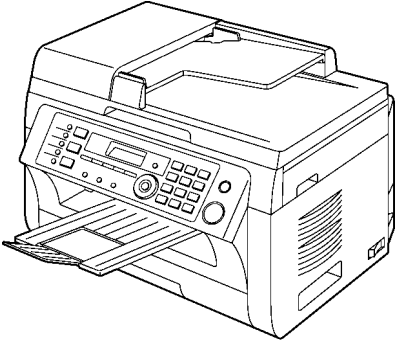


Service Manual

Multi-Function printer



This pictured model is KX-MB2030.

Model No. **KX-MB1900CXB-V1**
KX-MB1900CXW-V1
KX-MB1900SXW-V1
KX-MB2010CXB-V1
KX-MB2010CXW-V1
KX-MB2010CX2-V1
KX-MB2010SXW-V1
KX-MB2025CXW-V1
KX-MB2025CX4-V1
KX-MB2030CXB-V1
KX-MB2030CXW-V1
KX-MB2030CX2-V1
KX-MB2030CX4-V1
KX-MB2030SXB-V1
KX-MB2030SXW-V1

(for Middle East, Malaysia, Asia, Tunisia, Africa and India)

WARNING

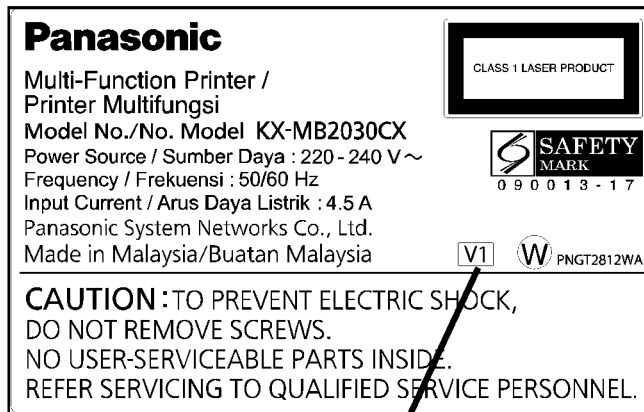
This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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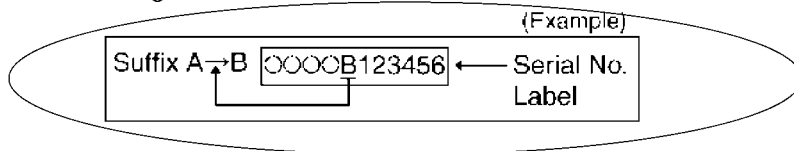
When servicing, you must confirm which service manual should be referred by the following methods.

1. The way of confirmation from NAME PLATE



When there is no "V1" on the NAME PLATE
 --> Refer to "KX-MB2030CX" Service Manual
 When there is "V1" on the NAME PLATE
 --> Refer to "KX-MB2030CX-V1" Service Manual

2. The way of confirmation from the suffix of serial number
 (The fifth digit of serial number is the suffix.)



In case of suffix: Before P --> Refer to "KX-MB2030CX" Service Manual
 In case of suffix: P or later --> Refer to "KX-MB2030CX-V1" Service Manual

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety. These parts are marked by ⚠ in the Schematic Diagrams, Circuit Board Diagrams, Exploded Views and Replacements Parts List. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire or other hazards. Do not modify the original design without permission of manufacturer.

IMPORTANT INFORMATION ABOUT LEAD FREE, (PbF), SOLDERING

If lead free solder was used in the manufacture of this product the printed circuit boards will be marked PbF. Standard leaded, (Pb), solder can be used as usual on boards without the PbF mark.

When this mark does appear please read and follow the special instructions described in this manual on the use of PbF and how it might be permissible to use Pb solder during service and repair work.

When you note the serial number, write down all 11 digits. The serial number may be found on the bottom of the unit.

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1 Safety Precautions

1. Before servicing, unplug the AC power cord to prevent an electric shock.
2. When replacing parts, use only the manufacturer's recommended components.
3. Check the condition of the power cord. Replace if wear or damage is evident.
4. After servicing, be sure to restore the lead dress, insulation barriers, insulation papers, shields, etc.
5. Before returning the serviced equipment to the customer, be sure to perform the following insulation resistance test to prevent the customer from being exposed to shock hazards.

1.1. For Service Technicians

- **Repair service shall be provided in accordance with repair technology information such as service manual so as to prevent fires, injury or electric shock, which can be caused by improper repair work.**

1. When repair services are provided, neither the products nor their parts or members shall be remodeled.
2. If a lead wire assembly is supplied as a repair part, the lead wire assembly shall be replaced.
3. FASTON terminals shall be plugged straight in and unplugged straight out.

- **ICs and LSIs are vulnerable to static electricity.**

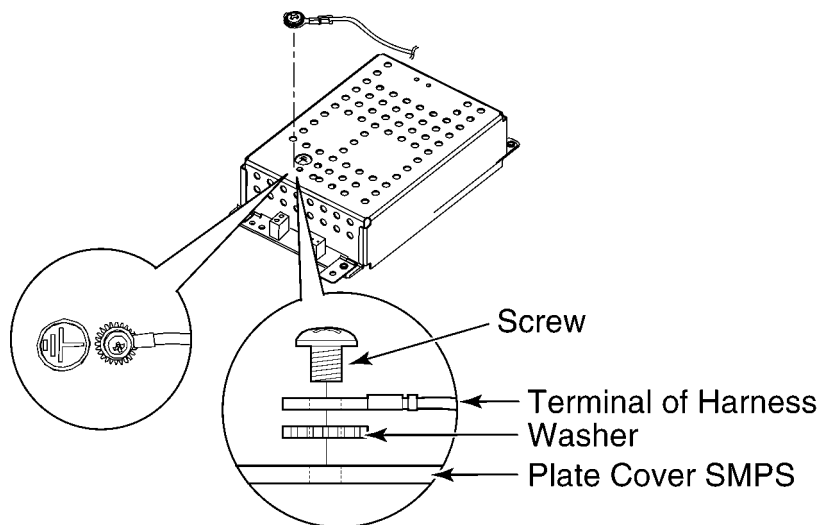
When repairing, the following precautions will help prevent recurring malfunctions.

1. Cover the plastic part's boxes with aluminum foil.
2. Ground the soldering irons.
3. Use a conductive mat on the worktable.
4. Do not touch the IC or LSI pins with bare fingers.

1.2. AC Caution

For safety, before closing the lower cabinet, please make sure of the following precautions.

1. The earth lead is fixed with the screw.
2. The AC connector is connected properly.

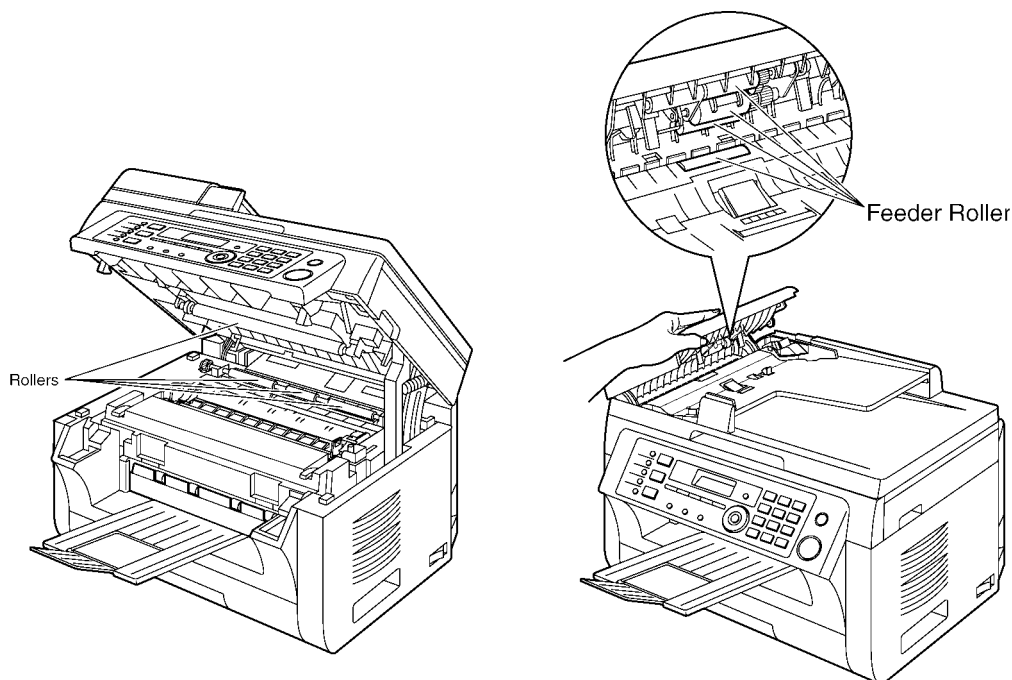


1.3. Personal Safety Precautions

1.3.1. Moving Sections of the Unit

Be careful not to let your hair, clothes, fingers, accessories, etc., become caught in any moving sections of the unit.

The moving sections of the unit are the rollers and a gear. There is a separation roller and a document feed roller which are rotated by the document feed motor. A gear rotates the two rollers. Be careful not to touch them with your hands, especially when the unit is operating.



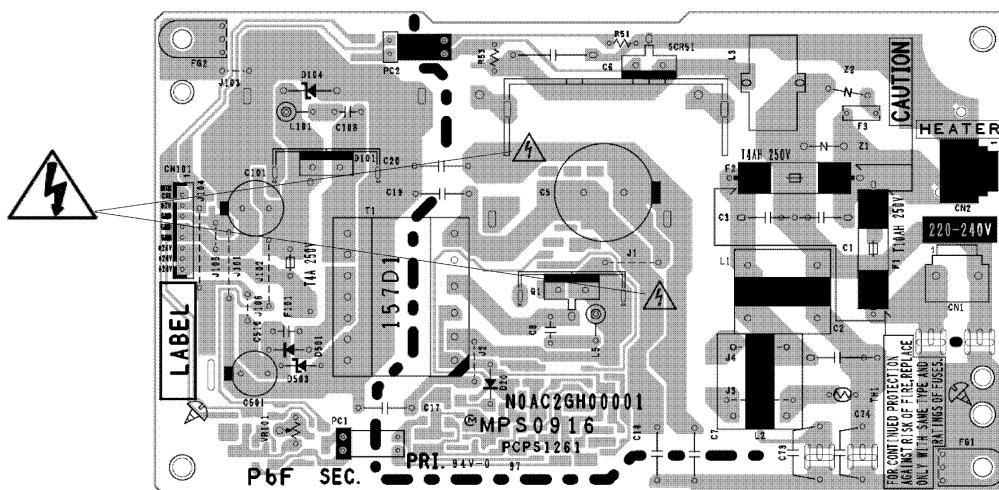
1.3.2. Live Electrical Sections

All the electrical sections of the unit supplied with AC power by the AC power cord are live.

Never disassemble the unit for service with the AC power supply plugged in.

CAUTION:

AC voltage is supplied to the primary side of the power supply unit. Therefore, always unplug the AC power cord before disassembling for service.



1.4. Service Precautions

1.4.1. Precautions to Prevent Damage from Static Electricity

Electrical charges accumulate on a person. For instance, clothes rubbing together can damage electric elements or change their electrical characteristics. In order to prevent static electricity, touch a metallic part that is grounded to release the static electricity. Never touch the electrical sections such as the power supply unit, etc.

2 Warning

2.1. About Lead Free Solder (PbF: Pb free)

Note:

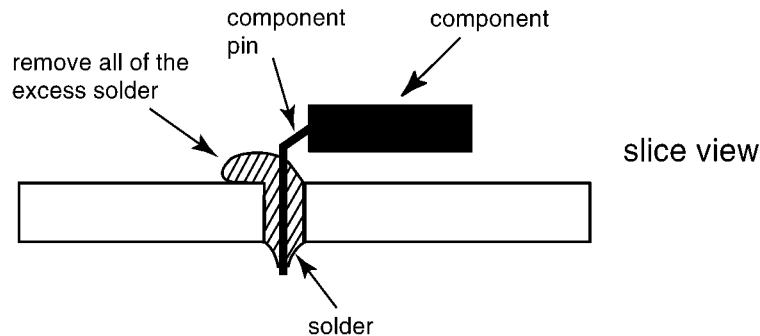
In the information below, Pb, the symbol for lead in the periodic table of elements, will refer to standard solder or solder that contains lead.

We will use PbF solder when discussing the lead free solder used in our manufacturing process which is made from Tin, (Sn), Silver, (Ag), and Copper, (Cu).

This model, and others like it, manufactured using lead free solder will have PbF stamped on the PCB. For service and repair work we suggest using the same type of solder although, with some precautions, standard Pb solder can also be used.

Caution

- PbF solder has a melting point that is 50° ~ 70° F, (30° ~ 40°C) higher than Pb solder. Please use a soldering iron with temperature control and adjust it to 700° ± 20° F, (370° ± 10°C). In case of using high temperature soldering iron, please be careful not to heat too long.
- PbF solder will tend to splash if it is heated much higher than its melting point, approximately 1100°F, (600°C).
- If you must use Pb solder on a PCB manufactured using PbF solder, remove as much of the original PbF solder as possible and be sure that any remaining is melted prior to applying the Pb solder.
- When applying PbF solder to double layered boards, please check the component side for excess which may flow onto the opposite side (See figure, below).



2.1.1. Suggested PbF Solder

There are several types of PbF solder available commercially. While this product is manufactured using Tin, Silver, and Copper, (Sn+Ag+Cu), you can also use Tin and Copper, (Sn+Cu), or Tin, Zinc, and Bismuth, (Sn+Zn+Bi). Please check the manufacturer's specific instructions for the melting points of their products and any precautions for using their product with other materials.

The following lead free (PbF) solder wire sizes are recommended for service of this product: 0.3mm, 0.6mm and 1.0mm.

0.3mm X 100g	0.6mm X 100g	1.0mm X 100g

2.2. Discarding of P. C. Board

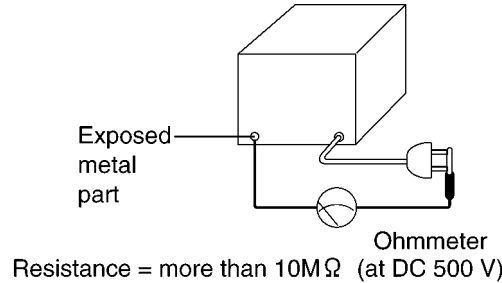
When discarding P. C. Board, delete all personal information such as telephone directory and caller list or scrap P. C. Board.

2.3. Insulation Resistance Test

1. Unplug the power cord and short the two prongs of the plug with a jumper wire.
2. Turn on the power switch.
3. Measure the resistance value with an ohmmeter between the jumpered AC plug and each exposed metal cabinet part (screw heads, control shafts, bottom frame, etc.).

Note: Some exposed parts may be isolated from the chassis by design. These will read infinity.

4. If the measurement is outside the specified limits, there is a possibility of a shock hazard.



2.4. Battery Caution

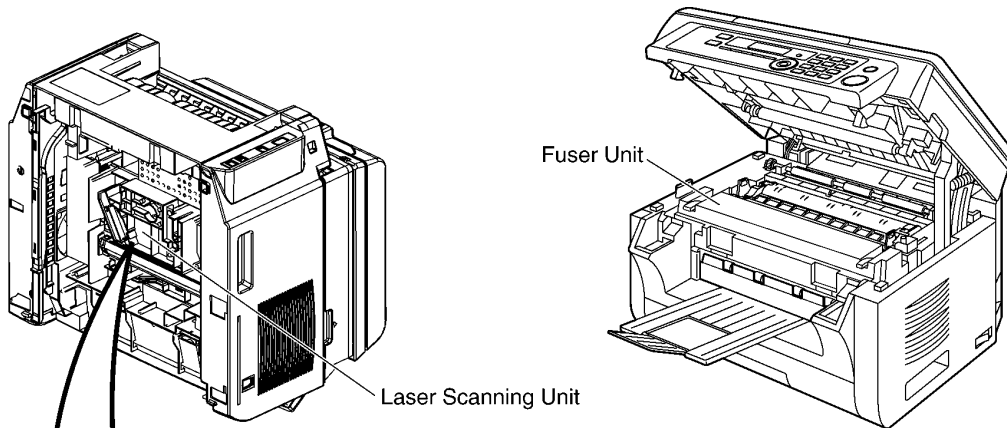
CAUTION

Danger of explosion if the battery is incorrectly replaced. Replace only with the same or equivalent type recommended by the manufacturer. Dispose of used batteries according to the manufacturer's instructions.

The lithium battery is a critical component (type No.CR2354). Please observe for the proper polarity and exact location when replacing it and the soldering the replacement lithium battery in.

2.5. Laser Beam And Fuser Unit Section

- The printer of this unit utilizes a laser. Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.
- The fuser unit is inside of the unit and gets hot. Do not touch it when removing the jammed paper or cleaning the lower glass.



* In case of this figure, this Laser Caution Label is located on the other side of the LSU.

Laser Caution Label

CAUTION : Class 3B invisible laser radiation when open. Avoid exposure to the beam.
 VORSICHT : Unsichtbare Laserstrahlung nach Klasse 3B beim Öffnen. Kontakt mit Strahlung meiden.
 ATTENTION : Appareil à rayonnement laser de classe 3B. Rayonnement laser invisible dangereux en cas d'ouverture. Exposition au faisceau dangereuse.
 ATENCION : Clase 3B Radiación láser invisible al ser abierto. Evitar exponerse a los rayos.
 VARNING : Klass 3B. Osynlig laserstrålning när denna del är öppen. Strålen är farlig.
 VAROITUS : Avvattausa purkautuu luokan 3B näkymätöntä lasersäteilyä. Älä altista itseäsi säteilylle.
 ADVARSEL : Usynlig laserstrålning i klasse 3B ved åpning. Undgå udsættelse for stråling.
 ADVARSEL : Klasse 3B, usynlig laserstrålning ved åpning. Unngå eksponering for strålen.
 警告 : 打开时有 3B 级不可见激光辐射。请避免暴露于光束。
 ОСТОРОЖНО : При открытых крышках имеется невидимое лазерное излучение класса 3B. Не попадайте под воздействие лазерного излучения.
 PN0T1506ZA

CAUTION : Class 3B invisible laser radiation when open. Avoid exposure to the beam.
 VORSICHT : Unsichtbare Laserstrahlung nach Klasse 3B beim Öffnen. Kontakt mit Strahlung meiden.
 ATTENTION : Appareil à rayonnement laser de classe 3B. Rayonnement laser invisible dangereux en cas d'ouverture. Exposition au faisceau dangereuse.
 ATENCION : Clase 3B Radiación láser invisible al ser abierto. Evitar exponerse a los rayos.
 VARNING : Klass 3B. Osynlig laserstrålning när denna del är öppen. Strålen är farlig.
 VAROITUS : Avvattausa purkautuu luokan 3B näkymätöntä lasersäteilyä. Älä altista itseäsi säteilylle.
 ADVARSEL : Usynlig laserstrålning i klasse 3B ved åpning. Undgå udsættelse for stråling.
 ADVARSEL : Klasse 3B, usynlig laserstrålning ved åpning. Unngå eksponering for strålen.
 警告 : 打开时有 3B 级不可见激光辐射。请避免暴露于光束。
 ОСТОРОЖНО : При открытых крышках имеется невидимое лазерное излучение класса 3B. Не попадайте под воздействие лазерного излучения.
 PN0T1506ZA

2.6. Note for Repairing

Caution

Please inform users of the danger of data being lost at the time of repair.

Data will be lost in the following situations.

1. When replacing the ROM ass'y.
2. When replacing the Main board ass'y.
3. When executing mode #550 or #710.

There is a possibility of data loss in the following situations.

1. When removing a board.
2. When writing new software to ROM.

3 Specifications

Applicable Lines*¹:	Public Switched Telephone Network
Document Size:	Max. 216 mm in width, Max. 600 mm in length
Effective Scanning Width:	208 mm
Effective Printing Width:	Letter/ Legal: 208 mm
	A4: 202 mm
Transmission Time*¹³:	Approx. 4 s/page (ECM-MMR Memory transmission)* ⁴
Scanning Density:	Scanning resolution:
	Up to 600 × 1,200 dpi (Optical)
	Up to 9,600 × 9,600 dpi (Interpolated)
	Copy resolution:
	Up to 600 × 600 dpi
	FAX resolution*¹:
	Horizontal:
	8 pels/mm
	Vertical:
	3.85 lines/mm -in standard resolution,
	7.7 lines/mm -in fine/photo resolution,
	15.4 lines/mm -in super fine resolution
Photo resolution:	64-level
Scanner Type:	Colour Contact Image Sensor
Printer Type:	Laser printer
Data Compression System*¹:	Modified Huffman (MH), Modified READ (MR), Modified Modified READ (MMR)
	Modem Speed*¹:
	33,600 / 31,200 / 28,800 / 26,400 / 24,000 / 21,600 / 19,200 / 16,800 / 14,400 / 12,000 / 9,600 / 7,200 / 4,800 / 2,400 bps; Automatic Fallback
	Operating Environment:
	10°C—32.5°C, 20—70% RH (Relative Humidity)
	Dimensions:
	KX-MB1900: Approx. width 420 mm x depth 432 mm x height 255 mm
	KX-MB2010/2025/2030: Approx. width 420 mm x depth 432 mm x height 305 mm
	Mass (Weight):
	KX-MB1900: Approx. 11 kg
	KX-MB2010/2025/2030: Approx. 12 kg
Power Consumption:	Standby: Approx. 5.5 W
	Preheat: Approx. 65 W
	Copy: Approx. 500 W
	Maximum: Approx. 1,000 W (When the fuser lamp turns on)
Power Supply:	220-240 V AC, 50/60 Hz
Memory Capacity (for operation and storing memory):	32 MB
Fax Memory Capacity*¹:	3.5 MB in total
	Approx. 110 pages of memory reception
	Approx. 150 pages of memory transmission
	(Based on the ITU-T No. 1 Test Chart in standard resolution, without using the Error Correction Mode.)
Scan to email address memory capacity*²:	5 MB in total (including the header and email message)
Scan to FTP server memory capacity*²:	5 MB in total
Scan to SMB folder memory capacity*²:	5 MB in total
Laser diode properties:	Laser output: Max. 15 mW
	Wave length: 760 nm—800 nm
	Emission duration: Continuous
Print Speed:	Approx. 24 ppm (pages per minute)
Printing Resolution:	600 x 600 dpi
LED light of CIS properties:	LED radiation output: Max. 1 mW
	Wavelength:
	Red 630 nm typ.
	Green 520 nm typ.
	Blue 465 nm typ.
	Emission duration: Continuous
Product life:	50,000 (Fifty thousand) pages or 5 years whichever comes first

*1 KX-MB2025/KX-MB2030 only

*2 KX-MB2010/KX-MB2030 only

*3 Transmission speed depends on the contents of the pages, resolution, telephone line conditions and capability of the other party's machine.

*4 Transmission speed is based upon the ITU-T No. 1 Test Chart. (Refer to **ITU-T No.1 Test Chart** (P.259).) If the capability of the other party's machine is inferior to your unit, the transmission time may be longer.

Note:

- Design and specifications are subject to change without notice.
- The pictures and illustrations in these instructions may vary slightly from the actual product.
- The accuracy of the clock is approximately ± 60 seconds a month.

4 General/Introduction

4.1. Optional Accessories

Model No.	Description	Specifications
KX-FAT411A/KX-FAT411E	Replacement toner cartridge*1	1 toner cartridge
KX-FAD412A/KX-FAD412E	Replacement drum cartridge	1 drum cartridge

*1 Prints about 2,000 pages at ISO/IEC 19752 standard page.

Note:

- ISO/IEC 19752 standard is as follows:
 - Environment: $23 \pm 2^{\circ}\text{C}$ / $50 \pm 10\%$ RH
 - Print mode: Continuous printing

5 Features

5.1. General Features

General

- LCD (Liquid Crystal Display) readout

Flat-Bed Multifunction Laser Printer

Output tray (approx. 100 sheets)

Letter/A4/Legal, G3 compatible (KX-MB2025/KX-MB2030 ONLY)

Automatic document feeder (20 sheets) (KX-MB2010/KX-MB2025/KX-MB2030 ONLY)

Quick scan (KX-MB2025/KX-MB2030 ONLY)

Resolution: Standard/Fine/Super fine/Photo (64 level).

STANDARD: For printed or typewritten originals with normal-sized characters.

FINE: For originals with small printing.

SUPER FINE: For originals with very small printing.

PHOTO: For originals containing photographs, shaded drawing, etc.

Broadcast (KX-MB2025/KX-MB2030 ONLY)

- 250-sheet paper capacity (60 g/m² ~ 75 g/m²)

Large Memory... Performed by DRAM (KX-MB2025/KX-MB2030 ONLY)

Approx. 150 pages of memory transmission

Approx. 110 pages of memory reception

Enhanced Copier Function

Multi-copy function (up to 99 copies)

Enlargement and reduction

64-Level halftone

5.2. Hardware Requirements for Multi-Function Software

To use Multi-Function Station on your computer, the following are required:

Operating System:

Windows 2000 / Windows XP / Windows Vista

CPU:

Windows 2000: Pentium® II or higher processor

Windows XP: Pentium III or higher processor

Windows Vista: Pentium 4 or higher processor

RAM:

Windows 2000/Windows XP: 128 MB (256 MB or more recommended)

Windows Vista: 512 MB (1,024 MB or more recommended)

Other Hardware:

CD-ROM drive

Hard disk drive with at least 200 MB of available space

USB interface

LAN interface (10Base-T/100Base-TX) (KX-MB2010/KX-MB2030 ONLY)

Other:

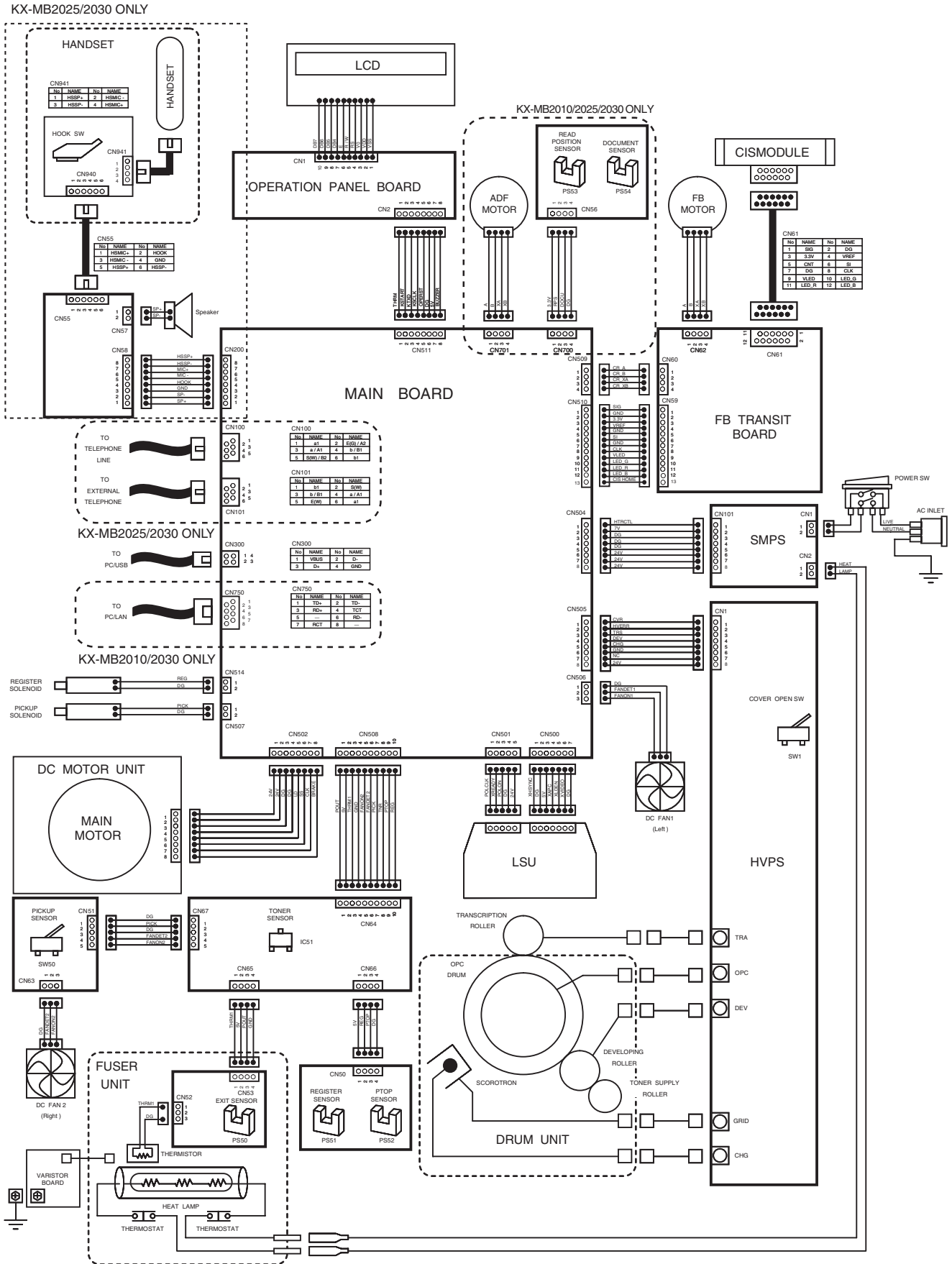
Internet Explorer® 5.0 or later (KX-MB2010/KX-MB2030 ONLY)

Warning:

- To assure continued emission limit compliance;
 - use only shielded USB cable (Example: Hi-Speed USB 2.0 certified cable).
 - use only shielded LAN cable (category 5 straight cable). (KX-MB2010/KX-MB2030 ONLY)
- To protect the unit, use only shielded USB cable in areas where thunderstorms occur.
- To use Easy Print Utility on your computer, the following are required:
 - Windows 2000 Service Pack 4 and Security update for Windows 2000 (KB835732). Install KB835732 from Microsoft download site before installing Easy Print Utility
 - Windows XP Service Pack 2 or later.

6 Technical Descriptions

6.1. Connection Diagram



6.2. General Block Diagram

MAIN UNIT

SOC (IC300)

This custom IC is used for general MFP operations.

- | | |
|----------------------------|--|
| 1) CPU | ARM9 operating at 250MHz. |
| 2) SDRAM Controller | Controls SDRAM Memory. |
| 3) USB Controller with PHY | Apply to USB2.0 HS |
| 4) Scanner I/F | Controls the CIS and AFE, and process the scan images. |
| 5) LSU I/F | Controls the polygon motor and outputs the VIDEO signal to LSU. |
| 6) MOTOR I/F | Controls the DC motor and Stepping Motor. |
| 7) FAN I/F | Controls FAN MOTOR and detect the rotation of FAN MOTOR. |
| 8) OPERATION PANEL I/F | Serial interface with Operation Panel. |
| 9) SENSOR I/F | Detects the sensor signal. |
| 10) I/O PORT | I/O Port Interface. |
| 11) A/D, D/A converter | Sends beep tones, etc.
Convert the analog signal to the digital signal. |
| 12) RTC | Real time clock. |
| 13) MODEM | Performs the modulation and the demodulation for FAX communication. |
| 14) Analog Front End I/F | Controls the DAA device for TEL/FAX function. |
| 15) LAN Controller | Ethernet Control. (KX-MB2010/2030 ONLY) |

ROM (IC402)

This 8MB FLASH ROM contains all of the program instructions on the unit operations.
And support the backup of user setting and FAX receive data.

SYNCHRONOUS DYNAMIC RAM (IC400)

This 256Mbit SDRAM is used for CPU work and receiving memory and page memory.

POWER SUPPLY

DC-DC converters generate 3.3V and 1.2V for system power.
Regulator generates 5V for peripheral devices.

TEL/FAX I/F (KX-MB2025/KX-MB2030 ONLY)

Composed of ITS circuit and NCU circuit.
Analog DAA (Direct Access Arrangement) and two AFE (Analog Front End) IC control Telephone line, Speaker, and Hand-set.

READ SECTION

CIS Unit to read transmitted documents.
CIS Unit is connected to FLATBED transit Unit.
Scan data is converted by AFE(IC503).

MOTOR

This model has 1 DC motor and 2 stepping motors.
IC300 drives the DC motor for printing.
IC502 drives the stepping motor for Auto Document Feeder motor and CIS carriage.

LSU

Forms the images on the OPC DRUM by rotating polygon motor and reflecting the laser beam against polygon.

SENSORS

Composed of 2 switches and 5 sensors.

POWER SUPPLY BOARD

Supplies +24V and +7V to the Main unit and controls the Heat Lamp.

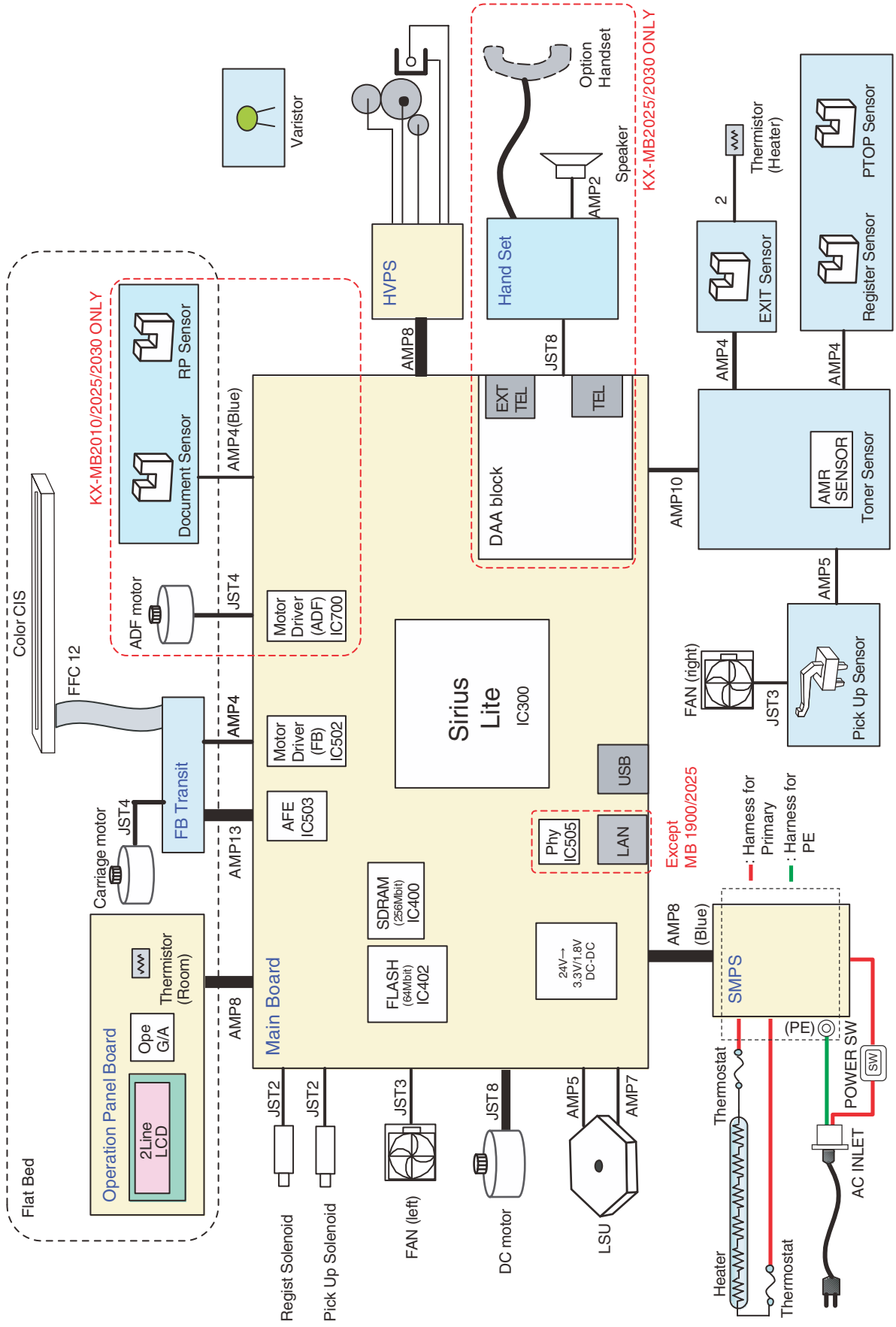
HIGH VOLTAGE POWER SUPPLY BOARD

Supplies bias need for the printing operation: bias of the DRUM, Developing and Transcription.

FIXING UNIT

Composed heat lamp, thermistor and thermostats.

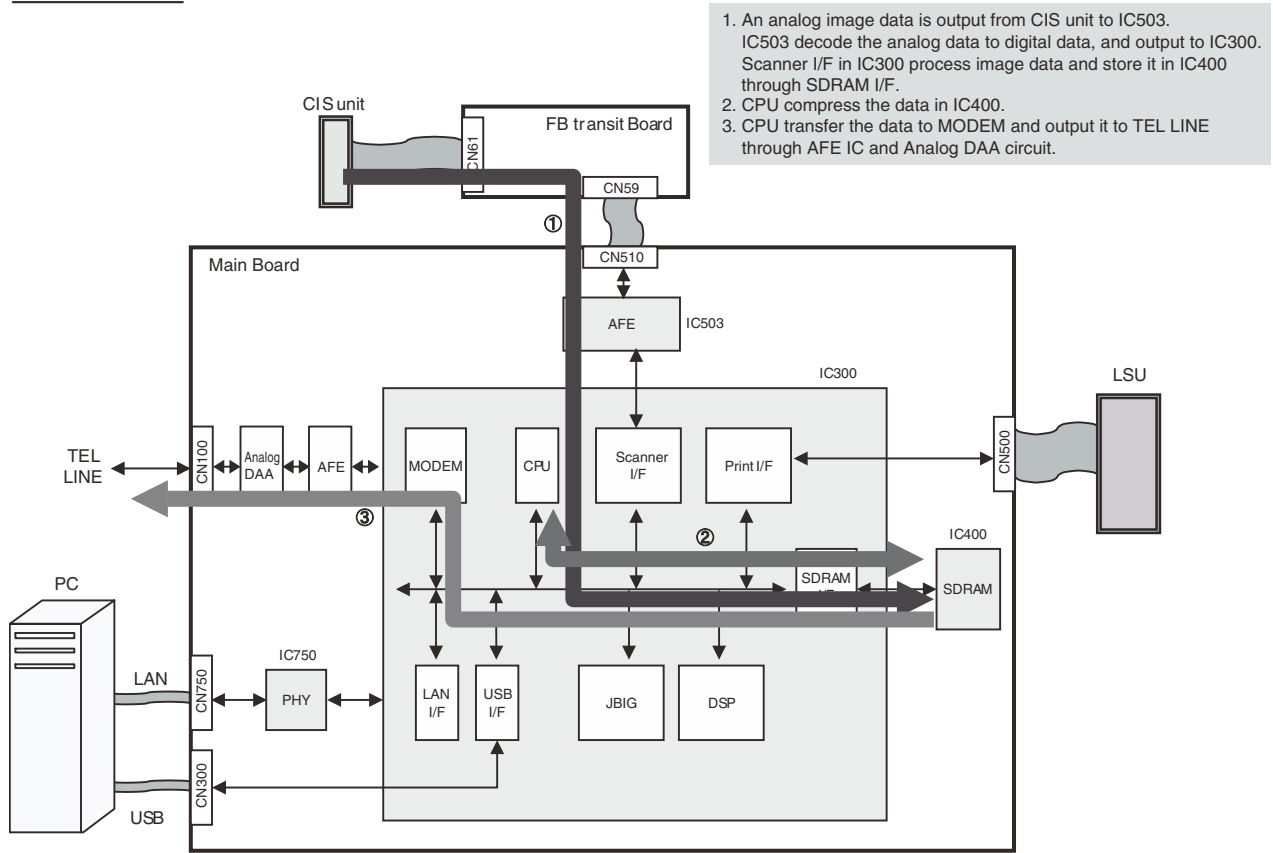
MB2000 series System Schematic



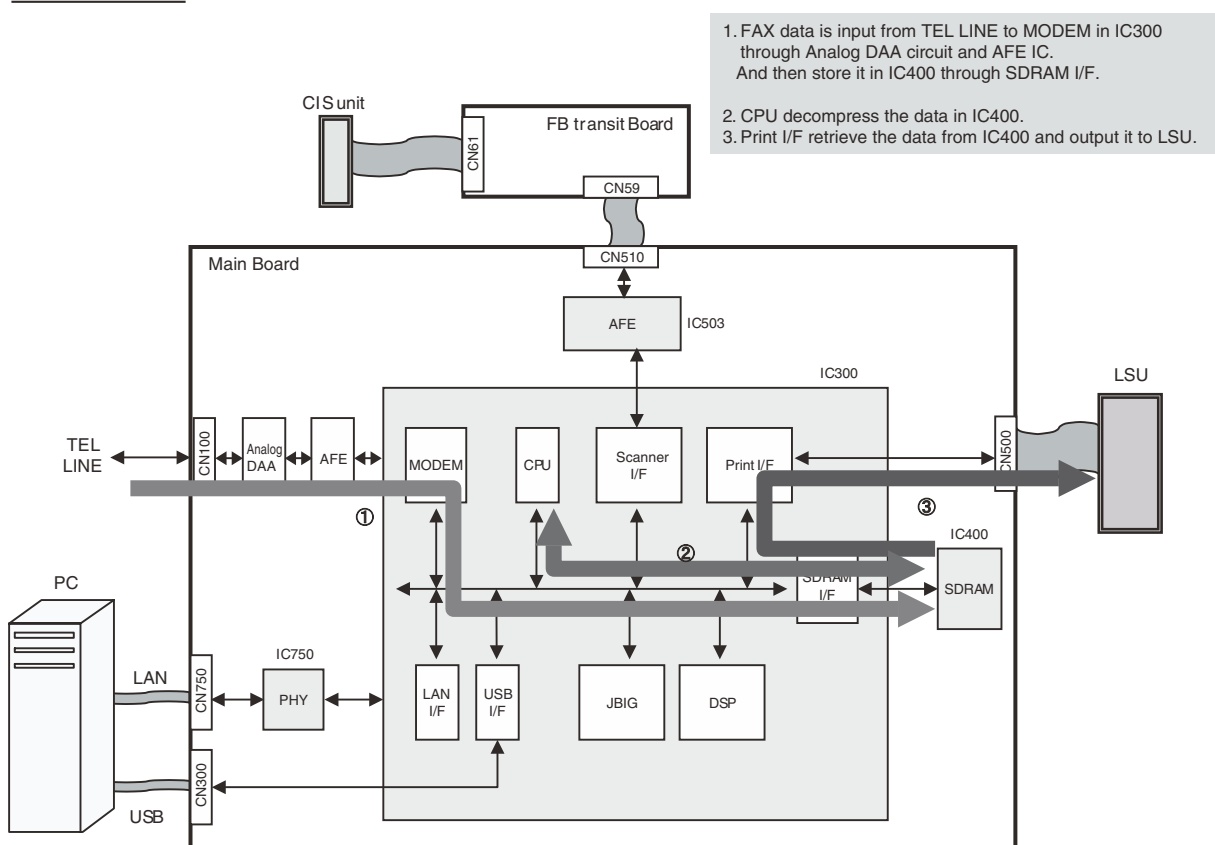
6.3. Main Board Section

6.3.1. Data Flow

[FAX Tx] (KX-MB2025/KX-MB2030 ONLY)

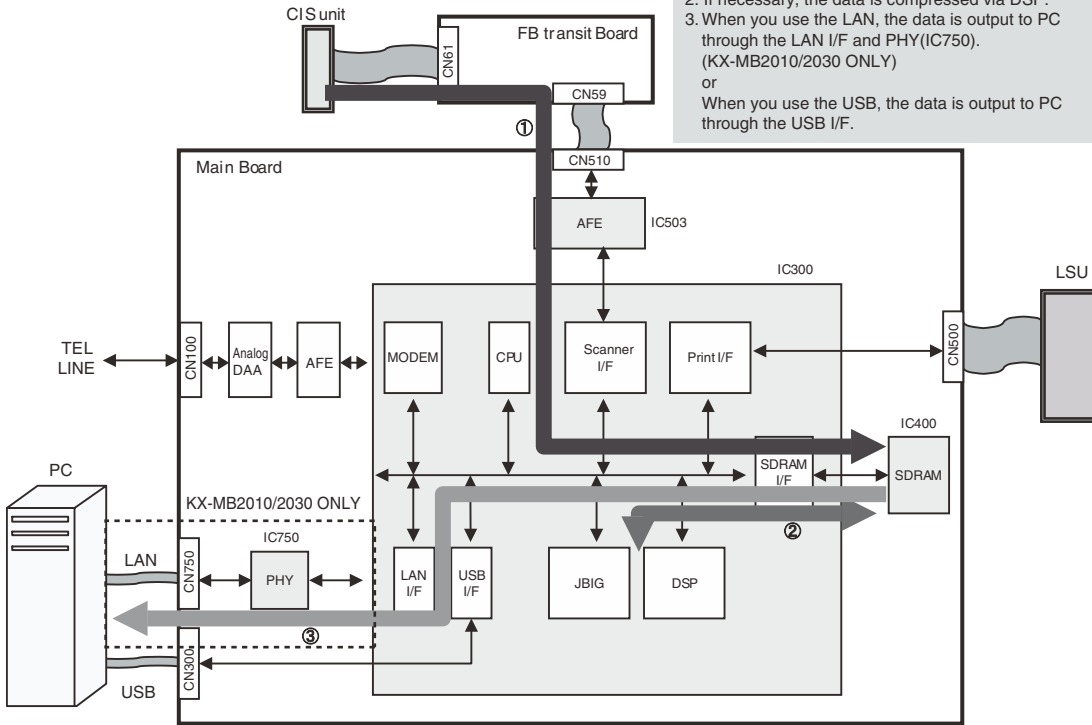


[FAX Rx] (KX-MB2025/KX-MB2030 ONLY)



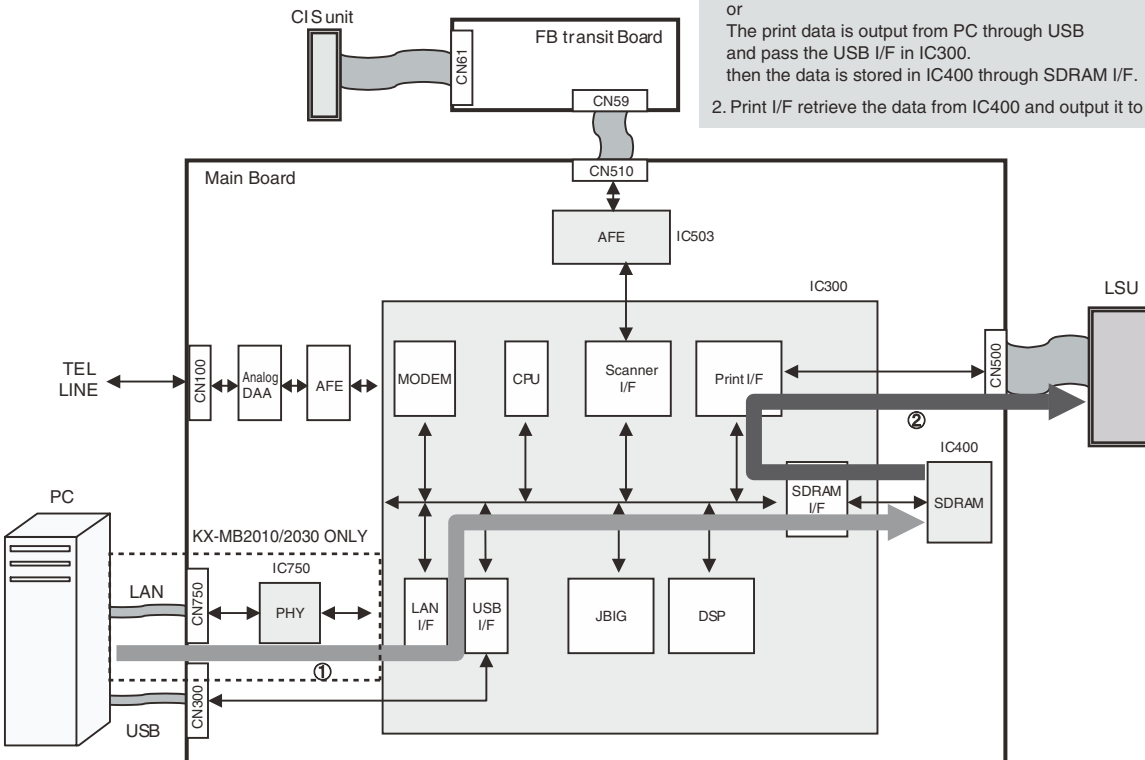
[PC Scan]

1. An analog image data is output from CISunit to IC503. IC503 decode the analog data to digital data, and output to IC300. Scanner I/F in IC300 process image data and store it in IC400 through SDRAM I/F.
2. If necessary, the data is compressed via DSP.
3. When you use the LAN, the data is output to PC through the LAN I/F and PHY(IC750). (KX-MB2010/2030 ONLY)
or
When you use the USB, the data is output to PC through the USB I/F.



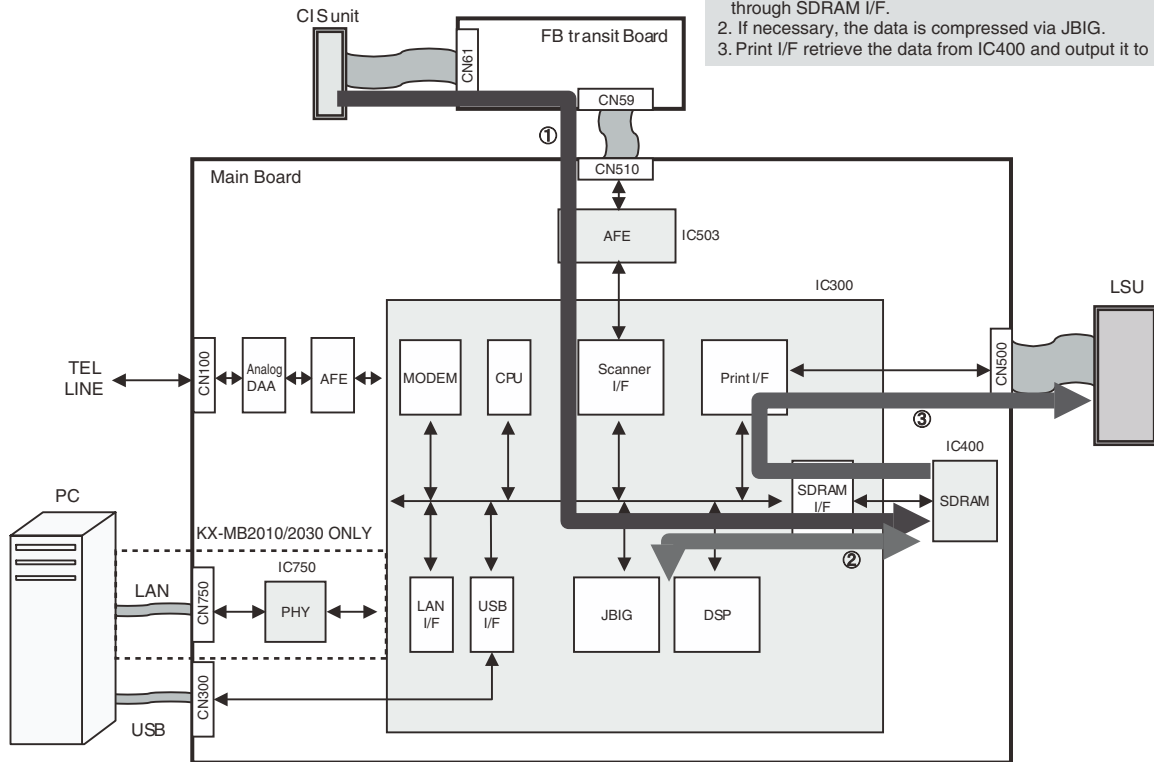
[PC print]

1. The print data is output from PC through LAN and pass the PHY(IC750) and LAN I/F in IC300. (KX-MB2010/2030 ONLY)
or
The print data is output from PC through USB and pass the USB I/F in IC300. then the data is stored in IC400 through SDRAM I/F.
2. Print I/F retrieve the data from IC400 and output it to LSU.



[Copy]

1. An analog image data is output from CISunit to IC503. IC503 decode the analog data to digital data, and output to IC300. Scanner I/F in IC300 process image data and store it in IC400 through SDRAM I/F.
2. If necessary, the data is compressed via JBIG.
3. Print I/F retrieve the data from IC400 and output it to LSU.



Description of Pin Distribution (IC300) SOC (System On Chip)

PIN NO.	PinName	I/O	POWER SUPPLY VOLTAGE	EXPLANATION
A02	LEDONB	O	3.3V	SCANNER INTERFACE
A03	NCCDON	O	3.3V	SCANNER INTERFACE
A04	AFEMCLK	O	3.3V	SCANNER INTERFACE
A05	NCCDCP	O	3.3V	NOT USED
A06	CCDCLK	O	3.3V	NOT USED
A07	PIO29	O	3.3V	OPERATION PANEL INTERFACE
A08	PIO57	O	3.3V	CARRIAGE MOTOR INTERFACE
A09	PIO53	O	3.3V	CARRIAGE/ADF MOTOR INTERFACE
A10	PIO50	O	3.3V	CARRIAGE/ADF MOTOR INTERFACE
A11	PIO46	O	3.3V	FAN1 CONTROL
A12	PIO42	O	3.3V	DC MOTOR INTERFACE
A13	NFRCE	O	3.3V	FLASH MEMORY CHIP SELECT
A14	FRMD0	I/O	3.3V	FLASH MEMORY DATA BUS 0
A15	FRMD3	I/O	3.3V	FLASH MEMORY DATA BUS 3
A16	FRMD7	I/O	3.3V	FLASH MEMORY DATA BUS 7
A17	FRMA3	O	3.3V	FLASH MEMORY ADDRESS BUS 3
A18	FRMA6	O	3.3V	FLASH MEMORY ADDRESS BUS 6
A19	FRMA10	O	3.3V	FLASH MEMORY ADDRESS BUS 10
A20	THRMAVDD	-	3.3V	POWER SUPPLY
A21	FRMA11	O	3.3V	FLASH MEMORY ADDRESS BUS 11
A22	FRMA15	O	3.3V	FLASH MEMORY ADDRESS BUS 15
A23	FRMA17	O	3.3V	FLASH MEMORY ADDRESS BUS 17
A24	FRMA20	O	3.3V	FLASH MEMORY ADDRESS BUS 20
A25	FRMA22	O	3.3V	FLASH MEMORY ADDRESS BUS 22
AA01	SDMD8	I/O	3.3V	SDRAM DATA BUS 8
AA02	SDMD9	I/O	3.3V	SDRAM DATA BUS 9
AA03	SDMA7	O	3.3V	SDRAM ADDRESS BUS 7
AA04	SDMA6	O	3.3V	SDRAM ADDRESS BUS 6
AA23	VDD1.2	-	1.2V	POWER SUPPLY
AA24	AFERST	O	3.3V	NCU INTERFACE
AA25	RING	I	3.3V	NCU INTERFACE
AA26	EXTINT	I	3.3V	NCU INTERFACE
AB01	SDMD10	I/O	3.3V	SDRAM DATA BUS 10
AB02	SDMD11	I/O	3.3V	SDRAM DATA BUS 11
AB03	SDMA5	O	3.3V	SDRAM ADDRESS BUS 5
AB04	VDD1.2	-	1.2V	POWER SUPPLY
AB23	VSS	-	GND	GND
AB24	BTXD	O	3.3V	NCU INTERFACE
AB25	BRXD	I	3.3V	NCU INTERFACE
AB26	AFECLK	O	3.3V	NCU INTERFACE
AC01	SDMD12	I/O	3.3V	SDRAM DATA BUS 12
AC02	SDMD13	I/O	3.3V	SDRAM DATA BUS 13
AC03	SDMA4	O	3.3V	SDRAM ADDRESS BUS 4
AC04	VSS	-	GND	GND
AC05	VSS	-	GND	GND
AC06	VDD1.2	-	1.2V	POWER SUPPLY
AC07	TXD0	O	3.3V	ETHERNET INTERFACE
AC08	TX_ER	O	3.3V	ETHERNET INTERFACE
AC09	RXD1	I	3.3V	ETHERNET INTERFACE
AC10	VDD3.3	-	3.3V	POWER SUPPLY
AC11	TEST	I	3.3V	NOT USED
AC12	USBREXT	I	3.3V	USB INTERFACE
AC13	VDD1.2	-	1.2V	POWER SUPPLY
AC14	VDD3.3	-	3.3V	POWER SUPPLY
AC15	USBXIN	I	3.3V	CRYSTAL(12MHz) INPUT
AC16	LSI_SCAN_ENABLE	I	3.3V	NOT USED
AC17	VDD1.2	-	1.2V	POWER SUPPLY
AC18	NWDTRST	O	3.3V	WATCH DOG TIMER RESET OUTPUT
AC19	LSI_TN	I	3.3V	NOT USED
AC20	PSCIO2	I	3.3V	INPUT PORT (FANDET1)
AC21	PSCIO6	O	3.3V	NOT USED
AC22	VDD1.2	-	1.2V	POWER SUPPLY
AC23	VSS	-	GND	GND
AC24	ATXD	O	3.3V	NCU INTERFACE
AC25	BBITCLK	I/O	3.3V	NCU INTERFACE

PIN NO.	PinName	I/O	POWER SUPPLY VOLTAGE	EXPLANATION
AC26	BSPCLK	I/O	3.3V	NCU INTERFACE
AD01	SDMD14	I/O	3.3V	SDRAM DATA BUS 14
AD02	SDMD15	I/O	3.3V	SDRAM DATA BUS 15
AD03	VSS	-	GND	GND
AD04	NBATRST	I	3.3V	BATTERY RESET INPUT
AD05	VDD2RTC	-	1.2V	POWER SUPPLY
AD06	CRS	I	3.3V	ETHERNET INTERFACE
AD07	TXD1	O	3.3V	ETHERNET INTERFACE
AD08	RX_DV	I	3.3V	ETHERNET INTERFACE
AD09	RXD2	I	3.3V	ETHERNET INTERFACE
AD10	RX_ER	I	3.3V	ETHERNET INTERFACE
AD11	CLKSEL	I	3.3V	NOT USED
AD12	USBVSSA33_BIAS	-	GND	GND
AD13	USBVSSA33	-	GND	GND
AD14	USBVDDA12_SQ	-	1.2V	POWER SUPPLY
AD15	USBVSSA12	-	GND	GND
AD16	LSI_TRSTN	I	3.3V	NOT USED
AD17	LSI_TDO	O	3.3V	NOT USED
AD18	NRST	I	3.3V	SYSTEM RESET INPUT
AD19	HTRCTL	O	3.3V	HEATER CONTROL
AD20	PSCIO3	I	3.3V	INPUT PORT (POUT)
AD21	PSCIO7	O	3.3V	NOT USED
AD22	PSCIO15	I	3.3V	INPUT PORT (RPS)
AD23	NC	-	-	NOT USED
AD24	VSS	-	GND	GND
AD25	ASPCLK	I/O	3.3V	NCU INTERFACE
AD26	ARXD	I	3.3V	NCU INTERFACE
AE01	SDLDM1	O	3.3V	SDRAM DQML1
AE02	VSS	-	GND	GND
AE03	SYSPLLSS1	-	GND	GND
AE04	RTCCLKOUT	O	3.3V	CRYSTAL(32.768KHz) OUTPUT
AE05	RTCPWRDWN	I	3.3V	RTC POWER DOWN
AE06	TX_CLKI	I	3.3V	ETHERNET INTERFACE
AE07	TXD2	O	3.3V	ETHERNET INTERFACE
AE08	RX_CLKI	I	3.3V	ETHERNET INTERFACE
AE09	RXD3	I	3.3V	ETHERNET INTERFACE
AE10	MDC	O	3.3V	ETHERNET INTERFACE
AE11	NC	-	-	NOT USED
AE12	USBID	O	3.3V	NOT USED
AE13	USBDM	I/O	3.3V	USB INTERFACE
AE14	USBVSSA12_SQ	-	GND	GND
AE15	USBVDDA12PLL	-	1.2V	POWER SUPPLY
AE16	USBVDDA12	-	1.2V	POWER SUPPLY
AE17	LSI_TDI	I	3.3V	NOT USED
AE18	LSI_PROCMON	O	3.3V	NOT USED
AE19	LSI_IDDT	I	3.3V	NOT USED
AE20	PSCIO1	I	3.3V	INPUT PORT (PICK)
AE21	PSCIO5	O	3.3V	NOT USED
AE22	PSCIO13	I	3.3V	INPUT PORT (TNR)
AE23	MDMCLKOUT	O	3.3V	CRYSTAL(24.576MHz) OUTPUT
AE24	MDMPLLVD	-	3.3V	POWER SUPPLY
AE25	VSS	-	GND	GND
AE26	ABITCLK	I/O	3.3V	NCU INTERFACE
AF02	SYSPLLVDD1	-	3.3V	POWER SUPPLY
AF03	VDD3.3OSC	-	3.3V	POWER SUPPLY
AF04	RTCCLKIN	I	3.3V	CRYSTAL(32.768KHz) INPUT
AF05	COL	I	3.3V	ETHERNET INTERFACE
AF06	TX_EN	O	3.3V	ETHERNET INTERFACE
AF07	TXD3	O	3.3V	ETHERNET INTERFACE
AF08	RXD0	I	3.3V	ETHERNET INTERFACE
AF09	MDIO	I/O	3.3V	ETHERNET INTERFACE
AF10	MGTINT	I	3.3V	ETHERNET INTERFACE
AF11	USBVBUS	O	3.3V	USB INTERFACE
AF12	USBVDDA33_BIAS	-	3.3V	POWER SUPPLY
AF13	USBDP	I/O	3.3V	USB INTERFACE
AF14	USBVDDA33	-	3.3V	POWER SUPPLY
AF15	USBVSSA12PLL	-	GND	GND

PIN NO.	PinName	I/O	POWER SUPPLY VOLTAGE	EXPLANATION
AF16	USBXOUT	I	3.3V	CRYSTAL(12MHz) OUTPUT
AF17	LSI_TMS	I	3.3V	NOT USED
AF18	LSI_TCK	I	3.3V	NOT USED
AF19	LSI_CW_TAP	I	3.3V	NOT USED
AF20	PSCIO0	I	3.3V	INPUT PORT (REGIST)
AF21	PSCIO4	O	3.3V	NOT USED
AF22	PSCIO12	I	3.3V	INPUT PORT (POUT)
AF23	PSCIO14	I	3.3V	INPUT PORT (DOCU)
AF24	MDMCLKIN	I	3.3V	CRYSTAL(24.576MHz) INPUT
AF25	MDMPLLSS	-	GND	GND
B01	AFEADC0	I	3.3V	NOT USED
B02	VSS	-	GND	GND
B03	LEDONG	O	3.3V	SCANNER INTERFACE
B04	AFERSMP	O	3.3V	NOT USED
B05	AFEVSMP	O	3.3V	SCANNER INTERFACE
B06	NCCDRS	O	3.3V	SCANNER INTERFACE
B07	PIO30	I/O	3.3V	OPERATION PANEL INTERFACE
B08	MMPWR	O	3.3V	NOT USED
B09	PIO54	O	3.3V	CARRIAGE/ADF MOTOR INTERFACE
B10	PIO51	O	3.3V	CARRIAGE/ADF MOTOR INTERFACE
B11	PIO47	O	3.3V	NOT USED
B12	PIO43	O	3.3V	DC MOTOR INTERFACE
B13	NFROE	O	3.3V	FLASH MEMORY CHIP OUTPUT ENABLE
B14	FRMD1	I/O	3.3V	FLASH MEMORY DATA BUS 1
B15	FRMD4	I/O	3.3V	FLASH MEMORY DATA BUS 4
B16	FRMA0	O	3.3V	FLASH MEMORY ADDRESS BUS 0
B17	FRMA4	O	3.3V	FLASH MEMORY ADDRESS BUS 4
B18	FRMA7	O	3.3V	FLASH MEMORY ADDRESS BUS 7
B19	THRMVSS	-	GND	GND
B20	TONE	O	3.3V	ANALOG(TONE) OUTPUT
B21	FRMA12	O	3.3V	FLASH MEMORY ADDRESS BUS 12
B22	FRMA16	O	3.3V	FLASH MEMORY ADDRESS BUS 16
B23	FRMA19	O	3.3V	FLASH MEMORY ADDRESS BUS 19
B24	FRMA21	O	3.3V	FLASH MEMORY ADDRESS BUS 21
B25	VSS	-	GND	GND
B26	DOTPLLSS	-	GND	GND
C01	AFEADC3	I	3.3V	NOT USED
C02	AFEADC1	I	3.3V	NOT USED
C03	VSS	-	GND	GND
C04	LEDONR	O	3.3V	SCANNER INTERFACE
C05	OEB	O	3.3V	NOT USED
C06	CCDSH	O	3.3V	SCANNER INTERFACE
C07	PIO31	O	3.3V	OPERATION PANEL INTERFACE
C08	OPMPWR	O	3.3V	NOT USED
C09	PIO55	O	3.3V	CARRIAGE/ADF MOTOR INTERFACE
C10	PIO52	O	3.3V	CARRIAGE/ADF MOTOR INTERFACE
C11	PIO49	O	3.3V	OUTPUT PORT(HSSPMUTE)
C12	PIO45	O	3.3V	DC MOTOR INTERFACE
C13	NFRWE	O	3.3V	FLASH MEMORY CHIP WRITE ENABLE
C14	FRMD2	I/O	3.3V	FLASH MEMORY DATA BUS 2
C15	FRMD6	I/O	3.3V	FLASH MEMORY DATA BUS 6
C16	FRMA2	O	3.3V	FLASH MEMORY ADDRESS BUS 2
C17	FRMA5	O	3.3V	FLASH MEMORY ADDRESS BUS 5
C18	FRMA9	O	3.3V	FLASH MEMORY ADDRESS BUS 9
C19	THRMSTR0	I	3.3V	ANALOG INPUT(THERMISTOR)
C20	TONEAVDD	-	3.3V	POWER SUPPLY
C21	FRMA14	O	3.3V	FLASH MEMORY ADDRESS BUS 14
C22	FRMA18	O	3.3V	FLASH MEMORY ADDRESS BUS 18
C23	FRMA23	O	3.3V	FLASH MEMORY ADDRESS BUS 23
C24	VSS	-	GND	GND
C25	DOTPLLDD	-	3.3V	POWER SUPPLY
C26	DOTCLKIN	I	3.3V	CRYSTAL(20MHz) INPUT
D01	AFEADC5	I	3.3V	SCANNER INTERFACE
D02	AFEADC4	I	3.3V	SCANNER INTERFACE
D03	AFEADC2	I	3.3V	NOT USED
D04	VSS	-	GND	GND
D05	VSS	-	GND	GND

PIN NO.	PinName	I/O	POWER SUPPLY VOLTAGE	EXPLANATION
D06	VDD1.2	-	1.2V	POWER SUPPLY
D07	PIO32	O	3.3V	OPERATION PANEL INTERFACE
D08	CRMPWR	O	3.3V	MOTOR CURRENT CONTROL
D09	PIO56	O	3.3V	ADF MOTOR INTERFACE
D10	VDD1.2	-	1.2V	POWER SUPPLY
D11	PIO48	O	3.3V	NOT USED
D12	PIO44	O	3.3V	DC MOTOR INTERFACE
D13	VDD3.3	-	3.3V	POWER SUPPLY
D14	VDD1.2	-	1.2V	POWER SUPPLY
D15	FRMD5	I/O	3.3V	FLASH MEMORY DATA BUS 5
D16	FRMA1	O	3.3V	FLASH MEMORY ADDRESS BUS 1
D17	VDD3.3	-	3.3V	POWER SUPPLY
D18	FRMA8	O	3.3V	FLASH MEMORY ADDRESS BUS 8
D19	THRMSTR1	I	3.3V	ANALOG INPUT(THERMISTOR)
D20	TONEAVSS	-	GND	GND
D21	FRMA13	O	3.3V	FLASH MEMORY ADDRESS BUS 13
D22	VDD1.2	-	1.2V	POWER SUPPLY
D23	VSS	-	GND	GND
D24	NC	-	-	NOT USED
D25	DOTCLKOUT	O	3.3V	CRYSTAL(20MHz) OUTPUT
D26	PIO66	O	3.3V	NOT USED
E01	SDUDM0	O	3.3V	SDRAM DQMU0
E02	AFEADC7	I	3.3V	SCANNER INTERFACE
E03	AFEADC6	I	3.3V	SCANNER INTERFACE
E04	VSS	-	GND	GND
E23	VDD1.2	-	1.2V	POWER SUPPLY
E24	FRMA24	O	3.3V	FLASH MEMORY ADDRESS BUS 24
E25	PIO65	O	3.3V	NOT USED
E26	PIO64	O	3.3V	NOT USED
F01	SDMD16	I/O	3.3V	SDRAM DATA BUS 16
F02	SDMD17	I/O	3.3V	SDRAM DATA BUS 17
F03	AFESIFCLK	O	3.3V	SCANNER INTERFACE
F04	VDD1.2	-	1.2V	POWER SUPPLY
F23	PIO24	I	3.3V	LSU INTERFACE
F24	PIO61	O	3.3V	OUTPUT PORT(SPMUTE)
F25	PIO60	O	3.3V	NOT USED
F26	PIO3	O	3.3V	LSU INTERFACE
G01	SDMD18	I/O	3.3V	SDRAM DATA BUS 18
G02	SDMD19	I/O	3.3V	SDRAM DATA BUS 19
G03	AFESIFDIN	I	3.3V	SCANNER INTERFACE
G04	AFESIFEN	O	3.3V	SCANNER INTERFACE
G23	PSCIO24	I	3.3V	LSU INTERFACE
G24	PIO2	O	3.3V	LSU INTERFACE
G26	PIO58	O	3.3V	OUTPUT PORT(CIDRLY)
H01	SDMD20	I/O	3.3V	SDRAM DATA BUS 20
H02	SDMD21	I/O	3.3V	SDRAM DATA BUS 21
H03	NSDCS2	O	3.3V	SDRAM CHIP SELECT 2
H04	AFESIFDOUT	O	3.3V	SCANNER INTERFACE
H23	PIO63	O	3.3V	LSU INTERFACE
H24	PIO62	O	3.3V	LSU INTERFACE
H25	PIO28	O	3.3V	NOT USED
H26	PIO21	O	3.3V	LSU INTERFACE
J01	SDMD22	I/O	3.3V	SDRAM DATA BUS 22
J02	SDMD23	I/O	3.3V	SDRAM DATA BUS 23
J03	SDMA3	O	3.3V	SDRAM ADDRESS BUS 3
J04	SDMA2	O	3.3V	SDRAM ADDRESS BUS 2
J23	PIO6	O	3.3V	HIGH VOLTAGE UNIT INTERFACE
J24	PIO27	O	3.3V	NOT USED
J25	PIO5	O	3.3V	HIGH VOLTAGE UNIT INTERFACE
J26	PIO4	O	3.3V	HIGH VOLTAGE UNIT INTERFACE
K01	VSS	-	GND	GND
K02	SDCLK2	O	3.3V	SDRAM CLOCK 2
K03	VSS	-	GND	GND
K04	VDD3.3	-	3.3V	POWER SUPPLY
K23	VDD1.2	-	1.2V	POWER SUPPLY
K24	PIO41	O	3.3V	NOT USED
K25	PIO40	O	3.3V	NOT USED

PIN NO.	PinName	I/O	POWER SUPPLY VOLTAGE	EXPLANATION
K26	PIO39	O	3.3V	NOT USED
L01	SDMD24	I/O	3.3V	SDRAM DATA BUS 24
L02	SDMD25	I/O	3.3V	SDRAM DATA BUS 25
L03	SDMA1	O	3.3V	SDRAM ADDRESS BUS 1
L04	SDMAÇO	O	3.3V	SDRAM ADDRESS BUS 0
L11	VSS	-	GND	GND
L12	VSS	-	GND	GND
L13	VSS	-	GND	GND
L14	VSS	-	GND	GND
L15	VSS	-	GND	GND
L16	VSS	-	GND	GND
L23	PIO37	I	3.3V	INPUT PORT (RING)
L24	PIO38	O	3.3V	NOT USED
L25	PIO36	O	3.3V	NOT USED
L26	PIO35	O	3.3V	NOT USED
M01	SDMD26	I/O	3.3V	SDRAM DATA BUS 26
M02	SDMD27	I/O	3.3V	SDRAM DATA BUS 27
M03	SDMA10	O	3.3V	SDRAM ADDRESS BUS 10
M04	SDBA1	O	3.3V	SDRAM BANK ADDRESS 1
M11	VSS	-	GND	GND
M12	VSS	-	GND	GND
M13	VSS	-	GND	GND
M14	VSS	-	GND	GND
M15	VSS	-	GND	GND
M16	VSS	-	GND	GND
M23	PIO33	O	3.3V	NOT USED
M24	PIO34	O	3.3V	NOT USED
M25	PIO26	O	3.3V	NOT USED
M26	PIO25	O	3.3V	OUTPUT PORT(CNGMUTE)
N01	SDMD28	I/O	3.3V	SDRAM DATA BUS 28
N02	SDMD29	I/O	3.3V	SDRAM DATA BUS 29
N03	SDBA0	O	3.3V	SDRAM BANK ADDRESS 0
N04	VDD1.2	-	1.2V	POWER SUPPLY
N11	VSS	-	GND	GND
N12	VSS	-	GND	GND
N13	VSS	-	GND	GND
N14	VSS	-	GND	GND
N15	VSS	-	GND	GND
N16	VSS	-	GND	GND
N23	VDD3.3	-	3.3V	POWER SUPPLY
N24	PIO23	O	3.3V	NOT USED
N25	PIO22	O	3.3V	NOT USED
N26	PIO20	O	3.3V	NOT USED
P01	SDMD30	I/O	3.3V	SDRAM DATA BUS 30
P02	SDMD31	I/O	3.3V	SDRAM DATA BUS 31
P03	NSDCS	O	3.3V	SDRAM CHIP SELECT 1
P04	VDD3.3	-	3.3V	POWER SUPPLY
P11	VSS	-	GND	GND
P12	VSS	-	GND	GND
P13	VSS	-	GND	GND
P14	VSS	-	GND	GND
P15	VSS	-	GND	GND
P16	VSS	-	GND	GND
P23	VDD1.2	-	1.2V	POWER SUPPLY
P24	PIO16	I	3.3V	INPUT PORT
P25	PIO17	I	3.3V	INPUT PORT
P26	PIO18	I	3.3V	HIGH VOLTAGE UNIT INTERFACE
R01	SDUDM1	O	3.3V	SDRAM DQMU1
R02	SDLDM0	O	3.3V	SDRAM DQML0
R03	BZVDD33	-	3.3V	POWER SUPPLY
R04	BZRST33	-	3.3V	POWER SUPPLY
R11	VSS	-	GND	GND
R12	VSS	-	GND	GND
R13	VSS	-	GND	GND
R14	VSS	-	GND	GND
R15	VSS	-	GND	GND
R16	VSS	-	GND	GND

PIN NO.	PinName	I/O	POWER SUPPLY VOLTAGE	EXPLANATION
R23	PIO13	O	3.3V	NOT USED
R24	PIO12	O	3.3V	NOT USED
R25	PIO14	O	3.3V	NOT USED
R26	PIO15	I	3.3V	INPUT PORT
T01	SDMD0	I/O	3.3V	SDRAM DATA BUS 0
T02	SDMD1	I/O	3.3V	SDRAM DATA BUS 1
T03	NSDCAS	O	3.3V	SDRAM CAS
T04	NSDRAS	O	3.3V	SDRAM RAS
T11	VSS	-	GND	GND
T12	VSS	-	GND	GND
T13	VSS	-	GND	GND
T14	VSS	-	GND	GND
T15	VSS	-	GND	GND
T16	VSS	-	GND	GND
T23	PIO9	O	3.3V	OUTPUT PORT(SNPICK)
T24	PIO8	O	3.3V	NOT USED
T25	PIO10	O	3.3V	NOT USED
T26	PIO11	O	3.3V	OUTPUT PORT(SNREG)
U01	SDMD2	I/O	3.3V	SDRAM DATA BUS 2
U02	SDMD3	I/O	3.3V	SDRAM DATA BUS 3
U03	NSDWE	O	3.3V	SDRAM WRITE ENABLE
U04	VDD1.2	-	1.2V	POWER SUPPLY
U23	VDD3.3	-	3.3V	POWER SUPPLY
U24	PIO0	I	3.3V	INPUT PORT (HOOK)
U25	PIO1	O	3.3V	OUTPUT PORT(EXTRLY)
U26	PIO7	O	3.3V	NOT USED
V01	SDMD4	I/O	3.3V	SDRAM DATA BUS 4
V02	SDMD5	I/O	3.3V	SDRAM DATA BUS 5
V03	SDCKE	O	3.3V	SDRAM CLOCK ENABLE
V04	SDMA12	O	3.3V	SDRAM ADDRESS BUS 12
V23	PSCIO20	I	3.3V	INPUT PORT (CIS HOME)
V24	PSCIO21	O	3.3V	NOT USED
V25	PSCIO22	O	3.3V	NOT USED
V26	PSCIO23	O	3.3V	NOT USED
W01	SDMD6	I/O	3.3V	SDRAM DATA BUS 6
W02	SDMD7	I/O	3.3V	SDRAM DATA BUS 7
W03	SDMA11	O	3.3V	SDRAM ADDRESS BUS 11
W04	SDMA9	O	3.3V	SDRAM ADDRESS BUS 9
W23	PSCIO16	O	3.3V	NOT USED
W24	PSCIO17	I	3.3V	INPUT PORT (FANDET2)
W25	PSCIO18	I	3.3V	INPUT PORT (TOPCVR)
W26	PSCIO19	I	3.3V	INPUT PORT (PSTART)
Y01	VSS	-	GND	GND
Y02	SDCLK	O	3.3V	SDRAM CLOCK 1
Y03	SDMA8	O	3.3V	SDRAM ADDRESS BUS 8
Y04	VSS	-	GND	GND
Y23	AFESEL0	I	3.3V	NCU INTERFACE
Y24	AFESEL1	I	3.3V	NCU INTERFACE
Y25	EXMDMCS	O	3.3V	NOT USED
Y26	DP	O	3.3V	NCU INTERFACE

6.3.2. RTC Backup Circuit

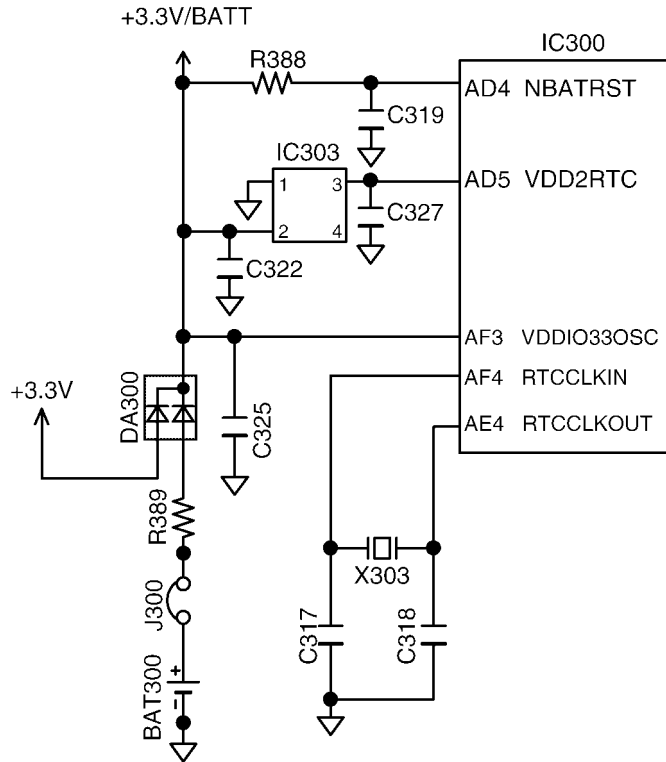
1. Function

This unit has a lithium battery (BAT300) which works for the Real Time Clock IC (RTC: inside IC300). The RTC continues to work, backed up by a lithium battery even when the power switch is OFF.

2. RTC Inside (IC300) Backup Circuit Operation

When the power switch is turned ON, power is supplied to the RTC (inside IC300). At this time, the voltage at pin AF3 of the IC300 is +3.3V. When the power switch is turned OFF, the BAT300 supplies power to RTC through DA300. When the power switch is OFF and the voltage of +3.3V decreases, pin AF3 of RTC (IC300) becomes roughly the same voltage as the battery voltage. RTC goes into the backup mode, in which the power consumption is lower.

Circuit Diagram



6.3.3. Modem Circuit Operation (KX-MB2025/KX-MB2030 ONLY)

The modem (Included IC300) has all the hardware satisfying the CCITT standards mentioned previously.

ALL processing is controlled by the SOC (IC300) according to CCITT procedures.

This modem (Included IC300) has an automatic application equalizer. With training signal 1 or 2 at the time of G3 reception, it can automatically establish the optimum equalizer.

Facsimile Transmission/DTMF Line Send

The digital image data sent on ATXD line from modem (Included IC300).

AFE IC (IC200) and Analog DAA^{*1} circuit to the telephone line.

Facsimile Reception

The analog image data which is received from the telephone line passes through Analog DAA circuit and enters AFE IC(IC200).

The signals are changed to digital data in AFE IC and IC300. In this case, the image signals from the telephone line are transmitted serially. Here, the internal equalizer circuit reduces the image signals to a long-distance receiving level. This is designed to correct the characteristics of the frequency band centered around 3 kHz and maintain a constant receiving sensitivity.

In this case, the image signals from the telephone line are transmitted serially. Here, the internal equalizer circuit reduces the image signals to a long-distance receiving level. This is designed to correct the characteristics of the frequency band centered around 3 kHz and maintain a constant receiving sensitivity.

Busy/Dial Tone Detection

The path is the same as Facsimile Reception.

Call Tone Transmission

This is the call signal which is generated the SOC (IC300) and sent to the speaker.

*1 DAA : Direct Access Arrangement

6.3.4. TEL Line Section (KX-MB2025/KX-MB2030 ONLY)

Composed of ITS circuit and NCU circuit.

6.3.4.1. Description of Block Diagram in Analog Section

Function

The analog section works as an interface between the telephone line.

DAA control ITS circuit and NCU circuit.

DAA control signals are output from Soc IC300.

Circuit Operation

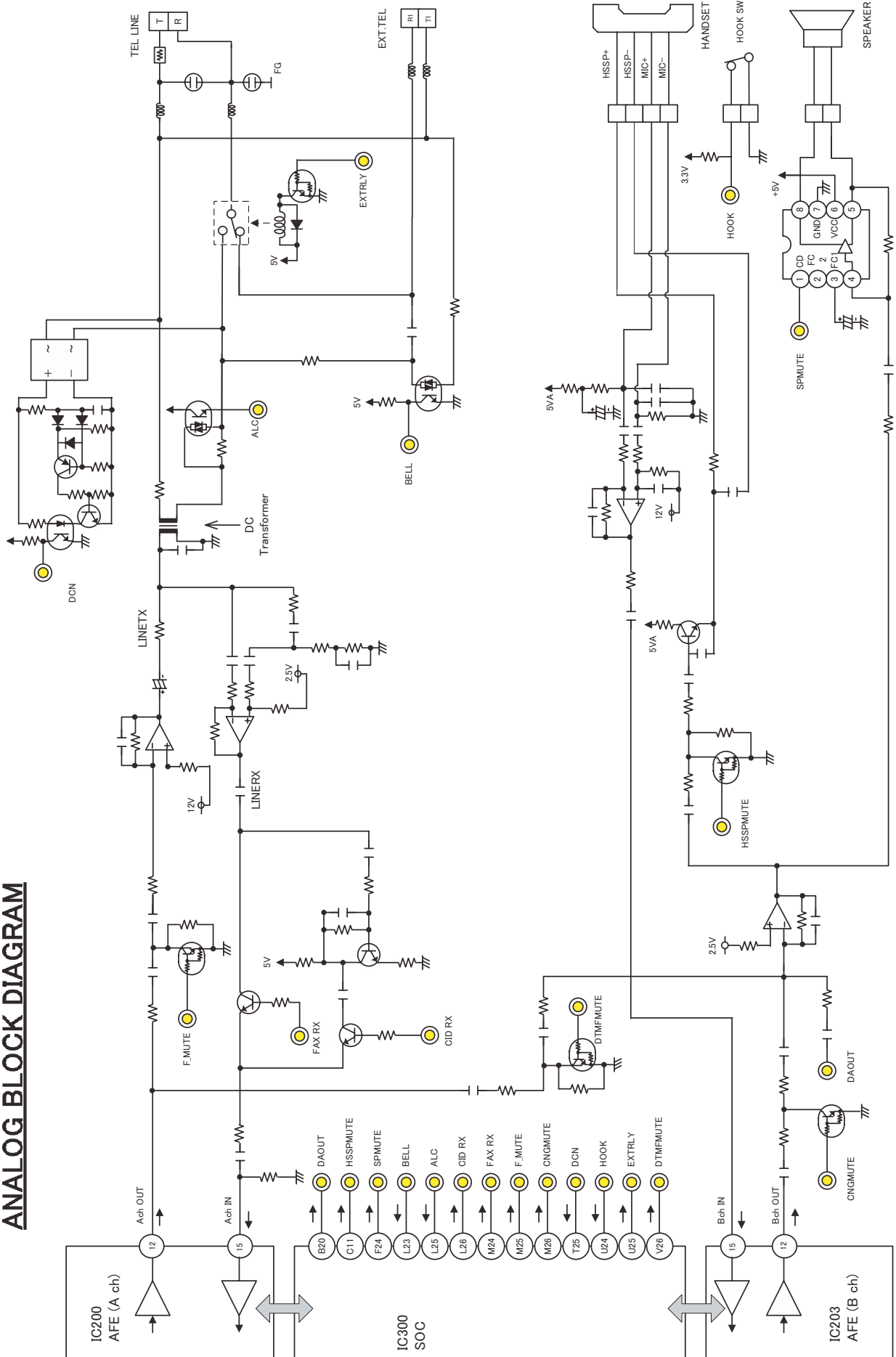
[NCU]: Network Control Unit the NCU comprises of the following; DC loop forming circuit to connect with the telephone line;

Switching circuit for other interconnected telephones; Bell detection circuit; Remote fax activation circuit.

Refer to **NCU Section (KX-MB2025/KX-MB2030 ONLY)** (P.30) for the details.

6.3.4.2. Block Diagram

ANALOG BLOCK DIAGRAM



KX-MB2025CXW-V1 / KX-MB2030CXB-V1 / KX-MB2030CXW-V1 / KX-MB2030CXV-V1 MAIN BOARD BLOCK DIAGRAM

6.4. NCU Section (KX-MB2025/KX-MB2030 ONLY)

6.4.1. General

NCU is the with the telephone line. It is composed of Bell detection circuit, Pulse dial circuit, Line amplifier and sidetone circuits. The following is a brief explanation of each circuit.

6.4.2. EXT. TEL. Line Relay (RLY100)

1. Circuit Operation

Normally, this relay switches to the external telephone side and switches to the open side while OFF-HOOK.

IC300 (U25) High Level → Q201 ON → RLY100 (ON)

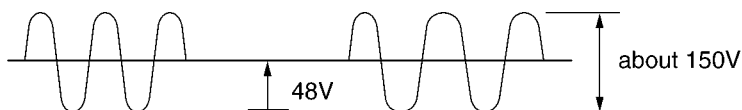
6.4.3. Bell Detection Circuit

1. Circuit Operation

The signal waveform for each point is indicated below. The signal (low level section) input to pin 10 of BBIC IC4 on the digital board.

TEL LINE → PC103 (1, 2 → 4) → IC300 (L23)

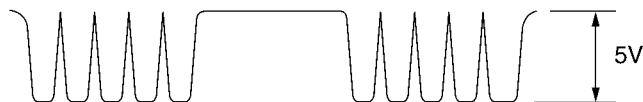
Between the Tip and Ring from the telephone line



Between PC103 (1) and (2)



PC103 (4)/BBIC IC300 (L23)



6.4.4. Pulse Dial Circuit

The pulse dial is generated by operating the transistor Q201 while OFF-HOOK (RLY100 ON) condition.

Make state:

IC300 (U25) High Level → Q201 ON → RLY100 ON

Break state:

IC300(U25) LOW Level → Q201 OFF → PC100 OFF

6.4.5. Line Amplifier and Side Tone Circuit

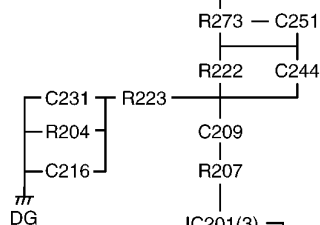
1. Circuit Operation

The reception signal output from the line transformer T100 is input to pin (2) of IC201 via C256, R224 and then the signal is amplified at pin (1) of IC201 and sent to the reception system at through the LPF.

Side Tone Circuit

Transmission Signal:

IC300(AD26) — IC200(12) — R231 — C223 — C232 — R237 — IC202 — C219 — R256 — C259 — R241 — C234 — T100 — Telephone Line



Reception Signal:

Telephone Line — T100 — C256 — R224 — IC201(2) — IC201(1) — Q210 — R247 — C207 — IC200(15) — IC300(AD26)

6.4.6. Calling Line Identification Circuit (FSK)

1. Function

This unit is compatible with the Caller ID service offered by your local telephone company. To use this feature, you must subscribe to a Caller ID service. The data for the caller ID from the telephone exchange is sent during the interval between the first and second rings of the bell signal. The data from the telephone exchange is a modem signal which is modulated in an FSK (Frequency Shift Keying) format. Data "0" is a 1200 Hz sine wave, and data 1 a 2200 Hz sine wave.

There are two type of the message format which can be received: i.e.the single data message format and multiple data message format.

When there is multiple data in the unit, the name or telephone number are displayed.

2. Circuit Operation

Refer to **Check Sheet** for Signal Route of CNG/DTMF/Caller ID detection detection (P.175).

6.4.7. Calling Line Identification Circuit (DTMF)

1. Function

This unit is compatible with the Caller ID service offered by your local telephone company. To use this feature, you must subscribe to a Caller ID service. This data for the caller ID from the telephone exchange is sent before the first rings of the bell signal. The data from the telephone exchange is a DTMF signal.

2. Circuit Operation

Refer to **Check Sheet** for Signal Route of CNG/DTMF/Caller ID detection detection (P.175).

6.4.8. Calling Line Identification Circuit (DTMF)

1. Function

This unit is compatible with the Caller ID service offered by your local telephone company. To use this feature, you must subscribe to a Caller ID service. The data for the caller ID from the telephone exchange is sent during the interval between the first and second rings of the bell signal. The data from the telephone exchange is a modem signal which is modulated in an FSK (Frequency Shift Keying) format. Data "0" is a 1300 Hz sine wave, and data 1 a 2100 Hz sine wave.

There are two type of the message format which can be received:i.e.the single data message format and multiple data message format.

The multiple data format allows to transmit the name and data code information in addition to the time and telephone number data.

When there is multiple data in the unit, the name or telephone number are displayed.

2. Circuit Operation

Refer to **Check Sheet** for Signal Route of CNG/DTMF/Caller ID detection detection (P.175).

6.4.9. Remote FAX Activation Circuit

1. Function

Another telephone connected to same line activates the unit to the FAX mode by using a DTMF signal.

2. Signal Path

Refer to **Check Sheet** for Signal Route of CNG/DTMF detection (P.175).

6.4.10. TAM Interface Circuit

This circuit is to switch between FAX receiving and the external TAM's message recording automatically. For details, please refer to **TAM Interface Section** (P.32).

6.5. ITS (Integrated telephone System) and Monitor Section (KX-MB2025/KX-MB2030 ONLY)

6.5.1. General

The general ITS operation is performed by IC203 which has a handset circuit. The alarm tone, the key tone, and the beep are output from Soc IC300.

6.5.1.1. Telephone Monitor

1. Function

This is the function when you are not holding the handset and can hear the caller's voice from the line.

2. Circuit Operation

(Telephone Monitor Signal Path)

Signals received from the telephone line are output through at the speaker via the following path.

3. Signal Path

Refer to **Check Sheet** for Signal Route of MONITER RX (P.175).

6.5.1.2. Monitor Circuit

1. Function

This circuit monitors various tones, such as (1) DTMF tone, (2) Alarm/Beep/Key tone/Bell.

2. Signal Path

a. DTMF MONITOR

(Speaker Operation)

Refer to **Check Sheet** for Signal Route of DTMF Monitor (Speaker) (P.175).

(Handset Operation)

Refer to **Check Sheet** for Signal Route of DTMF Monitor (Handset) (P.175).

b. ALARM/BEEP/KEY TONE/BELL

Refer to **Check Sheet** for Signal Route of Ringing/Alarm/Beep/Key tone (P.175).

6.5.1.3. TAM Interface Section

1. Function

When TAM is connected to this unit, the unit receives documents for FAX calls or the external TAM records a voice message automatically.

2. Circuit Operation

The TAM INTERFACE circuit consists of Soc(IC300) to detect the other party CNG signal, and RLY100 to separate EXT.TAM.

a. CNG signal detection circuit

The CNG signal from the other party's FAX is detected in Soc IC300

(Signal path)

Refer to **Check Sheet** for Signal Route of CNG/DTMF detection (P.175).

b. Remote receiving

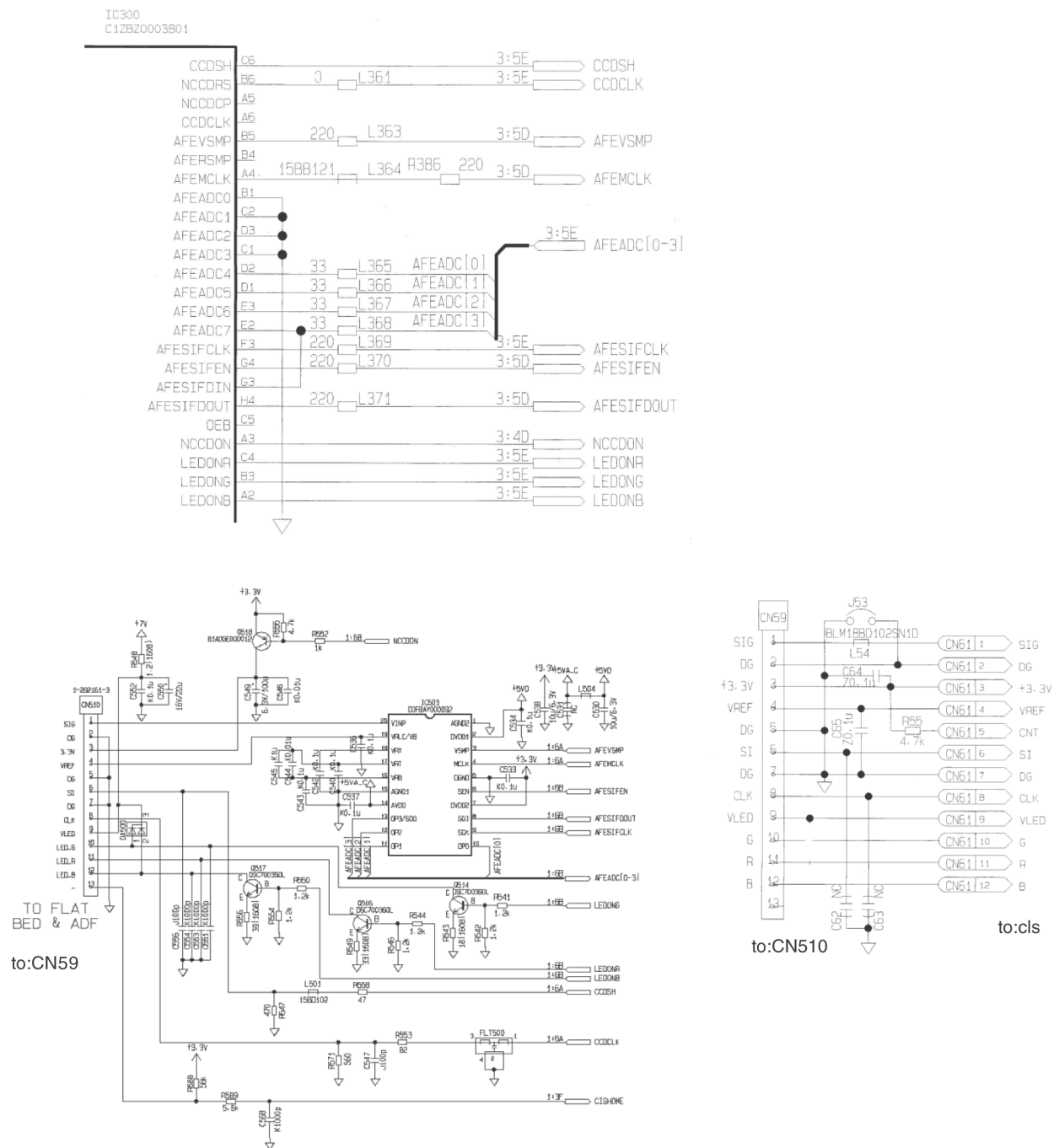
This is the parallel-connected DTMF signal for the TEL or EXT.TEL mode between T and R. When the other party is a FAX, the unit switches to FAX receiving.

(Signal Path)

Refer to **Check Sheet** for Signal Route of DTMF detection (ON-Hook) (P.175).

6.6. CIS Control Section

The scanning block of this device consists of a control circuit and a CIS (contact image sensor), and AFE(Analog Front End) include A/D Converter.



When an original document is inserted and the start button pressed, pin A3 of IC300 goes to a low level and the transistor Q518 turns on.

This applies voltage to the CIS. The CIS is driven by each of the CCDSH, CCDCLK signals output from IC300, and the original image illuminated by the LED to output an analog image signal.

The analog image signal is input to the AFE on VINP(20pin of IC503) and converted into 16-bit data by the A/D converter inside IC503. Then this signal undergoes digital processing in order to obtain a high-quality image.

6.7. Motor Drive Section

6.7.1. Engine Motor Control Circuit

1. Functions

All driving forces of printer engine part are supplied by this engine motor.

Engine motor is controlled so as to rotate at constant speed during printing and copying.

2. Motor operation

<Start operation>

In order to start the motor rotation, following 3 signals are supplied from IC300.

1. SS signal (Output pin: Pin B12/Output Signal: "H")

When this signal is inverted by transistor Q502 and becomes "L", motor recognize this signal as "start" signal.

2. Clock signal (Output pin: Pin A12/Output Signal: Pulse)

Pulse frequency :approx. 2.2KHz (at normal printing speed)

Pulse frequency :approx. 1.1KHz.(at half printing speed)

This signal is also inverted by transistor Q525, and supplied to motor as "clock" signal.

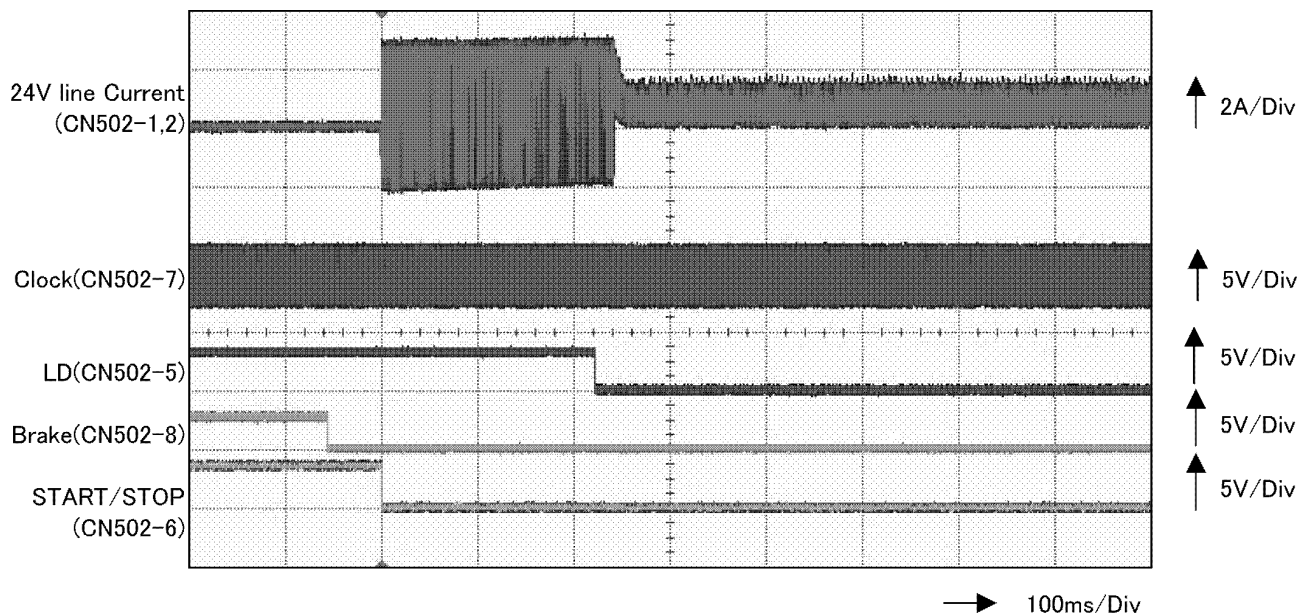
3. Brake signal (Output pin: Pin C12/Output Signal: "H")

When this signal is inverted by transistor Q526 and becomes "L", motor recognize this signal as "brake off" signal.

When motor reaches constant speed, "L" signal is supplied from motor to IC300 pin D12 as "Lock detect (LD)" signal.

If "LD" signal does not becomes "L" within predetermined period after "SS" signal becomes "H", or if "LD" signal becomes "H" during rotation, it is judged that motor Error occurred.

Timing Chart of Start operation



<Stop operation>

In order to stop the motor rotation, following 2 signals are supplied from IC300.

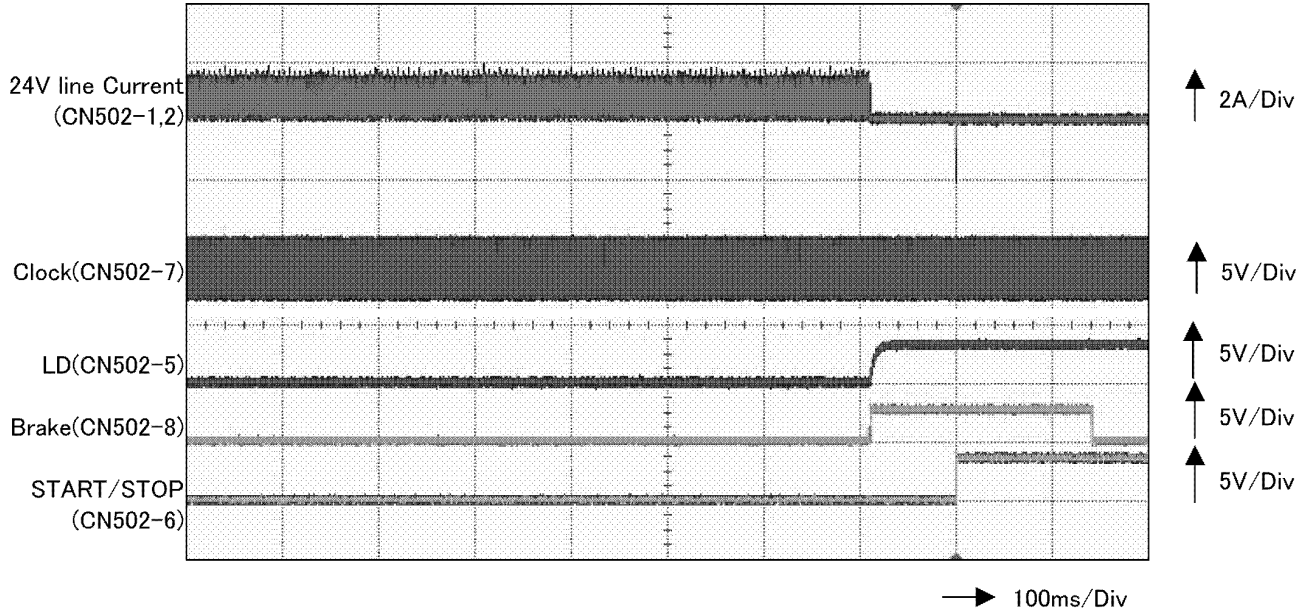
1. SS signal (Output pin: Pin B12/Output Signal: "L")

When this signal is inverted by transistor Q502 and becomes "H", motor recognize this signal as "stop" signal.

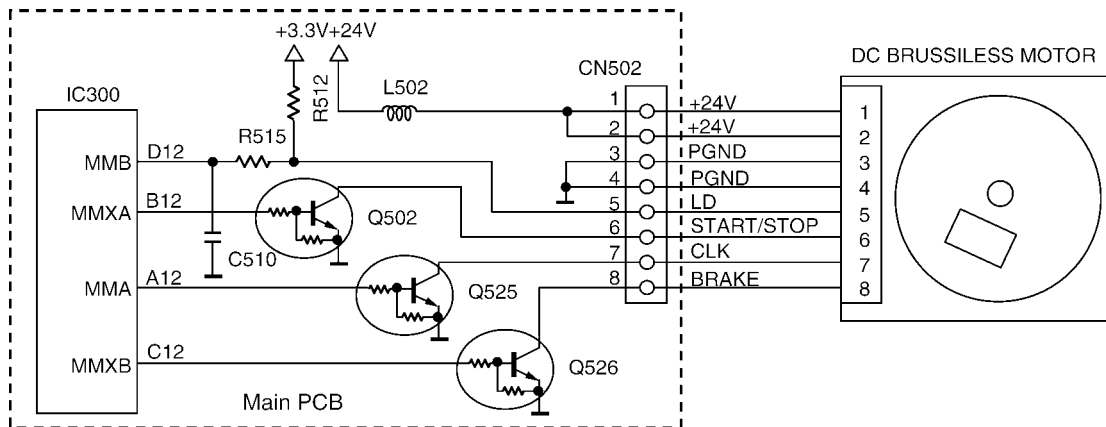
2. Brake signal (Output pin: Pin C12/Output Signal: "L")

When this signal is inverted by transistor Q526 and becomes "H", motor recognize this signal as "brake on" signal.

Timing Chart of Stop operation



6.7.1.1. Engine Motor Drive Circuit



6.7.2. Scanner Motor Drive Circuit

1. General

Scanner motor drive circuit consists of "Motor driver", "Motor current control circuit", "O.C.P (Over Current Protection) circuit" and "Relay drive circuit (ADF equipped model only)"

One motor driver IC controls both FB (Flat Bed) and ADF (Auto Document Feeder/ADF equipped model only) motors. Outputs of motor driver are alternatively selected by the relay circuit.

(1) FB Motor

This motor feeds CIS unit in FB scan, FB copy, and FB FAX mode.

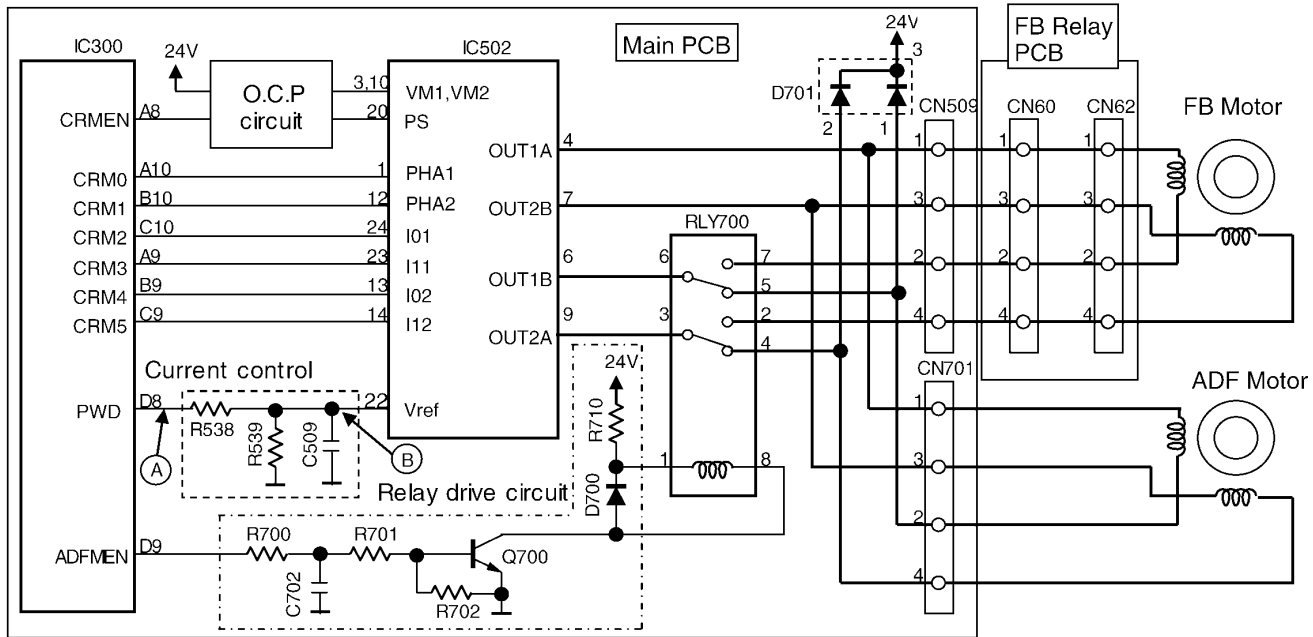
A one step rotation of this motor feeds CIS unit 0.021mm.

(2) ADF Motor (ADF equipped model only)

This motor feeds documents which are set to ADF in ADF scan, ADF copy, and ADF FAX mode.

A one step rotation of this motor feeds document 0.042mm.

2. Block Diagram of Scanner motor Drive circuit



6.7.2.1. Motor driver

Motor driver IC502 can drive motors up to 0.8A/phase and support up to W1-2 phase excitation.

When "Power save" signal (IC502_pin20) becomes "H", motor driver is activated.

Stepping pulses are output from IC300 pins A9, B9, C9, A10, B10, and C10.

Frequency and pattern of these pulses determine the motor rotation speed and excitation mode respectively.

Corresponding to these pulses, current are supplied from IC502_pin4, pin6, pin7 and pin9 to each motor coil.

6.7.2.2. Motor current control circuit

1. Function

According to the scan speed, motor current is controlled for appropriate value.

For example, when scan speed is low, motor has enough driving force.

So to prevent the vibration and noise during motor rotation, motor drive current should be reduced.

When scan speed is high, motor needs much driving force. so much current should be supplied.

In order to control the motor current, Vref voltage of IC502 is controlled.

When Vref voltage is high, motor current is increased, and the voltage is low, motor current is reduced.

2. Circuit Diagram

Please refer to the circuit diagram shown in the block diagram of **Scanner Motor Drive Circuit** (P.36).

3. Circuit explanation

For the sake of Vref voltage control, PWM pulse is supplied from IC300_pinD8.

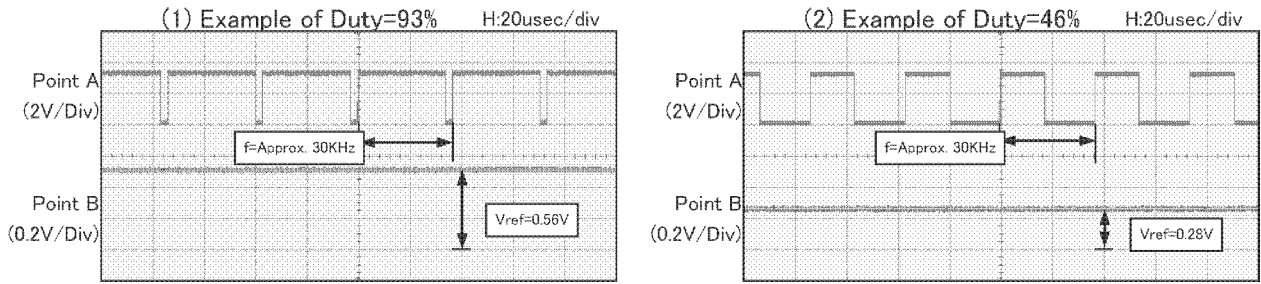
PWM pulse is integrated by R538, R539 and C509, then converted to DC voltage.

This DC voltage is supplied to Vref pin of IC502.

When duty of PWM pulse is high, Vref voltage is increased and when duty is low, Vref voltage is decreased.

4. Timing chart of current control

Following timing charts are the example of Vref voltage corresponding to PWM pulse duty

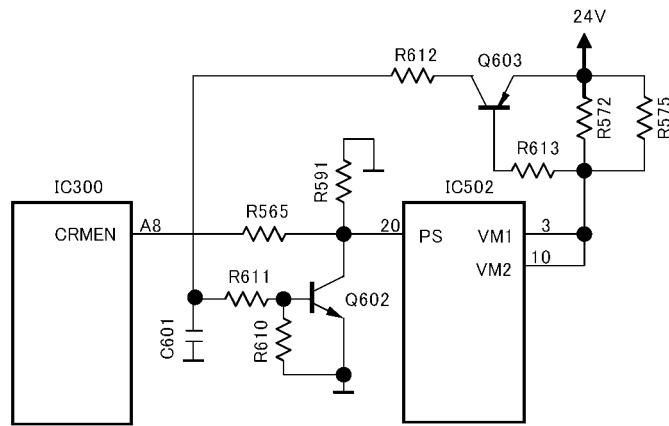


6.7.2.3. O.C.P (Over Current Protection) circuit

1. Function

If motor driver can supply more than 15 watts, FB and ADF motors may become fire hazards. To prevent the risk of fire, this circuit is provided.

2. Circuit Diagram



3. Circuit explanation

When the current supplied from 24V exceeds 0.44A, the voltage between two registers R572 and R575 becomes more than 0.6V (=0.44A*2.7ohm/2), consequently both Q603 and Q602 turn on.

If Q602 turns on, IC502_pin20 becomes "Low" level.

As a result IC502 is deactivated and motor currents are cut off.

So the current which IC502 can supply is limited to less than 0.44A and the wattage is also limited to less than 10.7W (=0.44A*24V).

By limiting the wattage less than 15W, risk of fire hazard is eliminated.

6.7.2.4. Relay Drive circuit (ADF equipped model only)

1. Function

A relay is used to select which motor's currents should be supplied from IC502. When relay is off, FB motor is selected, and when relay is on, ADF motor is selected.

2. Circuit diagram

Please refer to the circuit diagram shown in the block diagram of section 6.7.2.

3. Circuit explanation

When IC300_pinD9 is "L", since Q700 is turned off, the relay RL700 is not activated (FB motor is selected).

On the other hand, when IC300_pinD9 is "H", since Q700 is turned on, the relay RLY700 is activated (ADF motor is selected). R710 is provided to reduce the current of Relay coil, and D700 is provided to prevent the damage of Q700 from reverse voltage which is generated by Relay coil.

Relay should be switched during motor stop condition, because reverse voltage which is generated during motor rotation may cause damage to IC502.

To prevent the damage caused by accidental switching of relay during motor rotation, D701 is provided.

6.7.2.5. FB (Flat Bed) motor drive circuit (KX-MB1900 ONLY)

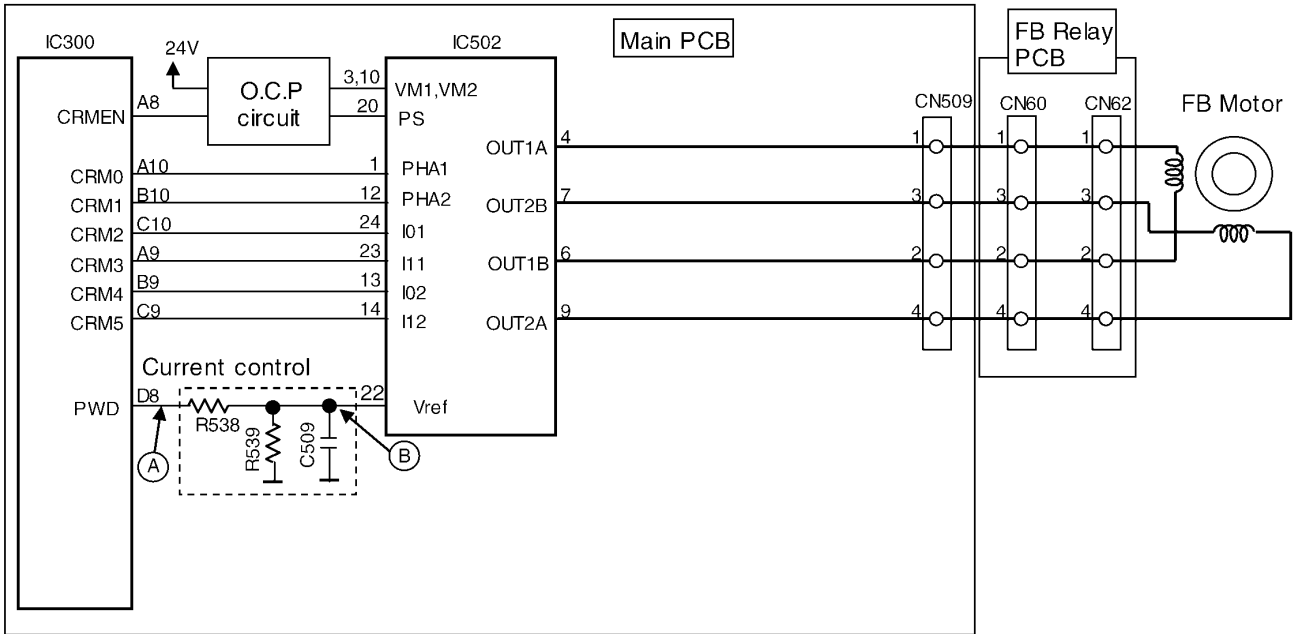
1. General

FB (Flat Bed) motor drive circuit consists of “Motor driver”, “Motor current control circuit”, and “O.C.P (Over Current Protection) circuit”.

FB motor feeds CIS unit in FB scan, FB copy, and FB FAX mode.

A one step rotation of this motor feeds CIS unit 0.021mm

2. Block Diagram of FB motor Drive circuit



3. Circuit Explanation

For detail circuit explanation of each block, please refer to following sections.

Motor driver: **Motor driver** (P.36)

Motor current control: **Motor current control circuit** (P.36)

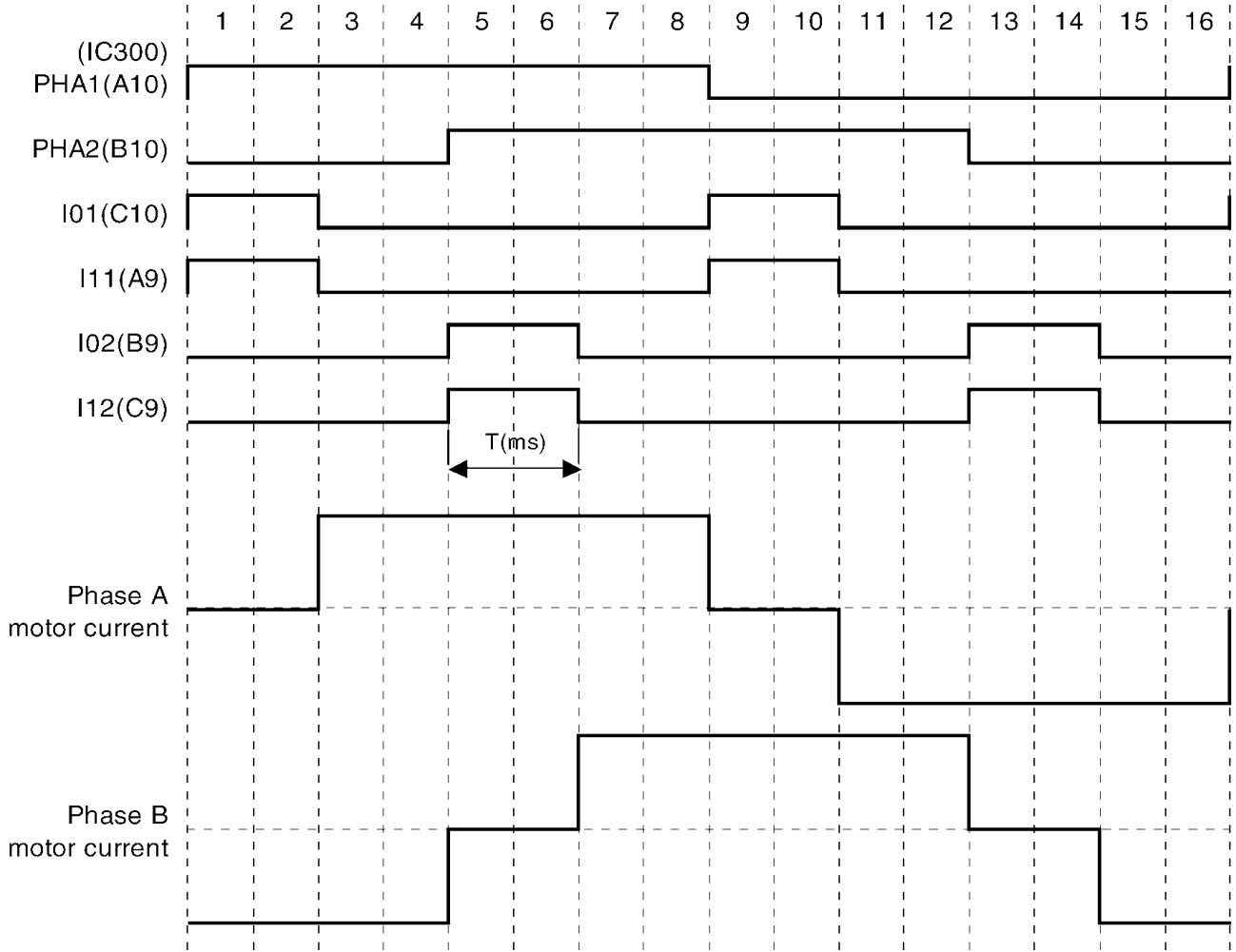
O.C.P: **O.C.P (Over Current Protection) circuit** (P.37)

6.8. Timing chart and wave form of scanner motors

Control sequence and waveform of both FB and ADF motor are almost same.

6.8.1. Normal 1-2 phase excitation (half step)

1. Timing chart



2. Wave form

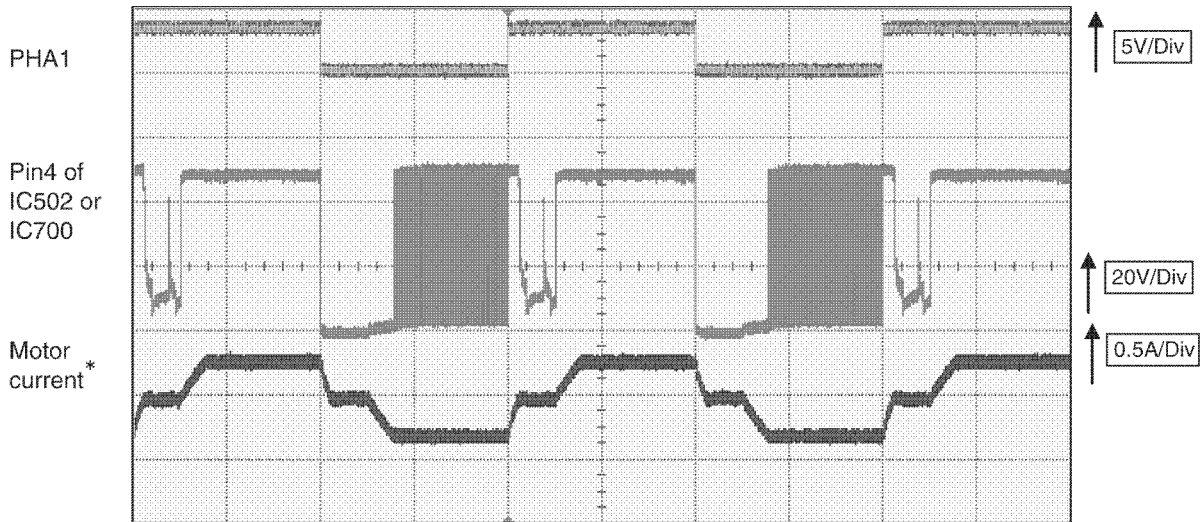
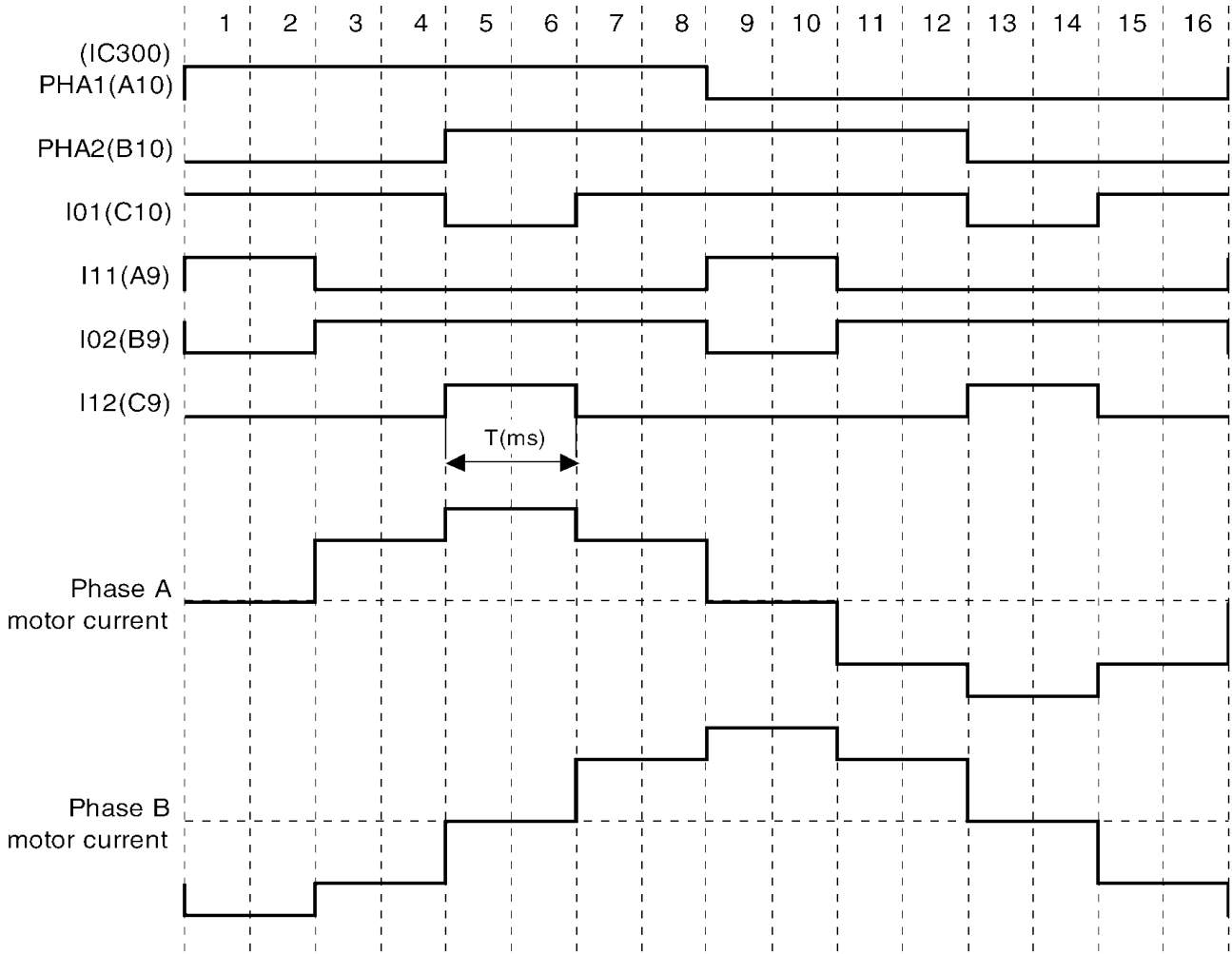


Fig. 1

* Motor current is changed according to the scan speed.

6.8.2. Flat torque 1-2 phase excitation (half step)

1. Timing chart



2. Wave form

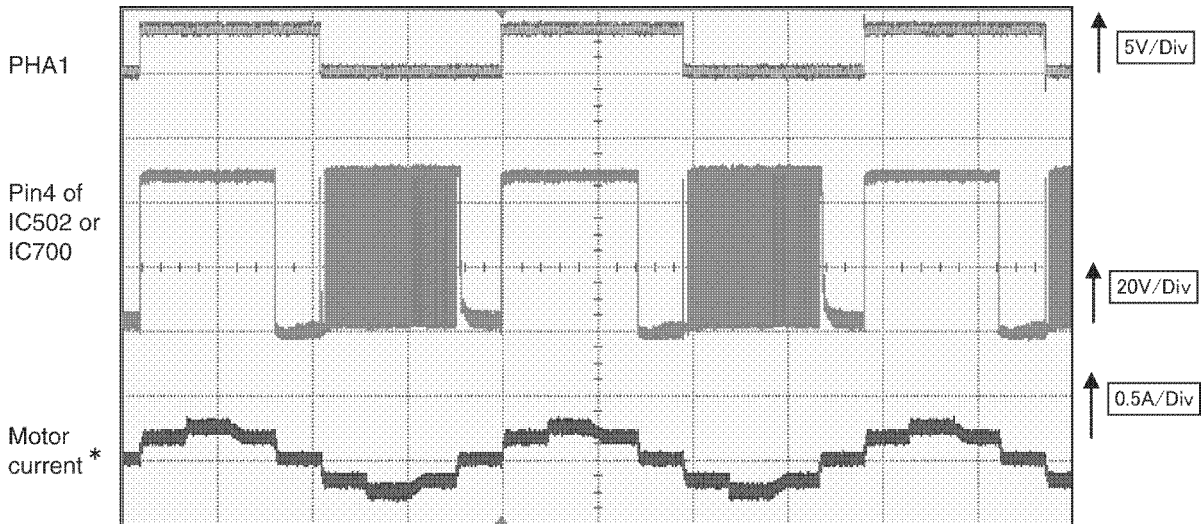
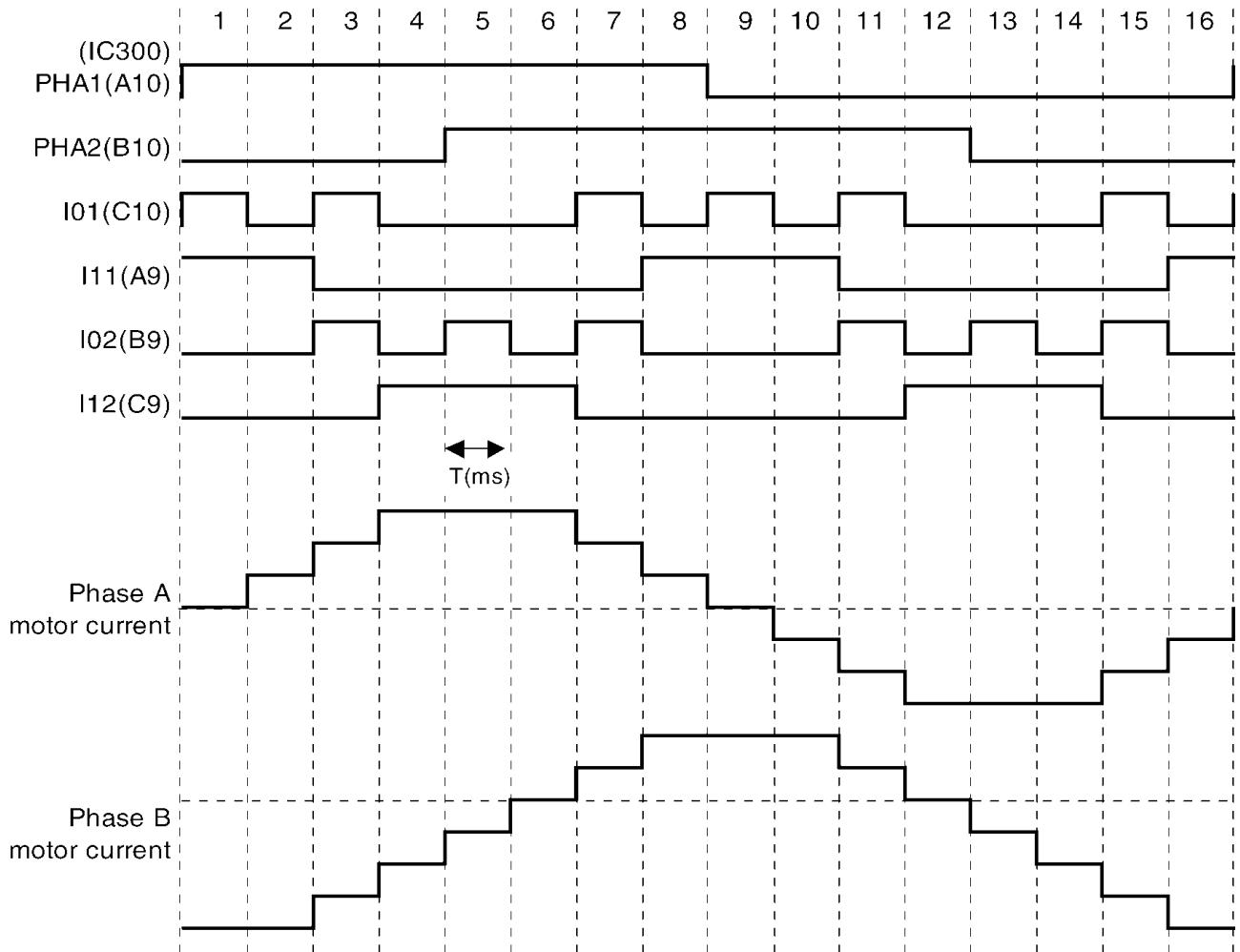


Fig. 2

* Motor current is changed according to the scan speed.

6.8.3. W1-2 phase excitation (Quarter step)

1. Timing chart



2. Wave form

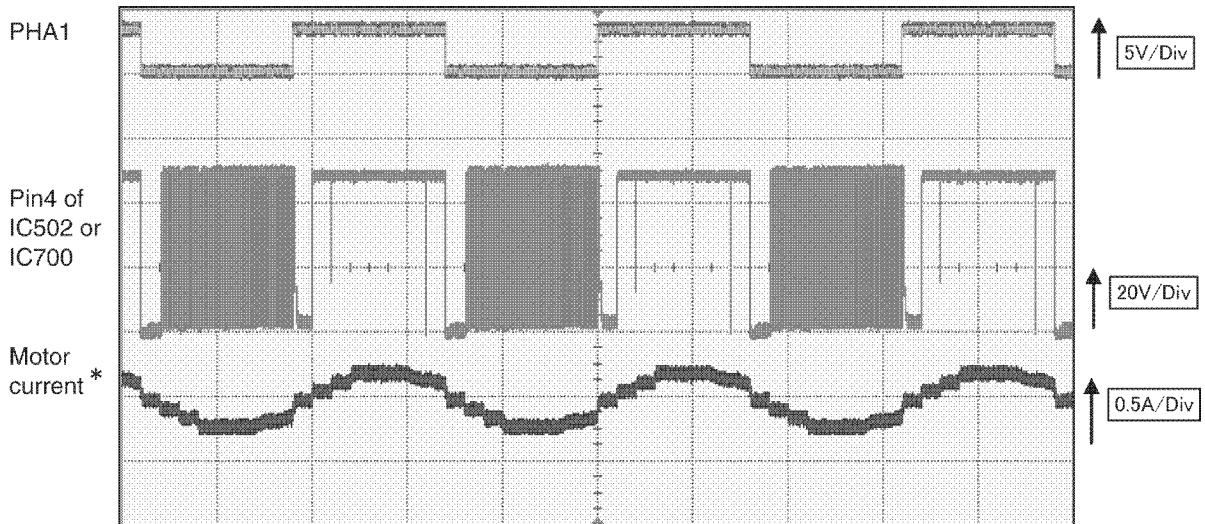


Fig. 3

* Motor current is changed according to the scan speed.

6.8.4. Drive mode of FB and ADF motor

Correspondent table of operation

Operation	Color mode	ADF/FB	Time & Figure	Resolution (dpi)								
				Pre Scan	75	100	150	200	300	400	600	1200
PC scan	Color	ADF*	T(msec)	1.0		2.5			2.0			
			Figure	②			③					
		FB	T(msec)	0.5			2.0					
			Figure	②					③			
	Black & White	ADF*	T(msec)	0.67				1.33				
			Figure	①			②					
		FB	T(msec)	0.22		0.67			1.33			
			Figure	①			②					

Operation	Color mode	ADF/FB	Time & Figure	Copy magnification						
				100%			other than 100%			
				Copy mode						
				Photo/Text	Text	Photo	Photo/Text	Text	Photo	
Copy	Black & White	ADF* (non Sort)	T(msec)	0.67		1.33		0.67		1.33
			Figure	①			②		①	②
		ADF* (Sort)	T(msec)	0.67				1.33		
			Figure	①			②			
		FB	T(msec)	0.67						
			Figure	②						

KX-MB2025/2030 ONLY

Operation	Color mode	ADF/FB	Time & Figure	FAX mode			
				Standard	Fine	Super Fine	Photo
FAX	Black & White	ADF*	T(msec)	1.33			
			Figure	②			
		FB	T(msec)	1.33			
			Figure	②			

*KX-MB2030 ONLY

6.9. FAN Motor Section

6.9.1. General

This unit is equipped with two FAN motors to prevent the developing devices, Power Supply Unit (PSU) and other devices from overheating during printing.

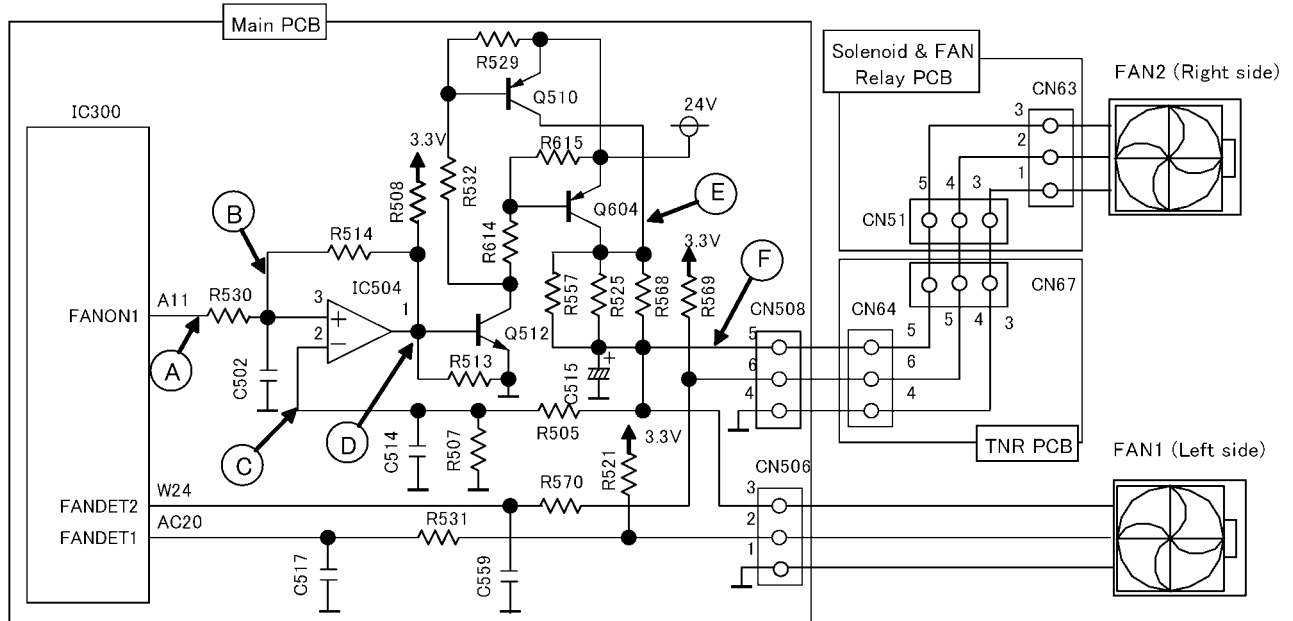
The FAN rotates at high speed (Approx. 3000rpm) while printing.

After printing is finished, FAN rotates at low speed (Approx.2200rpm) while predetermined period.

6.9.2. Circuit Diagram of FAN

Two FAN motors are controlled by following one circuit.

So the operation of two FAN motors (Full speed rotation/Half speed rotation/Stop) are controlled simultaneously.



6.9.3. Fan Control

For the control of FAN speed, comparator IC (IC504) is used.

This IC compares (+) side input level and (-) side input level.

If (+) side input level is bigger than (-) side input level, output of this IC is "OPEN".

If (+) side input level is less than (-) side input level, it outputs "L" level.

6.9.3.1. Half Speed Mode

In half speed mode, IC300_pinA11 outputs pulse (frequency is about 30KHz, duty is about 37.5%).

This pulse is integrated by R530 and C502 then IC504_pin3 becomes approx. DC1.24V. Input level of IC504_pin2 is determined by the voltage of between R507.

If voltage between R507 is less than 1.24V, output of IC504_pin becomes "H".

Then Q512, Q510 and Q604 are turned on. So voltage between R507 (=the voltage of IC504_pin2) rises gradually.

When the voltage between R507 exceeds 1.24V, output of IC504_pin1 becomes "L".

Then Q512, Q510 and Q604 are turned off. So voltage between R507 falls gradually.

By repeating these sequence, voltage between R507 is controlled approx. 1.24V.

On the other hand, if FAN voltage is represented V_o and voltage between R507 is represented V_L , V_L is determined as below formula.

$$V_L = V_o \cdot R507 / (R505 + R507) \rightarrow V_o = V_L \cdot (R505 + R507) / R507$$

Since each values are as follows, V_o is determined approx. 9.7(V).

$$V_L = 1.24(V), R505 = 150(K \text{ ohm}), R507 = 22(K \text{ ohm})$$

$$V_o = 1.24 \cdot (150K + 22K) / 22K = 9.7(V)$$

Therefore by reducing the FAN power supply voltage, FAN rotates with half speed.

6.9.3.2. Full Speed Mode

In full speed mode, IC300_pinA11 outputs constant 3.3V.

When Q512, Q510 and Q604 are turned on, Vo becomes approx 20V (approx. 4V drops between R525/R557/R568).

So the voltage between R507 is determined as follows

$$V_L = V_o * R_{507} / (R_{505} + R_{507}) = 20 * 22K / (150K + 22K) = 2.5(V)$$

Since IC504_pin3 is 3.3V and IC504_pin2 is 2.5V, IC504_pin1 is always "H".

Consequently all Q512, Q510 and Q604 are always turned on, then approx. 20V is supplied to FAN motors.

Therefore FAN rotates with full speed.

6.9.3.3. FAN stop

When IC300_pinA11 is "L", Q512, Q510 and Q604 are turned off, then both FAN motors stop rotation.

6.9.3.4. Rotation detect signal

During the FAN rotation, pulse signals are output from pin 2 of each FAN motor as the rotation detects signals.

If the pulse width is wider than prescribed value, it is judged that FAN error occurred.

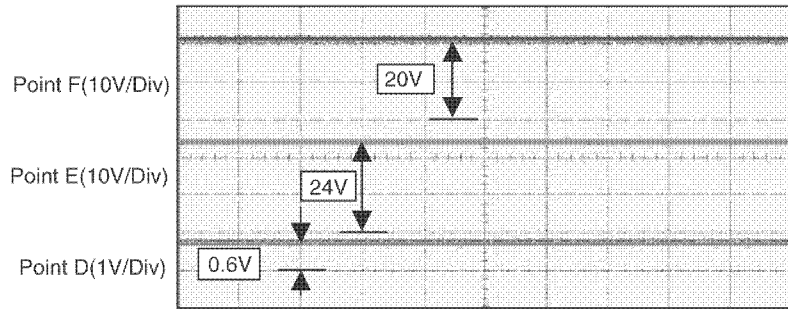
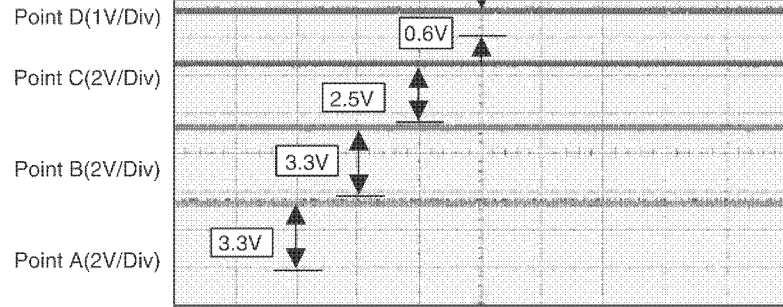
Then display shows "Call Service 4". (Refer to **CALL SERVICE 4** (P.135)).

6.9.4. Control table

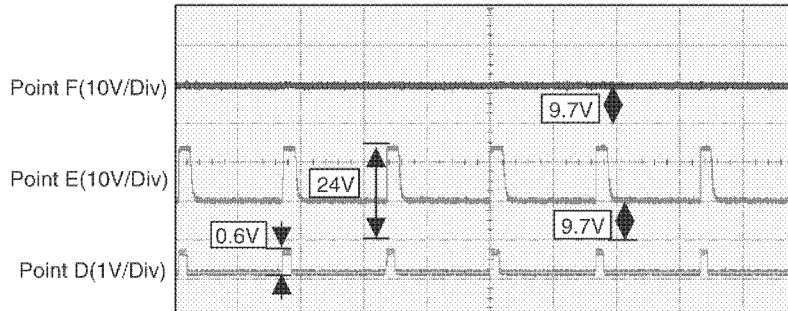
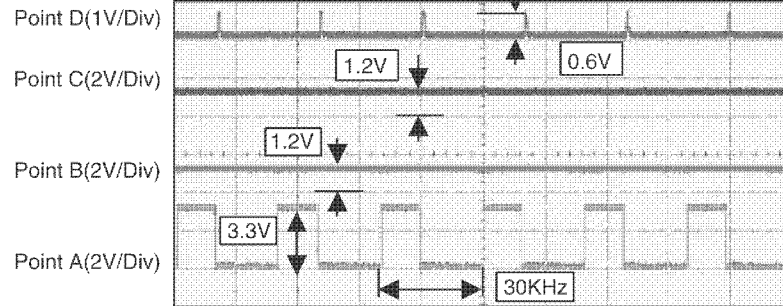
FANON1 (IC300_pinA11)	FAN and FAN2 mode
H	Full speed
Pulse	Half speed
L	Stop

6.9.5. Waveform

(1) Full speed (H:20usec/Div)



(2) Half speed (H:20usec/Div)



6.10. Solenoid Driver Section

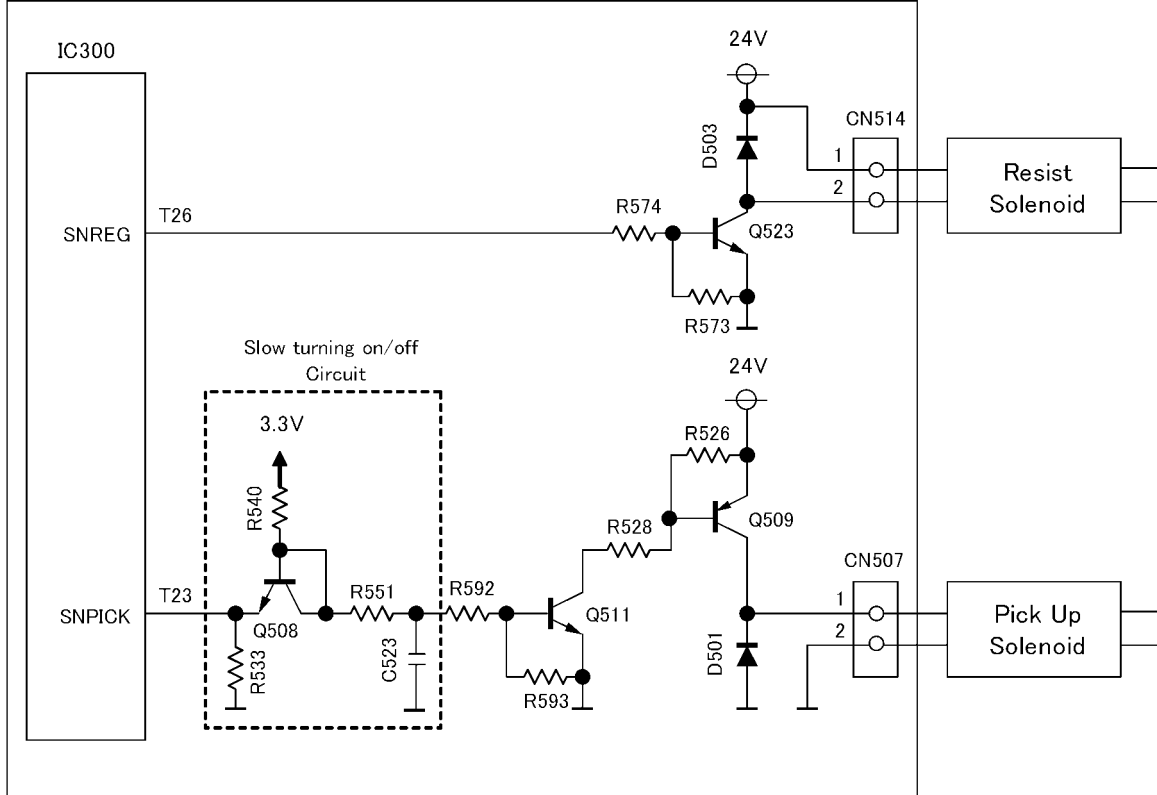
The solenoid drive circuit controls Resistor solenoid and Pick up Solenoid.

These solenoids are designed to be driven 24V.

The diodes protect transistors from reverse generated voltage when solenoids are turned off.

"Slow turning on/off" circuit is provided for Pick Up solenoid drive circuit so as to prevent the FAX Error from electromagnetic noise which is caused by the rapid turning on and off of Pick up solenoid.

1. Circuit Diagram

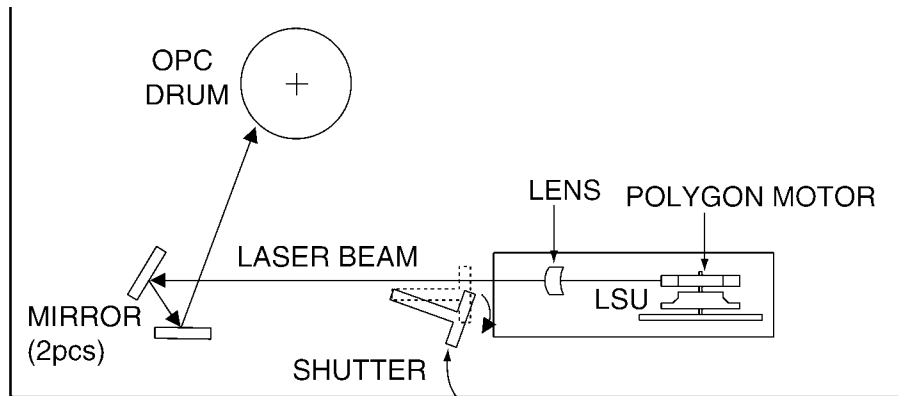


2. Active Logic

RESIST	
MODE	IC300_T26
Solenoid ON	High level
Solenoid OFF	Low level

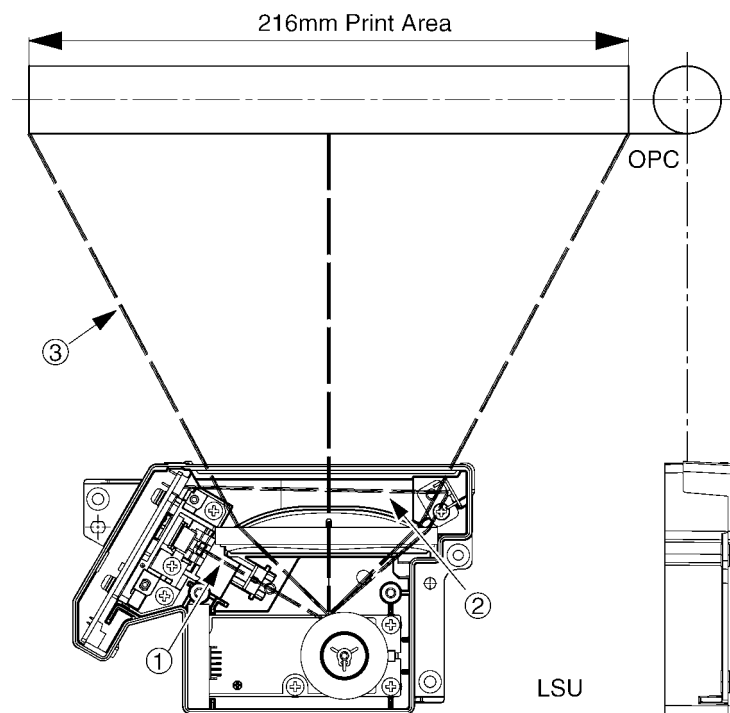
PICKUP	
MODE	IC300_T23
Solenoid ON	High level
Solenoid OFF	Low level

6.11. LSU (Laser Scanning Unit) Section



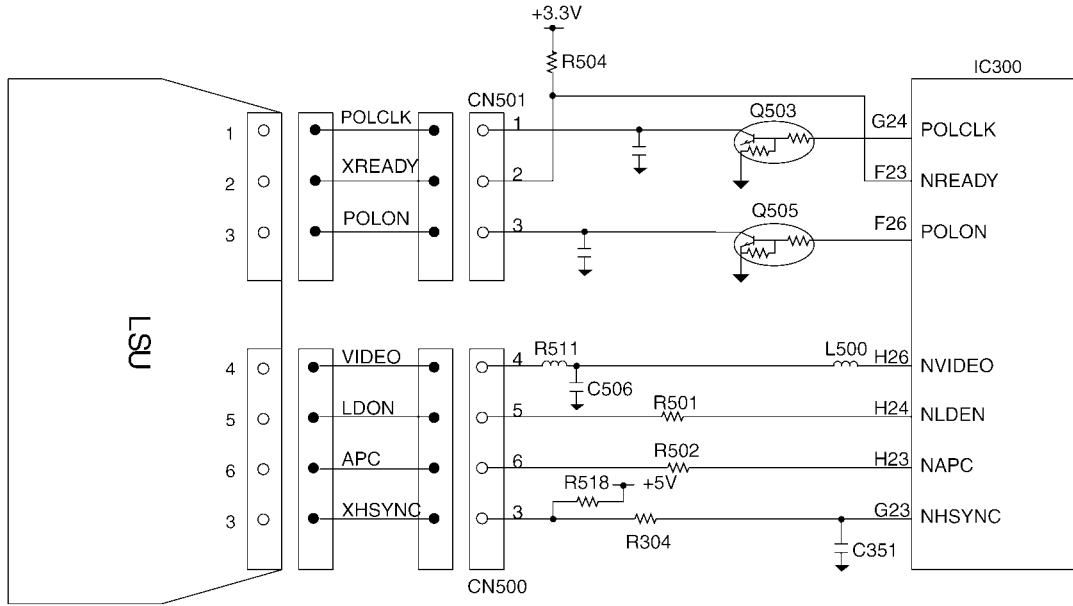
The mechanical shutter will be opened by setting DRUM UNIT properly.

