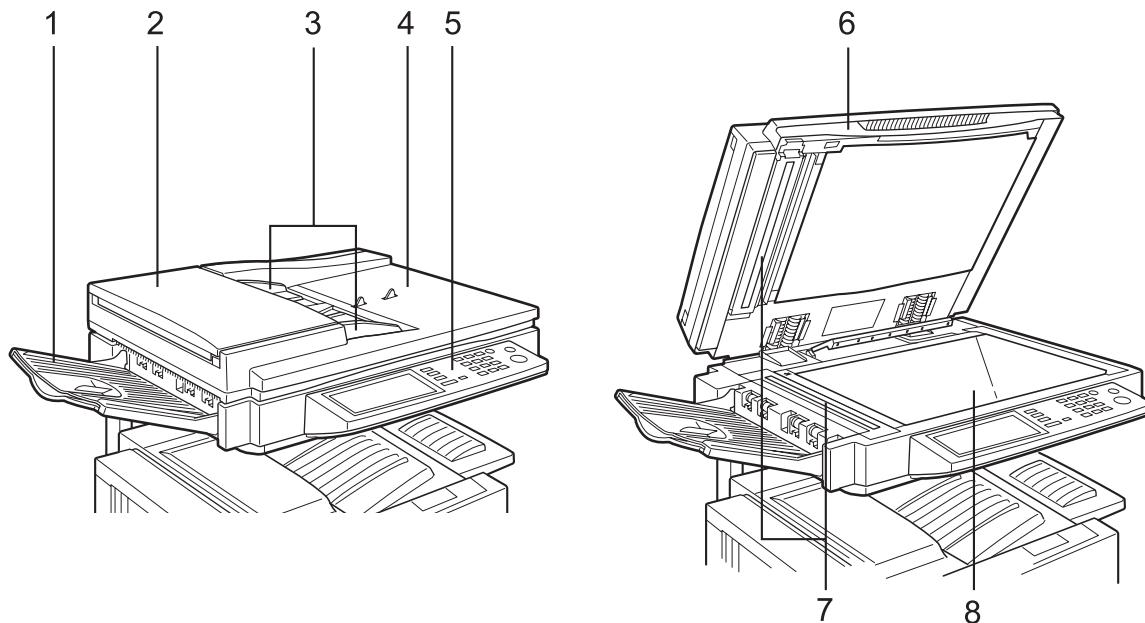


B. Storage conditions



[5] EXTERNAL VIEWS AND INTERNAL STRUCTURES

1. Appearance

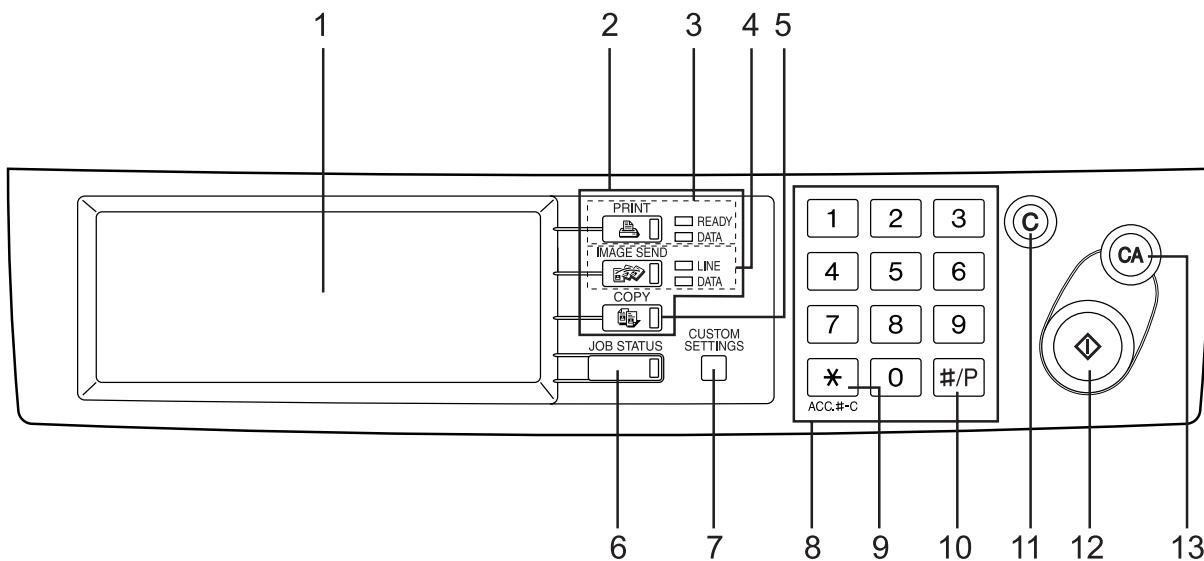


| | | |
|---|-----------------------------|--|
| 1 | DSPF exit area | Scanned originals are deposited here. |
| 2 | Document feeding area cover | Open to remove misfeed originals in this area. |
| 3 | Original guides | Adjust to the size of the originals. |
| 4 | Document feeder tray | Set the originals here for automatic feeding. |
| 5 | Operation panel | Use for operation of copier, network scanner, and facsimile features and for printer configuration operations. |
| 6 | Document cover | |
| 7 | Document scanning windows | Sheet type originals are scanned here. |
| 8 | Document glass | All originals which cannot be copied from the document feeder tray must be copied here. |

2. Operation panel

When the printer is equipped with a scanner module, the operation panel on the main unit will become inoperative and the panel on the scanner module must be used.

The operation panel on the printer engine side does not function.

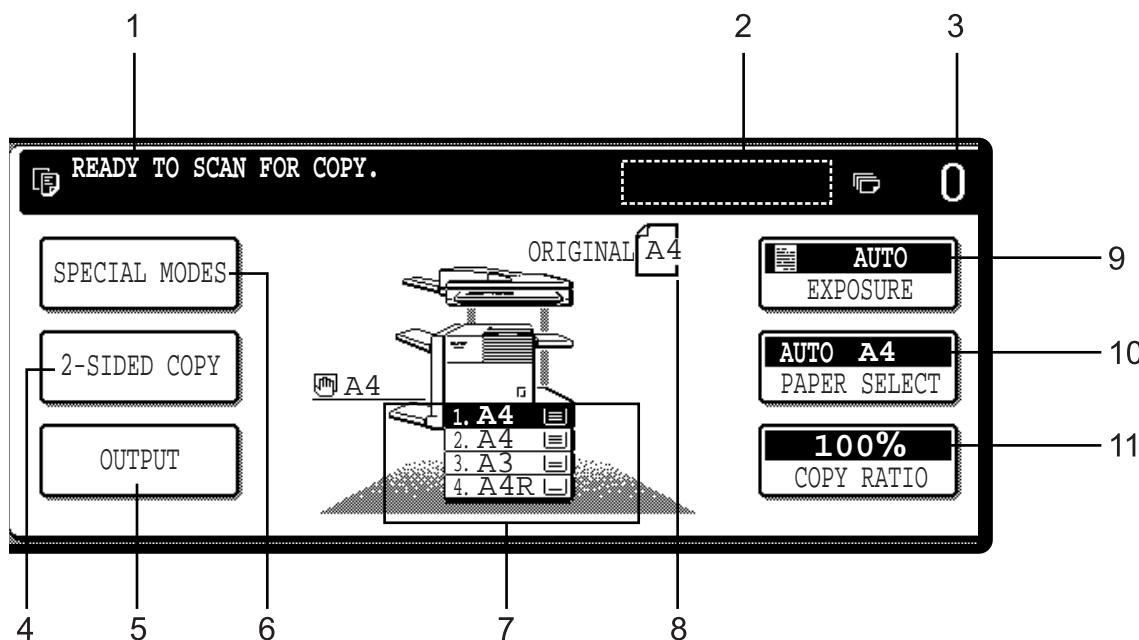


| | | |
|----|--|--|
| 1 | Touch panel | The machine status, messages and touch keys are displayed on the panel. The display will change to show the status of print, copy, network scan or fax according to which of those modes is selected. |
| 2 | Mode select keys and indicators | Use to switch the display mode of the touch panel. |
| 3 | [PRINT] key/ READY indicator/ DATA indicator | <p>Press to enter the print mode.</p> <ul style="list-style-type: none"> •READY indicator Print data can be received when this indicator is lit. •DATA indicator Lights up or blinks when print data is being received. Also lights up or blinks when printing is being performed. |
| 4 | [IMAGE SEND] key/ LINE indicator/ DATA indicator | <p>Press to enter the network scan/fax mode.</p> <ul style="list-style-type: none"> •LINE indicator During sending or receiving FAX data or scan data, this lamp is lighted. •DATA indicator Lights up or blinks when FAX data is being received. Also lights up or blinks when printing is being performed. |
| 5 | [COPY] key | <p>Press to select the copy mode and display the basic screen of the copy mode.</p> <p>Even when the machine is busy in another mode, the basic copy mode screen will appear when the [COPY] key is pressed.</p> <p>If this key is pressed and held while the basic screen of the copy mode is displayed, the total output count and the quantity of toner remaining (percentage) will be displayed.</p> |
| 6 | [JOB STATUS] key | Press to display the current job status. |
| 7 | [CUSTOM SETTINGS] key | Use to adjust the contrast of the touch panel or to set key operator programs. |
| 8 | Numeric keys | Use to enter number values for various settings. |
| 9 | [*] key ([ACC.#-C] key) | If the auditing mode has been set, press this key to close an open account after finishing a copy, facsimile scanning or network scanning job. |
| 10 | [#/P] key* | Press to select the job memory mode. |
| 11 | [C] key* | <p>Press to clear a copy quantity entry.</p> <p>If this key is pressed while the automatic document feeder is being used, any originals in progress will be automatically output.</p> |
| 12 | Start key* | <p>When the indicator is lit, copying, facsimile scanning and network scanning jobs can be started.</p> <p>Press to start copying.</p> |
| 13 | [CA] key* | Press to clear all selected settings and return the machine to the initial settings for the currently selected mode. Before starting a copy operation, press the [CA] key first. |

3. Touch Panel

A. Basic screen of copy mode

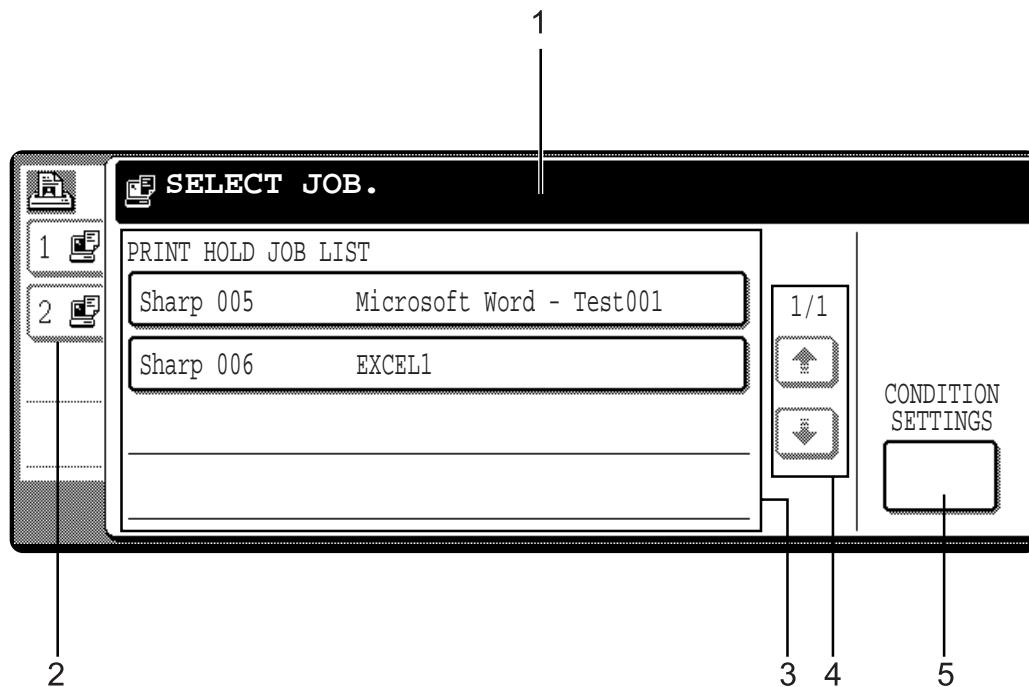
When the copy mode key is pressed, this display screen will appear showing the basic copy mode selections.



| | | |
|----|---|---|
| 1 | Message display | Basic status messages are displayed here. |
| 2 | [INTERRUPT] key display area | When interrupt copy is available, the [INTERRUPT] key will be displayed here. When an interrupt copy job is being run, a [CANCEL] key will be displayed here to be used for canceling the interrupt copy job. |
| 3 | Copy quantity display | Displays the selected number of copies before the [START] key is pressed or the number of completed copies after the [START] key is pressed. A single copy can be made when "0" displayed. |
| 4 | [2-SIDED COPY] key | Touch to display the duplex copy mode setting screen. A highlighted selection on the screen will indicate the currently selected mode. The setting screen can be closed by touching the [OK] key on the setting screen whether or not a selection change was made. |
| 5 | [OUTPUT] key | Touch to display the output mode setting screen. A highlighted selection on the screen will indicate the currently selected mode. The setting screen can be closed by touching the [OK] key on the setting screen whether or not a selection change was made. |
| 6 | [SPECIAL MODES] key | Touch to display the special modes selection screen. |
| 7 | Paper size display | The display shows the location of the paper trays, the size of the paper in the trays and the approximate amount of paper loaded in each tray. The approximate amount of paper in a tray is indicated by \equiv . |
| 8 | Original size display | The original paper size will be displayed when originals are placed on the document glass or in the document feeder. |
| 9 | Exposure display and [EXPOSURE] key | A touch of the [EXPOSURE] key will open the exposure selection window. A highlighted key on the exposure window indicates which exposure mode (AUTO, TEXT, TEXT/PHOTO or PHOTO) is currently selected. When an exposure mode other than AUTO is selected, an exposure level scale will also appear in the window. |
| 10 | Paper select display and [PAPER SELECT] key | Displays the selected paper size. When the auto paper select mode has been selected, "AUTO" will be displayed. A touch of the [PAPER SELECT] key will open the paper selection window. When a selection is made, the selection window will close. To close the window without making a selection touch the key again. |
| 11 | Copy ratio display and [COPY RATIO] key | Displays the selected copy ratio. Touch to display the reduction and enlargement copy ratio selection screen. |

B. Print mode screen

This screen is displayed when the print mode is selected.
 (The display varies with the mode. For the display in other modes)



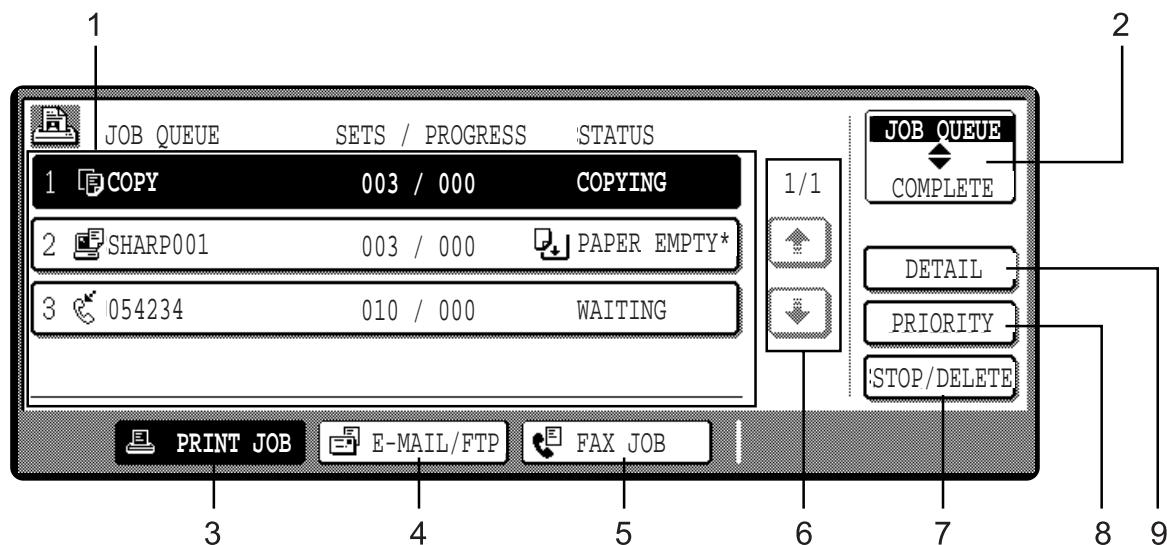
| | | |
|---|--------------------------|--|
| 1 | Message display | A message is displayed in this column. |
| 2 | Job status screen | Refer to the text. |
| 3 | Print hold job list | If the job retention function is used, the list of stored print jobs is displayed here (up to 100 jobs). The job retention function can be used only if the printer is equipped with a hard disk drive unit. If the main switch is turned off, stored print data will be cleared. |
| 4 | Display scroll keys | Use these keys to view the job hold list when it is contained on more than one screen. |
| 5 | [CONDITION SETTINGS] key | Use to switch the display to the printer configuration menu. |

C. Job status screen (common to print, copy, network scan, and fax modes)

This screen is displayed when the [JOB STATUS] key on the operation panel is pressed.

A job list showing the current job at the top of the job queue or a list showing completed jobs can be displayed.

The contents of the jobs can be viewed, moved up to the highest priority in the job queue or deleted from the queue.



| | | | |
|---|------------------------|---|--------------------------|
| 1 | Job list | A job list which indicates the current job and reserved jobs or a job list which indicates completed jobs is displayed. The icons to the left of the jobs in queue represent the job mode. | |
| | | Print mode | Copy mode |
| | | Network scan mode | |
| | | Fax mode (transmission job) | Fax mode (reception job) |
| | | When a job list which indicates the current job and reserved jobs is displayed, the displayed jobs themselves are operation keys. To cancel printing or to give a job the highest print priority, touch the relevant job key to select the job and execute the desired operation using the keys described in 7,8, and 9 | |
| 2 | Mode switching key | Use to switch the job list between "JOB QUEUE" and "COMPLETE". "JOB QUEUE": Displays the list of the current job and the reserved jobs. "COMPLETE": Displays the list of completed jobs. | |
| 3 | [PRINT JOB] key | Use to display the print job list for all modes (print, copy, network scan, and fax). | |
| 4 | [E-MAIL/FTP] key | Use to display the list of jobs that use the network for sending e-mail by SNMP protocol or sending to an ftp site or desktop by ftp protocol. | |
| 5 | [FAX JOB] key | Use to display the fax communication status and the reserved transmission job status. | |
| 6 | Display switching keys | Use to switch the page of the displayed job list. | |
| 7 | [STOP/DELETE] key | Use to cancel or delete the current job or delete the selected reserved job. Received fax print jobs that have been reserved, however, cannot be deleted. | |
| 8 | [PRIORITY] key | If you select a job among the reserved jobs in the "JOB QUEUE" job list to which you wish to give the highest priority and touch this key, the job will move to the highest priority reserved job. | |
| 9 | [DETAIL] key | Use to display the detailed information of the selected job. The paper size for printing can be changed from the specified size. This function, however, cannot be used when a fax reception print job is selected. | |

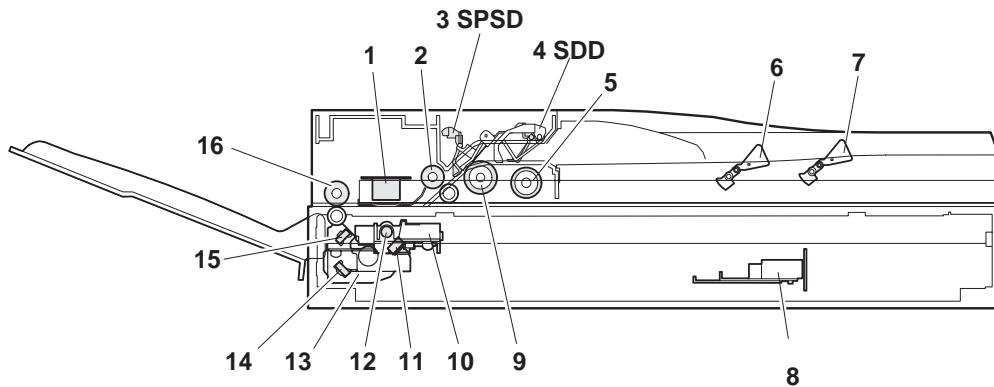
* "PAPER EMPTY" in the job status display

When a job status display indicates "PAPER EMPTY", the specified size paper is not loaded in any tray to run that job.

In this case, printing is suspended for that job until the required paper is loaded. Until the required paper is loaded another reserved job data will be printed if possible.

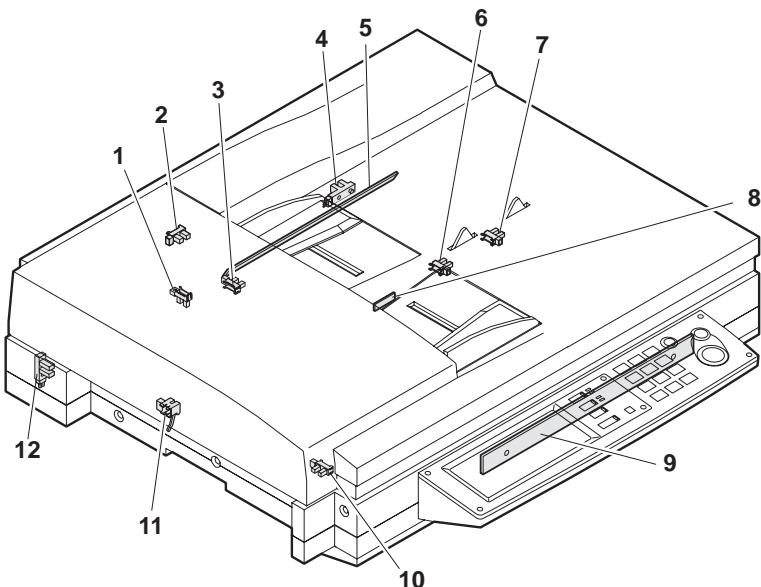
(If paper runs out during printing, another job will not be printed.) If you wish to change the paper size because you do not have the specified size paper, you can change the size by touching the current job key to select it and touch the [DETAIL] key described in 9

4. Cross sectional view



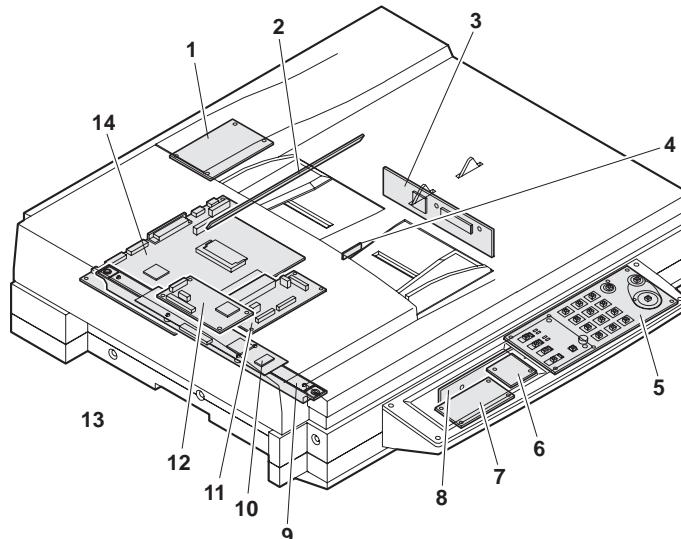
| No. | Name | No. | Name |
|-----|-------------------------------------|-----|----------------------|
| 1 | CIS unit (AR-EF1 only) | 9 | Original feed roller |
| 2 | Original resist roller | 10 | Copy lamp base unit |
| 3 | Original resist front sensor (SPSD) | 11 | No. 1 mirror |
| 4 | Original set sensor | 12 | Copy lamp (Xenon) |
| 5 | Original take-up roller | 13 | Mirror base unit |
| 6 | Original length sensor 1 (SLD1) | 14 | No. 3 mirror |
| 7 | Original length sensor 2 (SLD2) | 15 | No. 2 mirror |
| 8 | CCD/lens unit | 16 | Original exit roller |

5. Switch, Sensor



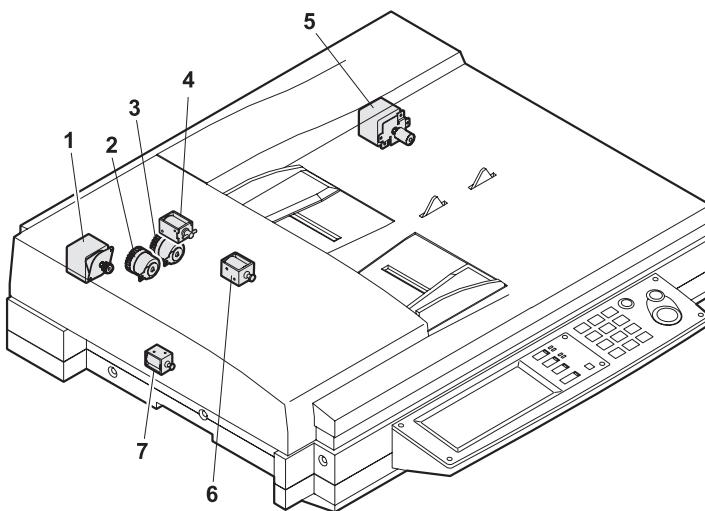
| | Code | Name | Active condition |
|----|------|---|------------------|
| 1 | SPSD | SPF original resist front sensor | |
| 2 | SCOV | SPF paper feed cover sensor | |
| 3 | SDD | SPF original set sensor | |
| 4 | SOCD | OC open/close sensor | |
| 5 | | Original size sensor PWB (Light emitting side) | |
| 6 | SLD1 | SPF original length sensor 1 | |
| 7 | SLD2 | SPF original length sensor | |
| 8 | | SPF original width detection volume PWB | --- |
| 9 | | Original size sensor PWB (Light receiving side) | |
| 10 | SSET | SPF open/close sensor | |
| 11 | SPOD | SPF original exit sensor | |
| 12 | MHPS | Mirror home position sensor | |

6. PWB



| No. | Name | Function/Operation |
|-----|--|--|
| 1 | SPF control PWB | SPF control |
| 2 | Original size detection PWB (Light emitting side) | Original size detection when using the table glass |
| 3 | CCD PWB (in lens unit) (The lens unit cannot be disassembled.) | Image scan (Table glass/SPF surface) |
| 4 | SPF original width detection volume PWB | SPF original width detection |
| 5 | MFP operation PWB | Panel operation control |
| 6 | LCD inverter PWB | Inverter for LCD backlight |
| 7 | LVDS PWB | LCD signal relay |
| 8 | Original size sensor (Light receiving side) | Original size detection when using the table glass |
| 9 | CIS unit (in CIS unit) (The CIS unit cannot be disassembled.) | Image scan (SPF back surface) |
| 10 | CIS interface PWB (in CIS unit) (The CIS unit cannot be disassembled.) | CIS signal AD conversion process |
| 11 | Scanner interface PWB | Scanner unit and connection of scanner control PWB |
| 12 | CIS control PWB | CIS unit control and image process |
| 13 | CL inverter PWB | Inverter for copy lamp |
| 14 | Scanner control PWB | Scanner unit control |

7. Motor, Clutch, Solenoid



| No. | Name | Function/Operation |
|-----|-------|-------------------------------|
| 1 | SPFM | SPF motor |
| 2 | SPSC | SPF original resist clutch |
| 3 | SPFC | SPF original feed clutch |
| 4 | SDSS | SPF original stopper solenoid |
| 5 | MIRM | Mirror motor |
| 6 | SPFS | SPF original feed solenoid |
| 7 | STMPS | Stamp solenoid |

[6] UNPACKING AND INSTALLATION

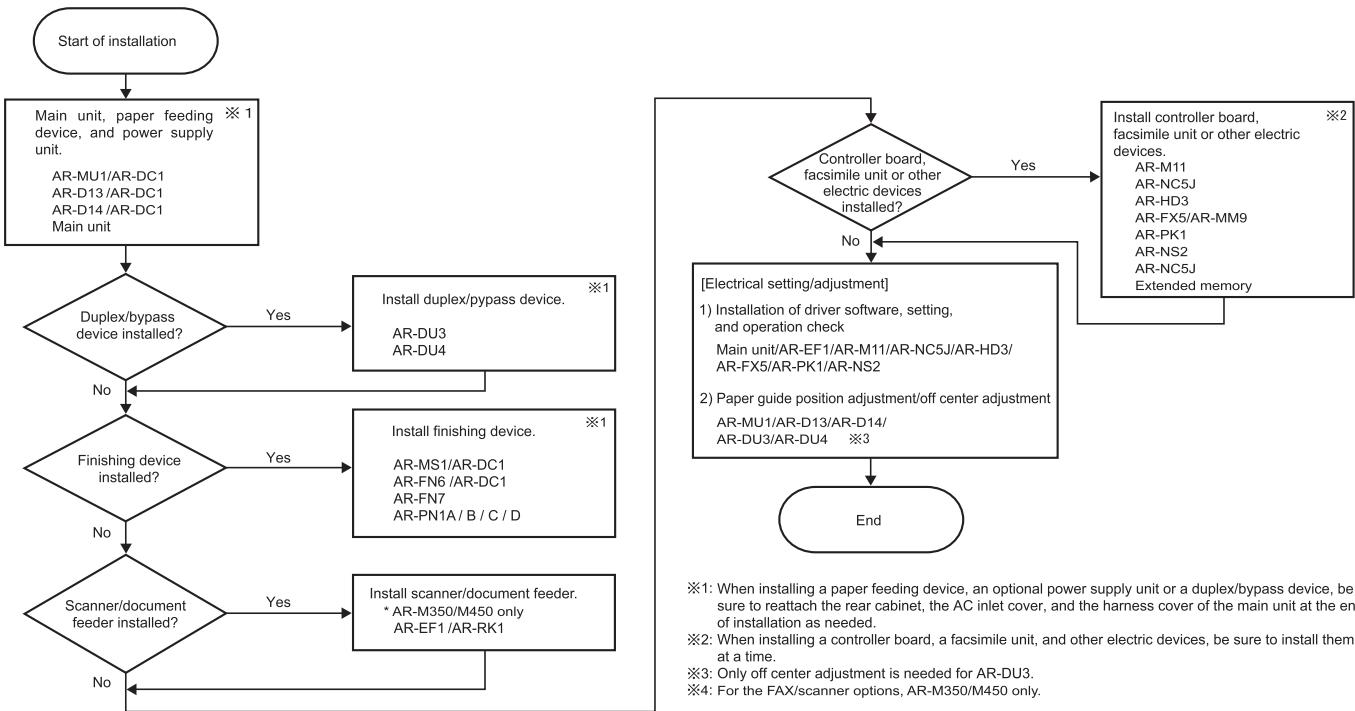
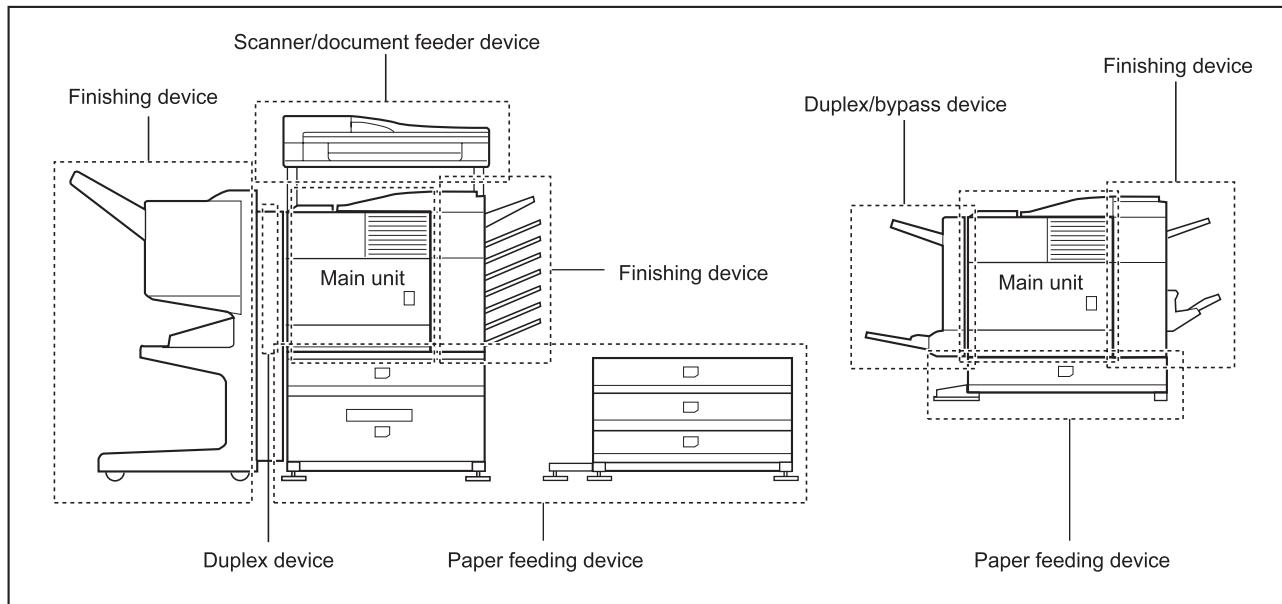
1. Installing procedure flowchart

There are many combinations between this machine and option units. For installing option units, observe the following procedures for efficiency.

To install the devices efficiently, follow the procedure below.

Some peripheral devices may have been installed as standard devices depending on the main unit model.

Part of descriptions and illustrations may be different.

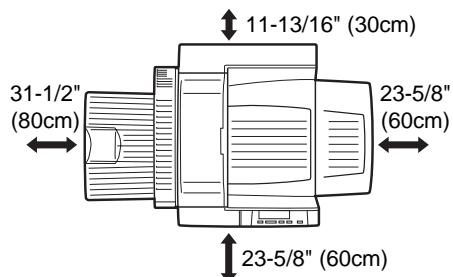


* For installation of an option unit, refer to the Service Manual of the option unit.

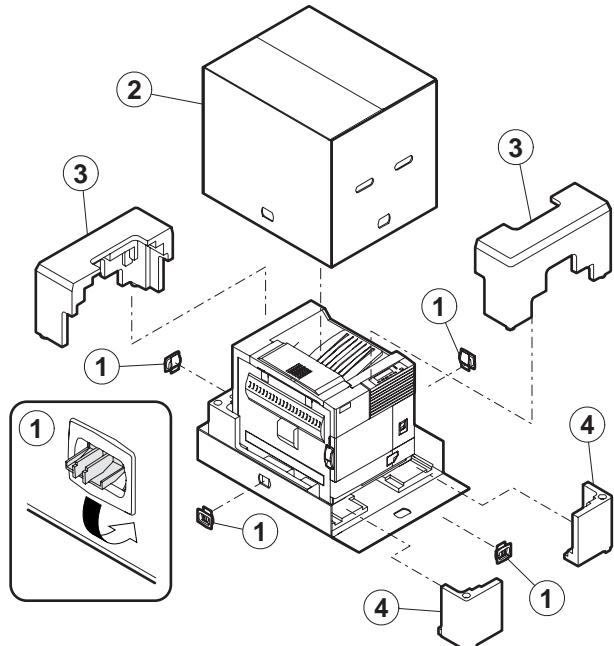
2. Note for installation place

Improper installation may damage this product. Please note the following during initial installation and whenever the machine is moved.

- 1) The machine should be installed near an accessible power outlet for easy connection.
- 2) Be sure to connect the power cord only to a power outlet that meets the specified voltage and current requirements. Also make certain the outlet is properly grounded.
•For the power supply requirements, see the name plate of the main unit.
- 3) Do not install your machine in areas that are:
•damp, humid, or very dusty
•exposed to direct sunlight
•poorly ventilated
•subject to extreme temperature or humidity changes, e.g., near an air conditioner or heater.
- 4) Be sure to allow the required space around the machine for servicing and proper ventilation.



3. Unpacking procedure



Check the following items are included in the package.

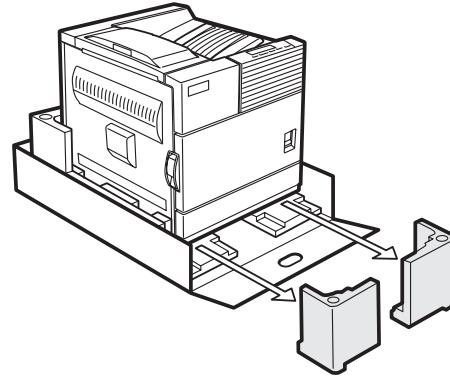
| | |
|---------------------------------------|--|
| Developer | |
| Toner cartridge for installation | |
| CD-ROM for AR-350/450 series printers | |
| Operating Manual | |
| Counter kit contract | |

4. Machine installing procedure

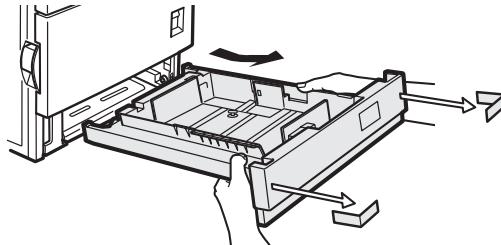
Note: In advance to installation of the machine, the paper feed option units (AR-D13 or AR-D14) should have been installed.

A. Removal of the machine

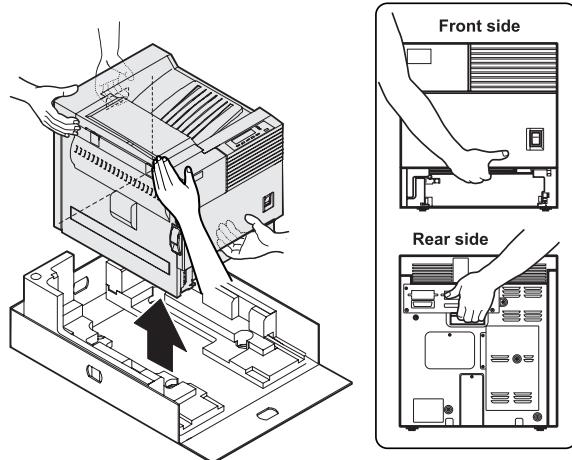
- 1) Remove the cushioning materials from the right and left of the front side.



- 2) Remove the locking tape from the right and left sides of the tray. Then, Remove the top of the carton and lower the plastic bag covering the machine while the machine is still on the carton base.
- 3) Remove the packing tape from the paper tray, pull out the paper tray until it stops and remove it by tilting it upward.



- 4) One person must lift by the empty front tray pocket with the right hand and steady the machine with the left hand placed at the upper left of the machine. The other person must lift with the right hand by using the lifting recess in the rear of the machine and also steady the machine with the left hand as shown in the illustration.

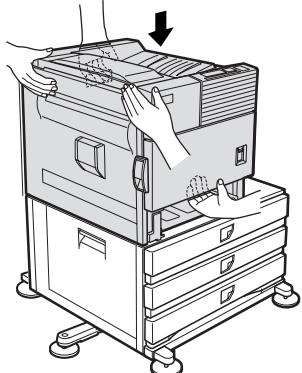


Note: The center of gravity of the machine lies in the left side when viewed from the Back of machine. When lifting the machine, be careful not to drop it.

B. Installation of paper feed options to the machine

Note: Before use of this machine, one of the paper feed option units (AR-D13/AR-D14) should be installed to the machine for safety reasons.
Refer to the drawing of the AR-MU1 in this manual.

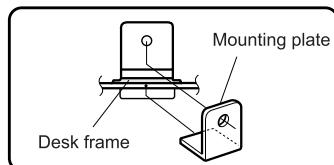
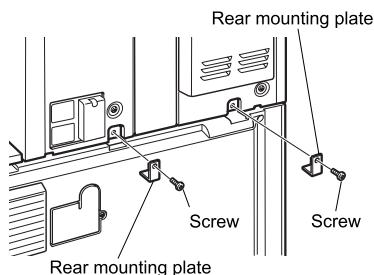
- 1) Put the machine on the previously installed option unit. Be sure to check that the boss of the option unit is securely engaged with the machine and that the external lines (front and left sides) of the option unit and those of the machine are aligned completely.



Caution: For installation of the main unit, it must be held by two persons and installed without haste.

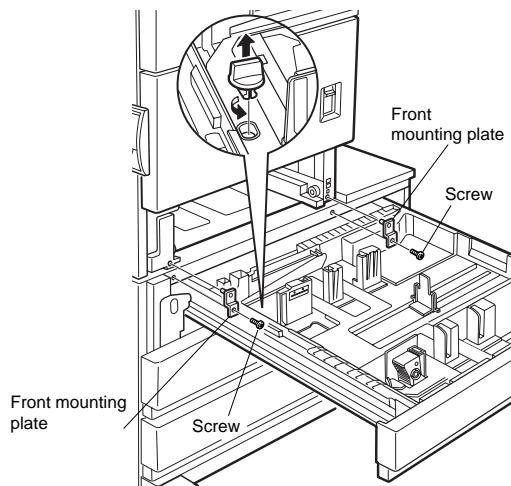
- 2) Connect the main unit to the stand/paper drawer.

<1>Attach the rear mounting plates using a supplied screw for each.

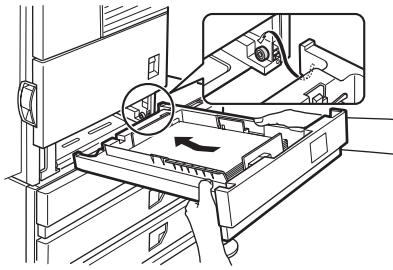


Caution: Insert the rear mounting plates under the desk frame.

<2>Pull out the upper paper tray of the stand/paper drawer until it stops and attach the front mounting plates using a supplied screw for each. Then, remove the lock of the paper tray and close the tray. Remove the locks of the middle tray and the lower tray similarly.

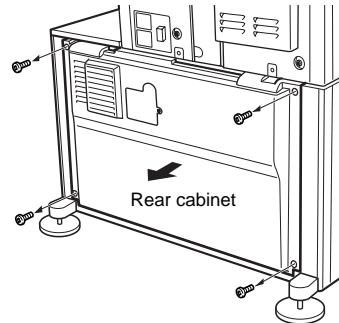


<3>Reattach the paper tray of the main unit.



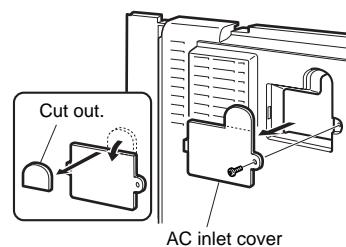
- 3) Remove the rear cabinet of the stand/paper drawer and remove the AC inlet cover.

<1>Remove the four screws that fix the rear cabinet and then remove the rear cabinet.



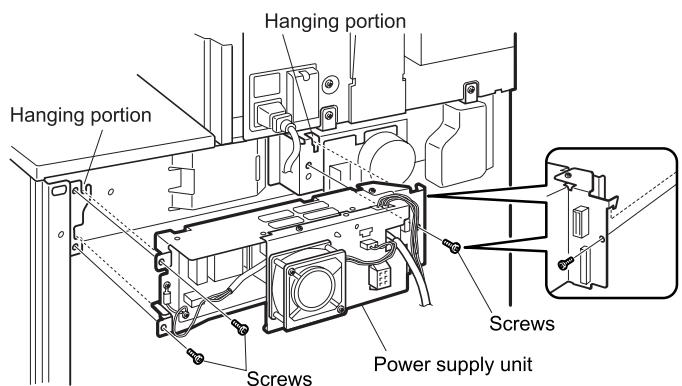
<2>Remove the screw that fixes the AC inlet cover and then remove the AC inlet cover.

<3>Process the AC inlet cover as shown in the illustration.



- 4) Attach the power supply unit (AR-DC1).

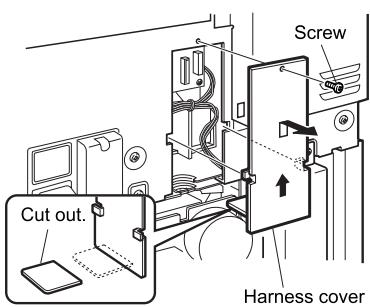
Attach the power supply unit to the hanging portions and secure it using the three supplied screws.



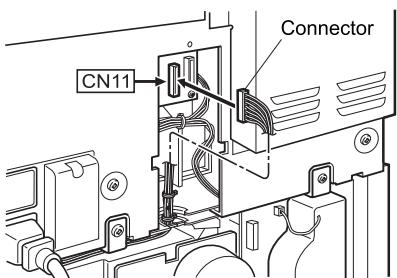
5) Connect the power supply unit harness to the PCU PWB of the main unit of the printer.

<1> Remove the screw that fixes the harness cover of the main unit of the printer and slide the harness cover up to remove it.

Process the harness cover as shown in the illustration.



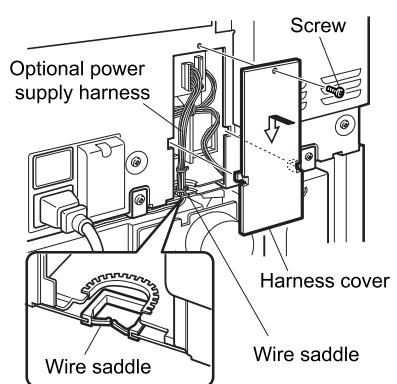
<2> Connect the optional power supply harness connector to CN11 (red connector) of the PCU PWB of the main unit of the printer.



<3> Reattach the harness cover to its original position and fix it with the removed screw.

At this time, ensure that the optional power supply unit harness is arranged as shown in the illustration.

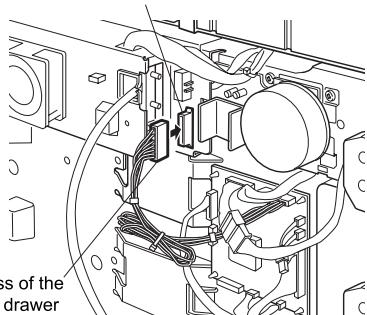
• Fix the harness securely to the wire saddle.



6) Connect the relay harness of the stand/paper drawer to the power supply unit.

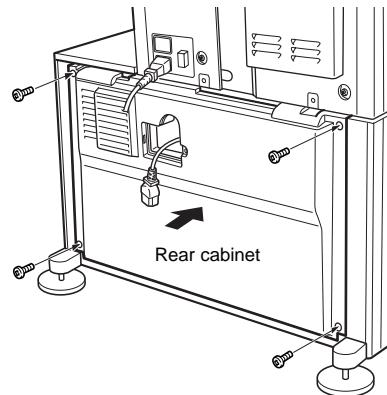
Connect the relay harness of the stand/paper drawer to the connector of the power supply unit.

Connector of the power supply connector

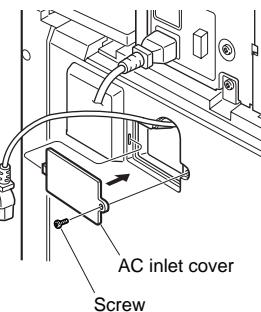


7) Attach the rear cabinet of the stand/paper drawer.

<1> Pass the cord of the power supply unit through the hole of the rear cabinet and attach the rear cabinet to the stand/paper drawer.

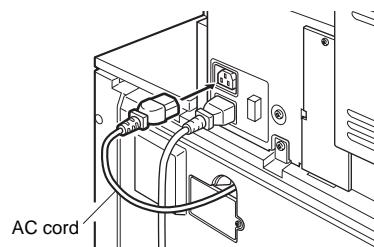


<2> Attach the AC inlet cover to the rear cabinet of the stand/paper drawer and fix it with the removed screw.



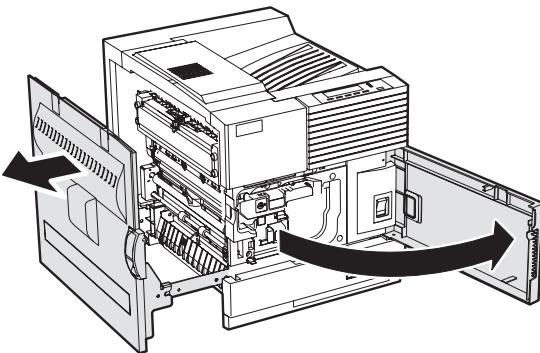
8) Connect the AC cord of the power supply unit to the main unit of the printer.

Connect the AC cord of the power supply unit to the outlet connector of the main unit of the printer at the location shown in the illustration.

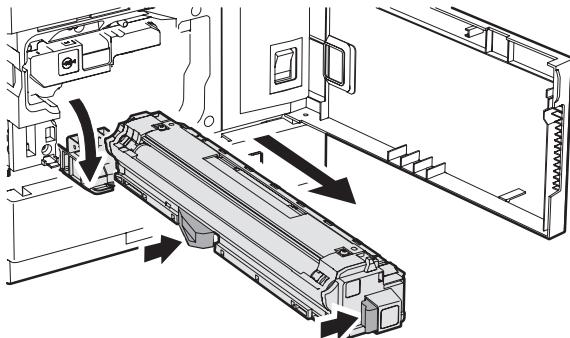


C. Setting related to process

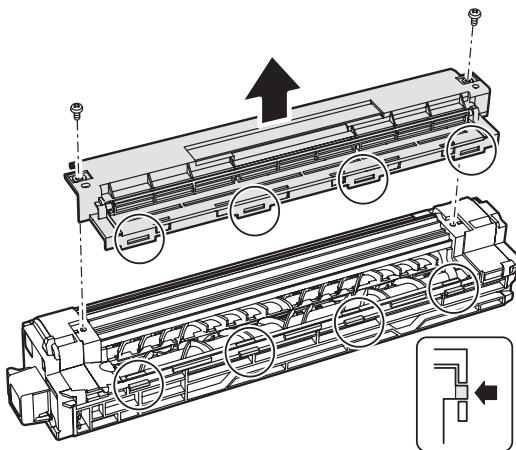
- 1) Open the left door and the front door.



- 2) Remove the developer cartridge from the machine.

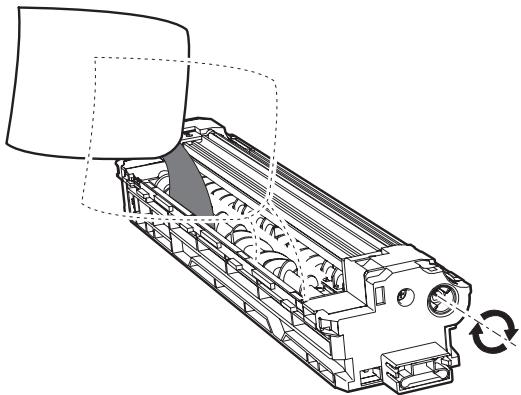


- 3) Remove the top cover of the developer cartridge.



- 4) While rotating the MG roller, supply developer into the developer cartridge evenly.B

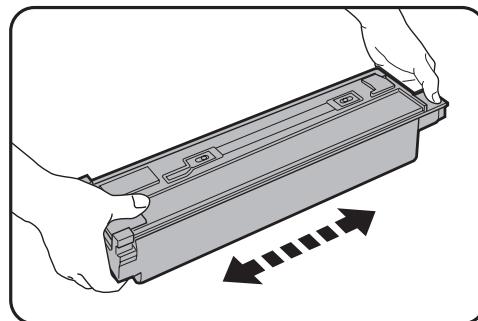
Note: Before opening the developer seal, shake it 4 or 5 times.



- 5) Attach the top cover to the developer cartridge and install the cartridge to the machine.

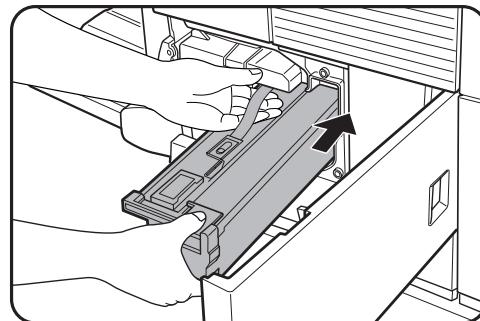
D. Toner cartridge settings

- 1) Remove a new toner cartridge from the package and shake it horizontally five or six times.

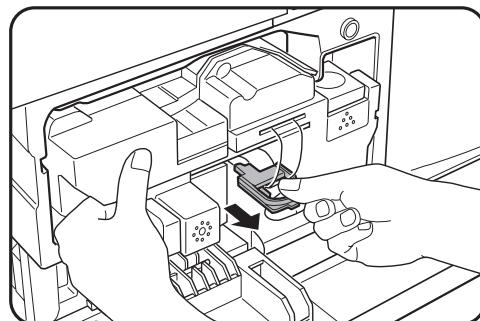


- 2) Insert a new toner cartridge.

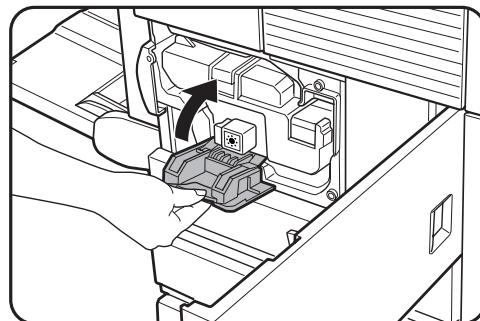
Push the cartridge in until it locks securely into place.



- 3) Gently remove the sealing tape from the cartridge.

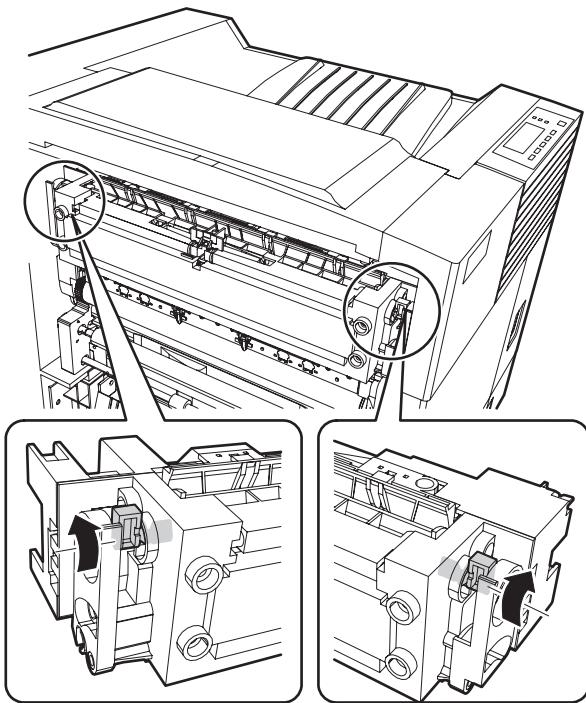


- 4) Return the cartridge lock lever.



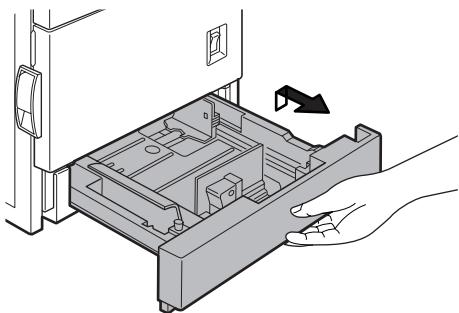
E. Setting related to fusing

- Put down the right and the left levers of the fusing unit in the arrow direction.

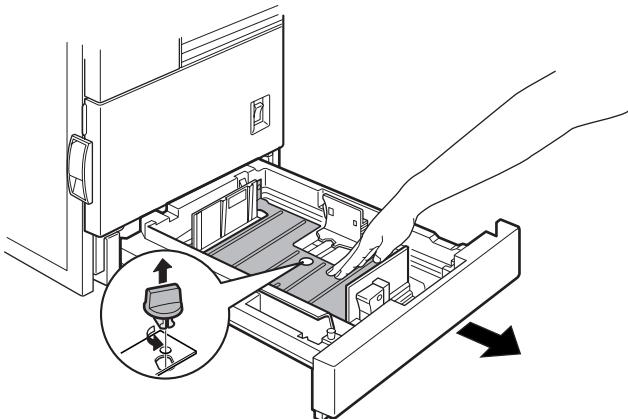


F. Paper setting

- Pull out the first stage paper feed tray.
Slowly pull out the tray until it stops.



- While pressing the paper holding plate, remove the fixing pin.

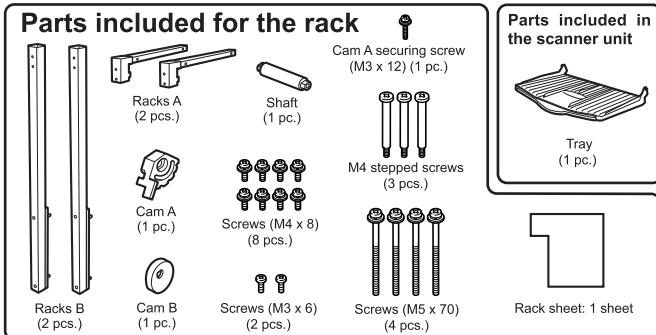


- Put paper in the tray, and close the paper feed tray.

5. AR-EF1 / AR-RK1

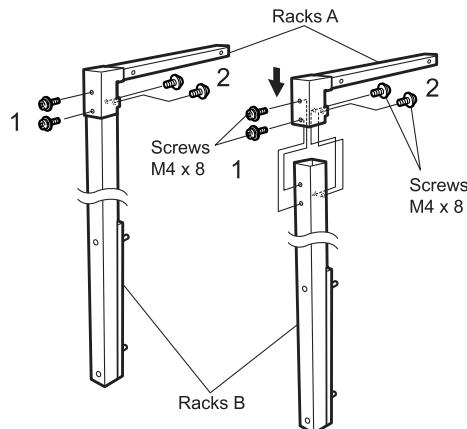
<Before installation>

For installation, an MFP control board (AR-M11) is needed.



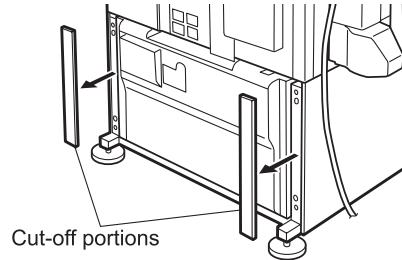
- Assemble the rack.

Insert two racks A securely all the way into two racks B respectively as shown in the illustration and use four screws (M4 x 8) respectively to secure the racks in the order of <1> to <2> in the illustration.



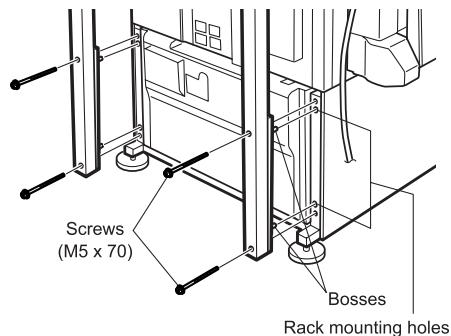
- Cut the rear cabinet of the desk unit.

Cut the cut-off portions on both ends of the rear cabinet of the desk unit by hand and remove them.



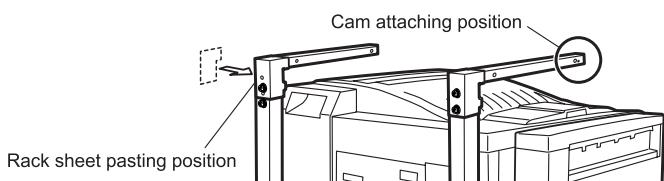
3) Mount the rack to the desk unit.

Insert the bosses of the rack into the two rack mounting holes from which the cut-off portions of the rear cabinet of the desk unit have been removed, and use two screws (M5 x 70) to secure each rack.

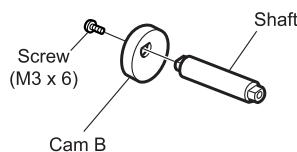


4) Attach the cam and paste the rack sheet.

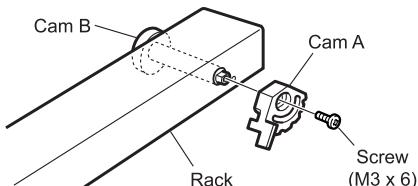
Attach the cam to the position shown in the right illustration and paste the rack sheet as described in <4>.



<1>Insert the shaft to cam B as shown in the illustration and secure it with a screw (M3 x 6).

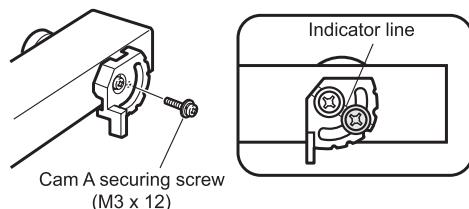


<2>Insert the shaft that has been attached to cam B into the hole of the rack as shown in the illustration, attach cam A to the shaft, and secure it with a screw (M3 x 6).

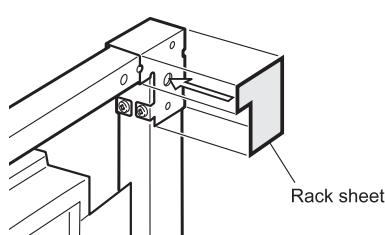


<3>Secure cam A with a cam A securing screw (M3 x 12).

At this time, adjust the position of the head of the cam A securing screw to the center of the indicator line of cam A and secure the cam.

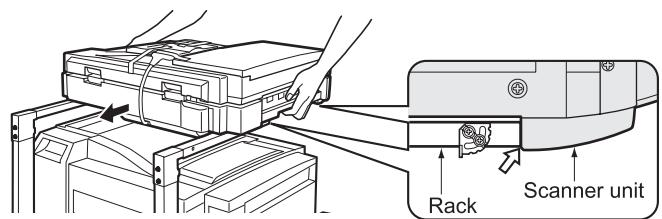


<4>Paste the rack sheet to the position shown in the illustration.



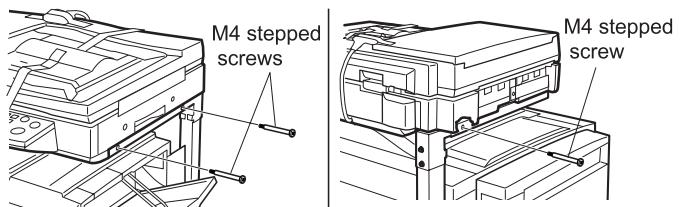
5) Put the scanner unit on the rack.

Hold the grips of the scanner unit, put the scanner unit on the rack from the front of the rack by positioning the unit to the rack as shown in the illustration, and gently slide the unit until it stops at the end of the rack.



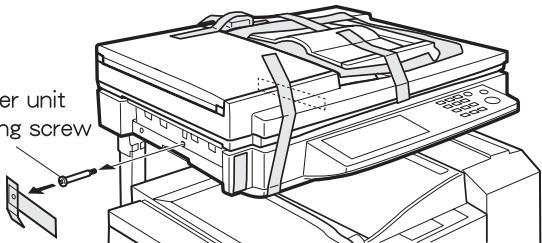
6) Secure the scanner unit.

Secure the scanner unit that has been put on the rack to the rack with three M4 stepped screws.



7) Remove the securing tape and securing screw for packing.

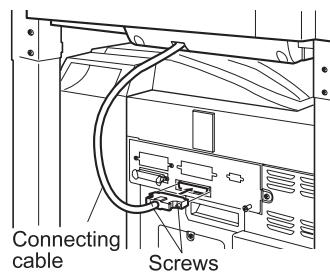
Remove all pieces of packing tape and the screw that secure the scanner module and remove the packing, the notice sheet.



8) Connect the cable.

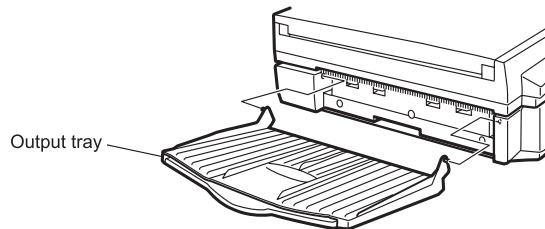
Connect the connector of the scanner module to the connector of the main unit of the printer and tighten the two screws on the connector to secure the connector.

Caution: To prevent damage to the pins inside the connector, when inserting the connector, align the guides of the connector exactly.



9) Attach the output tray.

Attach the output tray to the scanner unit as shown in the illustration.

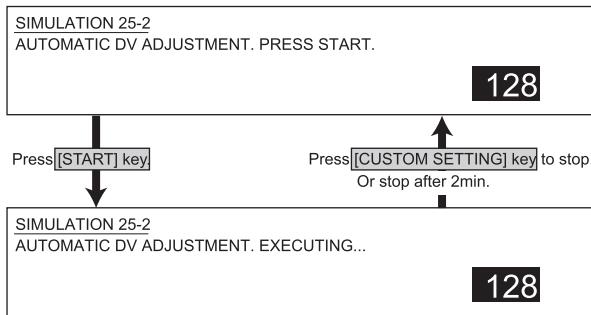


If another peripheral device must be installed, carry out the following step at the end of the installation work.

6. Automatic developer adjustment

- 1) Attach the cabinets which were removed.
- 2) Close the left door.
At that time, keep the front door open.
Note: The automatic developer adjustment must be performed by entering the simulation mode with the front door open. If the power is turned off with the front door closed, warm-up is performed to supply toner to the developing unit. As a result, the reference toner density cannot be obtained.
- 3) Insert the power plug into the power outlet.
- 4) Switch to the copy mode, and press
[P] → [*] → [C] → [*] → [2] [5] → [START] → [2] → [START], and the machine will enter the simulation mode "AUTOMATIC DV AD".
- 5) Close the front door.

(LCD Display)



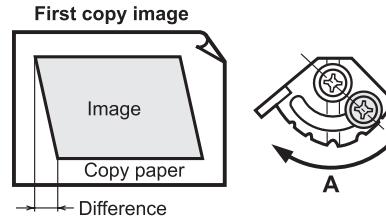
- 6) Press the [START] key, and the automatic developer adjustment will be performed.
During execution of the automatic developer adjustment, the data (LED) blinks and the LCD indicates the toner sensor value.
- 7) After about 2 min, the adjustment value is stored in the machine.
Check that the mode was normally completed.
Normal end: The data LED goes off.
Abnormal end: The error LED lights up.
Remove the cause of the error, and execute the automatic developer adjustment again.
- 8) Turn off/on the power, and the machine returns to the normal mode and enters the warm-up mode.