LSU Layout

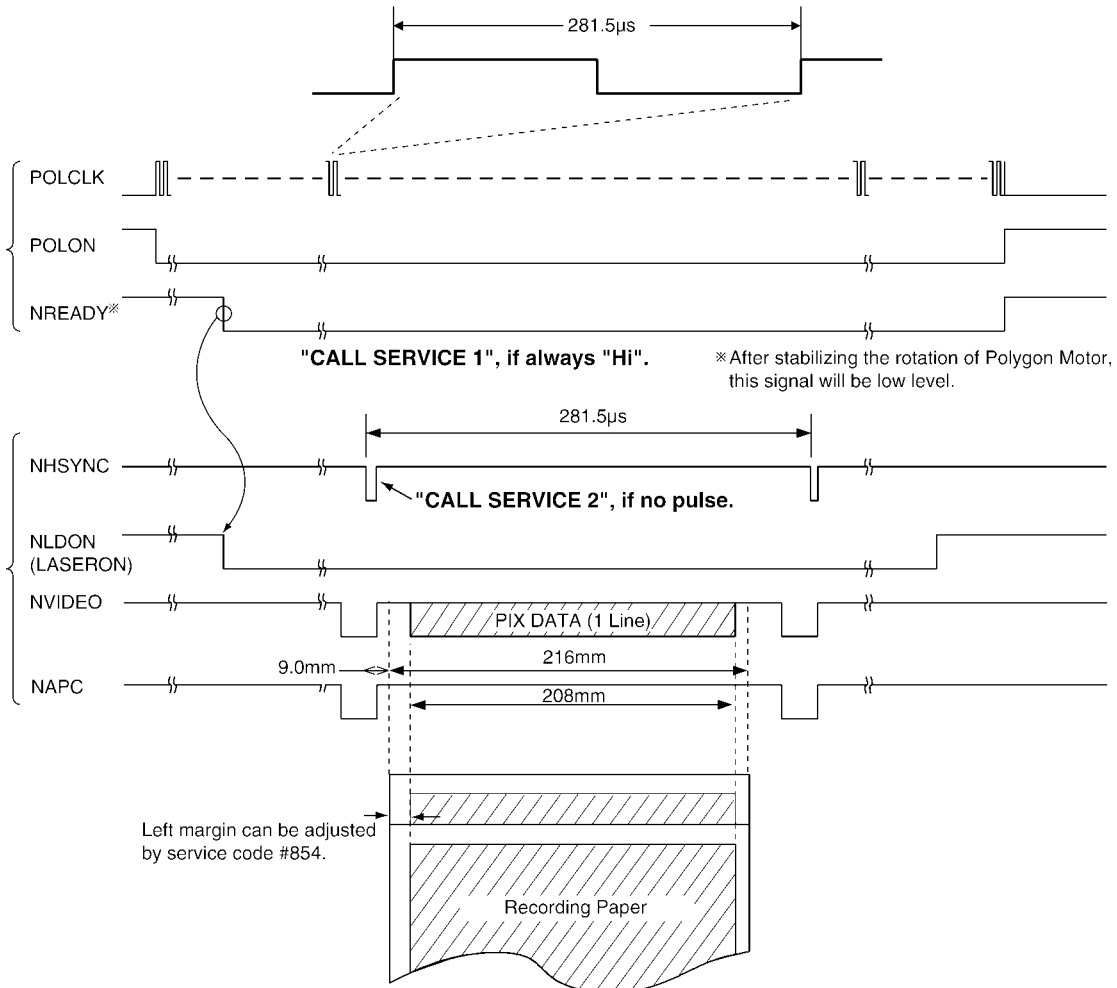


- ① Laser output
- ② OPC DRUM is irradiated with a laser.
- ③ The sensor outside the effective printing area detects the 1-line operation (scanning).

Circuit Diagram



Timing Chart



6.12. Sensors and Switches Section

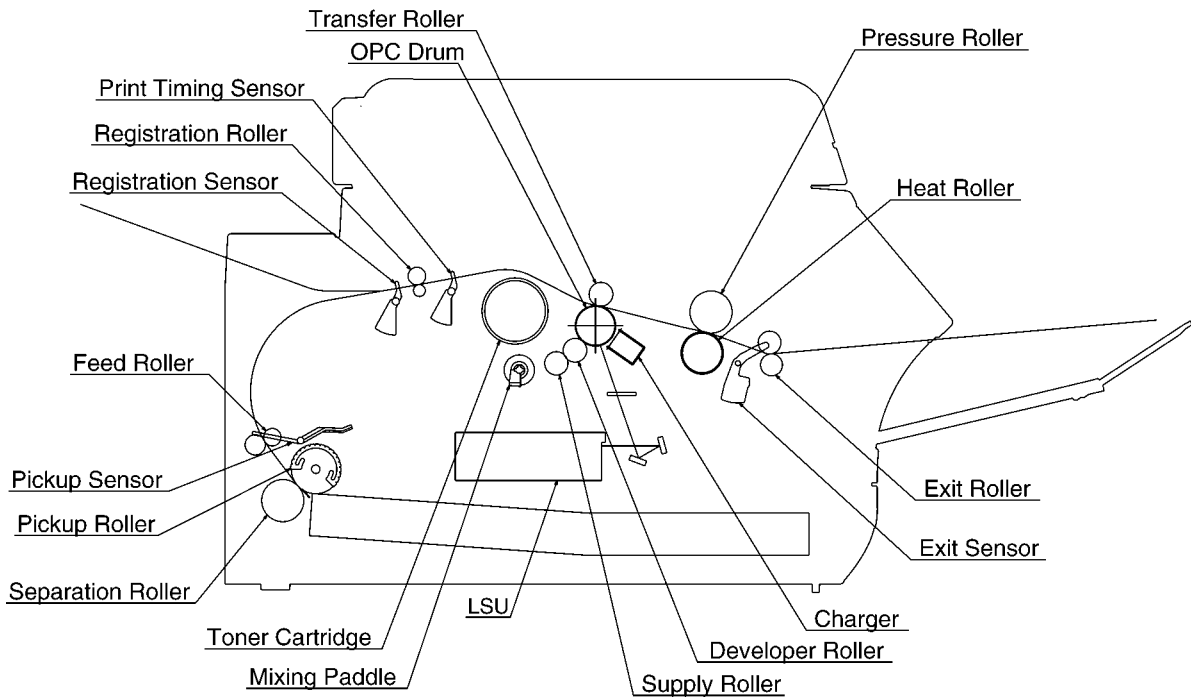
All of the sensor and switches are shown below.

Sensor Name	Sensor Location	Reference number	Message Error
Pickup sensor	Pickup & Fan2 PCB	SW50	[PAPER JAMMED] [CHECK REAR CVR] [WRONG PAPER & PRESS START]
Exit sensor	Fuser PCB	PS50	[PAPER JAMMED]
Read position sensor	ADF PCB	PS53	[CHECK DOCUMENT]
Registration & Manual paper sensor (KX-MB2030 ONLY)	Registration & PTOP PCB	PS51	[PAPER JAMMED]
Print timing sensor	Registration & PTOP PCB	PS52	[PAPER JAMMED]
Document sensor (KX-MB2030 ONLY)	ADF PCB	PS54	-
Top cover sensor	H.V.P.S	SW1	[TOP COVER OPEN]
Toner sensor	TONER PCB	IC51	[TONER EMPTY] [TONER LOW] [CHECK DRUM]
Handset hook switch (KX-MB2025/ KX-MB2030 ONLY)	Handset PCB	SW940	-

Note:

See TEST FUNCTIONS - SENSOR CHECK SECTION for the sensor test.

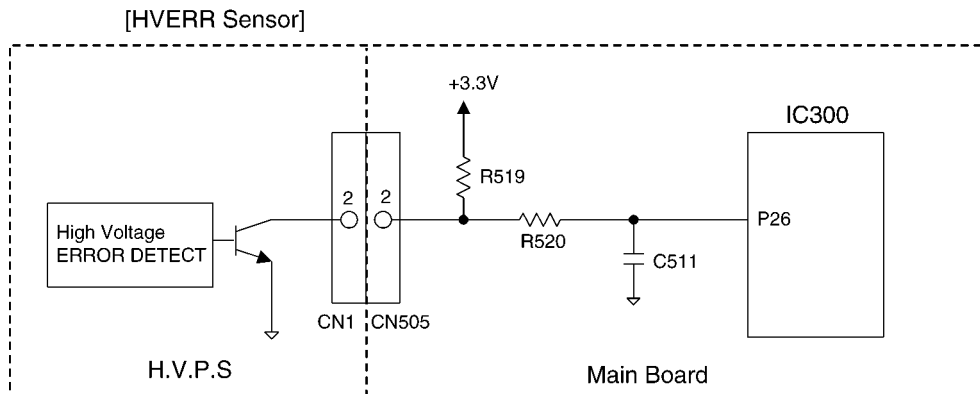
(#815 of Service Mode test. Refer to **Test Functions** (P.92).



6.12.1. Drum Detection

DRUM SENSOR is not arranged.

DRUM cartridge is detected when HVERR SENSOR arranged in H.V.P.S becomes effective.



High Voltage ERROR Status	Drum sensor	Signal (IC300-P26)
Abnormal	DRUM can not be detected	Low level
Normal	DRUM can be detected	High level

6.12.2. Pickup Sensor

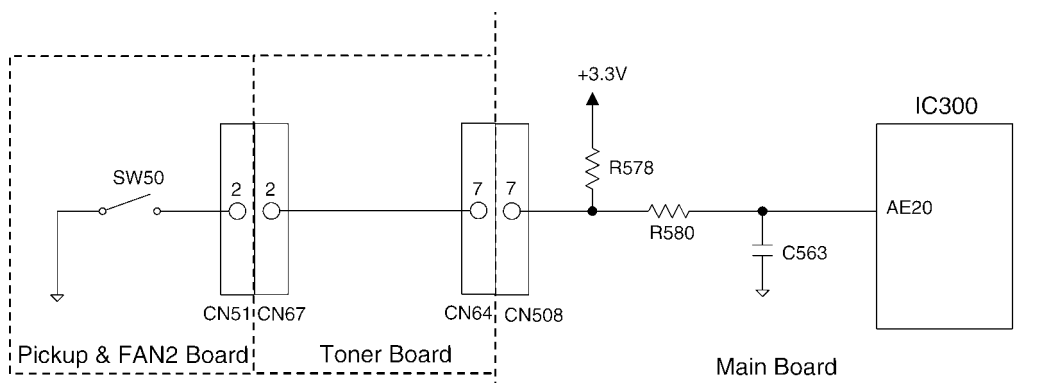
Paper SENSOR is not arranged.

Paper is detected when PICKUP SENSOR described as follows becomes effective.

This Switch detects whether a recording paper is picked up or not, and whether Rear Cover is opened or closed.

When there is a recording paper at the position of the switch, the input signal of IC300-AE20pin becomes low level.

When there is no recording paper at the position of the switch, the input signal of IC300-AE20pin becomes high level.



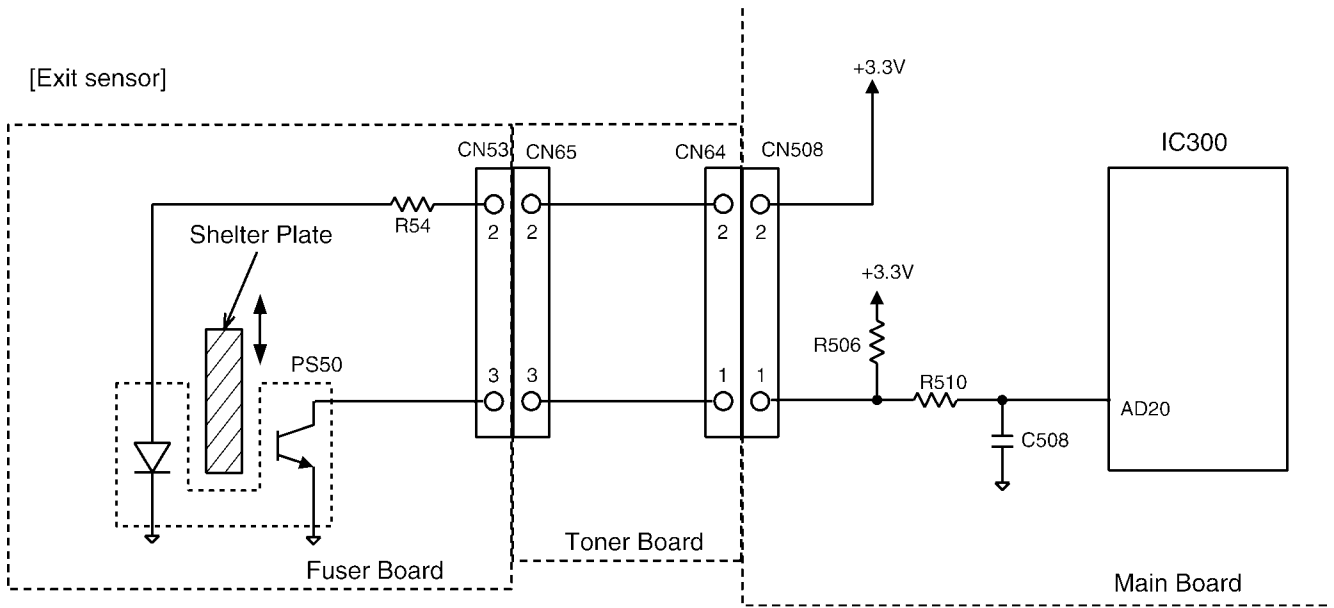
Pickup status	Idling status	Signal (IC300-AE20pin)
A paper exists	Rear Cover opened	Low level
No papers	Rear Cover closed	High level

6.12.3. Exit Sensor

This sensor detects whether the recording paper exits or not.

When there is a recording paper at the position of the sensor, the input signal of IC300-AD20pin becomes low level.

When there is no recording paper at the position of the sensor, the input signal of IC300-AD20pin becomes high level.



	Signal (IC300-AD20pin)
A paper exists	Low level
No papers	High level

6.12.4. Read Position Sensor

This sensor detects the front edge of the document.

When the front edge of the document is detected, the shelter plate closes the sensor light.

So the photo-transistor turns off and the input signal of IC300-AD22pin becomes high level.

When the front edge of the document is not detected, the shelter plate lets the sensor light pass.

So the photo-transistor turns on and the input signal of IC300-AD22pin becomes low level.

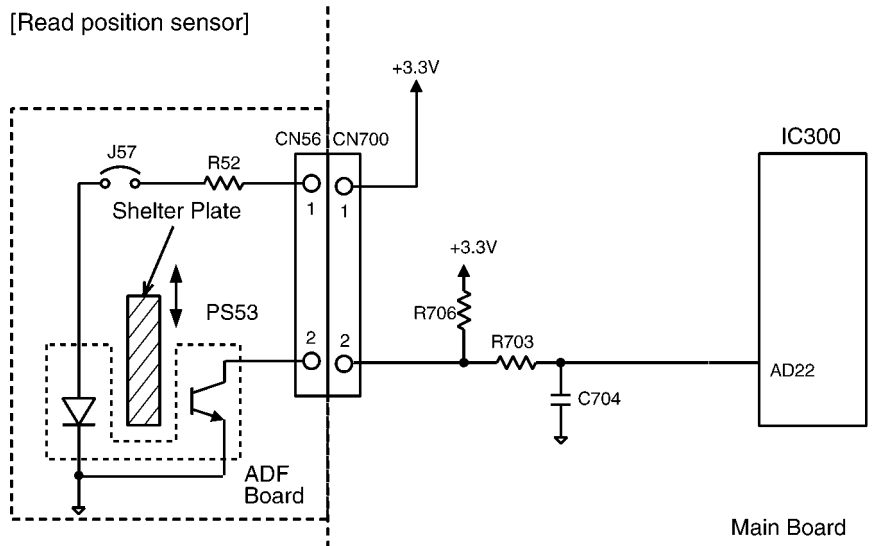


	Photo-transistor	Signal (IC300-AD22pin)
A document exists	OFF	High level
No document	ON	Low level

6.12.5. Registration & Manual Paper Sensor

This sensor detects whether the recording paper is at the sensor position.
 When the recording paper is detected, the shelter plate lets the sensor light pass.
 So the photo-transistor turns on, and input signal of IC300-AF20pin becomes low level.
 When the recording paper is not detected, the shelter plate closes the sensor light.
 So the photo-transistor turns off, and input signal of IC300-AF20pin becomes high level.

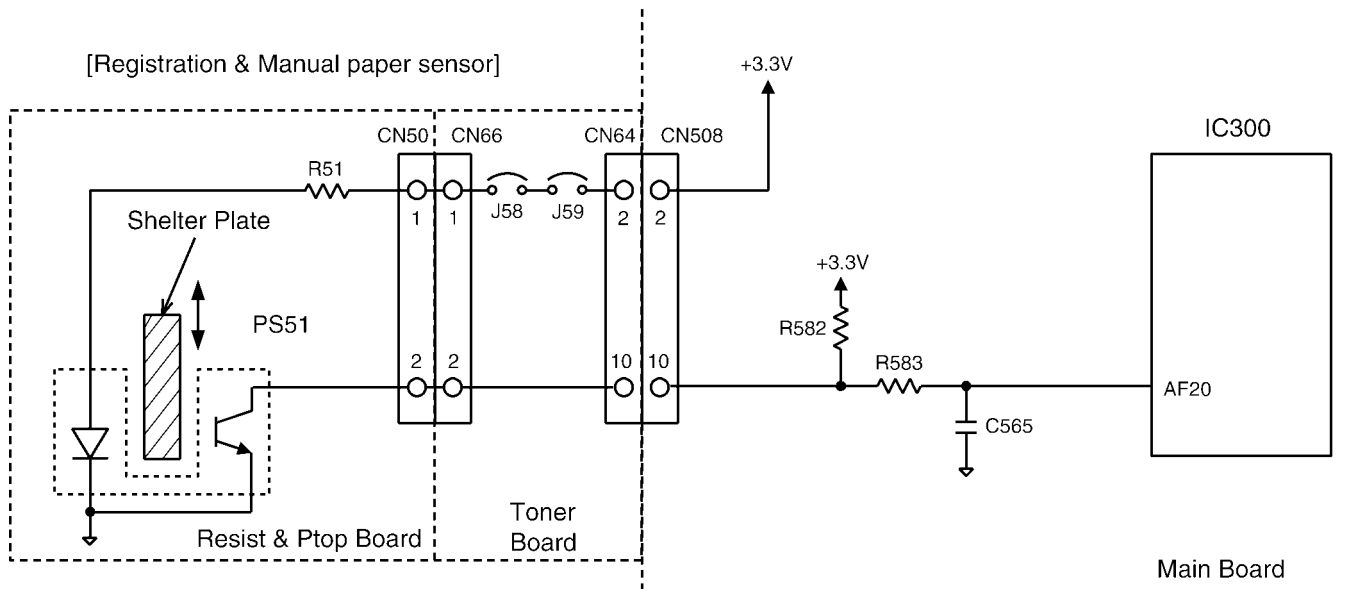


	Photo-transistor	Signal (IC300-AF20pin)
Paper exists	ON	Low level
No paper	OFF	High level

6.12.6. Print Timing Sensor

This sensor detects whether the recording paper is at the printing position.
 When the recording paper is detected, the shelter plate lets the sensor light pass.
 So the photo-transistor turns on, and input signal of IC300-W26pin becomes low level.
 When the recording paper is not detected, the shelter plate closes the sensor light.
 So the photo-transistor turns off, and input signal of IC300-W26pin becomes high level.

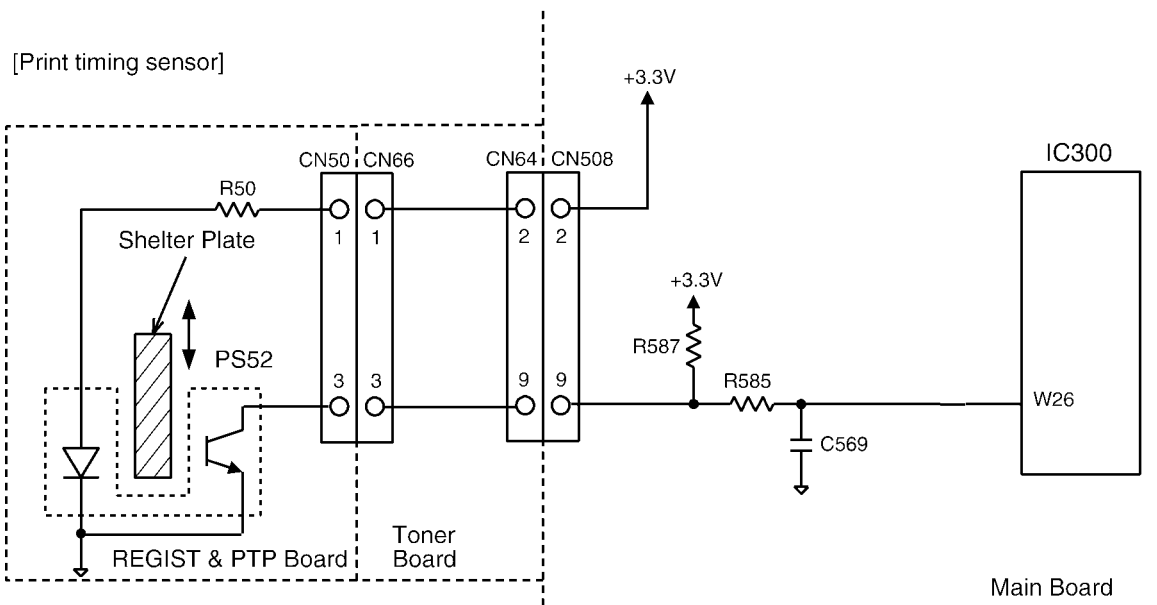


	Photo-transistor	Signal (IC300-W26pin)
Paper exists	ON	Low level
No paper	OFF	High level

6.12.7. Document Sensor

This sensor detects whether a document is set in ADF or not.

When a document is set in ADF, the shelter plate closes the sensor light.

So the photo-transistor turns off, and input signal of IC300-AF23pin becomes high level.

When a document is not set in ADF, the shelter plate lets the sensor light pass.

So the photo-transistor turns on, and input signal of IC300-AF23pin becomes low level.

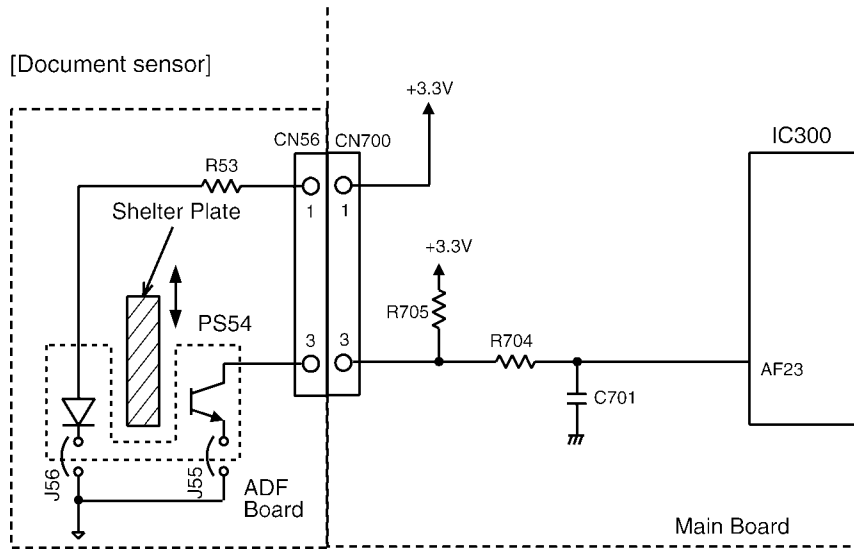


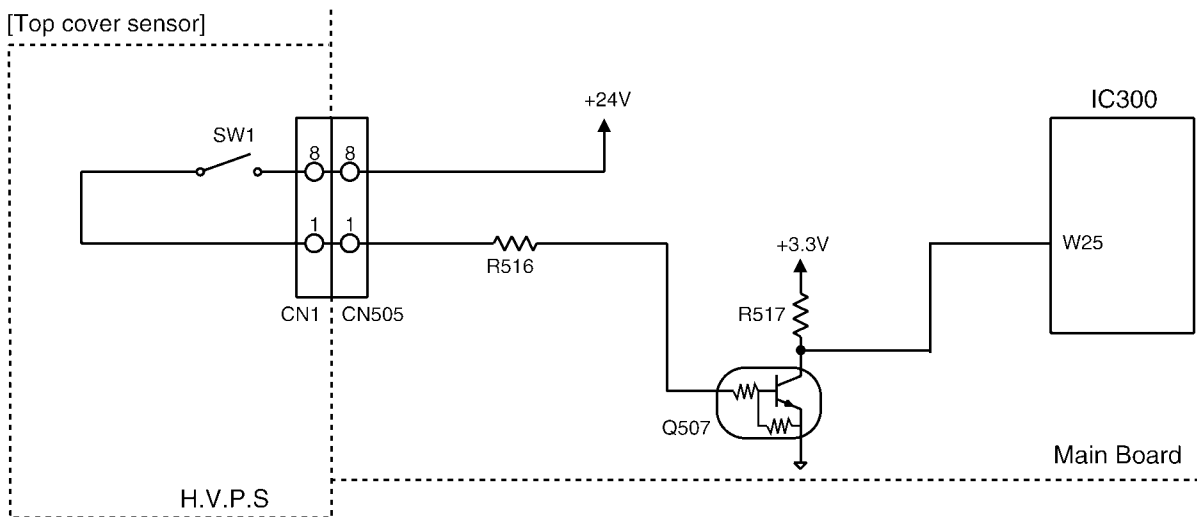
	Photo-transistor	Signal (IC300-AF23)
document exists	OFF	High level
No document	ON	Low level

6.12.8. Top Cover Sensor

The Switches detect whether the top cover is open or closed.

When the top cover is closed, the switches turn ON, and the input signal of IC300-W25pin becomes a low level.

When the top cover is open, the switches turns OFF, and the input signal of IC300-W25pin becomes a high level.

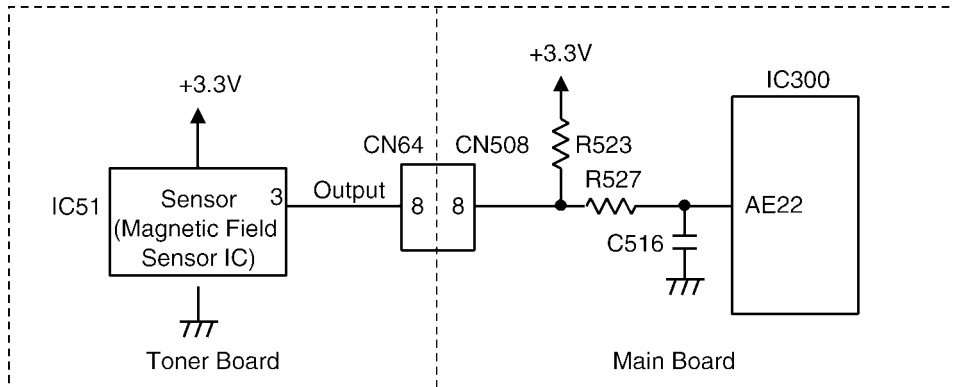


	Switch	Signal (IC300-W25pin)
Open	OFF	High level
Close	ON	Low level

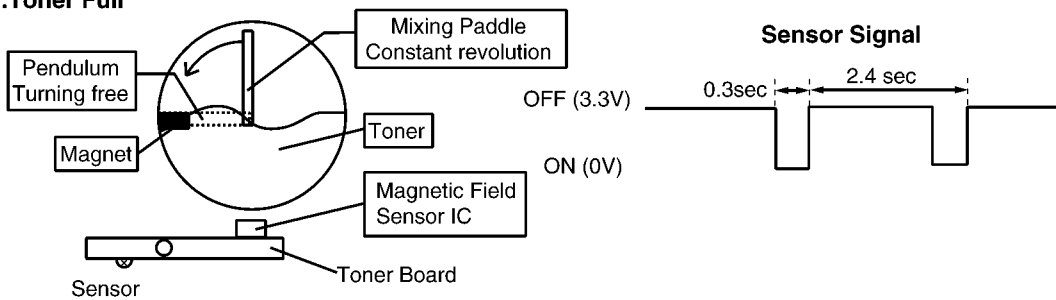
6.12.9. Toner Sensor... “Toner Empty”, “Toner Low”, “Change Drum”

The Sensor detects whether or not the Drum cartridge and the toner are present.

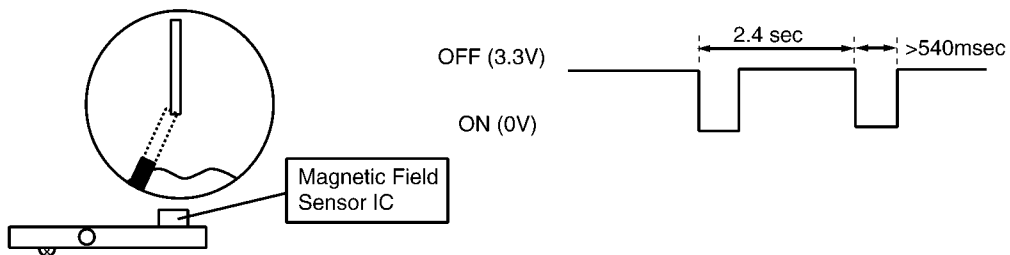
When there is not Drum cartridge, Magnetic Field Sensor IC (IC51) turns off, and the input signal of IC300-AE22pin (Main Board) becomes a High level over 9s. When the Drum cartridge is set, Magnetic Field Sensor IC (IC51) turns ON/OFF. If the time of IC300-AE22pin's Low level is under 600ms, there is enough toner in Drum cartridge, if not, toner is near empty.



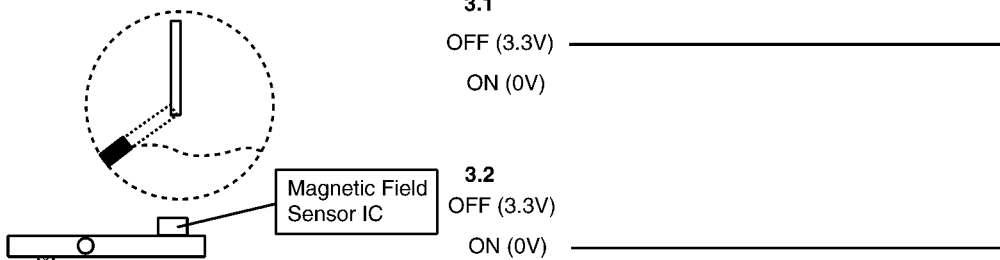
1. Toner Full



2. Toner Low



3. In case the Mixing Paddle does not rotate

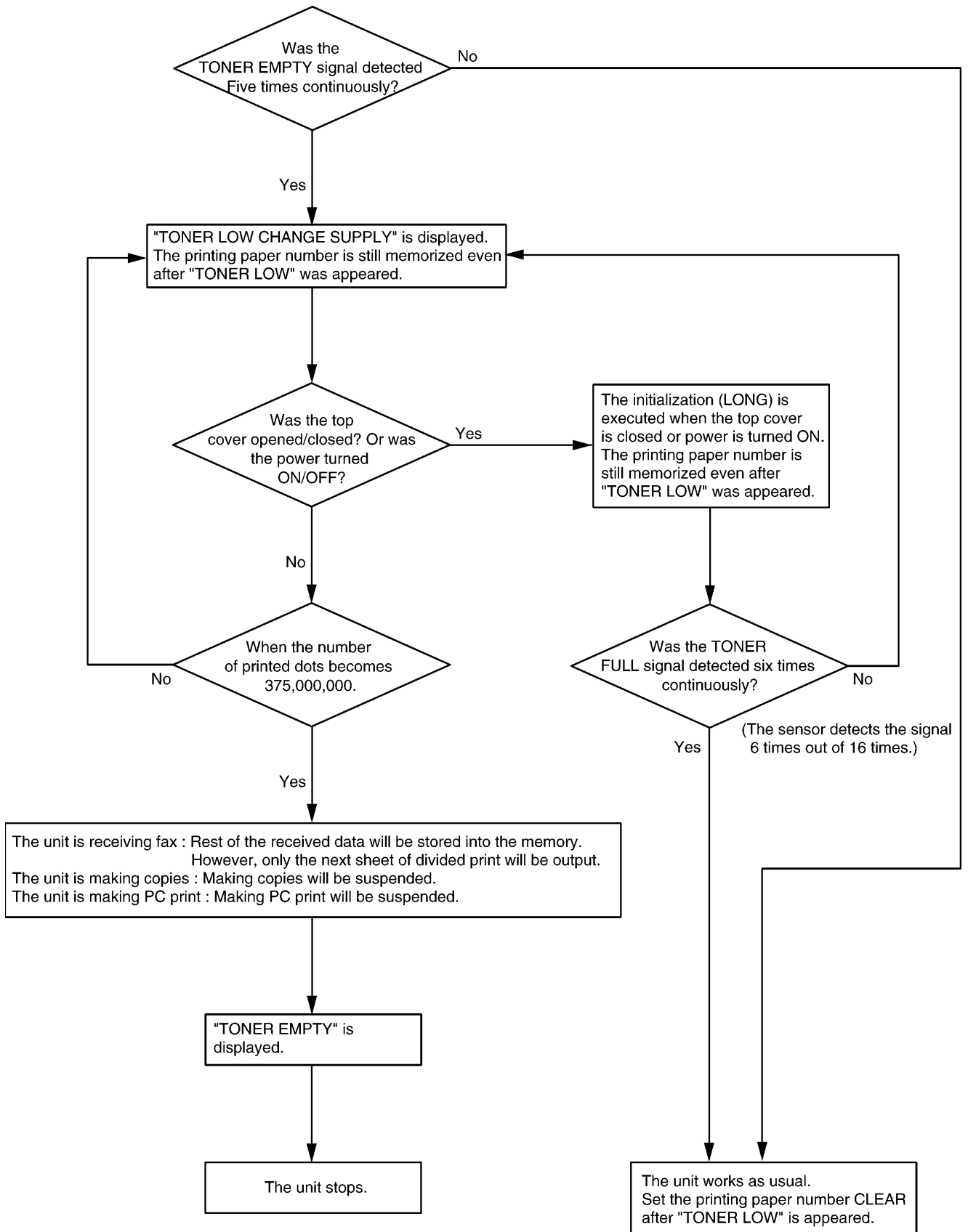


Toner Sensor

The rest of toner is detected by the move speed of the magnet put on the pendulum of Mixing Paddle. The pendulum is pushed up by the Mixing Paddle, then it falls down by its own weight. The rotation speed of paddle is set slower than the one of pendulum which falls down by its own weight. When the toner is still left, the pendulum falls and stops on the toner, then pushed by the paddle, it starts to rotate. When no toner is left, the pendulum falls to the bottom. Consequently the contact time between the magnet and Magnetic Field sensor IC becomes short when toner is left and long with no toner.

State	Display	Signal (IC300-AE22pin)
Toner Set (full)	-	level = about 0.3s
Near Empty Toner	TONER LOW	Low level > 540ms
Mixing Paddle does not rotate (“CHANGE DRUM”)	CHANGE DRUM	High level fix or Low level fix

6.12.9.1. Toner Detection Flow

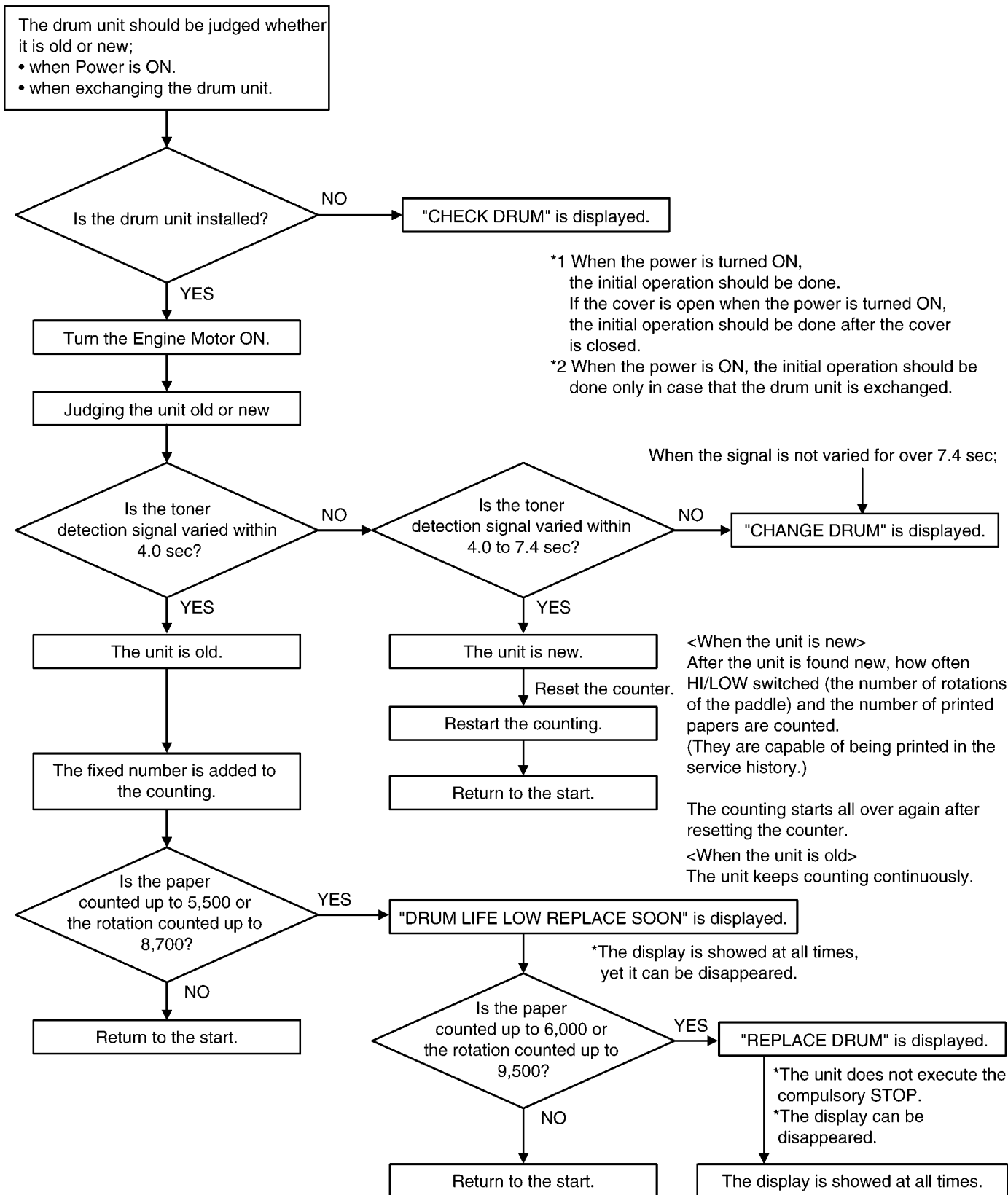


CAUTION:

1. Toner low can be judged by continuous 5-times TONER LOW signal at only printing.
(It is not executed at.)
2. Toner full can be judged by continuous 6-times TONER FULL signal at initialization.
(It is not executed at printing.)
3. In the ordinal operation, "CHANGE DRUM" is displayed when TONER EMPTY sensor does not generate a signal for 7.4 seconds.

6.12.9.2. Drum Detection

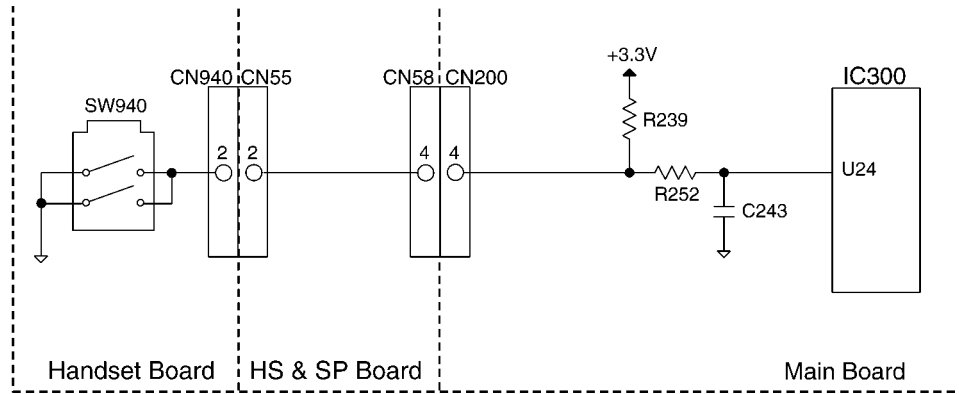
Detection Flowchart



6.12.10. Handset Hook Switch (KX-MB2025/KX-MB2030 ONLY)

When the handset is raised, the switch is turned off, and the signal of IC300-U24pin becomes low level.
 When the handset is settled, the switch is turned on, and the signal of IC300-U24pin becomes high level.

[Handset Hook SW sensor]

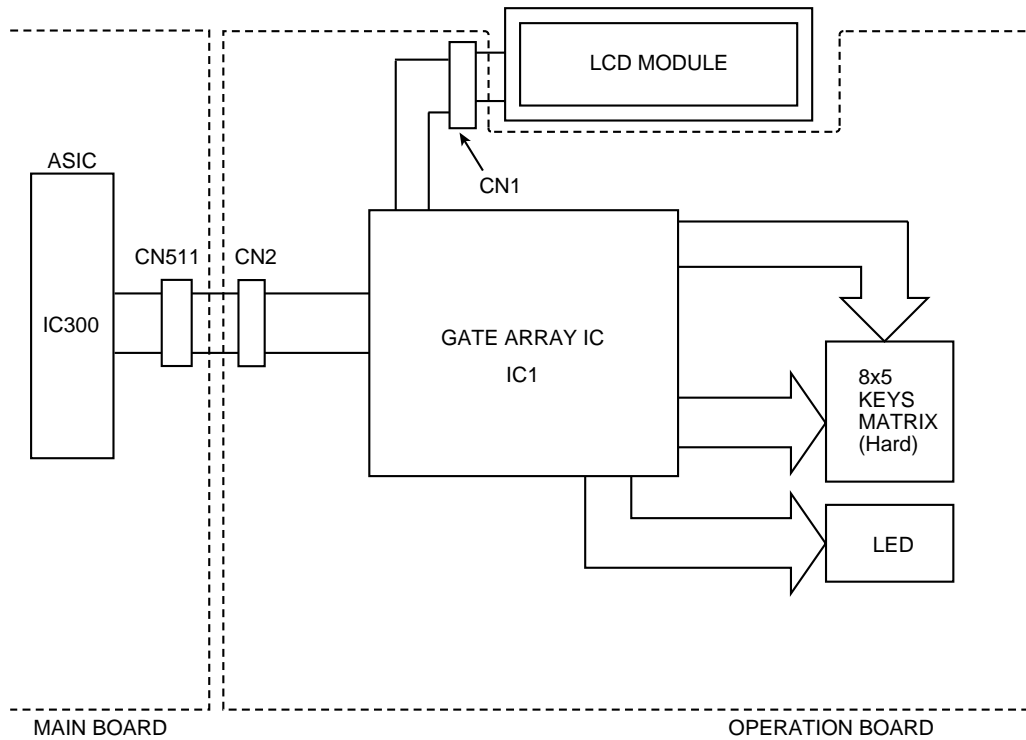


	SW940	Signal (IC300-U24pin)
ON HOOK	OPEN	High level
OFF HOOK	CLOSE	Low level

6.13. Operation Board Section

The unit consists of a LCD (Liquid crystal display), KEYS and LEDs (light-emitting diodes). They are controlled by the Gate Array (IC1) on Operation board and IC300 on Main board.

The key matrix table is shown below.



1. Key Matrix

a. Hard Scan

	KIN0	KIN1	KIN2	KIN3	KIN4	KIN5	KIN6	KIN7
KSL0	8	7	↓	9		S2	S4	RESOLUTION
KSL1	0	*	→	#	MONITOR (KX-MB2025/KX-MB2030 ONLY)		FLASH (KX-MB2025/KX-MB2030 ONLY)	CONTRAST
KSL2	2	1	MENU	3	REDIAL (KX-MB2025/KX-MB2030 ONLY)	S1		COLLATE
KSL3	STOP	←	↑	START	N in 1	COPY	S3	ZOOM

	KIN0	KIN1	KIN2	KIN3	KIN4	KIN5	KIN6	KIN7
KSL4 (LED7)	5	4	SET	6	FAX (KX- MB2025/KX- MB2030 ONLY)	SCAN	AUTO ANSWER	

*LED7 should be set to KSL4. "8 x 5" key matrix is executed by hardware scanning.

2. LED

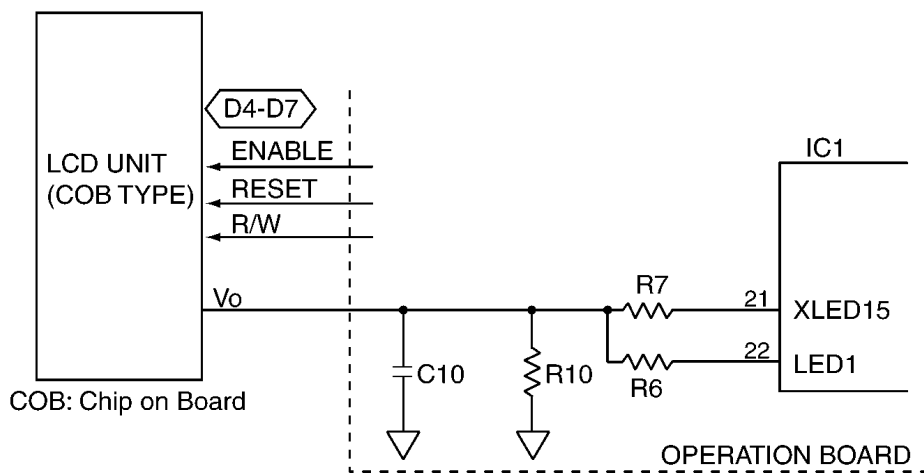
- AUTO ANSWER LED ON/OFF port---LED2 (IC1-36pin)
- FAX MODE LED ON/OFF port---XLED10 (IC1-9pin) (KX-MB2025/KX-MB2030 ONLY)
- COPY MODE LED ON/OFF port---XLED12 (IC1-15pin)
- SCAN MODE LED ON/OFF port---XLED11 (IC1-16pin)

6.14. LCD Section

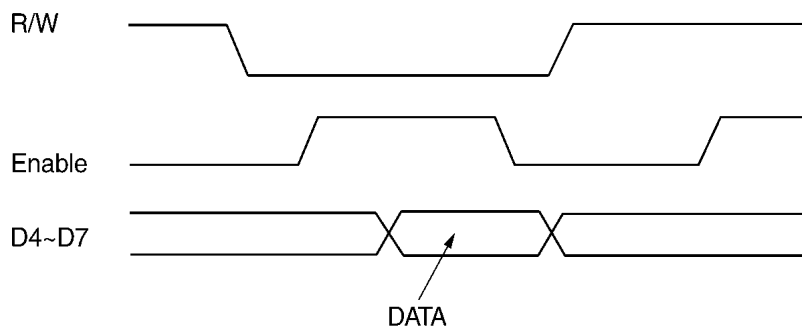
The Gate Array (IC1) works only for writing the ASCII code from the data bus (D4~D7). V0 is supplied for the LCD drive. R6 and R7 are density control resistors.

Consequently, in this unit, the timing (positive clock) is generated by the LCD interface circuitry in the gate array (IC1).

Circuit Diagram



Timing Chart



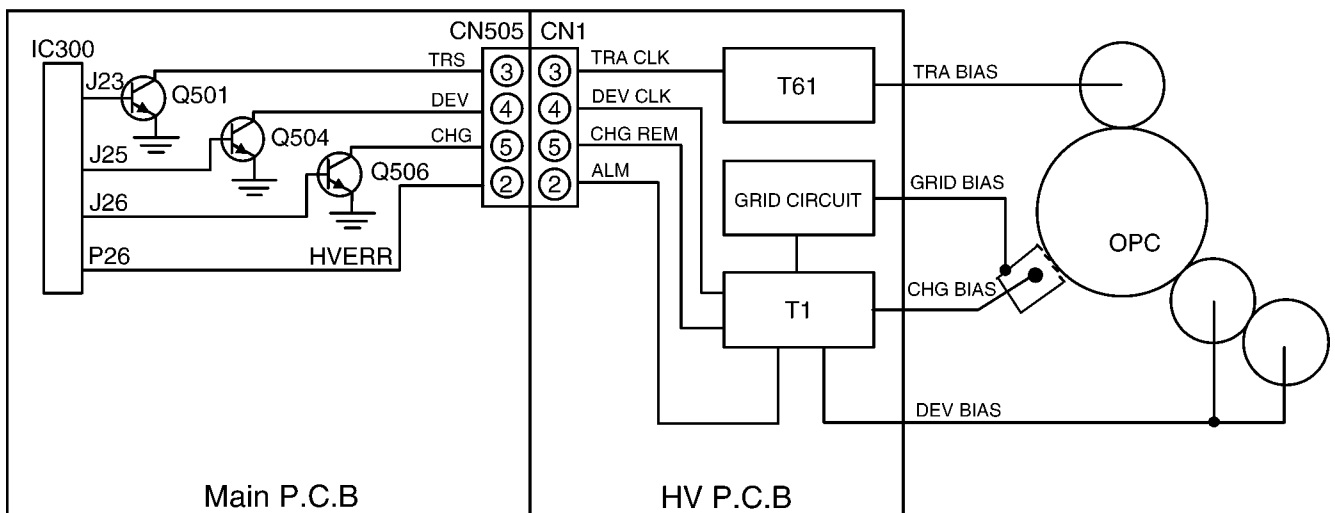
6.15. HVPS (High Voltage Power Supply) Section

6.15.1. HVPS Specification

	Charge (CHG)	Grid	Developing DC	Developing AC	Transfer (TRA) -	Transfer (TRA) +
Output Characteristics	Constant current	Constant voltage	Constant voltage	Constant voltage	Constant current (Variable)	Constant voltage
Nominal Output Voltage	4.35KV	475±10V	230V±15V (50~300V) PWM20% 300MΩ/220pF	330V±15Vp-p 34KHz	100MΩ (-1.48KV)	785V±100V
Nominal Output Current	200±15μA (19.4MΩ)	200μA	0.73μA	-----	-14.8μA±1μA (0μA~25μA) PWM 35%	1000MΩ (0.8μA)
Load Range	18.1MΩ~20.6MΩ	-----	100MΩ~2000MΩ	-----	33.8MΩ~284MΩ	10MΩ~1000MΩ
Constant Current Range	4.1~4.6KV	-----	-----	-----	-0.5KV ~ -4.2KV	-----

As for the developing voltage, the DC voltage and AC voltage are overlapped and output from an output terminal. There is one terminal for transcription output and + and - are switched to be output.

H.V.P.S.(High Voltage Power Supply) Circuit Diagram



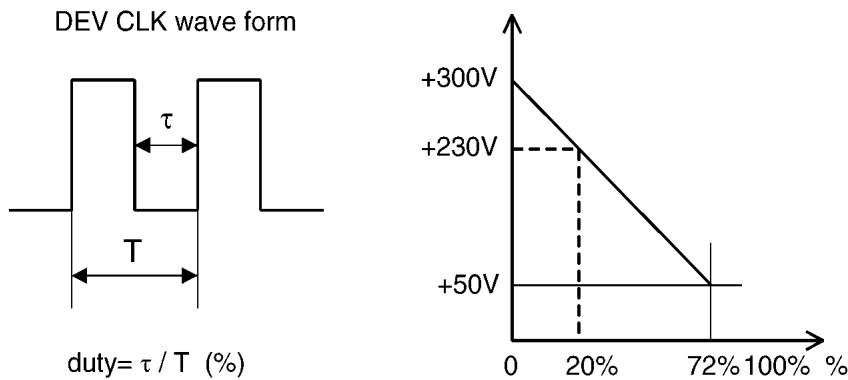
6.15.2. CHG-BIAS (Charge BIAS)/GRID/ UNIT

When IC300 turns on the transistor Q506, CHG REM becomes "L", and Charge BIAS (200μA) is output from CHG OUTPUT. GRID BIAS is generated by the current flowing in the GRID circuit via charge wire and GRID.

6.15.3. DEV DC BIAS UNIT

When CHG REM is "L", 5.425kHz PWM (Pulse Width Modulation) is input from IC300 to DEV CLK through Q504, developing voltage corresponding to the DUTY of PWM signal is output from DEV OUTPUT. Also DUTY is adjusted by the utilization of the developing unit and environmental temperature.

Transfer Current Variation by PWM Input



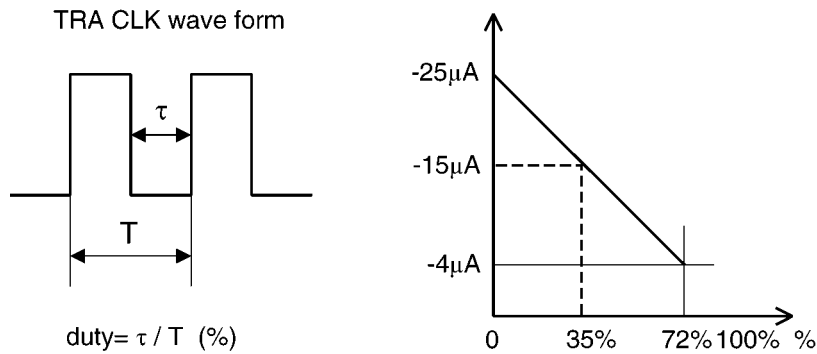
6.15.4. DEV AC BIAS UNIT

330 Vp-p 34 kHz wave of developing AC voltage is output from DEV OUTPUT. This voltage is overlapped with developing DC voltage and output as AC voltage that includes the development DC voltage.

6.15.5. TRA (+) BIAS (Transfer (+) BIAS)/TRA (-) BIAS (Transfer (-) BIAS) UNIT

When CHG REM is "L" and TRA CLK is "open", Charge BIAS (200 μ A) is output from CHG OUTPUT, and at the same time Transfer (+) BIAS (785V) is output from TRA OUTPUT. When 5.086kHz PWM (Pulse Width Modulation) signal is input to TRA CLK through transistor Q501, Transfer (-) CURRENT BIAS corresponding to PWM signal is output from TRA OUTPUT.

Transcription current variation corresponding to PWM input



6.16. Heat Lamp Control Circuit

The temperature of the fixing part of the Fuser Unit is converted to a Voltage by THERMISTOR and input to IC300_pinD19.

The heat lamp is turned on/off by the HTRCTL signal (IC300_pinAD19) through the photo triac (PC2) and the triac (SCR51).

Two thermostats are provided on the AC line as the safety protection devices.

Overheat protection circuit is provided so as to prevent the Fuser unit from overheating when CPU cannot control Fuser by any problem.

IC504 compares Thermistor voltage and predetermined voltage, which is determined by 3.3V, R581 and R584.

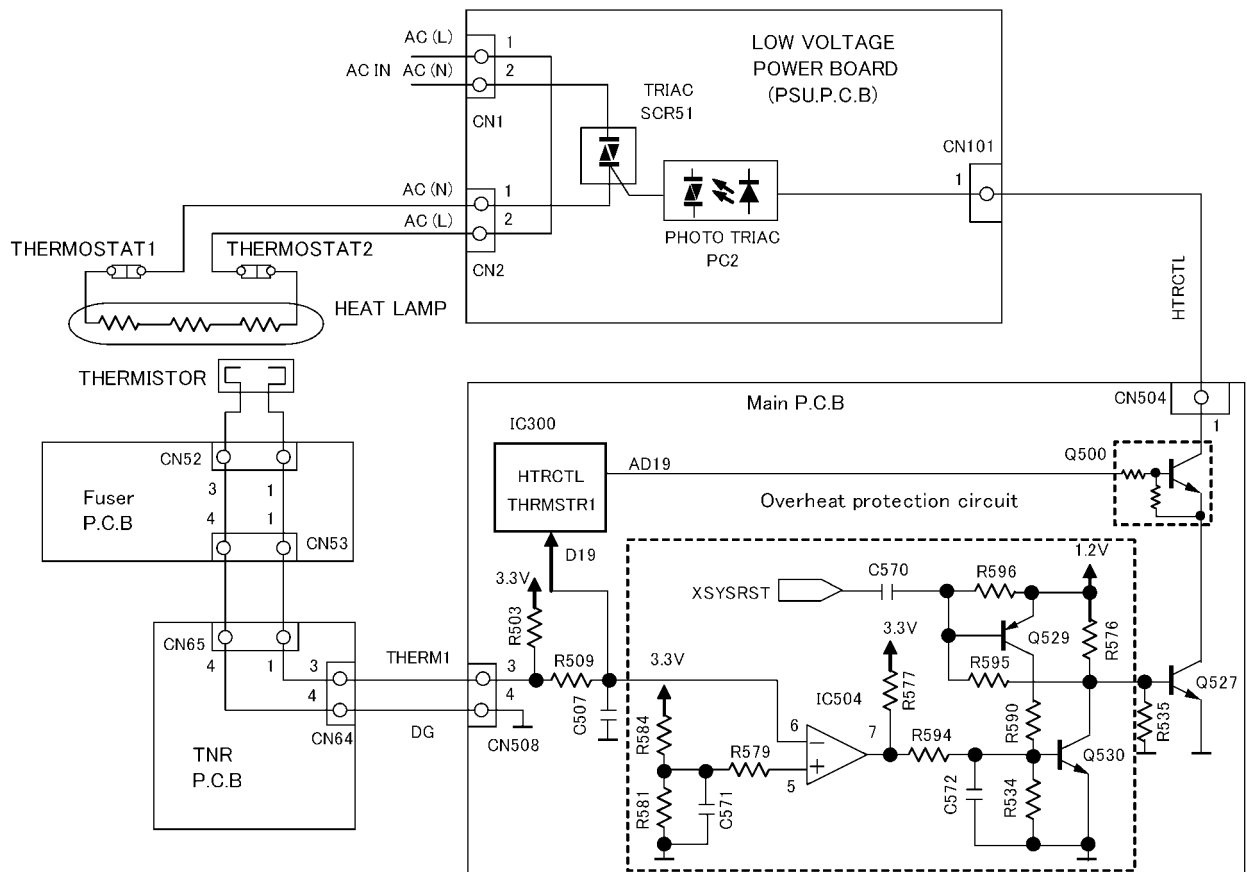
If Thermistor voltage becomes lower than this predetermined voltage (this voltage corresponds to about 240°C), output of IC504_pin 7 becomes "H", then Q530 and Q529 turn ON.

Once Q529 turns on, Q530 keeps on condition even after IC504_pin 7 becomes "L".

And this on condition of Q529 makes both Q500 and Q527 turn off.

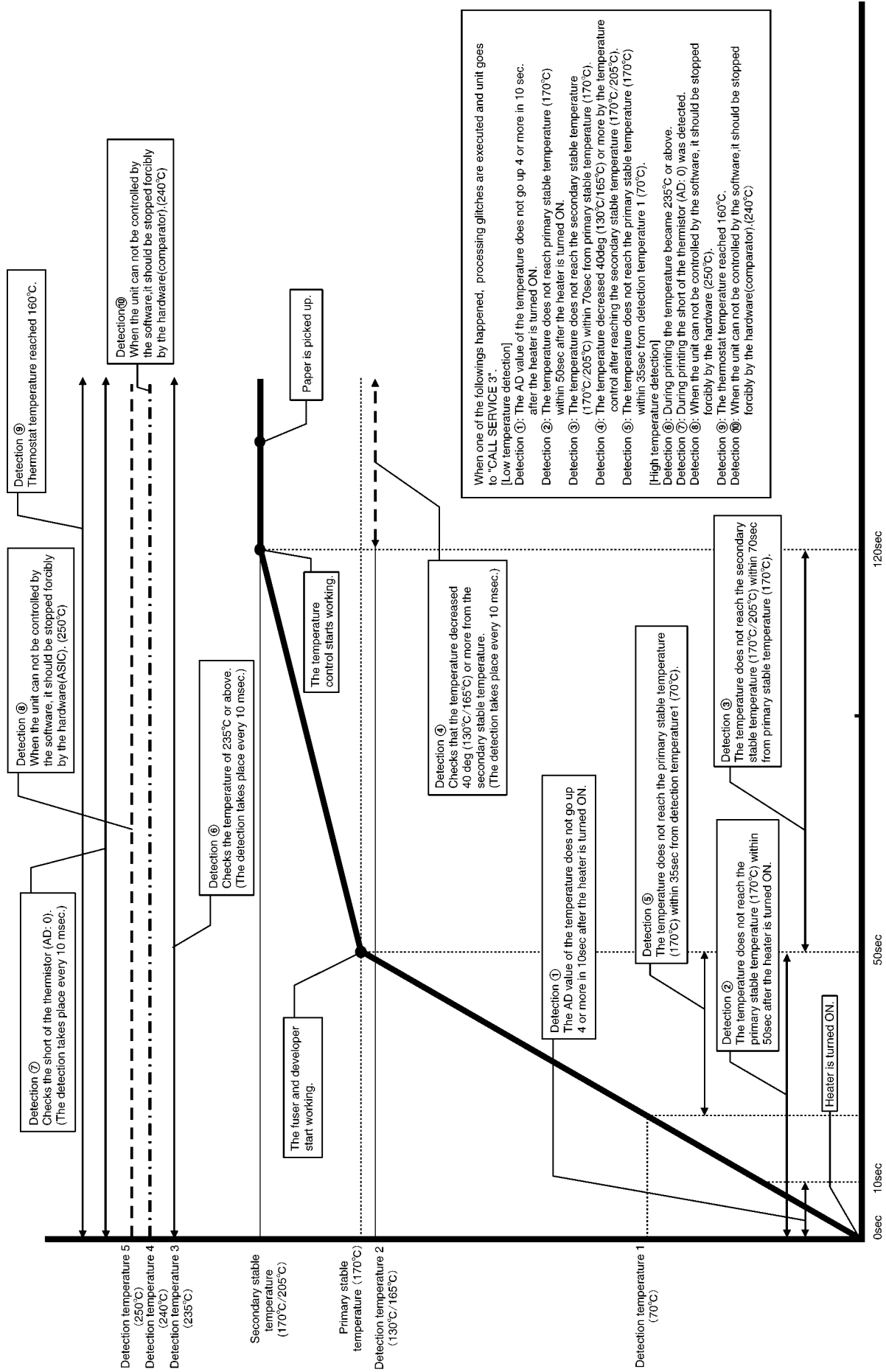
As the result, once Fuser temperature exceeds 240°C (this temperature is abnormal condition), no current is supplied to Fuser lamp.

Circuit Diagram



1. Heater control sequence at printing mode

- a. After receiving printing data, heater turns on.
- b. When heater temperature reaches to the Primary Stable Temperature (170°C).
- c. When heater temperature reaches to the Secondary Stable Temperature (195°C), paper feed starts.



When one of the followings happened, processing glitches are executed and unit goes to "CALL SERVICE 3".

[Low temperature detection]
Detection ①: The AD value of the temperature does not go up 4 or more in 10 sec. after the heater is turned ON.
Detection ②: The temperature does not reach primary stable temperature (170°C) within 50sec after the heater is turned ON.
Detection ③: The temperature does not reach the secondary stable temperature (170°C/205°C) within 70sec from primary stable temperature (170°C).
Detection ④: The temperature decreased 40deg (130°C/165°C) or more by the temperature control after reaching the secondary stable temperature (170°C/205°C).
Detection ⑤: The temperature does not reach the primary stable temperature (170°C) within 35sec from detection temperature 1 (70°C).
[High temperature detection]
Detection ⑥: During printing the temperature became 235°C or above.
Detection ⑦: During printing the short of the thermistor (AD: 0) was detected.
Detection ⑧: When the unit can not be controlled by the software, it should be stopped forcibly by the hardware (250°C).
Detection ⑨: The thermostat temperature reached 160°C.
Detection ⑩: When the unit can not be controlled by the software, it should be stopped forcibly by the hardware(comparator). (240°C)

2. Safety Protection

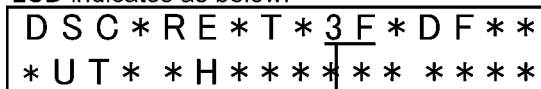
- a. 2 thermostats are provided with the unit, and the heater circuit is shut down when their surface temperatures became over 160 °C.
- b. The heater control circuit of IC300 has the built-in function that the hardware turns off the heater control automatically if the software does not keep turning ON the heater every a fixed time.
- c. When the temperature became over 250 °C, the heater control circuit of IC300 is turned off forcibly and system reset will be executed.

3. The correspondence readings between temperature measured by fixing thermistor and HEX readings

You can read the AD value of heater temperature in service mode.

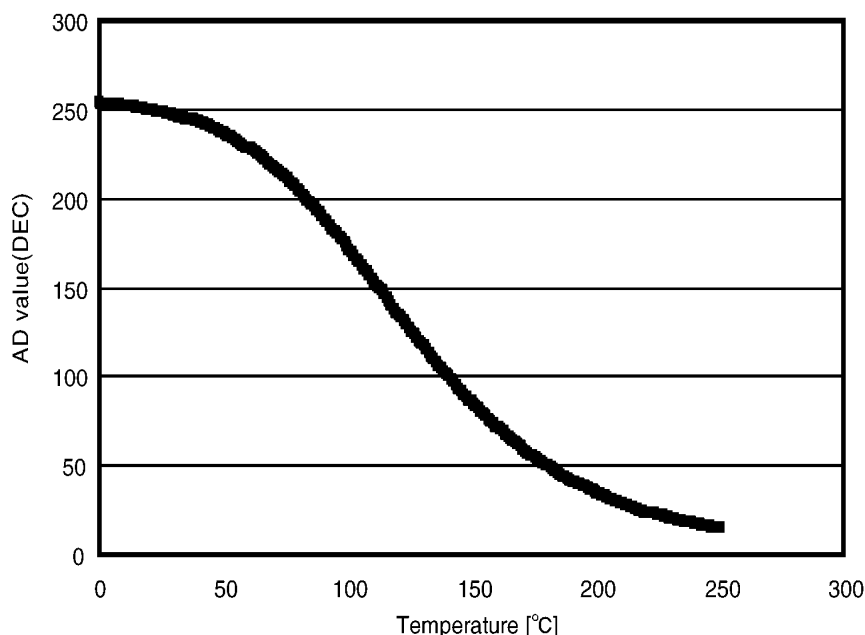
Push the keys [MENU]-[#]-[9][0][0][0]-[*]-[8][1][5].

LCD indicates as below.



These 2 digits mean the AD value(HEX) according to the table below.

Heat Roller Temperature - Voltage



Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value	
	DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX
0	254	FE	51	236	EC	101	171	AB	151	84	54	201	34	22
1	253	FD	52	235	EB	102	170	AA	152	83	53	202	34	22
2	253	FD	53	235	EB	103	168	A8	153	82	52	203	33	21
3	253	FD	54	234	EA	104	166	A6	154	80	50	204	33	21
4	253	FD	55	233	E9	105	164	A4	155	79	4F	205	32	20
5	253	FD	56	232	E8	106	162	A2	156	78	4E	206	31	1F
6	253	FD	57	231	E7	107	160	A0	157	76	4C	207	31	1F
7	253	FD	58	230	E6	108	159	9F	158	75	4B	208	30	1E
8	253	FD	59	229	E5	109	157	9D	159	74	4A	209	30	1E
9	252	FC	60	229	E5	110	155	9B	160	72	48	210	29	1D
10	252	FC	61	228	E4	111	153	99	161	71	47	211	29	1D
11	252	FC	62	227	E3	112	151	97	162	70	46	212	28	1C
12	252	FC	63	226	E2	113	149	95	163	69	45	213	28	1C
13	252	FC	64	225	E1	114	148	94	164	67	43	214	27	1B
14	252	FC	65	224	E0	115	146	92	165	66	42	215	27	1B
15	251	FB	66	223	DF	116	144	90	166	65	41	216	26	1A
16	251	FB	67	222	DE	117	142	8E	167	64	40	217	26	1A
17	251	FB	68	220	DC	118	140	8C	168	63	3F	218	25	19
18	251	FB	69	219	DB	119	138	8A	169	62	3E	219	25	19
19	250	FA	70	218	DA	120	136	88	170	61	3D	220	24	18

Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value	
	DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX
20	250	FA	71	217	D9	121	135	87	171	59	3B	221	24	18
21	250	FA	72	216	D8	122	133	85	172	58	3A	222	24	18
22	250	FA	73	215	D7	123	131	83	173	57	39	223	23	17
23	249	F9	74	213	D5	124	129	81	174	56	38	224	23	17
24	249	F9	75	212	D4	125	127	7F	175	55	37	225	22	16
25	249	F9	76	211	D3	126	125	7D	176	54	36	226	22	16
26	249	F9	77	209	D1	127	124	7C	177	53	35	227	22	16
27	248	F8	78	208	D0	128	122	7A	178	52	34	228	21	15
28	248	F8	79	207	CF	129	120	78	179	51	33	229	21	15
29	248	F8	80	205	CD	130	118	76	180	50	32	230	20	14
30	247	F7	81	204	CC	131	117	75	181	50	32	231	20	14
31	247	F7	82	202	CA	132	115	73	182	49	31	232	20	14
32	246	F6	83	201	C9	133	113	71	183	48	30	233	19	13
33	246	F6	84	199	C7	134	111	6F	184	47	2F	234	19	13
34	246	F6	85	198	C6	135	110	6E	185	46	2E	235	19	13
35	245	F5	86	196	C4	136	108	6C	186	45	2D	236	18	12
36	245	F5	87	195	C3	137	106	6A	187	44	2C	237	18	12
37	244	F4	88	193	C1	138	105	69	188	44	2C	238	18	12
38	244	F4	89	192	C0	139	103	67	189	43	2B	239	18	12
39	243	F3	90	190	BE	140	101	65	190	42	2A	240	17	11
40	243	F3	91	188	BC	141	100	64	191	41	29	241	17	11
41	242	F2	92	187	BB	142	98	62	192	41	29	242	17	11
42	242	F2	93	185	B9	143	97	61	193	40	28	243	16	10
43	241	F1	94	183	B7	144	95	5F	194	39	27	244	16	10
44	241	F1	95	182	B6	145	93	5D	195	38	26	245	16	10
45	240	F0	96	180	B4	146	92	5C	196	38	26	246	16	10
46	239	EF	97	178	B2	147	90	5A	197	37	25	247	15	0F
47	239	EF	98	177	B1	148	89	59	198	36	24	248	15	0F
48	238	EE	99	175	AF	149	87	57	199	36	24	249	15	0F
49	237	ED	100	173	AD	150	86	56	200	35	23	250	15	0F
50	237	ED												

Note: The value is displayed on LCD at **Test Functions** (P.92) [#815].

4. The correspondence readings between room temperature measured by thermistor and HEX readings
 You can read the AD value of room temperature in service mode.
 Push the keys [MENU]-[#]-[9][0][0][0]-[*]-[8][1][5].

LCD indicates as below.

```

D S C * R E * T * 3 F * D F * *
* U T * * H * * * * * * * * * *
    
```

↓
 These 2 digits mean the AD value(HEX)
 according to the table below.

Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value	
	DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX
-40	230	E6	-5	164	A4	30	80	50	65	32	20	100	13	0D
-39	229	E5	-4	161	A1	31	78	4E	66	31	1F	101	12	0C
-38	228	E4	-3	159	9F	32	76	4C	67	30	1E	102	12	0C
-37	226	E2	-2	156	9C	33	74	4A	68	29	1D	103	12	0C
-36	225	E1	-1	154	9A	34	72	48	69	28	1C	104	11	0B
-35	224	E0	0	151	97	35	71	47	70	28	1C	105	11	0B
-34	222	DE	1	149	95	36	69	45	71	27	1B	106	11	0B
-33	221	DD	2	146	92	37	67	43	72	26	1A	107	11	0B
-32	219	DB	3	144	90	38	65	41	73	26	1A	108	10	0A
-31	218	DA	4	141	8D	39	64	40	74	25	19	109	10	0A
-30	216	D8	5	139	8B	40	62	3E	75	24	18	110	10	0A
-29	215	D7	6	136	88	41	60	3C	76	24	18	111	10	0A
-28	213	D5	7	134	86	42	59	3B	77	23	17	112	9	09

Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value		Temperature [°C]	AD value	
	DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX		DEC	HEX
-27	211	D3	8	131	83	43	57	39	78	22	16	113	9	09
-26	209	D1	9	129	81	44	56	38	79	22	16	114	9	09
-25	208	D0	10	126	7E	45	54	36	80	21	15	115	9	09
-24	206	CE	11	124	7C	46	53	35	81	21	15	116	9	09
-23	204	CC	12	121	79	47	51	33	82	20	14	117	8	08
-22	202	CA	13	119	77	48	50	32	83	20	14	118	8	08
-21	200	C8	14	116	74	49	49	31	84	19	13	119	8	08
-20	198	C6	15	114	72	50	47	2F	85	19	13	120	8	08
-19	196	C4	16	111	6F	51	46	2E	86	18	12	121	8	08
-18	194	C2	17	109	6D	52	45	2D	87	18	12	122	7	07
-17	192	C0	18	107	6B	53	44	2C	88	17	11	123	7	07
-16	189	BD	19	104	68	54	43	2B	89	17	11	124	7	07
-15	187	BB	20	102	66	55	41	29	90	16	10	125	7	07
-14	185	B9	21	100	64	56	40	28	91	16	10			
-13	183	B7	22	97	61	57	39	27	92	16	10			
-12	180	B4	23	95	5F	58	38	26	93	15	0F			
-11	178	B2	24	93	5D	59	37	25	94	15	0F			
-10	176	B0	25	91	5B	60	36	24	95	14	0E			
-9	173	AD	26	88	58	61	35	23	96	14	0E			
-8	171	AB	27	86	56	62	34	22	97	14	0E			
-7	169	A9	28	84	54	63	33	21	98	13	0D			
-6	166	A6	29	82	52	64	33	21	99	13	0D			

6.17. Main Board Power Supply Section

6.17.1. 3.3V and 1.2V Power Supply

1. General

3.3V and 1.2V Power Supply section mainly consist of following 3 circuits.

- (1) DC-DC converter circuit
- (2) ULVO (Under Voltage Lock Out) circuit
- (3) OVP(Over voltage Protection) circuit

2. DC-DC converter circuit

IC800 is 2ch-output PWM type DC-DC converter controller, which makes up step down type DC-DC converter circuit with Pch power MOSFET Q802 and Q803, coil L800 and L801, shottky diode D800 and D803, capacitor C800, C802, C817 and C818.

The oscillation frequency in operation of this DC-DC converter is set to about 410KHz.

Gate clamp circuits suppress the gate voltages of Q802 and Q803 to appropriate level.

3. ULVO (Under Voltage Lock Out) circuit

The purpose of this circuit is to stop operation of DC-DC converter when input voltage (24V) is extremely low.

If 24V line becomes less than 16V, Q800 turns off and Q801 turns on, then pin2 of IC800 becomes "L".

Since pin2 of IC800 is chip select signal, when this pin becomes "L", IC800 stop operation.

4. OVP(Over voltage Protection) circuit

This circuit is provided to prevent all Ics to which 3.3V or 1.2V is supplied from extra damage when 3.3V or 1.2V becomes higher voltage by any accident.

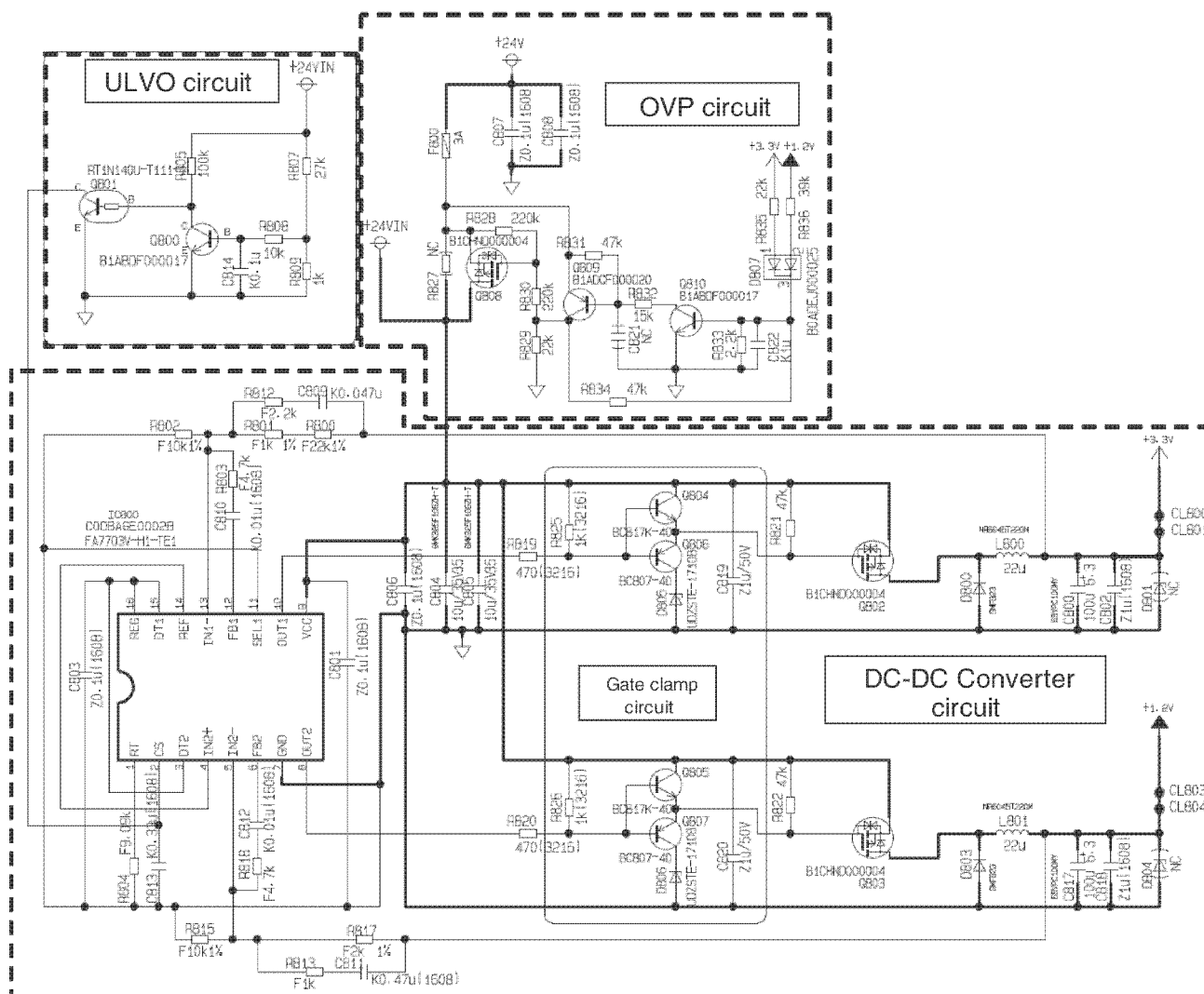
If 3.3V or 1.2V becomes more than 5V by some contingency, Q810 turns on.

When Q810 turns on, Q809 also turns on. Once Q810 turns on, on condition of Q810 and Q809 are maintained.

Since turning on of Q809 makes Q808 turns off, input voltage (24V) supply to DC-DC converter circuit is cut off.

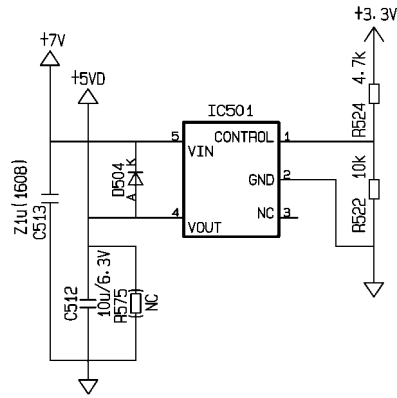
Thus once 3.3V or 1.2V becomes over voltage (more than 5V), output of DC-DC converter circuit is shut down.

5. Circuit Diagram

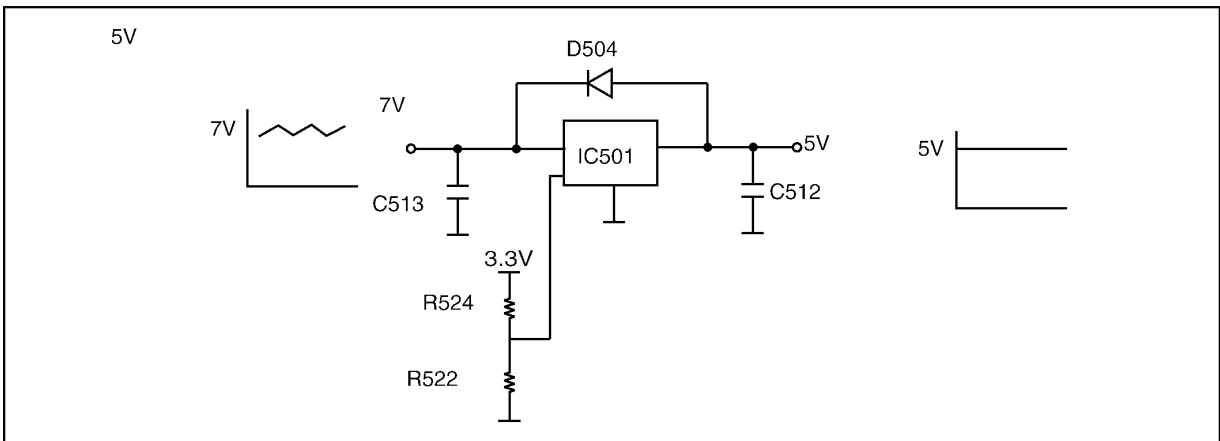
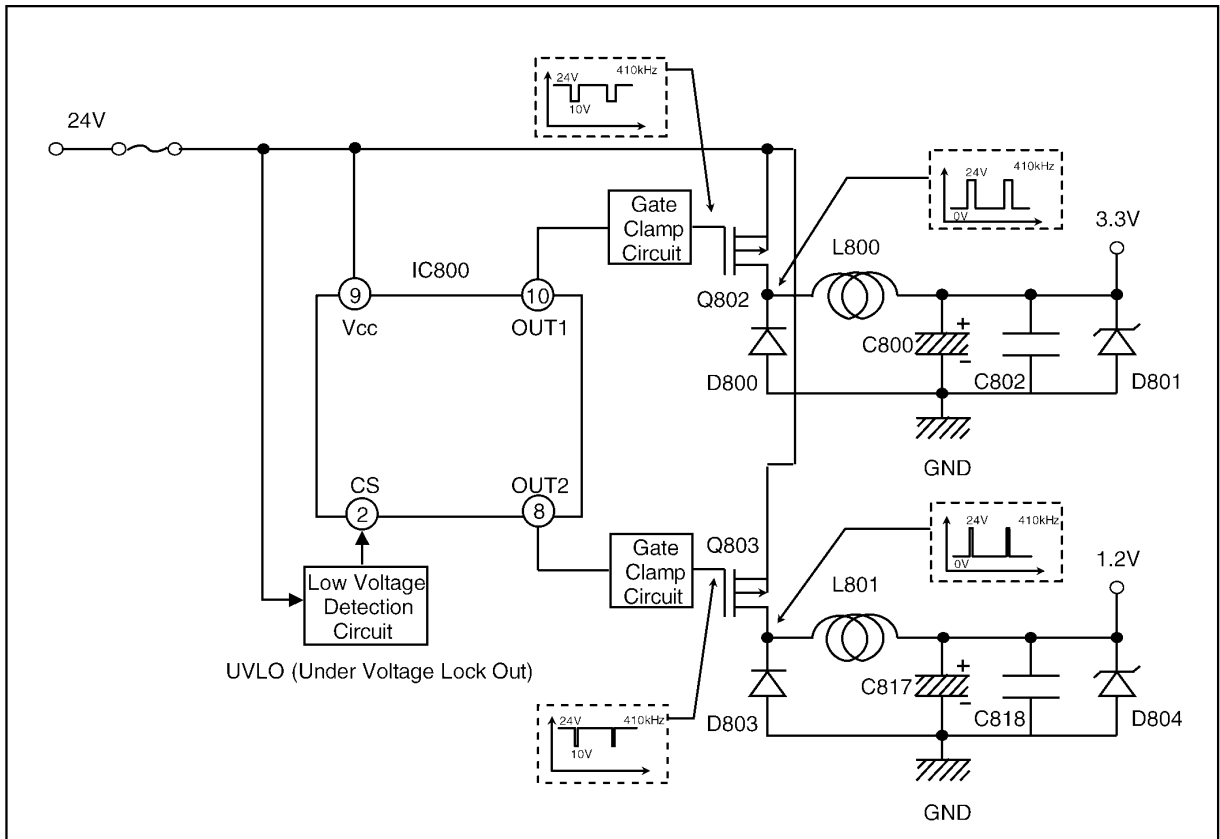


6.17.2. 5V Power Supply

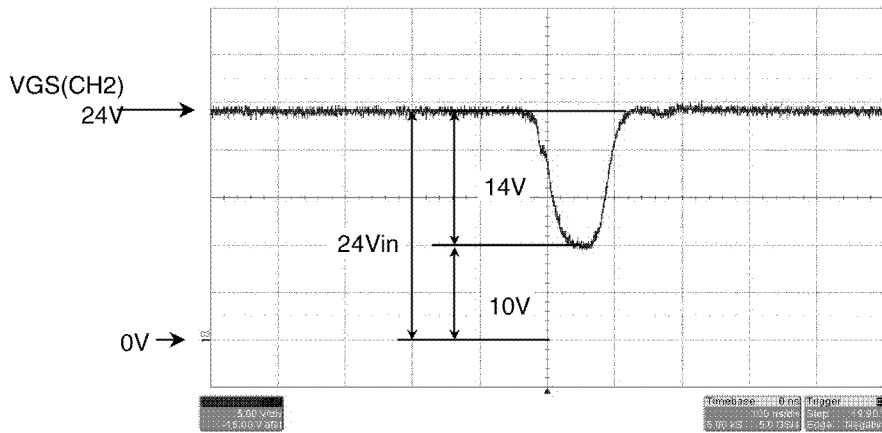
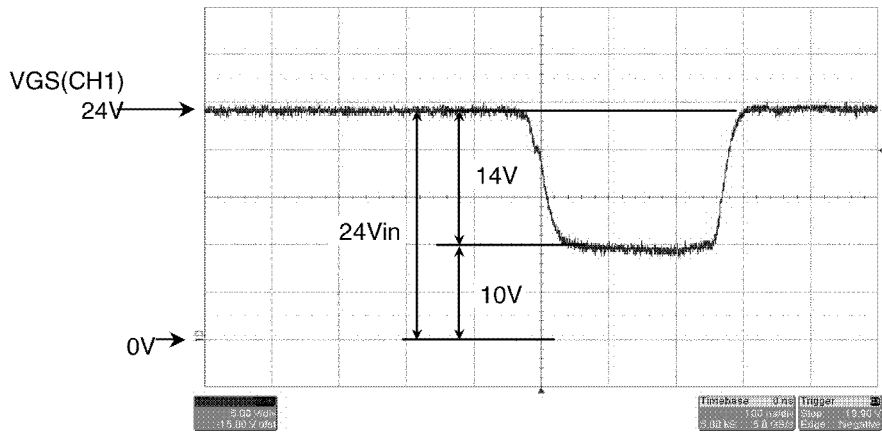
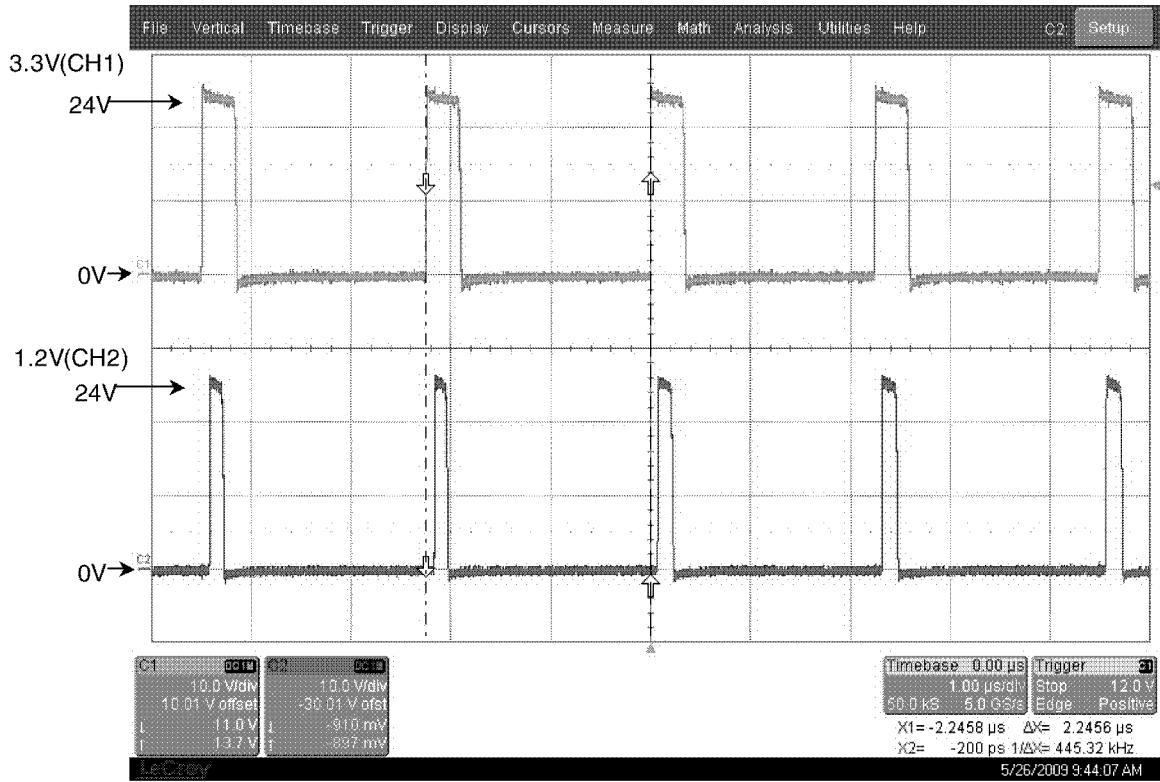
5V is generated from 7V by IC501 when 3.3V line voltage is supplied.



6.17.3. Block Diagram of each Power Supply

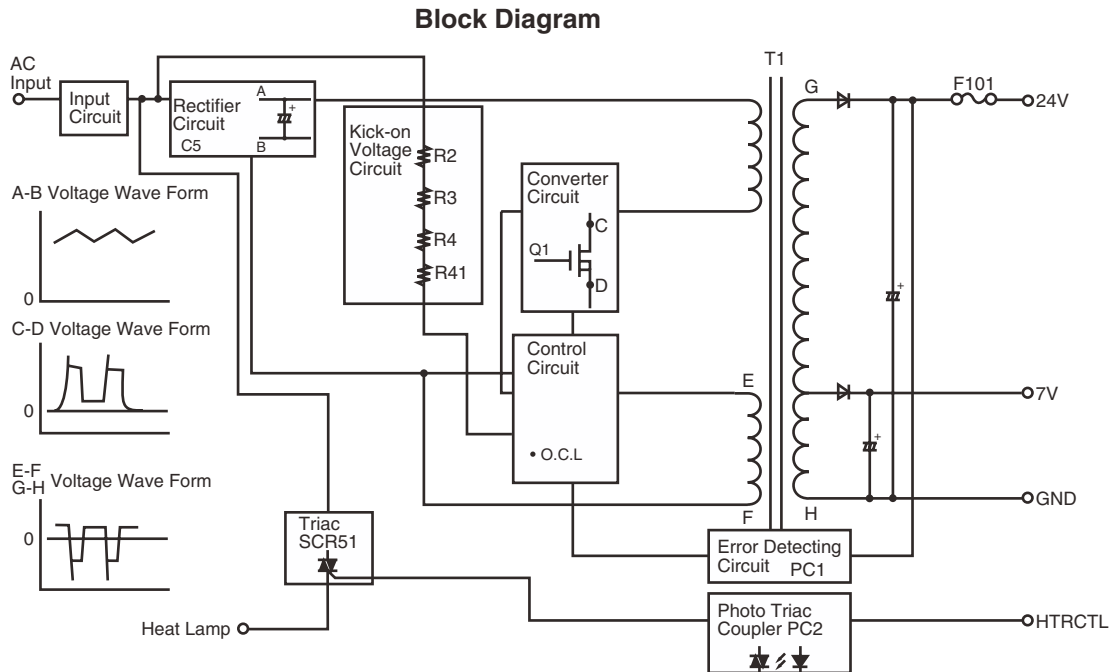


wave form



6.18. Power Supply Board Section

The power supply board circuit generates +7V and +24Vdc. It also supplies AC voltage to the halogen heat lamp in the fuser unit. The power supply board uses the switching regulator method.



[Input Circuit]

The input current goes into the input rectifier circuit through the filter circuit. The filter circuit decreases the noise voltage and the noise electric field strength.

[Rectifier Circuit]

The input circuit is rectified by D1 and charge C5 to make DC voltage. Then it supplies power to the converter circuit.

[Kick-on Voltage Circuit]

Bias is applied to the Q1 gate via this circuit when the AC power is turned on and Q1 begins operating.

[Over Current Limiter (O.C.L.)]

The highest drain current of Q1 is limited by a limit current circuit. The 24V output is limited by this circuit.

[Over Voltage Circuit]

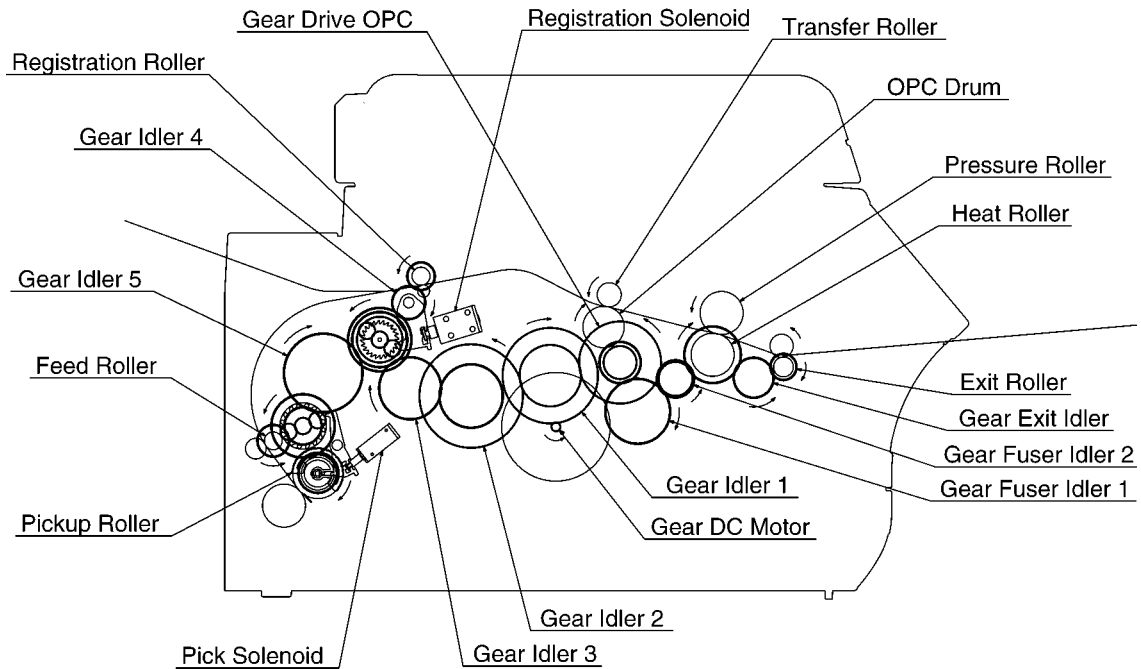
If the 24V output increases because the error detecting circuit or control circuit is broken. Control circuit will recognize this signal and output becomes 0V. D104 and D503 also prevent over voltage.

Dummy load method (to quickly check the power supply output)

Refer to **Power Supply Board Section (P.206)**

6.19. Mechanical Operation

6.19.1. Printing



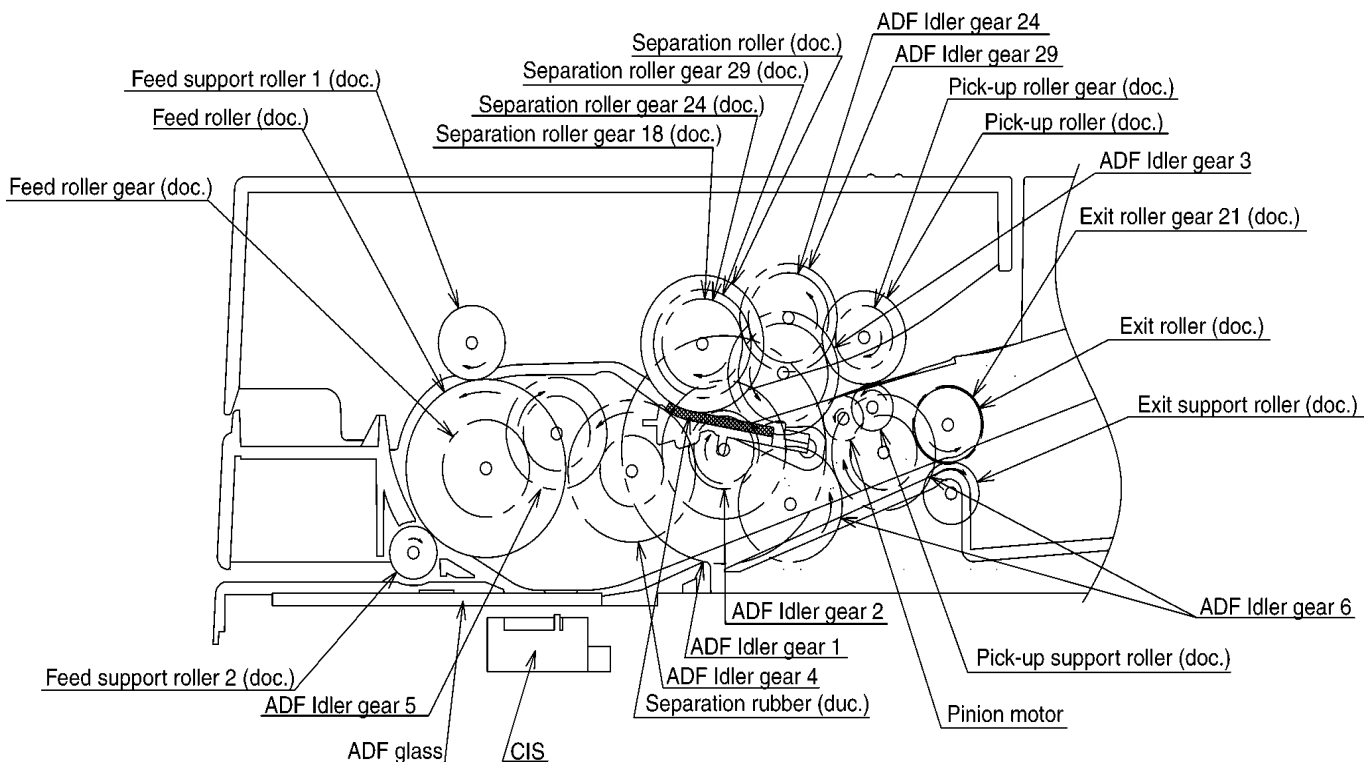
The main motor gear rotates as shown in figure.

GEAR DRIVE OPC drives each part of fixing and developing.

When paper is fed from the standard cassette, the plunger of solenoid is pulled to drive PICK UP ROLLER (STANDARD), then the roller starts feeding paper.

When paper is fed manually, first the plunger of solenoid is pulled to stop REGISTRATION ROLLER. After a few moments turn off the solenoid to drive REGISTRATION ROLLER, then the roller starts feeding paper.

6.19.2. Scanning (ADF) (KX-MB2010/2025/2030 ONLY)



- DOCUMENT TRANSMISSION (ADF)

The frictional force between SEPARATION ROLLER (DOC.) and SEPARATION RUBBER makes PICK UP ROLLER (DOC.) move downward from standby position to pick up paper.

Pick-up paper is separated by SEPARATION ROLLER (DOC.) and SEPARATION RUBBER (DOC.), and then fed by FEED ROLLER (DOC.).

After being read by CIS, the paper is ejected by ROLLER DOC EJECT.

- DOCUMENT TRANSMISSION (SCANNER GLASS)

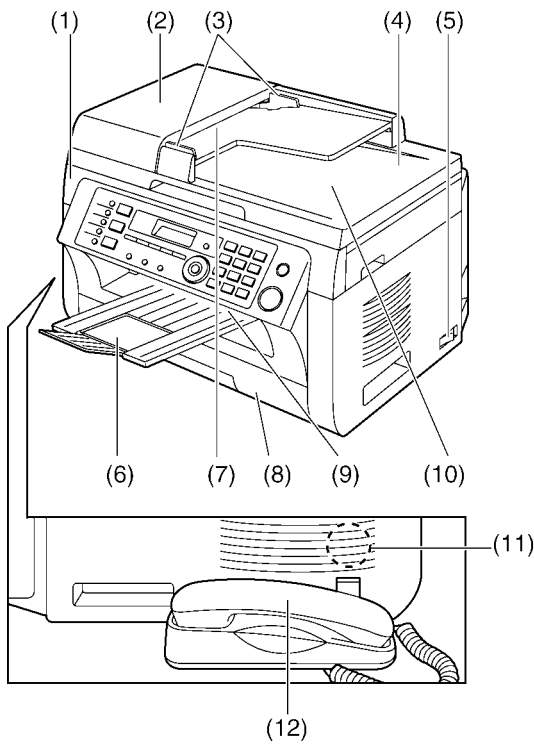
CIS Module is carried by the belt timing along the shaft carriage to the reading start position.

Then it goes back to the home position reading the document through the glass.

7 Location of Controls and Components

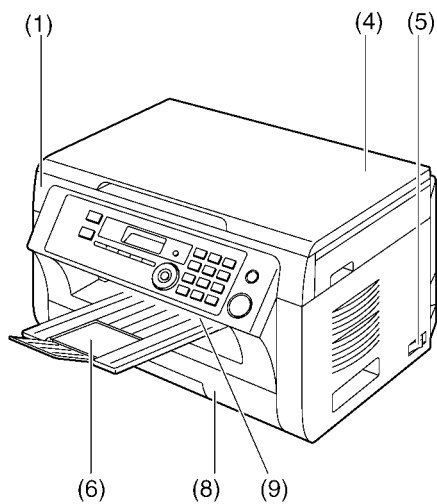
7.1. Overview

7.1.1. Front view



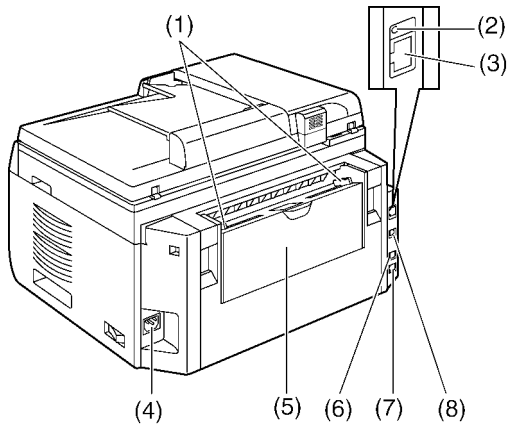
- (1) Top cover
- (2) ADF (Automatic Document Feeder) cover (KX-MB2010/2025/2030 only)
- (3) Document guides (KX-MB2030 only)
- (4) Document cover
- (5) Power Switch
- (6) Output tray
- (7) Document entrance (KX-MB2030 only)
- (8) Paper input tray
- (9) Recording paper exit
- (10) Document exit (KX-MB2030 only)
- (11) Speaker (KX-MB2025/KX-MB2030 only)
- (12) Handset (KX-MB2025/KX-MB2030 only)

*This pictured model is MB2030.



* The pictured model is KX-MB1900.

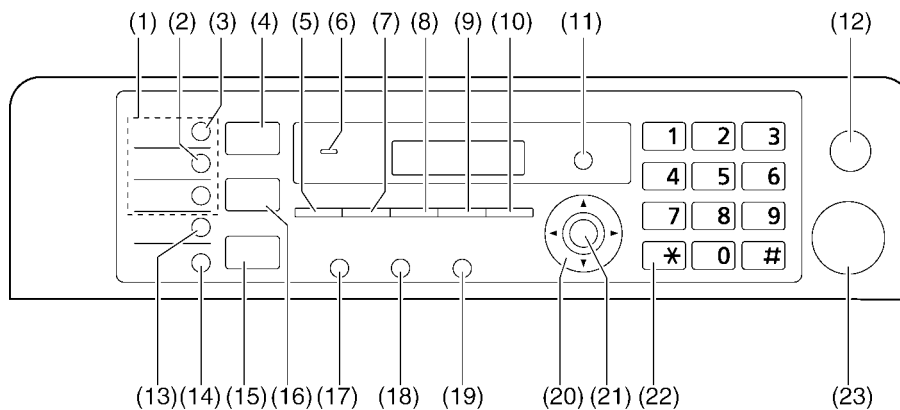
7.1.2. Rear view



- (1) Recording paper guides
- (2) LED (KX-MB2010/KX-MB2030 only)
- (3) LAN interface connector (KX-MB2010/KX-MB2030 only)
- 10Base-T/100Base-TX
- (4) Power inlet
- (5) Manual input tray (Rear cover)
- (6) External telephone jack (KX-MB2025/KX-MB2030 only)
- (7) Telephone line jack (KX-MB2025/KX-MB2030 only)
- (8) USB interface connector

*The pictured model is KX-MB2030.

7.2. Control Panel



* The pictured model is KX-MB2025 / KX-MB2030.

- (1) Station keys (KX-MB2025/KX-MB2030 only)
- (2) Manual Broad (KX-MB2025/KX-MB2030 only)
- (3) Broadcast (KX-MB2025/KX-MB2030 only)
- (4) Scan
- (5) Copy Size
- (5) Phonebook (KX-MB2025/KX-MB2030 only)
- (6) For beep sounds (KX-MB1900/KX-MB2010 only)
- (7) Contrast
- (8) Resolution
- (9) Zoom
- (9) Quick Scan (KX-MB2025/KX-MB2030 only)
- (10) Page Layout
- (10) Caller ID (KX-MB2025/KX-MB2030 only)
- (11) Menu
- (12) Stop
- (13) Lower (KX-MB2025/KX-MB2030 only)
- (14) Fax Auto Answer (KX-MB2025/KX-MB2030 only)
- (15) Fax (KX-MB2025/KX-MB2030 only)
- (16) Copy
- (17) Redial / Pause (KX-MB2025/KX-MB2030 only)
- (18) Flash (KX-MB2025/KX-MB20300 only)
- (19) Monitor (KX-MB2025/KX-MB2030 only)
- (20) Navigator key
- (21) Set
- (22) Tone (KX-MB2025/KX-MB2030 only)
- (23) Start

8 Installation Instructions

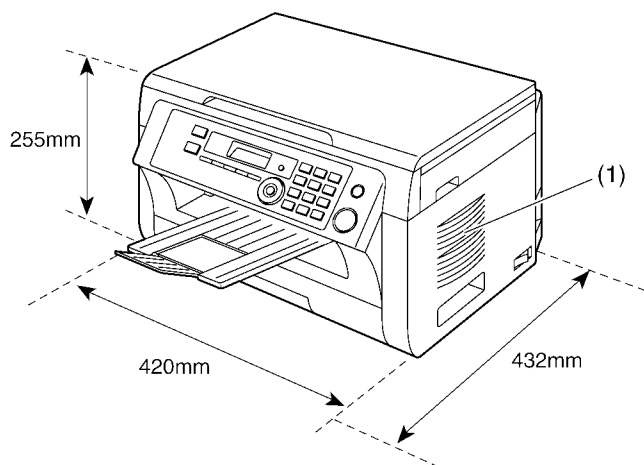
8.1. Installation

8.1.1. Installation Space

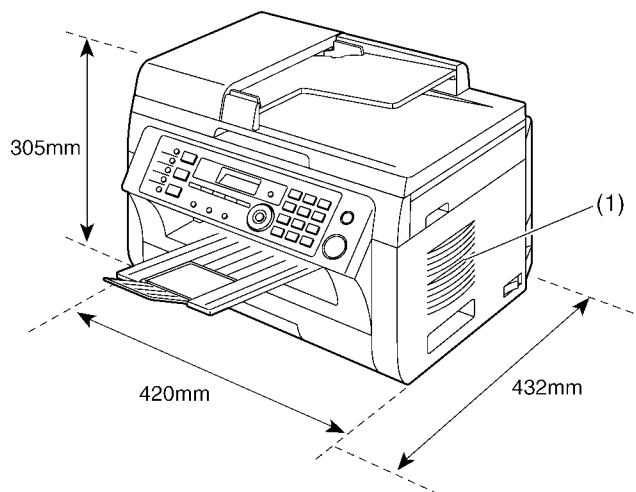
The space required to install the unit is shown below.

The dimensions given are necessary for the unit to operate efficiently.

KX-MB1900



KX-MB2010/2025/2030



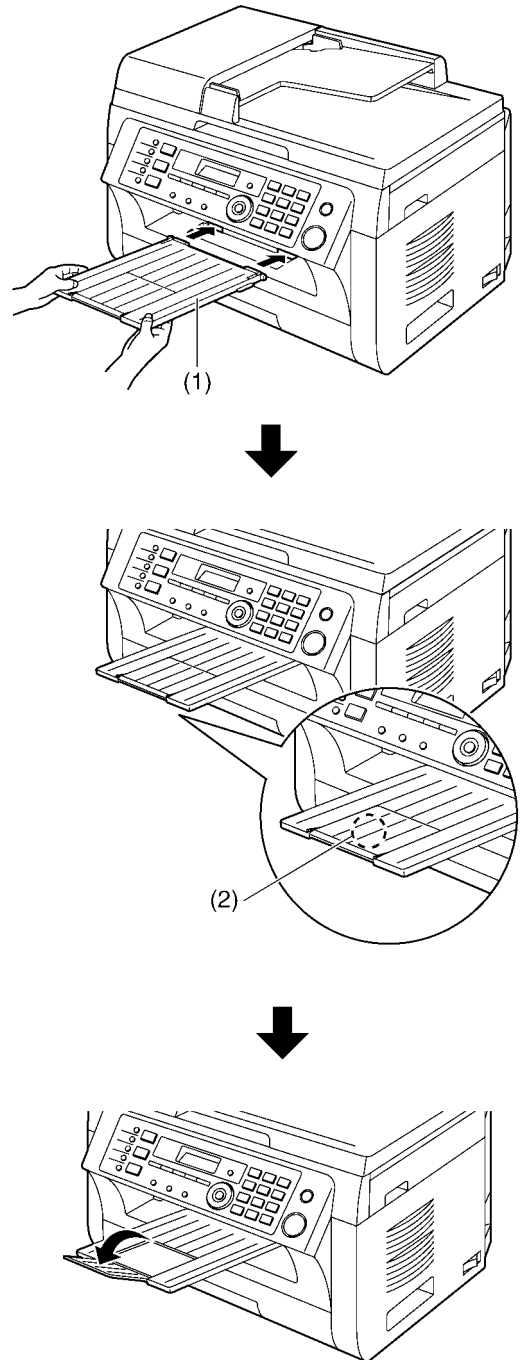
*This pictured models is KX-MB2030.

Note:

- Avoid excessive heat or humidity.
- Use the unit within the following ranges of temperature and humidity.
- Ambient temperature: 10°C to 32.5°C
- Relative humidity: 20% to 80% (without condensation)
- Power cord length should be less than 5 meters. Using a longer cord may reduce the voltage or cause malfunctions.
- Avoid direct sunlight.
- Do not install near devices which contain magnets or generate magnetic fields.
- Do not subject the unit to strong physical shock or vibration.
- Keep the unit clean. Dust accumulation can prevent the unit from functioning properly.
- To protect the unit from damage, hold both sides when you move it.
- Do not place the unit in an area where the paper tray may be obstructed (i.e., by a wall, etc.)
- Keep this surface (1) away from walls etc. more than 50 mm to let the unit cool down.

8.1.2. OUTPUT TRAY

1. Insert the output tray extender (1) until it clicks into place, and then press the centre part (2) of the extender to open it.



Note:

- Do not place the unit in an area where the output tray may be easily bumped into.
- The output tray can hold up to approximately 100 sheets of printed paper (the number of sheets may vary depending on the usage environment). Remove the printed paper before the output tray becomes full.

8.1.3. RECORDING PAPER

8.1.3.1. Using the paper input tray

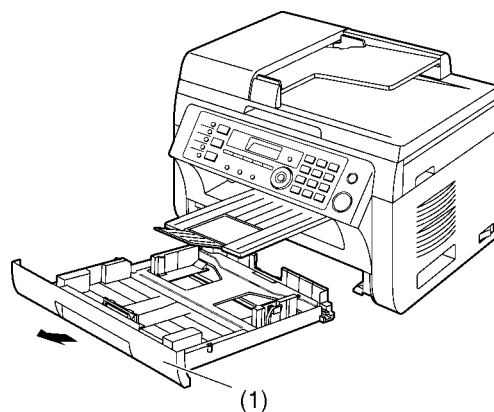
The paper input tray unit can hold:

- Up to 250 sheets of 60 g/m² to 75 g/m² paper.
- Up to 230 sheets of 80 g/m² paper.
- Up to 200 sheets of 90 g/m² paper.
- Up to 25 labels.*¹

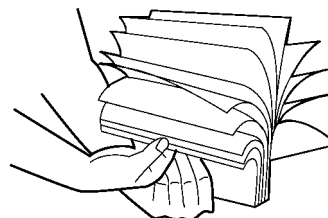
*¹Only when using the unit as a printer.

- The unit is set for printing A4-size plain paper by default.
 - To use other paper sizes, change the recording paper size setting (feature #380).
 - To use thin paper, change the recording paper type setting (feature #383).
 (Refer to **Program Mode Table** (P.120).)

1. Pull the paper input tray (1) until it clicks into place, then pull it completely out, lifting the front part of the tray.



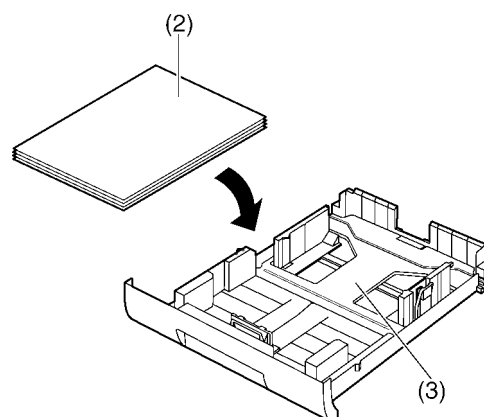
2. Before loading a stack of paper, fan the paper to prevent paper jams.



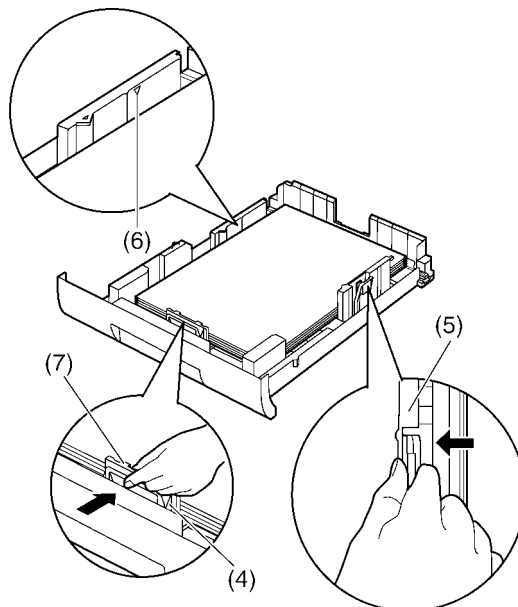
3. Load the paper, print-side up (2).

Important:

- Push down to lock the plate (3) in the paper input tray, if necessary.



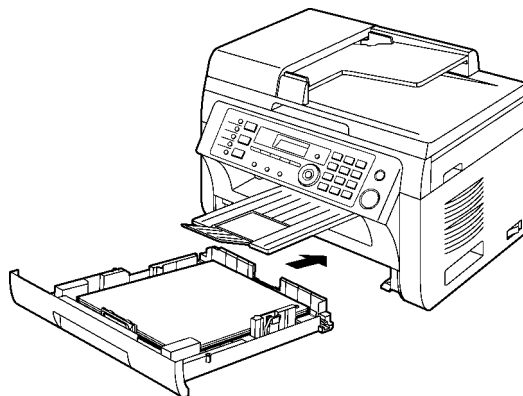
4. Adjust the recording paper guides. Pinch the front side of the recording paper guide (4), then slide it to match the paper size mark. Pinch the right side of the recording paper guide (5), then slide it to adjust the width to the size of the recording paper.
- Make sure that the recording paper is under the paper limit mark (6), and the paper should not be loaded over the snubbers (7).



5. Insert the paper input tray into the unit, lifting the front part of the tray. Then push it completely into the unit.

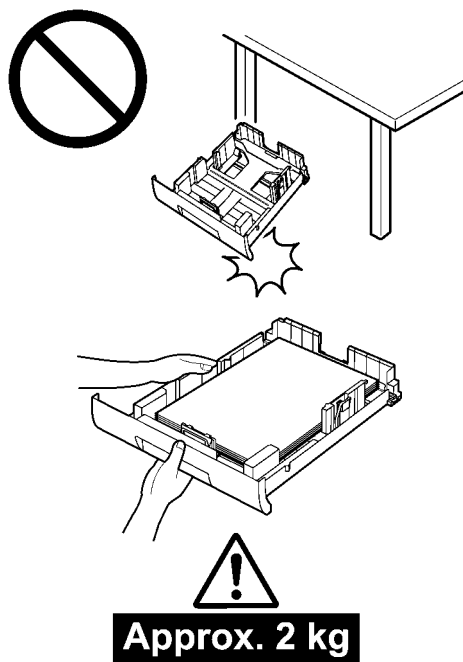
Note:

- If the paper is not loaded correctly, re-adjust the paper guides, or the paper may jam.
- If the paper input tray does not close, the plate in the paper input tray may not be in the locked position. Push the paper down and make sure that the paper is laying flat in the paper input tray.



Caution for the paper input tray

- Do not drop the paper input tray.



- Hold the paper input tray with both hands when removing or installing. The paper input tray weighs approximately 2 kg when fully loaded with recording paper.

8.1.3.2. Using the manual input tray

You can use the manual input tray for printing with the computer and for copying. It can hold one page at a time.

When printing or copying multiple pages, add a next page after the first page has been fed into the unit.

- The unit is set for printing A4-size plain paper by default.
 - To use other paper sizes, change the recording paper size setting (feature #381). (Refer to **Program Mode Table** (P.120).)

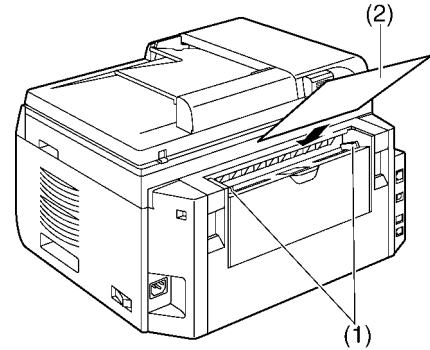
1. Adjust the width of the guides (1) to the size of the recording paper.
2. Insert the paper, print-side down (2) until the unit grasps the paper and a single beep is heard.

Note:

- To print from the manual input tray;
 - when printing with the computer, select #2 for the printer properties.
 - when making a copy, set the copy input tray setting to "#2" beforehand (feature #460). (Refer to **Program Mode Table** (P.120).)

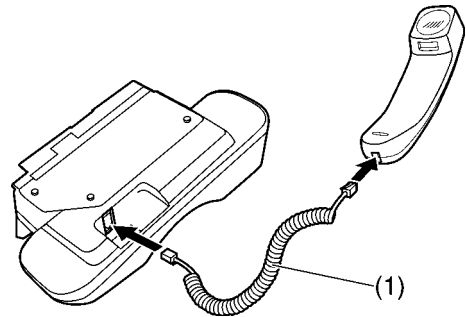
If these settings are not changed, when printing or copying multiple pages, the 1st page will be printed from the manual input tray, but the rest of the pages will be printed from the paper input tray.

- If the paper is not inserted correctly, re-adjust the paper, or the paper may jam.

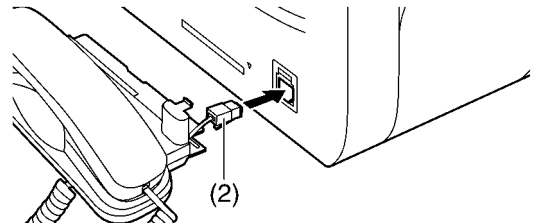


8.1.3.3. Handset Unit (KX-MB2025/KX-MB2030)

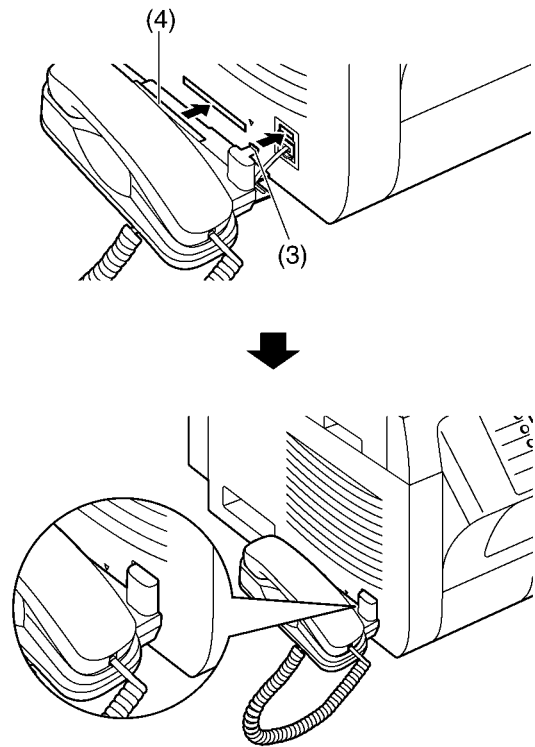
1. Connect the handset cord (1).



2. Connect the handset connector (2).
 - Remove the seal from the handset unit connection jack if attached.



3. Insert the tab (3) and rib (4).



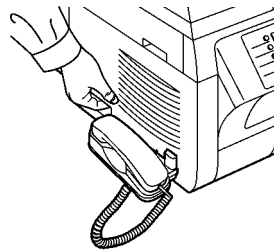
4. **Caution:**

- When moving the unit, be sure to hold by the grip.
- Do not hold by the handset unit.

Note:

- While talking to the other party, you can send a fax using the scanner glass by pressing **[Start]**, and then **[1]** (To receive a fax, press **[2]**).

Correct

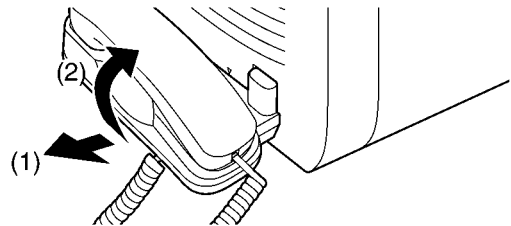


Incorrect

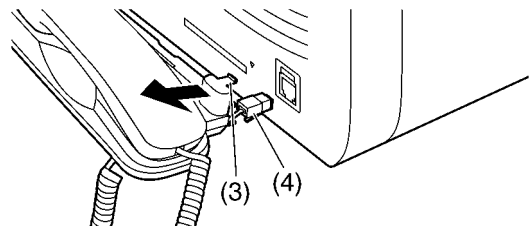


To remove the handset unit

1. Pull the handset unit slightly forward (1), then lift it in the direction of the arrow (2) to remove the rib.



2. Remove the tab (3), then disconnect the handset connector (4).

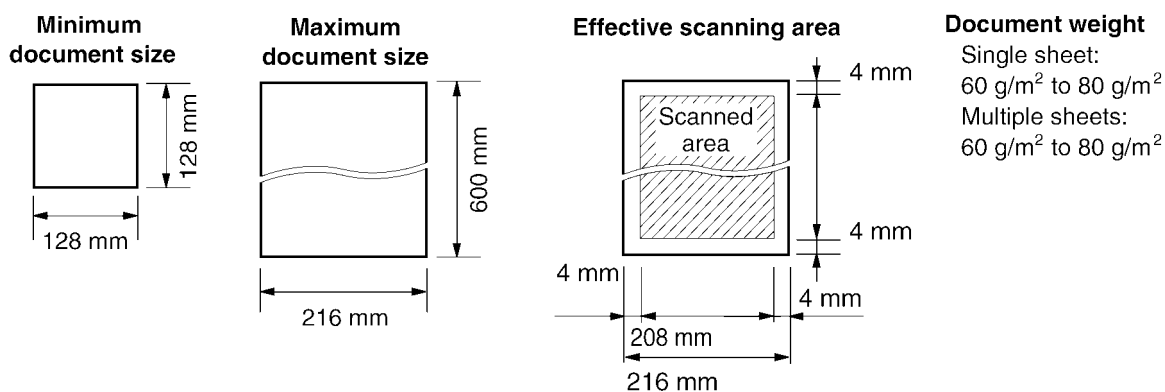


8.1.4. Documents the Unit Can Send

8.1.4.1. Using the auto document feeder

Note:

- Confirm that there are no documents on the scanner glass.
- Confirm that any ink, paste or correction fluid has dried completely.
- Remove clips, staples or other fasteners.
- Do not insert the following types of documents (Make a copy of the document using the scanner glass and set the copy instead.):
 - Chemically treated paper such as carbon or carbonless duplicating paper
 - Electrostatically charged paper
 - Badly curled, creased or torn paper
 - Paper with a coated surface
 - Paper with printing on the opposite side that can be seen through the other side, such as newsprint
- The total height of the documents when laid flat, must be less than 4 mm. If the documents exceed the capacity of the automatic document feeder, they may fall or cause a jam in the feeder.
- To set a document with a width of less than 210 mm, we recommend using the scanner glass to copy the original document onto A4 or letter-size paper, then setting the copied document for better results.
- Do not set documents that do not satisfy the requirements of size and weight. Make a copy of the document using the scanner glass and set the copy.
- Available document size, document weight and effective scanning area are as follows:



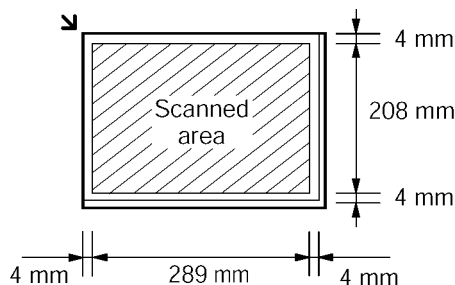
- Shaded area will be scanned.
- When using the unit as a scanner, the effective scanning length depends on the selected paper size.

8.1.4.2. Using the scanner glass

Note:

- Confirm that there are no documents in the automatic document feeder.
- Place the original onto the scanner glass gently. To avoid malfunction, do not press down too firmly.
- If the original is a thick book, do not close the document cover.
- Confirm that any ink, paste or correction fluid has dried completely.
- Effective scanning area is shown by the shaded area:

Effective scanning area



8.1.5. Toner Cartridge and the Drum Cartridge

The supplied toner cartridge is a starter toner cartridge.

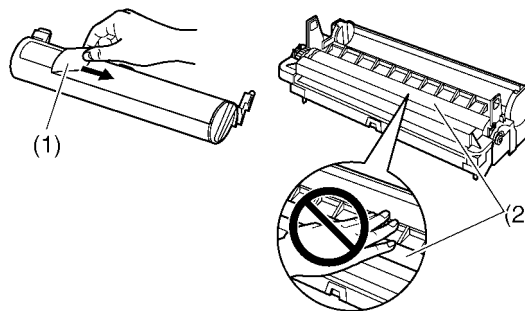
Caution:

- Read the following instructions before you begin installation. After you have read them, open the drum cartridge protective bag. The drum cartridge contains a photosensitive drum. Exposing it to light may damage the drum. Once you have opened the protective bag:
 - Do not expose the drum cartridge to light for more than 5 minutes.
 - Do not touch or scratch the black drum surface inside of the drum cartridge.
 - Do not place the drum cartridge near dust or dirt, or in a high humidity area.
 - Do not expose the drum cartridge to direct sunlight.
- Do not leave the toner cartridge out of the protective bag for a long time. It will decrease the toner life.
- We cannot be responsible for any damage to the unit or degradation of print quality which may occur from the use of a non-Panasonic toner and drum cartridges.
- Do not add toner to the toner cartridge.

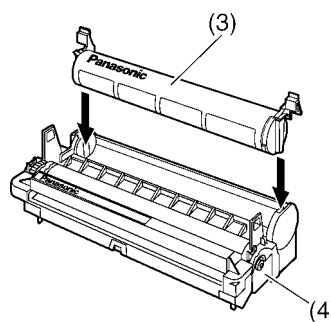
1. Before opening the protective bag of the new toner cartridge, shake it vertically more than 5 times.



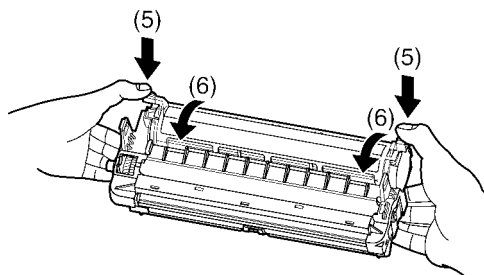
2. Remove the toner cartridge and drum cartridge from the protective bags. Peel off the seal (1) from the toner cartridge.
 - Do not touch or scratch the black drum surface (2).



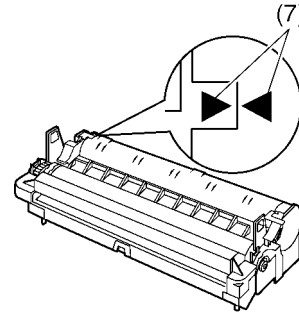
3. Place the toner cartridge (3) into the drum cartridge (4) vertically.



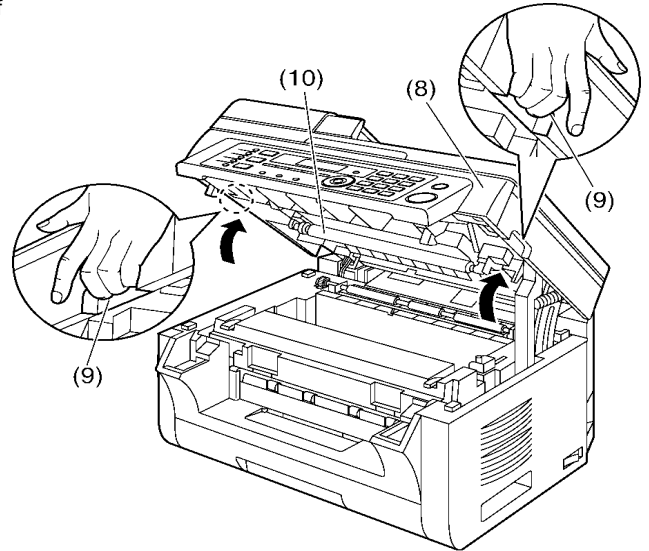
4. Press down the toner cartridge firmly (5). Keep pressing while turning the green lever on each side of the toner cartridge towards you (6).



5. Make sure that the arrows (7) match, to install the toner cartridge correctly.

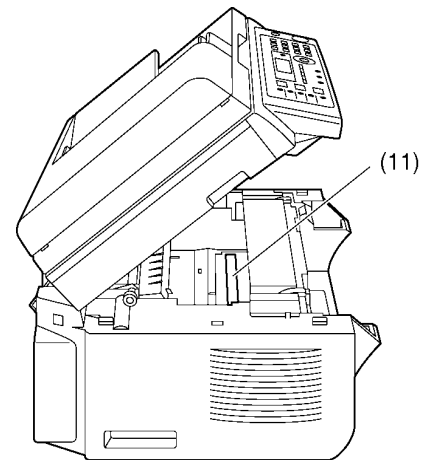


6. Open the top cover (8) by holding the indentations (9) on both sides of the unit.

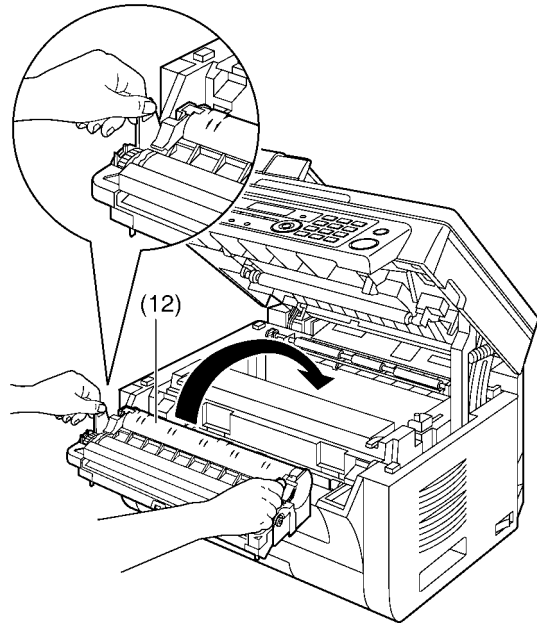


Note:

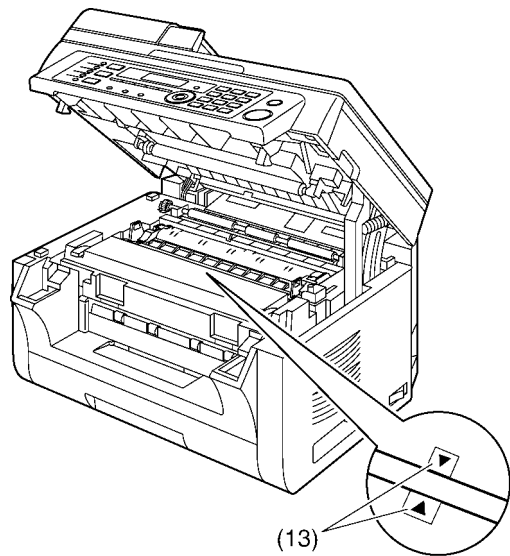
- Do not touch the transfer roller (10).
- If the lower glass (11) is dirty, clean it with a soft and dry cloth.



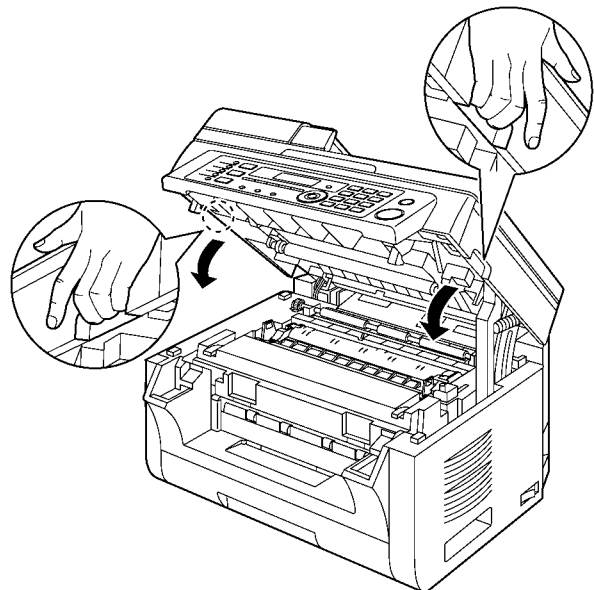
7. Install the drum and toner cartridge (12) by holding the tabs.



• Make sure that the arrows (13) match, to install the drum and toner cartridge correctly.

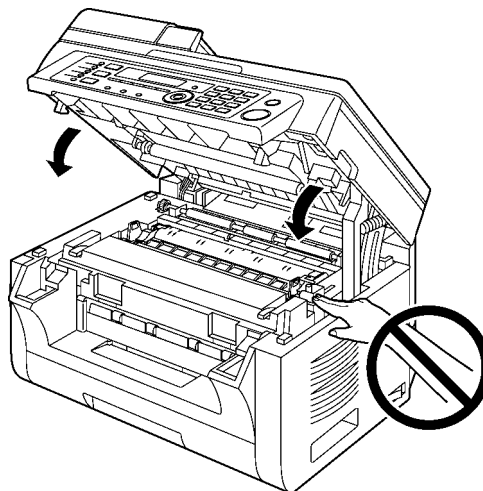


8. Close the top cover by holding the indentations on both sides of the unit, until locked.



Caution:

- To prevent injuries, be careful not to put your hands under the top cover.



8.1.5.1. When to replace the toner cartridge and the drum cartridge

When the display shows the following, replace the toner cartridge.

- "TONER LOW"
- "TONER EMPTY"

Note:

- To check the drum life and quality, please print the printer test list (Refer to **ITU-T No.1 Test Chart** (P.259)). If printing quality is still poor or "REPLACE DRUM" appears on the display, replace the toner cartridge and drum cartridge.
- To ensure that the unit operates properly, we recommend the use of Panasonic toner and drum cartridges. (Refer to **Optional Accessories** (P.12)).
- To maintain print quality and machine life, we recommend you to clean slots and openings and the inside of the unit when replacing the toner cartridge and/or drum cartridge.

Waste disposal method

Waste material should be disposed of under conditions which meet all national and local environmental regulations.

Toner save feature

- If you want to reduce toner consumption, set the toner save setting to ON (feature #482) (Refer to **Program Mode Table** (P.120)). The toner cartridge will last approximately 20% longer. This feature may lower the print quality.

8.1.6. Connecting to a computer

Panasonic Multi-Function Station software enables the unit to carry out the following functions:

- Printing on plain paper, thin paper and labels
- Previewing documents and changing printer settings before printing (Easy Print Utility)
- Scanning documents and converting an image into text with Readiris OCR software
- Scanning from other applications for Microsoft® Windows® that support TWAIN scanning and WIA scanning (Windows XP/Windows Vista®, USB connection only)
- Storing, editing or erasing items in directories using your computer (KX-MB2025/KX-MB2030 only)
- Programming the features using your computer
- Sending, receiving fax documents using your computer (KX-MB2025/KX-MB2030 only)

To use Multi-Function Station on your computer, the following are required:

Operating System:

Windows 2000/Windows XP/Windows Vista

CPU:

Windows 2000: Pentium® II or higher processor

Windows XP: Pentium III or higher processor

Windows Vista: Pentium 4 or higher processor

RAM:

Windows 2000/Windows XP: 128 MB (256 MB or more recommended)

Windows Vista: 512 MB (1,024 MB or more recommended)

Other Hardware:

CD-ROM drive

Hard disk drive with at least 200 MB of available space

USB interface

LAN interface (10Base-T/100Base-TX) (KX-MB2010/KX-MB2030 only)

Other:

Internet Explorer® 5.0 or later (KX-MB2010/KX-MB2030 only)

Warning:

- To assure continued emission limit compliance;
 - use only shielded USB cable (Example: Hi-Speed USB 2.0 certified cable). (KX-MB2010/KX-MB2030 only)
 - use only shielded LAN cable (category 5 straight cable).
- To protect the unit, use only shielded USB cable in areas where thunderstorms occur.
- To use Easy Print Utility on your computer, the following are required:
 - Windows 2000 Service Pack 4 and Security update for Windows 2000 (KB835732).
Install KB835732 from Microsoft download site before installing Easy Print Utility.
 - Windows XP Service Pack 2 or later.

8.1.7. Installing Multi-Function Station

- **Install Multi-Function Station (CD-ROM) before connecting the unit to a computer with the USB cable. If the unit is connected to a computer with the USB cable before installing Multi-Function Station, the [Found New Hardware Wizard] dialogue box will appear. Click [Cancel] to close it.**
- **The screenshots shown in these instructions are for Windows XP and are included for reference only.**
- **The screenshots shown in these instructions may differ slightly from those of the actual product.**
- **Software features and appearance are subject to change without notice.**

1 Start Windows and exit all other applications.

- You must be logged in as an administrator in order to install Multi-Function Station.

2 Insert the supplied CD-ROM into your CD-ROM drive.

- If the **[Select Language]** dialogue box appears, select the language that you want to use with this software. Click **[OK]**.

• If the installation does not start automatically:

Click **[Start]**. Choose **[Run...]**. Type "D:\Install" (where "D:" is the drive letter of your CD-ROM drive). Click **[OK]**.

(If you are not sure what the drive letter is for your CD-ROM drive, use Windows Explorer and look for the CD-ROM drive.)

3 [Easy Installation]

- The installation will start automatically.

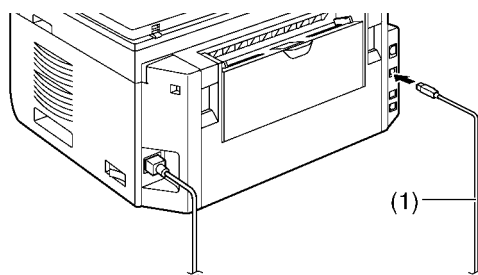
4 When the setup program starts, follow the on-screen instructions.

- Easy Print Utility, Readiris OCR software and Device Monitor will also be installed.

5 The **[Connect Type]** dialogue box appears.

For USB connection:**1 [Connect directly with a USB cable.]→ [NEXT].**

- The **[Connect Device]** dialogue box will appear.

2 Connect the unit to a computer with the USB cable (1), then click [NEXT].

*This pictured model is KX-MB2030.

- If the unit is connected to your computer, the model name will be automatically detected.
- You can change the name of the unit if necessary.

3 Click [Install], then follow the on-screen instructions.

- The files will be copied to your computer.

For LAN connection (KX-MB2010/KX-MB2030 only):**1. [Connect via the Network.] → [Next]**

- The **[Select a Network Device]** dialogue box will appear.

2. Check [Select in the searched list] and select the unit from the list.

- If the name of the desired unit is not displayed on the list, and the IP address for the unit has been assigned, check **[Direct input]** and enter the IP address.

3. [Next]

- You can change the name of the unit if necessary.

4. Click [Install], then follow the on-screen instructions.

- The files will be copied to your computer.

Important notice

If you are using Windows XP or Windows Vista, a message may appear after connecting the unit with the USB cable. This is normal and the software will not cause any difficulties with your operating system. You can continue the installation with no problem. This kind of message is displayed:

• For Windows XP users

"The software you are installing for this hardware has not passed Windows Logo testing to verify its compatibility with Windows XP."

• For Windows Vista users

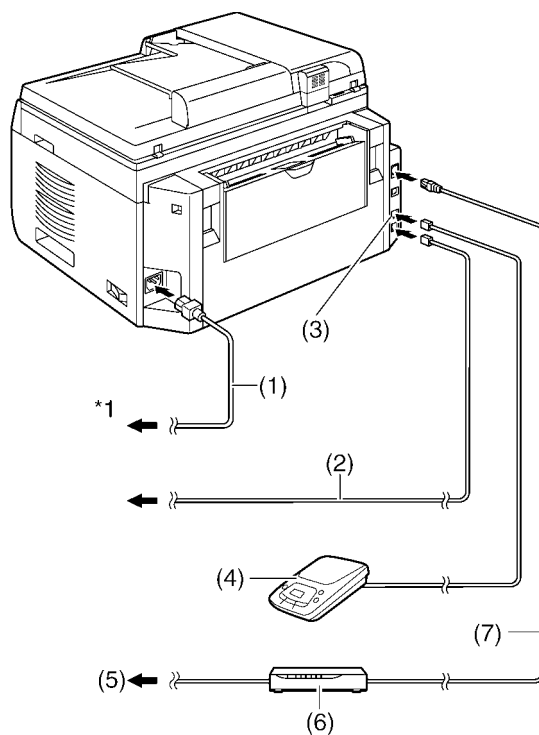
"Would you like to install this device software?"

8.2. Connections

Caution:

- When you operate this product, the power outlet should be near the product and easily accessible.
- Be sure to use the telephone line cord supplied with this unit (KX-MB2025/KX-MB2030 only).
- Do not extend the telephone line cord (KX-MB2025/KX-MB2030 only).

- (1) Power cord
- Connect to a power outlet.
(220-240 V, 50/60 Hz).
 - (2) Telephone line cord^{*1}
 - Connect to a single telephone line jack.
 - (3) [EXT] jack^{*1}
 - You can connect an answering machine or an extension telephone. Remove the stopper if attached.
 - (4) Answering machine (not supplied)^{*1}
 - (5) To the internet^{*2}
 - (6) Network router/Network hub (not supplied)^{*2}
- Also connect networked computers.
 - (7) LAN cable (not supplied)^{*2}
- To assure continued emission limit compliance, use only shielded LAN cable (category 5 straight cable).
- ^{*1} KX-MB2025/KX-MB2030 only
^{*2} KX-MB2010/KX-MB2030 only



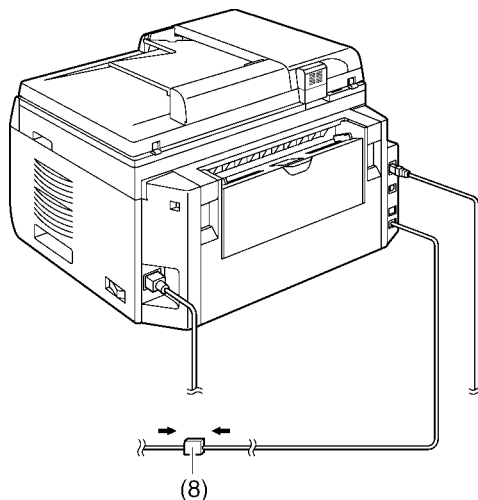
* The pictured model is KX-MB2030.

Important notice for the USB connection

- DO NOT CONNECT THE UNIT TO A COMPUTER WITH THE USB CABLE UNTIL PROMPTED TO DO SO DURING THE SETUP OF MULTI-FUNCTION STATION.

Note:

- Do not place any objects within 10 cm of the right, left and back sides of the unit.
- If any other device is connected to the same telephone line, this unit may disturb the network condition of the device (KX-MB2025/KX-MB2030 only).
- If you use the unit with a computer and your internet provider instructs you to install a filter (8), please connect it as follows (KX-MB2025/KX-MB2030 only).



* The pictured model is KX-MB2030.

Designed to be used in Middle East, Malaysia, Asia, Tunisia and Africa according to the location setting feature (KX-MB2025CX/KX-MB2030CX only).

The default setting is Middle East. To change the location setting (feature #114). (Refer to **Program Mode Table** (P.120).)

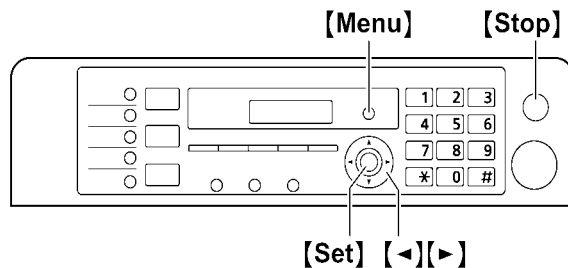
Using network router/network hub (KX-MB2010/KX-MB2030 only)

- We recommend using network routers/network hubs (6) under secure network environments. Consult your network administrator for firewall settings, etc.
- The warranty does not cover damage due to security problems or any inconveniences relating to it.

9 Operating Instructions

9.1. Your Logo (KX-MB2025/KX-MB2030 ONLY)

You can program your logo (name, company name, etc.) so that it appears on the top of each page sent.



1 **[Menu]** → **[#][1][0][2]** → **[Set]**.

2 Enter your logo, up to 30 characters (see next page for character entry). → **[Set]**

3 Press **[Menu]** to exit.

To correct a mistake

Press **[◀]** or **[▶]** to move the cursor to the incorrect character, and make the correction.

- To erase all characters, press and hold **[Stop]**.

9.2. To Select Characters with the Dial Keypad

The dial keypad is used to enter characters and numbers.

- Press [◀] or [▶] to move the cursor.
- Press the dial keys to enter characters and numbers.
- Press [Stop] to erase the character or number highlighted by the cursor. Press and hold [Stop] to erase all characters or numbers.
- To enter another character located on the same dial key, press [▶] to move the cursor to the next space, then press the appropriate dial key.

Keypad	Characters
[1]	1 . _ - [] { } + / = , ` : ; ?
[2]	A B C 2
	a b c 2
[3]	D E F 3
	d e f 3
[4]	G H I 4
	g h i 4
[5]	J K L 5
	j k l 5
[6]	M N O 6
	m n o 6
[7]	P Q R S 7
	p q r s 7
[8]	T U V 8
	t u v 8
[9]	W X Y Z 9
	w x y z 9
[0]	0 @ () < > ! " # \$ % & ¥ I ^ ' →
[*]	To switch between uppercase or lowercase letters.
[Flash] (KX-MB2025/ KX-MB2030 only)	Hyphen
[Zoom]	To insert a space.
[Stop]	To delete a character.

9.2.1. To Select Characters Using [▼] or [▲]

Instead of pressing the dial keys, you can select characters using [▼] or [▲].

1. Press [▼] repeatedly to display the desired character.
Characters will be displayed in the following order:
 - ① Uppercase letters
 - ② Numbers
 - ③ Symbols
 - ④ Lowercase letters*1

*1 When you enter email address (i.e. scan to email address), lowercase letters will be displayed first (KX-MB2010/KX-MB2030 only).

 - If you press [▲], the order will be reversed.
2. Press [▶] to insert the displayed character.
3. Return to step 1 to enter the next character.

10 Test Mode

10.1. Test Functions

The codes listed below can be used to perform simple checks of some of the unit's functions. When complaints are received from customers, they provide an effective tool for identifying the locations and causes of malfunctions.