7. Adjustment of distortion

Since adjustment was made at the shipment, any additional adjustment is not needed basically. If distortion occurs as shown in the illustration, however, perform the adjustment by following the procedure below.

- 1) Use a level meter to check that the scanner unit is installed on a horizontal surface.
Make a copy. If distortion occurs as shown in Fig.1 or Fig. 2, loosen the cam A securing screw (M3 x 12) to perform the adjustment.

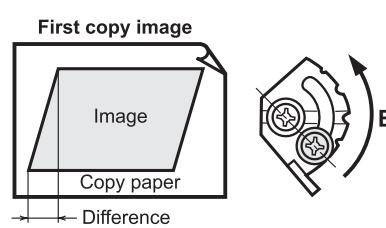
[Fig. 1]



• In case of Fig. 1

Move cam A in the direction of A by the difference of the image.
As a guide for the amount of movement, the image moves 0.5 mm by one division (one groove) of cam movement.
After the movement, tighten the cam A securing screw (M3 x 12) and make a copy again to check that the copy image is not distorted.

[Fig. 2]



• In case of Fig. 2

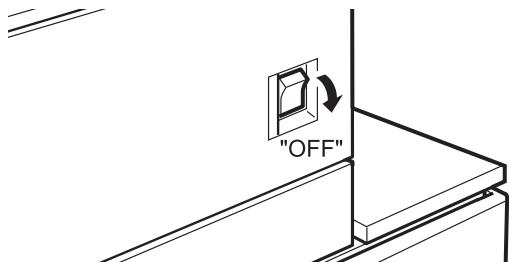
Move cam A in the direction of B by the difference of the image.
As a guide for the amount of movement, the image moves 0.5 mm by one division (one groove) of cam movement.
After the movement, tighten the cam A securing screw (M3 x 12) and make a copy again to check that the copy image is not distorted.

8. AR-M11

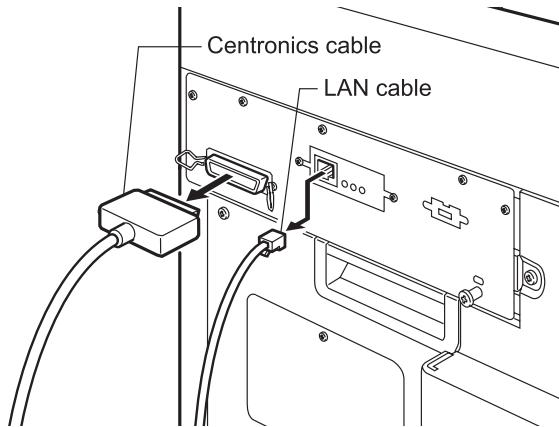
<Before installation>

- For installation of AR-M11, a scanner module is needed.
- Start installation after checking that the DATA and COMMUNICATION indicators on the operation panel are neither lit nor blinking.

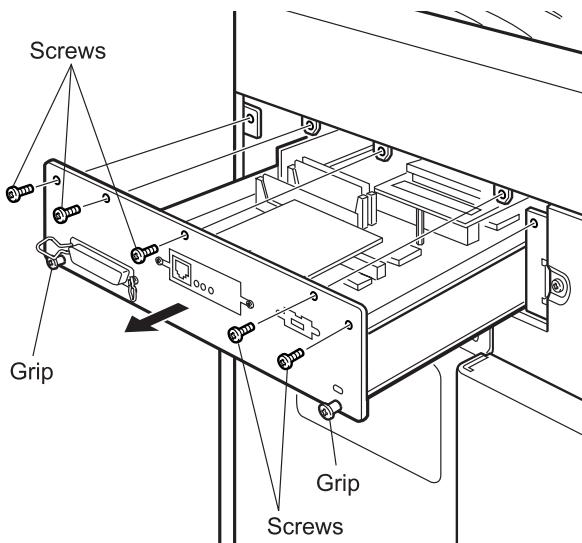
- 1) Turn off the main switch of the main unit of the printer.
Turn the main switch located on the front side of the main unit to the "OFF" position.
Then remove the power plug from the outlet.



- 2) Remove the cables connected to the printer control PWB unit.
Remove all the cables connected to the printer control PWB unit from the computer.



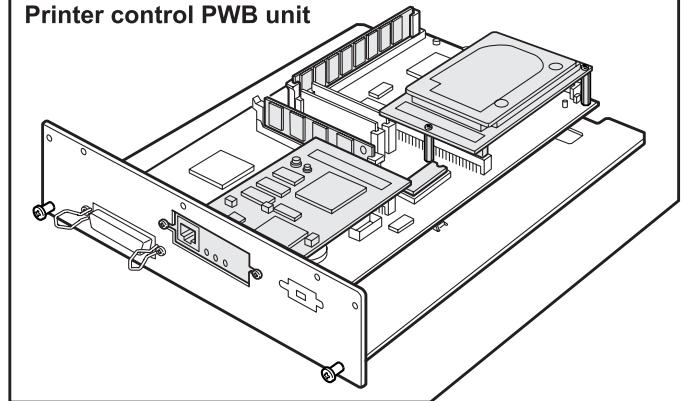
- 3) Remove the printer control PWB unit.
Remove the five screws that fix the printer control PWB unit to the main unit of the printer.
Then, hold the two grips and pull out the printer control PWB to remove it from the main unit.



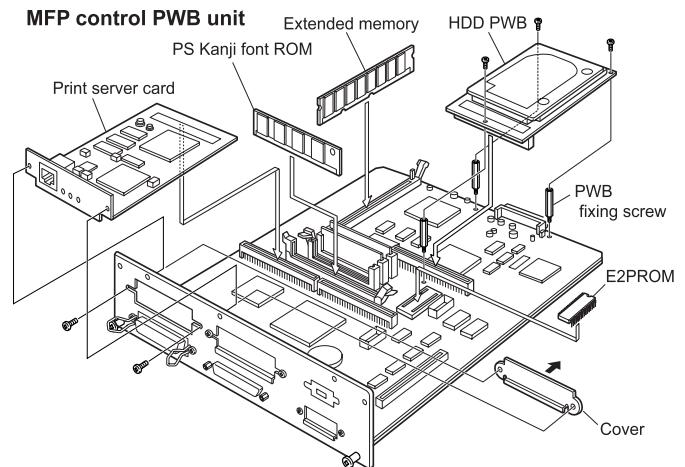
- 4) Move the optional boards to the MFP control PWB.

Remove the print server card, the HDD PWB, the expansion memory, the PS Kanji font ROM, and the E2PROM from the removed printer control PWB unit and mount them to the positions of the MFP control PWB unit shown in the illustration.

Printer control PWB unit



MFP control PWB unit



• Installation of print server card

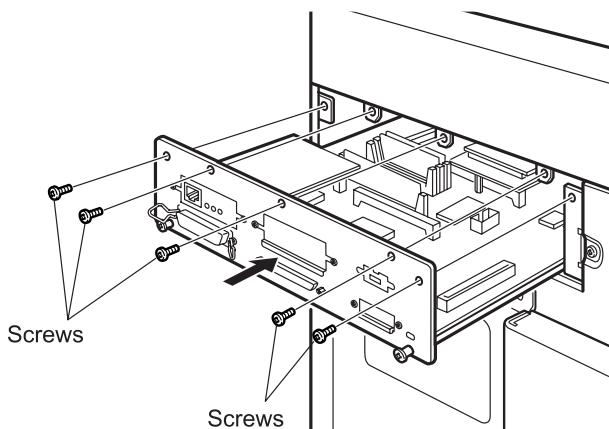
- Remove the screws that fix the cover and remove the cover.
- Insert the connector of the print server card to the connector of the MFP control PWB unit.
- Fix the print server card using the removed screws.

• Installation of HDD expansion PWB

- Remove the three screws shown in the illustration among the screws that fix the MFP control PWB unit.
- Mount the three PWB fixing screws to the positions from which three screws have been removed.
- Insert the HDD expansion PWB to the connector of the MFP control PWB.
- Fix the HDD expansion PWB to the PWB fixing screws using the three screws that have been removed.

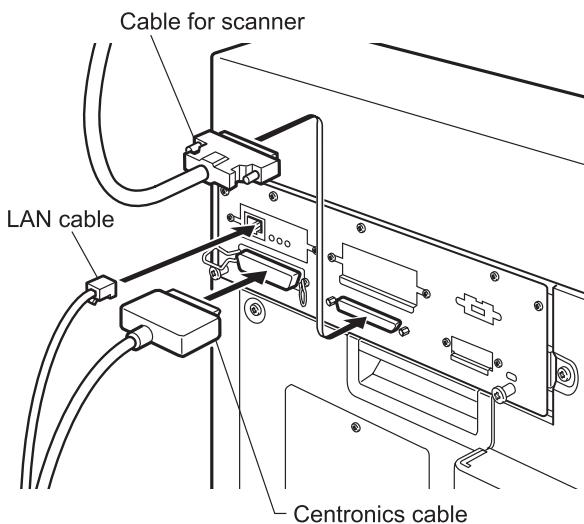
5) Attach the MFP control PWB.

Attach the MFP control PWB unit to the main unit of the printer and fix it using five screws.



6) Connect the cables to the MFP control PWB.

Connect all the cables that have been removed in step 2 to the connectors of the MFP control PWB unit.

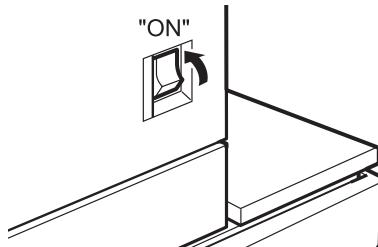


If another peripheral device must be installed, carry out the following step at the end of the installation work.

7) Turn on the main switch of the main unit of the printer.

Insert the power plug of the main unit of the printer to the outlet.

Then, turn the main switch located on the front side of the main unit to the "ON" position.



8) Check the operation.

<1>Check to see if the indicators on the operation panel of the scanner module are lit and key operation is available.

<2>Place an original in the scanner module and check to see if copying can be performed normally.

<3>For setting change of the printer drivers on the computer, see the supplied operation manual.

Then, execute printing from the computer to check for proper printing.

[7] DISASSEMBLY AND ASSEMBLY, MAINTENANCE

1. Self print of set values

Use of SIM 22-6 allows to print the set values and the jam history of the machine.

These values must be printed before execution of maintenance or disassembly procedures.

2. Maintenance System Table

A. Scanner / DSPF

Maintenance cycle : 50K

× Check (Clean, replace, or adjust as necessary.) ○ Clean ▲ Replace △ Adjust ☆ Lubricate □ Move position

| Unit name | Part name | | When calling | 50K | 100K | 150K | 200K | 250K | 300K | 350K | 400K | Remark |
|-----------------|--|--|--------------|-----|------|------|------|------|------|------|------|------------------------------------|
| Optical section | Mirror/Lens/Reflector/Sensors | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Table glass/OC | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | White reference glass | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Rails | | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | |
| | Drive belt/Drive wire/Pulley | | × | × | × | × | × | × | × | × | × | |
| DSPF | Paper feed section | Take-up roller | ○ | ○ | ▲ | ○ | ▲ | ○ | ▲ | ○ | ▲ | Note 2 |
| | | Separation pad | ○ | ○ | ▲ | ○ | ▲ | ○ | ▲ | ○ | ▲ | Note 2 |
| | | Paper feed roller | ○ | ○ | ▲ | ○ | ▲ | ○ | ▲ | ○ | ▲ | Note 2 |
| | Transport section | PS roller | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | Exposure section (Dust-proof glass) | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Paper exit section | Paper feed roller SPF | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Other | Sensors | | | ○ | | ○ | | ○ | | ○ | For cleaning, blow air. |
| | Finish stamp section [Option] (Japan only) | Stamp solenoid | | | | | | | | | ▲ | |
| | | Stamp individual part | × | × | × | × | × | × | × | × | × | User replacement at 10K or 1 year. |

Note 2: Replacement reference: Same as above or 2 years.

B. Engine section

* For disassembly procedures, refer to the AR-P350/P450 Service Manual.

Maintenance cycle : 50K

Check (Clean, replace, or adjust as necessary.) Clean Replace Adjust Lubricate Move position

| Unit name | Part name | When calling | 50K | 100K | 150K | 200K | 250K | 300K | 350K | 400K | Remark |
|---|-------------------------------|--------------|-----|------|------|------|------|------|------|------|--|
| Drum peripheral | Drum | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | Installed when shipping |
| | Cleaner blade | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | Toner reception seal | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | Side molt | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | Transfer roller | × | × | ▲ | × | ▲ | × | ▲ | × | ▲ | |
| | Discharge plate | × | × | ▲ | × | ▲ | × | ▲ | × | ▲ | |
| | TR bearing (F/R) | | | × | | × | | × | | ▲ | |
| | Transfer roller collar | | | × | | × | | × | | ▲ | |
| | After-transfer star ring | | | × | | × | | × | | × | |
| | TR gear | × | × | × | × | ▲ | × | × | × | ▲ | |
| | Screen grid | (○)× | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | Drum separation pawl UN | | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | Charger case (M/C) | | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Charging plate (saw teeth) | (○)× | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| Developing section | Developer | | × | ▲ | × | ▲ | × | ▲ | × | ▲ | Supplied when installing |
| | DV blade | | × | ▲ | × | ▲ | × | ▲ | × | ▲ | |
| | DSD collar | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | DV side seal F | × | ▲ | × | ▲ | × | ▲ | × | ▲ | ▲ | |
| | DV side seal R | × | ▲ | × | ▲ | × | ▲ | ▲ | × | ▲ | |
| | Toner cartridge | | | | | | | | | | Attached when installing./ EX Japan: 814g, user replacement for every 27K. |
| Fusing section | Upper heat roller | ○ | ○ | ○ | ▲ | ○ | ○ | ○ | ○ | ▲ | |
| | Lower heat roller | ○ | ○ | ○ | ▲ | ○ | ○ | ○ | ○ | ▲ | |
| | Upper separation pawl | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | Lower separation pawl | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | ▲ | |
| | Thermistor | ○ | × | ○ | × | ○ | × | ○ | × | × | Clean and remove paper dust. |
| | Upper heat roller gear | × | × | × | ▲ | × | × | × | ▲ | | |
| | Paper guides | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Gears | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | |
| | Cleaning roller | × | × | × | ▲ | × | × | × | ▲ | | |
| | CL roller collar | | | | ▲ | | | | ▲ | | |
| Filters | Ozone filter | | | ▲ | | ▲ | | ▲ | | ▲ | |
| Paper feed section | Paper feed roller | ○ | ○ | × | ○ | × | ○ | × | ○ | × | Note 1 |
| | Torque limiter | × | | × | | × | | × | | × | Note 1 |
| Transport section Paper exit reverse section | PS follower roller | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Transport rollers | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Transport paper guides | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Paper dust remover | × | ▲ | × | ▲ | × | ▲ | × | ▲ | | |
| Drive section | Specified position | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | ☆ | |
| | Belts | | | | | | | × | | | |
| Image quality | | × | × | × | × | × | × | × | × | × | |
| Other | Sensors | | | × | | × | | × | | × | |

Note 1: Replacement reference: Use the counter value of each paper feed port as the replacement reference.

Paper feed roller/Torque limiter section: 80K or 2 years

C. Peripheral devices

Maintenance cycle : 50K

× Check (Clean, replace, or adjust as necessary.) ○ Clean ▲ Replace △ Adjust ☆ Lubricate □ Move position

| Option name | Part name | | When calling | 50K | 100K | 150K | 200K | 250K | 300K | 350K | 400K | Remark |
|---|-------------------------------|------------------------|--------------|-----|------|------|------|------|------|------|------|---|
| ADU + Manual feed | Paper feed separation section | Paper feed rollers | (○)× | ○ | × | ○ | × | ○ | × | ○ | × | Note 3 |
| | | Separation pad | (○)× | ○ | × | ○ | × | ○ | × | ○ | × | Note 3 |
| | | Torque limiter | (○)× | | × | | × | | × | | × | Note 3 |
| | Transport section | Transport rollers | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | Transport paper guides | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Drive section | Gears | ☆ | | ☆ | | ☆ | | ☆ | | ☆ | (Specified position) |
| | | Belts | | | | | | | × | | | |
| | Other | Sensors | × | | × | | × | | × | | × | |
| Desk (Multi stage LCC) Multi purpose | Paper feed separation section | Paper feed rollers | (○)× | ○ | × | ○ | × | ○ | × | ○ | × | Note 3 |
| | | Torque limiter | (○)× | | × | | × | | × | | × | Note 3 |
| | Transport section | Transport roller | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | | Transport paper guides | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ | |
| | Drive section | Gears | ☆ | | ☆ | | ☆ | | ☆ | | ☆ | (Specified position) |
| | | Belts | | | | | | | × | | | |
| | Other | Sensors | × | | × | | × | | × | | × | |
| Finisher | Transport section | Transport rollers | ○ | | ○ | | ○ | | ○ | | ○ | |
| | | De-curler roller | (○)× | × | ○ | × | ○ | × | ○ | × | ○ | |
| | | Transport paper guides | ○ | | ○ | | ○ | | ○ | | ○ | |
| | Drive section | Gears | ☆ | | ☆ | | ☆ | | ☆ | | ☆ | (Specified position) |
| | | Belts | | | | | | | × | | | |
| | Other | Sensors | × | | × | | × | | × | | × | |
| | | Discharge brush | × | | × | | × | | × | | × | |
| | Staple un | | | | | | | | | | | Replace UN at 100K staple. |
| | Staple cartridge | | | | | | | | | | | User replacement for every 3000pcs. |
| Mail-bin stacker | Transport section | Transport roller | ○ | | ○ | | ○ | | ○ | | ○ | |
| | | Transport paper guides | ○ | | ○ | | ○ | | ○ | | ○ | |
| | Drive section | Gears | ☆ | | ☆ | | ☆ | | ☆ | | ☆ | (Specified position) |
| | | Belts | | | | | | | × | | | |
| | Other | Sensors | × | | × | | × | | × | | × | |
| | | Discharge brush | × | | × | | × | | × | | × | |
| Saddle finisher | Transport section | Transport roller | ○ | | ○ | | ○ | | ○ | | ○ | |
| | | Transport paper guides | ○ | | ○ | | ○ | | ○ | | ○ | |
| | Drive section | Gears | ☆ | | ☆ | | ☆ | | ☆ | | ☆ | (Specified position) |
| | | Belts | | | | | | | × | | | |
| | Other | Sensors | × | | × | | × | | × | | × | |
| | | Discharge brush | × | | × | | × | | × | | × | |
| | Staple UN | | | | | | | | | | | Replace UN at 100K staple (including the staple UN and the holder section). |
| | Staple cartridge | | | | | | | | | | | User replacement for every 5000 pcs. |

Note 3: Replacement reference: Use the counter value of each paper feed port as the replacement reference.

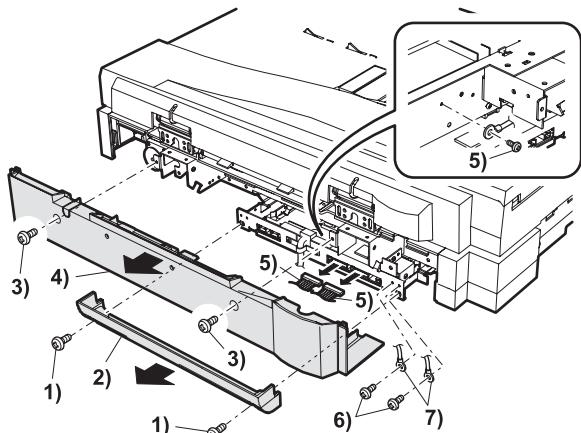
Paper feed roller/Separation pad/Torque limiter section: 80K or 2 years

3. Disassembly and assembly

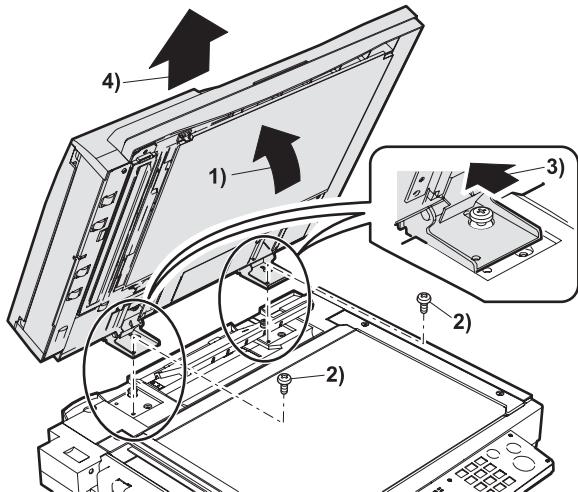
A. Scanner unit

(1) (D) SPF unit removal

- 1) Remove the rear cabinet of the scanner section.
- 2) Disconnect the connector.
- 3) Disconnect the grounding wire.



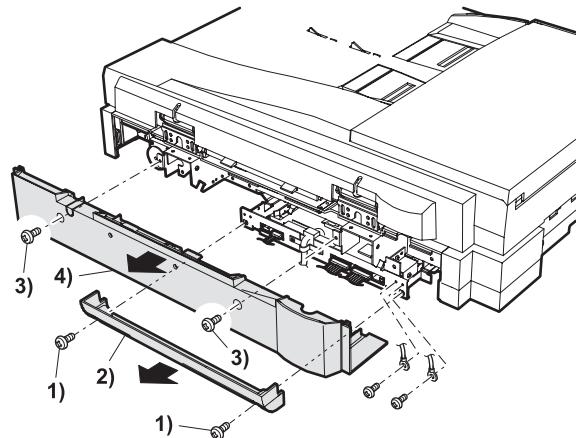
- 3) (S) Slide the SPF unit to the bottom, then remove it.



(2) Scanner section

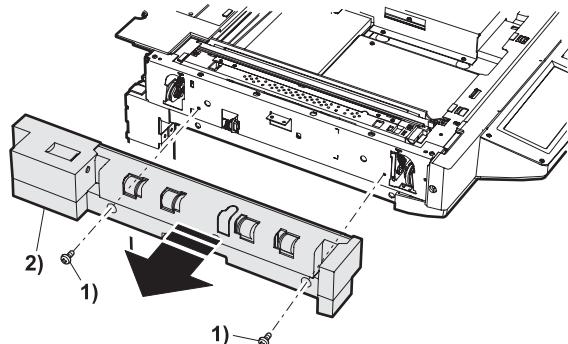
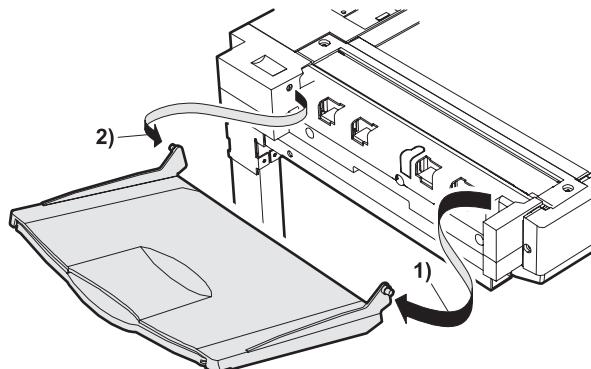
a. Rear cabinet, rear lower cabinet

- 1) Remove the scanner rear cabinet and the rear lower cabinet.



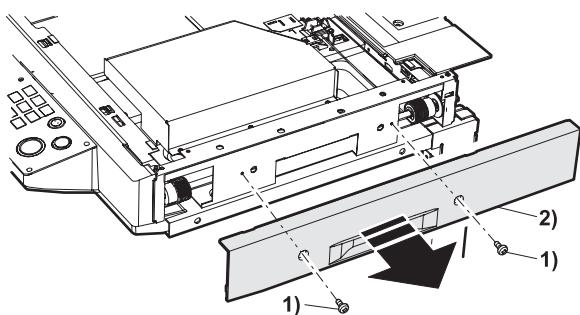
b. Left cabinet

- 1) Remove the original exit tray, and remove the scanner left cabinet.



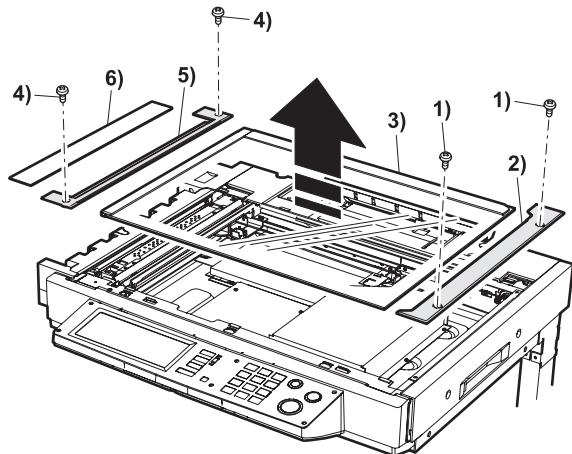
c. Right cabinet

- 1) Remove the scanner right cabinet.



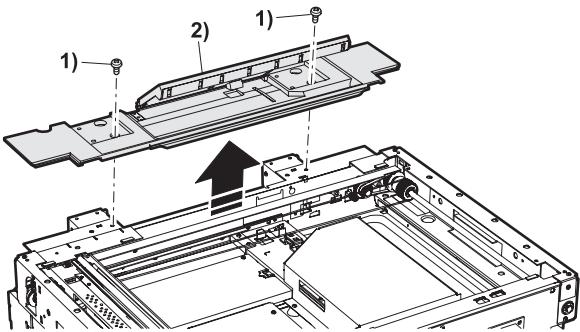
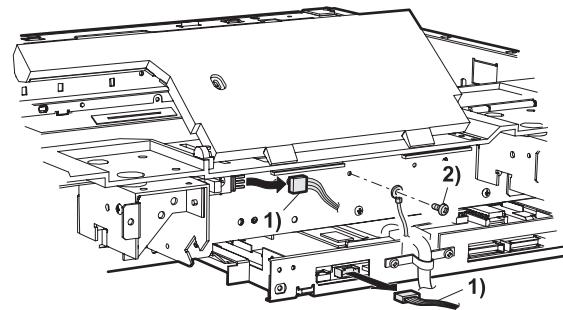
d. Table glass, SPF glass

- 1) Remove the table glass holder and the SPF glass holder, and remove the table glass and the SPF glass.



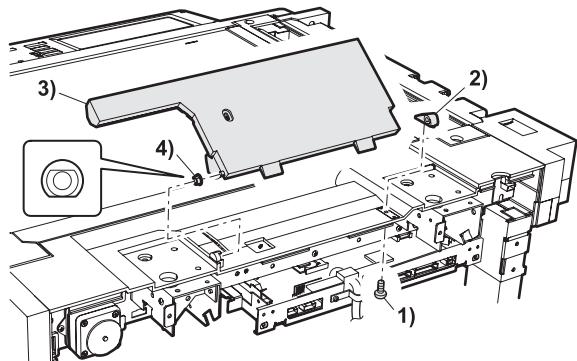
e. Scanner upper cabinet unit

- 1) Remove the SPF unit
- 2) Remove the table glass.
- 3) Remove the rear cabinet.
- 4) Remove the scanner upper cabinet unit.

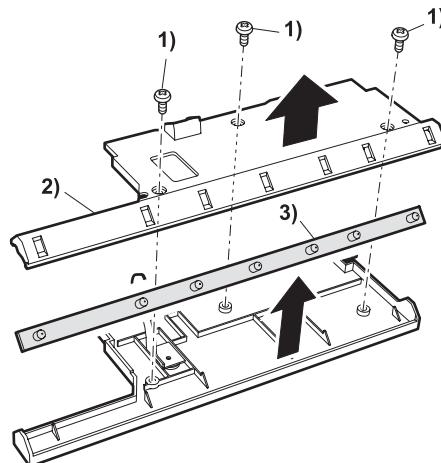


f. Original detection PWB (Light emitting side)

- 1) Remove the rear cabinet.
- 2) Remove the original detection unit (Light emitting side).

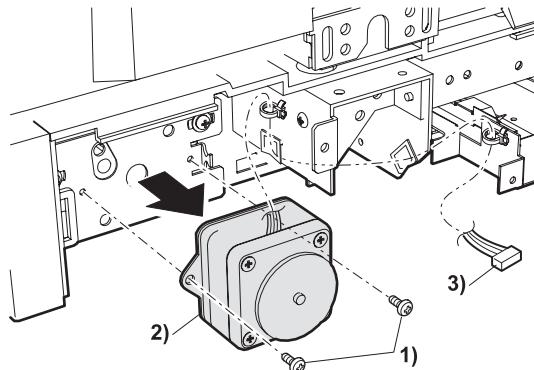


- 3) Remove the original detection PWB (Light emitting side).



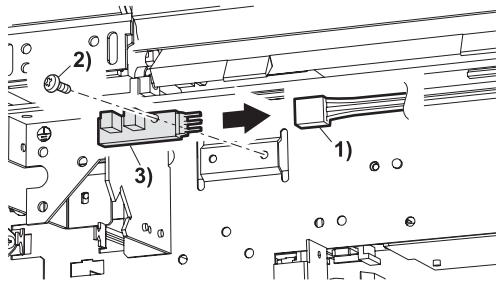
g. Scan motor removal

- 1) Remove the scanner rear cabinet and the rear lower cabinet.
- 2) Pull out the harness from the scanner control PWB.
- 3) Remove the scan motor.



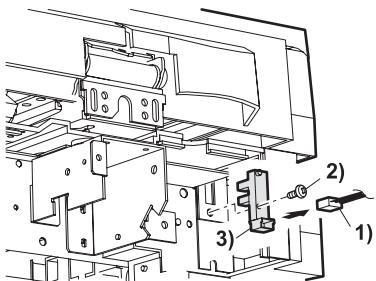
h. OC open sensor

- 1) Remove the rear cabinet.
- 2) Remove the OC open sensor.



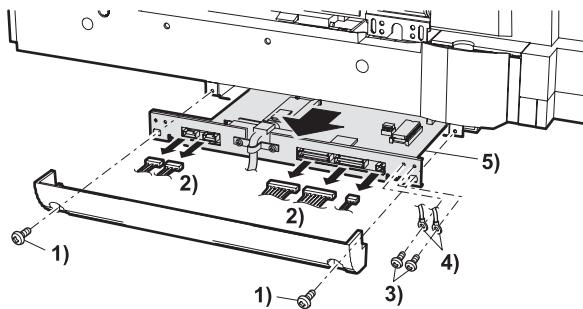
i. Mirror home position sensor

- 1) Remove the rear cabinet.
- 2) Remove the mirror home position sensor.



j. Scanner control PWB

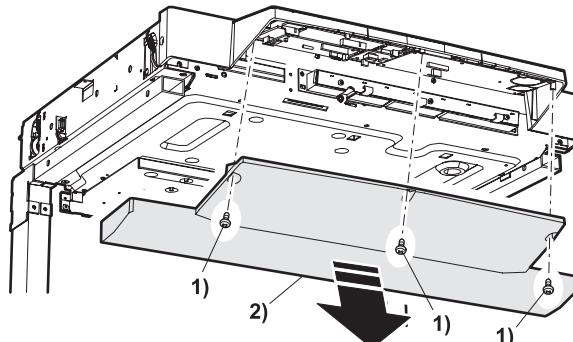
- 1) Remove the scanner rear lower cabinet.
- 2) Disconnect the connector and earth band, and pull out the scanner control PWB.



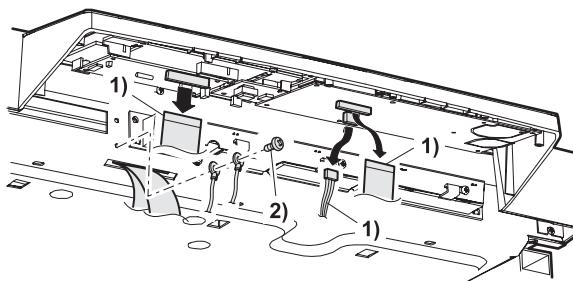
* When the scanner control PWB is replaced, the EEPROM must be replaced.

k. Operation panel unit

- 1) Remove the operation panel lower cabinet.

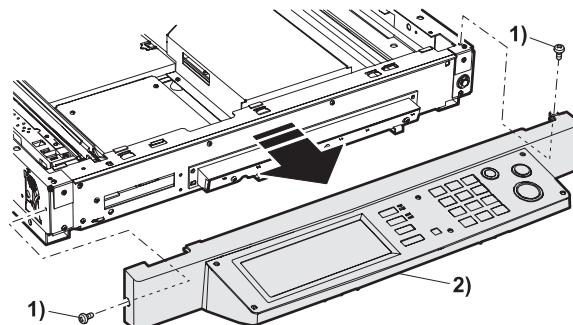


- 2) Remove the harnesses.



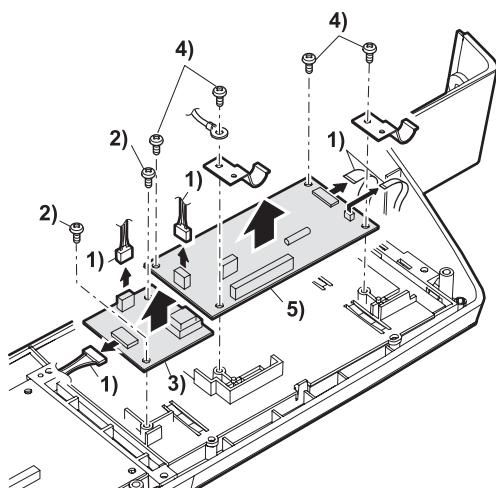
- 3) Remove the scanner right cabinet.

- 4) Remove the operation panel unit.

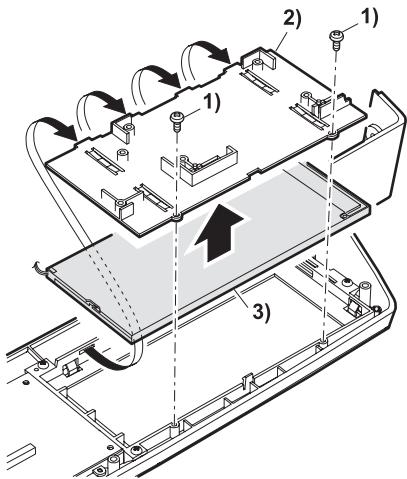


I. Inverter PWB/LVDS PWB/LCD panel

- 1) Remove the operation panel unit.
- 2) Remove the harness, and remove the inverter PWB and the LVDS PWB.

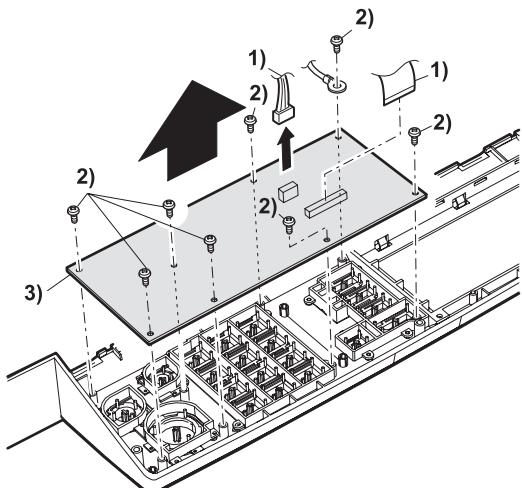


- 3) Remove the LCD rear cover, and remove the LCD.



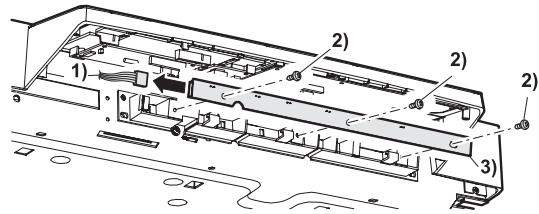
m. Operation control PWB

- 1) Remove the operation panel unit.
- 2) Remove the operation control PWB.



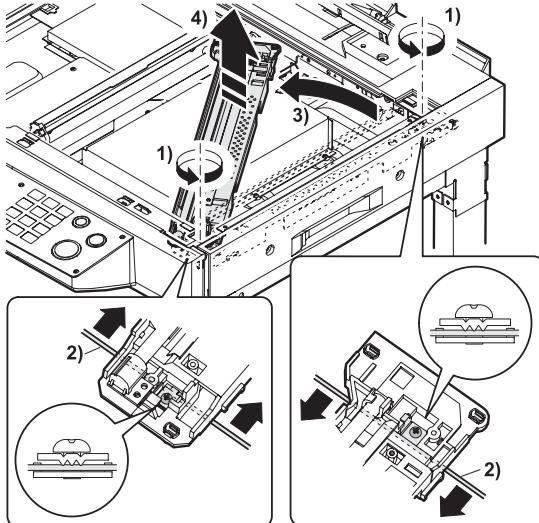
n. Original detection PWB (Light receiving side)

- 1) Remove the operation panel lower cabinet.
- 2) Remove the original detection PWB (light receiving side).



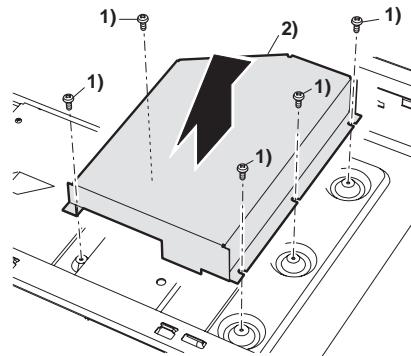
o. Scan lamp

- 1) Remove the table glass.
- 2) Remove the scan lamp unit.



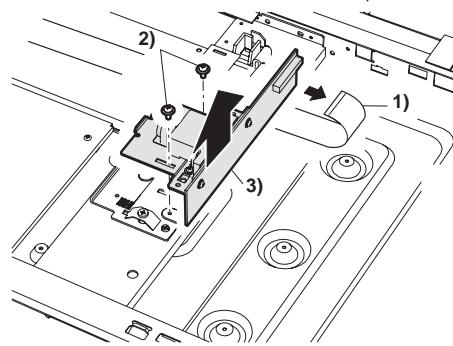
p. CCD/lens unit

- 1) Remove the table glass.
- 2) Remove the dark-box cover.



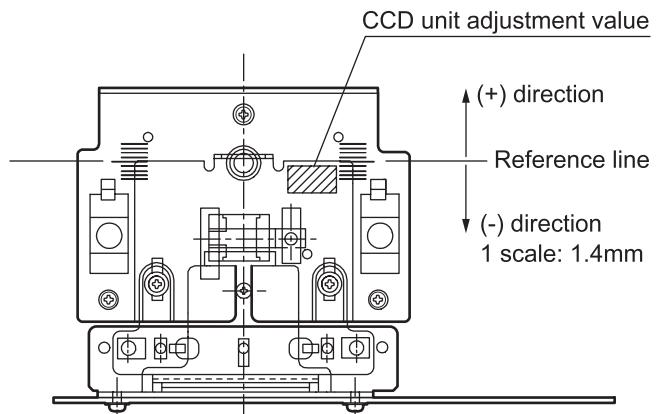
- 3) Remove the CCD/lens unit.

Note: The CCD/lens unit is factory-adjusted before shipping.
Since these adjustments cannot be performed in the market.
Never touch the screws other than screw 2) of the CCD/lens unit.



Note for CCD/lens unit installation

<1> Adjust the CCD unit adjustment value listed in the table below with the scribed line on the lens base.



| | CCD adjustment value |
|-----------|----------------------|
| +4 scales | 5.0~ |
| +3 scales | 3.6~4.9 |
| +2 scales | 2.2~3.5 |
| +1 scale | 0.8~2.1 |
| Reference | -0.6~0.7 |
| -1 scale | -2.0~ -0.7 |
| -2 scales | -3.4~ -2.1 |
| -3 scales | -4.8~ -3.5 |
| -4 scales | ~-4.9 |

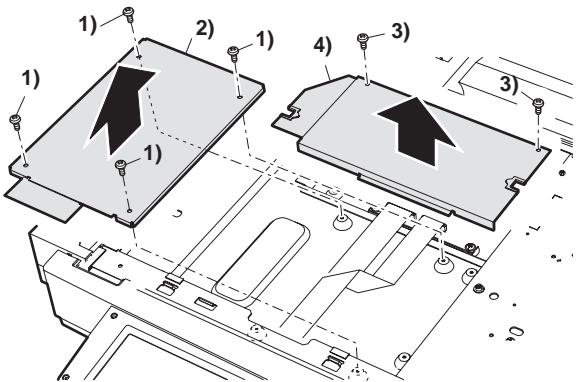
<2> Make a sample copy at the above position, and measure the magnification ratio.

<3> Change the installing position in the horizontal direction to adjust the magnification ratio.

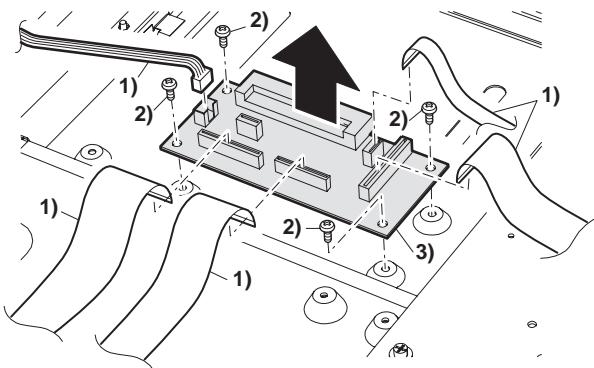
- When the copy image is longer than the original, shift to the positive (+) direction.
- When the copy image is shorter than the original, shift to the negative (-) direction.
- * 1 scale of the scribed line corresponds to 0.3% of magnification ratio.
- * If this adjustment is not satisfactory, make a fine adjustment with SIM 48-1.
(Refer to the adjustment described below.)

q. Scanner interface PWB

- 1) Remove the table glass.
- 2) Remove the PWB cover and the harness cover.



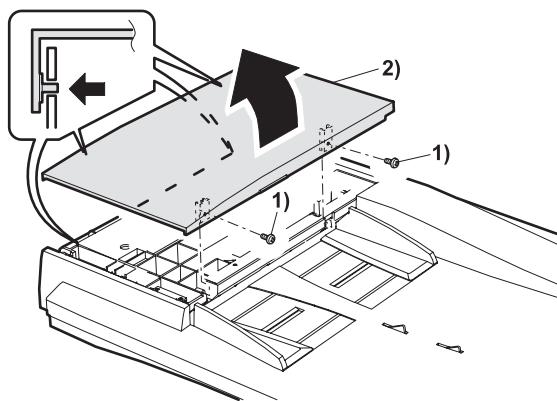
- 3) Remove the scanner interface PWB.



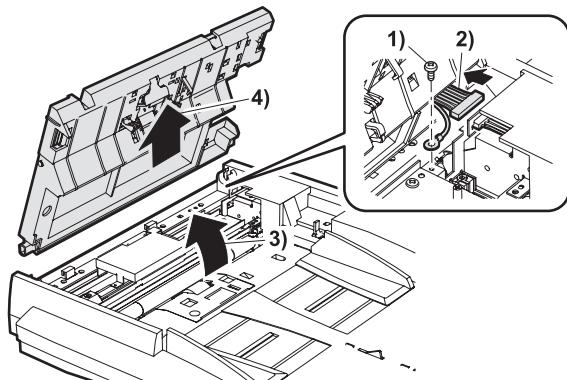
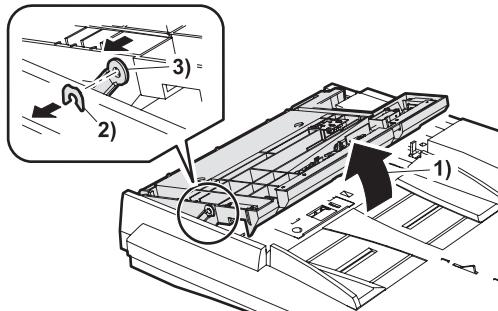
(3) (D) SPF unit

a. Upper transport unit

- 1) Remove the upper transport unit cover.

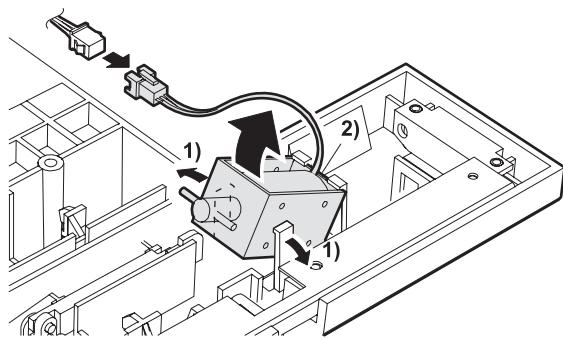


- 2) Remove the upper transport unit.



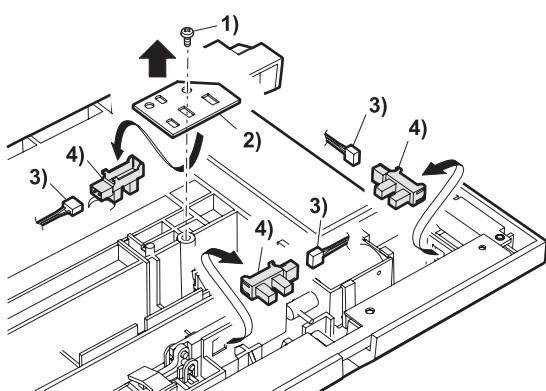
b. Stopper solenoid

- 1) Remove the upper transport unit cover.
- 2) Remove the stopper solenoid.



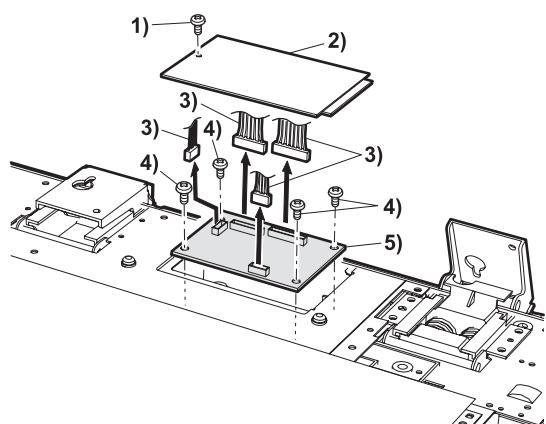
c. Sensors

- 1) Remove the upper transport unit cover.
- 2) Remove the sensors.



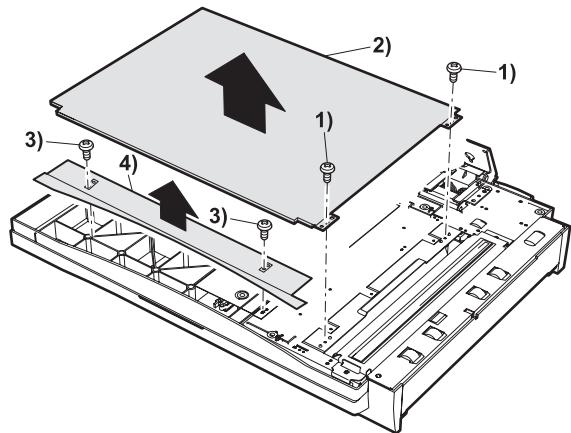
d. (D) SPF control PWB

- 1) Remove the SPF PWB, and remove the (D) SPF control PWB.

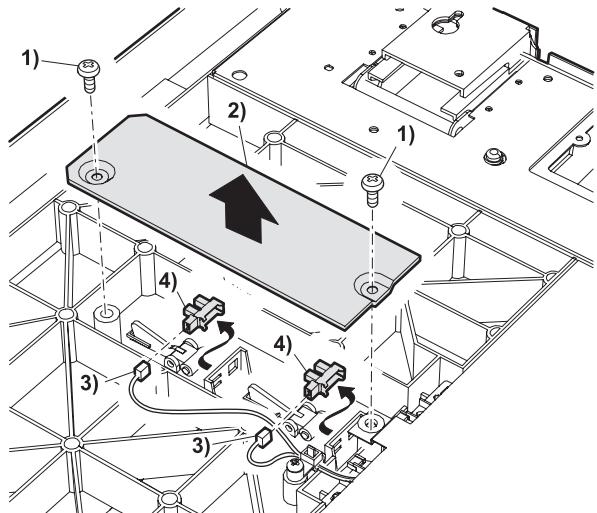


e. Original length sensor

- 1) Remove the OC cover.

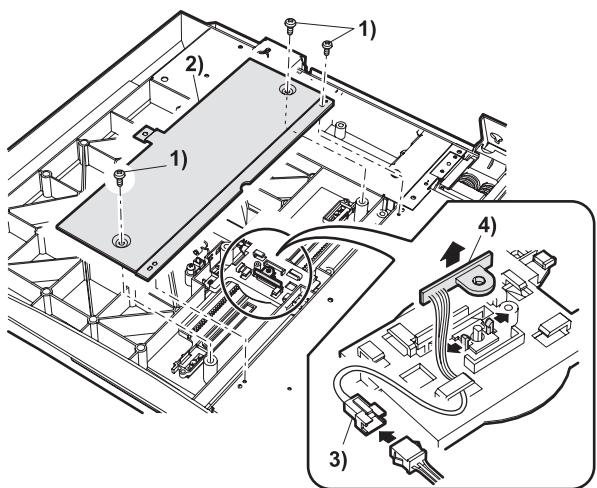


- 2) Remove the original length sensor cover, and remove the sensor.



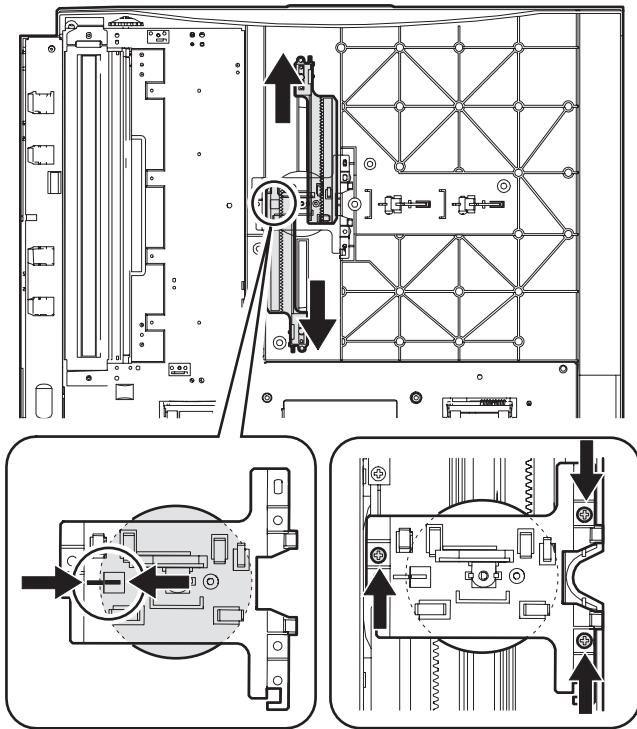
f. Original width detection volume

- 1) Remove the OC cover.
- 2) Remove the original length sensor cover.
- 3) Remove the volume cover and remove the volume.



Original width detection volume installation

- <1> Extend the original guide to the maximum position.
- <2> Adjust so that the mark on the width detection pinion gear is fitted with the mark on the volume mounting plate.

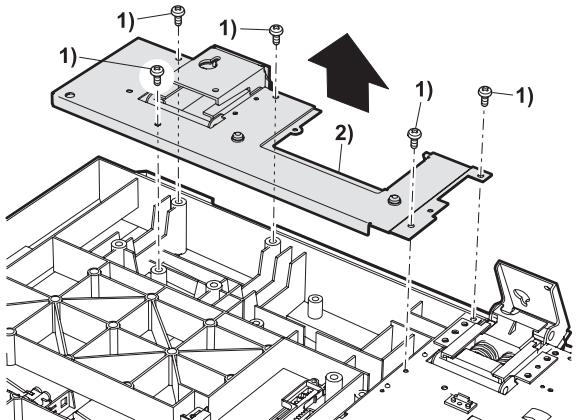


<3> Fix the mounting plate with the screw.

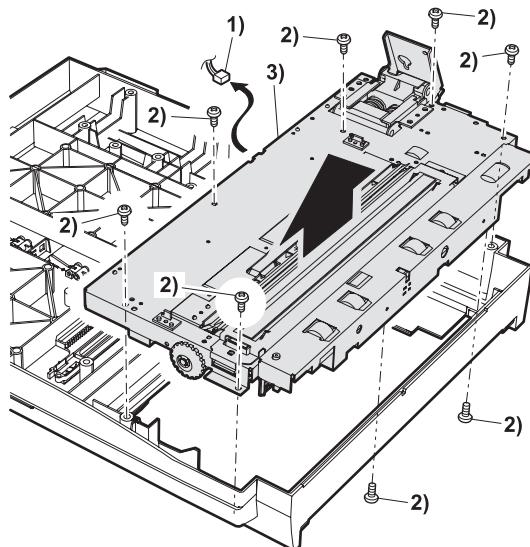
- * When the rotational volume sensor is replaced, the sensor value must be adjusted to the paper size (mark on the tray).
(Refer to the SIM 53-6 or 53-7.)

g. Original paper feed unit

- 1) Remove the OC cover.
- 2) Remove the SPF lower cover.

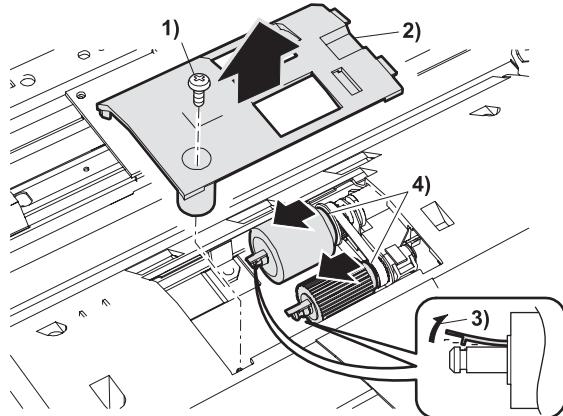


- 3) Remove the original paper feed unit.



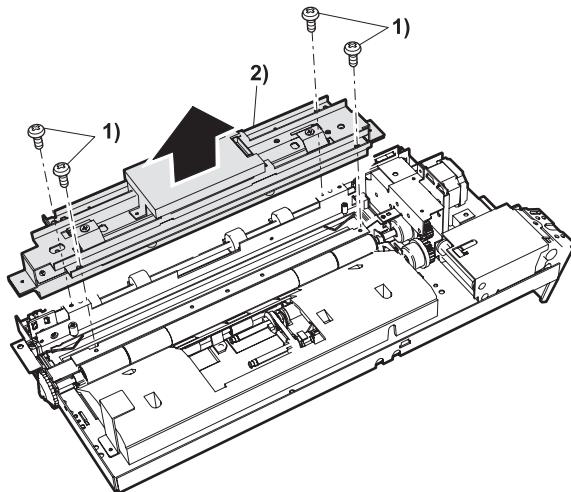
h. Take-up roller, paper feed roller

- 1) Remove the upper transport unit cover.
- 2) Remove the paper feed roller cover.
- 3) Remove the hook of each roller, and remove each roller.



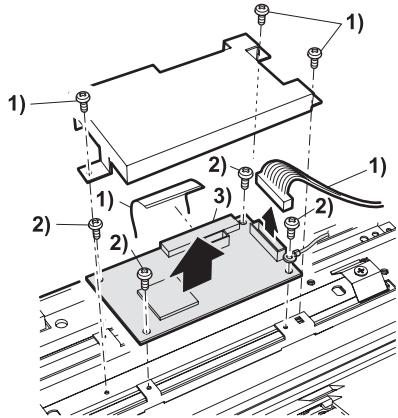
i. CIS unit

- 1) Remove the upper transport unit cover.
- 2) Remove the CIS unit.



- * When the CIS unit is replaced, the CIS shading adjustment must be performed. (Refer to the descriptions of ADJUSTMENTS.)

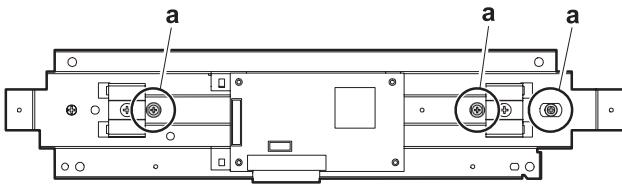
- 3) Remove the cover, and remove the CIS control PWB.



* For easy installation of the cover, slide the earth line to the connector side when attaching.

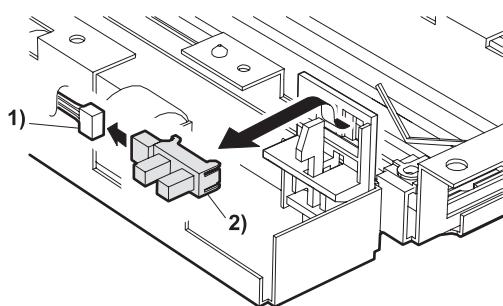
Note: The CIS unit is factory-adjusted before shipping.

Since these adjustments cannot be performed in the market, never touch the following screws of the CIS unit.



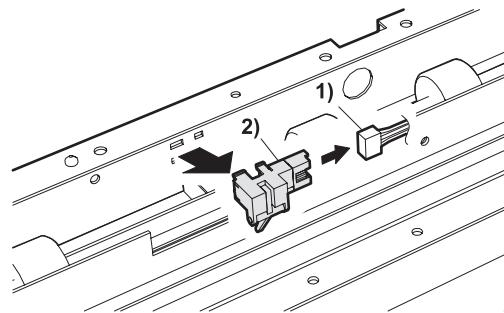
j. Open sensor

- 1) Remove the open sensor.



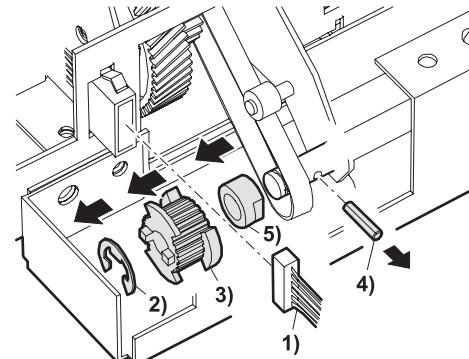
k. Paper exit sensor

- 1) Remove the paper exit sensor.

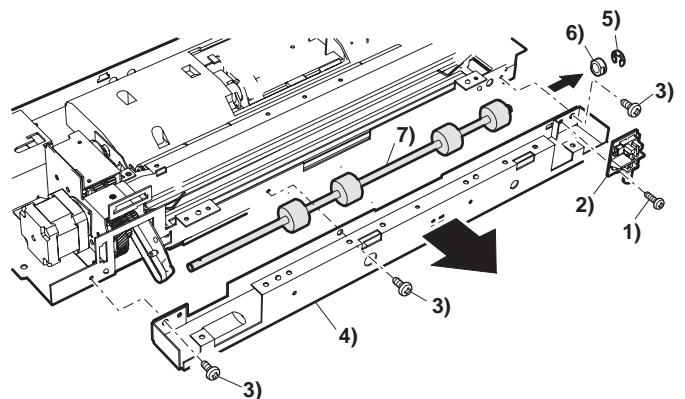


I. Paper exit roller

- 1) Remove the original paper feed unit.
2) Remove the paper exit roller gear.

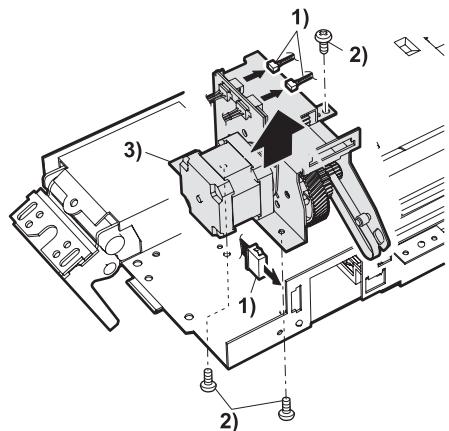


- 3) Remove the paper exit frame, and remove the paper exit roller.

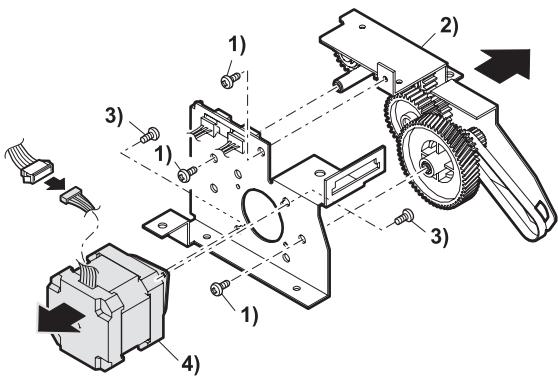


m. SPF motor

- 1) Remove the original paper feed unit.
- 2) Remove the SPF drive unit.

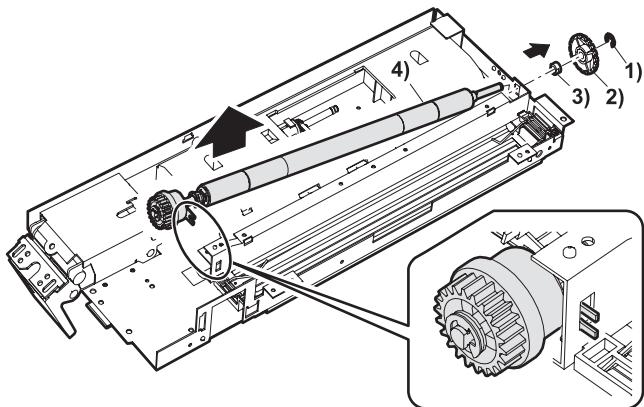


- 3) Remove the SPF motor.

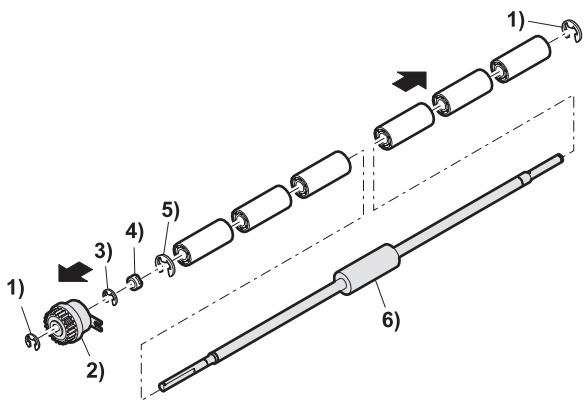


n. SPF resist roller, SPF resist roller clutch

- 1) Remove the SPF resist roller unit.

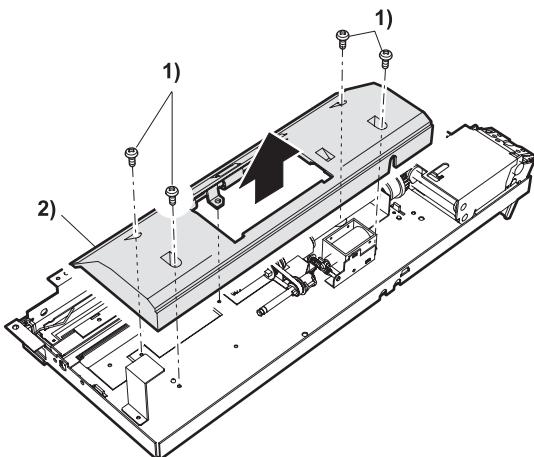


- 2) Remove the SPF resist roller and the SPF resist roller clutch.

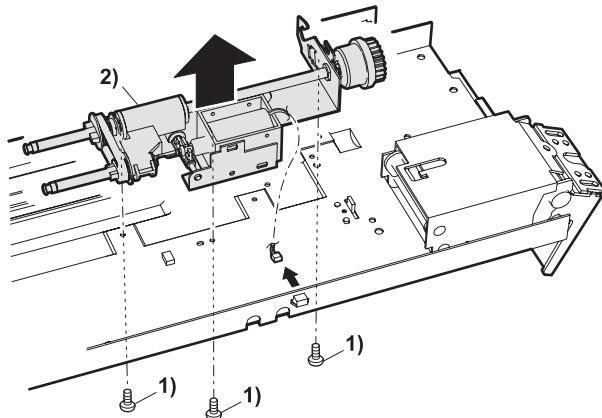


o. SPF paper feed unit, original paper feed solenoid, SPF original paper feed clutch

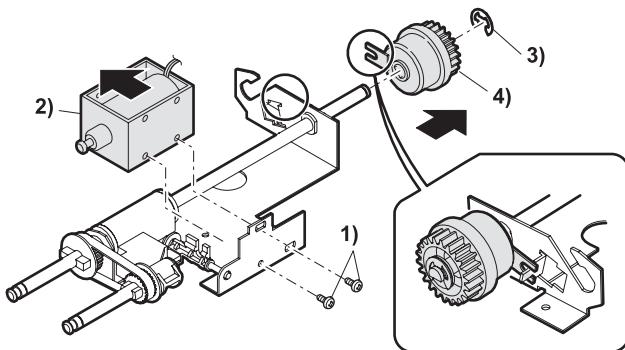
- 1) Remove the SPF paper feed unit.
- 2) Remove the SPF paper guide.



- 3) Remove the SPF pickup unit.



- 4) Remove the original paper feed solenoid and the SPF original paper feed clutch.



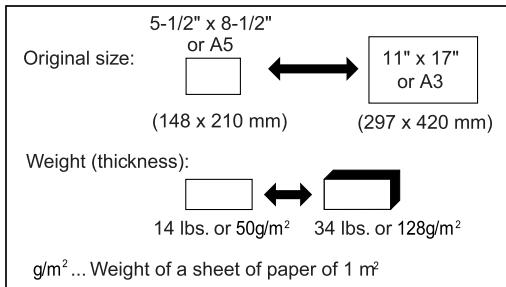
[8] MACHINE OPERATION

1. Acceptable originals

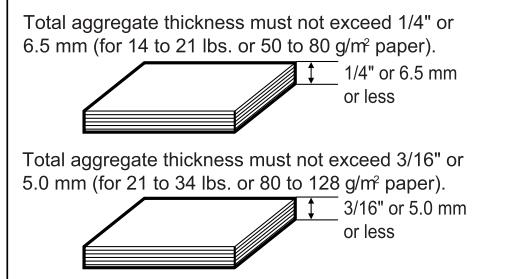
A stack of up to 50 original sheets of the same size paper can be set in the document feeder tray provided the stack height is within the limit shown below.

A stack of up to 30 mixed size originals can be set if the width of the originals is the same and the stack height is within the limit shown below. In this case, however, stapling and duplex will not function and some special functions may not give the expected result.

A. Size and weight of acceptable originals



B. Total amount of originals that can be set in the document feeder tray

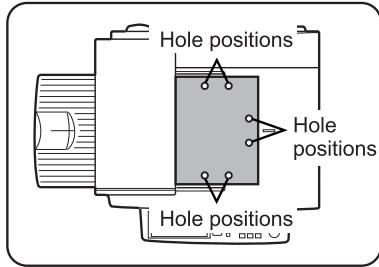


<Notes on use of the automatic document feeder>

- Use originals within the specified size and weight ranges. Use of originals out of the specified range may cause an original misfeed.
- Before loading originals into the document feeder tray, be sure to remove any staples or paper clips.
- If originals have damp spots from correction fluid, ink or glue from pasteups, be sure they are dried before they are fed. If not, the interior of the document feeder or the document glass may be soiled.
- To prevent incorrect original size detection, original misfeeds or smudges on copies, use the following as a guide for feeding originals.

Transparency film, tracing paper, carbon paper, thermal paper or originals printed with thermal transfer ink ribbon should not be fed through the document feeder. Originals to be fed through the feeder should not be damaged, crumpled or folded or have loosely pasted paper on them or cutouts in them. Originals with multiple punched holes other than two-hole or three-hole punched paper may not feed correctly.

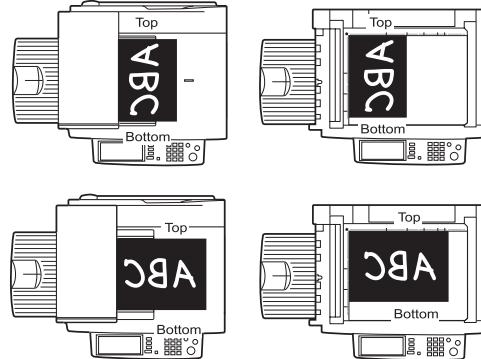
- When using originals with two or three holes, place them so that the punched edge is at a position other than the feed slot.



2. Standard original setting orientation

Descriptions of functions that follow in this manual assume that originals are oriented as shown.

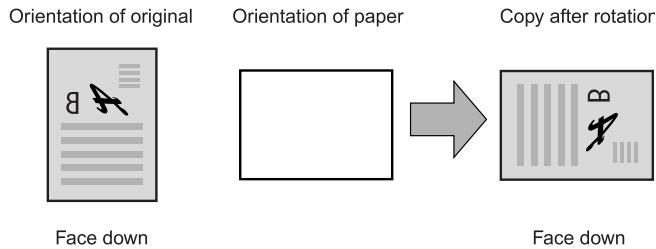
Place originals in the document feeder tray or on the document glass so that the top of the original is positioned to the rear side of the machine. If not, staples will be incorrectly positioned and some special features may not give the expected result.



3. Automatic copy image rotation - rotation copying

If the orientation of the originals and copy paper are different, the original image will be automatically rotated 90° and copied. (When an image is rotated, a message will be displayed.) When enlargement of originals larger than 8-1/2" x 11" or A4 is selected, rotation cannot be done.

[Example]

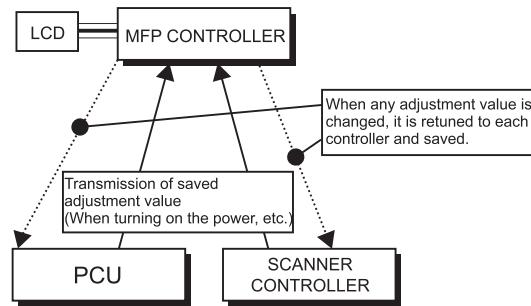


4. Adjustment values

A. Processing adjustment values

Each controller has its EEPROM. The adjustment values are collected to the MFP controller.

If any adjustment value is changed, the changed value is returned to the controller and saved.



B. Adjustment values

(1) Adjustment values saved in PCU

| Counters | Adjustment values | Others |
|--|---|---|
| Drum rotating time counter (accumulated time) | Developing bias voltage value | Serial number |
| Developing unit rotating time counter | Cleaning mode developing bias voltage value | Trouble history |
| Toner supply time (Section IC chip) | Main high voltage adjustment | Tray 1 size |
| Drum rotating time (Section IC chip) | Transfer charger voltage value | LCC tray size |
| Total counter | Transfer belt cleaning voltage value | Manual feed destination information |
| Maintenance counter | Toner concentration reference value | Tray 2 destination information |
| Developing counter | Concentration correction start set time (Developing unit) | Desk 1 destination information |
| Drum counter | Concentration correction rotating time (Developing unit) | Desk 2 destination information |
| Toner cartridge counter | Concentration correction quantity (Developing unit) | Machine tray remaining paper quantity data |
| Effective paper counter | Correction execution direction, upper/lower limits (Developing unit) | Multi-purpose remaining paper quantity data |
| Tray 1 paper feed counter | Toner concentration temperature correction (low temperature side) correction quantity | Option tray 1 remaining paper quantity data |
| Multi-purpose paper feed counter | Toner concentration temperature correction (low temperature side) set temperature | Option tray 2 remaining paper quantity data |
| Desk 1/LCC 1 paper feed counter | Toner concentration temperature correction (low temperature side) cancel temperature | Final toner concentration sensor output value |
| Desk 2/LCC 2 paper feed counter | Toner concentration temperature correction (high temperature side) correction quantity | Toner cartridge IC chip destination |
| Manual paper feed counter | Toner concentration temperature correction (high temperature side) judgment temperature | Counter mode setup |
| ADU paper feed counter | Toner concentration temperature correction (high temperature side) judgment voltage difference | White paper exit count setup |
| Staple counter | Toner concentration temperature correction (high temperature side) correction value | Trouble memory mode setup |
| Punch counter | Toner concentration temperature correction (low temperature side) cancel temperature | Fusing operation mode (anti-curling) |
| Machine right side paper exit counter | Toner concentration temperature correction (high temperature side) toner control delay time | CE mark conforming operation mode |
| | Multi-purpose width adjustment value | Maintenance cycle |
| | Manual feed width adjustment value | Print stop setup at developer life over |
| | Heater lamp temperature (center, normal control) | Saddle alignment operation priority mode |
| | Lead edge adjustment | |
| | Lead edge void set value | |
| | Rear edge void set value | |
| | Side edge setup | |
| | Print off-center adjustment value | |
| | Resist quantity adjustment value | |
| | Laser power adjustment value | |
| | PPD1 sensor adjustment | |
| | Process correction inhibit allow setup value | |
| | Developing bias rising correction wait time | |
| | Developing bias rising correction adjustment value | |
| | Built-in finisher jogger position adjustment | |
| | Saddle adjustment value | |

(2) Adjustment values saved in SCANNER

| Counters | Adjustment values | Others |
|------------------------|---|---------------------------|
| Scan counter | Original lead edge adjustment value | Exposure mode setup value |
| SPF paper pass counter | Original off-center adjustment value | Serial number |
| SPF stamp counter | Original image loss quantity adjustment value | |
| | Magnification ratio adjustment value | |
| | SPF resist quantity adjustment value | |
| | Exposure motor speed adjustment value | |
| | Platen original detection adjustment value | |
| | SPF width detection adjustment value | |
| | Touch panel adjustment value | |
| | Exposure level adjustment value | |
| | Gamma change value | |
| | OC/SPF exposure correction value | |
| | Shading adjustment value (CCD/CIS) | |
| | CCD shading start position adjustment value | |

(3) Adjustment values saved in MFP controller

| Counters | Adjustment values | Others |
|--------------------------|-------------------|--|
| Copy counter | FAX SOFT SW. etc. | Trouble history |
| Printer counter | | Jam history |
| FAX reception counter | | Destination setup |
| FAX transmission counter | | Language setup |
| Trouble counter | | Toner save mode setup |
| Jam counter | | 13" setup |
| | | Auditor setup |
| | | Serial number |
| | | Middle binding mode AMS setup |
| | | PC/Modem communication trouble detection |
| | | YES/NO setup |
| | | Tag number setup |
| | | γ change value |
| | | Exposure mode setup |
| | | OC/SPF exposure correction value |
| | | Printer setup values |
| | | Network setup values |

5. Key operator program

| KEY OPERATOR PROGRAM | | Set value(Default) | Remark |
|--|----------------------------------|-------------------------|--------------------------|
| | | Engine section LCD | |
| Copy function settings | Initial status settings | Paper tray, | |
| | | exposure mode | |
| | | copy ratio, | |
| | | duplex mode | |
| | | output mode | |
| | Exposure adjustment | 1~5*~9 | |
| | Rotation copy setting | | |
| | Auto paper selection setting | | |
| | 600dpi x 600dpi scanning mode | 600x300dpi*/600x600dpi | |
| | Quick scan from document glass | 600x300dpi*/600x600dpi* | |
| Device control | Original size detector setting | | INCH-1/INCH-2/AB-1*/AB-2 |
| | Disabling of document feeder | | |
| Scan to E-mail initial status settings | Default sender set | | |
| | Initial file format setting | | |
| | Compression mode at broadcasting | | |

| KEY OPERATOR PROGRAM | | | Set value(Default) | Remark |
|---------------------------------|-----------------------------|-----------------------------------|---|------------------------------------|
| | | | Engine section LCD | |
| Account control | Auditing mode | | ON/OFF* | |
| | Print per account | Print per account display | ON*/OFF | |
| | | Print per account print | | |
| | Reset account | | | |
| | Account number control | Enter new account number(5digits) | | |
| | | Delete account number | | |
| | | Change account number | | |
| | | Print account number | | |
| | No print if acc't # invalid | | Yes/No* | |
| Energy save | Auto power shut-off timer | | 15min/30min*/60min/120min/240min | |
| | Auto power shut-off | | Disable/Enable* | |
| | Preheat mode | | 15min*/30min/60min/120min/240min/None | |
| | Toner save | | ON/OFF* | |
| Operation panel settings | Auto clear setting | | 15sec/30sec/60sec*/OFF | |
| | Message display time | | 3sec/6sec*/9sec/12sec | |
| | Language setting | | American English/English*/French/Spanish | Depend on the destination |
| Device settings | Disable duplex unit | | Yes/No* | |
| | Disable stapler unit | | Yes/No* | |
| | Disable paper desk drawers | | Yes/No* | |
| | Disable finisher | | Yes/No* | |
| | Disable mail-bin stacker | | Yes/No* | |
| | Saddle stitch adjust | Paper size A4 | -3.0mm~0.0mm*~3.0mm (0.1mm unit) | With the saddle finisher installed |
| | | Paper size B4 | -3.0mm~0.0mm*~3.0mm (0.1mm unit) | |
| | | Paper size A4R | -3.0mm~0.0mm*~3.0mm (0.1mm unit) | |
| | | Paper size Ledger | -3.0mm~0.0mm*~3.0mm (0.1mm unit) | |
| | | Paper size Letter-R | -3.0mm~0.0mm*~3.0mm (0.1mm unit) | |
| Print key operator program list | | | | |
| Key operator code change | Set code | | 00000* | |
| System settings | Default settings | Print density level | Normal*/DAKER/DARKEST/LIGHTEST/LIGHTER | |
| | | Disable notice page printing | Yes*/No | |
| | | Disable test page printing | Yes*/No | |
| | | A4/LT auto select | ON/OFF* | |
| | Interface settings | Hexadecimal dump mode | ON/OFF* | |
| | | PDL for parallel port | Auto*/PostScript/PCL | |
| | | PDL for network port | Auto*/PostScript/PCL | |
| | | I/O timeout | 1sec~20sec*~999sec | |
| | | Port switching | Per job*/Timeout/Paralell OFF/Network OFF | |
| | Network settings | IP address setting | IP address 000.000.000.000* | |
| | | | IP subnet mask 000.000.000.000* | |
| | | | IP gateway 000.000.000.000* | |
| | | Enable TCP/IP | Yes*/No | |
| | | Enable NetWare | Yes*/No | |
| | | Enable EtherTalk | Yes*/No | |
| | | Enable NetBEUI | Yes*/No | |
| | Initialize/Store settings | Reset the NIC | | |
| Product key | PS3 expansion kit | Restore factory defaults | | |
| | E-mail alert and status | Store current configuration | | |
| | | Restore configuration | | |

[9] ADJUSTMENTS

| Adjustment item | | |
|-----------------|-----------------|--|
| 1 | Process section | A High voltage output adjustment |
| 2 | Engine section | A LSU right angle adjustment |
| | | B Print off-center adjustment |
| | | C Resist quantity adjustment |
| 3 | Scanner section | A Scanner unit distortion adjustment |
| | | B OC scan distortion adjustment |
| | | C Vertical image distortion balance adjustment |
| | | D Vertical image distortion balance adjustment |
| | | E Vertical (sub scanning direction) distortion adjustment |
| | | F Original detection light emitting unit height adjustment |
| | | G Original size detection photo sensor check |
| | | H Original size detection photo sensor adjustment |
| | | I (D) SPF hinge height adjustment |
| | | J (D) SPF hinge diagonal adjustment (Front) |
| | | K Scan magnification ratio adjustment |
| | | L OC scan lead edge adjustment |
| | | M Original off-center adjustment |
| | | N Image density adjustment |
| | | O DSPF width detection adjustment |

1. Process section

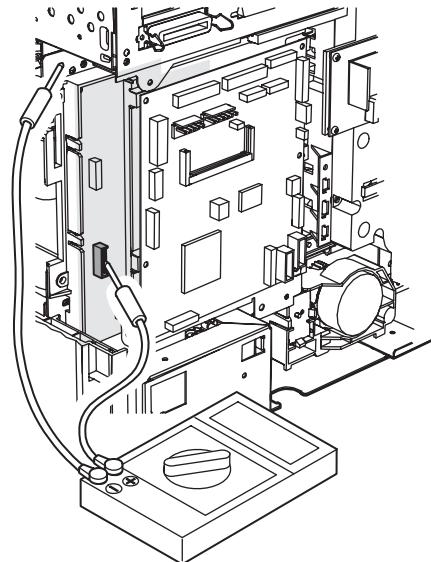
A. High voltage output adjustment

(1) Developing bias output check and setup

- 1) Remove the rear cabinet to allow checking of the high voltage monitor output pin.
- 2) Execute the simulation of the target high voltage.
(See the table below.)
- 3) Select the mode to be set with 10-key, and press START key.
- 4) Enter the set value with 10-key and press START key. The set value is outputted for 30 sec.
- 5) Apply a high voltage tester between the measurement pin and the frame.

Note: Take care not to short the measuring pin and the frame.

- 6) The unit stops after 30 sec of output.



| | | | Default | | Set range | Measurement pin | High voltage probe impedance |
|-----------------------------------|-----------|-----------------|------------------------|----------------------------|-----------|-----------------|------------------------------|
| | | | Monitor output voltage | Set value | | | |
| MC grid MAIN GRID (SIM 8-2) | AUTO | AE mode | -650V±5V | 645 | 200~900 | CN2-7 | 100MΩ |
| | CHARACTER | Text mode | -650V±5V | 645 | 200~900 | | |
| | MIX | Text/Photo mode | -650V±5V | 645 | 200~900 | | |
| | PHOTO | Photo mode | -650V±5V | 645 | 200~900 | | |
| | PRINTER | Printer mode | -650V±5V | 645 | 200~900 | | |
| | FAX | Fax mode | -650V±5V | 645 | 200~900 | | |
| Transfer current (THV+ (SIM 8-6)) | FRONT | Front | | 45PPM : 267 35PPM : 220 | 0~620 | | |
| | BACK | Back | | 45PPM : 310 35PPM : 267 | 0~620 | | |
| Developing bias DV BIAS (SIM 8-1) | AUTO | AE mode | -500V±5V | 485 | 0~745 | CN2-1 | 100MΩ |
| | CHARACTER | Text mode | -500V±5V | 485 | 0~745 | | |
| | MIX | Text/Photo mode | -500V±5V | 485 | 0~745 | | |
| | PHOTO | Photo mode | -500V±5V | 485 | 0~745 | | |
| | PRINTER | Printer mode | -500V±5V | 485 | 0~745 | | |
| | FAX | Fax mode | -500V±5V | 485 | 0~745 | | |
| | PLUS | Positive bias | +150V±5V | 150 | 0~255 | | |
| Separation voltage SHV (SIM 8-17) | FRONT | Front | +1.25V±0.1V | 45PPM : 160 35PPM : 120 | 0~375 | CN2-3 | 10MΩ |
| | BACK | Rear | +1.25V±0.1V | 45PPM : 160 35PPM : 120 | 0~375 | | |
| Transfer voltage THV (SIM 8-17) | | | -800V±10V | 780 | 0~1250 | CN2-5 | 10GΩ |

2. Engine section

A. LSU right angle adjustment

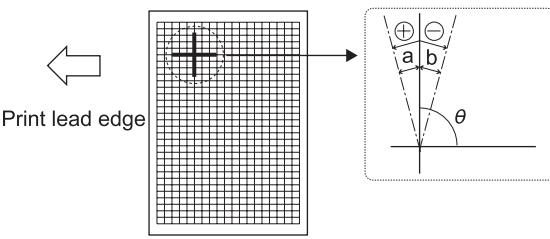
This adjustment is required in the following cases:

- When the LSU is replaced.
- When a distortion is generated in printer output.
(Check with self-print pattern "71.")

After completion of this adjustment, perform the following adjustments:

- Print off-center adjustment
- Void area adjustment

- 1) Execute SIM 64-1.
- 2) Make self-print of print pattern 71 and grid pattern from tray 1.
- 3) Check the self-printout.

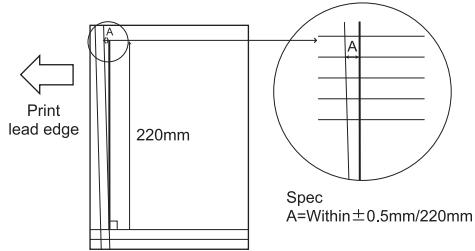


<Specifications>

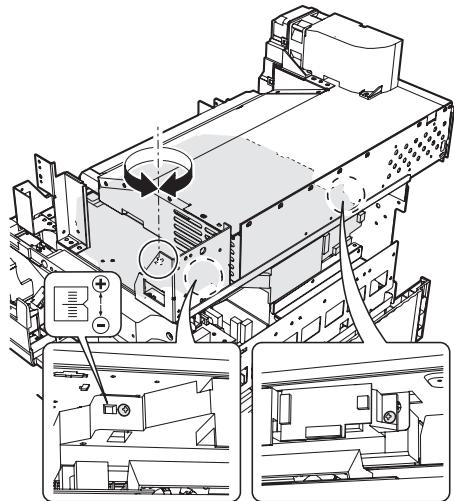
| | Measurement position | Specification | Set value |
|-----------------------------|-----------------------------------|------------------------------------|---|
| Print distortion adjustment | SIM 64-1 Self-print pattern 71 | $\theta = 90^\circ \pm 0.13^\circ$ | Adjustment scale 1 = about 0.25° shift in θ |

<Right angle check method>

- 1) Make a self-print pattern 71.
- 2) Draw a line perpendicular to the sub scanning direction (paper transport direction) with a square. At that time, let the point of intersection of the perpendicular line and the horizontal line be the start point.
- 3) Measure distance A at a position 220mm apart from the point of intersection of the vertical line outputted by self print and the line drawn with a square.
- 4) Check that distance A satisfies the specification below.



- 4) If the printout is out of the specifications, perform the following procedures.
- 5) Loosen two screws (M4) which are fixing the LSU.
- 6) Turn the adjustment screw on the upper side (rear of the printer operation panel) clockwise and counterclockwise to adjust the height of the LSU front side.
- 7) After completion of adjustment, tighten the two fixing screws of the LSU unit.
- 8) Print the grid pattern again and check it.
- 9) Repeat procedures 7) to 10) until the printout is in the specified range.
- 10) After completion of the work, apply screw lock to the screws.



B. Print off-center adjustment

This adjustment is performed in the following cases:

- When the center is misaligned in printing.
- When the LSU is replaced.
- When the option paper feed unit or the automatic duplex unit is installed or replaced.

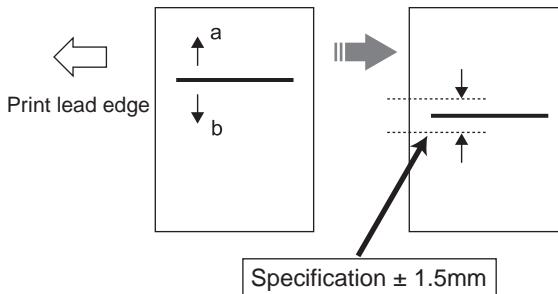
Before execution of this adjustment, the following adjustments must have been completed.

- LSU right angle adjustment
- Print magnification ratio adjustment

After completion of this adjustment, the following adjustment must be executed.

- Void area setup

- 1) Execute SIM 50-10.
 - 2) Set the paper fed tray and the magnification ratio for the adjustment.
 - 3) After entering the adjustment values, press START key, and printing is started.
 - 4) Check the off-center (distance from the paper edge) of the printed copy. Repeat procedure 2) until the specification is satisfied.
- * When adjusting the off-center of LCC1, load paper only on the left tray of LCC. When adjusting the off-center of LCC2, load paper only on the right tray of LCC.
- This is because no distinction of right and left is made when selecting a tray.



| | Adjustment position | | Measurement reference | Specification | Set value | | |
|----------------------------|---------------------|------------------|----------------------------|---------------|-----------|--------|-----------------------------|
| | | | | | Default | Range | |
| Print off-center SIM 50-10 | Tray 1 | Tray 1 | Output pattern center line | 0±1.5mm | 50 | 0 - 99 | Set value 1: 0.1mm shift |
| | Tray 2 | Tray 2 | | | | | |
| | Tray 3 | Tray 3/LCC left | | | | | |
| | Tray 4 | Tray 4/LCC right | | | | | |
| | MFT | Manual feed | | | | | |
| | ADU | Duplex | | | | | |

•For the duplex mode (Single ? Duplex), add 10 to the above set value.

•When the print line is shifted toward a from the paper center, decrease the value.

•When the print line is shifted toward b from the paper center, increase the value.

C. Resist quantity setup

•This adjustment required a fine accuracy.

Do not change the default as far as possible.

This adjustment is performed in the following cases:

- When the void quantity is changed by the paper feed tray.
- When paper is skewed.

Before performing this adjustment, the following adjustments must have been completed.

- LSU right angle adjustment
- Print magnification ratio adjustment
- Print off-center setup
- Void area setup

1) Execute SIM 51-2.

2) Adjust the resist quantity so that paper is transferred stably.

<Factory setup value>

| | | |
|-------|------|----|
| 45PPM | BPT | 55 |
| | T1 | 60 |
| | T2 | 50 |
| | DESK | 50 |
| | ADU | 50 |
| 35PPM | BPT | 60 |
| | T1 | 65 |
| | T2 | 55 |
| | DESK | 55 |
| | ADU | 55 |

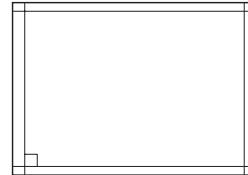
3. Scanner section

A. Scanner unit distortion adjustment

Before executing this adjustment, the following adjustment must have been completed.

- LSU right angle adjustment

1) Make a test chart as shown below. (Make a self-print pattern 71.)



2) Make a copy from the table glass, and check it.

At that time, set the test chart correctly. If it is set in a distorted position, the adjustment cannot be made correctly.

- 3) If the output value is not in the specified range, perform the following adjustment.
- 4) Adjust the distortion.

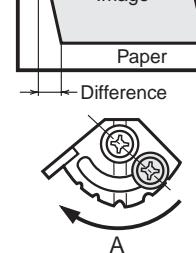
[Fig. 1]

First copy image

Image

Paper

Difference



[Fig. 2]

First copy image

Image

Paper

Difference



•In the case of Fig. 1

Shift cam A in the direction A by the difference in the copy image.

For one scale (one groove), shift by 0.5mm.

After shifting, tighten the fixing screw (M3 x 12) of cam A and make a copy again, and check the copy again to insure that there is no distortion.

•In the case of Fig. 2

Shift cam A in the direction B by the difference in the copy image.

For one scale (one groove), shift by 0.5mm.

After shifting, tighten the fixing screw (M3 x 12) of cam A and make a copy again, and check the copy again to insure that there is no distortion.

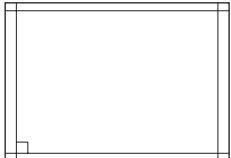
B. OC scan distortion adjustment (MB-B rail height adjustment)

This adjustment requires a high-level precisionness.
It is easier to perform the scanner unit distortion adjustment previously described.

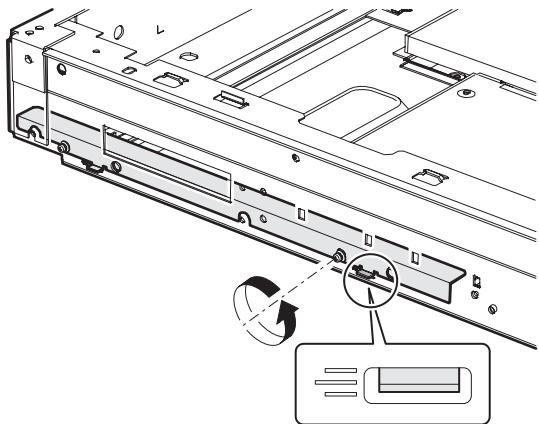
Before performing this adjustment, the following adjustment must have been completed.

•LSU right angle adjustment

- 1) Make a test chart as shown below. (Print a self-print pattern 71.)



- 2) Make a copy from the table glass, and check it.
At that time, set the test chart correctly. If it is set in a distorted position, the adjustment cannot be made correctly.
- 3) If the output value is not in the specified range, perform the following adjustment.
- 4) Remove the front cabinet in front of the scanner, and check that installing position of the MB rail.
- 5) Loosen the screw at the right of the MB rail to adjust.

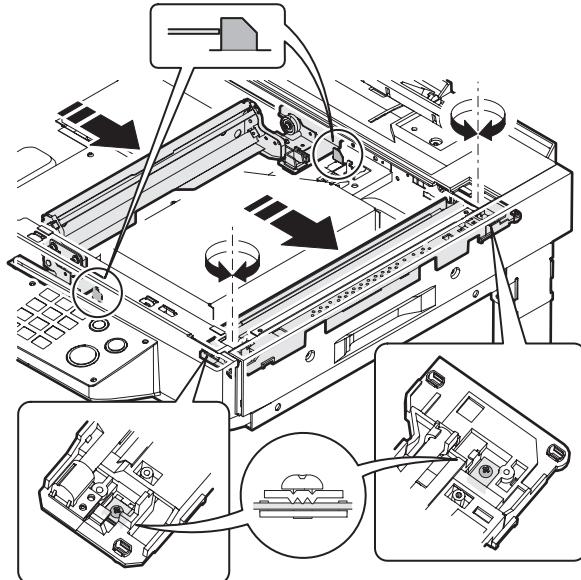


<Specifications>

| Measurement point | Specification | Set value | |
|-------------------------------|------------------------------------|------------------------------------|---|
| OC scan distortion adjustment | Angle θ in the above figure | $\theta = 90^\circ \pm 0.13^\circ$ | 1 scale = about 0.25° shift in θ |

C. Vertical image distortion balance adjustment (Copy lamp unit installing position adjustment)

- 1) Insert the front/rear mirror base drive wire into the frame groove and press and fix it with the wire holder. At that time, do not tighten the wire fixing screw. Change the direction of the lamp positioning plate. (F and R)
- 2) Push the copy lamp unit onto the positioning plate, and tighten the wire fixing screw.



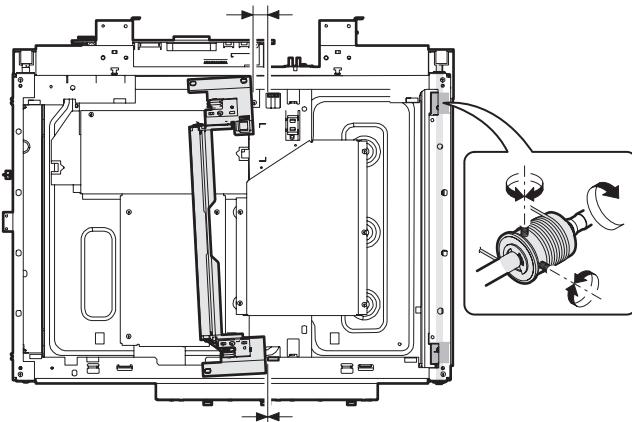
<Note for assembling the copy lamp unit>

After fixing, manually shift the copy lamp unit a few times to check that it moves smoothly.

D. Vertical image distortion balance adjustment (No. 2/3 mirror base unit installing position adjustment)

This adjustment is to adjust the parallelism of the mirror base to the OPC drum surface and the original surface.

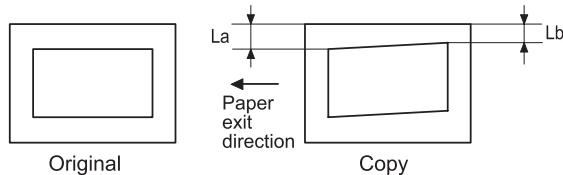
- 1) Manually turn the mirror base drive pulley to bring mirror base B into contact with mirror base positioning plate.
If, at that time, the front frame side and the frame side of mirror base B are brought into contact with the mirror base positioning plate simultaneously, the parallelism is correct and there is no need for adjustment.



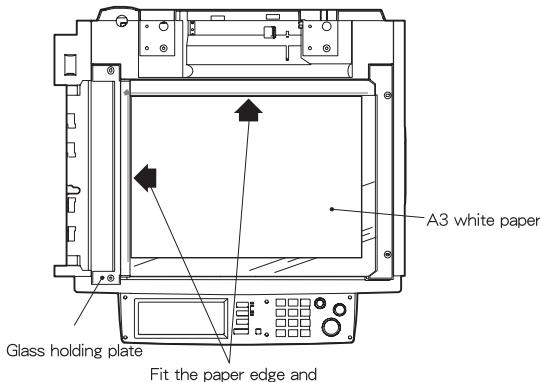
E. Vertical (sub scanning direction) distortion adjustment [Winding pulley position adjustment]

This adjustment is executed in the following cases:

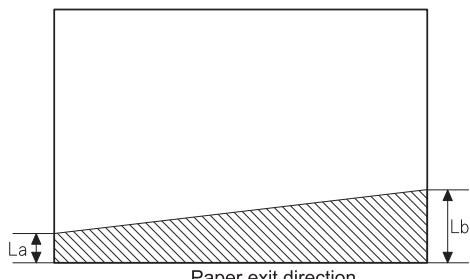
- When the mirror base drive wire is replaced.
- When the lamp unit, or No. 2/3 mirror holder is replaced.
- When a copy shown below is made.



- 1) Set A3 white paper on the original table as shown below.



- 2) With the original cover open, make a normal (X 1.0) copy.
- 3) Measure the black distance at the lead edge and the rear edge of the copy paper.

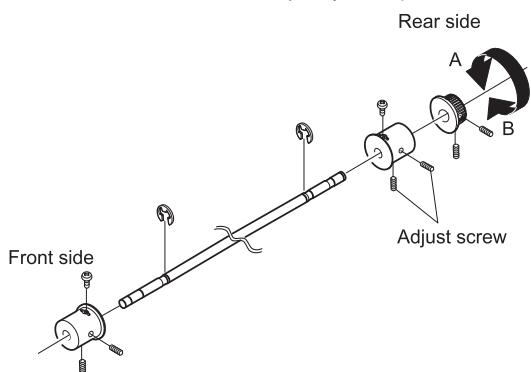


La : Lead edge black background section
Lb : Rear edge black background section

If La = Lb, the procedures 4) through 7) are not required.

- 4) Loosen the fixing screw of the front or the rear frame mirror base drive pulley.

- If La < Lb, turn the rear frame mirror base drive pulley in direction B.
(Do not move the mirror base drive pulley shaft.)
- If La > Lb, turn the rear frame mirror base drive pulley in direction A.
(Do not move the mirror base drive pulley shaft.)



- 5) Tighten the fixing screw of the mirror base drive pulley.

- 6) Perform procedures 1) through 3).

- 7) If La is not equal to Lb, perform procedures 4) and 5).

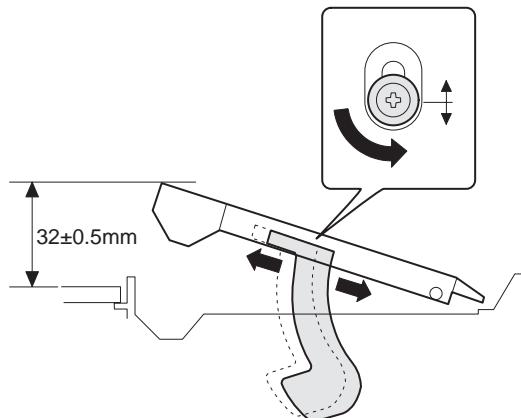
If La = Lb, the adjustment is completed.

Repeat procedures 1) through 6) until La = Lb.

F. Original detection light emitting unit height adjustment

- 1) Execute SIM 41-3.

- 2) Open the original cover, hold the original detection light emitting unit gently, and select "1" and press START key without placing an original.



- 3) Check that "COMPLETE" is displayed on the LCD, and press CUSTOM SETTING key, and the screen returns to the original menu.

- 4) Place an A3 (or WLT) original on the table glass, and select "2" and press START key.

When "COMPLETE" is displayed on the LCD, the adjustment has been completed.

| SIMULATION 41-3 | |
|-------------------------|---------------|
| PD SENSOR DATA DISPLAY. | |
| OCSW | |
| PD1[128]: 200 | PD2[128]: 200 |
| PD3[128]: 50 | PD4[128]: 52 |
| PD5[128]: 51 | PD6[128]: 50 |
| PD7[128]: 52 | |

- 5) After completion of adjustment, press the document detection light emitting unit down with your fingers completely to the bottom, and release it. Check that the document detection light-emitting unit moves up smoothly.

<Specification>

| | Specification | Adjustment position |
|---|---------------|---------------------|
| Original size detection photo sensor adjustment | COMPLETE | SIM 41-2 |

G. Original size detection photo sensor check

- 1) Execute SIM 41-1.

- 2) Put A3 (or WLT) paper on the table glass, and check that all the sensor displays (except for OCSW) on the LCD are highlighted.

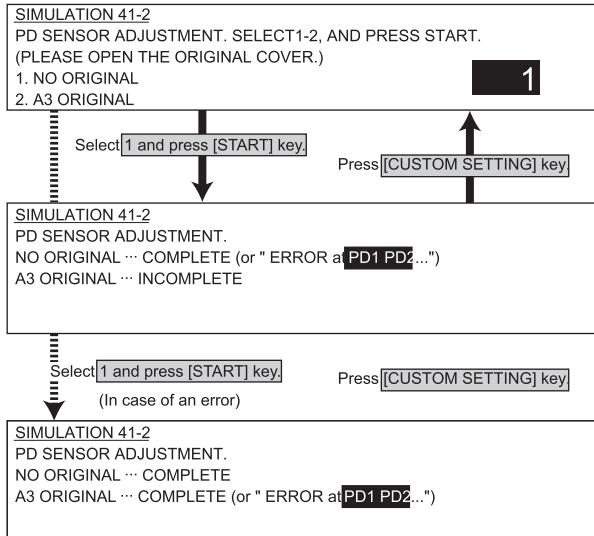
- 3) Gradually move the unit to the left, and check that the highlighted sensor displays turn off one by one sequentially.

| SIMULATION 41-1 | | | | | | |
|-------------------|-----|-----|-----|-----|-----|---------|
| PD SENSOR CHECK.. | | | | | | |
| OCSW | PD1 | PD2 | PD3 | PD4 | PD5 | PD6 PD7 |

(The detected sensors are highlighted.)

H. Original size detection photo sensor adjustment

- 1) Execute SIM 41-2.
 - * At that time, check that the scanner mirror base is at the home position.
 - 2) Open the document cover. Select 1 without placing paper on the table glass, and press START.
 - 3) When COMPLETE is displayed on the LCD, press CUSTOM SETTING to return to the initial screen.
 - 4) Place A3 (or WLT) paper on the table glass, select 2 and press START.
- When COMPLETE is displayed, the adjustment is normally completed.
- * If ERROR is displayed, the error PD sensor is displayed.

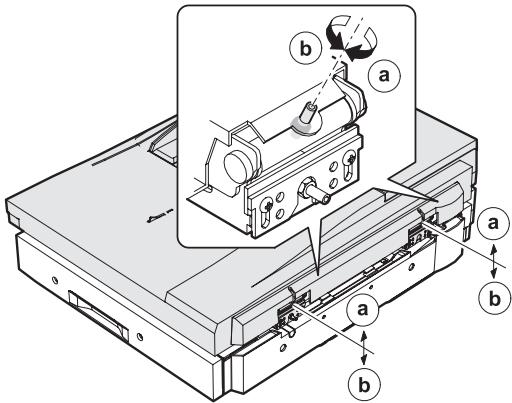


<Specification>

| | Specification | Adjustment |
|---|---------------|------------|
| Document size detection photo sensor adjustment | COMPLETE | SIM 41-2 |

I. DSPF hinge height adjustment

- 1) Close the DSPF.
- 2) Check that the dove and the reference plate are in contact with the table glass. If not, adjust with the setscrew.



<Specification>

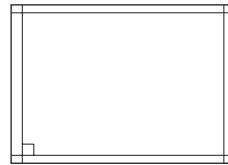
| | Specification | Adjustment position |
|---|--|----------------------------|
| Distance between dove (Reference plate) and table glass | 3-point contact (Left front/Left rear/Right front when viewed from the front) | Hinge adjustment set screw |

J. DSPF hinge diagonal adjustment (Front)

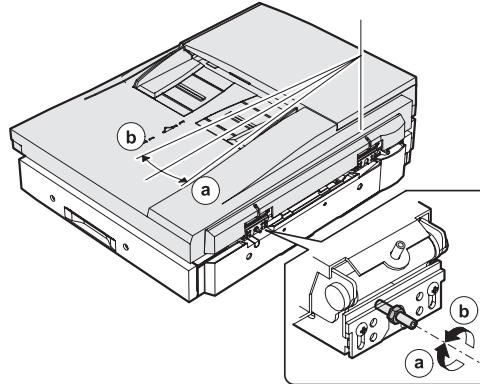
Before executing this adjustment, the following adjustments must have been completed.

- LSU right angle adjustment
- DSPF height adjustment

- 1) Make a test chart as shown below. (Print a self-print pattern 71.)
- 2) Make a copy with DSPF.
- 3) Measure the rear side and check that the value is in the specified range.



- 4) If the value is not in the specified range, loosen the nut which is fixing the hinge R adjustment screw, and adjust the adjustment screw.
- 5) Make a copy again, and check again that the value is in the specified range.
- 6) Tighten the nut to fix the adjustment screw.



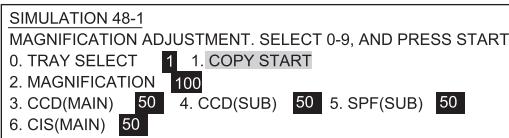
<Specification>

| | Specification | Adjustment position |
|----------------|---|------------------------------------|
| Skew feed | Within ±3mm | Hinge R adjustment screw |
| Lead edge skew | A4 or less: 1mm or less Greater than A4: 1.5mm or less | Eccentric screw for CIS adjustment |

K. Scan magnification ratio adjustment

(1) OC scan magnification ratio adjustment

- 1) Place a print of self-print pattern (A3 or WLT) 70 or a scale on the table glass.
- 2) Close the original cover, and make a copy.
- 3) Check that the value is within the specification.
- 4) If not, adjust with SIM 48-1.
- 5) Make a copy again and check again that the value is within the specification.

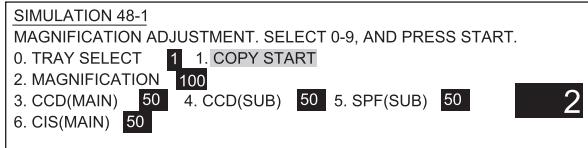


<Specification>

| | Specification | Adjustment position | Adjustment value |
|---|---------------|---------------------|-----------------------------|
| Main scan direction magnification ratio | ±0.5% | SIM48-1 | Set value 1: 0.1% change |
| Sub scan direction magnification ratio | | | |

(2) DSPF scan magnification ratio

- 1) Set a chart of print pattern 70 on SPF/DSPF.
- 2) Make a copy. (In the case of DSPF back copy, make a single copy in the duplex mode.)
- 3) Check that the output paper satisfies the specifications.
- 4) If not, adjust with SIM 48-1.
- 5) Make a copy again, and check that the output paper satisfies the specifications.



<Specifications>

| | Specifications | Adjustment position | Adjustment value |
|---|----------------|---------------------|-----------------------------|
| SPF sub scan direction magnification ratio | ±0.5% | SIM 48-1 | Set value 1: 0.1% change |
| DSPF main scan (back) direction magnification ratio | | | |

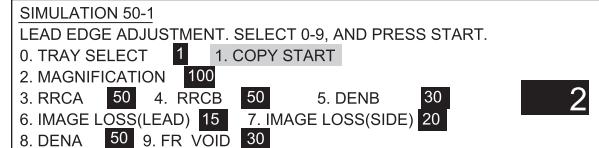
* The SPF main scan direction magnification ratio is common with OC.

L. OC scan lead edge adjustment

Before executing this adjustment, the following adjustment must have been completed.

•OC scan magnification ratio adjustment

- 1) Set an original on the original table.
- 2) Enter SIM 50-1.
- 3) Make a copy.
- 4) Select the number to be set on the right of the LCD, and perform the adjustment of each item.
- 5) Select "3: RRC-A" and change the value with 10-key to perform the copy adjustment.
- 6) Select "4: RRC-B" so that the distance between the paper lead edge and the copy image lead edge is within 3.0mm. Change the value with 10-key and perform the copy adjustment.
- 7) Check that the lead edge shift is within 3.0mm. If not, perform the fine adjustment of procedure 5) and 6).
- 8) Select "5: DEN-B" so that the white spot in the latter half of copy (rear edge void) is within 3.0mm. Change the value with 10-key and perform the copy adjustment.
(The rear void adjustment is changed by the step of 0.1mm.)
- When the rear edge void is too small, increase the value.
- When the rear edge void is too great, decrease the value.
- 9) Press [CA] key to cancel the simulation.



<Specification>

| | | Specifi-cation | Set value | | Set value 1: 0.2mm shift |
|-------------------|---|-------------------|-----------|--------|--------------------------|
| | | | Default | Range | |
| RRCA | Original scan start position | | 50 | 0 ~ 99 | Set value 1: 0.2mm shift |
| RRCB | Image and paper position adjustment on the OPC drum | | 50 | 0 ~ 99 | Set value 1: 0.1mm shift |
| DENA | Lead edge void adjustment | Total 8mm or less | 35 | 0 ~ 99 | Set value 1: 0.1mm shift |
| DENB | Rear edge void adjustment | | 35 | 0 ~ 99 | Set value 1: 0.1mm shift |
| IMAGE LOSS (LEAD) | Both sides image loss | 4.0mm or less | 15 | 0 ~ 99 | Set value 1: 0.1mm shift |
| IMAGE LOSS (SIDE) | F/R void quantity | Total 8mm or less | 20 | 0 ~ 99 | Set value 1: 0.1mm shift |
| FR_VOID | | Total 8mm or less | 35 | 0 ~ 99 | Set value 1: 0.1mm shift |

M. Original off-center adjustment

Before execution of this adjustment, the following adjustment must have been completed.

- LSU right angle adjustment

- Print off-center adjustment

- Print magnification ratio adjustment

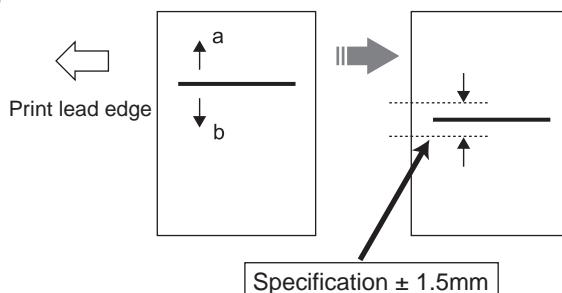
- 1) Set an original on the original table.

- 2) Execute SIM 50-12.

- 3) Select the paper feed tray and the magnification ratio.

- 4) After entering the adjustment value, press START key, and printing is started.

5) Check the off-center (distance from the paper lead edge) of the printed copy. Repeat procedure 2 until the printed copy satisfies the specifications.



| | Adjustment position | | Measurement reference | Specification | Set value | | |
|-------------------------------|---------------------|------------------|----------------------------|------------------------------|-----------|--------|-----------------------------|
| | | | | | Default | Range | |
| Print off-center SIM 50-10 | Tray 1 | Tray 1 | Output pattern center line | As shown in the table below. | 50 | 0 - 99 | Set value 1: 0.1mm shift |
| | Tray 2 | Tray 2 | | | | | |
| | Tray 3 | Tray 3/LCC left | | | | | |
| | Tray 4 | Tray 4/LCC right | | | | | |
| | MFT | Manual feed | | | | | |
| | ADU | Duplex | | | | | |

- For the duplex mode (Single ? Duplex), add 10 to the above set value.

- When the print line is shifted toward a from the paper center, decrease the value.

- When the print line is shifted toward b from the paper center, increase the value.

<Specifications>

| | | |
|-------------------|--------------|--------|
| Machine (OC mode) | Single | ±1.5mm |
| | Duplex | ±1.7mm |
| Overall (DSPF) | Single S - S | ±2.8mm |
| | Single D - S | ±3.5mm |
| | Duplex S - D | ±3.0mm |
| | Duplex D - D | ±3.5mm |

N. Image density adjustment

The image density adjustment is required for the following copy quality mode by using the simulation.

There are two methods; the collective adjustment and the individual adjustment of the copy quality mode.

•Copy mode

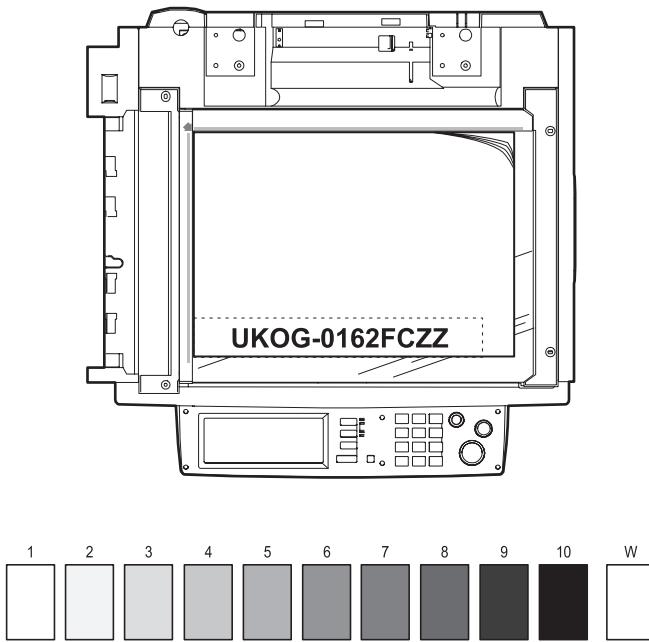
| Copy quality mode Collective | | adjustment | Individual adjustment |
|------------------------------|----------------------|------------|-----------------------|
| Binary value mode | Auto mode | SIM46-2 | |
| | Character mode | | SIM46-9 |
| | Character/Photo mode | | SIM46-10 |
| | Photo mode | | SIM46-11 |

•FAX mode

| | | | adjustment | Individual adjustment |
|-----------------|-------------------|-----------------------|------------|-----------------------|
| Normal mode | Binary value mode | AUTO LIGHT DARK | SIM46-12 | SIM46-13 |
| | | | | |
| | | | | |
| Small text mode | Binary value mode | AUTO LIGHT DARK | | SIM46-14 |
| | | | | |
| | | | | |
| Fine mode | Binary value mode | AUTO LIGHT DARK | | SIM46-15 |
| | | | | |
| | | | | |
| Super fine mode | Binary value mode | AUTO LIGHT DARK | | SIM46-16 |
| | | | | |
| | | | | |

(1) Test chart setting

- 1) Place a test chart (UKOG-0162FCZZ) on the original table as shown below.
- 2) Place several sheets of A3 (11 x 17) white paper (Sharp's specified paper) on the test chart at the rear reference.



Test chart comparison

| UKOG-0162FCZZ DENSITY No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | W |
|---------------------------------------|-----|---|-----|---|-----|---|---|---|-----|-----|---|
| UKOG-0089CSZZ DENSITY No. | 0.1 | | 0.2 | | 0.3 | | | | 0.5 | 1.9 | 0 |
| KODAK GRAY SCALE | | 1 | | 2 | | 3 | | 4 | | 19 | A |
| SHARP CORPORATION MADE IN JAPAN | | | | | | | | | | | |

(2) Density adjustment procedure

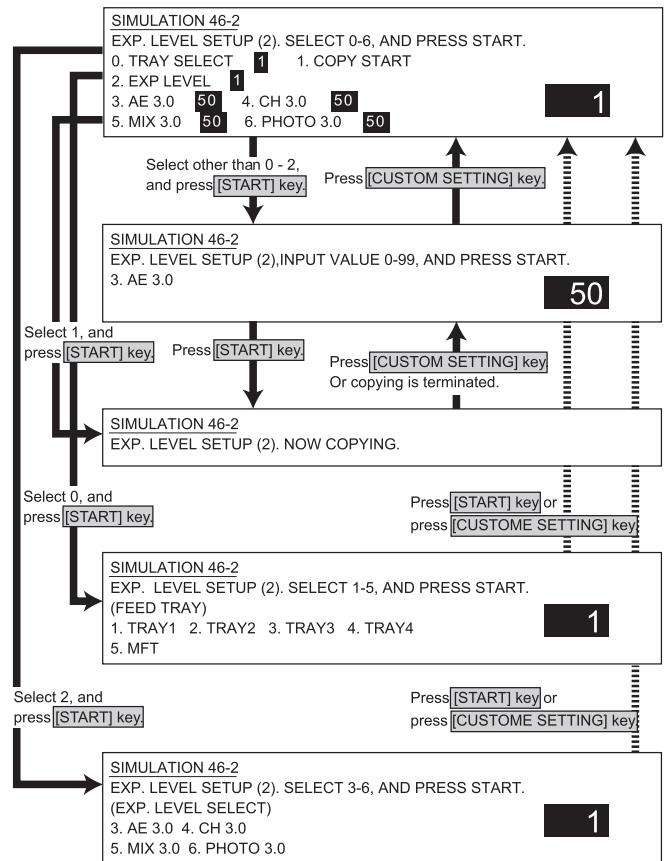
a. Collective adjustment of two or more copy quality modes

Normally this adjustment is performed with SIM 46-2. In this method, two or more copy density adjustments in different modes can be adjusted collectively.

- 1) Execute SIM 46-2.

(Binary value mode)

| Quality mode | Linked simulation data |
|--------------------------|------------------------|
| AE3.0 (AE) | |
| CH3.0 (Character) | sim46-9 |
| MIX3.0 (Character/Photo) | sim46-10 |
| PH3.0 (Photo) | sim46-11 |



- 2) Press the COPY button to make a copy.

Check that the copy density is as shown in the table below.
If not, change the adjustment value.

• Adjustment spec

| Mode | EXP. | Chart No. | Adjustment level | Chart No. | Adjustment level |
|---------------------|------|-----------|------------------|-----------|------------------|
| Character | 3 | 3 | Copied | 2 | Not copied |
| Character/ Photo | 3 | 3 | Copied | 2 | Not copied |
| Photo | 3 | 3 | Copied | 2 | Not copied |
| Auto | | 3 | Copied | 2 | Not copied |

If the copy density is too light, increase the adjustment value.

If the copy density is too dark, decrease the adjustment value.

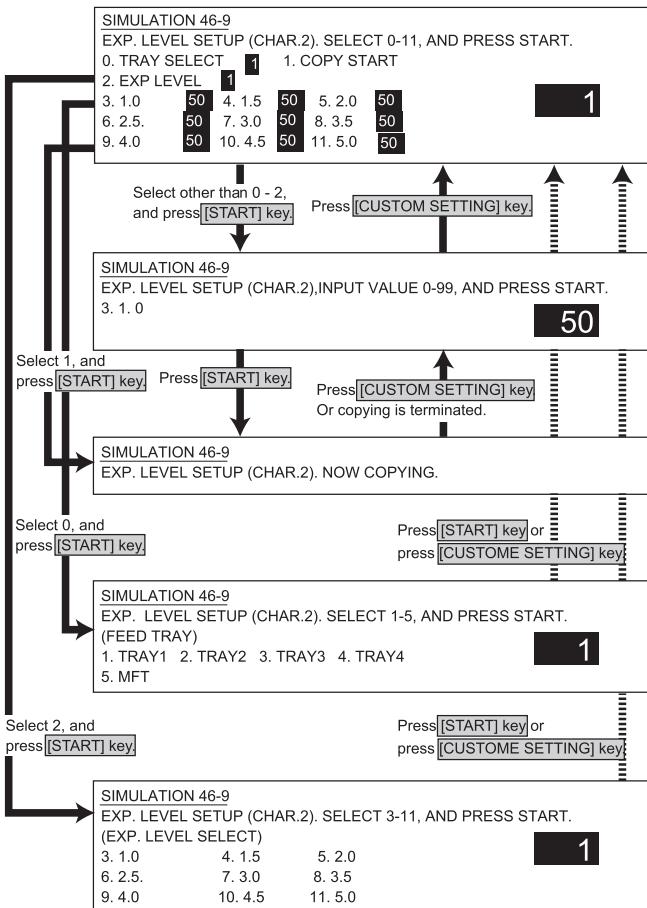
Adjustment range: 30 - 170

b. Individual adjustment of each copy quality mode

This adjustment is used when a different density level for different copy

quality mode is required. SIM 46-5 to -7 and SIM 46-9 to -11 are used.

- 1) Execute the simulation corresponding to the copy quality mode to be adjusted.



- 2) Press the COPY button to make a copy

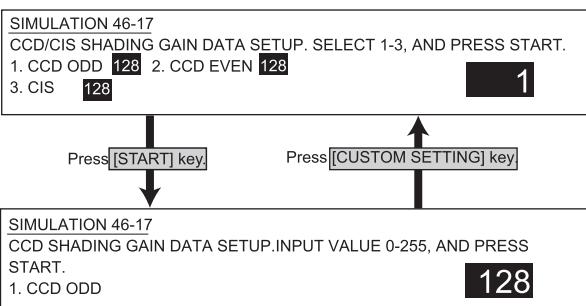
Check that the copy density is as shown in the table below. If not, change the adjustment value.

For the auto mode, there is only one adjustment value. For the other modes, the adjustment value for each density level must be adjusted.

c. Gain adjustment in DSPF back (CIS) scan

When images are too dark or too bright in scanning the back (CIS) of DSPF, perform the following procedures.

- 1) Make a duplex copy of a sample, and check the density of canning the back.
- 2) Execute SIM 46-17.

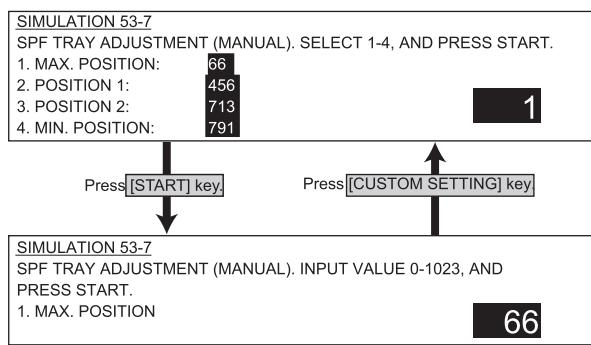


- 3) Select "3.CIS" and adjust the gain of CIS.
- When the CIS gain setup value is increased, the image becomes brighter.
- When the CIS gain setup value is decreased, the image becomes darker.

O. DSPF width detection adjustment

(1) When replacing DSPF unit

- 1) Use SIM53-7 to enter the value indicated on the side of the right hinge of the DSPF unit.

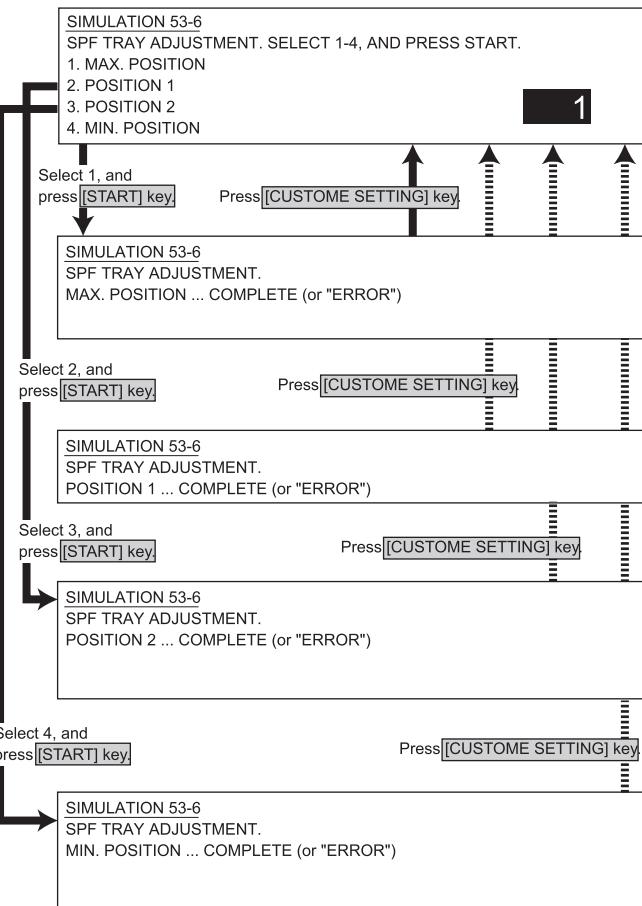


(2) When replacing the original width detection volume.

Execute SIM53-6 to perform the machine DSPF original tray size adjustment.

- 1) Extend the guide to MAX. position, select 1, and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen.
- 2) Move the guide to A4R position, select 2, and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen.
- 3) Move the guide to A5R position, select 3, and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen.
- 4) Move the guide to MIN. position, select 4, and press START. When COMPLETE is displayed, the adjustment is completed.

If ERROR is displayed in procedures 1) - 4), repeat the adjustment again.



[10] SIMULATIONS

1. Entering the simulation mode

Enter the copy mode and perform the following procedures.

[P] → [*] → [C] → [*] → [Main code] → [START] → [Sub code] → [START]

2. Switching the simulation mode

Press [USER SETTING] to return to the code entry screen.

3. Canceling the simulation mode

Press CA key to cancel the simulation mode.