Test Mode	Type of Mode	Code	Function
		Operation after code input	
MEMORY CLEAR	Service Mode	"5" "5" "0"	Clear the memory where the users can store data.
		SET	
MOTOR TEST	Service Mode	"5" "5" "6"	00:printer motor feed 10:auto document feed 20:carriage
		SET	
MODEM TEST (KX-MB2025/KX-MB2030 ONLY)	Service Mode	"5" "5" "4"	Telephone line circuit is connected automatically, output the following signals on the circuit line. 1) OFF 2) 1100Hz 3) 2100Hz 4) V21 ter 300bps 5) V27 ter 2400bps 6)V27 ter 4800bps 7) V29 7200bps 8) V29 9600bps 9) V17 7200bps 10) V17 9600bps 11) V17 12000bps 12) V17 14400bps 13)V34 2400bps 14)V34 4800bps 15) V34 7200bps 16) V34 9600bps 17)V34 12000bps 18)V34 14400bps 19) V34 16800bps 20) V34 19200bps 21)V34 21600bps 22)V34 24000bps 23) V34 26400bps 24) V34 28800bps 25)V34 31200bps 26)V34 33600bps
		SET	
ROM CHECK	Service Mode	"5" "5" "1"	Indicates the version and checks the sum of the ROM.
		SET	
LCD TEST	Service Mode	"5" "5" "8"	Checks the LCD indication. Illuminates all the dots to check if they are normal.
		SET	
DTMF SINGLE TONE TEST (KX-MB2025/KX-MB2030 ONLY)	Service Mode	"5" "5" "2"	Outputs the DTMF as single tones. Used to check the frequencies of the individual DTMF tones. Refer to DTMF Single Tone Transmit Selection (KX-MB2025/KX-MB2030 ONLY) (P.94).
		1...ON 2...OFF	
LED TEST	Service Mode	"5" "5" "7"	All LEDs above the operation panel board flash on and off, or are illuminated.
KEY TEST	Service Mode	"5" "6" "1"	Checks the button operation. Indicates the button code on the LCD while the button is pressed. Refer to Button Code Table (KX-MB2025/KX-MB2030 ONLY) (P.94).
		START (any key)	
SCANNER TEST	Service Mode	"5" "5" "5"	LED lights up, Scanner scanning. 1:RED / 2:GREEN / 3:BLUE / 4:monochrome / 5:Color
LSU TEST	Service Mode	"6" "3" "9"	Laser radiates, Polygon rotates
High Voltage Power Supply Board CHECK	Service Mode	"6" "2" "8"	Refer to High Voltage Value Check Point (P.188).
		SET	
FAN TEST	Service Mode	"6" "7" "7"	1:TEST OFF 2:FAN 1 & 2 High-speed rotation 3:FAN 1 & 2 Low-speed rotation 4:FAN 1 & 2 STOP
MEMORY CLEAR (except History data)	Service Mode	"7" "1" "0"	Refer to Memory Clear Specification (P.100).
		SET	
PRINT TEST PAT- TERN	Service Mode	"8" "5" "2"	1. Press "852" then the SET key in the service mode. 2. As "PATNO. =" is displayed on the LCD, enter the test pattern No. and press the SET key. 3. When "No. =" is displayed on the LCD, enter the printing number and press the SET key. (Press "00" for the infinite printing.) 4. "MODE=" is displayed on the LCD. Press "0" to start printing or press "1" to go to the next screen. 5. When "1" is pressed at MODE, "INTVL = " is displayed on the LCD. Enter the printing interval (000~999 sec). 6. The printing repeats the designated number of times at the programmed printing intervals. Refer to Print Test Pattern (P.95)

Test Mode	Type of Mode	Code	Function		
		Operation after code input			
SENSOR CHECK	Service Mode	"8" "1" "5"	<p>First of all, press the copy button, and confirm the action of ON/OFF. For each sensor's operation, refer to Sensors and Switches Section (P.49). LCD DISPLAY:</p> <div style="border: 1px solid black; padding: 5px; width: fit-content; margin: 10px auto;"> <p>D S C * R E * T * 3 F * D F * * * U T * * H * * * * * * * * * *</p> </div> <table style="width: 100%; border: none;"> <tr> <td style="vertical-align: top; width: 50%;"> <p>D: Document D: Document set -: No document</p> <p>S: Read position S: Docu detect -: No document</p> <p>C: Top cover C: Cover open -: Cover close</p> <p>*: None</p> <p>R: Registration R: Paper detect -: No paper</p> <p>E: Paper exit E: Paper detect -: No paper</p> <p>*: None</p> <p>T: Toner T: Toner detect -: No toner</p> <p>*: None</p> <p>3F: Fuser thermistor 3F: 00 (high temp.) - FF (low temp.)</p> <p>*: None</p> <p>DF: Fuser thermistor DF: 00 (high temp.) - FF (low temp.)</p> <p>*: None</p> </td> <td style="vertical-align: top; width: 50%;"> <p>*: None</p> <p>*: None</p> <p>U: Pickup/Rear Cover U: Paper detect -: No paper</p> <p>T: Print timing T: Paper detect -: No paper</p> <p>*: None</p> <p>*: None</p> <p>H: Carriage H: Carriage detect -: No carriage</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> </td> </tr> </table>	<p>D: Document D: Document set -: No document</p> <p>S: Read position S: Docu detect -: No document</p> <p>C: Top cover C: Cover open -: Cover close</p> <p>*: None</p> <p>R: Registration R: Paper detect -: No paper</p> <p>E: Paper exit E: Paper detect -: No paper</p> <p>*: None</p> <p>T: Toner T: Toner detect -: No toner</p> <p>*: None</p> <p>3F: Fuser thermistor 3F: 00 (high temp.) - FF (low temp.)</p> <p>*: None</p> <p>DF: Fuser thermistor DF: 00 (high temp.) - FF (low temp.)</p> <p>*: None</p>	<p>*: None</p> <p>*: None</p> <p>U: Pickup/Rear Cover U: Paper detect -: No paper</p> <p>T: Print timing T: Paper detect -: No paper</p> <p>*: None</p> <p>*: None</p> <p>H: Carriage H: Carriage detect -: No carriage</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p>
<p>D: Document D: Document set -: No document</p> <p>S: Read position S: Docu detect -: No document</p> <p>C: Top cover C: Cover open -: Cover close</p> <p>*: None</p> <p>R: Registration R: Paper detect -: No paper</p> <p>E: Paper exit E: Paper detect -: No paper</p> <p>*: None</p> <p>T: Toner T: Toner detect -: No toner</p> <p>*: None</p> <p>3F: Fuser thermistor 3F: 00 (high temp.) - FF (low temp.)</p> <p>*: None</p> <p>DF: Fuser thermistor DF: 00 (high temp.) - FF (low temp.)</p> <p>*: None</p>	<p>*: None</p> <p>*: None</p> <p>U: Pickup/Rear Cover U: Paper detect -: No paper</p> <p>T: Print timing T: Paper detect -: No paper</p> <p>*: None</p> <p>*: None</p> <p>H: Carriage H: Carriage detect -: No carriage</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p> <p>*: None</p>				

Note:

The numbers in the boxes (XXX) indicate the keys to be input for the various test modes.

10.1.1. DTMF Single Tone Transmit Selection (KX-MB2025/KX-MB2030 ONLY)

When set to ON (=1), the 12 keys and transmission frequencies are as shown.

key	Low Frequency (Hz)	Key	High Frequency (Hz)
"1"	697	"5"	1209
"2"	770	"6"	1336
"3"	852	"7"	1477
"4"	941	"8"	1633

When set to OFF (=2), the 12 keys and transmission frequencies are as shown.

		High (Hz)		
Low (Hz)		1209	1336	1477
697	"1"	"2"	"3"	
770	"4"	"5"	"6"	
852	"7"	"8"	"9"	
941	"*"	"0"	"#"	

Note:
After performing this check, do not forget to turn the setting off. otherwise, dialing in DTMF signal will not work.

10.1.2. Button Code Table (KX-MB2025/KX-MB2030 ONLY)

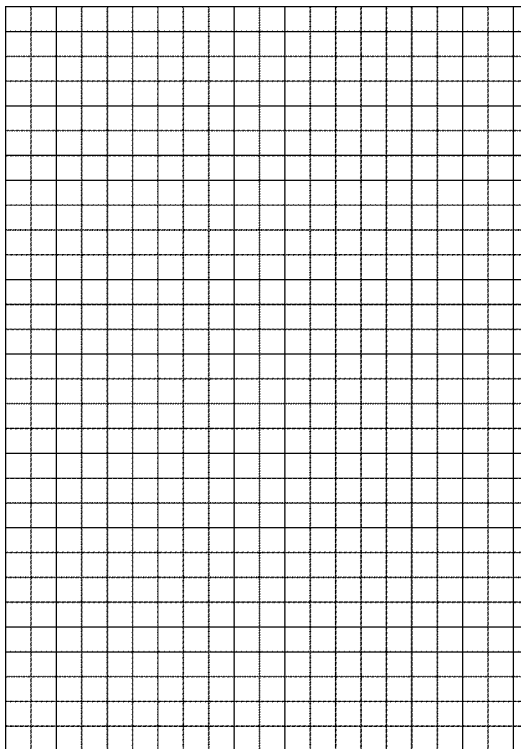
Code	Button Name	Code	Button Name	Code	Button Name
31	1	41	START	5F	ZOOM
32	2	-	STOP	51	AUTO ANSWER
33	3	40	SET	48	STATION 1
34	4	44	MENU	49	STATION 2
35	5	66	NAVIGATOR ←	4A	STATION 3
36	6	65	NAVIGATOR →	67	LOWER
37	7	46	NAVIGATOR ↑	52	PAGE LAYOUT
38	8	47	NAVIGATOR ↓		
39	9	60	FAX MODE		
30	0	61	COPY MODE		
3B	* (X)	62	SCAN MODE		
3C	#	8C	COPY SIZE		
3D	REDIAL	5D	CONTRAST		
57	FLASH	5C	RESOLUTION		
54	MONITOR				

10.1.3. Button Code Table (KX-MB1900/2010)

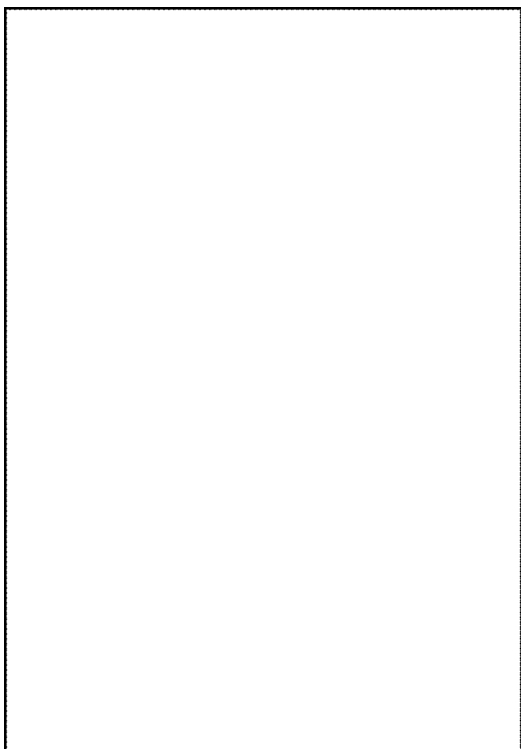
Code	Button Name	Code	Button Name	Code	Button Name
31	1	41	START	52	PAGE LAYOUT
32	2	40	SET	-	STOP
33	3	44	MENU	8C	COPY SIZE
34	4	66	NAVIGATOR ←		
35	5	65	NAVIGATOR →		
36	6	46	NAVIGATOR ↑		
37	7	47	NAVIGATOR ↓		
38	8	61	COPY MODE		
39	9	62	SCAN MODE		
30	0	5D	CONTRAST		
3B	* (X)	5C	RESOLUTION		
3C	#	5F	ZOOM		

10.1.4. Print Test Pattern

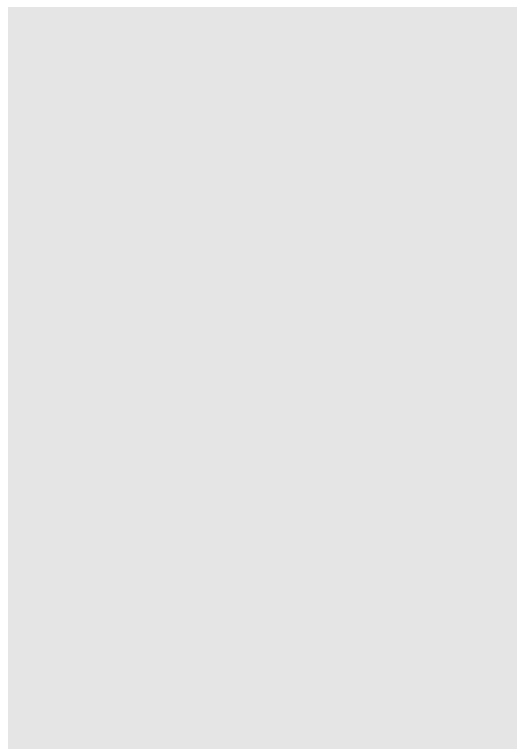
1. NO.01



2. NO.06



3. NO.03



- These print test patterns are just image printing, and different from actual ones.
- When it is required to judge the print quality, compare with the printing of a nondefective machine.

11 Service Mode

The programming functions are used to program the various features and functions of the machine, and to test the machine. This facilitates communication between the user and the service man while programming the unit.

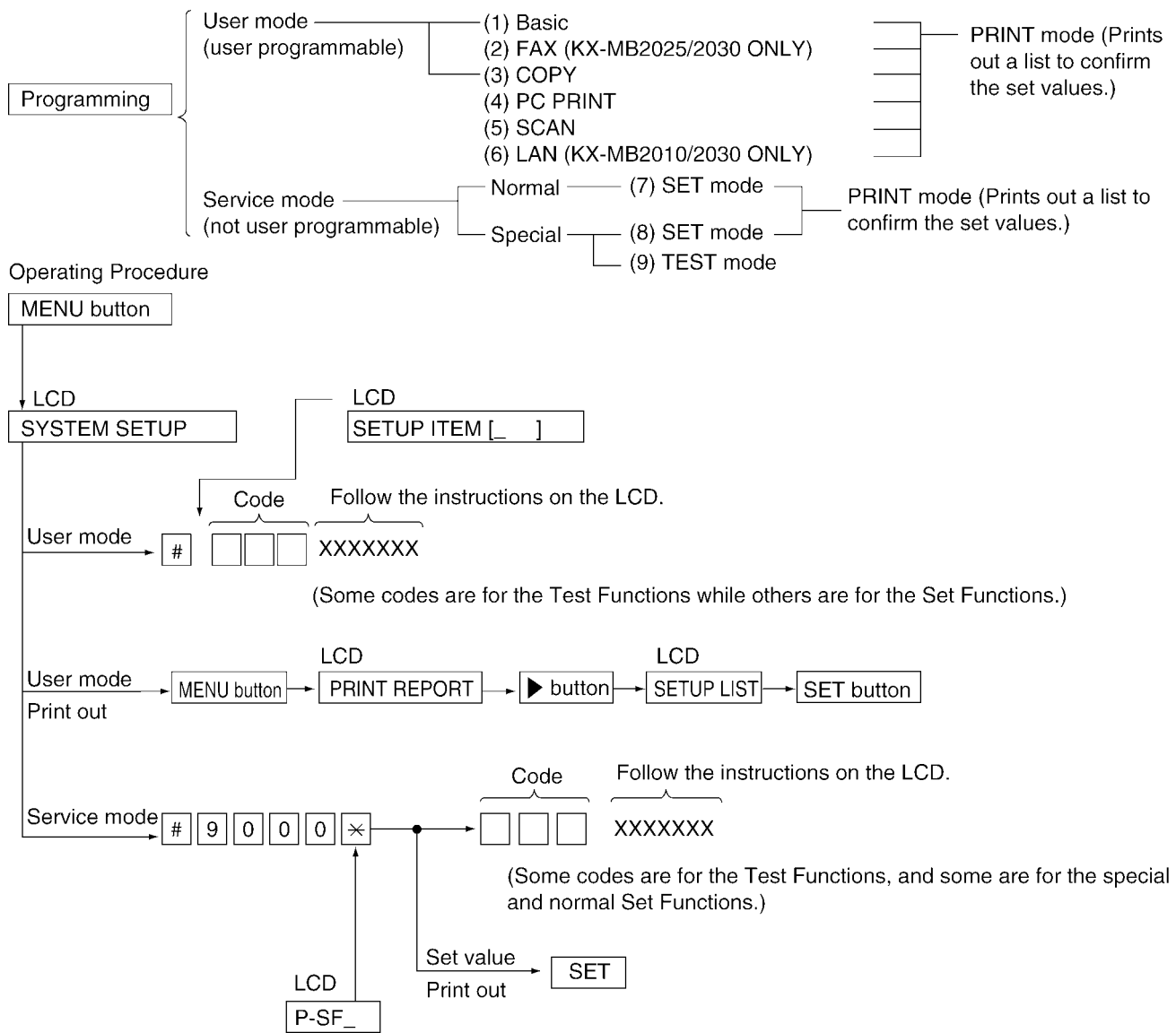
11.1. Programming and Lists

11.1.1. Operation

There are 2 basic categories of programming functions, the User Mode and the Service Mode. The Service Mode is further broken down into the normal and special programs. The normal programs are those listed in the Operating Instructions and are available to the user. The special programs are only those listed here and not displayed to the user. In both the User and Service Modes, there are Set Functions and Test Functions. The Set Functions are used to program various features and functions, and the Test Functions are used to test the various functions. The Set Functions are accessed by entering their code, changing the appropriate value, then pressing the SET key. The Test Functions are accessed by entering their code and pressing the key listed on the menu. While programming, to cancel any entry, press the STOP key.

Note:
When changing the set values on the service function table, they should not be set beyond the local regulation. Follow the laws and regulations of your area.

11.1.2. Operation Flow



11.1.3. Service Function Table (KX-MB2025/KX-MB2030)

Code	Function	Set Value	Effective Range	Default	Remarks
501	Pause time set	X 100 msec	001~600	030	-----
503	Dial speed select	1:10 pps 2:20 pps	1, 2	1	-----
507	V34 transmission start speed	0: Disable 1: 33.6 2: 31.2 3: 28.8 4: 26.4 5: 24.0 6: 21.6 7: 19.2 8: 16.8	0~8	1	If the code 527 is set at 2, the code 507 and 508 work.
508	V34 reception start speed	0: Disable 1: 33.6 2: 31.2 3: 28.8 4: 26.4 5: 24.0 6: 21.6 7: 19.2 8: 16.8	0~8	1	If the code 527 is set at 2, the code 507 and 508 work.
514	Bell signal detect time	X 100msec	1~9	6	-----
520	CED frequency select	1:2100 Hz 2:1100 Hz	1, 2	1	See How To Output The Journal Report (P.165).
521	International mode select	1:ON 2:OFF	1, 2	1	See How To Output The Journal Report (P.165).
522	Auto standby select	1:ON 2:OFF	1, 2	1	The resolution reverts to the default when transmission is complete.
523	Receive equalizer select	1: 0 km 2: 1.8 km 3: 3.6 km 4: 7.2 km	1~4	1	Set RX equalizer to automatic mode.
524	Transmission equalizer select	1: 0 km 2: 1.8 km 3: 3.6 km 4: 7.2 km	1~4	1	
527	V.8 function select	1:OFF 2:ON	1, 2	2	
529	Call Service Clear				
550	Memory clear				Refer to Memory Clear Specification (P.100).
551	ROM check				See Test Functions (P.92).
552	DTMF single tone test	1:ON 2:OFF	1, 2	2	See Test Functions (P.92).
553	Monitor on FAX communication select	1:OFF 2:PHASE B 3:ALL	1~3	1	Sets whether to monitor the line signal with the unit's speaker during FAX communication or not.
554	Modem test				See Test Functions (P.92).
555	Scanner test				See Test Functions (P.92).
556	Motor test			0	See Test Functions (P.92).
557	LED test				See Test Functions (P.92).
558	LCD test				See Test Functions (P.92).
561	KEY test				See Test Functions (P.92).
567	T0 timer	X second	001~255	052	Sets a higher value when the response from the other party needs more time during automatic FAX transmission.
570	BREAK % select	1:61% 2:67%	1, 2	1 ^{*1}	Sets the % break of pulse dialing according PBX.
571	ITS auto redial time set	X number of times	00~99	05 ^{*1}	Selects the number of times that ITS is redialed (not including the first dial).
572	ITS auto redial line disconnection time set	X second	001~999	185 ^{*1}	Sets the interval of ITS redialing.
573	Remote turn-on ring number set	X number of rings	00~99	10	Sets the number of rings before the unit starts to operate TAM in the TEL mode.
574	Dial tone detect check	1: ON 2: OFF	1, 2	2	-----
590	FAX auto redial time set	X number of times	00~99	05 ^{*1}	Selects the number of redial times during FAX communication (not including the first dial).
591	FAX auto redial time disconnection time set	X second	001~999	185 ^{*1}	Sets the FAX redial interval during FAX communication.

Code	Function	Set Value	Effective Range	Default	Remarks
592	CNG transmit select	1:OFF 2:ALL 3:AUTO	1~3	2	Lets you select the CNG output during FAX transmission. ALL: CNG is output at phase A. AUTO: CNG id output only when automatic dialing is performed. OFF: CNG id not output at phase A. Refer to Sometime There Is a Transmit Problem (P.158).
593	Time between CED and 300bps	1:75 msec 2:500 msec 3:1 sec	1~3	1	See How To Output The Journal Report (P.165) and Receive Problem (P.159).
594	Overseas DIS detection select	1:detects at the 1st time 2:detects at the 2nd time	1, 2	1	See How To Output The Journal Report (P.165) and Sometime There Is a Transmit Problem (P.158).
595	Receive error limit value set	1: 5% 2: 10% 3: 15% 4: 20%	1~4	2	If the number of errors during transmission exceeds this value, the sending side terminates the call.
596	Transmit level set	X dBm	- 15~00	10	Selects the FAX transmission level. Refer to Sometime There Is a Transmit Problem (P.158) and Receive Problem (P.159).
598	Receiving sensitivity	43= -43 dBm	20~48	48	Used when there is an error problem. Refer to How To Output The Journal Report (P.165).
599	ECM frame size	1:256 2:64	1, 2	1	-----
628	H.V.P.S. check				See Test Functions (P.92).
639	LSU test				See Test Functions (P.92).
655	Cause Distinction Code of Call Service 3				See CALL SERVICE Troubleshooting Guide (P.131).
677	FAN test				See Test Functions (P.92).
710	Memory clear except History data				Refer to Memory Clear Specification (P.100).
711	Dialing mode	1:PULSE 2:TONE	1,2	1	
717	Transmit speed select	1:14400BPS 2:12000BPS 3:9600BPS 4:7200BPS 5:4800BPS 6:2400BPS	1~6	1	If the code 527 is set at 1, the code 717 and 718 work.
718	Receive speed select	1:14400BPS 2:12000BPS 3:9600BPS 4:7200BPS 5:4800BPS 6:2400BPS	1~6	1	If the code 527 is set at 1, the code 717 and 718 work.
721	Pause tone detect	1:ON 2:OFF	1, 2	2	Selects the tone detection for pause in dialing.
722	Redial tone detect	1:ON 2:OFF	1, 2	1	Sets the tone detection mode after redialing.
763	CNG detect time for friendly reception	1:10 sec 2:20 sec 3:30 sec	1~3	3	Selects the CNG detection tone of friendly reception.
774	Receiving T4 timer	X 100 msec	00~99	00	Use this function when delay occurs in the line and communication. (ex. Mobile comm) does not work well.
775	Transmission T4 timer	X 100m sec	00~99	00	Use this function when delay occurs in the line and communication. (ex. Mobile comm) does not work well.
815	Sensor check				See Test Functions (P.92).
852	Print test pattern				See Test Functions (P.92).
853	Top margin	X 0.5mm	01~11	06	-----
854	Left margin	X 0.5mm	01~11	06	-----
874	DTMF ON time	X msec	060~200	100	-----
875	DTMF OFF time	X msec	060~200	100	-----
880	History list				See History (Example of a printed out list) (P.113).
881	Journal 2 list				See Journal 2 (P.162).
882	Journal 3 list				See Journal 3 (P.163).
933	Detect busy tone in off-hook using AOH key	1:ON 2:OFF	1, 2	1	-----
940	Ack signal of AOH output level		0~6	4	-----
941	Waiting time until sending ack signal of AOH after OFF-HOOK		016~255	020	-----

Code	Function	Set Value	Effective Range	Default	Remarks
942	Ack signal of AOH out time		001~255	140	-----
943	RCID waiting time after 500Hz out		001~255	050	-----
944	Repeat times after timeout		1~5	3	-----
945	Display for category number	1:ON 2:OFF	1, 2	2	-----
946	Fake RBT	1:ON 2:OFF	1, 2	2	-----
947	Fake BELL/RBT TIMEOUT time		001~255	120	-----
948	Repeat interval		001~255×10 ms	020×10ms	-----

Note:

*1The default value changes depends on Location setting (#114). Refer to the following list for more details. Refer to **Program Mode Table** (P.120).

#114 Function	MIDDLE EAST(1) AFRICA(5) ASIA(3)	MALAYSIA(2)	TUNISIA(4)
570	Function Valid default value: 61%	Function Valid default value: 67%	Function Valid default value: 67%
571	Function Valid default value: 5	Function Valid default value: 2	Function Valid default value: 5
572	Function Valid default value: 185s	Function Valid default value: 125s	Function Valid default value: 185s
590	Function Valid default value: 05	Function Valid default value: 02	Function Valid default value: 05
591	Function Valid default value: 185	Function Valid default value: 125	Function Valid default value: 185

11.1.4. Service Function Table (KX-MB1900/2010)

Code	Function	Set Value	Effective Range	Default	Remarks
529	Call Service Clear				
550	Memory clear				Refer to Memory Clear Specification (P.100).
551	ROM check				See Test Functions (P.92).
555	Scanner test				See Test Functions (P.92).
556	Motor test			0	See Test Functions (P.92).
557	LED test				See Test Functions (P.92).
558	LCD test				See Test Functions (P.92).
561	KEY test				See Test Functions (P.92).
628	H.V.P.S. check				See Test Functions (P.92).
639	LSU test				See Test Functions (P.92).
655	Cause Distinction Code of Call Service 3				See CALL SERVICE Troubleshooting Guide (P.131).
677	FAN test				See Test Functions (P.92).
710	Memory clear except History data				Refer to Memory Clear Specification (P.100).
815	Sensor check				See Test Functions (P.92).
852	Print test pattern				See Test Functions (P.92).
853	Top margin		1~11	6	-----
854	Left margin		1~11	6	-----
880	History list				See History (Example of a printed out list) (P.113).

11.1.5. Memory Clear Specification

Item	Status after Memory Clear	
	Service Mode #550 ^{*1}	Service Mode #710 ^{*2}
Date and time (user mode #101)	—	Default
Your logo (user mode #102) (KX-MB2025/2030 Only)	—	Default
Your Fax Number (user mode #103) (KX-MB2025/2030 Only)	—	Default
Password (user mode #155)	—	Default
One touch dial and Directory (KX-MB2025/2030 Only)	—	Default
History	—	—
Top margin (service mode #853)	—	—
Left margin (service mode #854)	—	—
Other Setting data (User setting and Service setting data)	Default	Default

— : Not changed

*1 Execute Service Mode #550 when you want to reset the all setting data keeping the user information.

*2 Execute Service Mode #710 to clear the user information in case that Main Unit is recycled.

Note:

Please restart a power supply after clearing a memory.

11.2. User Mode (The list below is an example of the SYSTEM SETUP LIST the unit prints out.)

(KX-MB1900CX)

SETUP LIST

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#145	LCD CONTRAST	NORMAL [NORMAL, DARKER]
#147	SCALE	MILLIMETRES [MILLIMETRES, INCHES]
#155	CHANGE PASSWORD	Set Value
#159	RESTORE DEFAULT	
#165	BEEP SOUND	ON [OFF, ON]
#380	PAPER SIZE #1	A4 [LETTER, A4, B5(ISO), B5(JIS), 16K]
#381	PAPER SIZE #2	A4 [LETTER, A4, LEGAL, B5(ISO), B5(JIS), 16K, 216X330, 216X340]
#383	MEDIA TYPE #1	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#384	MEDIA TYPE #2	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#403	POWER SAVE	5min [5min, 15min, 30min, 1h]
#462	CONTRAST HOLD	DISABLED [DISABLED, ENABLED]
#482	TONER SAVE	OFF [OFF, ON]

[COPY FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#460	COPY INPUT TRAY	#1 [#1, #2]
#461	COPY RESOLUTION	TEXT/PHOTO [TEXT/PHOTO, TEXT, PHOTO]
#467	PAGE LAYOUT HOLD	DISABLED [DISABLED, ENABLED]
#468	ZOOM HOLD	DISABLED [DISABLED, ENABLED]
#469	COLLATE HOLD	DISABLED [DISABLED, ENABLED]
#473	EDGE HOLD	DISABLED [DISABLED, ENABLED]
#474	FRAME MARGIN	DISABLED [DISABLED, ENABLED]
#475	MARGIN HOLD	DISABLED [DISABLED, ENABLED]

[PC PRINT FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#774	DATA TIMEOUT	60s [5...600(s)]
#776	MUTUAL A4/LETTER	ON [OFF, ON]

[SCAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#493	SCAN MODE	VIEWER [VIEWER, FILE, EMAIL, OCR]
#494	SCAN PARAM. HOLD	DISABLED [DISABLED, ENABLED]

FIRMWARE VERSION GDH1CN

Note:

The above values are the default values.

(KX-MB1900SX)

SETUP LIST

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#145	LCD CONTRAST	NORMAL [NORMAL, DARKER]
#147	SCALE	MILLIMETRES [MILLIMETRES, INCHES]
#155	CHANGE PASSWORD	Set Value
#159	RESTORE DEFAULT	
#165	BEEP SOUND	ON [OFF, ON]
#380	PAPER SIZE #1	A4 [LETTER, A4, B5 (ISO), B5 (JIS), 16K]
#381	PAPER SIZE #2	A4 [LETTER, A4, LEGAL, B5 (ISO), B5 (JIS), 16K, 216x330, 216x340]
#383	MEDIA TYPE #1	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#384	MEDIA TYPE #2	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#403	POWER SAVE	5min [5min, 15min, 30min, 1h]
#462	CONTRAST HOLD	DISABLED [DISABLED, ENABLED]
#482	TONER SAVE	OFF [OFF, ON]

[COPY FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#460	COPY INPUT TRAY	#1 [#1, #2]
#461	COPY RESOLUTION	TEXT/PHOTO [TEXT/PHOTO, TEXT, PHOTO]
#467	PAGE LAYOUT HOLD	DISABLED [DISABLED, ENABLED]
#468	ZOOM HOLD	DISABLED [DISABLED, ENABLED]
#469	COLLATE HOLD	DISABLED [DISABLED, ENABLED]
#473	EDGE HOLD	DISABLED [DISABLED, ENABLED]
#474	FRAME MARGIN	DISABLED [DISABLED, ENABLED]
#475	MARGIN HOLD	DISABLED [DISABLED, ENABLED]

[PC PRINT FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#774	DATA TIMEOUT	60s [5...600(s)]
#776	MUTUAL A4/LETTER	ON [OFF, ON]

[SCAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#493	SCAN MODE	VIEWER [VIEWER, FILE, EMAIL, OCR]
#494	SCAN PARAM. HOLD	DISABLED [DISABLED, ENABLED]

FIRMWARE VERSION GDH1BA

Note:

The above values are the default values.

(KX-MB2010CX)

SETUP LIST

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#101	SET DATE & TIME	01 Jan. 2009 00:00
#145	LCD CONTRAST	NORMAL [NORMAL, DARKER]
#147	SCALE	MILLIMETRES [MILLIMETRES, INCHES]
#155	CHANGE PASSWORD	
#158	MAINTENANCE TIME	12:00 Set Value
#159	RESTORE DEFAULT	
#165	BEEP SOUND	ON [OFF, ON]
#380	PAPER SIZE #1	A4 [LETTER, A4, B5 (ISO), B5 (JIS), 16K]
#381	PAPER SIZE #2	A4 [LETTER, A4, LEGAL, B5 (ISO), B5 (JIS), 16K, 216X330, 216X340]
#383	MEDIA TYPE #1	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#384	MEDIA TYPE #2	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#403	POWER SAVE	5min [5min, 15min, 30min, 1h]
#462	CONTRAST HOLD	DISABLED [DISABLED, ENABLED]
#482	TONER SAVE	OFF [OFF, ON]

[COPY FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#460	COPY INPUT TRAY	#1 [#1, #2]
#461	COPY RESOLUTION	TEXT/PHOTO [TEXT/PHOTO, TEXT, PHOTO]
#467	PAGE LAYOUT HOLD	DISABLED [DISABLED, ENABLED]
#468	ZOOM HOLD	DISABLED [DISABLED, ENABLED]
#469	COLLATE HOLD	DISABLED [DISABLED, ENABLED]
#473	EDGE HOLD	DISABLED [DISABLED, ENABLED]
#474	FRAME MARGIN	DISABLED [DISABLED, ENABLED]
#475	MARGIN HOLD	DISABLED [DISABLED, ENABLED]

[PC PRINT FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#774	DATA TIMEOUT	60s [5...600(s)]
#776	MUTUAL A4/LETTER	ON [OFF, ON]

[SCAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#493	SCAN MODE	VIEWER [VIEWER, FILE, EMAIL, OCR]
#494	SCAN PARAM. HOLD	DISABLED [DISABLED, ENABLED]

[LAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#500	DHCP	ENABLED [DISABLED, ENABLED]
#501	IP ADDRESS	0.0.0.0
#502	SUBNET MASK	0.0.0.0
#503	DEFAULT GATEWAY	0.0.0.0
#504	DNS SERVER #1	0.0.0.0
#505	DNS SERVER #2	0.0.0.0
#507	MACHINE NAME	MB2010CX_13E714
#508	MAC ADDRESS	00:80:F0:13:E7:14
#532	IP FILTERING	DISABLED [DISABLED, ENABLED]
#533	AUTO IP	DISABLED [DISABLED, ENABLED]
#534	HTTPD	ENABLED [DISABLED, ENABLED]
#535	IPv6 PROTOCOL	DISABLED [DISABLED, ENABLED]
#538	WINS SERVER #1	0.0.0.0
#539	WINS SERVER #2	0.0.0.0
#578	ERASE ADDRESS	
	FIRMWARE VERSION	GCW1CN

Note:

The above values are the default values.

(KX-MB2010SX)

SETUP LIST

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#101	SET DATE & TIME	01 Jan. 2009 00:01
#145	LCD CONTRAST	NORMAL [NORMAL, DARKER]
#147	SCALE	MILLIMETRES [MILLIMETRES, INCHES]
#155	CHANGE PASSWORD	
#158	MAINTENANCE TIME	12:00 Set Value
#159	RESTORE DEFAULT	
#165	BEEP SOUND	ON [OFF, ON]
#380	PAPER SIZE #1	A4 [LETTER, A4, B5 (ISO), B5 (JIS), 16K]
#381	PAPER SIZE #2	A4 [LETTER, A4, LEGAL, B5 (ISO), B5 (JIS), 16K, 216X330, 216X340]
#383	MEDIA TYPE #1	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#384	MEDIA TYPE #2	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#403	POWER SAVE	5min [5min, 15min, 30min, 1h]
#462	CONTRAST HOLD	DISABLED [DISABLED, ENABLED]
#482	TONER SAVE	OFF [OFF, ON]

[COPY FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#460	COPY INPUT TRAY	#1 [#1, #2]
#461	COPY RESOLUTION	TEXT/PHOTO [TEXT/PHOTO, TEXT, PHOTO]
#467	PAGE LAYOUT HOLD	DISABLED [DISABLED, ENABLED]
#468	ZOOM HOLD	DISABLED [DISABLED, ENABLED]
#469	COLLATE HOLD	DISABLED [DISABLED, ENABLED]
#473	EDGE HOLD	DISABLED [DISABLED, ENABLED]
#474	FRAME MARGIN	DISABLED [DISABLED, ENABLED]
#475	MARGIN HOLD	DISABLED [DISABLED, ENABLED]

[PC PRINT FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#774	DATA TIMEOUT	60s [5...600(s)]
#776	MUTUAL A4/LETTER	ON [OFF, ON]

[SCAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#493	SCAN MODE	VIEWER [VIEWER, FILE, EMAIL, OCR]
#494	SCAN PARAM. HOLD	DISABLED [DISABLED, ENABLED]

[LAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#500	DHCP	ENABLED [DISABLED, ENABLED]
#501	IP ADDRESS	0.0.0.0
#502	SUBNET MASK	0.0.0.0
#503	DEFAULT GATEWAY	0.0.0.0
#504	DNS SERVER #1	0.0.0.0
#505	DNS SERVER #2	0.0.0.0
#507	MACHINE NAME	MB2010SX_13E714
#508	MAC ADDRESS	00:80:F0:13:E7:14
#532	IP FILTERING	DISABLED [DISABLED, ENABLED]
#533	AUTO IP	DISABLED [DISABLED, ENABLED]
#534	HTTPD	ENABLED [DISABLED, ENABLED]
#535	IPv6 PROTOCOL	DISABLED [DISABLED, ENABLED]
#538	WINS SERVER #1	0.0.0.0
#539	WINS SERVER #2	0.0.0.0
#578	ERASE ADDRESS	

FIRMWARE VERSION GCW1BA

Note:

The above values are the default values.

(KX-MB2025CX)

SETUP LIST

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#101	SET DATE & TIME	01 Jan. 2009 00:00
#102	YOUR LOGO	
#103	YOUR FAX NUMBER	
#114	LOCATION	MIDDLE EAST [MIDDLE EAST, MALAYSIA, ASIA, TUNISIA, AFRICA]
#120	DIALLING MODE	TONE [TONE, PULSE]
#121	SET FLASH TIME	700ms [900, 700, 600, 400, 300, 250, 200, 160, 110, 100, 90, 80(ms)]
#145	LCD CONTRAST	NORMAL [NORMAL, DARKER]
#147	SCALE	MILLIMETRES [MILLIMETRES, INCHES]
#155	CHANGE PASSWORD	
#158	MAINTENANCE TIME	12:00 Set Value
#159	RESTORE DEFAULT	
#161	RINGER PATTERN	A [A, B, C]
#165	BEEP SOUND	ON [OFF, ON]
#210	FAX RING COUNT	2 [1...9]
#216	AUTO CALLER ID LIST	OFF [OFF, ON]
#226	TIME ADJUSTMENT	MANUAL [AUTO, MANUAL]
#380	PAPER SIZE #1	A4 [LETTER, A4, B5(ISO), B5(JIS), 16K]
#381	PAPER SIZE #2	A4 [LETTER, A4, LEGAL, B5(ISO), B5(JIS), 16K, 216X330, 216X340]
#383	MEDIA TYPE #1	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#384	MEDIA TYPE #2	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#403	POWER SAVE	5min [5min, 15min, 30min, 1h]
#462	CONTRAST HOLD	DISABLED [DISABLED, ENABLED]
#463	DEFAULT MODE	COPY [COPY, FAX]
#464	MODE TIMER	1min [OFF, 30s, 1min, 2min, 5min]
#482	TONER SAVE	OFF Set Value [OFF, ON]

[FAX FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#212	TEL/FAX DELAYED RING	2 [1...9]
#289	ERASE PHONEBOOK	
#401	PRINT SENDING REPORT	ERROR [OFF, ON, ERROR]
#402	JOURNAL AUTO PRINT	ON [OFF, ON]
#404	MANUAL ANSWER MODE	TEL [TEL, TEL/FAX]
#411	OVERSEAS MODE	ERROR [NEXT FAX, ERROR, OFF]
#412	DELAYED TRANSMISSION	OFF [OFF, ON]
	DESTINATION =	
	START TIME = 00:00	
#413	ECM SELECTION	ON [OFF, ON]
#416	CONNECTING TONE	ON [OFF, ON]
#418	MAX FAX SPEED	33.6Kbps [33.6Kbps, 14.4Kbps]
#430	DISTINCTIVE RING	OFF [OFF, ON]
#431	FAX RING PATTERN	B-D [B-D, A, B, C, D]
#432	AUTO REDUCTION	ON [OFF, ON]
#434	FAX ACTIVATION CODE	ON [OFF, ON]
	CODE = *#9	
#436	SILENT FAX RECOGNITION RING	3 [3...9]
#437	MEMORY RECEIVE ALERT	ON [OFF, ON]
#438	FRIENDLY RECEPTION	ON [OFF, ON]
#442	PCFAX SETTING	OFF [OFF, ALWAYS, CONNECTED]
#451	RECEIVE NOTIFY	OFF [OFF, ON]
#459	SET FAX DEFAULT	

[COPY FEATURE LIST]

NO.	FEATURE	CURRENT SETTING	
#460	COPY INPUT TRAY	#1	[#1, #2]
#461	COPY RESOLUTION	TEXT/PHOTO	[TEXT/PHOTO, TEXT, PHOTO]
#467	PAGE LAYOUT HOLD	DISABLED	[DISABLED, ENABLED]
#468	ZOOM HOLD	DISABLED	[DISABLED, ENABLED]
#469	COLLATE HOLD	DISABLED	[DISABLED, ENABLED]
#473	EDGE HOLD	DISABLED	[DISABLED, ENABLED]
#474	FRAME MARGIN	DISABLED	[DISABLED, ENABLED]
#475	MARGIN HOLD	DISABLED	[DISABLED, ENABLED]

Code

Set Value

[PC PRINT FEATURE LIST]

NO.	FEATURE	CURRENT SETTING	
#774	DATA TIMEOUT	60s	[5...600(s)]
#776	MUTUAL A4/LETTER	ON	[OFF, ON]

[SCAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING	
#493	SCAN MODE	VIEWER	[VIEWER, FILE, EMAIL, OCR]
#494	SCAN PARAM. HOLD	DISABLED	[DISABLED, ENABLED]
	FIRMWARE VERSION	GCY1CN	

Set Value

Note:

The above values are the default values.

(KX-MB2030CX)

SETUP LIST

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#101	SET DATE & TIME	01 Jan. 2009 00:00
#102	YOUR LOGO	
#103	YOUR FAX NUMBER	
#120	DIALLING MODE	TONE [TONE, PULSE]
#121	SET FLASH TIME	700ms [900, 700, 600, 400, 300, 250, 200, 160, 110, 100, 90, 80(ms)]
#145	LCD CONTRAST	NORMAL [NORMAL, DARKER]
#147	SCALE	MILLIMETRES [MILLIMETRES, INCHES]
#155	CHANGE PASSWORD	
#158	MAINTENANCE TIME	12:00
#159	RESTORE DEFAULT	
#161	RINGER PATTERN	A [A, B, C]
#165	BEEP SOUND	ON [OFF, ON]
#210	FAX RING COUNT	2 [1...9]
#216	AUTO CALLER ID LIST	OFF [OFF, ON]
#226	TIME ADJUSTMENT	MANUAL [AUTO, MANUAL]
#380	PAPER SIZE #1	A4 [LETTER, A4, B5 (ISO), B5 (JIS), 16K]
#381	PAPER SIZE #2	A4 [LETTER, A4, LEGAL, B5 (ISO), B5 (JIS), 16K, 216X330, 216X340]
#383	MEDIA TYPE #1	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#384	MEDIA TYPE #2	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#403	POWER SAVE	5min [5min, 15min, 30min, 1h]
#462	CONTRAST HOLD	DISABLED [DISABLED, ENABLED]
#463	DEFAULT MODE	COPY [COPY, FAX]
#464	MODE TIMER	1min [OFF, 30s, 1min, 2min, 5min]
#482	TONER SAVE	OFF [OFF, ON]

Code

Set Value

[FAX FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#212	TEL/FAX DELAYED RING	2 [1...9]
#289	ERASE PHONEBOOK	
#401	PRINT SENDING REPORT	ERROR [OFF, ON, ERROR]
#402	JOURNAL AUTO PRINT	ON [OFF, ON]
#404	MANUAL ANSWER MODE	TEL [TEL, TEL/FAX]
#411	OVERSEAS MODE	ERROR [NEXT FAX, ERROR, OFF]
#412	DELAYED TRANSMISSION	OFF [OFF, ON]
	DESTINATION =	
	START TIME = 00:00	
#413	ECM SELECTION	ON [OFF, ON]
#416	CONNECTING TONE	ON [OFF, ON]
#418	MAX FAX SPEED	33.6Kbps [33.6Kbps, 14.4Kbps]
#430	DISTINCTIVE RING	OFF [OFF, ON]
#431	FAX RING PATTERN	B-D [B-D, A, B, C, D]
#432	AUTO REDUCTION	ON [OFF, ON]
#434	FAX ACTIVATION CODE	ON [OFF, ON]
	CODE = *#9	
#436	SILENT FAX RECOGNITION RING	3 [3...9]
#437	MEMORY RECEIVE ALERT	ON [OFF, ON]
#438	FRIENDLY RECEPTION	ON [OFF, ON]
#442	PCFAX SETTING	OFF [OFF, ALWAYS, CONNECTED]
#443	PCFAX RCV PC	USB HOST
#448	PREVIEW MODE	OFF [OFF, ON]
#450	WEB FAX PREVIEW	
#451	RECEIVE NOTIFY	OFF [OFF, ON]
#459	SET FAX DEFAULT	

Code

Set Value

[COPY FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#460	COPY INPUT TRAY	#1 [#1, #2]
#461	COPY RESOLUTION	TEXT/PHOTO [TEXT/PHOTO, TEXT, PHOTO]
#467	PAGE LAYOUT HOLD	DISABLED [DISABLED, ENABLED]
#468	ZOOM HOLD	DISABLED [DISABLED, ENABLED]
#469	COLLATE HOLD	DISABLED [DISABLED, ENABLED]
#473	EDGE HOLD	DISABLED [DISABLED, ENABLED]
#474	FRAME MARGIN	DISABLED [DISABLED, ENABLED]
#475	MARGIN HOLD	DISABLED [DISABLED, ENABLED]

[PC PRINT FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#774	DATA TIMEOUT	60s [5...600(s)]
#776	MUTUAL A4/LETTER	ON [OFF, ON]

Set Value

[SCAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#493	SCAN MODE	VIEWER [VIEWER, FILE, EMAIL, OCR]
#494	SCAN PARAM. HOLD	DISABLED [DISABLED, ENABLED]

[LAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#500	DHCP	ENABLED [DISABLED, ENABLED]
#501	IP ADDRESS	0.0.0.0
#502	SUBNET MASK	0.0.0.0
#503	DEFAULT GATEWAY	0.0.0.0
#504	DNS SERVER #1	0.0.0.0
#505	DNS SERVER #2	0.0.0.0
#507	MACHINE NAME	MB2030SX_13C739
#508	MAC ADDRESS	00:80:F0:13:C7:39
#532	IP FILTERING	DISABLED [DISABLED, ENABLED]
#533	AUTO IP	DISABLED [DISABLED, ENABLED]
#534	HTTPD	ENABLED [DISABLED, ENABLED]
#535	IPV6 PROTOCOL	DISABLED [DISABLED, ENABLED]
#538	WINS SERVER #1	0.0.0.0
#539	WINS SERVER #2	0.0.0.0
#578	ERASE ADDRESS	

Set Value

FIRMWARE VERSION

GCZ1BA

Note:

The above values are the default values.

(KX-MB2030SX)

SETUP LIST

[BASIC FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#101	SET DATE & TIME	01 Jan. 2009 00:00
#102	YOUR LOGO	
#103	YOUR FAX NUMBER	
#120	DIALLING MODE	TONE [TONE, PULSE]
#121	SET FLASH TIME	700ms [900, 700, 600, 400, 300, 250, 200, 160, 110, 100, 90, 80(ms)]
#145	LCD CONTRAST	NORMAL [NORMAL, DARKER]
#147	SCALE	MILLIMETRES [MILLIMETRES, INCHES]
#155	CHANGE PASSWORD	
#158	MAINTENANCE TIME	12:00
#159	RESTORE DEFAULT	
#161	RINGER PATTERN	A [A, B, C]
#165	BEEP SOUND	ON [OFF, ON]
#210	FAX RING COUNT	2 [1...9]
#216	AUTO CALLER ID LIST	OFF [OFF, ON]
#226	TIME ADJUSTMENT	MANUAL [AUTO, MANUAL]
#380	PAPER SIZE #1	A4 [LETTER, A4, B5 (ISO), B5 (JIS), 16K]
#381	PAPER SIZE #2	A4 [LETTER, A4, LEGAL, B5 (ISO), B5 (JIS), 16K, 216X330, 216X340]
#383	MEDIA TYPE #1	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#384	MEDIA TYPE #2	PLAIN PAPER [PLAIN PAPER, THIN PAPER]
#403	POWER SAVE	5min [5min, 15min, 30min, 1h]
#462	CONTRAST HOLD	DISABLED [DISABLED, ENABLED]
#463	DEFAULT MODE	COPY [COPY, FAX]
#464	MODE TIMER	1min [OFF, 30s, 1min, 2min, 5min]
#482	TONER SAVE	OFF [OFF, ON]

Code

Set Value

[FAX FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#212	TEL/FAX DELAYED RING	2 [1...9]
#289	ERASE PHONEBOOK	
#401	PRINT SENDING REPORT	ERROR [OFF, ON, ERROR]
#402	JOURNAL AUTO PRINT	ON [OFF, ON]
#404	MANUAL ANSWER MODE	TEL [TEL, TEL/FAX]
#411	OVERSEAS MODE	ERROR [NEXT FAX, ERROR, OFF]
#412	DELAYED TRANSMISSION	OFF [OFF, ON]
	DESTINATION =	
	START TIME =	00:00
#413	ECM SELECTION	ON [OFF, ON]
#416	CONNECTING TONE	ON [OFF, ON]
#418	MAX FAX SPEED	33.6Kbps [33.6Kbps, 14.4Kbps]
#430	DISTINCTIVE RING	OFF [OFF, ON]
#431	FAX RING PATTERN	B-D [B-D, A, B, C, D]
#432	AUTO REDUCTION	ON [OFF, ON]
#434	FAX ACTIVATION CODE	ON [OFF, ON]
	CODE =	*#9
#436	SILENT FAX RECOGNITION RING	3 [3...9]
#437	MEMORY RECEIVE ALERT	ON [OFF, ON]
#438	FRIENDLY RECEPTION	ON [OFF, ON]
#442	PCFAX SETTING	OFF [OFF, ALWAYS, CONNECTED]
#443	PCFAX RCV PC	USB HOST
#448	PREVIEW MODE	OFF [OFF, ON]
#450	WEB FAX PREVIEW	
#451	RECEIVE NOTIFY	OFF [OFF, ON]
#459	SET FAX DEFAULT	

Code

Set Value

[COPY FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#460	COPY INPUT TRAY	#1 [#1, #2]
#461	COPY RESOLUTION	TEXT/PHOTO [TEXT/PHOTO, TEXT, PHOTO]
#467	PAGE LAYOUT HOLD	DISABLED [DISABLED, ENABLED]
#468	ZOOM HOLD	DISABLED [DISABLED, ENABLED]
#469	COLLATE HOLD	DISABLED [DISABLED, ENABLED]
#473	EDGE HOLD	DISABLED [DISABLED, ENABLED]
#474	FRAME MARGIN	DISABLED [DISABLED, ENABLED]
#475	MARGIN HOLD	DISABLED [DISABLED, ENABLED]

[PC PRINT FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#774	DATA TIMEOUT	60s [5...600(s)]
#776	MUTUAL A4/LETTER	ON [OFF, ON]

Set Value

[SCAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#493	SCAN MODE	VIEWER [VIEWER, FILE, EMAIL, OCR]
#494	SCAN PARAM. HOLD	DISABLED [DISABLED, ENABLED]

[LAN FEATURE LIST]

NO.	FEATURE	CURRENT SETTING
#500	DHCP	ENABLED [DISABLED, ENABLED]
#501	IP ADDRESS	0.0.0.0
#502	SUBNET MASK	0.0.0.0
#503	DEFAULT GATEWAY	0.0.0.0
#504	DNS SERVER #1	0.0.0.0
#505	DNS SERVER #2	0.0.0.0
#507	MACHINE NAME	MB2030SX_13C739
#508	MAC ADDRESS	00:80:F0:13:C7:39
#532	IP FILTERING	DISABLED [DISABLED, ENABLED]
#533	AUTO IP	DISABLED [DISABLED, ENABLED]
#534	HTTPD	ENABLED [DISABLED, ENABLED]
#535	IPV6 PROTOCOL	DISABLED [DISABLED, ENABLED]
#538	WINS SERVER #1	0.0.0.0
#539	WINS SERVER #2	0.0.0.0
#578	ERASE ADDRESS	

Set Value

FIRMWARE VERSION

GCZ1BA

Note:

The above values are the default values.

11.3. Service Mode Settings (Example of a printed out list)

(KX-MB2025CX)

[SERVICE DATA LIST]

	501 PAUSE TIME	=	030*100ms	[001...600]*100ms				
	503 DIAL SPEED	=	10pps	[1=10 2=20]pps				
	514 BELL DETECT TIME	=	6*100ms	[1...9]*100ms				
	520 CED FREQUENCY	=	2100Hz	[1=2100 2=1100]Hz				
	521 INTERNATIONAL MODE	=	ON	[1=ON 2=OFF]				
Code	522 AUTO STANDBY	=	ON	[1=ON 2=OFF]				
	523 RX EQUALIZER	=	0.0Km	[1=0.0 2=1.8 3=3.6 4=7.2]Km				
	524 TX EQUALIZER	=	0.0Km	[1=0.0 2=1.8 3=3.6 4=7.2]Km				
	853 TOP MARGIN	=	06*0.5mm	[01...11]*0.5mm				
	854 LEFT MARGIN	=	06*0.5mm	[01...11]*0.5mm				
	874 DTMF ON TIME	=	100ms	[060...200]ms				
	875 DTMF OFF TIME	=	100ms	[060...200]ms				

[SPECIAL SERVICE SETTINGS]

Code	507	508	552	553	567	570	573	590	591	592	593	594	595
	1	1	2	1	052	1	10	05	185	2	1	1	2
	596	598	599	717	718	774	775						
	10	48	1	1	1	00	00						

USAGE TIME = 0 HOURS

Version = GCY1CN 54D8

Note:

The above values are the default values.

(KX-MB2030CX)

[SERVICE DATA LIST]

	501 PAUSE TIME	=	030*100ms	[001...600]*100ms				
	503 DIAL SPEED	=	10pps	[1=10 2=20]pps				
	514 BELL DETECT TIME	=	6*100ms	[1...9]*100ms				
	520 CED FREQUENCY	=	2100Hz	[1=2100 2=1100]Hz				
Code	521 INTERNATIONAL MODE	=	ON	[1=ON 2=OFF]				
	522 AUTO STANDBY	=	ON	[1=ON 2=OFF]				
	523 RX EQUALIZER	=	0.0Km	[1=0.0 2=1.8 3=3.6 4=7.2]Km				
	524 TX EQUALIZER	=	0.0Km	[1=0.0 2=1.8 3=3.6 4=7.2]Km				
	853 TOP MARGIN	=	06*0.5mm	[01...11]*0.5mm				
	854 LEFT MARGIN	=	06*0.5mm	[01...11]*0.5mm				
	874 DTMF ON TIME	=	100ms	[060...200]ms				
	875 DTMF OFF TIME	=	100ms	[060...200]ms				

Set Value

[SPECIAL SERVICE SETTINGS]

Code	507	508	552	553	567	570	573	590	591	592	593	594	595
	1	1	2	1	052	1	10	05	185	2	1	1	2
	596	598	599	717	718	774	775						
	10	48	1	1	1	00	00						

Set Value

USAGE TIME = 0 HOURS

Version = GCZ1CN 2C4E

Note:
The above values are the default values.

(KX-MB2030SX)

[SERVICE DATA LIST]

	501 PAUSE TIME	=	030*100ms	[001...600]*100ms				
	503 DIAL SPEED	=	10pps	[1=10 2=20]pps				
	514 BELL DETECT TIME	=	6*100ms	[1...9]*100ms				
Code	520 CED FREQUENCY	=	2100Hz	[1=2100 2=1100]Hz				
	521 INTERNATIONAL MODE	=	ON	[1=ON 2=OFF]				
	522 AUTO STANDBY	=	ON	[1=ON 2=OFF]				
	523 RX EQUALIZER	=	0.0Km	[1=0.0 2=1.8 3=3.6 4=7.2]Km				
	524 TX EQUALIZER	=	0.0Km	[1=0.0 2=1.8 3=3.6 4=7.2]Km				
	853 TOP MARGIN	=	06*0.5mm	[01...11]*0.5mm				
	854 LEFT MARGIN	=	06*0.5mm	[01...11]*0.5mm				
	874 DTMF ON TIME	=	100ms	[060...200]ms				
	875 DTMF OFF TIME	=	100ms	[060...200]ms				

Set Value

[SPECIAL SERVICE SETTINGS]

Code	507	508	552	553	567	570	573	590	591	592	593	594	595
	1	1	2	1	052	1	10	05	185	2	1	1	2
	596	598	599	717	718	774	775						
	10	48	1	1	1	00	00						

Set Value

USAGE TIME = 0 HOURS

Version = GCZ1BA 4FB5

Note:
The above values are the default values.

11.4. History (Example of a printed out list)

[HISTORY]

```

Model : MB2030RU Usage Time : 000002
Rom Version(Main) : Ver8.50 Receive Mode : FAX
Check SUM : 0EEA Number of Copy : 000000
Number of Receive : 000000
Number of Send : 000000

Your LOGO :
Your Fax NO :
First Setting Date/Time
Month : 01 Drum Print Count : 00007
Day : 01 Drum Paddle Count : 00030
Year : 2009 Toner Print Count : 000000
Hour/Minute : 0000 Toner Paddle Count : 000000
Total Print Count : 0000007
Duplex Count : 0000000
Factory to Customer(Day) : 00000
Factory to Now(Day) : 00000
Power On Count : 0000003
    
```

(1)	(2)	(3)	(4)	(5)	(6)
0 0 0 0 0 0	0 0 0 0 0 2	0 0 0 0 0 0	0 0 0 0 0 0	P U L S E	0 0 0 0 0
(7)	(8)	(9)	(10)	(11)	(12)
0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 0	0 0 0 0
(13)	(14)	(15)	(16)	(17)	(18)
0 0 0 0 0 0	0 0 0	0 0 0	0 0 0 0	0 0 0 0	0 0 0 0
(19)	(20)	(21)	(22)	(23)	(24)
0 0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0	0 0 0 0 0 0
(25)		(26)		(27)	
0 0 0 0 0 0		0 0 0 0 0 0		0 0 0 0 0 0	

NAME _____ DATE _____ DEALER _____
 CUSTOMER COMPLAINT _____

SURVEY RESULT : CKOK (UNKNOWN/DESIGN/EDUC) DEFECT (PART/WORKER/DESIGN)
 ABUSE (CUST/DEALER/SHIP) NEW (OPEN/NOT)
 PHONE SURVEY RESULT.

Note:

See the following descriptions of this report. Item No. (1) ~ (27) are corresponding to the listed items in **Descriptions of The History Report** (P.113).

11.4.1. Descriptions of The History Report

(1) Usage Time of Receive Mode (Tel Mode) (KX-MB2025/KX-MB2030 ONLY)


- (2) Usage Time of Receive Mode (Fax Mode) (KX-MB2025/KX-MB2030 ONLY)
- (3) Not used
- (4) Not used
- (5) Dial Mode
- (6) Number of Directory Entry
- (7) Number of Caller ID
- (8) Number of Scan
- (9) Number of ADF Scan (KX-MB2010/2025/2030 ONLY)
- (10) Number of Flatbed Scan
- (11) Number of PC Scan
- (12) Number of Document JAM
- (13) Number of Print
- (14) Number of Warning List
- (15) Number of Help List
- (16) Call Service 3 Information 1
- (17) Call Service 3 Information 2
- (18) Call Service 3 Information 3
- (19) Number of Recording paper JAM
- (20) Number of Pickup Errors in Cassette 1
- (21) Not used
- (22) Not used
- (23) Not used
- (24) Not used
- (25) Not Used
- (26) Not Used
- (27) Number of Copies

12 Troubleshooting Guide

12.1. User Recoverable Errors

If the unit detects a problem, one or more of the following messages will appear on the display.
The explanations given in the [] are for servicemen only.

DISPLAY MESSAGE	CAUSE AND REMEDY
CALL SERVICE 1	<ul style="list-style-type: none"> • Polygon motor error. Refer to CALL SERVICE 1 (P.132).
CALL SERVICE 2	<ul style="list-style-type: none"> • Laser beam error. Replace LSU unit. Refer to CALL SERVICE 2 (P.133).
CALL SERVICE 3	<ul style="list-style-type: none"> • Fuser unit cannot heat up. Replace fuser unit. Refer to CALL SERVICE 3 (P.134).
CALL SERVICE 4	<ul style="list-style-type: none"> • Fan motor error. Replace fan motor. Refer to CALL SERVICE 4 (P.135).
CALL SERVICE 5	<ul style="list-style-type: none"> • Print motor error. (only for DC motor) Refer to CALL SERVICE 5 (P.136).
CALL SERVICE 6	<ul style="list-style-type: none"> • Charge unit error (An error occurred in the Charge unit including High voltage unit. (Also the Charger went wrong.)) Refer to CALL SERVICE 6 (P.137).
CHANGE DRUM	<ul style="list-style-type: none"> • There is something wrong with the drum cartridge. Replace the drum cartridge and the toner cartridge.
CHECK DOCUMENT	<ul style="list-style-type: none"> • The document was not fed into the unit properly. Remove the document, and then press [STOP] to clear the message. Re-insert the document. If misfeeding occurs frequently, clean the document feeder rollers and try again.
CHECK DRUM	<ul style="list-style-type: none"> • The drum cartridge is not inserted properly. Re-insert it correctly.
CHECK PAPER #1	<ul style="list-style-type: none"> • Recording paper is not installed or the paper input tray has run out of paper. Install paper. • Recording paper was not fed into the unit properly. Re-insert the recording paper. • The paper input tray is not installed or is not inserted completely. Insert the paper input tray into the unit.
CHECK PAPER TRAY #1	<ul style="list-style-type: none"> • The loaded recording paper is not the appropriate size. Load recording paper of the size that is shown on the display. • If this message is often displayed, also change the recording paper size setting (feature #380). • The recording paper size setting (feature #380) is set to "B5(ISO)", "B5(JIS)" or "16K", so received faxes have been stored into memory. Change the recording paper size setting and load the appropriate recording paper. <p>Note:</p> <ul style="list-style-type: none"> • "#1": Check the paper input tray. The displayed paper size depends on the recording paper size setting (feature #380). • "#2": Check the manual input tray. The displayed paper size depends on the recording paper size setting (feature #381). Refer to Program Mode Table (P.120)
CHECK PICK UP INPUT TRAY #2	<ul style="list-style-type: none"> - "#2": Manual input tray • Recording paper was not fed into the unit properly. Load the paper again.
CHECK REAR COVER	<ul style="list-style-type: none"> • The manual input tray (rear cover) is open. Close it. • A recording paper jam occurred near the manual input tray (rear cover). Remove the jammed paper.
COOL DOWN FUSER	<ul style="list-style-type: none"> • The unit is cooling down the fuser unit. Wait for a while.
DRUM LIFE LOW REPLACE SOON	<ul style="list-style-type: none"> • The drum is reaching the end of its life. Replace the drum cartridge and the toner cartridge as soon as possible.
EMAIL SIZE OVER	<ul style="list-style-type: none"> • When performing scan to email address, the total file size of scanned data exceeded the file size limitation. Divide the document into sections.

DISPLAY MESSAGE	CAUSE AND REMEDY
FAX IN MEMORY	<ul style="list-style-type: none"> The unit has a document in memory. See the other displayed message instructions to print out the document. If the PC fax setting (feature #442) is set to "ALWAYS", <ul style="list-style-type: none"> check the connection between the computer and the unit. check that the computer is turned ON. If your unit is connected to the computer via the LAN and the fax preview mode is set to "ON", <ul style="list-style-type: none"> view, print or save the received fax documents, and then erase the unnecessary documents. turn the setting to "OFF". The fax documents stored in memory will be printed automatically.
FILE SIZE OVER	<ul style="list-style-type: none"> When performing scan to FTP server or scan to SMB folder, the total file size of scanned data exceeded the file size limitation. Divide the document into sections.
KEEP COPYING	<ul style="list-style-type: none"> Copying has stopped due to some existing problem (Example: a lack of recording paper or a recording paper jam). See the other displayed message instructions to continue copying.
LOW TEMP.	<ul style="list-style-type: none"> The inside of the unit is extremely cold and cannot be operated. Use the unit in a warmer area.
MEMORY FULL	<ul style="list-style-type: none"> When performing memory transmission, the document being stored exceeded the memory capacity of the unit. Send the entire document manually. When making a copy, the document being stored exceeded the memory capacity of the unit. Press [STOP] to clear the message. Divide the document into sections.
MODEM ERROR	<ul style="list-style-type: none"> There is something wrong with the unit's modem.
NO FAX REPLY	<ul style="list-style-type: none"> The other party's fax machine is busy or has run out of recording paper. Try again.
OUT OF PAPER INPUT TRAY #2	<ul style="list-style-type: none"> Recording paper is not loaded in the manual input tray. Load paper.
PAPER IN TRAY #2	<ul style="list-style-type: none"> The recording paper is installed in the manual input tray.
PAPER JAMMED  OPEN TOP COVER	<ul style="list-style-type: none"> A recording paper jam occurred. Remove the jammed paper.
PC FAIL OR BUSY	<ul style="list-style-type: none"> The cable or the computer power cord is not connected correctly. Check the connections. The software is not running on the computer. Restart the software and try again.
PHONEBOOK FULL	<ul style="list-style-type: none"> There is no space to store new items in the phonebook. Erase unnecessary items.
PLEASE WAIT	<ul style="list-style-type: none"> The unit is warming up. Wait for a while.
POLLING ERROR	<ul style="list-style-type: none"> The other party's fax machine does not offer the polling function. Check with the other party.
REDIAL TIME OUT	<ul style="list-style-type: none"> The other party's fax machine is busy or has run out of recording paper. Try again.
REMOVE DOCUMENT	<ul style="list-style-type: none"> The document is jammed. Remove the jammed document. Attempted to send or copy a document longer than 600 mm using the automatic document feeder. Press [STOP] to remove the document. Divide the document into two or more sheets and try again.
REMOVE PAPER IN INPUT TRAY #2	<ul style="list-style-type: none"> The recording paper is installed in the manual input tray when trying to receive faxes or print reports. Remove the recording paper from manual input tray.
REPLACE DRUM CHANGE SUPPLIES	<ul style="list-style-type: none"> The drum cartridge's service life is finished. Replace the drum cartridge and the toner cartridge immediately.
RX MEMORY FULL	<ul style="list-style-type: none"> The memory is full of received documents due to a lack of recording paper or a recording paper jam. Load paper or remove the jammed paper. If the PC fax (feature #442) is set to "ALWAYS", <ul style="list-style-type: none"> check the connection between the computer and the unit. check that the computer is turned ON. If your unit is connected to the computer via the LAN and the fax preview mode (feature #448) is set to "ON", <ul style="list-style-type: none"> view, print or save the received fax documents, and then erase the unnecessary documents. turn the setting to "OFF". The fax documents stored in memory will be printed automatically.

DISPLAY MESSAGE	CAUSE AND REMEDY
<div style="border: 1px solid black; padding: 2px; width: fit-content;">SCANNER POSITION ERROR</div>	<ul style="list-style-type: none"> • There is something wrong with the scanner position. Turn the power switch OFF, then ON. If the problem cannot be solved, contact our service personnel.
<div style="border: 1px solid black; padding: 2px; width: fit-content; margin-bottom: 5px;">TONER EMPTY</div> <div style="text-align: center; margin: 5px 0;">↕</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">CHANGE SUPPLIES</div>	<ul style="list-style-type: none"> • The toner is empty. Replace the toner cartridge immediately.
<div style="border: 1px solid black; padding: 2px; width: fit-content; margin-bottom: 5px;">TONER LOW</div> <div style="text-align: center; margin: 5px 0;">↕</div> <div style="border: 1px solid black; padding: 2px; width: fit-content;">CHANGE SUPPLIES</div>	<ul style="list-style-type: none"> • The toner is reaching the end of its life. You will need to replace the toner cartridge soon.
<div style="border: 1px solid black; padding: 2px; width: fit-content;">TOP COVER OPEN</div>	<ul style="list-style-type: none"> • The top cover is open. Close it.
<div style="border: 1px solid black; padding: 2px; width: fit-content;">TRANSMIT ERROR</div>	<ul style="list-style-type: none"> • A transmission error occurred. Try again.

12.2. Remote Programming (KX-MB2025/KX-MB2030 ONLY)

If, after the call is connected, the customer describes the situation and it is determined that the problem can be corrected by making parameter changes, this function makes it possible to change parameters such as the user code and service code from another fax (using DTMF tones). Therefore, travel to the customer's location is not required. However, it is not possible to change all the parameters remotely (**Program Mode Table**(P.120)). The function used to accomplish this is remote programming.

First, in order to check the current status of the service code parameter, print out the setup list (code: 991) and the service list (code: 999) from the customer's fax machine.

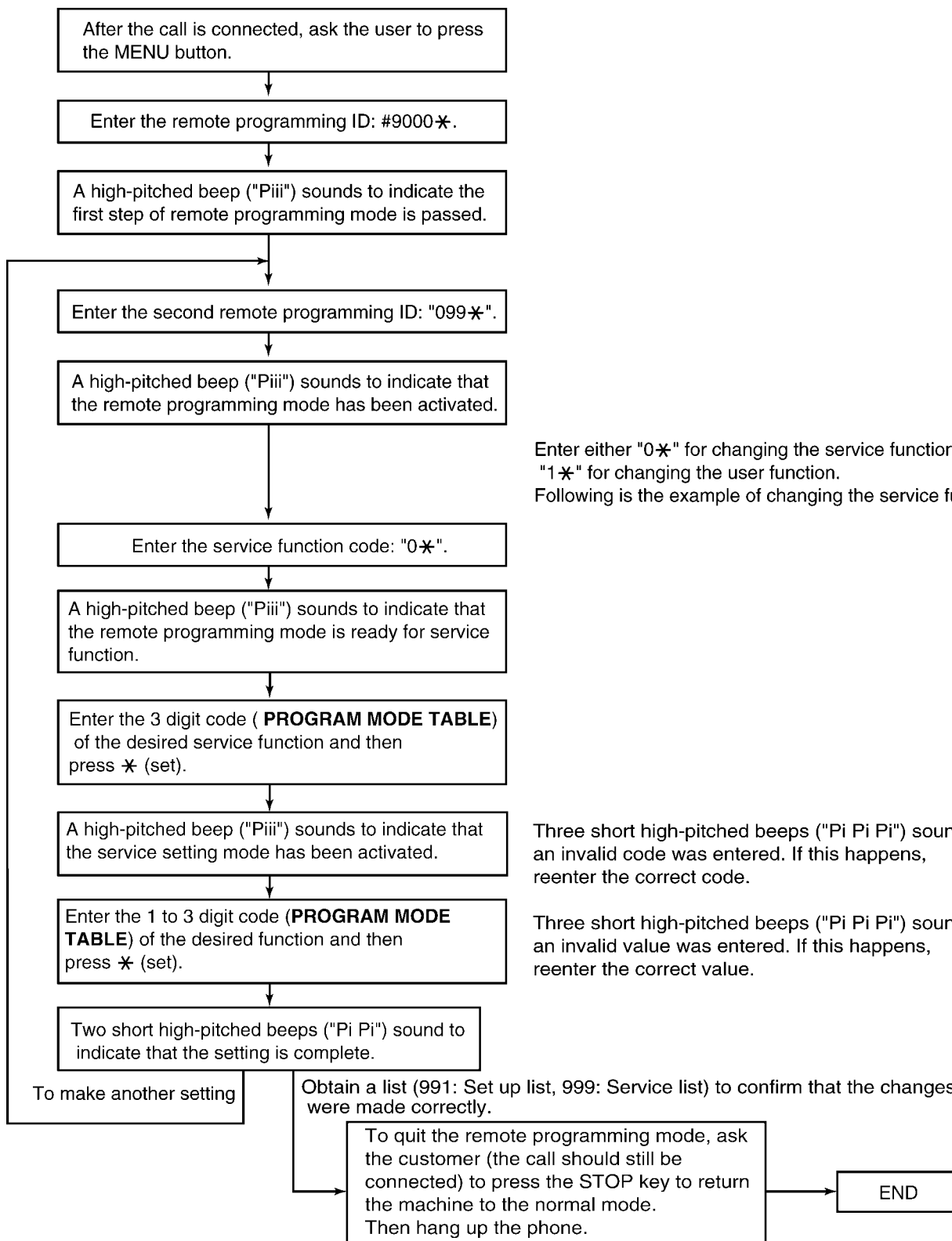
Based on this, the parameters for the desired codes can be changed.

The procedure for changing and listing parameters is described on **Entering the Remote Programming Mode and Changing Service Codes (KX-MB2025/KX-MB2030 ONLY)**(P.119). Also, before exiting the remote programming mode, it is advisable to obtain a new list to confirm that the changes were made correctly.

Hint:

Since the connected telephone is in use during the remote programming mode, it may be helpful to ask the customer to switch to the speakerphone. This frees the customer from the need to remain right next to the fax while you are making parameter settings. When finished, inform the customer. Also note that in very noisy locations where the DTMF tones are not audible, the remote programming function will not work.

12.2.1. Entering the Remote Programming Mode and Changing Service Codes (KX-MB2025/KX-MB2030 ONLY)



Enter either "0*" for changing the service function or "1*" for changing the user function. Following is the example of changing the service function.

Three short high-pitched beeps ("Pi Pi Pi") sound if an invalid code was entered. If this happens, reenter the correct code.

Three short high-pitched beeps ("Pi Pi Pi") sound if an invalid value was entered. If this happens, reenter the correct value.

CROSS REFERENCE:
Program Mode Table (P.120)

12.2.2. Program Mode Table

12.2.2.1. User Function (KX-MB2025/KX-MB2030)

Basic features

Code	Function	Set Value	Default	Remote Setting
101	SET DATE & TIME	dd/mm/yy hh:mm	01/01/09	NG
102	YOUR LOGO	-----	None	NG
103	YOUR FAX NUMBER	-----	None	NG
114	SET LOCATION (KX-MB2025CX/KX-MB2030CX only)	1:MIDDLE EAST / 2:MALAYSIA / 3:ASIA / 4:TUNISIA / 5:AFRICA	MIDDLE EAST	OK
120	DIALLING MODE	1:PULSE / 2:TONE	TONE	OK
121	SET RECALL / FLASH TIME	90:900 / 70:700 / 60:600 / 40:400 / 30:300 / 25:250 / 20:200 / 16:160 / 11:110 / 10: 100 / 9: 90 / 8: 80 (ms)	700ms	OK
145	LCD CONTRAST	1:NORMAL / 2:DARKER	NORMAL	NG
147	SCALE	1:MILLIMETERS / 2:INCHES	MILLIMETERS	OK
155	CHANGE PASSWORD	-----	DEFAULT=1234	NG
158	MAINTENANCE TIME	-----	12:00	NG
159	RESTORE DEFAULT	YES / NO	NO	NG
161	RINGER PATTERN	A / B / C	A	NG
165	BEEP SOUND	2:ON / 1:OFF	ON	OK
210	FAX RING COUNT	1 to 9 rings (for ext. tam)	2	OK
216	AUTO CALLER ID LIST	2:ON / 1:OFF	OFF	OK
226	TIME ADJUSTMENT	1:MANUAL / 2:AUTO	MANUAL	OK
380	PAPER SIZE	1:LETTER / 2:A4 / 4:B5(ISO) / 5:B5(JIS) / 6:16K	A4	OK
381	PAPER SIZE #2	1:LETTER / 2:A4 / 3:LEGAL / 4:B5(ISO) / 5:B5(JIS) / 6:16K / 7:216x330 / 8:216x340*1	A4	OK
383	MEDIA TYPE #1	1:PLAIN PAPER / 2:THIN PAPER	PLAIN PAPER	OK
384	MEDIA TYPE #2	1:PLAIN PAPER / 2:THIN PAPER	PLAIN PAPER	OK
403	POWER SAVE	5:5min / 15:15min / 30:30min / 60:1h	5min	OK
462	CONTRAST HOLD	1:DISABLED / 2:ENABLED	DISABLED	OK
463	DEFAULT MODE	1:COPY / 2:FAX	COPY	OK
464	MODE TIMER	0:OFF / 1:30S / 2:1min / 3:2min / 4:5min	1min	OK
482	TONER SAVE	2:ON / 1:OFF	OFF	OK

Fax features

Code	Function	Set Value	Default	Remote Setting
212	DELAYED RING COUNT	1~9	2	OK
289	ERASE PHONEBOOK	YES / NO	NO	NG
401	PRINT SENDING REPORT	1:ERROR / 2:ON / 3:OFF	ERROR	OK
402	JOURNAL AUTO PRINT	2:ON / 1:OFF	ON	OK
404	RECEIVING MODE	1:TEL / 2:TEL/FAX	TEL	OK
411	OVERSEAS MODE	1:NEXT FAX / 2:ERROR / 3:OFF	ERROR	OK
412	DELAYED TRANSMISSION	1:ON / 0:OFF	OFF	NG
413	ECM SELECTION	2:ON / 1:OFF	ON	OK
416	CONNECTING TONE	2:ON / 1:OFF	ON	OK
418	MAX FAX SPEED	1:14.4Kbps / 2:33.6Kbps	33.6Kbps	OK
430	DISTINCTIVE RING	1:OFF / 2:ON	OFF*2	OK
431	FAX RING PATTERN	1:B-D / 2:A / 3:B / 4:C / 5:D	B-D*2	OK
432	AUTO REDUCTION	2:ON / 1:OFF	ON	OK
434	FAX ACTIVATION CODE	ON / OFF	ON CODE=*#9	NG
436	SILENT FAX RING SETTING	3~9	3	OK
437	MEMORY RECEIVE ALERT	2:ON / 1:OFF	ON	OK
438	FRIENDLY RECEPTION	2:ON / 1:OFF	ON	OK
442	PCFAX SETTING	1:OFF / 2:ALWAYS / 3:CONNECTED	OFF	OK
443	PCFAX RCV PC (KX-MB2030 only)	-----	USB HOST	NG
448	PREVIEW MODE (KX-MB2030 only)	2:ON / 1:OFF	OFF	OK
450	WEB FAX PREVIEW (KX-MB2030 only)	-----	-----	NG
451	RECEIVE NOTIFY	2:ON / 1:OFF	OFF	OK
459	SET FAX DEFAULT	YES / NO	NO	NG

Copy features

Code	Function	Set Value	Default	Remote Setting
460	COPY INPUT TRAY	1:#1/ 2:#2	#1	NG
461	COPY RESOLUTION	1:TEXT/PHOTO / 2:TEXT / 3:PHOTO	TEXT/PHOTO	OK
467	PAGE LAYOUT HOLD	1:DISABLED / 2:ENABLED	DISABLED	OK
468	ZOOM HOLD	1:DISABLED / 2:ENABLED	DISABLED	OK
469	COLLATE HOLD	1:DISABLED / 2:ENABLED	DISABLED	OK
473	EDGE HOLD	1:DISABLED / 2:ENABLED	DISABLED	OK
474	FRAME MARGIN	1:DISABLED / 2:ENABLED	DISABLED	OK
475	MARGIN HOLD	1:DISABLED / 2:ENABLED	DISABLED	OK

PC print features

Code	Function	Set Value	Default	Remote Setting
774	DATA TIMEOUT	5~600s	60s	NG
776	MUTUAL A4/LETTER	2:ON / 1:OFF	ON	OK

Scan features

Code	Function	Set Value	Default	Remote Setting
493	SCAN MODE	1:VIEWER / 2:FILE / 3:EMAIL / 4:OCR / 5:EMAIL ADDRESS / 6:FTP SERVER (KX-MB2030 ONLY) / 7:SMB FOLDER (KX-MB2030 ONLY)	VIEWER	OK
494	SCAN PARAM. HOLD	1:DISABLED / 2:ENABLED	DISABLED	OK

LAN features (KX-MB2030 only)

Code	Function	Set Value	Default	Remote Setting
500	DHCP	1:DISABLED / 2:ENABLED	ENABLED	OK
501	IP ADDRESS	-----		NG
502	SUBNET MASK	-----		NG
503	DEFAULT GATEWAY	-----		NG
504	DNS SERVER #1	-----		NG
505	DNS SERVER #2	-----		NG
507	MACHINE NAME	-----		NG
508	MAC ADDRESS	-----		NG
532	IP FILTERING	1:DISABLED / 2:ENABLED	DISABLED	OK
533	AUTO IP	1:DISABLED / 2:ENABLED	DISABLED	OK
534	HTTPD	1:DISABLED / 2:ENABLED	ENABLED	OK
535	IPv6 PROTOCOL	1:DISABLED / 2:ENABLED	DISABLED	OK
538	WINS SERVER #1	-----		NG
539	WINS SERVER #2	-----		NG
578	ERASE EMAIL DIR.	YES / NO	NO	NG

*1 Choices “4:216 x 330 / 5:216 x 340” change to Inch display when “INCHES” is set on feature #147 setting.

*2 The default value changes depends on Location setting (#114). Refer to the following list for more details.

#114 Function	MIDDLE EAST(1) AFRICA(5) ASIA(3)	MALAYSIA(2)	TUNISIA(4)
430	Function Valid default value: OFF	Function Invalid (OFF Fixed)	Function Invalid (OFF Fixed)
431	Function Valid default value: B-D	Function Invalid (B-D Fixed)	Function Invalid (B-D Fixed)

12.2.2.2. User Function (KX-MB1900/2010)

NOTE: KX-MB1900/MB2010 does not have remote control function

Basic features

Code	Function	Set Value	Default	Remote Setting
101	SET DATE & TIME	dd/mm/yy hh:mm	01/01/09	NG
145	LCD CONTRAST	NORMAL / DARKER	NORMAL	NG
147	SCALE	MILLIMETERS / INCHES	MILLIMETERS	NG
155	CHANGE PASSWORD	-----	DEFAULT=1234	NG
158	MAINTENANCE TIME	-----	12:00	NG
159	RESTORE DEFAULT	YES / NO	NO	NG
165	BEEP SOUND	ON / OFF	ON	NG
380	PAPER SIZE	LETTER / A4 / B5(ISO) / B5(JIS) / 16K	A4	NG
381	PAPER SIZE #2	LETTER / A4 / LEGAL / B5(ISO) / B5(JIS) / 16K / 216x330 / 216x340*1	A4	NG
383	MEDIA TYPE #1	PLAIN PAPER / THIN PAPER	PLAIN PAPER	NG
384	MEDIA TYPE #2	PLAIN PAPER / THIN PAPER	PLAIN PAPER	NG
403	POWER SAVE	5min / 15min / 30min / 1h	5min	NG
462	CONTRAST HOLD	DISABLED / ENABLED	DISABLED	NG
482	TONER SAVE	ON / OFF	OFF	NG

Copy features

Code	Function	Set Value	Default	Remote Setting
460	COPY INPUT TRAY	#1 / #2	#1	NG
461	COPY RESOLUTION	TEXT/PHOTO / TEXT / PHOTO	TEXT/PHOTO	NG
467	PAGE LAYOUT HOLD	DISABLED / ENABLED	DISABLED	NG
468	ZOOM HOLD	DISABLED / ENABLED	DISABLED	NG
469	COLLATE HOLD	DISABLED / ENABLED	DISABLED	NG
473	EDGE HOLD	DISABLED / ENABLED	DISABLED	NG
474	FRAME MARGIN	DISABLED / ENABLED	DISABLED	NG
475	MARGIN HOLD	DISABLED / ENABLED	DISABLED	NG

PC print features

Code	Function	Set Value	Default	Remote Setting
774	DATA TIMEOUT	5~600s	60s	NG
776	MUTUAL A4/LETTER	ON / OFF	ON	NG

Scan features

Code	Function	Set Value	Default	Remote Setting
493	SCAN MODE	VIEWER / FILE / EMAIL / OCR / EMAIL ADDRESS / FTP SERVER / SMB FOLDER	VIEWER	NG
494	SCAN PARAM. HOLD	DISABLED / ENABLED	DISABLED	NG

LAN features

Code	Function	Set Value	Default	Remote Setting
500	DHCP	DISABLED / ENABLED	ENABLED	NG
501	IP ADDRESS	-----		NG
502	SUBNET MASK	-----		NG
503	DEFAULT GATEWAY	-----		NG
504	DNS SERVER #1	-----		NG
505	DNS SERVER #2	-----		NG
507	MACHINE NAME	-----		NG
508	MAC ADDRESS	-----		NG
532	IP FILTERING	DISABLED / ENABLED	DISABLED	NG
533	AUTO IP	DISABLED / ENABLED	DISABLED	NG
534	HTTPD	DISABLED / ENABLED	ENABLED	NG
535	IPv6 PROTOCOL	DISABLED / ENABLED	DISABLED	NG
538	WINS SERVER #1	-----		NG
539	WINS SERVER #2	-----		NG
578	ERASE EMAIL DIR.	YES / NO	NO	NG

*1 Choices "4:216 x 330 / 5:216 x 340" change to Inch display when "INCHES" is set on feature #147 setting.

12.2.2.3. Service Function (KX-MB2025/KX-MB2030)

Code	Function	Set Value	Default	Remote Setting
501	Pause time set	001~600 x 100msec	030	OK
503	Dial speed	1:10pps / 2:20 pps	10pps	OK
507	V34 transmission start speed	0:Disable/1:33.6/2:31.2/3:28.8/4:26.4/ 5:24.0/6:21.6/7:19.2/8:16.8/	33600bps	OK
508	V34 reception start speed	0:Disable/1:33.6/2:31.2/3:28.8/4:26.4/ 5:24.0/6:21.6/7:19.2/8:16.8/	33600bps	OK
514	Bell signal detect time	1~9 x 100msec	6	OK
520	CED frequency select	1:2100Hz / 2:1100Hz	2100	OK
521	International mode select	1:ON / 2:OFF	ON	OK
522	Auto standby select	1:ON / 2:OFF	ON	OK
523	Receive equalizer select	1:0kms / 2:1.8km / 3:3.6km / 4:7.2km	0 km	OK
524	Transmission equalizer select	1:0kms / 2:1.8km / 3:3.6km / 4:7.2km	0 km	OK
527	V8 function select	1:OFF / 2:ON	ON	OK
529	Memory clear for Call Service	-----	-----	NG
550	Memory clear	-----	-----	NG
551	ROM check	-----	-----	NG
552	DTMF signal tone test	1:ON / 2:OFF	OFF	OK
553	Monitor on FAX communication select	1:OFF / 2:Phase B / 3:ALL	OFF	OK
554	Modem test	-----	-----	NG
555	Scanner test	-----	-----	NG
556	Motor test	-----	-----	NG
557	LED test	-----	-----	NG
558	LCD test	-----	-----	NG
561	Key test	-----	-----	NG
567	T0 timer	001~255sec	052	OK
570	Break % select	1:61% / 2:67%	61% ^{*1}	OK
571	ITS auto redial time set	00~99	5 ^{*1}	OK
572	ITS auto redial line disconnection time set	001~999sec	185 ^{*1}	OK
573	Remote turn-on ring number set	00~99	10	OK
574	Dial tone detect check	1: ON / 2: OFF	OFF	OK
590	FAX auto redial time set	00~99	05 ^{*1}	OK
591	FAX auto redial line disconnection time set	001~999sec	185 ^{*1}	OK
592	CNG transmit select	1:OFF / 2:ALL / 3:AUTO	ALL	OK
593	Time between CED and 300bps	1:75ms / 2:500ms / 3:1sec	75ms	OK
594	Overseas DIS detection select	1:1st / 2:2nd	1st	OK
595	Receive error limit value set	1:5% / 2:10% / 3:15% / 4:20%	10%	OK
596	Transmit level set	-15~00dBm	10	OK
598	Receiving Sensitivity	20~48	48	OK
599	ECM Frame size	1:256 / 2:64	256byte	OK
628	H.V.P.S check	-----	-----	NG
639	LSU test	-----	-----	NG
655	Cause distinction code of call service 3	-----	-----	NG
677	Fan test	-----	-----	NG
711	Dialing mode	1:PULSE 2:TONE	PULSE	OK
717	Transmit speed select	1: 14400bps / 2:12000bps / 3:9600bps / 4:7200bps / 5:4800bps / 6:2400bps	14400bps	OK
718	Receive speed select	1: 14400bps / 2:12000bps / 3:9600bps / 4:7200bps / 5:4800bps / 6:2400bps	14400bps	OK
721	Pause tone detect	1:ON / 2:OFF	OFF	OK
722	Redial tone detect	1:ON / 2:OFF	ON	OK
763	CNG detect time for friendly reception	1:10s / 2:20s / 3:30s	30s	OK
774	Receiving T4 timer	00~99 x 100msec	00	OK
775	Transmission T4 timer	00~99 x 100msec	00	OK
815	Sensor check	-----	-----	NG
852	Print test pattern	-----	-----	NG
853	Top margin	1~11	6	OK
854	Left margin	1~11	6	OK
874	DTMF ON time	060~200msec	100	OK
875	DTMF OFF time	060~200msec	100	OK
880	History list	-----	-----	NG
881	Journal 2	-----	-----	NG
882	Journal 3	-----	-----	NG

OK means "can set".

NG means “can not set”.

Note:

Refer to **Service Function Table (KX-MB2025/KX-MB2030)** (P.97) for descriptions of the individual codes.

Example:

If you want to set value in the “401 PRINT SENDING REPORT”, press the dial key number 1, 2 or 3 corresponding to the Set Value you want to select. (1:ERROR/2:ON/3:OFF)

Note:

*1The default value changes depends on Location setting (#114). Refer to the following list for more details. Refer to **Program Mode Table** (P.120).

#114 Function	MIDDLE EAST(1) AFRICA(5) ASIA(3)	MALAYSIA(2)	TUNISIA(4)
570	Function Valid default value: 61%	Function Valid default value: 67%	Function Valid default value: 67%
571	Function Valid default value: 5	Function Valid default value: 2	Function Valid default value: 5
572	Function Valid default value: 185s	Function Valid default value: 125s	Function Valid default value: 185s
590	Function Valid default value: 05	Function Valid default value: 02	Function Valid default value: 05
591	Function Valid default value: 185	Function Valid default value: 125	Function Valid default value: 185

12.2.2.4. Service Function (KX-MB1900/2010)

NOTE: KX-MB1900/MB2010 does not have remote control function

Code	Function	Set Value	Default	Remote Setting
529	Memory clear for Call Service	-----	-----	NG
550	Memory clear	-----	-----	NG
551	ROM check	-----	-----	NG
555	Scanner test	-----	-----	NG
556	Motor test	-----	-----	NG
557	LED test	-----	-----	NG
558	LCD test	-----	-----	NG
561	Key test	-----	-----	NG
628	H.V.P.S check	-----	-----	NG
639	LSU test	-----	-----	NG
655	Cause distinction code of call service 3	-----	-----	NG
677	Fan test	-----	-----	NG
815	Sensor check	-----	-----	NG
852	Print test pattern	-----	-----	NG
853	Top margin	1~11	6	NG
854	Left margin	1~11	6	NG
880	History list	-----	-----	NG

OK means “can set”.

NG means “can not set”.

Note:

Refer to **Service Function Table (KX-MB2025/KX-MB2030)** (P.97) for descriptions of the individual codes.

Example:

If you want to set value in the “401 PRINT SENDING REPORT”, press the dial key number 1, 2 or 3 corresponding to the Set Value you want to select. (1:ERROR/2:ON/3:OFF)

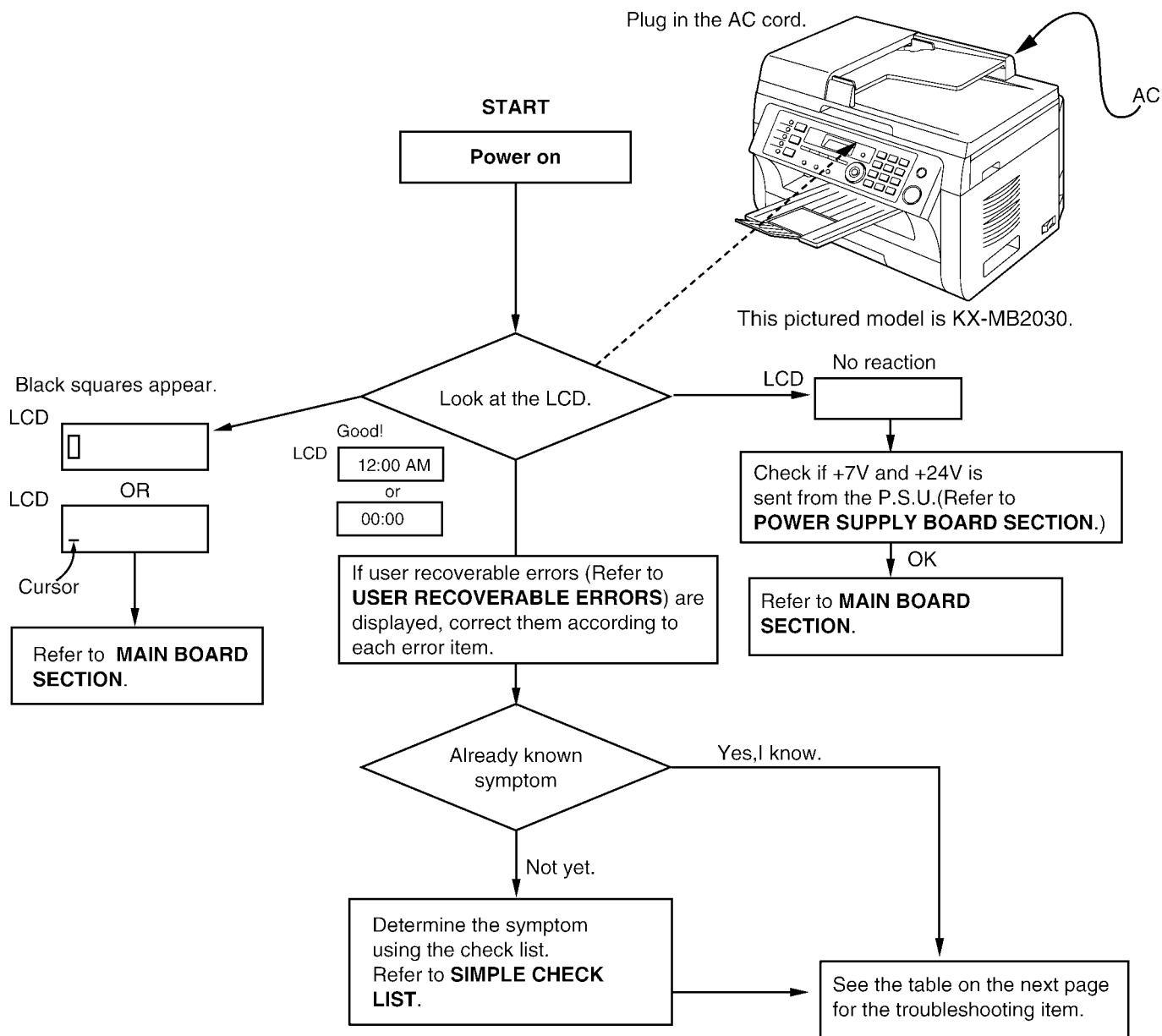
12.3. Troubleshooting Details

12.3.1. Outline

Troubleshooting is for recovering quality and reliability by determining the broken component and replacing, adjusting or cleaning it as required. First, determine the problem then decide the troubleshooting method. If you have difficulty finding the broken part, determine which board is broken. (For example: the Main PCB, Sensor PCB, etc.) The claim tag from a customer or dealer may use different expressions for the same problem, as they are not a technician or engineer. Using your experience, test the problem area corresponding to the claim. Also, returns from a customer or dealer often have a claim tag. For these cases as well, you need to determine the problem. Test the unit using the simple check list on **Simple Check List**(P.127). Difficult problems may be hard to determine, so repeated testing is necessary.

12.3.2. Starting Troubleshooting

Determine the symptom and the troubleshooting method.

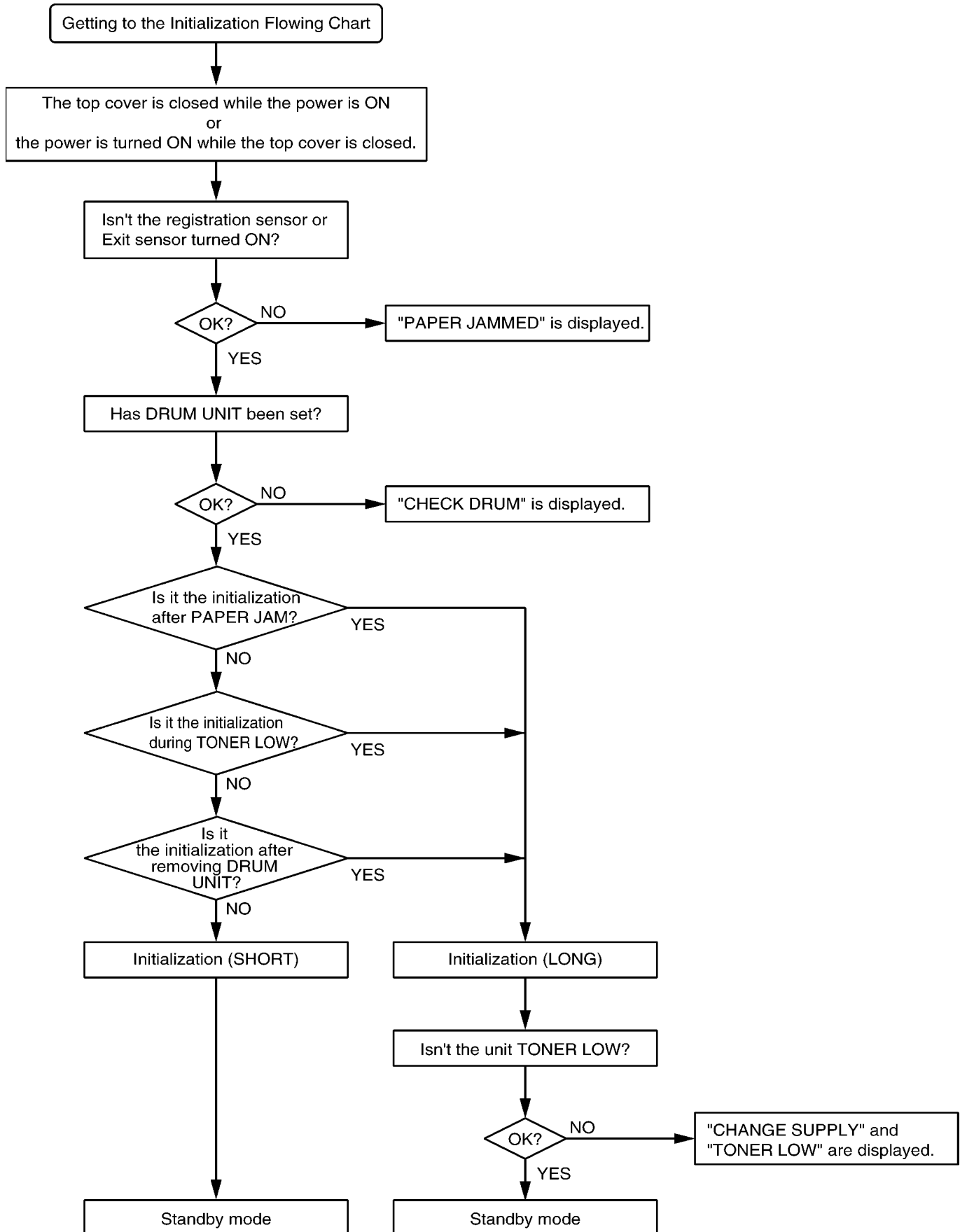


CROSS REFERENCE:

- Simple Check List (P.127)
- User Recoverable Errors (P.115)
- Main Board Section (P.257)
- Power Supply Board Section (P.69)

12.3.3. Initialization

There are two types of initialization, one is the short initialization (about 3 seconds) and the other is the long initialization (about 10 seconds). The short initialization makes the unit enter the standby mode. The long initialization makes the unit enter the standby mode after cleaning or detecting the rest of toner.



12.3.4. Simple Check List

SERIAL NO. _____ DATE _____

FUNCTION		JUDGEMENT	REFERENCE
FAX operation (KX-MB2025/2030 ONLY)	Transmission	OK / NG	
	Receiving	OK / NG	
Copy operation	Copy by ADF (KX-MB2030 ONLY)	OK / NG	
	Copy by Flat Bed	OK / NG	
PC operation	USB PC print	OK / NG	
	LAN PC print (KX-MB2010/2030 ONLY)	OK / NG	
Telephone operation (KX-MB2025/2030 ONLY)	MONITOR sound	OK / NG	
	Ringer sound	OK / NG	
	Dial operation	OK / NG	
	Volume operation	OK / NG	
Operation panel	Key check	OK / NG	Service code 561*
	LED check	OK / NG	Service code 557*
	LCD check	OK / NG	Service code 558*
Sensor	Sensor check	OK / NG	Service code 815*
Clock		OK / NG	Is the time kept correctly? Check with another clock.

Note:

Check according to the service code referring to **Test Functions** (P.92)

12.3.5. Simplified Troubleshooting Guide

12.3.5.1. Printing

No.	Symptom	Cause	Countermeasure
1	Ghost Image (P.138)	Failed drum cartridge	Replace drum cartridge
		Failed transfer unit	Check the transfer roller and spring
		Failed the high-voltage terminal	Check the high-voltage terminal
		Failed the high voltage power supply board	Go to High Voltage Section (P.190)
		Failed fuser unit	Check the heat roller and the pressurized roller and the spring and the heat lamp and the thermistor
		Too thick or too thin recording paper	Use the recording paper from 16lb to 24lb
2	Dark or White Vertical Line (P.139)	Dirty the cover glass or the reflecting mirror	Clean the cover glass and the reflecting mirror
		Dust on the path of the laser beam	Clean the path of the laser beam
		Failed drum cartridge	Replace drum cartridge
		Failed the heat roller or the pressurized roller	Check the heat roller and the pressurized roller
		Failed LSU	Go to LSU (Laser Scanning Unit) Section (P.47)
3	Dark or White Horizontal Line (P.140)	Failed drum cartridge	Replace drum cartridge
		Failed the gear	Check the gear
		Failed the engine motor	Go to Scanner (FB and ADF) motor (KX-MB2010/2025/2030 ONLY) (P.182)
		Failed the high-voltage terminal	Check the high-voltage terminal
		Failed the high voltage power supply board	Go to High Voltage Section (P.190)
		Scratch on the OPC drum	Replace drum cartridge
		Static electricity on the documents (when copying)	Check the connection between the parts around CIS and earth
4	Dirty or Half Darkness Background (P.141)	Failed drum cartridge	Replace drum cartridge
		Dirty the pickup roller and the regist roller and the feed roller and the eject roller and the heat roller and the pressure roller	Clean the pickup roller and the regist roller and the feed roller and the eject roller and the heat roller and the pressure roller
		Failed the high-voltage terminal	Check the high-voltage terminal
		Failed the high voltage power supply board	Go to High Voltage Section (P.190)
		Dirty the recording paper path	Clean the recording paper path
5	Black Print (P.142)	Failed drum cartridge	Replace drum cartridge
		Failed LSU	Go to LSU (Laser Scanning Unit) Section (P.47)
		Failed the high-voltage terminal	Check the high-voltage terminal
		Failed the high voltage power supply board	Go to High Voltage Section (P.190)
		Failed the main board	Go to Main Board Section (P.17)
		Failed CIS (when copying)	Go to CIS Control Section (P.186)
6	Black Print (P.142) OR Light Print (P.143)	Short toner	Supply toner
		Failed drum cartridge	Replace drum cartridge
		Life of drum cartridge is over	Replace drum cartridge
		Dirty the cover glass or the reflecting mirror	Clean the cover glass and the reflecting mirror
		Failed the high-voltage terminal	Check the high-voltage terminal
		Failed the high voltage power supply board	Go to High Voltage Section (P.190)
		Failed the main board	Go to Main Board Section (P.17)
		Failed CIS (when copying)	Go to CIS Control Section (P.186)
7	Black or White Point (P.144)	Failed the developer roller (32mm pitch)	Replace drum cartridge
		Failed the OPC drum (75mm pitch)	Replace drum cartridge
		Failed the heat roller (79mm pitch)	Check the heat roller
		Failed the high voltage power supply board	Go to High Voltage Section (P.190)
		Too thick or too thin recording paper	Use the recording paper from 16lb to 24lb

12.3.5.2. Recording Paper Feed

No.	Symptom	Cause	Countermeasure
1	Multiple Feed (P.144)	Dirty or failed the pickup roller	Clean or replace the pickup roller
		Dirty or failed the pickup rubber	Clean or replace the separation rubber
2	The Recording Paper Is Waved or Wrinkled (P.145)	Dirty the pressure roller or the heat roller	Clean the pressure roller and the heat roller
		Failed the spring of pressure roller	Replace the spring of pressure roller
		Separator of heat roller a check	Replace separator
		Dust on the recording paper path	Clean the recording paper path
		Too thin recording paper	Use the recording paper from 16lb to 24lb
3	Skew (P.146)	Dirty or failed the pickup roller	Clean or replace the pickup roller
		Dirty or failed the pickup rubber	Clean or replace the separation rubber
		Dirty or failed the paper feed roller	Clean or replace the regist roller
		Dust on the recording paper path	Clean the recording paper path
		Failed LSU	Replace LSU
		Over the max capacity of the recording paper	Set up to MAX 250 sheets
		Too thick or too thin recording paper	Use the recording paper from 16lb to 24lb
4	The Recording Paper Does Not Feed (P.147)	Dirty or failed the pickup roller	Clean or replace the pickup roller
		Dirty or failed the pickup rubber	Clean or replace the separation rubber
		Failed the gear	Check the gear
		Failed the solenoid	Check the solenoid
		Failed the engine motor	Go to Motor Section (P.181)
		Failed the pickup sensor lever	Check the pickup sensor lever
		Failed the pickup sensor	Go to Sensor Section (P.178)
5	The Recording Paper Jammed (P.148) "PAPER JAMMED" ON THE LCD	Dirty or failed the pressure roller	Clean or replace the pressure roller
		Dirty or failed the heat roller	Clean or replace the heat roller
		Separator of heat roller a check	Replace separator
		Dust on the recording paper path	Clean the recording paper path
		Failed the paper feed roller	Replace the registration roller
		Failed the pickup sensor lever	Check the pickup sensor lever
		Failed the pickup sensor	Go to Sensor Section (P.178)
		Failed the registration sensor lever	Check the Registration & Manual paper sensor (paper top sensor) lever
		Failed the registration sensor	Go to Sensor Section (P.178)
		Failed the exit sensor	Check the Paper Exit sensor lever
		Too thick or too thin recording paper	Use the recording paper from 16lb to 24lb
Not set the toner bottle	Set toner bottle		
6	Back Side of The Recording Paper Is Dirty (P.150)	Dirty the recording paper path	Clean the recording paper path
		Dirty the pressure roller	Clean the pressure roller
		Dirty the regist roller	Clean the registration roller
		Failed the high-voltage terminal	Check the high-voltage terminal
		Failed the high voltage power supply board	Go to High Voltage Section (P.190)

12.3.5.3. Copy and FAX

No.	Symptom	Cause	Countermeasure
1	NO DOCUMENT FEED (No Document Feed, Document Jam and Multiple Document Feed) (P.150)	Failed the document sensor lever	Replace the document sensor lever
		Failed the document sensor	Go to Sensor Section (P.178)
		Dirty or failed the separation roller	Clean or replace the separation roller
		Dirty or failed the separation rubber	Clean or replace the separation rubber
		Failed the separation spring	Replace the separation spring
	DOCUMENT JAM (No Document Feed, Document Jam and Multiple Document Feed) (P.150)	Dust or scratch on the document paper path	Clean the document paper path
		Failed the gear	Check the gear
		Failed the ADF motor	Go to FB MOTOR (KX-MB1900/2010 ONLY) (P.184)
	MULTIPLE DOCUMENT FEED (No Document Feed, Document Jam and Multiple Document Feed) (P.150)	Failed the ADF cover open switch lever	Replace the ADF cover open switch lever
		Dirty or failed the separation roller	Clean or replace the separation roller
Dirty or failed the separation rubber		Clean or replace the separation rubber	
2	Skew (ADF) (P.152)	Failed the separation spring	Replace the separation spring
		Dust or scratch on the document paper path	Clean the document paper path
		Failed the document feed roller	Replace the document feed roller
3	The Sent FAX Data Is Skewed (KX-MB2025/KX-MB2030 ONLY) (P.153)	Failed the document guide	Replace the document guide
		The cause of ADF	Go to Skew (P.146)
		The cause of scanner glass	Check the scanner glass
4	The Received FAX Data Is Skewed (KX-MB2025/KX-MB2030 ONLY) (P.153)	Problem with the other FAX machine	
		The cause of printing	Go to Skew (P.146)
5	The Received or Copied Data Is Expanded (P.153)	Problem with the other FAX machine	
		Dirty or failed the document feed roller (at ADF)	Clean or replace the document feed roller
		Dirty or failed the separation roller (at ADF)	Clean or replace the separation roller
6	Black or White Vertical Line Is Copied (P.154)	Failed CIS movement (at SG)	Replace the belt or the gear or the shaft or the FB motor
		Dirty or failed the white plate and sheet (2 places)	Clean or replace the white plate and sheet
		Dirty or failed the glass board	Clean or replace the glass board
		The cause of printing	Go to Dark or White Vertical Line (P.139)
7	An Abnormal Image Is Copied (P.155)	Failed CIS	Go to CIS Control Section (P.186)
		Dirty or failed the white plate and sheet (2 places)	Clean or replace the white plate and sheet
		Dirty or failed the glass board	Clean or replace the glass board
		Dirty or failed the document feed roller (at ADF)	Clean or replace the document feed roller
		Dirty or failed the separation roller (at ADF)	Clean or replace the separation roller
		Failed CIS movement (at SG)	Replace the belt or the gear or the shaft or the FB motor
		Failed CIS	Go to CIS Control Section (P.186)
The cause of printing	Go to Dark or White Vertical Line (P.139)		

12.3.6. CALL SERVICE Troubleshooting Guide

Call Service related error is most frequent.

Call Service 1 ----- Polygon doesn't rotate..... Refer to **LSU (Laser Scanning Unit) Section (P.47)**.

- First, listen to the sound. If rotation sound isn't heard, check 24V line, POLON signal and POLCLK signal. If even a little of sound is heard, check XREADY signal.

Call Service 2 ----- Laser isn't output..... Refer to **LSU (Laser Scanning Unit) Section (P.47)**

- This can be judged only by referring to signal. Check 5V line, XHSYNC, XAPC, XVIDEO, XLDON.

Call Service 3 ----- Detection of fixing temperature..... Refer to **Heat Lamp Control Circuit (P.61)**

- *Service mode *655 tells the detection number and 3 latest temperatures of the thermistor. The detection point of the Call Service 3 and the thermistor temperature is displayed. Maximum 3 latest temperatures are displayed showing the newest on the left. [AABB CCDD EEFF] AA, CC and EE show the detection points and BB, DD and FF show their temperature detection points.

00: CALL SERVICE 3 was not occurred.

01: means that the value of AD did not increased by 4 steps or more within 10 sec soon after the heater was turned ON. (thermistor's open detection)

02: means that it did not reach the first stabilizing temperature (170°C: 3Dh) within 50 seconds.

03: means that it did not reach the second stabilizing temperature (205°C: 20h)* within 75 seconds after reaching the first stabilizing temperature (170°C: 3Dh).

04: means that it dropped to -40 deg or below by the temperature control after reaching the second stabilizing temperature (205°C: 20h)*.

05: means that it did not reach the first stabilizing temperature (170°C: 3Dh) within 35 seconds from detection temperature 1 (70°C: DAh).

06: means that it became 235°C: 13h or over during printing.

07: means that during printing the short of the thermistor (AD: 00h) was detected.

08: means that the thermistor's short (AD: 00h) were detected.

09: means that it became 235°C: 13h or over during sleep condition (heater OFF).

*: depend on its printing conditions (room temperature, number of printing, printing paper size etc.).

<Note>

Once "CALL SERVICE3" is displayed, it does not disappear until the Factory Setup or Service Function #529 is executed. Therefore Service Function #529 should not be executed before the confirmation, and #529 should be done after the countermeasure.

Call Service 4 ----- Rotation of Fan..... Refer to **FAN Motor Section (P.43)**

- Connector isn't inserted firmly, dust is caught in and the fan is broken.
- Rotation of the Fan can be confirmed by following Test Mode.

Service mode *677

:1... Normal operation (default)

:2... Right Fan & Left Fan ON (High speed)

:3... Right Fan & Left Fan ON (Low speed)

:4... Both Fan OFF

Call service 5 ----- Rotation of Engine motor..... Refer to **Motor Drive Section (P.34)**

- Engine motor's rotation detection signal LD did not become Low within rated speed $\pm 6.25\%$.
- Service mode *556: the operation of Main Motor can be checked by pressing 0 and SET buttons.

Call service 6 ----- Detection of Charger error..... Refer to the **HVPS (High Voltage Power Supply) Section (P.59)**

- Breaking of charger's wire of drum cartridge and/or loose connection of High voltage terminals (CHRG, GRID).
- First, replace the drum cartridge even so, it doesn't function check the high voltage power supply.

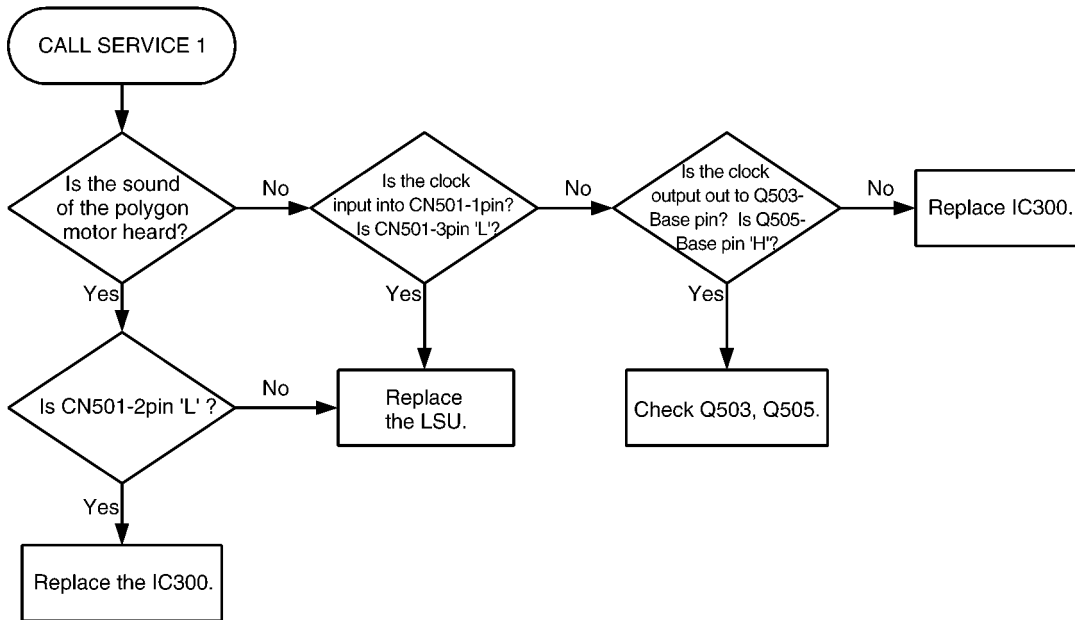
* As for Call Service 1, 2, 4, 5 and 6, turn the power OFF then ON to restart.

12.3.6.1. CALL SERVICE 1

"CALL SERVICE 1" means that the polygon motor inside the LSU does not rotate.
 The rotation of the polygon motor is detected by IC300-F23pin (NREADY).

After the LCD indicates "CALL SERVICE 1 ", turn the power OFF/ON.
 Then, when the unit starts initial operation, confirm that the rotating sound of the polygon motor is heard before the engine motor starts to run.

* You can check the LSU function by service mode *639.

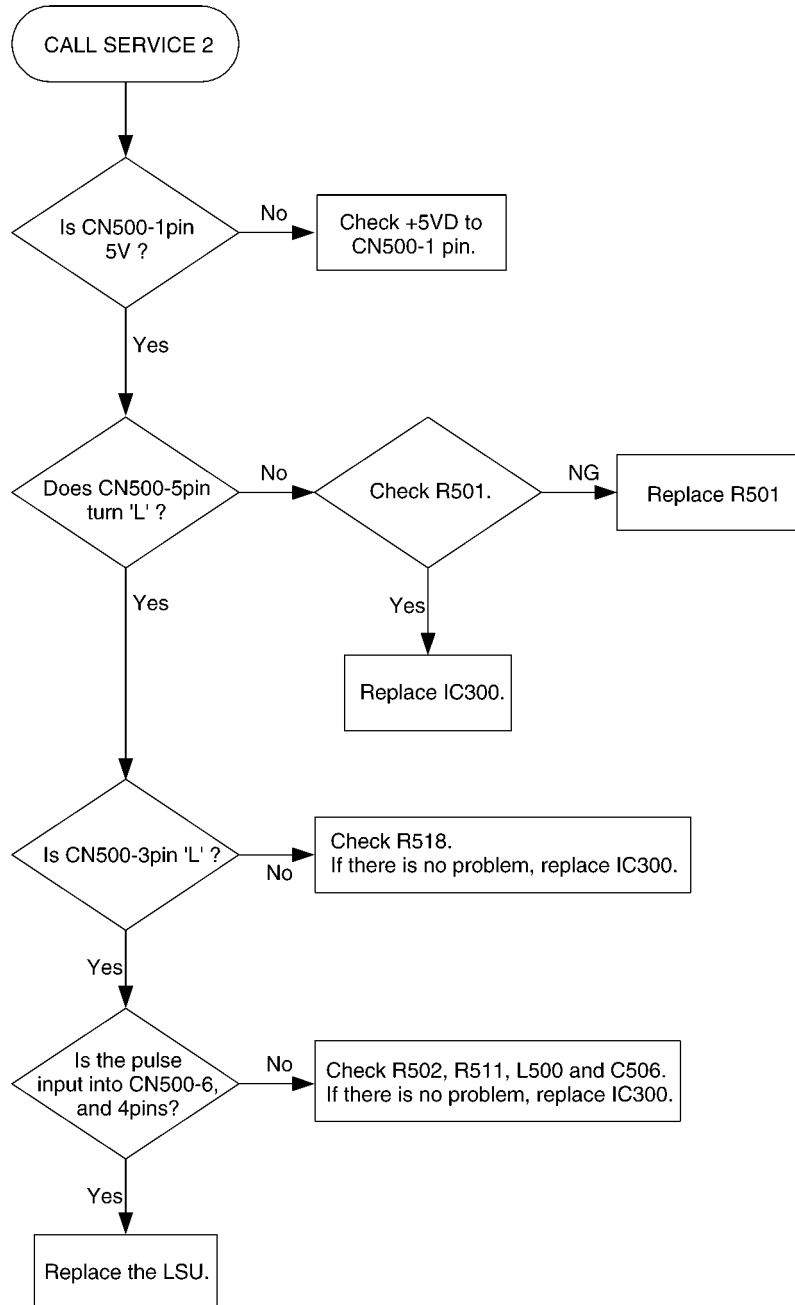


12.3.6.2. CALL SERVICE 2

"CALL SERVICE 2" means that the synchronous signal out of the LSU cannot be detected.
 The synchronous signal out of the LSU is detected by IC 300-G23pin. (NHSYNC)

After the LCD indicates "CALL SERVICE 2", turn the power OFF/ON, then confirm the waveform when the unit starts initial operation.

* You can check the LSU function by service mode ✕639.



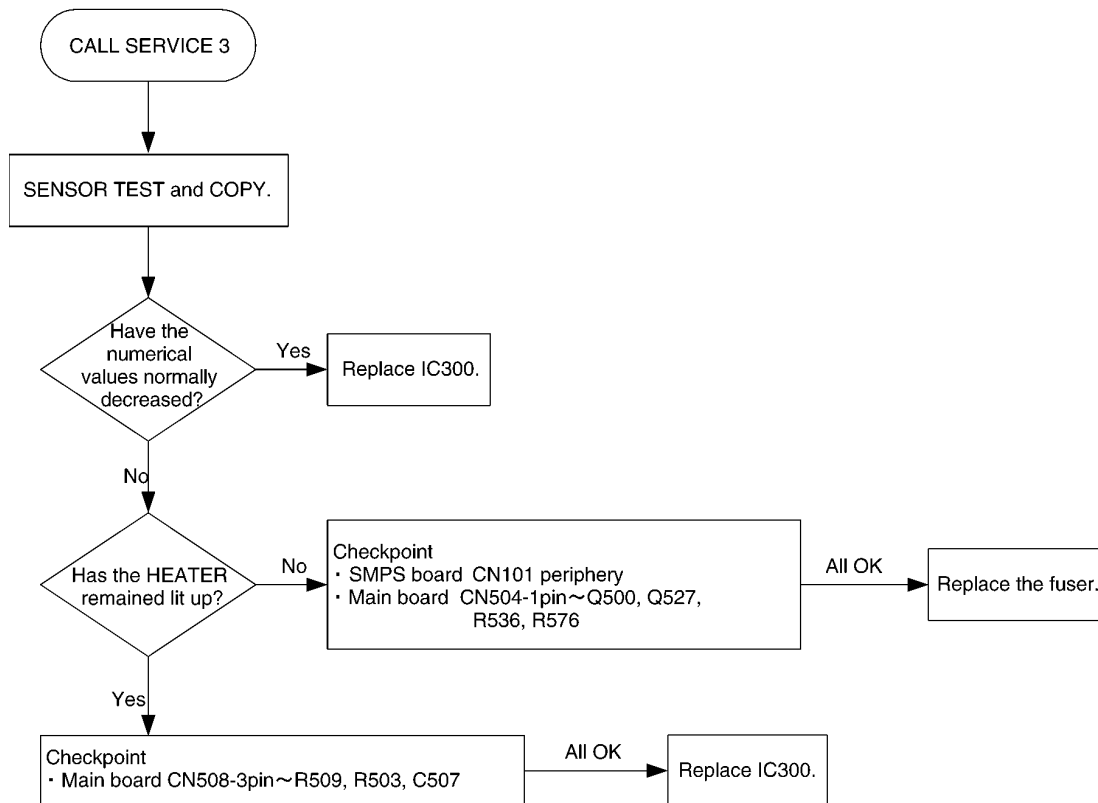
Note:

As for the "Pulse" waveform of the above flow chart, see the timing chart.

12.3.6.3. CALL SERVICE 3

"CALL SERVICE 3" means that the temperature of the fuser does not rise up to or exceed a constant temperature. The temperature is monitored with the thermistor inside the fuser and detected with the voltage input into IC 300-D19.

After the LCD indicate "CALL SERVICE 3" , perform the MENU → # → 9000 → *529. Then, turn the power OFF/ON.
 Perform the SENSOR TEST in service mode.
 SENSOR TEST can be performed by pressing MENU → # → 9000 → *815.
 In this state, perform the copy operation to confirm how the two-digit numbers on the LCD change. In normal times, 'F9h(25°C)' is displayed in the waiting state, and '20h(205°C)' or its approximate numbers are displayed during printing.



* When Call Service 3 is occurred, the cause can be distinguished by service mode *655. Refer to **CALL SERVICE Troubleshooting Guide** (P.131) for details.

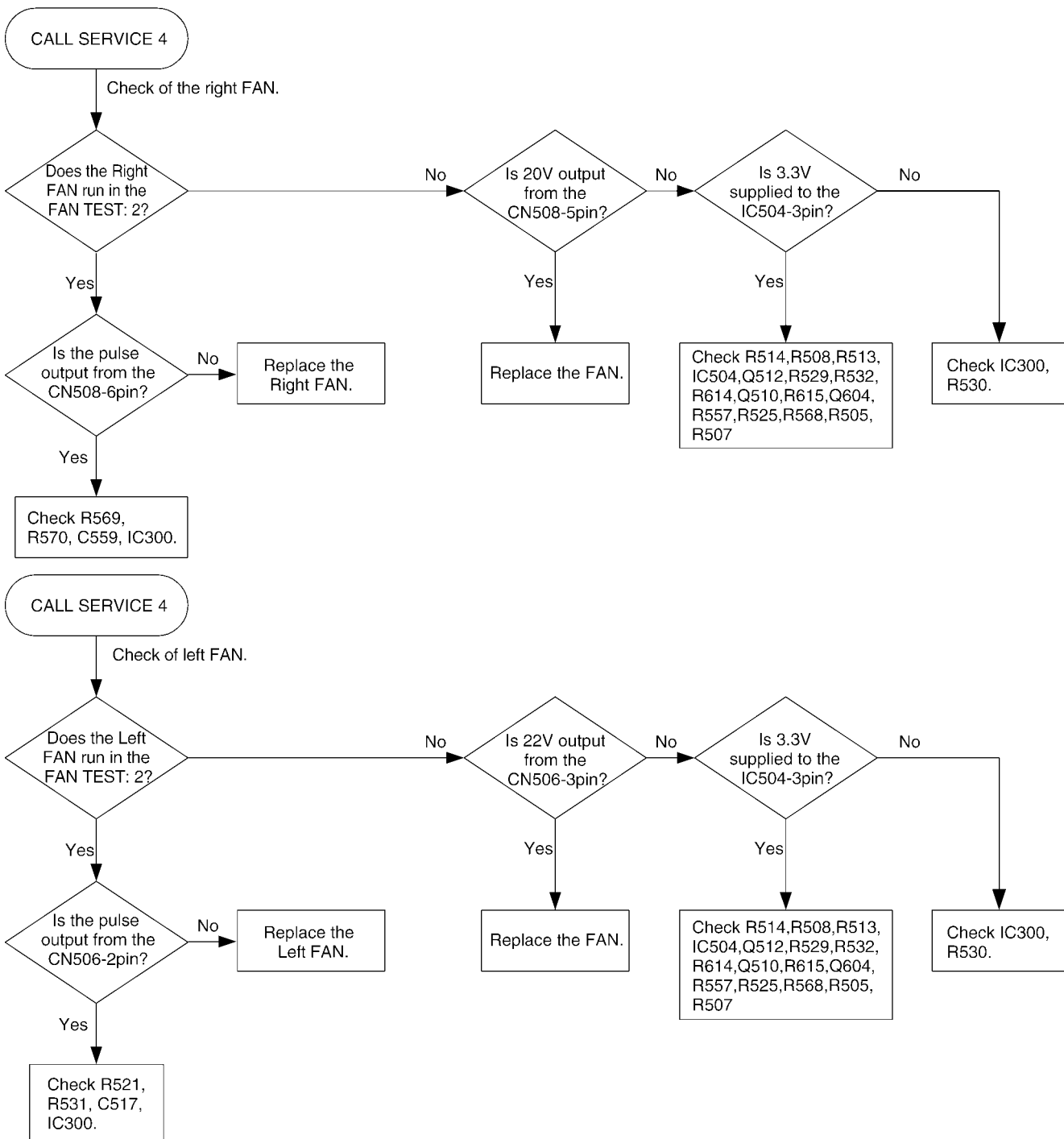
12.3.6.4. CALL SERVICE 4

"CALL SERVICE 4" means that the FAN does not run or the running of the FAN cannot be detected normally. The running of the FAN is detected by IC300-AC20 and W24pin. "CALL SERVICE 4" is displayed when it detects NG three times continuously.

After repairing, copy three times.If "CALL SERVICE 4 " is displayed, check again.

After the LCD indicates "CALL SERVICE 4 " , turn the power OFF/ON. Then, perform the FAN TEST in service mode. This can be performed by pressing MENU→#→9000→*677.

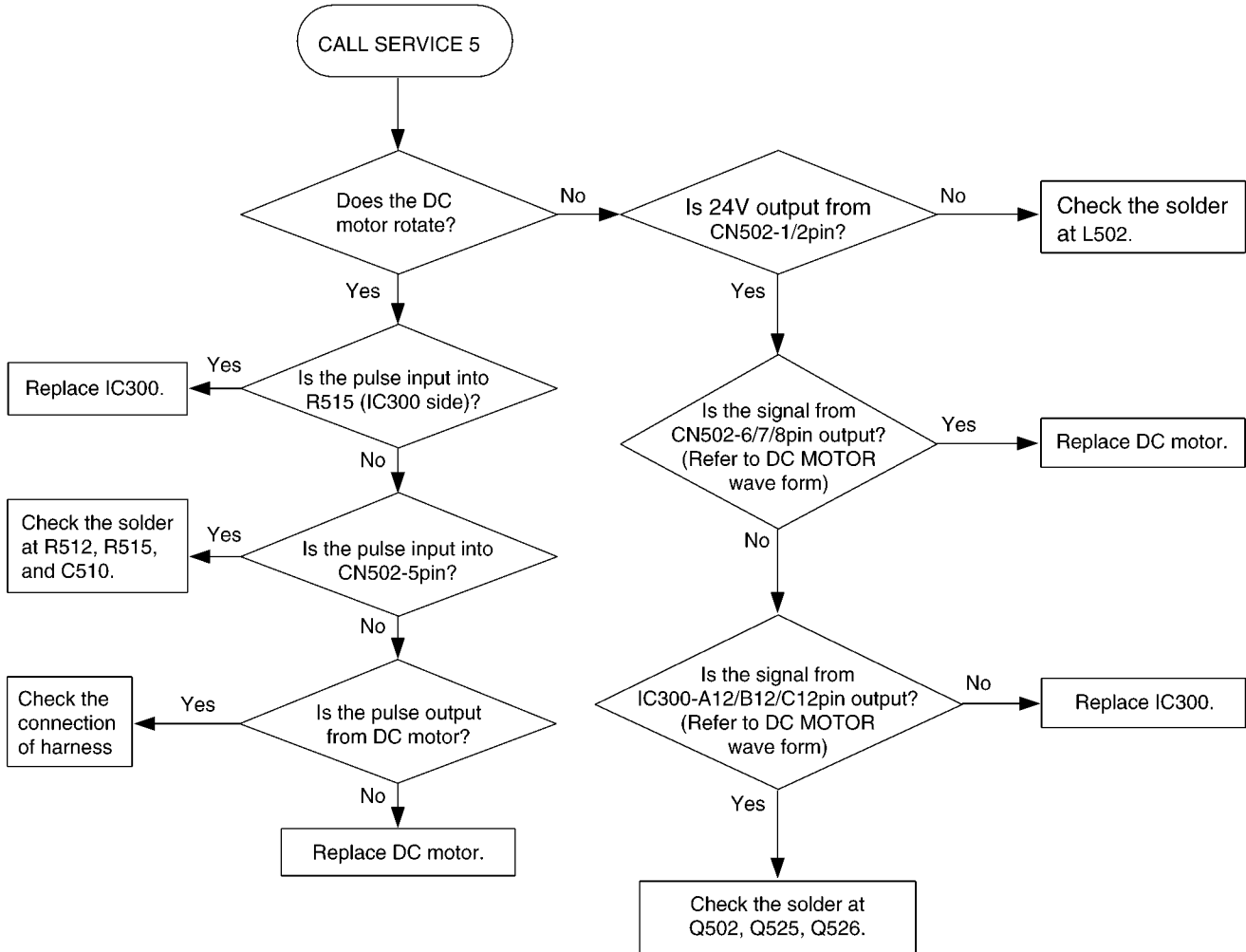
- 1: Normal operation (Default)
- 2: Right FAN & Left FAN: ON (High Speed)
- 3: Right FAN & Left FAN: ON (Low Speed)
- 4: Both FAN: OFF



12.3.6.5. CALL SERVICE 5

“CALL SERVICE 5” means that Engine DC motor’s rotation detection signal (LD) does not become Low.

After the LCD indicates "CALL SERVICE 5", turn the power OFF/ON.
 Perform the MOTOR TEST in service mode.
 MOTOR TEST can be performed by pressing MENU → # → 9000 → *556.
 And Press 0 and SET buttons.



12.3.6.6. CALL SERVICE 6

“CALL SERVICE 6” indicates that abnormal charge voltage is output from the high voltage unit.

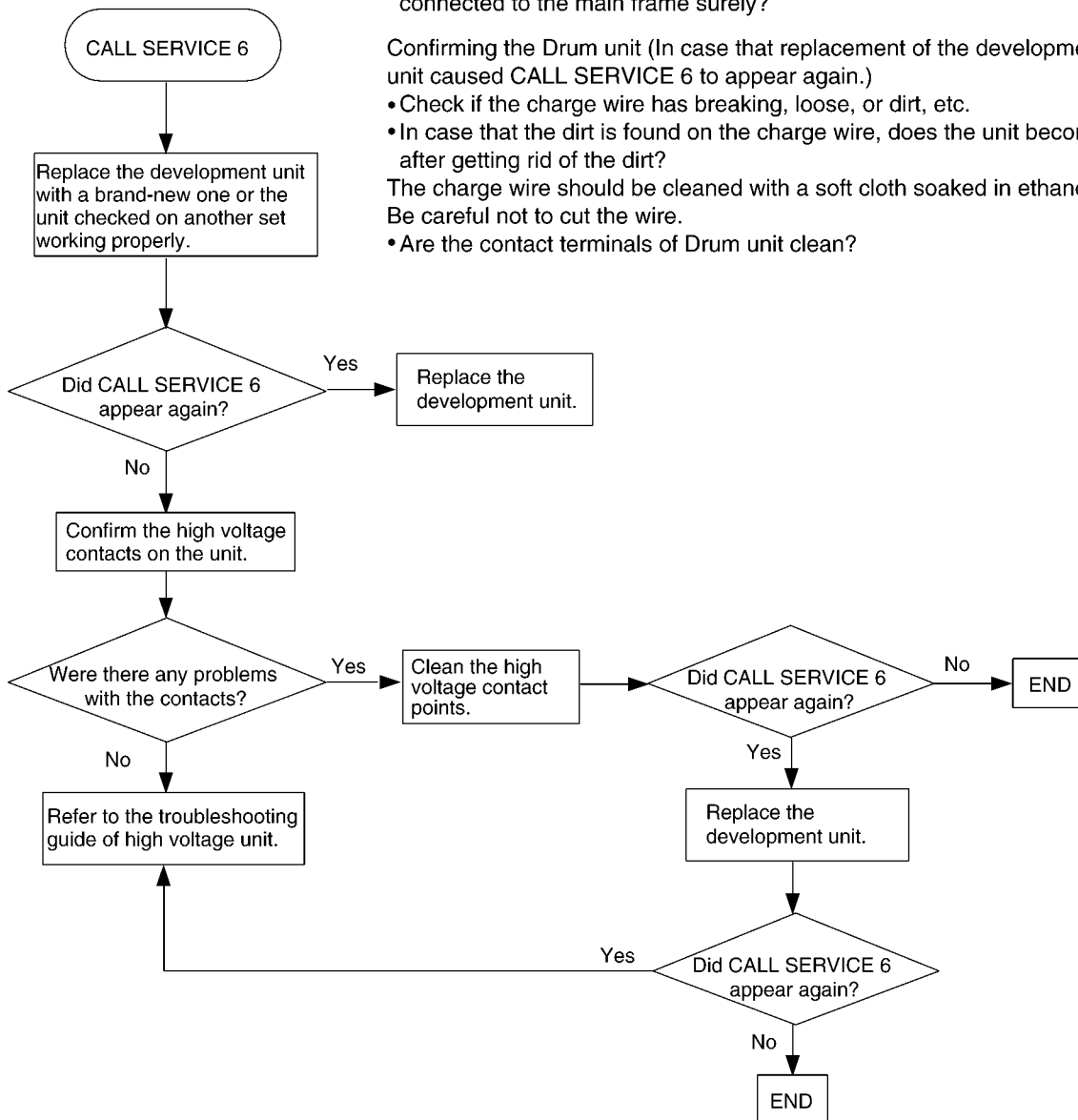
CALL SERVICE 6 appears when the charge voltage turns into abnormal voltage caused by charge wire breaking, short circuit, defect, and contact failure between Drum unit and main frame through charge and GRID terminals. When the charge voltage becomes abnormal, the high voltage unit shuts off the charge output, and then trouble detection signal (HVERR) is output from pin 2 of CN1. When the main PCB detects the trouble detection signal, the unit displays CALL SERVICE 6. CALL SERVICE 6 is canceled by turning the power OFF then ON. (When the problem is not solved, CALL SERVICE 6 will be displayed again.)

Confirming the contact points of the main frame

- Check the dirt on the high voltage terminals.
- Check if the spring pressure of each high voltage terminal is strong enough. (Isn't it distorted or bent?)
- When a Drum unit is installed on the main frame, are the terminals connected to the main frame surely?

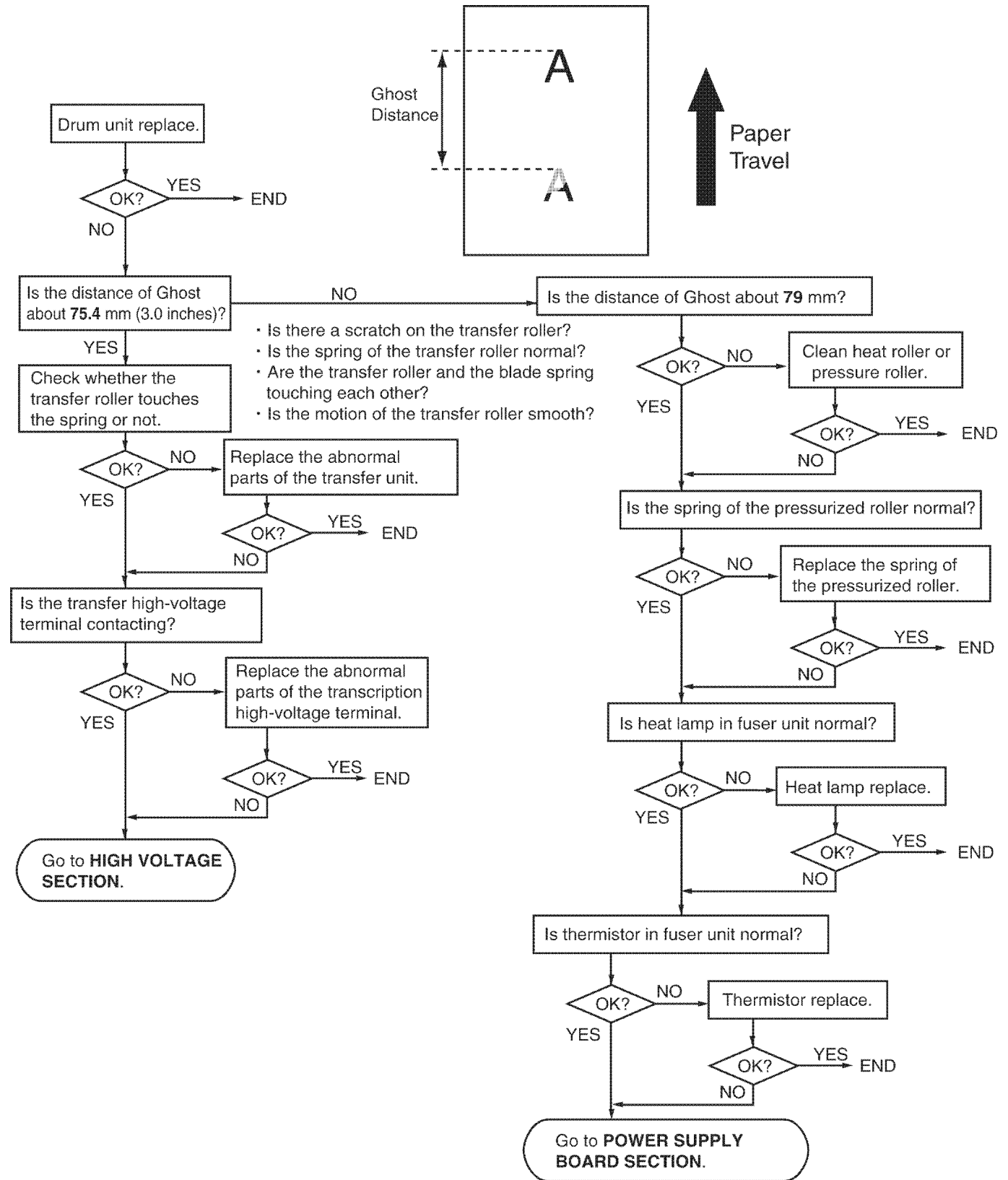
Confirming the Drum unit (In case that replacement of the development unit caused CALL SERVICE 6 to appear again.)

- Check if the charge wire has breaking, loose, or dirt, etc.
- In case that the dirt is found on the charge wire, does the unit become normal after getting rid of the dirt?
The charge wire should be cleaned with a soft cloth soaked in ethanol. Be careful not to cut the wire.
- Are the contact terminals of Drum unit clean?



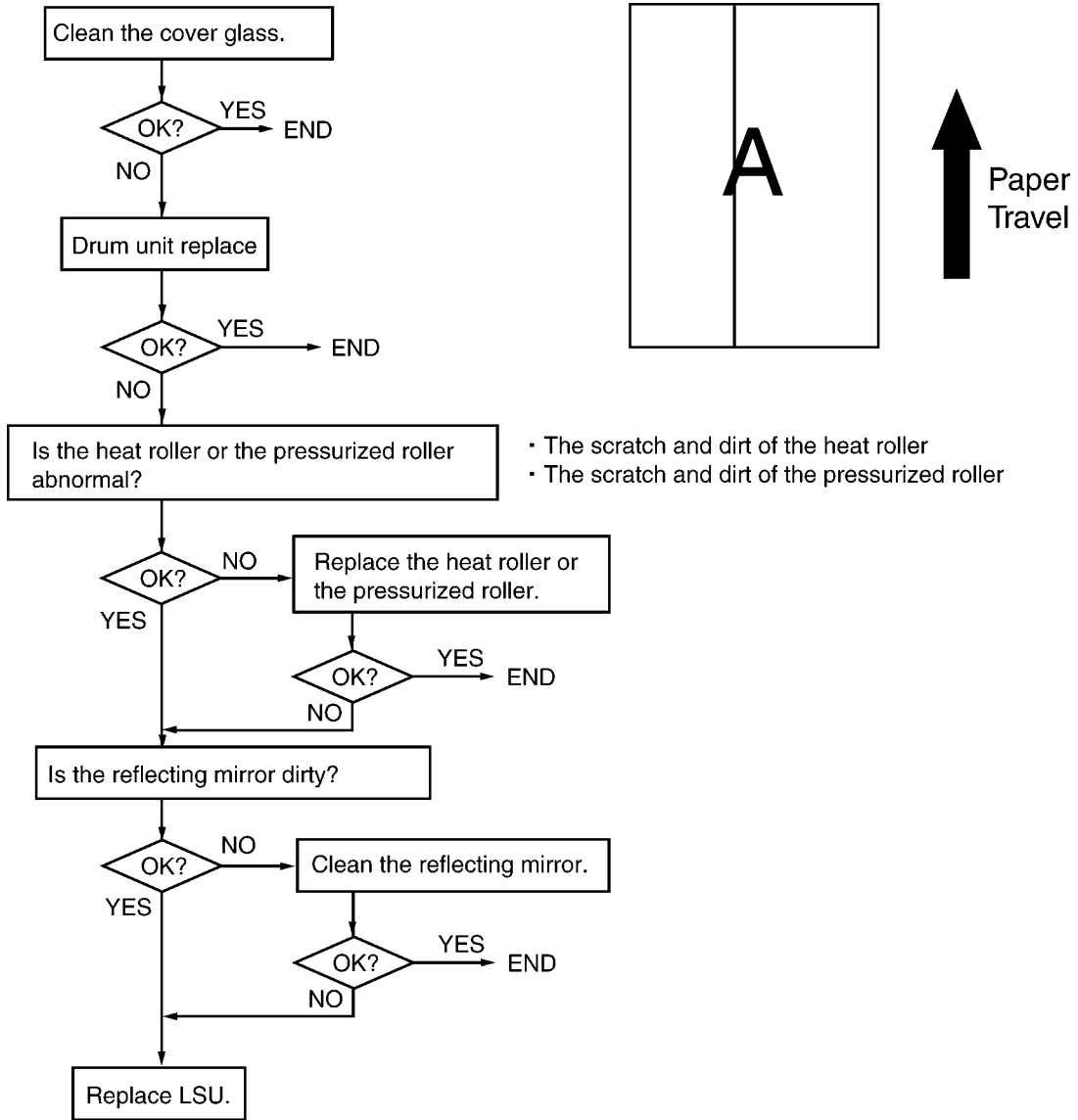
12.3.7. Print

12.3.7.1. Ghost Image



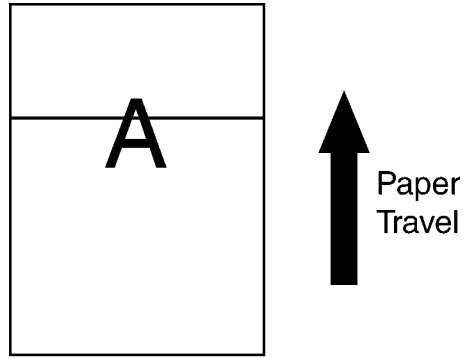
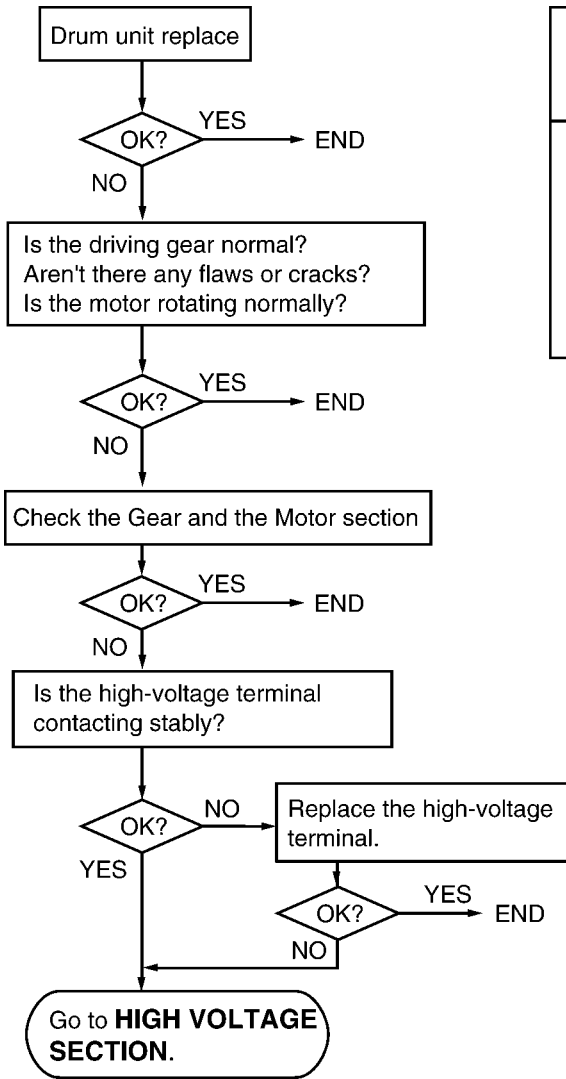
CROSS REFERENCE:
 High Voltage Section (P.190)
 Power Supply Board Section (P.69)

12.3.7.2. Dark or White Vertical Line



Note:
When wiping the cover glass, reflecting mirror, use a dry and soft cloth.

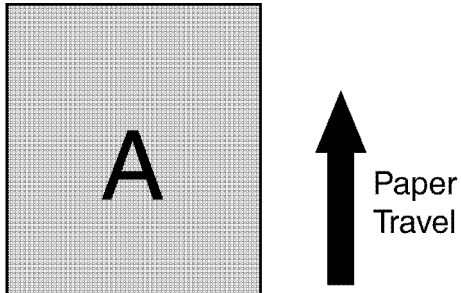
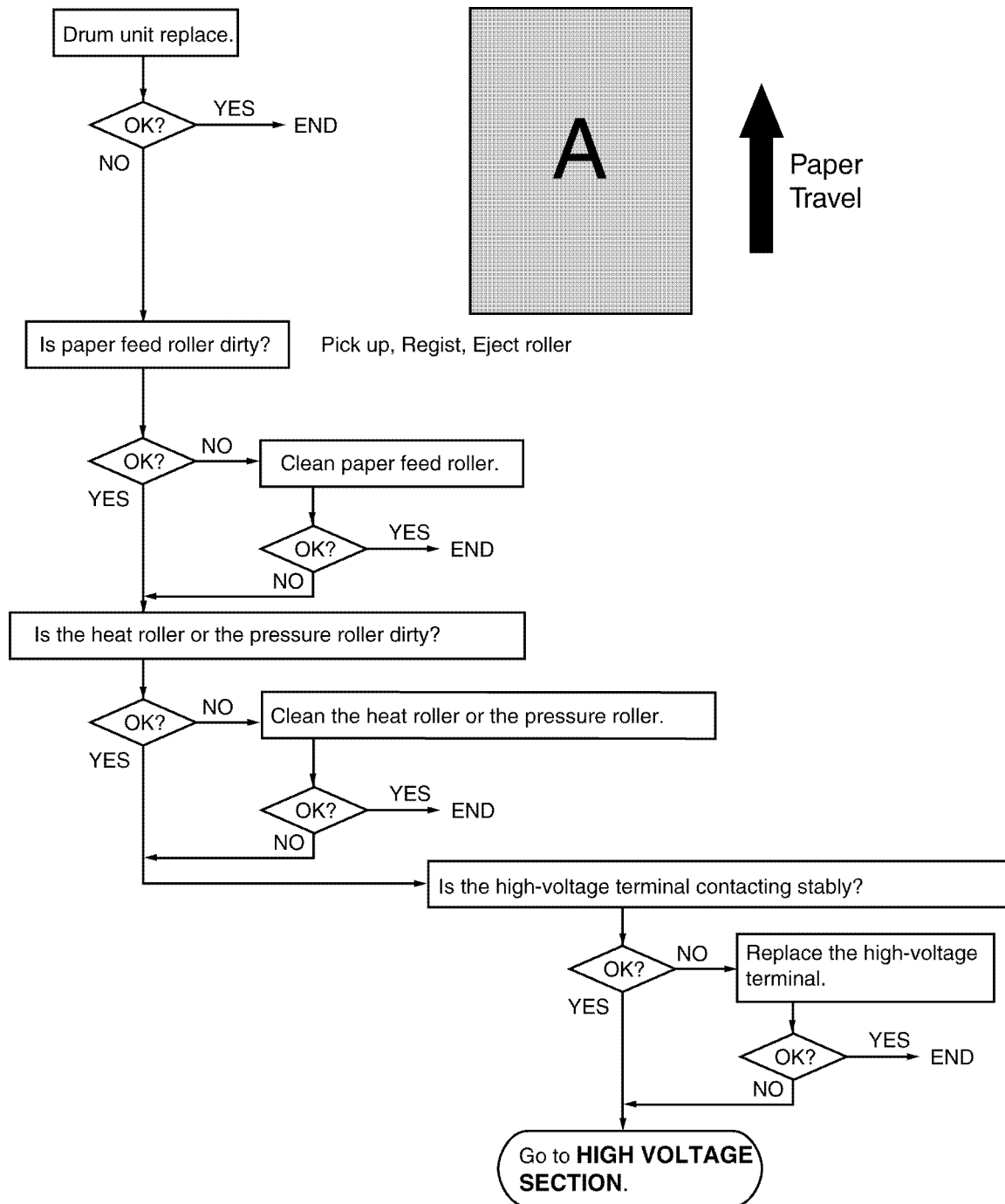
12.3.7.3. Dark or White Horizontal Line



• It is necessary to describe the information about the lines that cannot be troubleshot in such as halftone.
 • When there is the information about the troubleshot horizontal line, please add the description of it.