4. Simulation list

| Code | | Function (Content) | Purpose | Section | Item |
|------|-----|---|-----------------------|---|-----------|
| Main | Sub | | | | |
| 1 | 1 | Used to check the operations of the scanner (reading) unit and its control circuit. | Operation test, check | Scanner (reading) | Operation |
| | 2 | Used to check the operations of the sensors and detectors in the scanner (reading) unit and their control circuits. | Operation test, check | Scanner (reading) | Operation |
| 2 | 1 | Used to check the operations of the automatic document feeder unit and its control circuit. | Operation test, check | DSPF | Operation |
| | 2 | Used to check the operations of the sensors and detectors in the automatic document feeder unit and their control circuits. | Operation test, check | DSPF | Operation |
| | 3 | Used to check the operation under load in the automatic document feeder unit and their control circuits. | Operation test, check | DSPF | Operation |
| 3 | 2 | Used to check the operations of the sensors and detectors in the finisher and their control circuits. | Operation test, check | Finisher | Operation |
| | 3 | Used to check the operation under load in the finisher and their control circuits. | Operation test, check | Finisher | Operation |
| | 6 | Used to adjust the stacking capacity of the finisher. (Used to adjust the alignment plate (jogger) stop position in the finisher paper width direction. The adjustment is made by changing the alignment plate home position in the paper width direction by software.) | Adjustment | Finisher | Operation |
| | 10 | Used to adjust the console finisher (AR-FN7). | Adjustment | Finisher | Operation |
| | 20 | Used to check the mail bin stacker (AR-MS1) sensor. | Operation test, check | Mail bin stacker | Operation |
| | 21 | Used to check the operations of the mail bin stacker loads. | Operation test, check | Mail bin stacker | Operation |
| 4 | 2 | Used to check the operations of the sensors and detectors in the paper feed section (desk paper feed/large capacity trays) and their control circuits. | Operation test, check | Paper feed | Operation |
| | 3 | Used to check the operation under load in the paper feed section (desk paper feed/large capacity trays) and their control circuits. | Operation test, check | Paper feed | Operation |
| 5 | 1 | Used to check the operations of the lamps and LCD on the operation panel and their control circuits. | Operation test, check | Operation (display, operation) | Operation |
| | 2 | Used to check the operations of the heater lamp and its control circuit. | Operation test, check | Fusing | Operation |
| | 3 | Used to check the operations of the copy lamp and its control circuit. | Operation test, check | Scanner (reading) | Operation |
| 6 | 1 | Used to check the operation under load (clutches and solenoids) in the paper transport system and their control circuits. | Operation test, check | Paper transport (paper exit, switchback, transport) | Operation |
| | 2 | Used to check the operations of each fan motor and its control circuit. | Operation test, check | Others | Operation |
| 7 | 1 | Used to set the aging conditions. | Setup | | Operation |
| | 6 | Used to set the intermittent aging cycle. | Setup | | Operation |
| | 8 | Used to set Enable/Disable of warm-up time display. | Setup | | Operation |

| Code | | Function (Content) | Purpose | Section | Item | |
|------|-----|---|--|--|-----------|------------------------|
| Main | Sub | | | | | |
| 8 | 1 | Used to check and adjust the developing bias voltage in each print mode and its control circuit. | Adjustment, operation test, check | Process (OPC drum, developing, transfer, cleaning) | | |
| | 2 | Used to check and adjust the main charger grid voltage in each print mode and its control circuit. | Adjustment, operation test, check | Process (OPC drum, developing, transfer, cleaning) | | |
| | 6 | Used to check and adjust the transfer charger current and its control circuit. | Adjustment, operation test, check | Process (OPC drum, developing, transfer, cleaning) | | |
| | 17 | Used to set and check the transfer roller output. | Operation test, check | Process (OPC drum, developing, transfer, cleaning) | Operation | |
| 9 | 1 | Used to check the operation under load (clutches and solenoids) in the duplex section and their control circuits. | Operation test, check | Duplex | Operation | |
| | 2 | Used to check the sensors and detectors in the duplex section and their control circuits. | Operation test, check | Duplex | Operation | |
| 10 | 0 | Used to check the operation of the toner motor and its control circuit. (Note) Do not execute this simulation with toner in the toner hopper. If executed, toner will enter the developing section, causing an overtoner trouble. Be sure to remove toner motor from the toner hopper before execution. | Operation test, check | Process (OPC drum, developing, transfer, cleaning) | Operation | |
| 13 | 0 | Used to cancel the self diag "U1" trouble. (Only when FAX is installed.) | Cancel (incase of a trouble) | | Trouble | |
| 14 | 0 | Used to cancel the self diag "U1/LCC/US/PF" troubles. | Cancel (incase of a trouble) | | Trouble | Error |
| 15 | 0 | Used to cancel the self diag "U6 (09/20/21/22)" trouble. | Cancel (incase of a trouble) | Paper feed | Trouble | |
| 16 | 0 | Used to cancel the self diag "U2" trouble. | Cancel (incase of a trouble) | | Trouble | Error |
| 17 | 0 | Used to cancel the self diag "PF" trouble (when copy is inhibited by the host computer). | Cancel (incase of a trouble) | Communication (RIC/MODEM) | Trouble | Error |
| 21 | 1 | Used to set the maintenance cycle. | Setup | | Spec | Counter |
| 22 | 1 | Used to check the print count in each section and in each operation mode. (Used to check the maintenance timing.) | Adjustment, setup, operation data output, check (display, print) | | Counter | |
| | 2 | Used to check the number of total misfeed and troubles. (If the number of misfeed is considerably great, the machine must be repaired. The misfeed rate is obtained by dividing this count by the total counter value.) | Adjustment, setup, operation data output, check (display) | | Trouble | |
| | 3 | Used to check the misfeed position and the number of misfeed at that position. (If the number of misfeed is considerably great, the machine must be repaired.) (Sections other than DSPF sections) | Adjustment, setup, operation data output, check (display) | | Trouble | Misfeed |
| | 4 | Used to check the total trouble (self diag) history. | Adjustment, setup, operation data output, check (display) | | Trouble | |
| | 5 | Used to check the ROM version of each unit (section). | Other | | Software | |
| | 6 | Used to print the list of adjustments and setup data (simulations, FAX soft switches, counters). | Adjustment, setup, operation data output, check (print) | | Data | Setup, adjustment data |
| | 7 | Used to display the key operator code. (Used when the customer has forgotten the key operator code.) | Adjustment, setup, operation data output, check (display) | | Data | User data |
| | 8 | Used to check the number of use of the staple, DSPF, and scanner (reading) unit. | Adjustment, setup, operation data output, check (display) | | Counter | |
| | 9 | Used to check the number of use (print quantity) of each paper feed section. | Adjustment, setup, operation data output, check (display) | Paper feed | Counter | |
| | 10 | Used to check the system configuration (option, internal hardware). | Adjustment, setup, operation data output, check (display) | | Spec | Option |

| Code | | Function (Content) | Purpose | Section | Item | |
|------|-----|--|---|--|-----------|-----------------------------------|
| Main | Sub | | | | | |
| 22 | 11 | Used to check the use frequency of FAX. (send/receive) (Only when FAX is installed.) | Adjustment, setup, operation data output, check (display) | FAX | Data | |
| | 12 | Used to check the misfeed position and the number of misfeed at that position. (If the number of misfeed is considerably great, the machine must be repaired.) | Adjustment, setup, operation data output, check (display) | DSPF | Trouble | Misfeed |
| | 13 | Used to display the process cartridge data. | Adjustment, setup, operation data output, check (display) | | Counter | |
| | 19 | Used to display the scanner mode counter. | Adjustment, setup, operation data output, check (display) | | Counter | |
| 24 | 1 | Used to clear the misfeed counter, misfeed history, trouble counter, and trouble history. (After completion of maintenance, these counters must be cleared.) | Data clear | | Counter | |
| | 2 | Used to clear the number of use (print quantity) of each paper feed section. | Data clear | Paper feed | Counter | |
| | 3 | Used to clear the number of use of the staple, ADF, RADF, SPF, DSPF, and the scanner (reading) unit. | Data clear | | Counter | |
| | 4 | Used to reset the maintenance counter. | Data clear | | Counter | |
| | 5 | Used to reset the developer counter. (The developer counter of the DV unit installed is reset.) | Data clear | Process (OPC drum, developing, transfer, cleaning) | Counter | Developer (DV unit) |
| | 6 | Used to reset the copy counter. | Data clear | | Counter | Copy |
| | 7 | Used to clear the OPC drum counter and the toner cartridge counter. (Perform when the OPC drum is replaced.) | Data clear | Process (OPC drum, developing, transfer, cleaning) | Counter | OPC drum |
| | 9 | Used to clear the printer print counter. (After completion of maintenance, this counter must be cleared.) | Data clear | Printer | Counter | Printer |
| | 10 | Used to clear the FAX counter. (After completion of maintenance, this counter must be cleared.) (Only when FAX is installed.) | Data clear | FAX | Counter | |
| | 11 | Used to reset the drum rotation time, toner motor rotation time, and developer rotation time counters. The developer counter of the DV unit installed is reset. | Data clear | Process (OPC drum, developing, transfer, cleaning) | Counter | Developer (DV unit) |
| | 15 | Used to clear each counter in the scanner mode. | Data clear | | Counter | |
| 25 | 1 | Used to check the operations of the main drive section (excluding the scanner (reading) section) and the toner density sensor. (The toner density sensor output can be monitored.) | Operation test, check | Drive | Operation | |
| | 2 | Used to initialize the toner density when replacing developer. (Auto adjustment) | Setup | Process (OPC drum, developing, transfer, cleaning) | | |
| 26 | 3 | Used to set the specification mode of the auditor. Setup must be made according to the use condition of the auditor. | Setup | Auditor | Spec | |
| | 5 | Used to set the count mode of the total counter and the maintenance counter. | Setup | | Spec | Counter |
| | 6 | Used to set the specification according to the destination. | Setup | | Spec | Destination |
| | 10 | Used to set the trial mode of the network scanner. | Setup | | Operation | |
| | 18 | Used to set Enable/Disable of toner save operation. (This simulation is enabled only in Japan and UK versions. (Depends on SIM 26-6 (Destination) setup). For the other destinations, user program P22 allows to make the similar setup.) | Setup | | Spec | Operation mode (Common operation) |
| | 30 | Used to set the operation mode conforming to the CE mark (Europe standards). (For flickers when driving the fusing heater lamp.) | Setup | | Spec | Operation mode (Common operation) |
| | 35 | Used to set whether the trouble history of SIM 22-4 is displayed as one-time trouble or continuous troubles when two or more number of a same trouble occurred. | Setup | | Spec | |
| | 38 | Used to stop printing when developer life is expired. | Setup | Other | Operation | |

| Code | | Function (Content) | Purpose | Section | Item | |
|------|-----|---|--|---|-----------|------------------------------------|
| Main | Sub | | | | | |
| 26 | 41 | Used to set Enable/Disable of the magnification ratio auto selection function (AMS) in the pamphlet copy mode. | Setup | | Spec | Operation mode (Common operation) |
| | 52 | Used to set Enable/Disable of count-up when white paper is discharged. (White paper means the index paper (without copying) in the OHP index paper insertion mode, the front/rear covers (without copying) in the cover insertion mode, and white paper in the duplex exit mode (CA, etc.).) | Setup | Paper transport (Paper exit, switchback, transport) | | |
| 27 | 1 | Used to set the operation specifications when a communication trouble occurs between the host computer and MODEM (machine side). (When a communication trouble occurs between the host computer and MODEM (machine side), self diag display (U7-00) is displayed and setup is made to inhibit or allow printing.) | Setup | Communication (RIC/MODEM) | Spec | Operation mode (Common operation) |
| | 5 | Used to enter the machine tag No. (This function allows to check the machine tag No. from the computer.) | Setup | Communication (RIC/MODEM) | Data | |
| 30 | 1 | Used to check the operations of the sensors and detectors in the paper feed, paper transport, and paper exit sections and their control circuits. | Operation test, check | | Operation | |
| | 2 | Used to check the operations of the sensors and detectors in the paper feed section and their control circuits. (The operations of the sensors and detectors in the paper feed section can be monitored on the LCD display.) | Operation test, check | Paper feed | Operation | |
| 40 | 1 | Used to check the operations of the manual paper feed tray paper size detectors and their control circuit. (The operations of the manual paper feed tray paper size detectors can be monitored on the LCD display.) | Operation test, check | Paper feed | Operation | |
| | 2 | Used to adjust the detection level of the manual paper feed tray paper width detector. | Adjustment | Paper feed | Operation | |
| | 7 | Used to enter the adjustment value of the manual paper feed tray width detection level. | Adjustment, setup | Paper feed | Operation | |
| | 11 | Used to check the width detection level of the multi purpose tray paper width detector. | Operation test, check | Paper feed | Operation | |
| | 12 | Used to adjust the width detection level of the multi purpose tray paper width detector. | Adjustment, setup | Paper feed | Operation | |
| 41 | 1 | Used to check the operations of the document size sensor and the related circuit. (The operation of the document size sensor can be monitored on the LCD display.) | Operation test, check | Other | Operation | |
| | 2 | Used to adjust the detection level of the document size sensor. | Adjustment | Other | Operation | |
| | 3 | Used to check the operations of the document size sensor and the related circuit. (The output level of the document size sensor can be monitored on the LCD display.) | Operation test, check | Other | Operation | |
| 43 | 1 | Used to set the fusing temperature in each operation mode. | Setup | Fusing, paper exit | | |
| 44 | 1 | Used to set Enable/Disable of each correction operation in the image forming (process) section. | Setup | Process (OPC drum, developing, transfer, cleaning) | Operation | |
| | 4 | Used to set the target image (reference) density level in the developing bias voltage correction. | Setup | Process (OPC drum, developing, transfer, cleaning) | Data | |
| | 9 | Used to check the result (main charger grid voltage developing bias voltage, laser power, etc.) of correction (process correction) in the image forming section. (By this simulation, the correction operation can be checked.) | Adjustment, setup, operation data output, check (display, print) | Process (OPC drum, developing, transfer, cleaning) | Data | Operation data (machine condition) |

| Code | | Function (Content) | Purpose | Section | Item | |
|------|-----|---|---|-------------------|-----------------|---------|
| Main | Sub | | | | Picture quality | Density |
| 46 | 2 | Used to adjust the copy density in the copy mode (binary, auto, text, text/photo, photo mode). An adjustment with this simulation affects all the copy density adjustment values. | Adjustment | | Picture quality | Density |
| | 9 | Used to adjust the print density for each density level (display value) in the copy mode (binary-Text mode). A desired print density can be set for each density level (display value). | Adjustment | | Picture quality | Density |
| | 10 | Used to adjust the print density for each density level (display value) in the copy mode (binary-Text/Photo mode). A desired print density can be set for each density level (display value). | Adjustment | | Picture quality | Density |
| | 11 | Used to adjust the print density for each density level (display value) in the copy mode (binary-Photo mode). A desired print density can be set for each density level (display value). | Adjustment | | Picture quality | |
| | 12 | Used to adjust the print density in the FAX mode (all modes). An adjustment with this simulation affects all the copy density adjustment values. (Only when FAX is installed) | Adjustment | | Picture quality | |
| | 13 | Used to adjust the print density in the FAX mode (normal mode). (Only when FAX is installed.) | Adjustment | | Picture quality | |
| | 14 | Used to adjust the print density in the FAX mode (small text mode). (Only when FAX is installed.) | Adjustment | | Picture quality | |
| | 15 | Used to adjust the print density in the FAX mode (fine mode). (Only when FAX is installed.) | Adjustment | | Picture quality | |
| | 16 | Used to adjust the print density in the FAX mode (super-fine mode). (Only when FAX is installed.) | Adjustment | | Picture quality | |
| | 17 | Used to adjust the CCD/CIS shading reference value. | Setup, check | | Picture quality | |
| | 18 | Used to adjust gamma (density gradient) in each copy mode. | Adjustment | | Picture quality | Density |
| | 19 | Used to adjust gamma (density gradient) in the auto copy mode and to set the density detection area, and to set the image process mode. | Adjustment | | Picture quality | Density |
| | 20 | Used to adjust the copy density correction in the SPF/DSPF copy mode for the document table copy mode. This adjustment is made so that the copy density becomes the same as that in the document table copy mode. | Adjustment | | Picture quality | Density |
| | 21 | Used to adjust the scanner exposure level. (1 mode auto adjustment) | Adjustment, setup, operation data output, check (display) | Scanner (reading) | Picture quality | Density |
| | 22 | Used to adjust the scanner exposure level and to make individual setup. (Normal mode) | Adjustment, setup, operation data output, check (display) | Scanner (reading) | Picture quality | Density |
| | 23 | Used to adjust the scanner exposure level and to make individual setup. (Small text mode) | Adjustment, setup, operation data output, check (display) | Scanner (reading) | Picture quality | Density |
| | 24 | Used to adjust the scanner exposure level and to make individual setup. (Fine mode) | Adjustment, setup, operation data output, check (display) | Scanner (reading) | Picture quality | Density |
| | 25 | Used to adjust the scanner exposure level and to make individual setup. (Super fine mode) | Adjustment, setup, operation data output, check (display) | Scanner (reading) | Picture quality | Density |
| 48 | 1 | Used to adjust the copy magnification ratio (main scan direction, sub scan direction). | Adjustment | Scanner (reading) | Picture quality | |
| | 5 | Used to adjust the scan motor speed. | Adjustment | Scanner (reading) | Picture quality | |

| Code | | Function (Content) | Purpose | Section | Item | |
|------|-----|--|--|---|-----------------|------------------|
| Main | Sub | | | | | |
| 50 | 1 | Used to adjust the document scan position, the image print position, and the void area (image loss). (A similar adjustment can be made with SIM 50-2 (simple method).) | Adjustment | | Picture quality | Picture position |
| | 2 | Used to adjust the document scan position, the image print position, and the void area (image loss). (This simulation allows simple procedure of the similar adjustment to SIM 50-1.) | Adjustment | | Picture quality | Picture position |
| | 6 | Document scan position adjustment. (DSPF) | Adjustment | | Picture quality | |
| | 7 | Document scan position adjustment (Simple method) (DSPF) | Adjustment | | Picture quality | |
| | 10 | Used to adjust the print image center position. (Adjusted for each paper feed section.) | Adjustment | Image process (ICU) | Picture quality | Picture position |
| 51 | 12 | Used to adjust the reading image center position. (Adjusted for each document mode.) | Adjustment | Image process (ICU) | Picture quality | Picture position |
| | 2 | Used to adjust the contact pressure of paper on the resist roller in each section (machine paper feed, duplex paper feed, SPF paper feed). (This adjustment is required when the print image position varies or when paper jam occurs frequently.) | Adjustment | Paper transport (paper exit, switchback, transport) | Operation | |
| 53 | 6 | Used to adjust the DSPF width detection level. | Adjustment | | Operation | |
| | 7 | Used to enter the adjustment value of SPF width detection. | Adjustment, setup, operation data output, check (display, print) | SPF/ADF/RADF/UDH | Operation | |
| 60 | 1 | Used to check the ICU (DRAM) operation (read/write). (SIMM memory, Onboard memory) | Operation test, check | Image process (ICU) | Operation | |
| 61 | 1 | Used to check the operations of the LSU unit. | Operation test, check | | Operation | |
| | 2 | Used to adjust laser power (absolute value) in the copy mode. | Adjustment | | Operation | |
| | 3 | Used to adjust laser power (absolute value) in the FAX reception mode. (Only when FAX is installed.) | Adjustment | | Operation | |
| | 4 | Used to adjust laser power (absolute value) in the printer mode. | Adjustment | | Operation | |
| 62 | 2 | Used to check the hard disk operation (read/write). (Only for the model with the hard disk) (Partial check) | Operation test, check | Memory | Operation | |
| | 3 | Used to check the hard disk operation (read/write). (Only for the model with the hard disk) (All area check) | Operation test, check | Memory | Operation | |
| 63 | 1 | Used to check the shading correction result. (The shading correction data are displayed.) | Adjustment, setup, operation data output, check (display, print) | Scanner (exposure) | Operation | |
| | 2 | Used to execute shading. | Adjustment, setup, operation data output, check (display, print) | Scanner (exposure) | Operation | |
| | 7 | Used to adjust the white plate scan start position in shading white correction. | Adjustment | Scanner (exposure) | Operation | |
| 64 | 1 | Used to check the operations of the printer section (self printing). (The print pattern, paper feed mode, print mode, print quantity, density can be changed optionally.) | Operation test, check | Printer | Operation | |
| 65 | 1 | Used to adjust the touch panel (LCD display section) detecting position. | Adjustment | Operation (display, operation) | | |
| | 2 | Used to check the result of the touch panel (LCD display section) detecting position adjustment. (The coordinates are displayed.) | Adjustment, setup, operation data output, check (display, print) | Operation (display, operation) | | |

| Code | | Function (Content) | Purpose | Section | Item | |
|------|-----|--|--|---------|-----------|--|
| Main | Sub | | | | | |
| 66 | 1 | Used to set the FAX soft switch function. (Used to utilize the FAX soft switch function.) | Setup | Fax | | |
| | 2 | Used to set the FAX soft switch setup to the default. (Except for the adjustment values) | Data clear | Fax | Data | |
| | 3 | Used to check the operations of FAX PWB memory (read/write). (This adjustment is required when replacing the PWB with a new one.) | Operation test, check | Fax | Data | |
| | 4 | Used to check the operations of data signal output in the FAX data output mode. (Used to check the MODEM operation.) Send level 0dB (Max.) (Only when FAX is installed.) | Operation test, check | Fax | Operation | |
| | 5 | Used to check the operations of data signal output in the FAX data output mode. (Used to check the MODEM operation.) Signals are sent in the send level set with the soft switch. (Only when FAX is installed.) | Operation test, check | Fax | Operation | |
| | 6 | Used to print the confidential password. (Used when the confidential password is forgotten.) (Only when FAX is installed.) | User data output, check (display, print) | Fax | Data | |
| | 7 | Used to print the image memory data (memory send, receive). (Only when FAX is installed.) | User data output, check (display, print) | Fax | Data | |
| | 8 | Used to check the output operation of the FAX sound signals. (Sound output IC operation check) Send level 0dB (Max.) (Only when FAX is installed.) | Operation test, check | Fax | Operation | |
| | 9 | Used to check the output operation of the FAX sound signals. (Sound output IC operation check) (Only when FAX is installed.) | Operation test, check | Fax | Operation | |
| | 10 | Used to clear all data of image memory (memory send, receive). Confidential data are also cleared. (Only when FAX is installed.) | User data output, check (display, print) | Fax | Data | |
| | 11 | Used to check the output operation of FAX G3 mode 300BPS. (Used to check the MODEM operation.) Send level 0dB (Max.) (Only when FAX is installed.) | Operation test, check | Fax | Operation | |
| | 12 | Used to check the output operation of FAX G3 mode 300BPS. (Used to check the MODEM operation.) Signals are sent in the send level set with the soft switch. (Only when FAX is installed.) | Operation test, check | Fax | Operation | |
| | 13 | Used to enter (set) the number for the FAX dial signal output test. (The dial number signal set with this simulation is outputted in the dial signal output test with SIM 66-14~16) (Only when FAX is installed.) | Setup | Fax | Data | |
| | 14 | Used to set the make time in the FAX pulse dial mode (10PPS) and to test the dial signal output. (The dial number signal set with SIM 66-13 is outputted.) Used to check dialing troubles and the operation. (Only when FAX is installed.) | Setup | Fax | Operation | |

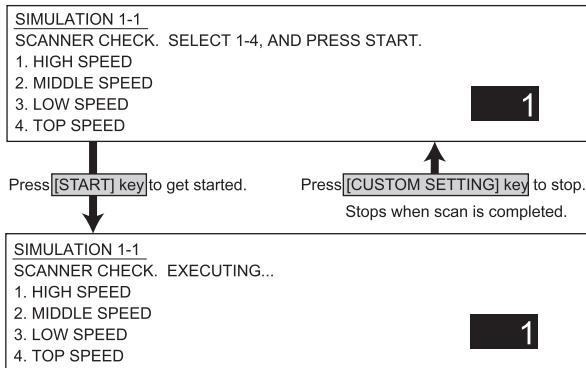
| Code | | Function (Content) | Purpose | Section | Item | |
|------|-----|--|--|---------|-----------|--------------------------|
| Main | Sub | | | | | |
| 66 | 15 | Used to set the make time in the FAX pulse dial mode (20PPS) and to test the dial signal output. (The dial number signal set with SIM 66-13 is outputted.) Used to check dialing troubles and the operation. (Only when FAX is installed.) | Setup | Fax | Operation | |
| | 16 | Used to test the dial signal (DTMF) output in the FAX tone dial mode. (The dial number signal set with SIM 66-13 is outputted.) The send level can be set to an optional level. Dialing troubles and operation.(Only when FAX is installed.) | Setup | Fax | Operation | |
| | 17 | Used to test the dial signal (DTMF) output in the Fax tone dial mode. Send level 0db (Max.).Used to check the operation. (Only when FAX is installed.) | Setup | Fax | Operation | |
| | 18 | Used to test the dial signal (DTMF) in the FAX tone dial mode. The send level set with the soft switch is outputted. Used to check the operation. (Only when FAX is installed.) | Setup | Fax | Operation | |
| | 19 | Used to backup the FAX SRAM data into the flash Memory(Option FAX memory:AR-MM9) (Only when FAX is installed.) | Setup | Fax | Operation | |
| | 20 | Used to restore the backup data (SIM 66-19) to SRAM. (Only when FAX is installed.) | Setup | Fax | Operation | |
| | 21 | Used to print the FAX information (registrations, communication management, file management, system errors). (Only when FAX is installed.) | Adjustment, setup, operation data output, check (display, print) | Fax | Data | |
| | 22 | Used to adjust the handset sound volume. (Only when FAX is installed.) | Setup | Fax | Operation | |
| | 23 | Used to download the FAX program. (Only when FAX is installed.) | Inhibited | Fax | | |
| | 24 | Used clear the FAST memory data. (Only when FAX is installed.) | Inhibited | Fax | | |
| | 25 | Used to register the FAX number for MODEM dial-in. (Only when FAX is installed.) | Inhibited | Fax | | |
| | 26 | Used to register the external telephone number for MODEM dial-in. (Only when FAX is installed.) | Inhibited | Fax | | |
| | 27 | Used to register the voice-warp transfer number. (Only when FAX is installed.) | Inhibited | Fax | | |
| | 28 | Used to record a sound message. (Only when FAX is installed.) | Inhibited | Fax | | |
| | 29 | Used to clear the telephone directory. (Only when FAX is installed.) | Setup | Fax | Operation | |
| | 30 | Used to check TEL/LIU status change. | Setup | Fax | Operation | |
| | 31 | Used to set the TEL/LIU status. | Setup | Fax | Operation | |
| | 32 | Used to check received data. | Inhibited | Fax | | |
| | 33 | Used to check signal detection. | Inhibited | Fax | | |
| | 34 | Used to measure and display the communication time. | Setup | Fax | Operation | |
| | 35 | Modem program rewriting.(Only when FAX is installed.) | Operation test, check | Fax | Operation | |
| | 36 | Used to check interface between MFPC and MDMC. Check is made in the data line or the command line. | Operation test, check | Fax | Operation | |
| 67 | 2 | Used to check the parallel I/F operation of the printer. (This simulation is made only in the production site and not in the market. It requires a special tool.) | Inhibited | Printer | | Interface, communication |
| | 11 | Used to set Enable/Disable of the parallel I/F select signal of the printer. | Adjustment | Printer | Operation | Interface, communication |
| | 16 | Used to check the operation of the network card. | Operation test, check | Printer | Operation | Interface, communication |

5. Details of simulations

Main code 1

1-1

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the scanner (reading) unit and its control circuit. |
| Section | Scanner (reading) |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |



<List of set values>

| | | |
|---|------------------------|-------------|
| 1 | High speed operation | 168mm / sec |
| 2 | Middle speed operation | 110mm / sec |
| 3 | Low speed operation | 55mm / sec |
| 4 | Top speed operation | 220mm / sec |

1-2

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the sensors and detectors in the scanner (reading) unit and their control circuits. |
| Section | Scanner (reading) |
| Item | Operation |
| Operation/Procedure | The sensor display is highlighted when it is detected. |



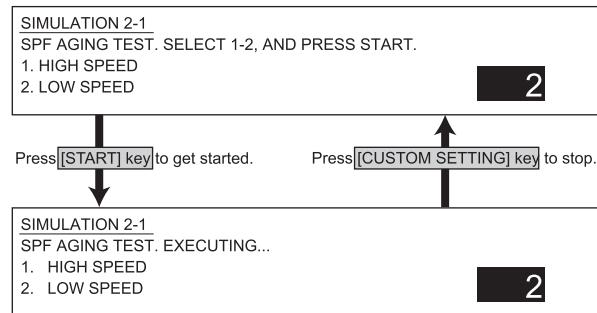
<List of display value>

| | |
|------|------------------------------|
| MHPS | Optical system home position |
|------|------------------------------|

Main code 2

2-1

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the automatic document feeder unit and its control circuit. |
| Section | DSPF |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |



<List of set values>

| | |
|---|----------------------|
| 1 | High speed operation |
| 2 | Low speed operation |

2-2

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the sensors and detectors in the automatic document feeder unit and their control circuits. |
| Section | DSPF |
| Item | Operation |
| Operation/Procedure | The sensor display is highlighted when it is detected. |

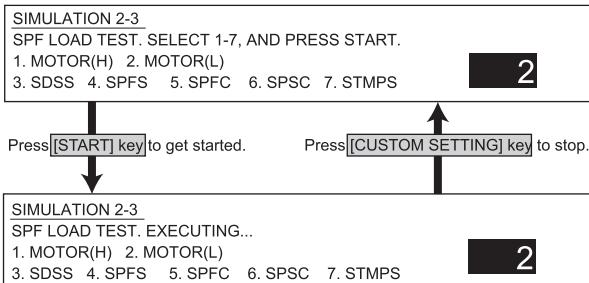


<List of display values>

| | |
|---------|---|
| SSET | SPF sensor |
| SOCD | Open sensor |
| SCOV | Paper feed cover sensor |
| SDD | Document set sensor |
| SPSD | Document resist front sensor |
| SPCD | Document exit sensor |
| SWDn | Document width sensor (n → 1(Inside) ~6(Outside)) |
| SLDn | Document length sensor (n → 1(Inside) ~2(Outside)) |
| OSSET | OS installation sensor |
| STSET | Stamp unit installation sensor |
| SWD_LEN | SPF guide plate position (Unit: 0.1mm) |
| SWD_AD | SPF document width detection volume output AD value |

2-3

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation under load in the automatic document feeder unit and their control circuits. |
| Section | DSPF |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |



<List of set values>

| | |
|---|---------------------------|
| 1 | Motor high speed rotation |
| 2 | Motor low speed rotation |
| 3 | Document stopper solenoid |
| 4 | Document feed solenoid |
| 5 | Document feed clutch |
| 6 | Document resist clutch |
| 7 | Stamp solenoid |

Main code 3

3-2

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the sensors and detectors in the finisher and their control circuits. |
| Section | Finisher |
| Item | Operation |
| Operation/Procedure | The display is highlighted when detected. |

Finisher (AR-FN6)

| | | | |
|--|-------|-------|--------|
| SIMULATION 3-2 FINISHER SENSOR CHECK. | | | |
| PID | SCID | SCID2 | PPD |
| SCPD | POD | T1PF | T2UP |
| T2DN | T2PD | STSP | STLS |
| STNC | STHP | JFHP | JRHP |
| PSHP | STUHP | XXXX | STTHP1 |
| STTHP2 | DOPD | DSW1 | DSW2 |
| 24VM | MMLK | | |

Console finisher (AR-FN7)

| | | | | | |
|--|--------|--|--------|--------|----------------------------|
| SIMULATION 3-2 FINISHER SENSOR CHECK. | | | | | |
| FSSS | FJS | FFDSW | FTCS | FFDS | |
| FSPS | FSUC | FSS | FSTHPS | FSHPS | FLE |
| FULS | FFE | FFES | FFRHPS | FFHPS | FLLS |
| FBES | FOBHPS | FAS | FRJHPS | FFJHPS | FARHPS |
| FES | (FPE) | (FPSHPS) | (FPUC) | (FPDS) | (FPDSS4) (FPDSS3) (FPDSS2) |
| (FPDSS1) | (FPTS) | Devices in () are added when the punch unit is installed. | | | |

<List of display values>

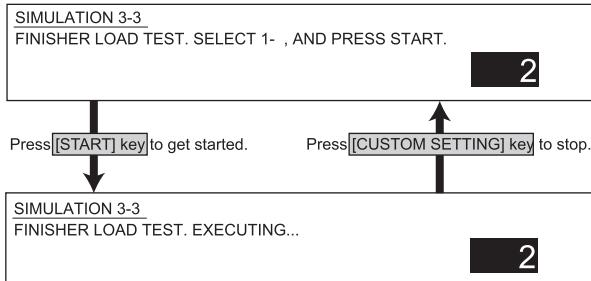
| Finisher | | Console finisher | |
|----------|---|------------------|------------------------------|
| STHP | Stapler HP detection | FSSS | Stapler safety switch |
| POD | Tray 2 paper exit detection | FJS | Joint switch |
| SCID | Staple compiler paper entry detection | FFDSW | Front door switch |
| PID | Paper entry detection | FTCS | Upper cover sensor |
| T2PD | Tray 2 paper empty detection | FFDS | Front door sensor |
| T2DN | Tray 2 lower limit detection | FSPS | Self prime sensor |
| T2UP | Tray 2 upper limit detection | FSUC | Stapler connection detection |
| JRHP | Jogger (F) HP | FSS | Staple sensor |
| JFHP | Jogger (F) HP | FSTHPS | Stapler HP sensor |
| SCID2 | Staple compiler paper entry detection 2 | FSHPS | Slide HP sensor |
| STTHP2 | Staple rotation HP detection 2 | FLE | Lift lock sensor |
| STTHP1 | Staple rotation HP detection 1 | FLLS | Lift lower limit sensor |
| STUHP | Staple shift HP detection | FULS | Lift upper limit sensor |
| PSHP | Pusher HP detection | FFE | Bookbinding clock sensor |
| PPD | Paper hold return detection | FFES | Bookbinding paper sensor |
| DSW2 | Staple replacement door open detection | FFRHPS | Bookbinding roller HP sensor |
| DSW1 | Compiler jam cancel door open detection | FFHPS | Bookbinding HP sensor |
| 24VM | 24V power supply | FFPS | Bookbinding position sensor |
| T1PF | Tray 1 full detection | FSLS | Paper surface sensor |
| STSP | Stapling ready detection | FBES | Tray paper sensor |
| STLS | Cartridge inside spare staple empty detection | FOBHPS | Paper exit belt HP sensor |
| STNC | Cartridge empty detection | FAS | Alignment tray sensor |
| DOPD | Interface unit door open detection | FRJHPS | Alignment HP sensor R |
| MMLK | Main drive motor lock detection | FFJHPS | Alignment HP sensor F |
| SCPD | Staple compiler paper empty detection | FARHPS | Bundle roller HP sensor |
| | | FPHPS | Paddle HP sensor |
| | | FES | Entry port sensor |

- The following units are added when the punch unit is installed to the console finisher:

| | |
|--------|------------------------------|
| FPE | Punch motor encoder |
| FPSHPS | Punch side register HP |
| FPUC | Punch connection detection |
| FPDS | Punch dust sensor |
| FPDSS4 | Punch side register sensor 4 |
| FPDSS3 | Punch side register sensor 3 |
| FPDSS2 | Punch side register sensor 2 |
| FPDSS1 | Punch side register sensor 1 |
| FPTS | Punch timing sensor |

3-3

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation under load in the finisher and their control circuits. |
| Section | Finisher |
| Item | Operation |
| Operation/Procedure | The display is highlighted when detected. |

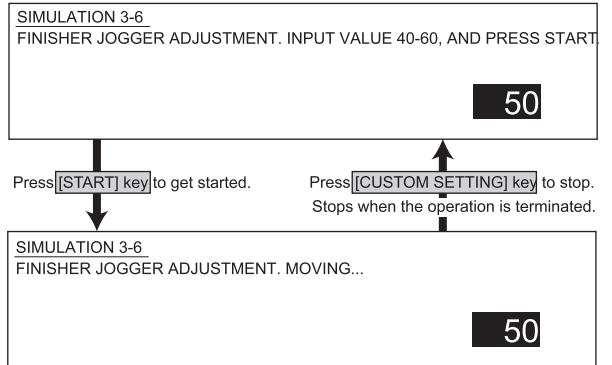


<List of display values>

| Finisher | | | Console finisher | | |
|----------|----------------------------------|--|------------------|-----------------------------|--|
| 1 T2S | Tray 2 solenoid | | 1 FFC | Folding clutch | |
| 2 T2OM | Paper exit motor | | 2 FPSM | Puncher side register motor | |
| 3 SPS | Stopper solenoid | | 3 FPNM | Punch motor | |
| 4 SCRS | Roller pressure release solenoid | | 4 FLM | Shift motor | |
| 5 PPS | Rear edge h folding solenoid | | 5 FFSM | Stapler motor | |
| 6 SCGS | Compiler gate solenoid | | 6 FSM | Slide motor | |
| 7 STTM | Staple rotation motor | | 7 FRJM | Alignment motor R | |
| 8 STUM | Stapler shift motor | | 8 FFJM | Alignment motor F | |
| 9 MM | Main drive motor | | 9 FAM | Bundle exit motor | |
| 10 EVM | Elevator motor | | 10 FPM | Paddle motor | |
| 11 STM | Staple motor | | 11 FFM | Transport motor | |
| 12 JRM | Jogger motor rear | | | | |
| 13 JFM | Jogger motor front | | | | |
| 14 PSM | Pusher motor | | | | |

3-6

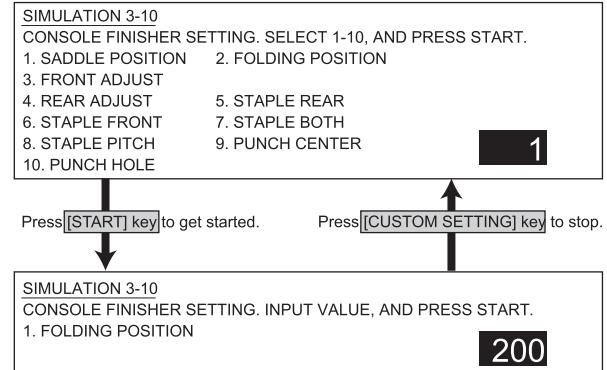
| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the stacking capacity of the finisher (AR-FN6). (Used to adjust the alignment plate (jogger) stop position in the finisher paper width direction. The adjustment is made by changing the alignment plate home position in the paper width direction by software.) |
| Section | Finisher |
| Item | Operation |
| Operation/Procedure | Enter the adjustment value with 10 digit key pad and press START key. The jogger moves to LT position (Inch series) or A4 position (AB series) according to the entered value, and stops there. |



(Stored on PCU PWB)

3-10

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the console finisher (AR-FN7). |
| Section | Finisher |
| Item | Operation |
| Operation/Procedure | Setting of the console finisher is performed. |



<List of set values>

| | Adjustment content | Range | Initial value | 1STEP |
|----|---|-------|---------------|-----------|
| 1 | Saddle binding position adjustment | 0~400 | 200 | 0.0707mm |
| 2 | Saddle folding position adjustment | 0~400 | 200 | 0.0525mm |
| 3 | Front alignment position adjustment | 0~20 | 10 | 0.367mm |
| 4 | Rear alignment position adjustment | 0~20 | 10 | 0.367mm |
| 5 | Staple rear one-position binding position adjustment | 0~200 | 100 | 0.04374mm |
| 6 | Staple front one-position binding position adjustment | 0~200 | 100 | 0.04374mm |
| 7 | Staple 2-position binding center adjustment | 0~200 | 100 | 0.04374mm |
| 8 | Staple 2-position binding pitch adjustment | 0~99 | 50 | 0.04374mm |
| 9 | Punch center adjustment (Slide direction) | 47~53 | 50 | 1mm |
| 10 | Punch hole position adjustment (Paper feed direction) | 0~99 | 50 | 0.105mm |

(Values stored in EEPROM)

3-20

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the mail bin stacker (AR-MS1) sensor. |
| Section | Mail bin stacker |
| Item | Operation |
| Operation/Procedure | The display is highlighted when detected. |

SIMULATION 3-20
MAIL BOX SENSOR CHECK.
MPFD1 MPFD2 MPFD3 MPFD4 MPFD5 MPFD6 MPFD7
MPFD8 MPID MPPD1 MPPD2 MPPD3 MPPD4 MPPD5
M24VM MDD1 MDOPD

<List of display values>

| | | | |
|-------|--------------------------------------|-------|--------------------------|
| MPFD1 | Tray 1 paper full detection | MPPD1 | Paper transport sensor 1 |
| MPFD2 | Tray 2 paper full detection | MPPD2 | Paper transport sensor 2 |
| MPFD3 | Tray 3 paper full detection | MPPD3 | Paper transport sensor 3 |
| MPFD4 | Tray 4 paper full detection | MPPD4 | Paper transport sensor 4 |
| MPFD5 | Tray 5 paper full detection | MPPD5 | Paper transport sensor 5 |
| MPFD6 | Tray 6 paper full detection | M24VM | 24V power supply |
| MPFD7 | Tray 7 paper full detection | MDD1 | Jam cancel door |
| MPFD8 | Tray 8 paper full detection | MDOPD | Interface unit door |
| MPID | Interface unit paper entry detection | | |

3-21

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the mail bin stacker loads. |
| Section | Mail bin stacker |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |

SIMULATION 3-21
MAIL BOX LOAD TEST. SELECT 1-8, AND PRESS START.
1.MM
2.GSOL1
3.GSOL2
4.GSOL3
5.GSOL4
6.GSOL5
7.GSOL6
8.GSOL7

Press [START] key to get started. Press [CUSTOM SETTING] key to stop.

2

SIMULATION 3-21
MAIL BOX LOAD TEST. EXECUTING...
1.MM
2.GSOL1
3.GSOL2
4.GSOL3
5.GSOL4
6.GSOL5
7.GSOL6
8.GSOL7

2

<List of set values>

| | |
|---|-----------------|
| 1 | Main motor |
| 2 | Gate solenoid 1 |
| 3 | Gate solenoid 2 |
| 4 | Gate solenoid 3 |
| 5 | Gate solenoid 4 |
| 6 | Gate solenoid 5 |
| 7 | Gate solenoid 6 |
| 8 | Gate solenoid 7 |

Main code 4

4-2

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the sensors and detectors in the paper feed section (desk paper feed/large capacity trays) and their control circuits. |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | The display is highlighted when detected. |

(3-tray desk)

SIMULATION 4-2
DESK SENSOR CHECK.
DDRS DPFD1 DPFD2 DPFD3
MCLUD DLUD1 DLUD2 MCSPD
DSPD1 DSPD2 MCPED DPED1
DPED2 MCSS1 MCSS2 MCSS3
MCSS4 DCSS11 DCSS12 DCSS13
DCSS14 XXXXXX DCSS21 DCSS22
DCSS23 DCSS24 XXXXXX

(LCC)

SIMULATION 4-2
LCC SENSOR CHECK.
TDRS TTSD TPFD1 TPFD2
TPFD3 MCLUD TLUD1 TLUD2
MCSPD TSPD1 TSPD2 MCPED
TPED1 TPED2 MCSS1 MCSS2
MCSS3 MCSS4

<List of display values>

| 3-tray desk | | LCC | |
|-------------|---|-------|---|
| DDRS | Desk door sensor | TDRS | Tandem side door sensor |
| DSPD2 | Desk cassette 2 remaining paper quantity sensor | TTSD | Tandem tray sensor |
| DSPD1 | Desk cassette 1 remaining paper quantity sensor | TLUD2 | Tandem tray 2 upper limit sensor |
| DCSS24 | Desk cassette 2 paper rear edge sensor 4 | TLUD1 | Tandem tray 1 upper limit sensor |
| DCSS23 | Desk cassette 2 paper rear edge sensor 3 | TSPD2 | Tandem tray 2 remaining quantity sensor |
| DCSS22 | Desk cassette 2 paper rear edge sensor 2 | TSPD1 | Tandem tray 1 remaining quantity sensor |
| DCSS21 | Desk cassette 2 paper rear edge sensor 1 | TPED2 | Tandem tray 2 paper sensor |
| DLUD2 | Desk cassette 2 upper limit sensor | TPED1 | Tandem tray 1 paper sensors |
| DPED2 | Desk cassette 2 paper sensor | TPFD3 | Tandem paper transport sensor 3 |
| DPFD3 | Desk paper transport sensor 3 | TPFD2 | Tandem paper transport sensor 2 |
| DCSS14 | Desk cassette 1 paper rear edge sensor 4 | MCSS4 | MP tray size detection 4 |
| DCSS13 | Desk cassette 1 paper rear edge sensor 3 | MCSS3 | MP tray size detection 3 |
| DCSS12 | Desk cassette 1 paper rear edge sensor 2 | MCSS2 | MP tray size detection 23 |
| DCSS11 | Desk cassette 1 paper rear edge sensor 1 | MCSS1 | MP tray size detection 1 |
| DLUD1 | Desk cassette 1 upper limit sensor | MCSPD | MP tray remaining quantity detection |
| DPED1 | Desk cassette 1 paper sensor | MCLUD | MP tray upper limit detection |
| DPFD2 | Desk paper transport sensor 2 | MCPED | MP tray paper empty detection |
| MCSS4 | MP tray size detection 4 | TPFD1 | MP tray transport detection |

| 3-tray desk | | LCC | |
|-------------|--------------------------------------|-----|--|
| MCSS3 | MP tray size detection 3 | | |
| MCSS2 | MP tray size detection 2 | | |
| MCSS1 | MP tray size detection 1 | | |
| MCSPD | MP tray remaining quantity detection | | |
| MCLUD | MP tray upper limit detection | | |
| MCPED | MP tray paper empty detection | | |
| DPFD1 | MP tray transport detection | | |

Main code 5

5-1

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the lamps and LCD on the operation panel and their control circuits. |
| Section | Operation (display, operation) |
| Item | Operation |
| Operation/Procedure | All LEDs are ON. The LCD contrast changes Max/Min every 2sec. |

4-3

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation under load in the paper feed section (desk paper feed/large capacity trays) and their control circuits. |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |

SIMULATION 4-3

DESK/LCC LOAD TEST. SELECT 1-, , AND PRESS START.

- 1.
- 2.

2

Press [START] key to get started.

Press [CUSTOM SETTING] key to stop.

SIMULATION 4-3

DESK/LCC LOAD TEST. EXECUTING...

- 1.
- 2.

2

SIMULATION 5-1

After 6.0 sec

Press [CUSTOM SETTING] key to stop.

SIMULATION 5-1

5-2

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the heater lamp and its control circuit. |
| Section | Fusing |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. The lamp repeat ON/OFF every 500ms 5 times. |

SIMULATION 5-2

HEATER LAMP TEST. SELECT 1-2, AND PRESS START.

1.HL1(LOWER)

2.HL2(UPPER)

2

Press [START] key to get started.

Press [CUSTOM SETTING] key to stop.

Repeats specified times and stops.

SIMULATION 5-2

HEATER LAMP TEST. EXECUTING...

1.HL1(LOWER)

2.HL2(UPPER)

2

<List of set values>

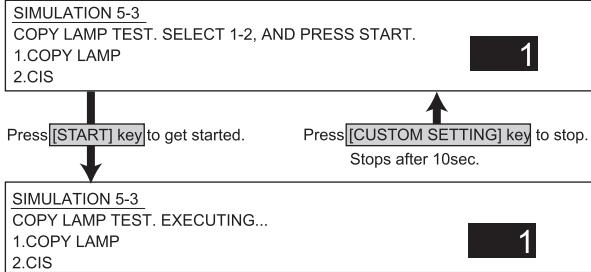
| 3-tray desk | | LCC | |
|-------------|-------|------------------------------|---------------------|
| 1 | DLUM2 | Desk lift-up motor 2 | 1 |
| 2 | DLUM1 | Desk lift-up motor 1 | 2 |
| 3 | MCLUM | Desk multi lift-up motor | 3 |
| 4 | DPFCL | Desk paper transport clutch | 4 |
| 5 | DPCL2 | Desk paper feed clutch 2 | 5 |
| 6 | DPCL1 | Desk paper feed clutch 1 | 6 |
| 7 | MCPCL | Desk multi paper feed clutch | 7 |
| 8 | DMM | Desk transport motor | 8 |
| | | TMM | LCC transport motor |

- | | |
|---|-----------------------|
| 1 | Heater lamp 1 (Lower) |
| 2 | Heater lamp 2 (Upper) |

5-3

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the copy lamp and its control circuit. |
| Section | Scanner (reading), DSPF (reading) |
| Item | Operation |
| Operation/Procedure | The copy lamp or CIS is lighted for 10sec and turned off. |

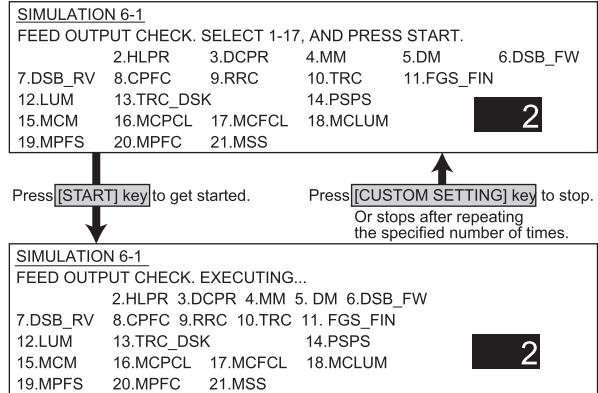
* CIS is displayed only when DSPF is installed.



Main code 6

6-1

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation under load (clutches and solenoids) in the paper transport system and their control circuits. |
| Section | Paper transport (paper exit, switchback, transport) |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |



<List of set values>

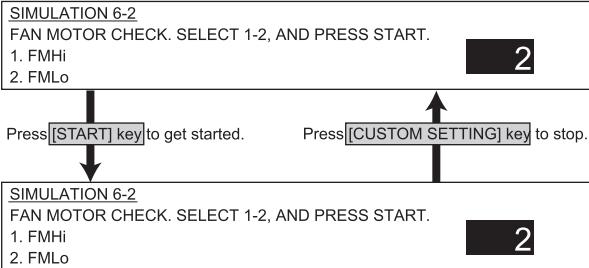
| | |
|------|--|
| 2 | HLPR (Heater power relay) |
| 3 | DCPR (DC power relay) |
| 4 | MM (Main motor) |
| 5 | DM (Drum motor) |
| 6 | DSB_FW (Stepping motor forward rotation) |
| 7 | DSB_RV (Stepping motor reverse rotation) |
| 8 | CPFC (Paper feed clutch) |
| 9 | RRC (Resist roller clutch) |
| 10 | TRC (Transport roller clutch) |
| 11 | FGS_FIN (Finisher gate solenoid) |
| 12 | LUM (Tray 1 lift-up motor) |
| 13 | TRC_DSK (Desk clutch sync signal) |
| 14 | PSPS (Separation pawl solenoid) |
| 15*1 | MCM(MP drive motor control signal) |
| 16*1 | MCPCL(MP tray paper feed clutch signal) |
| 17*1 | MCFCL(MP tray transport clutch signal) |
| 18*1 | MCLUM(MP tray lift-up motor signal) |
| 19*2 | MPFS (Manual paper feed solenoid signal) |
| 20*2 | MPFC (Manual paper feed clutch signal) |
| 21*2 | MSS (Manual paper feed gate solenoid) |

*1 Displayed when OPTION of multi-purpose only.

*2 Displayed when manual feed OPTION is added.

6-2

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of each fan motor and its control circuit. |
| Section | Others |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |



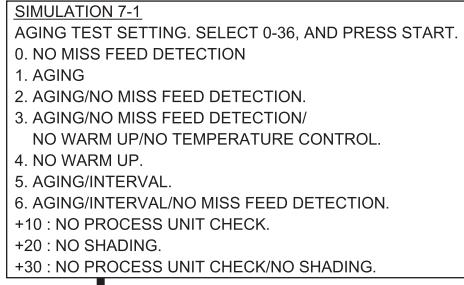
<List of set values>

| | |
|---|----------------------|
| 1 | Fan motor high speed |
| 2 | Fan motor low speed |

Main code 7

7-1

| | |
|---------------------|-----------------------------------|
| Purpose | Setup |
| Function (Content) | Used to set the aging conditions. |
| Section | |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |



Press **[START]** key to register.
The operation mode is kept until the power is turned off or setting is made again.

<List of set values>

| | |
|-----------|---|
| 0 | No jam detection |
| 1 | Aging mode |
| 2 | Aging mode without jam detection |
| 3 | Aging mode without jam/without warm-up/without fusing temperature control |
| 4 | Without warm-up |
| 5 | Intermittent aging mode |
| 6 | Intermittent aging mode without jam detection |
| Above +10 | No process unit (including developing unit) detection |
| Above +20 | No shading |
| Above +30 | No process unit detection/No shading |

7-6

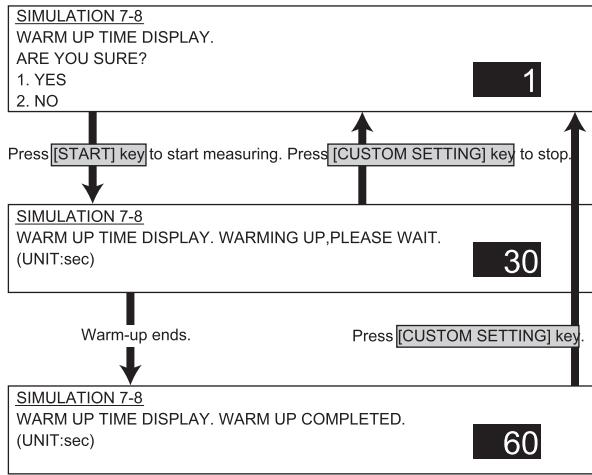
| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the intermittent aging cycle. |
| Section | |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. Used to set the intermittent aging cycle of Sim 7-1. |



10

7-8

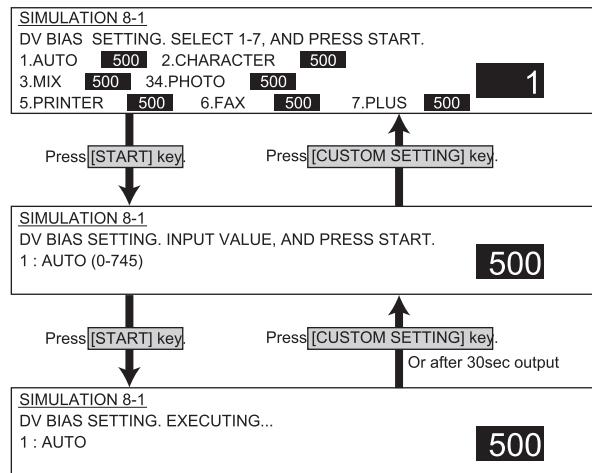
| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set Enable/Disable of warm-up time display. |
| Section | |
| Item | Operation |
| Operation/Procedure | The warm-up time is displayed in the unit of second. |



Main code 8

8-1

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to check and adjust the developing bias voltage in each print mode and its control circuit. |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | |
| Operation/Procedure | Enter the output value to be adjusted with the 10 digit key pad. The current set value is highlighted at the right of each item. After entering the value with the 10-digit key pad press the START key. The output is made for 30 sec at the set value. Then the output is stopped. |

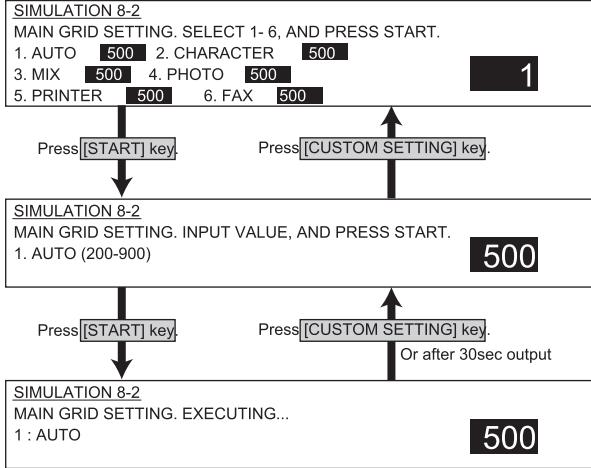


<List of set values>

| | | Default | Set range |
|---|---------------------------------|---------|-----------|
| 1 | Auto mode | 485 | 0 ~745 |
| 2 | Text mode | | |
| 3 | Text/Photo mode | | |
| 4 | Photo mode | | |
| 5 | Printer mode | | |
| 6 | Fax mode | | |
| 7 | Reverse developing bias voltage | 150 | 0 ~255 |

8-2

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to check and adjust the main charger grid voltage in each print mode and its control circuit. |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | |
| Operation/Procedure | Enter the output value to be adjusted with 10 digit key pad. The current set value is highlighted at the right of each item. After entering the value with 10 digit key pad, press START key. The output is made for 30sec at the set value. Then the output is stopped. |



<List of set values>

| | | Default | Set range |
|---|-----------------|---------|-----------|
| 1 | Auto mode | 645 | 200 ~ 900 |
| 2 | Text mode | | |
| 3 | Text/Photo mode | | |
| 4 | Photo mode | | |
| 5 | Printer mode | | |
| 6 | Fax mode | | |

8-6

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to check and adjust the transfer charger current and its control circuit. |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | |
| Operation/Procedure | Enter the output value to be adjusted with 10 digit key pad. The current set value is highlighted at the right of each item. After entering the value with 10 digit key pad, press START key. The output is made for 30sec at the set value. Then the output is stopped. |

SIMULATION 8-6
THV+SETTING. SELECT 1-2, AND PRESS START.

1. FRONT 140
2. BACK 140

1

Press [START] key. Press [CUSTOM SETTING] key.

SIMULATION 8-6
THV+SETTING. INPUT VALUE, AND PRESS START.
1. FRONT(0-620)

140

Press [START] key. Press [CUSTOM SETTING] key.

SIMULATION 8-6
THV+SETTING. EXECUTING...
1. FRONT

140

<List of set values>

| | | Default | Set range |
|---|----------------------------|---------|-----------|
| 1 | Cassette/manual paper feed | 45PPM | 267 |
| | | 35PPM | 220 |
| 2 | Paper feed from ADU | 45PPM | 310 |
| | | 35PPM | 267 |

8-17

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to set and check the transfer roller output. |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | Operation |
| Operation/Procedure | Enter the output value to be adjusted with 10 digit key pad. The current set value is highlighted at the right of each item. After entering the value with 10 digit key pad, press START key. The output is made for 30sec at the set value. Then the output is stopped. |

SIMULATION 8-17
TRANSFER ROLLER SETTING. SELECT 1-3, AND PRESS START.

1. SHV FRONT 500
2. SHV BACK 500
3. THV- 500

1

Press [START] key. Press [CUSTOM SETTING] key.

SIMULATION 8-17
TRANSFER ROLLER SETTING. INPUT VALUE, AND PRESS START.
1. FRONT (0-375)

500

Press [START] key. Press [CUSTOM SETTING] key.

SIMULATION 8-17
TRANSFER ROLLER SETTING. EXECUTING...
1. FRONT (0-375)

500

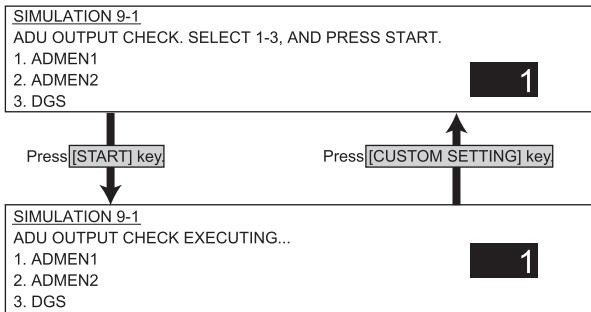
<List of set values>

| | | Default | Set range |
|---|-------------------|------------|-----------|
| 1 | SHV front surface | 160(45PPM) | 0 ~ 375 |
| 2 | SHV back surface | 120(35PPM) | |
| 3 | THV-output | 780 | 0 ~ 1250 |

Main code 9

9-1

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation under load (clutches and solenoids) in the duplex section and their control circuits. |
| Section | Duplex |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. |

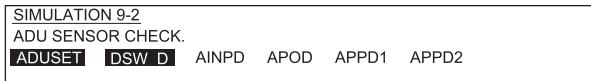


<List of set values>

| | |
|---|------------------------------------|
| 1 | ADMEN1(ADU motor 1 control signal) |
| 2 | ADMEN2(ADU motor 2 control signal) |
| 3 | DGS(ADU gate solenoid) |

9-2

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the sensors and detectors in the duplex section and their control circuits. |
| Section | Duplex |
| Item | Operation |
| Operation/Procedure | The display is highlighted when detected. |



<List of display values>

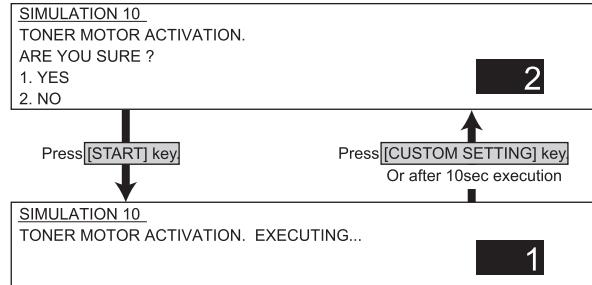
| | |
|--------|----------------------------|
| ADUSET | ADU installation detection |
| DSW_D | ADU cabinet open detection |
| AINPD | ADU paper entry detection |
| APOD | ADU paper exit detection |
| APPD1 | ADU paper detection 1 |
| APPD2 | ADU paper detection 2 |

Main code 10

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation of the toner motor and its control circuit. |
| Section | Process (OPC drum/developing/transfer/cleaning)/Developing toner |
| Item | Operation |
| Operation/Procedure | Select with 10 digit key pad. The toner motor rotates for 10sec. |

Note: Never execute this simulation with toner in the toner hopper.

If executed, excessive toner will enter the developing section, causing an overtuner trouble. Be sure to remove the toner motor from the toner hopper before execution.

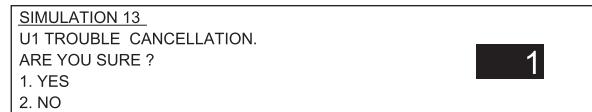


<List of set values>

| | |
|---|---|
| 1 | Toner motor rotation start |
| 2 | Cancel (The display returns to the main code entry menu.) |

Main code 13

| | |
|---------------------|--|
| Purpose | Cancel (in case of a trouble) |
| Function (Content) | Used to cancel the self diag "U1" trouble. (Only when FAX is installed.) |
| Section | |
| Item | Trouble |
| Operation/Procedure | Select with 10 digit key pad. |



<List of set values>

| | |
|---|---|
| 1 | After canceling U1 trouble, the display returns to the main code entry menu. |
| 2 | Without canceling a trouble, the display returns to the main code entry menu. |

Main code 14

| | |
|---------------------|---|
| Purpose | Cancel (in case of a trouble) |
| Function (Content) | Used to cancel the self diag U1/LCC/US/PF troubles. |
| Section | |
| Item | Trouble |
| Operation/Procedure | Select with 10 digit key pad. |

SIMULATION 14
TROUBLE CANCELLATION. (OTHERS)
ARE YOU SURE ?
1. YES
2. NO

1

<List of set values>

| | |
|---|--|
| 1 | After canceling a trouble other than U1, U2, PF, and LCC, the display returns to the main code entry menu. |
| 2 | Without canceling a trouble, the display returns to the main code entry menu. |

Main code 15

| | |
|---------------------|--|
| Purpose | Cancel (in case of a trouble) |
| Function (Content) | Used to cancel the self diag "U6 (09/20/21/22)" trouble. |
| Section | Paper feed |
| Item | Trouble |
| Operation/Procedure | Select with 10 digit key pad. |

SIMULATION 15
LCC TROUBLE CANCELLATION.
ARE YOU SURE ?
1. YES
2. NO

1

<List of set values>

| | |
|---|---|
| 1 | After canceling LCC trouble, the display returns to the main code entry menu. |
| 2 | Without canceling a trouble, the display returns to the main code entry menu. |

Main code 16

| | |
|---------------------|--|
| Purpose | Cancel (in case of a trouble) |
| Function (Content) | Used to cancel the self diag "U2" trouble. |
| Section | |
| Item | Trouble |
| Operation/Procedure | Select with 10 digit key pad. |

SIMULATION 16
U2 TROUBLE CANCELLATION.
ARE YOU SURE ?
1. YES
2. NO

1

<List of set values>

| | |
|---|---|
| 1 | After canceling U2 trouble, the display returns to the main code entry menu. |
| 2 | Without canceling a trouble, the display returns to the main code entry menu. |

Main code 17

| | |
|---------------------|--|
| Purpose | Cancel (in case of a trouble) |
| Function (Content) | Used to cancel the self diag "PF" trouble (when copy is inhibited by the host computer). |
| Section | Communication (RIC/MODEM) |
| Item | Trouble |
| Operation/Procedure | Select with 10 digit key pad. |

SIMULATION 17
PF TROUBLE CANCELLATION.
ARE YOU SURE ?
1. YES
2. NO

1

<List of set values>

| | |
|---|---|
| 1 | After canceling PF trouble, the display returns to the main code entry menu. |
| 2 | Without canceling a trouble, the display returns to the main code entry menu. |

Main code 21**21-1**

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the maintenance cycle. |
| Section | |
| Item | Spec |
| Operation/Procedure | Used to set the maintenance cycle in an SRU machine. |

SIMULATION 21-1
MAINTENANCE CYCLE SETUP. SELECT 0-6, AND PRESS START.
0. DEFAULT 1. 40K 2. 50K 3. 80K
4. 100K 5. 120K 6.FREE

1

<List of set values>

| | |
|---|--|
| 0 | Maintenance display at the cycle of each control spec. |
| 1 | Maintenance display at 40K |
| 2 | Maintenance display at 50K |
| 3 | Maintenance display at 80K |
| 4 | Maintenance display at 100K |
| 5 | Maintenance display at 120K |
| 6 | No maintenance display |

Main code 22

22-1

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the print count in each section and in each operation mode. (Used to check the maintenance timing.) |
| Section | |
| Item | Counter |
| Operation/Procedure | Data of each counter are displayed. |

SIMULATION 22-1
COUNTER DATA DISPLAY.
TOTAL : ***** DRUM : ***** TONER : *****
DEVE : ***** MAINTENANCE : *****
TOTAL OUTPUT : ***** COPIES : *****
PRINTER : ***** FAX OUTPUT : *****
RIGHT SIDE : ***** OTHERS : *****

<List of display values>

| | |
|--------------|--|
| TOTAL | Total counter |
| DRUM | Drum cartridge counter |
| TONER | Toner cartridge counter |
| DEVE | Developer cartridge counter |
| MAINTENANCE | Maintenance counter |
| TOTAL OUTPUT | Total output quantity |
| COPIES | Copy effective paper counter |
| PRINTER | Printer counter |
| FAX | Fax print counter |
| RIGHT SIDE | Right side paper exit counter |
| OUTPUT | |
| OTHERS | Other print counter (List print, etc.) |

22-2

| | |
|---------------------|---|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the number of total misfeed and troubles. (If the number of misfeed is considerably great, the machine must be repaired. The misfeed rate is obtained by dividing this count by the total counter value.) |
| Section | |
| Item | Trouble |
| Operation/Procedure | The numbers of times of paper jam, SPF jam, and troubles are displayed. |

SIMULATION 22-2
JAM/TROUBLE COUNTER DATA DISPLAY.
PAPER JAM : ***** SPF JAM : *****
TROUBLE : *****

<List of display values>

| | |
|-----------|------------------------------|
| PAPER JAM | Number of times of paper jam |
| SPF JAM | Number of times of SPF jam |
| TROUBLE | Number of times of troubles |

22-3

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the misfeed position and the number of misfeed at that position. (If the number of misfeed is considerably great, the machine must be repaired.) (Sections other than DSFP sections) |
| Section | |
| Item | Trouble |
| Operation/Procedure | The history of the latest 50 paper jams is displayed. (Refer to the jam codes below.) |

SIMULATION 22-3
PAPER JAM HISTORY.
***** ***** ***** ***** ***** ***** ***** ***** *****
***** ***** ***** ***** ***** ***** ***** ***** *****
***** ***** ***** ***** ***** ***** ***** ***** *****
***** ***** ***** ***** ***** ***** ***** ***** *****
***** ***** ***** ***** ***** ***** ***** ***** *****
***** ***** ***** ***** ***** ***** ***** ***** *****
.....
(10 lines x 80 digits = 800 characters)

<Jam codes>

| Code | Description |
|---------|--|
| TRAY2 | Tray 2 paper feed jam (MPFD not-reaching) |
| MPFDND1 | MPFD not-reaching jam (Desk tray 1 feed paper) |
| MPFDND2 | MPFD not-reaching jam (Desk tray 2 feed paper) |
| MPFDNTD | MPFD not-reaching jam (Tandem desk feed paper) |
| MPFDST2 | MPFD remaining jam (Machine tray 3 feed paper) |
| MPFDSD1 | MPFD remaining jam (Desk tray 1 feed paper) |
| MPFDSD2 | MPFD remaining jam (Desk tray 2 feed paper) |
| MPFDSTD | MPFD remaining jam (Tandem desk feed paper) |
| PPD1NMF | PPD1 not-reaching jam (Manual feed tray paper) |
| TRAY1 | Tray 1 feed paper jam (PPD1 not-reaching) |
| PPD1NT2 | PPD1 not-reaching jam (Machine tray 2 feed paper) |
| PPD1ND1 | PPD1 not-reaching jam (Desk tray 1 feed paper) |
| PPD1ND2 | PPD1 not-reaching jam (Desk tray 2 feed paper) |
| PPD1NTD | PPD1 not-reaching jam (Tandem desk feed paper) |
| PPD1NAD | PPD1 not-reaching jam (ADU refeed paper) |
| PPD1SMF | PPD1 remaining jam (Manual feed tray feed paper) |
| PPD1ST1 | PPD1 remaining jam (Machine tray 1 feed paper) |
| PPD1ST2 | PPD1 remaining jam (Machine tray 2 feed paper) |
| PPD1SD1 | PPD1 remaining jam (Desk tray 1 feed paper) |
| PPD1SD2 | PPD1 remaining jam (Desk tray 2 feed paper) |
| PPD1STD | PPD1 remaining jam (Tandem desk feed paper) |
| PPD1SAD | PPD1 remaining jam (ADU refeed paper) |
| PPD1PRI | PPD1 jam (Image ready is not supplied from ICU.) |
| POD1N | POD1 not-reaching jam |
| POD1S | POD1 remaining jam |
| POD2N | POD2 not-reaching jam |
| POD2SR | POD2 remaining jam (When discharging to the right side of machine.) |
| POD2SL | POD2 remaining jam (When discharging to the left side of machine.) |
| AINPDN | ADU paper entry sensor not-reaching jam |
| AINPDS | ADU paper entry sensor remaining jam |
| APODN | ADU paper exit sensor not-reaching jam |
| APODS | ADU paper exit sensor remaining jam |
| APPD1N | ADU transport sensor 1 not-reaching jam |
| APPD1S | ADU transport sensor 1 remaining jam |
| APPD2N | ADU transport sensor 2 not-reaching jam (When ADU transport) |
| APPD2S | ADU transport sensor 2 remaining jam (When ADU transport) |

| Code | Description |
|-----------|--|
| BPT | Manual feed tray paper feed jam (APPD2 not-reaching) |
| APPD2SM | ADU transport sensor 2 remaining jam (Manual feed tray feed paper) |
| DESK2 | Desk tray 2 paper feed jam (DPFD3 not-reaching) |
| DPFD3SD2 | DPFD3 remaining jam (Desk tray 2 feed paper) |
| DESK1 | Desk tray 1 paper feed jam (DPFD2 not-reaching) |
| DPFD2ND2 | DPFD2 not-reaching jam (Desk tray 2 feed paper) |
| DPFD2SD1 | DPFD2 remaining jam (Desk tray 1 feed paper) |
| DPFD2SD2 | DPFD2 remaining jam (Desk tray 2 feed paper) |
| TTRAY2 | Tandem tray 2 paper feed jam (TPFD3 not-reaching) |
| TPFD3STD2 | TPFD3 remaining jam (Tandem tray 2 feed paper) |
| TTRAY1 | Tandem tray 1 paper feed jam (TPFD2 not-reaching) |
| TPFD2NTD2 | TPFD2 not-reaching jam (Tandem tray 2 feed paper) |
| TPFD2STD1 | TPFD2 remaining jam (Tandem tray 1 feed paper) |
| TPFD2STD2 | TPFD2 remaining jam (Tandem tray 2 feed paper) |
| FPID_N | Built-in finisher PID not-reaching jam |
| FPID_S | Built-in finisher PID remaining jam |
| FSCID_N | Built-in finisher SCID not-reaching jam |
| FSCID_S | Built-in finisher SCID remaining jam |
| FSCID2_N | Built-in finisher SCID2 not-reaching jam |
| FSCID2_S | Built-in finisher SCID2 remaining jam |
| FPPD_S | Built-in finisher PPD remaining jam |
| FSCPD_N | Built-in finisher SCPD not-reaching jam |
| FSCPD_S | Built-in finisher SCPD remaining jam |
| FPOD_N | Built-in finisher POD not-reaching jam |
| FPOD_S | Built-in finisher POD remaining jam |
| FES_N | Console finisher entry port sensor (FES) not-reaching jam |
| FES_S | Console finisher entry port sensor (FES) remaining jam |
| FFPS_N | Console finisher saddle not-reaching jam (Not reaching the folding sensor (FFPS).) |
| FFPS_S | Console finisher saddle remaining jam (The folding sensor (FFPS) does not turn off.) |
| FSTPL | Console finisher staple jam (The stapler does not complete clinching.) |
| FPNCH | Console finisher punch jam (The puncher does not complete punching.) |
| FDOP | Console finisher door open jam (During/after paper passing, the front door, joint, or upper cover is opened.) |
| PID_N | mail bin PID not-reaching jam |
| PID_S | mail bin PID remaining jam |
| MPPD1_N | mail bin MPPD1 not-reaching jam |
| MPPD1_S | mail bin MPPD1 remaining jam |
| MPPD2_N | mail bin MPPD2 not-reaching jam |
| MPPD2_S | mail bin MPPD2 remaining jam |
| MPPD3_N | mail bin MPPD3 not-reaching jam |
| MPPD3_S | mail bin MPPD3 remaining jam |
| MPPD4_N | mail bin MPPD4 not-reaching jam |
| MPPD4_S | mail bin MPPD4 remaining jam |
| MPPD5_N | mail bin MPPD5 not-reaching jam |
| MPPD5_S | mail bin MPPD5 remaining jam |

22-4

| | |
|---------------------|---|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the total trouble (self diag) history. |
| Section | |
| Item | Trouble |
| Operation/Procedure | The history of the latest 30 troubles is displayed. |

SIMULATION 22-4
TROUBLE HISTORY.