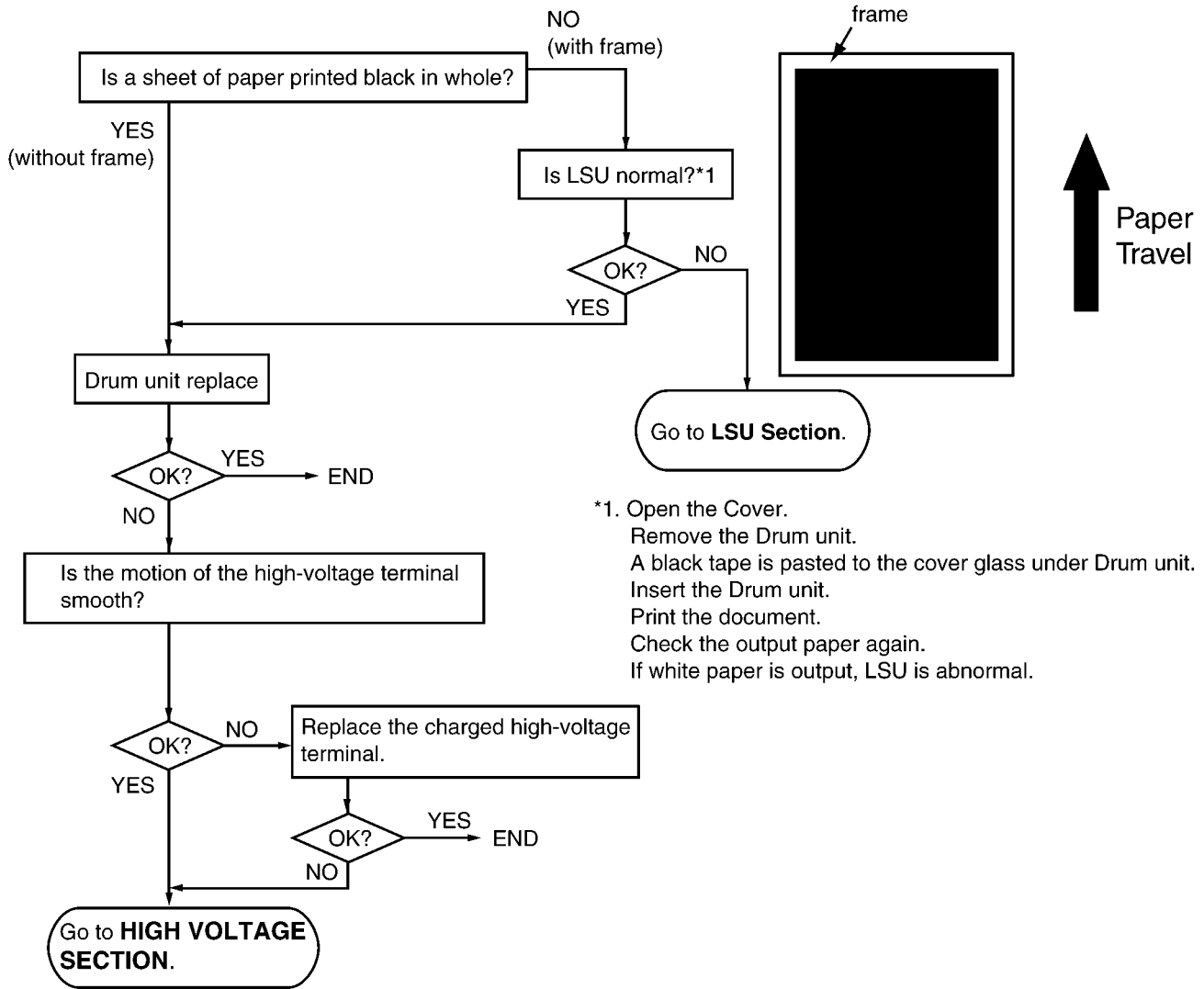
CROSS REFERENCE:
 High Voltage Section (P.190)

12.3.7.4. Dirty or Half Darkness Background



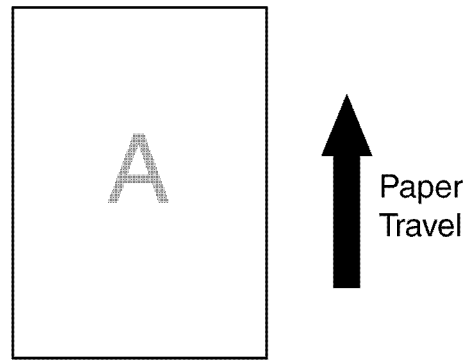
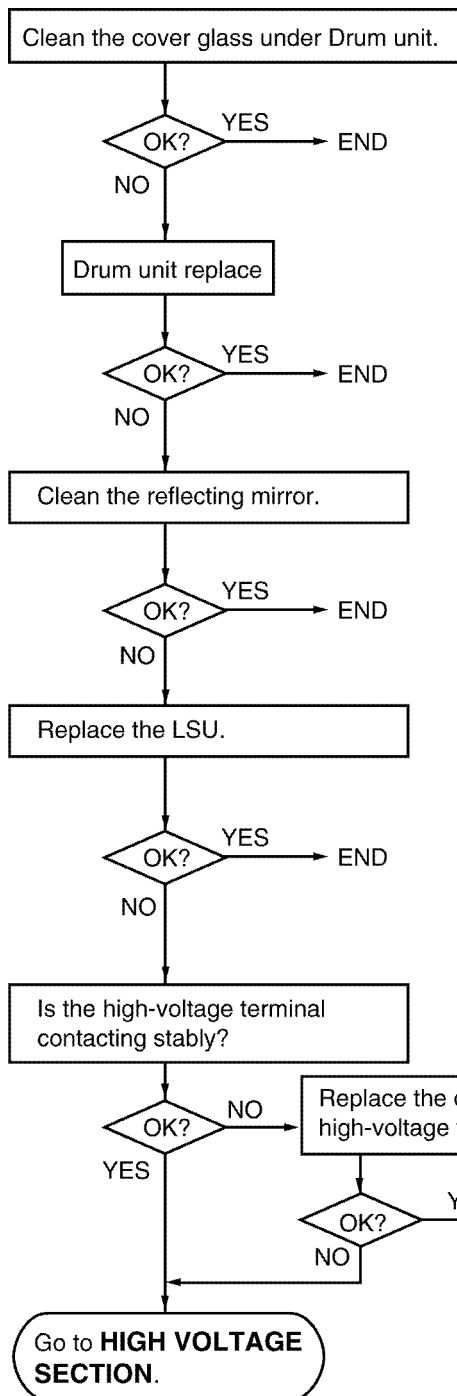
CROSS REFERENCE:
High Voltage Section (P.190)

12.3.7.5. Black Print



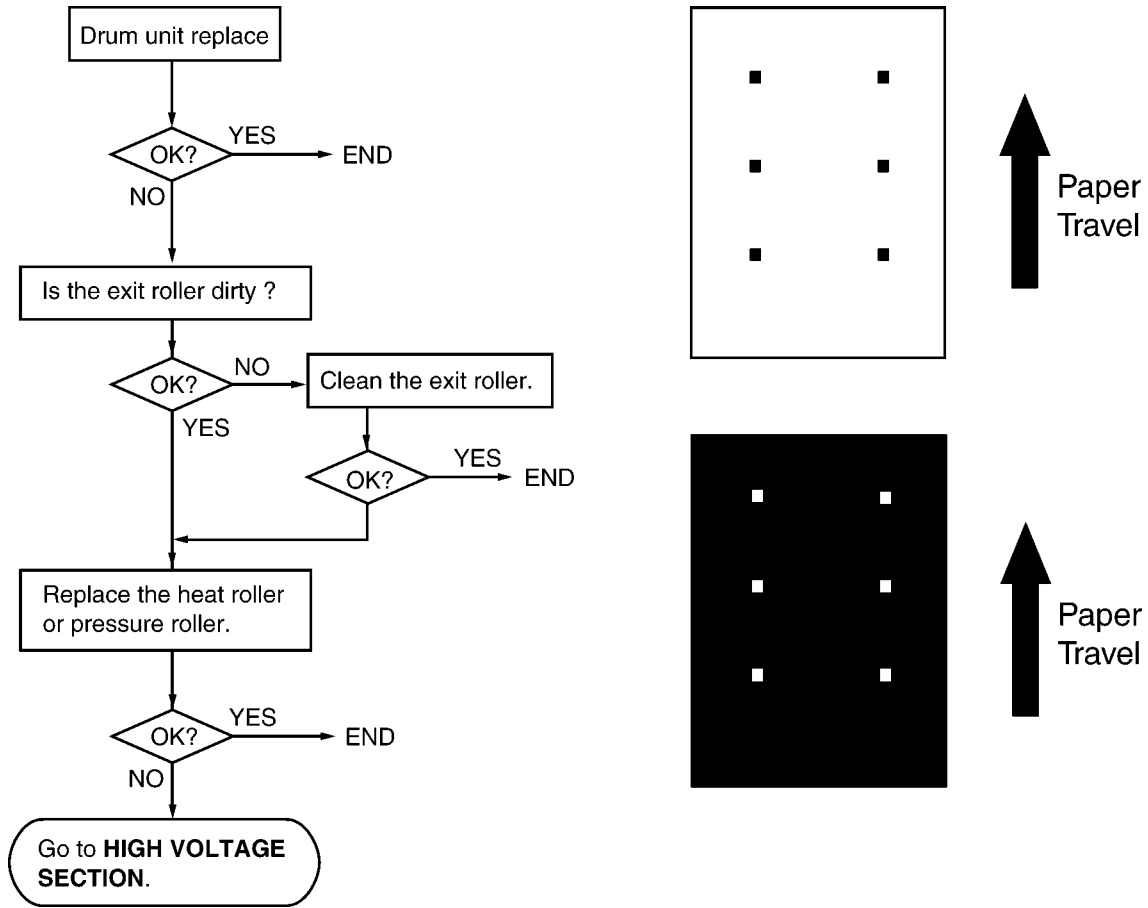
CROSS REFERENCE:
High Voltage Section (P.190)
LSU (Laser Scanning Unit) Section (P.47)

12.3.7.6. Light Print



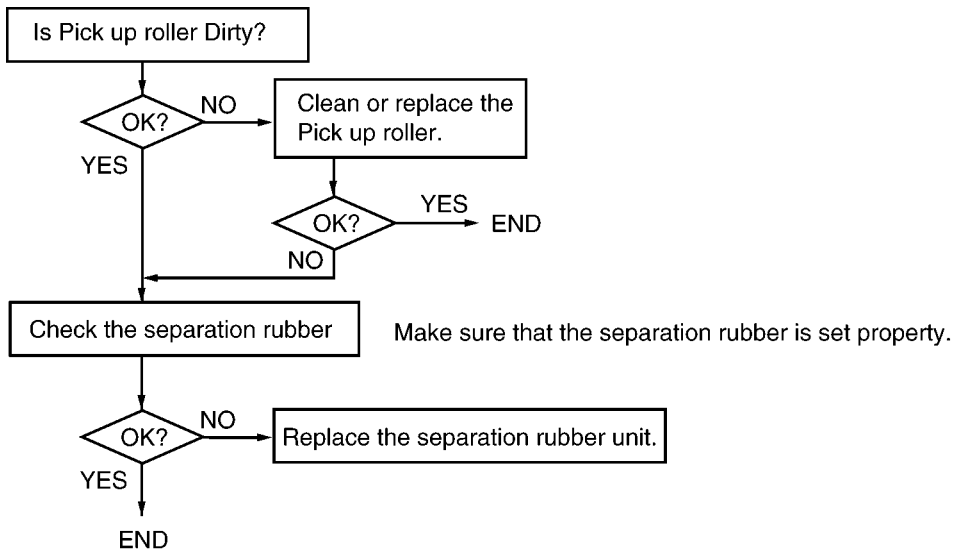
CROSS REFERENCE:
High Voltage Section (P.190)

12.3.7.7. Black or White Point

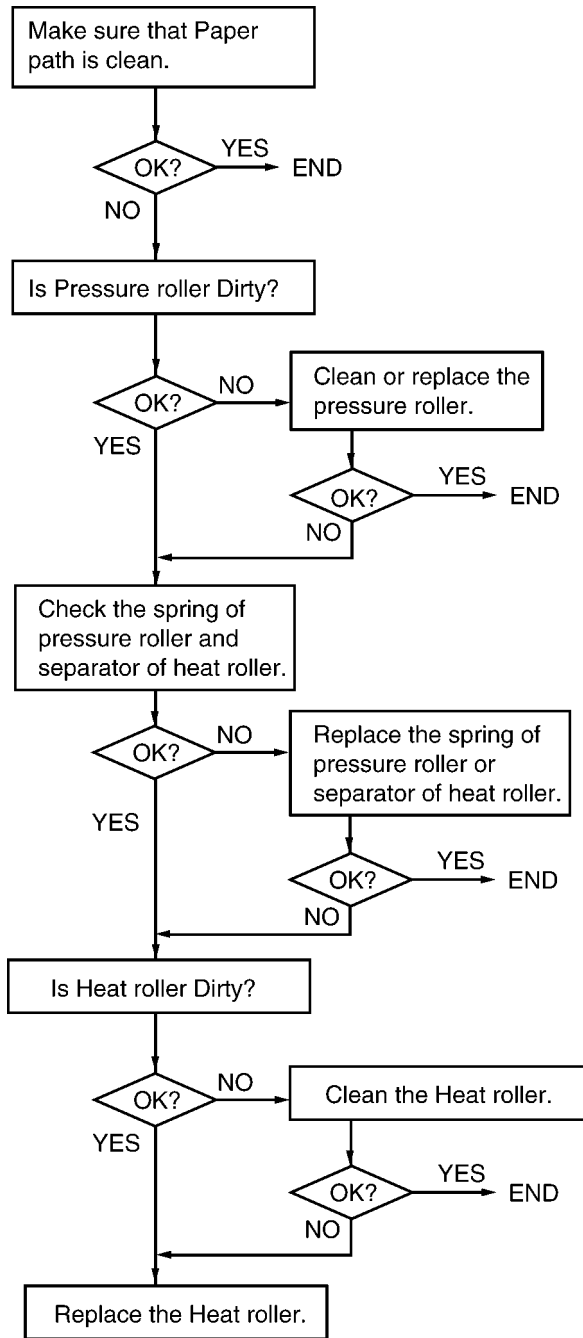


12.3.8. Recording Paper Feed

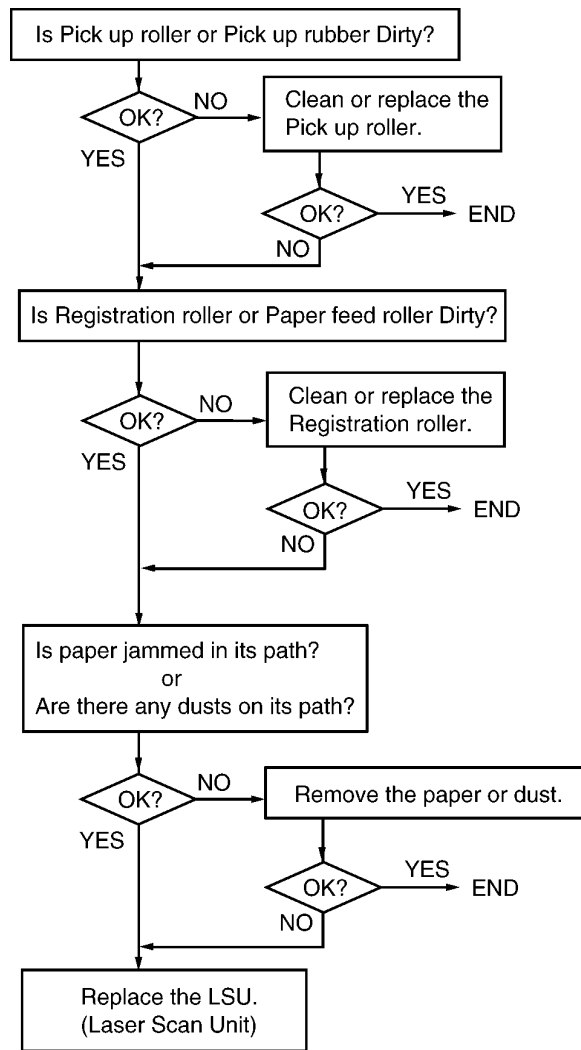
12.3.8.1. Multiple Feed



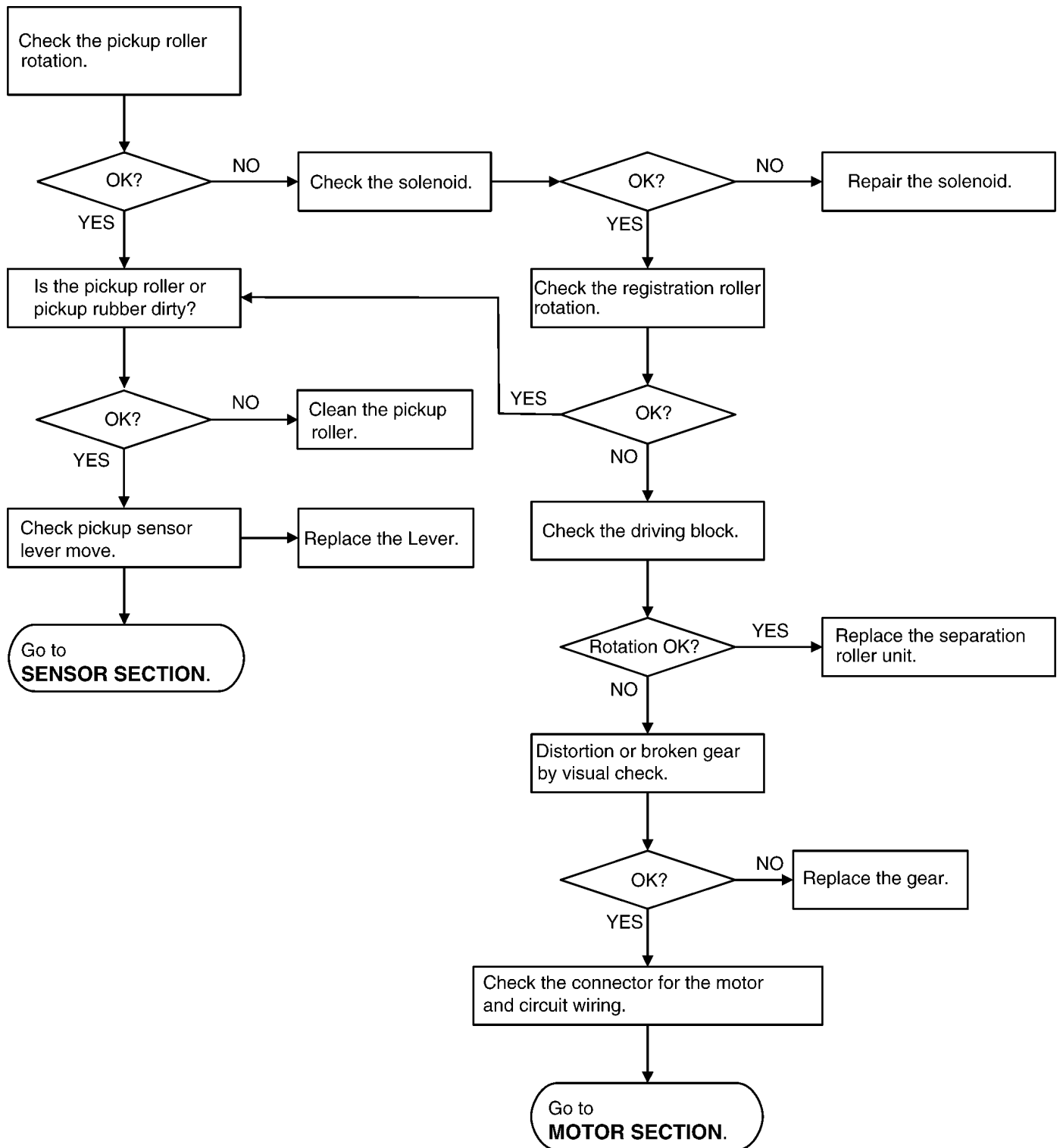
12.3.8.2. The Recording Paper Is Waved or Wrinkled



12.3.8.3. Skew

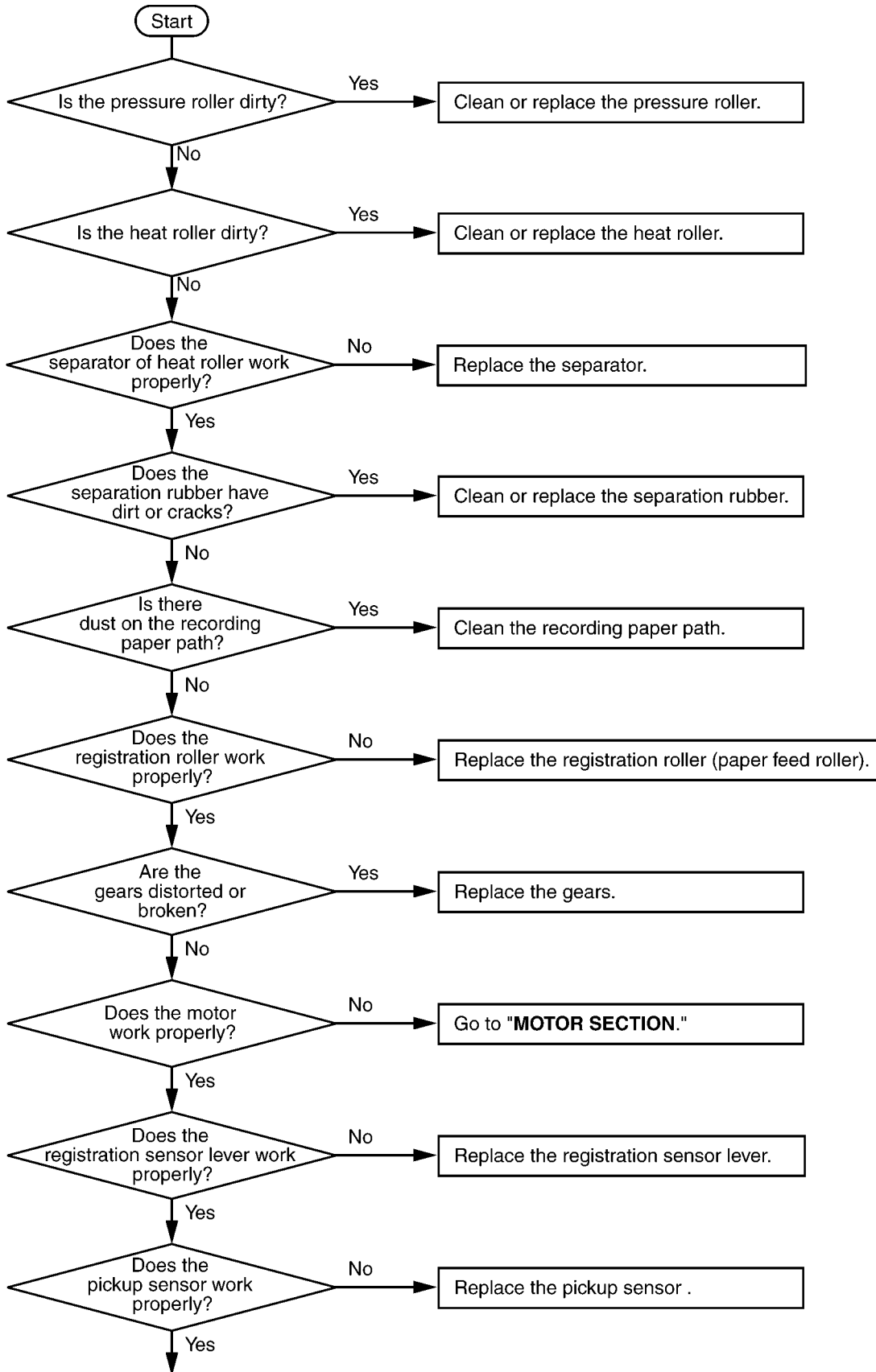


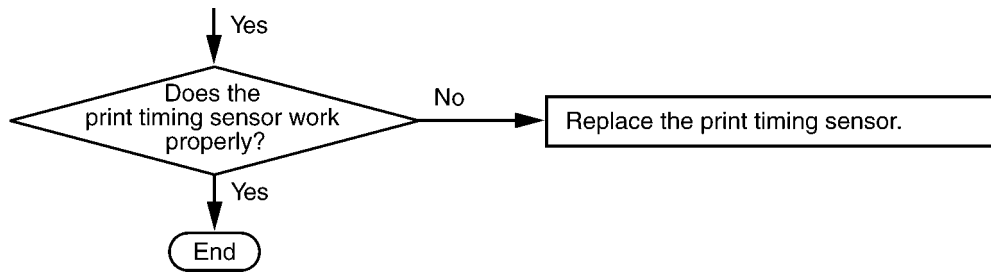
12.3.8.4. The Recording Paper Does Not Feed



CROSS REFERENCE:
Sensor Section (P.178)
Motor Section (P.181)

12.3.8.5. The Recording Paper Jam



**CROSS REFERENCE:****FAN Motor Section (P.43)**

When the recording paper jam is occurred, the service mode *630 distinguishes the cause.

0:No Jam

1:Exit Sensor turns ON, though not under the conditions for ON.

2:Exit Sensor turns OFF, though not under the conditions for OFF.

3:After Exit Sensor falls, it turns ON already on terminating of Cancel Timer.

4:After Exit Sensor rises, it turns ON already on terminating of Cancel Timer.

5:Top Sensor turns ON, though not under the conditions for ON.

6:Top Sensor turns OFF, though not under the conditions for OFF.

7:After Top Sensor falls, it turns ON already on terminating of Cancel Timer.

8:After Top Sensor rises, it turns OFF already on terminating of Cancel Timer.

9:Exit Sensor never turns ON in the specified time, though Top Sensor turns ON.

10:Top Sensor MAX-length-JAM.

11:Exit Sensor never turns OFF in the specified time, though Top Sensor turns OFF.

12:Registration Sensor turns ON, though not under the conditions for ON.

13:Registration Sensor turns OFF, though not under the conditions for OFF.

14:After Registration Sensor falls, it turns ON already on terminating of Cancel Timer.

15:After Registration Sensor rises, it turns OFF already on terminating of Cancel Timer.

16:Top Sensor never turns ON in the specified time, though Registration Sensor turns ON.

17:Registration Sensor MAX-length-JAM.

18:Top Sensor never turns OFF in the specified time, though Registration Sensor turns OFF.

Top Sensor never turns OFF in the specified time, though Pick1 Sensor turns OFF.

19:PICK1 Sensor turns ON, though not under the conditions for ON.

20:PICK1 Sensor turns OFF, though not under the conditions for OFF.

21:After PICK1 Sensor falls, it turns ON already on terminating of Cancel Timer.

22:After PICK1 Sensor rises, it turns OFF already on terminating of Cancel Timer.

23:Registration Sensor never turns ON in the specified time, though PICK1 Sensor turns ON.

Top Sensor never turns ON in the specified time, though PICK1 Sensor turns ON.

24:PICK2 Sensor MAX-length-JAM.

25:Registration Sensor never turns OFF in the specified time, though PICK1 Sensor turns OFF.

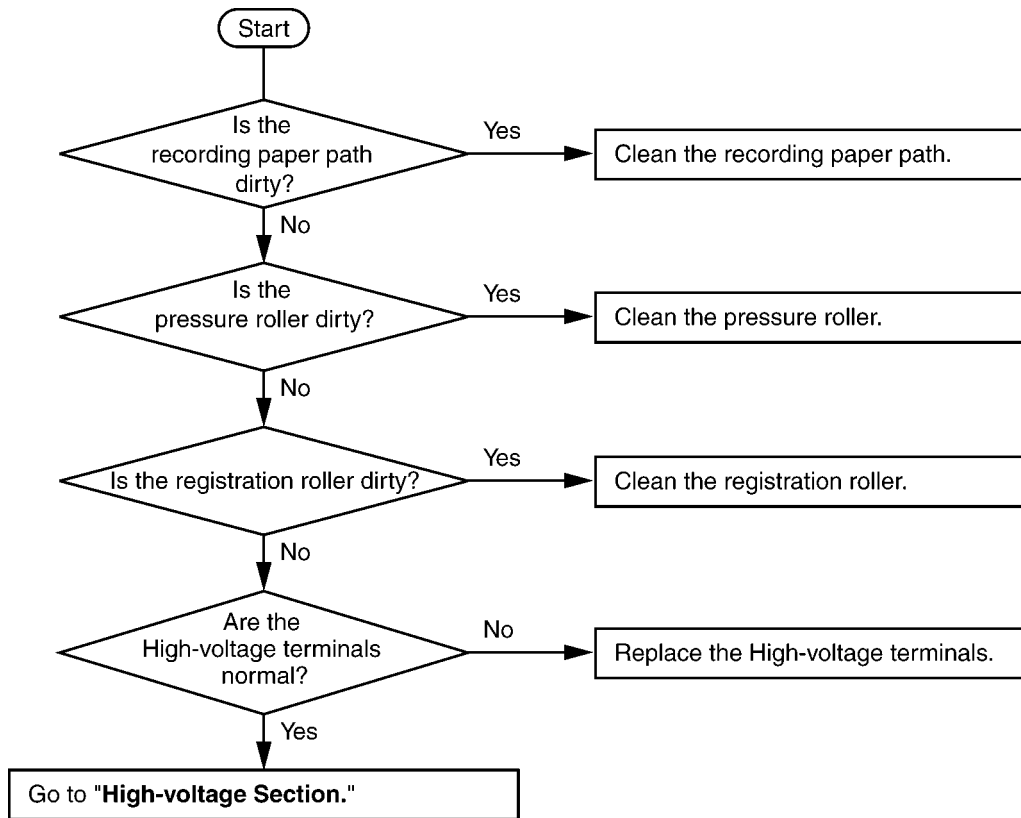
90:Abnormal stop during printing DMA.

91:Incompleteness of JBIG decompression.

92:HVERR(error of an abnormal charge voltage) was detected during printing.

99:Before Motor Rotation.

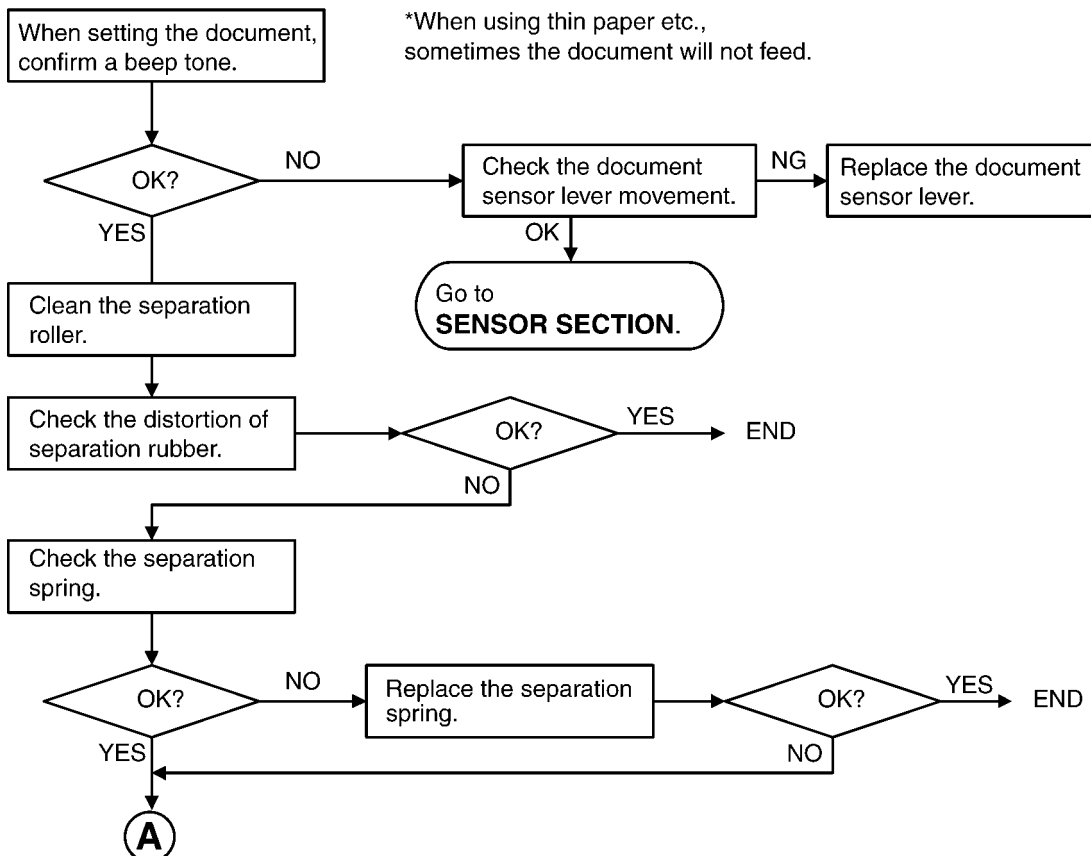
12.3.8.6. Back Side of The Recording Paper Is Dirty



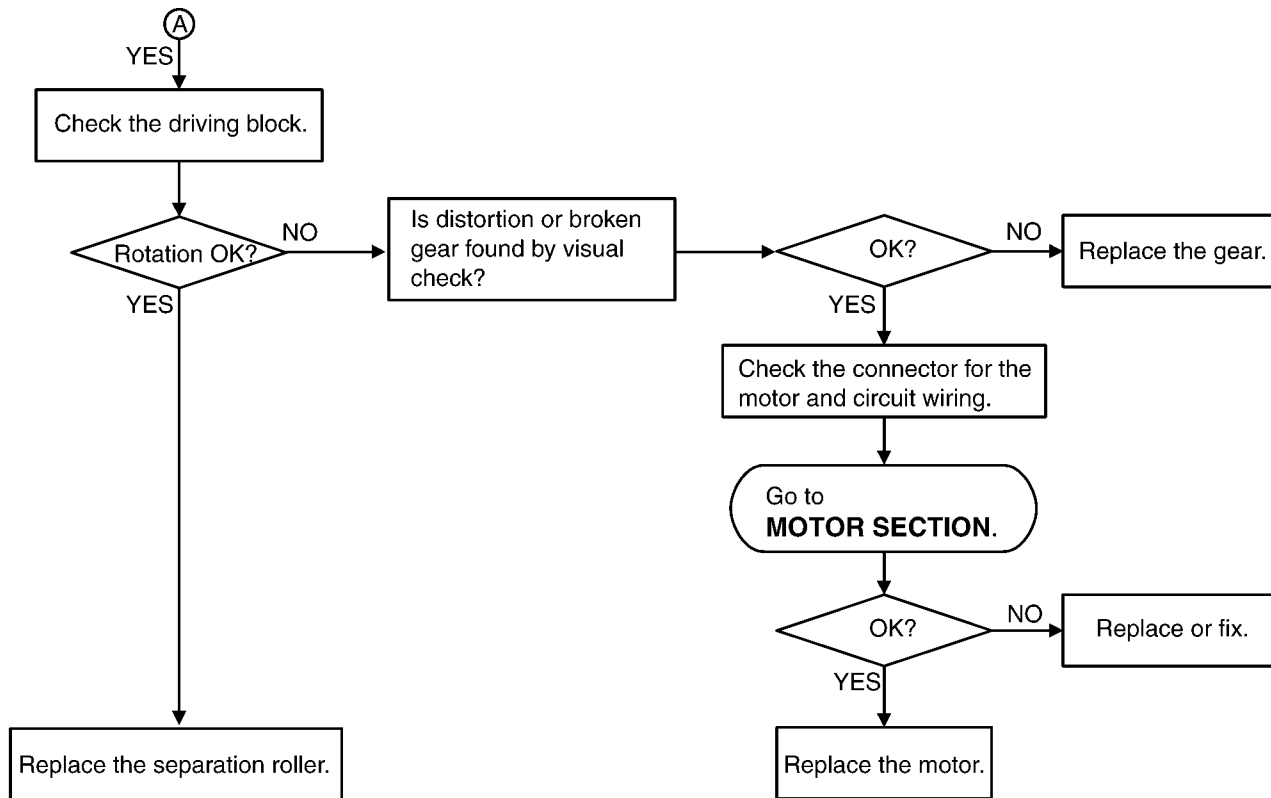
CROSS REFERENCE:
High Voltage Section (P.190)

12.3.9. ADF (Auto Document Feeder) Section (KX-MB2010/2025/2030 ONLY)

12.3.9.1. No Document Feed, Document Jam and Multiple Document Feed



CROSS REFERENCE:
Sensor Section (P.178)



Depending on the circumstances, change the roller, one-way spring gear, etc., as well as the other rollers or parts.

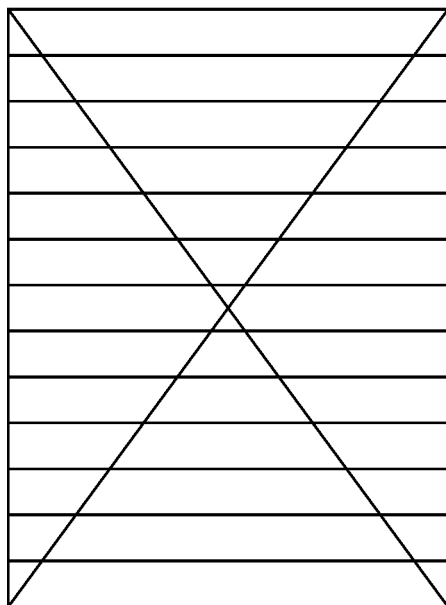
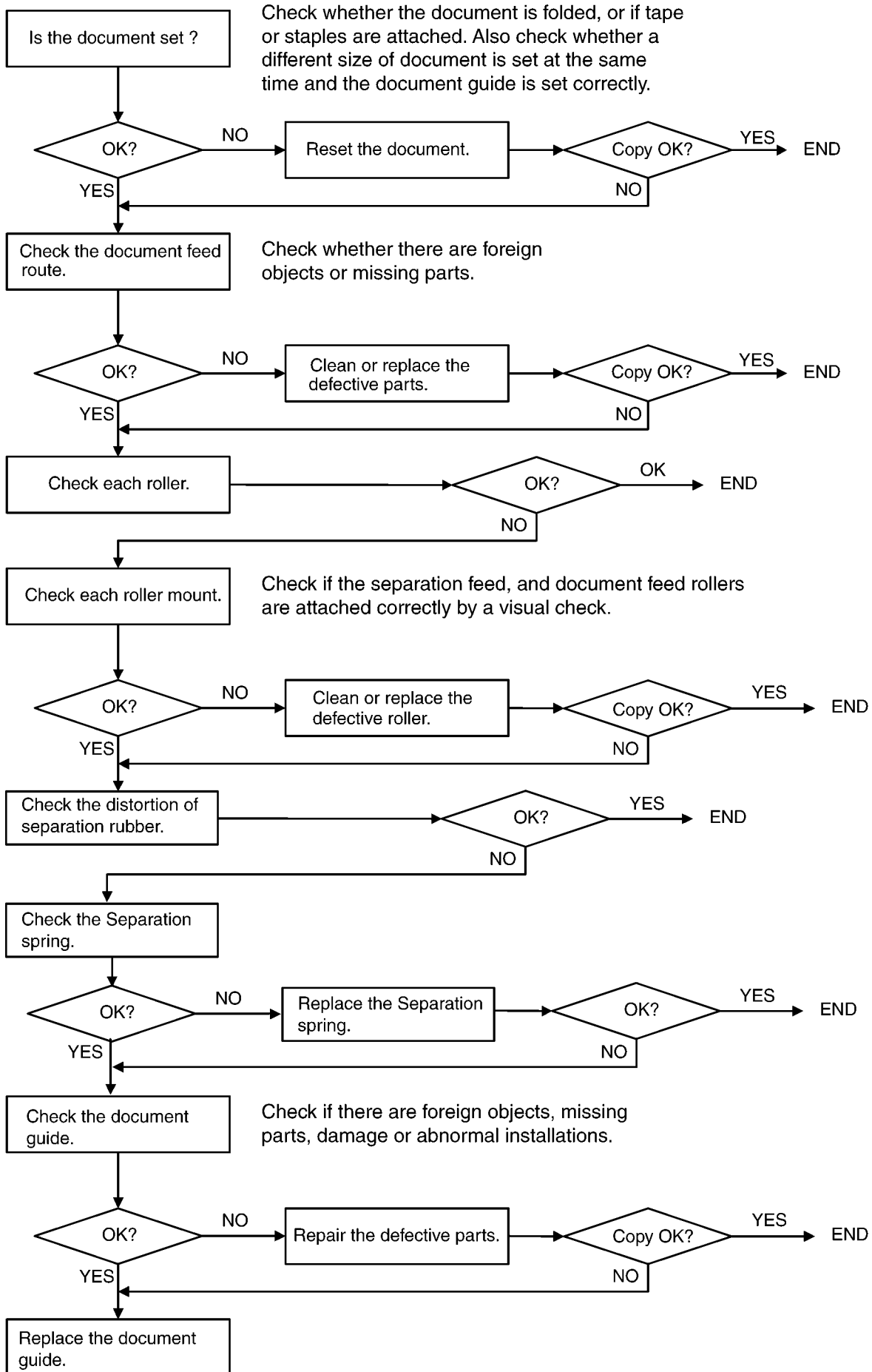


Fig. b

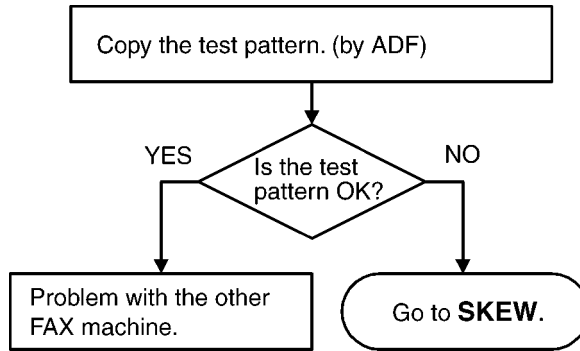
When confirming if the characters are extended or distorted on, if the feed problem occurs, use this test chart. (Fig b)

CROSS REFERENCE:
Motor Section (P.181)

12.3.9.2. Skew (ADF)

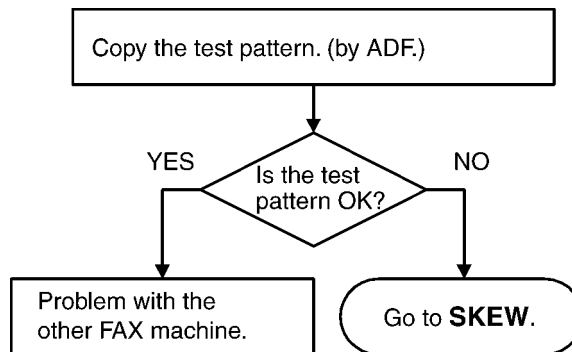


12.3.9.3. The Sent FAX Data Is Skewed (KX-MB2025/KX-MB2030 ONLY)



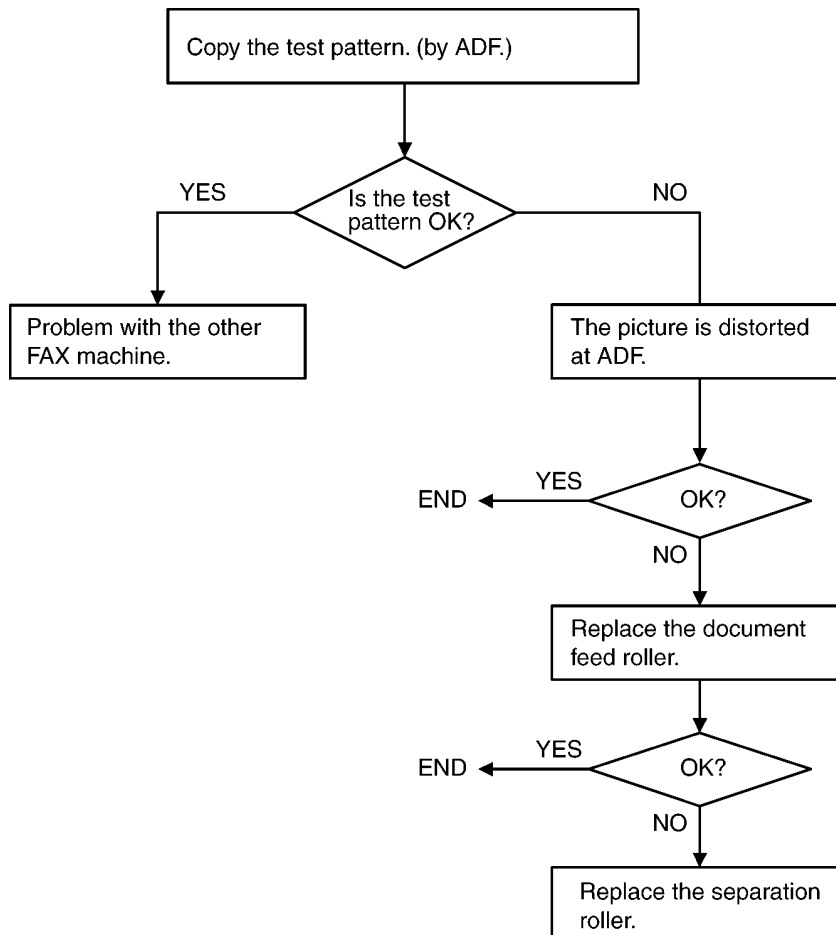
CROSS REFERENCE:
Skew (ADF) (P.152)

12.3.9.4. The Received FAX Data Is Skewed (KX-MB2025/KX-MB2030 ONLY)

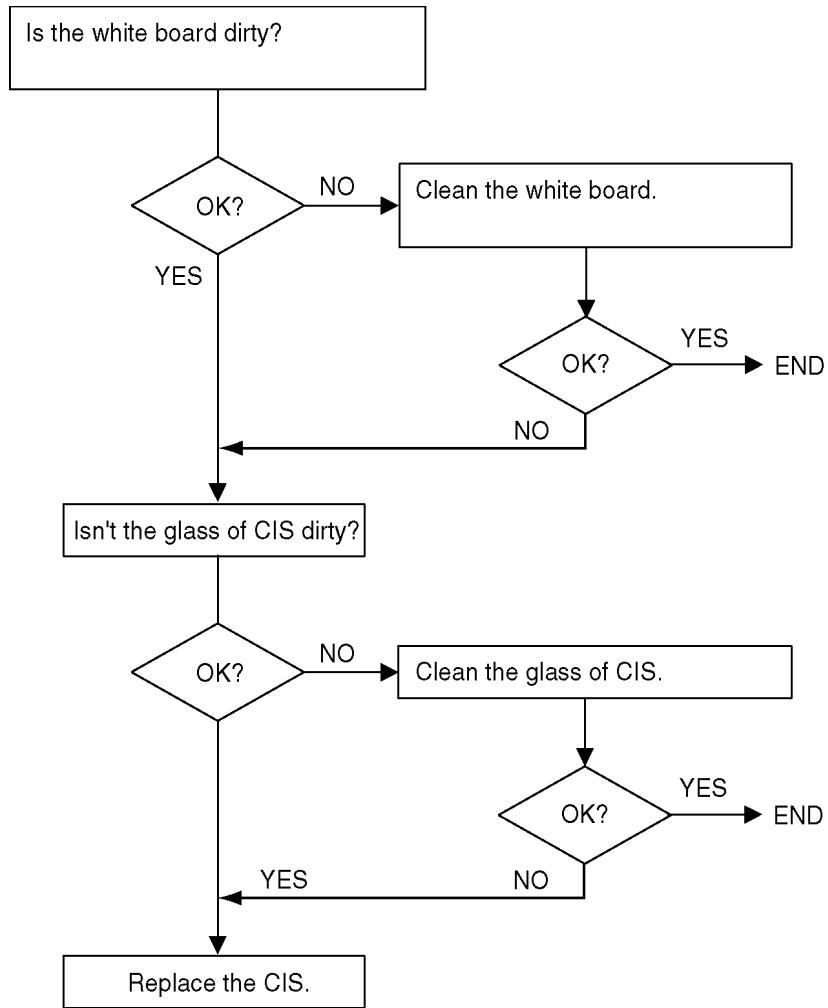


CROSS REFERENCE:
Skew (P.146)

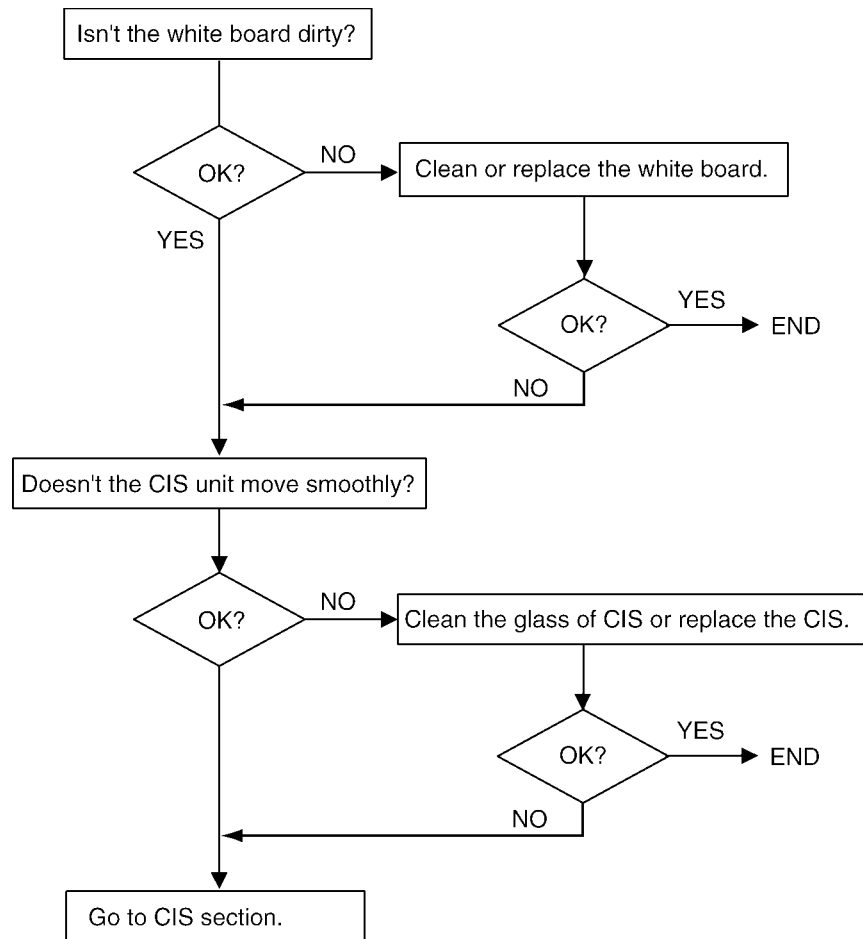
12.3.9.5. The Received or Copied Data Is Expanded



12.3.9.6. Black or White Vertical Line Is Copied



12.3.9.7. An Abnormal Image Is Copied



CROSS REFERENCE:
 CIS Control Section (P.186)

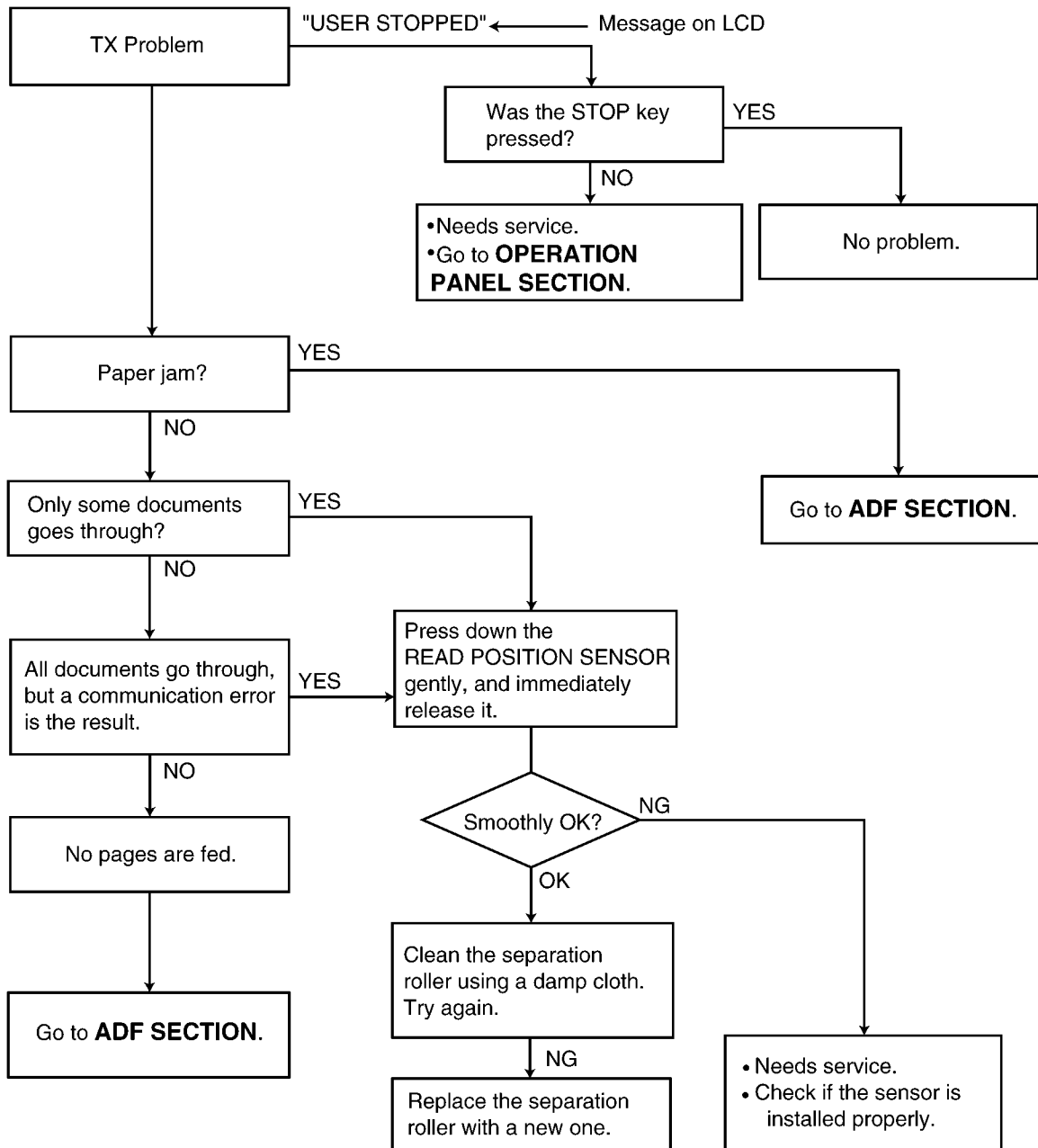
12.3.10. Communication Section (KX-MB2025/KX-MB2030 ONLY)

Find the problem in the table shown below, and refer to the corresponding troubleshooting procedure in **Defective Facsimile Section** (P.157).

No.	Symptom	Content	Possible cause
1	The paper dose not feed properly when faxing. (Copying is also not possible.)	Troubleshooting	Problem with the feeding mechanism. (Refer to Transmit Problem (P.157))
2	The fax transmits successfully one time and fails another. (Copying is also possible.)	Troubleshooting	Problem with the service line or with the receiver's fax. (Refer to Sometime There Is a Transmit Problem (P.158))
3	The fax receives successfully one time and fails another. (Copying is also possible.)	Troubleshooting	Problem with the service line or with the transmitter's fax. (Refer to Receive Problem (P.159))
4	The fax completely fails to transmit or receive. (Copying is also possible.)	Troubleshooting	Problem with the electric circuit. (Refer to The Unit Can Copy, But Cannot Transmit/Receive (P.160))
5	The fax fails either to transmit or receive when making a long distance or an international call. (Copying is also possible.)	Detailed description of the possible causes (Similar to troubleshooting items No.2 and No.3.)	Problem with the service line.
6	The fax image is poor when transmitting or receiving during a long distance or international call.		
7	No.1-No.5	The troubleshooting procedure for each error code will be printed on the communication result report.	(Refer to How To Output The Journal Report (P.165))

12.3.10.1. Defective Facsimile Section

12.3.10.1.1. Transmit Problem



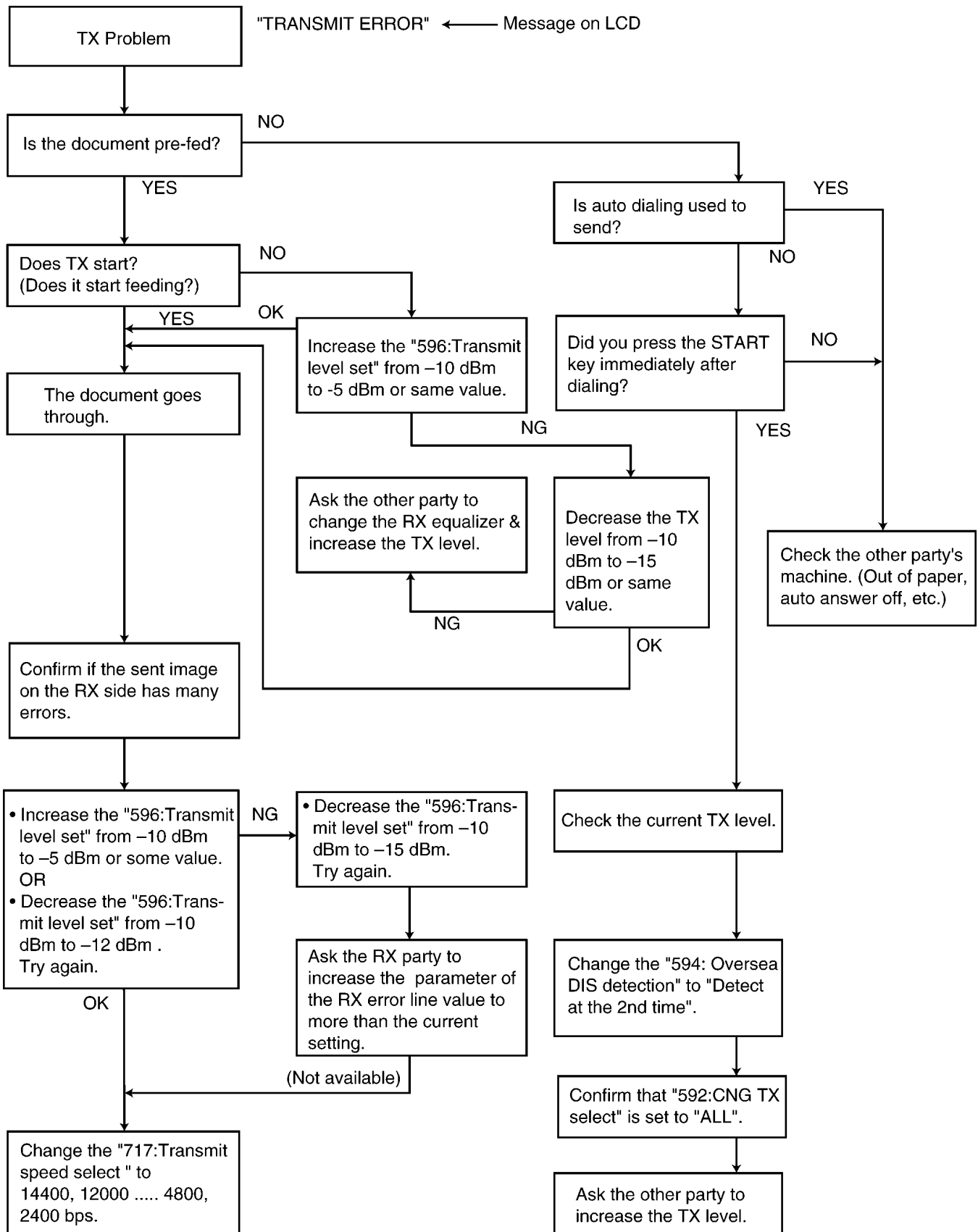
CROSS REFERENCE:

Cleaning the White Plates and Glass (P.243)

ADF (Auto Document Feeder) Section (KX-MB2010/2025/2030 ONLY) (P.150)

Operation Panel Section (P.178)

12.3.10.1.2. Sometime There Is a Transmit Problem

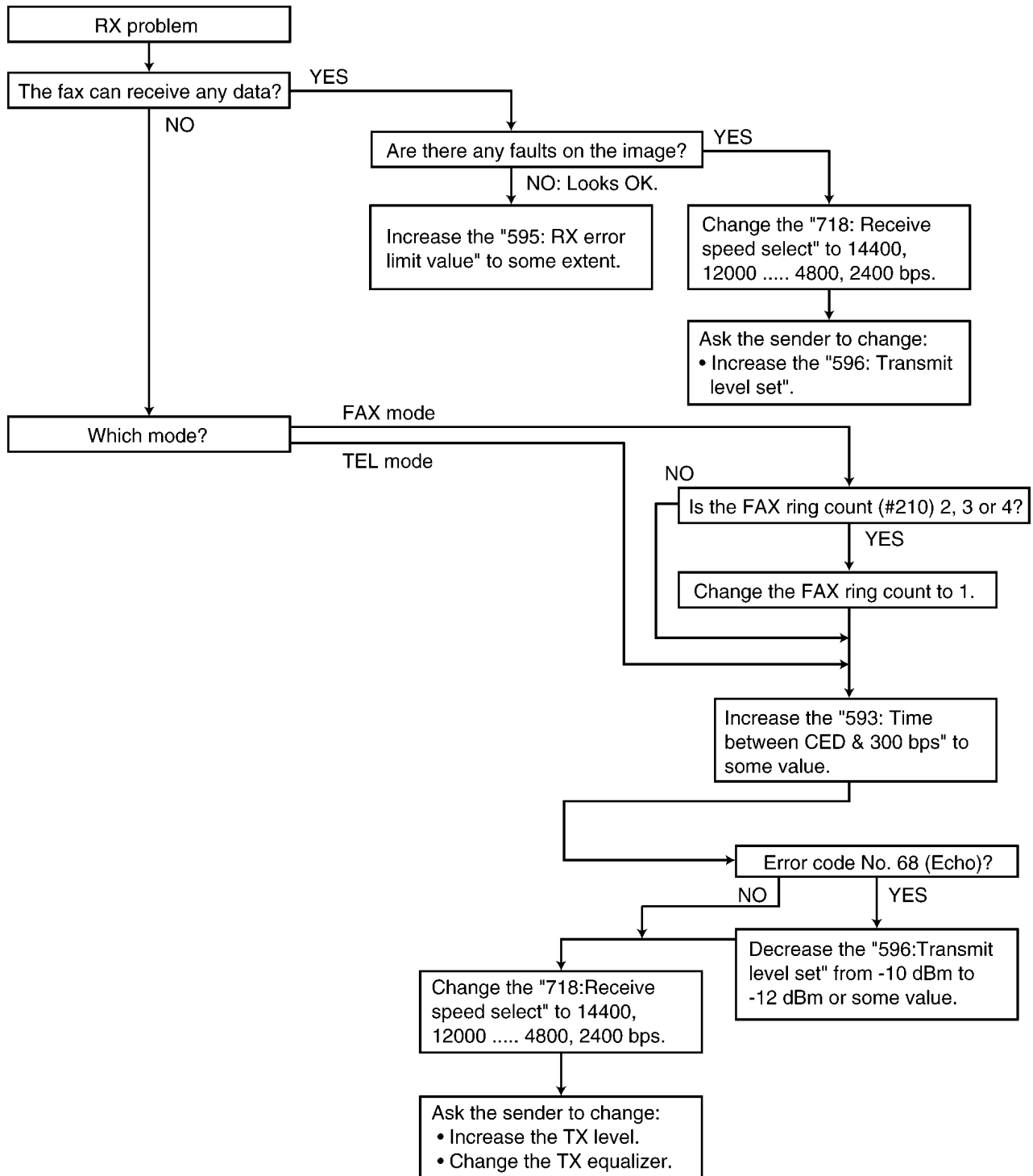


Note:
 "596: Transmit level set" represents a service code. Refer to the **Service Function Table (KX-MB2025/KX-MB2030)** (P.97).
 "717: Transmit speed select" represents a service code. Refer to the **Service Function Table (KX-MB2025/KX-MB2030)** (P.97).

12.3.10.1.3. Receive Problem

Confirm the following before starting troubleshooting.

- Is the recording paper installed properly? Refer to the next page.



Note:

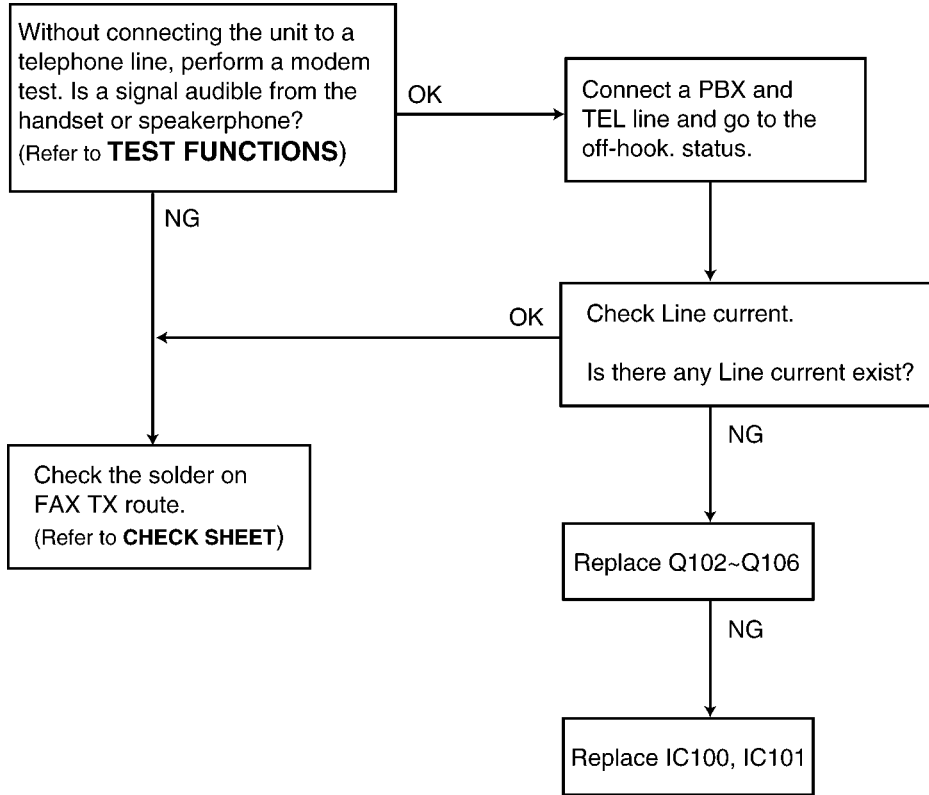
“596: Transmit level set” represents a service code. Refer to the **Service Function Table (KX-MB2025/KX-MB2030)** (P.97).
 “718: Receive speed select” represents a service code. Refer to the **Service Function Table (KX-MB2025/KX-MB2030)** (P.97).

For the receiving problem, we have thought of causes other than in the software. Some causes may be when the fax changes to the memory receiving mode (for example, when out of paper). and the memory becomes full of the unprinted fax data. In this case, [MEMORY FULL] and its main cause (for example, “OUT OF PAPER”) are displayed on the LCD. Accordingly, by solving the main problem, [MEMORY FULL] can be canceled and the receiving problem can be solved.

Please refer to **User Recoverable Errors** (P.115) for the above items.

Also, when it actually becomes a hardware deformity, please check each sensor.

12.3.10.1.4. The Unit Can Copy, But Cannot Transmit/Receive



CROSS REFERENCE:
Test Functions (P.92)
Check Sheet (P.175)

12.3.11. Special Service Journal Reports (KX-MB2025/KX-MB2030 ONLY)

Journal 2 and Journal 3 shown below, which are special journals giving the additional detailed information about the latest 35 communications, can be printed by Service Code 881 or 882. Remote printing function for the journal reports (JOURNAL, JOURNAL 2 and JOURNAL 3) is also available for service technicians. (Refer to **Program Mode Table** (P.120) The JOURNAL report only gives you basic information about a communication, but the other two journal reports provide different information on the same item (communication).

HOW TO READ JOURNAL REPORTS:

Example:

23 Mar. 2002 09:51

YOUR LOGO :
YOUR FAX NO:

NO.	OTHER FACSIMILE	START TIME	USAGE TIME	MODE	PAGES	RESULT	*CODE
01	3332222	21 JAN. 14:14	00'45	SND	001	OK	
02	9998765	21 JAN 15:17	00'58	SND	002	OK	
03	John	21 JAN 15:18	00'48	RCV	001	OK	
04	555556677	22 JAN. 10:35	02'45	RCV	003	COMMUNICATION ERROR	43

23 Mar. 2000 09:51

NO.	(1) RCV MODE	(2) SPEED	(3) RESOLUTION	(4) RCV-TRIG. (CNT.)	(5) ERROR->MEMORY
01	TEL	9600BPS	STD.		
02	TEL	9600BPS	FINE		
03	FAX ONLY	7200BPS	STD.	FAX MOD	
04	FAX ONLY	9600BPS	STD.	CNG (0003)	

NO RESPONSE DISAPPEARED ON JOURNAL

NO.	START TIME	(1) RCV MODE	(4) RCV-TRIG. (CNT.)

YOUR LOGO:
YOUR FAX NO:

23 MAR. 2000 09:51

NO.	(6) ENCODE	(7) MSLT	(8) EQM (RX)	(9) ERROR LINE (RX)	(10) MAKER CODE
01	MH	20msec	0000	00000	79
02	MH	20msec	0000	00000	00
03	MR	20msec	1200	00013	00
04	MR	20msec	0000	00000	00

1. Look at **NO. 01** in the JOURNAL. If you want to know about the details about that item, see **NO. 01** in the JOURNAL 2 and the JOURNAL 3. You can get the following information.
 - * MODE: Fax transmission
 - * RCV. MODE: TEL
 - * TX SPEED: 9.6 kbps
 - * RESOLUTION: standard
 - * ENCODE: MH
 - * MAKER CODE: 79
 2. Look at **NO. 04** in the JOURNAL 2. CNG (0003) indicates that the CNG signal has been received three times since the purchase date.
- For further details, see **Journal 2** and **Journal 3**.

12.3.11.1. Journal 2

Refer to JOURNAL 2 in **Printout Example** (P.163).

Journal 2 displays the additional detailed information about the last 35 communications.

Descriptions:

(1) RCV. MODE

Indicates which receive mode the unit was in when the unit received a fax message.

This information is also displayed when the unit transmitted a fax message.

(2) SPEED

Indicates the speed of the communication. If multiple pages are transmitted or received, it indicates the last page's communication speed. If there is a communication error, "?" is displayed.

(3) RESOLUTION

Indicates the resolution of the communication. If multiple pages are transmitted or received, it indicates the last page's resolution. If there is a communication error, "?" is displayed.

(4) RCV-TRIG. (CNT.)

Indicates the trigger that causes the unit to switch to the fax receive mode. The available options are listed in JOURNAL 2 in **Printout Example** (P.163). The values in parentheses indicate how many times the trigger has been used. (For example, "0003" means three times.)

No.	Display	Function
1	FAX MODE	Means the unit received a fax message in the FAX mode.
2	MAN RCV	Means the unit received a fax message by manual operation.
3	RMT DTMF	Means the unit detected DTMF (Remote Fax activation code) entered remotely.
4	PAL DTMF	Means the unit detected DTMF (Remote Fax activation code) entered by a parallel connected telephone.
5	TURN-ON	Means the unit started to receive after 10 rings. (Remote Turn On: Service Code #573)

(5) ERROR→MEMORY

Indicates the reason why the unit received a fax message in memory.

If you look at No.11 in the JOURNAL 2 in **Printout Example** (P.163), it shows the fax message was received in memory due to "PAPER OUT" error.

NO RESPONSE DISAPPEARED ON JOURNAL

The "**NO RESPONSE DISAPPEARED ON JOURNAL**" displays the information about the last 10 communications terminated by "No Response". (Some of the communications terminated by "No Response" were not displayed in the JOURNAL.)

When a fax transmission cannot be performed because the other party's unit is set to the TEL mode, "No response" will be printed.

12.3.11.2. Journal 3

Refer to JOURNAL 3 in **Printout Example** (P.163).

Description

(6) ENCODE

Compression Code: MH/MR/MMR

(7) MSLT

MSLT means Minimum Scan Line Time. Used only at the factory.

(8) EQM (RX)

EQM means Eye Quality Monitor. Used only at the factory.

(9) ERROR LINE (RX)

When an error occurs while receiving a fax, this shows the number of error lines.

(10) MAKER CODE

This shows a 2 digit code of the other party's fax machine brand.

0E: "KX" model

00: Unknown

79: "UF" model

19: "Xerox" model

12.3.11.3. Printout Example

JOURNAL2

01 Jan. 2007 0 : 21

NO.	RCV MODE	SPEED	RESOLUTION	RCV-TRIG. (CNT.)	ERROR->MEMORY
01	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00039)	
02	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00040)	
03	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00041)	
04	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00042)	
05	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00043)	
06	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00044)	
07	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00045)	
08	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00046)	
09	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00047)	
10	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00048)	
11	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00049)	
12	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00050)	
13	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00051)	
14	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00052)	
15	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00053)	
16	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00054)	
17	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00055)	
18	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00056)	
19	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00057)	
20	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00058)	
21	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00059)	
22	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00060)	
23	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00061)	
24	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00062)	
25	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00063)	
26	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00064)	
27	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00065)	
28	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00066)	
29	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00067)	
30	FAX ONLY	V34-336 (- 0dBm)	STD.	FAX MOD(00068)	

NO RESPONSE DISAPPEARED ON JOURNAL

NO.	START TIME	RCV MODE	RCV-TRIG. (CNT.)
	YOUR LOGO :		
	YOUR FAX NO. :		

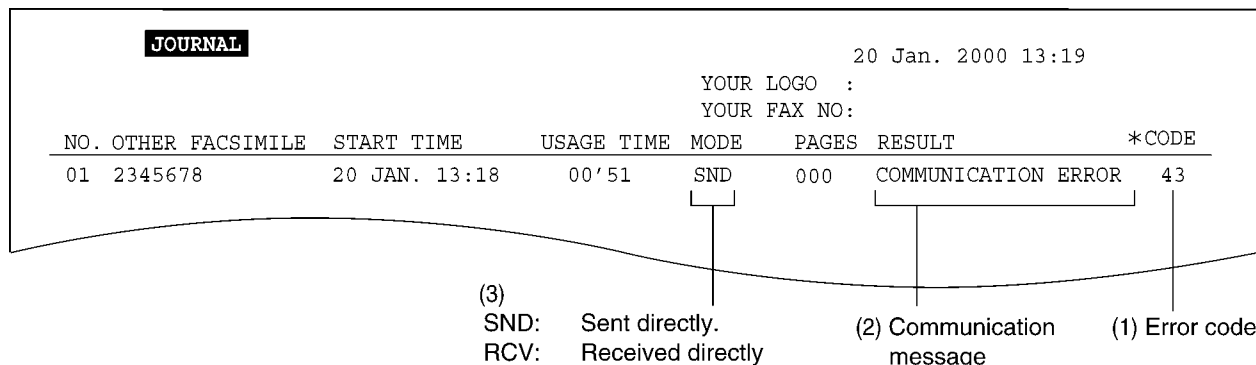
JOURNAL 3

09 Sep. 2007 14 : 18

NO.	ENCODE	MSLT	EQM (RX)	ERROR LINE (RX)	MAKER CODE
01	MMR	0msec	0000	00000/00000	0E
02	MMR	0msec	0000	00000/00000	0E
03	MMR	0msec	0000	00000/00000	00
04	MMR	0msec	0000	00000/00000	0E
05	MMR	0msec	0000	00000/00000	0E
06	MH	20msec	0000	00000/00000	00
07	MH	20msec	0000	00000/00000	00
08	MH	20msec	0000	00000/00000	00
09	MH	20msec	0000	00000/00000	00
10	MH	20msec	0000	00000/00000	00
11	MMR	0msec	0000	00000/00000	0E
12	MMR	0msec	0000	00000/00000	0E
13	MMR	0msec	0000	00000/00000	0E
14	MMR	0msec	0000	00000/00000	0E
15	MMR	0msec	0000	00000/00000	0E
16	MMR	0msec	1600	SNR=38dB 00000/04606	0E
17	MMR	0msec	0000	00000/00000	0E
18	MMR	0msec	0000	00000/00000	0E
19	MMR	0msec	0000	00000/00000	0E
20	MMR	0msec	0000	00000/00000	0E
21	MMR	0msec	0000	00000/00000	0E
22	MMR	0msec	0000	00000/00000	0E
23	MMR	0msec	0000	00000/00000	0E
24	MMR	0msec	0000	00000/00000	0E
25	MMR	0msec	0000	00000/00000	0E
26	MMR	0msec	0000	00000/00000	0E
27	MMR	0msec	0000	00000/00000	0E
28	MMR	0msec	0000	00000/00000	0E
29	MMR	0msec	0000	00000/00000	0E
30	MMR	0msec	0000	00000/00000	0E

12.3.11.4. How To Output The Journal Report

1. Press the MENU button 3 times.
2. Press “#”, then “2”.
3. Press the SET button.
4. The report prints out.



CROSS REFERENCE:

Features (P.13)

Error code table:

(1) CODE	(2) RESULT	(3) MODE	SYMPTOM	Counter-measure*
	PRESSED THE STOP KEY	SND & RCV	Communication was interrupted by the STOP button.	
	DOCUMENT JAMMED	SND	The document paper is jammed.	
	NO DOCUMENT	SND	No document paper.	
	THE COVER WAS OPENED	SND	The cover is open.	
28	COMMUNICATION ERROR	SND	Invalid signal is received during PHASE-B of PHASE-D.	
40	COMMUNICATION ERROR	SND	Transmission is finished when the T0 TIMER expires.	1
41	COMMUNICATION ERROR	SND	DCN is received after DCS transmission.	2
42	COMMUNICATION ERROR	SND	FTT is received after transmission of a 2400BSP training signal.	3
43	COMMUNICATION ERROR	SND	No response after post message is transmitted three times.	4
44	COMMUNICATION ERROR	SND	RTN and PIN are received.	5
46	COMMUNICATION ERROR	RCV	No response after FTT is transmitted.	6
48	COMMUNICATION ERROR	RCV	No post message.	7
49	COMMUNICATION ERROR	RCV	RTN is transmitted.	8
50	COMMUNICATION ERROR	RCV	PIN is transmitted (to PRI-Q).	8
51	COMMUNICATION ERROR	RCV	PIN is transmitted.	8
52	COMMUNICATION ERROR	RCV	Reception is finished when the T0 TIMER expires.	9
54	ERROR-NOT YOUR UNIT	RCV	DCN is received after DIS transmission.	11
58	COMMUNICATION ERROR	RCV	DCN is received after FTT transmission.	13
59	ERROR-NOT YOUR UNIT	SND	DCN responds to the post message.	14
65	COMMUNICATION ERROR	SND	DCN is received before DIS reception.	2
65	COMMUNICATION ERROR	RCV	Reception is not EOP, EOM PIP, PIN, RTP or RTN.	2
68	COMMUNICATION ERROR	RCV	No response at the other party after MCF or CFR is transmitted.	13
70	ERROR-NOT YOUR UNIT	RCV	DCN is received after CFR transmission.	13
72	COMMUNICATION ERROR	RCV	Carrier is cut when the image signal is received.	16
75	MEMORY FULL	RCV	The document was not received due to memory full.	
79	CANCELED	SND	The multi-station transmission was rejected by the user.	
FD	COMMUNICATION ERROR	SND & RCV	Modem error. For the DCN, DCN, etc. abbreviations, refer to NCU Section (KX-MB2025/KX-MB2030 ONLY) (P.30). ITS (Integrated telephone System) and Monitor Section (KX-MB2025/KX-MB2030 ONLY) (P.32).	12

SND=TRANSMISSION / RCV=RECEPTION

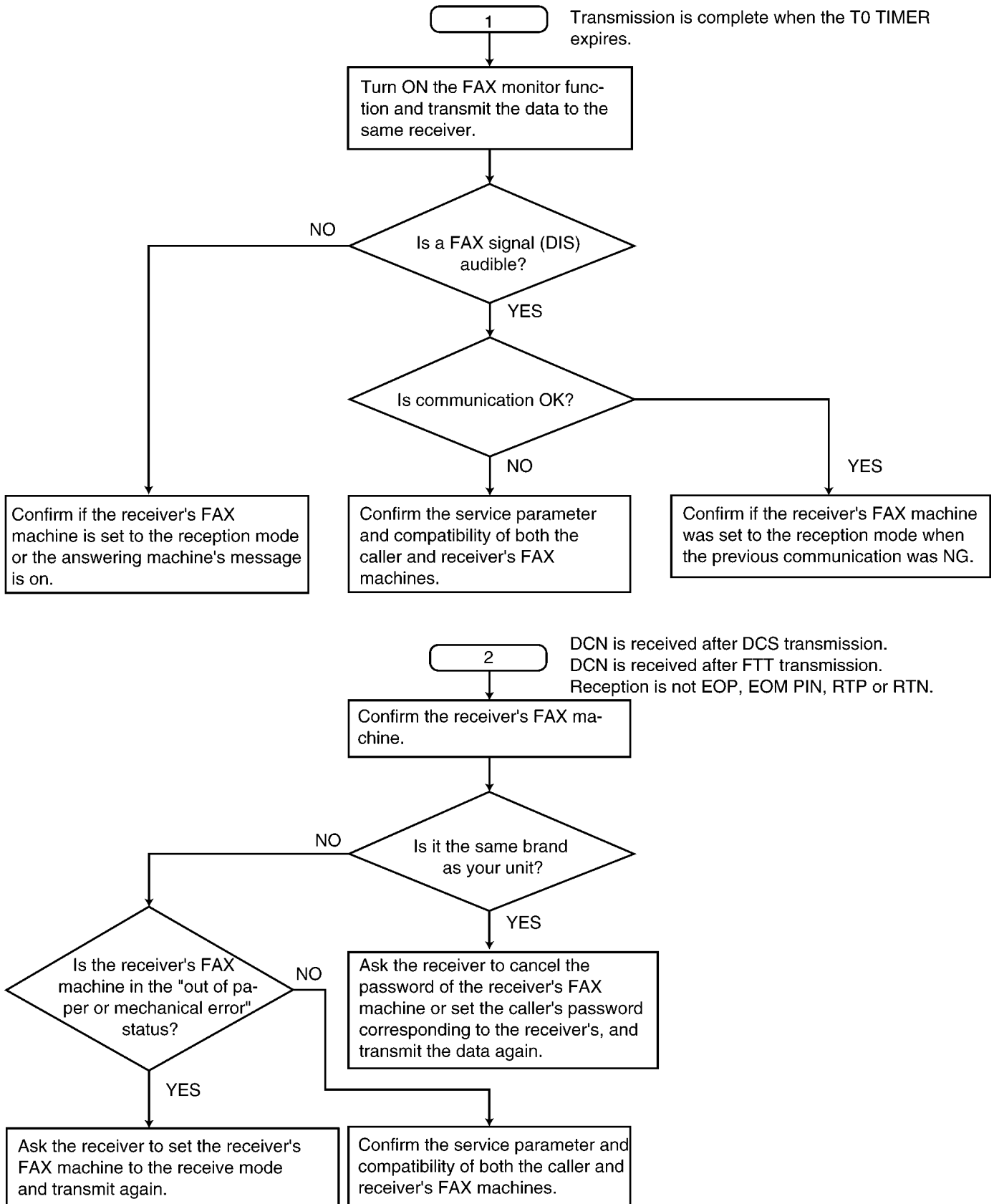
Most fax communication problems can be resolved by the following steps.

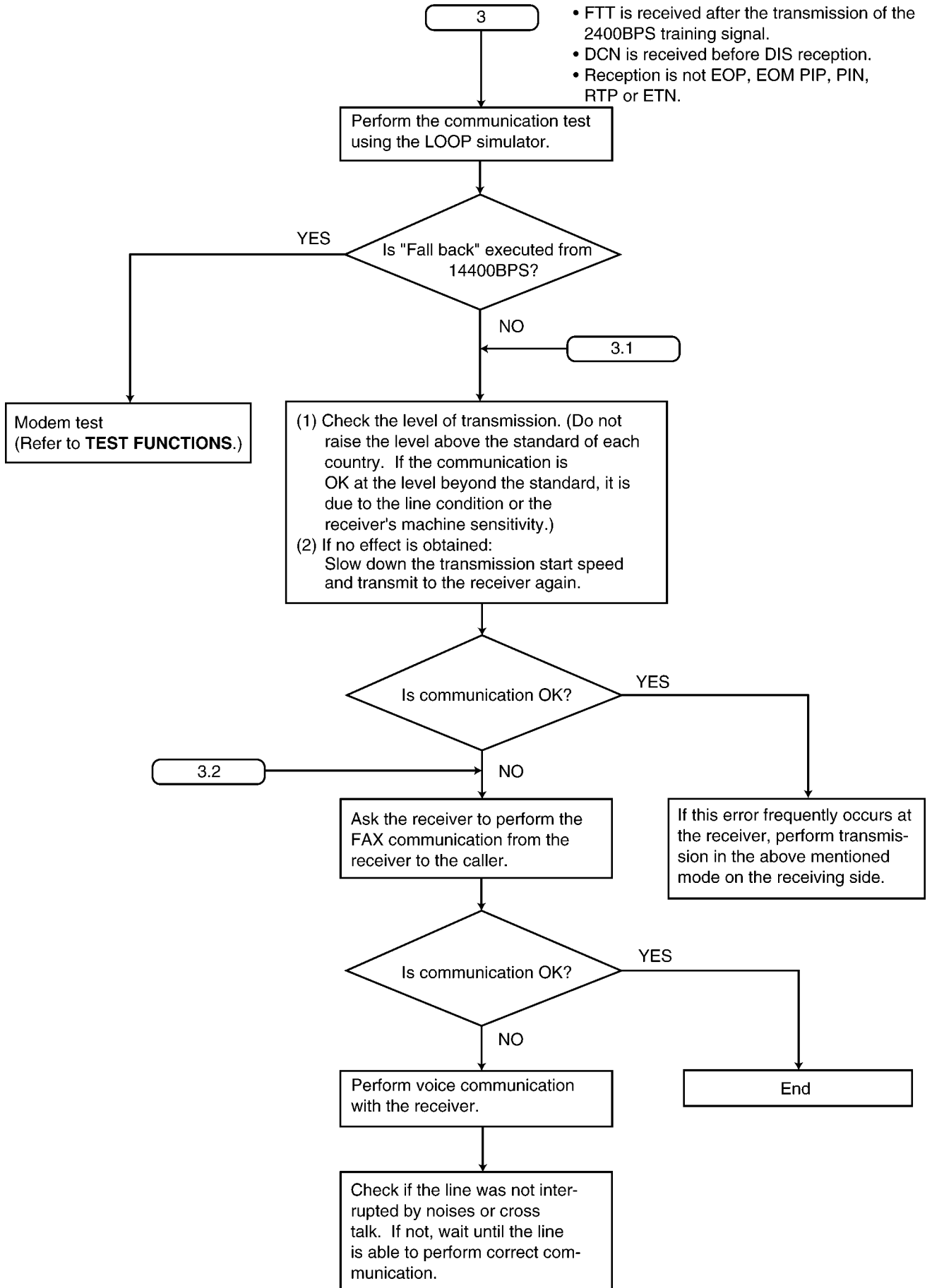
1. Change the transmit level. (Service code: 596, refer to **Service Function Table (KX-MB2025/KX-MB2030)** (P.97).)
2. Change the TX speed/RX speed. (Service code: 717/718, refer to **Service Function Table (KX-MB2025/KX-MB2030)** (P.97).)

Note*:

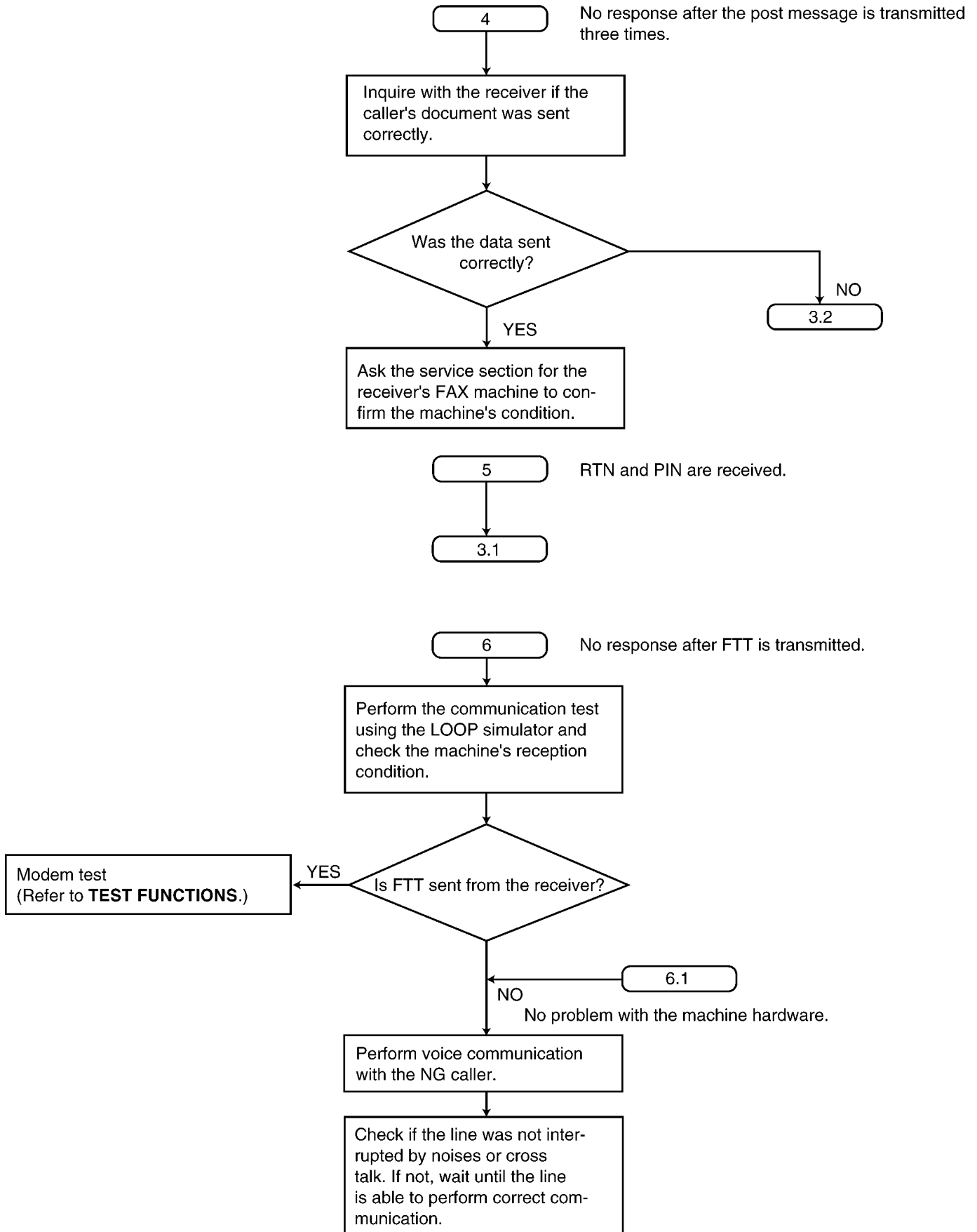
If the problem remains, see the following “Countermeasure” flow chart.

Countermeasure

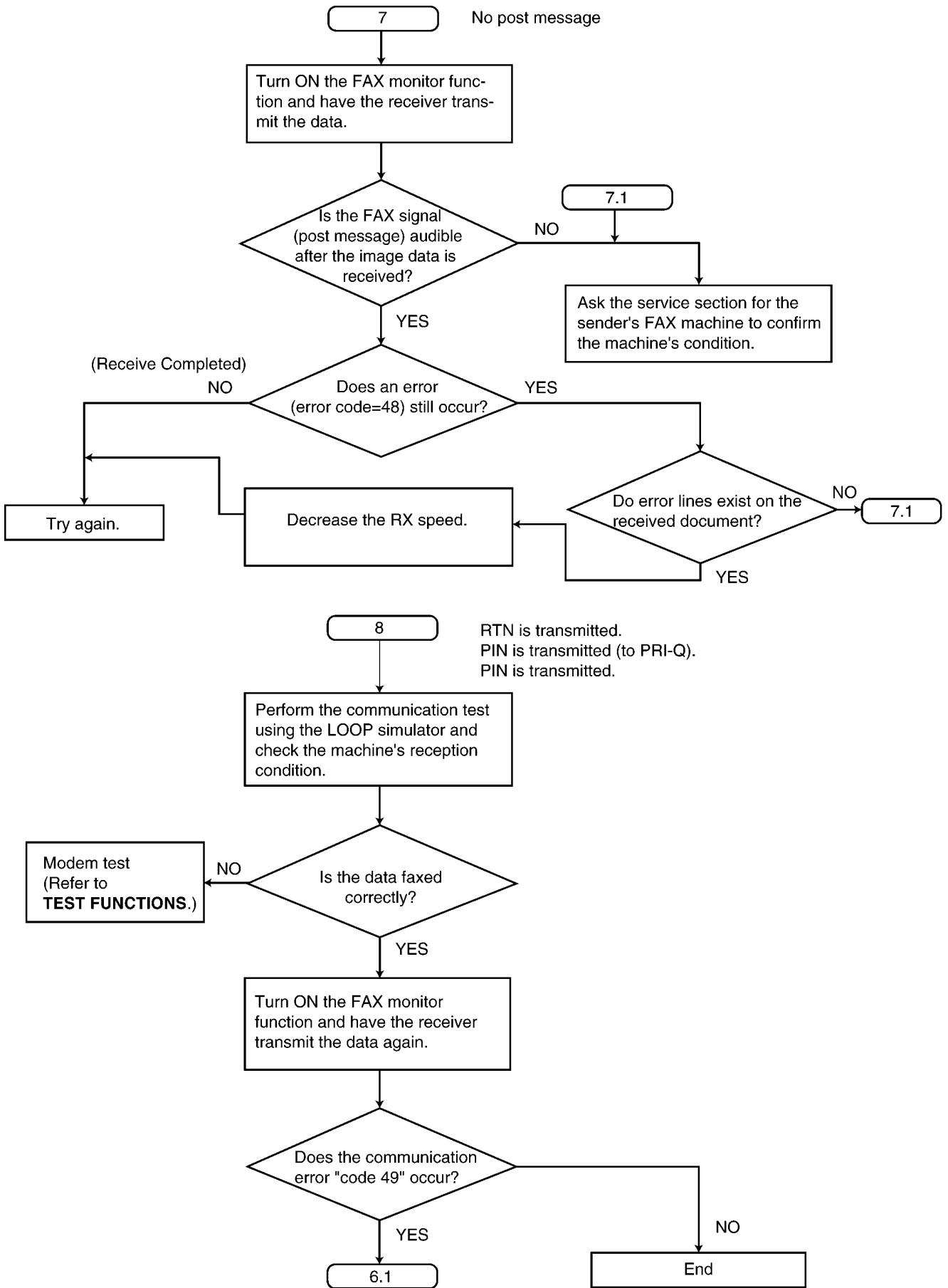




CROSS REFERENCE:
 Test Functions (P.92)

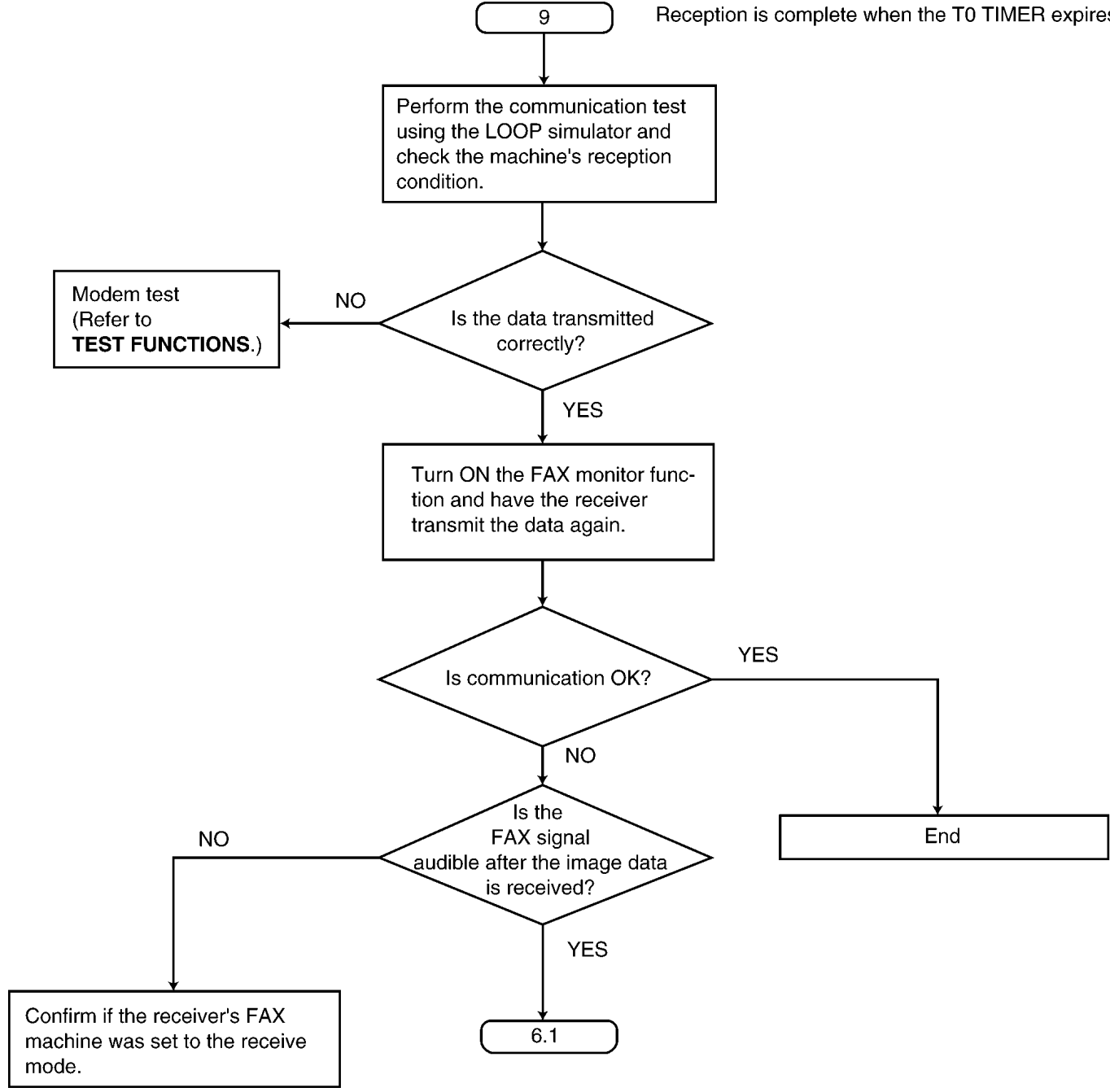


CROSS REFERENCE:
Test Functions (P.92)

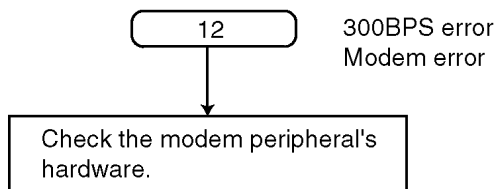
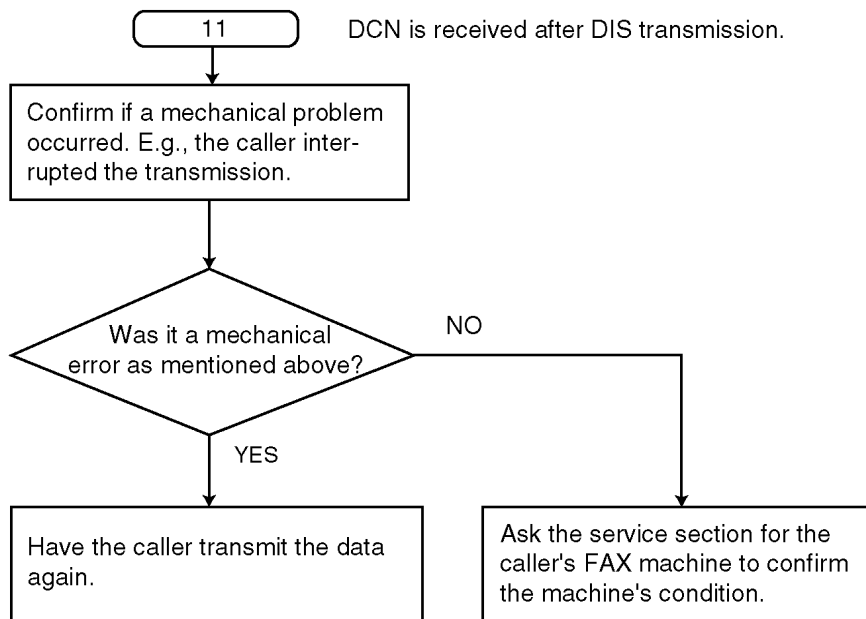
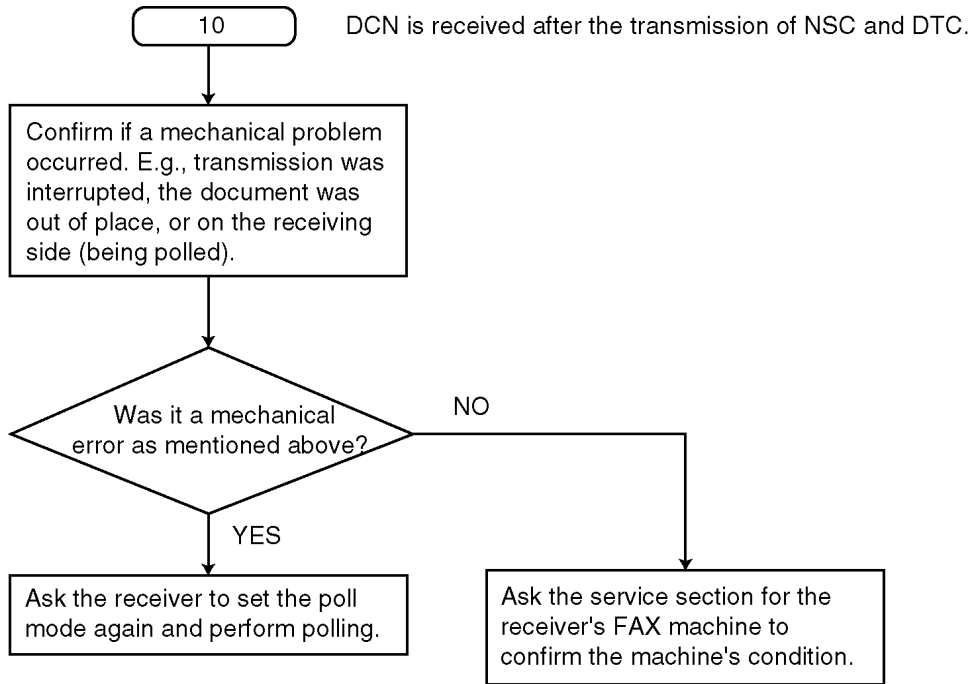


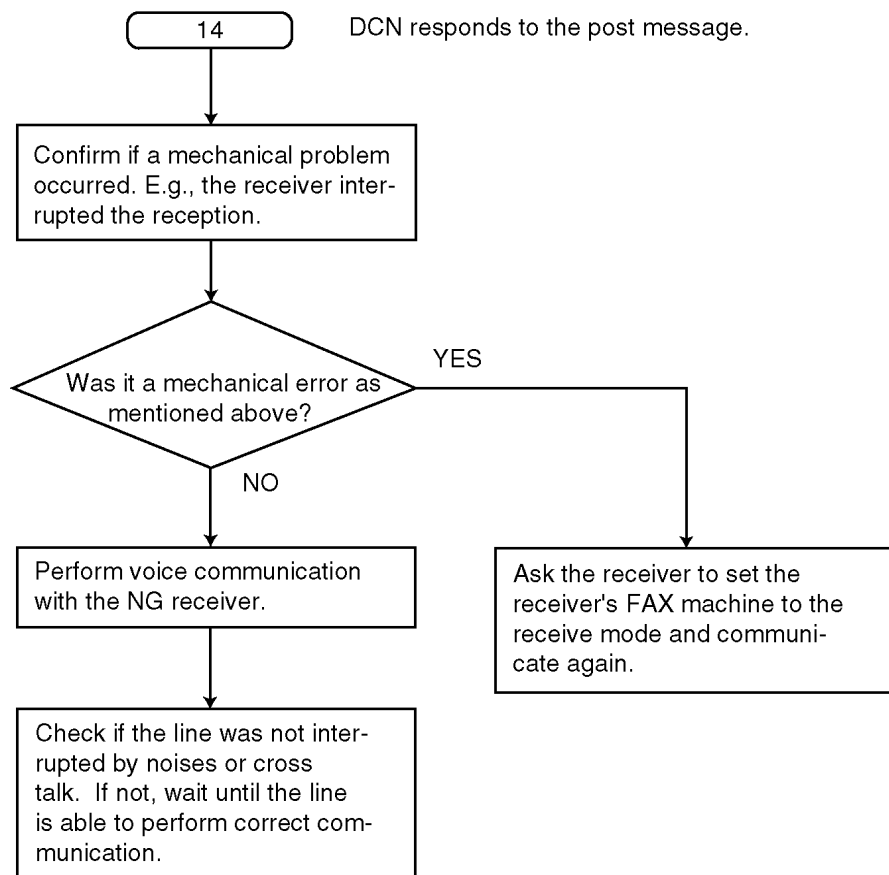
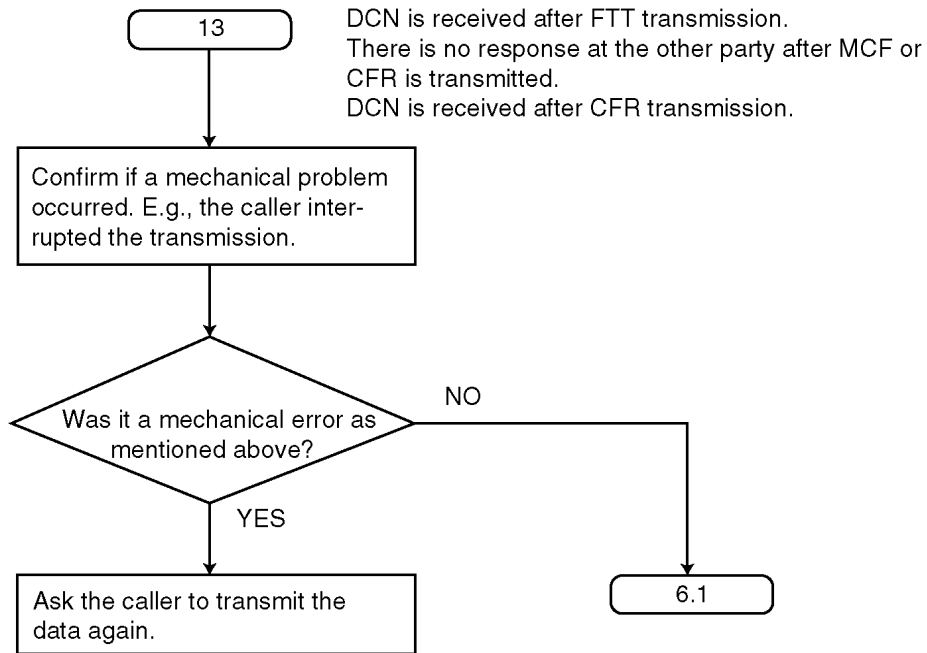
CROSS REFERENCE:
Test Functions (P.92)

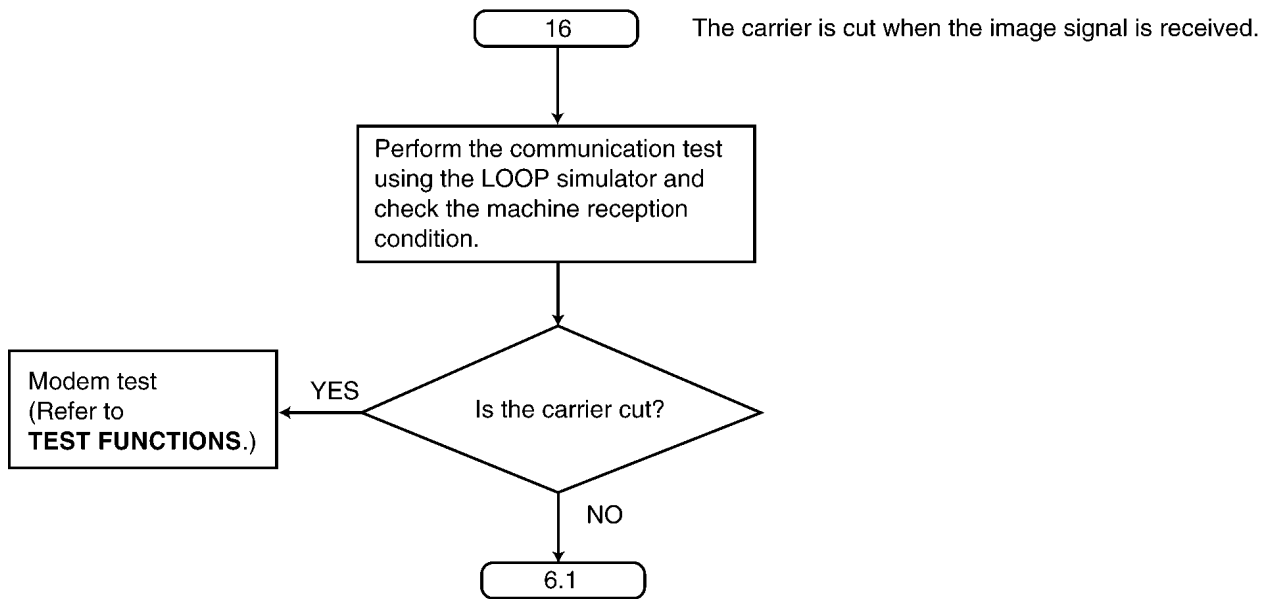
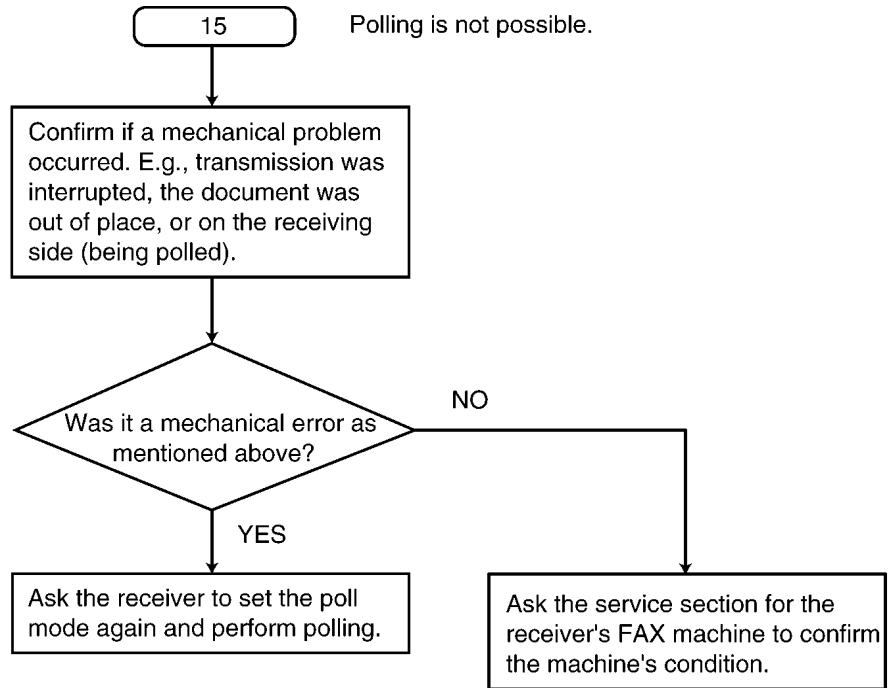
9 Reception is complete when the T0 TIMER expires.



CROSS REFERENCE:
 Test Functions (P.92)



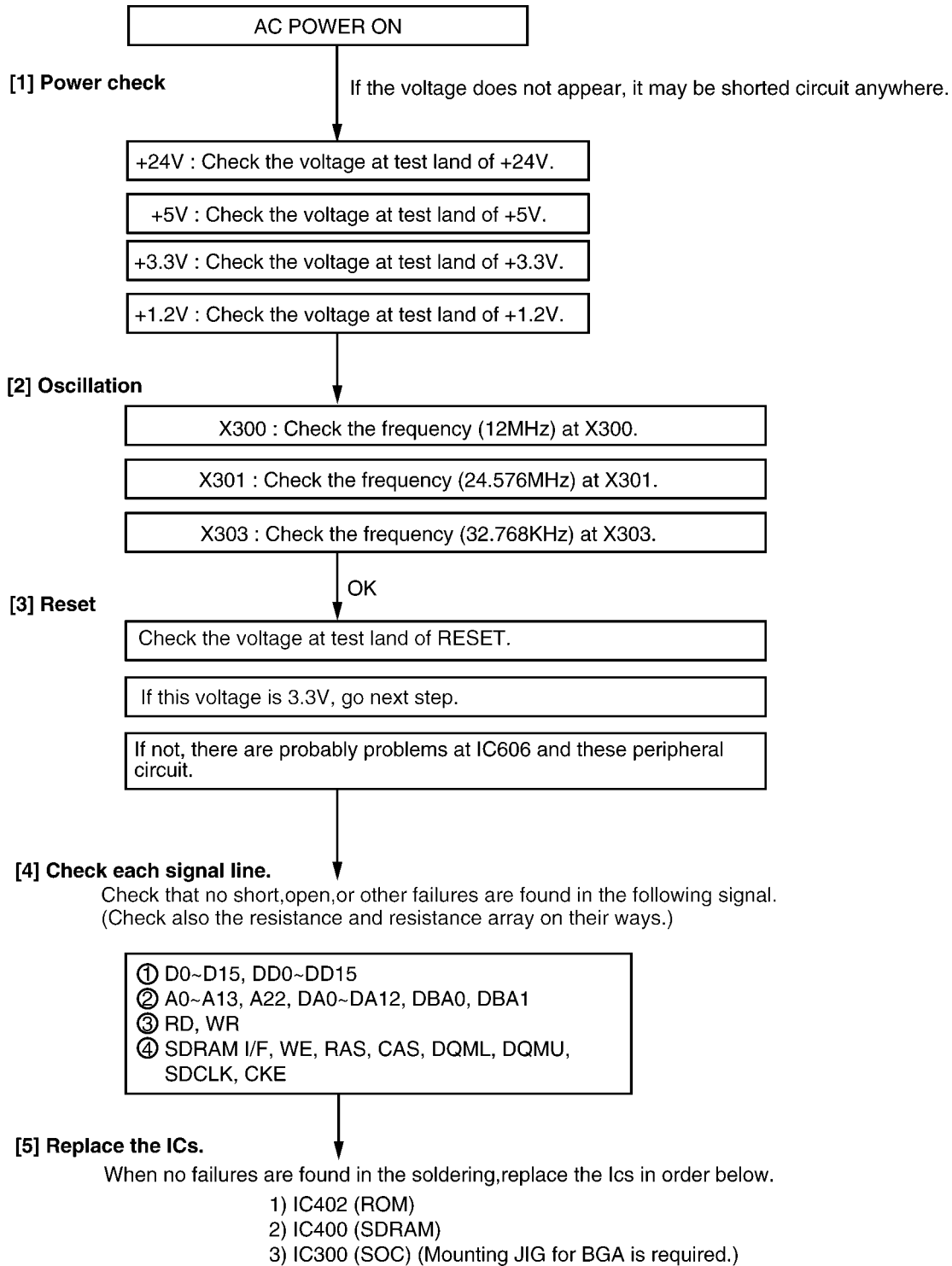




CROSS REFERENCE:
Test Functions (P.92)

12.3.12. Initializing Error

After the power is turned on, the SOC (IC300) initializes and checks each IC.
 The ROM (IC402) and SDRAM (IC400) are checked.
 If initialization fails for the ICs, the system will not boot up.
 In this case, please find the cause as follows.



CROSS REFERENCE:

NG Example (P.258)

Power Supply Board Section (P.69)

12.3.13. Analog Section (KX-MB2025/KX-MB2030 ONLY)

This chapter provides the testing procedures required for the analog parts. A signal route to be tested is determined depending upon purposes. For example, the handset TX route begins at the handset microphone and the signal is output to the telephone line. The signal mainly flowing on this route is analog. You can trace the signal with an oscilloscope. The signal flow on each route is shown in the Check Sheet here. If you find a specific problem in the unit, for example if you cannot communicate with the H/S, trace that signal route locally with the following Check Sheet and locate the faulty point.

12.3.13.1. Check Sheet

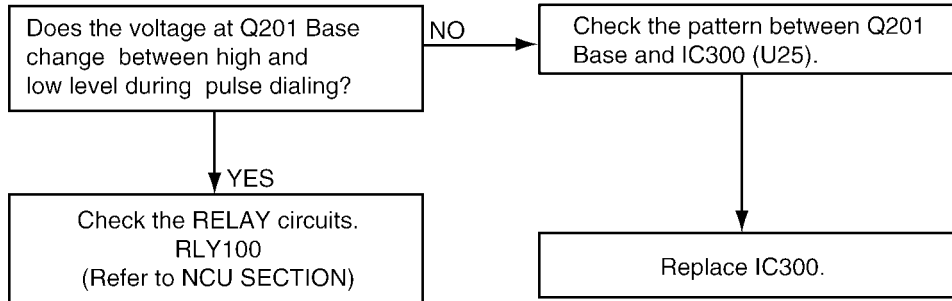
(SYMPTOM) CHECK ITEMS		Signal IN → ROUTE → OUT
MONITOR RX		TEL LINE-CN100(1,2)-L100-L106-R117&R123-T100-C256-R224-IC201(2,1)-C282-Q210-R247-C207-IC200(15)-IC300(AD26,AB24)-IC203(29,12)-L221-C224-R212-R271-C283-IC201(6,7)-R229-C217-L210-IC204(4,5-8)-L201,L205-CN200(1-2)-Speaker
HANDSET Tx		MIC-CN200(5-6)-L202&L209-C247&C252-L207&L203-IC202(2-3,1)-L206-R216-C202-L214-IC203(15,32)-IC300(AB25,AC24)-IC200(29,12)-R231-C223-C232-R237-IC202(6-5,7)-C219-R256-R241-T100-R117&R123-L106-L100-CN100(1,2)-TEL LINE
HANDSET Rx		TEL LINE-CN100(1,2)-L100-L106-R117&R123-T100-C256-R224-IC201(2,1)-C282-Q210-R247-C207-IC200(15)-IC300(AD26,AB24)-IC203(29,12)-L221-C224-R212-R271-C283-IC201(6,7)-C150-R150-R152-C153-Q152-C151-L157-CN200(8)-HS Speaker
DTMF Monitor	Speaker	IC300(AC24)-IC202(29,12)-C159-R165-R167-C160-IC201(6,7)-R229-C217-L210-IC204(4,5-8)-L201,L205-CN200(1-2)-Speaker
	Handset	IC300(AC24)-IC202(29,12)-C159-R165-R167-C160-IC201(6,7)-C150-R150-R152-C153-Q152-C151-L157-CN200(8)-HS Speaker
DTMF for TEL Line FAX Tx		IC300(AC24)-IC202(29,12)-R231-C223-C232-R237-IC(6-5,7)-C219-R256-R241-T100-R117&R123-L106-L100-CN100(1,2)-TEL LINE
Ringing/Alarm/ Beep/Key tones		IC300(B20)-C279-R289-IC201(6,7)-R229-C217-L210-IC204(4,5-8)-L201,L205-CN200(1-2)-Speaker
CNG/DTMF/Caller ID detection		TEL LINE-CN100(1,2)-L100-L106-R198-R199-R117&R123-T100-C256-R224-IC201(2,1)-C282-C281-R290-Q209-R277-C278-Q211-R247-C207-IC200(15)-IC300(AD26)
DTMF detection (ON-HOOK)		TEL LINE-CN101(1,2)-C109-R199-R117&R123-T100-C256-R224-IC201(2,1)-C282-C281-R290-Q209-R277-C278-Q211-R247-C207-IC200(15)-IC300(AD26)
BELL detection		TEL LINE-CN100(1,2)-L100-L106-R198-PC103(1-2,4)-IC300(L23)
FAX Rx/RCID detection		TEL LINE-CN100(1,2)-L100-L106-R117&R123-T100-C256-R224-IC201(2,1)-C282-Q210-R247-C207-IC200(15)-IC300(AD26)

12.3.13.2. DEFECTIVE ITS (Integrated Telephone System) Section (KX-MB2025/KX-MB2030 ONLY)

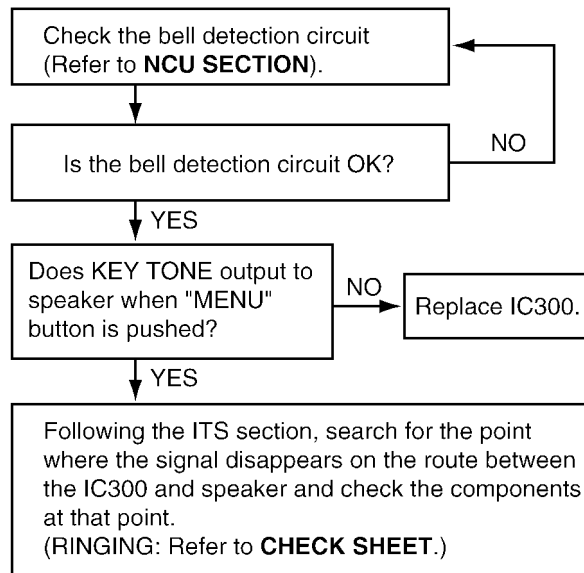
1. No handset and speakerphone transmission / reception

Perform a signal test in the **ITS or the NCU section** and locate a defective point (where the signal disappears) on each route between the handset microphone and telephone line (sending), or between the telephone line and the handset speaker (receiving), or between the microphone and the telephone line (sending), or between the telephone line and the speaker (receiving). Check the components at that point. **Check Sheet**(P.175) is useful for this investigation.

2. No pulse dialing



3. No ring tone (or No bell)

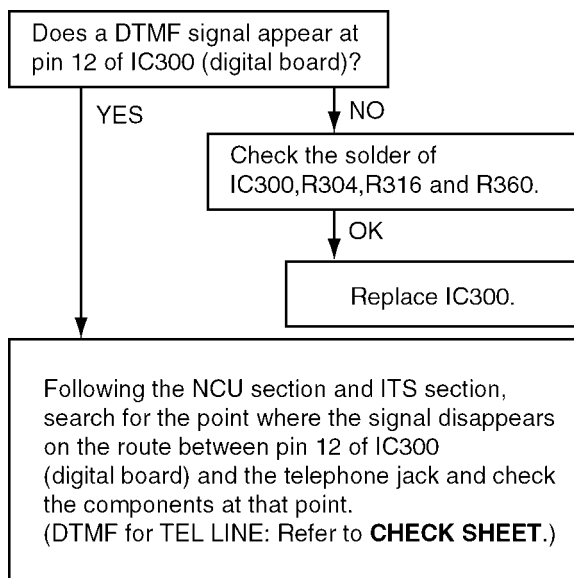


CROSS REFERENCE:

Check Sheet (P.175)

NCU Section (KX-MB2025/KX-MB2030 ONLY) (P.30)

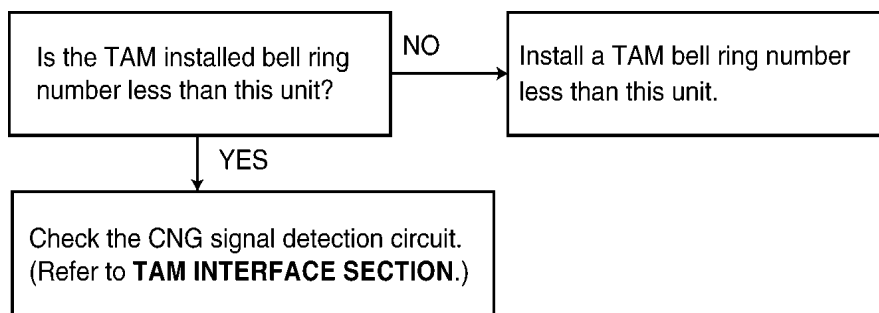
4. No tone dialing



CROSS REFERENCE:
Check Sheet (P.175)

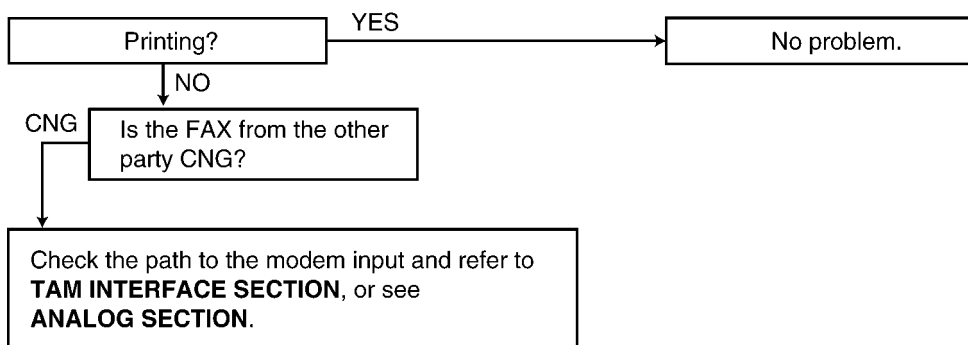
12.3.13.3. Detective TAM Interface Section

1. The FAX turns on, but does not arrive through TAM.



CROSS REFERENCE:
TAM Interface Circuit (P.31)

2. A FAX is received, but won't switch from TAM to FAX.

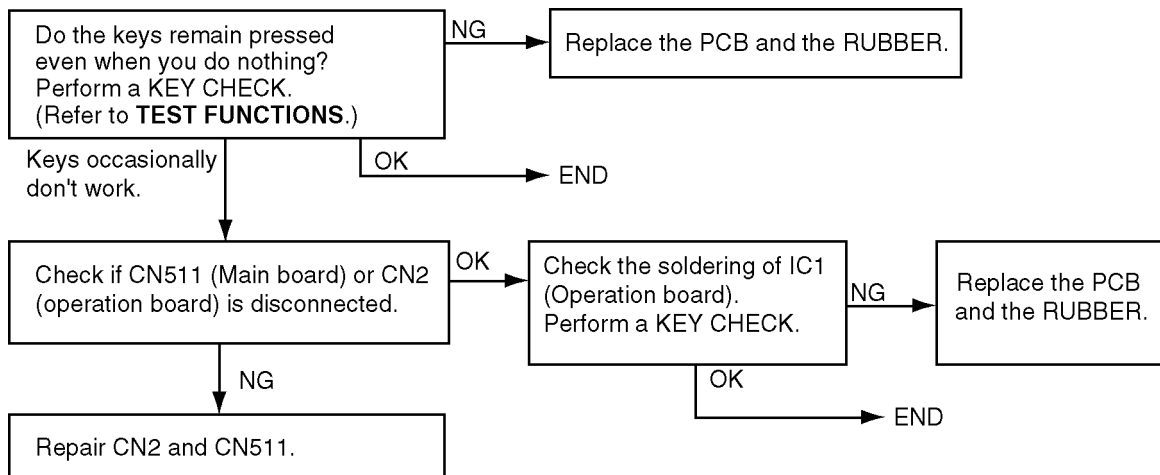


CROSS REFERENCE:
Analog Section (KX-MB2025/KX-MB2030 ONLY) (P.175)
TAM Interface Circuit (P.31)

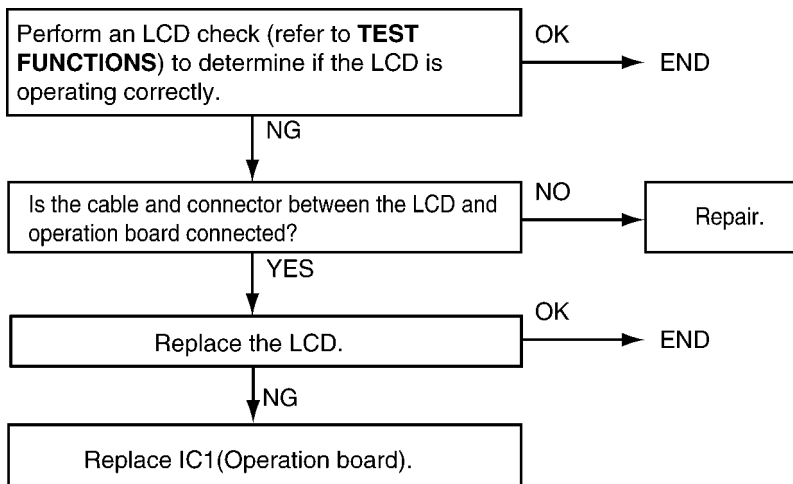
12.3.14. Operation Panel Section

Refer to **Test Functions** (P.92).

1. NO KEY OPERATION



2. NO LCD INDICATION



CROSS REFERENCE:

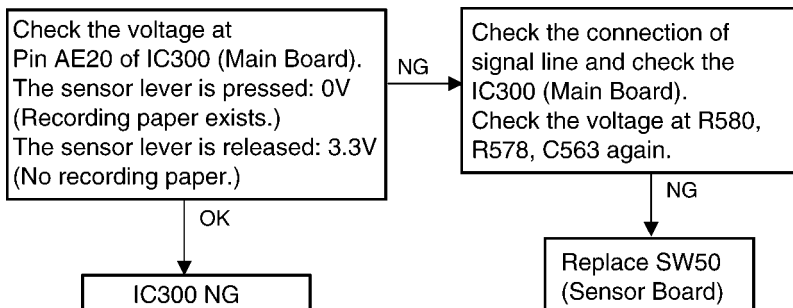
Test Functions (P.92)

12.3.15. Sensor Section

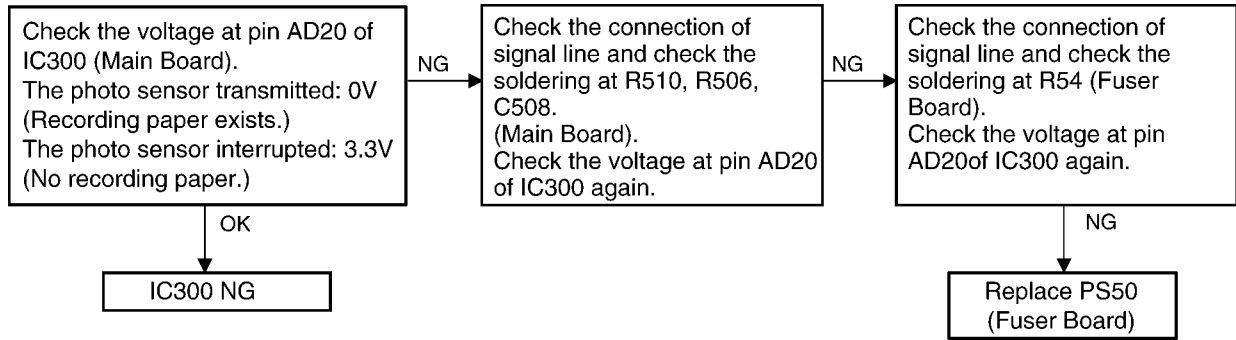
Refer to **SENSORS AND SWITCHES** for the circuit description.

Perform an **SENSOR CHECK** to determine if the sensor is operating correctly.

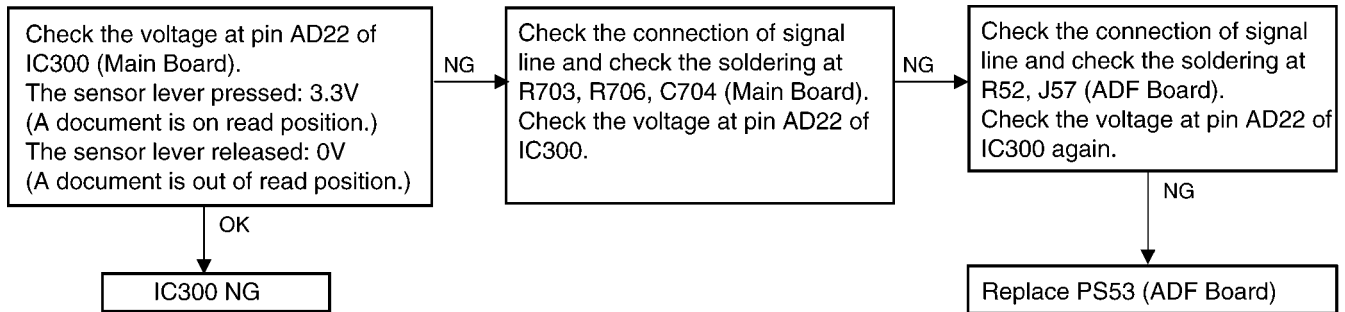
1. Check the pickup sensor "FAILED PICKUP"



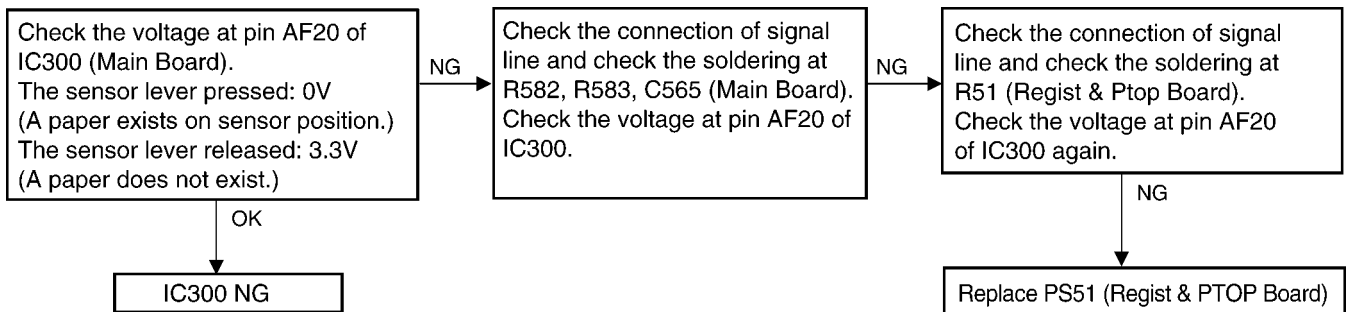
2. Check the paper exit sensor..... “PAPER JAMMED”



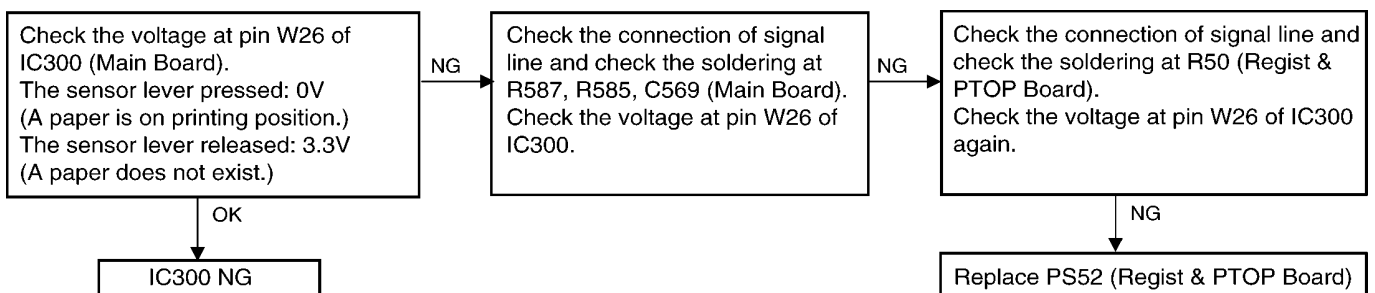
3. Check the read position sensor “CHECK DOCUMENT”



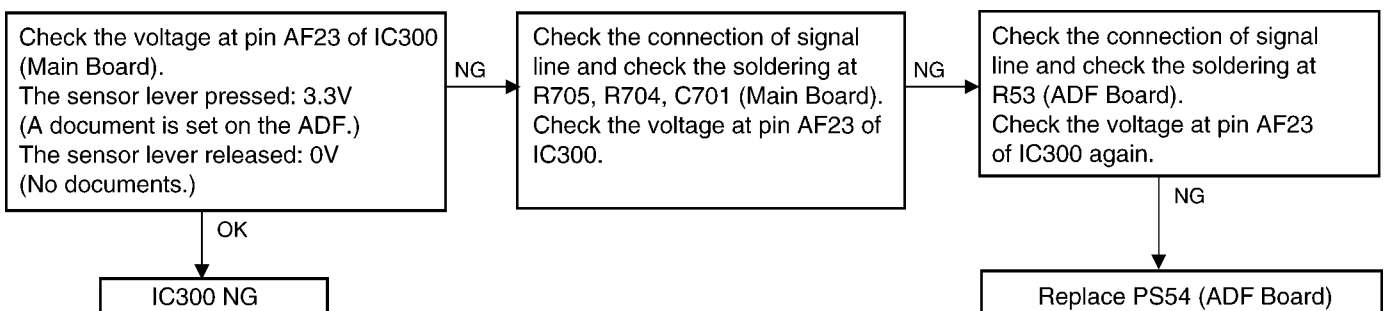
4. Check the registration & manual paper sensor “PAPER JAMMED”



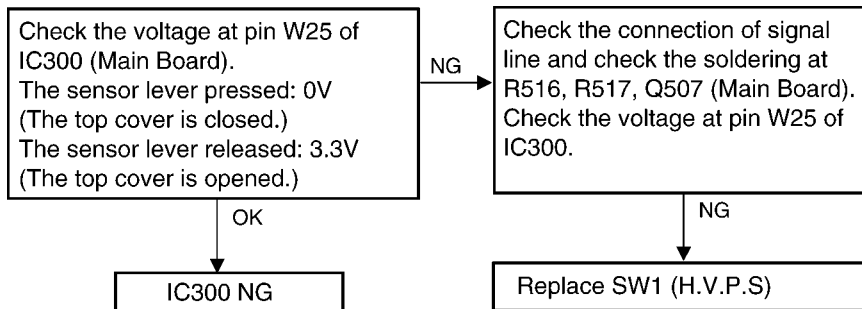
5. Check the print timing sensor “PAPER JAMMED”



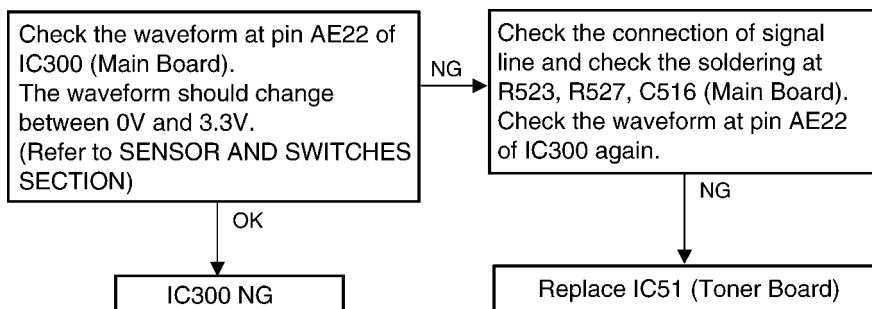
6. Check the document sensor



7. Check the top cover sensor “TOP COVER OPEN”



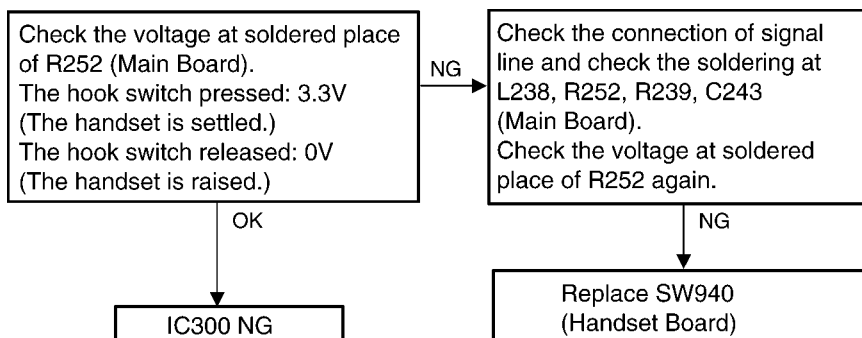
8. Check the toner sensor “TONER LOW”, “CHANGE DRUM”



CROSS REFERENCE:

Sensors and Switches Section (P.49)

10. Check the handset hook switch (KX-MB2025/KX-MB2030 ONLY)

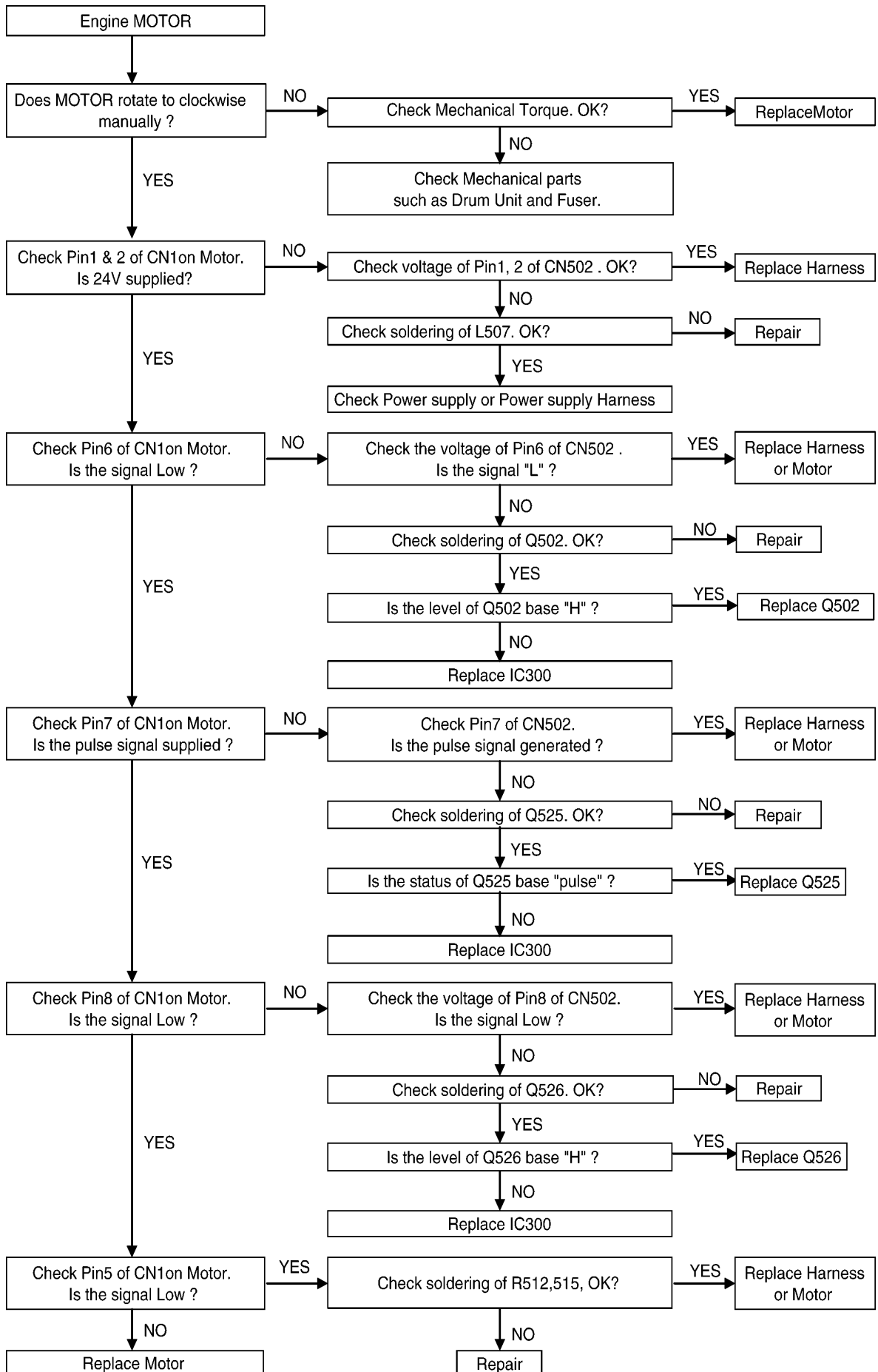


CROSS REFERENCE:

Sensors and Switches Section (P.49)

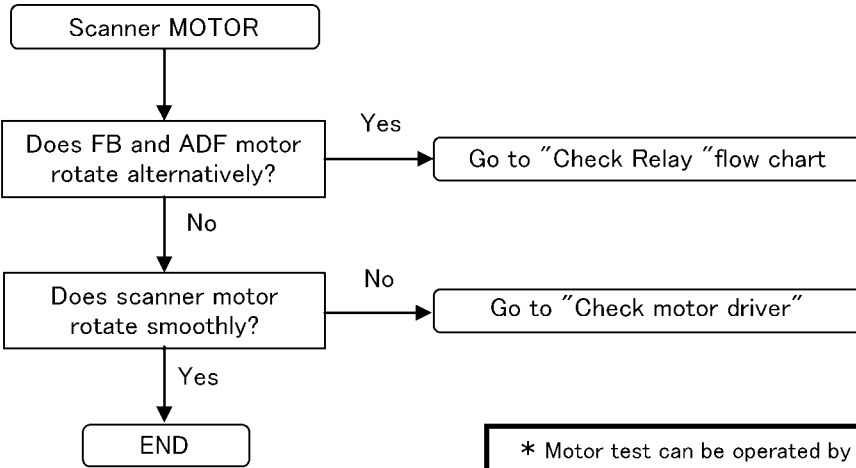
12.3.16. Motor Section

12.3.16.1. Engine Motor

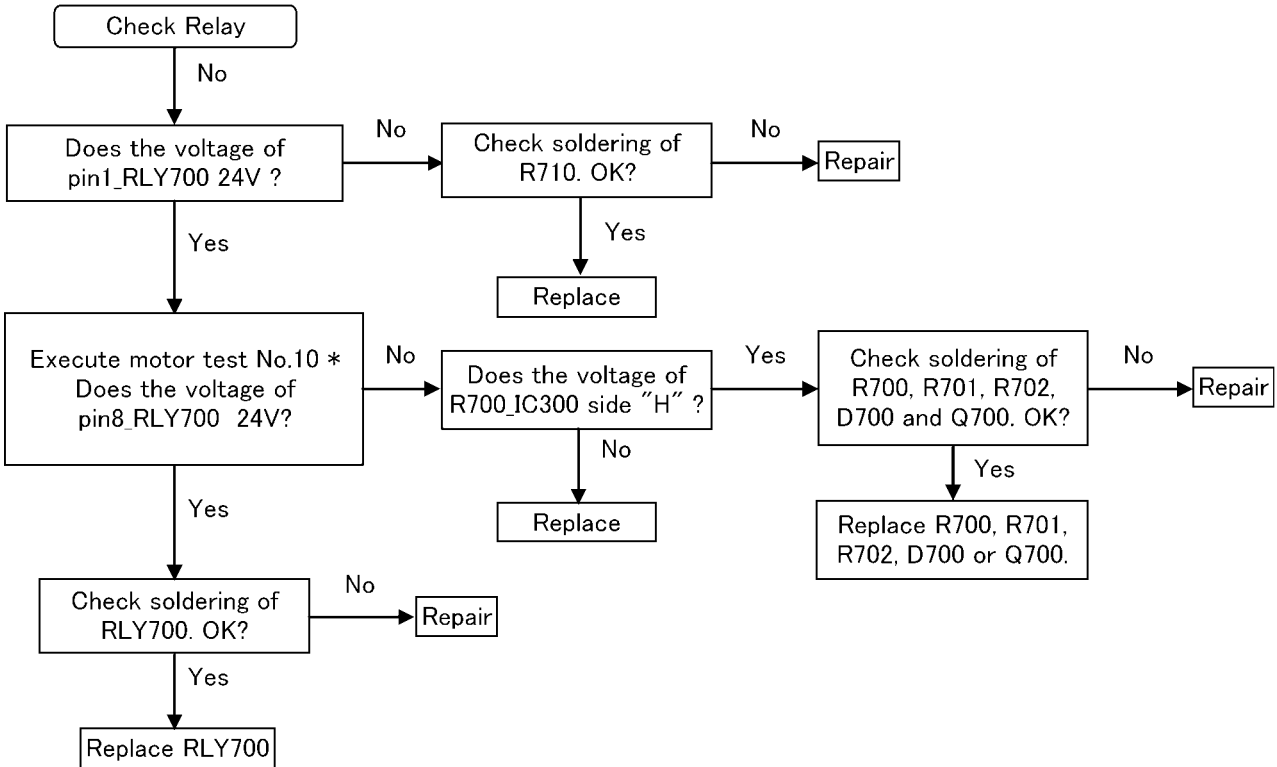


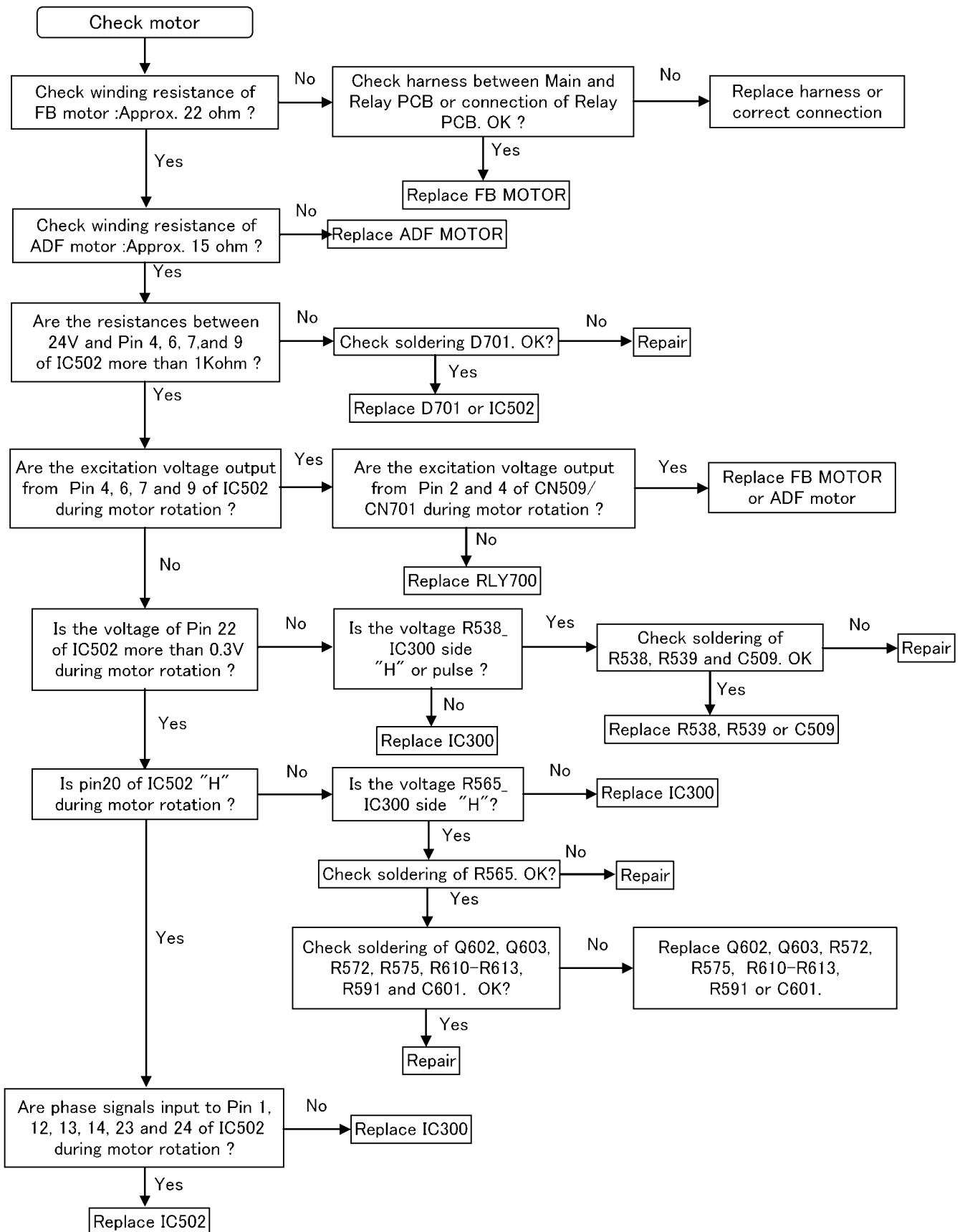
12.3.16.2. Scanner (FB and ADF) motor (KX-MB2010/2025/2030 ONLY)

In the following flow chart, description of "ADF motor" or "Relay" are applicable for ADF equip model only.