_
_
_
_
_
..... (10 lines x 80 digits = 800 characters)

(10 lines x 80 digits = 800 characters)

22-5

| | |
|---------------------|---|
| Purpose | Other |
| Function (Content) | Used to check the ROM version of each unit (section). |
| Section | |
| Item | Software |
| Operation/Procedure | The version of each ROM is displayed. |

SIMULATION 22-5

ROM VERSION DATA DISPLAY.

| | | | |
|----------------|-----------|-------------------|------------|
| S/N(MFP) : | 000000000 | S/N(ENGINE) : | 0000000000 |
| S/N(SCANNER) : | 000000000 | | |
| MFP : | 1.00 | (LANGUAGE : 1.00) | |
| PCU : | 1.00 | BOOT : | 1.00 |
| SCANNER : | 1.00 | FAX : | 1.00 |
| FINISHER : | 1.00 | NIC : | 1.00 |
| DESK/LCC : | 1.00 | MAIL BIN : | 1.00 |
| PUNCH UNIT : | 1.00 | | |

<List of display values>

| | |
|--------------|-------------------------------|
| S/N(MFP) | Controller serial number |
| S/N(ENGINE) | Engine section serial number |
| S/N(SCANNER) | Scanner section serial number |
| MFP | MFP controller |
| (LANGUAGE) | (Language version) |
| BOOT | MFP controller boot ROM |
| FAX | FAX controller |
| NIC | Network card |
| PCU | PCU controller |
| SCANNER | Scanner controller |
| FINISHER | Finisher controller |
| DESK/LCC | Desk/LCC controller |
| MAIL BIN | mail bin controller |
| PUNCH UNIT | Punch unit |

(Product key controlled by PCU PWB serial number.)

22-6

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (print) |
| Function (Content) | Used to print the list of adjustments and setup data (simulations, FAX soft switches, counters). |
| Section | |
| Item | Data |
| Operation/Procedure | the selected data is displayed on the menu box. |

SIMULATION 22-6
DATA PRINT MODE, SELECT SETTING, AND PRESS START.
0. TRAY SELECT :AUTO ONLY
1. PRINT START

When "1" is selected,
press [START] key

1

SIMULATION 22-6
DATA PRINT MODE.. EXECUTING...
0. TRAY SELECT :1

0

<List of display values>

| | |
|---|--------------------------------------|
| 0 | TRAY SELECT auto only (no selection) |
| 1 | PRINT START |

22-7

| | |
|---------------------|---|
| Purpose | User data output, check (display) |
| Function (Content) | Used to display the key operator code. (Used when the customer has forgotten the key operator code.) |
| Section | |
| Item | Data |
| Operation/Procedure | The key operator code is displayed. |

SIMULATION 22-7
KEY OPERATOR CODE DISPLAY.
CODE: ****

22-8

| | |
|---------------------|---|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the number of times the staple, and scanner (reading) unit were used. |
| Section | |
| Item | Counter |
| Operation/Procedure | The counter data below are displayed. |

SIMULATION 22-8
ORG./STAPLE COUNTER DATA DISPLAY.
SPF: *****
SCAN : *****
STAPLER : ***** PUNCH : *****
STAMP : *****

<List of display value>

| | |
|---------|-------------------------------------|
| SPF | Number of times of document feed |
| SCAN | Number of times of scan |
| STAPLER | Number of times of stapling |
| PUNCH | Number of times of punching |
| STAMP | Number of times of SPF finish stamp |

22-9

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the number of times (print quantity) of each paper feed section. |
| Section | Paper feed |
| Item | Counter |
| Operation/Procedure | The counter data below are displayed. |

SIMULATION 22-9
PAPER FEED COUNTER DATA DISPLAY.
TRAY1: ***** TRAY2 : *****
TRAY3 : ***** TRAY4 : *****
BPT : ***** ADU : *****

<List of display values>

| | |
|-------|--|
| TRAY1 | Use quantity of tray 1 |
| TRAY2 | Use quantity of tray 2 (Multi purpose tray) |
| TRAY3 | Use quantity of tray 3/LCC left tray (Common to Desk/LCC) |
| TRAY4 | Use quantity of tray 4/LCC right tray (Desk/LCC) |
| BPT | Use quantity of manual feed tray |
| ADU | Use quantity of duplex paper feed |

22-10

| | |
|---------------------|---|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the system configuration (option, internal hardware). |
| Section | |
| Item | Spec |
| Operation/Procedure | The machine composition below is displayed. |

```

SIMULATION 22-10
SYSTEM INFORMATION.
MACHINE: *****
SPF: ***** XXXXXXXXXXXX
FINISHER : ***** MAIL BIN : ***** PUNCH : *****
DESK/LCC : ***** ADU: ***** XXXXXXXXXXXX
PROCESS TYPE : *
SYSTEM MEMORY: **MB HDD: **MB ICU F *****
NIC : ***** NSCN : ***** PS3 : *****
FAX: ***** FAX MEMORY : **MB HAND SET: *****
STAMP : *****

```

<List of display value>

| | |
|---------------|--|
| MACHINE | AR-P350/350LP , AR-P450/450LP, AR-M350/350M, AR-M450/450M |
| SPF | NONE/ (Model code) |
| DSPF | NONE/ (Model code) |
| FINISHER | NONE/ (Model code) |
| MAIL BIN | NONE/ (Model code) |
| PUNCH | NONE/ (Model code) |
| DESK/LCC | NONE/ (Model code) |
| ADU | NONE/ (Model code) |
| SPEED | Machine speed 35/45 (CPM) |
| PROCESS TYPE | Process control spec (1, 2: AR machine 3: DM machine) |
| SYSTEM MEMORY | Memory capacity (MB) |
| HDD | Hard disk capacity (MB) |
| ICU | PRINTER/MFP |
| NIC | NONE/ (Model code) |
| NSCN | NONE/ (Network scanner) |
| PS3 | NONE/ (PS3 expansion kit) |
| FAX | NONE/ (Model code) |
| FAX MEMORY | FAX expansion memory capacity (MB) |
| HAND SET | NONE/ (Model code) |
| STAMP | Finisher stamp NONE/ (Model code) |

<List of machine model codes>

| Item | Display | Content |
|-------------------|---------------|---|
| MACHINE | AR-P350/350LP | |
| | AR-P450/450LP | |
| | AR-M350/350M | |
| | AR-M450/450M | |
| SPF | - | Document feed unit not installed |
| | AR-EF2 | Document feed unit (SPF) installed |
| | AR-EF1 | Duplex document feed unit installed |
| FINISHER | - | After-work unit not installed |
| | AR-FN6 | Built-in finisher installed |
| | AR-FN7 | Console finisher installed |
| MAIL BIN | - | Mail bin not installed |
| | AR-MS1 | Mail bin installed |
| Punch unit | - | Punch unit not installed |
| | AR-PN1A | Punch unit 2 holes |
| | AR-PN1B | Punch unit 3 holes |
| | AR-PN1C | Punch unit 4 holes |
| | AR-PN1D | Punch unit 4 holes wide hole |
| ADU | - | Duplex module not installed |
| | AR-DU3 | Duplex module installed |
| | AR-DU4 | Duplex module + manual feed unit installed |
| DESK | - | Paper feed desk not installed |
| | AR-MU1 | Multi-purpose tray installed |
| | AR-D14 | Paper feed desk installed |
| | AR-D13 | Tandem desk installed |
| ICU | PRINTER | Printer board |
| | AR-M11 | MFP board |
| MEMORY | 0MB | No expansion memory |
| | ***MB | Expansion memory ***MB |
| HD | 0MB | Hard disk not installed |
| | ****MB | Hard disk installed (AR-HD3) |
| NIC | - | NIC not installed |
| | AR-NC5J | NIC installed |
| PS3 expansion kit | - | PS3 expansion kit not installed |
| | AR-PK1 | PS3 expansion kit installed |
| FAX | - | FAX expansion kit installed |
| | AR-FX5 | FAX expansion kit not installed |
| Network scanner | - | Network expansion kit not installed |
| | AR-NS2F | Network expansion kit installed |
| Expansion memory | - | Expansion memory for FAX not installed |
| | AR-MM9 | Expansion memory for FAX 8MB (AR-MM9) installed |
| Handset | - | handset not installed |
| | AR-HN5 | Handset installed |
| Finish stamp | - | Finish stamp unit not installed |
| | AR-SU1 | Finish stamp unit installed |

22-11

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the use frequency of FAX. (send/receive) (Only when FAX is installed.) |
| Section | FAX |
| Item | Data |
| Operation/Procedure | The counter data below are displayed. |

SIMULATION 22-11
FAX COUNTER DATA DISPLAY.
FAX SEND : ***** FAX RECEIVE : *****
FAX OUTPUT : *****
SEND IMAGES : ***** SEND TIME : *****:***:
RECEIVE TIME : *****:***:

<List of display values>

| | |
|--------------|----------------------------------|
| FAX SEND | Number of times of FAX sending |
| FAX RECEIVE | Number of times of FAX receiving |
| FAX OUTPUT | FAX print quantity |
| SEND IMAGES | Quantity of sending |
| SEND TIME | Time for sending |
| RECEIVE TIME | Time for receiving |

22-12

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the misfeed position and the number of misfeed at that position. (If the number of misfeed is considerably great, the machine must be repaired.) |
| Section | DSPF |
| Item | Trouble |
| Operation/Procedure | The history of the latest 50 paper jams is displayed. (Refer to the jam code table below.) |

SIMULATION 22-12
SPF JAM HISTORY.
***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,*****
***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,*****
***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,*****
***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,*****
***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,***** ,*****
.....
(10 lines x 80 digits = 800 characters)

<Jam code table>

| Code | Description |
|---------|--------------------------|
| SPSD_N | SPSD not-reaching jam |
| SPSD_S | SPSD remaining jam |
| SPOD_N | SPOD not-reaching jam |
| SPOD_S | SPOD remaining jam |
| SPSDSCN | Exposure start timer end |

22-13

| | |
|---------------------|---|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to display the process cartridge data. |
| Section | |
| Item | Counter |
| Operation/Procedure | The counter data below are displayed. |

SIMULATION 22-13
PROCESS CARTRIDGE DATA DISPLAY.
DRUM : ***** (counts) ***** (sec.)
TONER : ***** (counts) ***** (sec.)
DEVE : ***** (counts) ***** (sec.)

<List of display values>

| | | |
|-------|-----------------------------|---|
| DRUM | Drum cartridge counter | Count value (counts) Rotating time (sec) |
| TONER | Toner cartridge counter | Count value (counts) Rotating time (sec) |
| DEVE | Developer cartridge counter | Count value (counts) Rotating time (sec) |

22-19

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to display the scanner mode counter. |
| Section | |
| Item | Counter |
| Operation/Procedure | The counter values related to the network scanner are displayed. |

SIMULATION 22-19
NETWORK SCANNER COUNTER DISPLAY.
NETWORK SCANNER ORIGINAL COUNTER : *****
MAIL COUNTER : *****
FTP COUNTER : *****

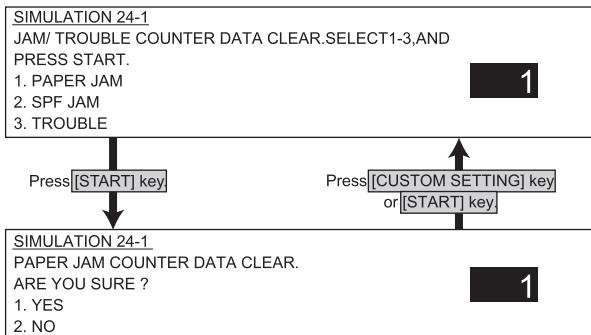
<List of display values>

| | |
|----------------------------------|---|
| NETWORK SCANNER ORIGINAL COUNTER | Number of scanned documents (total of OC and SPF) |
| MAIL COUNTER | Number of times of mail sending |
| FTP COUNTER | Number of times of FTP sending |

Main code 24

24-1

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to clear the misfeed counter, misfeed history, trouble counter, and trouble history. (After completion of maintenance, these counters must be cleared.) |
| Section | |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

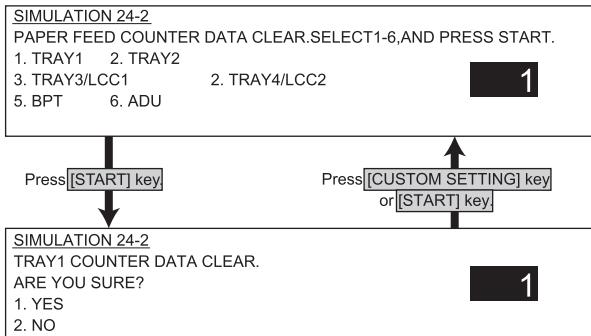


<List of set values>

| | |
|-----------|------------------------------|
| PAPER JAM | Number of times of paper jam |
| SPF JAM | Number of times of SPF jam |
| TROUBLE | Number of times of troubles |

24-2

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to clear the number of use (print quantity) of each paper feed section. |
| Section | Paper feed |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

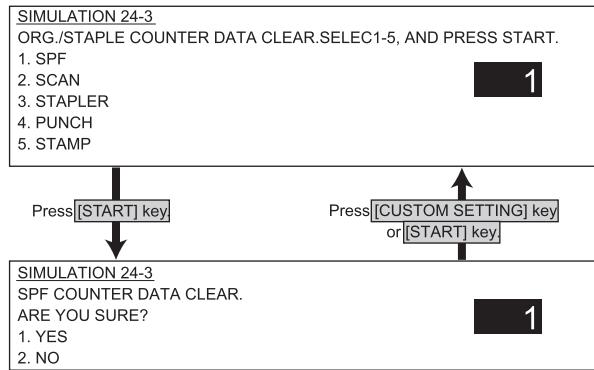


<List of set values>

| | |
|---|------------------------------------|
| 1 | Tray 1 use quantity |
| 2 | Tray 2 use quantity |
| 3 | Tray 3/LCC left tray use quantity |
| 4 | Tray 4/LCC right tray use quantity |
| 5 | Manual feed tray use quantity |
| 6 | Duplex paper feed use quantity |

24-3

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to clear the number of use of the staple, DSFP and the scanner (reading) unit. |
| Section | |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

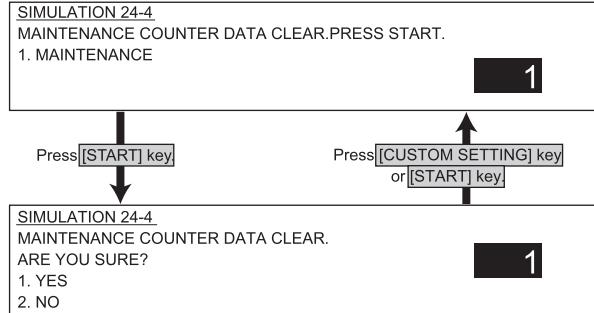


<List of set values>

| | |
|---|----------------------------------|
| 1 | SPF paper passing quantity |
| 2 | Number of times of document scan |
| 3 | Number of times of stapling |
| 4 | Number of times of punching |
| 5 | Number of times of finish stamp |

24-4

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to reset the maintenance counter. |
| Section | |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

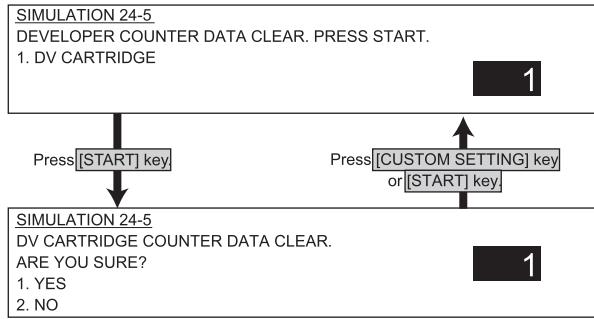


<List of set values>

| | |
|---|---------------------|
| 1 | maintenance counter |
|---|---------------------|

24-5

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to reset the developer counter. (The developer counter of the DV unit installed is reset.) |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

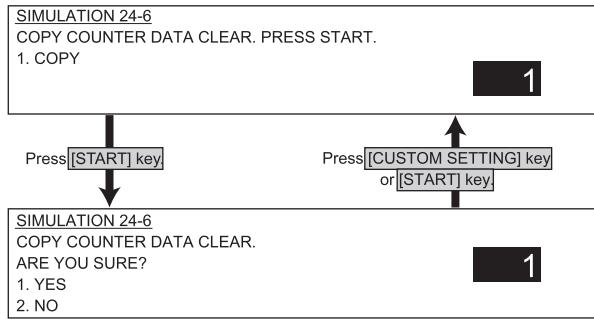


<List of set values>

| | |
|---|-----------------------------|
| 1 | Developer cartridge counter |
|---|-----------------------------|

24-6

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to reset the copy counter. |
| Section | |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

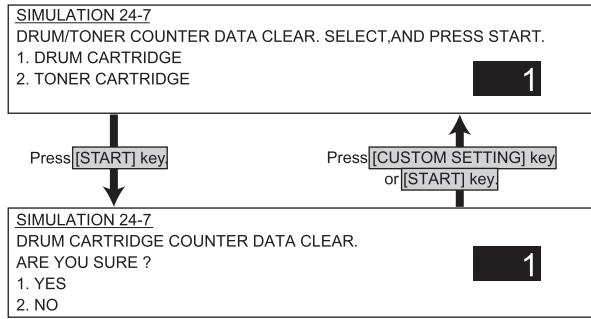


<List of set values>

| | |
|---|------------------------------|
| 1 | Copy effective paper counter |
|---|------------------------------|

24-7

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to clear the OPC drum counter and the toner cartridge counter. (Perform when the OPC drum is replaced.) |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

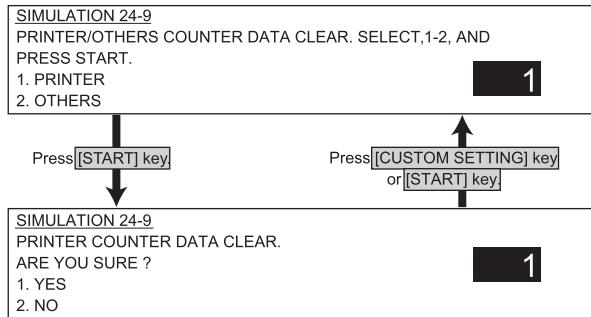


<List of set values>

| | |
|---|-------------------------|
| 1 | Drum cartridge counter |
| 2 | Toner cartridge counter |

24-9

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to clear the printer print counter. (After completion of maintenance, this counter must be cleared.) |
| Section | Printer |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

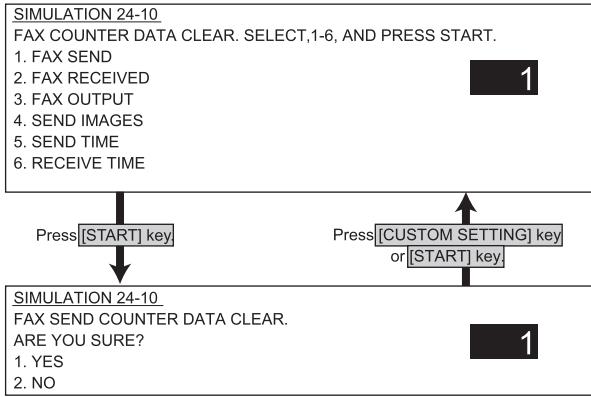


<List of set values>

| | |
|---|-------------------------------|
| 1 | Printer counter |
| 2 | Other effective paper counter |

24-10

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to clear the FAX counter. |
| Section | FAX |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

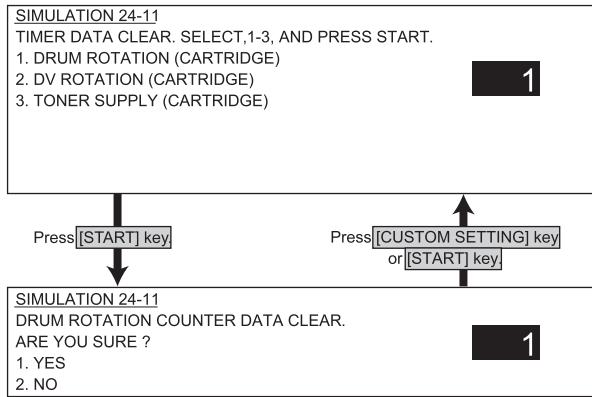


<List of set values>

| | |
|---|---|
| 1 | FAX SEND: Number of times of FAX sending |
| 2 | FAX RECEIVE: Number of times of FAX reception |
| 3 | FAX OUTPUT: FAX print quantity |
| 4 | SEND IMAGES: Sending quantity |
| 5 | SEND TIME: Time for sending |
| 6 | RECEIVE TIME: Time for reception |

24-11

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to reset the drum rotation time, toner motor rotation time, and developer rotation time counters. The developer counter of the DV unit installed is reset. |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |

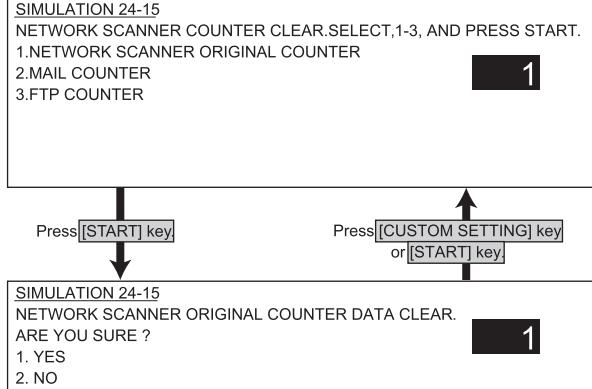


<List of set values>

| | |
|---|---|
| 1 | Drum rotating time (cartridge) |
| 2 | Developing unit rotating time (cartridge) |
| 3 | Toner supply time (cartridge) |

24-15

| | |
|---------------------|---|
| Purpose | Data clear |
| Function (Content) | Used to clear each counter in the scanner mode. |
| Section | |
| Item | Counter |
| Operation/Procedure | Select with 10 digit key pad and press START key. The procedure below is executed and the display returns to the original state. 1: Counter is cleared 2: Not cleared |



<List of set values>

| | |
|---|---|
| 1 | Document scan counter in the network scanner mode |
| 2 | Number of times of mail sending |
| 3 | Number of times of FTP sending |

Main code 25

25-1

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the main drive section (excluding the scanner (reading) section) and the toner density sensor. (The toner density sensor output can be monitored.) |
| Section | Drive |
| Item | Operation |
| Operation/Procedure | the toner density control sensor value is displayed. Press START key, and the main motor will rotate to start monitoring the toner density control sensor. |

SIMULATION 25-1
DV MONITOR. PRESS START.

128

Press [START] key
↓

↑
Press [CUSTOM SETTING] key to stop.
Or stop after 2min.

SIMULATION 25-1
DV MONITOR. EXECUTING...

128

25-2

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to initialize the toner density when replacing developer. (Auto adjustment) |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | |
| Operation/Procedure | The toner density control sensor value is displayed. Press START key, and the main motor will rotate. After stirring for 2 min, the toner density control sensor value is sampled 10 times and the average value is stored. |

Note: Open front cover before entering SIM for Auto adjust.

SIMULATION 25-2
AUTOMATIC DV ADJUSTMENT. PRESS START.

128

Press [START] key
↓

↑
Press [CUSTOM SETTING] key to stop.
Or stop after 2min.

SIMULATION 25-2
AUTOMATIC DV ADJUSTMENT. EXECUTING...

128

Main code 26

26-3

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the specification mode of the auditor. Setup must be made according to the use conditions under auditor. |
| Section | Auditor |
| Item | Spec |
| Operation/Procedure | The auditor setting is performed. (Default: 1) |

SIMULATION 26-3
AUDITOR SETUP. SELECT 1-3, AND PRESS START.
1. P10
2. VENDOR
3. OTHERS

1

26-5

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the count mode of the total counter and the maintenance counter. |
| Section | |
| Item | Spec |
| Operation/Procedure | <ul style="list-style-type: none"> 1) Setting of the count-up number of A3/WLT paper passing (1 or 2) is made. The current set value is highlighted on the right side of the item. 2) Setting of the count-up number of the selected counter is made. <ul style="list-style-type: none"> 1: 1 count up 2: 2 counts up (Default : 2) |

SIMULATION 26-5
A3(LEDGER) COUNT UP MODE SETTING. SELECT 1-3, AND PRESS START.
1. TOTAL COUNTER 1
2. MAINTENANCE(DRUM) COUNTER 1
3. DV CARTRIDGE COUNTER 1

1

Press [START] key

↑
Press [CUSTOM SETTING] key

SIMULATION 26-5
A3(LEDGER) COUNT UP MODE SETTING. SELECT 1-2, AND PRESS START.
1. TOTAL COUNTER
(1: 1 COUNT UP, 2: 2 COUNT UP)

1

<List of target counters>

| | |
|---|--|
| 1 | Total counter |
| 2 | Maintenance counter/drum cartridge counter |
| 3 | Developer cartridge counter |

26-6

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set the specification according to the destination. |
| Section | |
| Item | Spec |
| Operation/Procedure | After setting the destination, the power is turned off/on. |

- * When NIC is installed, reset cannot be performed. Therefore, the power must be turned off/on.
- * This simulation cannot change the FAX destination. Use SIM 66-2 to change the FAX destination.

SIMULATION 26-6
DESTINATION SETUP. SELECT 1-10, AND PRESS START.
1. USA 2. CANADA 3. INCH
4. JAPAN 5. AB_B
6. EUROPE 7. UK 8. AUSTRALIA
9. AB_A 10. CHINA

1

<List of destinations>

| | |
|----|--------------------------|
| 1 | United States of America |
| 2 | Canada |
| 3 | Inch series EX |
| 4 | Japan |
| 5 | AB series B5 |
| 6 | Europe |
| 7 | UK |
| 8 | Australia |
| 9 | AB series A5 |
| 10 | China |

26-10

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the trial mode of the network scanner. |
| Section | |
| Item | Operation |
| Operation/Procedure | The network scanner trial mode is set. (Testing scanner without product key is limited to 500 sheets.) (Default: 0) |

SIMULATION 26-10
NETWORK SCANNER TRIAL SETTING. SELECT 0-1, AND PRESS START.
0.END
1.START

1

<List of set values>

| | |
|---|-------------------|
| 0 | Trial mode cancel |
| 1 | Trial mode start |

26-18

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set Enable/Disable of toner save operation. (This simulation is enabled only in Japan and UK versions. (Depends on SIM 26-6 (Destination) setup). For the other destinations, user program P22 allows to make the similar setup.) |
| Section | |
| Item | Spec |
| Operation/Procedure | The toner mode setup is made. (Default: 1) |

SIMULATION 26-18
TONER SAVE MODE SETTING. SELECT 0-1, AND PRESS START.
0. YES
1. NO

1

<List of set values>

| | |
|---|------------------------------|
| 0 | Toner save mode is enabled. |
| 1 | Toner save mode is disabled. |

26-30

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the operation mode conforming to the CE mark (Europe standards). (For flickers when driving the fusing heater lamp.) |
| Section | |
| Item | Spec |
| Operation/Procedure | |

SIMULATION 26-30
CE MARK CONTROL SETTING. SELECT 0-1, AND PRESS START.
0. NO
1. YES

1

<List of set values>

| | |
|---|-----------------------|
| 0 | No control of CE mark |
| 1 | Control of CE mark |

26-35

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set whether the trouble history of SIM 22-4 is displayed as one-time trouble or continuous troubles when two or more number of a same trouble occurred. |
| Section | |
| Item | Spec |
| Operation/Procedure | The trouble memory storing method is set. (Default: 0) |

SIMULATION 26-35
TROUBLE MEMORY MODE SETTING. SELECT 0-1, AND PRESS START.
0. ONCE
1. ANY

1

<List of set values>

| | |
|---|--|
| 0 | Only once (If same as the previous one, it is not stored.) |
| 1 | Any times (Though same as the previous one, it is stored.) |

26-38

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to stop printing when developer life is expired. |
| Section | Other |
| Item | Operation |
| Operation/Procedure | Print enable/disable is set when the developer cartridge is expired in a DM machine. (Default: 1) |

* This simulation is ignored in the AR model, that is, the operation is continued.

SIMULATION 26-38
DEVELOPER LIFE END SETTING. SELECT 0-1, AND PRESS START.
0. PRINT CONTINUE
1. PRINT STOP

1

<List of set values>

| | |
|---|----------------|
| 0 | Print continue |
| 1 | Print stop |

26-41

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set Enable/Disable of the magnification ratio auto selection function (AMS) in the pamphlet copy mode. |
| Section | |
| Item | Spec |
| Operation/Procedure | Pamphlet mode AMS setting is enabled or disabled. Press START key to save. (Europe : 1, Others : 0) |

SIMULATION 26-41
PAMPHLET MODE AMS SETTING. SELECT 0-1, AND PRESS START.
0. NO
1. YES

1

<List of set values>

| | |
|---|----------------------|
| 0 | AMS setting disabled |
| 1 | AMS setting enabled |

26-52

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set Enable/Disable of count-up when white paper is discharged. (White paper means the index paper (without copying) in the OHP index paper insertion mode, the front/rear covers (without copying) in the cover insertion mode, and white paper in the duplex exit mode (CA, etc.).) |
| Section | Paper transport (Paper exit, switchback, transport) |
| Item | |
| Operation/Procedure | Count-up setting of white paper exit mode is made. Press START key to save. (Default: 0 for Japan and Australia, 1 for the others) |

* The following counters are not counted up.

- Copies counter
- Printer counter
- Department control counter
- Total counter
- Effective paper counter

SIMULATION 26-52
BLANK PAPER COUNT UP SETTING. SELECT 0-1, AND PRESS START.
0. NO(NO COUNT UP)
1. YES(COUNT UP)

1

<List of set values>

| | |
|---|-----------------------|
| 0 | Count-up is not made. |
| 1 | Count-up is made |

Main code 27

| | |
|--------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set the operation specifications when a communication trouble occurs between the host computer and MODEM (machine side). (When a communication trouble occurs between the host computer and MODEM (machine side), self diag display (U7-00) is displayed and setup is made to inhibit or allow printing.) |

| | |
|---------------------|---|
| Section | Communication (RIC/MODEM) |
| Item | Spec |
| Operation/Procedure | Yes/No of communication trouble between PC/MODEM is set. (Default: 0) |

(Japan only)

SIMULATION 27-1
DISABLING OF U7-00 TROUBLE. SELECT 0-1, AND PRESS START.
0. YES
1. NO

1

<List of set values>

| | |
|---|--|
| 0 | U7-00 is not displayed in a communication trouble. |
| 1 | U7-00 is displayed in a communication trouble. |

27-5

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to enter the machine tag No. (This function allows to check the machine tag No. from the computer.) |
| Section | Communication (RIC/MODEM) |
| Item | Data |
| Operation/Procedure | The tag number is set. The current value is displayed on PRESENT column. Enter a new tag number with 10 digit key pad and press START to store. |

SIMULATION 27-5
TAG # SETTING. INPUT VALUE, AND PRESS START.
PRESENT : 00010000
NEW : 00009999

Main code 30**30-1**

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the sensors and detectors in the paper feed, paper transport, and paper exit sections and their control circuits. |
| Section | |
| Item | Operation |
| Operation/Procedure | Then sensors of the machine are checked. The sensor name is highlighted when it is detected. |

SIMULATION 30-1
SENSOR CHECK..
PPD1 POD1 POD2 **POD3** DVCRUin PRCRUin DSWL
DSWF

<List of display values>

| | |
|---------|-------------------------------------|
| PPD1 | Resist roller front paper detection |
| POD1 | Fusing rear transport detection 1 |
| POD2 | Fusing rear transport detection 2 |
| POD3 | Paper full detection |
| DVCRUin | DV unit version detection |
| PRCRUin | Process unit version detection |
| DSWL | Cabinet open detection |
| DSWF | Machine front door |

30-2

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the sensors and detectors in the paper feed section and their control circuits. (The operations of the sensors and detectors in the paper feed section can be monitored on the LCD display.) |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | Then sensors of the machine paper feed tray are checked. The sensor name is highlighted when it is detected. |

SIMULATION 30-2
TRAY SENSOR CHECK..
CSS1 PED LUD
MCSET MCDRS MCPPD MCLUD MCPED MCSPD MCSS1 MCSS2
MCSS3 MCSS4 (MP Tray size:**A4**)
MPFSET MPED MPLD MPLS1 MPLS2 (Bypass Tray size:**A3**)

<List of display values>

| | | | |
|--------|--------------------------------------|------------------|--|
| CSS1 | Tray 1 insertion detection | MCSS1 | MP tray size detection 1 |
| PED | Tray 1 paper empty detection | MCSS2 | MP tray size detection 2 |
| LUD | Tray 1 upper limit detection | MCSS3 | MP tray size detection 3 |
| MCSET | MP unit detection | MCSS4 | MP tray size detection 4 |
| MCDRS | MP unit side door open detection | MP Tray size | (The detection size of MP tray is displayed.) |
| MCPDPD | MP tray transport detection | MPFSET | Manual feed tray detection |
| MCLUD | MP tray upper limit detection | MPED | Manual feed tray paper empty detection |
| MCPED | MP tray paper empty detection | MPLD | Manual feed length detection |
| MCSPD | MP tray remaining quantity detection | MPLS1 | Manual feed pull-out sensor 1 |
| | | MPLS2 | Manual feed pull-out sensor 2 |
| | | Bypass Tray size | (The detection size of manual feed tray is displayed.) |

Main code 40**40-1**

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the manual paper feed tray paper size detectors and their control circuit. (The operations of the manual paper feed tray paper size detectors can be monitored on the LCD display.) |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | The sensors of the manual feed tray are checked. The sensor name is highlighted when it is detected. |

SIMULATION 40-1
BYPASS TRAY SENSOR CHECK.

MPLD MPLS1 MPLS2
(Bypass Tray width size:**A4/A3**)

<List of display values>

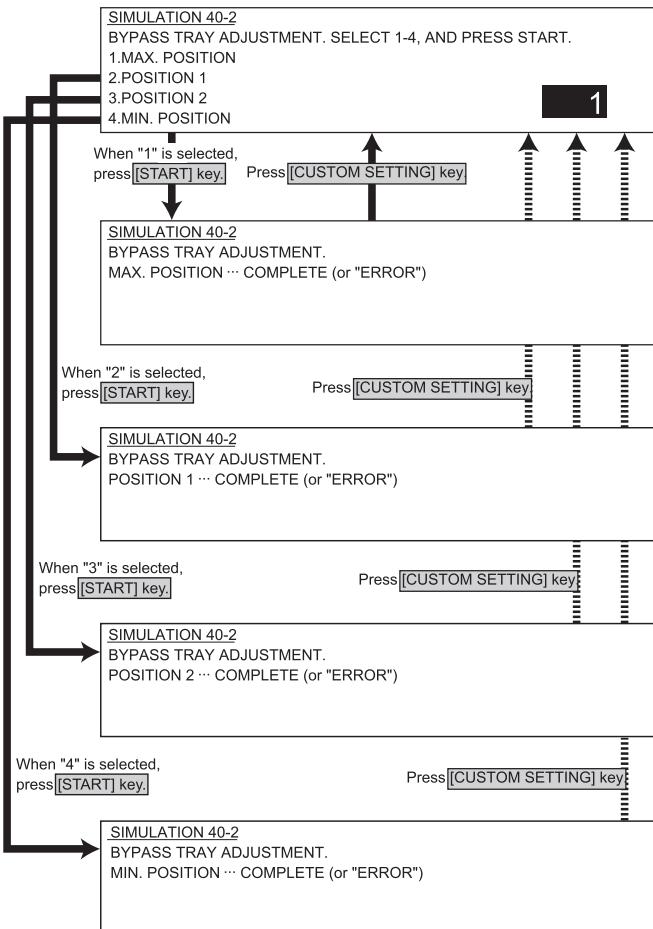
| | |
|------------------------|--|
| MPLD | Manual feed tray length detection |
| MPLS1 | Manual feed pull-out sensor 1 |
| MPLS2 | Manual feed pull-out sensor 2 |
| Bypass Tray width size | (The detected width of manual feed tray is displayed.) A4/A3, 11x, B5/B4, 8.5x, A4R, B5R, A5R, 5.5x, 7.25x, EXTRA |

40-2

| | |
|---------------------|---|
| Purpose | Adjustment, setup |
| Function (Content) | Used to adjust the detection level of the manual paper feed tray paper width volume. |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | <p>The manual feed tray size is adjusted.</p> <ol style="list-style-type: none"> Extend the guide to the MAX. position. Select 1 and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen. Move the guide to A4R position. Select 2 and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen. Move the guide to A5R position. Select 3 and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen. Move the guide to MIN. position in the initial screen. Select 4 and press START. When COMPLETE is displayed, the adjustment is completed. <p>If ERROR is displayed in procedures 1) - 4), repeat the adjustment again."</p> |

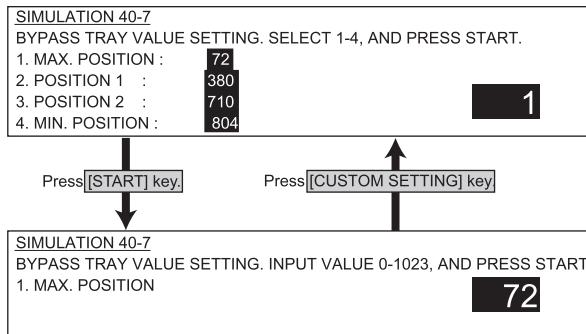
* This adjustment is performed only when the width detection volume is replaced.

Normally use SIM 40-7 for input.



40-7

| | |
|---------------------|---|
| Purpose | Adjustment, setup |
| Function (Content) | Used to enter the adjustment value of the manual paper feed tray width detection level. |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | The adjustment value(Specified on the back of the tray pull-out section) of the manual feed tray size is entered. |

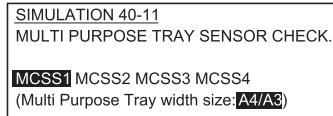


<List of set values>

| | |
|---|------------------------|
| 1 | Max. width(Max.) |
| 2 | Adjustment point 1(P1) |
| 3 | Adjustment point 2(P2) |
| 4 | Min. width(Min.) |

40-11

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the width detection level of the multi-purpose tray paper width detector. |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | The multi-purpose tray (MPT) sensors are checked. The sensor name is highlighted when it is highlighted. |

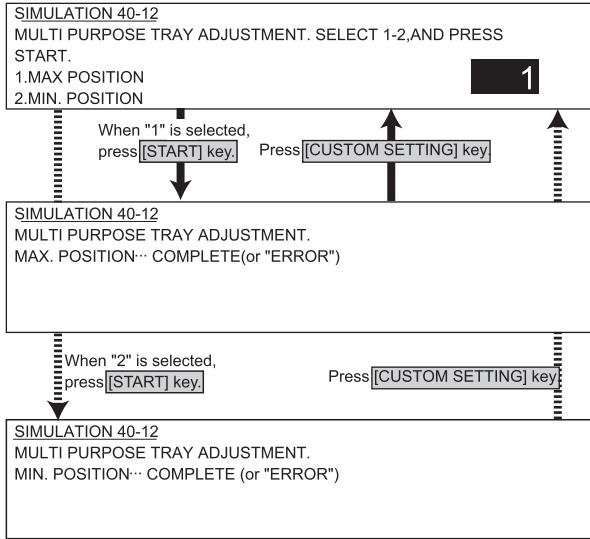


<List of display values>

| | |
|----------------------------------|--|
| MCSS1 | Multi-purpose tray size detection 1 |
| MCSS2 | Multi-purpose tray size detection 2 |
| MCSS3 | Multi-purpose tray size detection 3 |
| MCSS4 | Multi-purpose tray size detection 4 |
| Multi Purpose Tray width size | (The detected size of MPT width is displayed.) A4/A3, 11x, B5/B4, 8.5x, A4R, B5R, A5R, 5.5x, 7.25x, EXTRA |

40-12

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to adjust the width detection level of the multi-purpose tray paper width detector. |
| Section | Paper feed |
| Item | Operation |
| Operation/Procedure | <p>The multi-purpose tray size is adjusted.</p> <ol style="list-style-type: none"> 1) Extend the guide to the MAX. position. Select 1 and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen. 2) Move the guide to MIN. position. Select 2 and press START. When COMPLETE is displayed, the adjustment is completed. If ERROR is displayed in procedures 1) - 2), repeat the adjustment again. |



Main code 41

41-1

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the document size sensor and the related circuit. (The operation of the document size sensor can be monitored on the LCD display.) |
| Section | Other |
| Item | Operation |
| Operation/Procedure | The OC document sensor is checked. |

SIMULATION 41-1
PD SENSOR CHECK..
OCSW PD1 PD2 PD3 PD4 PD5 PD6 PD7
(The detected sensor is highlighted.)

<List of display values>

| | |
|---------|--|
| OCSW | Original cover state Open : Normal display Close : Highlighted |
| PD1 ~ 7 | Document sensor state No document : Normal display Document loaded : Highlighted |

41-2

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the detection level of the document size sensor. |
| Section | Other |
| Item | Operation |
| Operation/Procedure | <p>The OC document sensor is adjusted.</p> <ol style="list-style-type: none"> 1) Open the original cover. Press 1 without an original. Press START, and COMPLETE is displayed. Press CUSTOM SETTING to return to the initial screen. 2) Place an A3 (or WLT) paper in the initial screen. Select 2 and press START. When COMPLETE is displayed, the adjustment is completed. If ERROR is displayed in procedures 1) - 2), repeat the adjustment again. |

SIMULATION 41-2
PD SENSOR ADJUSTMENT. SELECT1-2, AND PRESS START.
(PLEASE OPEN THE ORIGINAL COVER.)

1. NO ORIGINAL
2. A3 ORIGINAL

When "1" is selected,
press [START] key.
Press [CUSTOM SETTING] key

SIMULATION 41-2
PD SENSOR ADJUSTMENT.
NO ORIGINAL ... COMPLETE (or " ERROR at PD1 PD2 ...")
A3 ORIGINAL ... INCOMPLETE

When "2" is selected,
press [START] key.
Press [CUSTOM SETTING] key
(In case of an error)

SIMULATION 41-2
PD SENSOR ADJUSTMENT.
NO ORIGINAL ... COMPLETE
A3 ORIGINAL ... COMPLETE (or " ERROR at PD1 PD2 ...")

41-3

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation of the document size sensor and the related circuit. (The output level of the document size sensor can be monitored on the LCD display.) |
| Section | Other |
| Item | Operation |
| Operation/Procedure | The OC document sensor detection level is displayed. (Real time display) |

SIMULATION 41-3
PD SENSOR DATA DISPLAY.
OCSW
PD1[128]: 200 PD2[128]: 200
PD3[128]: 50 PD4[128]: 52
PD5[128]: 51 PD6[128]: 50
PD7[128]: 52

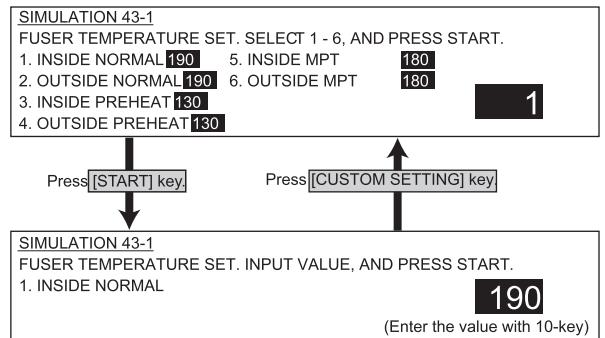
<List of display values>

| | |
|---------|---|
| OCSW | Original cover state Open : Normal display Close : Highlighted |
| PD1 ~ 7 | PD sensor detection level Figures in [] indicate the adjustment threshold values (41-2 adjustment value). |

Main code 43

43-1

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the fusing temperature in each operation mode. |
| Section | Fusing, paper exit |
| Item | Operation |
| Operation/Procedure | The fusing control temperature is set. The current set value is highlighted on the right of each item. Select an item (1 - 6), and enter a set value with 10 digit key pad. Press START key to store the value. |



<List of display values>

| | | Default | Set range |
|---|---------------------------------------|---------|-----------|
| 1 | Heater inside/Normal | 190 | 165~210 |
| 2 | Heater outside/Normal | 190 | 165~210 |
| 3 | Heater inside/Pre-heat | 150 | 100~160 |
| 4 | Heater outside/Pre-heat | 150 | 100~160 |
| 5 | Heater inside/Manual paper feed used | 190 | 165~210 |
| 6 | Heater outside/Manual paper feed used | 190 | 165~210 |

Main code 44

44-1

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set Enable/Disable of each correction operation in the image forming (process) section. |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | Operation |
| Operation/Procedure | |

SIMULATION 44-1
PROCESS CORRECTION VALUE SETTING. INPUT VALUE 0-127
AND PRESS START.
BIT0:Vg1, BIT1:Vg2, BIT2:Vb1, BIT3:Vb2
BIT4:Vb3, BIT5:LD1, BIT6:LD2

127

bit = 1 : Correction enabled

| | | | | | | | | | | | | | | | |
|--------|----|----|----|----|----|---|---|---|-----|-----|-----|-----|-----|-----|-----|
| Bit 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | LD2 | LD1 | Vb3 | Vb2 | Vb1 | Vg2 | Vg1 |

44-4

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set the target image (reference) density level in the developing bias voltage correction. |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | Data |
| Operation/Procedure | The process correction value is set. Select an item (1 - 9), and enter a value with 10 digit key pad. Press SYTART to store the value. |

SIMULATION 44-4
PROCESS CONTROL VALUE SETTING. SELECT 1-8 AND PRESS START.

| | | | | | | | | | |
|---------|----|---------|-----|---------|----|---------|----|---------|----|
| 1.PTH | 00 | 2.S-WT | 100 | 5.Vb1-3 | 50 | 1 | | | |
| 3.Vb1-1 | 50 | 4.Vb1-2 | 50 | 6.Vb2-1 | 50 | 7.Vb2-2 | 50 | 8.Vb2-3 | 50 |

Press [START] key

Press [CUSTOM SETTING] key

SIMULATION 44-4
PROCESS CONTROL VALUE SETTING. INPUT VALUE, AND PRESS START.
1.PTH

45

<List of display values>

| | | |
|---|----------|--|
| 1 | PTH *1 | Process Thermistor temperature forcible set value (0-99°C : Normal 0) |
| 2 | S_WT *2 | Vb (Devepoping bias correction value) rising correction wait time (0-180sec : Default 90) |
| 3 | Vb1-1 *3 | Vb (Devepoping bias correction value) correction quantity (First rotation) 1 (0 - 150V : Default 50) |
| 4 | Vb1-2 *3 | Vb (Devepoping bias correction value) correction quantity (First rotation) 2 (0 - 150V : Default 50) |
| 5 | Vb1-3 *3 | Vb (Devepoping bias correction value) correction quantity (First rotation) 3 (0 - 150V : Default 50) |
| 6 | Vb2-1 *4 | Vb (Devepoping bias correction value) correction quantity (Second rotation) 1 (0 - 50V : Default 15) |
| 7 | Vb2-2 *4 | Vb (Devepoping bias correction value) correction quantity (Second rotation) 2 (0 - 50V : Default 15) |
| 8 | Vb2-3 *4 | Vb (Devepoping bias correction value) correction quantity (Second rotation) 3 (0 - 50V : Default 15) |

*1: Only when this value is 0, control is performed with the actual measurement value of process Thermistor.
If it is not 0, control is forcibly performed.

*2: When the drum motor standby time is greater than this value, the correction of SIM 44-1 Vb1 is performed.

*3: This value is SIM 44-9 Vb1-1 correction value. The value corresponding to the drum rotating time is used.

*4: This value is SIM 44-9 Vb1-2 correction value. The value corresponding to the drum rotating time is used.

| DRUM ROTATION TIME | | Vb1 correction value (X' th rotation) |
|--------------------|----------------|--|
| 45PPM | 35PPM | |
| 0 ~ 40K (sec) | 0 ~ 50K (sec) | (X' th rotation) -1 |
| 40 ~ 80K (sec) | 50 ~ 95K (sec) | (X' th rotation) -2 |
| 80K ~ (sec) | 95K ~ (sec) | (X' th rotation) -3 |

44-9

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to check the result (main charger grid voltage developing bias voltage, laser power, etc.) of correction (process correction) in the image forming section. (By this simulation, the correction operation can be checked.) |
| Section | Process (OPC drum, developing, transfer, cleaning) |
| Item | Data |
| Operation/Procedure | The process correction value is checked. |

SIMULATION 44-9
PROCESS CONTROL DATA DISPLAY.
DRUM ROTATION TIME: 01234567 (sec)
Vg1: 30(V) Vg2: 30(V) ■
Vb1-1: 30(V) Vb1-2: 30(V) Vb2: 10(V)
LD1: 0.05 (mW) LD2: 0.05 (mW)
CONTROL: 1 DESTINATION: A PTH: 30 (deg)
TO: 5 T1: 5 T2: 3

<List of display values>

| | |
|--------------------|--|
| DRUM ROTATION TIME | Drum rotation time |
| Vg1~Vg2 | Grid voltage correction value |
| Vb1-1 *1 | Vb (Developing bias correction value) correction value (first rotation) |
| Vb1-2 *1 | Vb (Developing bias correction value) correction value (second rotation) |
| Vb2 | Developing bias correction value |
| Vb3 | Developing bias correction value |
| LD1 | Laser power correction value |
| LD2 | Laser power correction value |
| CONTROL | CRUM control spec (1 - 3) |
| DESTINATION | CRUM destination (A - J) |
| PTH *2 | Process Thermistor temperature value |
| T0 | Toner control correction value (Rotation time correction) (± 100) |
| T1 | Toner control correction value T1 (Temperature correction) (± 100) |
| T2 | Toner control correction value T2 (Temperature correction) (± 100) |

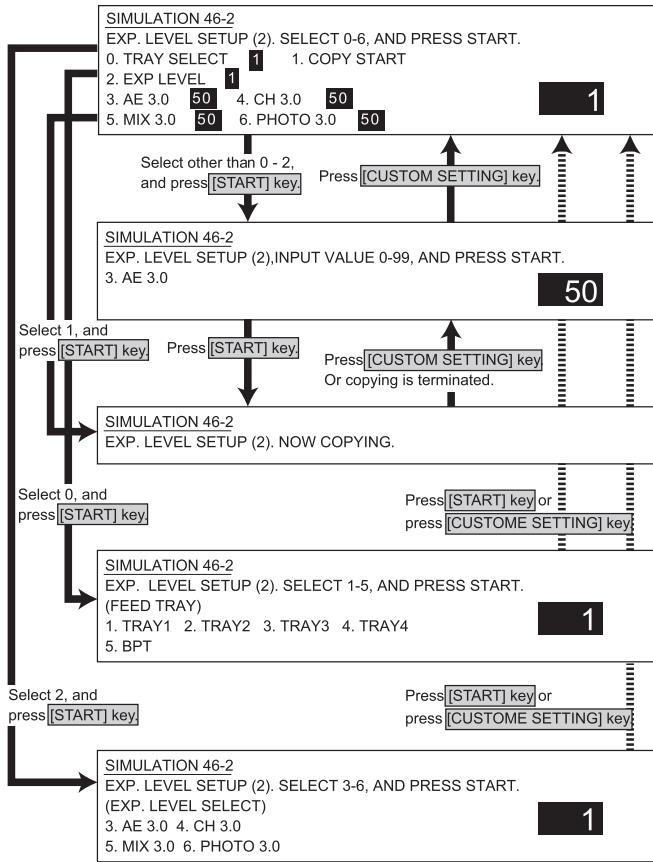
*1: Vb1-1 and Vb1-2 are enabled or disabled by SIM 44-1 Vb1 setup.

*2: When PTH is set to 0 with SIM 44-4, the detected value in this adjustment is displayed. If PTH is set to other than 0, the value set with SIM 44-4 is displayed.

Main code 46

46-2

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the copy density in the copy mode (binary, auto, text, text/photo, photo mode). An adjustment with this simulation affects all the reading density adjustment values. |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (Auto adjustment)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) 5) Select an exposure level. (Set value 3) |



<List of set values 1>

| | |
|---|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Copy start (Default) |
| 2 | Exposure level selection |
| 3 | AE mode |
| 4 | Text mode 30 |
| 5 | Text/Photo mode 30 |
| 6 | Photo mode 30 |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | DOOR OPEN. |
| | JAM |
| | PAPER EMPTY. |

<List of set values 2>

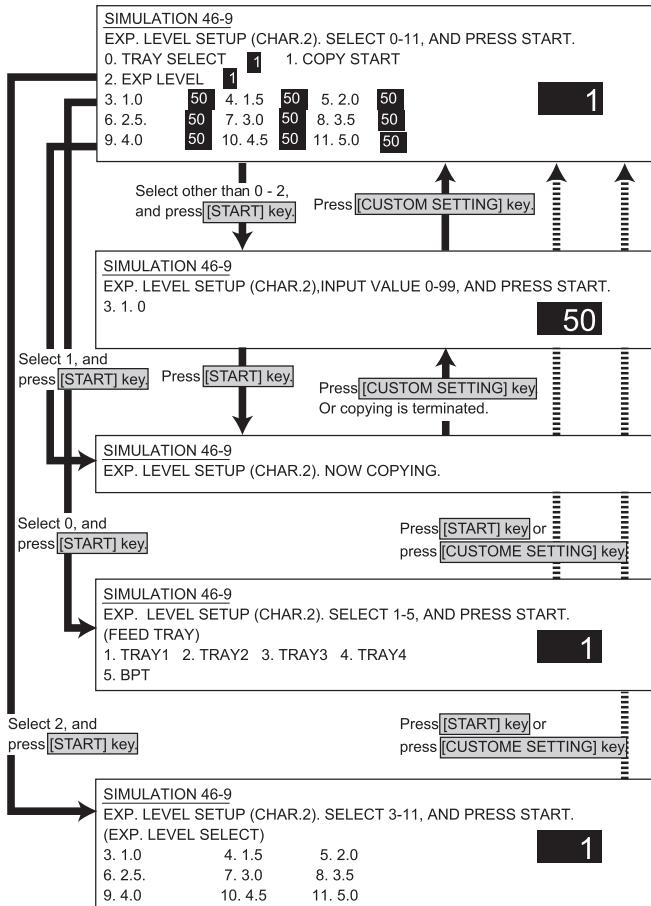
| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|---|--------------------|
| 3 | AE mode |
| 4 | Text mode 30 |
| 5 | Text/Photo mode 30 |
| 6 | Photo mode 30 |

46-9

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the print density for each density level (display value) in the copy mode (binary-Text mode). A desired reading density can be set for each density level (display value). |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (Text mode)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) 5) Select an exposure level. (Set value 3) |



<List of set values 1>

| | |
|----|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Copy start (Default) |
| 2 | Exposure level selection |
| 3 | Exposure level 1.0 |
| 4 | Exposure level 1.5 |
| 5 | Exposure level 2.0 |
| 6 | Exposure level 2.5 |
| 7 | Exposure level 3.0 |
| 8 | Exposure level 3.5 |
| 9 | Exposure level 4.0 |
| 10 | Exposure level 4.5 |
| 11 | Exposure level 5.0 |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | DOOR OPEN. |
| | JAM |
| | PAPER EMPTY. |

<List of set values 2>

| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|----|--------------------|
| 3 | Exposure level 1.0 |
| 4 | Exposure level 1.5 |
| 5 | Exposure level 2.0 |
| 6 | Exposure level 2.5 |
| 7 | Exposure level 3.0 |
| 8 | Exposure level 3.5 |
| 9 | Exposure level 4.0 |
| 10 | Exposure level 4.5 |
| 11 | Exposure level 5.0 |

| | |
|--------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the print density for each density level (display value) in the copy mode (binary-Text/Photo mode). A desired reading density can be set for each density level (display value). |
| Section | |
| Item | Picture quality |

<List of set values 1>

| | |
|----|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Copy start (Default) |
| 2 | Exposure level selection |
| 3 | Exposure level 1.0 |
| 4 | Exposure level 1.5 |
| 5 | Exposure level 2.0 |
| 6 | Exposure level 2.5 |
| 7 | Exposure level 3.0 |
| 8 | Exposure level 3.5 |
| 9 | Exposure level 4.0 |
| 10 | Exposure level 4.5 |
| 11 | Exposure level 5.0 |

<List of display values 1>

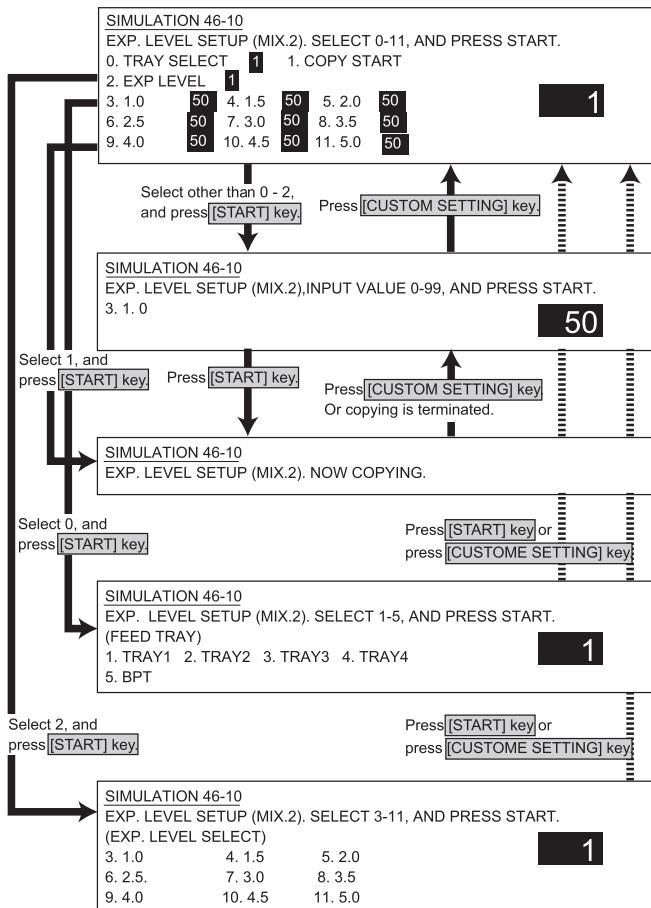
| | |
|----------------|--------------------------|
| Normal display | NOW COPYING |
| ERROR display | Door open DOOR OPEN. |
| | Jam JAM |
| | paper empty PAPER EMPTY. |

<List of set values 2>

| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

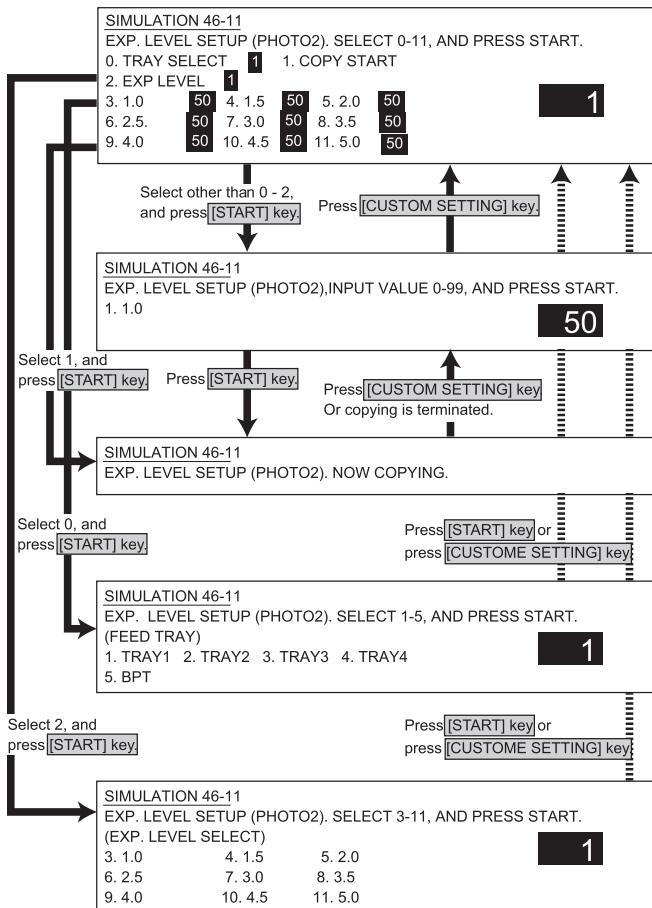
<List of set values 3>

| | |
|----|--------------------|
| 3 | Exposure level 1.0 |
| 4 | Exposure level 1.5 |
| 5 | Exposure level 2.0 |
| 6 | Exposure level 2.5 |
| 7 | Exposure level 3.0 |
| 8 | Exposure level 3.5 |
| 9 | Exposure level 4.0 |
| 10 | Exposure level 4.5 |
| 11 | Exposure level 5.0 |



46-11

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the print density for each density level (display value) in the copy mode (binary-Photo mode). A desired reading density can be set for each density level (display value). |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (Photo mode)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) 5) Select an exposure level. (Set value 3) |



<List of set values 1>

| | |
|----|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Copy start (Default) |
| 2 | Exposure level selection |
| 3 | Exposure level 1.0 |
| 4 | Exposure level 1.5 |
| 5 | Exposure level 2.0 |
| 6 | Exposure level 2.5 |
| 7 | Exposure level 3.0 |
| 8 | Exposure level 3.5 |
| 9 | Exposure level 4.0 |
| 10 | Exposure level 4.5 |
| 11 | Exposure level 5.0 |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | DOOR OPEN. |
| | JAM |
| | PAPER EMPTY. |

<List of set values 2>

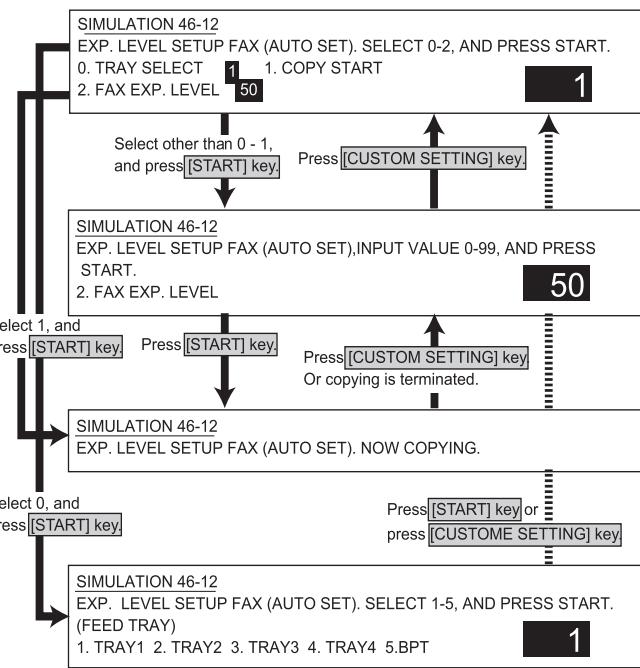
| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|----|--------------------|
| 3 | Exposure level 1.0 |
| 4 | Exposure level 1.5 |
| 5 | Exposure level 2.0 |
| 6 | Exposure level 2.5 |
| 7 | Exposure level 3.0 |
| 8 | Exposure level 3.5 |
| 9 | Exposure level 4.0 |
| 10 | Exposure level 4.5 |
| 11 | Exposure level 5.0 |

46-12

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the print density in the FAX mode (all modes). An adjustment with this simulation affects all the reading density adjustment values. (Only when FAX is installed) |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (FAX auto adjustment)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) |