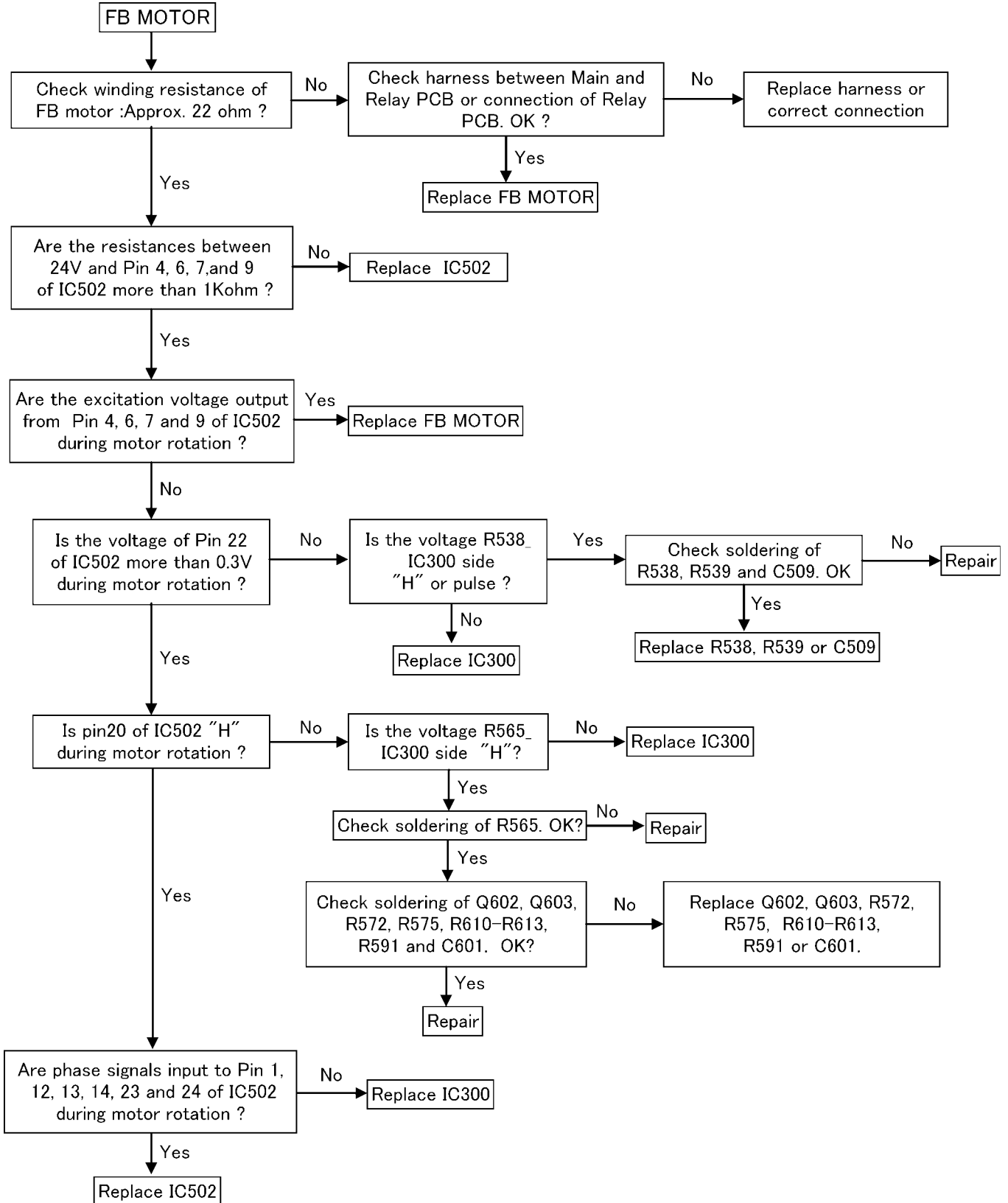


* Motor test can be operated by pressing following keys
 Menu->#9000->*->556
 -> "10"(ADF mode)
 -> "Set"

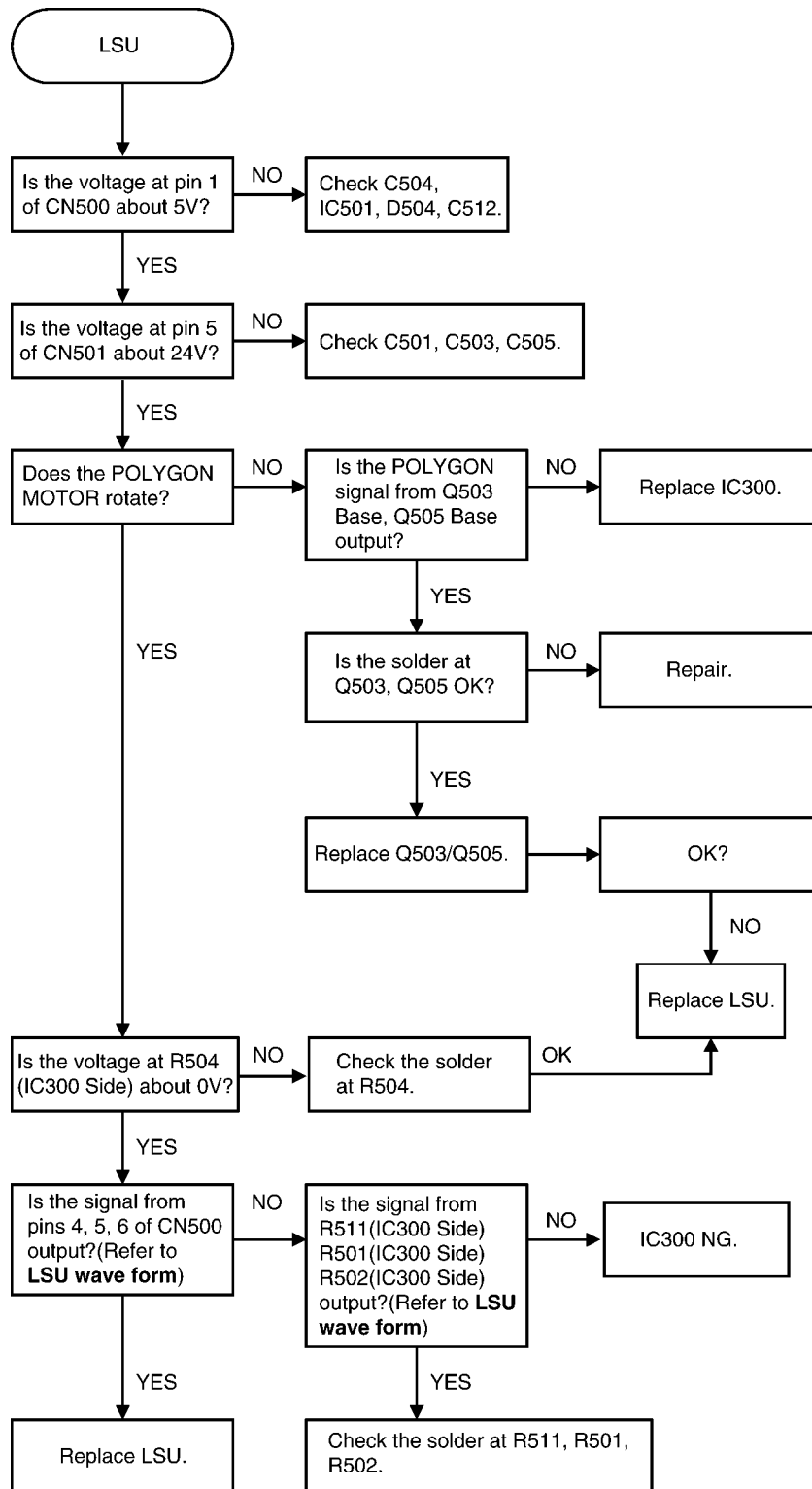




12.3.16.3. FB MOTOR (KX-MB1900/2010 ONLY)

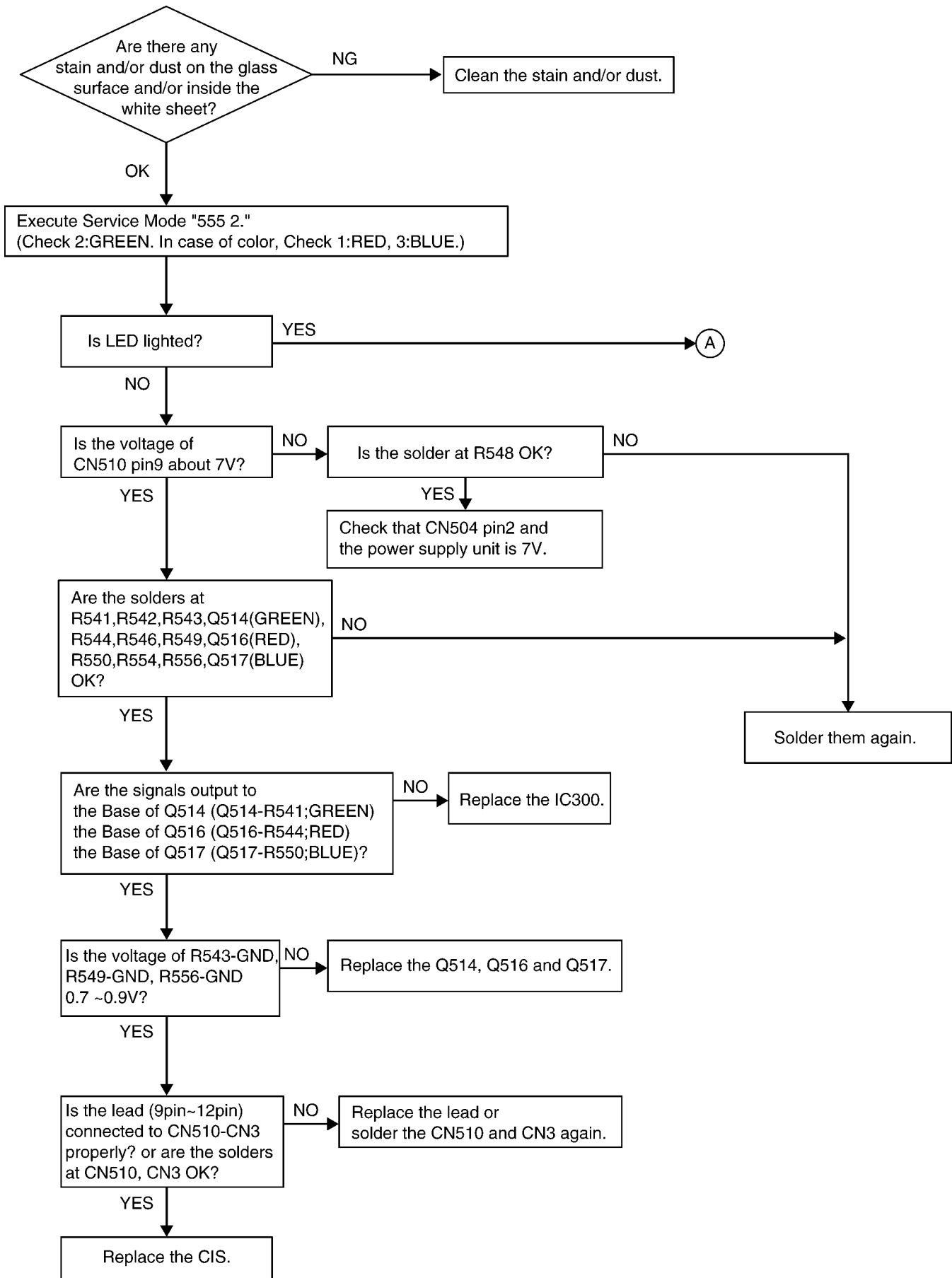


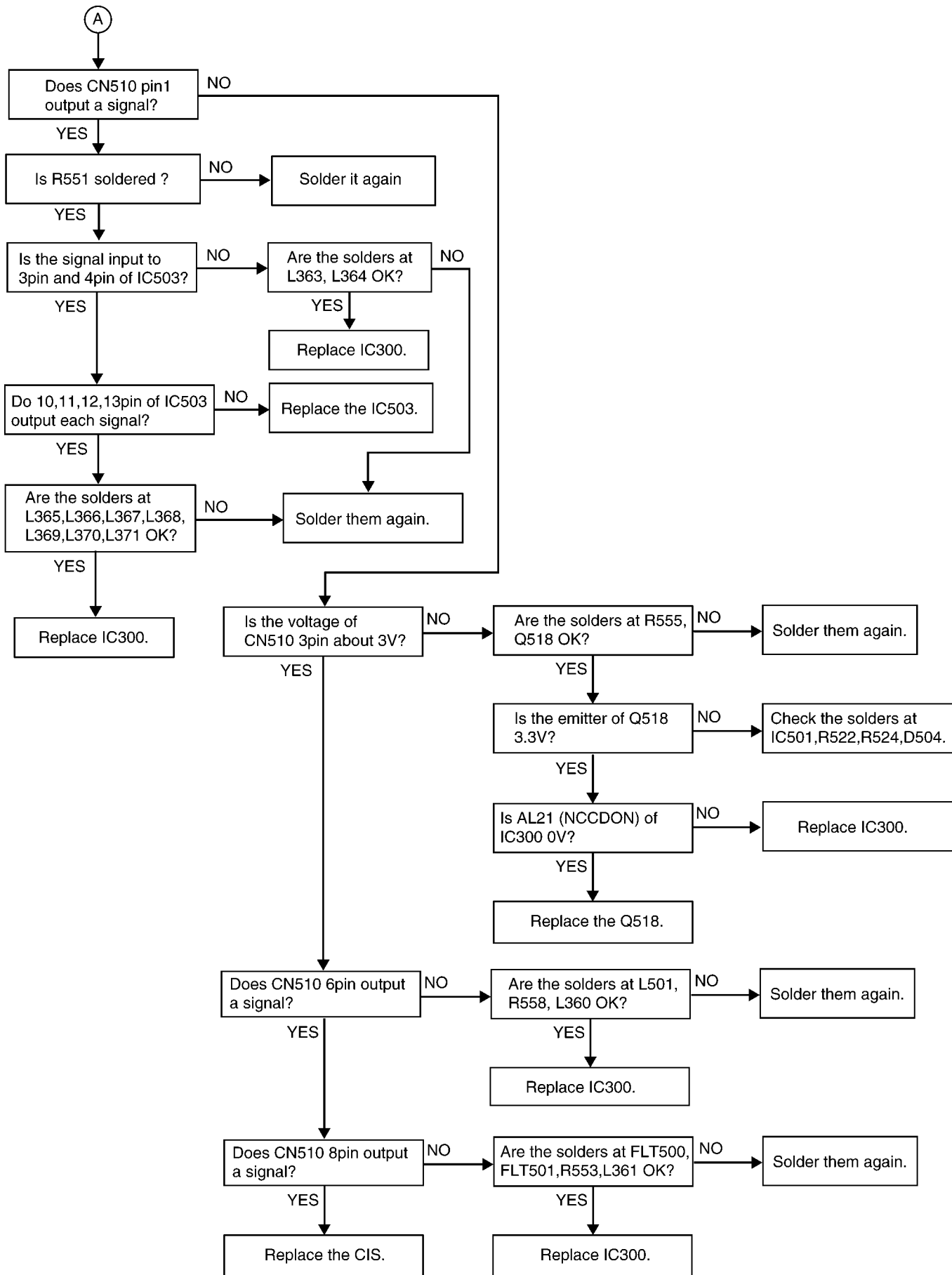
12.3.17. LSU Section



CROSS REFERENCE:
 LSU (Laser Scanning Unit) Section (P.47)

12.3.18. CIS Control Section





CROSS REFERENCE:
Test Functions (P.92)

12.3.19. High Voltage Value Check Point

Measurement Procedure

1. Turn Off the unit, and open the unit cover.
2. Remove the developing unit, if it is equipped.
3. Connect the wire to the terminal to be measured (Fig. 2). The wire should be put out of the unit not to interfere in other terminals (Fig. 3). See Fig 4 and 5 for fixing the wire to the terminal No.4.
4. Reinstall the developing unit and close the unit cover.
5. Connect the wire fixed to the terminal to be measured and high voltage probe. Connect the earth of the high voltage probe to the screw located under the bottom plate of the unit without the paper cassette. (Fig.7).
6. Turn On the unit. It causes the unit to start the initial operation. Be careful, high voltage is output at that moment. (Avoid measuring then.)
7. The unit enters the service mode. Then push *556_0.
8. Push the SET button.
(High voltage will be added to the unit in the hereafter. Avoid touching the wire and the tip of high voltage probe where high voltage is supplied.)
9. When the measurement is finished, push the STOP button.
(The high voltage output is stopped.)
10. Remove the wire fixed to the output terminal after measuring.

Each terminal's output voltage

No.	BIAS Name	Rated Output	Rated Output Range
1	CHG (Charge)	200 μ A	200 \pm 15 μ A Output voltage about 4.1~4.6KV
2	GRID (Grid)	475V	475 \pm 10V
3	DEV (Developing)	230V	200~300V
4	TRA (Transfer)	785V	785 \pm 100V

* FLUKE85 (MULTIMETER) + HIOKI (HV PROBE 9014) or the equivalent should be used as the high voltage measuring instrument. (Fig.6)

* As for measuring TRA, start measuring within 4 seconds after pressing the SET button. The output value will be changed in 4 seconds.

Fig. 1 Each terminal and the earth point.

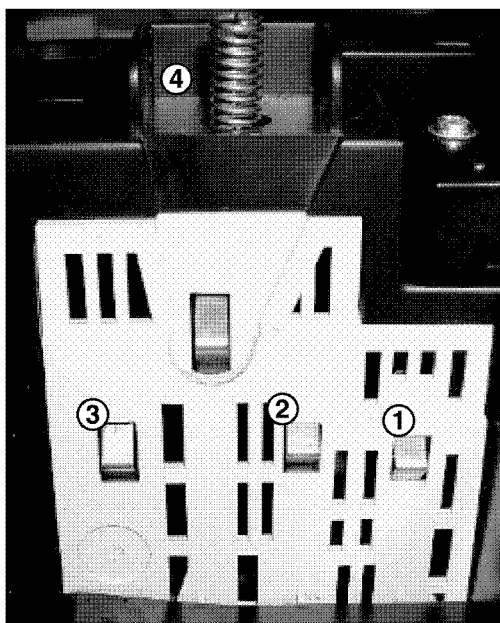


Fig. 2

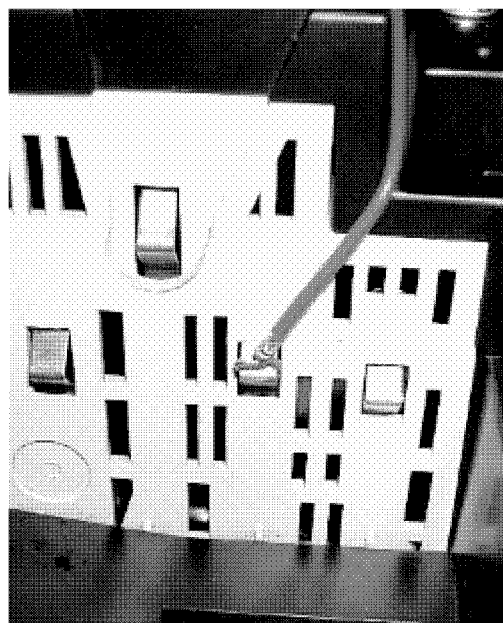


Fig. 3

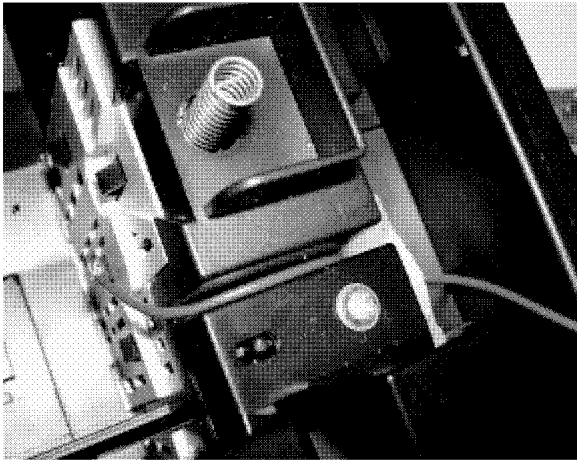


Fig. 4

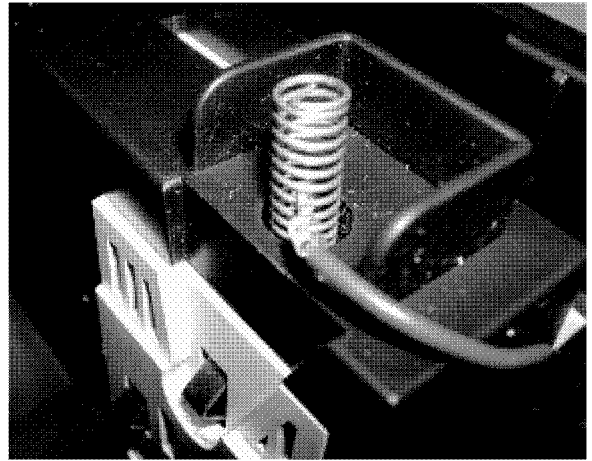


Fig. 5

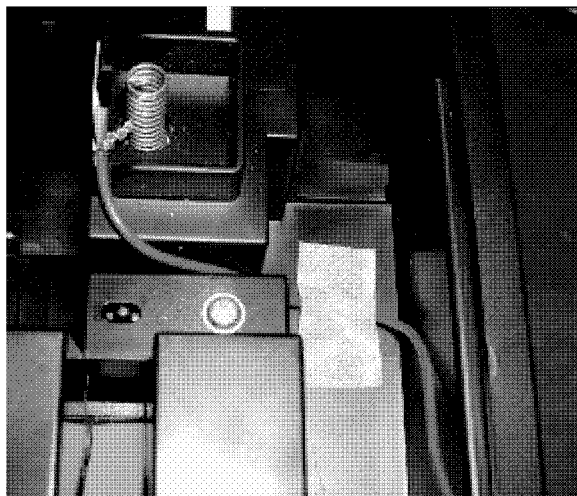


Fig. 6

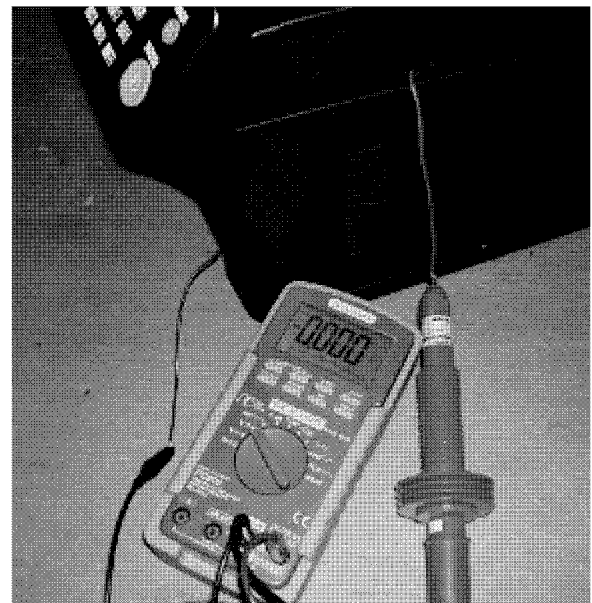
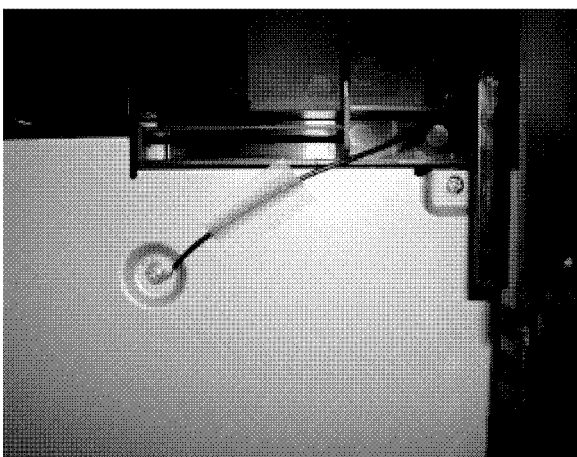
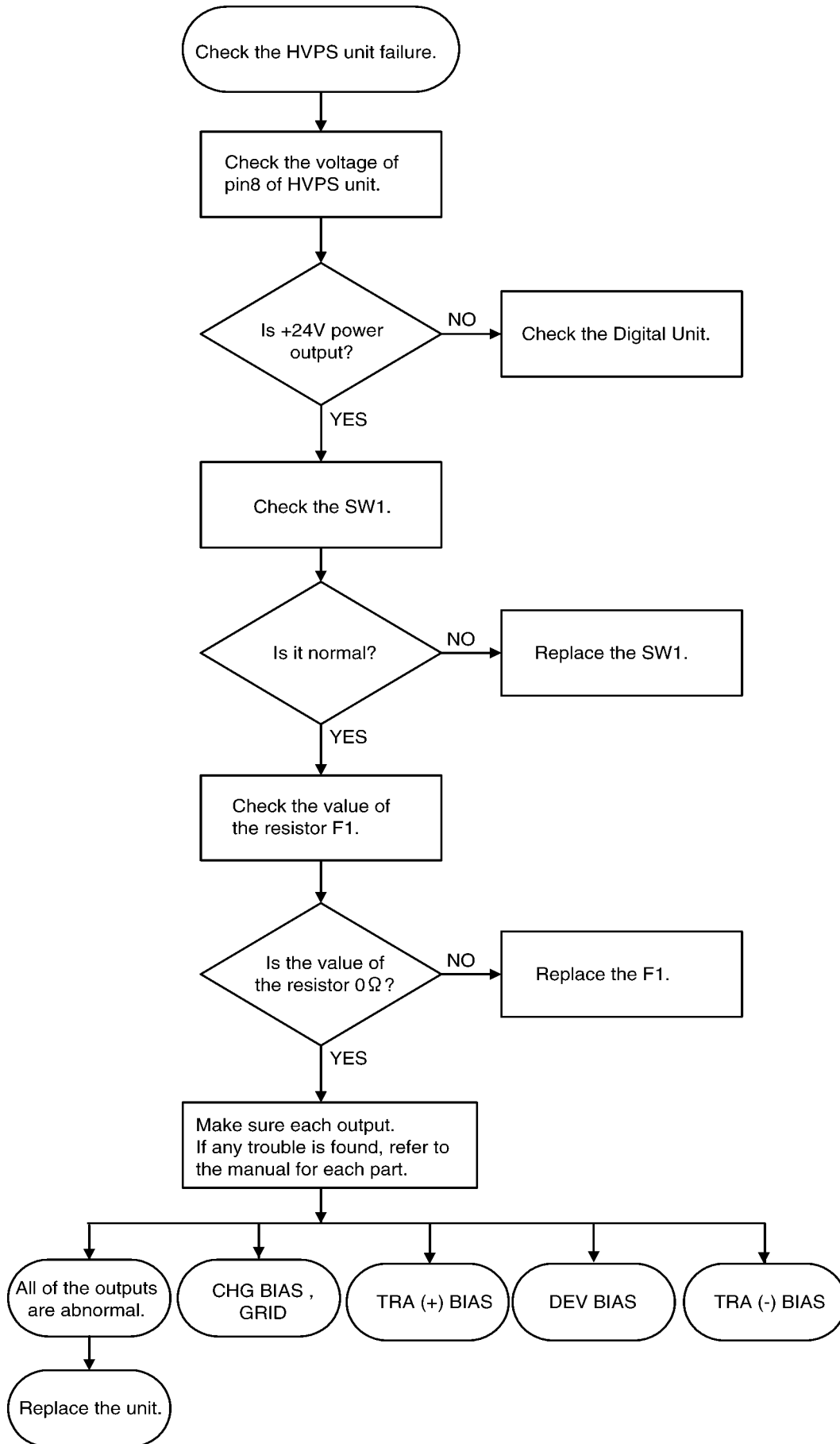


Fig. 7

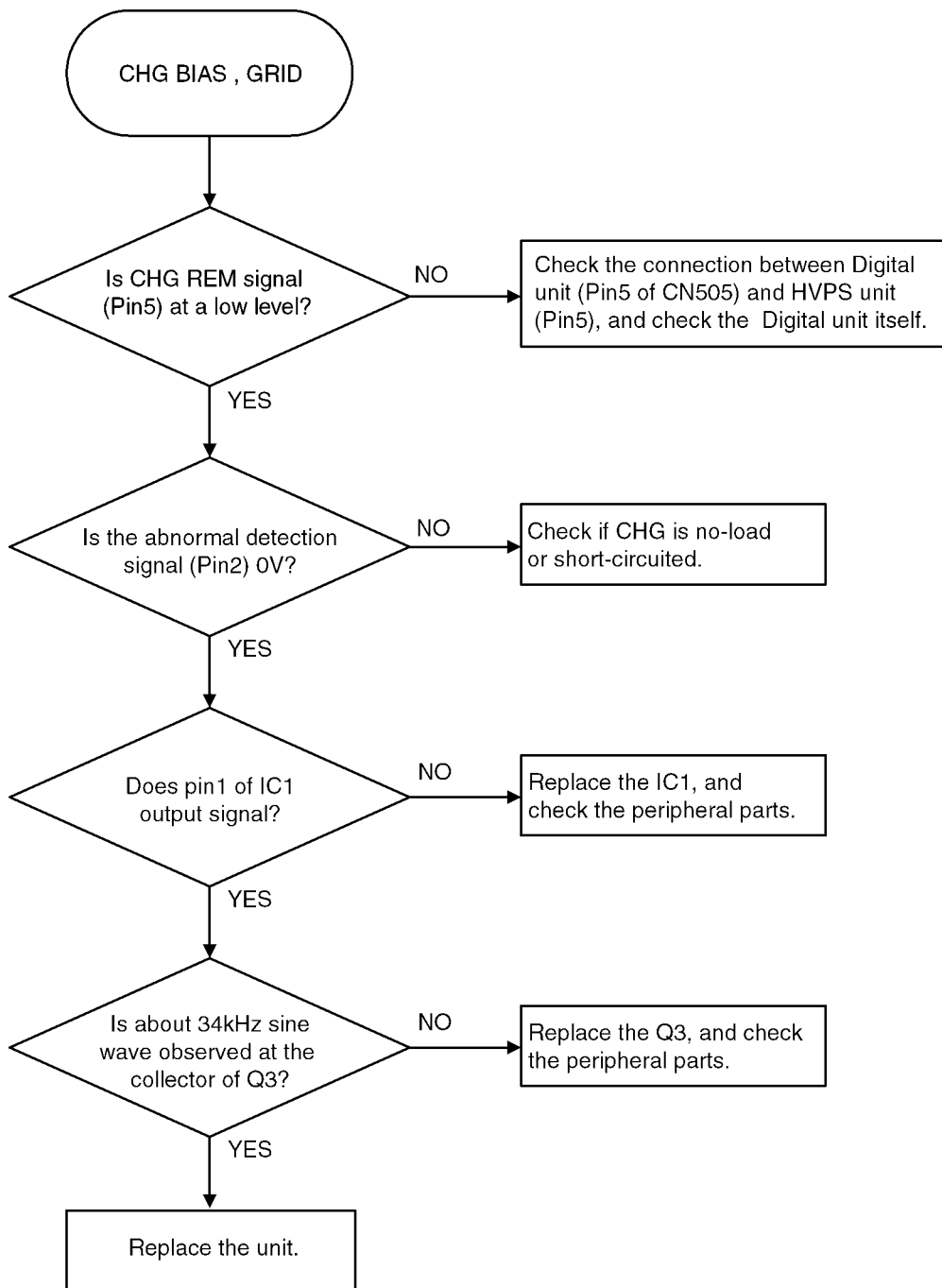


12.3.20. High Voltage Section

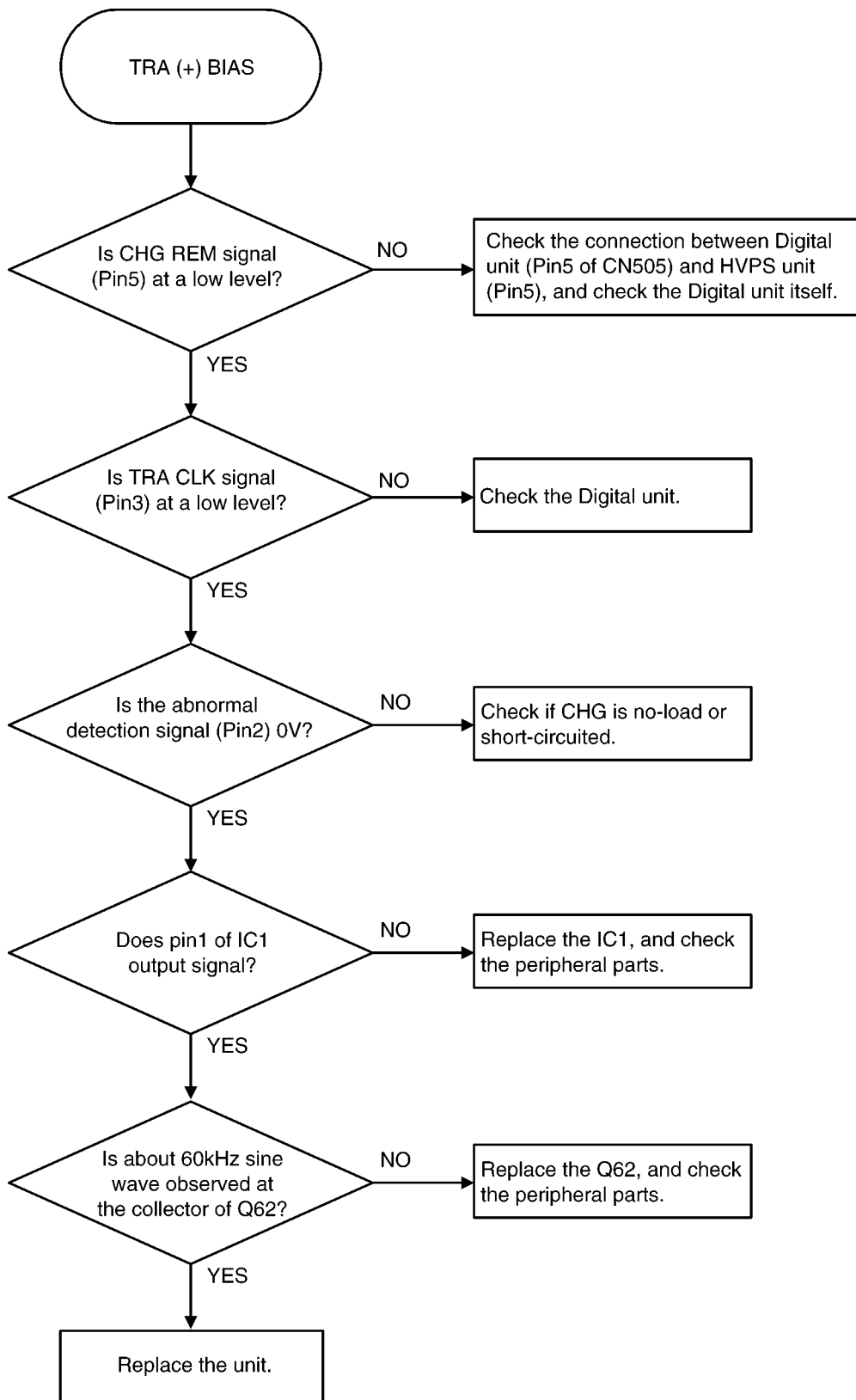
1. Main



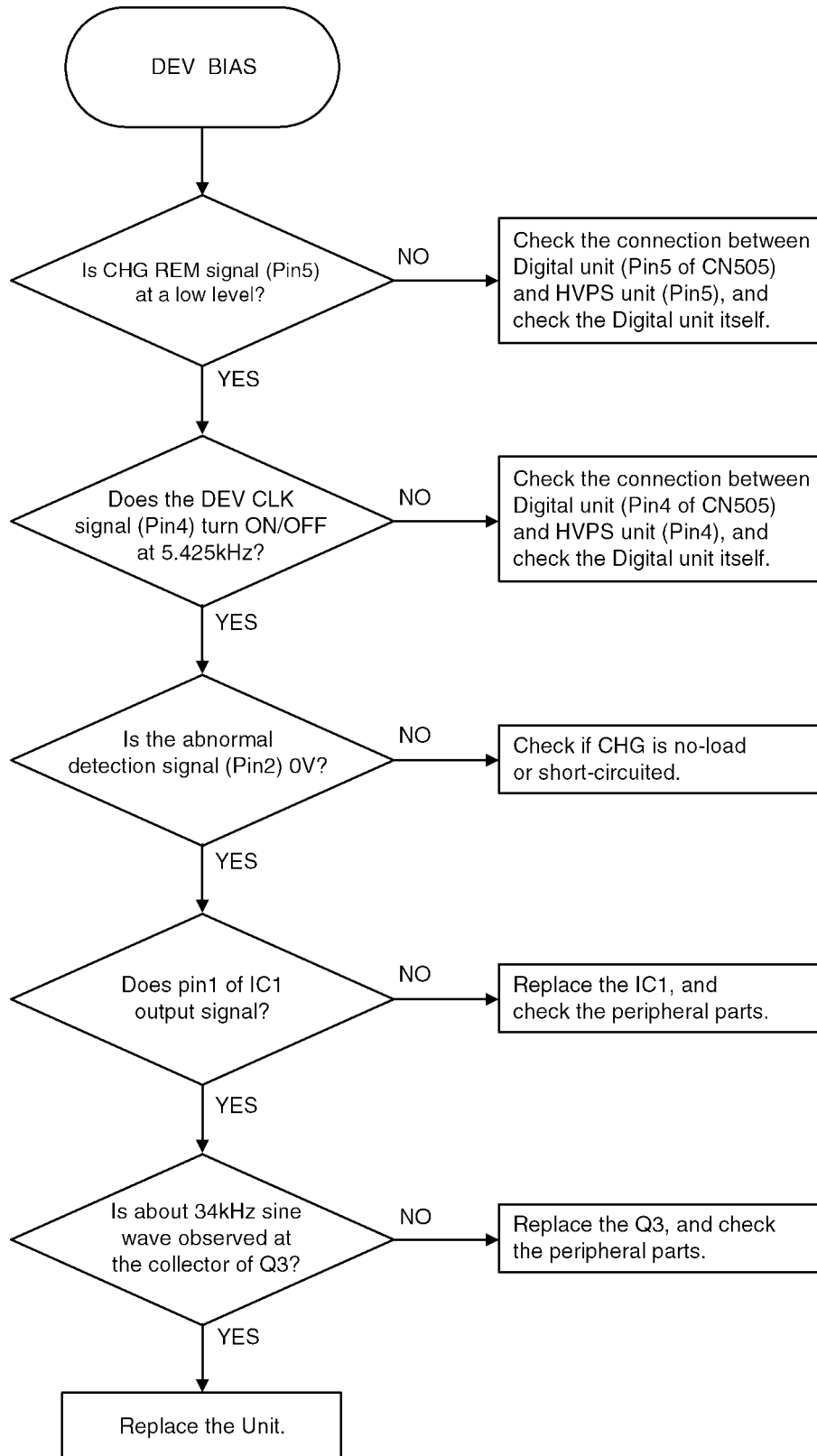
2. CHG, GRID



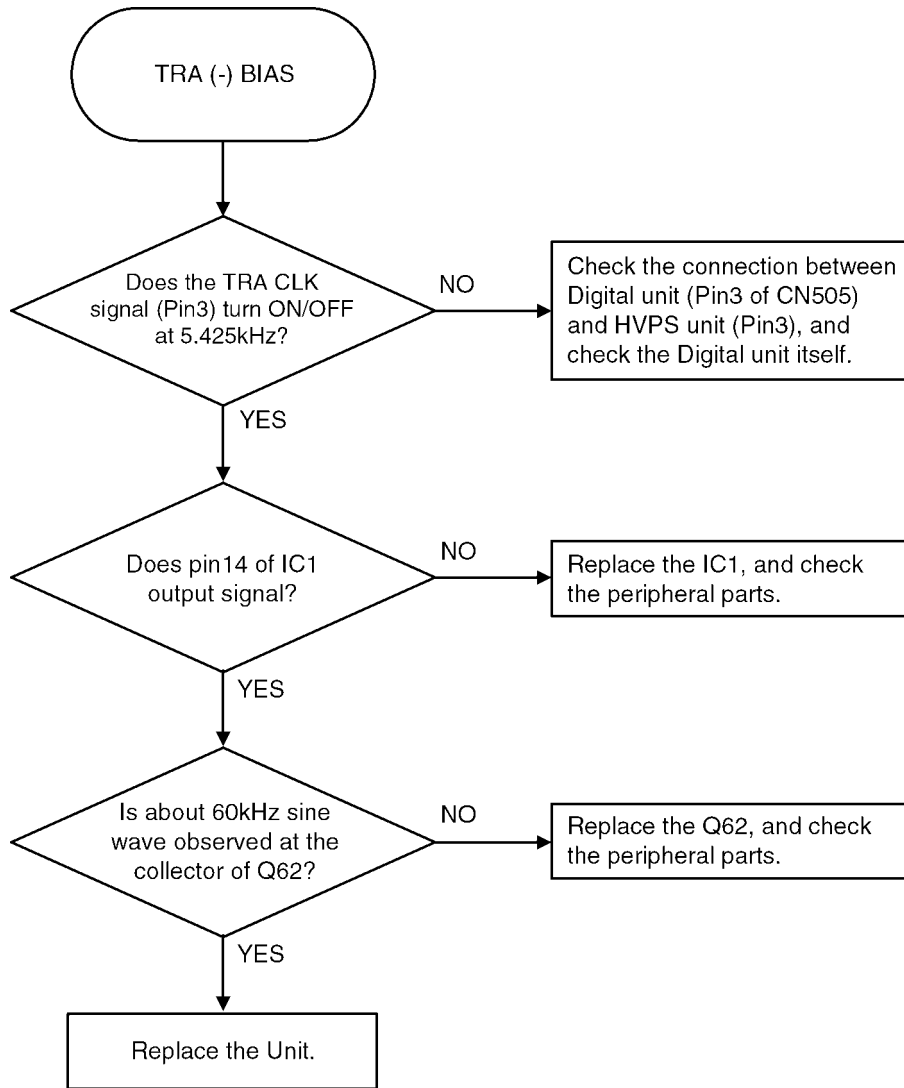
3. TRA (+)



3. DEV DC



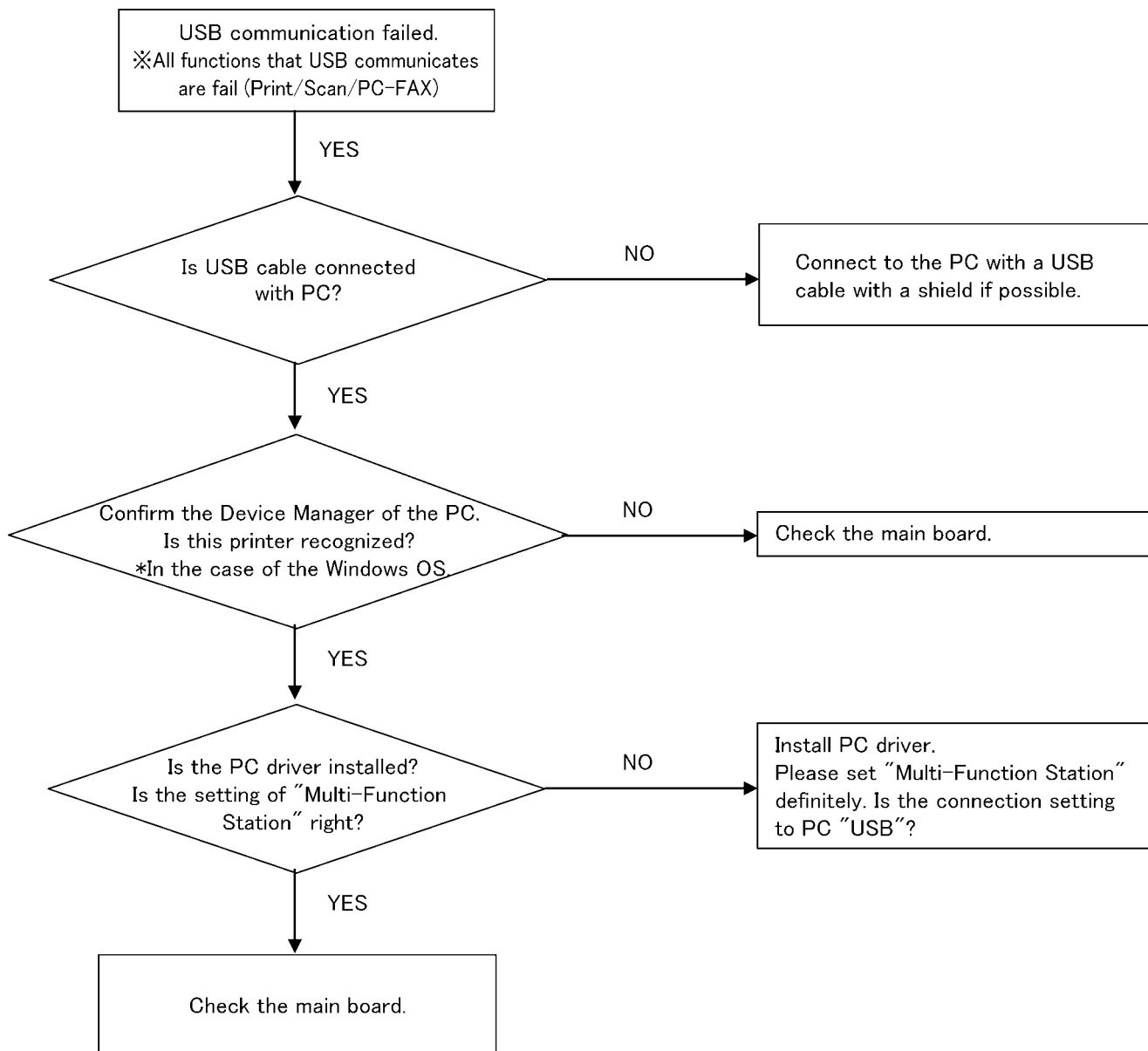
TRA (-)



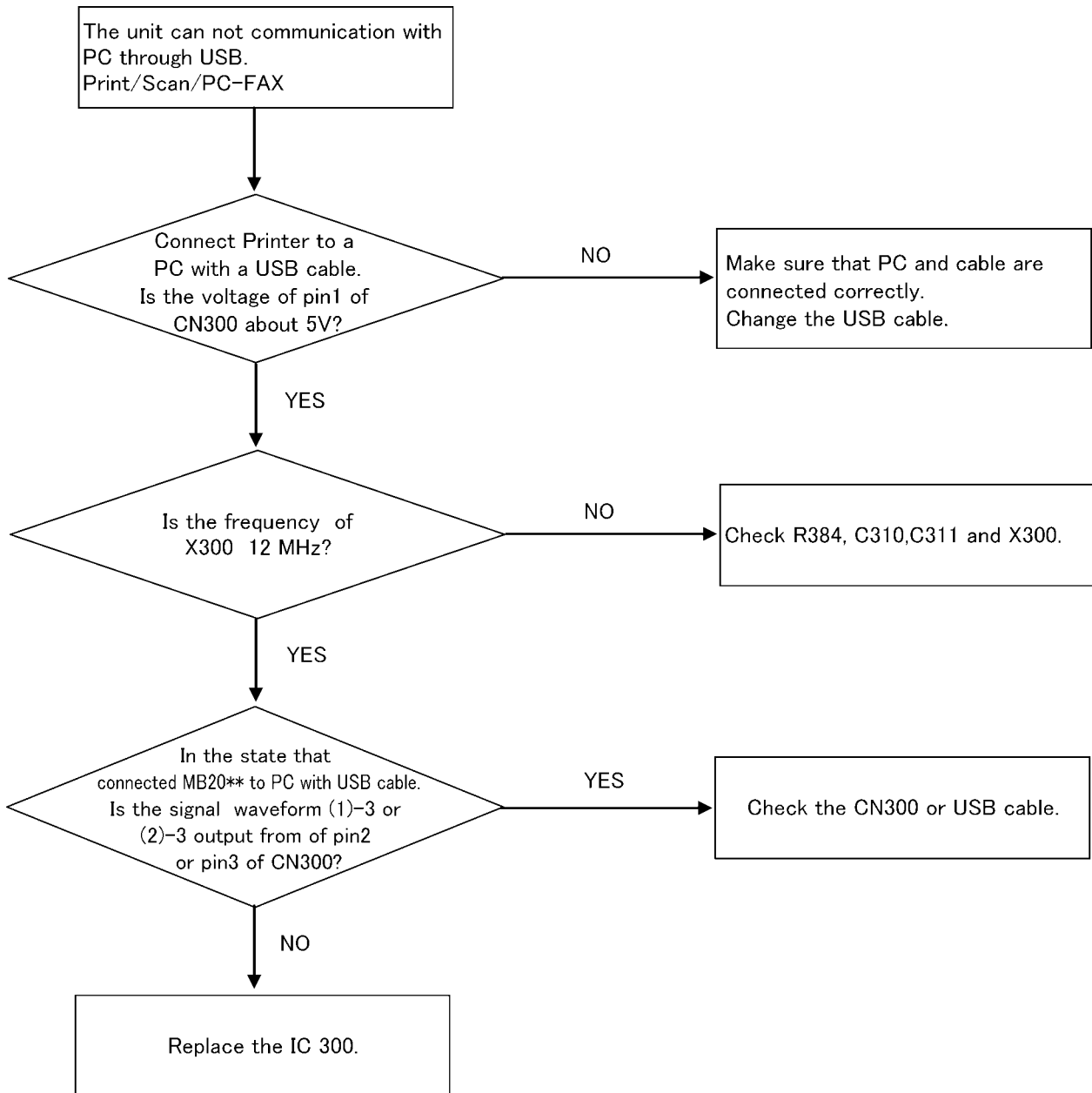
12.3.21. USB Section

Troubleshooting

1. Confirmation of the PC settings



2. Confirmation of the main unit



USB (Universal Serial Bus) block

Description

This is a USB block for data communication with PC.

Two signal lines (D+/D-) are differential signals which work in reverse phase.

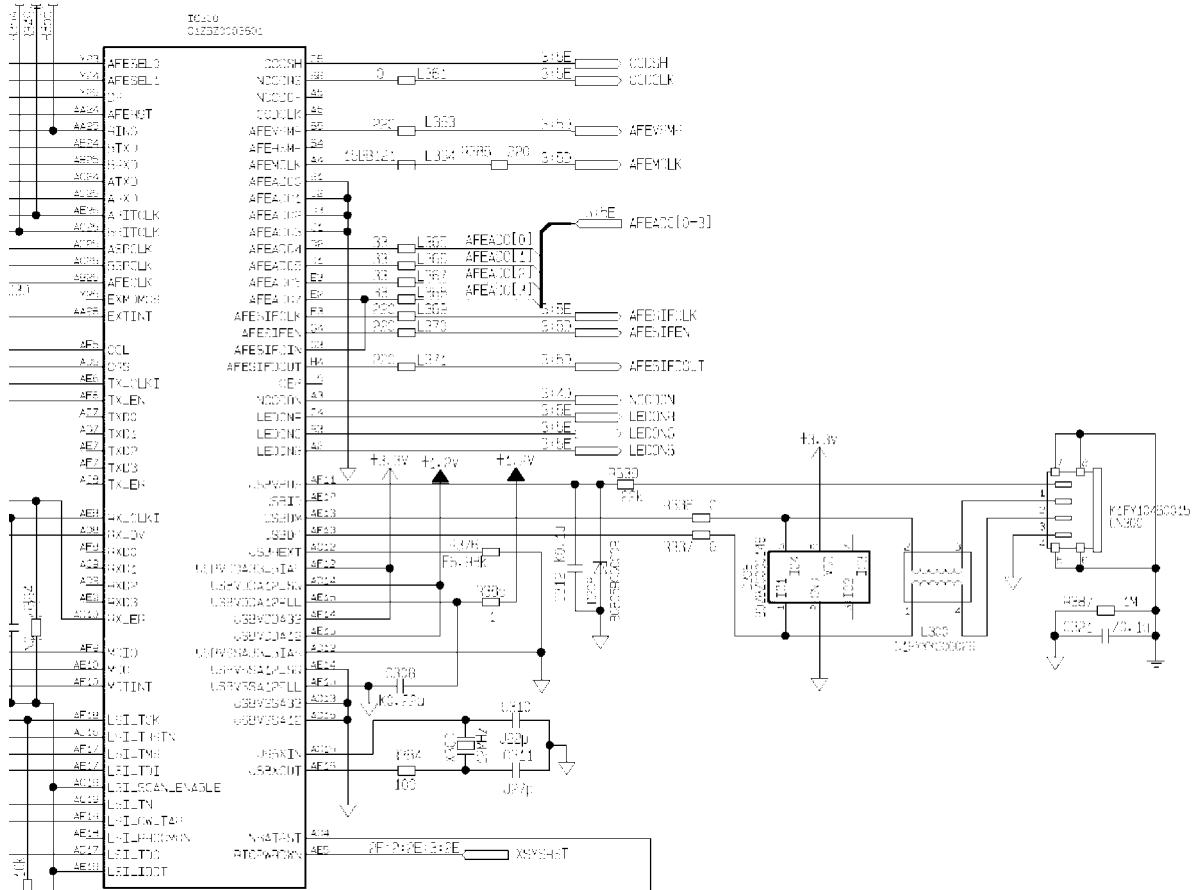
VBUS: CN300 1pin

D-: CN300 2pin

D+: CN300 3pin

GND: CN300 4pin

Circuit Diagram



Sequence of normal operation

When USB cable from PC is connected to CN300, VBUS voltage goes up to 5V, and IC300 recognize the connection with PC.

Then D+ becomes about 3V : waveform (1)-1

The D+ becomes 0V, then communication between IC300 and PC is started : waveform (2)-1

When a few seconds elapsed after USB cable was inserted into CN300,the unit enters stand-by mode.

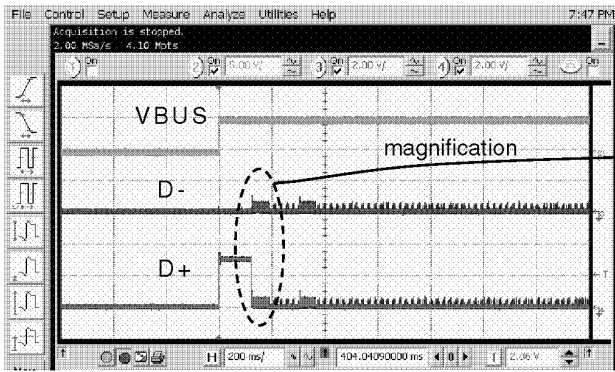
When PC is at Hi-Speed, waveforms are (1)-1 ~ (1)-4.

When PC is at Full Speed,waveforms are (2)-1 ~ (2)-4.

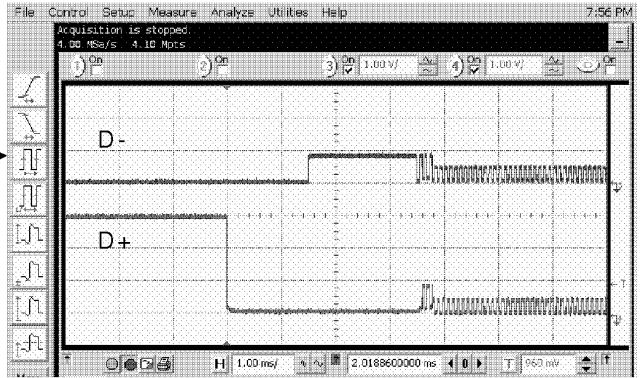
Waveform of normal operation

(1) The condition during communication establishment between PC and Main unit at Hi-Speed.

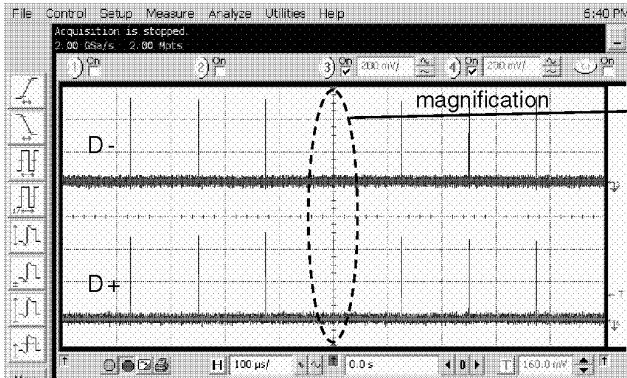
Waveform (1)-1 at Hi-Speed



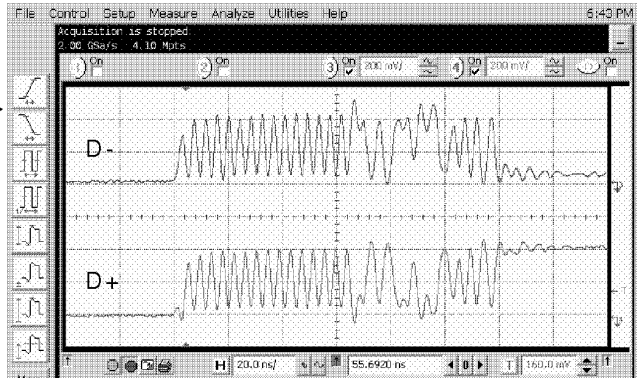
Waveform (1)-2 at Hi-Speed



Waveform (1)-3 at Hi-Speed

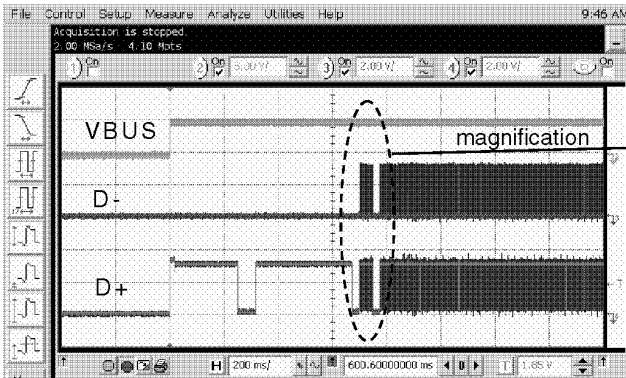


Waveform (1)-4 at Hi-Speed

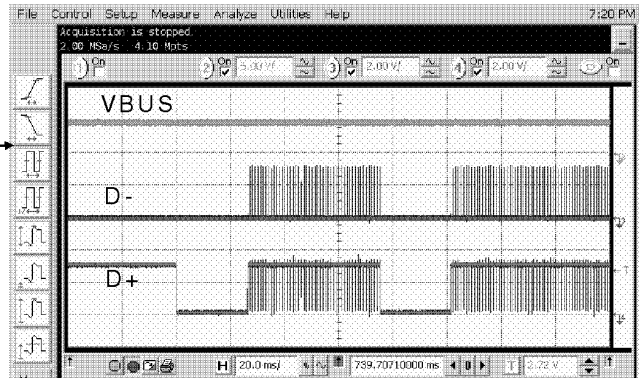


(2) The condition during communication establishment between PC and Main unit at Full Speed.

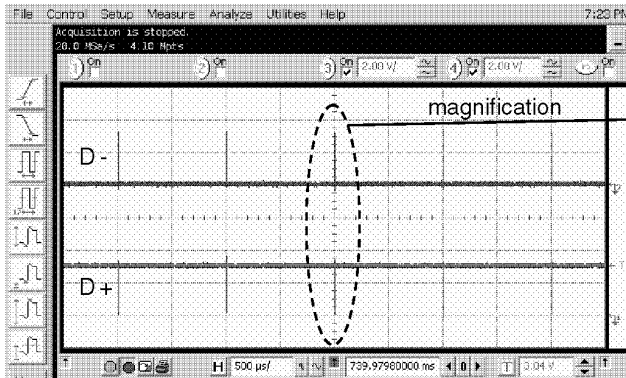
Waveform (2)-1 at Full Speed



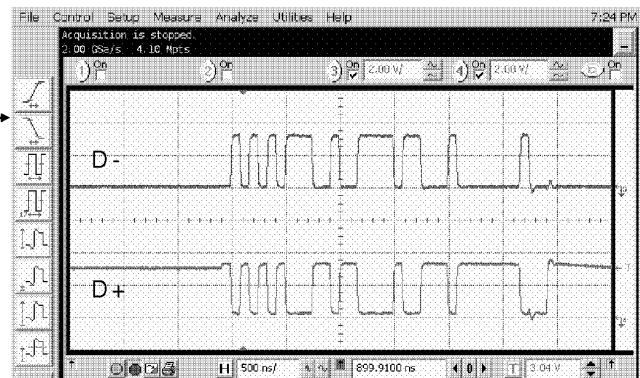
Waveform (2)-2 at Full Speed



Waveform (2)-3 at Full Speed

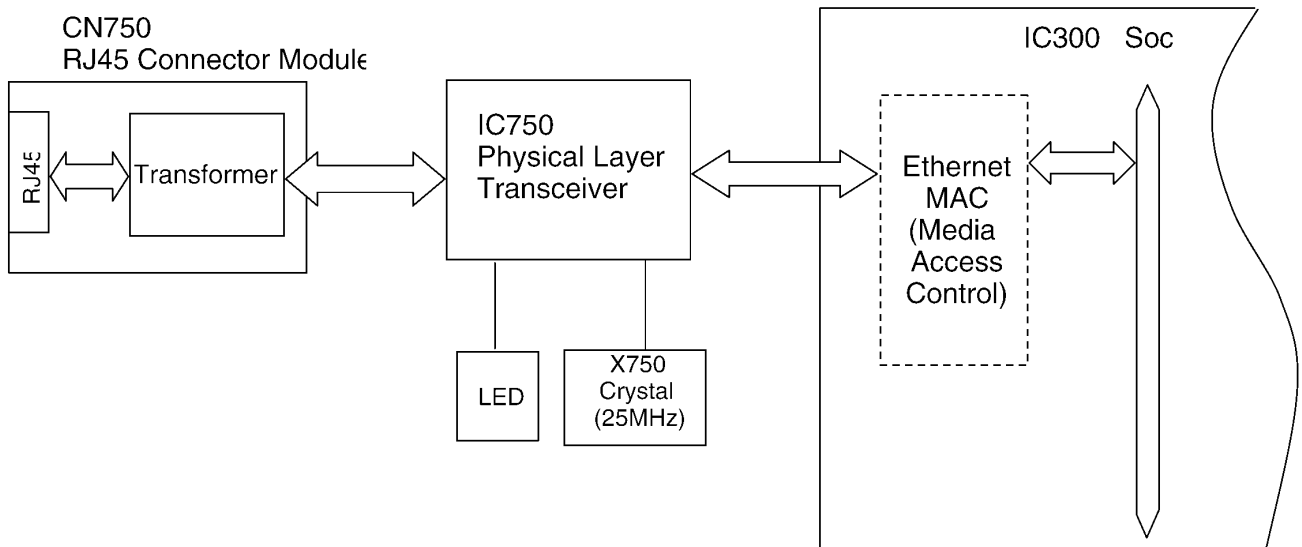
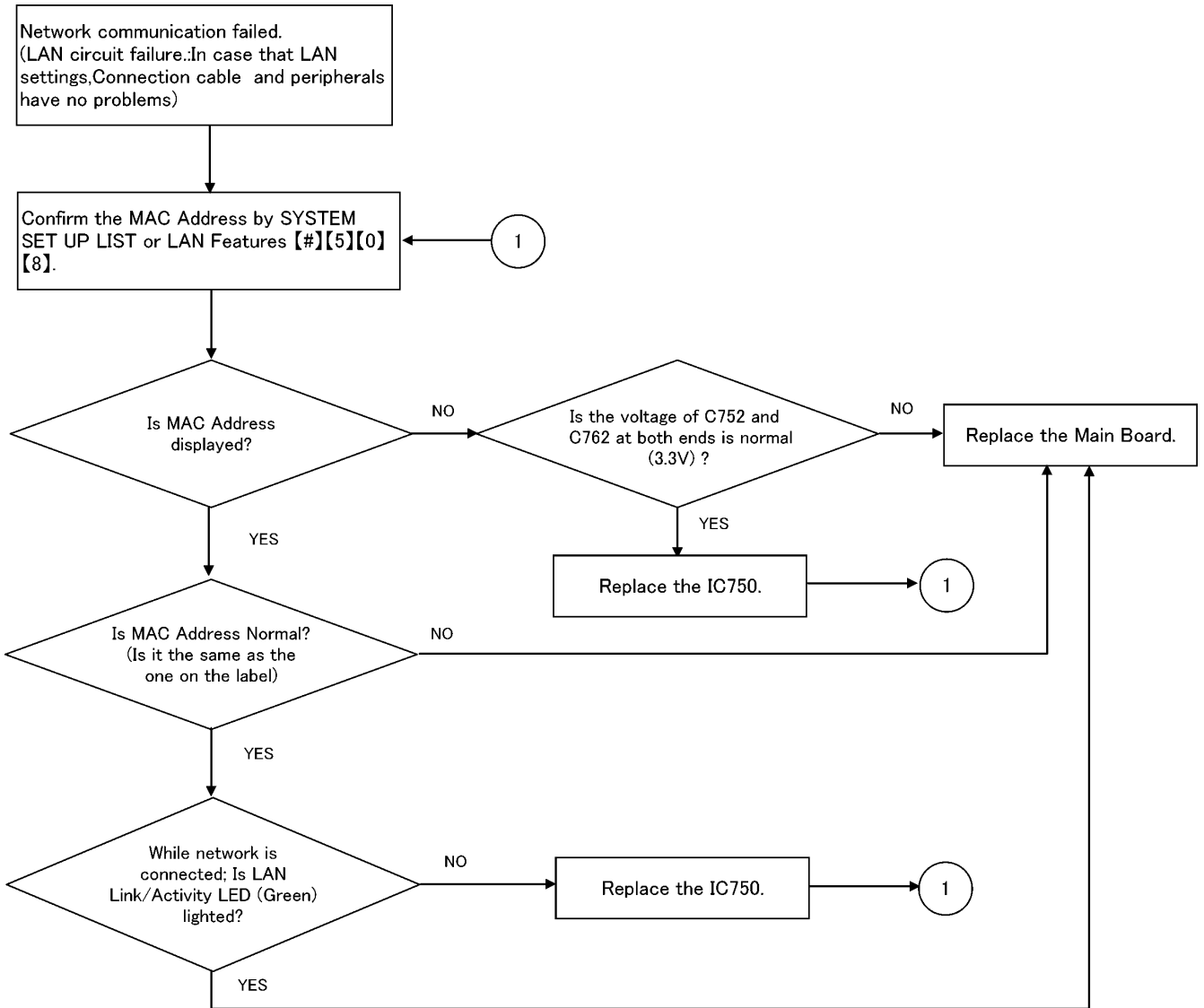


Waveform (2)-4 at Full Speed



12.3.22. LAN SECTION (KX-MB2010/2030 ONLY)

LAN Block Diagram

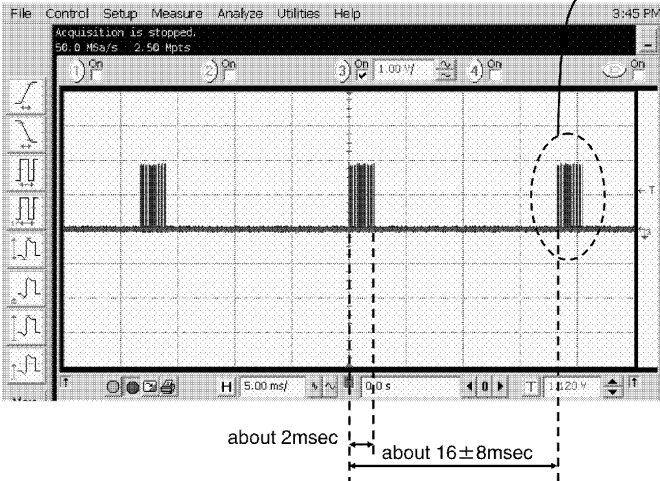


LAN Circuit signal waveform (Normal)

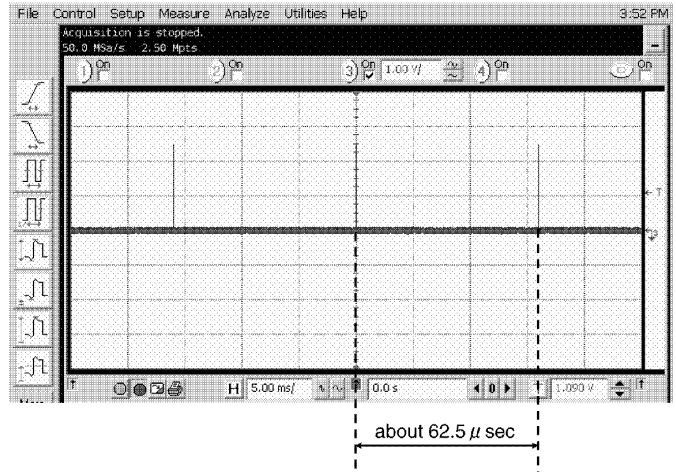
Transmitter waveform [TD+ (CN750 pin1), TD- (CN750 pin2) differential voltage]: Differential probe is used.

1. When network equipment is not connected (LAN cable is not connected);

① Auto negotiation waveform 1

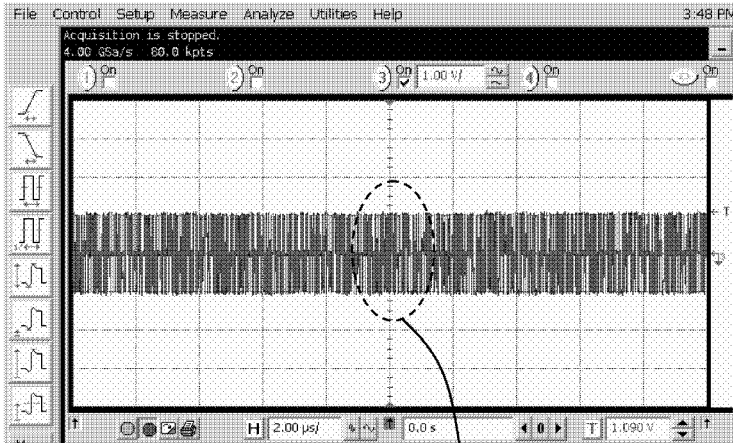


② Auto negotiation waveform 2 (A part of the waveform1 is magnified.)

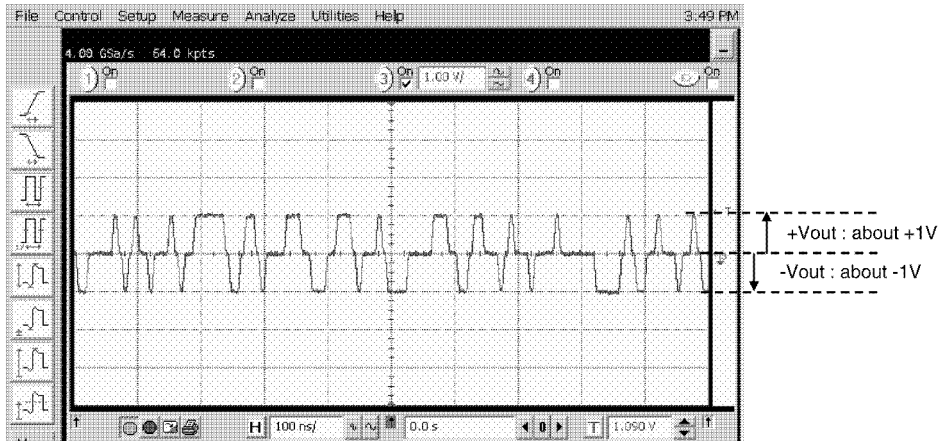


2. When 100Base-TX-enabled device is connected;

① 100Base-TX waveform 1

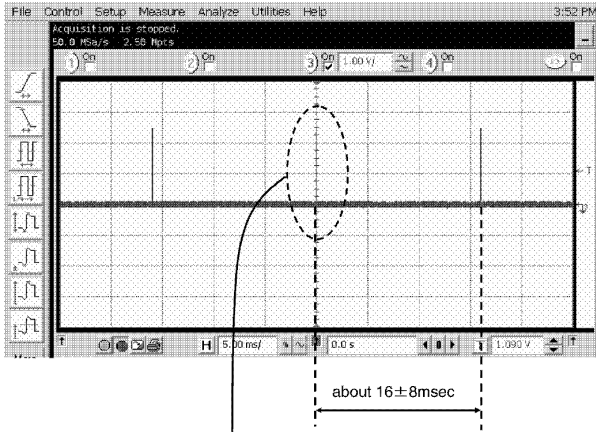


② 100Base-TX waveform 2 (A part of the waveform1 is magnified.)

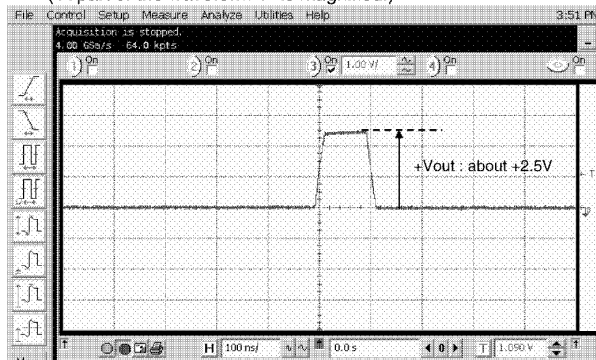


3. When 10Base-T-enabled device is connected.

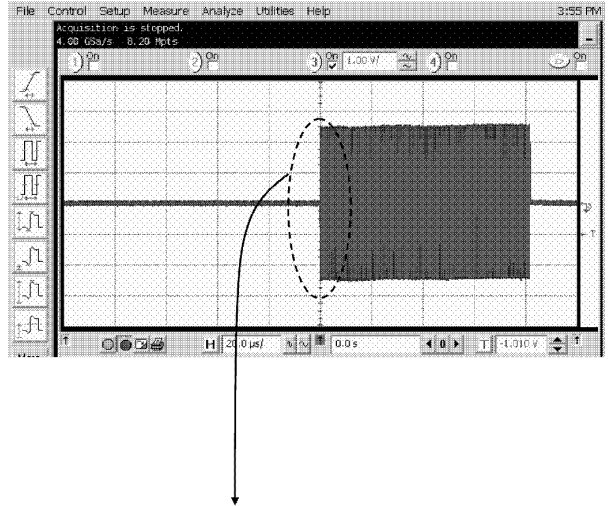
① 10Base-T waveform 1 [Link Pulse]



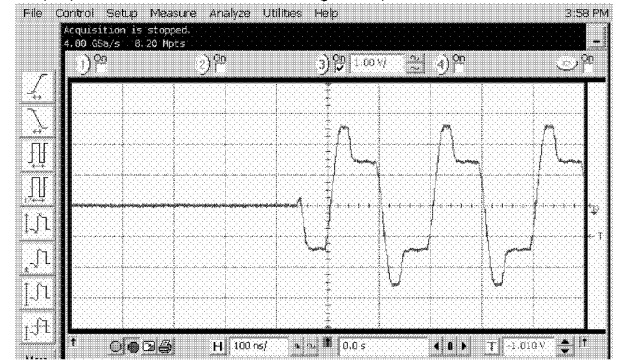
② 10Base-T waveform 2 [Link Pulse]
(A part of the waveform 1 is magnified.)



③ 10Base-T waveform 3 [during data communcation]



④ 10Base-T waveform 4 [during data communcation]
(A part of the waveform 3 is magnified.)



IC750 (C1CB00002566 : 3.3V Single Power Supply) Pin Description

Pin No	Signal Name	Input/Output(*)	Description
1	MDI+[0]	O	Transmit Output. (Differential transmit output pair)
2	MDI-[0]	O	Transmit Output. (Differential transmit output pair)
3	NC	-	Not Connected.
4	MDI+[1]	I	Receive Input. (Differential receive output pair)
5	MDI-[1]	I	Receive Input. (Differential receive output pair)
6	AVDD33	P	3.3V Analog Power Input.
7	GND	-	Ground.
8	NC	-	Not Connected.
9	NC	-	Not Connected.
10	NC	-	Not Connected.
11	NC	-	Not Connected.
12	NC	-	Not Connected.
13	RXDV	LI/O/PD	Receive Data Valid. This pin should be pulled low when operating in MII mode.
14	RXD[0]	O	Receive Data. (These are the four parallel receive data.)
15	DVDD33	P	3.3V Digital Power Input.
16	RXD[1]	O	Receive Data. (These are the four parallel receive data.)
17	RXD[2]	O	Receive Data. (These are the four parallel receive data.)
18	RXD[3]	O	Receive Data. (These are the four parallel receive data.)
19	RXC	O/HZ	Receive Clock.
20	GND	-	Ground.
21	DVDD33	P	3.3V Digital Power Input.
22	TXC	O	Transmit Clock.
23	TXD[0]	I	Transmit Data. (These are the four parallel transmit data.)
24	TXD[1]	I	Transmit Data. (These are the four parallel transmit data.)
25	TXD[2]	I	Transmit Data. (These are the four parallel transmit data.)
26	TXD[3]	I	Transmit Data. (These are the four parallel transmit data.)
27	TXEN	I	Transmit Enable.
28	DVDD12	P	1.2V Digital Power.
29	PHYRSTB	I/HZ	Set low to reset the chip. This pin must be asserted low for at least 10ms.
30	MDC	I	Management Data Clock.
31	MDIO	IO	Management Data Input/Output.
32	NC	-	Not Connected.
33	GND	-	Ground.
34	PHYAD[0]	LI	PHY Address. Sets the PHY address for the device.
35	PHYAD[1]/LED	LI/O	PHY Address. Sets the PHY address for the device.
36	CRS	-	Carrier Sense.
37	DVDD33	P	3.3V Digital Power Input.
38	COL	LI/O	Collision Detect. Set low for MII/RMII mode.
39	RXER	O/LI	Receive Error. 4.7k Ω pulled low resistor is determine the UTP mode.
40	PWOUT12D	O	Internal regulators output.
41	AVDD33	P	3.3V Analog Power Input.
42	CKXTAL1	I	25MHz Crystal Input.
43	CKXTAL2	O	25MHz Crystal Output.
44	NC	-	Not Connected.
45	NC	-	Not Connected.
46	RSET	I	Transmit Bias Resistor Connection.
47	GND	-	Ground.
48	PWOUT12A	O	Internal regulators output.

NOTE:

I: Input

O: Output

P: Power

LI: Latched Input during Power up or Reset

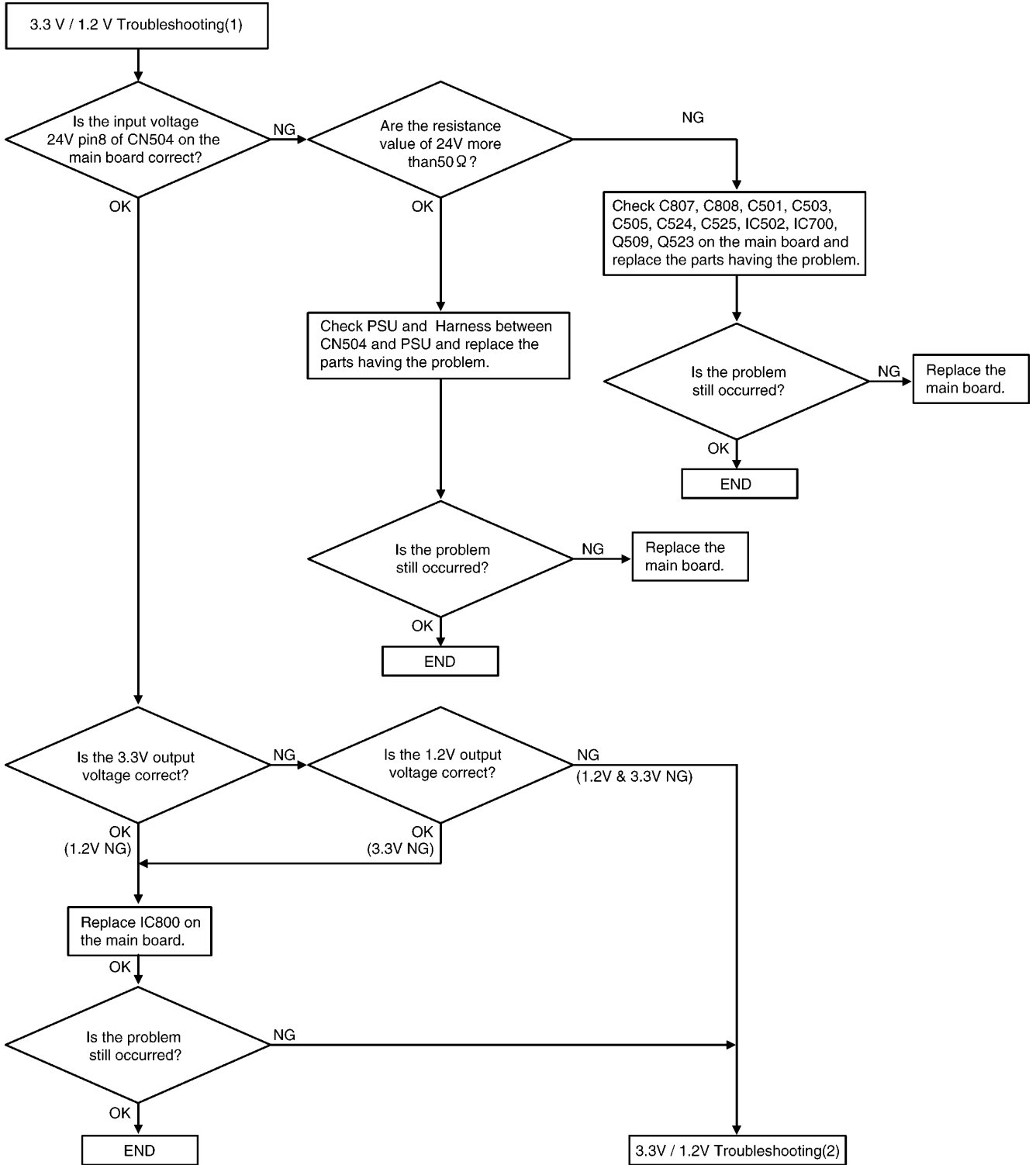
IO: Bi-directional input and output

HZ: High impedance during power on reset

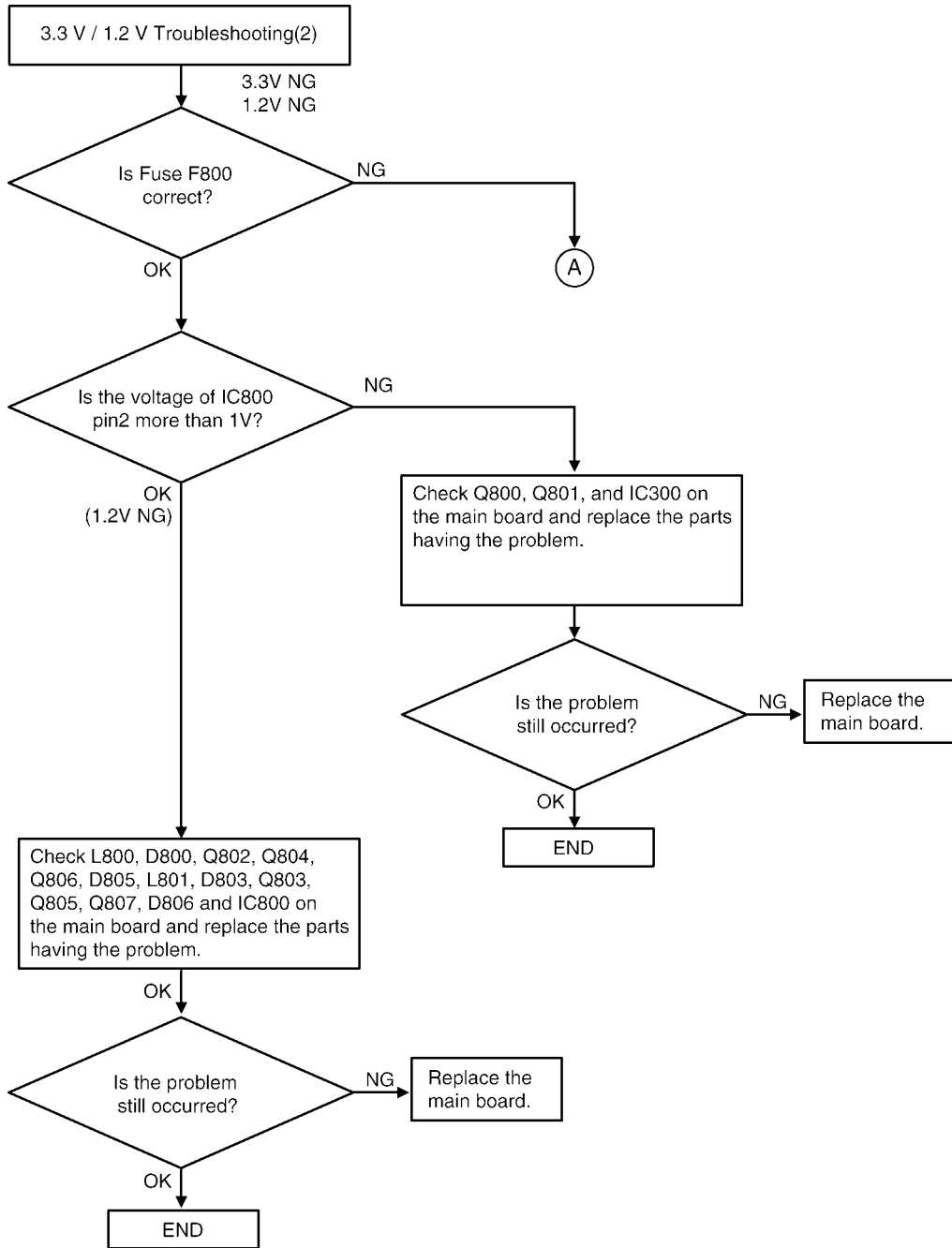
PD: Internal Pull down during power on reset

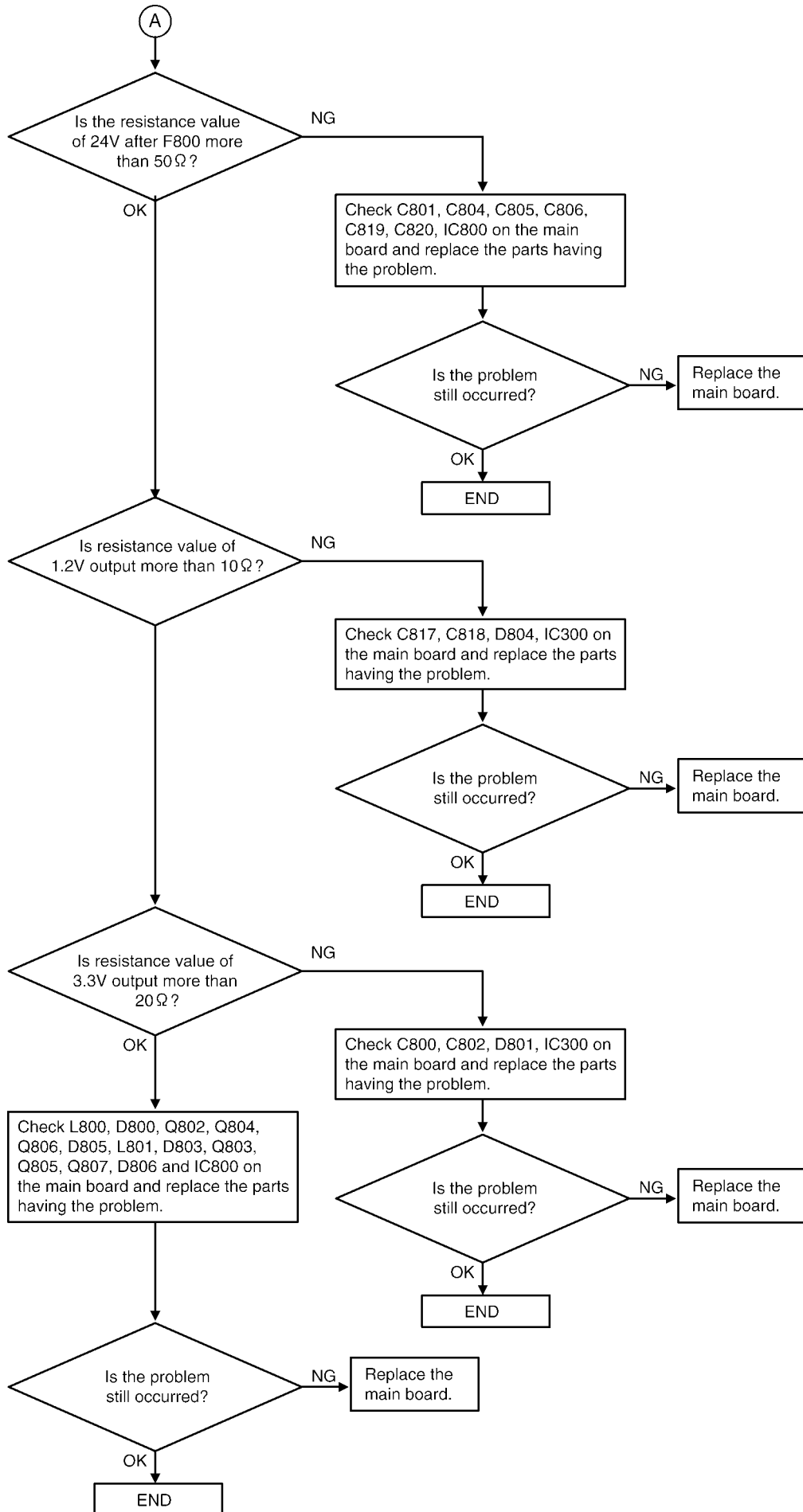
12.3.23. Main Board Section

3.3V / 1.2V Troubleshooting Guide (1)



3.3V / 1.2V Troubleshooting Guide (2)





12.3.24. Power Supply Board Section

12.3.24.1. Key Components For Troubleshooting

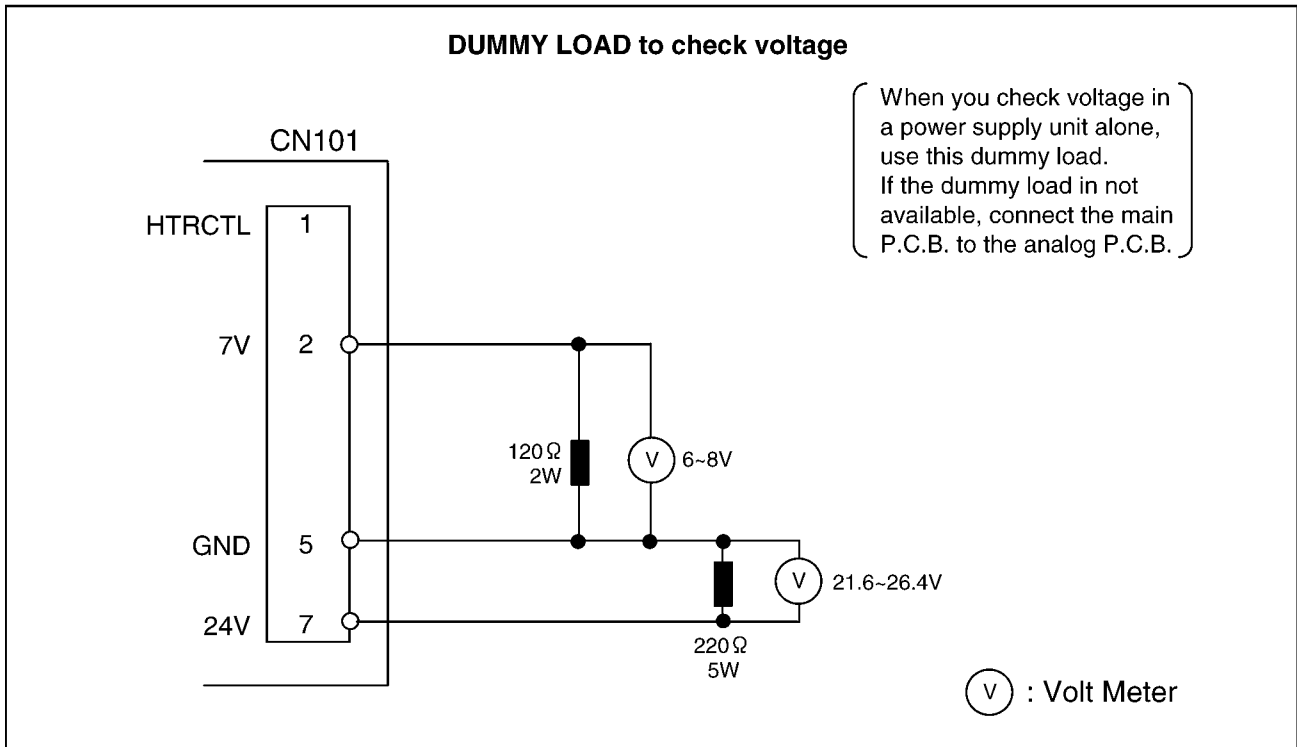
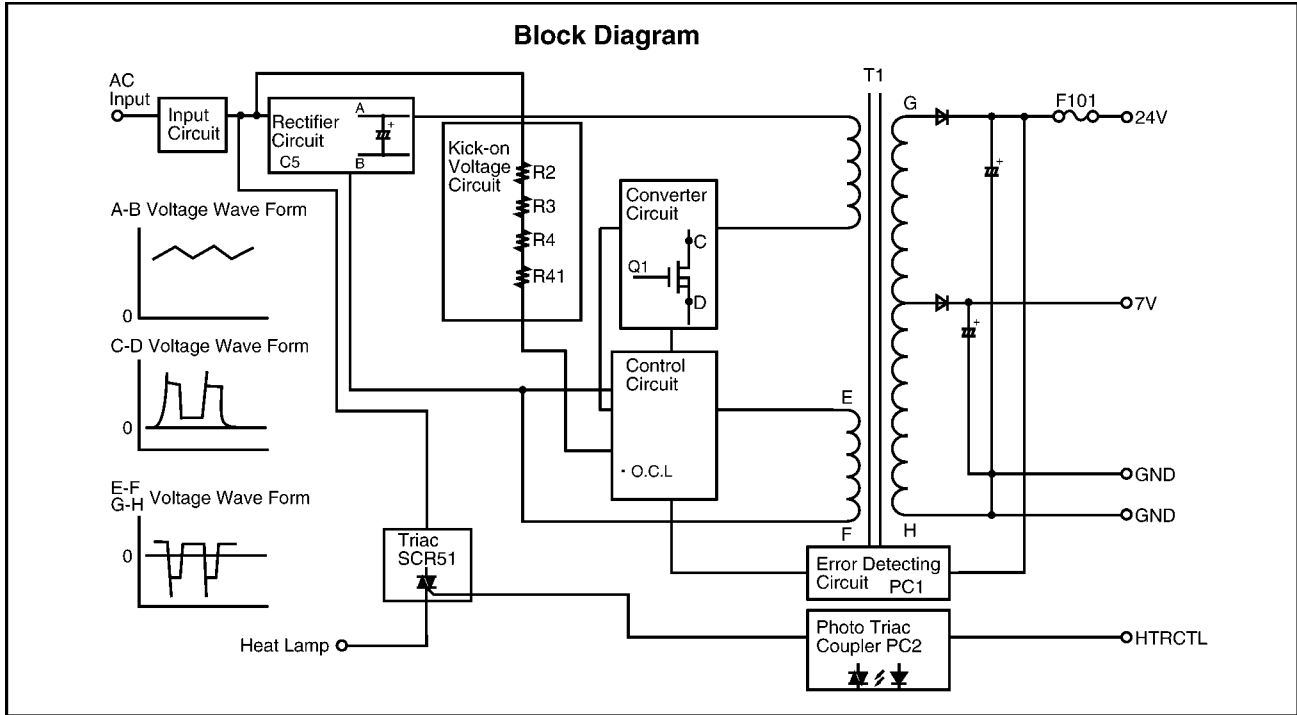
Check the following parts first: F1, F2, D1, C5, Q1 and PC1.

This comes from our experience with experimental test. For example: power supply and lightning surge voltage test, with standing voltage test, intentional short circuit test, etc.

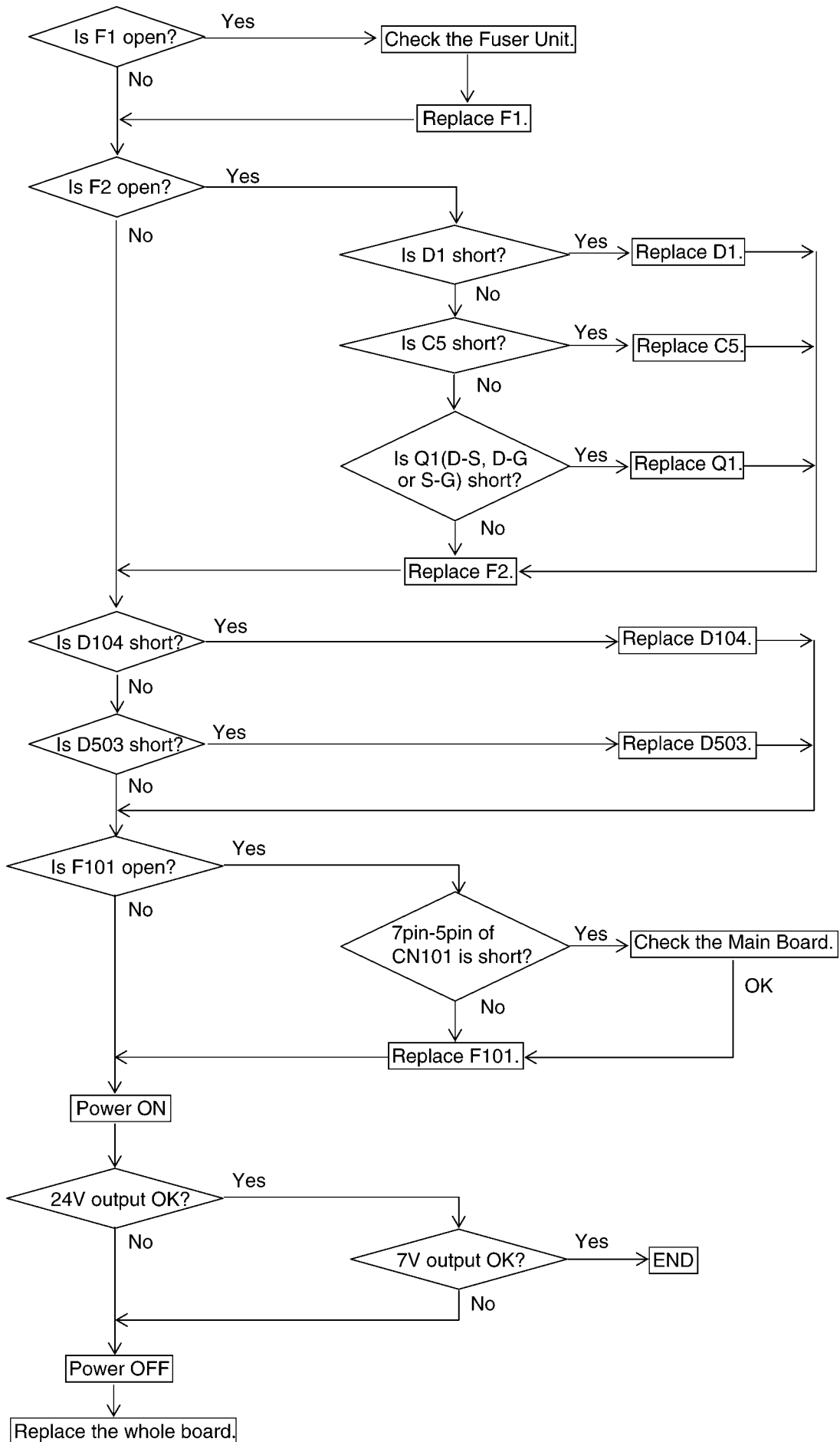
Caution:

If you find a melted fuse in the unit, do not turn on the power until you located and repair the faulty parts (except for the fuse); otherwise the fuse will melt again and you cannot pinpoint the faulty point.

In most cases, the symptom is that nothing is output. It is more likely that the fault is in the primary side rather than the secondary side. Check the primary side first.



12.3.24.2. Troubleshooting Flow Chart



12.3.24.3. Broken Parts Repair Details

(D1)

If D1 is short-circuit, F2 will melt (open).

In this case, replace all of the parts (D1, F2).

(C5)

If overvoltage(Approx. 450V) was supplied for a power supply unit, C5 will be broken.

(Q1)

If Q1 is short-circuit, F2 will melt (open).

In this case, replace all of the parts (F2, Q1,D1).

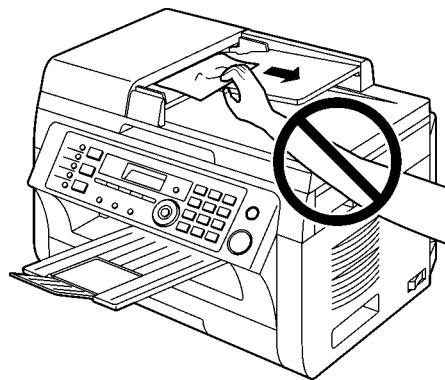
(F101)

If F101 is melted (open), check the 24 Voltage line of the Main Board and others.

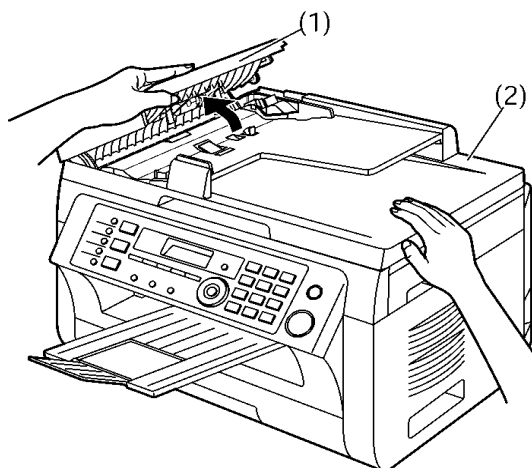
12.4. DOCUMENT JAMS (AUTO DOCUMENT FEEDER)

Caution:

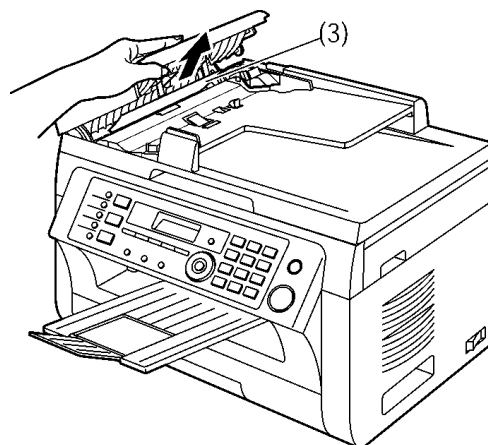
- Do not pull out the jammed document forcibly before lifting the ADF cover.



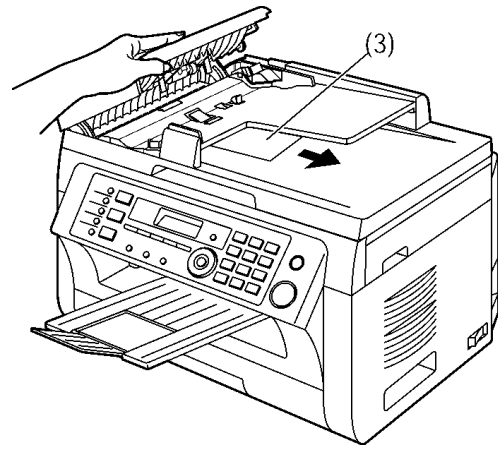
1. Open the ADF cover (1) while holding the document cover (2).



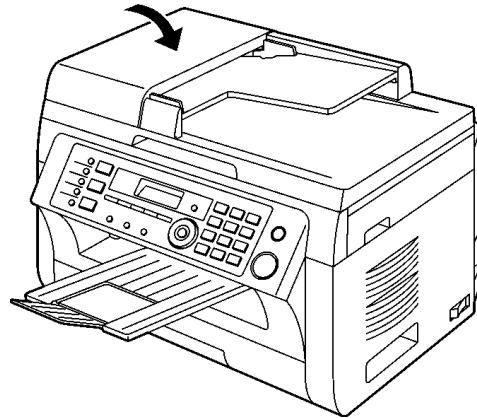
2. Remove the jammed document (3) carefully.
When the document has jammed near the document entrance:



When the document has jammed near the document exit:



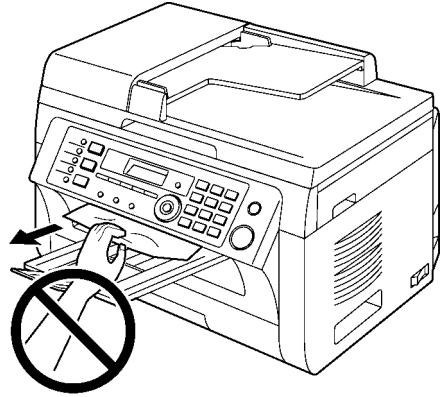
3. Close the ADF cover.



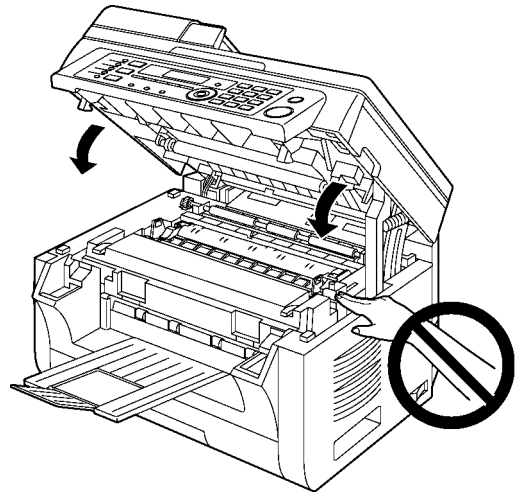
12.5. RECORDING PAPER JAM

Caution:

- Do not pull out the jammed paper forcibly before opening the top cover.



- To prevent injuries, be careful not to put your hands under the top cover.



12.5.1. When the recording paper has jammed inside of the unit

The display will show the following.

PAPER JAMMED



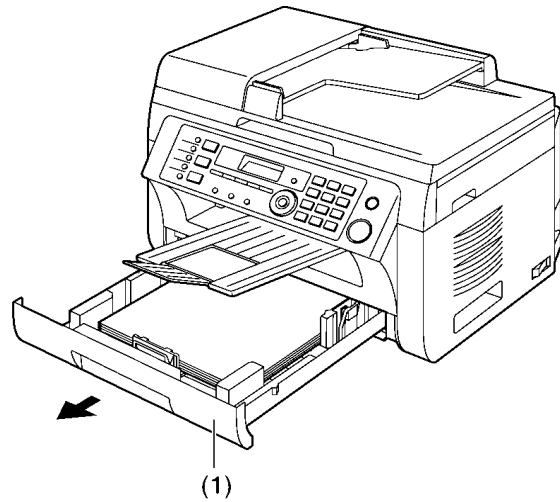
OPEN TOP COVER

CHECK REAR COVER

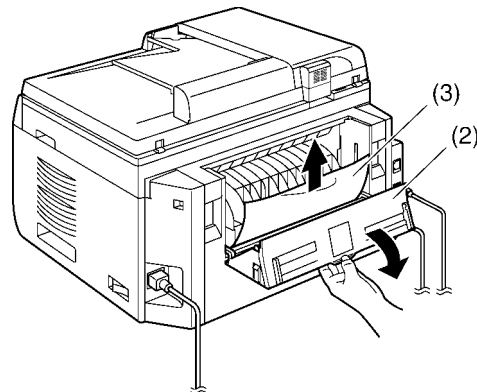
Case 1:

When the recording paper has jammed near the manual input tray:

1. Pull open the paper input tray (1).

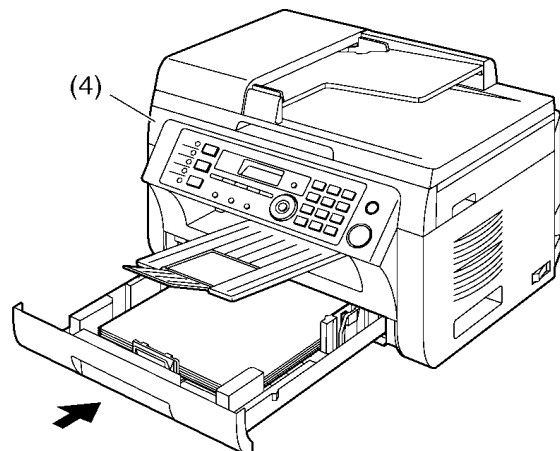


2. Open the manual input tray (2) and remove the jammed paper (3) carefully by pulling it upwards. Then close the manual input tray.



3. Close the paper input tray.

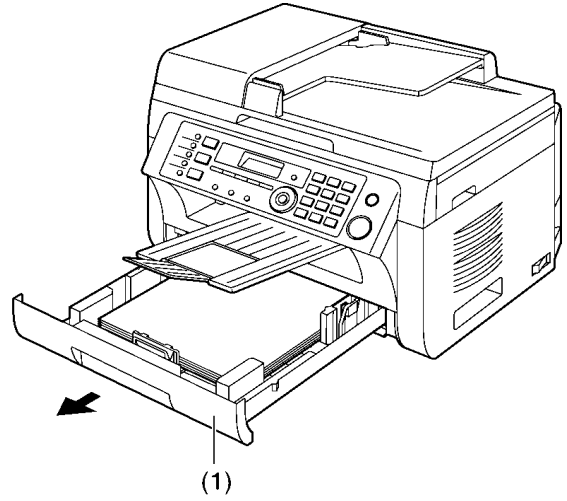
- Open and close the top cover (4) to clear the message.



Case 2:

When the recording paper has jammed near the drum and toner cartridge:

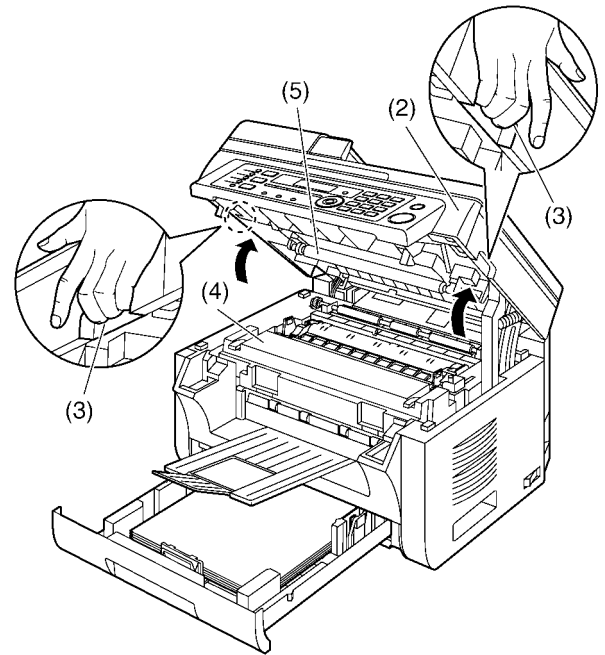
1. Pull open the paper input tray (1).



2. Open the top cover (2) by holding the indentations (3) on both sides of the unit.

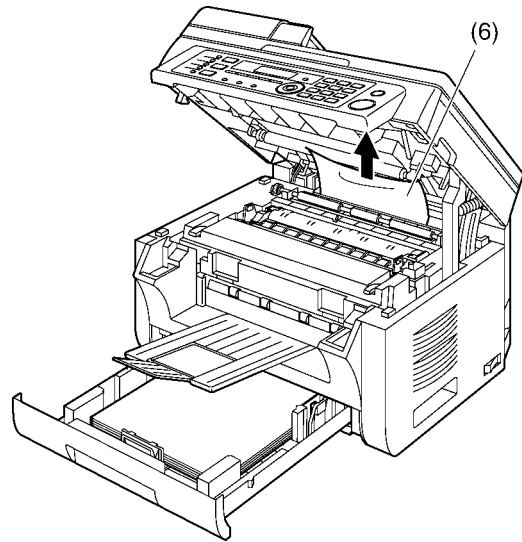
Note:

- Do not touch the transfer roller (5)

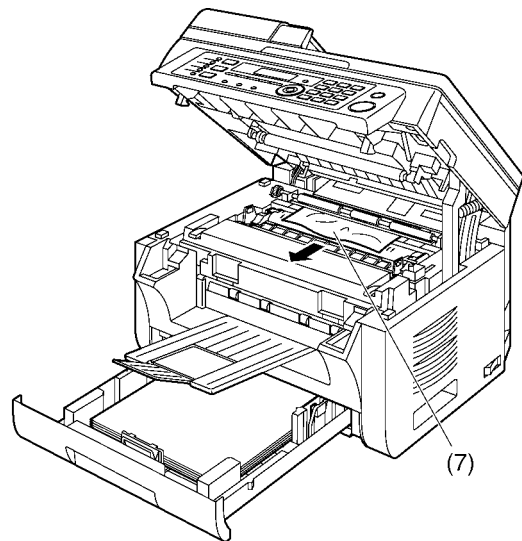


Caution:
The fuser unit (4) gets hot. Do not touch it.

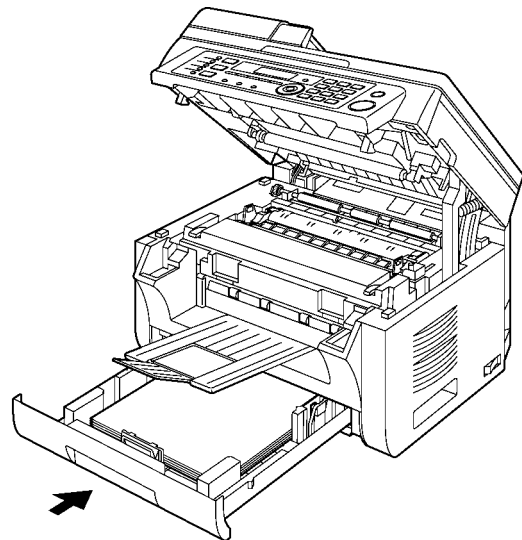
3. Remove the jammed paper (6) carefully by pulling it upwards.



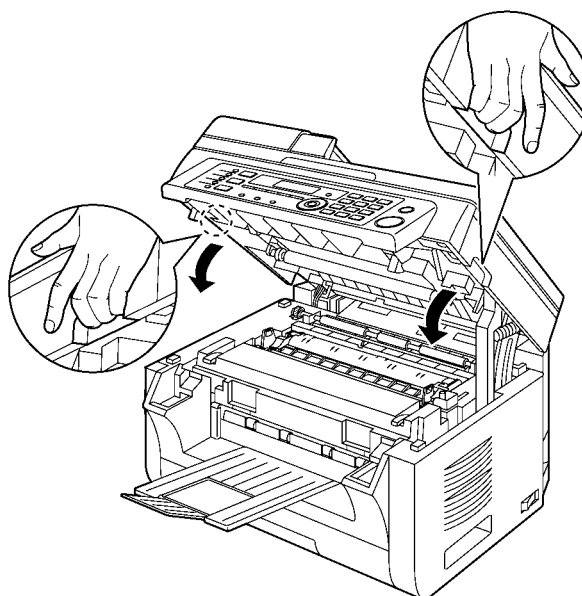
Remove the jammed paper (7) carefully by pulling it toward you.



4. Close the paper input tray.



5. Close the top cover by holding the indentations on both sides of the unit, until locked.



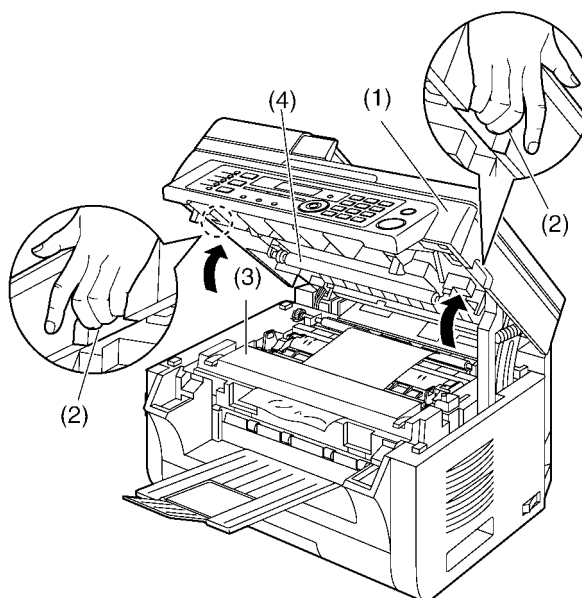
Case 3:

When the recording paper has jammed near the fuser unit:

1. Open the top cover (1) by holding the indentations (2) on both sides of the unit.

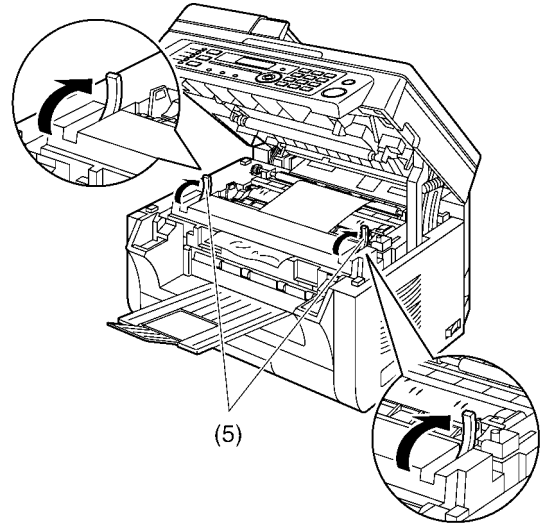
Note:

- Do not touch the transfer roller (4).

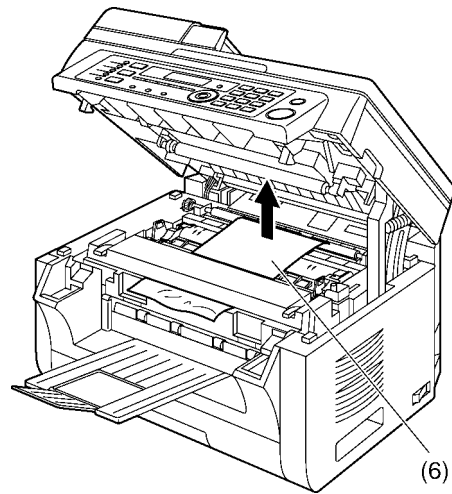


Caution:
The fuser unit (3) gets hot. Do not touch it.

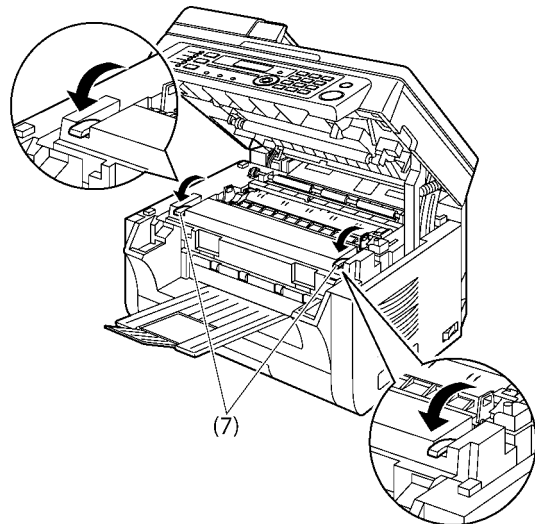
2. Lift both green levers (5) until they stop.



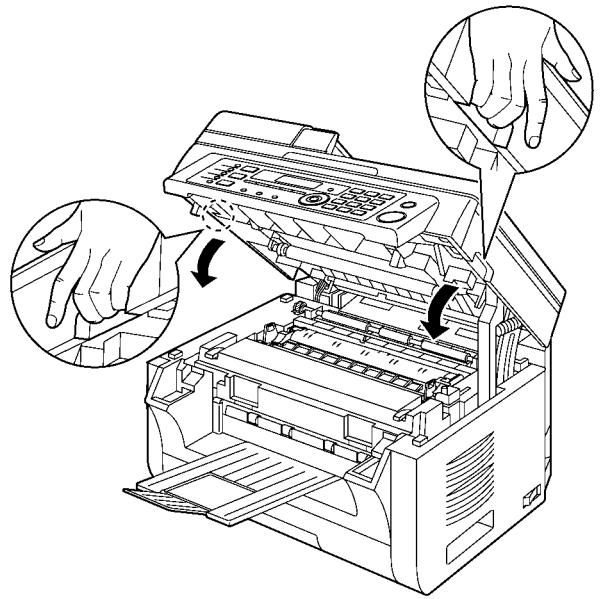
3. Remove the jammed paper (6) carefully by pulling it upwards.



4. Push back the green levers (7) to the original position.



5. Close the top cover by holding the indentations on both sides of the unit, until locked.

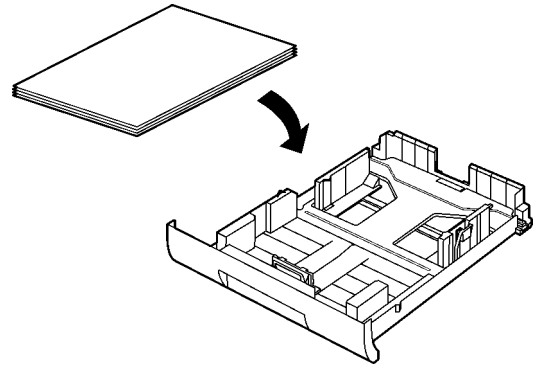


12.5.2. When the recording paper is not fed into the unit properly

The display will show the following.

CHECK PAPER #1 PRESS START

1. Pull the paper input tray until it clicks into place, then put it completely out, lifting the front part of the tray. Remove the recording paper and straighten.
2. Re-load the recording paper.



3. Insert the paper input tray into the unit, lifting the front part of the tray. Then push it completely into the unit.

Note:

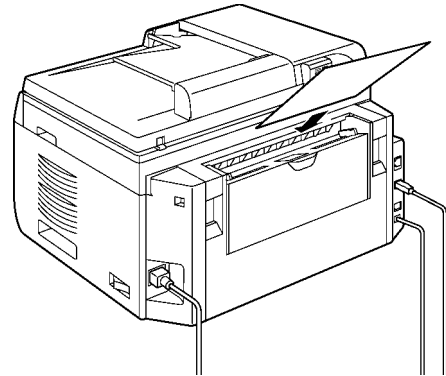
- If the message is still displayed, check the recording paper specifications and load the recording paper again.

12.5.3. When the recording paper in the manual input tray is not fed into the unit properly

The display will show the following.

CHECK PICK UP
INPUT TRAY #2

1. Remove the recording paper.
2. Re-insert the recording paper.



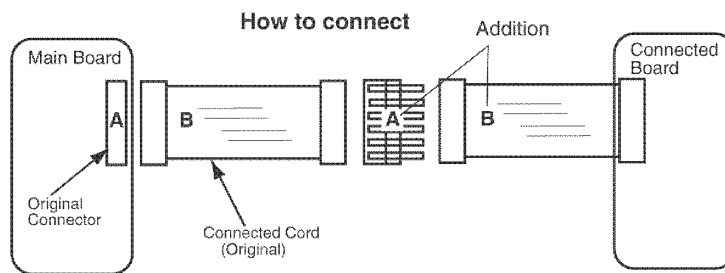
Note:

- If the message is still displayed, check the recording paper specifications and re-install recording paper.

13 Service Fixture & Tools

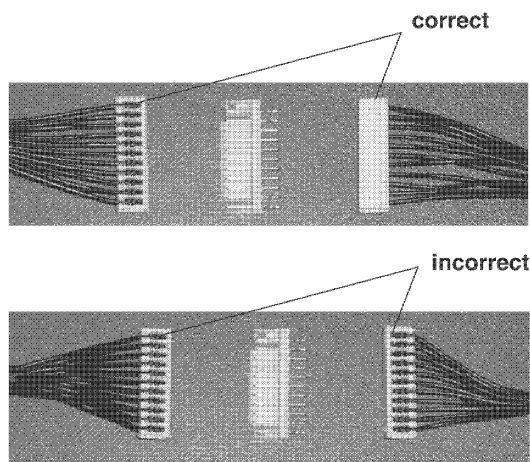
How to extend cords

When extending cords, you need 2 pairs of A,B (A=connector,B=cord)
 (One pair is connected to the Main board.)
 If you do not have 2 pairs, order the necessary parts.

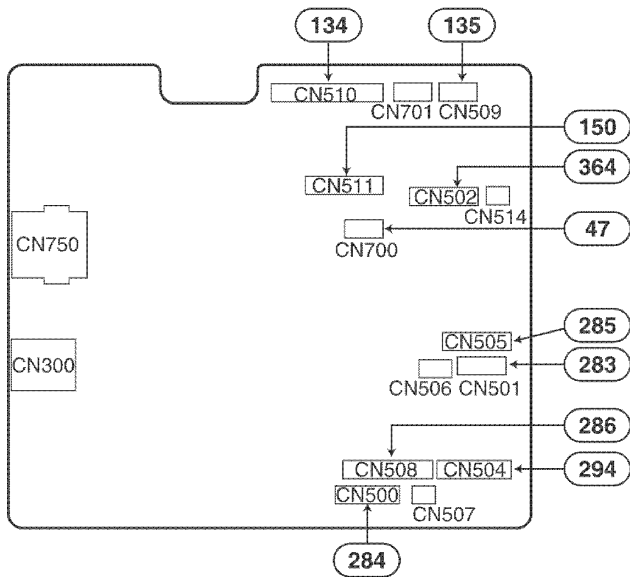


NOTE

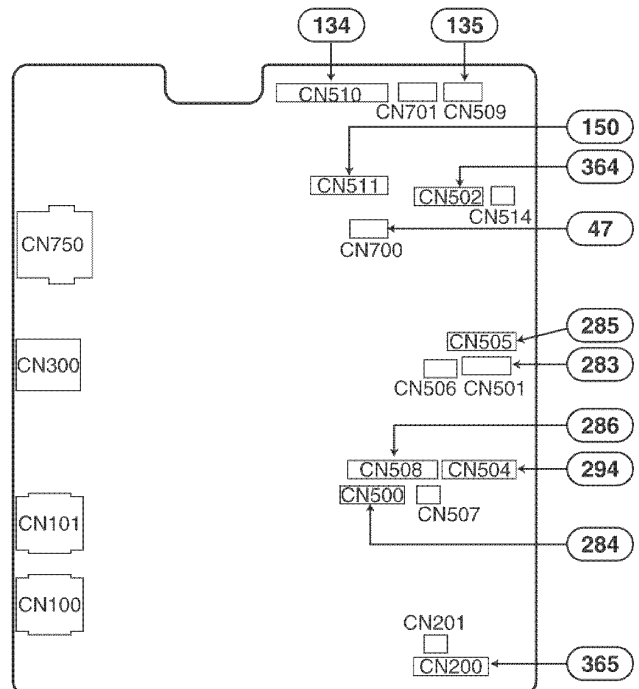
Be sure if the direction of the connectors are correct.



KX-MB1900/2010



KX-MB2025/2030



14 Disassembly and Assembly Instructions

Note:

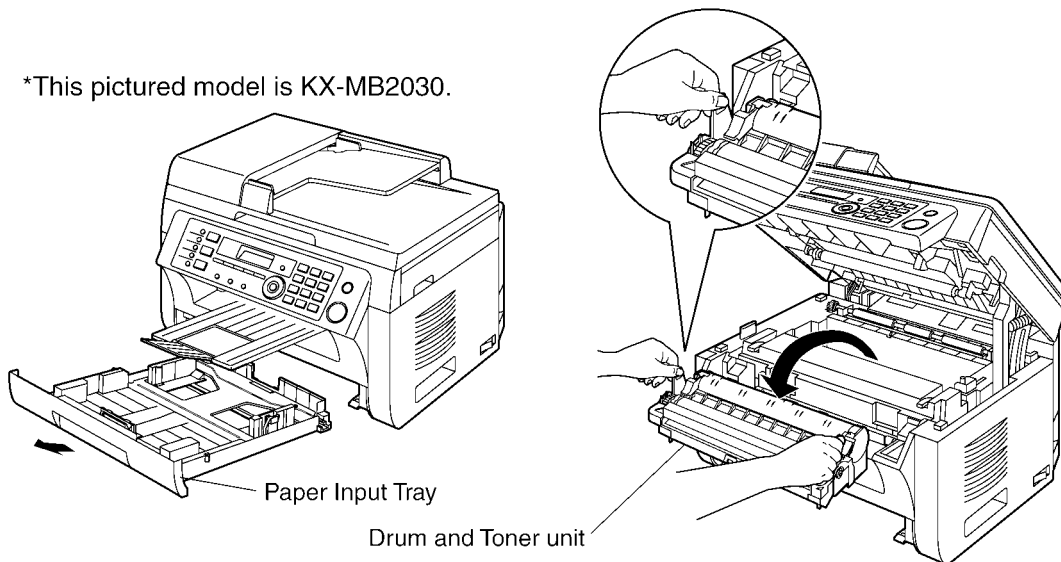
Remove the Document Cover, the Paper Input tray and the drum and toner cartridge before reassembling.

First of all

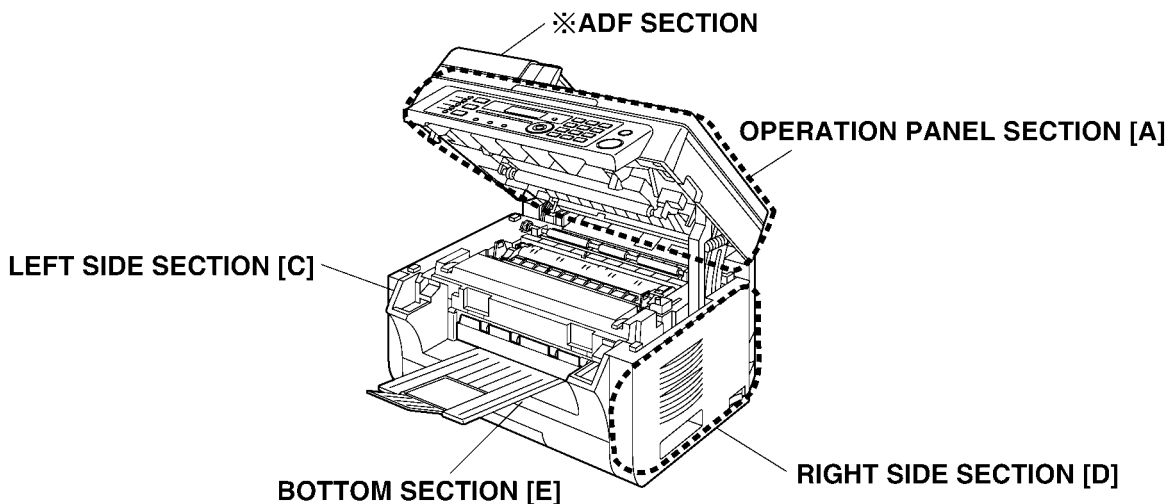
Before disassembling, do the following things.

- (1) Pull the Paper Input Tray until it clicks into place, then pull it completely out, lifting the front part of the tray.
- (2) Take the Drum and Toner unit out by holding the tabs.

*This pictured model is KX-MB2030.

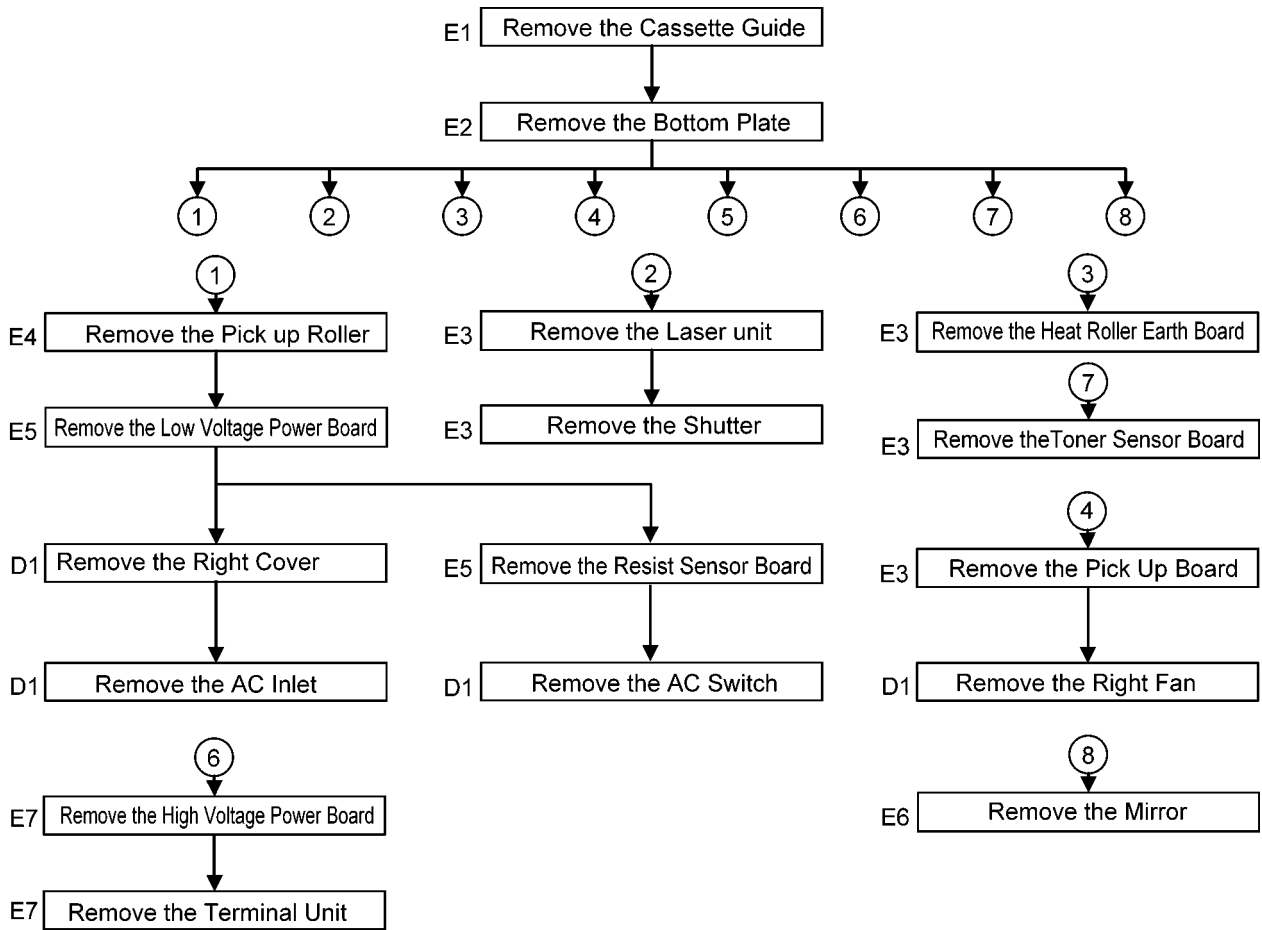


GENERAL SECTION

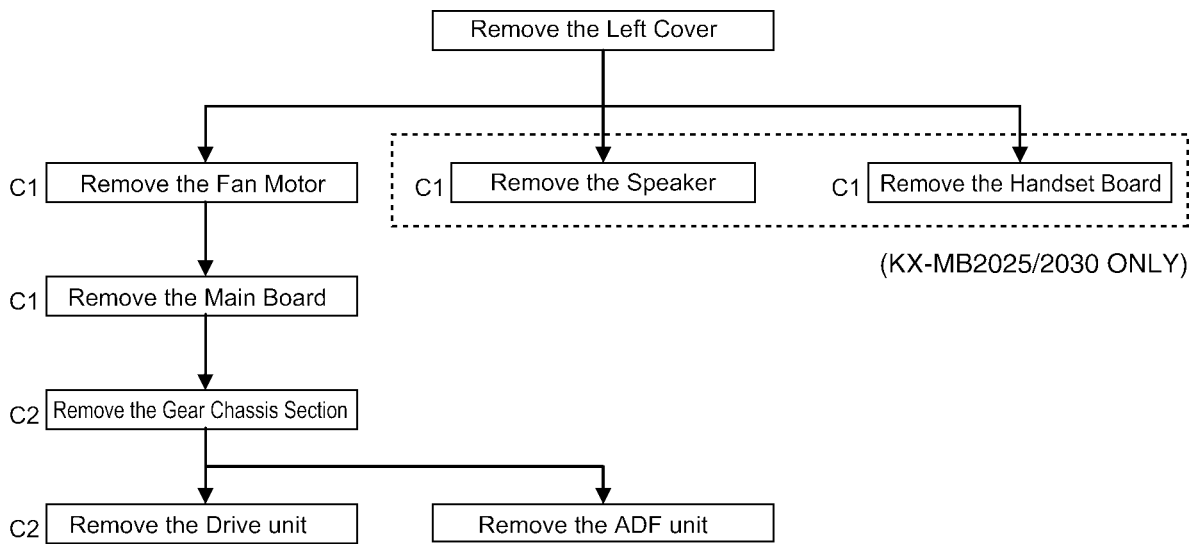


✧Regarding ADF SECTION, refer to the service manual for KX-MB781/782/783 series

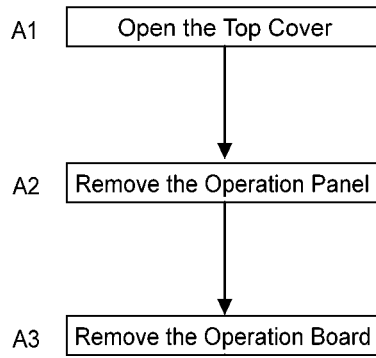
14.1. Bottom Section



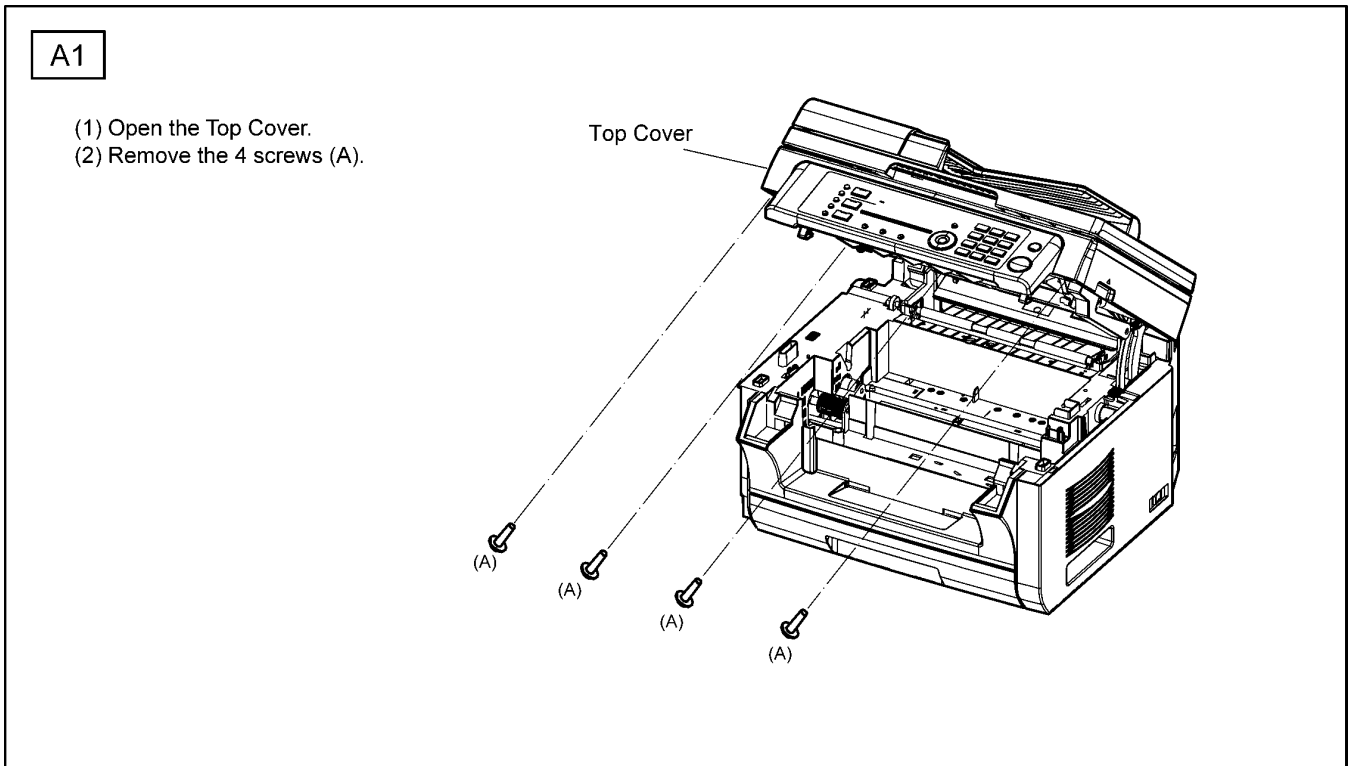
14.2. Left Side Section



14.3. Operation Panel Section



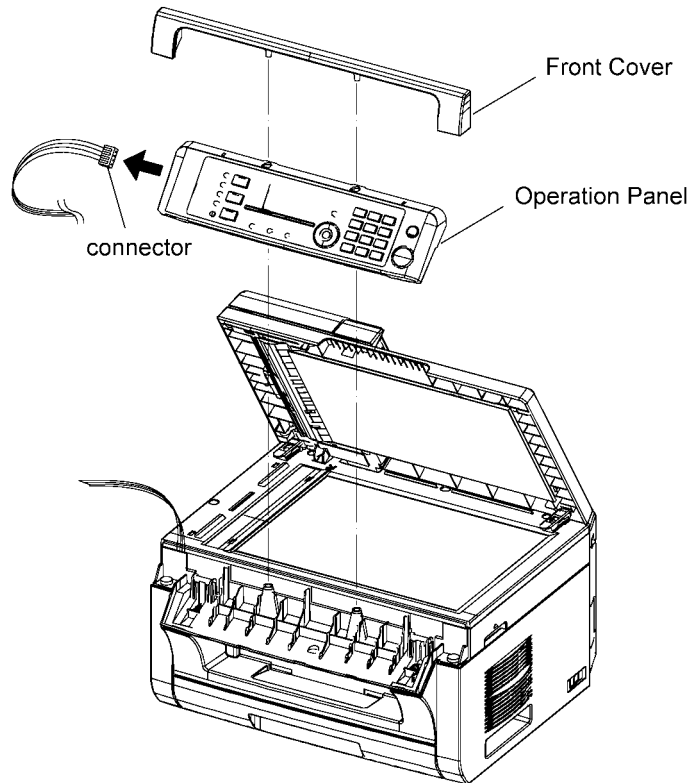
14.4. Open Top Cover



14.5. Remove Operation Panel

A2

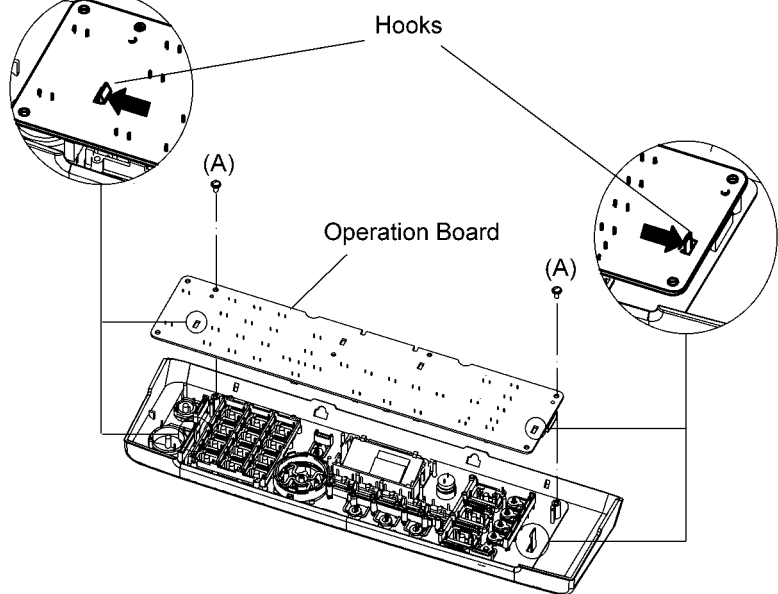
- (1) Remove the Front Cover.
- (2) Remove the Operation Panel.
- (3) Remove the connector.



14.6. Remove Operation Board

A3

- (1) Remove the 2 screws (A).
- (2) Push the Hooks to remove the Operation Board.
- (3) Remove the connector.



14.7. Remove Main Board

C1

Left Cover

- (1) Remove the 4 screws (A).
- (2) Remove the 3 Hooks (B).
- (3) Remove the Speaker Lead. (KX-MB2025/2030 ONLY)

Fan Motor

- (4) Remove the Fan Motor.

Main Board

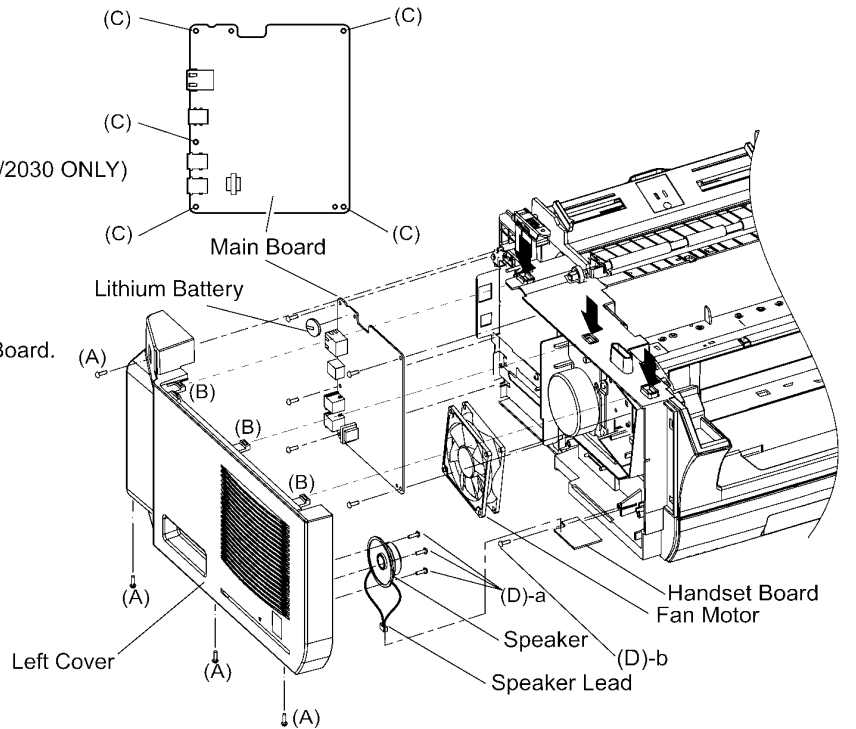
- (4) Remove the 5 screws (C).
- (5) Remove the all connectors on the Main Board.
- (6) Remove the Main Board.
- (7) Unsolder the Lithium Battery.

Speaker (KX-MB2025/2030 ONLY)

- (4) Remove the 3 screws (D)-a.
- (5) Remove the Speaker.

Handset Board (KX-MB2025/2030 ONLY)

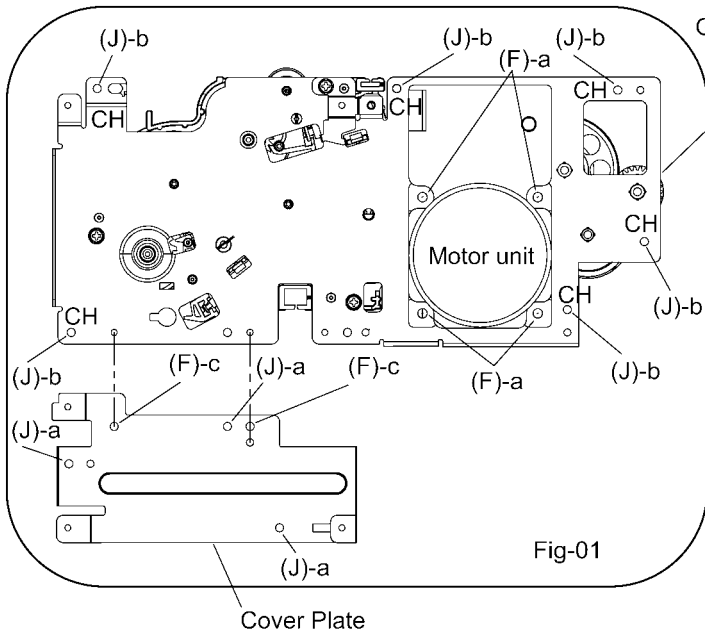
- (4) Remove the screw (D)-b.
- (5) Remove the Handset Board.



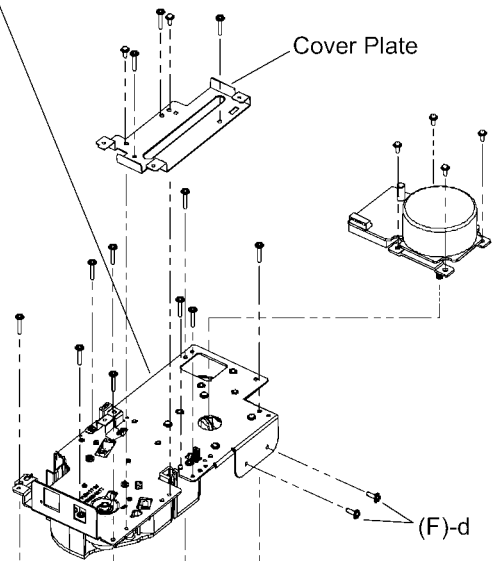
14.8. Remove Gear Chassis Section

C2

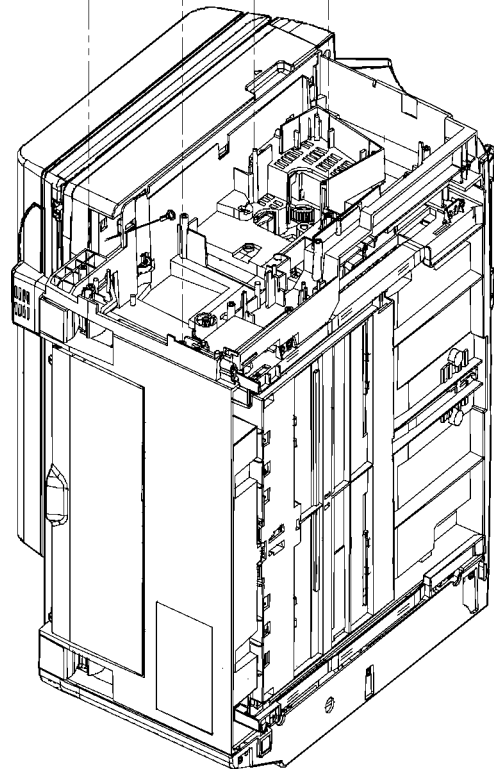
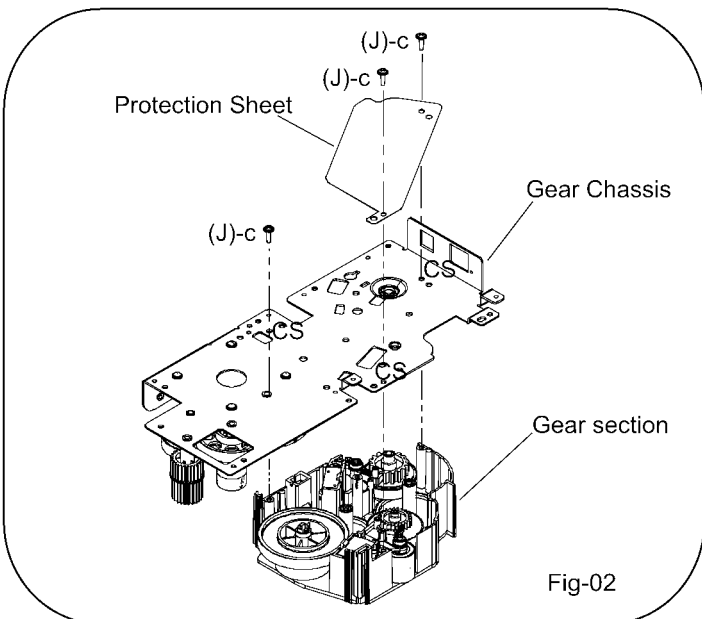
- (1) Remove the 4 screws (F)-a.
- (2) Remove the Motor unit.
- (3) Remove the 2 screws (F)-c.
- (4) Remove the 3 screws (J)-a.
- (5) Remove the Cover Plate.
- (6) Remove the 2 screws (F)-d.
- (7) Remove the 6 screws (J)-b (The CH mark).