<List of set values 1>

| | |
|---|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Copy start (Default) |
| 2 | FAX mode exposure setup |

<List of display values 1>

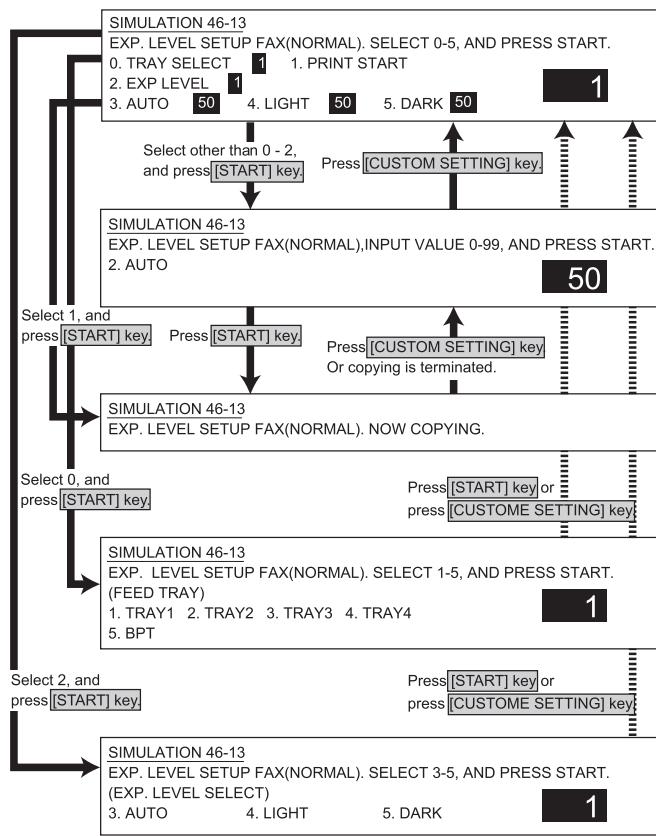
| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | DOOR OPEN. |
| | JAM |
| | PAPER EMPTY. |

<List of set values 2>

| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

46-13

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the reading density in the FAX mode (normal mode). (Only when FAX is installed.)" |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (FAX normal text mode individual adjustment)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) 5) Select an exposure level. (Set value 3) |



<List of set values 1>

| | |
|---|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Print start (Default) |
| 2 | Exposure level selection |
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |

<List of display values 1>

| | |
|----------------|-----------------------------------|
| Normal display | NOW COPYING |
| ERROR display | Door open Jam paper empty |
| | DOOR OPEN. JAM PAPER EMPTY. |
| | |

<List of set values 2>

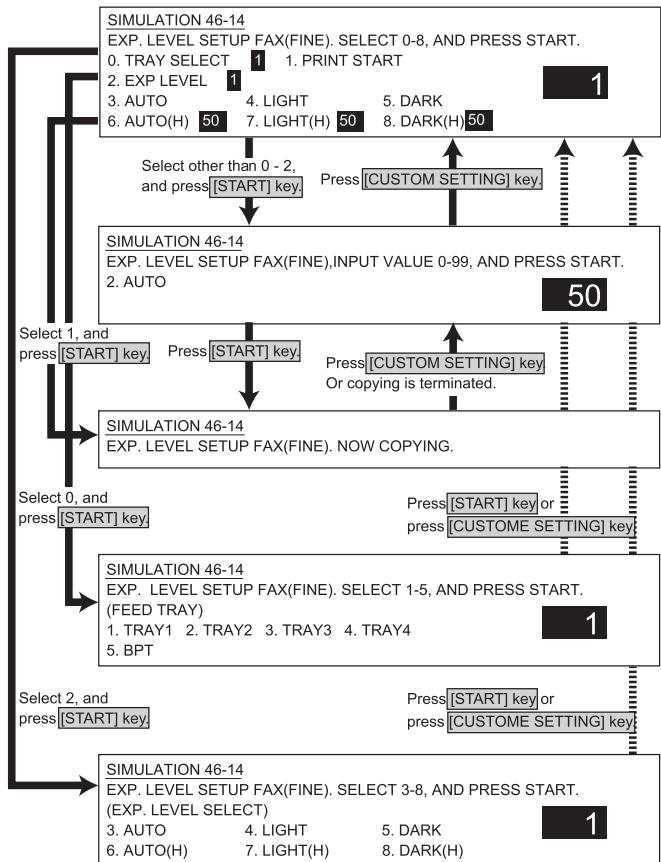
| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|---|--------|
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |

46-14

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the reading density in the FAX mode (small text mode). (Only when FAX is installed.) |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (FAX small text mode individual adjustment)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) 5) Select an exposure level. (Set value 3) |



<List of set values 1>

| | |
|---|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Print start (Default) |
| 2 | Exposure level selection |
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |
| 6 | Auto (Half tone) |
| 7 | Bright (half tone) |
| 8 | Dark (Half tone) |

<List of display values 1>

| | |
|----------------|-----------------------------------|
| Normal display | NOW COPYING |
| ERROR display | Door open Jam Paper empty |
| | DOOR OPEN. JAM PAPER EMPTY. |
| | |

<List of set values 2>

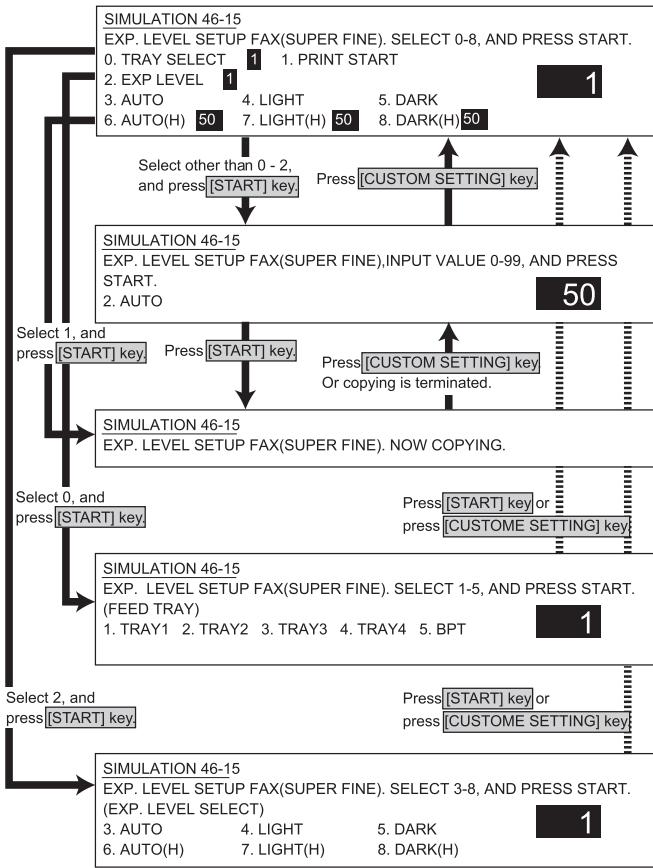
| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|---|--------------------|
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |
| 6 | Auto (Half tone) |
| 7 | Bright (half tone) |
| 8 | Dark (Half tone) |

46-15

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the reading density in the FAX mode (fine mode). (Only when FAX is installed.) |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (FAX fine mode individual adjustment)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) 5) Select an exposure level. (Set value 3) |



<List of set values 1>

| | |
|---|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Print start (Default) |
| 2 | Exposure level selection |
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |
| 6 | Auto (Half tone) |
| 7 | Bright (half tone) |
| 8 | Dark (Half tone) |

<List of display values 1>

| | |
|----------------|--------------------------|
| Normal display | NOW COPYING |
| ERROR display | Door open DOOR OPEN. |
| | Jam JAM |
| | Paper empty PAPER EMPTY. |

<List of set values 2>

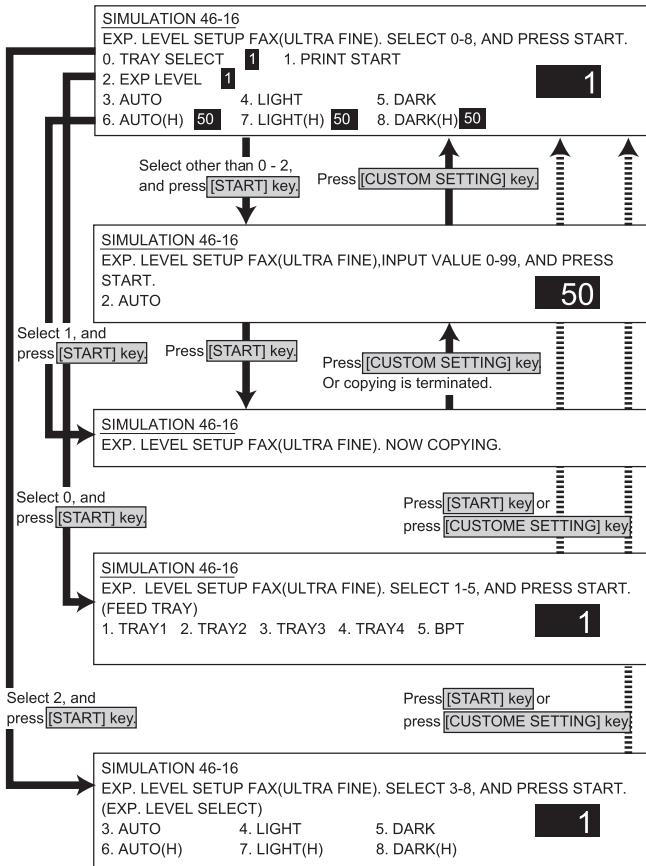
| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|---|--------------------|
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |
| 6 | Auto (Half tone) |
| 7 | Bright (half tone) |
| 8 | Dark (Half tone) |

46-16

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the reading density in the FAX mode (super fine mode). (Only when FAX is installed.) |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>The exposure mode to be set is selected. (FAX super fine mode individual adjustment)</p> <ol style="list-style-type: none"> 1) The current set value is highlighted on the right side of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) 2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default: 50, set range: 0 - 99) 3) Press START, and copying is started and the set value is stored. (Display value 1) 4) Select a paper feed tray. (Set value 2) 5) Select an exposure level. (Set value 3) |



<List of set values 1>

| | |
|---|---------------------------|
| 0 | Paper feed tray selection |
| 1 | Print start (Default) |
| 2 | Exposure level selection |
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |
| 6 | Auto (Half tone) |
| 7 | Bright (half tone) |
| 8 | Dark (Half tone) |

<List of display values 1>

| | |
|----------------|--------------------------|
| Normal display | NOW COPYING |
| ERROR display | Door open DOOR OPEN. |
| | Jam JAM |
| | Paper empty PAPER EMPTY. |

<List of set values 2>

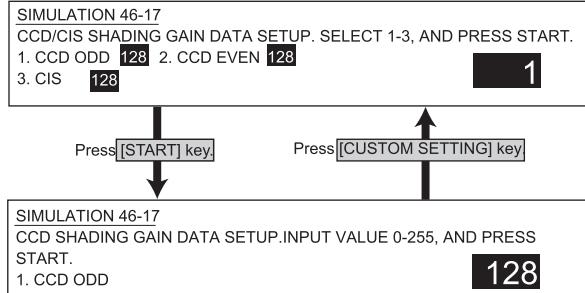
| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|---|--------------------|
| 3 | Auto |
| 4 | Bright |
| 5 | Dark |
| 6 | Auto (Half tone) |
| 7 | Bright (half tone) |
| 8 | Dark (Half tone) |

46-17

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display) |
| Function (Content) | Used to adjust the CCD/CIS shading reference value. |
| Section | Scanner (reading) / DSPF (reading) |
| Item | Operation |
| Operation/Procedure | <ol style="list-style-type: none"> 1) Change the shading reference value of CCD/CIS. The current set value is displayed on the right of each item. (Set value) 2) Set the exposure level with 10 digit key pad. Press START to store the set value. (Default: 128, set range: 0 - 255) |

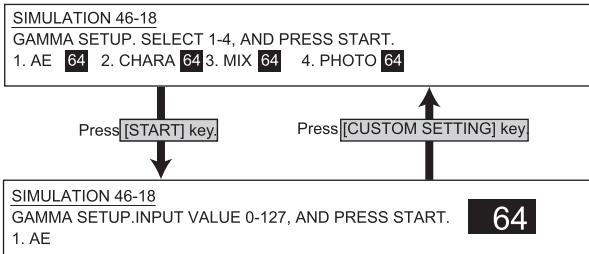


<Set values>

| | |
|---|----------|
| 1 | CCD ODD |
| 2 | CCD EVEN |
| 3 | CIS |

46-18

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust gamma (density gradient) in each copy mode. |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>1) Change the gamma value. The current set value is displayed on the right of each item. (Set value)</p> <p>2) Set the gamma with 10 digit key pad. Press START to store the set value. (Default 64, set range 0 - 127)</p> <p>3) The greater the value is, the greater the gradient is.</p> |

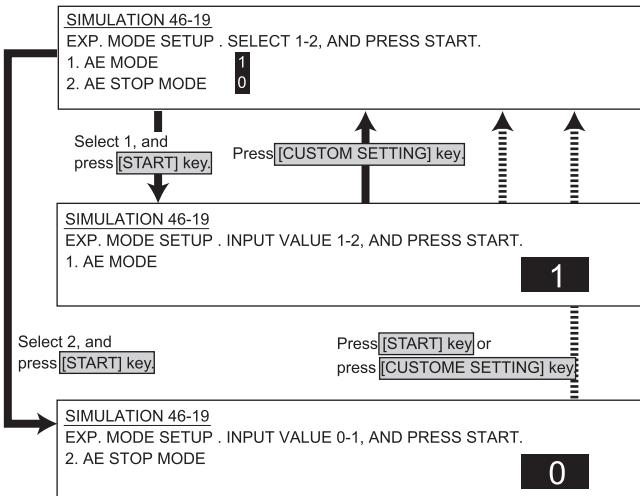


<Set values>

| | |
|---|-----------------|
| 1 | AE mode |
| 2 | Text mode |
| 3 | Text/Photo mode |
| 4 | Photo mode |

46-19

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust gamma (density gradient) in the auto copy mode and to set the density detection area, and to set the image process mode. |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>1) Change the control method of exposure mode. The current set value is displayed on the right of each item. (Set value 1)</p> <p>2) Set with 10 digit key pad. (AE mode)</p> <p>3) Set with 10 digit key pad. (AE fixed mode)</p> |



<Set value 1>

| | |
|---|---------------|
| 1 | AE mode |
| 2 | AE fixed mode |

<AE mode>

| | |
|---|---------------------------------|
| 1 | Picture priority mode |
| 2 | Toner consumption priority mode |

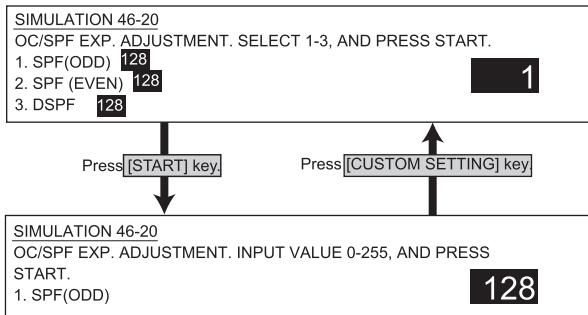
<AE fixed mode>

| | |
|---|-------------------------|
| 0 | AE fixed function : OFF |
| 1 | AE fixed function : ON |

Default : 0

46-20

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the copy density correction in the SPF/DSPF copy mode for the document table copy mode. This adjustment is made so that the copy density becomes the same as that in the document table copy mode. |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>1) The exposure correction of OC and SPF is performed. The current set value is displayed on the right of each item. (Set value)</p> <p>2) Set with 10 digit key pad. (Default 128, set range 0 -255)</p> <p>3) Add "Set value - 128" to the shading adjustment value (SIM 46-17).</p> |



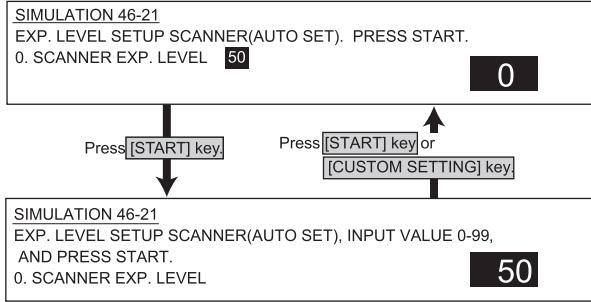
<Set value>

| | |
|---|------------------------------|
| 1 | SPF (surface CCD odd pixel) |
| 2 | SPF (surface CCD even pixel) |
| 3 | DSPF (back surface) |

46-21

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to adjust the scanner exposure level. (1 mode auto adjustment) |
| Section | Scanner (reading) |
| Item | Picture quality |
| Operation/Procedure | <p>1) Select the exposure mode to be set. (Scanner auto adjustment) The current set value is highlighted on the right of each item. (Set value)</p> <p>2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default 50, set range 0 - 99)</p> |

* The set value is changed only, and printing is not performed.



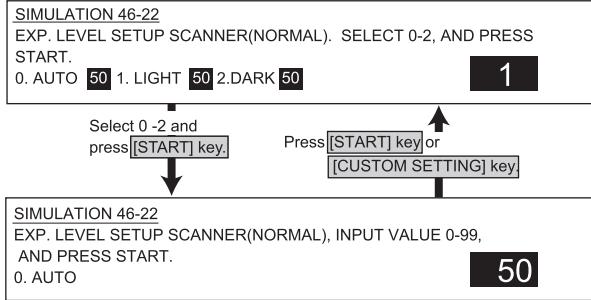
<Set value>

| | |
|---|-----------------------------|
| 0 | Scanner mode exposure setup |
|---|-----------------------------|

46-22

| | |
|---------------------|---|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to adjust the scanner exposure level and to make individual setup. (Normal mode) |
| Section | Scanner (reading) |
| Item | Picture quality |
| Operation/Procedure | <p>1) Select the exposure mode to be set. (Scanner normal text mode individual adjustment) The current set value is highlighted on the right of each item. (Set value)</p> <p>2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default 50, set range 0 - 99)</p> |

* The set value is changed only, and printing is not performed.



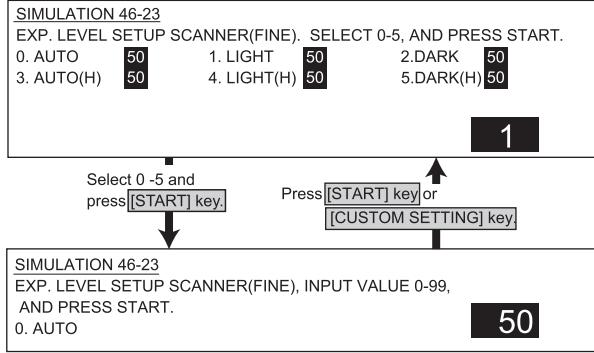
<Set value>

| | |
|---|--------|
| 0 | Auto |
| 1 | Bright |
| 2 | Dark |

46-23

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to adjust the scanner exposure level and to make individual setup. (Small text mode) |
| Section | Scanner (reading) |
| Item | Picture quality |
| Operation/Procedure | <p>1) Select the exposure mode to be set. (Scanner small text mode individual adjustment) The current set value is highlighted on the right of each item. (Set value)</p> <p>2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default 50, set range 0 - 99)</p> |

* The set value is changed only, and printing is not performed.



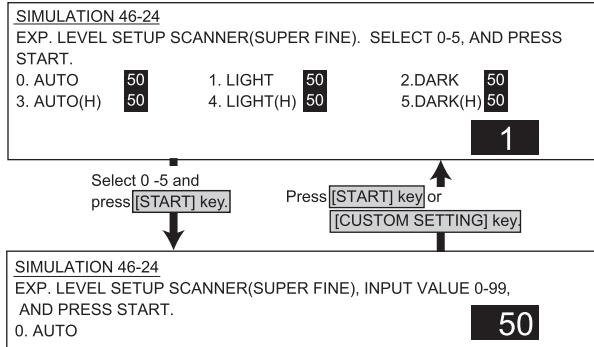
<Set value>

| | | | |
|---|--------|---|--------------------|
| 0 | Auto | 3 | Auto (half tone) |
| 1 | Bright | 4 | Bright (Half tone) |
| 2 | Dark | 5 | Dark (Half tone) |

46-24

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to adjust the scanner exposure level and to make individual setup. (Fine mode) |
| Section | Scanner (reading) |
| Item | Picture quality |
| Operation/Procedure | <p>1) Select the exposure mode to be set. (Scanner fine mode individual adjustment) The current set value is highlighted on the right of each item. (Set value)</p> <p>2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default 50, set range 0 - 99)</p> |

* The set value is changed only, and printing is not performed.

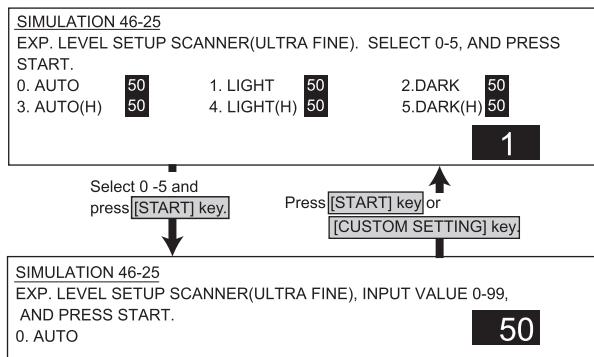


<Set value>

| | | | |
|---|--------|---|--------------------|
| 0 | Auto | 3 | Auto (half tone) |
| 1 | Bright | 4 | Bright (Half tone) |
| 2 | Dark | 5 | Dark (Half tone) |

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to adjust the scanner exposure level and to make individual setup. (Super fine mode) |
| Section | Scanner (reading) |
| Item | Picture quality |
| Operation/Procedure | <p>1) Select the exposure mode to be set. (Scanner super fine mode individual adjustment) The current set value is highlighted on the right of each item. (Set value)</p> <p>2) Set the exposure level with 10 digit key pad. Press P to store the set value. (Default 50, set range 0 - 99)</p> |

* The set value is changed only, and printing is not performed.



<Set value>

| | |
|---|--------------------|
| 0 | Auto |
| 1 | Bright |
| 2 | Dark |
| 3 | Auto (half tone) |
| 4 | Bright (Half tone) |
| 5 | Dark (Half tone) |

Main code 48

48-1

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the copy magnification ratio (main scan direction, sub scan direction). |
| Section | Scanner (reading) |
| Item | Picture quality |
| Operation/Procedure | <p>Perform the magnification ratio correction.</p> <ol style="list-style-type: none"> The current set value is highlighted on the right of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) Enter the correction value with 10 digit key pad. Press P to store the set value. (Default 50, set range 0 - 99) The greater the set value is, the greater the correction is. 1 step : 0.1% adjustment Press START to start copying and store the set value. (Display value: 1) Select the paper feed tray. (Set value : 2) Set the scan magnification ratio. (Set value: 3) |

<List of set values 1>

| | |
|---|--|
| 0 | Paper feed tray selection |
| 1 | Copy start (Default) |
| 2 | Print magnification ratio |
| 3 | Main scan magnification ratio (CCD) |
| 4 | Sub scan magnification ratio (CCD) |
| 5 | SPF surface magnification ratio (sub scan) |
| 6 | SPF back magnification ratio (CIS main scan) |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | DOOR OPEN. |
| | JAM |
| | PAPER EMPTY. |

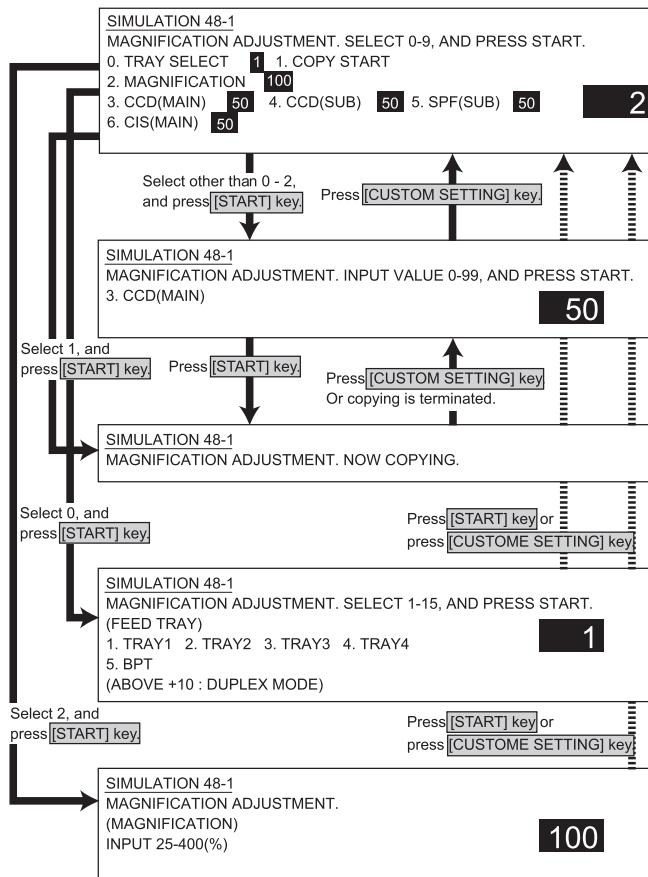
<List of set values 2>

| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

* Above + 10 becomes the duplex mode (DD), making duplex copy.

<List of set values 3>

| | |
|-----------|-----------|
| Set range | 25 - 400% |
|-----------|-----------|



48-5

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the exposure motor speed. |
| Section | Scanner (reading) |
| Item | Picture quality |
| Operation/Procedure | <ol style="list-style-type: none"> The current set value is displayed on the right of each item. Set the exposure level with 10 digit key pad. Press START to store the set value. (Default 50, set range 0 - 99) |

SIMULATION 48-5

MOTOR SPEED ADJUSTMENT. SELECT 0-5, AND PRESS START.

| | | | |
|-------------|----|-------------|----|
| 0. MIR(220) | 50 | 1. MIR(169) | 50 |
| 2. MIR(110) | 50 | 3. MIR(55) | 50 |
| 4. SPF(220) | 50 | 5. SPF(110) | 50 |

0

Select 0-5 and
press [START] key

Press [START] key or
[CUSTOM SETTING] key

SIMULATION 48-5
SCAN MOTOR SPEED ADJUSTMENT. INPUT VALUE 0-99, AND PRESS
START.
0. MIR(220)

50

<List of display values>

| | |
|---|--------------------------|
| 0 | Mirror motor (220mm/sec) |
| 1 | Mirror motor (168.7mm) |
| 2 | Mirror motor (110mm/sec) |
| 3 | Mirror motor (55mm/sec) |
| 4 | SPF motor (220mm/sec) |
| 5 | SPF motor (110mm/sec) |

<List of set values 1>

| | | | Default | Set range |
|---|------------------|---|---------|-----------|
| 0 | TRAY SELECT | Paper feed tray selection | - | 1 ~ 5 |
| 1 | COPY START | Copy start (Initial value) | - | - |
| 2 | MAGNIFICATION | Print magnification ratio setup | - | 25 ~ 400 |
| 3 | RRCA | Document scan start position adjustment | 50 | 0 ~ 99 |
| 4 | RRCB | Resist roller clutch ON timing adjustment value | 50 | 0 ~ 99 |
| 5 | DENB | Rear edge void quantity adjustment value | 35 | 0 ~ 99 |
| 6 | IMAGE LOSS(LEAD) | Lead edge image loss quantity set value | 15 | 0 ~ 99 |
| 7 | IMAGE LOSS(SIDE) | Side image loss quantity set value | 20 | 0 ~ 99 |
| 8 | DENA | Lead edge void quantity set value | 35 | 0 ~ 99 |
| 9 | FR_VOIDFR | Void quantity adjustment value | 35 | 0 ~ 99 |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | Door open |
| | DOOR OPEN. |
| | Jam |
| | JAM |
| | Paper empty |
| | PAPER EMPTY. |

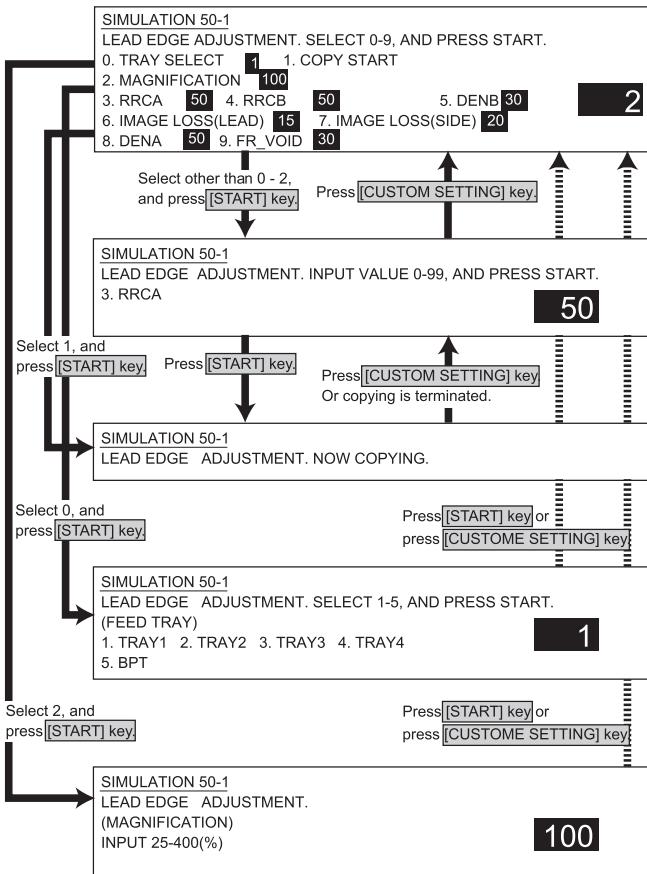
<List of set values 2>

| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

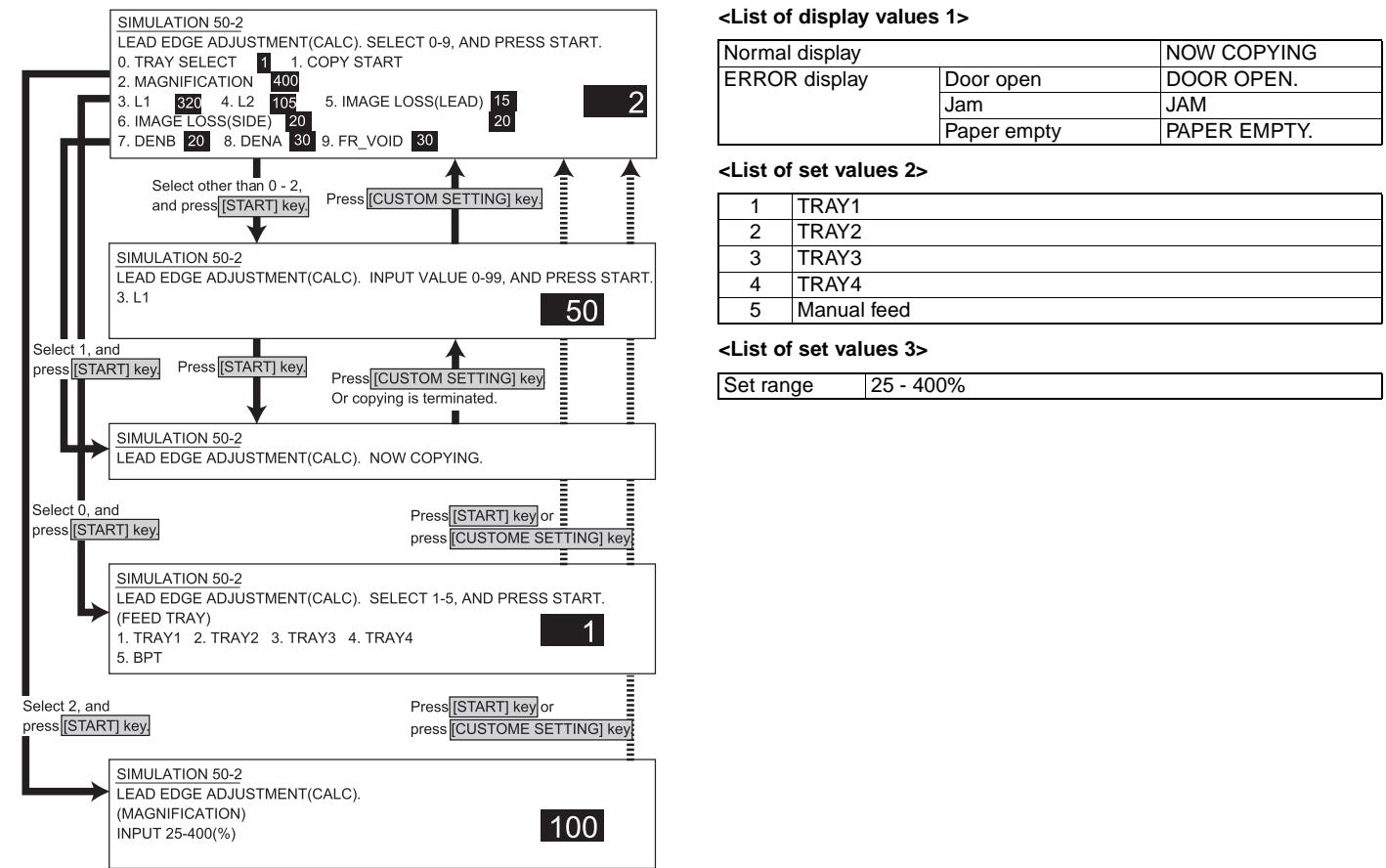
| | |
|-----------|-----------|
| Set range | 25 - 400% |
|-----------|-----------|

| Main code 50 | |
|---------------------|---|
| 50-1 | |
| Purpose | Adjustment |
| Function (Content) | Used to adjust the copy image position and the void area (image loss) on print paper in the copy mode. (A similar adjustment can be made with SIM 50-2 (simple method).) |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>Perform the copy lead edge adjustment.</p> <ol style="list-style-type: none"> The current set value is highlighted on the right of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) Enter the correction value with 10 digit key pad. Press P to store the set value. Press START to start copying and store the set value. (Display value: 1) Set the scan magnification ratio. (Set value: 3) |



50-2

| | |
|--------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the copy image position and the void area (image loss) on print paper in the copy mode. (This simulation is a simpler procedure compared to the similar adjustment using SIM 50-1.) |
| Section | |
| Item | Picture quality |



<List of set values 1>

| | | | Default | Set range |
|---|-------------------|---|---------|-----------|
| 0 | TRAY SELECT | Paper feed tray selection | - | 1 ~ 5 |
| 1 | COPY START | Copy start (Initial value) | - | |
| 2 | MAGNIFICATION | Print magnification ratio setup | - | 25 ~ 400 |
| 3 | L1 | Document scan start position adjustment | - | 0 ~ 999 |
| 4 | L2 | Resist roller clutch ON timing adjustment value | - | 0 ~ 999 |
| 5 | IMAGE LOSS (LEAD) | Rear edge void quantity adjustment value | 15 | 0 ~ 99 |
| 6 | IMAGE LOSS (SIDE) | Lead edge image loss quantity set value | 20 | 0 ~ 99 |
| 7 | DENB | Side image loss quantity set value | 35 | 0 ~ 99 |
| 8 | DENA | Lead edge void quantity set value | 35 | 0 ~ 99 |
| 9 | FR_VOIDFR | Void quantity adjustment value | 35 | 0 ~ 99 |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | DOOR OPEN. |
| | JAM |
| | PAPER EMPTY. |

<List of set values 2>

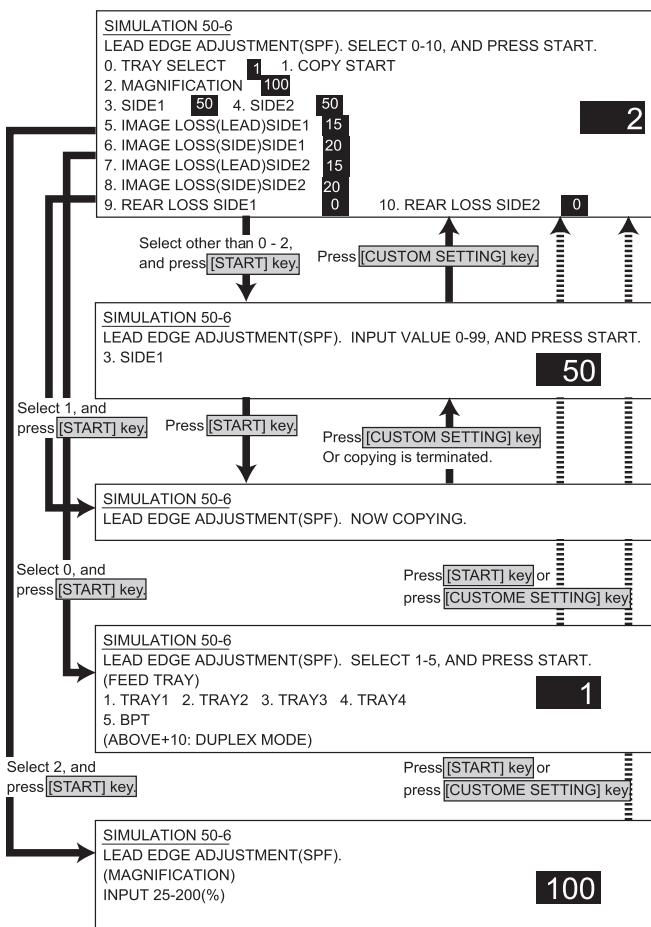
| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

<List of set values 3>

| | |
|-----------|-----------|
| Set range | 25 - 400% |
|-----------|-----------|

50-6

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Copy lead edge adjustment (DSPF) |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>Perform the SPF copy lead edge adjustment.</p> <ol style="list-style-type: none"> The current set value is highlighted on the right of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) Enter the correction value with 10 digit key pad. Press P to store the set value. Press START to start copying and store the set value. (Display value: 1) Select a paper feed tray. (Set value 2) Set the scan magnification ratio. (Set value: 3) |



<List of set values 1>

| | | | Default | Set range |
|----|--------------------------|---|---------|-----------|
| 0 | TRAY SELECT | Paper feed tray selection | - | 1 ~ 5 |
| 1 | COPY START | Copy start (Initial value) | - | - |
| 2 | MAGNIFICATION | Print magnification ratio setup (25 - 400%) | - | 25 ~ 200 |
| 3 | SIDE 1 | Document front scan start position adjustment | 50 | 0 ~ 99 |
| 4 | SIDE 2 | Document back scan start position adjustment | 50 | 0 ~ 99 |
| 5 | IMAGE LOSS (LEAD) SIDE 1 | Front lead edge image loss set value | 15 | 0 ~ 99 |
| 6 | IMAGE LOSS (SIDE) SIDE 1 | Front side image loss set value | 20 | 0 ~ 99 |
| 7 | IMAGE LOSS (LEAD) SIDE 2 | Back lead edge image loss set value | 15 | 0 ~ 99 |
| 8 | IMAGE LOSS (SIDE) SIDE 2 | Back side image loss set value | 20 | 0 ~ 99 |
| 9 | REAR LOSS SIDE1 | Front rear edge image loss set value | 0 | 0 ~ 20 |
| 10 | REAR LOSS SIDE2 | Back rear edge image loss set value | 0 | 0 ~ 20 |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | Door open |
| | DOOR OPEN. |
| | Jam |
| | JAM |
| | Paper empty |
| | PAPER EMPTY. |

<List of set values 2>

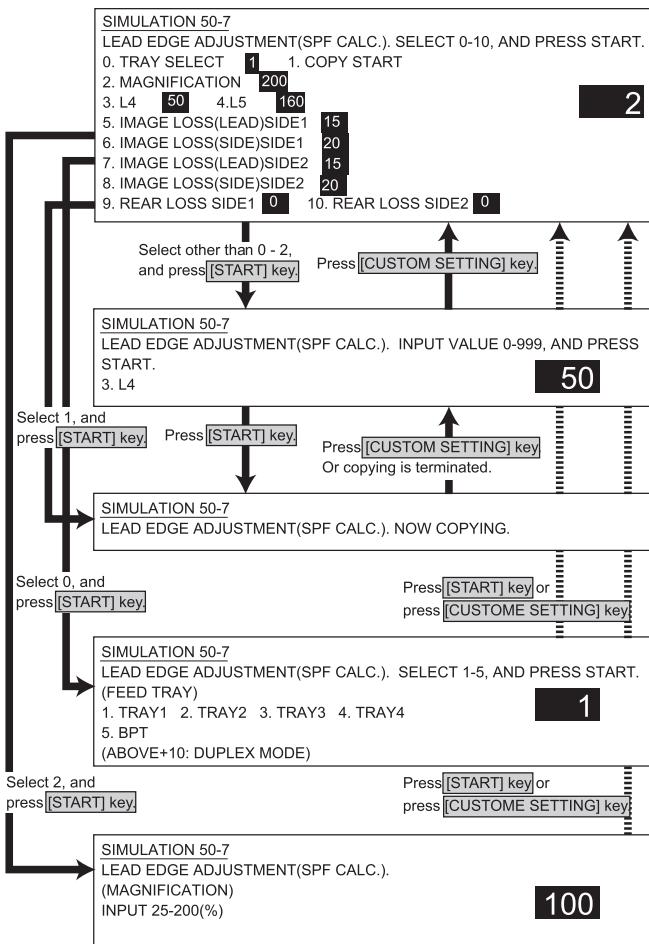
| | | | |
|---|-------------|----|-------------------------|
| 1 | TRAY1 | 11 | TRAY1 with Duplex |
| 2 | TRAY2 | 12 | TRAY2 with Duplex |
| 3 | TRAY3 | 13 | TRAY3 with Duplex |
| 4 | TRAY4 | 14 | TRAY4 with Duplex |
| 5 | Manual feed | 15 | Manual feed with Duplex |

<List of set values 3>

| | |
|-----------|-----------|
| Set range | 25 - 200% |
|-----------|-----------|

50-7

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Copy lead edge adjustment (Simple method) (DSPF) |
| Section | |
| Item | Picture quality |
| Operation/Procedure | <p>Perform the SPF copy lead edge adjustment. (Simple method)</p> <ol style="list-style-type: none"> The current set value is highlighted on the right of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) Enter the correction value with 10 digit key pad. Press P to store the set value. Press START to start copying and store the set value. (Display value: 1) Select a paper feed tray. (Set value 2) Set the scan magnification ratio. (Set value: 3) |



<List of set values 1>

| | | | Default | Set range |
|----|--------------------------|---|---------|-----------|
| 0 | TRAY SELECT | Paper feed tray selection | - | 1 ~ 5 |
| 1 | COPY START | Copy start (Initial value) | - | - |
| 2 | MAGNIFICATION | Print magnification ratio setup (25 - 400%) | 200 | 25 ~ 200 |
| 3 | L4 | Distance from the front lead edge of copy image to the scale of 10mm. (SPF: 200%) | - | 0 ~ 999 |
| 4 | L5 | Distance from the back lead edge of copy image to the scale of 10mm. (SPF: 200%) | - | 0 ~ 999 |
| 5 | IMAGE LOSS (LEAD) SIDE 1 | Front lead edge image loss set value | 15 | 0 ~ 99 |
| 6 | IMAGE LOSS (SIDE) SIDE 1 | Front side image loss set value | 20 | 0 ~ 99 |
| 7 | IMAGE LOSS (LEAD) SIDE 2 | Back lead edge image loss set value | 15 | 0 ~ 99 |
| 8 | IMAGE LOSS (SIDE) SIDE 2 | Back side image loss set value | 20 | 0 ~ 99 |
| 9 | REAR LOSS SIDE1 | Front rear edge image loss set value | 0 | 0 ~ 20 |
| 10 | REAR LOSS SIDE2 | Back rear edge image loss set value | 0 | 0 ~ 20 |

<List of display values 1>

| | |
|----------------|--------------------------|
| Normal display | NOW COPYING |
| ERROR display | Door open DOOR OPEN. |
| | Jam JAM |
| | Paper empty PAPER EMPTY. |

<List of set values 2>

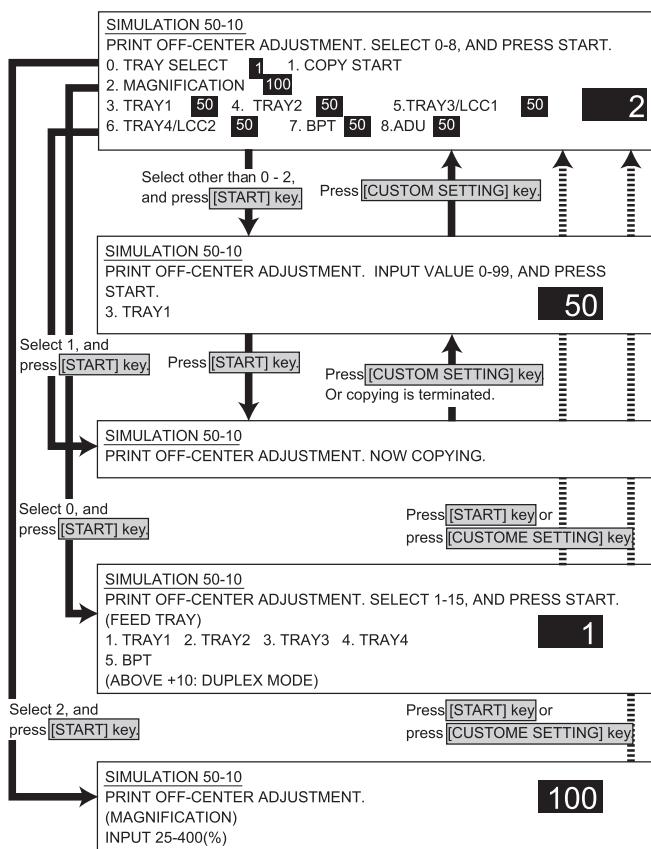
| | | | |
|---|-------------|----|-------------------------|
| 1 | TRAY1 | 11 | TRAY1 with Duplex |
| 2 | TRAY2 | 12 | TRAY2 with Duplex |
| 3 | TRAY3 | 13 | TRAY3 with Duplex |
| 4 | TRAY4 | 14 | TRAY4 with Duplex |
| 5 | Manual feed | 15 | Manual feed with Duplex |

<List of set values 3>

| | |
|-----------|-----------|
| Set range | 25 - 200% |
|-----------|-----------|

50-10

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the copy image center position. (Adjusted for each paper feed section.) |
| Section | Image process (ICU) |
| Item | Picture quality |
| Operation/Procedure | <p>Perform the print off-center adjustment.</p> <ol style="list-style-type: none"> The current set value is highlighted on the right of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) Enter the correction value with 10 digit key pad. Press P to store the set value. When the value of UNIT:0.1mm/STEP is increased, the image is shifted toward the rear side. Press START to start copying and store the set value. (Display value: 1) Select a paper feed tray. (Set value 2) Set the scan magnification ratio. (Set value: 3) |



<List of set values 1>

| | | | Default | Set range |
|---|---------------|---|---------|-----------|
| 0 | TRAY SELECT | Paper feed tray selection | - | 1 ~ 5 |
| 1 | COPY START | Copy start (Initial value) | - | |
| 2 | MAGNIFICATION | Print magnification ratio setup (25 ~ 400%) | 100 | 25 ~ 400 |
| 3 | TRAY 1 | Tray 1 adjustment | 50 | 0 ~ 99 |
| 4 | TRAY2 | Tray 2 adjustment | 50 | 0 ~ 99 |
| 5 | TRAY3 | Tray 3 adjustment | 50 | 0 ~ 99 |
| 6 | TRAY4 | Tray 4 adjustment | 50 | 0 ~ 99 |
| 7 | BPT | Manual feed tray adjustment | 50 | 0 ~ 99 |
| 8 | ADU | Adjustment in refeed from ADU | 50 | 0 ~ 99 |

<List of display values 1>

| | |
|----------------|--------------|
| Normal display | NOW COPYING |
| ERROR display | DOOR OPEN. |
| | JAM |
| | PAPER EMPTY. |

<List of set values 2>

| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3/LCC1 |
| 4 | TRAY4/LCC2 |
| 5 | Manual feed |

* The selected tray is registered as an initial set value in the initial screen.
At the above value + 10, the SPF enters the duplex mode (DD), making duplex copies.

<List of set values 3>

| | |
|-----------|-----------|
| Set range | 25 - 400% |
|-----------|-----------|

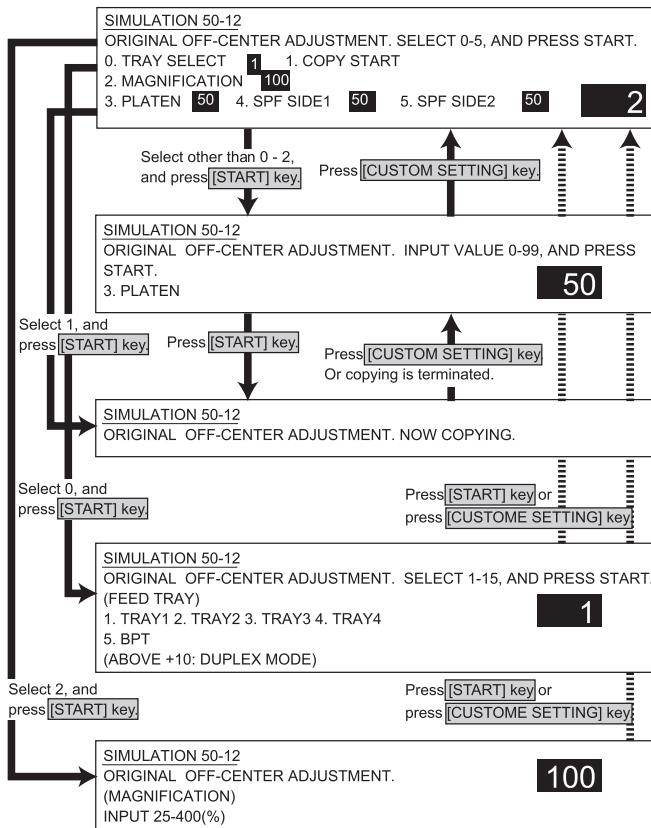
(Adjustment procedure)

- Select a paper feed tray to be used in the adjustment, set the magnification ratio, and enter the adjustment item.
- After entering the adjustment value, press START, and printing is started.
- Check the off-center (distance from the paper edge) of the copy. Repeat procedure 2) until a satisfactory result is obtained.

Note: When adjusting the off-center of LCC1, set only the left tray of LCC. When adjusting the off-center of LCC2, set only the right tray of LCC. This is because there is no distinction between right and left in selection of a tray.

50-12

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the reading image center position. (Adjusted for each document mode.) |
| Section | Image process (ICU) |
| Item | Picture quality |
| Operation/Procedure | <p>Perform the document print off-center adjustment.</p> <ol style="list-style-type: none"> The current set value is highlighted on the right of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) Enter the correction value with 10 digit key pad. Press P to store the set value. When the value of UNIT:0.1mm/STEP is increased, the image is shifted toward the front side. Press START to start copying and store the set value. (Display value: 1) Select a paper feed tray. (Set value 2) Set the scan magnification ratio. (Set value: 3) |



<List of set values 1>

| | | | Default | Set range |
|---|---------------|---|---------|-----------|
| 0 | TRAY SELECT | Paper feed tray selection | - | 1 ~ 5 |
| 1 | COPY START | Copy start (Initial value) | - | |
| 2 | MAGNIFICATION | Print magnification ratio setup (25 - 400%) | 100 | 25 ~ 400 |
| 3 | PLATEN | OC mode adjustment | 50 | 0 ~ 99 |
| 4 | SPF SIDE1 SPF | Front surface adjustment | 50 | 0 ~ 99 |
| 5 | SPF SIDE2 SPF | Back surface adjustment | 50 | 0 ~ 99 |

<List of display values 1>

| | |
|----------------|-------------|
| Normal display | NOW COPYING |
| ERROR display | Door open |
| | JAM |
| | PAPER EMPTY |

<List of set values 2>

| | |
|---|-------------|
| 1 | TRAY1 |
| 2 | TRAY2 |
| 3 | TRAY3 |
| 4 | TRAY4 |
| 5 | Manual feed |

* The selected tray is registered as an initial set value in the initial screen.

At the above value + 10, the SPF enters the duplex mode (DD), making duplex copies.

<List of set values 3>

| | |
|-----------|-----------|
| Set range | 25 - 400% |
|-----------|-----------|

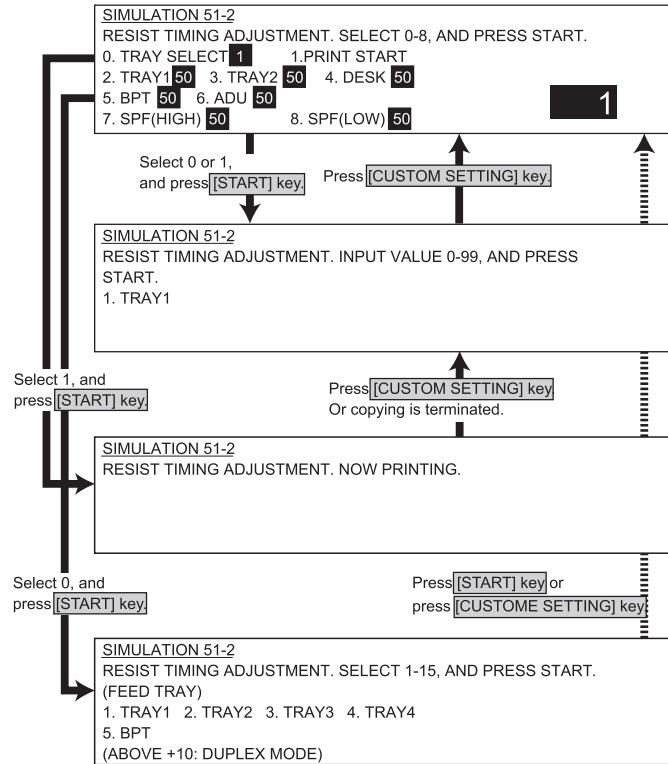
(Adjustment procedure)

- Select a paper feed tray to be used in the adjustment, set the magnification ratio, and enter the adjustment item.
- After entering the adjustment value, press START, and printing is started.
- Check the off-center (distance from the paper edge) of the copy. Repeat procedure 2) until a satisfactory result is obtained.

Main code 51

51-2

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the contact pressure of paper on the resist roller in each section (machine paper feed, duplex paper feed, SPF paper feed). (This adjustment is required when the print image position varies or when paper jam occurs frequently.) |
| Section | Paper transport (paper exit, switchback, transport) |
| Item | Operation |
| Operation/Procedure | <p>Perform the resist quantity adjustment.</p> <ol style="list-style-type: none"> The current set value is highlighted on the right of each item. In this screen, be sure to select "1: COPY START." (Set value: 1) Enter the correction value with 10 digit key pad. Press P to store the set value. When the value is increased by 1, the resist quantity is changed by 1ms. Press START to start copying and store the set value. (Display value: 1) Select a paper feed tray. (Set value 2) |



<List of set values 1>

| | | | 45PPM | 35PPM |
|---|-------------|--|-------|-------|
| 0 | TRAY SELECT | Paper feed tray selection (1 - 5) | | |
| 1 | PRINT START | Copy start (Initial value) | | |
| 2 | TRAY1 | Tray 1 resist adjustment value | 60 | 65 |
| 3 | TRAY2 | Tray 2 resist adjustment value | 50 | 55 |
| 4 | DESK | Desk resist adjustment value | 50 | 55 |
| 5 | BPT | Manual tray resist adjustment value | 55 | 60 |
| 6 | ADU | ADU resist adjustment value | 50 | 55 |
| 7 | SPF(HIGH) | SPF resist adjustment value (High speed) | 50 | 50 |
| 8 | SPF(LOW) | SPF resist adjustment value (Low speed) | 50 | 50 |

<List of display values 1>

| | |
|----------------|--------------------------|
| Normal display | NOW COPYING |
| ERROR display | Door open DOOR OPEN. |
| | Jam JAM |
| | Paper empty PAPER EMPTY. |

<List of set values 2>

| | | | |
|---|-------------|----|-------------------------|
| 1 | TRAY1 | 11 | TRAY1 with Duplex |
| 2 | TRAY2 | 12 | TRAY2 with Duplex |
| 3 | TRAY3 | 13 | TRAY3 with Duplex |
| 4 | TRAY4 | 14 | TRAY4 with Duplex |
| 5 | Manual feed | 15 | Manual feed with Duplex |

* The selected tray is registered as an initial set value in the initial screen.

Main code 53

53-6

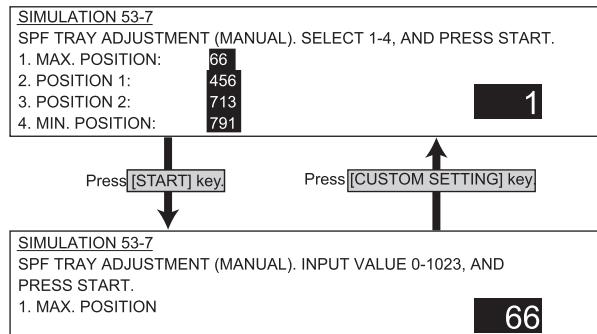
| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the DSPF width detection level. |
| Section | SPF/DSPF |
| Item | Operation |
| Operation/Procedure | <p>Adjust the machine SPF document tray size adjustment.</p> <ol style="list-style-type: none"> 1) Extend the guide to MAX. position, select 1, and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen. 2) Move the guide to A4R position, select 2, and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen. 3) Move the guide to A5R position, select 3, and press START. When COMPLETE is displayed, press CUSTOM SETTING to return to the initial screen. 4) Move the guide to MIN. position, select 4, and press START. When COMPLETE is displayed, the adjustment is completed. If ERROR is displayed in procedures 1) - 4), repeat the adjustment again. |

* This adjustment is performed only when the width detection volume is replaced.

Normally use SIM 53-7 for input.

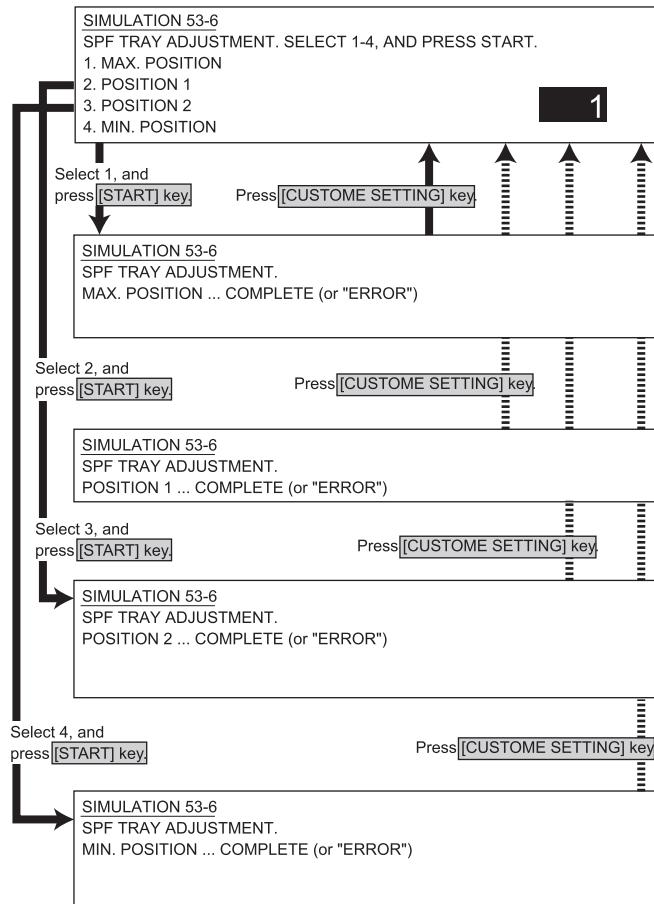
53-7

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to enter the adjustment value of SPF width detection. |
| Section | DSPF |
| Item | Operation |
| Operation/Procedure | Enter the adjustment value (indicated on the back of SPF) of SPF document tray size. |



<List of set values>

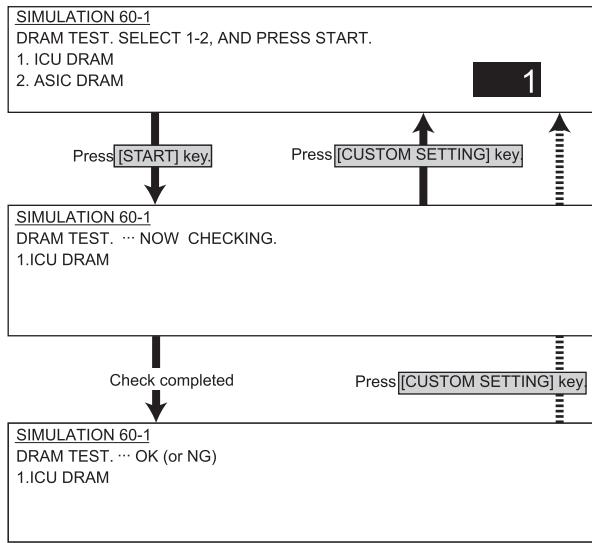
| | | Initial value | Range |
|---|--------------------|---------------|----------|
| 1 | Max. width | 66 | 0 - 1023 |
| 2 | Adjustment point 1 | 456 | |
| 3 | Adjustment point 2 | 713 | |
| 4 | Min. width | 791 | |



Main code 60

60-1

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the ICU (DRAM) operation (read/write). (SIMM MEMORY/ON BOARD MEMORY) |
| Section | Image process (ICU) |
| Item | Operation |
| Operation/Procedure | Perform read/write check of the ICU image DRUM. After starting, NOW CHECKING is displayed during checking. When the read/write check is normally completed, OK is displayed. If an error occurs, NG is displayed. |



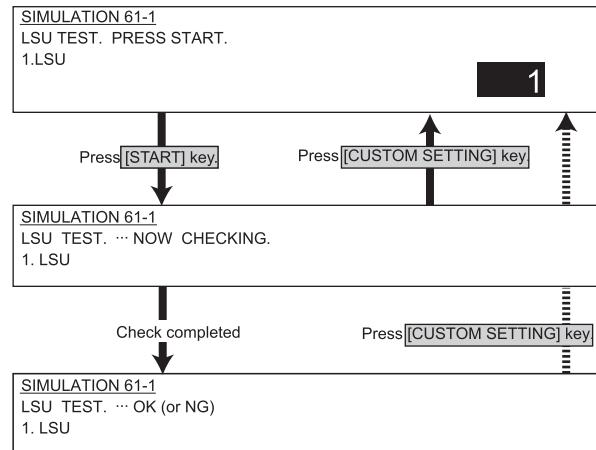
<List of set values>

| | | |
|---|-----------|-----------------------|
| 1 | ICU DRAM | Image memory for ERDH |
| 2 | ASIC DRAM | Image memory for ASIC |

Main code 61

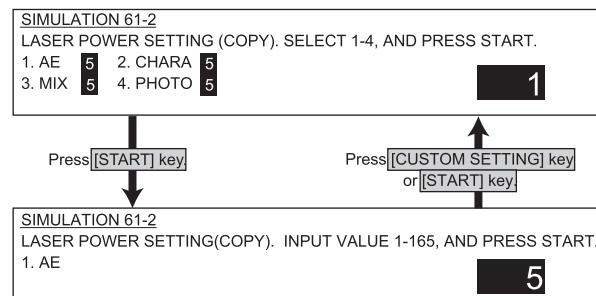
61-1

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the laser scan unit. |
| Section | PCU |
| Item | Operation |
| Operation/Procedure | Check the LSU. Turn on the LSU and check that the sync signal (HSYNC) is delivered or not. After starting, NOW CHECKING is displayed during checking. When the test is normally completed, OK is displayed. When an error occurs, NG is displayed. |



61-2

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the laser power (absolute value) in the copy mode. |
| Section | PCU |
| Item | Operation |
| Operation/Procedure | Enter the laser power set value in copying, and press START to store it. |

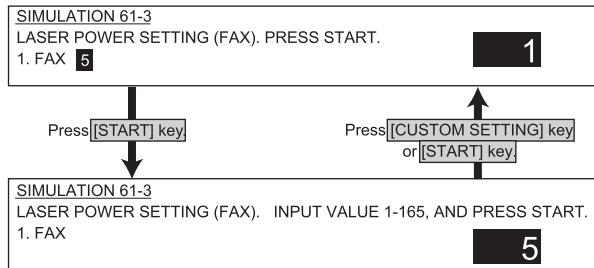


<List of set values>

| | | | Initial value | Set range |
|---|--------------------|-------|---------------|----------------------|
| 1 | Auto exposure mode | 45PPM | 104 | 104 - 150 (45PPM) |
| | | 35PPM | 80 | 80 - 150 (35PPM) |
| 2 | Text mode | 45PPM | 104 | 80 - 150 (35PPM) |
| | | 35PPM | 80 | |
| 3 | Text/Photo mode | 45PPM | 104 | |
| | | 35PPM | 80 | |
| 4 | Photo mode | 45PPM | 104 | |
| | | 35PPM | 80 | |

61-3

| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the scanner (exposure) laser power (absolute value) in the FAX reception mode. (Only when FAX is installed.) |
| Section | PCU |
| Item | Operation |
| Operation/Procedure | Set the laser power in FAX reception. Enter the set value and press Start to store it. |

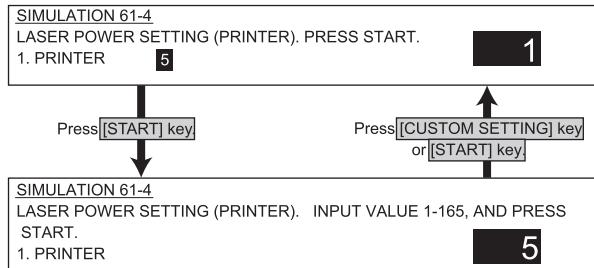


<List of set values>

| | | | Initial value | Set range |
|---|---------------|-------|---------------|----------------------|
| 1 | FAX reception | 45PPM | 104 | 104 - 150 (45PPM) |
| | | 35PPM | 80 | 80 - 150 (35PPM) |

61-4

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the laser power (absolute value) in the printer mode. |
| Section | PCU |
| Item | |
| Operation/Procedure | Set the laser power value in the printer mode. Enter the value and press START to store it. |



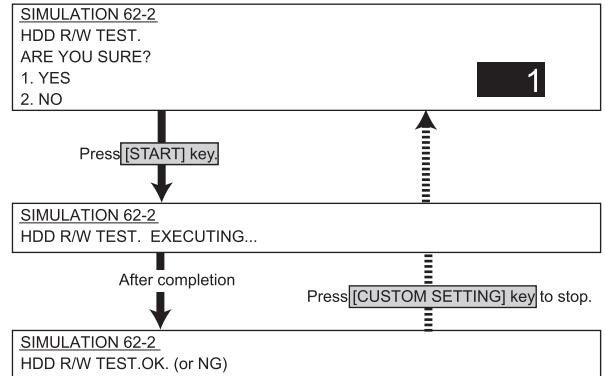
<List of set values>

| | | | Initial value | Set range |
|---|---------|-------|---------------|----------------------|
| 1 | PRINTER | 45PPM | 104 | 104 - 150 (45PPM) |
| | | 35PPM | 80 | 80 - 150 (35PPM) |

Main code 62

62-2

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the hard disk operation (read/write). (Only for the model with the hard disk) (Partial check) |
| Section | Memory |
| Item | Operation |
| Operation/Procedure | Perform the partial check of read/write of the hard disk. EXECUTING is displayed during check. When check is normally completed, OK is displayed. When an error occurs, NG is displayed. |

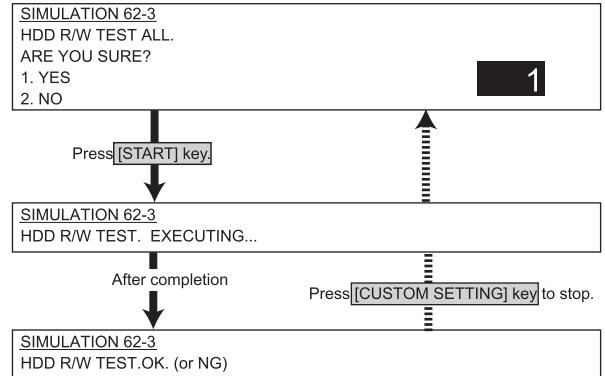


<List of set values>

| | |
|---|-----------|
| 1 | Execution |
| 2 | Cancel |

62-3

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the hard disk operation (read/write). (Only for the model with the hard disk) (All area check) |
| Section | Memory |
| Item | Operation |
| Operation/Procedure | Perform the all area check of read/write of the hard disk. EXECUTING is displayed during check. When check is normally completed, OK is displayed. When an error occurs, NG is displayed. |



<List of set values>

| | |
|---|-----------|
| 1 | Execution |
| 2 | Cancel |

Main code 63

63-1

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to check the shading correction result. (The shading correction result is displayed.) |
| Section | Scanner (exposure) |
| Item | Operation |
| Operation/Procedure | The latest shading data are displayed. |

SIMULATION 63-1 SHADING DATA DISPLAY.

(CCD)
 ODD GAIN: 128 ODD OFFSET: 2 ODD MAX: 255
 ODD MIN.: 255 ODD AVE.: 255 ODD DEV.: 10
 EVEN GAIN: 128 EVEN OFFSET: 2 EVEN MAX: 255
 EVEN MIN.: 255 EVEN AVE.: 255 EVEN DEV.: 10
 (CIS)
 GAIN: 128 OFFSET: 0 OFFSET: 255
 MIN.: 255 AVE.: 255 DEV: 0

<Set values>

| CCD data | |
|-------------------------------------|-----------------------------|
| Values | Description |
| ODD GAIN | Pixel gain adjustment value |
| EVEN GAIN | Pixel gain adjustment value |
| ODD MAX | Pixel MAX |
| ODD MIN | Pixel MIN |
| ODD AVE | Od pixel average |
| EVEN MAX | Even pixel MAX |
| EVEN MIN | Even pixel MIN |
| EVEN AVE | Even pixel average |
| ODD OFFSET | Black offset |
| EVEN OFFSET | Even offset |
| ODD DEV | Odd standard deviation |
| EVEN DEV | Even standard deviation |
| CIS data : Only when DSPF installed | |
| Values | Description |
| GAIN | Gain adjustment value |
| MAX | Pixel MAX |
| MIN | Pixel MIN |
| AVE | Pixel average |
| OFFSET | Black offset |
| DEV | Standard deviation |

63-2

| | |
|--------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to execute shading. |
| Section | Scanner (exposure) |
| Item | Operation |

SIMULATION 63-2 SHADING EXECUTION.SELECT1-3, AND PRESS START.

1. OC SHADING
2. DSPF SHADING
3. CCD TEST SHADING

Press [START] key

SIMULATION 63-2 SHADING EXECUTING... 1. OC SHADING

After completion

Press [CUSTOM SETTING] key to stop.

SIMULATION 63-2 SHADING COMPLETED. 1. OC SHADING

<List of set values>

| | |
|---|---|
| 1 | OC analog data correction and shading correction data making |
| 2 | DSPF analog level correction and shading correction data making |
| 3 | Execution of CCD data taking test |

63-7

| | |
|--------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the white plate scan start position in shading white correction. |
| Section | Scanner (exposure) |
| Item | Operation |

Operation/Procedure
Adjust the white plate scan start position in shading white correction. Enter the adjustment value and press START to store it.

SIMULATION 63-7 SHADING POSITION ADJUSTMENT. PRESS START.

1. CCD 0

Press [START] key

Press [CUSTOM SETTING] key or [START] key

SIMULATION 63-7 SHADING POSITION ADJUSTMENT INPUT VALUE 1-16, AND PRESS START. 1. CCD 0

<Set value>

| | | Initial value | Range |
|---|----------|---------------|-------|
| 1 | CCD scan | 6 | 1-16 |

(1 count : 0.5 mm)

<List of set values>

Main code 64

64-1

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of the printer section (self printing). (The print pattern, paper feed mode, print mode, print quantity, density can be changed optionally.) |
| Section | Printer |
| Item | Operation |
| Operation/Procedure | Perform self printing. The current set data is displayed on the right side of the menu. |

SIMULATION 64-1
SELF PRINT MODE. SELECT 0-7, AND PRESS START.

0.TRAY SELECT :1 1.PRINT START
2.PRINT PATTERN :87 3.DENSITY :1
4.MULTI :1 5.MODE :1
6.LEVEL :1 7.DUPLEX :1

1

Select 1, and
press [START] key]

Press [CUSTOM SETTING] key
or [START] key

(2) SIMULATION 64-1

SELF PRINT MODE. INPUT VALUE, AND PRESS START.
(PRINT PATTERN)
INPUT 50-99.

87

(3) SIMULATION 64-1

SELF PRINT MODE. INPUT VALUE, AND PRESS START.
(DENSITY)
1-255

100

(4) SIMULATION 64-1

SELF PRINT MODE. INPUT VALUE, AND PRESS START.
(MULTI COUNT)
1-999

1

(5) SIMULATION 64-1

SELF PRINT MODE. SELECT 1-8, AND PRESS START.
(MODE)
1.STANDARD 2.SMOOTHING 3.TONER SAVE 4.HALF TONE
5.SMOOTHING+ TONER SAVE 6.SMOOTHING+ HALF TONE
7.TONER SAVE+ HALF TONE 8.SMOOTHING+ TONER SAVE+ HALF TONE

1

(6) SIMULATION 64-1

SELF PRINT MODE. INPUT VALUE, AND PRESS START.
(LEVEL)
1-5

3

(8) SIMULATION 64-1

SELF PRINT MODE. SELECT 1-5, AND PRESS START.
(FEED TRAY)
1.TRAY1 2.TRAY2 3.TRAY3 4.TRAY4 5.BPT

1

(7) SIMULATION 64-1

SELF PRINT MODE. SELECT 1-2, AND PRESS START.
(DUPLEX)
1.NO 2.YES

1

SIMULATION 64-1
SELF PRINT MODE... EXECUTING...

0.TRAY SELECT :1 1.PRINT PATTERN :87 3.DENSITY :1
4.MULTI :1 5.MODE :1
6.LEVEL :1 7.DUPLEX :1

0

| | | |
|---|-----------------|--|
| 0 | Paper feed tray | 1: TRAY1 2: TRAY2 3: TRAY3 4: TRAY4: 5: MANUAL |
| 1 | Print execution | Print is started with the set data. |
| 2 | Print pattern | Refer to the print pattern. |
| 3 | Picture density | Enable only when No. 79, 80, or 84 is selected. |
| 4 | Print quantity | - |
| 5 | Print mode | 1: Standard 2: Smoothing ON 3: Toner save ON 4: Half tone ON 5: Smoothing + Toner save 6: Smoothing + Half tone 7: Toner save + half tone 8: Smoothing + Toner save + Half tone |
| 6 | Print level | 1 ~ 5 |
| 7 | Duplex | 1: Single print 2: Duplex print |

<Print patterns>

| | | | |
|----|---|----|--|
| 50 | Total surface 1BY1 (Vertical) | 70 | Scaled print adjustment pattern (Vertical) |
| 51 | Total surface 1BY1 (Horizontal) | 71 | Grid pattern |
| 52 | Total surface 1BY2 (Vertical) | 72 | Slant line 45 degrees |
| 53 | Total surface 1BY2 (Horizontal) | 73 | Slant line 26.6 degrees |
| 54 | Total surface 1BY3 (Vertical) | 74 | Slant line 63.4 degrees |
| 55 | Total surface 1BY3 (Horizontal) | 75 | ID-BG pattern |
| 56 | Total surface 1BY4 (Vertical) | 76 | Dot pattern 12.5% |
| 57 | Total surface 1BY4 (Horizontal) | 77 | Dot pattern 28% |
| 58 | Total surface 1BY5 (Vertical) | 78 | Dot pattern 50% |
| 59 | Total surface 1BY5 (Horizontal) | 79 | Whole surface error diffusion background |
| 60 | Total surface 2BY2 (Vertical) | 70 | Whole surface dither process background |
| 61 | Total surface 2BY2 (Horizontal) | 81 | 1 block 128 pixels/ every 32 gradations |
| 62 | Total surface 2BY3 (Vertical) | 82 | 1 block 128 pixels/ every 16 gradations |
| 63 | Total surface 2BY3 (Horizontal) | 83 | 1 block 128 pixels/ every 8 gradations |
| 64 | Whole surface background copy | 84 | Memory check pattern |
| 65 | Special pattern (Vertical) | 85 | Cleaning check pattern |
| 66 | 1 block 128 pixels/ every 32 gradations | 86 | Offset check pattern |
| 67 | 1 block 128 pixels/ every 16 gradations | 87 | Test B image (for aging) |
| 68 | 1 block 128 pixels/ every 8 gradations | 88 | Printer 6% |
| 69 | 11-dot pattern | 89 | Printer 5% |
| | | 98 | List of setup values |

Main code 65**65-1**

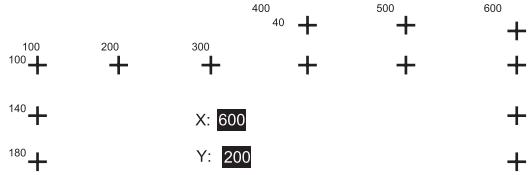
| | |
|---------------------|---|
| Purpose | Adjustment |
| Function (Content) | Used to adjust the touch panel (LCD display section) detecting position. |
| Section | Operation (display, operation) |
| Item | |
| Operation/Procedure | Adjust the coordinates of the touch panel. Press the four cross marks on the LCD, and the pressed mark will turn gray. When all four marks are pressed, the adjustment is completed. |

SIMULATION 65-1

**65-2**

| | |
|---------------------|---|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to check the result of the touch panel (LCD display section) detecting position adjustment. (The coordinates are displayed.) |
| Section | Operation (display, operation) |
| Item | |
| Operation/Procedure | Check the touch panel. When the touch panel is pressed, the coordinates (dot conversion values) in X/Y directions are displayed. |

SIMULATION 65-2

**Main code 66****66-1**

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set the FAX soft switch function. (Used to utilize the FAX soft switch function.) |
| Section | Fax |
| Item | |
| Operation/Procedure | Set the Fax soft switch. (For details of the soft SW, refer to the AR-FX5 Service Manual.) Entry of 1 - 8 only is effective. 1) Specify the bit to be changed (highlighted) with a number. 2) Press START to rewrite the setting. |

* SIM 1 cannot be changed with this simulation.

SIMULATION 66-1
FAX SOFT SW. SELECT 2 - 80, AND PRESS START.

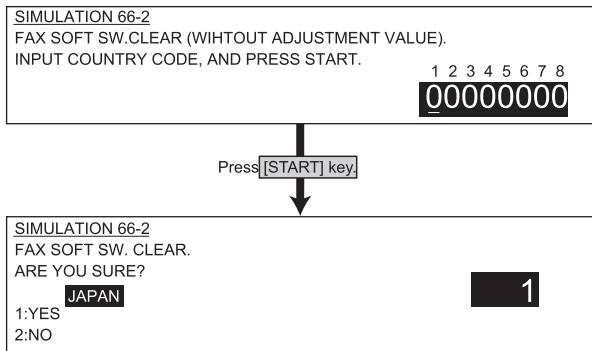
1

Press [START] key

Press [CUSTOM SETTING] key
or [START] keySIMULATION 66-1
FAX SOFT SW. SETTING. INPUT DATA No(1-8), AND PRESS START.
SOFT SW-2:1 2 3 4 5 6 7 8
00001001

66-2

| | |
|---------------------|--|
| Purpose | Data clear |
| Function (Content) | Used to set the FAX soft switch setup to the default. (Except for the adjustment values) |
| Section | Fax |
| Item | Data |
| Operation/Procedure | <p>The current set value of SW1 is displayed. Entry of 1 - 8 only is effective.</p> <ol style="list-style-type: none"> 1) Specify the bit to be changed (highlighted) with a number. 2) Select the country code, and press START to rewrite the setting. 3) Select a number (1 - 2) with 10 digit key pad and press START to execute. <p style="text-align: center;">1: FAX soft SW clear 2: Not clear</p> 4) The soft switch (excluding the FAX adjustment value) corresponding to the selected country code is cleared. 5) The selected country is highlighted. |



66-3

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of FAX PWB memory (read/write). (This adjustment is required when replacing the PWB with a new one.) |
| Section | Fax |
| Item | Data |
| Operation/Procedure | Check the FAX PWB memory. When this simulation is executed, the error occurring address or the data line is displayed. |

SIMULATION 66-3
FAX PWB MEMORY CHECK.
MFP SRAM: CHECKING
MFP FLASH: NO CHECK
MFP OP. FLASH: NO CHECK
MODEM EEPROM: NG:A0010000
MODEM SRAM(G/A):NO CHECK
MODEM SRAM: NG A11
MODEM SDRAM: OK

<List of display values>

| | |
|----------|-------------------|
| NO CHECK | Not checked |
| CHECKING | Checking |
| OK | Check complete OK |
| NG | Check error |

<Items>

| | |
|----------------------------|-----------------------|
| MFP SRAM (MFP control PWB) | SRAM |
| MFP FLASH (FAX I/F PWB) | FLASH Memory (AR-MM9) |
| MFP OP.FLASH (FAX I/F PWB) | |
| MODEM EEPROM (FAX PWB) | |
| MODEM SRAM(G/A) (FAX PWB) | |
| MODEM SRAM (FAX PWB) | |
| MODEM SDRAM (FAX PWB) | |

<Country codes>

| | |
|-------------|----------|
| Japan | 0 |
| U.S.A. | 10110101 |
| Australia | 1001 |
| U.K. | 10110100 |
| France | 111101 |
| Germany | 100 |
| Canada | 100000 |
| Netherlands | 1111011 |

* The codes other than the above are recognized as Japan.

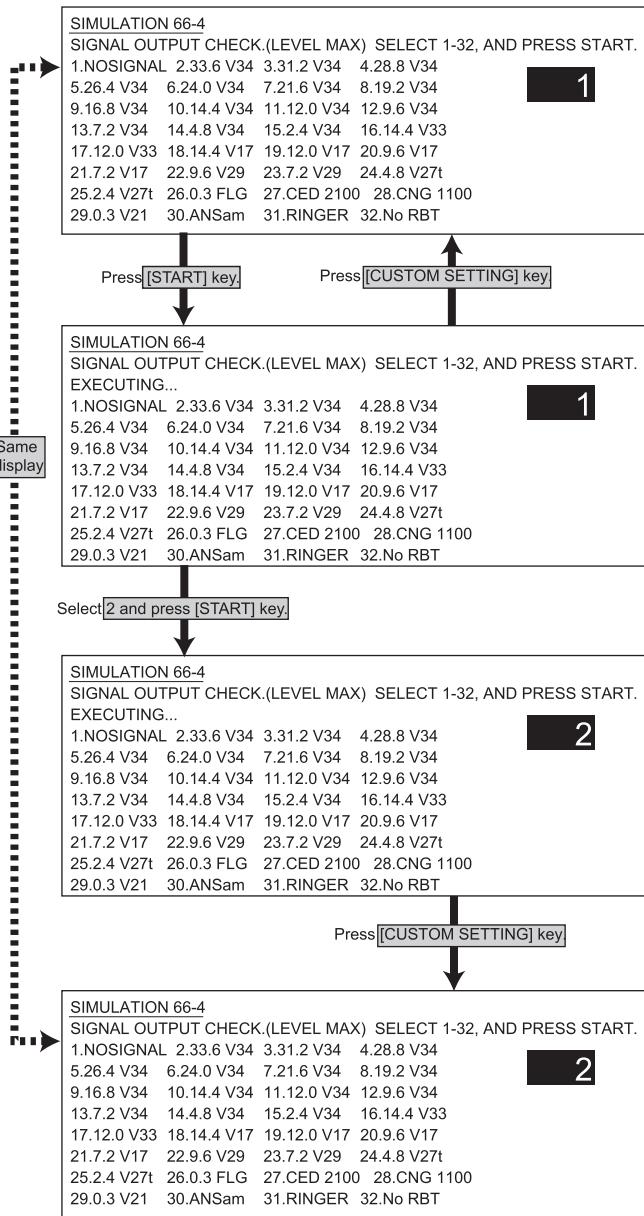
* Conforms to Advisory Document T.35.

66-4

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation of data signal output in the FAX data output mode. (Used to check the MODEM operation.) Send level 0db (Max.) (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | Signal output check (level Max.) When CUSTOM SETTING is pressed during execution of this simulation, execution is stopped. Enter a number and press START to change the signal. |

<List of set values>

| | | | |
|----|-----------|----|----------|
| 1 | No signal | 17 | 12.0 V33 |
| 2 | 33.6 V34 | 18 | 14.4 V17 |
| 3 | 31.2 V34 | 19 | 12.0 V17 |
| 4 | 28.8 V34 | 20 | 9.6 V17 |
| 5 | 26.4 V34 | 21 | 7.2 V17 |
| 6 | 24.0 V34 | 22 | 9.6 V29 |
| 7 | 21.6 V34 | 23 | 7.2 V29 |
| 8 | 19.2 V34 | 24 | 4.8 V27t |
| 9 | 16.8 V34 | 25 | 2.4 V27t |
| 10 | 14.4 V34 | 26 | 0.3 FLG |
| 11 | 12.0 V34 | 27 | CED2100 |
| 12 | 9.6 V34 | 28 | CNG1100 |
| 13 | 7.2 V34 | 29 | 0.3 V21 |
| 14 | 4.8 V34 | 30 | ANSam |
| 15 | 2.4 V34 | 31 | RINGER |
| 16 | 14.4 V33 | 32 | No RBT |

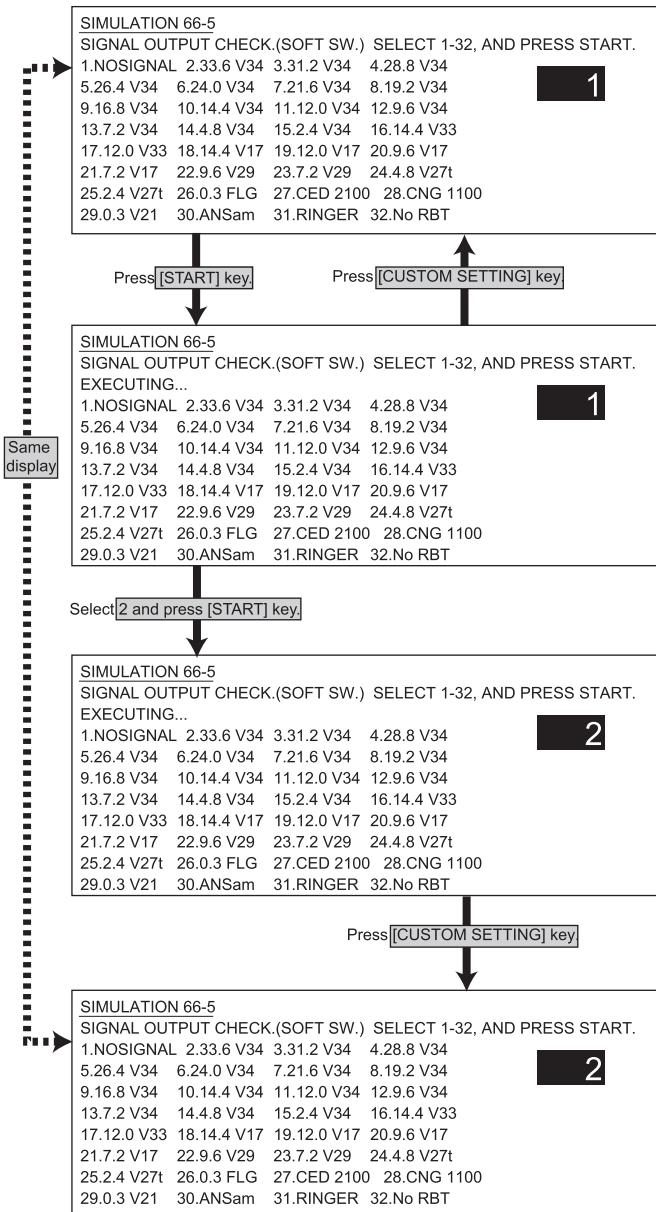


66-5

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operations of data signal output in the FAX data output mode. (Used to check the MODEM operation.) Signals are sent in the send level set with the soft switch. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | Signal output check (Send level is set with the soft SW.) When CUSTOM SETTING is pressed during execution of this simulation, execution is stopped. Enter a number and press START to change the kind of signal. |

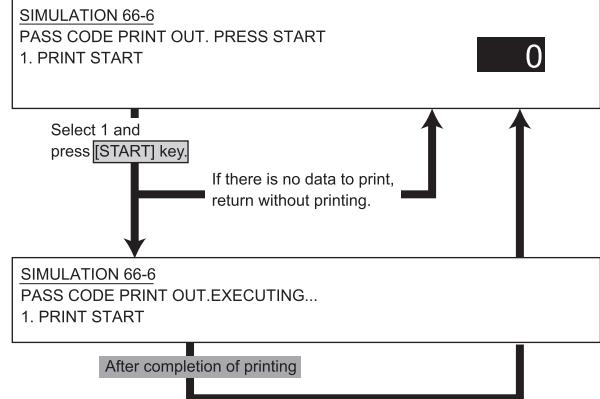
<List of set values>

| | | | |
|----|-----------|----|----------|
| 1 | No signal | 17 | 12.0 V33 |
| 2 | 33.6 V34 | 18 | 14.4 V17 |
| 3 | 31.2 V34 | 19 | 12.0 V17 |
| 4 | 28.8 V34 | 20 | 9.6 V17 |
| 5 | 26.4 V34 | 21 | 7.2 V17 |
| 6 | 24.0 V34 | 22 | 9.6 V29 |
| 7 | 21.6 V34 | 23 | 7.2 V29 |
| 8 | 19.2 V34 | 24 | 4.8 V27t |
| 9 | 16.8 V34 | 25 | 2.4 V27t |
| 10 | 14.4 V34 | 26 | 0.3 FLG |
| 11 | 12.0 V34 | 27 | CED2100 |
| 12 | 9.6 V34 | 28 | CNG1100 |
| 13 | 7.2 V34 | 29 | 0.3 V21 |
| 14 | 4.8 V34 | 30 | ANSam |
| 15 | 2.4 V34 | 31 | RINGER |
| 16 | 14.4 V33 | 32 | No RBT |



66-6

| | |
|---------------------|---|
| Purpose | User data output, check (display, print) |
| Function (Content) | Used to print the confidential password. (Used when the confidential password is forgotten.) (Only when FAX is installed.) |
| Section | Fax |
| Item | Data |
| Operation/Procedure | The confidential pass code is printed. 1) The currently selected data is displayed on the side of menu. 2) The paper size is automatically selected by the size stored in the image memory. |

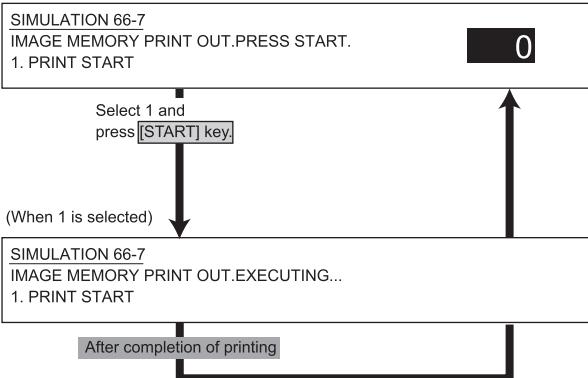


<Set value>

| | |
|---|-------------|
| 1 | Print start |
|---|-------------|

66-7

| | |
|---------------------|--|
| Purpose | User data output, check (display, print) |
| Function (Content) | Used to print the image memory data (memory send, receive). (Only when FAX is installed.) |
| Section | Fax |
| Item | Data |
| Operation/Procedure | The content of image memory is printed. The paper size is automatically selected with the paper size stored in the image memory. |



<Set value>

| | |
|---|-------------|
| 1 | Print start |
|---|-------------|

66-8

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the output operation of the FAX sound signals. (Sound output IC operation check) Send level 0dB (Max.) (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | A voice message is outputted. (Level 0) Enter a number during execution to change the signal. Press START to start sending a voice message. Press CUSTOMSETTING to terminate. |

SIMULATION 66-8
MESSAGE OUTPUT CHECK.(LEVEL MAX) SELECT 1-20, AND PRESS START.

| | | |
|--------------|-------------------|--------------|
| 1.NONE | 2.PAUSE | 3.MESSAGE1 |
| 4.MESSAGE2 | 5.MESSAGE3 | 6.MESSAGE4 |
| 7.MESSAGE5 | 8.MESSAGE6 | 9.MESSAGE7 |
| 10.MESSAGE8 | 11.MESSAGE9 | 12.MESSAGE10 |
| 13.MESSAGE11 | 14.MESSAGE12 | 15.MESSAGE13 |
| 16.MESSAGE14 | 17.MESSAGE15 | 18.ALARM |
| 19.RINGER | 20.EXT.TEL.RINGER | |

Select [1 and press [START] key.]

Press [CUSTOM SETTING] key

SIMULATION 66-8
MESSAGE OUTPUT CHECK.(LEVEL MAX) SELECT 1-20, AND PRESS START.EXECUTING...

| | | |
|--------------|-------------------|--------------|
| 1.NONE | 2.PAUSE | 3.MESSAGE1 |
| 4.MESSAGE2 | 5.MESSAGE3 | 6.MESSAGE4 |
| 7.MESSAGE5 | 8.MESSAGE6 | 9.MESSAGE7 |
| 10.MESSAGE8 | 11.MESSAGE9 | 12.MESSAGE10 |
| 13.MESSAGE11 | 14.MESSAGE12 | 15.MESSAGE13 |
| 16.MESSAGE14 | 17.MESSAGE15 | 18.ALARM |
| 19.RINGER | 20.EXT.TEL.RINGER | |

Select [2 and press [START] key.]

SIMULATION 66-8
MESSAGE OUTPUT CHECK.(LEVEL MAX) SELECT 1-20, AND PRESS START.EXECUTING...

| | | |
|--------------|-------------------|--------------|
| 1.NONE | 2.PAUSE | 3.MESSAGE1 |
| 4.MESSAGE2 | 5.MESSAGE3 | 6.MESSAGE4 |
| 7.MESSAGE5 | 8.MESSAGE6 | 9.MESSAGE7 |
| 10.MESSAGE8 | 11.MESSAGE9 | 12.MESSAGE10 |
| 13.MESSAGE11 | 14.MESSAGE12 | 15.MESSAGE13 |
| 16.MESSAGE14 | 17.MESSAGE15 | 18.ALARM |
| 19.RINGER | 20.EXT.TEL.RINGER | |

Press [CUSTOM SETTING] key

SIMULATION 66-8
MESSAGE OUTPUT CHECK.(LEVEL MAX) SELECT 1-20, AND PRESS START.

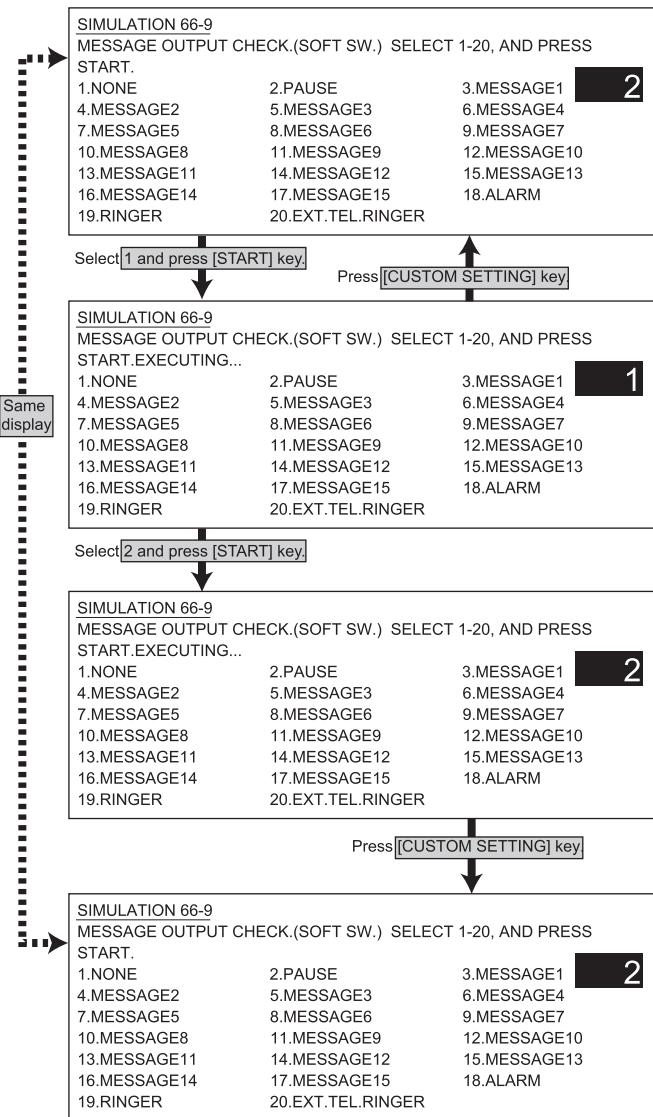
| | | |
|--------------|-------------------|--------------|
| 1.NONE | 2.PAUSE | 3.MESSAGE1 |
| 4.MESSAGE2 | 5.MESSAGE3 | 6.MESSAGE4 |
| 7.MESSAGE5 | 8.MESSAGE6 | 9.MESSAGE7 |
| 10.MESSAGE8 | 11.MESSAGE9 | 12.MESSAGE10 |
| 13.MESSAGE11 | 14.MESSAGE12 | 15.MESSAGE13 |
| 16.MESSAGE14 | 17.MESSAGE15 | 18.ALARM |
| 19.RINGER | 20.EXT.TEL.RINGER | |

<List of set values>

| | | |
|----|----------------|----------------|
| 1 | NONE | NONE |
| 2 | PAUSE | PAUSE |
| 3 | MESSAGE1 | MESSAGE1 |
| 4 | MESSAGE2 | MESSAGE2 |
| 5 | MESSAGE3 | MESSAGE3 |
| 6 | MESSAGE4 | MESSAGE4 |
| 7 | MESSAGE5 | MESSAGE5 |
| 8 | MESSAGE6 | MESSAGE6 |
| 9 | MESSAGE7 | MESSAGE7 |
| 10 | MESSAGE8 | MESSAGE8 |
| 11 | MESSAGE9 | MESSAGE9 |
| 12 | MESSAGE10 | MESSAGE10 |
| 13 | MESSAGE11 | MESSAGE11 |
| 14 | MESSAGE12 | MESSAGE12 |
| 15 | MESSAGE13 | MESSAGE13 |
| 16 | MESSAGE14 | MESSAGE14 |
| 17 | MESSAGE15 | MESSAGE15 |
| 18 | ALARM | ALARM |
| 19 | RINGER | RINGER |
| 20 | EXT.TEL.RINGER | EXT.TEL.RINGER |

66-9

| | | |
|---------------------|--|--|
| Purpose | Operation test, check | |
| Function (Content) | Used to check the output operation of the FAX sound signals. (Sound output IC operation check) (Only when FAX is installed.) | |
| Section | Fax | |
| Item | Operation | |
| Operation/Procedure | A voice message is outputted. (Send level is set with SW.) Enter a number during execution to change the signal. Press START to start sending a voice message. Press CUSTOMSETTING to terminate. | |



<List of set values>

| | | |
|----|----------------|----------------|
| 1 | NONE | NONE |
| 2 | PAUSE | PAUSE |
| 3 | MESSAGE1 | MESSAGE1 |
| 4 | MESSAGE2 | MESSAGE2 |
| 5 | MESSAGE3 | MESSAGE3 |
| 6 | MESSAGE4 | MESSAGE4 |
| 7 | MESSAGE5 | MESSAGE5 |
| 8 | MESSAGE6 | MESSAGE6 |
| 9 | MESSAGE7 | MESSAGE7 |
| 10 | MESSAGE8 | MESSAGE8 |
| 11 | MESSAGE9 | MESSAGE9 |
| 12 | MESSAGE10 | MESSAGE10 |
| 13 | MESSAGE11 | MESSAGE11 |
| 14 | MESSAGE12 | MESSAGE12 |
| 15 | MESSAGE13 | MESSAGE13 |
| 16 | MESSAGE14 | MESSAGE14 |
| 17 | MESSAGE15 | MESSAGE15 |
| 18 | ALARM | ALARM |
| 19 | RINGER | RINGER |
| 20 | EXT.TEL.RINGER | EXT.TEL.RINGER |

66-10

| | |
|---------------------|---|
| Purpose | User data output, check (display, print) |
| Function (Content) | Used to clear all data of image memory (memory send, receive). Confidential data is also cleared. (Only when FAX is installed.) |
| Section | Fax |
| Item | Data |
| Operation/Procedure | The FAX image memory is cleared. 1) Select an item with 10 digit key pad and press START. The following is executed and the display returns to the initial state. 1: Image memory clear 2: Not clear 2) After completion of memory clear, reset. |

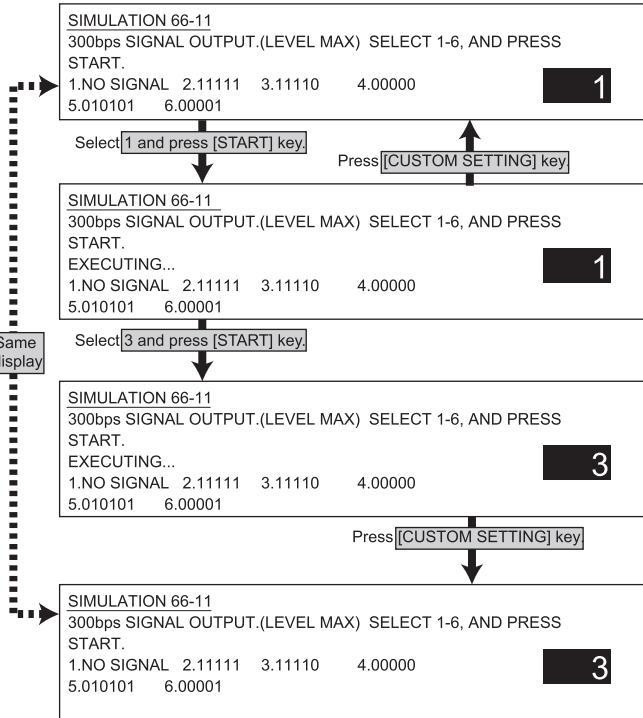
SIMULATION 66-10
IMAGE MEMORY CLEAR.
ARE YOU SURE ?

- 1. YES
- 2. NO

1

66-11

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the output operation of FAX G3 mode 300BPS. (Used to check the MODEM operation.) Send level 0dB (Max.) (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | A signal of 300bps is outputted. (Level Max.) Enter a number during execution to change the signal. Press START to start sending a voice message. Press CUSTOMSETTING to terminate. |

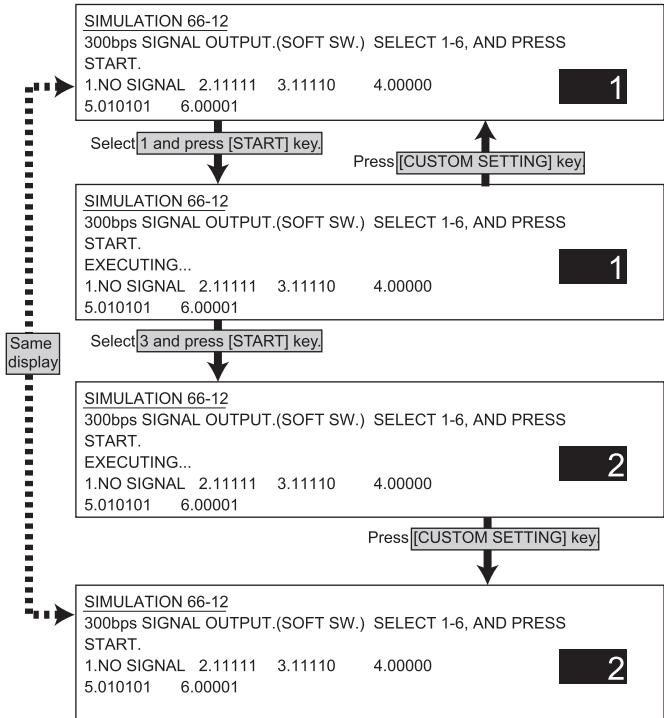


<List of set values>

| | | |
|---|-----------|-----------|
| 1 | NO SIGNAL | No signal |
| 2 | 11111 | |
| 3 | 11110 | |
| 4 | 00000 | |
| 5 | 10101 | |
| 6 | 00001 | |

66-12

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to check the output operation of FAX G3 mode 300BPS. (Used to check the MODEM operation.) Signals are sent in the send level set with the soft switch. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | A signal of 300bps is outputted. (Send level is set with SW.) Enter a number during execution to change the signal. Press START to start sending a voice message. Press CUSTOMSETTING to terminate. |



<List of set values>

| | | |
|---|-----------|-----------|
| 1 | NO SIGNAL | No signal |
| 2 | 11111 | |
| 3 | 11110 | |
| 4 | 00000 | |
| 5 | 10101 | |
| 6 | 00001 | |

66-13

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to select the FAX dial signal output test. (The dial number signal set with this simulation is outputted in the dial signal output test with SIM 66-14~16) (Only when FAX is installed.) |
| Section | FAX |
| Item | Data |
| Operation/Procedure | The dial test number is set. Enter a number with 10 digit key pad, * key, and # key. The upper limit is 20 digits. Press CLEAR to return to the initial state. Press START to register. |

SIMULATION 66-13
DIAL TEST NUMBER SETTING. 0-9:[0-9], [*], #:<#]
INPUT NUMBER AND PRESS START.
0123456789#01234567

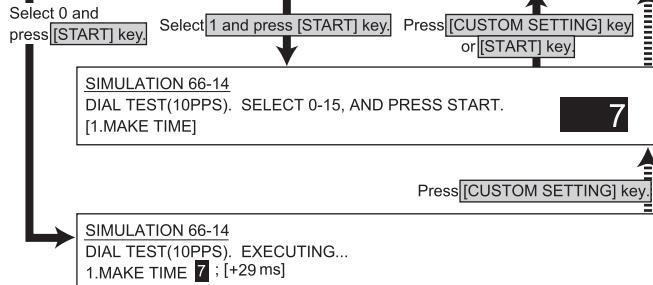
1

66-14

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to add time to the FAX pulse dial mode (10PPS) and to test the dial signal output. (The dial number signal set with SIM 66-13 is outputted.) Used to check dialing troubles and the operation. (Only when FAX is installed.) |
| Section | Fax |
| Item | Operation |
| Operation/Procedure | The dial test is performed. (10PPS output) The additional time is set. When CUSTOM SETTING is pressed, the execution is terminated. |

SIMULATION 66-14
DIAL TEST(10PPS). SELECT 0-1, AND PRESS START.
0. EXECUTE
1.MAKE TIME 7 : [+29 ms]

1



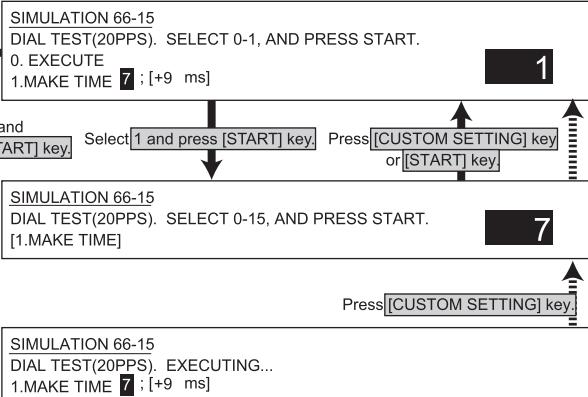
<List of set values>

| | |
|---|-------------------------------------|
| 0 | Execution |
| 1 | Dial pulse make time setup (0 - 15) |

* Dial is send with the setup value of +29ms.

66-15

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to set the add time to the FAX pulse dial mode (20PPS) and to test the dial signal output. (The dial number signal set with SIM 66-13 is outputted.) Used to check dialing troubles and the operation. (Only when FAX is installed.) |
| Section | Fax |
| Item | Operation |
| Operation/Procedure | The dial test is performed. (20PPS output) The make time is set. When CUSTOM SETTING is pressed, the execution is terminated. |



<List of set values>

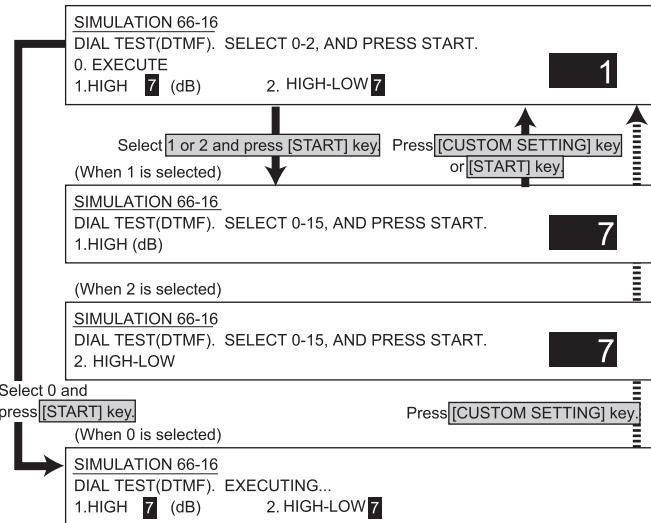
| | |
|---|-------------------------------------|
| 0 | Execution |
| 1 | Dial pulse make time setup (0 - 15) |

* Dial is set with the setup value of +9ms.

66-16

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to test the dial signal (DTMF) output in the FAX tone dial mode. (The dial number signal set with SIM 66-13 is outputted.) The send level can be set to an optional level. Used to check dialing troubles and the operation. |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | The dial test is performed. (DTMF signal output) 1) The level (dB) setup is made. (Set range: 0 - 15dB) 2) The difference between high group and low group is set. (Set range: 0 - 15) 3) When CUSTOM SETTING is pressed, the execution is terminated. |

* For the set value, refer to the soft SW specifications.

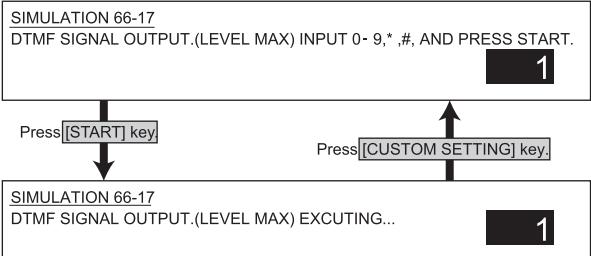


<List of set values>

| | | |
|---|----------|------------------------|
| 0 | | Execution |
| 1 | HIGH | High group level |
| 2 | HIGH-LOW | High group - low group |

66-17

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to test the dial signal (DTMF) output in the Fax tone dial mode. Send level 0db (fixed). Used to check the dial IC operation. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | The DTMF signal output is checked. (Output level 0) When CUSTOM SETTING is pressed, the execution is terminated. |



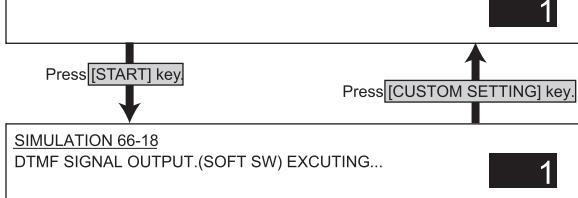
<DTMF signal>

| |
|----------------|
| 1 - 9, 0, *, # |
|----------------|

66-18

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to test the dial signal (DTMF) output in the Fax tone dial mode. The send level set with the soft switch is outputted. |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | The DTMF signal output is checked. (Output level is set with soft SW.) When CUSTOM SETTING is pressed, the execution is terminated. |

SIMULATION 66-18
DTMF SIGNAL OUTPUT.(SOFT SW) INPUT 0 – 9, *, #, AND PRESS START.



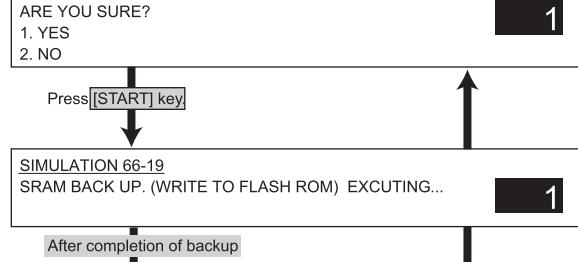
<DTMF signal>

| |
|----------------|
| 1 - 9, 0, *, # |
|----------------|

66-19

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to backup the FAX SRAM data (Set values of rapid key dialing) into the flash Memory (AR-MM9). (When FAX is installed and FAX expansion memory is installed.) |
| Section | Fax |
| Item | Operation |
| Operation/Procedure | The content of SRAM is backed up into Flash Memory(AR-MM9). |

SIMULATION 66-19
SRAM BACK UP. (WRITE TO FLASH ROM)
ARE YOU SURE?

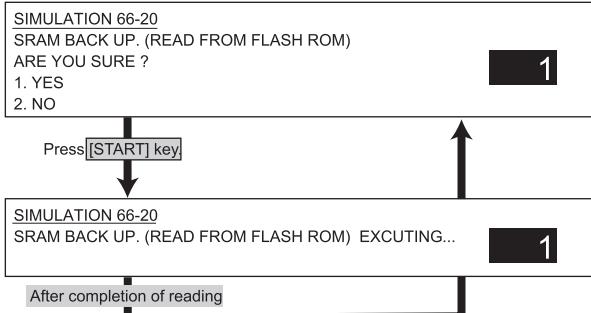


<Set values>

| | |
|---|-----------------|
| 1 | Backup executed |
| 2 | No backup |

66-20

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to restore the backup data (SIM 66-19) to SRAM. (When FAX is installed and FAX expansion memory is installed.) |
| Section | Fax |
| Item | Operation |
| Operation/Procedure | Read/write from Flash Memory(AR-MM9) to SRAM is performed. |

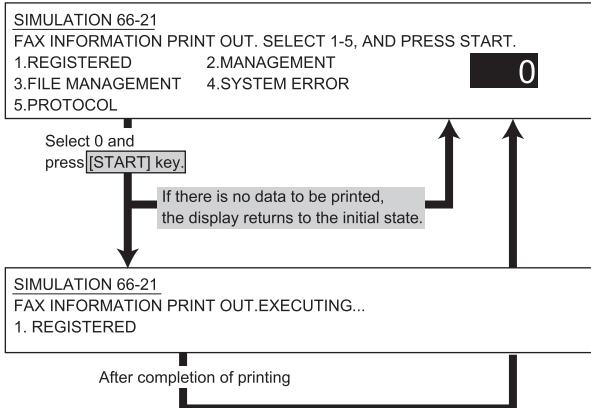


<Set value>

| | |
|---|-------------------------|
| 1 | Read/Write executed |
| 2 | Read/write not executed |

66-21

| | |
|---------------------|--|
| Purpose | Adjustment, setup, operation data output, check (display, print) |
| Function (Content) | Used to print the FAX information (registrations, communication management, file management, system errors). (Only when FAX is installed.) |
| Section | Fax |
| Item | Data |
| Operation/Procedure | Information related to FAX is printed. 1) Select information to be printed. 2) The selected information is printed. 3) The paper size is automatically selected by the size stored in the image memory. |

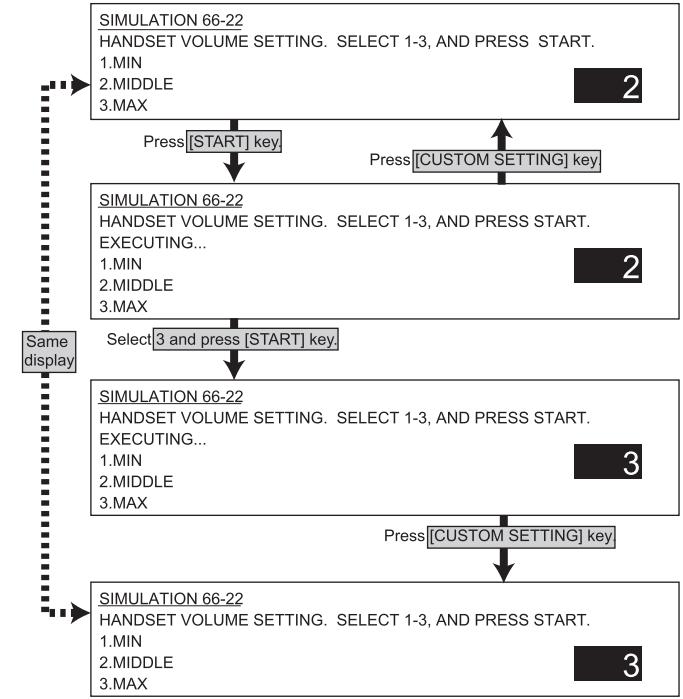


<List of set values>

| | | |
|---|-----------------|--------------------------------------|
| 1 | REGISTERED | Various registered information |
| 2 | MANAGEMENT | Communication management information |
| 3 | FILE MANAGEMENT | Fine management information |
| 4 | SYSTEM ERROR | System error information |
| 5 | PROTOCOL | Protocol information |

66-22

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to adjust the handset sound volume. (Only when FAX is installed.) |
| Section | Fax |
| Item | Operation |
| Operation/Procedure | The hand set sound volume is set. 1) Press START to set. 2) During execution, selection of 1, 2, and 3 is possible. |



<List of set values>

| | |
|---|--------|
| 1 | Min, |
| 2 | Middle |
| 3 | Max. |

66-23

| | |
|---------------------|---|
| Purpose | Operation test, check |
| Function (Content) | Used to download the FAX program. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | The contents of ROM in the option memory (AR-MM9) installing section are copied as FAX program. |

<This mode is for development, and inhibited in the market.>

SIMULATION 66-23
FAX PROGRAM DOWNLOAD.
EJECT PROTECT PIN, AND PRESS START.

66-24

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used clear the FAST memory data. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | 1) Select with 10 digit key pad, press START to execute the following. 1: Fast memory data clear 2: Not clear 2) After completion of memory clear, reset is made. |

SIMULATION 66-24
FAST MEMORY DATA CLEAR.
ARE YOU SURE ?
1. YES
2. NO

66-25

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to register the FAX number for MODEM dial-in. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | |

<This mode is for development, and inhibited in the market.>

SIMULATION 66-25
M-D-IN FAX NUMBER SETTING. 0-9: [0-9],*: [*],#: [#]
INPUT NUMBER AND PRESS START.
0123456789#01234567

66-26

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to register the external telephone number for MODEM dial-in. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | |

<This mode is for development, and inhibited in the market.>

SIMULATION 66-26
M-D-IN EXTEL NUMBER SETTING. 0-9: [0-9],*: [*],#: [#]
INPUT NUMBER AND PRESS START.
0123456789#01234567

66-27

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to register the voice-warp transfer number. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | |

<This mode is for development, and inhibited in the market.>

SIMULATION 66-27
V-WP TRANSMIT NUMBER SETTING. 0-9: [0-9],*: [*],#: [#]
INPUT NUMBER AND PRESS START.
0123456789#01234567

66-28

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to record a sound message. Recording is available in 1 ~ 5, max. 6sec for one. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | 1) Record a sound message from the handset. 2) Press CUSTOM SETTING to interrupt recording |

<This mode is for development, and inhibited in the market.>

| |
|---|
| SIMULATION 66-28 |
| VOICE RECORD. SELECT 1-5, AND PRESS START. |
| 1. MESSAGE1 2. MESSAGE2 3. MESSAGE3 |
| 4. MESSAGE4 5. MESSAGE5 |
| 1 |

66-29

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to clear the telephone directory. |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | 1) Select with 10 digit key pad and press START to execute the following. 1: Telephone directory clear 2: Telephone directory not clear |

| |
|---------------------|
| SIMULATION 66-29 |
| ADDRESS DATA CLEAR. |
| ARE YOU SURE ? |
| 1. YES |
| 2. NO |
| 1 |

66-30

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to check TEL/LIU status change. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | The TEL/LIU status can be checked. The display is highlighted when the status is changed. |

SIMULATION 66-30
TEL/LIU SENSOR CHECK.
HS1 HS2 RHS EXHS

1

<List of set values>

| | |
|------|----------------------------|
| HS1 | Polarity reverse signal |
| HS2 | Polarity reverse signal |
| RHS | Handset hook SW |
| EXHS | External telephone hook SW |

66-31

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to set the TEL/LIU status. (Only when FAX is installed.) |
| Section | Fax |
| Item | Operation |
| Operation/Procedure | Entry of only 0 or 1 is effective. Shift the cursor to the bit to enter. Cursor shift keys : ← : * , → : #. The bits are 1, 2, 3, 4, 5, 6, 7, and 8 from the left. The entered bit is highlighted. Press STRT to select the relay. |

SIMULATION 66-31
TEL/LIU SETTING.
INPUT 0~1, AND PRESS START.
MOVEMENT LEFT: [*] RIGHT: [#]
1. MPXA 2.CION 3.MR 4. EC
5. IS. 6. CML 7. DP 8.

1 2 3 4 5 6 7 8
10001100

66-32

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to check the received data. (Only when FAX is installed.) |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | The fixed data received from the line are checked. |

<This mode is for development, and inhibited in the market.>

SIMULATION 66-32
RECEIVED DATA CHECK.
CHECKING...(OK or NG)

<Display message>

| | |
|----------|-------------------|
| CHECKING | Checking |
| OK | Checking complete |
| NG | Checking end |

66-33

| | |
|---------------------|--|
| Purpose | Setup |
| Function (Content) | Used to check signal detection. |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | When the signal is detected, the display is highlighted. |

<This mode is for development, and inhibited in the market.>

SIMULATION 66-33
SIGNAL DETECT CHECK.
BUSY TONE CNG CED FNET DTM

SIMULATION 66-35
MODEM PROGRAM RELOAD.
ARE YOU SURE ?
1. YES
2. NO

1

Press [START] key

SIMULATION 66-35
MODEM PROGRAM RELOAD. EXECUTING...
LOADER...(OK or Check Sum value 1 byte (hexadecimal))
MODEM...(COMPLETE or NG code 1 byte (Hexadecimal))

After completion of writing

SIMULATION 66-35
MODEM PROGRAM RELOAD.
LOADER...OK
MODEM...COMPLETE

66-34

| | |
|---------------------|---|
| Purpose | Setup |
| Function (Content) | Used to measure and display the communication time. |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | The time spent for communication is measured. Send/receives performed in the normal mode. The communication time is displayed with the simulation. (unit: ms) |

SIMULATION 66-34
COMMUNICATION TIME DISPLAY.
***** ms

<Setup for send>

| | |
|---------------------|---------------------|
| Communication means | memory transmission |
| Image quality | Normal |
| Density | Thin |
| ECM | ON |
| Sender record | OFF |

66-35

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Modem program rewriting. |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | <p>The modem program in the FAX program is rewritten.</p> <ol style="list-style-type: none"> 1) Select with 10 digit key pad and press START to execute the following. <ol style="list-style-type: none"> 1: MODEM program rewrite 2: Not clear 2) Check the check sum value (loader). <p>If it is OK, the test is normally completed. If NG, the check sum value (1 byte = hexadecimal) is displayed.</p> 3) If the check sum value is NG, the MODEM result is also NG. 4) The Modem rewrite result is displayed. |

66-36

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check interface between MFPC and MDMC. Check is made in the data line or the command line. |
| Section | FAX |
| Item | Operation |
| Operation/Procedure | <ol style="list-style-type: none"> 1) Select with 10 digit key pad and press START. 2) When check is "repeat," the operation is executed until the result becomes NG or CUSTOM SETTING is pressed. |

SIMULATION 66-36
MFPC-MDMC I/F CHECK . INPUT 1-8, AND PRESS START.
1. MFPC->MDMC(DATA once)
2. MFPC->MDMC(DATA once)
3. MFPC-<-MDMC(DATA repeat)
4. MFPC->MDMC(DATA repeat)
5. MFPC-<-MDMC(CMD once)
6. MFPC->MDMC(CMD once)
7. MFPC-<-MDMC(CMD repeat)
8. MFPC->MDMC(CMD repeat)

1

Press [START] key

SIMULATION 66-36
MFPC-MDMC I/F CHECK . INPUT 1-8, AND PRESS START.
EXECUTING...

1

When check is "once" or "repeat" and the result is NG
When check is "repeat" and [CUSTOM SETTING] key is pressed.