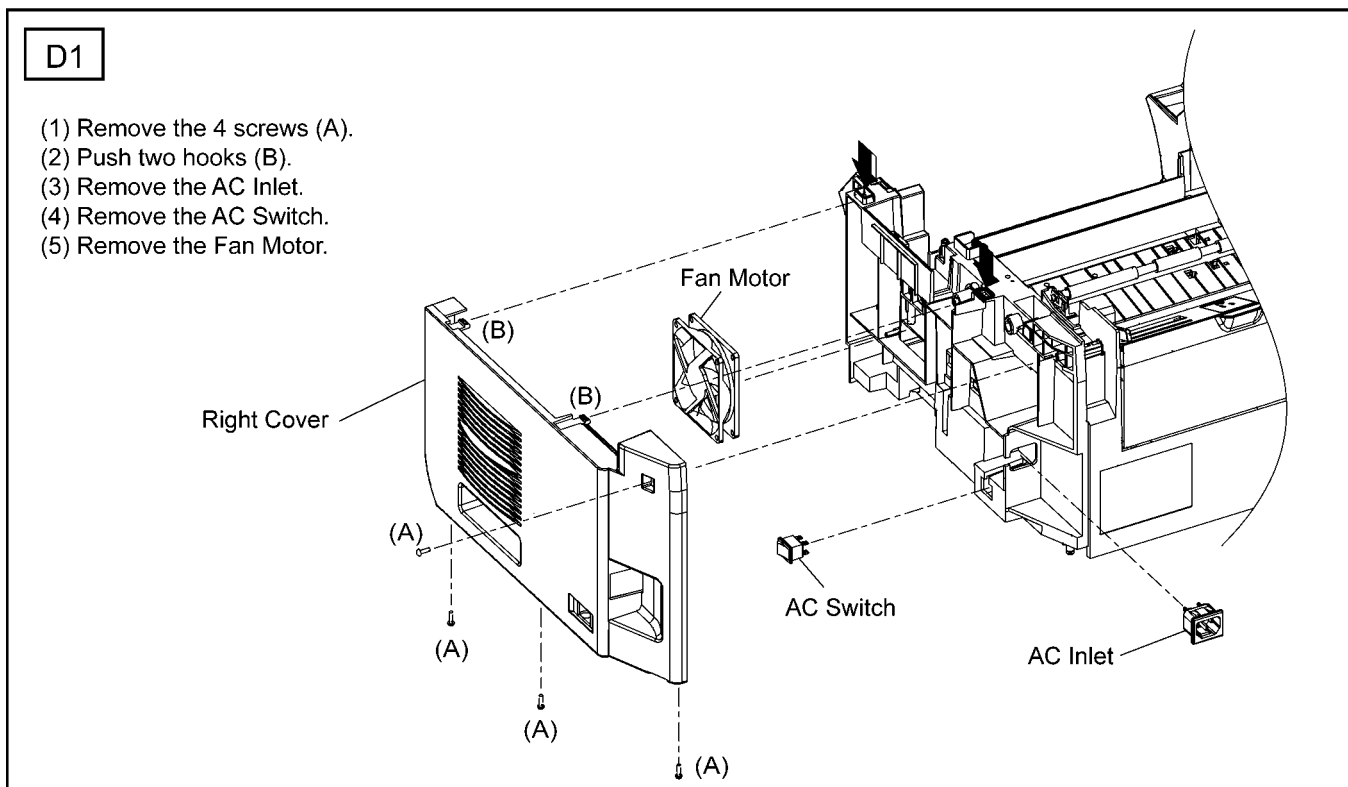
Gear Chassis section



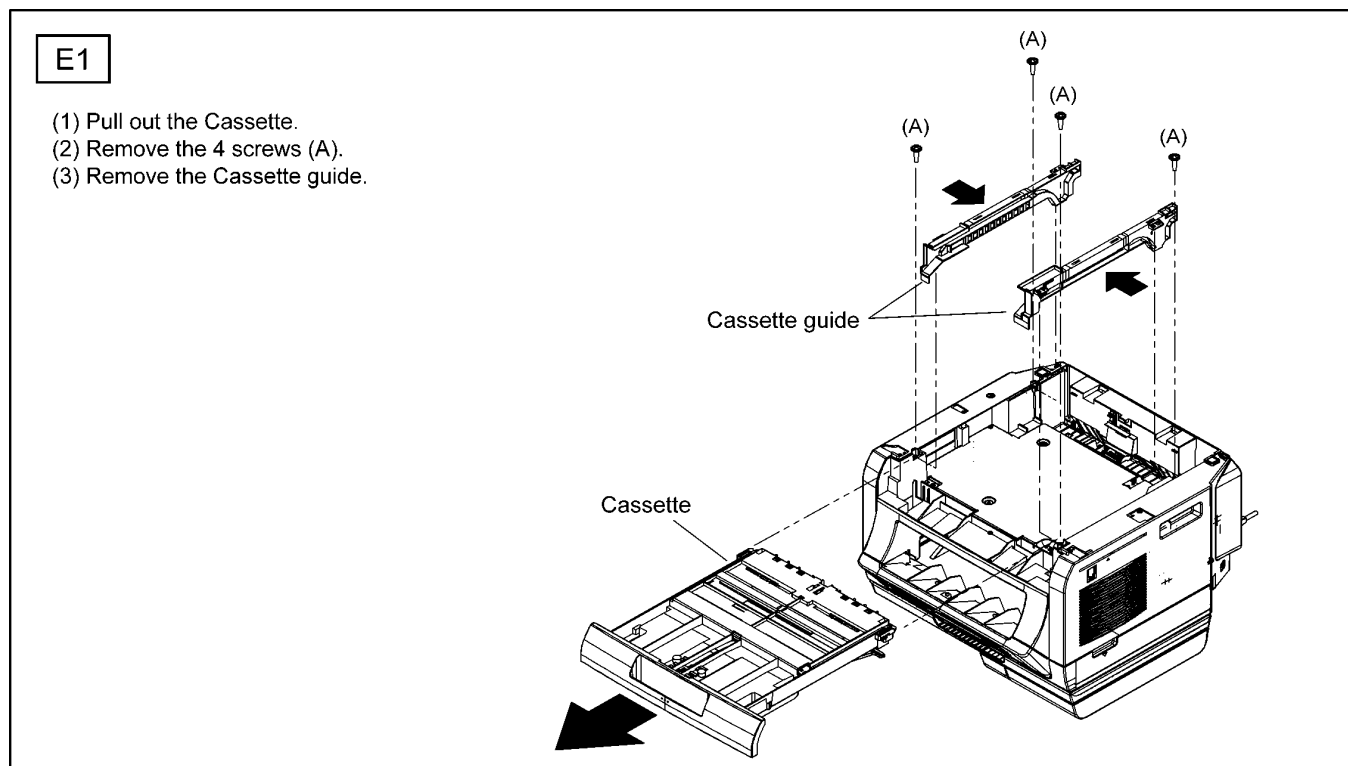
- (8) Remove the 3 screws (J)-c (The CS mark).
- (9) Remove the Protection Sheet.
- (10) Remove the Gear section.



14.9. Remove Right Cover



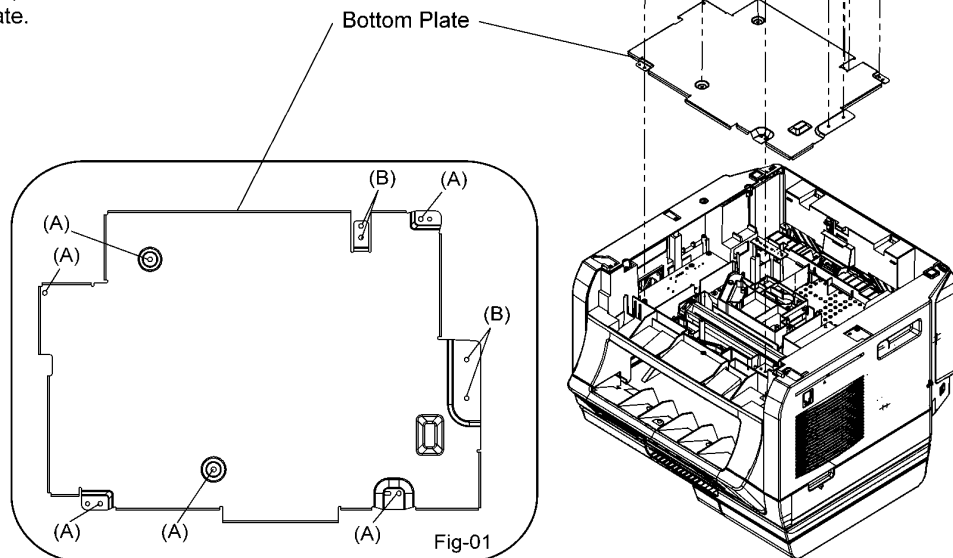
14.10. Remove Right Cassette Guide



14.11. Remove Bottom Plate

E2

- (1) Remove the 6 screws (A).
- (2) Remove the 4 screws (B).
- (3) Remove the Bottom Plate.



14.12. Remove Laser Unit

E3

Laser Unit & Shutter

- (1) Remove the 3 screws (A)-a.
- (2) Remove the leads connecting to Laser unit.
- (3) Remove the Laser unit.
- (4) Remove the Shutter.

Pick Sensor Board

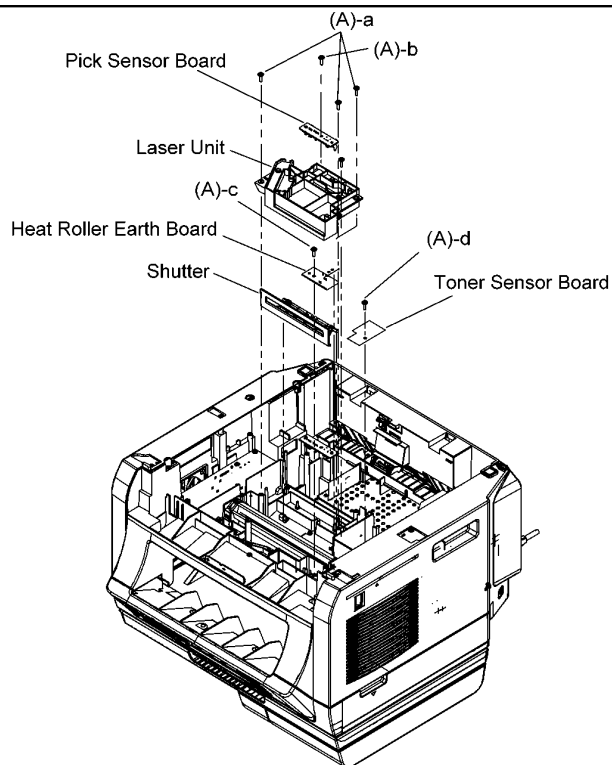
- (1) Remove the screw (A)-b.
- (2) Remove all the connectors on the Pick Sensor Board.
- (3) Remove the Sensor Board.

Heat Roller Earth Board

- (1) Remove the screw (A)-c.
- (2) Remove the Heat Roller Earth Board.

Toner Sensor Board

- (1) Remove the screw (A)-d.
- (2) Remove the Toner Sensor Board.



14.13. Remove Pick up Roller

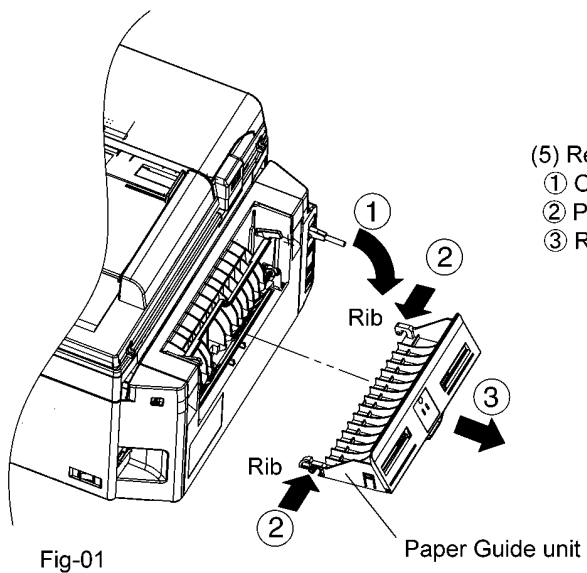
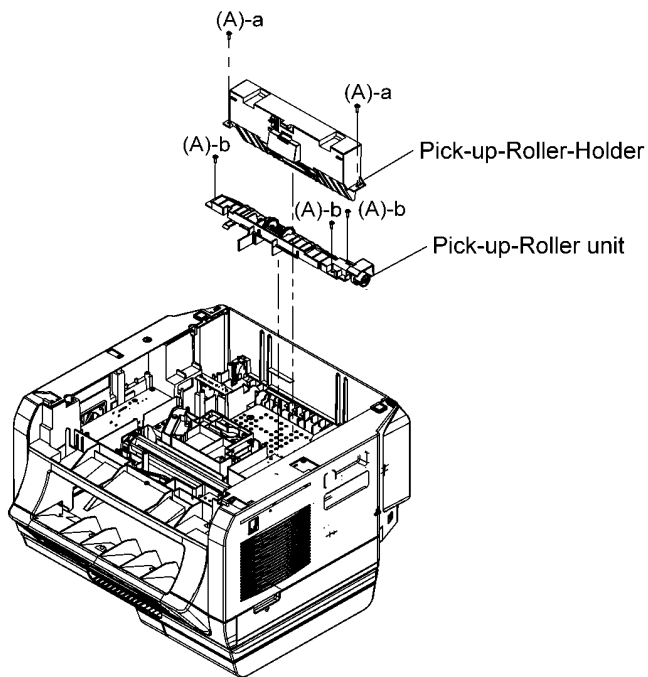
E4

Pick-up-Roller-Holder

- (1) Remove the 2 screws (A)-a.
- (2) Remove the Pick-up-Roller-Holder.

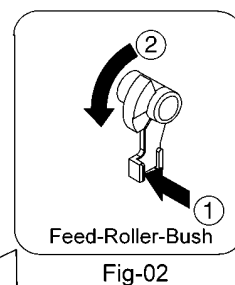
Pick-up-Roller unit

- (3) Remove the 3 screws (A)-b.
- (4) Remove the Pick-up-Roller unit.



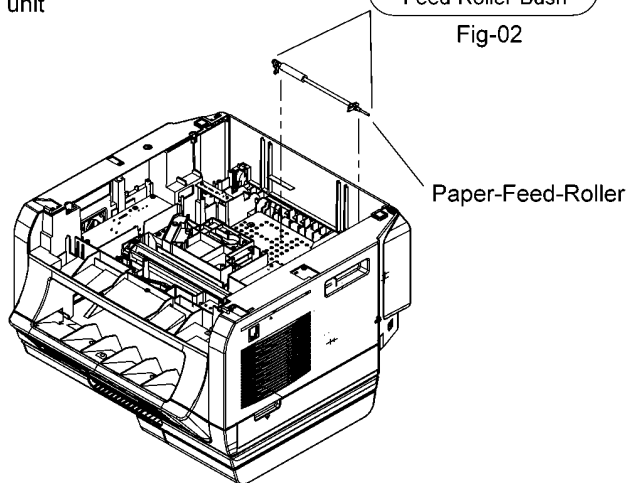
- (5) Remove the Paper Guide unit (Fig-01)

- ① Open the Paper Guide unit.
- ② Push the Rib on both sides lightly.
- ③ Remove the Paper Guide unit.



Paper-Feed-Roller

- (6) Remove the Paper Tray.
 - ① Remove the Feed-Roller-Bush. (Fig-02)
 - ② Remove the Paper-Feed-Roller.



14.14. Remove Low Voltage Power Board

E5

Low Voltage Power unit

- (1) Remove the 4 screws (A)-a.
- (2) Remove the screw (A)-b.
- (3) Remove the each connector.
- (4) Remove the Low Voltage Power unit.

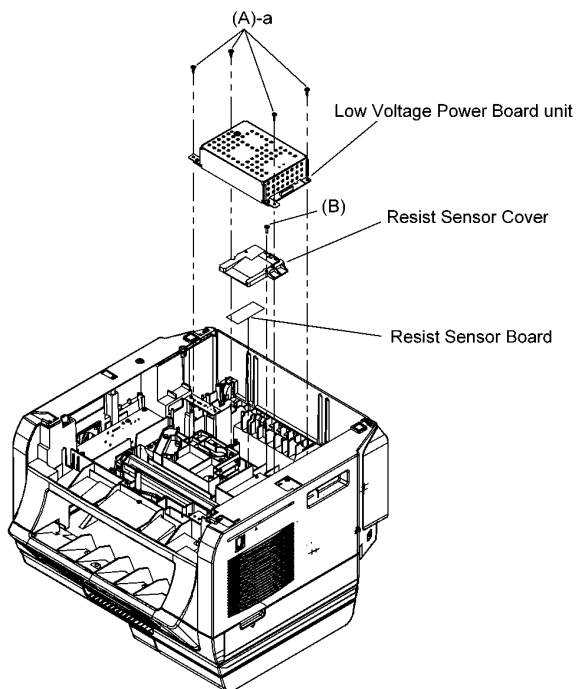
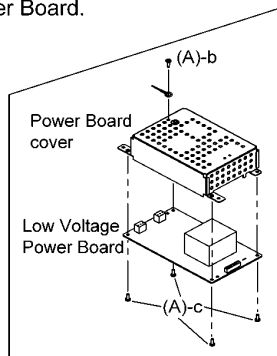
- (4) --> Remove the 4 screws (A)-c to separate the power Board Cover from the Low Voltage Power Board.

Resist Sensor Cover

- (1) Remove the screw (B).
- (2) Remove the Resist Sensor Cover.

Resist Sensor Board

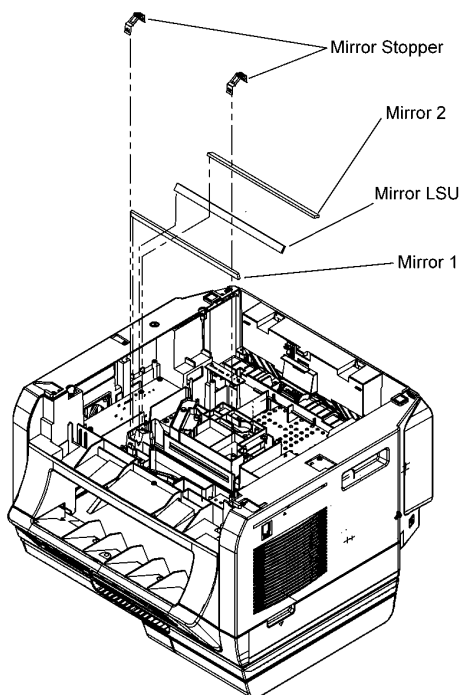
- (1) Remove the Resist Sensor Board.



14.15. Remove Mirror

E6

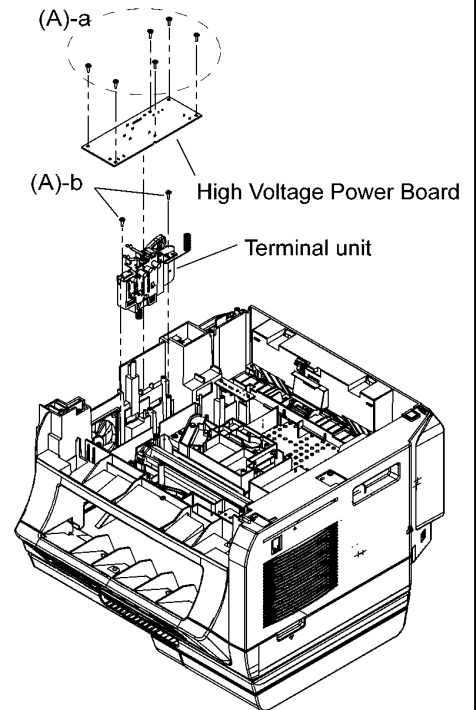
- (1) Remove the Mirror Stopper.
- (2) Remove the Mirror 2.
- (3) Remove the Mirror LSU.
- (4) Remove the Mirror 1.



14.16. Remove High Voltage Power Board

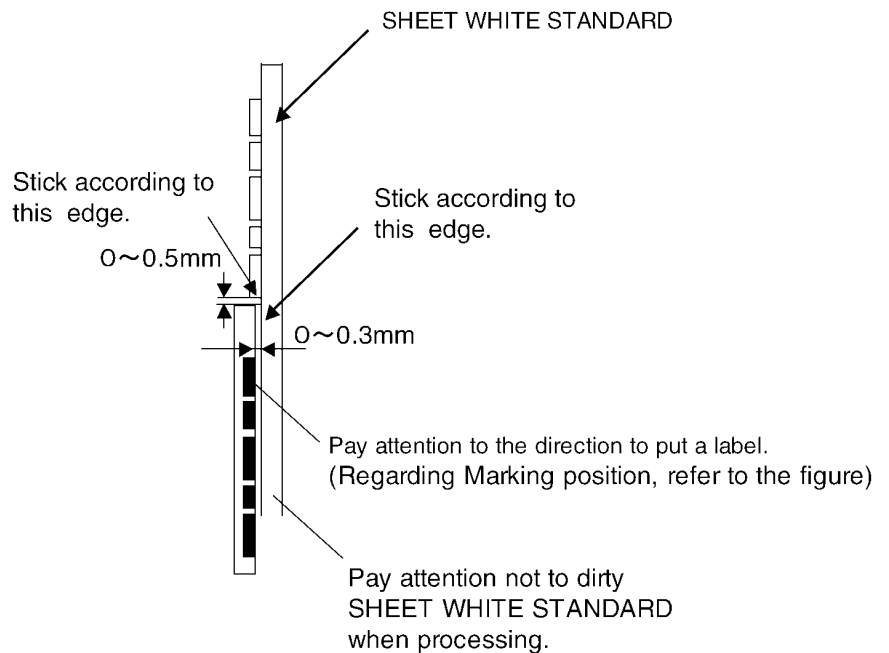
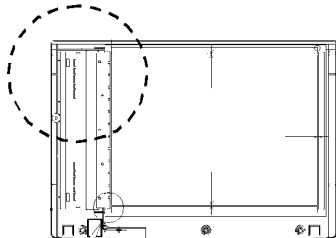
E7

- (1) Remove the 6 screws (A)-a.
- (2) Remove the all the connectors on the High Voltage Power Board.
- (3) Remove the High Voltage Power Board.
- (4) Remove the 2 screws (A)-b.
- (5) Remove the Terminal unit.



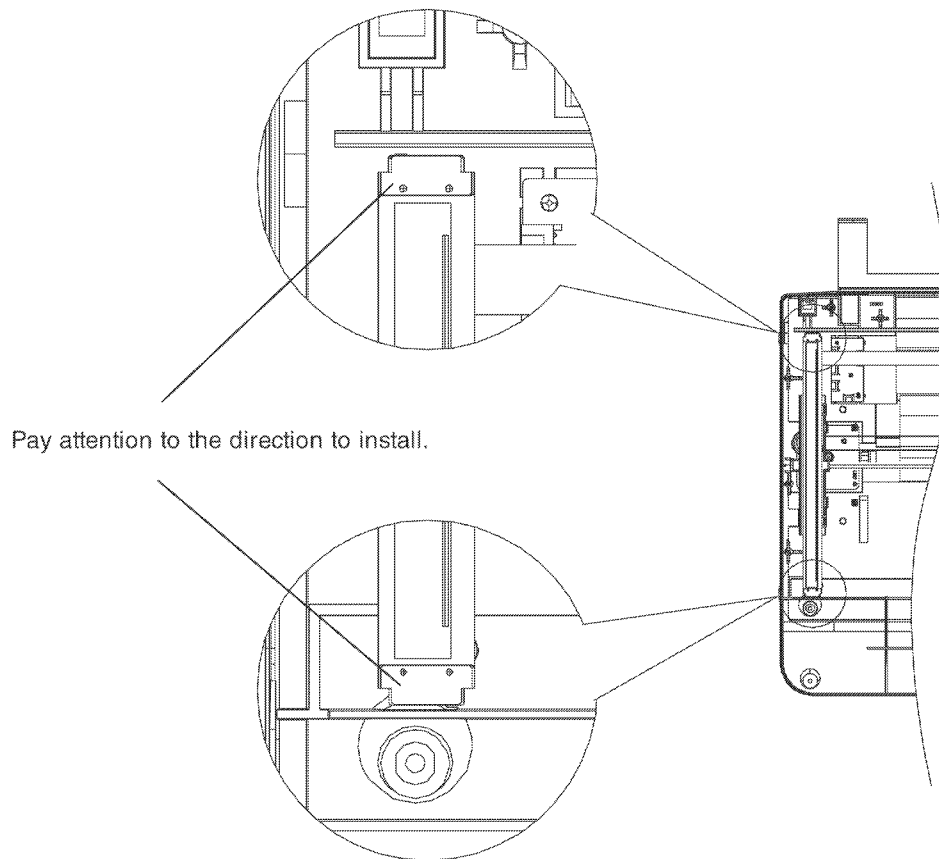
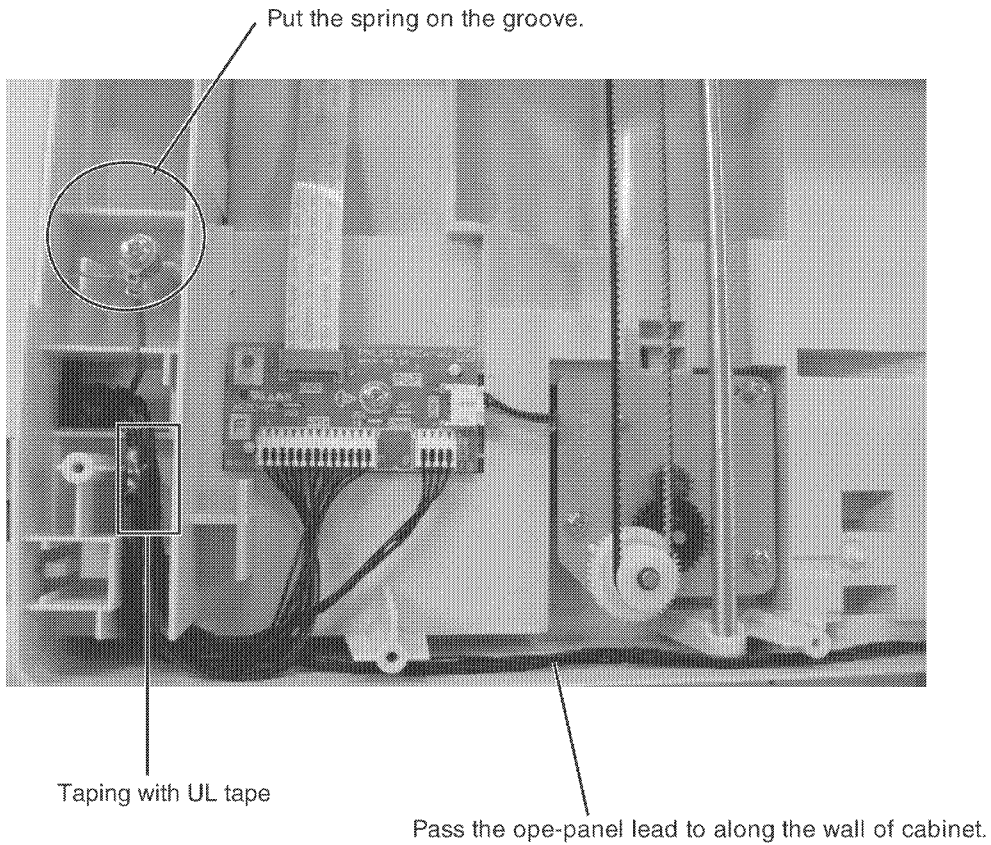
14.17. Note for disassembly

14.17.1. Position of Installing LABEL/CIS HOME

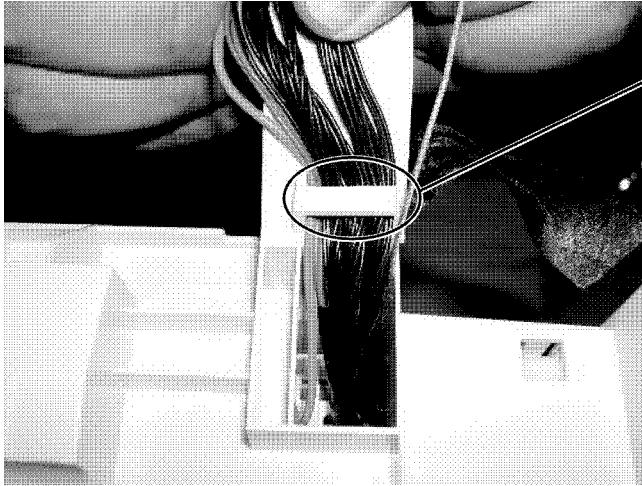


14.18. Installation Position of The Lead

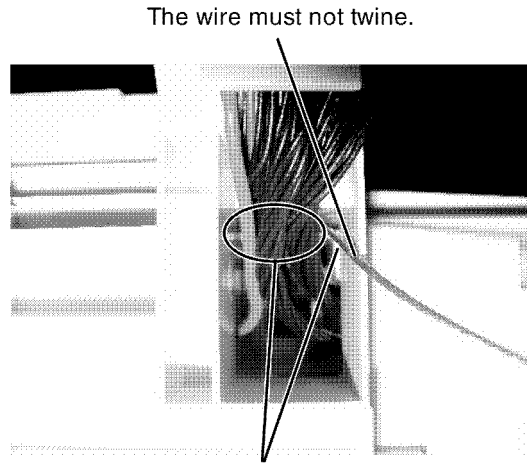
14.18.1. Top Cover Section (1)



14.18.2. Top Cover Section (2)

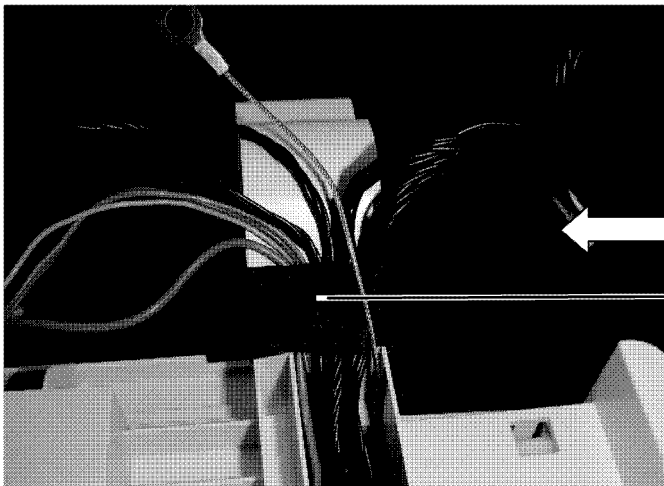


Hook the leads.
(Hook the lead from a little number.)
A wire is not hanging on a hook.



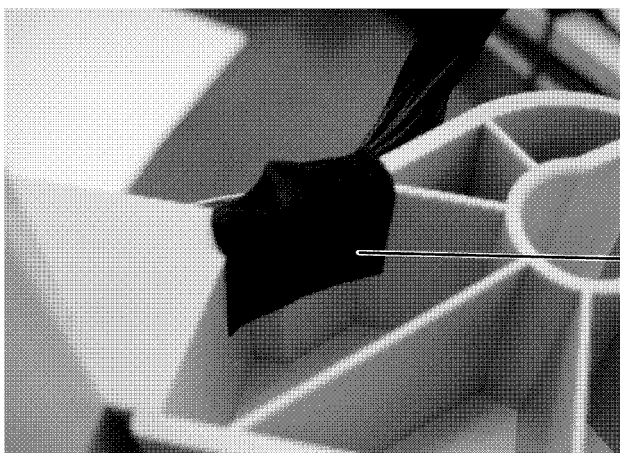
The wire must not twine.

A wire is passing along the bottom of all the leads.



View A

Cover the leads completely with tape.
A wire is not taped together, either.



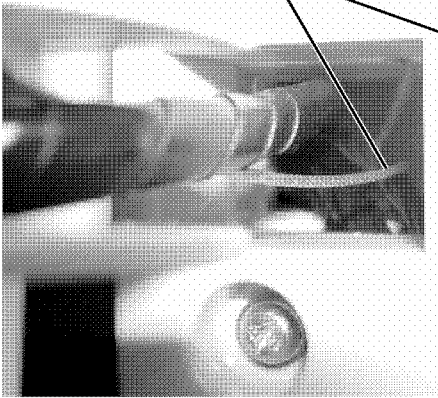
View A

Stick the tape according to the shape.

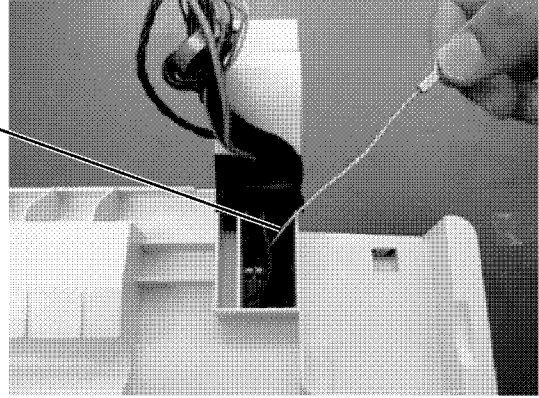
14.18.3. Top Cover Section (3)

Sample of Harness and Wire Arrangements

When the wire passes on the harness, the power of the shearing is applied to the harness.



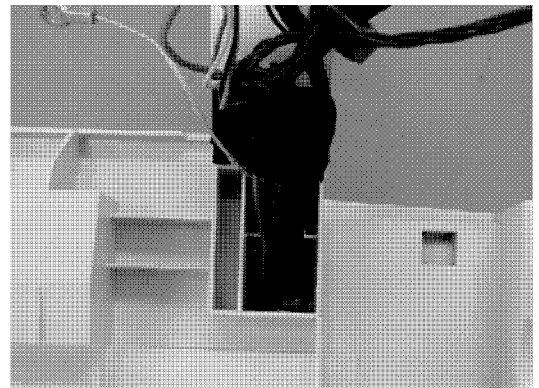
TOP VIEW



BOTTOM VIEW

The wire has come out from the left. If it assembles as it is, a wire will cut a lead.

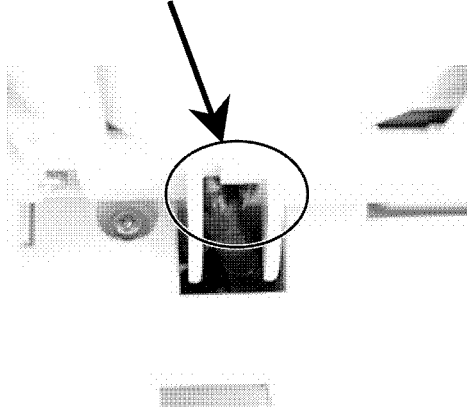
NG



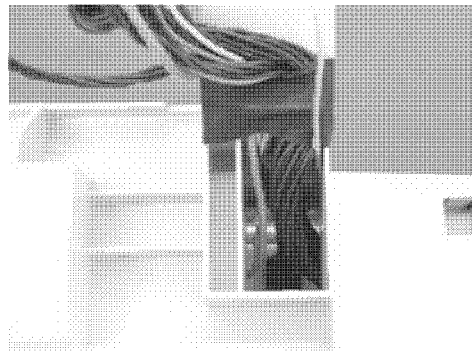
BOTTOM VIEW

OK

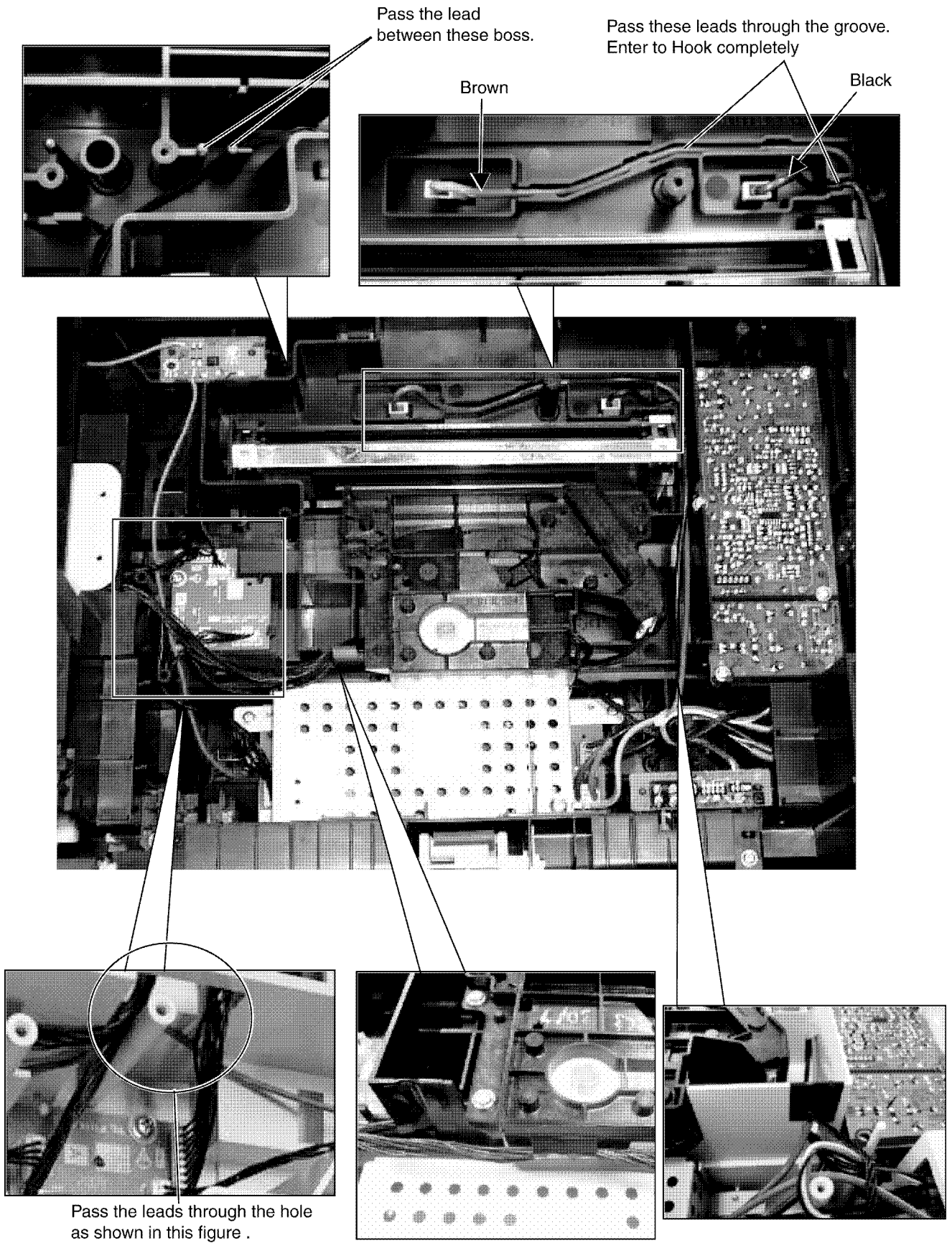
The wire is coming under the lead.



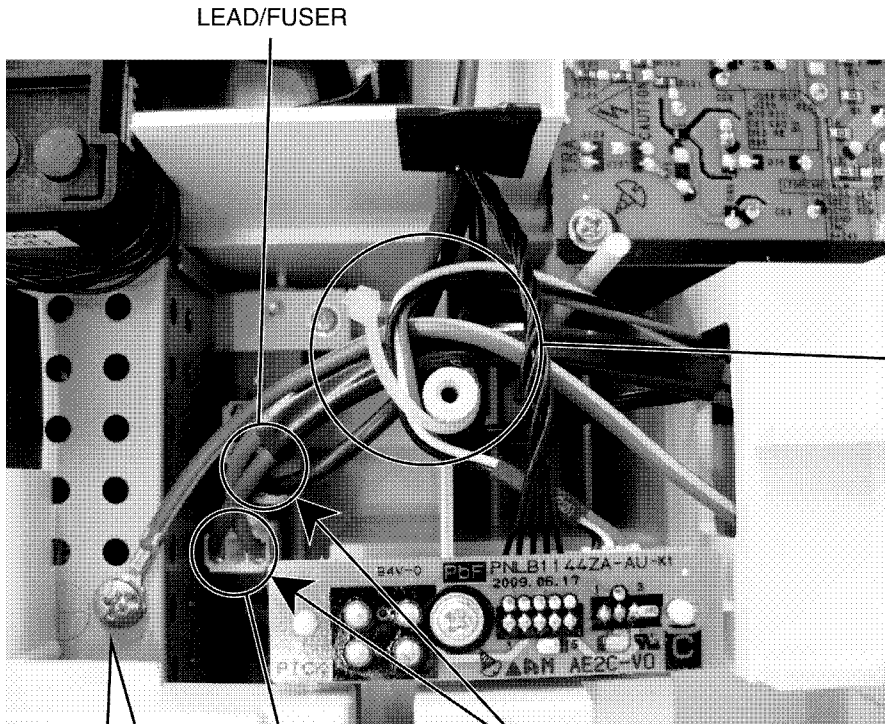
The wire is coming under the lead and the wire has come out from the right.



14.18.4. Bottom Part Section (1)



14.18.5. Bottom Part Section (2)



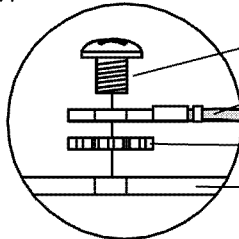
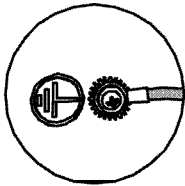
Bind for following leads around a boss with a binder.

- LEAD/AC EARTH
- HARNESS/AC
- LEAD/FUSER
- LEAD/HV

HARNESS/AC

Don't insert LEAD/FUSER and HARNESS/AC by mistake.

Dressing of LEAD/AC EARTH



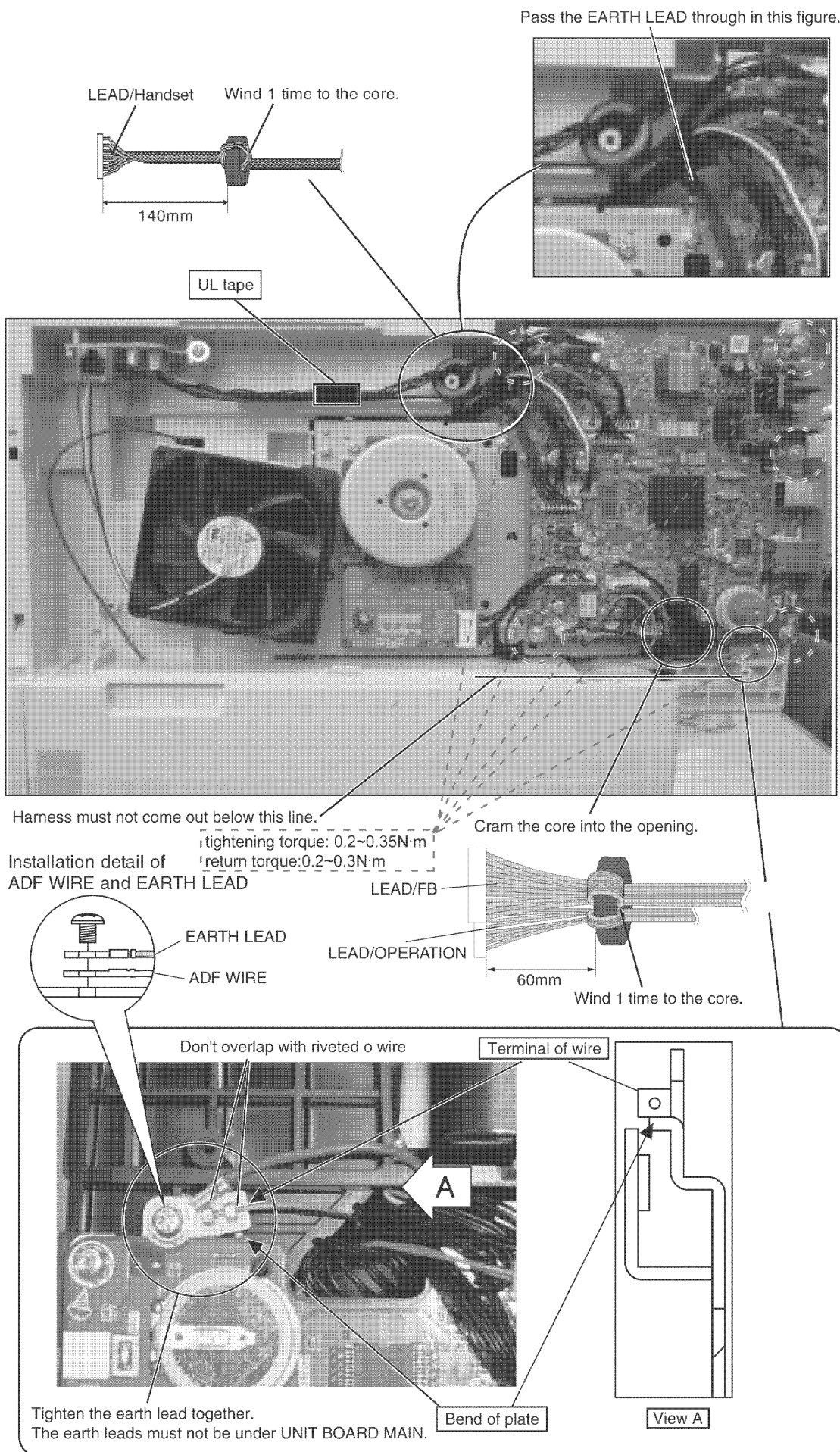
SCREW

Terminal of Harness

Washer

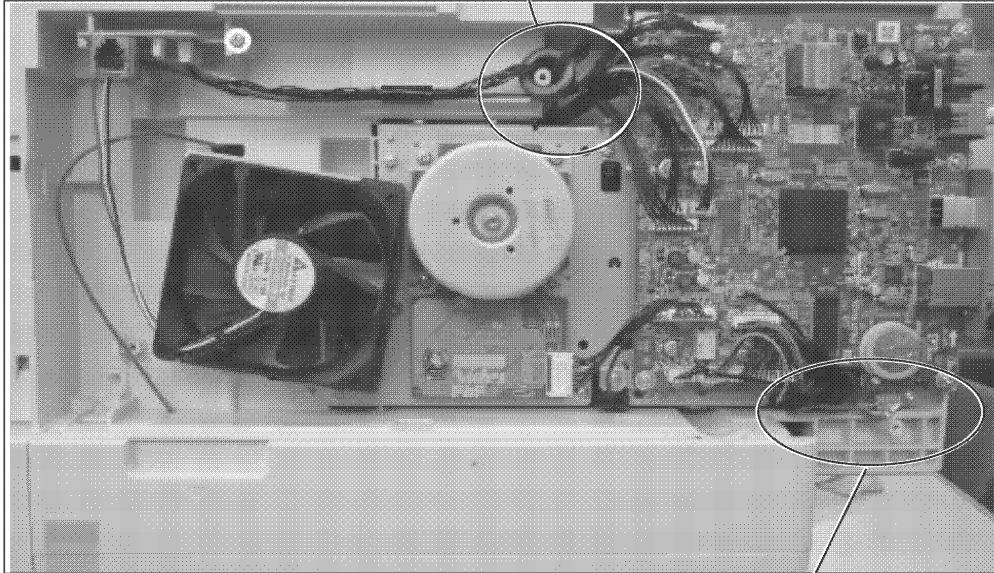
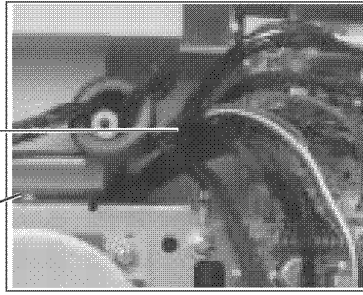
PLATE COVER SMPS

14.18.6. Side Cabinet Section (1)



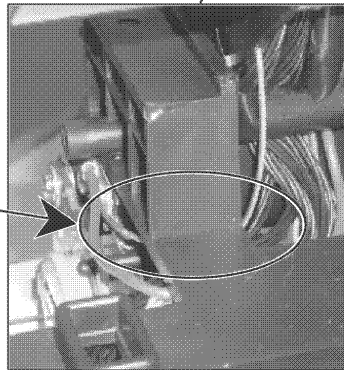
14.18.7. Side Cabinet Section (2)

Pass the EARTH LEAD through in this figure.

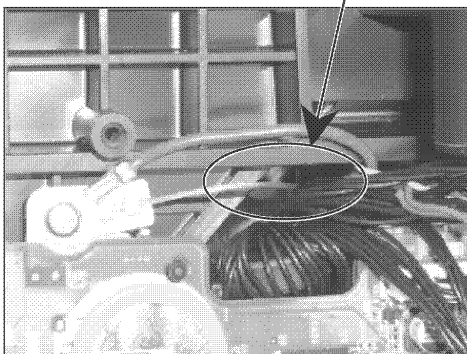


Details of the lead line processing of installation of FB/ASSY

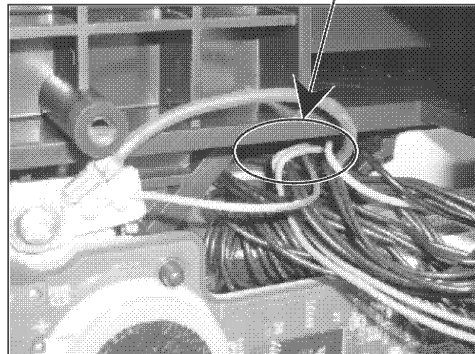
Process the line so that the lead line should not come between Maincabi and the wire.



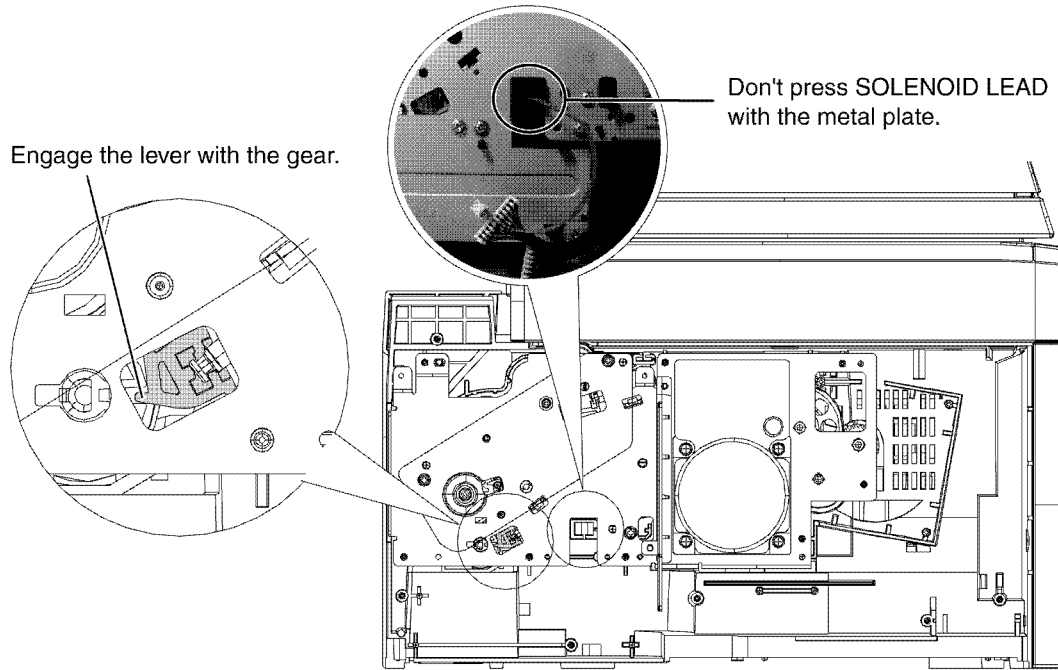
The lead is not coming between Maincabi and a wire. **OK**



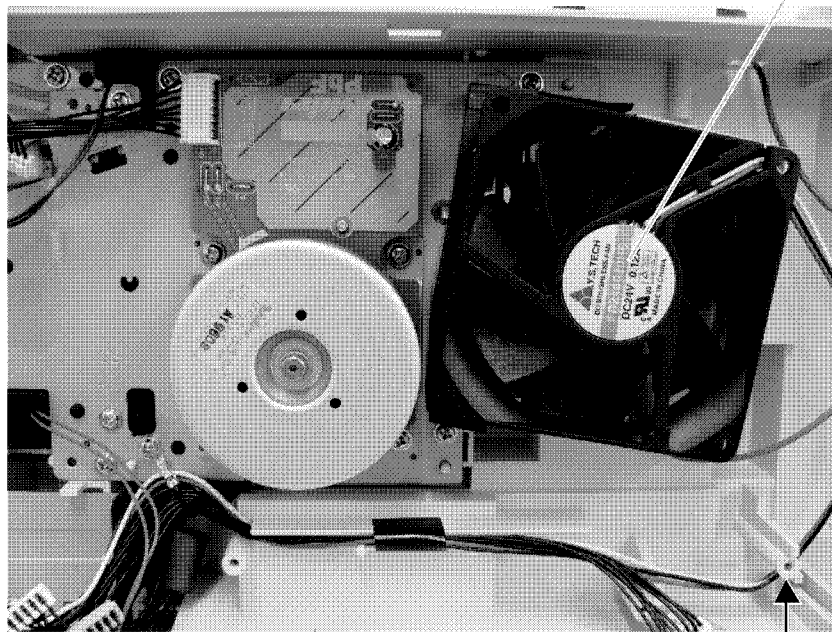
The lead is coming between Maincabi and a wire. **NG**



14.18.8. Side Cabinet Section (3)

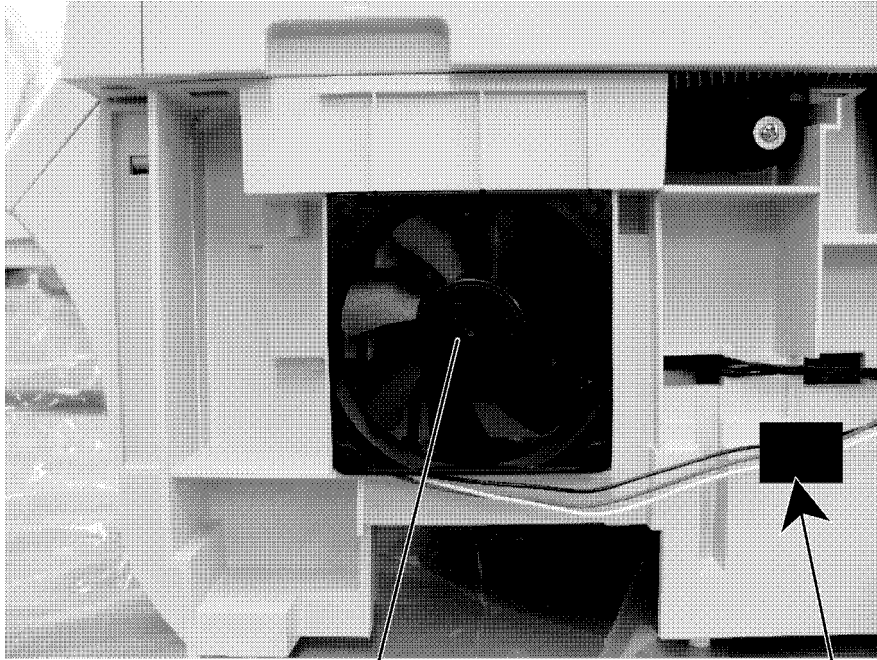


Install it in this direction.(label side)



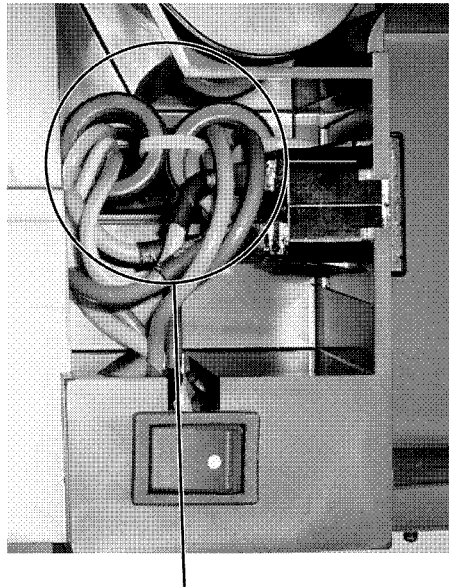
This boss outside is passed.

14.18.9. Side Cabinet Section (4)



Install it in this direction.(no label side)

14.18.10.AC Inlet Section



Insert the LEAD/AC EARTH core ,†astened by binder.

15 Maintenance

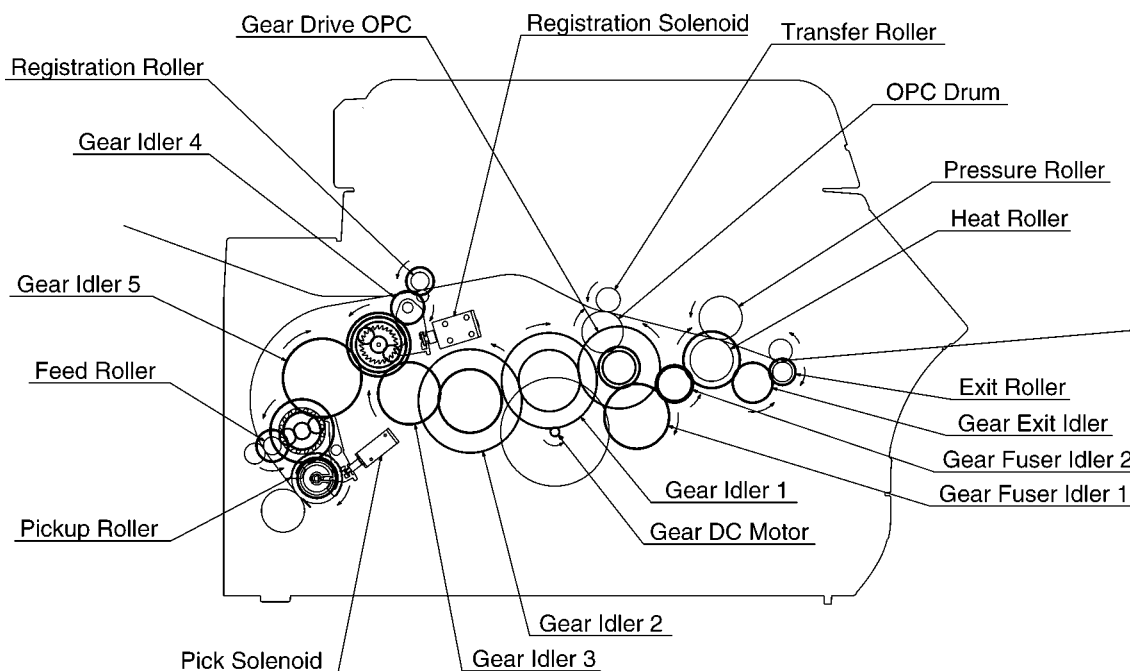
15.1. Maintenance Items and Component Locations

15.1.1. Outline

MAINTENANCE AND REPAIRS ARE PERFORMED USING THE FOLLOWING STEPS.

1. **Periodic maintenance**
Inspect the equipment periodically and if necessary, clean any contaminated parts.
2. **Check for breakdowns**
Look for problems and consider how they arose.
If the equipment can be still used, perform copying, self testing or communication testing.
3. **Check equipment**
Perform copying, self testing and communication testing to determine if the problem originates from the transmitter, receiver or the telephone line.
4. **Determine causes**
Determine the causes of the equipment problem by troubleshooting.
5. **Equipment repairs**
Repair or replace the defective parts and take appropriate measures at this stage to ensure that the problem will not recur.
6. **Confirm normal operation of the equipment**
After completing the repairs, conduct copying, self testing and communication testing to confirm that the equipment operates normally.
7. **Record keeping**
Make a record of the measures taken to rectify the problem for future reference.

15.1.2. Maintenance Check Items/Component Locations



15.1.2.1. Maintenance List

NO.	OPERATION	CHECK	REMARKS
1	Document Path	Remove any foreign matter such as paper.	—
2	Rollers	If the roller is dirty, clean it with a damp cloth then dry thoroughly.	Refer to Maintenance Check Items/Component Locations (P.241)
3	Sensors	Document sensor (PS54), Read position sensor (PS53), registration sensor (PS51), Pickup sensor (SW50), Print timing sensor (PS52), Toner sensor (IC51), Top cover sensor (SW1), Exit sensor (PS50), confirm the operation of the sensors.	See Maintenance Check Items/Component Locations (P.241) and Sensors and Switches Section (P.49) Test Functions (P.92)
4	Glass	If the glass is dirty, clean them with a dry soft cloth.	Refer to Maintenance (P.243).
5	Abnormal, wear and tear or loose parts	Replace the part. Check if the screws are tight on all parts.	—

15.1.2.2. Maintenance Cycle (Document & Paper)

No.	Item	Cleaning Cycle
1	ADF Document Feed Roller (Ref.No.46) (KX-MB2010/2025/2030 ONLY)	3 months
2	ADF Separation Rubber (Ref. No.33) (KX-MB2010/2025/2030 ONLY)	3 months
3	ADF Eject Roller (Ref.No.56) (KX- MB2010/2025/2030 ONLY)	3 months
4	Pick up Roller (Ref No.320)	-----
5	Separation Roller (Ref. No.340)	-----
6	Feed Roller (Ref.No.211)	3 months
7	Transfer Roller (Ref.No.161)	-----
8	Registration Roller (Ref.No.196)	3 months
9	Heat Roller (Ref.No.232)	-----
10	Exit Roller (Ref.No.242)	3 months

If each part has got dirty, clean it with a damp cloth then dry thoroughly.

* These values are standard and may vary depending on usage conditions.

15.2. Maintenance

15.2.1. Cleaning the White Plates and Glass

Clean the white plates and glass when a black line, a white line or a dirty pattern appears on:

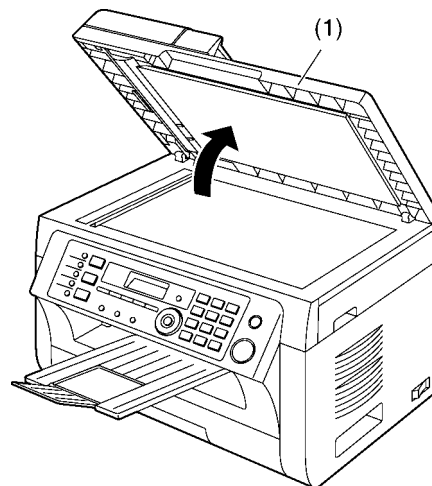
- your recording paper,
- the original document,
- the scanned data, or
- the fax document received by the other party (KX-MB2025/KX-MB2030 only).

Caution:

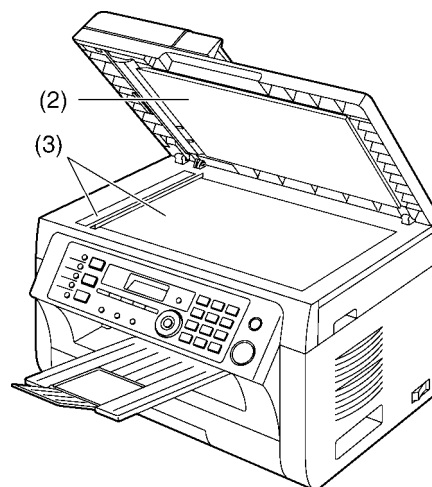
- Be careful when handling the drum and toner cartridge.
- Do not use paper products, such as paper towels or tissues for cleaning.

15.2.1.1. White plates and scanner glass

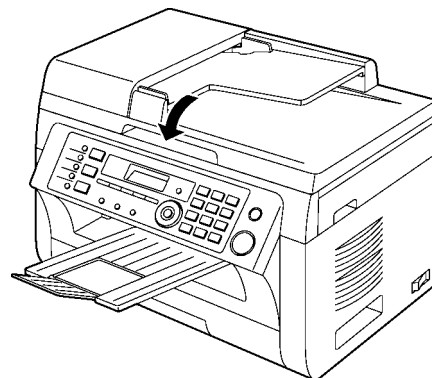
1. Open the document cover (1).



2. Hold the document cover while cleaning the white plates (2) and the scanner glass (3).



3. Close the document cover.

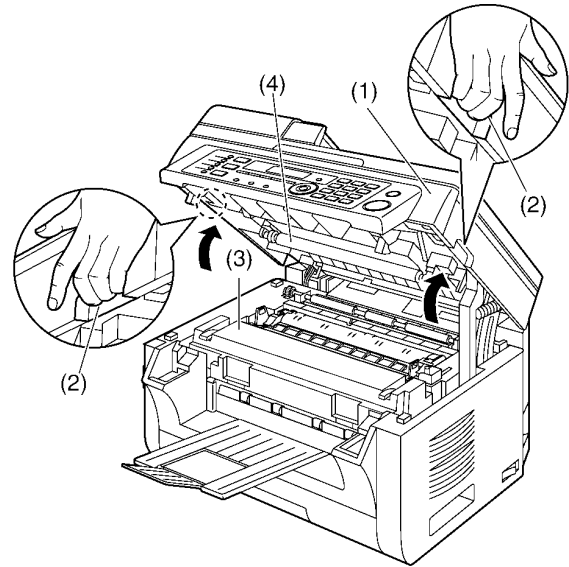


15.2.1.2. Lower glass

1. Turn the power switch OFF.
2. Open the top cover (1) by holding the indentations (2) on both sides of the unit.

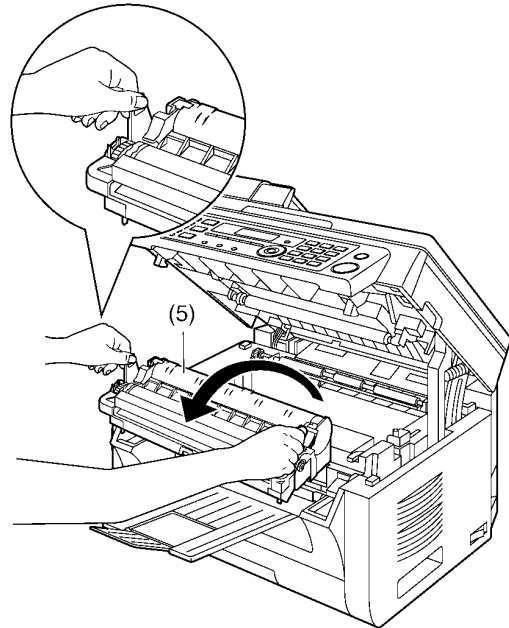
Note:

- Do not touch the transfer roller (4).

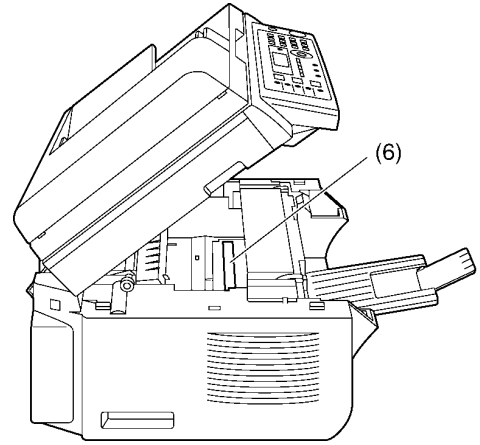


Caution:
The fuser unit (3) gets hot. Do not touch it.

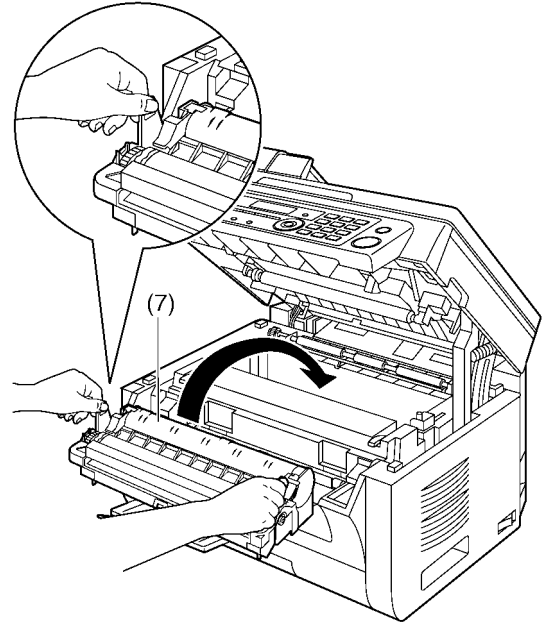
3. Remove the drum and toner cartridge (5) by holding the tabs.



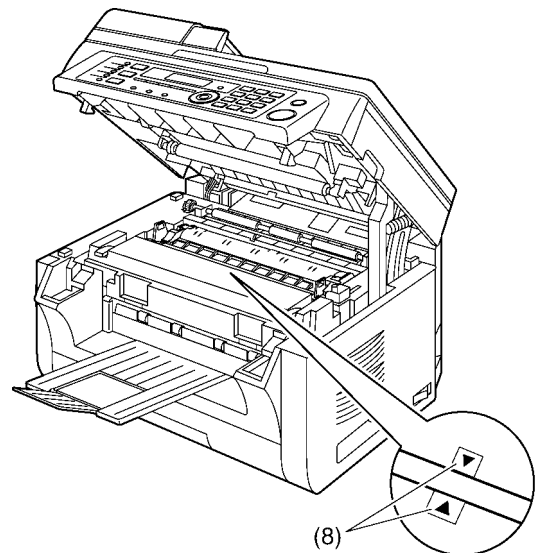
4. Clean the lower glass (6) with a soft and dry cloth.



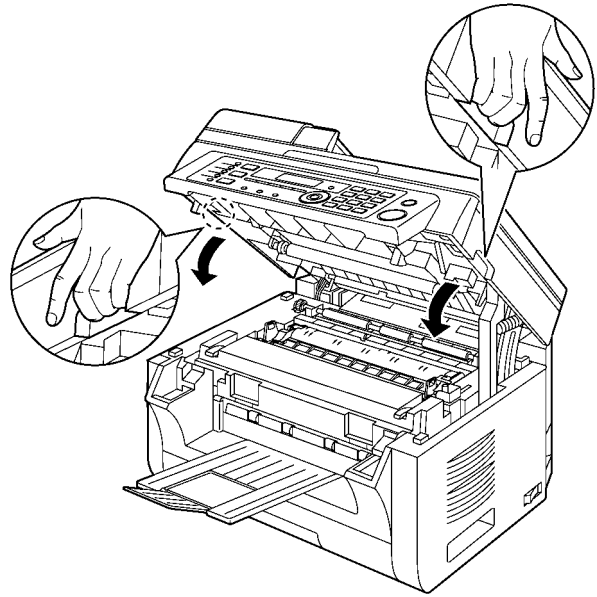
5. Reinstall the drum and toner cartridge (7) by holding the tabs.



- Make sure that the arrows (8) match, to install the drum and toner cartridge correctly.

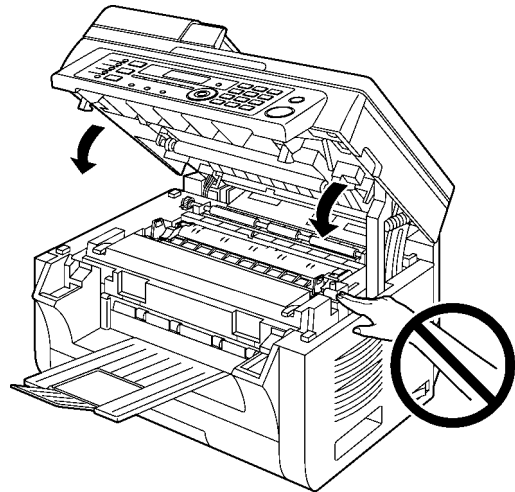


6. Close the top cover by holding the indentations on both sides of the unit, until locked.



Caution:

- To prevent injuries, be careful not to put your hands under the top cover.



7. Turn the power switch ON.

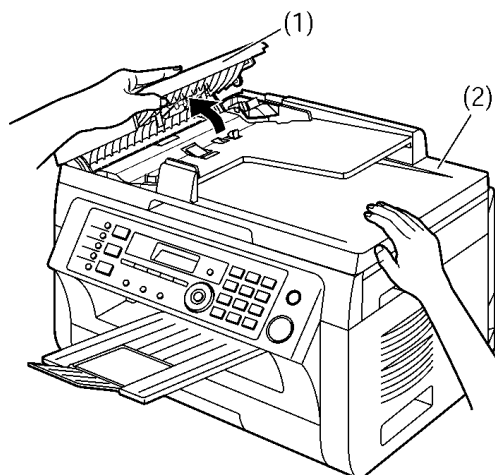
15.2.2. CLEANING THE DOCUMENT FEEDER ROLLERS

Clean the rollers when documents frequently misfeed.

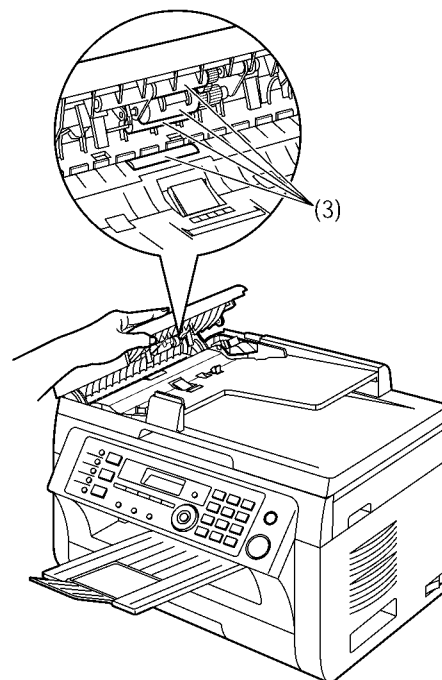
Caution:

- Do not use paper products, such as paper towels or tissues for cleaning.

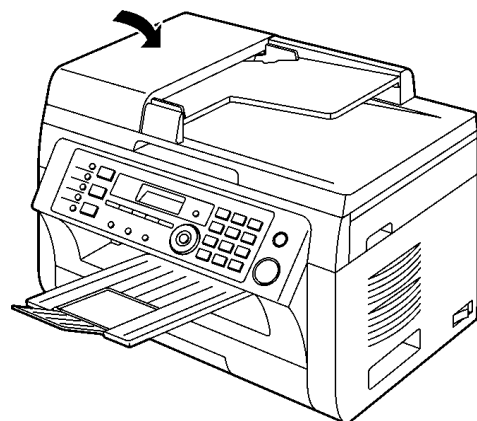
1. Turn the power switch OFF.
2. Open the ADF cover (1) while holding the document cover (2).



3. Clean the document feeder rollers (3) with a cloth moistened with water, and let all parts dry thoroughly.



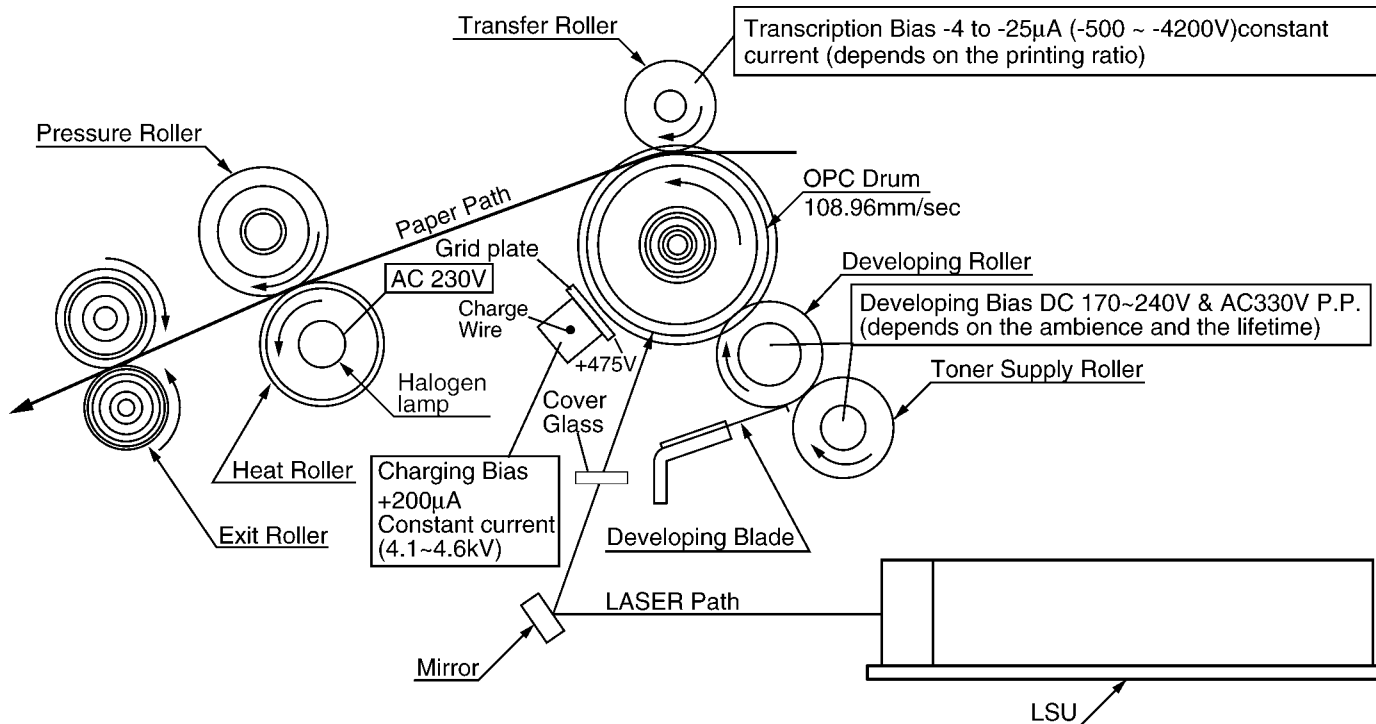
4. Close the ADF cover.



5. Turn the power switch ON.

15.3. Printing Operation Principle

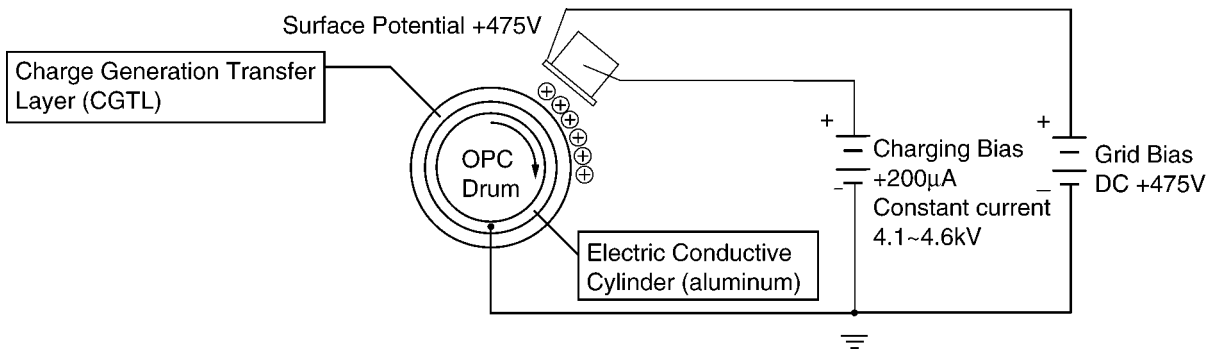
15.3.1. Process Chart and Process BIAS



15.3.2. CHARGING

Charging is the stage that keeps the surface of the sensitive drum a fixed electric potential. The sensitive drum is the Organic Photo Conductor (OPC), which is a electric conductive cylinder whose surface is covered with the Charge Generation Transfer Layer (CGTL).

When the charging bias (DC +4.35kv) is added and the plus charge is supplied to the OPC surface while charging, the whole surface potential of the drum is +475V.

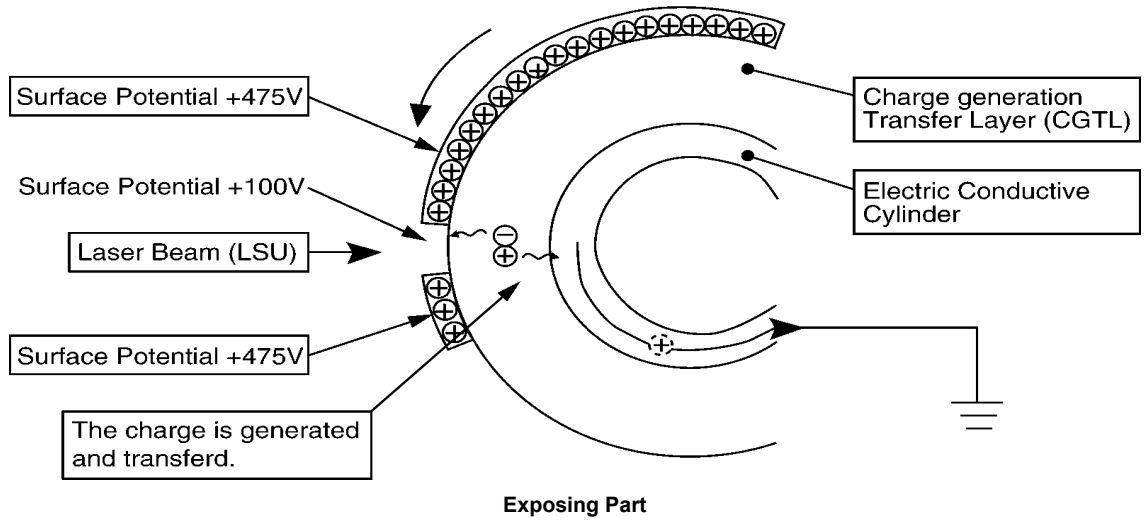


Charging Part

15.3.3. Exposing

When the drum which is charged with the fixed electric charge is irradiated by the laser beam, the plus charge and minus charge are generated at the Charge Generation Transfer Layer. Passing through the Charge Generation Transfer Layer which conducts the minus charge, the plus-charged drum's surface is neutralized to be skipped. Then the plus charge goes to the ground from the electric conductive cylinder. Consequently the charge of the part which is not exposed remains as it is, and the electric potential of the scanned part changes.

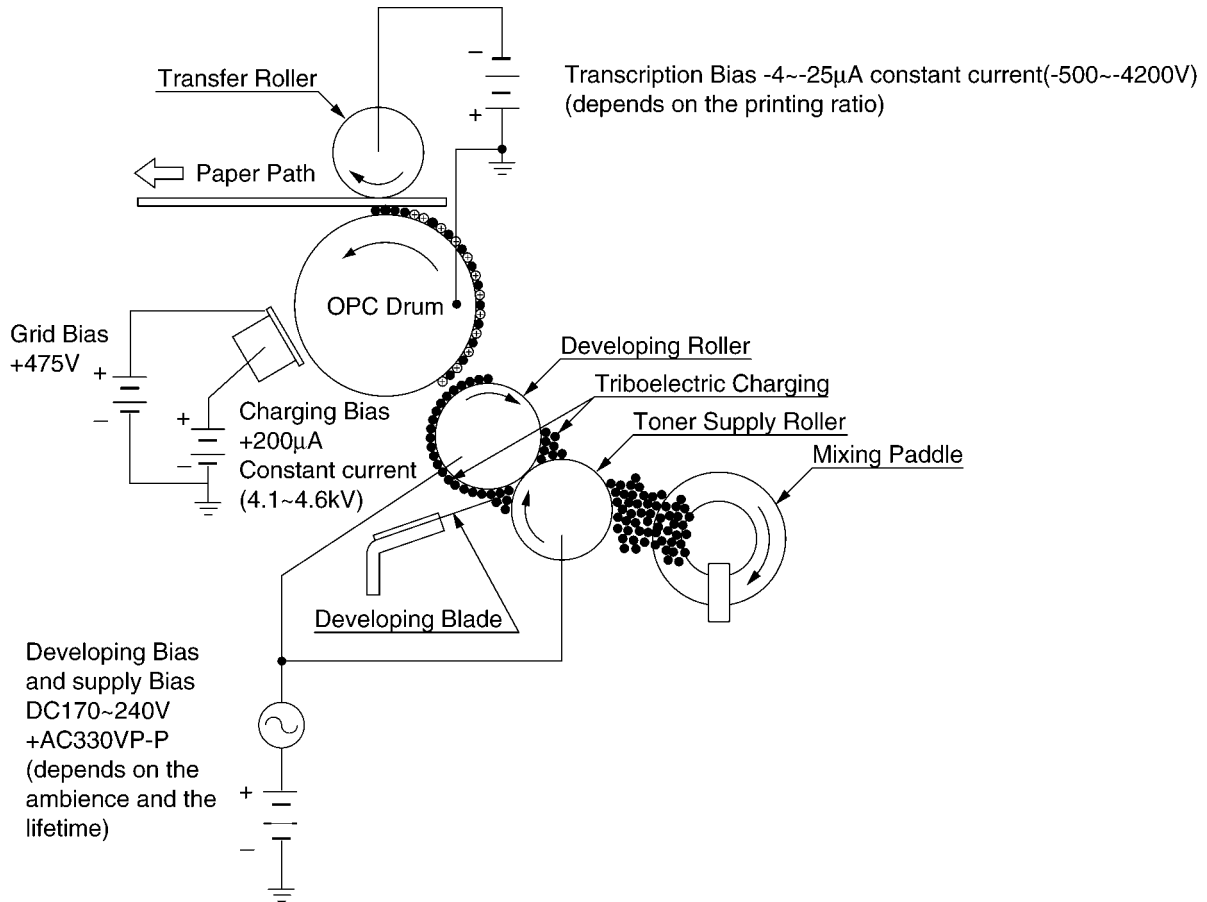
At that time an invisible image is created on the drum.



15.3.4. Developing and Transcription

The developing is the stage that the OPC drum with an invisible image is changed to visible by the toner. The drum cartridge consists of mixing paddle, toner supply roller, developing roller, developing blade, charge wire, grid plate and OPC drum. The bias voltage is added to the developing roller and toner supply roller. Firstly the toner is mixed up in the mixing paddle and plus-charged by triboelectricity, then led to the toner supply roller. Secondly the potential difference causes to send the toner to the developing roller from the toner supply roller. The supplied toner to the developing roller is kept to a certain layer thickness by the developing blade and also it is charged by triboelectricity. Consequently the toner is transferred to the surface of the exposed OPC drum by the potential difference between the developing roller and OPC drum's surface.

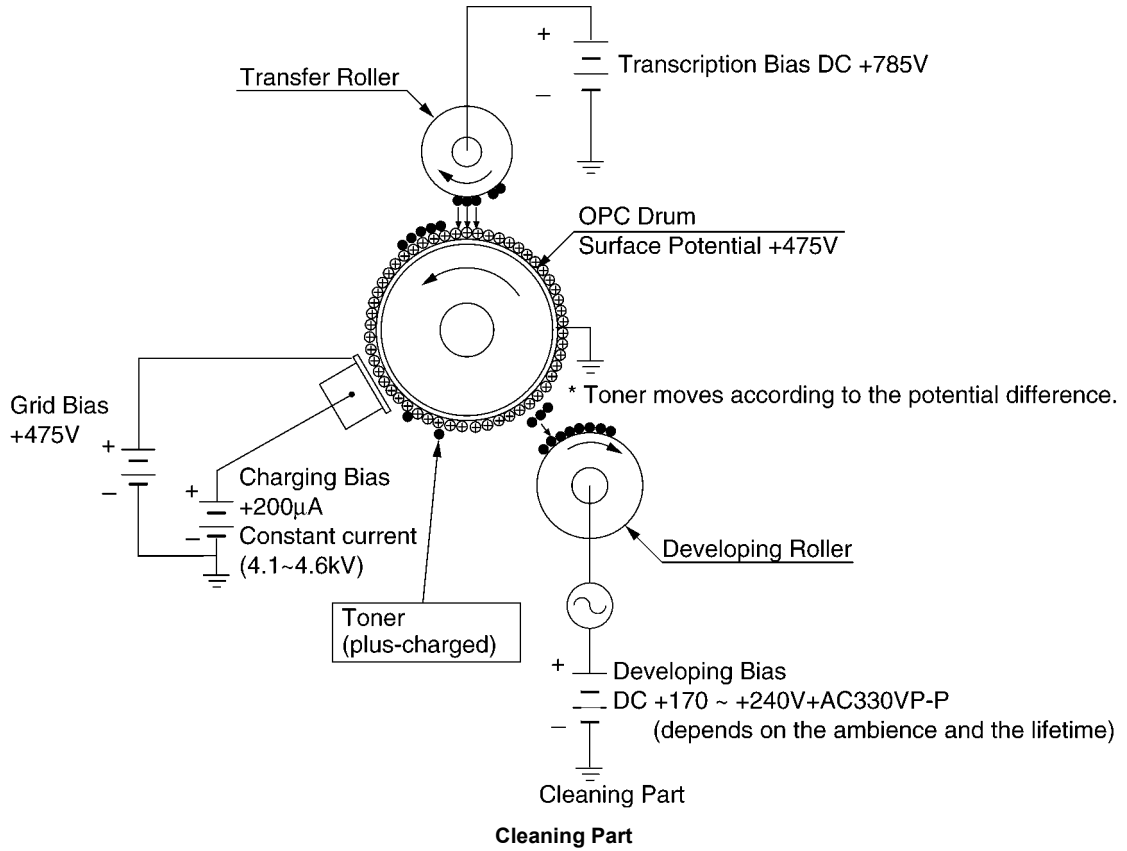
The transfer is the stage that the created image on the OPC drum is transferred to the paper. When the transfer roller is minus-charged with the image, the plus-charged toner particles are gathered on the surface of the drum and transferred to the paper.



Developing and Transcription Part

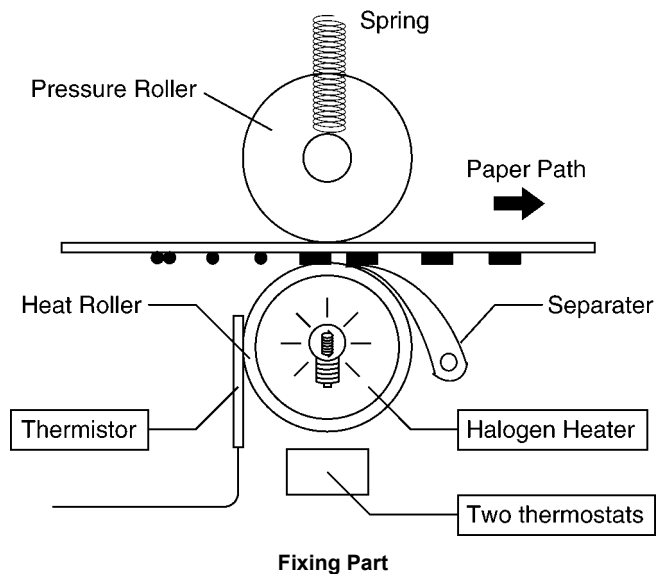
15.3.5. Cleaning of Transfer Roller

The toner attached to the surface of the OPC drum is transferred to the paper at the transcription stage, but a part of the toner remains. The cleaning is the stage that cleans the remain toner after the transcription stage. The remain toner on the drum and the toner which was attached to the place where the laser beam didn't scan are gathered to the developing roller to be used again. After paper jam or replacing toner and drum cartridge, the transfer roller is plus-charged to eliminate the plus-charged toner.



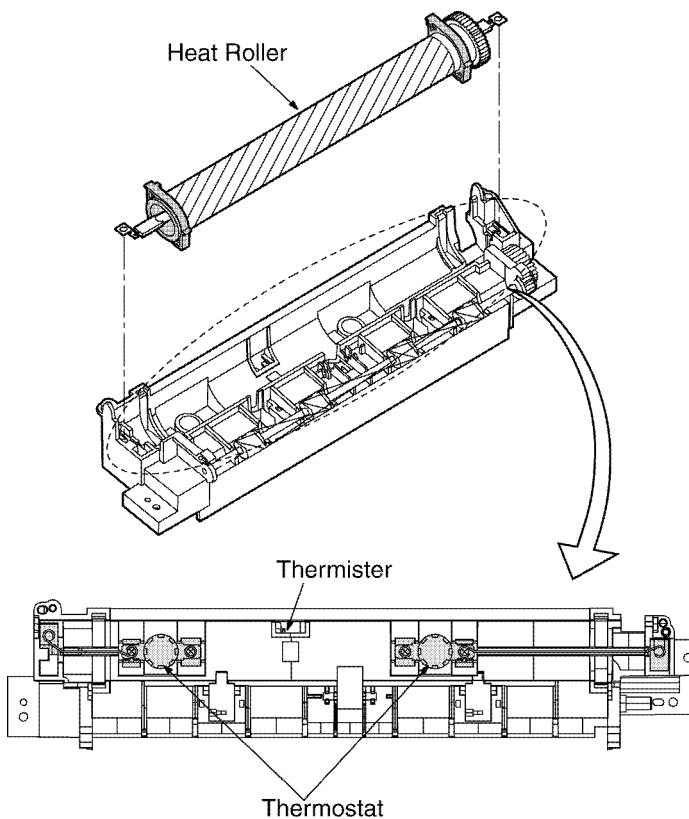
15.3.6. Fixing

On the process of the transfer, the transferred toner is weakly attached on the paper. Fixing means the process to fix the toner on the paper permanently. The fixing part melts the toner at the high temperature using the halogen heater. The toner is fixed on the paper by the heat and pressure through the fixing part with the image. The surface of the heat roller is rosined by Teflon and lubricated to prevent from attaching the toners. The press roller is made of silicon, and its spring compresses the melted toner.



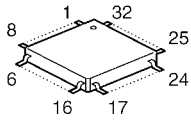
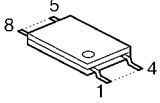
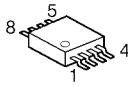
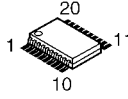
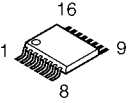
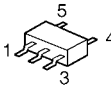
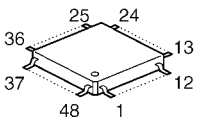
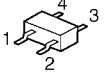
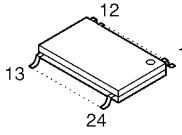
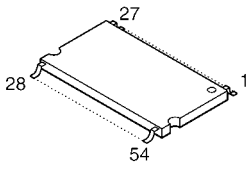
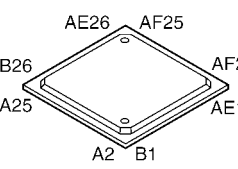
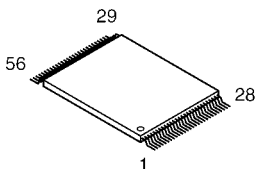
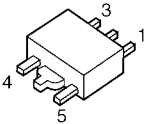



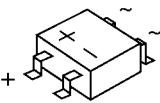
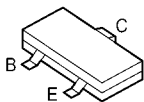
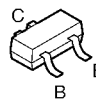
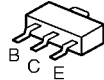

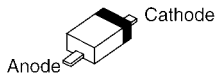
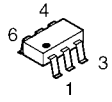
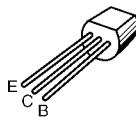
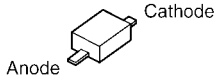
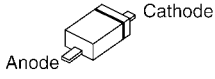

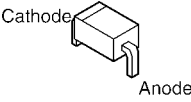
The fixing part becomes high temperature, so the thermistor and the two thermostats are provided.

1. Thermistor
The thermistor touches the heat roller and check the temperature to feed back to the control circuit. The surface temperature should be kept 195°C while printing.
2. Thermostat
The thermostat is located near the heat roller, and it turns OFF the power when the temperature around the thermostat becomes over 160°C.

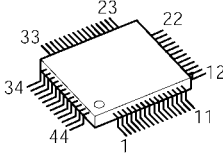
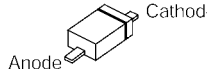
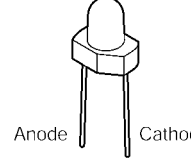
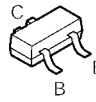


15.4. Terminal Guide of The ICs Transistors and Diodes

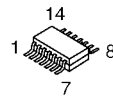
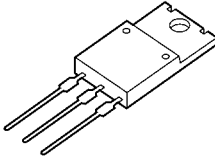
15.4.1. Main Board

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 <p>C0EBY0000665</p>	 <p>C1CB00003527</p>	 <p>C0CBAAA000035</p>	 <p>C0GBY0000066</p>	 <p>C3ABRY000039</p>
 <p>C1ZBZ0003801</p>	 <p>PNWJ****</p>	 <p>C0DBGYY000330</p>	 <p>PJVDJADAN202</p>	 <p>B1GBCFGN0005 B1GBCFYY0014 UNR921LJ0L UNR92A5J0L</p>
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 <p>1SS355</p>	 <p>B0JCND000027</p>	 <p>B0ACEL000004</p>		

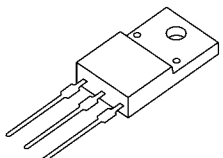
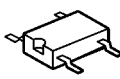
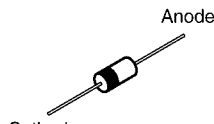
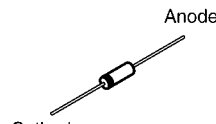
15.4.2. Operation Board

 <p>C1ZBZ0004019</p>	 <p>1SS355</p>	 <p>B3ABA0000633 B3AAA0000534</p>	 <p>B1ABGE000011</p>	
---	---	--	--	--

15.4.3. High Voltage Power Supply Board

 <p>PH1193AC001</p>	 <p>PT2394DL001</p>			
--	--	--	--	--

15.4.4. Low Voltage Power Supply Board

 <p>PT3565KL001</p>	 <p>PD1146AC001</p>	 <p>PD4145AA005</p>	 <p>PD4068AQ075</p>	
---	---	---	--	--

15.5. How to Replace the Flat Package IC

Even if you do not have the special tools (for example, a spot heater) to remove the Flat IC, with some solder (large amount), a soldering iron and a cutter knife, you can easily remove the ICs that have more than 100 pins.

15.5.1. Preparation

- PbF (: Pb free) Solder

- Soldering Iron

Tip Temperature of 700°F ± 20°F (370°C ± 10°C)

Note: We recommend a 30 to 40 Watt soldering iron. An expert may be able to use a 60 to 80 Watt iron where someone with less experience could overheat and damage the PCB foil.

- Flux

Recommended Flux: Specific Gravity → 0.82.

Type → RMA (lower residue, non-cleaning type)

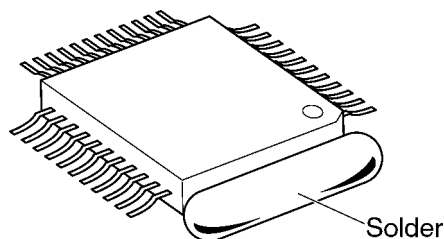
Note: See **About Lead Free Solder (PbF: Pb free)** (P.8)

15.5.2. Flat Package IC Removal Procedure

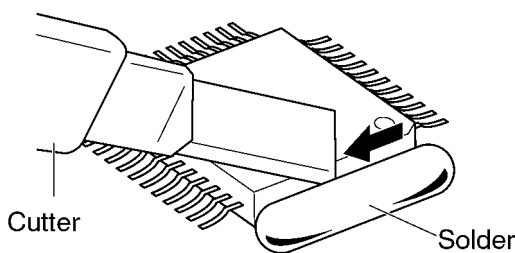
1. Put plenty of solder on the IC pins so that the pins can be completely covered.

Note:

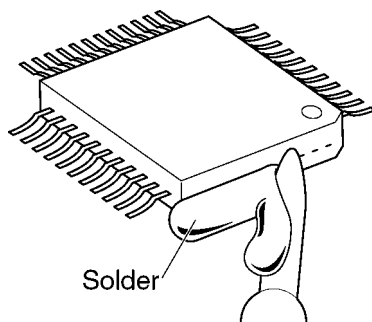
If the IC pins are not soldered enough, you may give pressure to the P.C. board when cutting the pins with a cutter.



2. Make a few cuts into the joint (between the IC and its pins) first and then cut off the pins thoroughly.



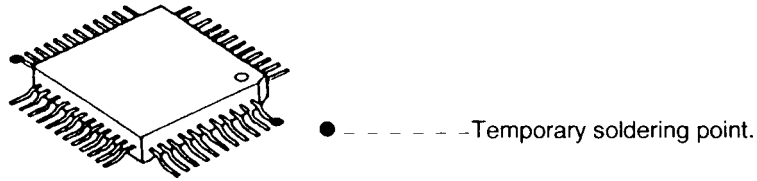
3. While the solder melts, remove it together with the IC pins.



When you attach a new IC to the board, remove all solder left on the land with some tools like a soldering wire. If some solder is left at the joint on the board, the new IC will not be attached properly.

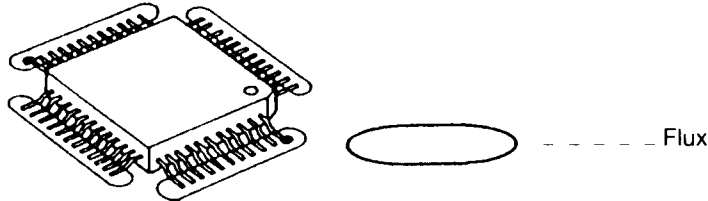
15.5.3. Flat Package IC Installation Procedure

1. Temporarily fix the FLAT PACKAGE IC, soldering the two marked pins.

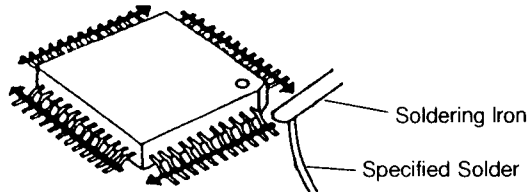


*Check the accuracy of the IC setting with the corresponding soldering foil.

2. Apply flux to all pins of the FLAT PACKAGE IC.

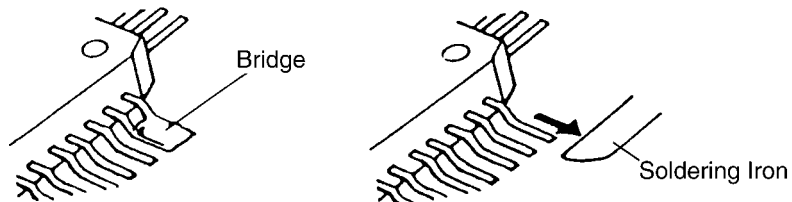


3. Solder the pins, sliding the soldering iron in the direction of the arrow.



15.5.4. Bridge Modification Procedure

1. Lightly resolder the bridged portion.
2. Remove the remaining solder along the pins using a soldering iron as shown in the figure below.



15.6. Main Board Section

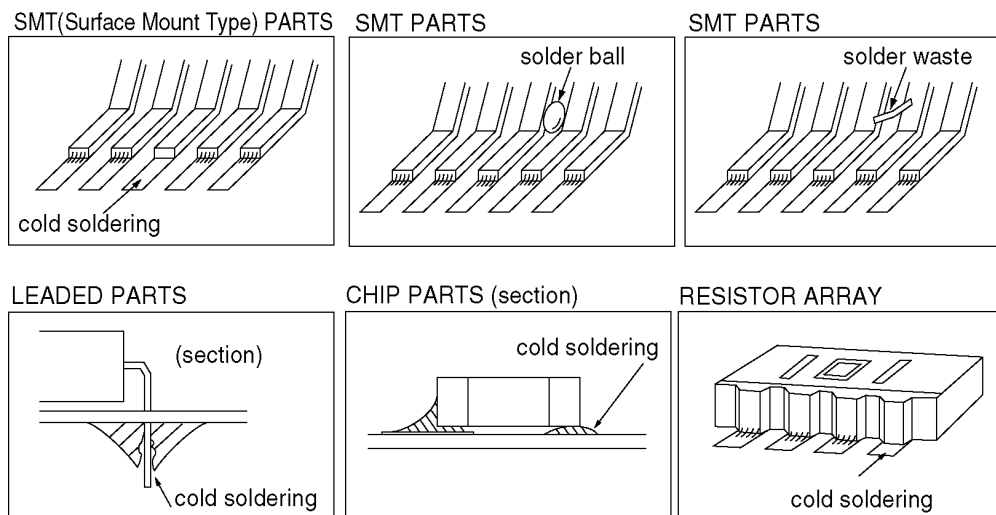
When the unit fails to boot up the system, take the troubleshooting procedures very carefully. It may have a serious problem.

The symptom: No response when the power is turned on. (No LCD display, and keys are not accepted.)

The first step is to check the power source. If there is no problem with the power supply unit, the problem may lie in the digital unit (main board).

As there are many potential causes in this case (ASIC, DRAM, etc.), it may be difficult to specify what you should check first. If a mistake is made in the order of checks, a normal part may be determined faulty, wasting both time and money.

Although the tendency is to regard the problem as a serious one (IC malfunction, etc.), usually most cases are caused by solder faults (poor contact due to a tunnel in the solder, signal short circuit due to solder waste).



Note:

1. Electrical continuity may have existed at the factory check, but a faulty contact occurred as a result of vibration, etc., during transport.

2. Solder waste remaining on the board may get caught under the IC during transport, causing a short circuit.

Before we begin mass production, several hundred trial units are produced at the plant, various tests are applied and any malfunctions are analyzed. (In past experiences, digital IC (especially, DRAM and ROM) malfunctions are extremely rare after installation in the product.)

This may be repaired by replacing the IC, (DRAM etc.). However, the real cause may not have been an IC malfunction but a soldering fault instead.

Soldering faults difficult to detect with the naked eye are common, particularly for ASIC and RA (Resistor Array). But if you have an oscilloscope, you can easily determine the problem site or IC malfunction by checking the main signal lines.

Even if you don't have such a measuring instrument, by checking each main signal line and resoldering it, in many cases the problem will be resolved.

An explanation of the main signals (for booting up the unit) is presented below.

Don't replace ICs or stop repairing until checking the signal lines.

An IC malfunction rarely occurs. (By understanding the necessary signals for booting up the unit, the "Not Boot up" display is not a serious problem.)

What are the main signals for booting up the unit?

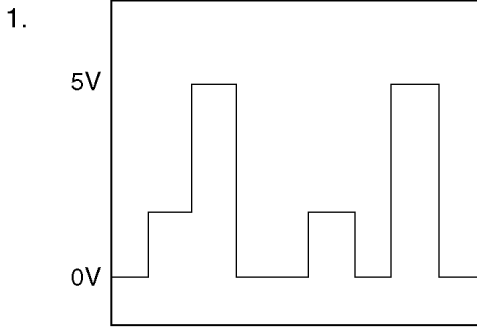
Please refer to **General Block Diagram** (P.15).

The ASIC (IC300) controls all the other digital ICs. When the power is turned on, the ASIC retrieves the operation code stored in the ROM (IC402), then follows the instructions for controlling each IC. All ICs have some inner registers that are assigned to a certain address.

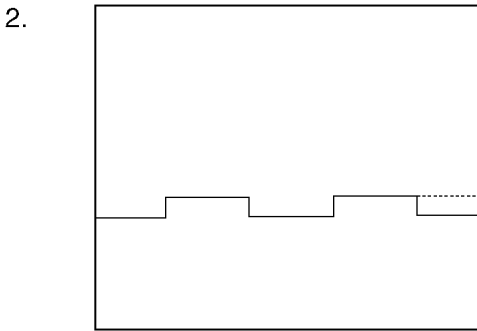
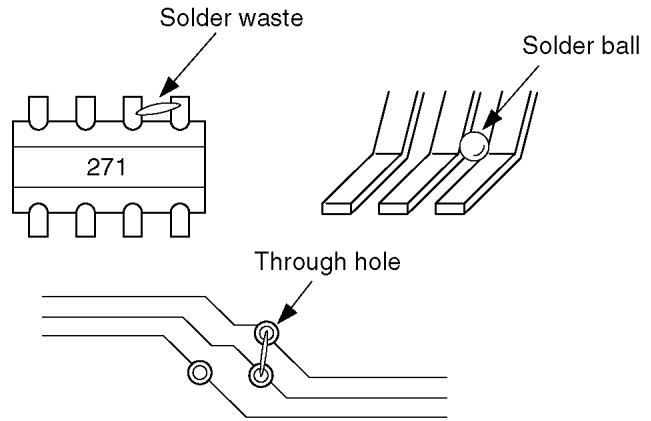
It is the address bus by which the ASIC designates the location inside each IC. And the data bus reads or writes the data in order to transmit the instructions from the ASIC to the ICs.

These signal lines are all controlled by voltages of 3.3V (H) or 0V (L).

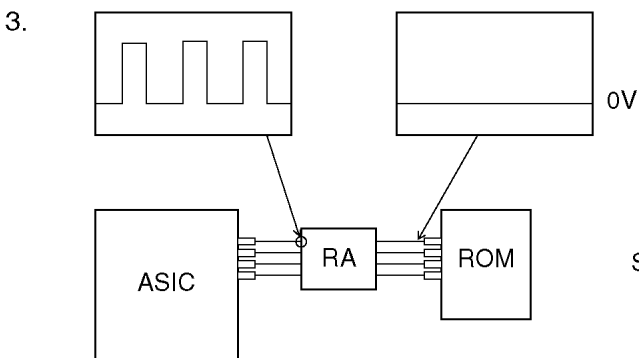
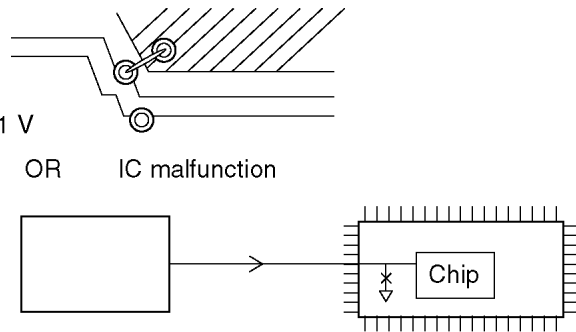
15.6.1. NG Example



Short circuit from the adjacent signal wires.
Check for a short circuit in the RA and IC leads and the signal wire at the through hole.



Short between the signal line and GND.



Solder fault on RA.

15.7. Test Chart

15.7.1. ITU-T No.1 Test Chart



THE SLEREXE COMPANY LIMITED

SAPORS LANE - BOOLE - DORSET - BH 25 8 ER

TELEPHONE BOOLE (945 13) 51617 - TELEX 123456

Our Ref. 350/PJC/EAC

18th January, 1972.

Dr. P.N. Cundall,
Mining Surveys Ltd.,
Holroyd Road,
Reading,
Berks.

Dear Pete,

Permit me to introduce you to the facility of facsimile transmission.

In facsimile a photocell is caused to perform a raster scan over the subject copy. The variations of print density on the document cause the photocell to generate an analogous electrical video signal. This signal is used to modulate a carrier, which is transmitted to a remote destination over a radio or cable communications link.

At the remote terminal, demodulation reconstructs the video signal, which is used to modulate the density of print produced by a printing device. This device is scanning in a raster scan synchronised with that at the transmitting terminal. As a result, a facsimile copy of the subject document is produced.

Probably you have uses for this facility in your organisation.

Yours sincerely,

Phil.

P.J. CROSS
Group Leader - Facsimile Research

15.7.2. ITU-T No.2 Test Chart

CCITT N° 2 : Mire pour test de Transmission

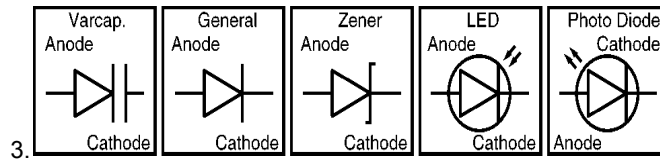
QS2DR QS2DR	KWJ4H KWJ4H	S5TR7 S5TR7	QS2DR QS2DR	KWJ4H KWJ4H	S5TR7 S5TR7	BC6IT BC6IT	ZP3FM ZP3FM	XB8UG XB8UG	BC6IT BC6IT	ZP3FM ZP3FM	XB8UG XB8UG
Transmission Test Group n° I Character UNIVERS SIZE 8 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 S ^{2,3} œ ♦ [] Ç □ . £ - ± × : ° © ● ß _ é + = \$ / () & % *						Transmission Test Group n° III Character ENGLISH-TIMES SIZE 8 ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 S ^{2,3} œ ♦ [] Ç □ . £ - ± × : ° © ● ß _ é + = \$ / () & % *					
Transmission Test Group n° II Character UNIVERS SIZE 10						Transmission Test Group n° IV Character ENGLISH-TIMES SIZE 10					
Groupe n° I pour test de transmission caractères UNIVERS 8 POINTS ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 S ^{2,3} œ ♦ [] Ç □ . £ - ± × : ° © ● ß _ é + = \$ / () & % *						Groupe n° III pour test de transmission composé de caractères ENGLISH-TIMES 8 POINTS ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 S ^{2,3} œ ♦ [] Ç □ . £ - ± × : ° © ● ß _ é + = \$ / () & % *					
Groupe n° II pour test de transmission caractères UNIVERS 10 POINTS						Groupe n° IV pour test de transmission composé de caractères ENGLISH-TIMES 10 POINTS					
Grupo n° I para prueba de transmisión de los caracteres UNIVERS 8 PUNTOS ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 S ^{2,3} œ ♦ [] Ç □ . £ - ± × : ° © ● ß _ é + = \$ / () & % *						Grupo n° III para prueba de transmisión de los caracteres ENGLISH-TIMES 8 PUNTOS ABCDEFGHIJKLMNOPQRSTUVWXYZ abcdefghijklmnopqrstuvwxyz 0123456789 S ^{2,3} œ ♦ [] Ç □ . £ - ± × : ° © ● ß _ é + = \$ / () & % *					
Grupo n° II para prueba de transmisión de los caracteres UNIVERS 10 PUNTOS						Grupo n° IV para prueba de transmisión de los caracteres ENGLISH-TIMES 10 PUNTOS					
傳輸試驗用字第一組 13.75P 万有引力 科学方法 男女体操 傳輸試驗用字第二組 10.5P 文化交流 地理条件 家庭用品 万有引力 科学方法 男女体操 共同研究 相互往来 新春景色 文化交流 地理条件 家庭用品 主要内容 世界各国 普通教育 共同研究 相互往来 新春景色 主要内容 世界各国 普通教育											
المجموعة الثانية خط الرقعة آء أ ا بة ت ز ح ه خ د ز ر ز - ش ص ض ط ظ ع ف ذ ك ل م ن ه و ث ي ب ت ج ح خ س ش ص ض ع ف غ ق ك ل م ن ه ي لا لا × % [] () « » ! = # \$ % & ' () *											
ГРУППА № 1-ДЛЯ ИСПЫТАНИЯ ПЕРЕДАЧИ БУКВА КЕГЛЬ 8 АБВГДЕЖЗИЙКЛМНОПРСТУФХЦЧШЩЪЫЬЭЮЯ абвгдежзийклмнопрстуфхцчшщъыьэюя 1234567890						ГРУППА № 3-ДЛЯ ИСПЫТАНИЯ ПЕРЕДАЧИ БУКВА КЕГЛЬ 8 АБВГДЕЖЗИЙКЛМНОПРСТУФХЦЧШЩЪЫЬЭЮЯ абвгдежзийклмнопрстуфхцчшщъыьэюя 1234567890					
ГРУППА № 2-ДЛЯ ИСПЫТАНИЯ ПЕРЕДАЧИ БУКВА КЕГЛЬ 10						ГРУППА № 4-ДЛЯ ИСПЫТАНИЯ ПЕРЕДАЧИ БУКВА КЕГЛЬ 10					

16 Schematic Diagram


16.1. For Schematic Diagram

Note:

1. DC voltage measurements are taken with an oscilloscope or a tester with a ground.
2. The schematic diagrams and circuit board may be modified at any time with the development of new technology.

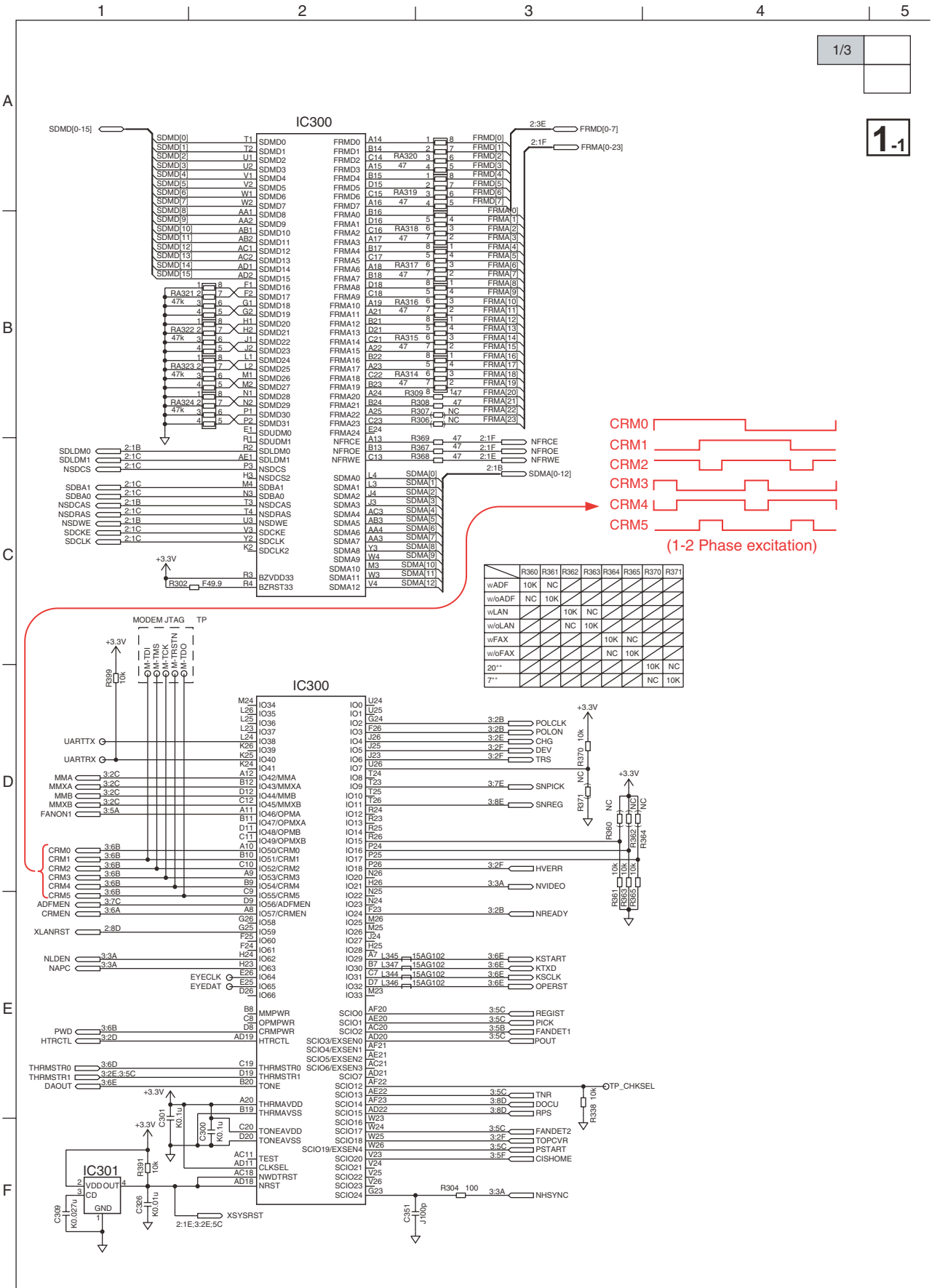


Important safety notice

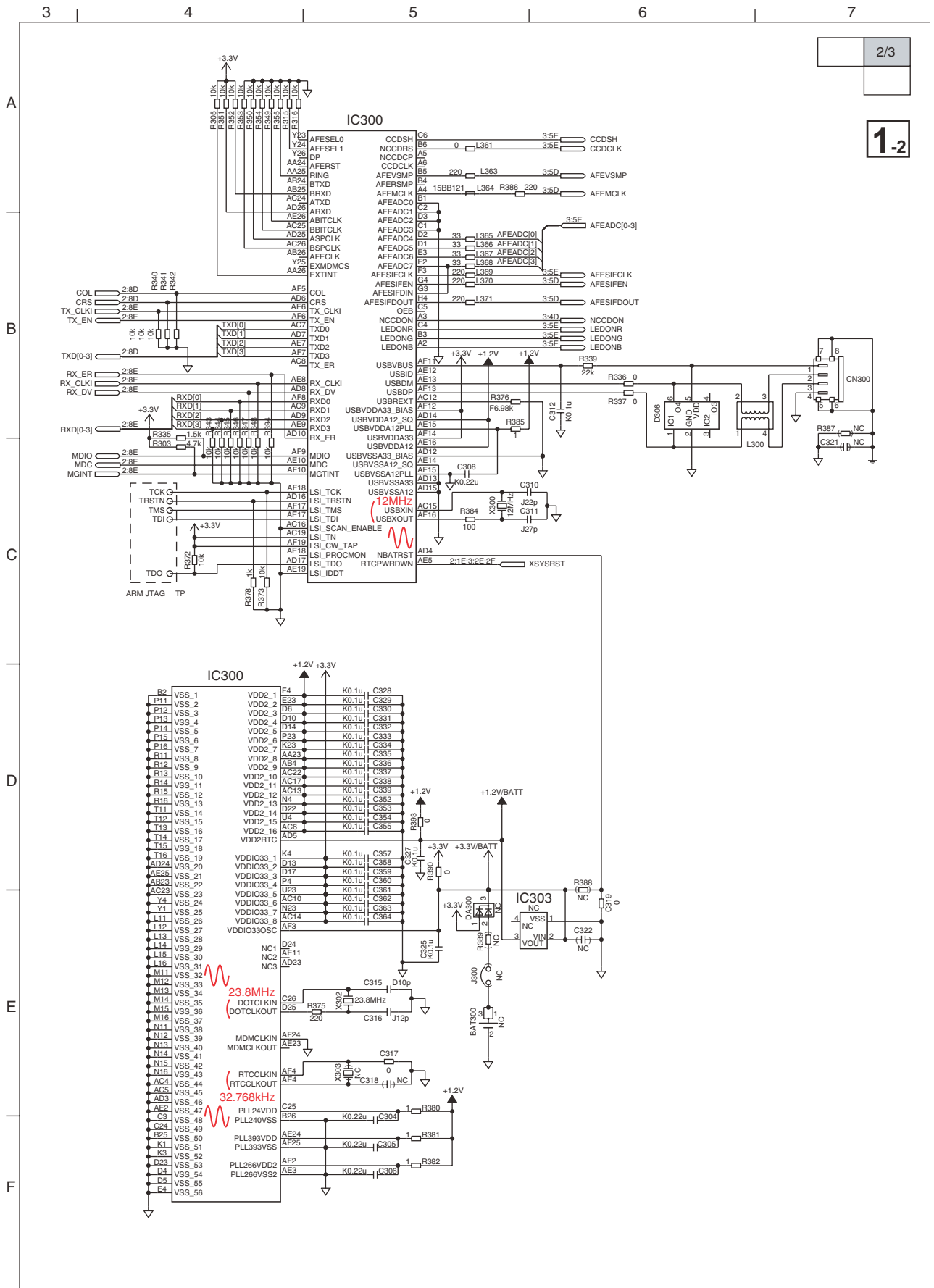
Components identified by  mark have special characteristics important for safety. When replacing any of these components, use only the manufacturer's specified parts.

16.2. Main Board (KX-MB1900)

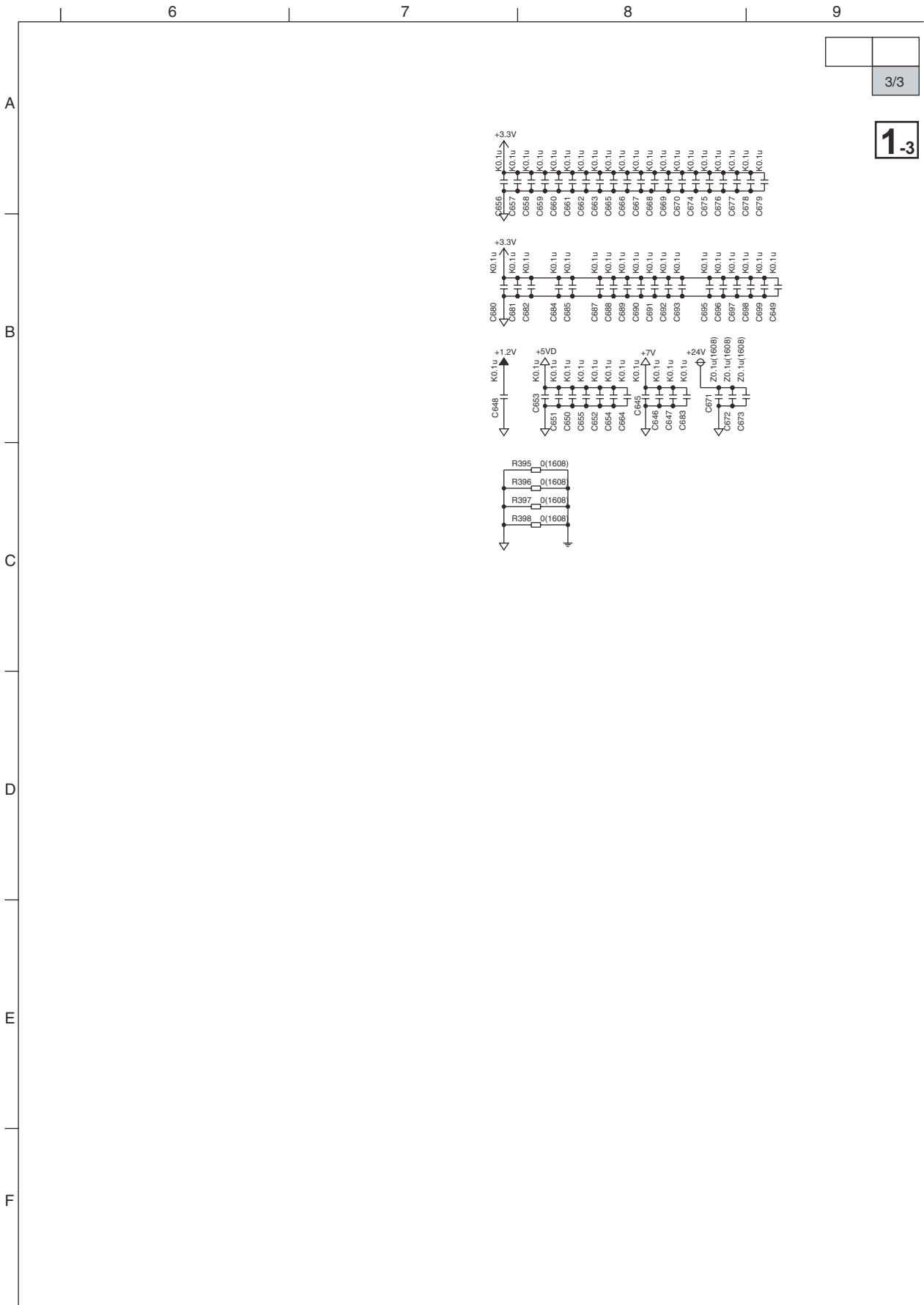
16.2.1. Main Board (1)



KX-MB1900CX-V1 / KX-MB1900SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (1/3)



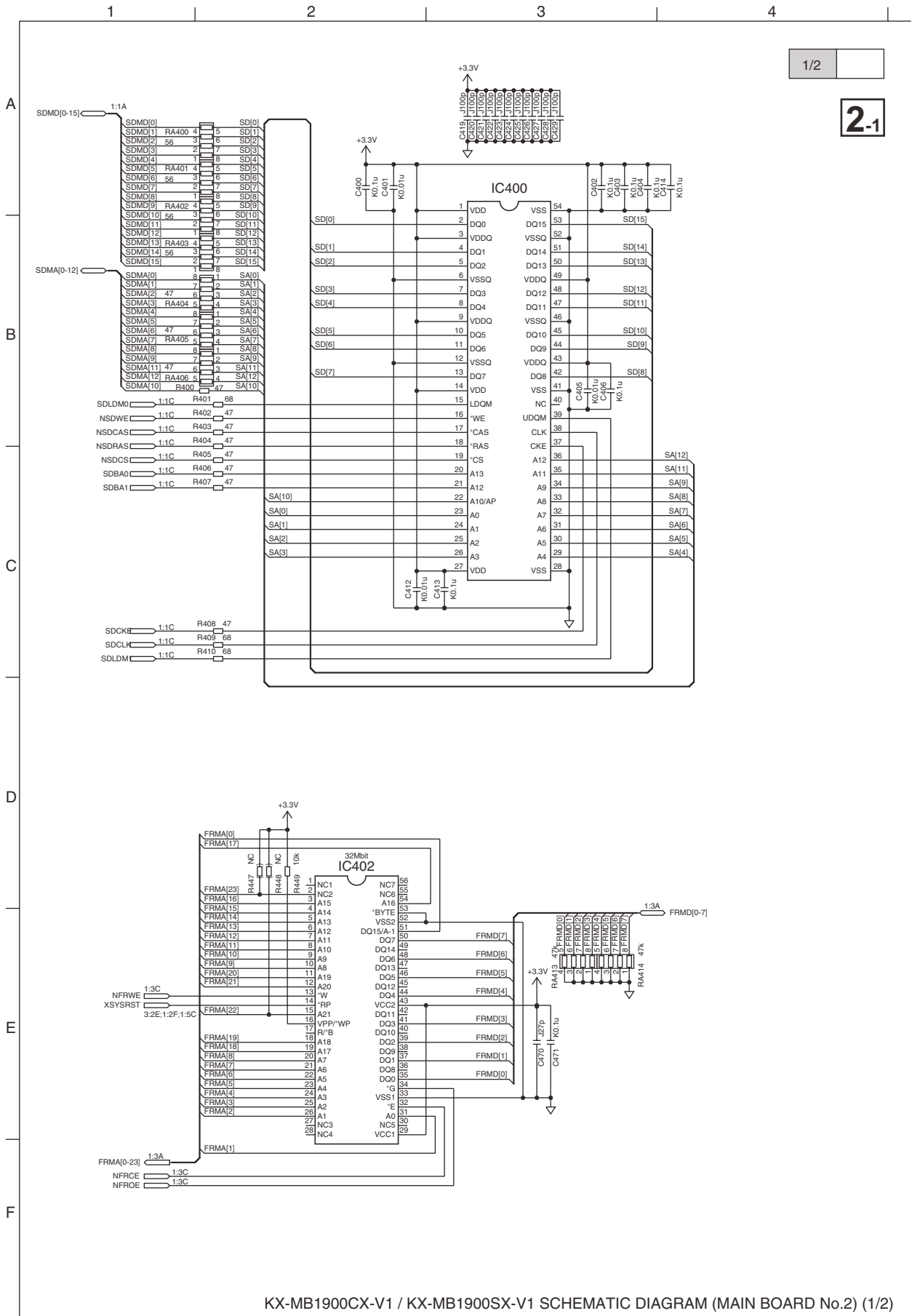
KX-MB1900CX-V1 / KX-MB1900SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (2/3)



KX-MB1900CX-V1 / KX-MB1900SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (3/3)

Memo

16.2.2. Main Board (2)



KX-MB1900CX-V1 / KX-MB1900SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (1/2)

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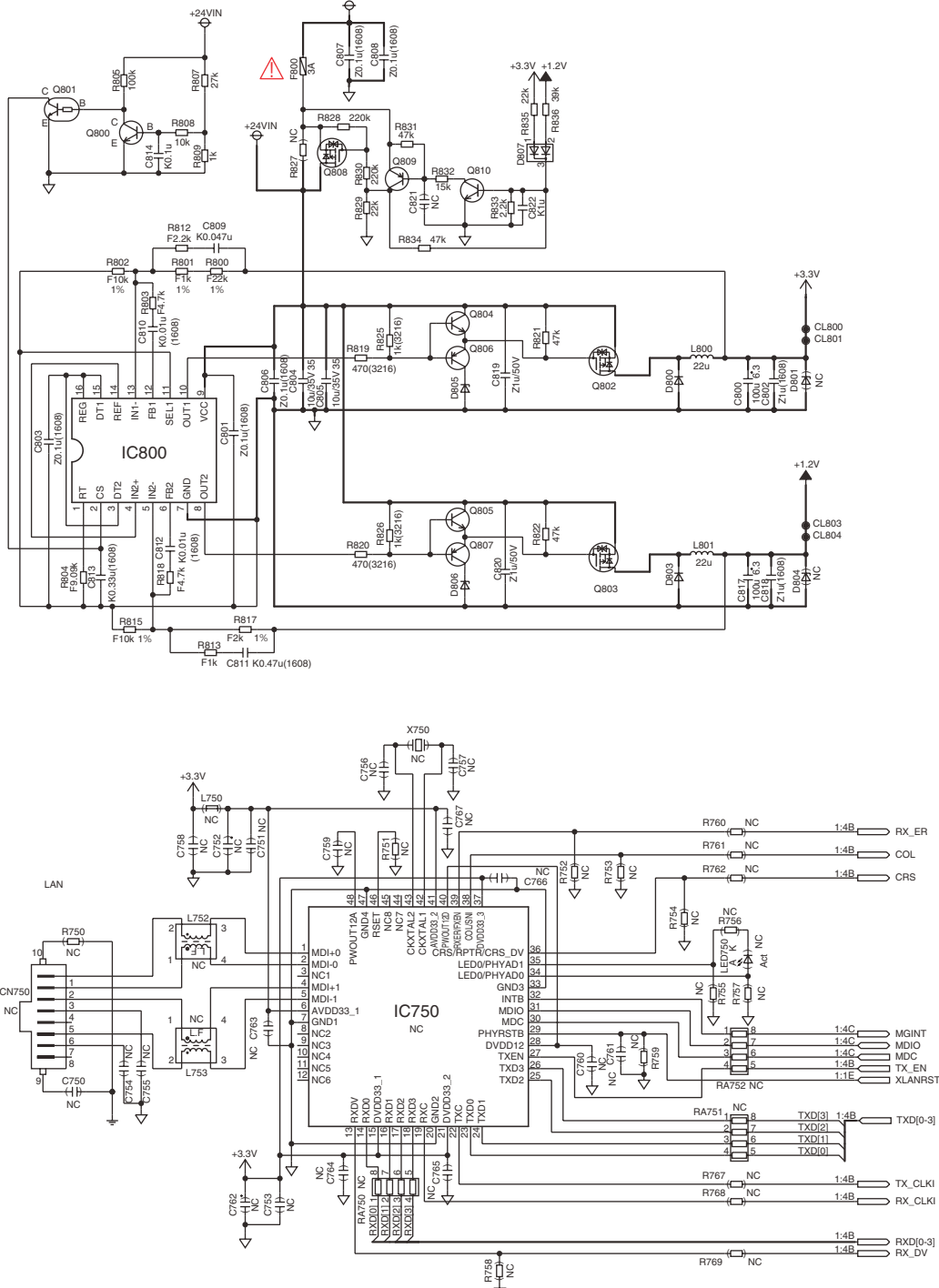
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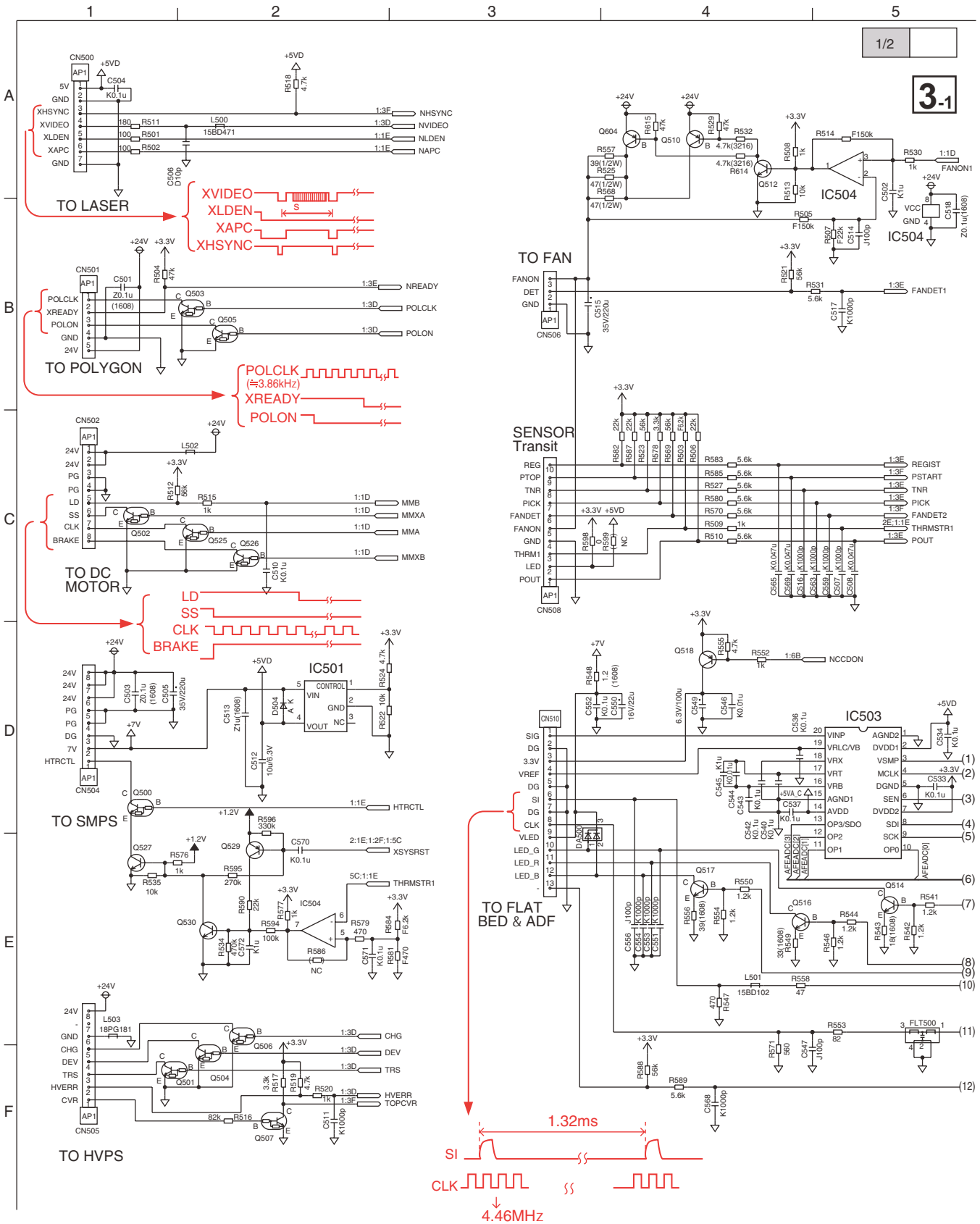
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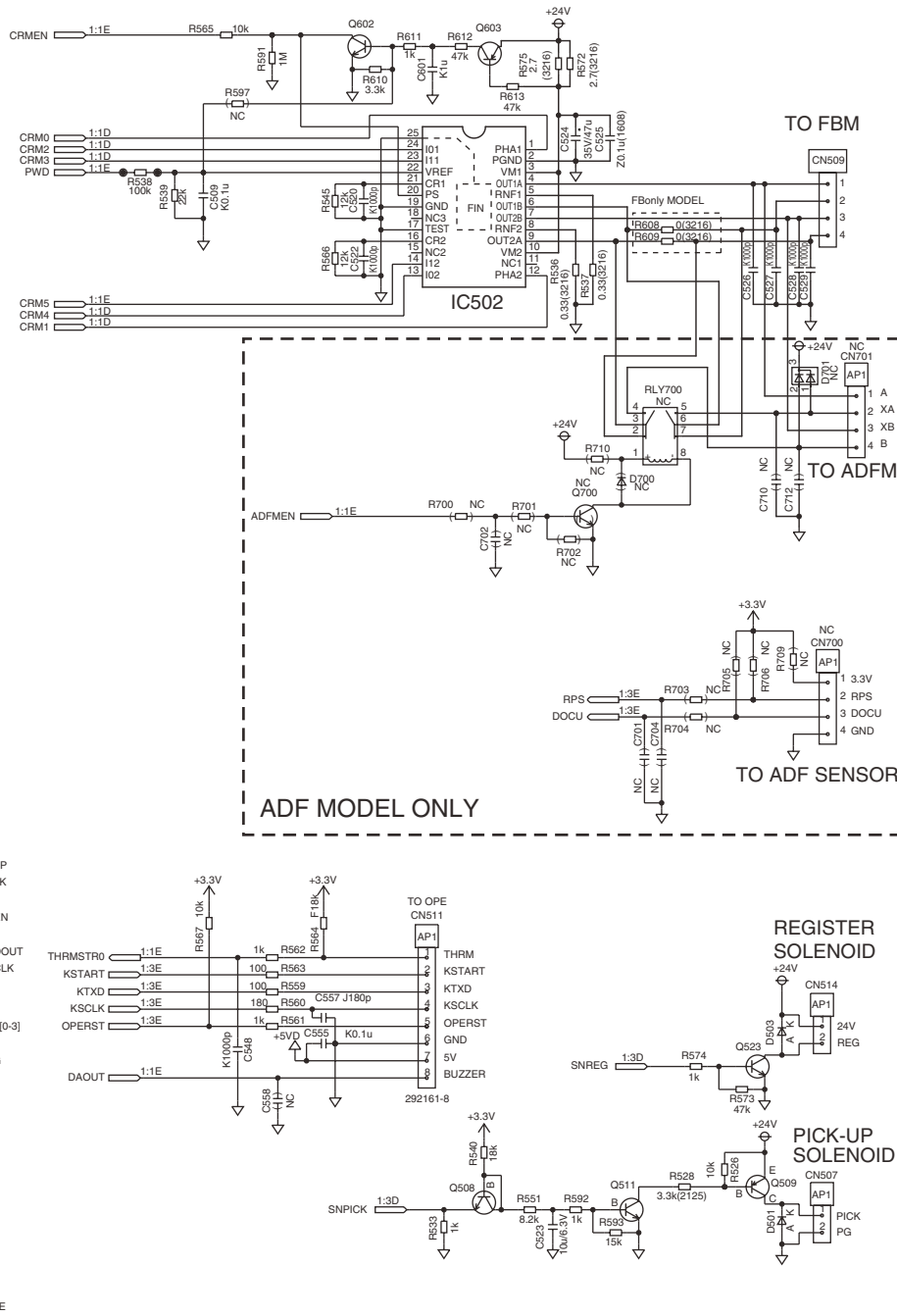
KX-MB1900CX-V1 / KX-MB1900SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (2/2)

16.2.3. Main Board (3)



KX-MB1900CX-V1 / KX-MB1900SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (1/2)

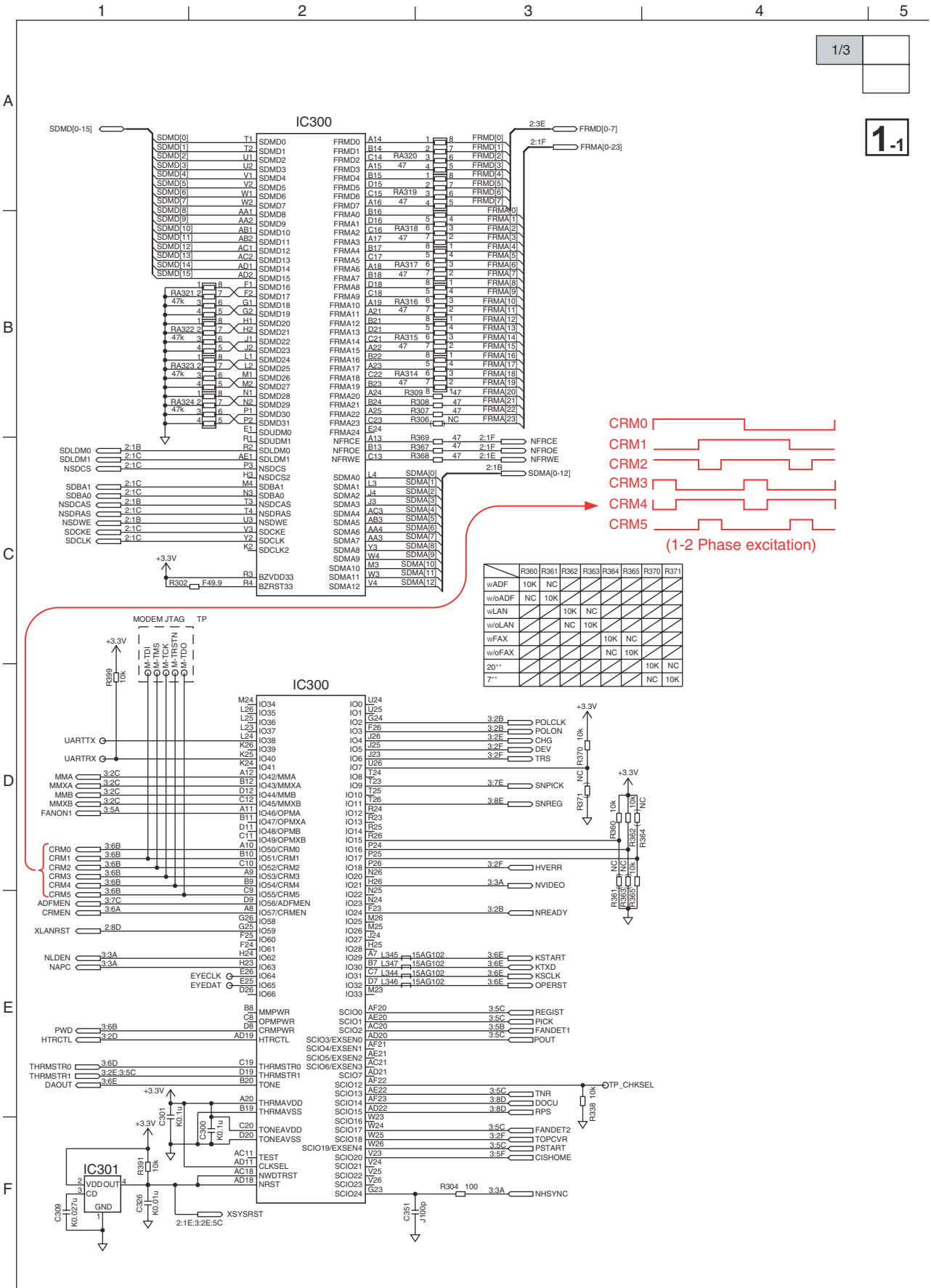
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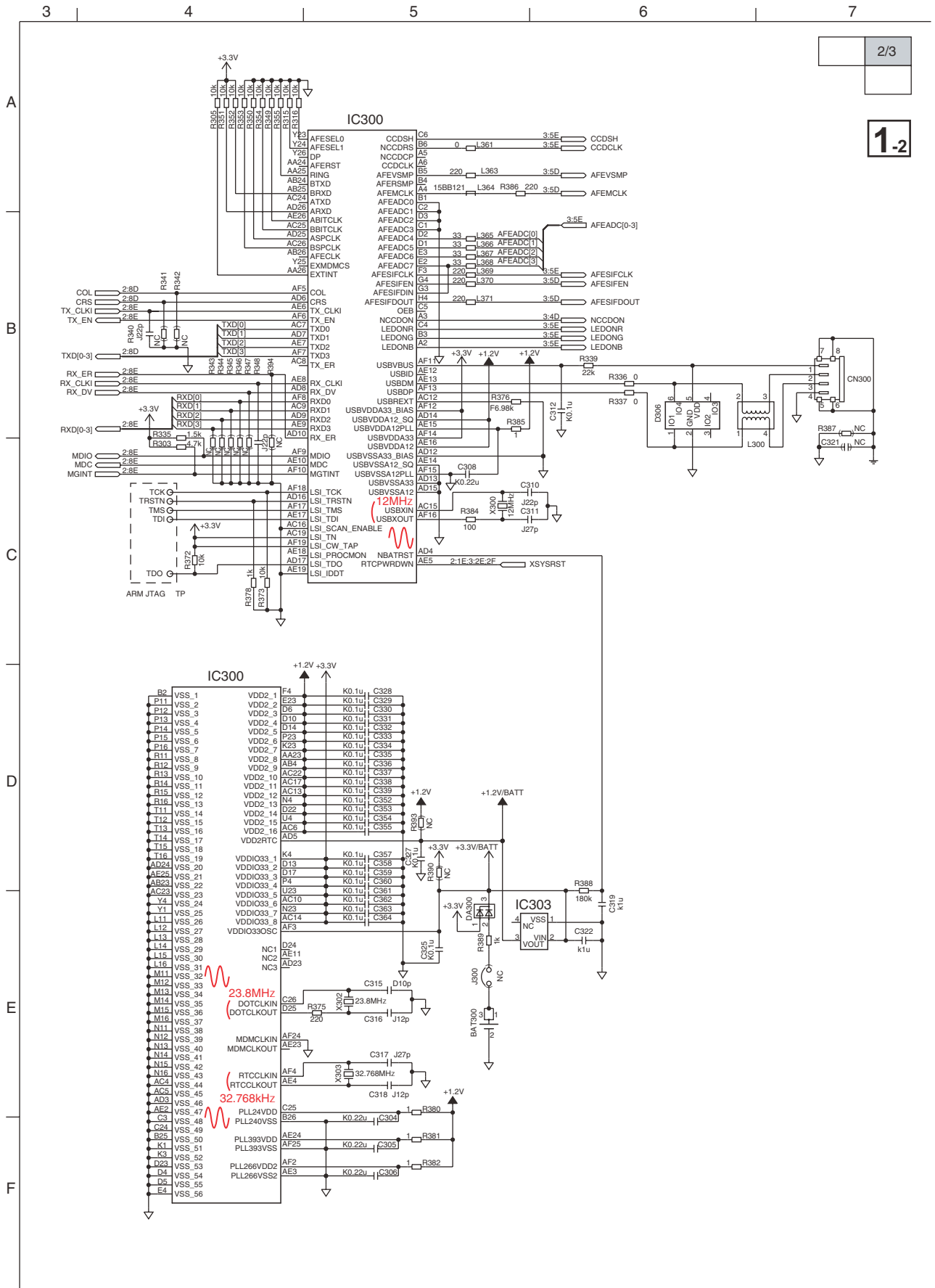
KX-MB1900CX-V1 / KX-MB1900SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (2/2)

16.3. Main Board (KX-MB2010)

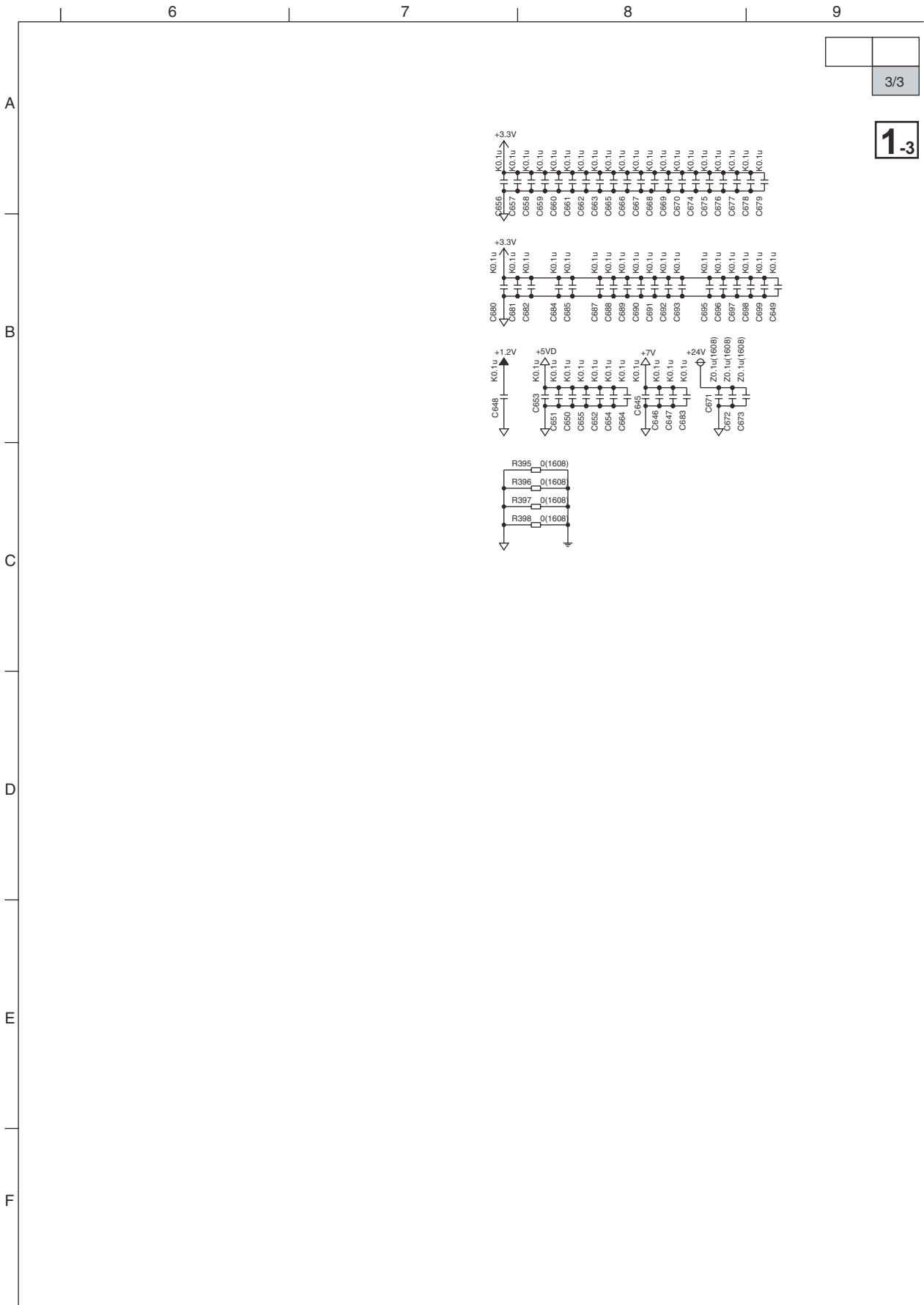
16.3.1. Main Board (1)



KX-MB2010CX-V1 / KX-MB2010SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (1/3)



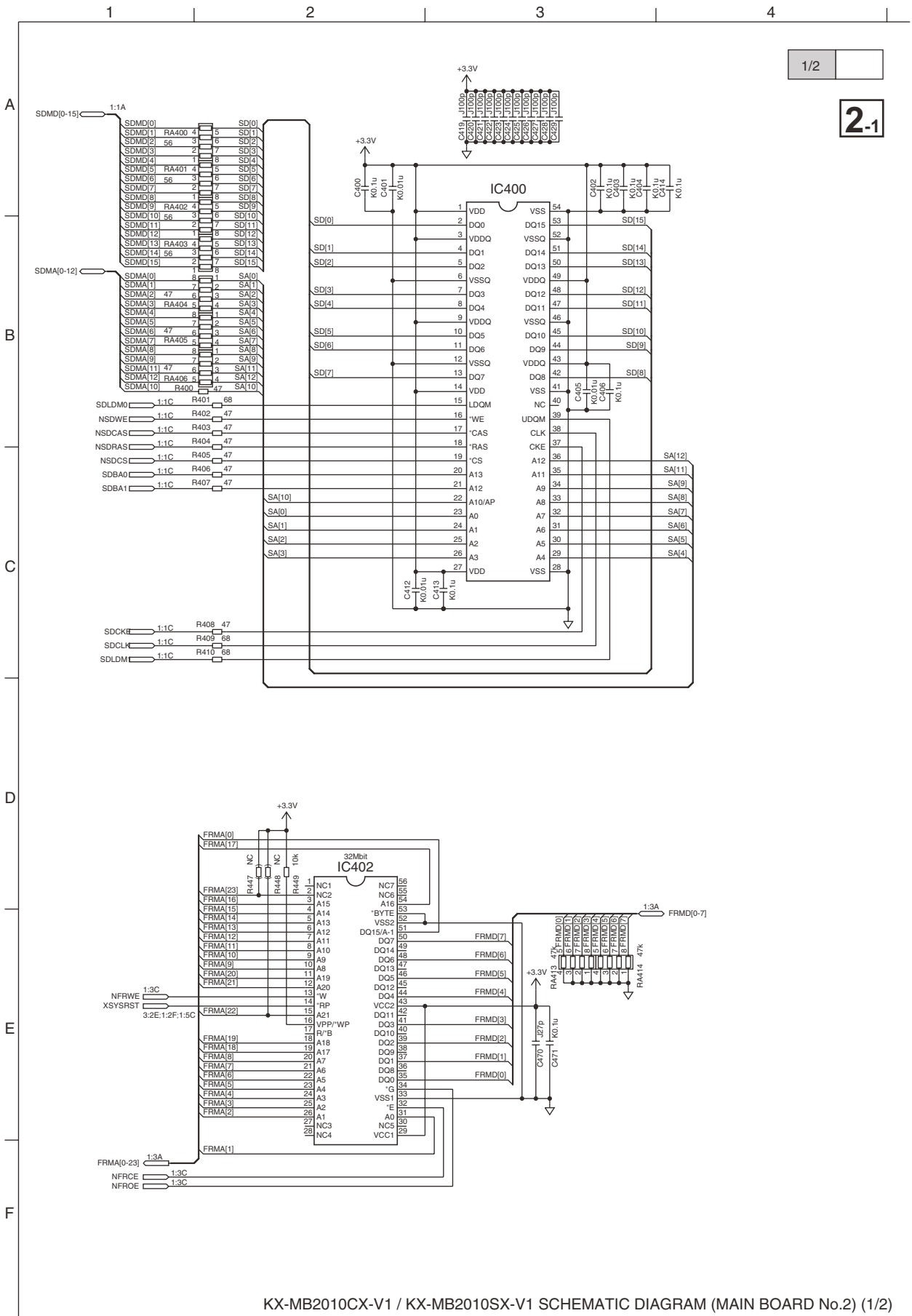
KX-MB2010CX-V1 / KX-MB2010SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (2/3)



KX-MB2010CX-V1 / KX-MB2010SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (3/3)

Memo

16.3.2. Main Board (2)



KX-MB2010CX-V1 / KX-MB2010SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (1/2)

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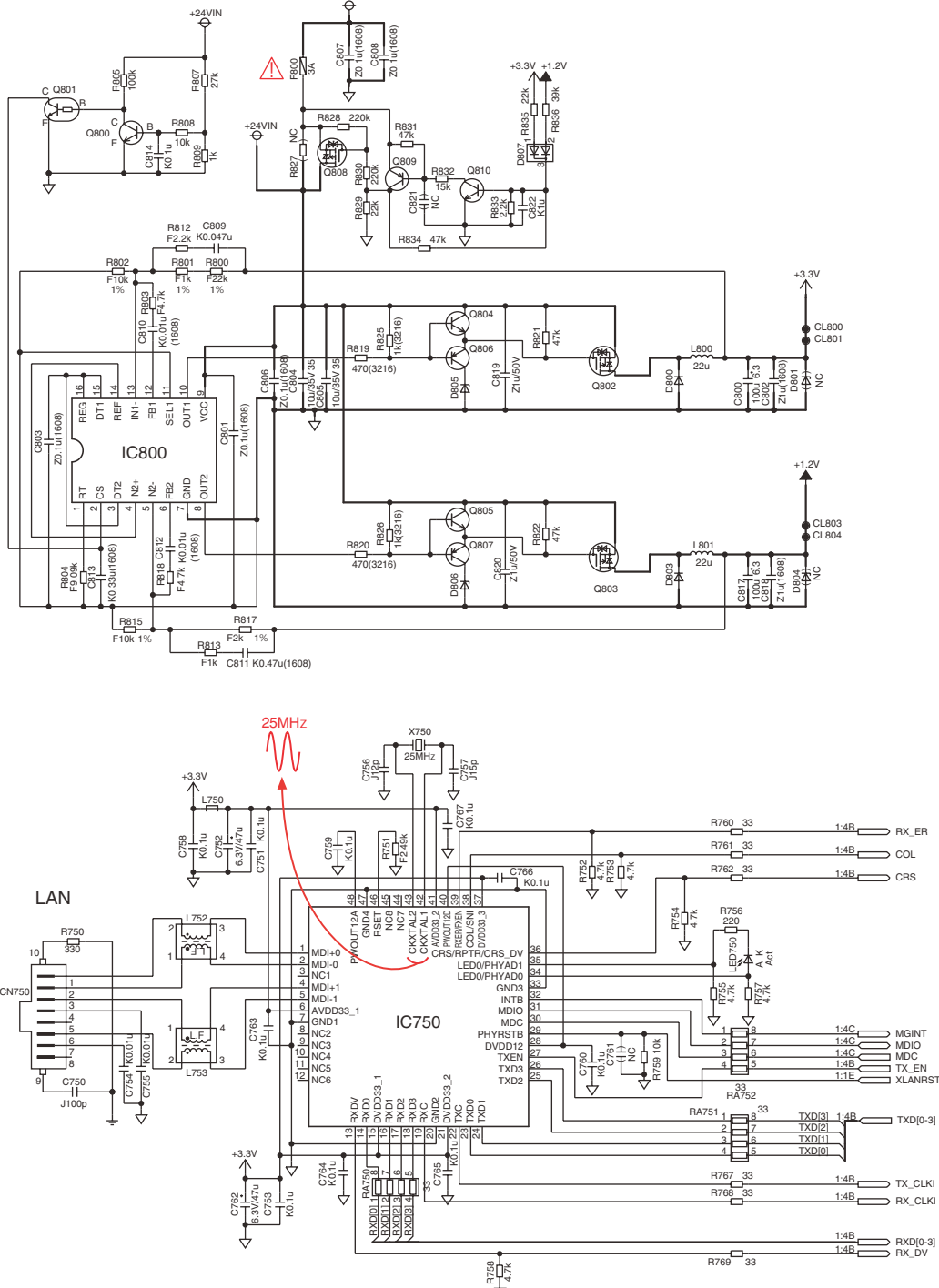
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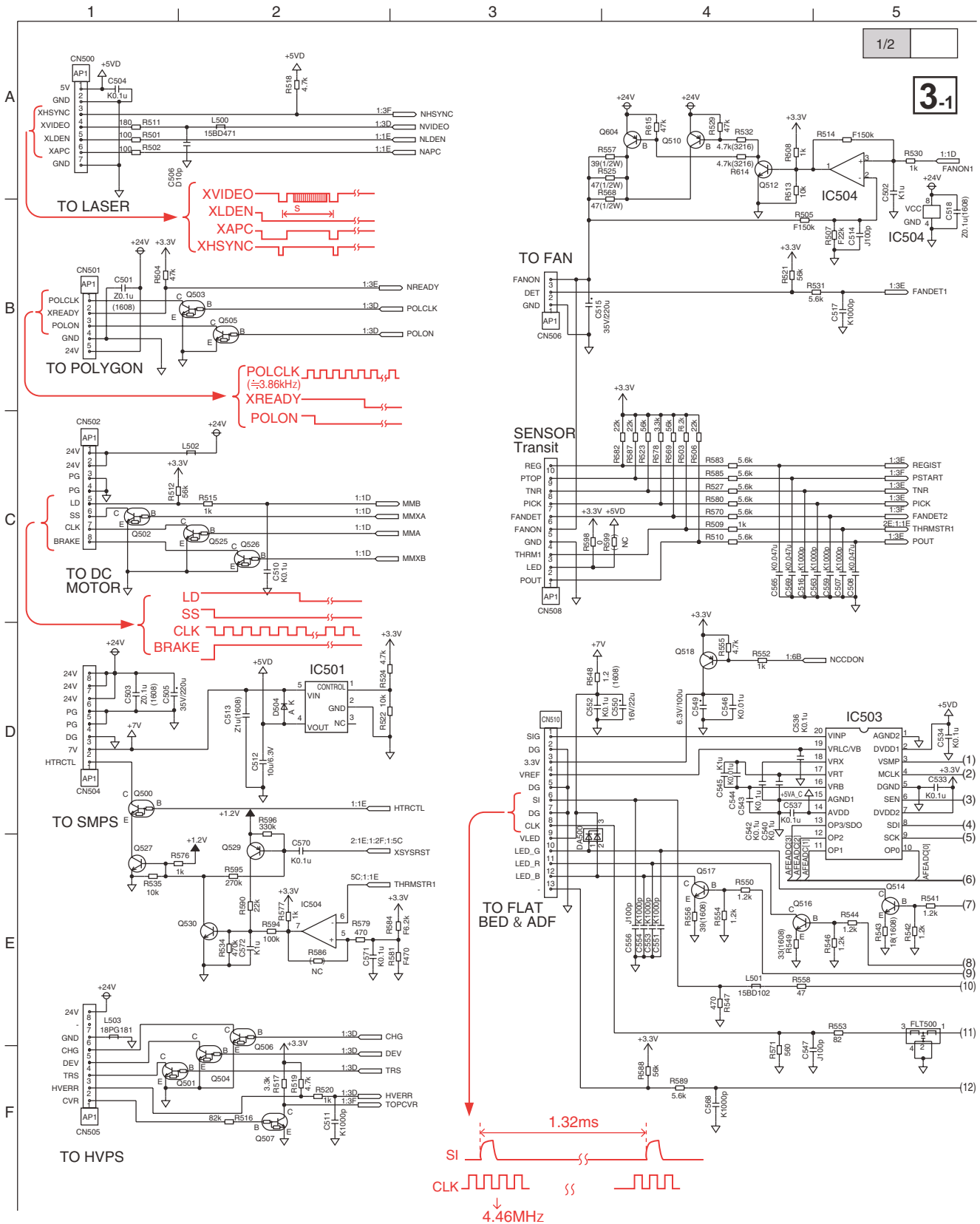
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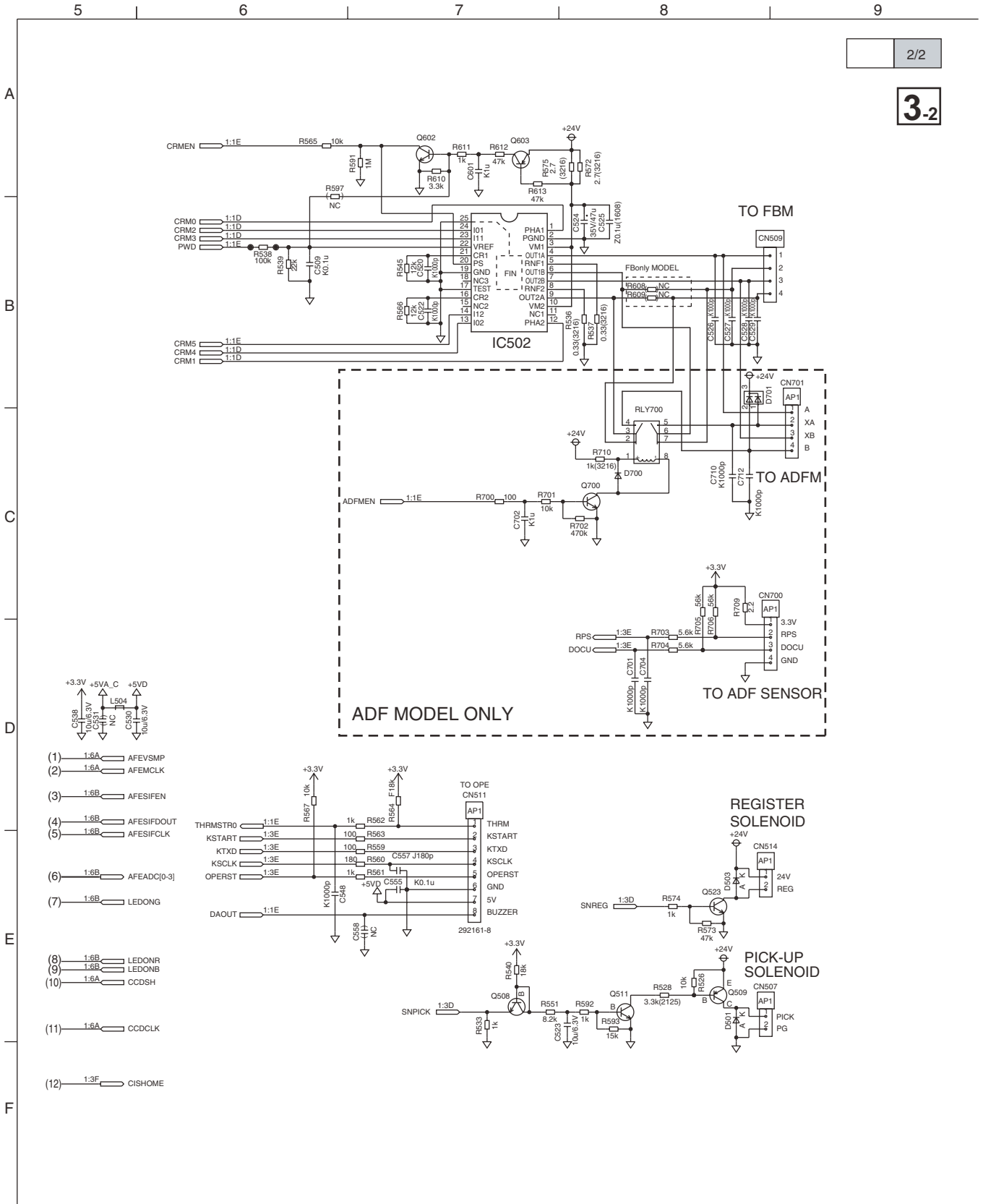


KX-MB2010CX-V1 / KX-MB2010SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (2/2)

16.3.3. Main Board (3)



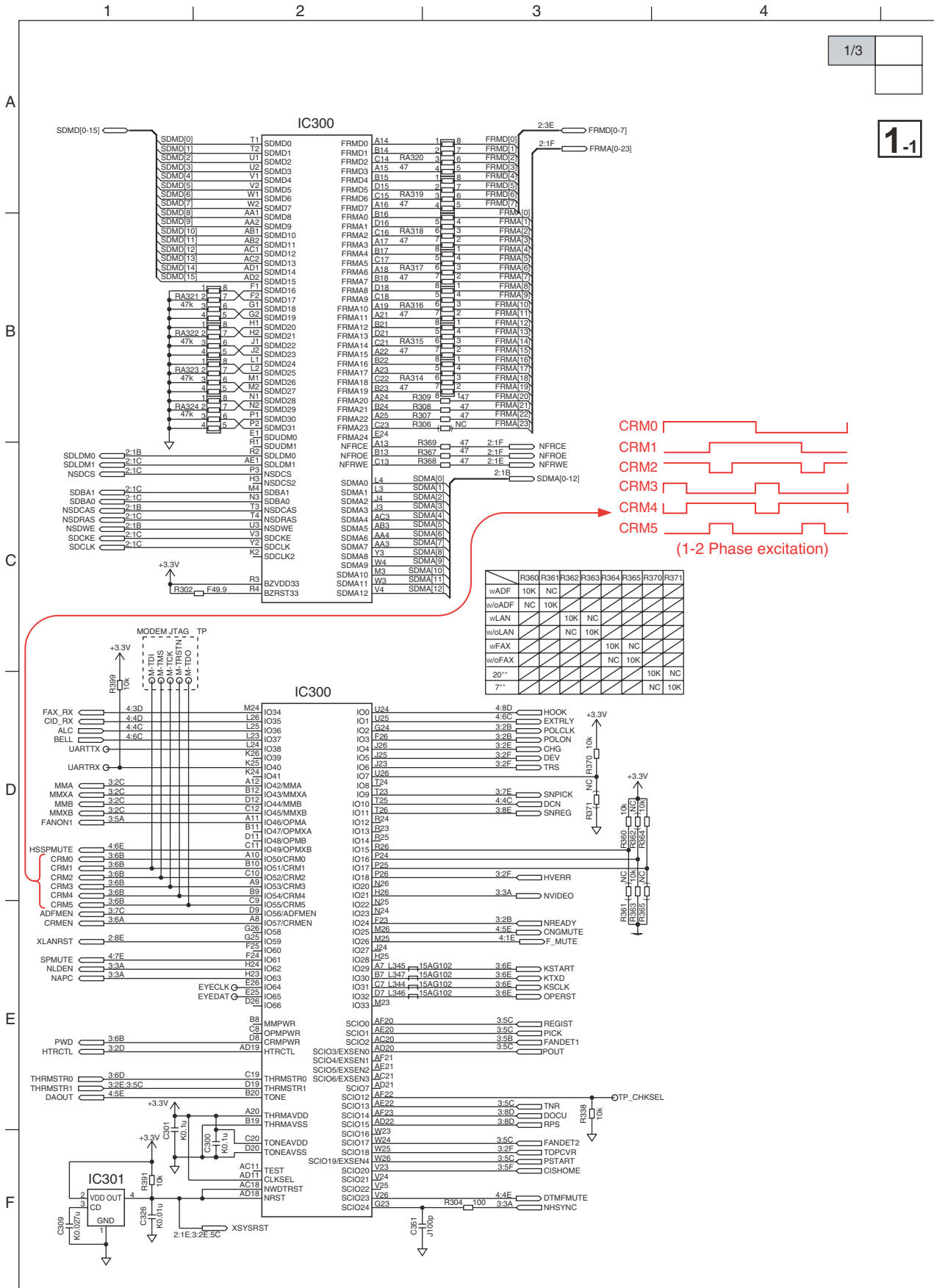
KX-MB2010CX-V1 / KX-MB2010SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (1/2)



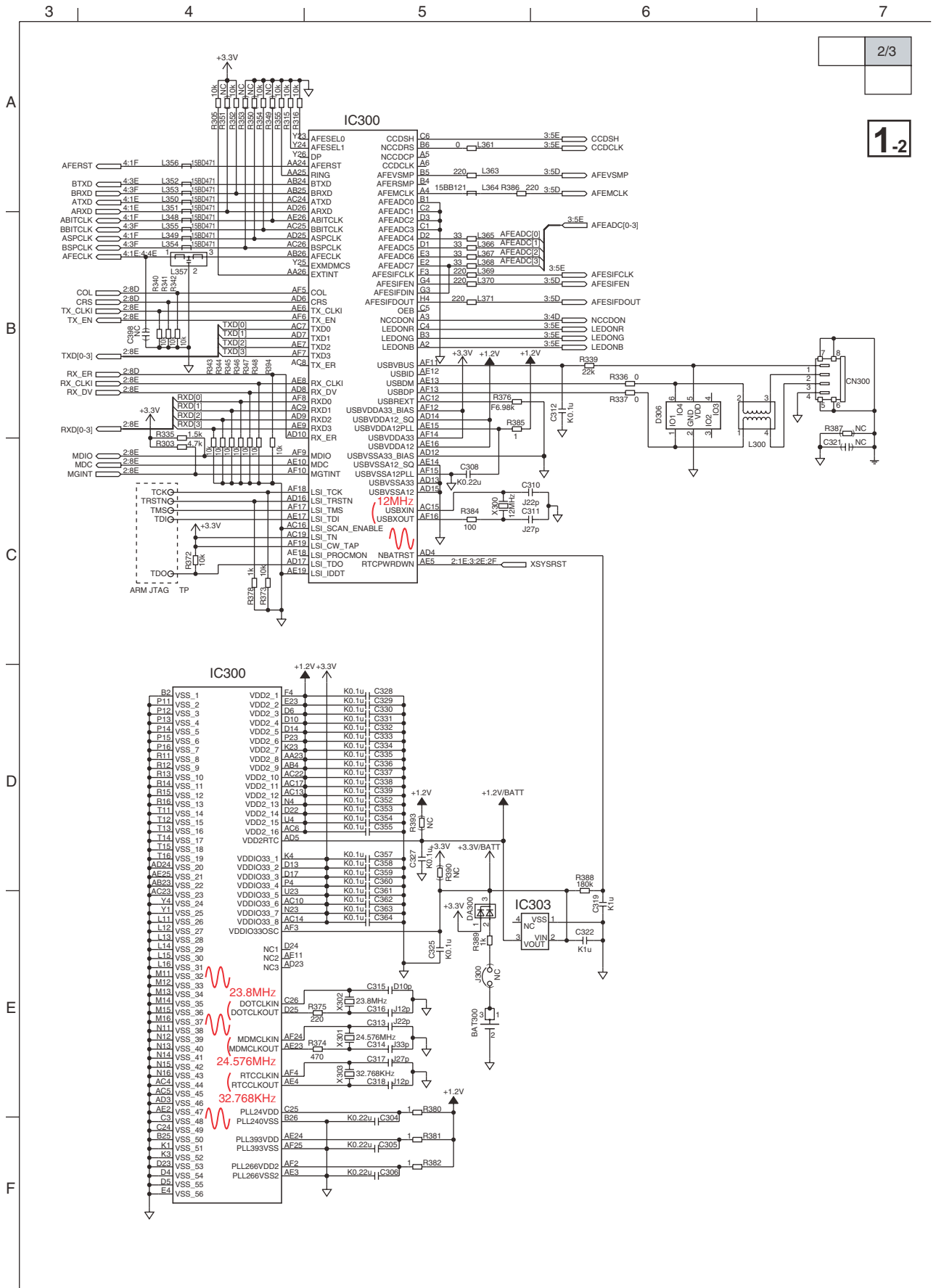
KX-MB2010CX-V1 / KX-MB2010SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (2/2)

16.4. Main Board (KX-MB2025)

16.4.1. Main Board (1)



KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (1/3)



KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (2/3)

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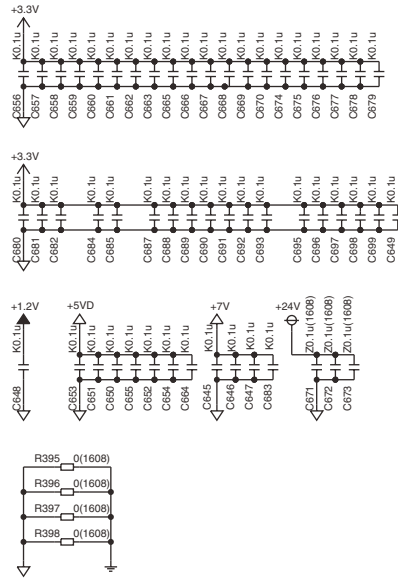
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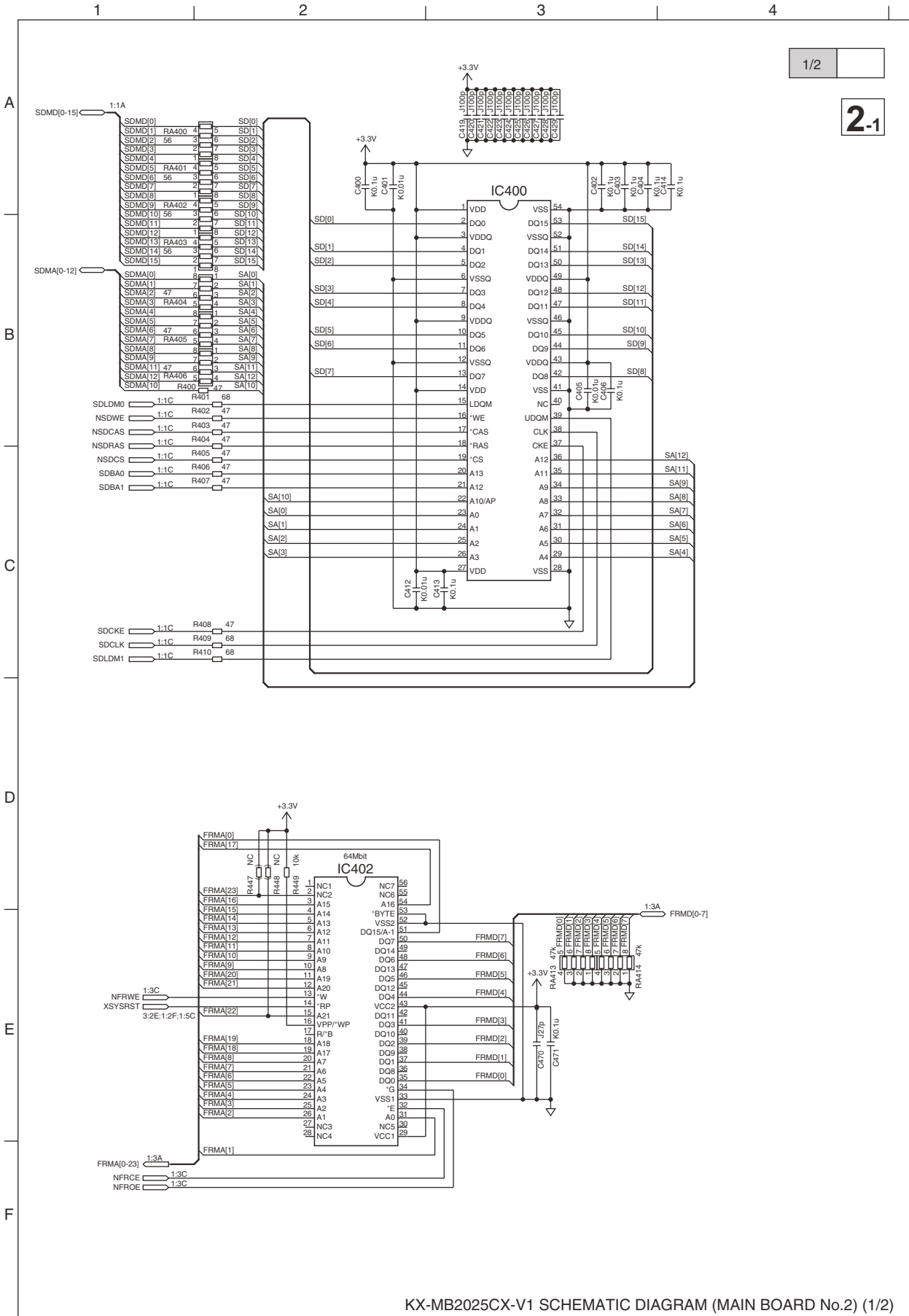
F



KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (3/3)

Memo

16.4.2. Main Board (2)



KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (1/2)

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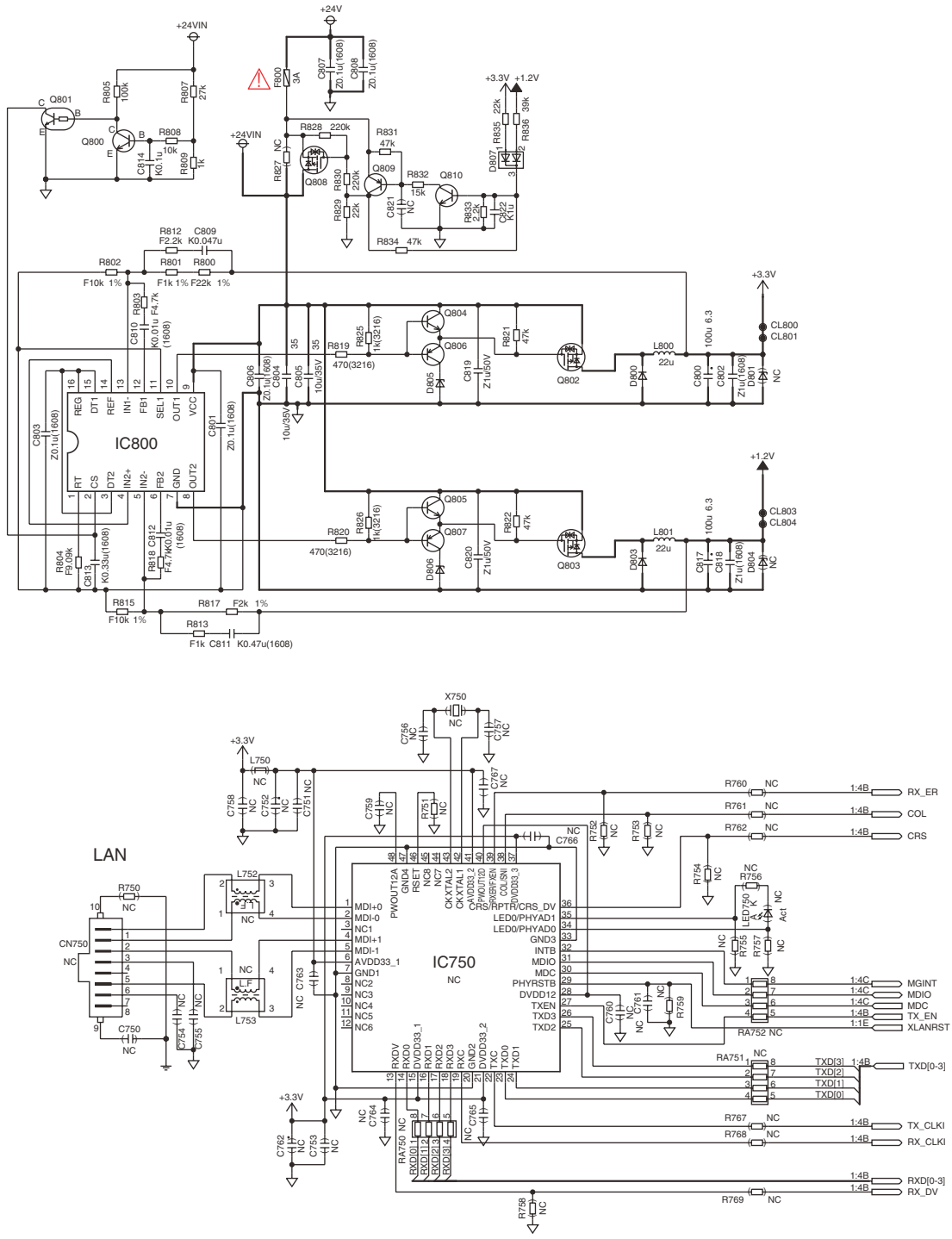
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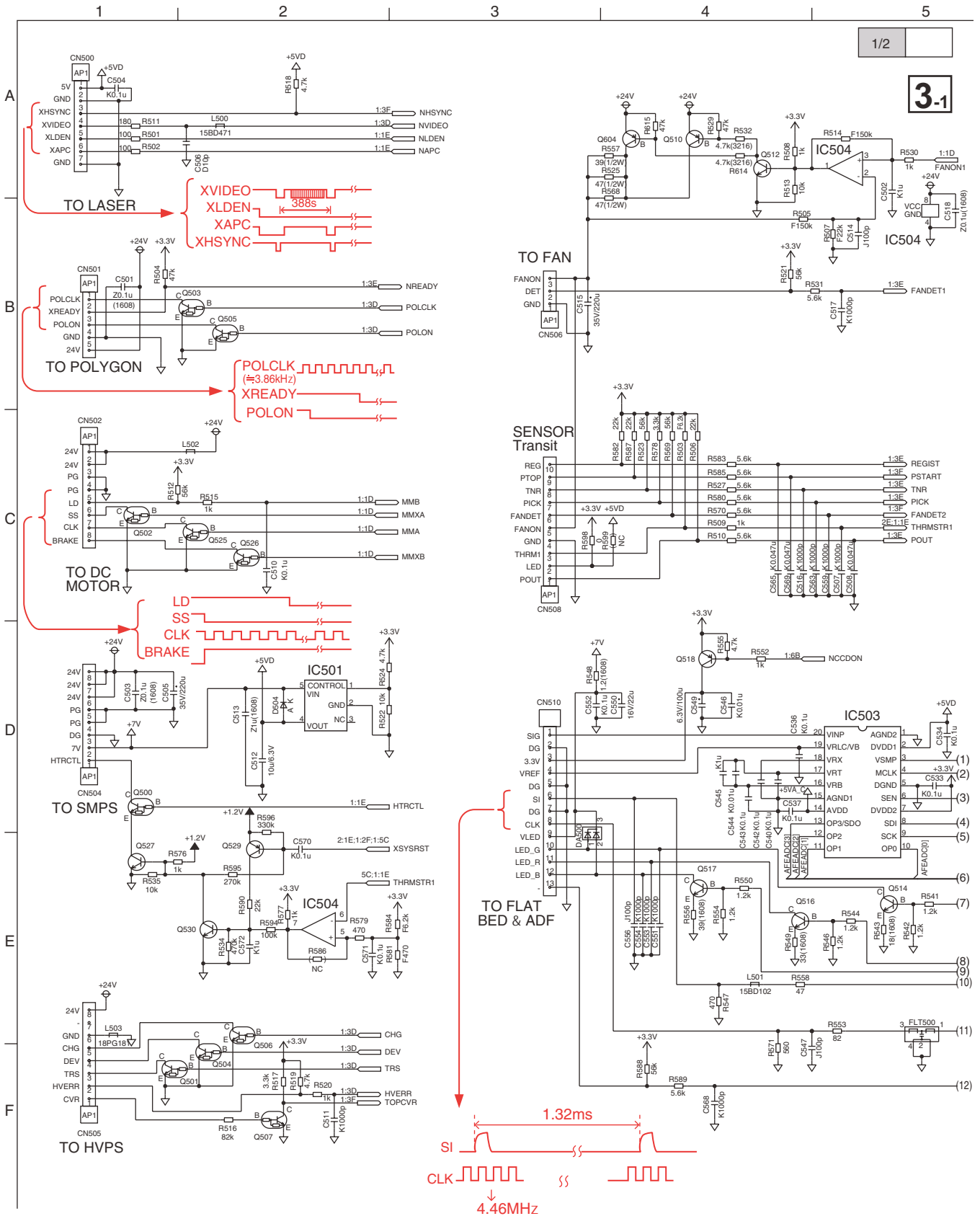
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KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (2/2)

16.4.3. Main Board (3)



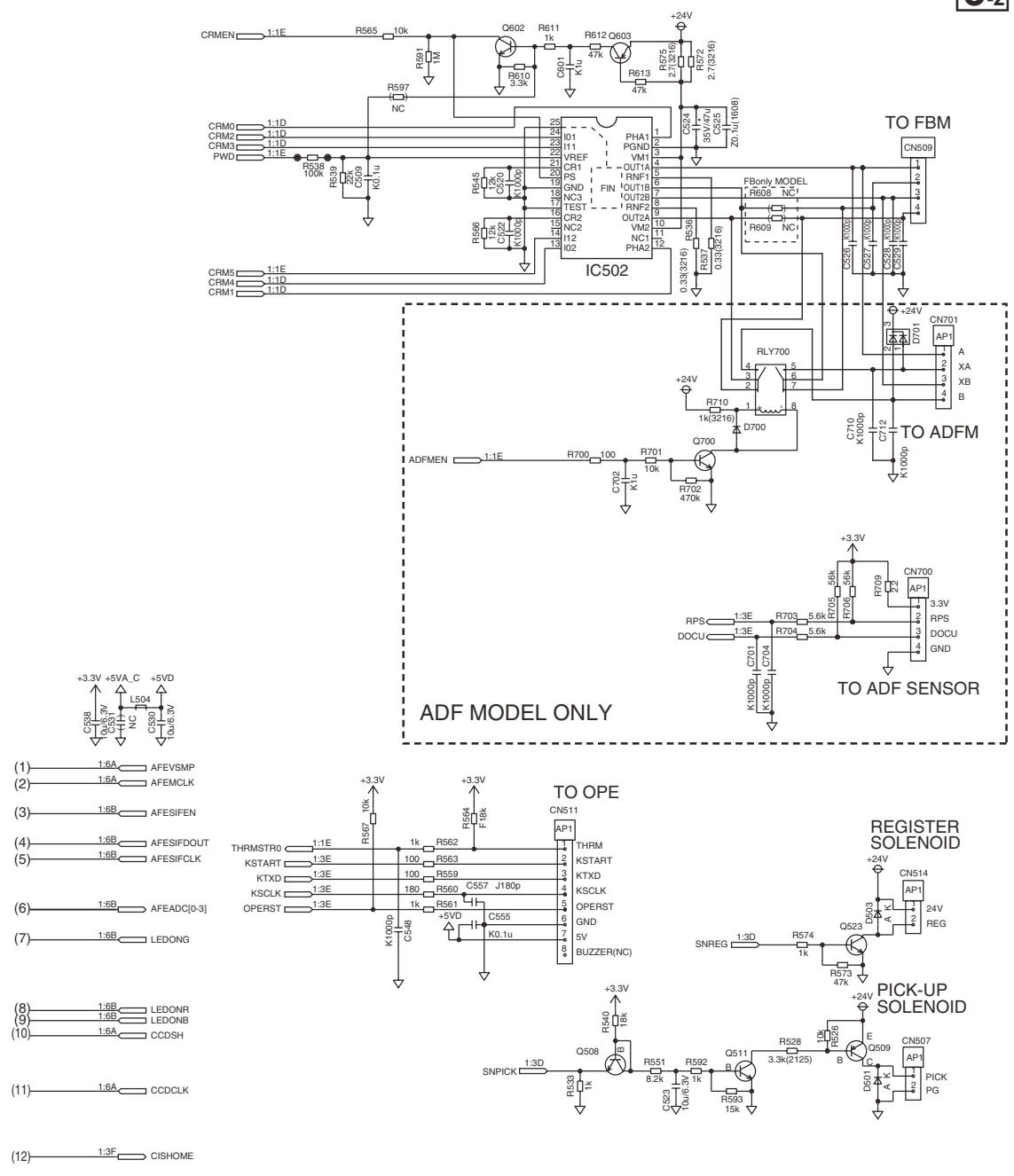
KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (1/2)

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2/2

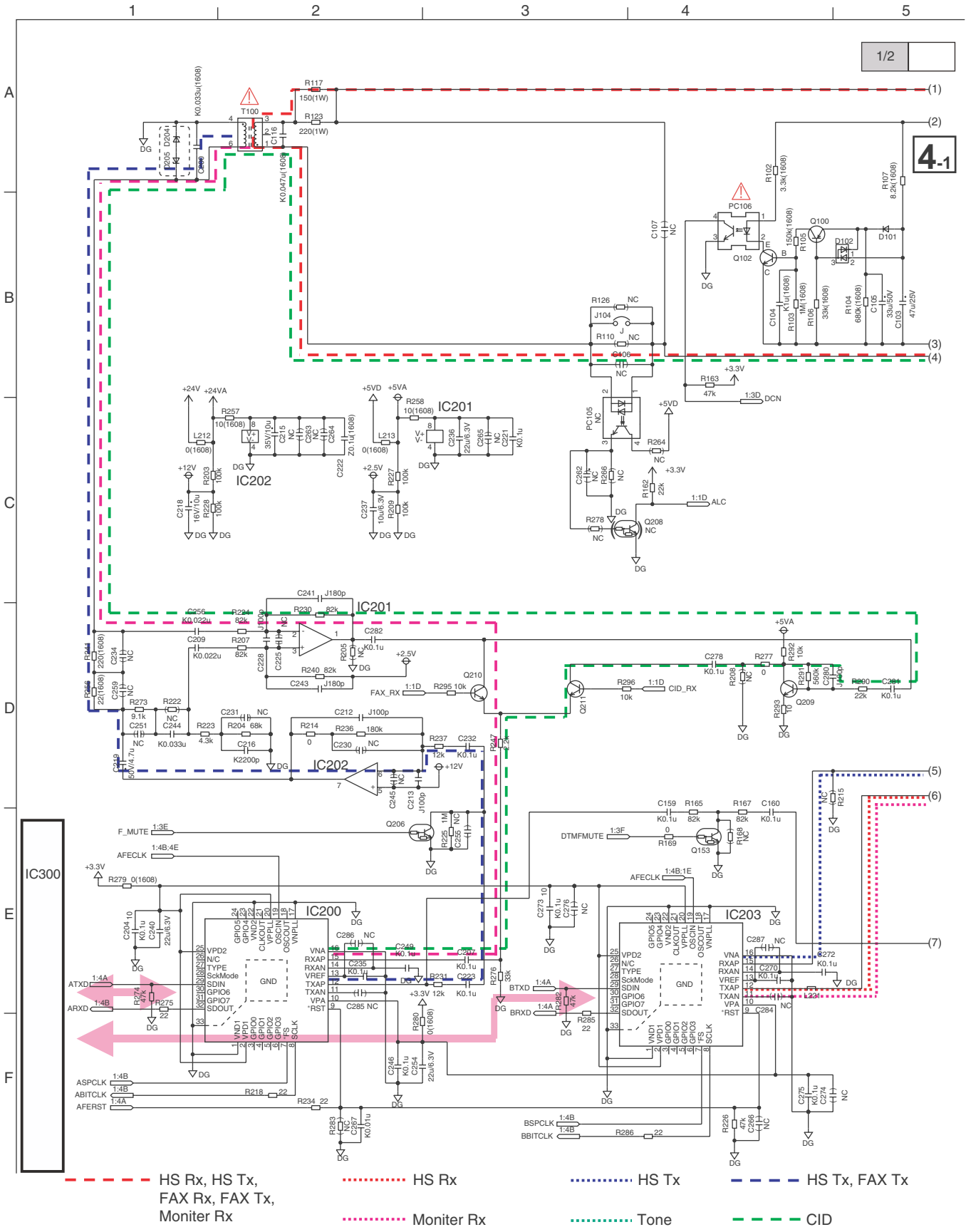
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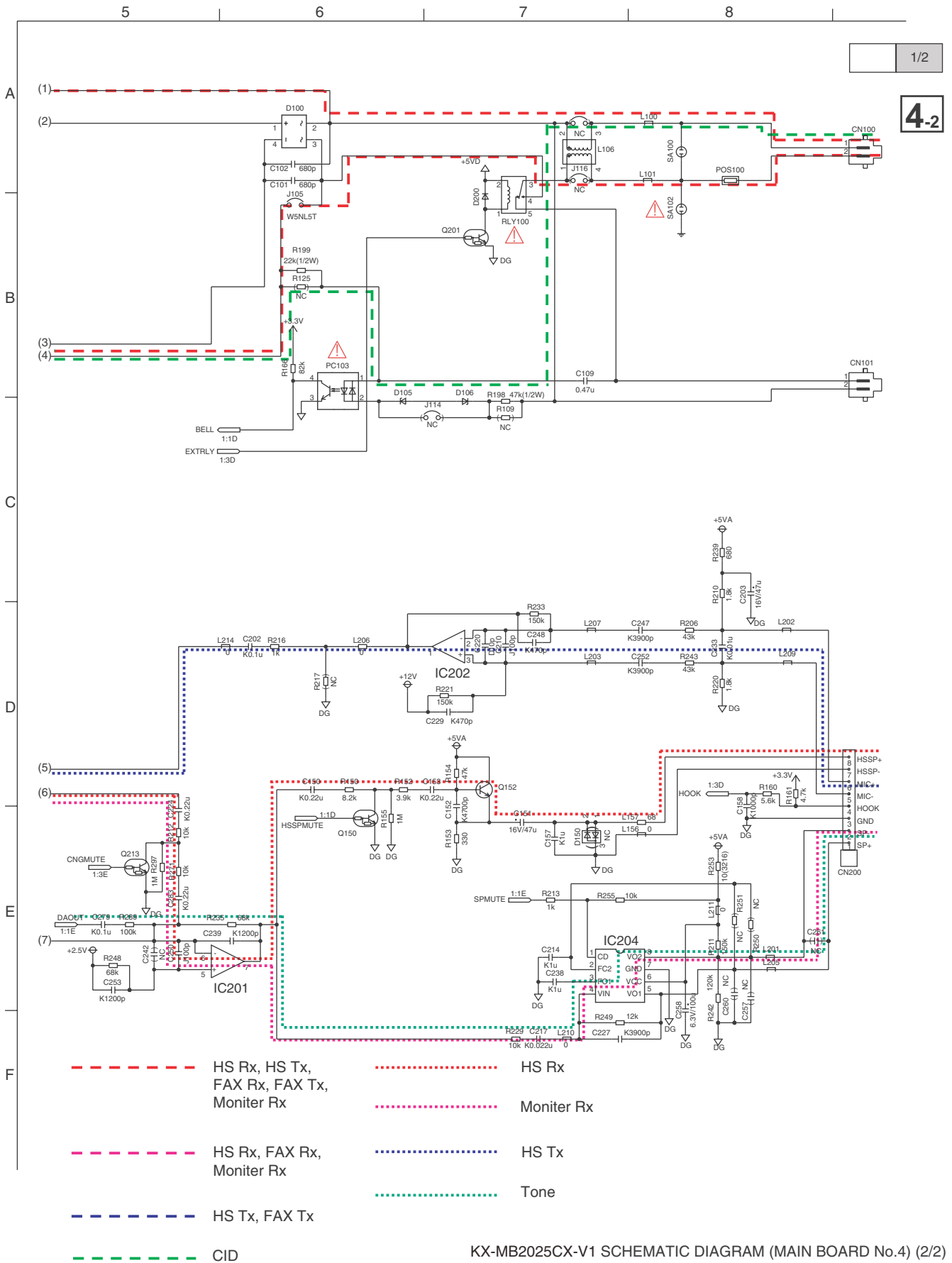


KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (2/2)

16.4.4. Main Board (4)

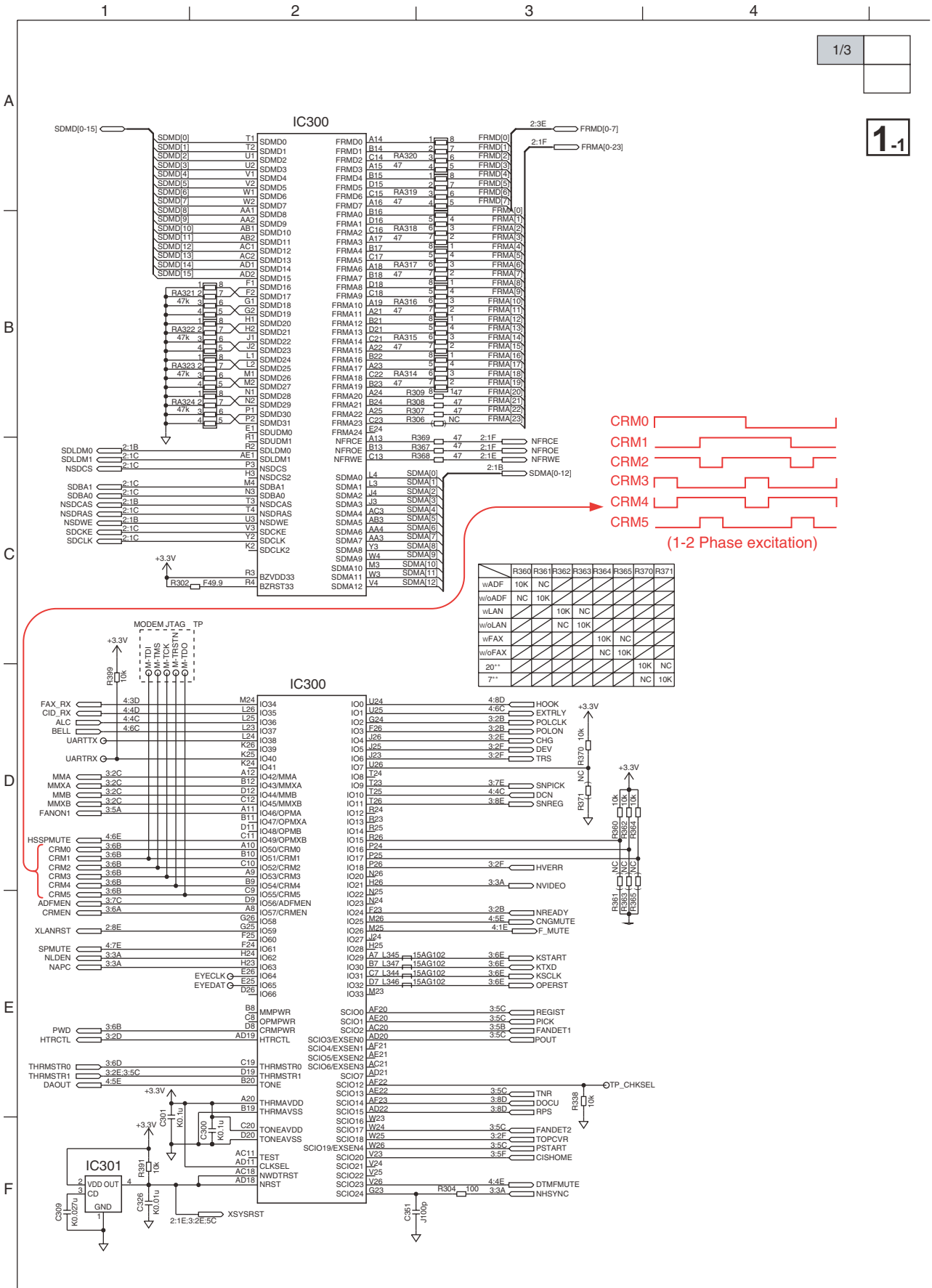


KX-MB2025CX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.4) (1/2)

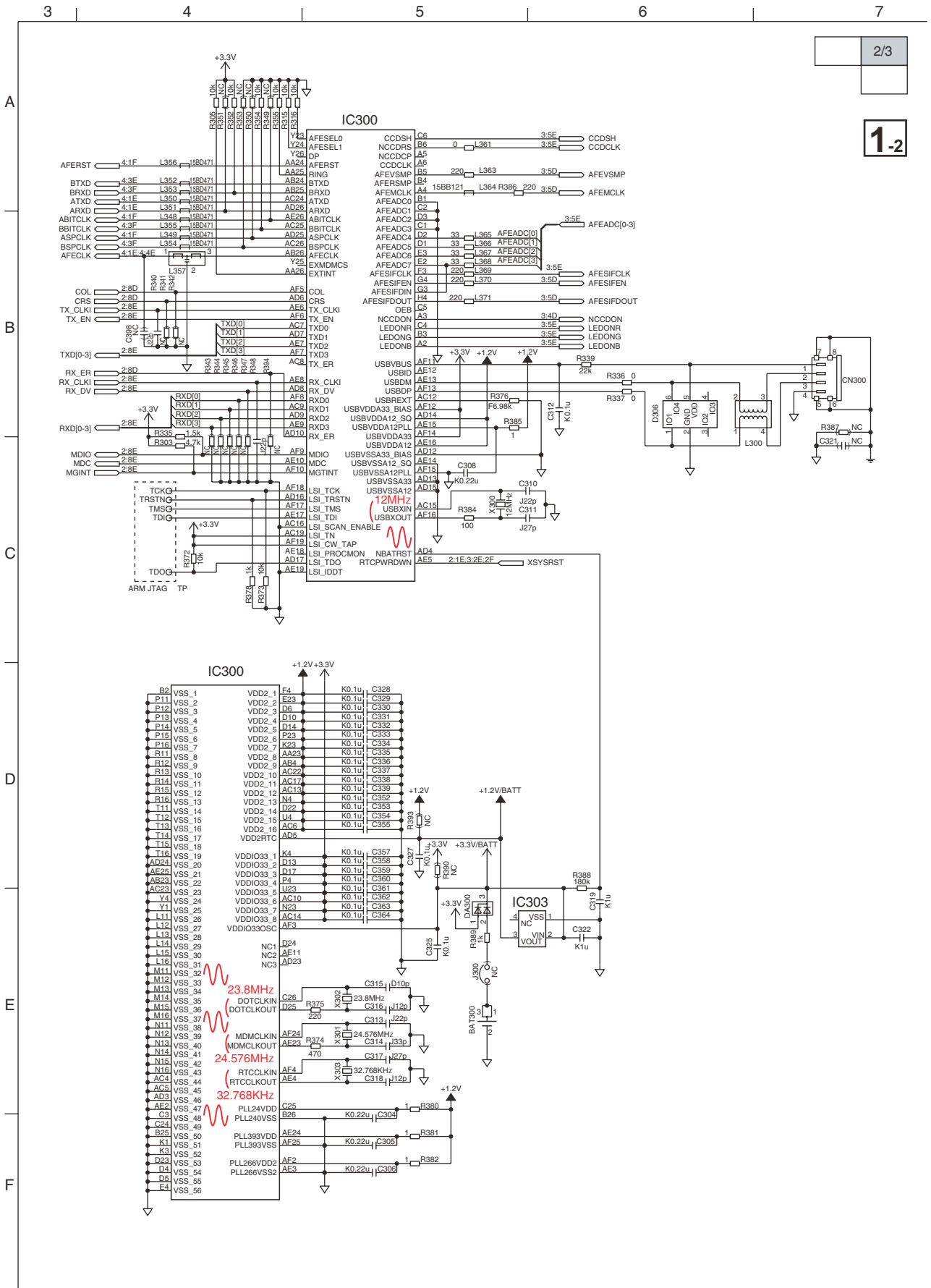


16.5. Main Board (KX-MB2030)

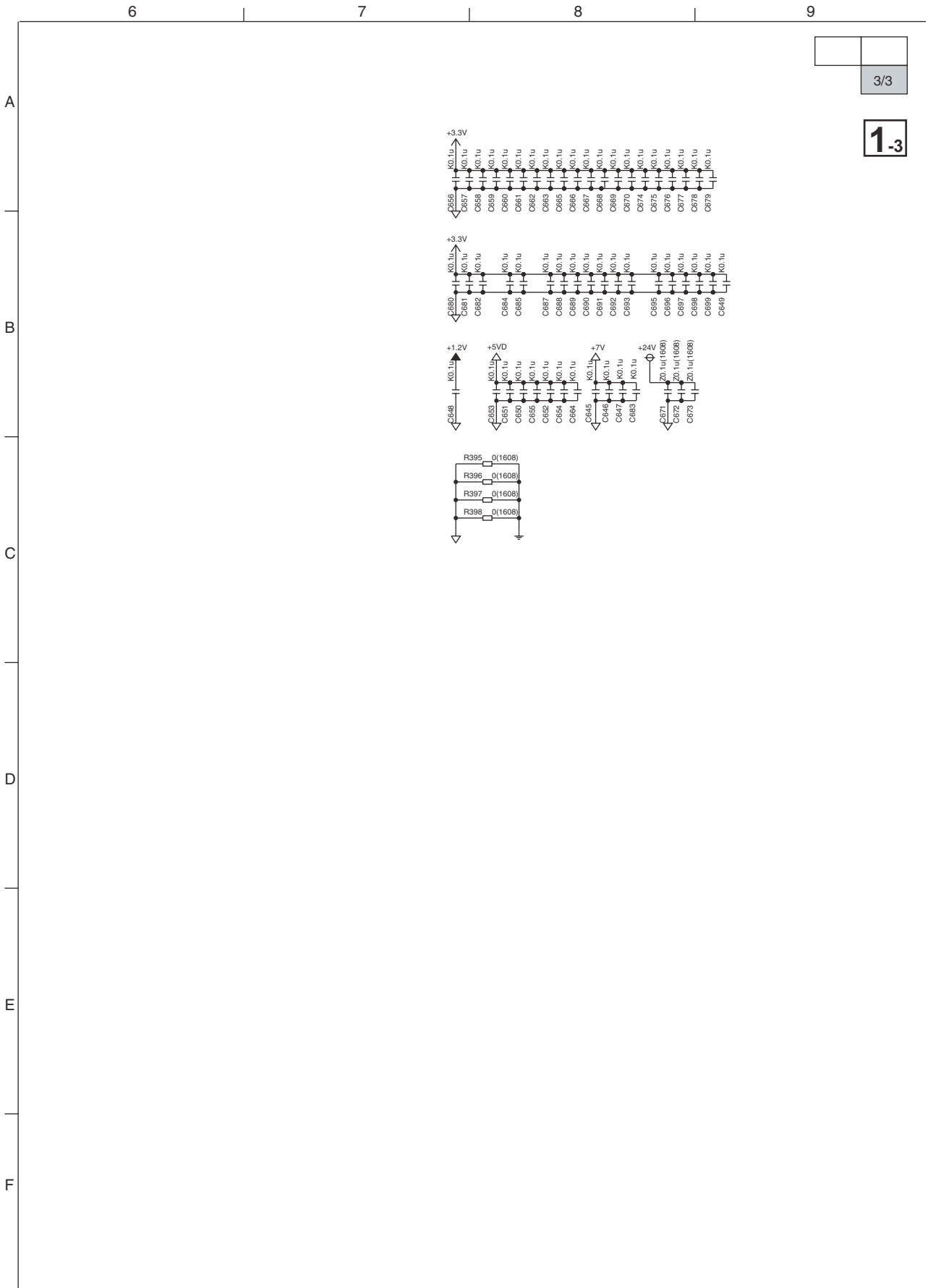
16.5.1. Main Board (1)



KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (1/3)



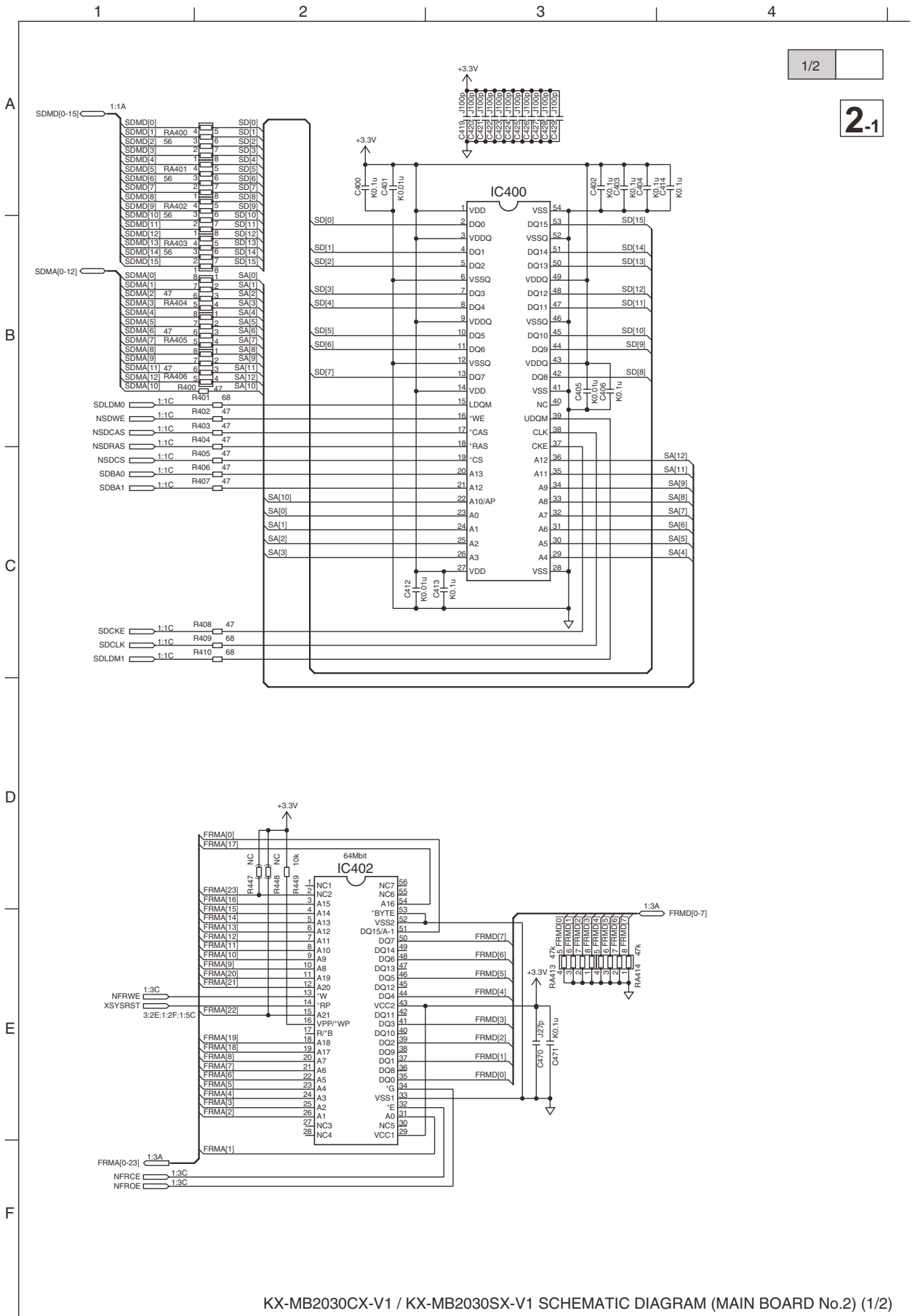
KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (2/3)



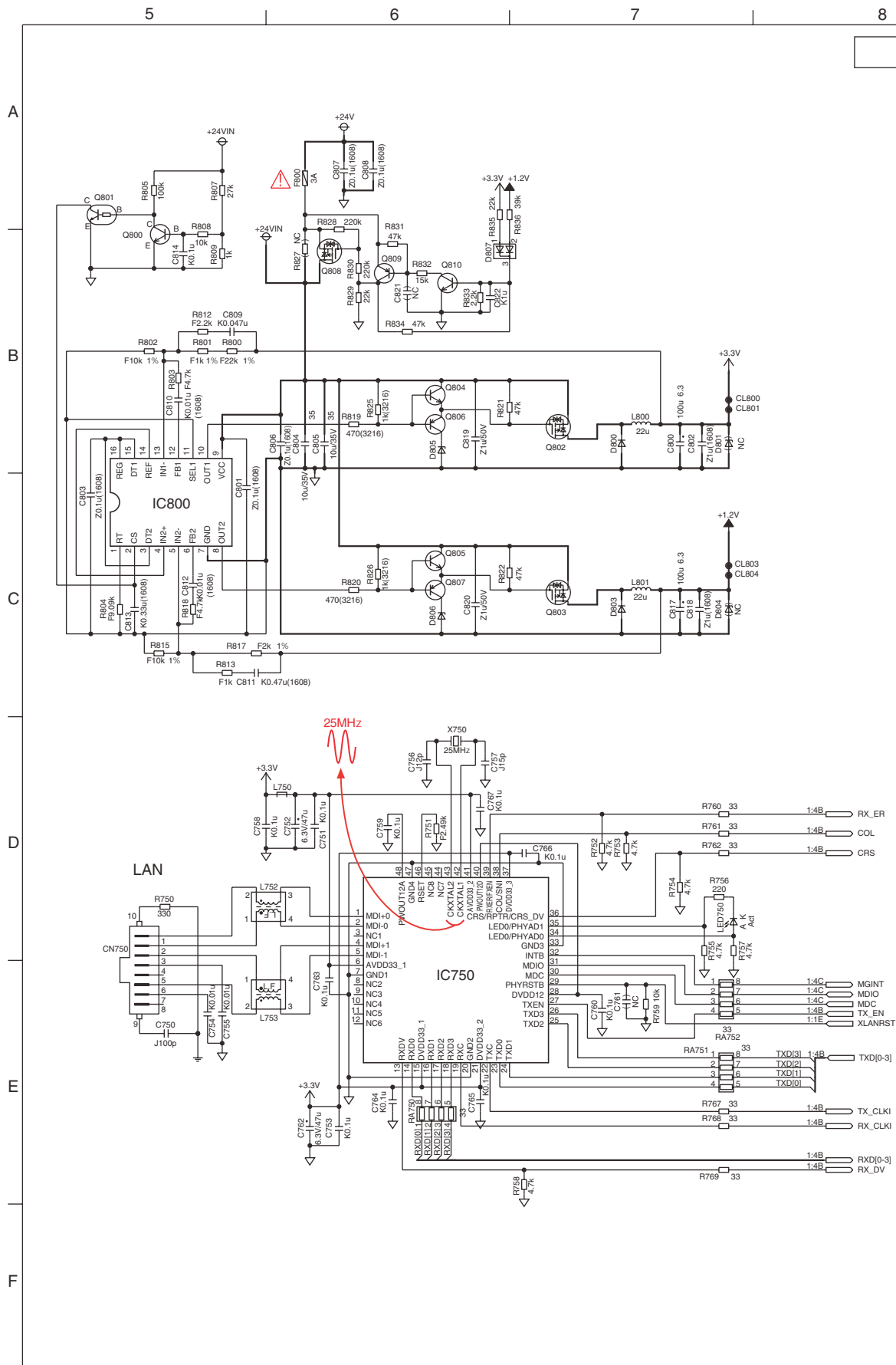
KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.1) (3/3)

Memo

16.5.2. Main Board (2)

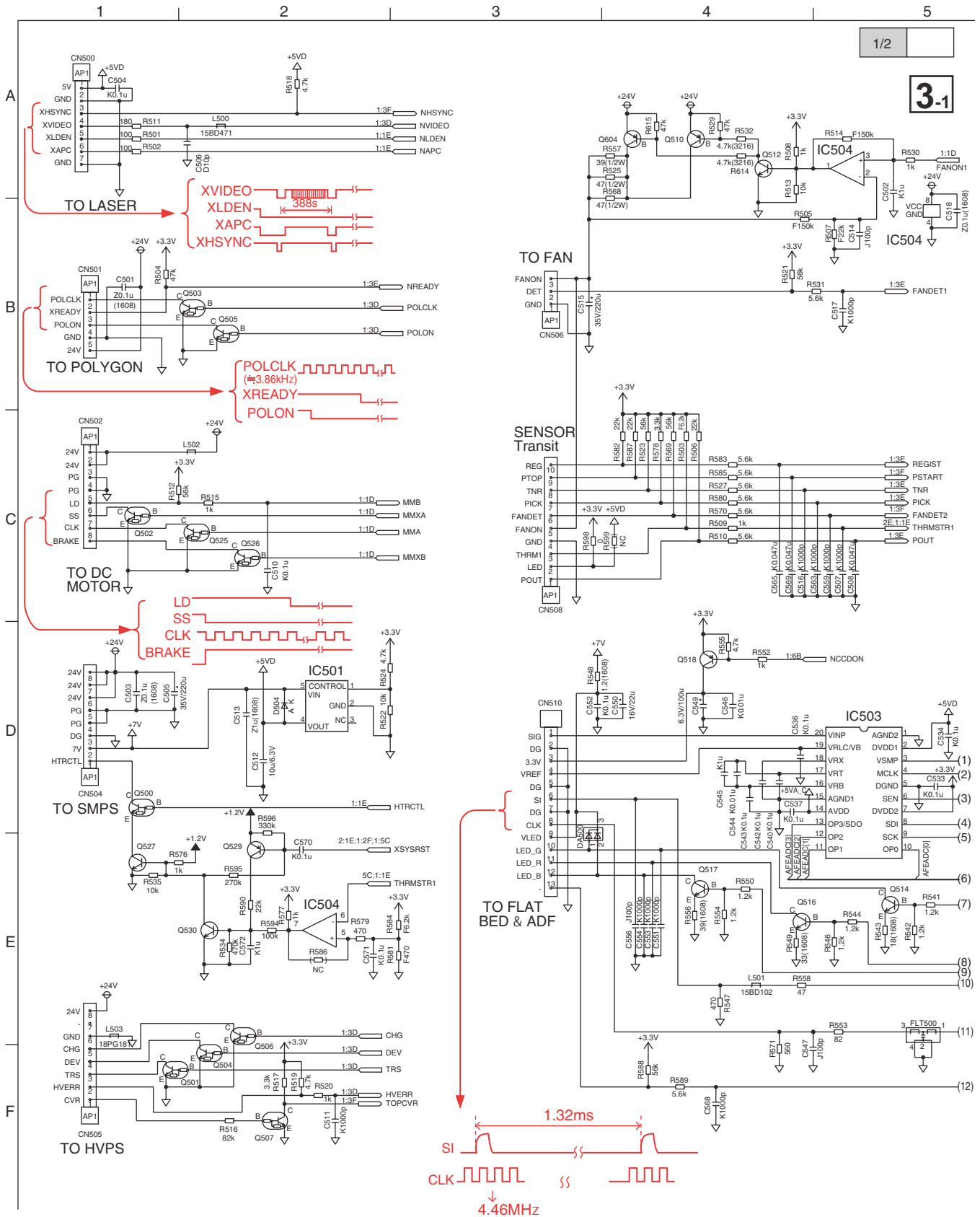


KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (1/2)

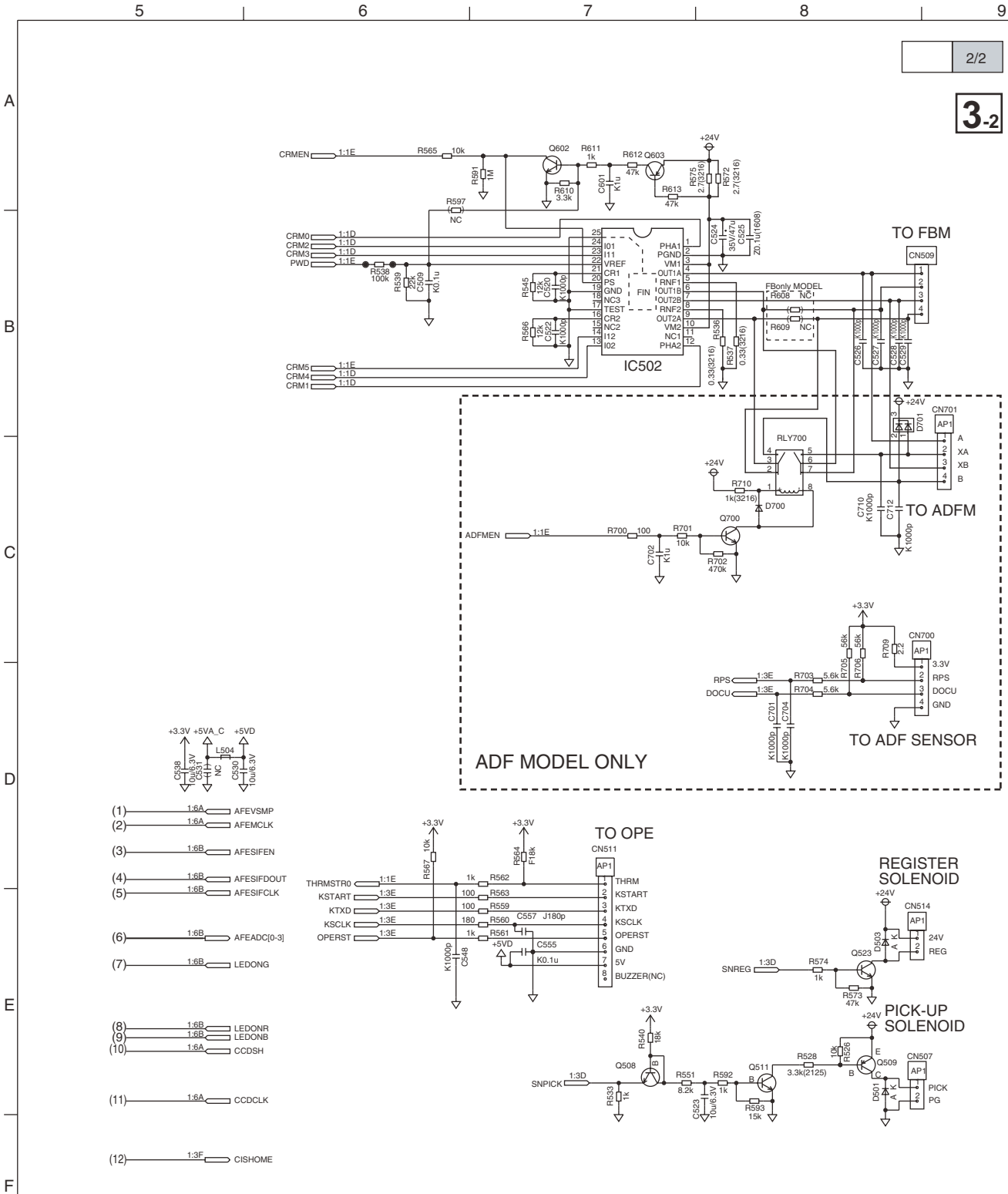


KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.2) (2/2)

16.5.3. Main Board (3)

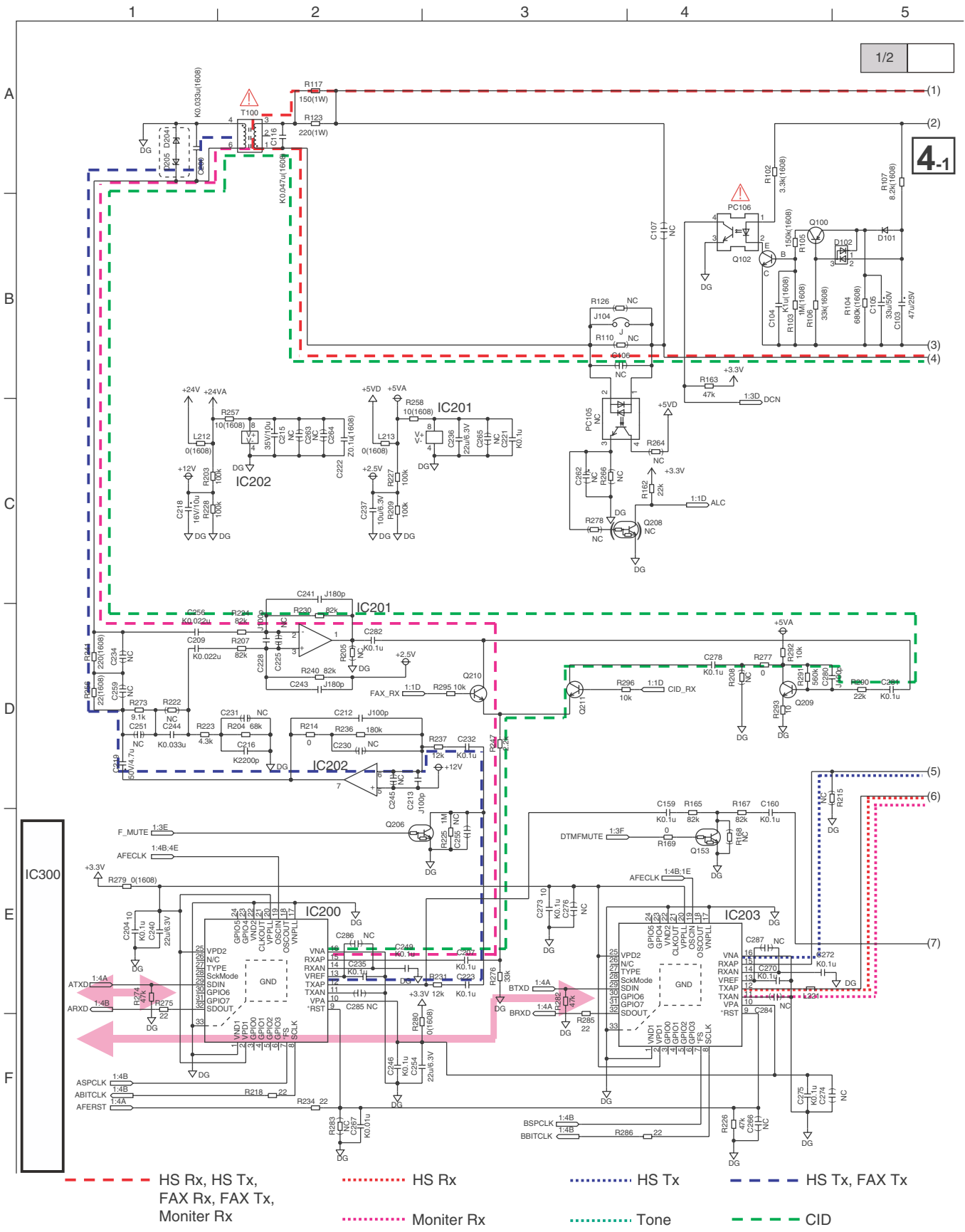


KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (1/2)



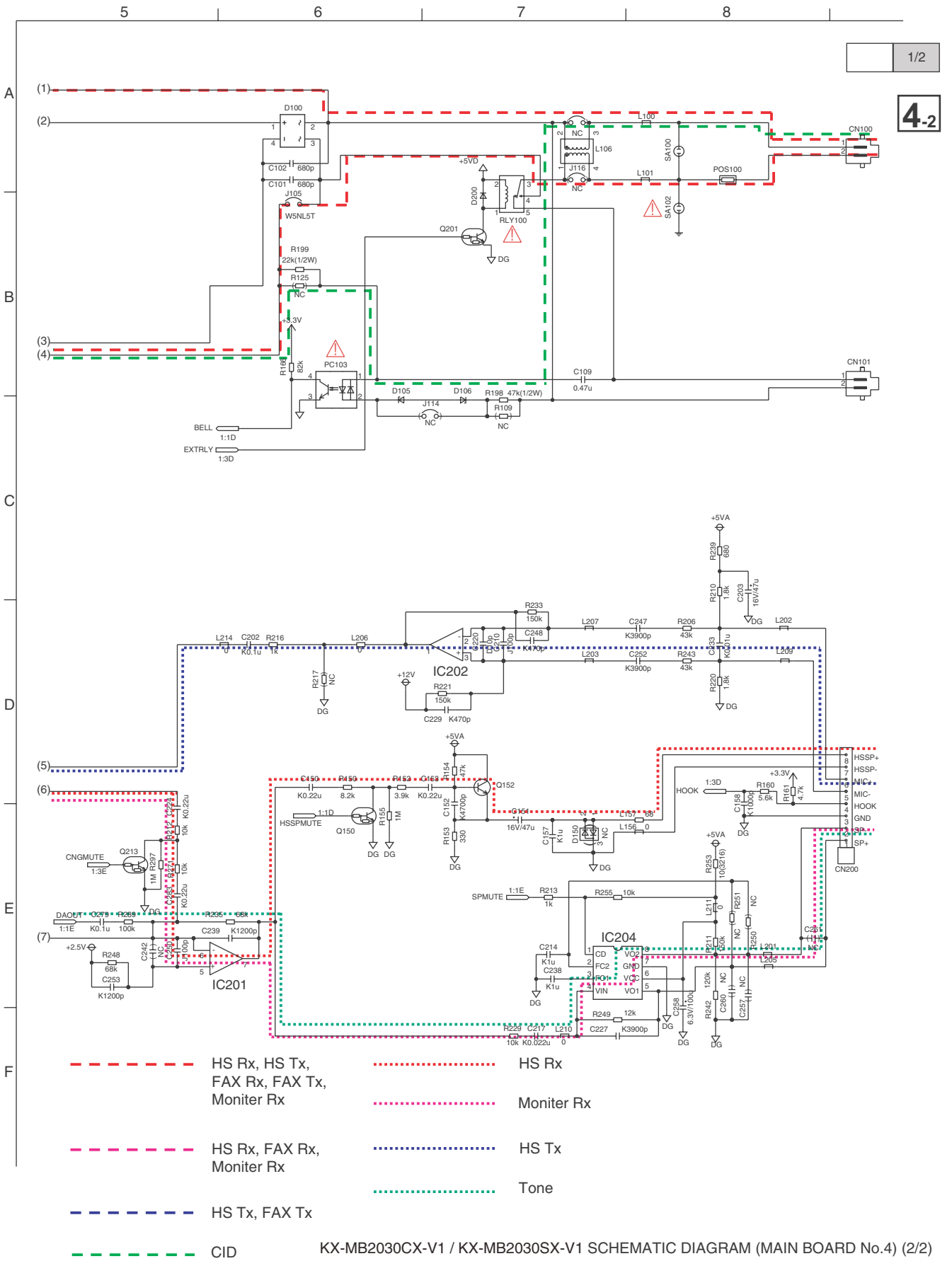
KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.3) (2/2)

16.5.4. Main Board (4)



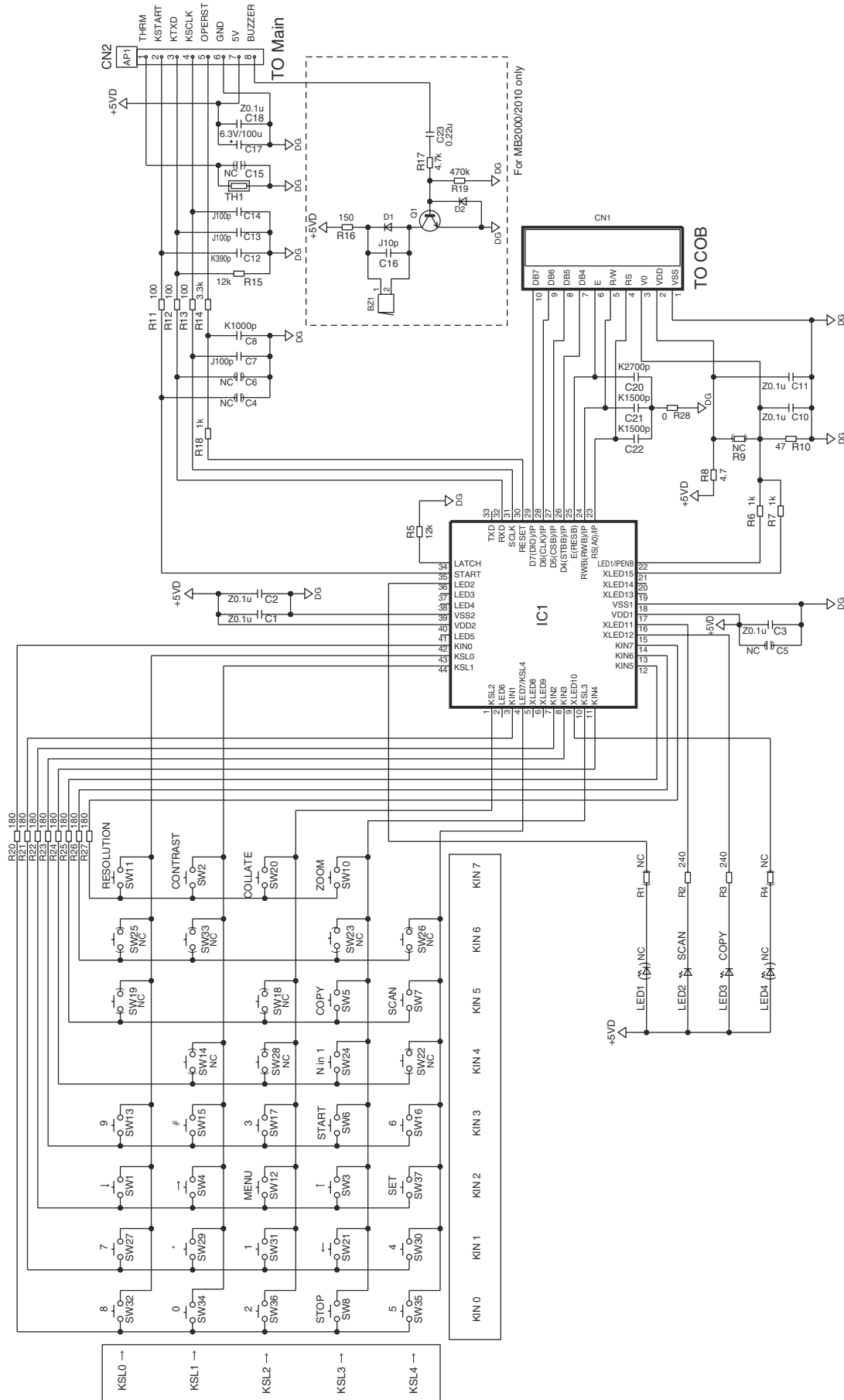
- - - - - HS Rx, HS Tx, FAX Rx, FAX Tx, Monitor Rx
- - - - - HS Tx
- - - - - HS Tx, FAX Tx
- - - - - HS Rx, FAX Rx, Monitor Rx
- Tone
- - - - - CID

KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.4) (1/2)



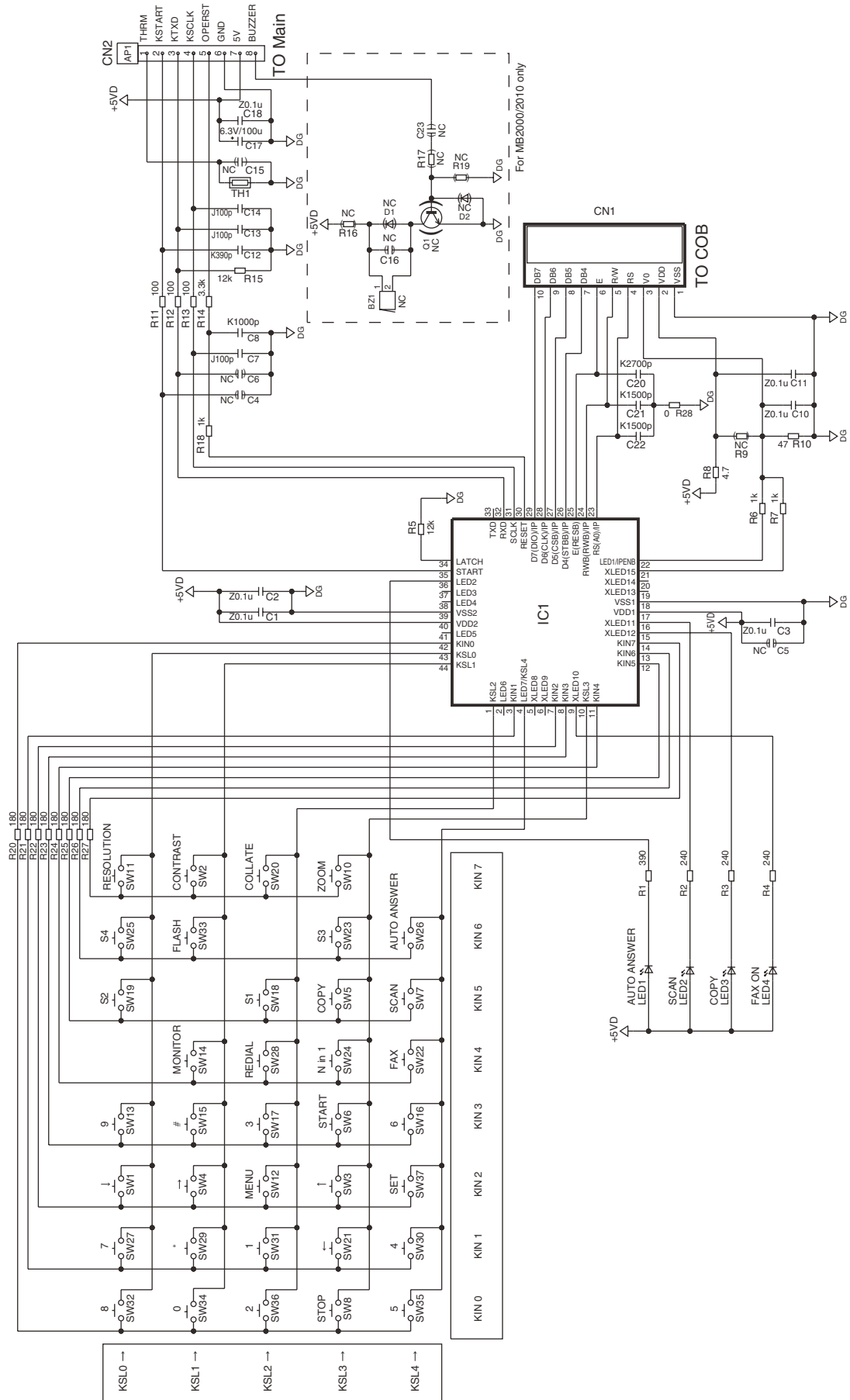
KX-MB2030CX-V1 / KX-MB2030SX-V1 SCHEMATIC DIAGRAM (MAIN BOARD No.4) (2/2)

16.6. Operation Board (KX-MB1900/2010)



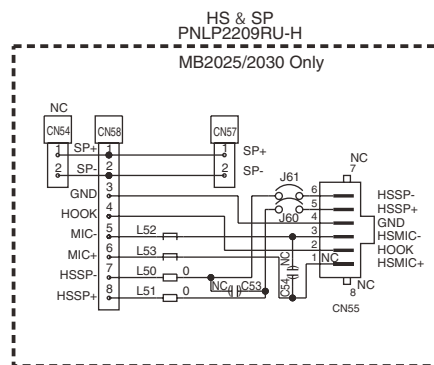
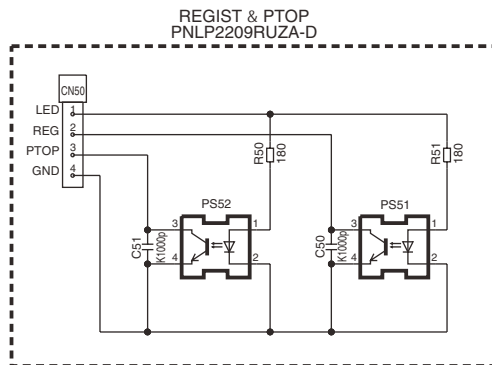
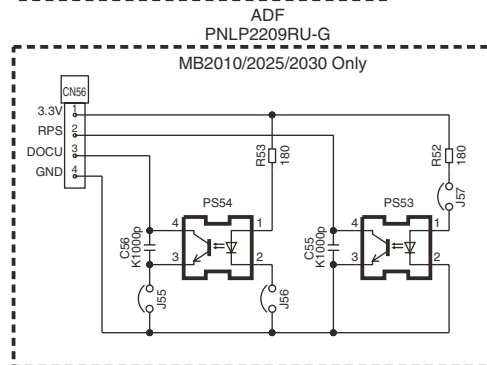
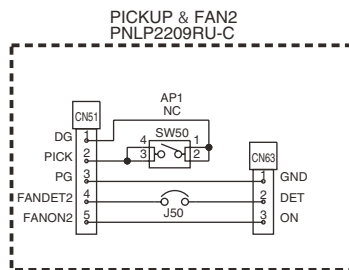
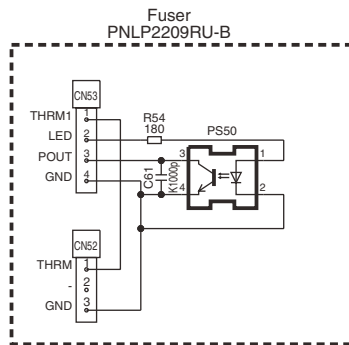
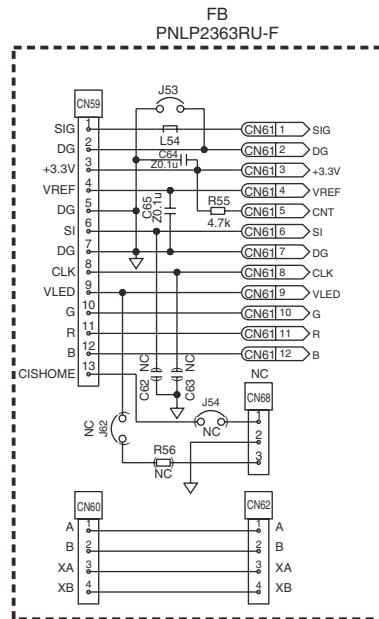
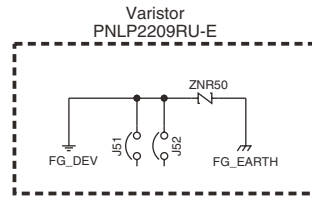
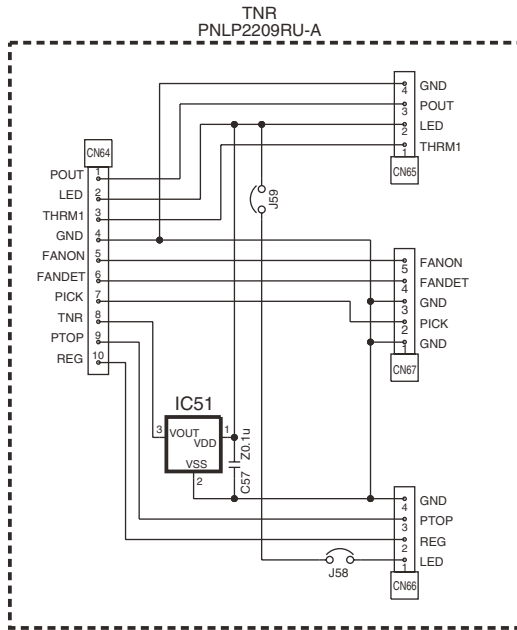
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 OPERATION BOARD

16.7. Operation Board (KX-MB2025/2030)



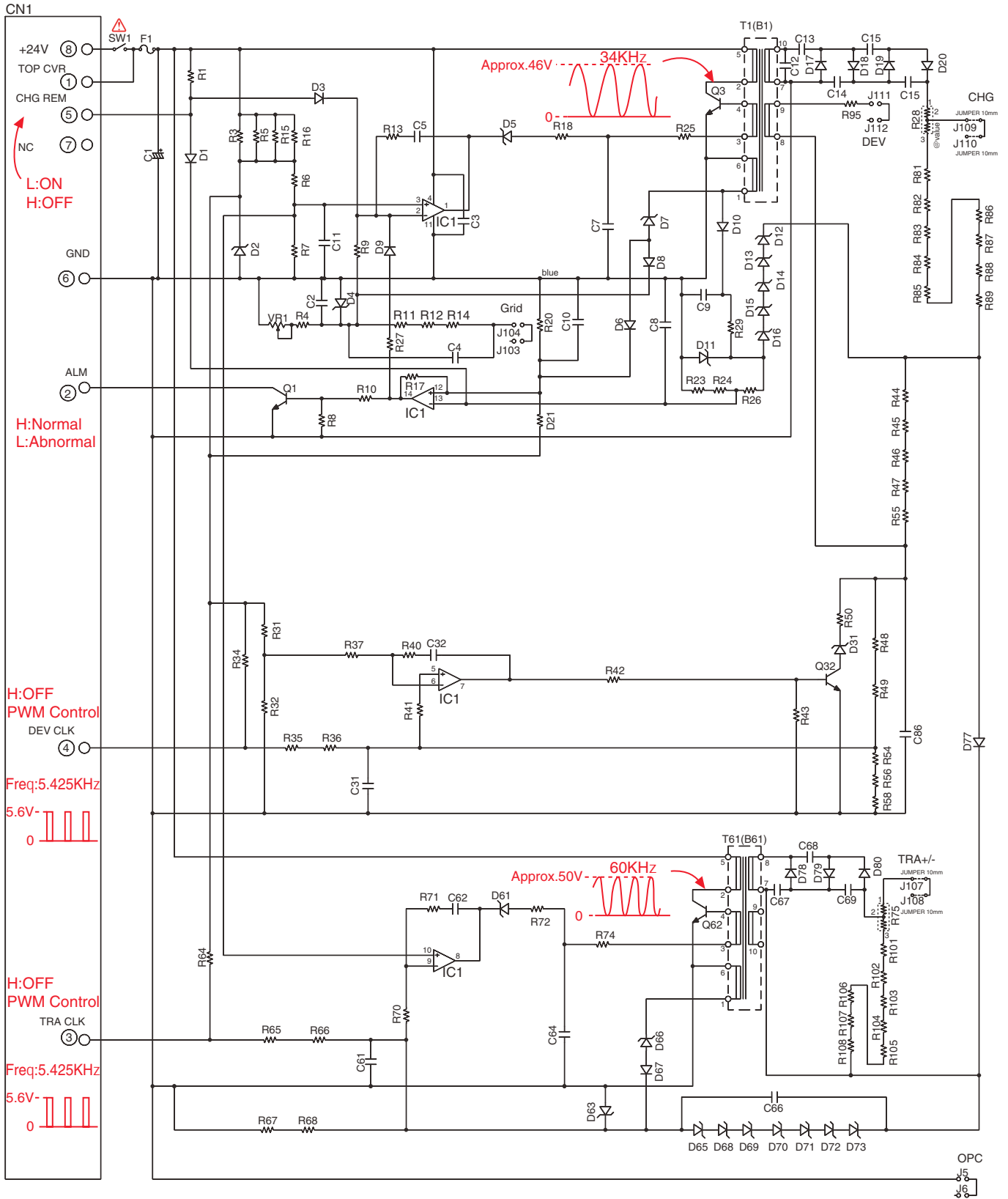
KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 OPERATION BOARD

16.8. Sensor Board



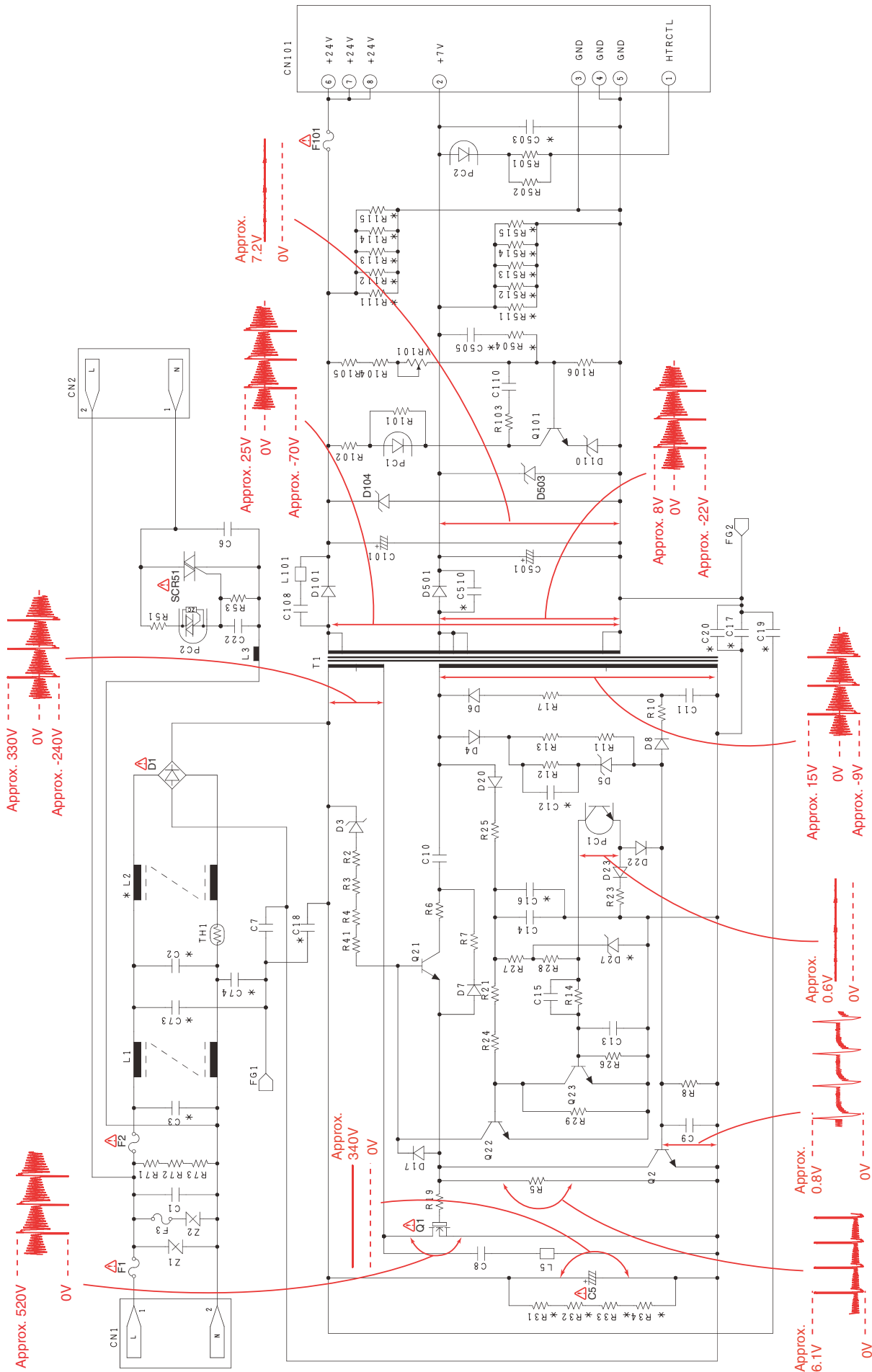
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 SENSOR BOARD

16.9. High Voltage Power Supply Board



KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 HIGH VOLTAGE POWER SUPPLY BOARD

16.10. Low Voltage Power Supply Board

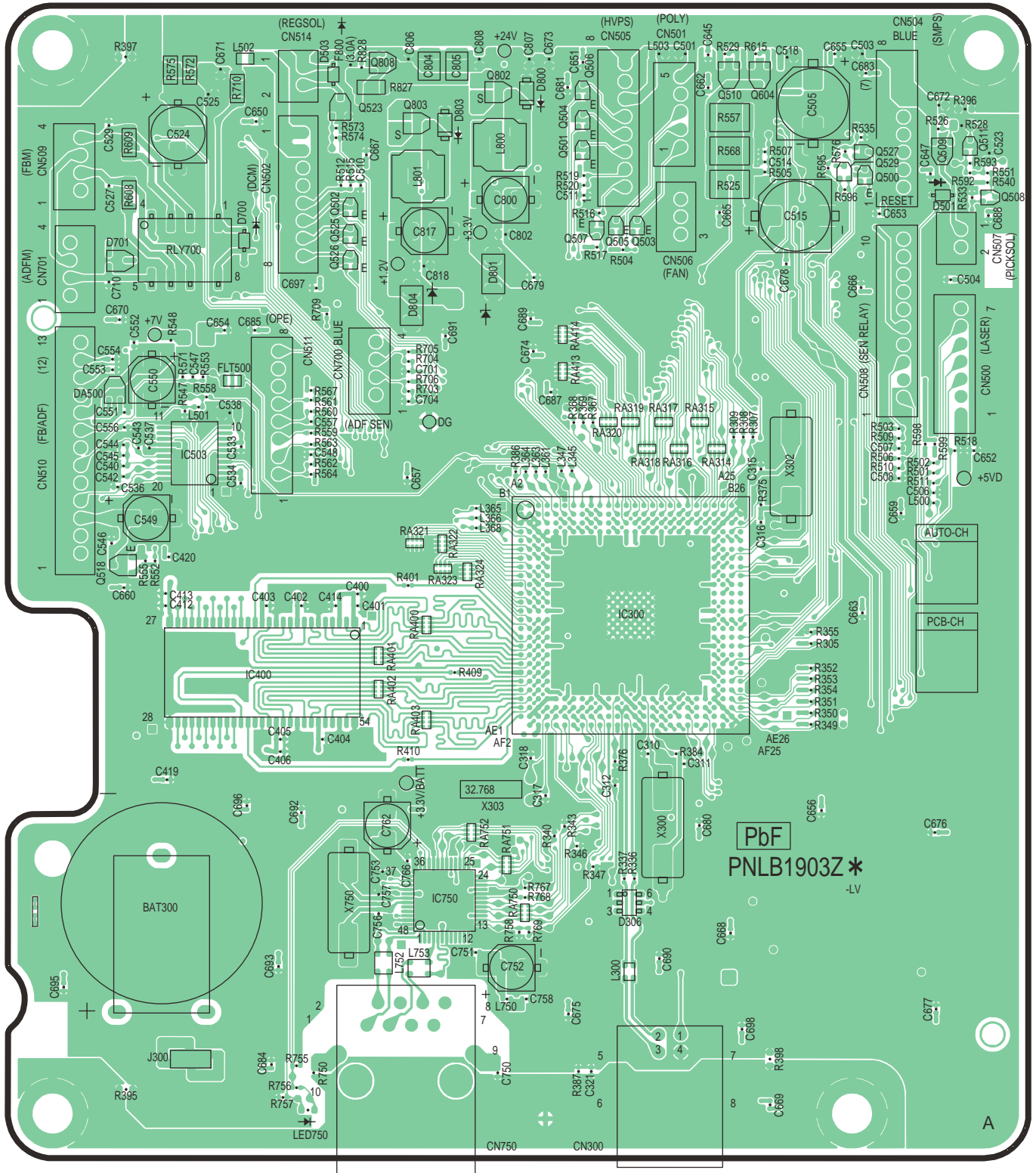


KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 LOW VOLTAGE POWER SUPPLY BOARD

17 Printed Circuit Board

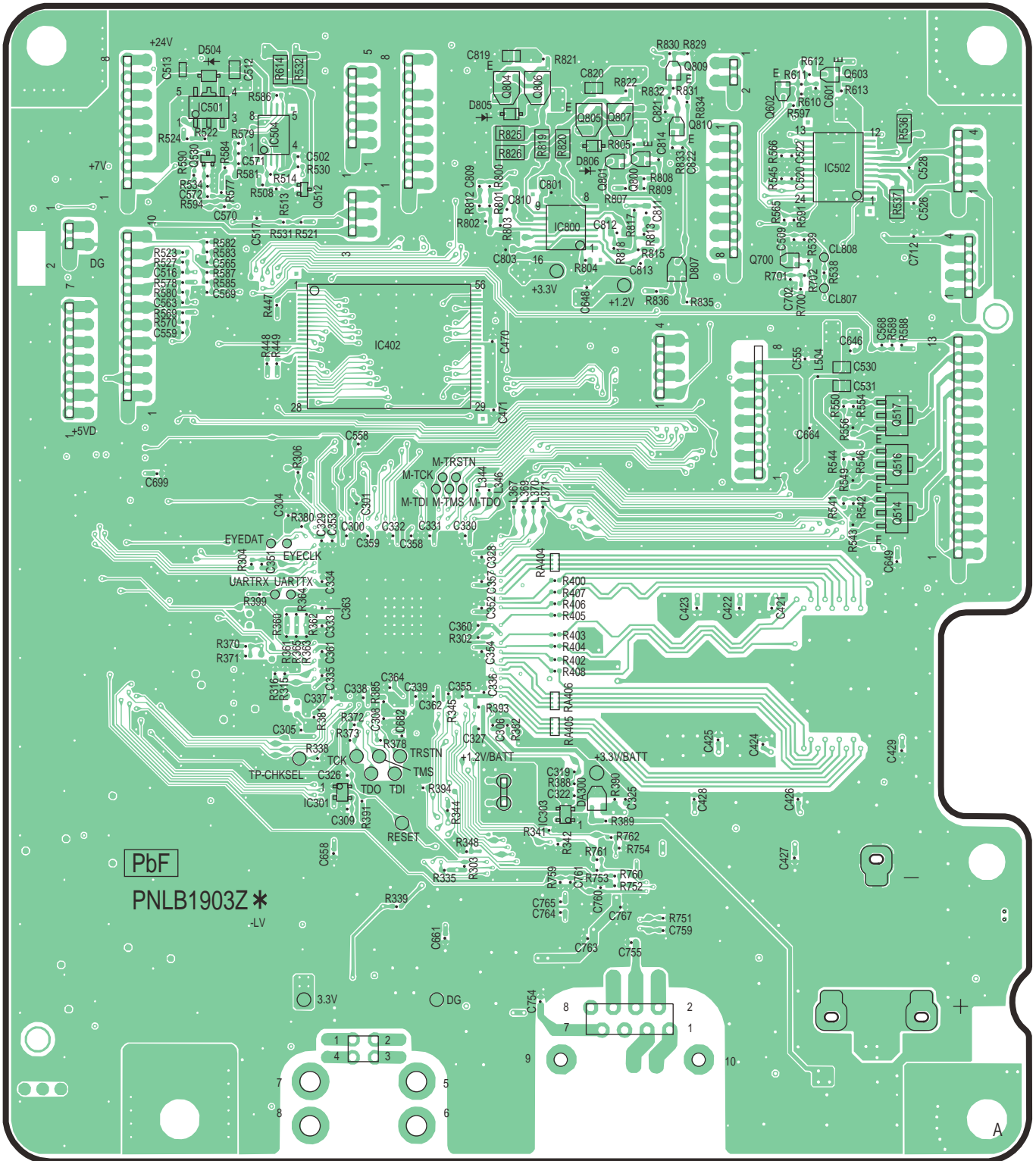
17.1. Main Board (KX-MB1900/2010)

17.1.1. Main Board: Component View



KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 MAIN BOARD COMPONENT VIEW

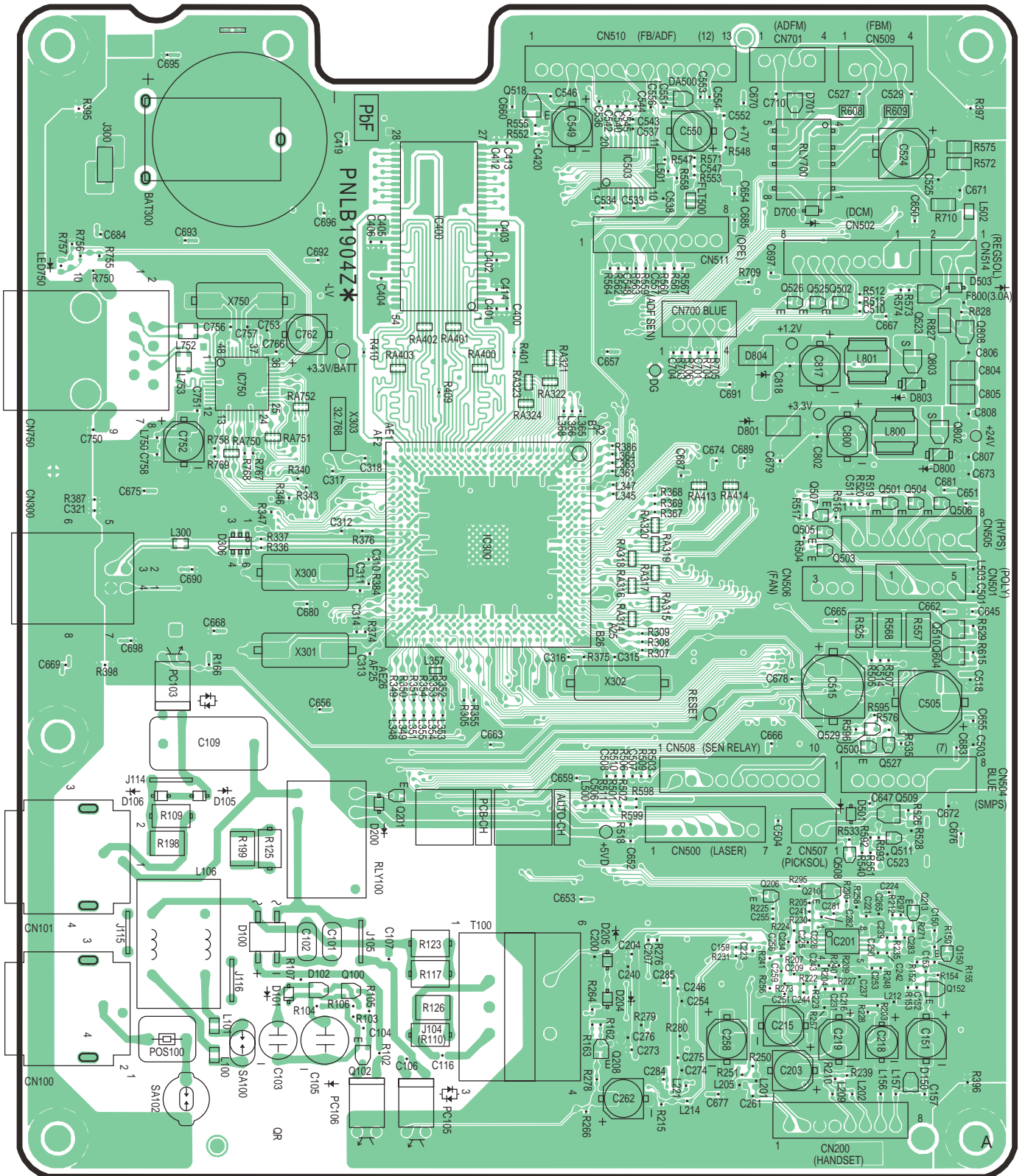
17.1.2. Main Board: Bottom View



KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 MAIN BOARD BOTTOM VIEW

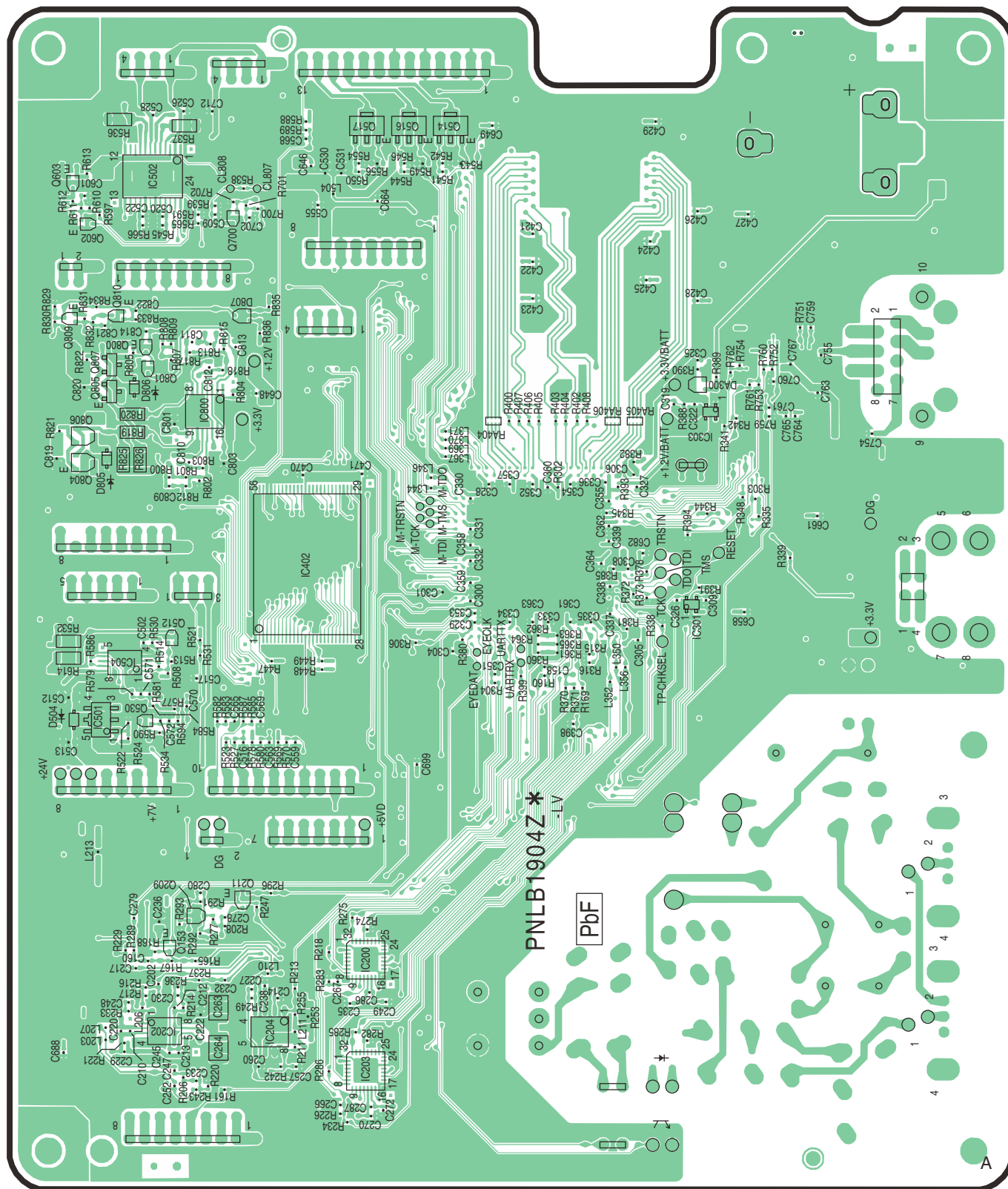
17.2. Main Board (KX-MB2025/2030)

17.2.1. Main Board: Component View



KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 MAIN BOARD COMPONENT VIEW

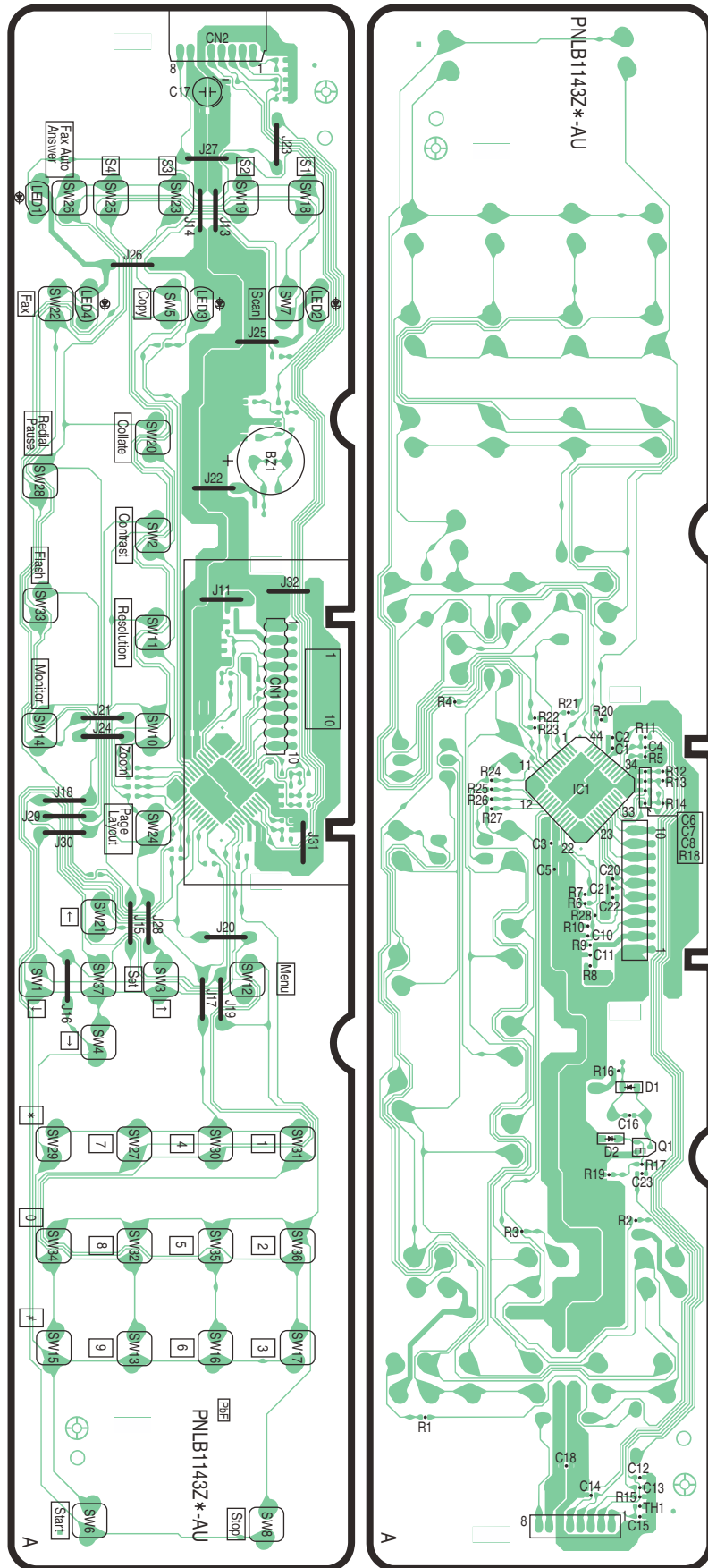
17.2.2. Main Board: Bottom View



KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 MAIN BOARD BOTTOM VIEW

17.3. Operation Board

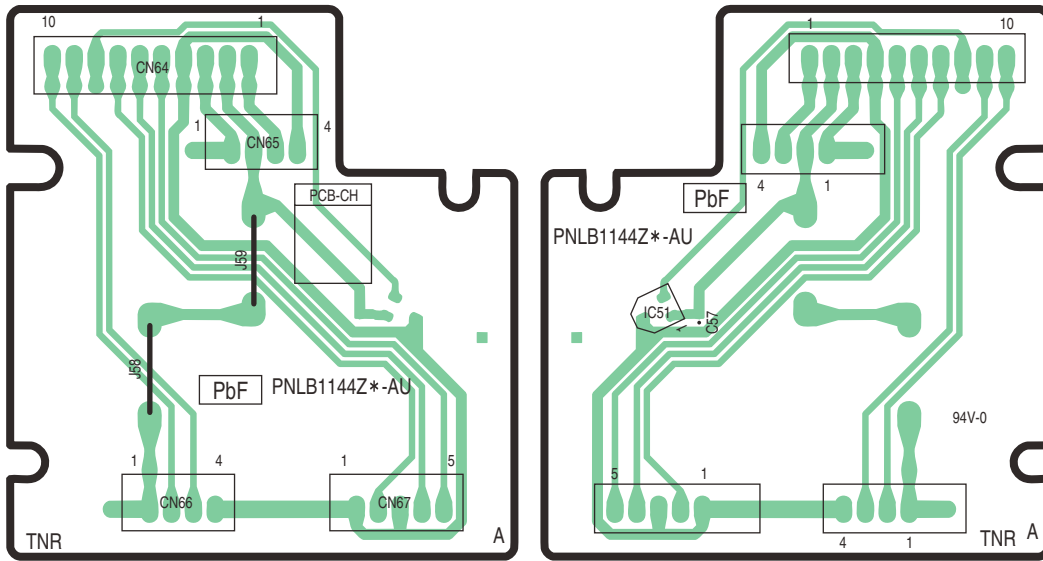
17.3.1. Operation Board



KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 OPERATION BOARD

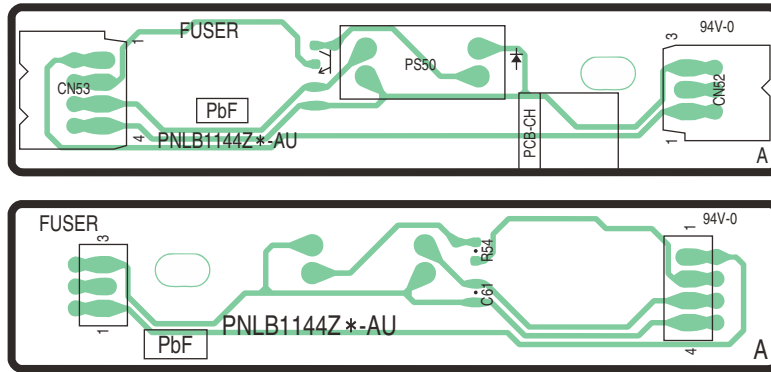
17.4. Sensor Board

17.4.1. Toner Sensor Board



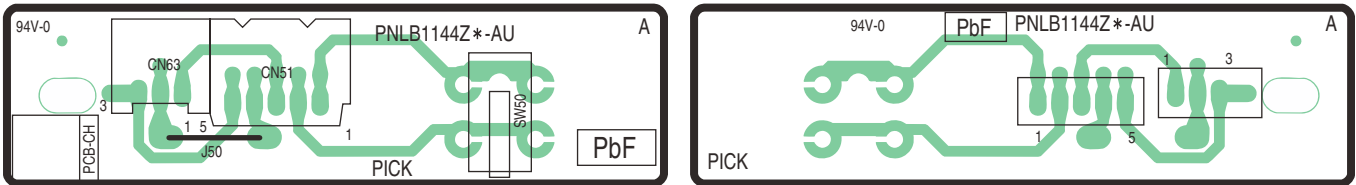
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 /
KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 TONER SENSOR BOARD

17.4.2. Fuser Board



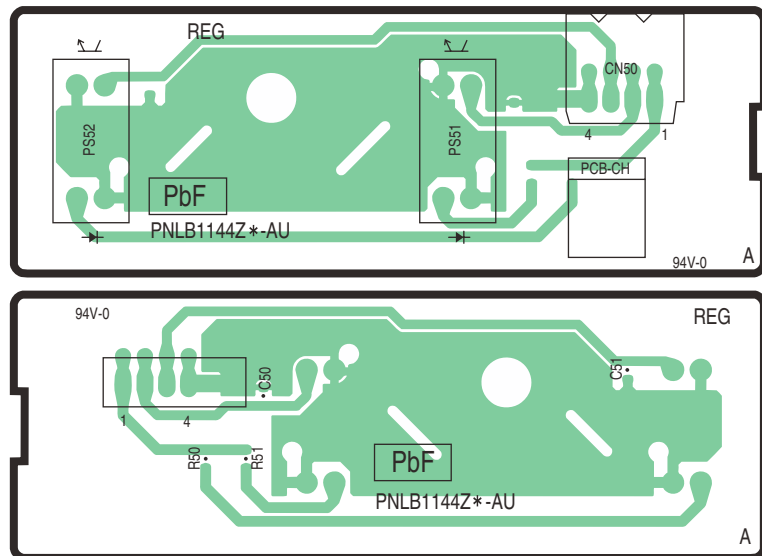
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 /
KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 FUSER SENSOR BOARD

17.4.3. Pickup Sensor Board



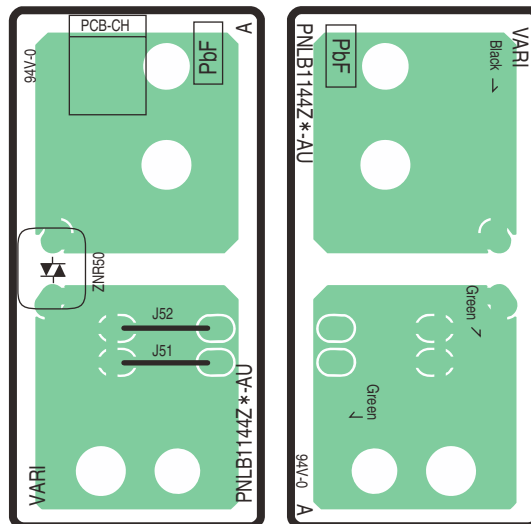
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 /
KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 PICK UP SENSOR BOARD

17.4.4. Registration Sensor Board



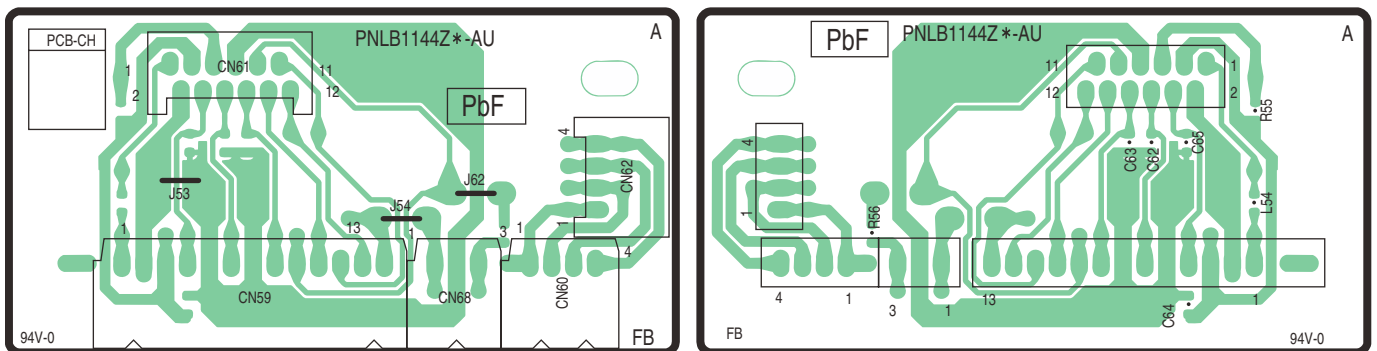
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 REGISTRATION SENSOR BOARD

17.4.5. Varistor Sensor Board



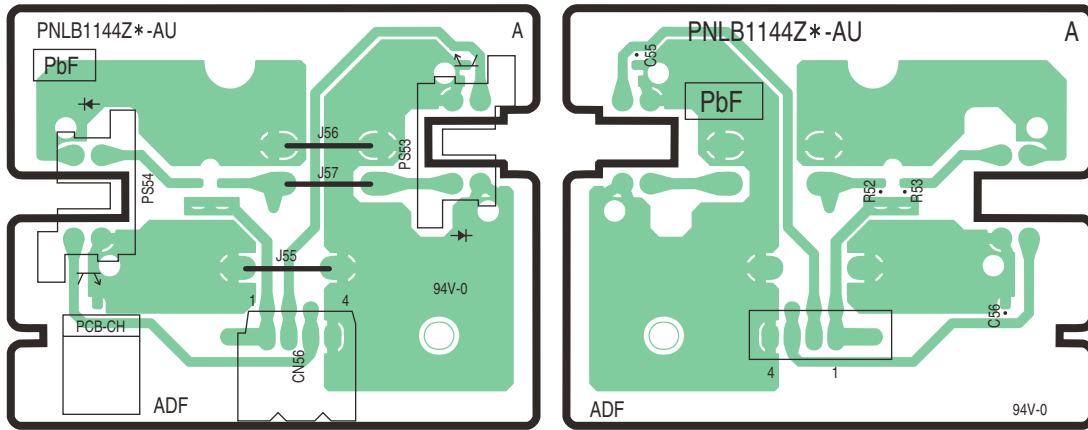
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 VARISTOR SENSOR BOARD

17.4.6. Flatbed Relay Board



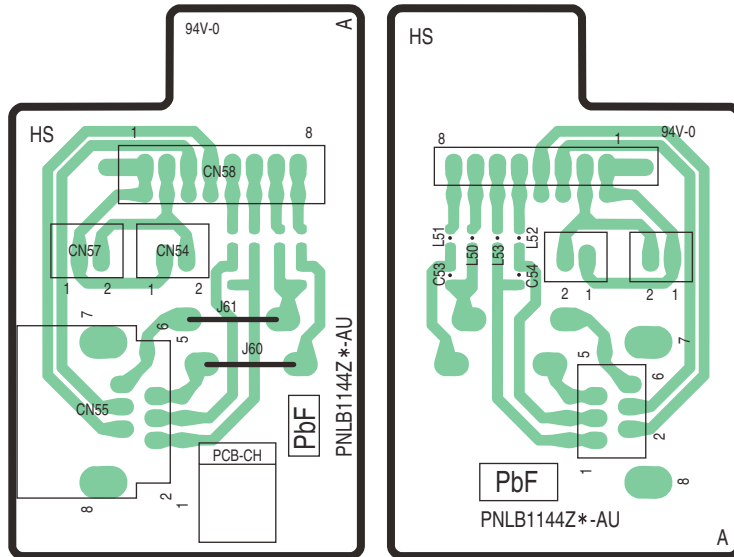
KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 FB RELAY BOARD

17.4.7. ADF Sensor Board (KX-MB2010/2025/2030 ONLY)



KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 ADF SENSOR BOARD

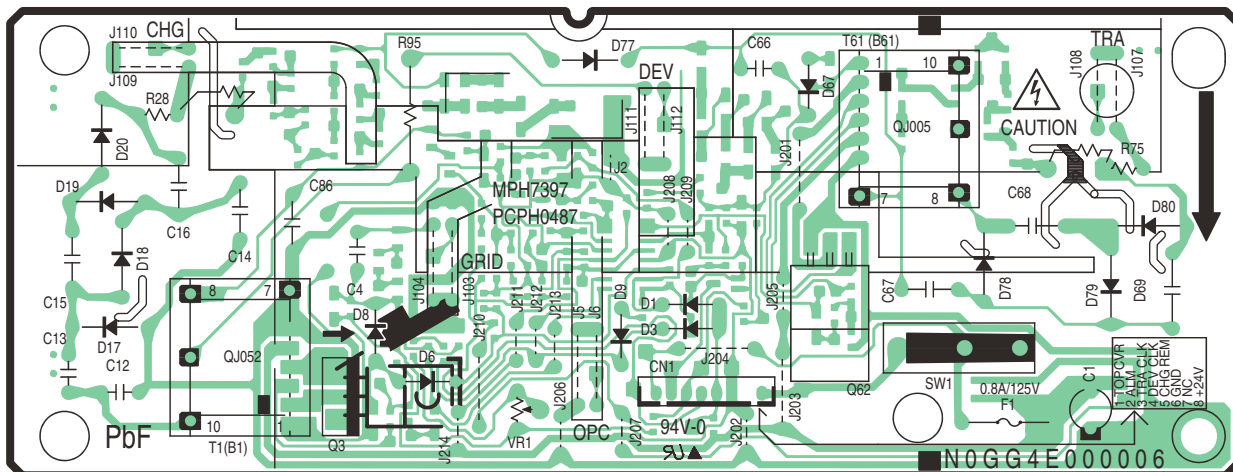
17.4.8. Handset Relay Board (KX-MB2025/KX-MB2030 ONLY)



KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 HANDSET SENSOR BOARD

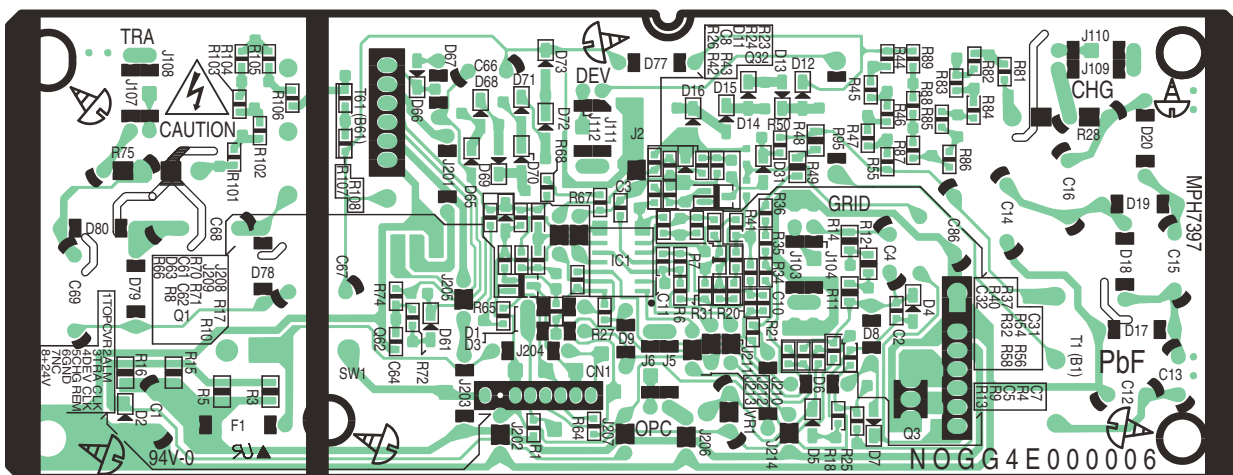
17.5. High Voltage Power Supply Board

17.5.1. HIGH VOLTAGE POWER SUPPLY BOARD: COMPONENT VIEW



KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 HIGH VOLTAGE POWER SUPPLY BOARD (COMPONENT VIEW)

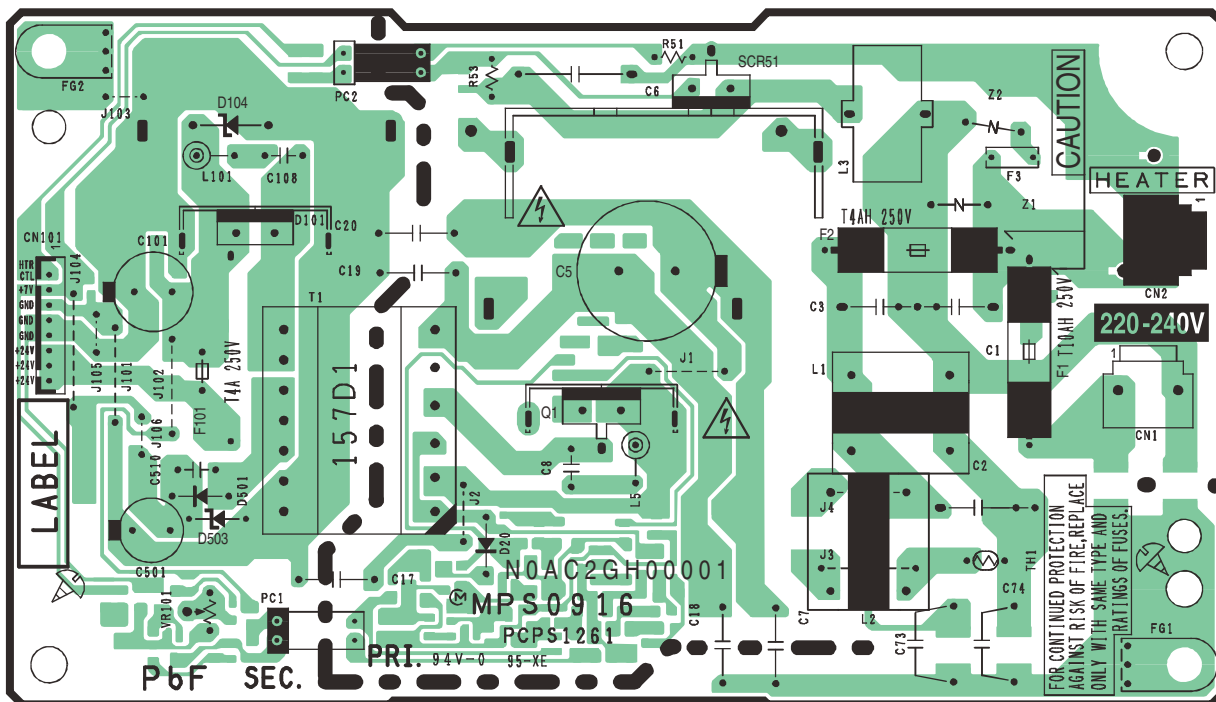
17.5.2. HIGH VOLTAGE POWER SUPPLY BOARD: BOTTOM VIEW



KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 HIGH VOLTAGE POWER SUPPLY BOARD (BOTTOM VIEW)

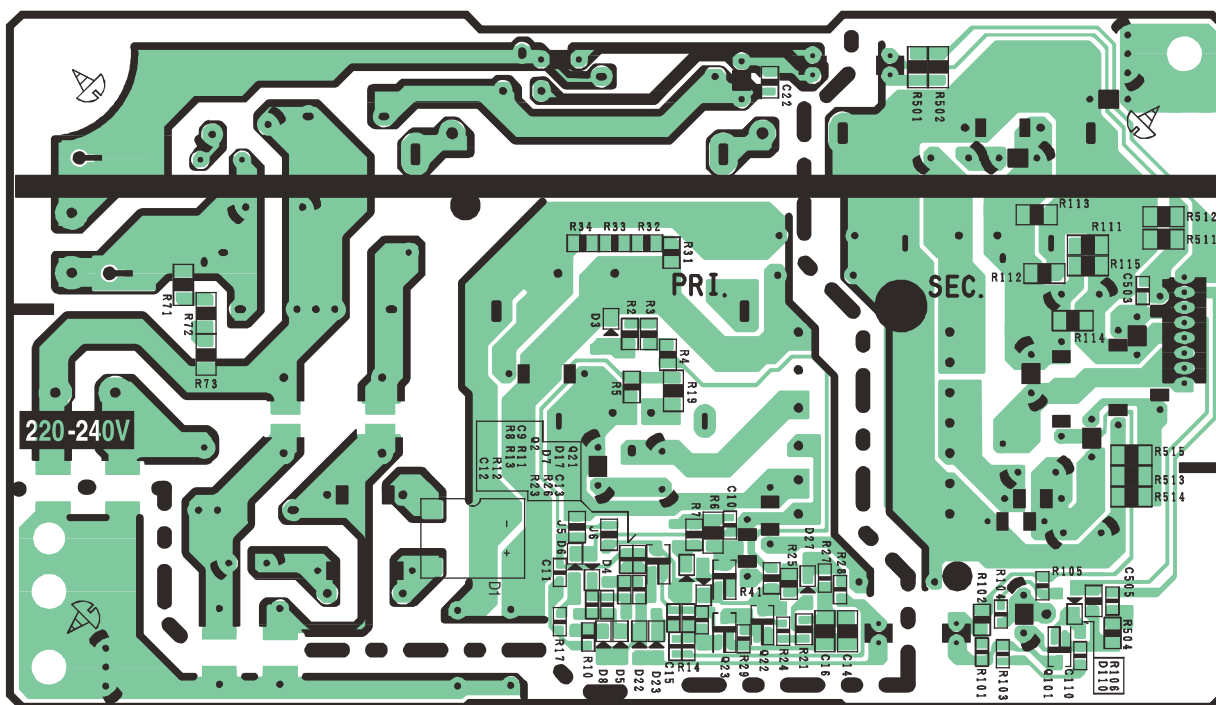
17.6. Low Voltage Power Supply Board

17.6.1. LOW VOLTAGE POWER SUPPLY BOARD: COMPONENT VIEW



KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 LOW VOLTAGE POWER SUPPLY BOARD (COMPONENT VIEW)

17.6.2. LOW VOLTAGE POWER SUPPLY BOARD: BOTTOM VIEW

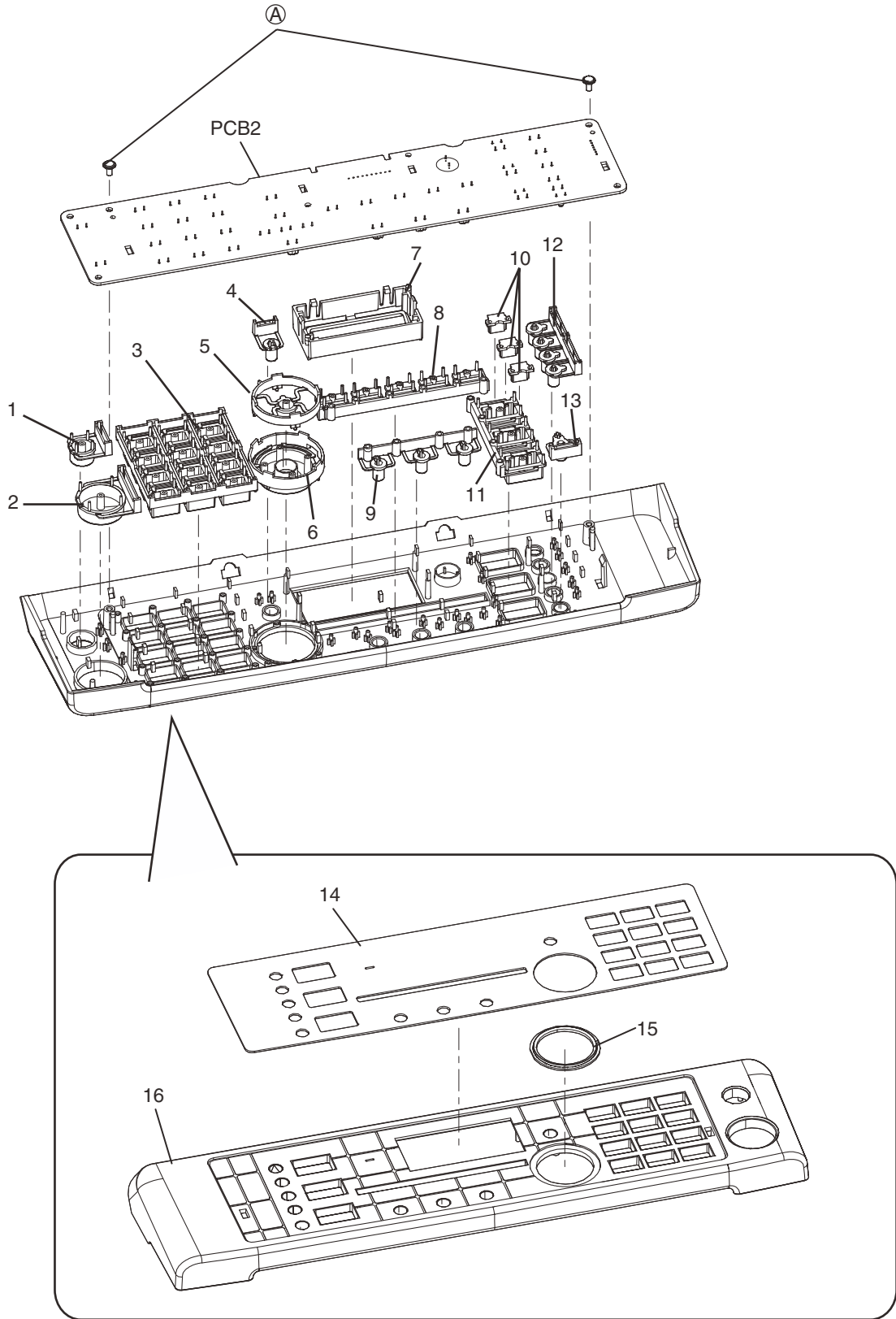


KX-MB1900CX-V1 / KX-MB1900SX-V1 / KX-MB2010CX-V1 / KX-MB2010SX-V1 / KX-MB2025CX-V1 / KX-MB2030CX-V1 / KX-MB2030SX-V1 LOW VOLTAGE POWER SUPPLY BOARD (BOTTOM VIEW)

18 Exploded View and Replacement Parts List

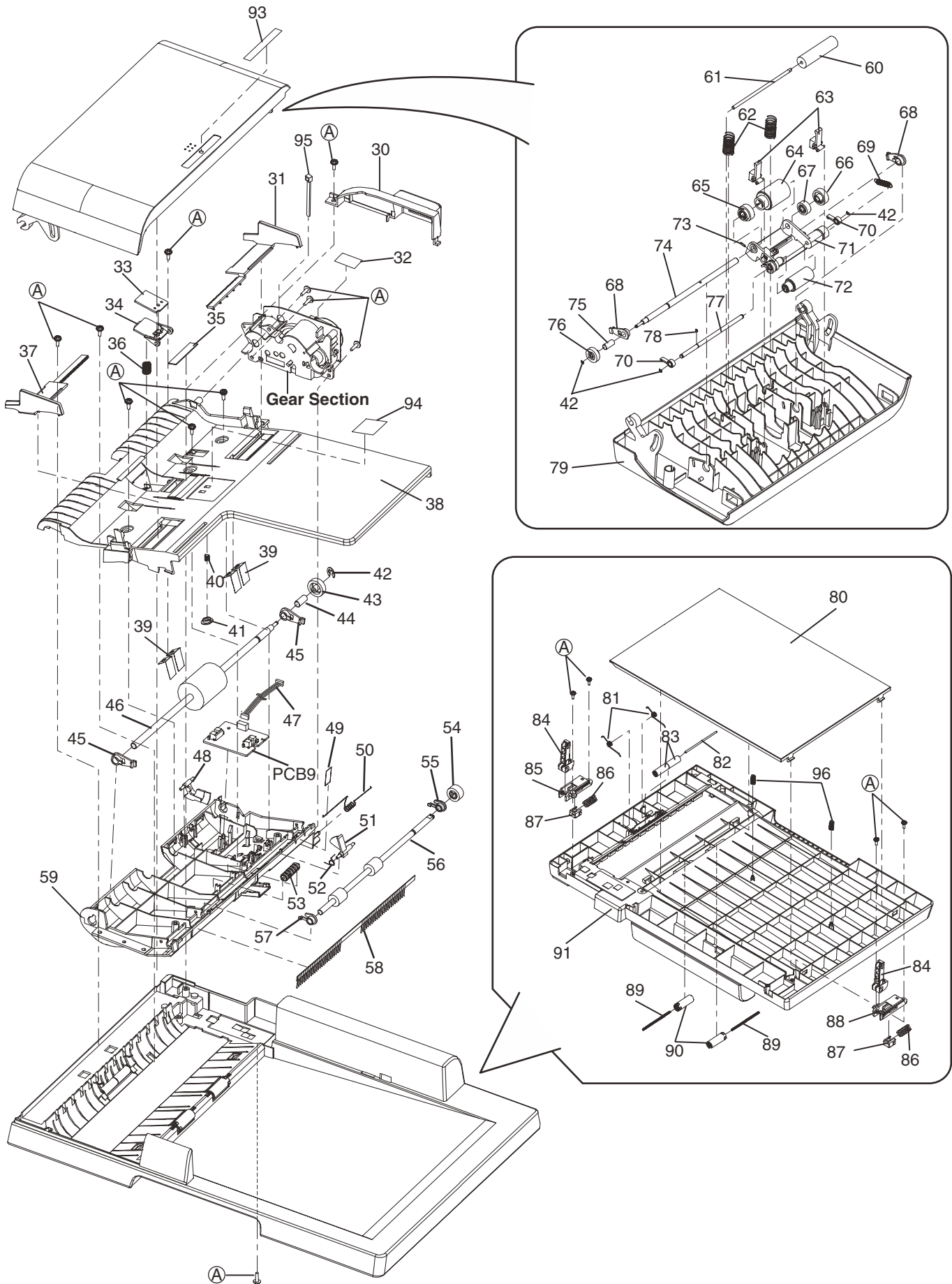
18.1. Cabinet, Mechanical and Electrical Parts Location

18.1.1. Operation Panel Section

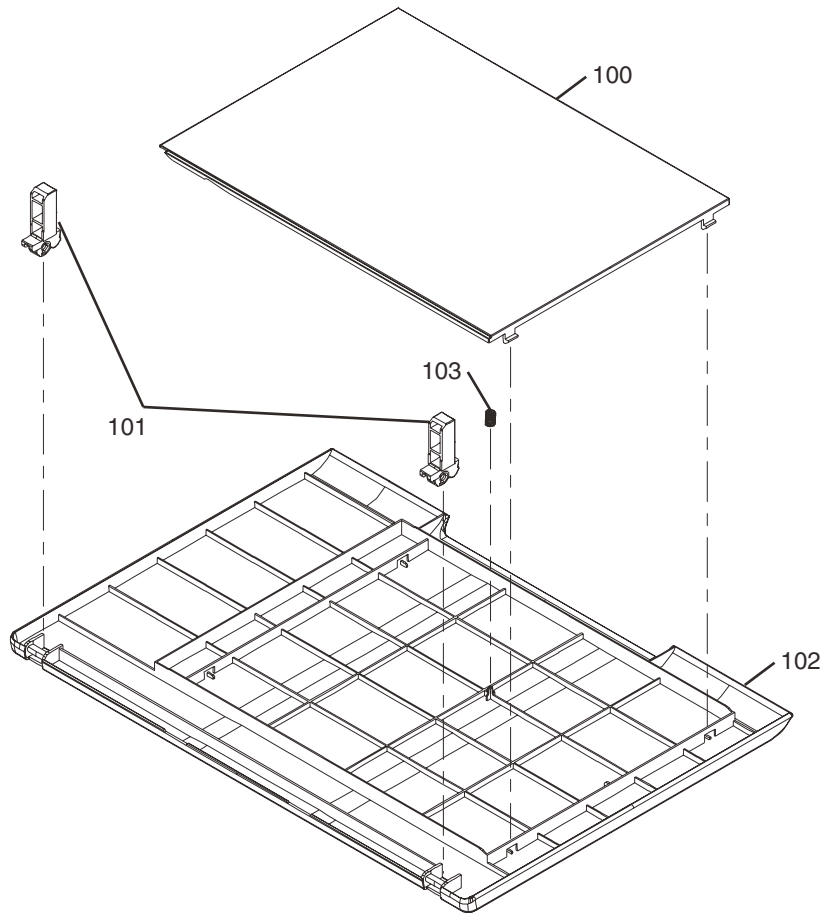


This pictured model is KX-MB2030.