SIMULATION 66-36
MFPC-MDMC I/F CHECK . INPUT 1-8, AND PRESS START.
EXECUTING...(OK or NG)

<List of display values>

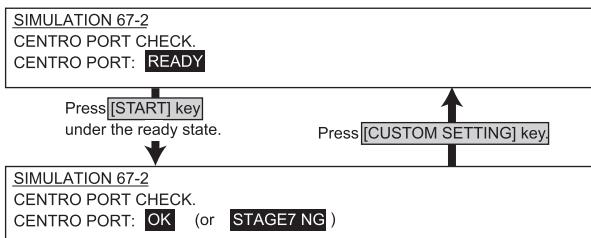
| | | |
|---|--------------|------------------------|
| 1 | MFPC <- MDMC | Data line once only |
| 2 | MFPC -> MDMC | Data line once only |
| 3 | MFPC <- MDMC | Data line repeat |
| 4 | MFPC -> MDMC | Data line repeat |
| 5 | MFPC <- MDMC | Command line once only |
| 6 | MFPC -> MDMC | Command line once only |
| 7 | MFPC <- MDMC | Command line repeat |
| 8 | MFPC -> MDMC | Command line repeat |

Main code 67

67-2

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the parallel I/F operation of the printer. (This simulation is made only in the production site and not in the market. It requires a special tool.) |
| Section | Printer |
| Item | Operation |
| Operation/Procedure | The Centro port is checked. 1) Insert the adjustment jig into the Centro port under the ready state, and press START. 2) The Centro port check is started. 3) If normal, OK is displayed. If abnormal, the stage number where an error occurred and NG are displayed. |

<This simulation is used only for production, and inhibited in the market.>



<Display message>

| | |
|----------|--|
| WAITING | Waiting |
| READY | Check start OK |
| OK | Check complete (normal) |
| STAGE*NG | Check end (An error occurred in Stage *: 1-11) |

67-11

| | |
|---------------------|--|
| Purpose | Adjustment |
| Function (Content) | Used to set Enable/Disable of the parallel I/F select signal of the printer. |
| Section | Printer |
| Item | Operation |
| Operation/Procedure | The select signal of Centro port is set. Press START to set. |

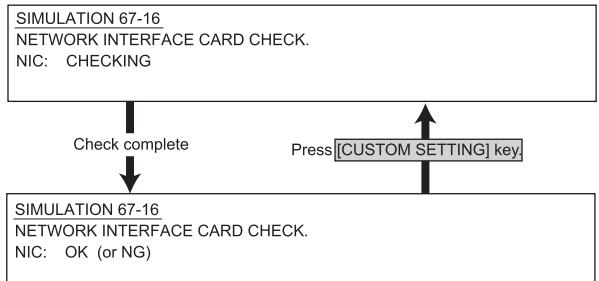


<Set values>

| | |
|---|--------------------|
| 0 | OFF |
| 1 | ON (Initial value) |

67-16

| | |
|---------------------|--|
| Purpose | Operation test, check |
| Function (Content) | Used to check the operation of the network card. |
| Section | Printer |
| Item | Operation |
| Operation/Procedure | The network card is checked. |



<Display message>

| | |
|----------|-------------------------|
| CHECKING | Checking |
| OK | Check complete (Normal) |
| NG | Check end (Abnormal) |

[11] TROUBLE CODES

1.Trouble codes list

| Trouble codes | Contents | Remark | Trouble detection |
|---------------|---|---------------------------------|-------------------|
| C1 00 | MC trouble | | PCU |
| E6 10 | CIS shading trouble (Black correction) | When the scanner is installed | SCANNER |
| | CIS shading trouble (White correction) | When the scanner is installed | |
| | CIS-ASIC communication trouble | When the scanner is installed | |
| E7 | Laser trouble | | PCU |
| | HDD trouble | With HDD installed | Controller |
| | Decode error trouble | | Controller |
| | Shading trouble (Black correction) | When the scanner is installed | SCANNER |
| | Shading trouble (White correction) | When the scanner is installed | |
| | CCD-ASIC communication trouble | When the scanner is installed | |
| | LSU connection trouble | | PCU |
| | SCANNER PWB communication trouble | When the scanner is installed | ICU |
| | PCU communication trouble | When the scanner is installed | |
| F1 | Finisher communication trouble | With Finisher installed | PCU |
| | Finisher staple shift motor trouble | With Finisher installed | PCU |
| | Finisher stapler motor trouble | With Finisher installed | PCU |
| | Finisher bundle exit motor trouble | With Finisher installed | PCU |
| | Finisher lift motor trouble | With Finisher installed | PCU |
| | Finisher alignment motor trouble FRONT | With Finisher installed | PCU |
| | Finisher alignment motor trouble | With Finisher installed | PCU |
| | Finisher 24V power supply trouble | With Finisher installed | PCU |
| | Finisher staple rotation motor trouble | With Finisher installed | |
| F1 | Mail bin stacker communication trouble | With Mail bin stacker installed | PCU |
| | mail bin stacker main drive motor trouble | With Mail bin stacker installed | PCU |
| | Mail bin stacker gate trouble | With Mail bin stacker installed | PCU |
| | Mail bin stacker 24V power supply trouble | With Mail bin stacker installed | PCU |

| Trouble codes | Contents | Remark | Trouble detection |
|---------------|---|---------------------------------|-------------------|
| F1 | Console finisher paddle motor trouble | With Console Finisher installed | PCU |
| | Console finisher slide motor trouble | With Console Finisher installed | PCU |
| | Console finisher stapler motor trouble | With Console Finisher installed | PCU |
| | Console finisher bundle exit motor trouble | With Console Finisher installed | PCU |
| | Console finisher lift motor trouble | With Console Finisher installed | PCU |
| | Console finisher alignment motor trouble FRONT | With Console Finisher installed | PCU |
| | Console finisher alignment motor trouble | With Console Finisher installed | PCU |
| | Console finisher communication trouble | With Console Finisher installed | PCU |
| | Console finisher fold sensor trouble | With Console Finisher installed | PCU |
| | Console finisher punch unit communication trouble | With Console Finisher installed | PCU |
| F2 | Console finisher punch side register motor trouble | With Console Finisher installed | PCU |
| | Console finisher punch motor trouble | With Console Finisher installed | PCU |
| | Console finisher punch side register sensor trouble | With Console Finisher installed | PCU |
| | Console finisher punch timing sensor trouble | With Console Finisher installed | PCU |
| | Console finisher backup RAM trouble | With Console Finisher installed | PCU |
| | Console finisher punch backup RAM trouble | With Console Finisher installed | PCU |
| | Console finisher transport motor trouble | With Console Finisher installed | PCU |
| | Toner concentration sensor open | | PCU |
| | Toner supply abnormality | | PCU |
| | Improper cartridge (Destination error, life cycle error) | | PCU |
| F3 | CRUM error | | PCU |
| | Process thermistor breakdown | | PCU |
| F3 | Tray 1 lift-p trouble | | PCU |
| | Tray 2 lift-up trouble (Multi-purpose tray) | Multi-purpose tray | PCU |

| Trouble codes | Contents | Remark | Trouble detection |
|---------------|---|---------------------------------|-------------------|
| F6 00 | FAX board communication trouble | When the Fax board is installed | ICU |
| | 01 FAX expansion Flash Rom abnormality | When the Fax board is installed | ICU |
| | 04 FAX MODEM operation abnormality | When the Fax board is installed | FAX |
| F7 01 | FAX board EEPROM read/write error | When the Fax board is installed | FAX |
| H2 00 | Thermistor open (HL1) | | PCU |
| | 01 Thermistor open (HL2) | | PCU |
| H3 00 | Heat roller high temperature detection (HL1) | | PCU |
| | 01 Heat roller high temperature detection (HL2) | | PCU |
| H4 00 | Heat roller low temperature detection (HL1) | | PCU |
| | 01 Heat roller low temperature detection (HL2) | | PCU |
| H5 01 | 5-time continuous POD1 not-reaching JAM detection | | PCU |
| L1 00 | Scanner feed trouble | When the scanner is installed | SCANNER |
| L3 00 | Scanner return trouble | When the scanner is installed | SCANNER |
| L4 01 | main motor lock detection | | PCU |
| | 02 Drum motor lock detection | | PCU |
| L6 10 | Polygon motor lock detection | | PCU |
| L8 01 | No full-wave signal | | PCU |
| | 02 Full-wave signal width abnormality | | PCU |
| U6 00 | Desk/LCC communication trouble | With Paper feed desk installed | PCU |
| | 01 Desk/LCC1CS lift-up trouble (Multi-purpose tray) | With Paper feed desk installed | PCU |
| | 02 Desk2 CS lift-up trouble/LCC1 lift-up trouble | With Paper feed desk installed | PCU |
| | 03 Desk3 CS lift-up trouble/LCC2 lift-up trouble | With Paper feed desk installed | PCU |
| | 10 Desk/LCC transport motor trouble | With Paper feed desk installed | PCU |
| EE EL | Auto developer adjustment trouble (Over-toner) | Only during DIAG | PCU |
| | EU Auto developer adjustment trouble (Under-toner) | Only during DIAG | PCU |
| F9 02 | Centro port check error | | Controller |
| | 03 NIC port check error | | Controller |
| U1 01 | FAX Battery abnormality | With FAX board installed | Controller |
| | 02 RTC read abnormality (common with FAX, on ICU PWB) | When the Fax board is installed | ICU |

| Trouble codes | Contents | Remark | Trouble detection |
|---------------|---|-------------------------------|-------------------|
| U2 00 | EEPROM read/write error (Controller) | | Controller |
| | 11 Counter check sum error (Controller EEPROM) | | Controller |
| | 12 Adjustment value check sum error (Controller EEPROM) | | Controller |
| | 80 Scanner section EEPROM read/write error | When the scanner is installed | SCANNER |
| | 81 Scanner section memory sum check error | When the scanner is installed | SCANNER |
| | 90 PCU section EEPROM read/write error | | PCU |
| 91 | PCU section memory sum check error | | PCU |
| U7 00 | PC/MODEM communication error | | Controller |
| PF -- | RIC copy inhibit command reception | | Controller |
| CH -- | Door open (CH ON) | | PCU |
| | 00 No developer cartridge | | PCU |
| | 01 No toner cartridge | | PCU |
| -- -- | Auditor not ready | | Controller |
| PC -- | Personal counter not installed | | Controller |

2. Details of trouble codes

| MAIN | SUB | | |
|------|-----|------------------|--|
| C1 | 00 | Content | MC trouble |
| | | Detail | Main charger output abnormality (Output open) Trouble signal is outputted from the high voltage transformer. |
| | | Cause | The main charger is not installed properly. The main charger is not assembled properly. Disconnection of connector of high voltage transformer. High voltage harness disconnection or breakage. |
| | | Check and remedy | Use the diag mode or DIAG to check the main charger output. Check for disconnection of the main charger. Replace the high voltage unit. |
| E6 | 10 | Content | CIS shading trouble (Black correction) |
| | | Details | The CIS black scan level is abnormal when the lamp is off. |
| | | Cause | Abnormal harness installation to CIS unit CIS unit abnormality Scanner PWB abnormality |
| | | Check & Remedy | Check CIS unit harness. Check CIS unit. Check scanner PWB. |

| MAIN | SUB | | |
|------|-----|------------------|---|
| E6 | 11 | Content | CSI shading trouble (White correction) |
| | | Details | The CIS white reference plate scan level is abnormal when the lamp is on. |
| | | Cause | Abnormal harness installation to CIS unit Dirt on the white reference plate. CIS lighting error CIS unit installation trouble CIS unit abnormality Scanner PWB abnormality |
| | | Check & Remedy | Clean the white reference plate. Check CIS light quantity (SIM 5-3) and lighting. Check CIS unit harness. Check scanner PWB. |
| | 14 | Content | CIS communication trouble |
| | | Details | Communication trouble (clock sync) between scanner PWB and CIS-ASIC |
| | | Cause | Abnormal harness installation to CIS unit CIS unit abnormality Scanner PWB abnormality |
| | | Check & Remedy | Check CIS unit harness. Check CIS unit. Check scanner PWB. |
| E7 | 02 | Content | Laser trouble |
| | | Detail | BD signal from LSU is kept OFF, or ON. |
| | | Cause | The connector of LSU or the harness in LSU is disconnected or broken. The polygon motor does not rotate normally. The laser home position sensor in LSU is shifted. The proper voltage is not supplied to the power line for laser. Laser emitting diode trouble PCU PWB trouble Controller PWB trouble |
| | | Check and remedy | Check for disconnection of the LSU connector. Use DIAG (SIM 61-1) to check LSU operation. Check that the polygon motor rotates normally or not. Check light emission of laser emitting diode. Replace the LSU unit. Replace the PCU PWB. Replace the Controller PWB. |
| | 03 | Content | HDD trouble |
| | | Detail | HDD does not operate properly in the machine with HDD installed. |
| | | Cause | HDD is not installed properly to the Controller PWB. HDD does not operate properly in the Controller PWB. Controller PWB trouble |
| | | Check and remedy | Check installation of HDD to the Controller PWB. Check connection of the harness of HDD to the Controller PWB. Use DIAG (SIM 62-2, -3) to check read/write of HDD. Replace HDD. Replace Controller PWB. |

| MAIN | SUB | | |
|------|-----|------------------|---|
| E7 | 06 | Content | Decode error trouble |
| | | Detail | A decode error occurs during making of an image. |
| | | Cause | Data error during input from PCI to PM. PM trouble Data error during image compression/transfer. Controller PWB abnormality |
| | | Check and remedy | Check insertion of the PWB. (PCI bus) If the error occurred in a FAX job, check installation of the FAX PWB. For the other cases, check the Controller PWB. Replace the Controller PWB. |
| 10 | 10 | Content | Shading trouble (Black correction) |
| | | Details | CCD black scan level abnormality when the copy lamp is off. |
| | | Cause | Abnormal installation of flat cable to CCD unit. CCD unit abnormality Scanner PWB abnormality |
| | | Check & Remedy | Check installation of CCD unit flat cable. Check CCD unit. Check scanner PWB. |
| 11 | 11 | Content | Shading trouble (White correction) |
| | | Details | CCD white reference plate scan level abnormality when the copy lamp is ON. |
| | | Cause | Abnormal installation of flat cable to CCD unit. Dirt on mirror, lens, white reference plate Copy lamp lighting abnormality Abnormal installation of CCD unit CCD unit abnormality Scanner PWB abnormality |
| | | Check & Remedy | Clean mirror, lens, and white reference plate. Check copy lamp light quantity (SIM 5-3) and lighting. Check CCD unit. Check scanner PWB. |
| 14 | 14 | Content | CCD communication trouble |
| | | Details | Communication trouble (clock sync) between scanner PWB and CCD-ASIC |
| | | Cause | Abnormal installation of harness to CCD unit CCD unit abnormality Scanner PWB abnormality |
| | | Check & Remedy | Check CCD unit harness. Check CCD unit. Check scanner PWB. |
| 50 | 50 | Content | LSU connection trouble |
| | | Detail | An LSU which does not conform to the machine is installed. |
| | | Cause | PCU PWB trouble LSU trouble |
| | | Check and remedy | Check LSU PWB. Check PCU PWB. Check connection of the connector and the harness between PCU and LSU. |

| MAIN | SUB | | |
|------|-----|------------------|---|
| E7 | 80 | Content | Communication trouble (ICU detection) between ICU and scanner |
| | | Details | Communication establishment error/Fleming/Parity/Protocol error |
| | | Cause | Defective connection of slave unit PWB connector Defective harness between slave unit PWB and ICU PWB Slave unit PWB mother board connector pin breakage |
| | | Check & Remedy | Check connector and harness of slave unit PWB and ICU PWB. Check grounding of machine. |
| | | 90 | Content PCU communication trouble Details Cause Check & Remedy |
| F1 | 00 | Content | Finisher (AR-FN6) communication trouble |
| | | Detail | Communication cable test error after turning on the power or exiting from DIAG. Communication error with the finisher |
| | | Cause | Improper connection or disconnection of connectors and harness between the machine and the finisher. Finisher control PWB trouble Control PWB (PCU) trouble Malfunction by noises |
| | | Check and remedy | Canceled by turning OFF/ON the power. Check connectors and harness in the communication line. Replace the finisher control PWB or PCU PWB. |
| | | 08 | Content Finisher (AR-FN6) staple shift motor trouble Detail Staple motor drive trouble Cause Motor lock Check and remedy Use DIAG (SIM3-3) to check operations of the staple motor. |
| | | 10 | Content Finisher (AR-FN6) stapler motor trouble Detail Stapler motor operation abnormality Cause Motor lock Check and remedy Use DIAG (SIM3-3) to check the motor operation. |
| | | 11 | Content Finisher (AR-FN6) bundle exit motor trouble Detail Bundle exit motor operation abnormality Cause Motor lock Check and remedy Use DIAG (SIM3-3) to check the motor operation. |
| | | 15 | Content Finisher (AR-FN6) lift motor trouble Detail Lift motor operation abnormality Cause Motor lock Check and remedy Use DIAG (SIM3-21) to check the transport motor operation. |

| MAIN | SUB | | |
|------|-----|------------------|--|
| F1 | 19 | Content | Finisher (AR-FN6) front alignment motor trouble |
| | | Detail | Front alignment motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | | 20 | Content Finisher (AR-FN6) rear alignment motor trouble Detail Rear alignment motor operation abnormality Cause Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| F1 | 80 | Content | Finisher (AR-FN6) power abnormality |
| | | Detail | The 24V power is not supplied to the finisher PWB. |
| | | Cause | Improper connection or disconnection of connector and harness Finisher control PWB trouble Power unit trouble |
| | | Check and remedy | Use DIAG (SIM3-2) to check the sensor. |
| | | 87 | Content Finisher (AR-FN6) staple rotation motor trouble Detail Front staple rotation motor trouble Cause Motor lock Motor rpm abnormality Overcurrent to the motor Finisher control PWB trouble |
| F1 | 00 | Content | Finisher (AR-FN6) staple rotation motor trouble Detail Front staple rotation motor trouble Cause Motor lock Motor rpm abnormality Overcurrent to the motor Finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | | 00 | Content Mail-bin stacker (AR-MS1) communication trouble Detail Communication cable test error after turning on the power or exiting from DIAG. Communication error with the Mail-bin stacker. |
| | | Cause | Improper connection or disconnection of connector and harness between the machine and the Mail-bin stacker. Mail-bin stacker control PWB trouble Control PWB (PCU) trouble Malfunction by noises |
| | | Check and remedy | Canceled by turning OFF/ON the power. Check harness and connector in the communication line. Replace the Mail-bin stacker PWB or PCU PWB. |
| F1 | 02 | Content | Mail-bin stacker (AR-MS1) transport motor abnormality |
| | | Detail | Transport motor trouble |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Mail-bin stacker control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-21) to check the transport motor operation. |

| MAIN | SUB | | |
|------|-----|------------------|--|
| F1 | 12 | Content | Mail-bin stacker (AR-MS1) gate trouble |
| | | Detail | Gate operation abnormality |
| | | Cause | Gate lock Mail-bin stacker control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-21) to check the transport gate operation. |
| | 80 | Content | Mail-bin stacker (AR-MS1) power abnormality |
| | | Detail | The 24V power is not supplied to the Mail-bin stacker PWB. |
| | | Cause | Improper connection or disconnection of connector and harness Mail-bin stacker control PWB trouble Power unit (AR-DC1) trouble |
| | | Check and remedy | Use DIAG (SIM3-20) to check the sensor operation. |
| | 03 | Content | Console finisher (AR-FN7) paddle motor trouble |
| | | Detail | Paddle motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | 06 | Content | Console finisher (AR-FN7) slide motor trouble |
| | | Detail | Slide motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | 10 | Content | Console finisher (AR-FN7) stapler motor trouble |
| | | Detail | Stapler motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | 11 | Content | Console finisher (AR-FN7) bundle exit motor trouble |
| | | Detail | Bundle exit motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | 15 | Content | Console finisher (AR-FN7) lift motor trouble |
| | | Detail | Lift motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |

| MAIN | SUB | | |
|------|-----|------------------|---|
| F1 | 19 | Content | Console finisher (AR-FN7) front alignment motor trouble |
| | | Detail | Front alignment motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | 20 | Content | Console finisher (AR-FN7) rear alignment motor trouble |
| | | Detail | Rear alignment motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | 30 | Content | Console finisher (AR-FN7) communication trouble |
| | | Detail | Communication cable test error after turning on the power or exiting from DIAG. Communication error with the console finisher |
| | | Cause | Improper connection or disconnection of connector and harness between the machine and the console finisher. Console finisher control PWB trouble Control PWB (PCU) trouble Malfunction by noises |
| | | Check and remedy | Canceled by turning OFF/ON the power. Check connectors and harness in the communication line. Replace the console finisher control PWB or PCU PWB. |
| | 31 | Content | Console finisher (AR-FN7) fold sensor trouble |
| | | Detail | Sensor input value abnormality |
| | | Cause | Sensor breakage harness breakage Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-2) to check the sensor operation. |
| | 32 | Content | Communication trouble between the console finisher (AR-FN7) and the punch unit (AR-PN1). |
| | | Detail | Communication err between the console finisher and the punch unit. |
| | | Cause | Improper connection or disconnection of connector and harness between the console finisher and the punch unit. Console finisher control PWB trouble Control PWB (PCU) trouble Malfunction by noise |
| | | Check and remedy | Canceled by turning OFF/ON the power. Check connectors and harness in the communication line. Replace the console finisher control PWB. |

| MAIN | SUB | | |
|------|-----|------------------|---|
| F1 | 33 | Content | Console finisher (AR-FN7) punch (AR-PN1) side registration motor trouble |
| | | Detail | Punch side registration motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | | Content | Console finisher (AR-FN7) punch (AR-PN1) motor trouble |
| | 34 | Detail | Punch motor operation abnormality |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | | Content | Console finisher (AR-FN7) punch (AR-PN1) side registration sensor trouble |
| | 35 | Detail | Sensor input value abnormality |
| | | Cause | Sensor breakage Harness disconnection Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-2) to check the sensor operation. |
| | | Content | Console finisher (AR-FN7) punch (AR-PN1) timing sensor trouble |
| | 36 | Detail | Sensor input value abnormality |
| | | Cause | Sensor breakage Harness disconnection Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-2) to check the sensor operation. |
| | | Content | Console finisher (AR-FN7) backup RAM trouble |
| | 37 | Detail | Backup RAM contents are disturbed. |
| | | Cause | Console finisher control PWB trouble Malfunction by noise |
| | | Check and remedy | Replace the console finisher control PWB. |
| | | Content | Console finisher (AR-FN7) punch (AR-PN1) backup RAM trouble |
| | 38 | Detail | Punch unit backup RAM contents are disturbed. |
| | | Cause | Punch control PWB trouble Malfunction by noise |
| | | Check and remedy | Replace the punch control PWB. |
| | | Content | Console finisher transport motor abnormality |
| 81 | 81 | Detail | Transport motor trouble |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Console finisher control PWB trouble |
| | | Check and remedy | Use DIAG (SIM3-3) to check the motor operation. |
| | | Content | Console finisher transport motor abnormality |

| MAIN | SUB | | |
|------|-----|------------------|--|
| F2 | 00 | Content | Toner control sensor abnormality |
| | | Detail | Toner control sensor output open |
| | | Cause | Connector harness trouble Connector disconnection |
| | | Check and remedy | Check connection of the toner control sensor. Check connection of connector and harness to the main PWB. Check for disconnection of harness. |
| | | Content | Toner supply abnormality |
| | 02 | Detail | Toner control sensor output value becomes under-toner too earlier. |
| | | Cause | Connector harness trouble Toner control sensor trouble The toner cartridge seal is not removed |
| | | Check and remedy | Check connection of the connector in the toner motor section. Check connection of connector and harness to the main PWB. Check for disconnection of harness. Toner control sensor output check DIAG (SIM25-1) Remove the toner cartridge seal. |
| | | Content | Improper cartridge (life cycle error, etc.) |
| | | Detail | An improper process cartridge is inserted. |
| | 04 | Cause | IC chip trouble Improper cartridge |
| | | Check and remedy | Insert a proper cartridge. |
| | | Content | CRUM error |
| | | Detail | Communication with IC chip cannot be made. |
| | 05 | Cause | IC chip trouble Improper cartridge |
| | | Check and remedy | Insert a proper cartridge. |
| | | Content | Process thermistor trouble |
| | | Detail | Process thermistor open |
| | 39 | Cause | Process thermistor trouble Process thermistor harness disconnection PCU PWB trouble |
| | | Check and remedy | Check connection of harness and connector of the process thermistor. Check PCU PWB. |
| | | Content | Machine no. 1 tray lift-up trouble |
| | | Detail | PED does not turn ON in the specified time. LUD does not turn ON in the specified time. |
| | 12 | Cause | PED/LUD trouble No. 1 tray lift-up trouble Check connection of harness between the PCVU PWB, lift-up unit, and paper feed unit. |
| | | Check and remedy | Check PED, LUD, and their harness and connectors. Check the lift-up unit. |
| | | Content | Multi purpose tray lift-up trouble |
| | | Detail | MCPED does not turn ON in the specified time. MCLUD does not turn ON in the specified time. |
| | 22 | Cause | MCPED/MCLUD trouble Multi purpose tray lift-up motor trouble Harness disconnection f the PCU PWB, the lift-up unit, and the paper feed unit. |
| | | Check and remedy | Check MCPED, PCLUD, and their harness and connectors. Check the lift-up unit. |

| MAIN | SUB | | |
|------|----------------------------|------------------|---|
| F6 | 00 | Content | Communication trouble (ICU detection) between ICU and FAX |
| | | Details | Communication establishment error/Fleming/Parity/Protocol error |
| | | Cause | Slave unit PWB connector disconnection Harness abnormality between slave unit PWB and ICU PWB. Slave unit PWB mother board connector pin breakage Slave unit ROM abnormality/No ROM/Reverse insertion of ROM/ROM pin breakable |
| | | Check & Remedy | Check connector harness between slave unit PWB and ICU PWB. Check grounding of machine. Check slave unit PWB ROM. |
| | | Content | FAX expansion flash memory abnormality (ICU detection) |
| | 01 | Details | Expansion flash memory with SRAM backup data is installed. |
| | | Cause | SRAM backup data is detected in expansion flash memory. Expansion flash memory in which SRAM data are backed up with SIM 66-19 is installed. |
| | | Check & Remedy | Restore backup data to SRAM with SIM 66-20, and clear expansion flash memory with SIM 66-10. If data are unnecessary, clear expansion flash memory with SIM 66-10. |
| | | Content | FAX modem operation abnormality |
| | | Details | FAX PWB modem chip operation abnormality |
| | 04 | Cause | The boot test pin in the FAX PWB is shorted and normal operation is tried. Modem chip operation abnormality in FAX PWB |
| | | Check & Remedy | Turn on the power again without shorting the boot test pin in the FAX PWB. Replace FAX PWB. |
| F7 | 01 | Content | FAX board EEPROM read/write error |
| | | Details | EEPROM access error (read/write) |
| | | Cause | EEPROM trouble FAX PWB EEPROM access circuit trouble |
| | | Check & Remedy | Replace FAX PWB. |
| | | Content | thermistors open Fusing unit not installed |
| H2 | 00... HL1 (RT H1) | Detail | Thermistor is open. (An input voltage of 2.92V or above is detected.) Fusing unit not installed |
| | | Cause | Thermistor trouble Control PWB trouble Fusing section connector disconnection AC power trouble Fusing unit not installed |
| | 01... HL2 (RT H2) | Check and remedy | Check harnesses and connectors from the thermistor to the control PWB. Use DIAG (SIM14) to clear the self diag display. |

| MAIN | SUB | | |
|------|--|------------------|---|
| H3 | 00... HL1 (RT H1) 01... HL2 (RT H2) | Content | Fusing section high temperature trouble |
| | | Detail | The fusing temperature exceeds 242°C. (An input voltage of 0.27V or above is detected.) |
| | | Cause | thermistors trouble Control PWB trouble Fusing section connector disconnection AC power trouble |
| H4 | 00... HL1 (RT H1) 01... HL2 (RT H2) | Check and remedy | Use DIAG (SIM5-2) to check the heater lamp Blinking operation . If the heater lamp blinks normally: Check the thermistor and its harness. Check the thermistor input circuit in the control PWB. If the heater lamp keep lighting: Check the AC PWB and the lamp control circuit in the control PWB. Use DIAG (SIM14) to cancel the trouble |
| | | Content | Fusing section low temperature trouble |
| | | Detail | •The set temperature is not reached within the specified time (normally 3 min) when warming up or resetting from pre-heating. •Under the ready state. (An input voltage of 1.21V or below is detected 5 times continuously.) |
| H5 | 01 | Cause | thermistors trouble Heater lamp trouble Control PWB trouble Thermostat trouble AC power trouble Interlock switch trouble |
| | | Check and remedy | Use DIAG (SIM5-2) to check the heater lamp Blinking operation . If the heater lamp blinks normally: Check the thermistor and its harness. Check the thermistor input circuit in the control PWB. If the heater lamp does not light: Check for heater lamp disconnection and thermostat disconnection. Check the interlock switch. Check the AC PWB and the lamp control circuit in the control PWB. Use DIAG (SIM14) to cancel the trouble. |
| | | Content | 5-time continuous POD1 not-reaching jam detection |
| L1 | 00 | Detail | 5-time continuous POD1 not-reaching jam detection |
| | | Cause | A fusing section jam is not properly removed. (Jam paper remains.) POD1 sensor trouble, or harness disconnection Improper installation of fusing unit |
| | | Check and remedy | Check jam paper in the fusing section. (winding, etc.) Check POD1 sensor harness, and check the fusing unit installation. Use DIAG (SIM14) to cancel the trouble. |
| | | Content | Scanner feed trouble |
| | | Details | Scanner feed is not completed within the specified time. |
| | | Cause | Scanner unit abnormality Scanner wire disconnection |
| | | Check & Remedy | Check scanning with SIM 1-1. |

| MAIN | SUB | | |
|------|-----|------------------|--|
| L3 | 00 | Content | Scanner return trouble |
| | | Details | Scanner return is not completed within the specified time. |
| | | Cause | Scanner unit abnormality Scanner wire disconnection |
| | | Check & Remedy | Check scanning with SIM 1-1. |
| L4 | 01 | Content | Main motor lock detection |
| | | Detail | The motor lock signal is detected for 1.5sec during rotation of the main motor. |
| | | Cause | main motor trouble Check connection of harness between the PCU PWB and the main motor. Control circuit trouble |
| | | Check and remedy | Use DIAG (SIM25-1) to check the main motor operation. Check harness and connector between the PCU PWB and the main motor. |
| | 02 | Content | Drum motor lock detection |
| | | Detail | The motor lock signal is detected for 1.5sec during rotation of the drum motor. |
| | | Cause | Drum motor trouble Improper connection of harness between the PCU PWB and the drum motor. Control circuit trouble |
| | | Check and remedy | Use DIAG (SIM25-1) to check the drum motor operation. Check harness and connector between the PCU PWB and the drum motor. |
| L6 | 10 | Content | Polygon motor lock detection |
| | | Detail | It is judged that the polygon motor lock signal is not outputted. Lock signal is checked in the interval of 10sec after starting the polygon motor, and it is judged that the polygon motor does not rotate normally. |
| | | Cause | The LSU connector or harness in the LSU is disconnected or broken. Polygon motor trouble |
| | | Check and remedy | Use DIAG (SIM61-1) to check the polygon motor operation. Check connector and harness connection. Replace LSU. |
| | | | |
| L8 | 01 | Content | No fullwave signal |
| | | Detail | Full wave signal is not detected. |
| | | Cause | The PCU PWB connector or the power unit harness is disconnected or broken. PCU PWB trouble Power unit trouble |
| | | Check and remedy | Check connection of the harness and connector. Replace PCU PWB. Replace the power unit. |
| | 02 | Content | Full wave signal width abnormality |
| | | Detail | It is judged as full wave signal frequency abnormality. (When the detection cycle is judged as 69Hz or above or 42.5Hz or below) |
| | | Cause | The connector or harness of the PCU PWB and the power PWB is disconnected. PCU PWB trouble Power unit trouble |
| | | Check and remedy | Check connection of the harness and connector. Replace the PCU PWB. Replace the power unit. |
| | | | |
| | | | |

| MAIN | SUB | | |
|------|-----|------------------|---|
| U6 | 00 | Content | Desk/LCC communication trouble |
| | | Detail | Desk/LCC communication error Communication cable test error after turning on the power or exiting DIAG. |
| | | Cause | Improper connection or disconnection of connector and harness Desk control PWB trouble Control PWB (PCU) trouble Noise or interference |
| | | Check and remedy | Canceled by turning OFF/ON the power. Check connection of the harness and connector in the communication line. |
| 01 | | Content | Desk/LCC No. 1 tray lift-up trouble |
| | | Detail | Desk/LCC No. 1 tray lift-up trouble |
| | | Cause | Sensor trouble Desk control PWB trouble Gear breakage Lift-up motor trouble |
| | | Check and remedy | Use DIAG (SIM4-2) to check the lift-up sensor detection. Use DIAG (SIM4-3) to check the lift-up motor operation. |
| 02 | | Content | Desk No. 2 tray/LCC1 lift-up trouble |
| | | Detail | Desk No. 2 tray/LCC lift-up trouble |
| | | Cause | Sensor trouble Desk control PWB trouble Gear breakage Lift-up motor trouble |
| | | Check and remedy | Use DIAG (SIM4-2) to check the lift-up sensor detection. Use DIAG (SIM4-3) to check the lift-up motor operation. |
| 03 | | Content | Desk No. 3 tray/LCC2 lift-up trouble |
| | | Detail | Desk no. 3 tray lift-up trouble |
| | | Cause | Sensor trouble Desk control PWB trouble Gear breakage Lift-up motor trouble |
| | | Check and remedy | Use DIAG (SIM4-2) to check the lift-up sensor detection. Use DIAG (SIM4-3) to check the lift-up motor operation. |
| 10 | | Content | Desk/LCC transport motor trouble |
| | | Detail | Desk/LCC transport motor operation trouble |
| | | Cause | Motor lock Motor rpm abnormality Overcurrent to the motor Desk control PWB trouble |
| | | Check and remedy | Use DIAG (SIM4-3) to check the transport motor operation. |

| MAIN | SUB | | |
|------|-----|------------------|---|
| EE | EL | Content | Auto developer adjustment trouble (Over-toner) |
| | | Detail | The sample data is at 68 or below when auto developer adjustment is performed. |
| | | Cause | Toner concentration sensor trouble Charging voltage, developing voltage abnormality Insufficient toner concentration Developing unit trouble PCU PWB trouble |
| | | Check and remedy | Use DIAG (SIM25-2) to perform auto developer adjustment. |
| | | Content | Auto developer adjustment trouble (Under-toner) |
| EU | EU | Detail | The sample data is of 168 or above when auto developer adjustment is performed. |
| | | Cause | Insufficient toner concentration Charging voltage, developing voltage abnormality Insufficient toner concentration Developing unit trouble PCU PWB trouble |
| | | Check and remedy | Use DIAG (SIM25-2) to perform auto developer adjustment. |
| | | Content | PRT Centro port check error |
| | | Detail | Controller Centro port trouble |
| F9 | 02 | Cause | Centro port trouble Controller PWB trouble |
| | | Check and remedy | Replace the Controller PWB. |
| | 03 | Content | NIC port check error |
| | | Detail | NIC port check error |
| | | Cause | NIC port trouble NIC PWB trouble Controller PWB trouble |
| | | Check and remedy | Replace the NIC PWB. Replace the Controller PWB. |
| | 01 | Content | FAX Battery abnormality |
| | | Detail | Backup SRAM battery voltage fall |
| | | Cause | Battery life Battery circuit abnormality |
| | | Check and remedy | Check that the battery voltage is about 2.5V or above. Check the battery circuit. |
| | 02 | Content | RTC read abnormality (common with FAX, on ICU PWB) |
| | | Details | The value read from RTC on ICU PWB is [EE]h (abnormal). |
| | | Cause | RTC circuit abnormality Battery voltage fall Battery circuit abnormality |
| | | Check & Remedy | Set the time again with key operation, and check that time advances properly. Check RTC circuit. Check that battery voltage is about 2.5V or above. Check battery circuit. |

| MAIN | SUB | | |
|------|-----|------------------|--|
| U2 | 00 | Content | EEPROM read/write error (Controller) |
| | | Detail | EEPROM write error |
| | | Cause | EEPROM trouble EEPROM is not initialized. Controller PWB EEPROM access circuit trouble |
| | | Check and remedy | Check that EEPROM is properly inserted. Save the counter/adjustment values with the DIAG simulation. Use DIAG (SIM16) to cancel U2 trouble. Replace the Controller PWB. |
| | | Content | Counter check sum error (Controller) |
| 11 | 11 | Detail | Counter data area check sum error |
| | | Cause | EEPROM trouble Control circuit trouble by noise Controller PWB EEPROM access circuit trouble |
| | | Check and remedy | Check that EEPROM is properly inserted. Save the counter/adjustment values with the DIAG simulation. Use DIAG (SIM16) to cancel U2 trouble. Replace the Controller PWB. |
| | | Content | Adjustment value check sum error (Controller) |
| | | Detail | Adjustment data area check sum error |
| 80 | 80 | Cause | EEPROM trouble Control circuit trouble by noise Controller PWB EEPROM access circuit trouble |
| | | Check and remedy | Check that EEPROM is properly inserted. Save the counter/adjustment values with the DIAG simulation. Use DIAG (SIM16) to cancel U2 trouble. Replace the Controller PWB. |
| | | Content | EEPROM read/write error (Scanner) |
| | | Details | Scanner EEPROM write error |
| | | Cause | EEPROM abnormality EEPROM which is not initialized is installed. Hang of control circuit due to noises Scanner PWB EEPROM access circuit abnormality |
| U1 | 01 | Check & Remedy | Check that EEPROM is set properly. Record counter/adjustment values with the simulation to protect the data from being deleted. Cancel U2 trouble with SIM 16. Replace scanner PWB. |
| | | Content | Memory check sum error (Scanner) |
| | | Details | Scanner memory check sum error |
| | | Cause | EEPROM trouble Control circuit freeze by noises Scanner PWB EEPROM access circuit trouble |
| | | Check & Remedy | Check that EEPROM is set properly. Record counter/adjustment values with the simulation to protect the data from being deleted. Cancel U2 trouble with SIM 16. Replace scanner PWB. |
| 81 | 81 | Content | Memory check sum error (Scanner) |
| | | Details | Scanner memory check sum error |
| | | Cause | EEPROM trouble Control circuit freeze by noises Scanner PWB EEPROM access circuit trouble |
| | | Check & Remedy | Check that EEPROM is set properly. Record counter/adjustment values with the simulation to protect the data from being deleted. Cancel U2 trouble with SIM 16. Replace scanner PWB. |

| MAIN | SUB | | |
|------|-----|------------------|--|
| U2 | 90 | Content | EEPROM read/write error (PCU) |
| | | Detail | PCU EEPROM write error |
| | | Cause | EEPROM trouble EEPROM is not initialized. Hang of control circuit due to noises PCU PWB EEPROM access circuit trouble |
| | | Check and remedy | Check that EEPROM is properly inserted. Save the counter/adjustment values with the DIAG simulation. Use DIAG (SIM16) to cancel U2 trouble. Replace the Controller PWB. |
| | 91 | Content | Memory check sum error (PCU) |
| | | Detail | PCU memory check sum error |
| | | Cause | EEPROM trouble EEPROM is not initialized. PCU PWB EEPROM access circuit trouble Uninitialized EEPROM installed. |
| | | Check and remedy | Check that EEPROM is properly inserted. Save the counter/adjustment values with the DIAG simulation. Use DIAG (SIM16) to cancel U2 trouble. Replace the Controller PWB. |
| U7 | 00 | Content | RIC communication trouble |
| | | Detail | RIC communication trouble Communication cable test error after turning on the power or exiting DIAG. |
| | | Cause | Disconnection of connector and harness RTC control PWB trouble Control PWB (Controller) trouble Noise or interference |
| | | Check and remedy | Canceled by turning OFF/ON the power. Check connector and harness in the communication line. |
| PF | 00 | Content | RIC copy inhibit signal is received. |
| | | Detail | Copy inhibit command from RIM (host) is received. |
| | | Cause | Judged by the host. |
| | | Check and remedy | Inform to the host. |

3. Network communication error

•Error code table

| Error code | Content of error |
|------------|--|
| CE-01 | The print server card (AR-NC5J) is broken down or is not installed. |
| CE-02 | The specified mail server or FTP server is not found. |
| CE-03 | Communication with the specified server is interrupted during image transmission. |
| CE-04 | The account name or the password for the FTP server is invalid. |
| CE-05 | The directory of the FTP server is invalid. |
| CE-00 | A communication error other than the above is generated, such as NIC cable disconnection |

4. Fatal / Non-Fatal Error Tables

A. Troubles where the machine can be operated depending on the conditions (Include Multi Function)

| Trouble | Judgment block | Trouble code | Operation-possible mode | | | | | |
|---|--------------------|------------------------|-----------------------------------|----------|------------|-----------|-------|------------|
| | | | Copy read (interruption, etc.) | FAX send | Email send | FAX print | Print | List print |
| Scanner section troubles (Mirror motor, lens, copy lamp) | SCANNER | L1,L3,U2 (80,81) | X | X | X | O | O | O |
| FAX board trouble | Controller/ FAX | F6,F7 | O | X | O | X | O | O |
| FAX power OFF | Controller | | O | X | O | X | O | O |
| Network error | Controller | CE | O | O | X | O | O | O |
| Staple trouble | PCU | F1(10) | △1 | O | O | △1 | △1 | △1 |
| Paper feed tray trouble | PCU | F3, U6 (Desk) | △2 | O | O | △2 | △2 | △2 |
| PCU section troubles (Motor, fusing, etc.) | PCU | | X | O | O | X | X | X |
| After-work trouble | PCU | | △3 | O | O | △3 | △3 | △3 |
| Laser trouble | PCU | E7 (02 only), L6 | X | O | O | X | X | X |
| HDD trouble | Controller | E7 (03) | X | X | X | X | X | X |
| CCD troubles (Shading, etc.) | SCANNER | E7 (10, 11, 13) | X | X | X | O | O | O |
| Scanner communication trouble | Controller | E7 (80) | X | X | X | O | O | O |
| PCU communication trouble | Controller | E7 (90) | X | O | O | X | X | X |
| Backup battery voltage fall | Controller | U1 (01, 02) | O | X | X | O | O | O |

O : Operation possible

X : Operation impossible

△ : Operation possible depending on conditions

△1 :Operation possible except for the staple mode

△2 :Operation possible except for the trouble tray

△3 :Operation possible except for the trouble paper exit section

B. Operation inhibited

| Trouble | Judgment block | Trouble code | Operation-possible mode | | | | | |
|---|----------------|--------------------|-----------------------------------|----------|------------|-----------|-------|------------|
| | | | Copy read (interruption, etc.) | FAX send | Email send | FAX print | Print | List print |
| Memory trouble (Expansion RAM not installed, etc.) | Controller | U2 (00, 11, 12) | X | X | X | X | X | X |
| External communication invalid (RIC) | Controller | U7, PF | X | X | X | X | X | X |
| Image memory trouble, decode error | Controller | E7(01, 06) | X | X | X | X | X | X |

X : Operation impossible

C. Operation mode in FAX send/receive operations

| Trouble | Trouble code | Operation enable mode | | | | |
|--|-----------------|-----------------------|-------|-----------|--------------|-------------------------------|
| | | Send reservation | Print | Send call | Receive call | Note |
| PCU general troubles | | O | X | O | O Note | Possibly causing memory full. |
| Paper feed tray trouble | F3,U6 | O | △ 1 | O | O | |
| Paper exit section trouble | F1 | O | △ 3 | O | O | |
| Scanner general troubles | | X | O | O | O | |
| FAX trouble | F6,F7 | X | X | X | X | |
| ICU trouble | E7(01,06,80,90) | X | X | X | X | |
| ICU memory error | U2(00,11,12) | X | X | X | X | |
| RIC external communication trouble, PF | U7 | X | X | X | X | |
| Backup battery voltage fall | U1 | X | △ 2 | X Note | X | Transfer enable |
| Door open | | O | X | O | O Note | Possibly causing memory full. |
| Toner empty | | O | X | O | O Note | Possibly causing memory full. |
| No process cartridge, etc. | | O | X | O | O Note | Possibly causing memory full. |
| Paper empty | | O | X | O | O Note | Possibly causing memory full. |
| Paper jam | | O | X | O | O Note | Possibly causing memory full. |
| Document jam | | X | O | O | O | |
| Simulation | | X | X | X | X | |
| Key operation (Communication disable) | | X | X | X | X | |

O : Operation enable

X : Operation disable

△ 1 : Enable in other than trouble tray

△ 2 : Go to FAX status check menu, and printing of list is allowed.

: Received document is outputted.

△ 3 : Paper exit enable to other tray than trouble one.

D. Trouble mode process

| | |
|--|--|
| Machine operation possible depending on conditions | Operations except for the trouble mode are possible (READY). For the mode where operations are impossible, only setup can be allowed, and the message is provided to show that operations are impossible. (NOT READY in this case.) (Display) A dialog is shown in case of a trouble. For the mode where operations are possible, the OK button is added to the message. For the mode where operations are impossible, the OK button is not shown, and the process to cancel is indicated. |
| Machine operation is impossible | The trouble display is always shown, and all setup operations are invalid. |

E. Writing to the trouble memory

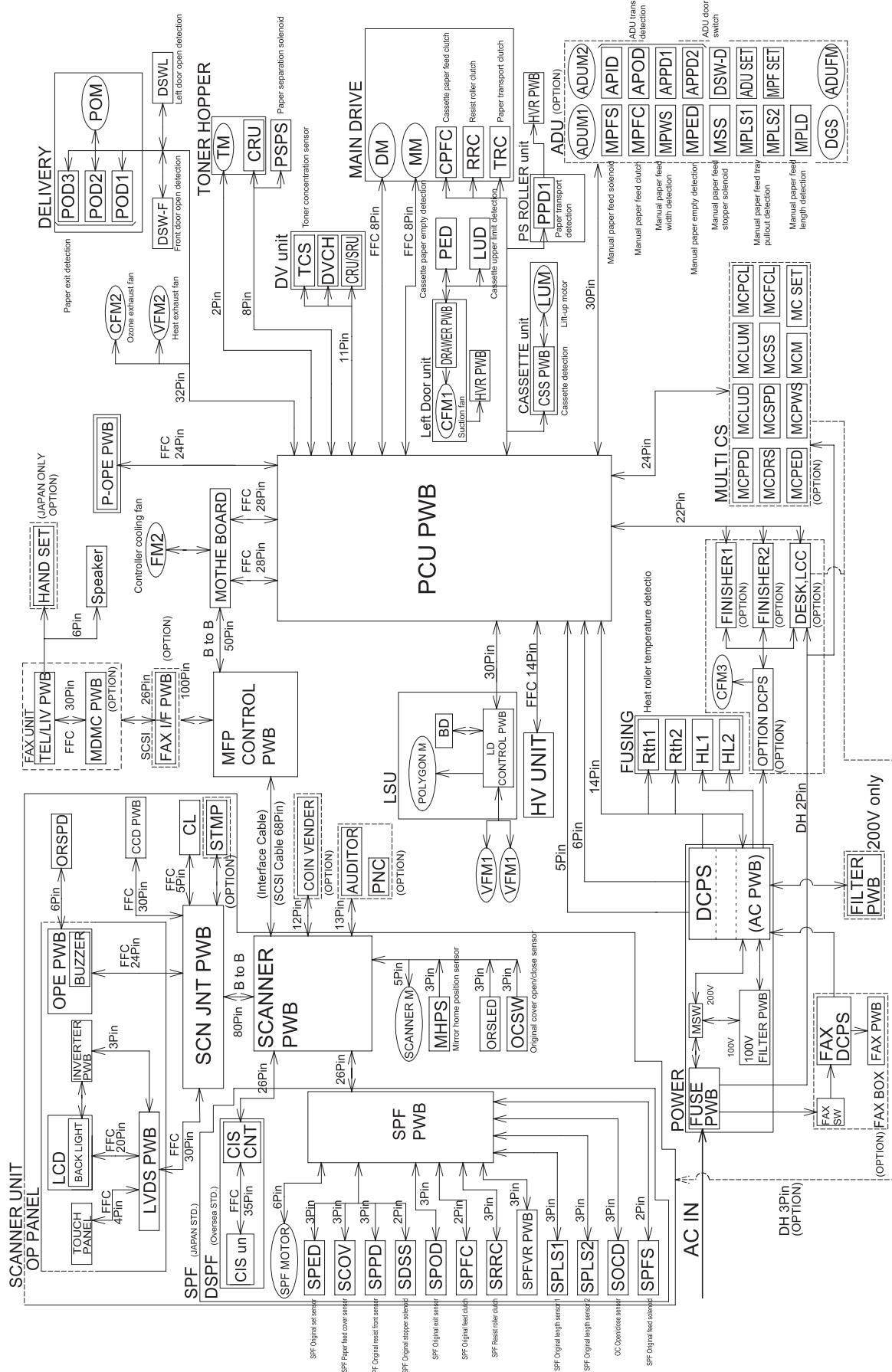
In this series, the simulation (diag) allows to select whether the same trouble is written to the trouble memory when it occurs. If the DIAG simulation is set as above, when any trouble occurs, its hysteresis is written to the trouble memory. DIAG(SIM 26-35)

0: The same trouble as the previous one is not recorded. (Default)

1: When a trouble occurs, it is written to the trouble memory without exception.

[12] ELECTRICAL SECTION

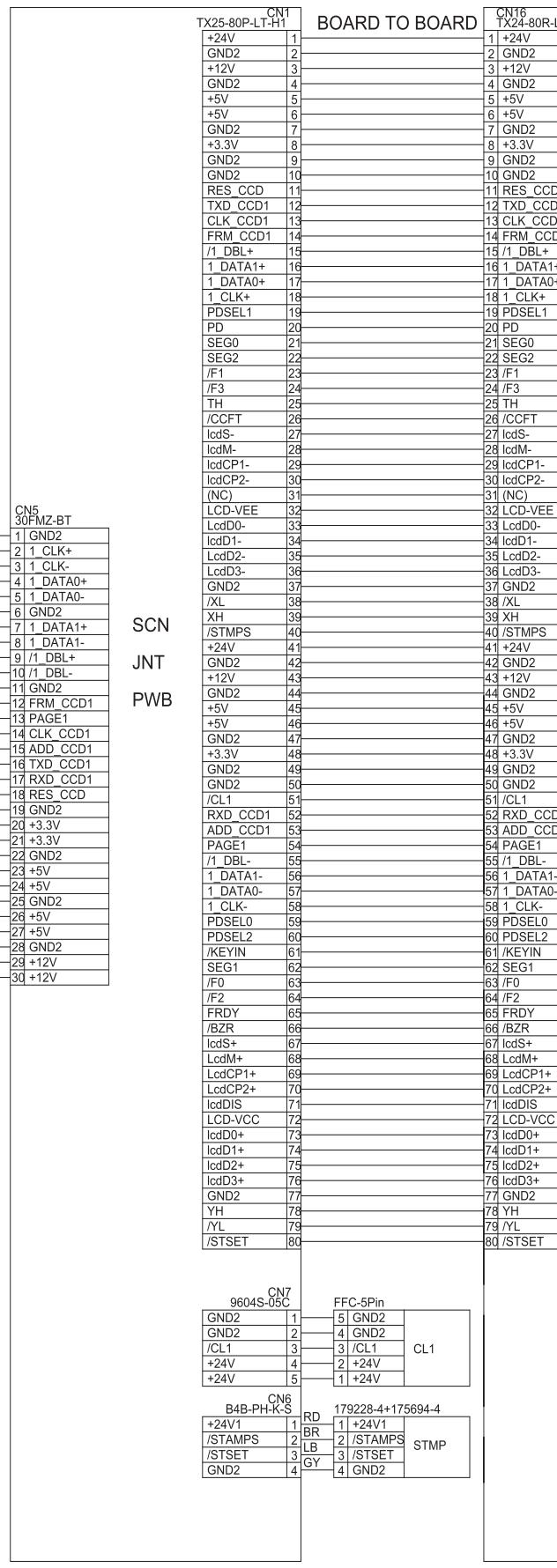
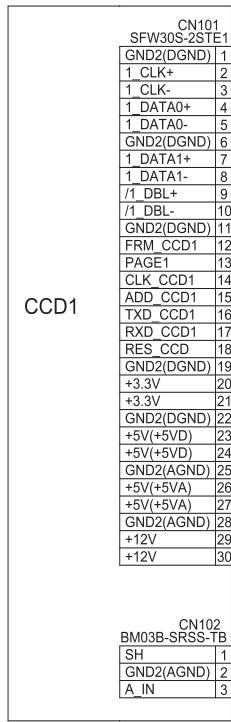
1. Block Diagram



2. Circuit Diagram

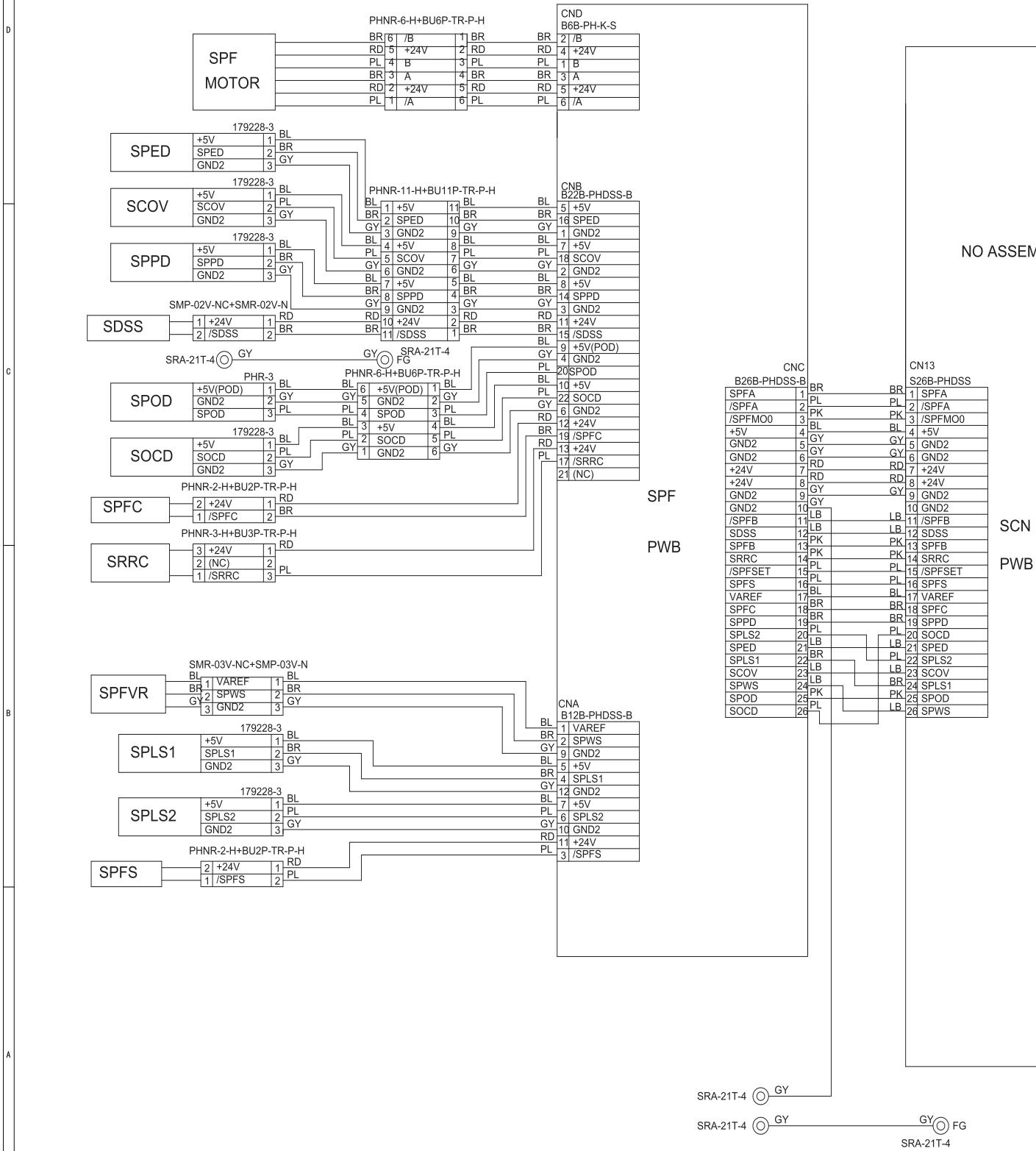
8 | 7 | 6 | 5 | 4

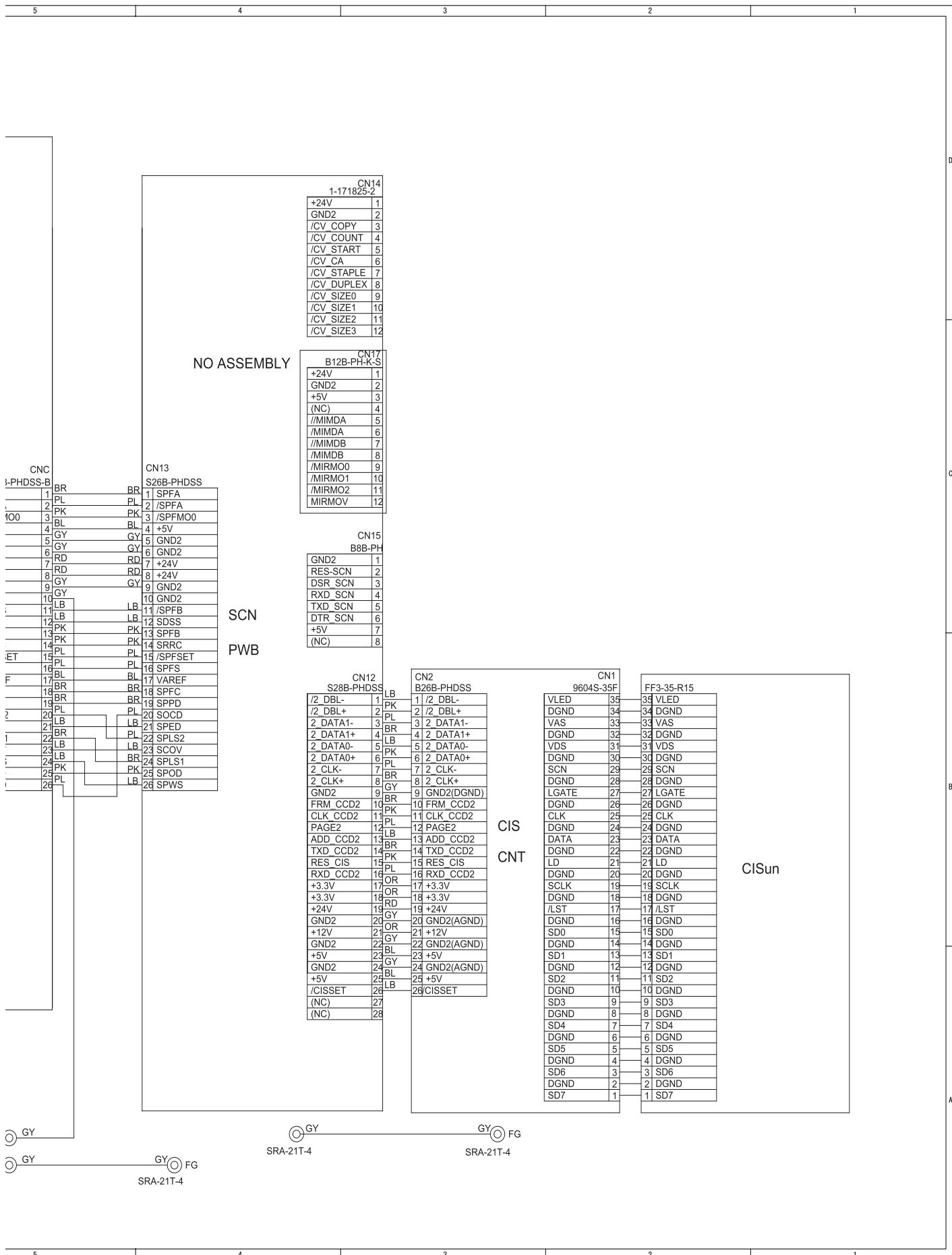
CIRCUIT DIAGRAM (MFP) 1/3



8 | 7 | 6 | 5 | 4

CIRCUIT DIAGRAM (MFP) 2/3





CIRCUIT DIAGRAM (MFP) 3/3

D

C

B

A

| LCD | |
|---------------------|----|
| GND2 | 20 |
| (NC) | 19 |
| (NC) | 18 |
| (NC) | 17 |
| (NC) | 16 |
| GND2(Vss) | 15 |
| LCD D3 | 14 |
| LCD D2 | 13 |
| LCD D1 | 12 |
| LCD D0 | 11 |
| GND2(Vss) | 10 |
| LCD-VEE | 9 |
| LCD-VCC | 8 |
| Icd DIS | 7 |
| GND2(Vss) | 6 |
| CP2 | 5 |
| GND2(Vss) | 4 |
| CP1 | 3 |
| LCD M | 2 |
| LCD S | 1 |
| CN4 20FLS-SM1-TB | |
| 1 GND2(Vss) | 1 |
| 2 (NC) | 2 |
| 3 (NC) | 3 |
| 4 (NC) | 4 |
| 5 (NC) | 5 |
| 6 GND2(Vss) | 6 |
| 7 LCD D3 | 7 |
| 8 LCD D2 | 8 |
| 9 LCD D1 | 9 |
| 10 LCD D0 | 10 |
| 11 GND2(Vss) | 11 |
| 12 LCD-VEE | 12 |
| 13 LCD-VCC | 13 |
| 14 Icd DIS | 14 |
| 15 GND2(Vss) | 15 |
| 16 CP2 | 16 |
| 17 GND2(Vss) | 17 |
| 18 CP1 | 18 |
| 19 LCD M | 19 |
| 20 LCD S | 20 |

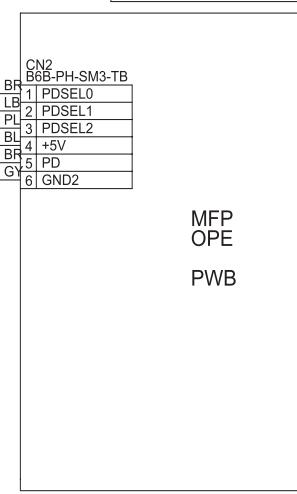
LVDS
PWB

| TOUCH | |
|--------------------|---|
| /YL | 4 |
| XH | 3 |
| YH | 2 |
| /XL | 1 |
| CN5 04FM-1.0-ST | |
| 1 /YL | 1 |
| 2 XH | 2 |
| 3 YH | 3 |
| 4 /XL | 4 |

| CCFT | |
|-------------------|---|
| +24V | 1 |
| (NC) | 2 |
| /CCFT | 3 |
| CN3 B3B-PH-K-S | |
| 1 +24V | 1 |
| 2 (NC) | 2 |
| 3 /CCFT | 3 |

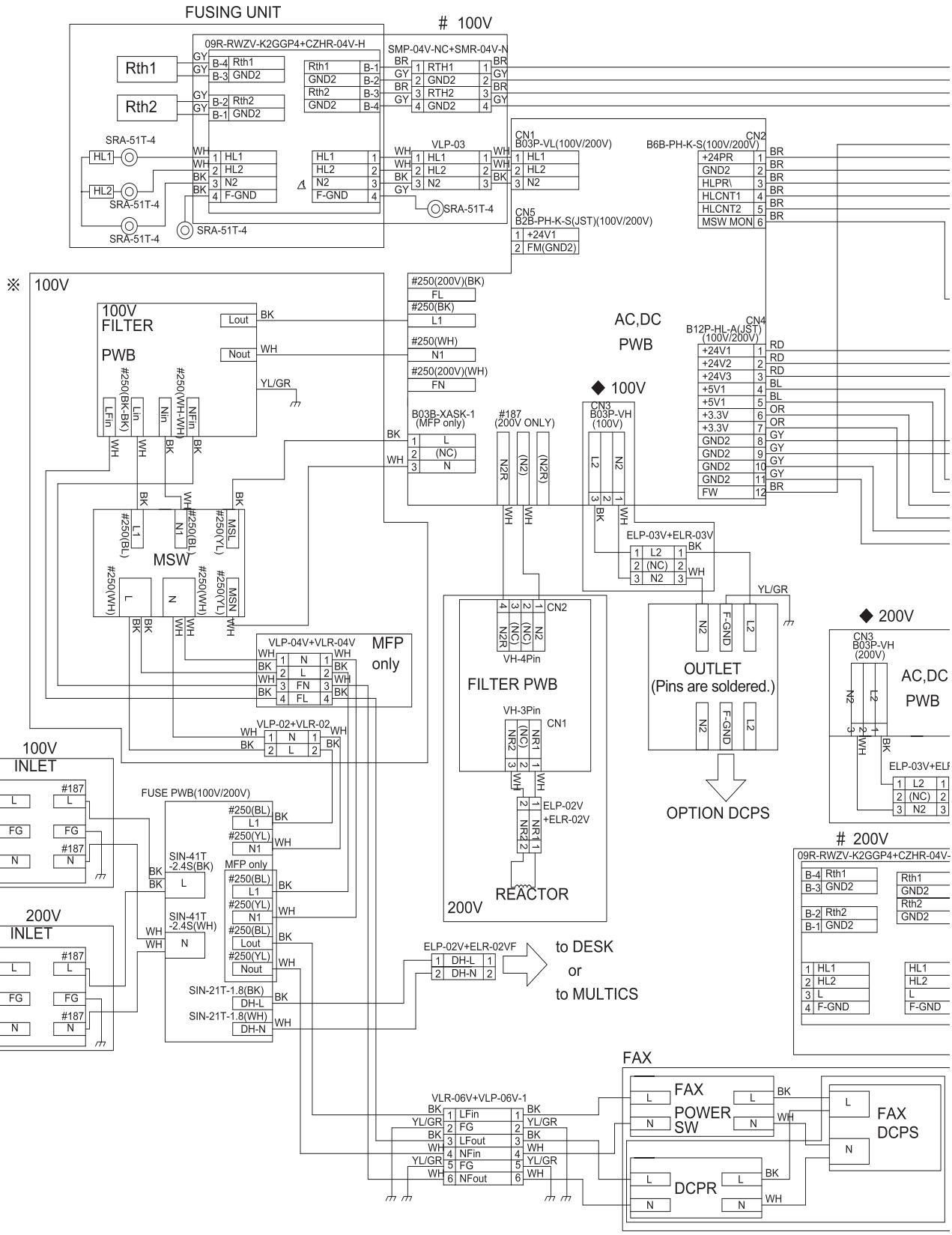
MFP
OPE
PWB

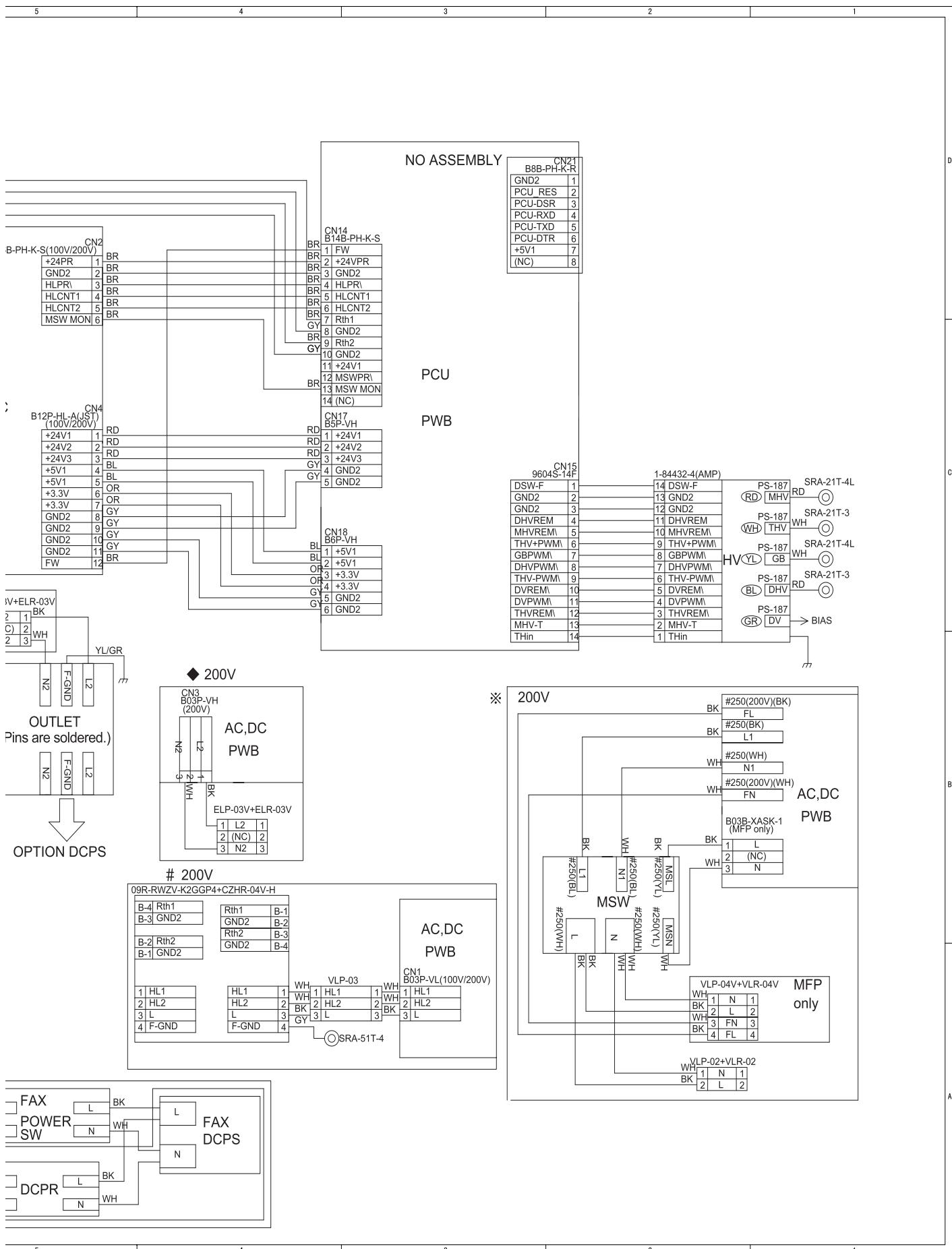
| ORS PD | |
|----------------------|------|
| PDSEL0 | 1 |
| PDSEL1 | 2 |
| PDSEL2 | 3 |
| +5V | 4 |
| PD | 5 |
| GND2 | 6 |
| PHR-6 | |
| 1 PDSEL0 | LB 1 |
| 2 PDSEL1 | PL 2 |
| 3 PDSEL2 | BL 3 |
| 4 +5V | BR 4 |
| 5 PD | GL 5 |
| 6 GND2 | BR 6 |
| CN2 B6B-PH-SM3-TB | |





CIRCUIT DIAGRAM [ENGINE 3] 3/4







CAUTION FOR BATTERY REPLACEMENT

(Danish) **ADVARSEL !**
Lithiumbatteri – Eksplorationsfare ved fejlagtig håndtering.
Udskiftning må kun ske med batteri
af samme fabrikat og type.
Levér det brugte batteri tilbage til leverandoren.

(English) **Caution !**
Danger of explosion if battery is incorrectly replaced.
Replace only with the same or equivalent type
recommended by the manufacturer.
Dispose of used batteries according to manufacturer's instructions.

(Finnish) **VAROITUS**
Paristo voi räjähtää, jos se on virheellisesti asennettu.
Vaihda paristo ainoastaan laitevalmistajan suosittelemaan
tyyppiin. Hävitä käytetty paristo valmistajan ohjeiden
mukaisesti.

(French) **ATTENTION**
Il y a danger d'explosion s'il y a remplacement incorrect
de la batterie. Remplacer uniquement avec une batterie du
même type ou d'un type équivalent recommandé par
le constructeur.
Mettre au rebut les batteries usagées conformément aux
instructions du fabricant.

(Swedish) **WARNING**
Explosionsfara vid felaktigt batteribyte.
Använd samma batterityp eller en ekvivalent
typ som rekommenderas av apparattillverkaren.
Kassera använt batteri enligt fabrikantens
instruktion.

(German) **Achtung**
Explosionsgefahr bei Verwendung inkorrekt Batterien.
Als Ersatzbatterien dürfen nur Batterien vom gleichen Typ oder
vom Hersteller empfohlene Batterien verwendet werden.
Entsorgung der gebrauchten Batterien nur nach den vom
Hersteller angegebenen Anweisungen.

CAUTION FOR BATTERY DISPOSAL

(For USA,CANADA)
Contains lithium-ion battery. Must be disposed of properly.
Remove the battery from the product and contact
federal or state environmental
agencies for information on recycling and disposal options.

SHARP

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**SHARP CORPORATION
Digital Document System Group
Quality & Reliability Control Center
Yamatokoriyama, Nara 639-1186, Japan**

2001 May Printed in Japan (N)