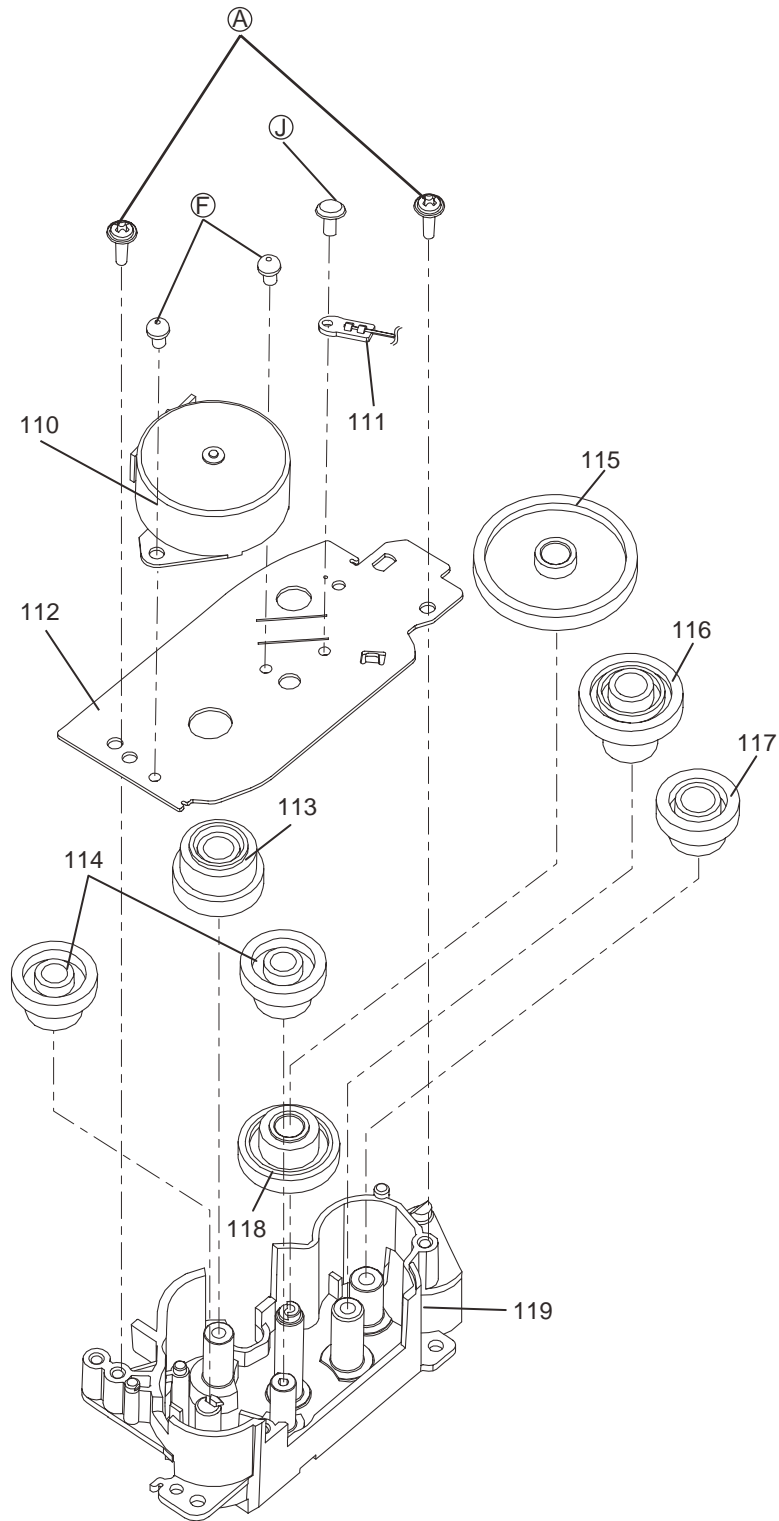
18.1.2. ADF Section (KX-MB2010/2025/2030)



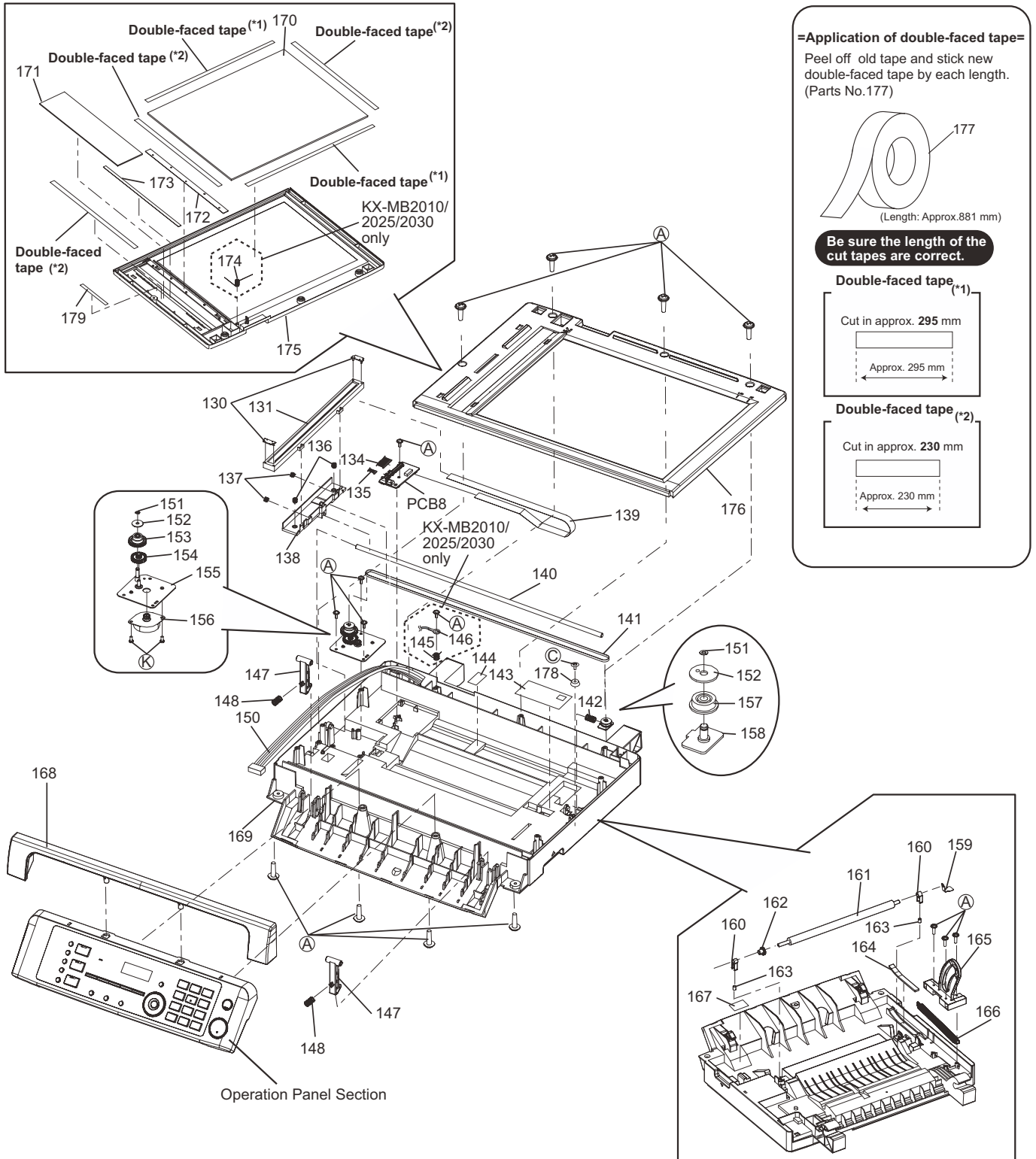
18.1.3. Flatbed Section (KX-MB1900)



18.1.4. ADF Gear Section (KX-MB2010/2025/2030)



18.1.5. Top Cover Section



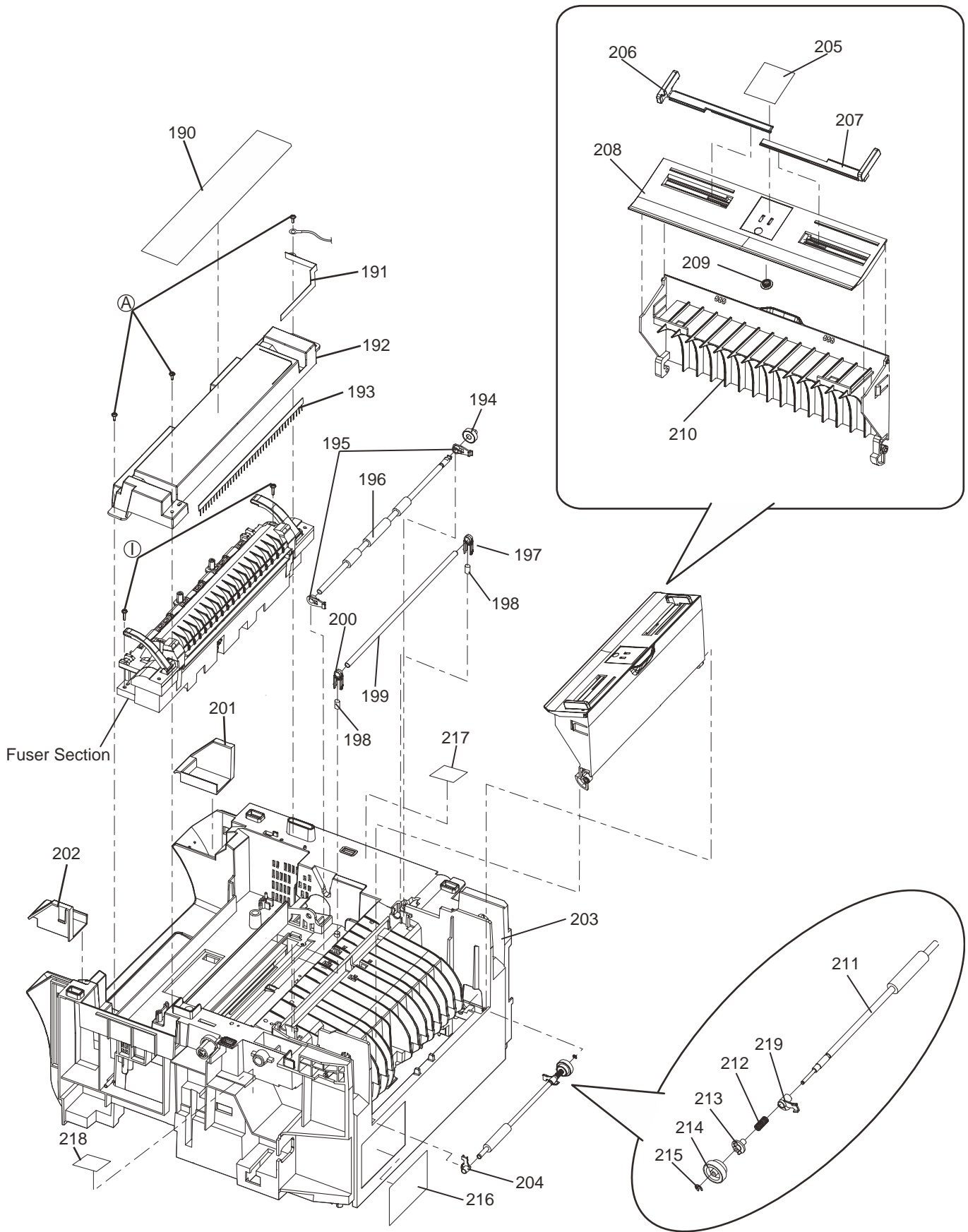
*176 is the Scanner Glass Ass'y.

This pictured model is KX-MB2030.

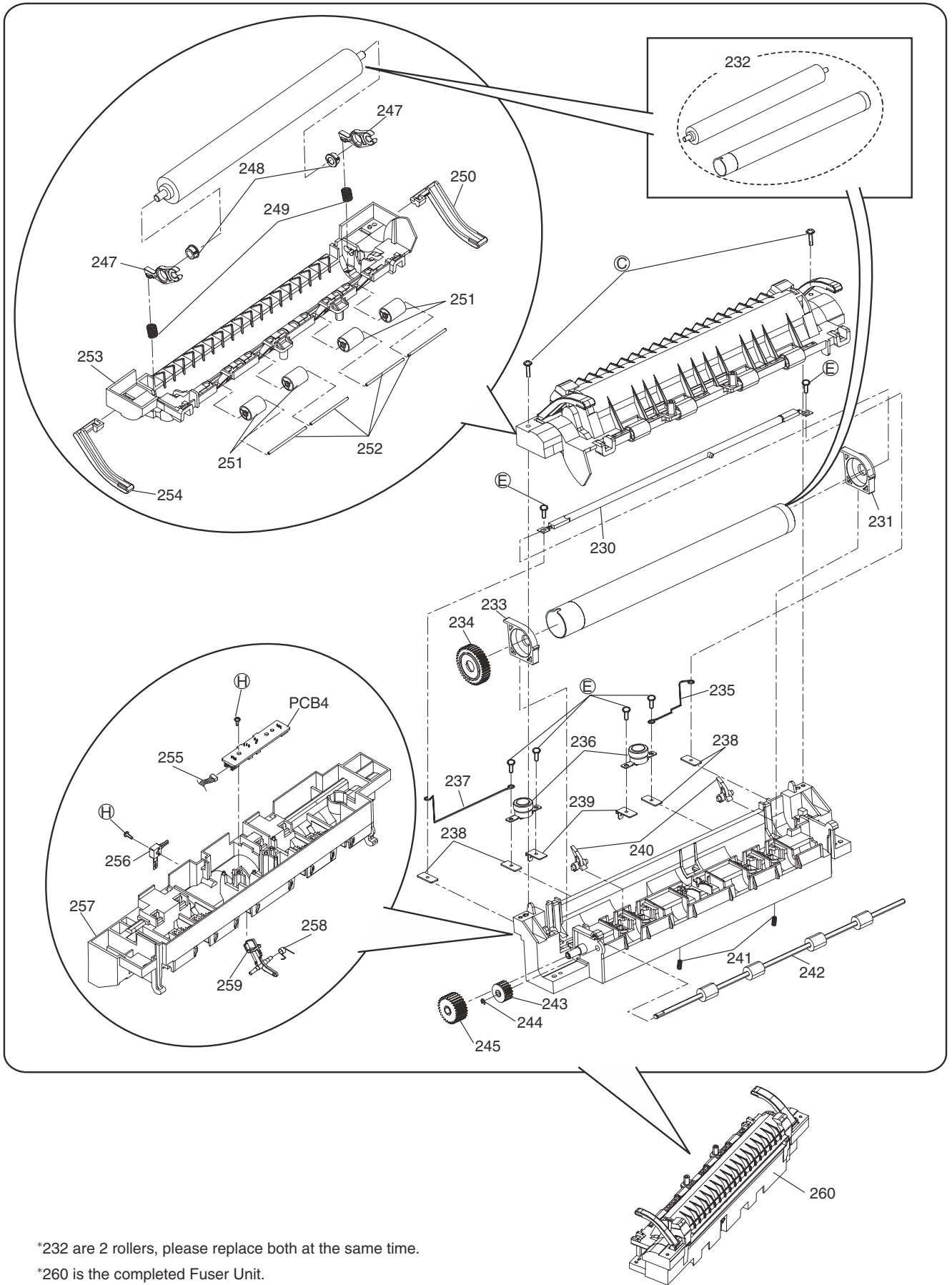
Note:

How to attache the Label/CIS Home refer to **Position of Installing LABEL/CIS HOME** (P.231).

18.1.6. Main Cabinet Section



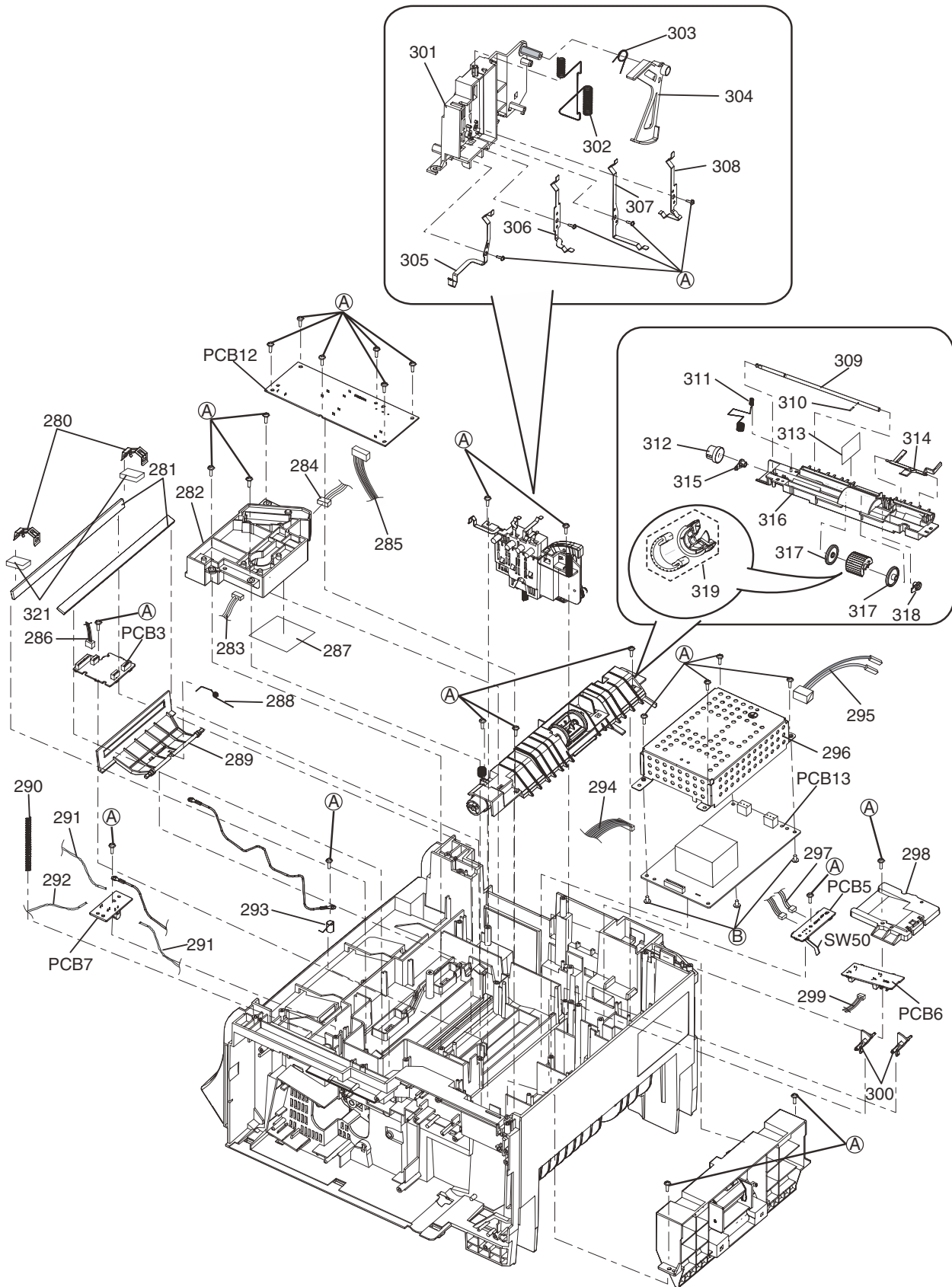
18.1.7. Fuser Section



*232 are 2 rollers, please replace both at the same time.

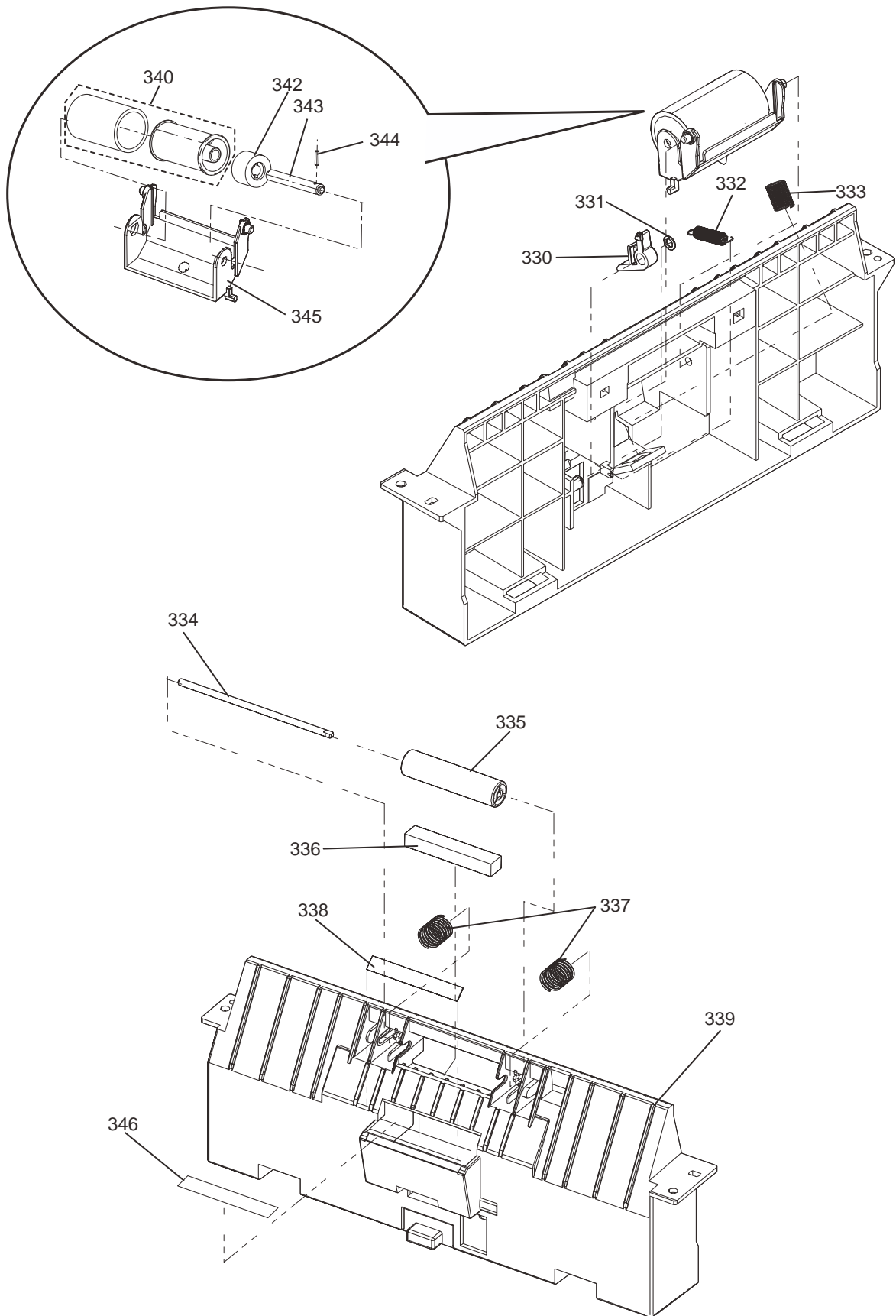
*260 is the completed Fuser Unit.

18.1.8. Bottom Cabinet Section (1)



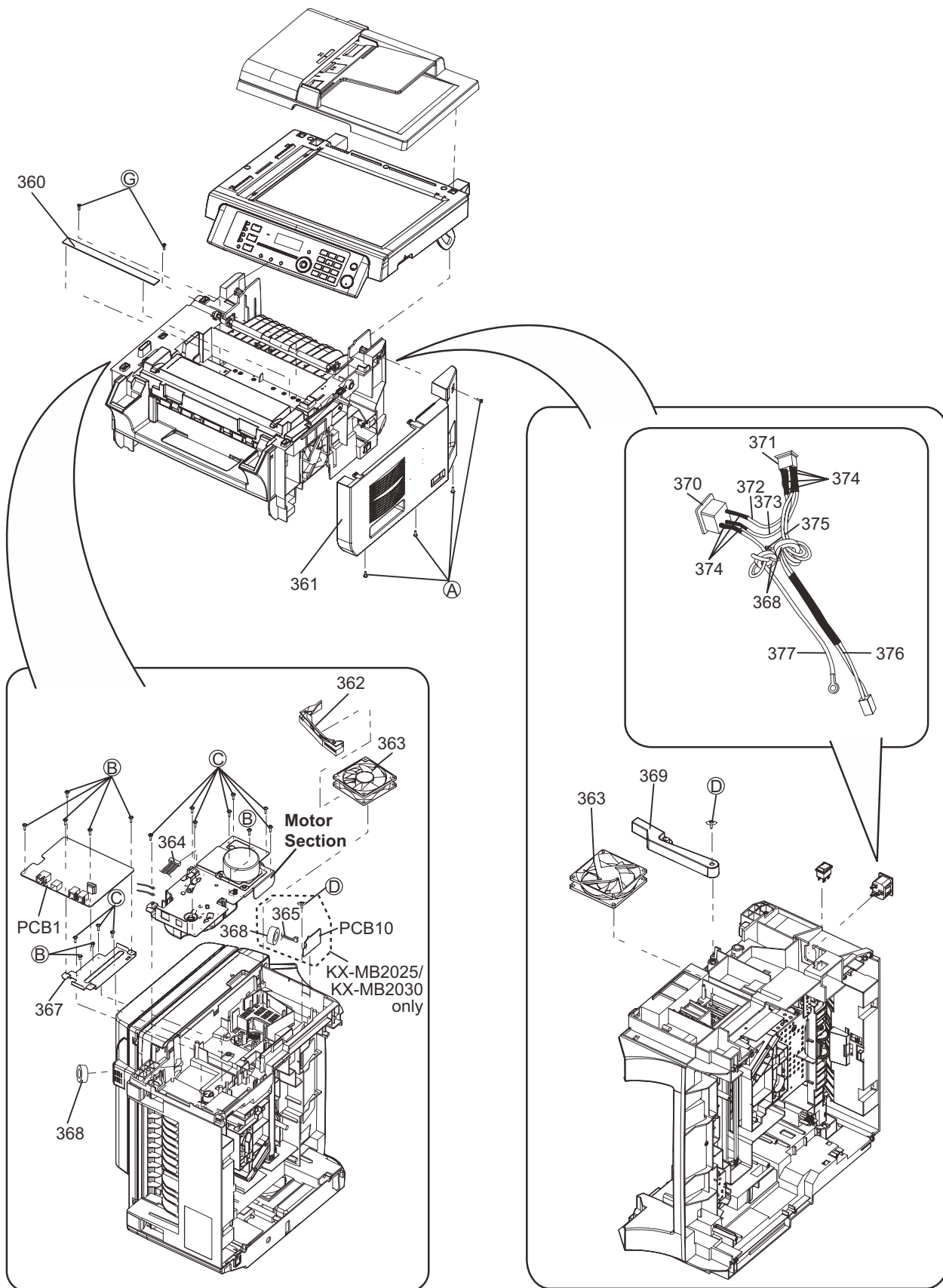
*319 is a kit parts No. of these parts, please replace both at the same time.

18.1.9. Separation (DFP) Roller Section



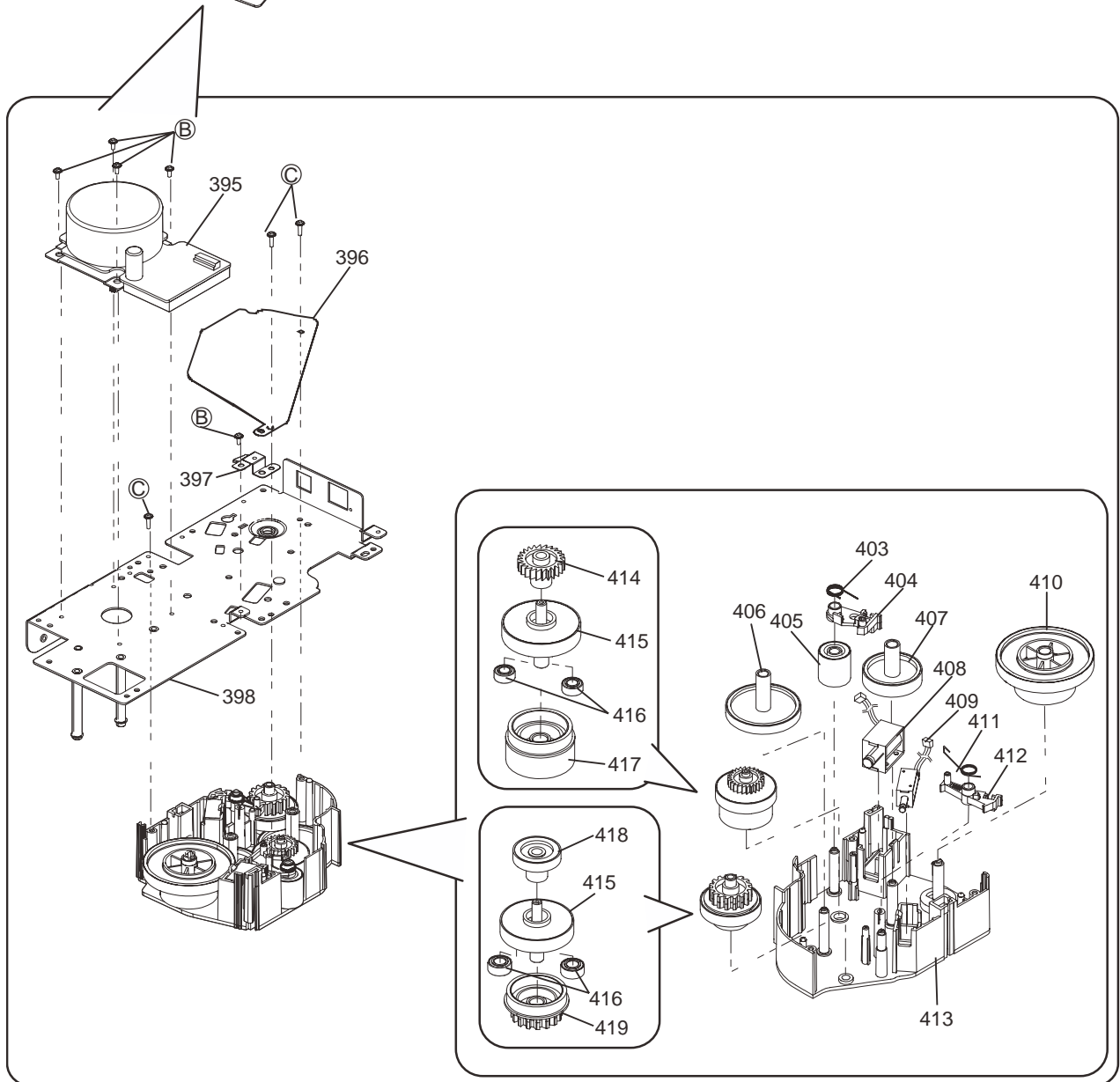
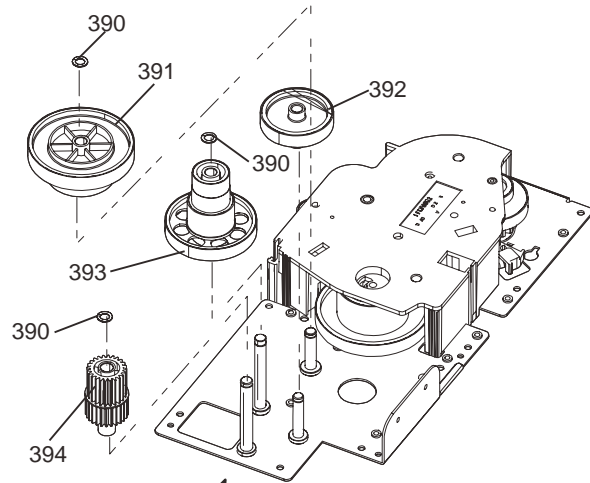
*340 is a kit parts No. of these parts, please replace both at the same time.

18.1.10. Side Cabinet Section

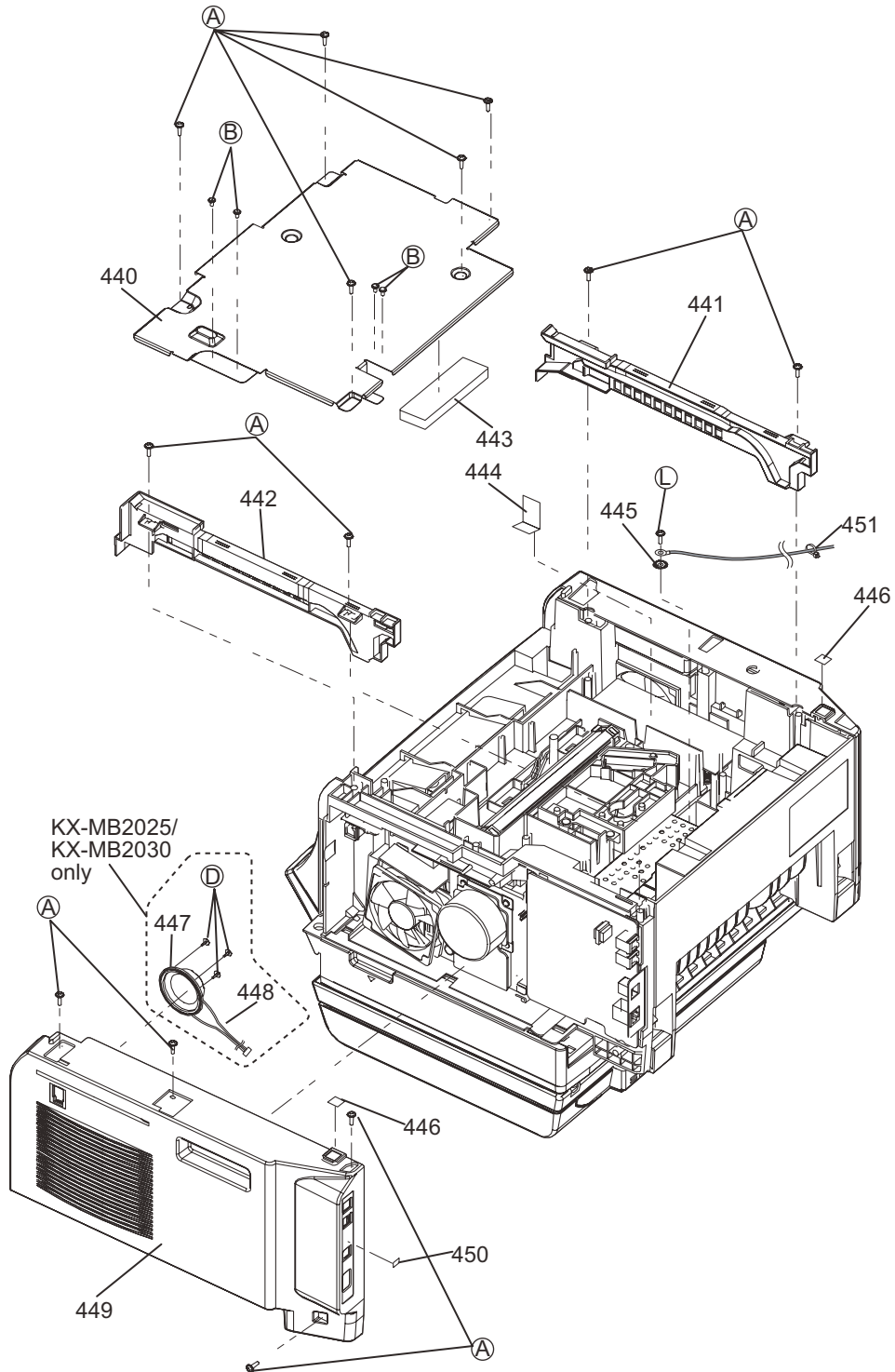


This pictured model is KX-MB2030.

18.1.11. Motor Section

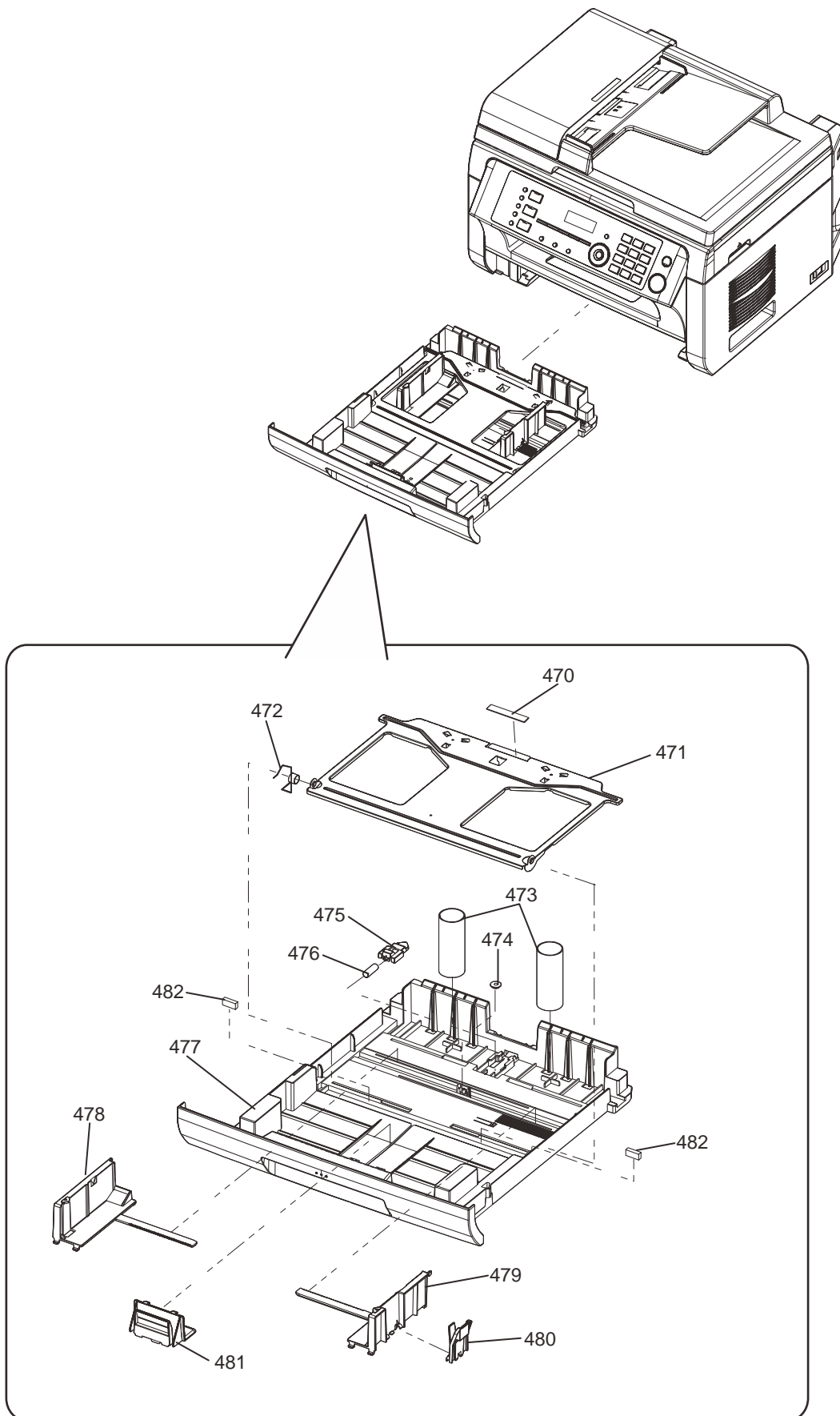


18.1.12. Bottom Cabinet Section (2)



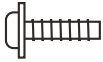











This pictured model is KX-MB2030.

18.1.13. Output Tray Section

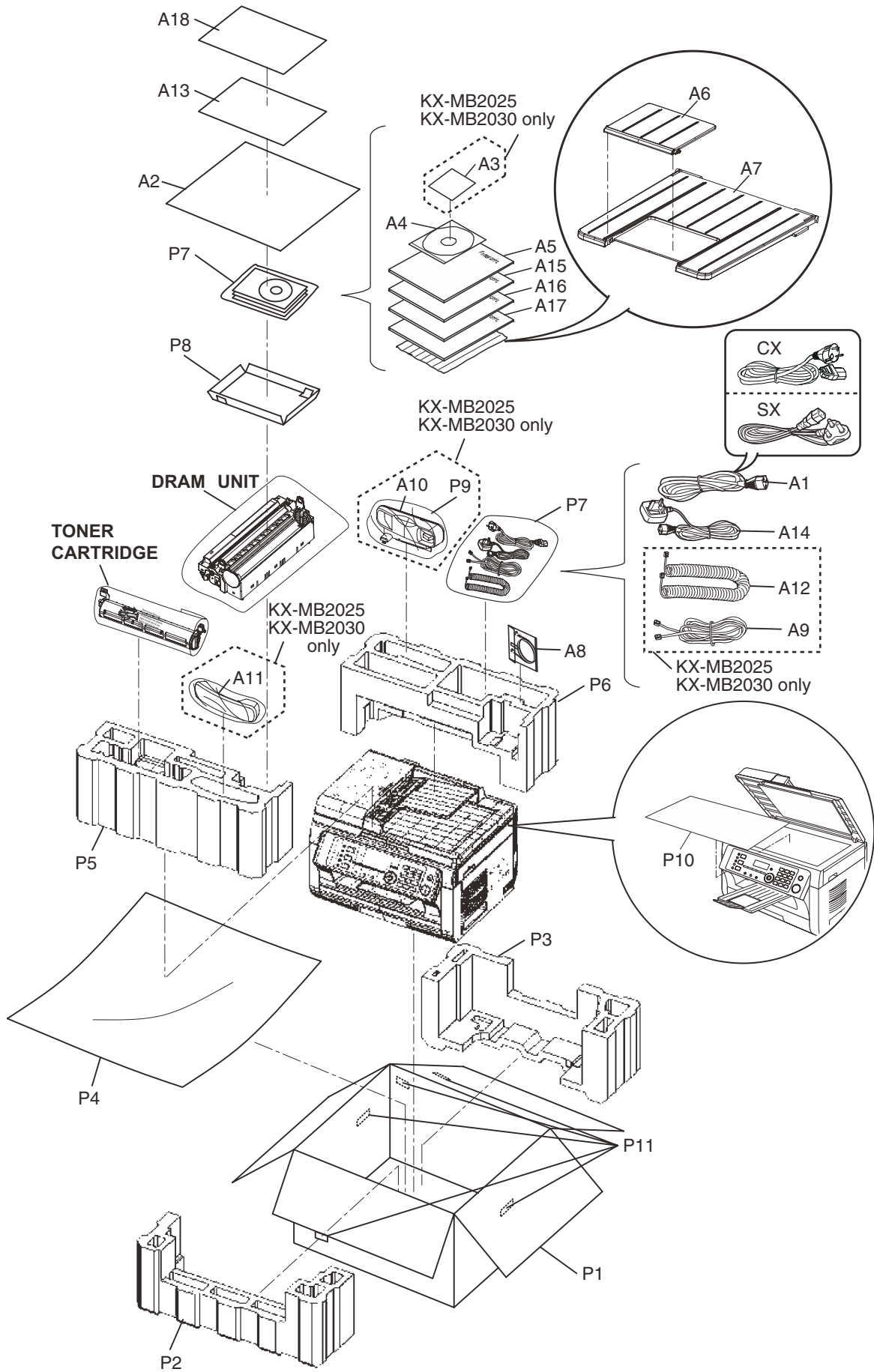


This pictured model is KX-MB2030.

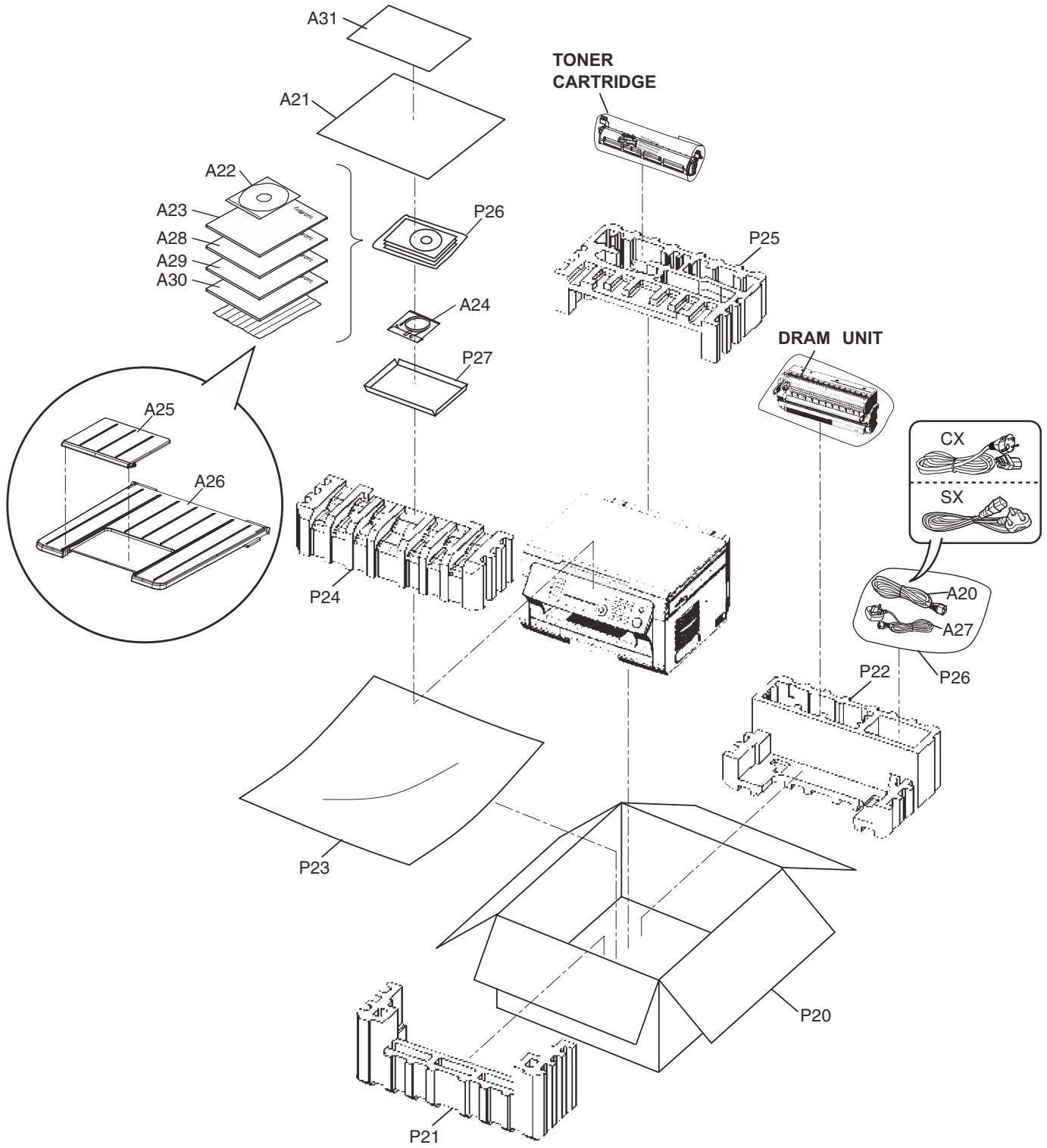
18.1.14. Actual Size of Screws and Washer

		Illustration
Ⓐ	XTW3+10PFJ7	
Ⓑ	XTW3+6LFJ7	
Ⓒ	XTW3+12PFJ7	
Ⓓ	XTW3+W10PFJ	
Ⓔ	XYC3+FF8FJ	
Ⓕ	XYC3+CF5FJ	
Ⓖ	XTB3+10GFJ	
Ⓗ	XTB3+12JFJ	
Ⓘ	XTW3+20PFJ	
Ⓙ	XTW3+5LFJK7	
Ⓚ	XYN3+C6FJ	
Ⓛ	XSB4+6FJ	

18.1.15. Accessories and Packing Materials (KX-MB2010/2025/2030)



18.1.16. Accessories and Packing Materials (KX-MB1900)



18.2. Replacement Parts List

RTL (Retention Time Limited)

Notes:

- The "RTL" marking indicates that its Retention Time is Limited.
When production is discontinued, this item will continue to be available only for a specific period of time. This period of time depends on the type of item, and the local laws governing parts and product retention.
At the end of this period, the item will no longer be available.
- Important safety notice
Components identified by Δ mark have special characteristics important for safety. When replacing any of these components, use only manufacture's specified parts.
- The S mark means the part is one of some identical parts. For that reason, it may be different from the installed part.
- ISO code (Example: ABS-HB) of the remarks column shows quality of the material and a flame resisting grade about plastics.
- RESISTORS & CAPACITORS
Unless otherwise specified;
All resistors are in ohms (Ω) k=1000 Ω , M=1000k Ω
All capacitors are in MICRO FARADS (μ F) P= μ μ F
*Type & Wattage of Resistor

Type

ERC:Solid	ERX: Metal Film	PQ4R: Carbon
ERD: Carbon	ERG: Metal Oxide	ERS: Fusible Resistor
PQRD: Carbon	ER0: Metal Film	ERF: Cement Resistor

Wattage

10,16:1/8W	14,25:1/4W	12:1/2W	1:1W	2:2W	3:3W
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*Type & Voltage of Capacitor

Type

ECFD: Semi-Conductor	ECCD, ECKD, ECBT, PQCBC: Ceramic
ECQS: Styrol	ECQE, ECQV, ECQG: Polyester
PQCUV: Chip	ECEA, ECSZ: Electrolytic
ECQMS: Mica	ECQP: Polypropylene

Voltage

ECQ Type	ECQG ECQV Type	ECSZ Type	Others		
1H:50V	05:50V	0F:3.15V	0J :6.3V	1V :35V	
2A:100V	1:100V	1A:10V	1A :10V	50,1H:50V	
2E:250V	2:200V	1V:35V	1C :16V	1J :63V	
2H:500V		0J:6.3V	1E,25:25V	2A :100V	

18.2.1. Cabinet and Electrical Parts

18.2.1.1. Operation Panel Section

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	1	PNBC1289Z1	PUSH BUTTON, STOP	ABS-HB
	2	PNBC1288Z1	PUSH BUTTON, START	ABS-HB
	3	PNBX1065C1	PUSH BUTTON, 12KEY (for KX-MB1900CXB)	ABS-HB
	3	PNBX1065C2	PUSH BUTTON, 12KEY (for KX-MB1900CXW) (for KX-MB1900SXW)	ABS-HB
	3	PNBX1065W1	PUSH BUTTON, 12KEY (for KX-MB2010CXB) (for KX-MB2010CX2) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	ABS-HB

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	3	PNBX1065W2	PUSH BUTTON, 12KEY (for KX-MB2010CXW) (for KX-MB2010SXW) (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	ABS-HB
	4	PNBC1295Z1	PUSH BUTTON, MENU (for Black)	ABS-HB
	4	PNBC1295Z2	PUSH BUTTON, MENU (for White)	ABS-HB
	5	PNBC1286W1	PUSH BUTTON, SET (for Black)	ABS-HB
	5	PNBC1286W2	PUSH BUTTON, SET (for White)	ABS-HB
	6	PNBC1285Y1	PUSH BUTTON, CURSOR (for Black)	ABS-HB
	6	PNBC1285Y2	PUSH BUTTON, CURSOR (for White)	ABS-HB
	7	PNHR1200Z	CASE/COVER (for Black)	ABS-HB
	7	PNHR1200W	CASE/COVER (for White)	ABS-HB
	8	PNBX1069Y1	PUSH BUTTON, 5KEY	ABS-HB
	9	PNBX1067Z1	PUSH BUTTON, 3KEY (for KX-MB2030CXB) (for KX-MB2030SX2)	ABS-HB
	9	PNBX1067Z2	PUSH BUTTON, 3KEY (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	ABS-HB
	10	PNHR1203Y	CASE/COVER	ABS-HB
	11	PNBX1070Y1	PUSH BUTTON, FAX/COPY (for KX-MB1900CXB) (for KX-MB2010CXB) (for KX-MB2010CX2)	ABS-HB
	11	PNBX1070Y2	PUSH BUTTON, FAX/COPY (for KX-MB1900CXW) (for KX-MB1900SXW) (for KX-MB2010CXW) (for KX-MB2010SXW)	ABS-HB
	11	PNBX1070W1	PUSH BUTTON, FAX/COPY (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	ABS-HB
	11	PNBX1070W2	PUSH BUTTON, FAX/COPY (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	ABS-HB
	12	PNBX1068Z1	PUSH BUTTON, 4KEY (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	ABS-HB
	12	PNBX1068Z2	PUSH BUTTON, 4KEY (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	ABS-HB
	13	PNBC1287Y1	PUSH BUTTON, AUTO ANSWER (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	ABS-HB
	14	PNGP1122X1	PANEL, SUB (for KX-MB1900CXB)	PC-HB
	14	PNGP1122X2	PANEL, SUB (for KX-MB1900CXW) (for KX-MB1900SXW)	PC-HB
	14	PNGP1095W1	PANEL, SUB (for KX-MB2010CXB) (for KX-MB2010CX2)	PC-HB
	14	PNGP1095W2	PANEL, SUB (for KX-MB2010CXW) (for KX-MB2010SXW)	PC-HB

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	14	PNGP1099W2	PANEL, SUB (for KX-MB2025CXW) (for KX-MB2025CX4)	PC-HB
	14	PNGP1076W1	PANEL, SUB (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	PC-HB
	14	PNGP1076W2	PANEL, SUB (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	PC-HB
	15	PNGX1017Y1	ORNAMENT	PS-HB
	16	PNGG1064W1	PANEL (for KX-MB1900CXB) (for KX-MB2010CXB) (for KX-MB2010CX2)	PS-HB
	16	PNGG1064W2	PANEL (for KX-MB1900CXW) (for KX-MB1900SXW) (for KX-MB2010CXW) (for KX-MB2010SXW)	PS-HB
	16	PNGG1065W2	PANEL (for KX-MB2025CXW) (for KX-MB2025CX4)	PS-HB
	16	PNGG1058W1	PANEL (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	PS-HB
	16	PNGG1058W2	PANEL (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	PS-HB

18.2.1.2. ADF Section (KX-MB2010/2025/2030)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	30	PFKV1167Z2	COVER (for Black)	PS-HB
	30	PFKV1167Z1	COVER (for White)	PS-HB
	31	PFKR1110Z2	GUIDE (for Black)	ABS-HB
	31	PFKR1110Z1	GUIDE (for White)	ABS-HB
	32	PFHX2126Z	PLASTIC PARTS	
	33	PFHG1282Z	RUBBER PARTS	
	34	PFDE1307Z	GUIDE	ABS-HB
	35	PFHG1284Z	RUBBER PARTS	
	36	PFUS1620Z	COIL SPRING	
	37	PFKR1111Z2	GUIDE (for Black)	ABS-HB
	37	PFKR1111Z1	GUIDE (for White)	ABS-HB
	38	PFKE1084Y2	TRAY (for Black)	PS-HB
	38	PFKE1084Y1	TRAY (for White)	PS-HB
	39	PFHX2130Y	PLASTIC PARTS	
	40	PFUS1918Z	COIL SPRING	
	41	PFDG1015Y	GEAR	POM-HB
	42	XUC2FJP	RETAINING RING	
	43	PFDG1559Z	GEAR	POM-HB
	44	PQUS10038Z	COIL SPRING	
	45	PFDJ1044Z	SPACER	
	46	PFDR1103X	ROLLER	
	47	PNJS041010Z	CONNECTOR	
	48	PFDE1306Z	LEVER	POM-HB
	49	PFHX1937Z	CASE/COVER	
	50	PFUS1824Y	COIL SPRING	
	51	PFDE1308Y	LEVER	POM-HB
	52	PFUS1629Z	TORSION SPRING	
	53	PFDR1062Z	ROLLER	
	54	PFDG1415Y	GEAR	POM-HB
	55	PFDJ1116Y	SPACER	POM-HB
	56	PFDR1104Y	ROLLER	
	57	PFDJ1116Z	SPACER	POM-HB
	58	PFHE1298Y	METAL PARTS	
	59	PFUG1049Y	GUIDE	PS-HB
	60	PQDR9685Y	ROLLER	
	61	PFDF1190Z	SHAFT	
	62	PFUS1822Z	COIL SPRING	
	63	PFDE1247X	LEVER	POM-HB

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	64	PFDR1065Y	ROLLER	
	65	PFDG1413Y	GEAR	POM-HB
	66	PFDG1417Z	GEAR	POM-HB
	67	PFDG1416Z	GEAR	POM-HB
	68	PFDJ1044Z	SPACER	
	69	PFUS1826Z	COIL SPRING	
	70	PFDE1244Z	LEVER	POM-HB
	71	PFHR1479Z	GUIDE	POM-HB
	72	PFDR1064Y	ROLLER	
	73	PFDF1095Y	SHAFT	
	74	PNDF1029Z	SHAFT	
	75	PFUS1325Z	COIL SPRING	
	76	PFDG1558Z	GEAR	POM-HB
	77	PNDF1034Z	SHAFT	
	78	XUC3FJP	RETAINING RING	
	79	PFKV1166Z2	COVER (for Black)	PS-HB
	79	PFKV1166Z1	COVER (for White)	PS-HB
	80	PFUE1048Z	FRAME	PS-HB
	81	PFUS1825Z	TORSION SPRING	
	82	PFDF1191Z	SHAFT	
	83	PFDR1073Z	ROLLER	POM-HB
	84	PFHR1710W	CAM	POM-HB
	85	PFHR1290X	CHASSIS	POM-HB
	86	PFUS1350Z	COIL SPRING	
	87	PFHR1292Z	PLASTIC PARTS	POM-HB
	88	PFHR1289X	CHASSIS	POM-HB
	89	PFUS1621Z	BAR SPRING	
	90	PFDR1066Z	ROLLER	POM-HB
	91	PFKM1229V2	CABINET BODY (for Black)	PS-HB
	91	PFKM1229V1	CABINET BODY (for White)	PS-HB
	92	NOT USED		
	93	PNQT1648Z	LABEL, LIFT TO OPEN (for Black)	
	93	PNQT1012Z	LABEL, LIFT TO OPEN (for White)	
	94	PNQT1647Z	LABEL, FACE UP (for Black)	
	94	PNQT1731Z	LABEL, FACE UP (for White)	
	95	PQHR945Z	BAND	
	96	PFUS1566Z	COIL SPRING	

18.2.1.3. Flatbed Section (KX-MB1900)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	100	PFUE1048Z	FRAME	
	101	PFHR1713W	HINGE-STAY (for Black)	
	101	PFHR1713X	HINGE-STAY (for White)	
	102	PNKK1034X1	DOOR-LID (for Black)	PS-HB
	102	PFKK1052Y1	DOOR-LID (for White)	PS-HB
	103	PFUS1566Z	COIL SPRING	

18.2.1.4. ADF Gear Section (KX-MB2010/2025/2030)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	110	L6HAYYYK0015	DC MOTOR	
	111	PFDW1001Z	LEAD WIRE	
	112	PFMH1259Z	ANGLE	
	113	PFDG1554Z	GEAR	
	114	PFDG1557Z	GEAR	
	115	PFDG1552Z	GEAR	
	116	PFDG1555Z	GEAR	
	117	PFDG1556Z	GEAR	
	118	PFDG1553Z	GEAR	
	119	PFUA1096Y	CHASSIS	

18.2.1.5. TOP Cover Section

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	130	PFDE1303W	SPACER	
	131	N2GAYY000002	IMAGE SENSOR	
	132	NOT USED		
	133	NOT USED		
	134	PNJS131001Z	CONNECTOR	
	135	PFJS04M74Z	LEAD WIRE	
	136	PFUS1642Y	COIL SPRING	
	137	PFUS1344Z	COIL SPRING	
	138	PFDC1005X	GUIDE	
	139	PFJE1068Z	LEAD WIRE	
	140	PNDP1028Z	SHAFT	
	141	PFDV1005Y	ROUND BELT	
	142	PFUS1817Z	COIL SPRING	
	143	PFHX2134Z	PLASTIC PARTS	
	144	PFHE1319Z	PLASTIC PARTS	
	145	PFUS1819Z	TORSION SPRING (for KX-MB2010CXB) (for KX-MB2010CX2) (for KX-MB2010CXW) (for KX-MB2010SXW) (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	146	WLL20YG18M3M	LEAD WIRE (for KX-MB2010CXB) (for KX-MB2010CX2) (for KX-MB2010CXW) (for KX-MB2010SXW) (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	147	PNDE1023Z2	LEVER	POM-HB
	148	PNUS1101Z	COIL SPRING	
	149	NOT USED		
	150	PNJS081030Z	CONNECTOR	
	151	PFNPD031054C	WASHER	
	152	PFDE1170Z	PULLEY	
	153	PFDE1168Z	PULLEY	
	154	PFDG1551Y	GEAR	
	155	PFMH1258X	PLATE	
	156	L6HAYYYK0013	DC MOTOR	
	157	PFDE1169Z	PULLEY	
	158	PFMH1257Y	PLATE	
	159	PFMH1159Z	METAL PARTS	
	160	PFDJ1042Z	SPACER	
	161	PFDS1032Z	ROLLER	
	162	PFDG1294Z	GEAR	
	163	PFUS1269Y	COIL SPRING	
	164	PNHG1095Z	RUBBER PARTS	
	165	PNDE1022Y1	ARM	PS-HB
	166	PNUS1100Y	COIL SPRING	
	167	PNHS1182Y	FELT PARTS	
	168	PNKV1059Z1	COVER (for Black)	PS-HB
	168	PNKV1059Z2	COVER (for White)	PS-HB
	169	PNKM1110Y1	CABINET BODY (for Black)	PS-HB
	169	PNKM1110Y2	CABINET BODY	PS-HB
	170	PF0G1016Z	GLASS/TRANSPARENT PLATE	
	171	PF0G1017Z	GLASS/TRANSPARENT PLATE	
	172	PFMH1256Z	ANGLE	
	173	PFHX1796Z	PLASTIC PARTS (for Black)	
	173	PNHX1293Z	PLASTIC PARTS (for White)	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	174	PFUS1820Z	TORSION SPRING (for KX-MB2010CXB) (for KX-MB2010CX2) (for KX-MB2010CXW) (for KX-MB2010SXW) (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	175	PFKF1205Y3	CABINET COVER (for Black)	PS-HB
	175	PFKF1205Y1	CABINET COVER (for White)	PS-HB
	176	PNZX2030RUVB	SCANNER GLASS ASS'Y (for Black)	
	176	PNZX2030RUVW	SCANNER GLASS ASS'Y (for White)	
	177	ZT2512-08	TAPE	
	178	PFDG1015Y	GEAR	
	179	PNHP1024Z	LABEL	

18.2.1.6. Main Cabinet Section

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	190	PNQT1720Z	LABEL, CAUTION	
	191	PFSE1054Z	ANGLE	
	192	PNUE1011Y	AIR DACT	ABS-HB
	193	PFJV1013Z	METAL PARTS	
	194	PFDG1420Y	GEAR	
	195	PFDJ1044Z	SPACER	
	196	PNDN1005Z	ROLLER	
	197	PFDJ1086X	SPACER	
	198	PFUS1613Z	COIL SPRING	
	199	PNDP1020Z	SHAFT	
	200	PFDJ1086Z	SPACER	
	201	PNKE1046Z1	COVER (for Black)	PS-HB
	201	PNKE1046Z2	COVER (for White)	PS-HB
	202	PNKE1047Z1	COVER (for Black)	PS-HB
	202	PNKE1047Z2	COVER (for White)	PS-HB
	203	PNKM1109Z1	CABINET BODY (for Black)	PS-V0
	203	PNKM1109Z2	CABINET BODY (for White)	PS-V0
	204	PFDJ1085Z	SPACER	
	205	PFQT2937Y	LABEL, MANUAL (for Black)	
	205	PFQT2937Z	LABEL, MANUAL (for White)	
	206	PFKR1079Z2	GUIDE (for Black)	
	206	PFKR1079Z1	GUIDE (for White)	
	207	PFKR1080Z2	GUIDE (for Black)	
	207	PFKR1080Z1	GUIDE (for White)	
	208	PFKE1083Z2	PLASTIC PARTS (for Black)	
	208	PFKE1083Z1	PLASTIC PARTS (for White)	
	209	PFDG1015Y	GEAR	
	210	PNKK1037Y1	DOOR-LID (for Black)	PS-HB
	210	PNKK1037Y2	DOOR-LID (for White)	PS-HB
	211	PFDN1091Y	ROLLER	
	212	PFUS1812Z	COIL SPRING	
	213	PFDE1299Z	ROLLER	
	214	PFDG1550Z	GEAR	
	215	XUC2FJP	RETAINING RING	
	216	PNGT5170X-M	NAME PLATE, AL (for KX-MB1900CXB)	
	216	PNGT5169X-M	NAME PLATE, AL (for KX-MB1900CXW)	
	216	PNGT5262Y-M	NAME PLATE, AL (for KX-MB1900SXW)	
	216	PNGT2843W-M	NAME PLATE, AL (for KX-MB2010CXB)	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	216	PNGT2842W-M	NAME PLATE, AL (for KX-MB2010CXW)	
	216	PNGT6303Z-M	NAME PLATE, AL (for KX-MB2010CX2)	
	216	PNGT2811W-M	NAME PLATE AL (for KX-MB2025CXW)	
	216	PNGT6301Z-M	NAME PLATE AL (for KX-MB2025CX4)	
	216	PNGT2710W-M	NAME PLATE AL (for KX-MB2030CXB)	
	216	PNGT2812W-M	NAME PLATE AL (for KX-MB2030CXW)	
	216	PNGT6313Z-M	NAME PLATE AL (for KX-MB2030CX2)	
	216	PNGT6300Z-M	NAME PLATE AL (for KX-MB2030CX4)	
	216	PNGT2813X-M	NAME PLATE AL (for KX-MB2030SXB)	
	216	PNGT2814X-M	NAME PLATE AL (for KX-MB2030SXW)	
	217	PNQT1734Z	LABEL, CAUTION DAMPER	
	218	PFHX1884Z	MAGNETIC SHIELD	
	219	PFDJ1085X	SPACER	

18.2.1.7. Fuser Section

Note:

(*1) After the production of this model is discontinued, this fuser unit can not be supplied.

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
△	230	A4DYYY000004	COIL HEATER	
	231	PNDJ1012Z	SPACER	Plyamide-imide-V0
	232	PNZRM2030RU	ROLLER	A5052+PTFE
	233	PFDJ1114Z	SPACER	PPS-V0
	234	PFDG1421Z	GEAR	PPS-V0
	235	PNJT1036Z	TERMINAL-TERMINAL PLATE	
△	236	K0BDB0000073	THERMOSTAT	
	237	PNJT1037Z	TERMINAL-TERMINAL PLATE	
	238	PFMH1085Z	METAL PARTS	
	239	PFJT1032Z	TERMINAL-TERMINAL PLATE	
	240	PNHR1173Y	PLASTIC PARTS	PPS-V0
	241	PFUS1640Z	COIL SPRING	
	242	PNDRI021Y	ROLLER	
	243	PFDG1422Z	GEAR	Polyamide-V0
	244	XUC2FJP	RETAINING RING	
	245	PFDG1423Z	GEAR	POM-HB
	246	NOT USED		
	247	PFHR1705Y	ARM	PBT+ABS-GF30-V0
	248	PNDJ1021Z	SPACER	Polyetherimide-V0
	249	PFUS1426Z	COIL SPRING	
	250	PFHR1495Z	LEVER	PBT+GF30-V0
	251	PFDR1069Z	ROLLER	POM-HB
	252	PFUS1568Z	BAR SPRING	
	253	PFUA1094Y	CHASSIS	PBT+ABS-GF30-V0
	254	PFHR1496Z	LEVER	PBT+GF30-V0
	255	PFJS04M73Z	LEAD WIRE	
	256	L2AA00000106	THERMISTOR	
	257	PNUA1016W	CHASSIS	PBT+ABS-GF30-V0
	258	PFUS1686Z	TORSION SPRING	
	259	PFDE1310Z	LEVER	
△	260	PNWEMB2030RU	FUSER UNIT (*1)	

18.2.1.8. Bottom Cabinet Section (1)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	280	PNUS1092Y	LEAF SPRING	
	281	PF0M1008Z	MIRROR	
△	282	LPA1605K	LASER	
	283	PNJS051014Z	CONNECTOR	
	284	PNJS071017Z	CONNECTOR	
	285	PNJS081023Z	CONNECTOR	
	286	PNJS101002Z	CONNECTOR	
	287	PNQT1506Z	LABEL, LASER CAUTION	
	288	PFUS1592Z	TORSION SPRING	
	289	PNUE1012Z	KEYLOCK	PS-HB
	290	PFUS1811Z	COIL SPRING	
	291	PNVW1010Z	LEAD WIRE	
	292	PNVW1011Z	LEAD WIRE	
	293	PFUS1612Z	COIL SPRING	
	294	PNJS081031Z	CONNECTOR	
△	295	PFJS02M95Z	LEAD WIRE	
	296	PFMH1255Z	CASE/COVER	
	297	PFJS05M76Z	LEAD WIRE	
	298	PFUV1111Z	COVER	
	299	PFJS04M72Z	LEAD WIRE	
	300	PFDE1252Z	LEVER	
	301	PFUE1044Z	CHASSIS	
	302	PFUS1809Z	TORSION SPRING	
	303	PFUS1916Z	TORSION SPRING	
	304	PFUE1045Z	LEVER	
	305	PFUS1805Z	BAR SPRING	
	306	PFUS1806Z	BAR SPRING	
	307	PFUS1807Z	BAR SPRING	
	308	PFUS1808Z	BAR SPRING	
	309	PNDJ1022Z	SHAFT	
	310	XPL15A10WVW2	COIL SPRING	
	311	PNUS1114Z	TORSION SPRING	
	312	PFDG1418Z	GEAR	
	313	PNHX1252Y	PLASTIC PARTS	
	314	PFDE1300Z	LEVER	
	315	PFDJ1084X	SPACER	
	316	PNUG1018Z	GUIDE	PS-V0
	317	PNDRI019Z	ROLLER	POM-HB
	318	PFDJ1084Z	SPACER	
	319	PNZR2B2030RU	PICKUP ROLLER ASS'Y	
	320	NOT USED		
	321	PNHS1196Z	FELT PARTS	

18.2.1.9. Separation (DFP) Roller Section

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	330	PNHR1235Z	PLASTIC PARTS	ABS-HB
	331	PFNPD041065C	SPACER	
	332	PNUS1104Z	COIL SPRING	
	333	PFUS1923Z	COIL SPRING	
	334	PNDJ1027Z	SHAFT	
	335	PNDRI020Z	ROLLER	POM-HB
	336	PFHR1538Z	CABINET ACCESSORY	
	337	PNUS1102Z	COIL SPRING	
	338	PNHG1088Z	RUBBER PARTS	
	339	PNUG1017W	GUIDE	PS-HB
	340	PNZR3B2030RU	ROLLER	
	341	NOT USED		
	342	PFDX1089Z	DRUM	
	343	PFDF1197Y	SHAFT	
	344	XPJ2A8VWM2	KEY-PIN	
	345	PNHR1234Y	CHASSIS	ABS-HB
	346	PNHX1224Z	PLASTIC PARTS	

18.2.1.10. Side Cabinet Section

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	360	PF0G1015Z	GLASS/TRANSPARENT PLATE	
	361	PNKV1061Z1	COVER (for Black)	PS-V0
	361	PNKV1061Z2	COVER (for White)	PS-V0
	362	PNHR1257Z	AIR DACT	
	363	L6FAYYYK0001	DC MOTOR	
	364	PNJS081024Z	CONNECTOR	
	365	PNJS081046Z	CONNECTOR (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	366	NOT USED		
	367	PNMH1068Z	METAL PARTS (for KX-MB1900CXB) (for KX-MB1900CXW) (for KX-MB1900SXW) (for KX-MB2010CXB) (for KX-MB2010CX2) (for KX-MB2010CXW) (for KX-MB2010SXW)	
	367	PNMH1066Z	METAL PARTS (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	368	JOKE00000114	INSULATOR	
	369	PNDE1021Z1	LEVER	ABS-HB
⚠	370	K2AH3G000011	JACK/SOCKET	
⚠	371	K0AAL0000029	SEESAW SWITCH	
⚠	372	PNWLXC12HHXX	LEAD WIRE	
⚠	373	PNWLXA13HHXX	LEAD WIRE	
	374	PQMX10010Z	CASE/COVER	
	375	PQHR945Z	BAND	
⚠	376	PNJS021038Z	CONNECTOR	
⚠	377	PNVW1012Z	LEAD WIRE	

18.2.1.11. Motor Section

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	390	PFNPD052080	SPACER	
	391	PFDG1544Y	GEAR	
	392	PFDG1548Z	GEAR	
	393	PFDG1543Z	GEAR	
	394	PFDG1549Z	GEAR	
⚠	395	L6CCYYK0006	DC MOTOR	
	396	PNHX1255Z	PLASTIC PARTS	
	397	PNMH1067Z	METAL PARTS	
	398	PFMD1111W	GEAR MAIN CHASSIS ASS'Y	
	399	NOT USED		
	400	NOT USED		
	401	NOT USED		
	402	NOT USED		
	403	PFUS1803Z	TORSION SPRING	
	404	PFDE1298Y	LEVER	
	405	PFDG1391Z	GEAR	
	406	PFDG1546Z	GEAR	
	407	PFDG1390Z	GEAR	
	408	L9AAAYYB0001	ERECTROMAGNETIC COIL	
⚠	409	L9AAAYYB0006	ERECTROMAGNETIC COIL	
	410	PFDG1545Y	GEAR	
	411	PNUS1014Z	TORSION SPRING	
	412	PFDE1297X	LEVER	
	413	PFUA1092Z	CHASSIS	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	414	PFDG1547Z	GEAR	
	415	PFDG1402Z	GEAR	
	416	PFDG1403Z	GEAR	
	417	PFDG1404Z	GEAR	
	418	PFDG1401Z	GEAR	
	419	PFDG1407Z	GEAR	

18.2.1.12. Bottom Cabinet Section (2)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	440	PFMD1112Z	PLATE	
	441	PNUG1016Z	GUIDE	PS-HB
	442	PNUG1015Z	GUIDE	PS-HB
	443	PNHS1171Z	FELT PARTS	
	444	PNHX1269Y	PLASTIC PARTS	
	445	XWC4BFJ	WASHER	
	446	PFHA1001Z	RUBBER PARTS	
	447	LOAA05A00048	SPEAKER (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	448	PFJS02M47Z	LEAD WIRE (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	449	PNKV1060Y1	COVER (for KX-MB1900CXB)	PS-V0
	449	PNKV1060Y2	COVER (for KX-MB1900CXW) (for KX-MB1900SXW)	PS-V0
	449	PNKV1060Z1	COVER (for KX-MB2010CXB) (for KX-MB2010CX2)	PS-V0
	449	PNKV1060Z2	COVER (for KX-MB2010CXW) (for KX-MB2010SXW)	PS-V0
	449	PNKV1062Y2	COVER (for KX-MB2025CXW) (for KX-MB2025CX4)	PS-V0
	449	PNKV1062Z1	COVER (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	PS-V0
	449	PNKV1062Z2	COVER (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	PS-V0
	450	PFQT3054Z	LABEL, USE	
	451	PQHR945Z	BAND	

18.2.1.13. Output Tray Section

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	470	PFHG1245Z	RUBBER PARTS	
	471	PNMD1060Z	CHASSIS	
	472	PFUS1814Z	TORSION SPRING	
	473	PNUS1103Z	COIL SPRING	
	474	PFDG1015Y	GEAR	
	475	PFHR1491Z	LEVER	
	476	PFUS1608Z	COIL SPRING	
	477	PNKS1007Z1	TRAY (for Black)	PS-HB
	477	PNKS1007Z2	TRAY (for White)	PS-HB
	478	PFKR1108Y	LEVER	
	479	PFKR1109Y	LEVER	
	480	PFHR1707Z	LEVER	
	481	PFKR1085Y	RACK	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	482	PNHS1174Z	FELT PARTS	

18.2.1.14. Screws

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
A		XTW3+10PFJ7	TAPPING SCREW, STEEL	
B		XTW3+6LFJ7	TAPPING SCREW, STEEL	
C		XTW3+12PFJ7	TAPPING SCREW, STEEL	
D		XTW3+W10PFJ	TAPPING SCREW, STEEL	
E		XYC3+FF8FJ	SCREW WITH WASHER, STEEL	
F		XYC3+CF5FJ	SCREW WITH WASHER, STEEL (for KX-MB2010CX) (for KX-MB2025CX) (for KX-MB2030CX)	
G		XTB3+10GFJ	TAPPING SCREW, STEEL	
H		XTB3+12JFJ	TAPPING SCREW, STEEL	
I		XTW3+20PFJ	TAPPING SCREW, STEEL	
J		XTW3+5LFJK7	TAPPING SCREW, STEEL (for KX-MB2010CX) (for KX-MB2025CX) (for KX-MB2030CX)	
K		XYN3+C6FJ	SCREW WITH WASHER, STEEL	
L		XSB4+6FJ	SMALL SCREW, STEEL	

18.2.1.15. Accessories and Packing Materials (KX-MB2010/2025/2030)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
△	A1	PFJA03A010Z	POWER CORD (CX only)	
△	A1	PNJA1031Z	POWER CORD (SX only)	
	A2	PNQW1881X	LEAFLET, QIG	
	A3	PNGD1019W	CARD (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	A4	PNJKMB2030Z	MEMORY PARTS (for KX-MB2010CXB) (for KX-MB2010CXW) (for KX-MB2010SXW) (for KX-MB2025CXW) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW)	
	A4	PNJKMB2032Z	MEMORY PARTS (for KX-MB2010CX2) (for KX-MB2025CX4) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	A5	PNQW1935W	LEAFLET, IIG (ENGLISH)	
	A6	PNKS1011Z1	TRAY (for Black)	PS-HB
	A6	PNKS1011Z2	TRAY (for White)	PS-HB
	A7	PNKS1010Z1	TRAY (for Black)	PS-HB
	A7	PNKS1010Z2	TRAY (for White)	PS-HB
	A8	PNJA1052Z	CORD, USB (CX only)	
	A8	PNJA1051Z	CORD, USB (SX only)	
	A9	PFJA02B002Y	CORD, TELEPHONE (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	A10	PNYE1018Z	HANDSET, CRADLE (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	A10	PFYE1043Z	HANDSET, CRADLE (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	
	A11	PFJXE0801Z	HANDSET (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	
	A11	PFJXE0841Z	HANDSET (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	
	A12	PQJA212V	CORD, CURL (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CX2)	
	A12	PFJA1029Z	CORD, CURL (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX4)	
	A13	PNQW2143Y	LEAFLET (for KX-MB2010CXB) (for KX-MB2010CXW) (for KX-MB2010SXW) (for KX-MB2025CXW) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW)	
	A13	PNQW2967Z	LEAFLET, NOTIFICATION CHANGE (for KX-MB2010CX2) (for KX-MB2025CX4) (for KX-MB2030CX2) (for KX-MB2030CX4)	
△	A14	K2CT3EH00005	POWER CORD (for KX-MB2010CXB) (for KX-MB2010CXW) (for KX-MB2025CXW) (for KX-MB2030CXB) (for KX-MB2030CXW)	
	A15	PNQW1936X	LEAFLET, IIG (ARABIC) (CX only)	
	A16	PNQW1937X	LEAFLET, IIG (PERSIA) (CX only)	
	A17	PNQW1938X	LEAFLET, IIG (THAI) (for KX-MB2010CXB) (for KX-MB2010CXW) (for KX-MB2025CXW) (for KX-MB2030CXB) (for KX-MB2030CXW)	
	A18	PNQW2133Y	LEAFLET, HANDSET (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	S
	P1	PNPK2843Y-M	PACKING CASE (for KX-MB2010CXB) (for KX-MB2010CX2)	
	P1	PNPK2842Y-M	PACKING CASE (for KX-MB2010CXW)	
	P1	PNPK2864Y-M	PACKING CASE (for KX-MB2010SXW)	
	P1	PNPK2856Y-M	PACKING CASE (for KX-MB2025CXW) (for KX-MB2025CX4)	
	P1	PNPK2709Y-M	PACKING CASE (for KX-MB2030CXB) (for KX-MB2030CX2)	
	P1	PNPK2708Y-M	PACKING CASE (for KX-MB2030CXW) (for KX-MB2030CX4)	
	P1	PNPK2710Y-M	PACKING CASE (for KX-MB2030SXB)	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	P1	PNPK2711Y-M	PACKING CASE (for KX-MB2030SXW)	
	P2	PNPN1126X	CUSHION	ABS-HB
	P3	PNPN1136Y	CUSHION	ABS-HB
	P4	PFPP1041Z	PROTECTION COVER	
	P5	PNPN1124Y	CUSHION	PC-HB
	P6	PNPN1125Y	CUSHION	ABS-HB
	P7	PFPP1052Z	PROTECTION COVER	
	P8	PNPD1121Z	CUSHION	
	P9	PFPP1054Z	PROTECTION COVER (for KX-MB2025CXW) (for KX-MB2025CX4) (for KX-MB2030CXB) (for KX-MB2030SXB) (for KX-MB2030CXW) (for KX-MB2030SXW) (for KX-MB2030CX2) (for KX-MB2030CX4)	
	P10	PNPH1027Y	PACKING SHEET (for Black)	S
	P11	PNQA3833Z	LABEL, IDENTIFICATION (for KX-MB2010CX2) (for KX-MB2030CX2)	S
	P11	PNQA3832Z	LABEL, IDENTIFICATION (for KX-MB2025CX4) (for KX-MB2030CX4)	S

18.2.1.16. Accessories and Packing Materials (KX-MB1900)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
△	A20	PFJA03A010Z	POWER CORD (CX only)	
△	A20	PNJA1031Z	POWER CORD (SX only)	
	A21	PNQW1881X	LEAFLET, QIG	
	A22	PNJMB2030Z	MEMORY PARTS	
	A23	PNQW1935W	LEAFLET, IIG (ENGLISH)	
	A24	PNJA1052Z	CORD, USB (CX only)	
	A24	PNJA1051Z	CORD, USB (SX only)	
	A25	PNKS1011Z1	TRAY (for Black)	PS-HB
	A25	PNKS1011Z2	TRAY (for White)	PS-HB
	A26	PNKS1010Z1	TRAY (for Black)	PS-HB
	A26	PNKS1010Z2	TRAY (for White)	PS-HB
△	A27	K2CT3EH00005	POWER CORD (CX only)	
	A28	PNQW1936X	LEAFLET, IIG (ARABIC) (CX only)	
	A29	PNQW1937X	LEAFLET, IIG (PERSIA) (CX only)	
	A30	PNQW1938X	LEAFLET, IIG (THAI) (CX only)	
	A31	PNQW2143Y	LEAFLET	
	P20	PNPK3144Z-M	PACKING CASE (for KX-MB1900CXB)	
	P20	PNPK3143Z-M	PACKING CASE (for KX-MB1900CXW)	
	P20	PNPK3175Z-M	PACKING CASE (for KX-MB1900SXW)	
	P21	PNPN1133X	CUSHION	ABS-HB
	P22	PNPN1135X	CUSHION	ABS-HB
	P23	PFPP1041Z	PROTECTION COVER	
	P24	PNPN1132X	CUSHION	ABS-HB
	P25	PNPN1134X	CUSHION	ABS-HB
	P26	PFPP1052Z	PROTECTION COVER	
	P27	PNPD1121Z	CUSHION	

18.2.2. Main Board (KX-MB1900)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB1	PNWP11900CXV	MAIN BOARD ASS'Y (RTL) (CX only)	
	PCB1	PNWP11900SXV	MAIN BOARD ASS'Y (RTL) (SX only)	
			(ICs)	
	IC300	C1ZBZ0003801	IC	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	IC301	COEBY0000665	IC	
	IC400	C3ABRY000039	IC	
	IC402	PNWI1900CXV	IC (ROM) (CX only)	
	IC402	PNWI1900SX3	IC (ROM) (SX only)	
	IC501	C0DBGYY00330	IC	
	IC502	C0GBY0000066	IC	
	IC503	C0FBAY0000092	IC	
	IC504	C0BBBA0000044	IC	S
	IC800	C0DBAGE000028	IC	
			(TRANSISTORS)	
	Q500	B1GBCFGN0005	TRANSISTOR (SI)	
	Q501	B1GBCFGN0005	TRANSISTOR (SI)	
	Q502	B1GBCFGN0005	TRANSISTOR (SI)	
	Q503	B1GBCFGN0005	TRANSISTOR (SI)	
	Q504	B1GBCFGN0005	TRANSISTOR (SI)	
	Q505	B1GBCFGN0005	TRANSISTOR (SI)	
	Q506	B1GBCFGN0005	TRANSISTOR (SI)	
	Q507	UNR921LJ0L	TRANSISTOR (SI)	S
	Q508	B1ABCF000103	TRANSISTOR (SI)	S
	Q509	B1ADKE000002	TRANSISTOR (SI)	
	Q510	B1ADKE000002	TRANSISTOR (SI)	
	Q511	B1ABCF000103	TRANSISTOR (SI)	S
	Q512	B1ABCF000103	TRANSISTOR (SI)	S
	Q514	DSC7003S0L	TRANSISTOR (SI)	
	Q516	DSC7003S0L	TRANSISTOR (SI)	
	Q517	DSC7003S0L	TRANSISTOR (SI)	
	Q518	B1ADGE000012	TRANSISTOR (SI)	
	Q523	B1ABGE000011	TRANSISTOR (SI)	
	Q525	B1GBCFGN0005	TRANSISTOR (SI)	
	Q526	B1GBCFGN0005	TRANSISTOR (SI)	
	Q527	B1ABCF000103	TRANSISTOR (SI)	S
	Q529	2SA1774C3R	TRANSISTOR (SI)	S
	Q530	B1ABCF000103	TRANSISTOR (SI)	S
	Q602	B1ABCF000103	TRANSISTOR (SI)	S
	Q603	2SA1774C3R	TRANSISTOR (SI)	S
	Q604	B1ADKE000002	TRANSISTOR (SI)	
	Q800	B1ABCF000103	TRANSISTOR (SI)	S
	Q801	UNR92A5J0L	TRANSISTOR (SI)	
	Q802	B1CHND000004	TRANSISTOR (SI)	
	Q803	B1CHND000004	TRANSISTOR (SI)	
	Q804	B1ABGE000011	TRANSISTOR (SI)	
	Q805	B1ABGE000011	TRANSISTOR (SI)	
	Q806	B1ADGE000012	TRANSISTOR (SI)	
	Q807	B1ADGE000012	TRANSISTOR (SI)	
	Q808	B1CHND000004	TRANSISTOR (SI)	
	Q809	2SA1774C3R	TRANSISTOR (SI)	S
	Q810	B1ABCF000103	TRANSISTOR (SI)	S
			(DIODES)	
	D306	B0ZBZ0000146	DIODE (SI)	
	D501	B0ACEL000004	DIODE (SI)	
	D503	B0ACEL000004	DIODE (SI)	
	D504	B0ACEL000004	DIODE (SI)	
	D800	B0JCND000027	DIODE (SI)	
	D803	B0JCND000027	DIODE (SI)	
	D805	B0BC01000014	DIODE (SI)	
	D806	B0BC01000014	DIODE (SI)	
	D807	PJVDJADAN202	DIODE (SI)	
	DA500	PJVDJADAN202	DIODE (SI)	
			(CAPACITORS)	
	C300	ECUE1A104KBQ	0.1	
	C301	ECUE1A104KBQ	0.1	
	C304	ECJ0EB0J224K	0.22	S
	C305	ECJ0EB0J224K	0.22	S
	C306	ECJ0EB0J224K	0.22	S
	C308	ECJ0EB0J224K	0.22	S
	C309	ECUE1A273KBQ	0.027	
	C310	ECUE1H220JCQ	22p	
	C311	ECUE1H270JCQ	27p	
	C312	ECUE1A104KBQ	0.1	
	C315	ECUE1H100DCQ	10p	
	C316	ECUE1H120JCQ	12p	
	C317	ERJ2GE0R00	0	S
	C319	ERJ2GE0R00	0	S

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C325	ECUE1A104KBQ	0.1	
	C326	ECUE1C103KBQ	0.01	
	C327	ECUE1A104KBQ	0.1	
	C328	ECUE1A104KBQ	0.1	
	C329	ECUE1A104KBQ	0.1	
	C330	ECUE1A104KBQ	0.1	
	C331	ECUE1A104KBQ	0.1	
	C332	ECUE1A104KBQ	0.1	
	C333	ECUE1A104KBQ	0.1	
	C334	ECUE1A104KBQ	0.1	
	C335	ECUE1A104KBQ	0.1	
	C336	ECUE1A104KBQ	0.1	
	C337	ECUE1A104KBQ	0.1	
	C338	ECUE1A104KBQ	0.1	
	C339	ECUE1A104KBQ	0.1	
	C351	ECUE1H101JCQ	100p	
	C352	ECUE1A104KBQ	0.1	
	C353	ECUE1A104KBQ	0.1	
	C354	ECUE1A104KBQ	0.1	
	C355	ECUE1A104KBQ	0.1	
	C357	ECUE1A104KBQ	0.1	
	C358	ECUE1A104KBQ	0.1	
	C359	ECUE1A104KBQ	0.1	
	C360	ECUE1A104KBQ	0.1	
	C361	ECUE1A104KBQ	0.1	
	C362	ECUE1A104KBQ	0.1	
	C363	ECUE1A104KBQ	0.1	
	C364	ECUE1A104KBQ	0.1	
	C400	ECUE1A104KBQ	0.1	
	C401	ECUE1C103KBQ	0.01	
	C402	ECUE1A104KBQ	0.1	
	C403	ECUE1A104KBQ	0.1	
	C404	ECUE1A104KBQ	0.1	
	C405	ECUE1C103KBQ	0.01	
	C406	ECUE1A104KBQ	0.1	
	C412	ECUE1C103KBQ	0.01	
	C413	ECUE1A104KBQ	0.1	
	C414	ECUE1A104KBQ	0.1	
	C419	ECUE1H101JCQ	100p	
	C420	ECUE1H101JCQ	100p	
	C421	ECUE1H101JCQ	100p	
	C422	ECUE1H101JCQ	100p	
	C423	ECUE1H101JCQ	100p	
	C424	ECUE1H101JCQ	100p	
	C425	ECUE1H101JCQ	100p	
	C426	ECUE1H101JCQ	100p	
	C427	ECUE1H101JCQ	100p	
	C428	ECUE1H101JCQ	100p	
	C429	ECUE1H101JCQ	100p	
	C470	ECUE1H270JCQ	27p	
	C471	ECUE1A104KBQ	0.1	
	C501	ECUV1H104ZFB	0.1	
	C502	ECUE0J105KBQ	1	
	C503	ECUV1H104ZFB	0.1	
	C504	ECUE1A104KBQ	0.1	
	C505	F2G1V2210014	220	
	C506	ECUE1H100DCQ	10p	
	C507	ECUE1H102KBQ	0.001	
	C508	ECJ0EB1A473K	0.047	S
	C509	ECUE1A104KBQ	0.1	
	C510	ECUE1A104KBQ	0.1	
	C511	ECUE1H102KBQ	0.001	
	C512	F1J0J1060006	10	
	C513	ECUV1A105ZFB	1	
	C514	ECUE1H101JCQ	100p	
	C515	F2G1V2210014	220	
	C516	ECUE1H102KBQ	0.001	
	C517	ECUE1H102KBQ	0.001	
	C518	ECUV1H104ZFB	0.1	
	C520	ECUE1H102KBQ	0.001	
	C522	ECUE1H102KBQ	0.001	
	C523	F1J0J1060006	10	
	C524	F2G1V4700016	47	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C525	ECUV1H104ZFB	0.1	
	C526	ECUE1H102KBQ	0.001	
	C527	ECUE1H102KBQ	0.001	
	C528	ECUE1H102KBQ	0.001	
	C529	ECUE1H102KBQ	0.001	
	C530	F1J0J1060006	10	
	C533	ECUE1A104KBQ	0.1	
	C534	ECUE1A104KBQ	0.1	
	C536	ECUE1A104KBQ	0.1	
	C537	ECUE1A104KBQ	0.1	
	C538	F1J0J1060006	10	
	C540	ECUE1A104KBQ	0.1	
	C542	ECUE1A104KBQ	0.1	
	C543	ECUE1A104KBQ	0.1	
	C544	ECUE1C103KBQ	0.01	
	C545	ECUE0J105KBQ	1	
	C546	ECUE1C103KBQ	0.01	
	C547	ECUE1H101JCQ	100p	
	C548	ECUE1H102KBQ	0.001	
	C549	F2G0J1010042	100	
	C550	F2G1C2200012	22	
	C551	ECUE1H102KBQ	0.001	
	C552	ECUE1A104KBQ	0.1	
	C553	ECUE1H102KBQ	0.001	
	C554	ECUE1H102KBQ	0.001	
	C555	ECUE1A104KBQ	0.1	
	C556	ECUE1H101JCQ	100p	
	C557	ECUE1H181JCQ	180p	
	C559	ECUE1H102KBQ	0.001	
	C563	ECUE1H102KBQ	0.001	
	C565	ECJ0EB1A473K	0.047	S
	C568	ECUE1H102KBQ	0.001	
	C569	ECJ0EB1A473K	0.047	S
	C570	ECUE1A104KBQ	0.1	
	C571	ECUE1A104KBQ	0.1	
	C572	ECUE0J105KBQ	1	
	C601	ECUE0J105KBQ	1	
	C645	ECUE1A104KBQ	0.1	
	C646	ECUE1A104KBQ	0.1	
	C647	ECUE1A104KBQ	0.1	
	C648	ECUE1A104KBQ	0.1	
	C649	ECUE1A104KBQ	0.1	
	C650	ECUE1A104KBQ	0.1	
	C651	ECUE1A104KBQ	0.1	
	C652	ECUE1A104KBQ	0.1	
	C653	ECUE1A104KBQ	0.1	
	C654	ECUE1A104KBQ	0.1	
	C655	ECUE1A104KBQ	0.1	
	C656	ECUE1A104KBQ	0.1	
	C657	ECUE1A104KBQ	0.1	
	C658	ECUE1A104KBQ	0.1	
	C659	ECUE1A104KBQ	0.1	
	C660	ECUE1A104KBQ	0.1	
	C661	ECUE1A104KBQ	0.1	
	C662	ECUE1A104KBQ	0.1	
	C663	ECUE1A104KBQ	0.1	
	C664	ECUE1A104KBQ	0.1	
	C665	ECUE1A104KBQ	0.1	
	C666	ECUE1A104KBQ	0.1	
	C667	ECUE1A104KBQ	0.1	
	C668	ECUE1A104KBQ	0.1	
	C669	ECUE1A104KBQ	0.1	
	C670	ECUE1A104KBQ	0.1	
	C671	ECUV1H104ZFB	0.1	
	C672	ECUV1H104ZFB	0.1	
	C673	ECUV1H104ZFB	0.1	
	C674	ECUE1A104KBQ	0.1	
	C675	ECUE1A104KBQ	0.1	
	C676	ECUE1A104KBQ	0.1	
	C677	ECUE1A104KBQ	0.1	
	C678	ECUE1A104KBQ	0.1	
	C679	ECUE1A104KBQ	0.1	
	C680	ECUE1A104KBQ	0.1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C681	ECUE1A104KBQ	0.1	
	C682	ECUE1A104KBQ	0.1	
	C683	ECUE1A104KBQ	0.1	
	C684	ECUE1A104KBQ	0.1	
	C685	ECUE1A104KBQ	0.1	
	C687	ECUE1A104KBQ	0.1	
	C688	ECUE1A104KBQ	0.1	
	C689	ECUE1A104KBQ	0.1	
	C690	ECUE1A104KBQ	0.1	
	C691	ECUE1A104KBQ	0.1	
	C692	ECUE1A104KBQ	0.1	
	C693	ECUE1A104KBQ	0.1	
	C695	ECUE1A104KBQ	0.1	
	C696	ECUE1A104KBQ	0.1	
	C697	ECUE1A104KBQ	0.1	
	C698	ECUE1A104KBQ	0.1	
	C699	ECUE1A104KBQ	0.1	
	C800	F2H0J1010009	100	
	C801	ECUV1H104ZFV	0.1	
	C802	ECUV1A105ZFV	1	
	C803	ECUV1H104ZFV	0.1	
	C804	F1L1V1060002	35	
	C805	F1L1V1060002	35	
	C806	ECUV1H104ZFV	0.1	
	C807	ECUV1H104ZFV	0.1	
	C808	ECUV1H104ZFV	0.1	
	C809	ECJ0EB1A473K	0.047	S
	C810	ECUV1H103KBV	0.01	
	C811	ECUV1A474KBV	0.47	
	C812	ECUV1H103KBV	0.01	
	C813	ECUV1A334KBV	0.33	
	C814	ECUE1A104KBQ	0.1	
	C817	F2H0J1010009	100	
	C818	ECUV1A105ZFV	1	
	C819	PQCUV1C105ZF	1	S
	C820	PQCUV1C105ZF	1	S
	C822	ECUE0J105KBQ	1	
			(CONNECTORS & JACKS)	
	CN300	K1FY104B0015	CONNECTOR, 8PIN	
	CN500	K1KA07A00257	CONNECTOR, 7PIN	
	CN501	K1KA05A00364	CONNECTOR, 5PIN	
	CN502	K1KA08AA0193	CONNECTOR, 8PIN	
	CN504	K1KA08A00498	CONNECTOR, 8PIN	
	CN505	K1KA08A00440	CONNECTOR, 8PIN	
	CN506	K1KA03AA0193	CONNECTOR, 3PIN	
	CN507	K1KA02AA0193	CONNECTOR, 2PIN	
	CN508	K1KA10A00412	CONNECTOR, 10PIN	
	CN509	K1KA04A00527	CONNECTOR, 4PIN	
	CN510	K1KA13A00130	CONNECTOR, 13PIN	
	CN511	K1KA08A00440	CONNECTOR, 8PIN	
	CN514	K1KA02AA0193	CONNECTOR, 2PIN	
			(FUSE)	
△	F800	K5H302Y00003	FUSE	
			(COILS)	
	L300	G1BYYC00026	COIL	
	L502	PFVF2P221SG	COIL	S
	L800	G1C220MA0291	COIL	
	L801	G1C220MA0291	COIL	
			(IC FILTERS)	
	L344	J0JCC0000286	IC FILTER	
	L345	J0JCC0000286	IC FILTER	
	L346	J0JCC0000286	IC FILTER	
	L347	J0JCC0000286	IC FILTER	
	L364	J0JCC0000274	IC FILTER	
	L500	J0JCC0000277	IC FILTER	
	L501	J0JCC0000276	IC FILTER	
	L503	J0JGC0000020	IC FILTER	
	L504	J0JGC0000020	IC FILTER	
	FLT500	J0HAAB000021	IC FILTER	
			(RESISTORS)	
	R302	ERJ2RKF49R9	49.9	
	R303	ERJ2GEJ472X	4.7k	S
	R304	ERJ2GEJ101	100	S

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R305	ERJ2GEJ103	10k	S
	R308	ERJ2GEJ470	47	S
	R309	ERJ2GEJ470	47	S
	R315	ERJ2GEJ103	10k	S
	R316	ERJ2GEJ103	10k	S
	R335	ERJ2GEJ152	1.5k	S
	R336	ERJ2GE0R00	0	S
	R337	ERJ2GE0R00	0	S
	R338	ERJ2GEJ103	10k	S
	R339	ERJ2GEJ223	22k	S
	R340	ERJ2GEJ103	10k	S
	R341	ERJ2GEJ103	10k	S
	R342	ERJ2GEJ103	10k	S
	R343	ERJ2GEJ103	10k	S
	R344	ERJ2GEJ103	10k	S
	R345	ERJ2GEJ103	10k	S
	R346	ERJ2GEJ103	10k	S
	R347	ERJ2GEJ103	10k	S
	R348	ERJ2GEJ103	10k	S
	R349	ERJ2GEJ103	10k	S
	R350	ERJ2GEJ103	10k	S
	R351	ERJ2GEJ103	10k	S
	R352	ERJ2GEJ103	10k	S
	R353	ERJ2GEJ103	10k	S
	R354	ERJ2GEJ103	10k	S
	R355	ERJ2GEJ103	10k	S
	R361	ERJ2GEJ103	10k	S
	R363	ERJ2GEJ103	10k	S
	R365	ERJ2GEJ103	10k	S
	R367	ERJ2GEJ470	47	S
	R368	ERJ2GEJ470	47	S
	R369	ERJ2GEJ470	47	S
	R370	ERJ2GEJ103	10k	S
	R372	ERJ2GEJ103	10k	S
	R373	ERJ2GEJ103	10k	S
	R375	ERJ2GEJ221	220	S
	R376	ERJ2RKF6981	6.98k	S
	R378	ERJ2GEJ102	1k	S
	R380	ERJ2GEJ1R0	1	S
	R381	ERJ2GEJ1R0	1	S
	R382	ERJ2GEJ1R0	1	S
	R384	ERJ2GEJ101	100	S
	R385	ERJ2GEJ1R0	1	S
	R386	ERJ2GEJ221	220	S
	R390	ERJ2GE0R00	0	S
	R391	ERJ2GEJ103	10k	S
	R393	ERJ2GE0R00	0	S
	R394	ERJ2GEJ103	10k	S
	R395	ERJ3GEY0R00	0	S
	R396	ERJ3GEY0R00	0	S
	R397	ERJ3GEY0R00	0	S
	R398	ERJ3GEY0R00	0	S
	R399	ERJ2GEJ103	10k	S
	R400	ERJ2GEJ470	47	S
	R401	ERJ2GEJ680	68	S
	R402	ERJ2GEJ470	47	S
	R403	ERJ2GEJ470	47	S
	R404	ERJ2GEJ470	47	S
	R405	ERJ2GEJ470	47	S
	R406	ERJ2GEJ470	47	S
	R407	ERJ2GEJ470	47	S
	R408	ERJ2GEJ470	47	S
	R409	ERJ2GEJ680	68	S
	R410	ERJ2GEJ680	68	S
	R449	ERJ2GEJ103	10k	S
	R501	ERJ2GEJ101	100	S
	R502	ERJ2GEJ101	100	S
	R503	ERJ2RKF6201	6.2k	S
	R504	ERJ2GEJ473	47k	S
	R505	ERJ2RKF1503	150k	S
	R506	ERJ2GEJ223	22k	S
	R507	ERJ2RKF2202	22k	S
	R508	ERJ2GEJ102	1k	S

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R509	ERJ2GEJ102	1k	S
	R510	ERJ2GEJ562X	5.6k	S
	R511	ERJ2GEJ181	180	S
	R512	ERJ2GEJ563	56k	S
	R513	ERJ2GEJ103	10k	S
	R514	ERJ2RKF1503	150k	S
	R515	ERJ2GEJ102	1k	S
	R516	ERJ2GEJ823	82k	S
	R517	ERJ2GEJ332	3.3k	S
	R518	ERJ2GEJ472X	4.7k	S
	R519	ERJ2GEJ472X	4.7k	S
	R520	ERJ2GEJ102	1k	S
	R521	ERJ2GEJ563	56k	S
	R522	ERJ2GEJ103	10k	S
	R523	ERJ2GEJ563	56k	S
	R524	ERJ2GEJ472X	4.7k	S
	R525	ERJ12YJ470U	47	
	R526	ERJ2GEJ103	10k	S
	R527	ERJ2GEJ562X	5.6k	S
	R528	PQ4R10XJ332	3.3k	S
	R529	ERJ2GEJ473	47k	S
	R530	ERJ2GEJ102	1k	S
	R531	ERJ2GEJ562X	5.6k	S
	R532	PQ4R18XJ472	4.7k	S
	R533	ERJ2GEJ102	1k	S
	R534	ERJ2GEJ474	470k	S
	R535	ERJ2GEJ103	10k	S
	R536	ERJ8RQFR33	0.33	
	R537	ERJ8RQFR33	0.33	
	R538	ERJ2GEJ104	100k	S
	R539	ERJ2GEJ223	22k	S
	R540	ERJ2GEJ183	18k	S
	R541	ERJ2GEJ122	1.2k	S
	R542	ERJ2GEJ122	1.2k	S
	R543	ERJ3GEYJ180	18	S
	R544	ERJ2GEJ122	1.2k	S
	R545	ERJ2GEJ123	12k	S
	R546	ERJ2GEJ122	1.2k	S
	R547	ERJ2GEJ471	470	S
	R548	ERJ3GEYJ1R2	1.2	S
	R549	ERJ3GEYJ330	33	S
	R550	ERJ2GEJ122	1.2k	S
	R551	ERJ2GEJ822	8.2k	S
	R552	ERJ2GEJ102	1k	S
	R553	ERJ2GEJ820	82	S
	R554	ERJ2GEJ122	1.2k	S
	R555	ERJ2GEJ472X	4.7k	S
	R556	ERJ3GEYJ390	39	S
	R557	ERJ12YJ390	39	
	R558	ERJ2GEJ470	47	S
	R559	ERJ2GEJ101	100	S
	R560	ERJ2GEJ181	180	S
	R561	ERJ2GEJ102	1k	S
	R562	ERJ2GEJ102	1k	S
	R563	ERJ2GEJ101	100	S
	R564	ERJ2RKF1802	18k	
	R565	ERJ2GEJ103	10k	S
	R566	ERJ2GEJ123	12k	S
	R567	ERJ2GEJ103	10k	S
	R568	ERJ12YJ470U	47	
	R569	ERJ2GEJ563	56k	S
	R570	ERJ2GEJ562X	5.6k	S
	R571	ERJ2GEJ561	560	S
	R572	ERJ8GEYJ2R7	2.7	S
	R573	ERJ2GEJ473	47k	S
	R574	ERJ2GEJ102	1k	S
	R575	ERJ8GEYJ2R7	2.7	S
	R576	ERJ2GEJ102	1k	S
	R577	ERJ2GEJ102	1k	S
	R578	ERJ2GEJ332	3.3k	S
	R579	ERJ2GEJ471	470	S
	R580	ERJ2GEJ562X	5.6k	S
	R581	ERJ2RKF4700	470	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R582	ERJ2GEJ223	22k	S
	R583	ERJ2GEJ562X	5.6k	S
	R584	ERJ2RKF6201	6.2k	
	R585	ERJ2GEJ562X	5.6k	S
	R587	ERJ2GEJ223	22k	S
	R588	ERJ2GEJ563	56k	S
	R589	ERJ2GEJ562X	5.6k	S
	R590	ERJ2GEJ223	22k	S
	R591	ERJ2GEJ105X	1M	S
	R592	ERJ2GEJ102	1k	S
	R593	ERJ2GEJ153	15k	S
	R594	ERJ2GEJ104	100k	S
	R595	ERJ2GEJ274	270k	S
	R596	ERJ2GEJ334	330k	S
	R598	ERJ2GE0R00	0	S
	R608	ERJ8GEY0R00	0	S
	R609	ERJ8GEY0R00	0	S
	R610	ERJ2GEJ332	3.3k	S
	R611	ERJ2GEJ102	1k	S
	R612	ERJ2GEJ473	47k	S
	R613	ERJ2GEJ473	47k	S
	R614	PQ4R18XJ472	4.7k	S
	R615	ERJ2GEJ473	47k	S
	R800	ERJ2RKF2202	22k	
	R801	ERJ2RKF1001	1k	
	R802	ERJ2RKF1002	10k	
	R803	ERJ2RKF4701	4.7k	
	R804	ERJ2RKF9091	9.09k	
	R805	ERJ2GEJ104	100k	S
	R807	ERJ2GEJ273X	27k	S
	R808	ERJ2GEJ103	10k	S
	R809	ERJ2GEJ102	1k	S
	R812	ERJ2RKF2201X	2.2k	
	R813	ERJ2RKF1001	1k	
	R815	ERJ2RKF1002	10k	
	R817	ERJ2RKF2001	2k	
	R818	ERJ2RKF4701	4.7k	
	R819	PQ4R18XJ471	470	S
	R820	PQ4R18XJ471	470	S
	R821	ERJ2GEJ473	47k	S
	R822	ERJ2GEJ473	47k	S
	R825	PQ4R18XJ102	1k	S
	R826	PQ4R18XJ102	1k	S
	R828	ERJ2GEJ224	220k	S
	R829	ERJ2GEJ223	22k	S
	R830	ERJ2GEJ224	220k	S
	R831	ERJ2GEJ473	47k	S
	R832	ERJ2GEJ153	15k	S
	R833	ERJ2GEJ222	2.2k	S
	R834	ERJ2GEJ473	47k	S
	R835	ERJ2GEJ223	22k	S
	R836	ERJ2GEJ393X	39k	S
	L361	ERJ2GE0R00	0	S
	L363	ERJ2GEJ221	220	S
	L365	ERJ2GEJ330	33	S
	L366	ERJ2GEJ330	33	S
	L367	ERJ2GEJ330	33	S
	L368	ERJ2GEJ330	33	S
	L369	ERJ2GEJ221	220	S
	L370	ERJ2GEJ221	220	S
	L371	ERJ2GEJ221	220	S
			(COMPONENTS PARTS)	
	RA314	EXB28V470JX	RESISTOR ARRAY	
	RA315	EXB28V470JX	RESISTOR ARRAY	
	RA316	EXB28V470JX	RESISTOR ARRAY	
	RA317	EXB28V470JX	RESISTOR ARRAY	
	RA318	EXB28V470JX	RESISTOR ARRAY	
	RA319	EXB28V470JX	RESISTOR ARRAY	
	RA320	EXB28V470JX	RESISTOR ARRAY	
	RA321	EXB28V473JX	RESISTOR ARRAY	
	RA322	EXB28V473JX	RESISTOR ARRAY	
	RA323	EXB28V473JX	RESISTOR ARRAY	
	RA324	EXB28V473JX	RESISTOR ARRAY	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	RA400	EXB28V560JX	RESISTOR ARRAY	
	RA401	EXB28V560JX	RESISTOR ARRAY	
	RA402	EXB28V560JX	RESISTOR ARRAY	
	RA403	EXB28V560JX	RESISTOR ARRAY	
	RA404	EXB28V470JX	RESISTOR ARRAY	
	RA405	EXB28V470JX	RESISTOR ARRAY	
	RA406	EXB28V470JX	RESISTOR ARRAY	
	RA413	EXB28V473JX	RESISTOR ARRAY	
	RA414	EXB28V473JX	RESISTOR ARRAY	
			(CRYSTAL OSCILLATORS)	
	X300	H0J120500078	CRYSTAL OSCILLATOR	
	X302	H0J238500003	CRYSTAL OSCILLATOR	

18.2.3. Main Board (KX-MB2010)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB1	PNWP12010CXV	MAIN BOARD ASS'Y (RTL) (CX only)	
	PCB1	PNWP12010SXV	MAIN BOARD ASS'Y (RTL) (SX only)	
			(ICs)	
	IC300	C1ZBZ0003801	IC	
	IC301	C0EBY0000665	IC	
	IC303	C0CBAAA00035	IC	
	IC400	C3ABRY000039	IC	
	IC402	PNWI2010CXV	IC (ROM) (CX only)	
	IC402	PNWI2010SX4	IC (ROM) (SX only)	
	IC501	C0DBGYY00330	IC	
	IC502	C0GBY0000066	IC	
	IC503	C0FBAY000092	IC	
	IC504	C0BBBA000044	IC	S
	IC750	C1CB00003527	IC	
	IC800	C0DBAGE00028	IC	
			(TRANSISTORS)	
	Q500	B1GBCFGN0005	TRANSISTOR (SI)	
	Q501	B1GBCFGN0005	TRANSISTOR (SI)	
	Q502	B1GBCFGN0005	TRANSISTOR (SI)	
	Q503	B1GBCFGN0005	TRANSISTOR (SI)	
	Q504	B1GBCFGN0005	TRANSISTOR (SI)	
	Q505	B1GBCFGN0005	TRANSISTOR (SI)	
	Q506	B1GBCFGN0005	TRANSISTOR (SI)	
	Q507	UNR921LJ0L	TRANSISTOR (SI)	S
	Q508	B1ABCF000103	TRANSISTOR (SI)	S
	Q509	B1ADKE000002	TRANSISTOR (SI)	
	Q510	B1ADKE000002	TRANSISTOR (SI)	
	Q511	B1ABCF000103	TRANSISTOR (SI)	S
	Q512	B1ABCF000103	TRANSISTOR (SI)	S
	Q514	DSC7003S0L	TRANSISTOR (SI)	
	Q516	DSC7003S0L	TRANSISTOR (SI)	
	Q517	DSC7003S0L	TRANSISTOR (SI)	
	Q518	B1ADGE000012	TRANSISTOR (SI)	
	Q523	B1ABGE000011	TRANSISTOR (SI)	
	Q525	B1GBCFGN0005	TRANSISTOR (SI)	
	Q526	B1GBCFGN0005	TRANSISTOR (SI)	
	Q527	B1ABCF000103	TRANSISTOR (SI)	S
	Q529	2SA1774C3R	TRANSISTOR (SI)	S
	Q530	B1ABCF000103	TRANSISTOR (SI)	S
	Q602	B1ABCF000103	TRANSISTOR (SI)	S
	Q603	2SA1774C3R	TRANSISTOR (SI)	S
	Q604	B1ADKE000002	TRANSISTOR (SI)	
	Q700	B1ABCF000103	TRANSISTOR (SI)	S
	Q800	B1ABCF000103	TRANSISTOR (SI)	S
	Q801	UNR92A5J0L	TRANSISTOR (SI)	
	Q802	B1CHND000004	TRANSISTOR (SI)	
	Q803	B1CHND000004	TRANSISTOR (SI)	
	Q804	B1ABGE000011	TRANSISTOR (SI)	
	Q805	B1ABGE000011	TRANSISTOR (SI)	
	Q806	B1ADGE000012	TRANSISTOR (SI)	
	Q807	B1ADGE000012	TRANSISTOR (SI)	
	Q808	B1CHND000004	TRANSISTOR (SI)	
	Q809	2SA1774C3R	TRANSISTOR (SI)	S
	Q810	B1ABCF000103	TRANSISTOR (SI)	S

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
			(DIODES)	
	D306	B0ZBZ0000146	DIODE (SI)	
	D501	B0ACEL000004	DIODE (SI)	
	D503	B0ACEL000004	DIODE (SI)	
	D504	B0ACEL000004	DIODE (SI)	
	D700	B0ACEL000004	DIODE (SI)	
	D701	PJVDJADAN202	DIODE (SI)	S
	D800	B0JCND000027	DIODE (SI)	
	D803	B0JCND000027	DIODE (SI)	
	D805	B0BC01000014	DIODE (SI)	
	D806	B0BC01000014	DIODE (SI)	
	D807	PJVDJADAN202	DIODE (SI)	S
	DA300	PJVDJADAN202	DIODE (SI)	S
	DA500	PJVDJADAN202	DIODE (SI)	S
	LED750	B3ABB0000331	DIODE (SI)	
			(BATTERY)	
	BAT300	CR-2354/GUFX	BATTERY	
			(CAPACITORS)	
	C300	ECUE1A104KBQ	0.1	
	C301	ECUE1A104KBQ	0.1	
	C304	ECJ0EB0J224K	0.22	
	C305	ECJ0EB0J224K	0.22	
	C306	ECJ0EB0J224K	0.22	
	C308	ECJ0EB0J224K	0.22	
	C309	ECJ0EB1A273K	0.027	
	C310	ECJ0EC1H220J	22p	
	C311	ECJ0EC1H270J	27p	
	C312	ECUE1A104KBQ	0.1	
	C315	ECUE1H100DCQ	10p	
	C316	ECJ0EC1H120J	12p	
	C317	ECJ0EC1H270J	27p	
	C318	ECJ0EC1H120J	12p	
	C319	ECUE0J105KBQ	1	
	C322	ECUE0J105KBQ	1	
	C325	ECUE1A104KBQ	0.1	
	C326	ECUE1C103KBQ	0.01	
	C327	ECUE1A104KBQ	0.1	
	C328	ECUE1A104KBQ	0.1	
	C329	ECUE1A104KBQ	0.1	
	C330	ECUE1A104KBQ	0.1	
	C331	ECUE1A104KBQ	0.1	
	C332	ECUE1A104KBQ	0.1	
	C333	ECUE1A104KBQ	0.1	
	C334	ECUE1A104KBQ	0.1	
	C335	ECUE1A104KBQ	0.1	
	C336	ECUE1A104KBQ	0.1	
	C337	ECUE1A104KBQ	0.1	
	C338	ECUE1A104KBQ	0.1	
	C339	ECUE1A104KBQ	0.1	
	C351	ECUE1H101JCQ	100p	
	C352	ECUE1A104KBQ	0.1	
	C353	ECUE1A104KBQ	0.1	
	C354	ECUE1A104KBQ	0.1	
	C355	ECUE1A104KBQ	0.1	
	C357	ECUE1A104KBQ	0.1	
	C358	ECUE1A104KBQ	0.1	
	C359	ECUE1A104KBQ	0.1	
	C360	ECUE1A104KBQ	0.1	
	C361	ECUE1A104KBQ	0.1	
	C362	ECUE1A104KBQ	0.1	
	C363	ECUE1A104KBQ	0.1	
	C364	ECUE1A104KBQ	0.1	
	C400	ECUE1A104KBQ	0.1	
	C401	ECUE1C103KBQ	0.01	
	C402	ECUE1A104KBQ	0.1	
	C403	ECUE1A104KBQ	0.1	
	C404	ECUE1A104KBQ	0.1	
	C405	ECUE1C103KBQ	0.01	
	C406	ECUE1A104KBQ	0.1	
	C412	ECUE1C103KBQ	0.01	
	C413	ECUE1A104KBQ	0.1	
	C414	ECUE1A104KBQ	0.1	
	C419	ECUE1H101JCQ	100p	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C420	ECUE1H101JCQ	100p	
	C421	ECUE1H101JCQ	100p	
	C422	ECUE1H101JCQ	100p	
	C423	ECUE1H101JCQ	100p	
	C424	ECUE1H101JCQ	100p	
	C425	ECUE1H101JCQ	100p	
	C426	ECUE1H101JCQ	100p	
	C427	ECUE1H101JCQ	100p	
	C428	ECUE1H101JCQ	100p	
	C429	ECUE1H101JCQ	100p	
	C470	ECJ0EC1H270J	27p	
	C471	ECUE1A104KBQ	0.1	
	C501	ECUX1C104ZJV	0.1	S
	C502	ECUE0J105KBQ	1	
	C503	ECUX1C104ZJV	0.1	S
	C504	ECUE1A104KBQ	0.1	
	C505	F2G1V2210014	220	
	C506	ECUE1H100DCQ	10p	
	C507	ECJ0EB1H102K	0.001	
	C508	ECJ0EB1A473K	0.047	S
	C509	ECUE1A104KBQ	0.1	
	C510	ECUE1A104KBQ	0.1	
	C511	ECJ0EB1H102K	0.001	
	C512	F1J0J1060006	10	
	C513	ECUV1A105ZJV	1	
	C514	ECUE1H101JCQ	100p	
	C515	F2G1V2210014	220	
	C516	ECJ0EB1H102K	0.001	
	C517	ECJ0EB1H102K	0.001	
	C518	ECUX1C104ZJV	0.1	S
	C520	ECJ0EB1H102K	0.001	
	C522	ECJ0EB1H102K	0.001	
	C523	F1J0J1060006	10	
	C524	F2G1V4700016	47	
	C525	ECUX1C104ZJV	0.1	S
	C526	ECJ0EB1H102K	0.001	
	C527	ECJ0EB1H102K	0.001	
	C528	ECJ0EB1H102K	0.001	
	C529	ECJ0EB1H102K	0.001	
	C530	F1J0J1060006	10	
	C533	ECUE1A104KBQ	0.1	
	C534	ECUE1A104KBQ	0.1	
	C536	ECUE1A104KBQ	0.1	
	C537	ECUE1A104KBQ	0.1	
	C538	F1J0J1060006	10	
	C540	ECUE1A104KBQ	0.1	
	C542	ECUE1A104KBQ	0.1	
	C543	ECUE1A104KBQ	0.1	
	C544	ECUE1C103KBQ	0.01	
	C545	ECUE0J105KBQ	1	
	C546	ECUE1C103KBQ	0.01	
	C547	ECUE1H101JCQ	100p	
	C548	ECJ0EB1H102K	0.001	
	C549	F2G0J1010042	100	
	C550	F2G1C2200012	22	
	C551	ECJ0EB1H102K	0.001	
	C552	ECUE1A104KBQ	0.1	
	C553	ECJ0EB1H102K	0.001	
	C554	ECJ0EB1H102K	0.001	
	C555	ECUE1A104KBQ	0.1	
	C556	ECUE1H101JCQ	100p	
	C557	ECJ0EC1H181J	180p	
	C559	ECJ0EB1H102K	0.001	
	C563	ECJ0EB1H102K	0.001	
	C565	ECJ0EB1A473K	0.047	S
	C568	ECJ0EB1H102K	0.001	
	C569	ECJ0EB1A473K	0.047	S
	C570	ECUE1A104KBQ	0.1	
	C571	ECUE1A104KBQ	0.1	
	C572	ECUE0J105KBQ	1	
	C601	ECUE0J105KBQ	1	
	C645	ECUE1A104KBQ	0.1	
	C646	ECUE1A104KBQ	0.1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C647	ECUE1A104KBQ	0.1	
	C648	ECUE1A104KBQ	0.1	
	C649	ECUE1A104KBQ	0.1	
	C650	ECUE1A104KBQ	0.1	
	C651	ECUE1A104KBQ	0.1	
	C652	ECUE1A104KBQ	0.1	
	C653	ECUE1A104KBQ	0.1	
	C654	ECUE1A104KBQ	0.1	
	C655	ECUE1A104KBQ	0.1	
	C656	ECUE1A104KBQ	0.1	
	C657	ECUE1A104KBQ	0.1	
	C658	ECUE1A104KBQ	0.1	
	C659	ECUE1A104KBQ	0.1	
	C660	ECUE1A104KBQ	0.1	
	C661	ECUE1A104KBQ	0.1	
	C662	ECUE1A104KBQ	0.1	
	C663	ECUE1A104KBQ	0.1	
	C664	ECUE1A104KBQ	0.1	
	C665	ECUE1A104KBQ	0.1	
	C666	ECUE1A104KBQ	0.1	
	C667	ECUE1A104KBQ	0.1	
	C668	ECUE1A104KBQ	0.1	
	C669	ECUE1A104KBQ	0.1	
	C670	ECUE1A104KBQ	0.1	
	C671	ECUX1C104ZJV	0.1	S
	C672	ECUX1C104ZJV	0.1	S
	C673	ECUX1C104ZJV	0.1	S
	C674	ECUE1A104KBQ	0.1	
	C675	ECUE1A104KBQ	0.1	
	C676	ECUE1A104KBQ	0.1	
	C677	ECUE1A104KBQ	0.1	
	C678	ECUE1A104KBQ	0.1	
	C679	ECUE1A104KBQ	0.1	
	C680	ECUE1A104KBQ	0.1	
	C681	ECUE1A104KBQ	0.1	
	C682	ECUE1A104KBQ	0.1	
	C683	ECUE1A104KBQ	0.1	
	C684	ECUE1A104KBQ	0.1	
	C685	ECUE1A104KBQ	0.1	
	C687	ECUE1A104KBQ	0.1	
	C688	ECUE1A104KBQ	0.1	
	C689	ECUE1A104KBQ	0.1	
	C690	ECUE1A104KBQ	0.1	
	C691	ECUE1A104KBQ	0.1	
	C692	ECUE1A104KBQ	0.1	
	C693	ECUE1A104KBQ	0.1	
	C695	ECUE1A104KBQ	0.1	
	C696	ECUE1A104KBQ	0.1	
	C697	ECUE1A104KBQ	0.1	
	C698	ECUE1A104KBQ	0.1	
	C699	ECUE1A104KBQ	0.1	
	C701	ECJ0EB1H102K	0.001	
	C702	ECUE0J105KBQ	1	
	C704	ECJ0EB1H102K	0.001	
	C710	ECJ0EB1H102K	0.001	
	C712	ECJ0EB1H102K	0.001	
	C750	ECUE1H101JCQ	100p	
	C751	ECUE1A104KBQ	0.1	
	C752	F2G0J4700012	47	
	C753	ECUE1A104KBQ	0.1	
	C754	ECUE1C103KBQ	0.01	
	C755	ECUE1C103KBQ	0.01	
	C756	ECJ0EC1H120J	12p	
	C757	ECUE1H150JCQ	15p	
	C758	ECUE1A104KBQ	0.1	
	C759	ECUE1A104KBQ	0.1	
	C760	ECUE1A104KBQ	0.1	
	C762	F2G0J4700012	47	
	C763	ECUE1A104KBQ	0.1	
	C764	ECUE1A104KBQ	0.1	
	C765	ECUE1A104KBQ	0.1	
	C766	ECUE1A104KBQ	0.1	
	C767	ECUE1A104KBQ	0.1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C800	F2H0J1010009	100	
	C801	ECUX1C104ZFV	0.1	S
	C802	ECJ1VF1A105Z	1	
	C803	ECUX1C104ZFV	0.1	S
	C804	F1L1V1060002	35	
	C805	F1L1V1060002	35	
	C806	ECUX1C104ZFV	0.1	S
	C807	ECUX1C104ZFV	0.1	S
	C808	ECUX1C104ZFV	0.1	S
	C809	ECJ0EB1A473K	0.047	S
	C810	ECUV1H103KBV	0.01	
	C811	ECUV1A474KBV	0.47	
	C812	ECUV1H103KBV	0.01	
	C813	ECUV1A334KBV	0.33	
	C814	ECUE1A104KBQ	0.1	
	C817	F2H0J1010009	100	
	C818	ECJ1VF1A105Z	1	
	C819	PQCUV1C105ZF	1	S
	C820	PQCUV1C105ZF	1	S
	C822	ECUE0J105KBQ	1	
			(CONNECTORS & JACKS)	
	CN300	K1FY104B0015	CONNECTOR	
	CN500	K1KA07A00257	CONNECTOR	
	CN501	K1KA05A00364	CONNECTOR	
	CN502	K1KA08AA0193	CONNECTOR	
	CN504	K1KA08A00498	CONNECTOR	
	CN505	K1KA08A00440	CONNECTOR	
	CN506	K1KA03AA0193	CONNECTOR	
	CN507	K1KA02AA0193	CONNECTOR	
	CN508	K1KA10A00412	CONNECTOR	
	CN509	K1KA04AA00527	CONNECTOR	
	CN510	K1KA13A00130	CONNECTOR	
	CN511	K1KA08A00440	CONNECTOR	
	CN514	K1KA02AA0193	CONNECTOR	
	CN700	K1KA04A00644	CONNECTOR	
	CN701	K1KA04AA0193	CONNECTOR	
	CN750	K2LC1YYB0040	JACK	
			(FUSE)	
⚠	F800	K5H302Y00003	FUSE	!
			(COILS)	
	L300	G1BYYC000026	COIL	
	L502	PFVF2P221SG	COIL	S
	L800	G1C220MA0291	COIL	
	L801	G1C220MA0291	COIL	
			(IC FILTERS)	
	L344	J0JCC0000286	IC FILTER	
	L345	J0JCC0000286	IC FILTER	
	L346	J0JCC0000286	IC FILTER	
	L347	J0JCC0000286	IC FILTER	
	L364	J0JCC0000274	IC FILTER	
	L500	J0JCC0000277	IC FILTER	
	L501	J0JCC0000276	IC FILTER	
	L503	J0JGC0000020	IC FILTER	
	L504	J0JGC0000020	IC FILTER	
	L750	J0JCC0000276	IC FILTER	
	L752	J0MAB0000185	IC FILTER	
	L753	J0MAB0000185	IC FILTER	
	FLT500	J0HAB0000021	IC FILTER	
			(RESISTORS)	
	R302	ERJ2RKF49R9	49.9	
	R303	ERJ2GEJ472X	4.7k	
	R304	ERJ2GEJ101	100	
	R305	ERJ2GEJ103	10k	
	R307	ERJ2GEJ470	47	
	R308	ERJ2GEJ470	47	
	R309	ERJ2GEJ470	47	
	R315	ERJ2GEJ103	10k	
	R316	ERJ2GEJ103	10k	
	R335	ERJ2GEJ152	1.5k	
	R336	ERJ2GE0R00	0	
	R337	ERJ2GE0R00	0	
	R338	ERJ2GEJ103	10k	
	R339	ERJ2GEJ223	22k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R340	ECJ0EC1H220J	22p	
	R348	ECJ0EC1H220J	22p	
	R349	ERJ2GEJ103	10k	
	R350	ERJ2GEJ103	10k	
	R351	ERJ2GEJ103	10k	
	R352	ERJ2GEJ103	10k	
	R353	ERJ2GEJ103	10k	
	R354	ERJ2GEJ103	10k	
	R355	ERJ2GEJ103	10k	
	R360	ERJ2GEJ103	10k	
	R362	ERJ2GEJ103	10k	
	R365	ERJ2GEJ103	10k	
	R367	ERJ2GEJ470	47	
	R368	ERJ2GEJ470	47	
	R369	ERJ2GEJ470	47	
	R370	ERJ2GEJ103	10k	
	R372	ERJ2GEJ103	10k	
	R373	ERJ2GEJ103	10k	
	R375	ERJ2GEJ221	220	
	R376	ERJ2RKF6981	6.98k	
	R378	ERJ2GEJ102	1k	
	R380	ERJ2GEJ1R0	1	
	R381	ERJ2GEJ1R0	1	
	R382	ERJ2GEJ1R0	1	
	R384	ERJ2GEJ101	100	
	R385	ERJ2GEJ1R0	1	
	R386	ERJ2GEJ221	220	
	R388	ERJ2GEJ184	180k	
	R389	ERJ2GEJ102	1k	
	R391	ERJ2GEJ103	10k	
	R395	ERJ3GEY0R00	0	
	R396	ERJ3GEY0R00	0	
	R397	ERJ3GEY0R00	0	
	R398	ERJ3GEY0R00	0	
	R399	ERJ2GEJ103	10k	
	R400	ERJ2GEJ470	47	
	R401	ERJ2GEJ680	68	
	R402	ERJ2GEJ470	47	
	R403	ERJ2GEJ470	47	
	R404	ERJ2GEJ470	47	
	R405	ERJ2GEJ470	47	
	R406	ERJ2GEJ470	47	
	R407	ERJ2GEJ470	47	
	R408	ERJ2GEJ470	47	
	R409	ERJ2GEJ680	68	
	R410	ERJ2GEJ680	68	
	R449	ERJ2GEJ103	10k	
	R501	ERJ2GEJ101	100	
	R502	ERJ2GEJ101	100	
	R503	ERJ2RKF6201	6.2k	
	R504	ERJ2GEJ473	47k	
	R505	ERJ2RKF1503	150k	
	R506	ERJ2GEJ223	22k	
	R507	ERJ2RKF2202	22k	
	R508	ERJ2GEJ102	1k	
	R509	ERJ2GEJ102	1k	
	R510	ERJ2GEJ562X	5.6k	
	R511	ERJ2GEJ181	180	
	R512	ERJ2GEJ563	56k	
	R513	ERJ2GEJ103	10k	
	R514	ERJ2RKF1503	150k	
	R515	ERJ2GEJ102	1k	
	R516	ERJ2GEJ823	82k	
	R517	ERJ2GEJ332	3.3k	
	R518	ERJ2GEJ472X	4.7k	
	R519	ERJ2GEJ472X	4.7k	
	R520	ERJ2GEJ102	1k	
	R521	ERJ2GEJ563	56k	
	R522	ERJ2GEJ103	10k	
	R523	ERJ2GEJ563	56k	
	R524	ERJ2GEJ472X	4.7k	
	R525	ERJ12YJ470U	47	
	R526	ERJ2GEJ103	10k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R527	ERJ2GEJ562X	5.6k	
	R528	PQ4R10XJ332	3.3k	S
	R529	ERJ2GEJ473	47k	
	R530	ERJ2GEJ102	1k	
	R531	ERJ2GEJ562X	5.6k	
	R532	PQ4R18XJ472	4.7k	S
	R533	ERJ2GEJ102	1k	
	R534	ERJ2GEJ474	470k	S
	R535	ERJ2GEJ103	10k	
	R536	ERJ8RQFR33	0.33	
	R537	ERJ8RQFR33	0.33	
	R538	ERJ2GEJ104	100k	
	R539	ERJ2GEJ223	22k	
	R540	ERJ2GEJ183	18k	
	R541	ERJ2GEJ122	1.2k	
	R542	ERJ2GEJ122	1.2k	
	R543	ERJ3GEYJ180	18	
	R544	ERJ2GEJ122	1.2k	
	R545	ERJ2GEJ123	12k	
	R546	ERJ2GEJ122	1.2k	
	R547	ERJ2GEJ471	470	
	R548	ERJ3GEYJ1R2	1.2	
	R549	ERJ3GEYJ330	33	
	R550	ERJ2GEJ122	1.2k	
	R551	ERJ2GEJ822	8.2k	
	R552	ERJ2GEJ102	1k	
	R553	ERJ2GEJ820	82	
	R554	ERJ2GEJ122	1.2k	
	R555	ERJ2GEJ472X	4.7k	
	R556	ERJ3GEYJ390	39	
	R557	ERJ12YJ390	39	
	R558	ERJ2GEJ470	47	
	R559	ERJ2GEJ101	100	
	R560	ERJ2GEJ181	180	
	R561	ERJ2GEJ102	1k	
	R562	ERJ2GEJ102	1k	
	R563	ERJ2GEJ101	100	
	R564	ERJ2RKF1802	18k	
	R565	ERJ2GEJ103	10k	
	R566	ERJ2GEJ123	12k	
	R567	ERJ2GEJ103	10k	
	R568	ERJ12YJ470U	47	
	R569	ERJ2GEJ563	56k	
	R570	ERJ2GEJ562X	5.6k	
	R571	ERJ2GEJ561	560	
	R572	ERJ8GEYJ2R7	2.7	
	R573	ERJ2GEJ473	47k	
	R574	ERJ2GEJ102	1k	
	R575	ERJ8GEYJ2R7	2.7	
	R576	ERJ2GEJ102	1k	
	R577	ERJ2GEJ102	1k	
	R578	ERJ2GEJ332	3.3k	
	R579	ERJ2GEJ471	470	
	R580	ERJ2GEJ562X	5.6k	
	R581	ERJ2RKF4700	470	
	R582	ERJ2GEJ223	22k	
	R583	ERJ2GEJ562X	5.6k	
	R584	ERJ2RKF6201	6.2k	
	R585	ERJ2GEJ562X	5.6k	
	R587	ERJ2GEJ223	22k	
	R588	ERJ2GEJ563	56k	
	R589	ERJ2GEJ562X	5.6k	
	R590	ERJ2GEJ223	22k	
	R591	ERJ2GEJ105X	1m	
	R592	ERJ2GEJ102	1k	
	R593	ERJ2GEJ153	15k	
	R594	ERJ2GEJ104	100k	
	R595	ERJ2GEJ274	270k	
	R596	ERJ2GEJ334	330k	
	R598	ERJ2GE0R00	0	
	R610	ERJ2GEJ332	3.3k	
	R611	ERJ2GEJ102	1k	
	R612	ERJ2GEJ473	47k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R613	ERJ2GEJ473	47k	
	R614	PQ4R18XJ472	4.7k	S
	R615	ERJ2GEJ473	47k	
	R700	ERJ2GEJ101	100	
	R701	ERJ2GEJ103	10k	
	R702	ERJ2GEYJ474	470k	S
	R703	ERJ2GEJ562X	5.6k	
	R704	ERJ2GEJ562X	5.6k	
	R705	ERJ2GEJ563	56k	
	R706	ERJ2GEJ563	56k	
	R709	DOGA222JA015	2.2	
	R710	PQ4R18XJ102	1k	S
	R750	ERJ2GEJ331	330	
	R751	ERJ2RKF2491	2.49k	
	R752	ERJ2GEJ472X	4.7k	
	R753	ERJ2GEJ472X	4.7k	
	R754	ERJ2GEJ472X	4.7k	
	R755	ERJ2GEJ472X	4.7k	
	R756	ERJ2GEJ221	220	
	R757	ERJ2GEJ472X	4.7k	
	R758	ERJ2GEJ472X	4.7k	
	R759	ERJ2GEJ103	10k	
	R760	ERJ2GEJ330	33	
	R761	ERJ2GEJ330	33	
	R762	ERJ2GEJ330	33	
	R767	ERJ2GEJ330	33	
	R768	ERJ2GEJ330	33	
	R769	ERJ2GEJ330	33	
	R800	ERJ2RKF2202	22k	
	R801	ERJ2RKF1001	1k	
	R802	ERJ2RKF1002	10k	
	R803	ERJ2RKF4701	4.7k	
	R804	ERJ2RKF9091	9.09k	
	R805	ERJ2GEJ104	100k	
	R807	ERJ2GEJ273X	27k	
	R808	ERJ2GEJ103	10k	
	R809	ERJ2GEJ102	1k	
	R812	ERJ2RKF2201X	2.2k	
	R813	ERJ2RKF1001	1k	
	R815	ERJ2RKF1002	10k	
	R817	ERJ2RKF2001	2k	
	R818	ERJ2RKF4701	4.7k	
	R819	PQ4R18XJ471	470	S
	R820	PQ4R18XJ471	470	S
	R821	ERJ2GEJ473	47k	
	R822	ERJ2GEJ473	47k	
	R825	PQ4R18XJ102	1k	S
	R826	PQ4R18XJ102	1k	S
	R828	ERJ2GEJ224	220k	
	R829	ERJ2GEJ223	22k	
	R830	ERJ2GEJ224	220k	
	R831	ERJ2GEJ473	47k	
	R832	ERJ2GEJ153	15k	
	R833	ERJ2GEJ222	2.2k	
	R834	ERJ2GEJ473	47k	
	R835	ERJ2GEJ223	22k	
	R836	ERJ2GEJ393X	39k	
	L361	ERJ2GE0R00	0	
	L363	ERJ2GEJ221	220	
	L365	ERJ2GEJ330	33	
	L366	ERJ2GEJ330	33	
	L367	ERJ2GEJ330	33	
	L368	ERJ2GEJ330	33	
	L369	ERJ2GEJ221	220	
	L370	ERJ2GEJ221	220	
	L371	ERJ2GEJ221	220	
			(COMPONENTS PARTS)	
	RA314	EXB28V470JX	RESISTOR ARRAY	
	RA315	EXB28V470JX	RESISTOR ARRAY	
	RA316	EXB28V470JX	RESISTOR ARRAY	
	RA317	EXB28V470JX	RESISTOR ARRAY	
	RA318	EXB28V470JX	RESISTOR ARRAY	
	RA319	EXB28V470JX	RESISTOR ARRAY	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	RA320	EXB28V470JX	RESISTOR ARRAY	
	RA321	EXB28V473JX	RESISTOR ARRAY	
	RA322	EXB28V473JX	RESISTOR ARRAY	
	RA323	EXB28V473JX	RESISTOR ARRAY	
	RA324	EXB28V473JX	RESISTOR ARRAY	
	RA400	EXB28V560JX	RESISTOR ARRAY	
	RA401	EXB28V560JX	RESISTOR ARRAY	
	RA402	EXB28V560JX	RESISTOR ARRAY	
	RA403	EXB28V560JX	RESISTOR ARRAY	
	RA404	EXB28V470JX	RESISTOR ARRAY	
	RA405	EXB28V470JX	RESISTOR ARRAY	
	RA406	EXB28V470JX	RESISTOR ARRAY	
	RA413	EXB28V473JX	RESISTOR ARRAY	
	RA414	EXB28V473JX	RESISTOR ARRAY	
	RA750	EXB28V330	RESISTOR ARRAY	
	RA751	EXB28V330	RESISTOR ARRAY	
	RA752	EXB28V330	RESISTOR ARRAY	
			(RELAY)	
	RLY700	K6B4CGA00010	RELAY	
			(CRYSTAL OSCILLATORS)	
	X300	H0J120500078	CRYSTAL OSCILLATOR	
	X302	H0J238500003	CRYSTAL OSCILLATOR	
	X303	H0A327200147	CRYSTAL OSCILLATOR	
	X750	H0J250500097	CRYSTAL OSCILLATOR	

18.2.4. Main Board (KX-MB2025)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB1	PNWP12025CXV	MAIN BOARD ASS'Y (RTL)	
			(ICs)	
	IC200	C1CB00003161	IC	
	IC201	C0ABEB000023	IC	
	IC202	C0ABEB000023	IC	
	IC203	C1CB00003161	IC	
	IC204	C1AB00002556	IC	
	IC300	C1ZBZ0003801	IC	
	IC301	C0EBY0000665	IC	
	IC303	C0CBAAA00035	IC	
	IC400	C3ABRY000039	IC	
	IC402	PNWI2025CXV	IC (ROM)	
	IC501	C0DBGY00330	IC	
	IC502	C0GBY0000066	IC	
	IC503	C0FBAY000092	IC	
	IC504	C0BBBA000044	IC	S
	IC800	C0DBAGE00028	IC	
			(TRANSISTORS)	
	Q100	2SA1576R	TRANSISTOR (SI)	S
	Q102	B1ABDF000025	TRANSISTOR (SI)	
	Q150	UNR921LJ0L	TRANSISTOR (SI)	S
	Q152	B1ABDF000026	TRANSISTOR (SI)	
	Q153	UNR921LJ0L	TRANSISTOR (SI)	S
	Q201	B1GBCFY0014	TRANSISTOR (SI)	
	Q206	UNR921LJ0L	TRANSISTOR (SI)	S
	Q209	B1ABDF000025	TRANSISTOR (SI)	
	Q210	2SC4081R	TRANSISTOR (SI)	S
	Q211	2SC4081R	TRANSISTOR (SI)	S
	Q213	UNR921LJ0L	TRANSISTOR (SI)	S
	Q500	B1GBCFGN0005	TRANSISTOR (SI)	
	Q501	B1GBCFGN0005	TRANSISTOR (SI)	
	Q502	B1GBCFGN0005	TRANSISTOR (SI)	
	Q503	B1GBCFGN0005	TRANSISTOR (SI)	
	Q504	B1GBCFGN0005	TRANSISTOR (SI)	
	Q505	B1GBCFGN0005	TRANSISTOR (SI)	
	Q506	B1GBCFGN0005	TRANSISTOR (SI)	
	Q507	UNR921LJ0L	TRANSISTOR (SI)	S
	Q508	B1ABCF000103	TRANSISTOR (SI)	S
	Q509	B1ADKE000002	TRANSISTOR (SI)	
	Q510	B1ADKE000002	TRANSISTOR (SI)	
	Q511	B1ABCF000103	TRANSISTOR (SI)	S
	Q512	B1ABCF000103	TRANSISTOR (SI)	S
	Q514	DSC7003S0L	TRANSISTOR (SI)	
	Q516	DSC7003S0L	TRANSISTOR (SI)	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	Q517	DSC7003S0L	TRANSISTOR (SI)	
	Q518	B1ADGE000012	TRANSISTOR (SI)	
	Q523	B1ABGE000011	TRANSISTOR (SI)	
	Q525	B1GBCFGN0005	TRANSISTOR (SI)	
	Q526	B1GBCFGN0005	TRANSISTOR (SI)	
	Q527	B1ABCF000103	TRANSISTOR (SI)	S
	Q529	2SA1774C3R	TRANSISTOR (SI)	S
	Q530	B1ABCF000103	TRANSISTOR (SI)	S
	Q602	B1ABCF000103	TRANSISTOR (SI)	S
	Q603	2SA1774C3R	TRANSISTOR (SI)	S
	Q604	B1ADKE000002	TRANSISTOR (SI)	
	Q700	B1ABCF000103	TRANSISTOR (SI)	S
	Q800	B1ABCF000103	TRANSISTOR (SI)	S
	Q801	UNR92A5J0L	TRANSISTOR (SI)	
	Q802	B1CHND000004	TRANSISTOR (SI)	
	Q803	B1CHND000004	TRANSISTOR (SI)	
	Q804	B1ABGE000011	TRANSISTOR (SI)	
	Q805	B1ABGE000011	TRANSISTOR (SI)	
	Q806	B1ADGE000012	TRANSISTOR (SI)	
	Q807	B1ADGE000012	TRANSISTOR (SI)	
	Q808	B1CHND000004	TRANSISTOR (SI)	
	Q809	2SA1774C3R	TRANSISTOR (SI)	S
	Q810	B1ABCF000103	TRANSISTOR (SI)	S
			(DIODES)	
	D100	B0EDER000009	DIODE (SI)	
	D101	1SS355	DIODE (SI)	S
	D102	B0ADEJ000026	DIODE (SI)	
	D105	B0BC5R600003	DIODE (SI)	
	D106	B0BC5R600003	DIODE (SI)	
	D200	1SS355	DIODE (SI)	S
	D204	B0BC5R600003	DIODE (SI)	
	D205	B0BC5R600003	DIODE (SI)	
	D306	B0ZBZ0000146	DIODE (SI)	
	D501	B0ACEL000004	DIODE (SI)	
	D503	B0ACEL000004	DIODE (SI)	
	D504	B0ACEL000004	DIODE (SI)	
	D700	B0ACEL000004	DIODE (SI)	
	D701	PJVDJADAN202	DIODE (SI)	S
	D800	B0JCND000027	DIODE (SI)	
	D803	B0JCND000027	DIODE (SI)	
	D805	B0BC01000014	DIODE (SI)	
	D806	B0BC01000014	DIODE (SI)	
	D807	PJVDJADAN202	DIODE (SI)	S
	DA300	PJVDJADAN202	DIODE (SI)	S
	DA500	PJVDJADAN202	DIODE (SI)	S
			(BATTERY)	
	BAT300	CR-2354/GUFG	BATTERY	
			(CAPACITORS)	
	C101	F1B2H681A070	680p	
	C102	F1B2H681A070	680p	
	C103	F2A1E4700026	47	
	C104	ECUV1C105KBV	1	
	C105	50YXF33M	33	S
	C109	F0C2E474A277	0.47	
	C116	ECUV1H473KBV	0.047	
	C150	ECJ0EB0J224K	0.22	S
	C151	F2G1C4700026	47	
	C152	ECUE1H472KBQ	0.0047	
	C153	ECJ0EB0J224K	0.22	S
	C157	ECUE0J105KBQ	1	
	C158	ECUE1H102KBQ	0.001	
	C159	ECUE1A104KBQ	0.1	
	C160	ECUE1A104KBQ	0.1	
	C200	ECUV1H333KDV	0.033	S
	C202	ECUE1A104KBQ	0.1	
	C203	F2G1C4700026	47	
	C204	ECUE1A104KBQ	0.1	
	C207	ECUE1A104KBQ	0.1	
	C209	ECUE1C223KBQ	0.022	
	C210	ECUE1H101JCQ	100p	
	C212	ECUE1H101JCQ	100p	
	C213	ECUE1H101JCQ	100p	
	C214	ECUE0J105KBQ	1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C215	EEE1VA100SR	10	
	C216	ECJ0EB1H222K	0.0022	
	C217	ECUE1C223KBQ	0.022	
	C218	F2G1C1000014	10	
	C219	F2G1H4R70017	4.7	S
	C220	ECUE1H100DCQ	10p	
	C221	ECUE1A104KBQ	0.1	
	C222	ECUV1H104ZV	0.1	
	C223	ECUE1A104KBQ	0.1	
	C224	ECJ0EB0J224K	0.22	S
	C227	ECUE1H392KBQ	0.0039	
	C228	ECUE1H101JCQ	100p	
	C229	ECUE1H471KBQ	470p	
	C232	ECUE1A104KBQ	0.1	
	C233	ECUE1C103KBQ	0.01	
	C235	ECUE1A104KBQ	0.1	
	C236	F1J0J2260004	22	
	C237	F1J0J1060006	10	
	C238	ECUE0J105KBQ	1	
	C239	ECJ0EB1H122K	0.0012	
	C240	F1J0J2260004	22	
	C241	ECJ0EC1H181J	180p	
	C243	ECJ0EC1H181J	180p	
	C244	ECUE1C333KBQ	0.033	
	C246	ECUE1A104KBQ	0.1	
	C247	ECUE1H392KBQ	0.0039	
	C248	ECUE1H471KBQ	470p	
	C249	ECUE1A104KBQ	0.1	
	C250	ECUE1H101JCQ	100p	
	C252	ECUE1H392KBQ	0.0039	
	C253	ECJ0EB1H122K	0.0012	
	C254	F1J0J2260004	22	
	C256	ECUE1C223KBQ	0.022	
	C258	F2G0J1010042	100	
	C267	ECUE1C103KBQ	0.01	
	C270	ECUE1A104KBQ	0.1	
	C272	ECUE1A104KBQ	0.1	
	C273	ECUE1A104KBQ	0.1	
	C275	ECUE1A104KBQ	0.1	
	C278	ECUE1A104KBQ	0.1	
	C279	ECUE1A104KBQ	0.1	
	C280	ECUE1H101JCQ	100p	
	C281	ECUE1A104KBQ	0.1	
	C282	ECUE1A104KBQ	0.1	
	C283	ECJ0EB0J224K	0.22	S
	C300	ECUE1A104KBQ	0.1	
	C301	ECUE1A104KBQ	0.1	
	C304	ECJ0EB0J224K	0.22	S
	C305	ECJ0EB0J224K	0.22	S
	C306	ECJ0EB0J224K	0.22	S
	C308	ECJ0EB0J224K	0.22	S
	C309	ECUE1A273KBQ	0.027	
	C310	ECUE1H220JCQ	22p	S
	C311	ECJ0EC1H270J	27p	
	C312	ECUE1A104KBQ	0.1	
	C313	ECUE1H220JCQ	22p	S
	C314	ECUE1H330JCQ	33p	
	C315	ECUE1H100DCQ	10p	
	C316	ECUE1H120JCQ	12p	S
	C317	ECJ0EC1H270J	27p	
	C318	ECUE1H120JCQ	12p	S
	C319	ECUE0J105KBQ	1	
	C322	ECUE0J105KBQ	1	
	C325	ECUE1A104KBQ	0.1	
	C326	ECUE1C103KBQ	0.01	
	C327	ECUE1A104KBQ	0.1	
	C328	ECUE1A104KBQ	0.1	
	C329	ECUE1A104KBQ	0.1	
	C330	ECUE1A104KBQ	0.1	
	C331	ECUE1A104KBQ	0.1	
	C332	ECUE1A104KBQ	0.1	
	C333	ECUE1A104KBQ	0.1	
	C334	ECUE1A104KBQ	0.1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C335	ECUE1A104KBQ	0.1	
	C336	ECUE1A104KBQ	0.1	
	C337	ECUE1A104KBQ	0.1	
	C338	ECUE1A104KBQ	0.1	
	C339	ECUE1A104KBQ	0.1	
	C351	ECUE1H101JCQ	100p	
	C352	ECUE1A104KBQ	0.1	
	C353	ECUE1A104KBQ	0.1	
	C354	ECUE1A104KBQ	0.1	
	C355	ECUE1A104KBQ	0.1	
	C357	ECUE1A104KBQ	0.1	
	C358	ECUE1A104KBQ	0.1	
	C359	ECUE1A104KBQ	0.1	
	C360	ECUE1A104KBQ	0.1	
	C361	ECUE1A104KBQ	0.1	
	C362	ECUE1A104KBQ	0.1	
	C363	ECUE1A104KBQ	0.1	
	C364	ECUE1A104KBQ	0.1	
	C400	ECUE1A104KBQ	0.1	
	C401	ECUE1C103KBQ	0.01	
	C402	ECUE1A104KBQ	0.1	
	C403	ECUE1A104KBQ	0.1	
	C404	ECUE1A104KBQ	0.1	
	C405	ECUE1C103KBQ	0.01	
	C406	ECUE1A104KBQ	0.1	
	C412	ECUE1C103KBQ	0.01	
	C413	ECUE1A104KBQ	0.1	
	C414	ECUE1A104KBQ	0.1	
	C419	ECUE1H101JCQ	100p	
	C420	ECUE1H101JCQ	100p	
	C421	ECUE1H101JCQ	100p	
	C422	ECUE1H101JCQ	100p	
	C423	ECUE1H101JCQ	100p	
	C424	ECUE1H101JCQ	100p	
	C425	ECUE1H101JCQ	100p	
	C426	ECUE1H101JCQ	100p	
	C427	ECUE1H101JCQ	100p	
	C428	ECUE1H101JCQ	100p	
	C429	ECUE1H101JCQ	100p	
	C470	ECUE1H270JCQ	27p	
	C471	ECUE1A104KBQ	0.1	
	C501	ECJ1VF1H104Z	0.1	
	C502	ECUE0J105KBQ	1	
	C503	ECJ1VF1H104Z	0.1	
	C504	ECUE1A104KBQ	0.1	
	C505	F2G1V2210014	220	
	C506	ECUE1H100DCQ	10p	
	C507	ECJ0EB1H102K	0.001	
	C508	ECJ0EB1A473K	0.047	S
	C509	ECUE1A104KBQ	0.1	
	C510	ECUE1A104KBQ	0.1	
	C511	ECJ0EB1H102K	0.001	
	C512	F1J0J1060006	10	
	C513	ECUV1A105ZV	1	
	C514	ECUE1H101JCQ	100p	
	C515	F2G1V2210014	220	
	C516	ECUE1H102KBQ	0.001	
	C517	ECUE1H102KBQ	0.001	
	C518	ECJ1VF1H104Z	0.1	
	C520	ECUE1H102KBQ	0.001	
	C522	ECUE1H102KBQ	0.001	
	C523	F1J0J1060006	10	
	C524	F2G1V4700016	47	
	C525	ECJ1VF1H104Z	0.1	
	C526	ECUE1H102KBQ	0.001	
	C527	ECJ0EB1H102K	0.001	
	C528	ECUE1H102KBQ	0.001	
	C529	ECJ0EB1H102K	0.001	
	C530	F1J0J1060006	10	
	C533	ECUE1A104KBQ	0.1	
	C534	ECUE1A104KBQ	0.1	
	C536	ECUE1A104KBQ	0.1	
	C537	ECUE1A104KBQ	0.1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C538	FLJ0J1060006	10	
	C540	ECUE1A104KBQ	0.1	
	C542	ECUE1A104KBQ	0.1	
	C543	ECUE1A104KBQ	0.1	
	C544	ECUE1C103KBQ	0.01	
	C545	ECUE0J105KBQ	1	
	C546	ECUE1C103KBQ	0.01	
	C547	ECUE1H101JCQ	100p	
	C548	ECJ0EB1H102K	0.001	
	C549	F2G0J1010042	100	
	C550	F2G1C2200012	22	
	C551	ECJ0EB1H102K	0.001	
	C552	ECUE1A104KBQ	0.1	
	C553	ECJ0EB1H102K	0.001	
	C554	ECJ0EB1H102K	0.001	
	C555	ECUE1A104KBQ	0.1	
	C556	ECUE1H101JCQ	100p	
	C557	ECJ0EC1H181J	180p	
	C559	ECUE1H102KBQ	0.001	
	C563	ECUE1H102KBQ	0.001	
	C565	ECJ0EB1A473K	0.047	S
	C568	ECUE1H102KBQ	0.001	
	C569	ECJ0EB1A473K	0.047	S
	C570	ECUE1A104KBQ	0.1	
	C571	ECUE1A104KBQ	0.1	
	C572	ECUE0J105KBQ	1	
	C601	ECUE0J105KBQ	1	
	C645	ECUE1A104KBQ	0.1	
	C646	ECUE1A104KBQ	0.1	
	C647	ECUE1A104KBQ	0.1	
	C648	ECUE1A104KBQ	0.1	
	C649	ECUE1A104KBQ	0.1	
	C650	ECUE1A104KBQ	0.1	
	C651	ECUE1A104KBQ	0.1	
	C652	ECUE1A104KBQ	0.1	
	C653	ECUE1A104KBQ	0.1	
	C654	ECUE1A104KBQ	0.1	
	C655	ECUE1A104KBQ	0.1	
	C656	ECUE1A104KBQ	0.1	
	C657	ECUE1A104KBQ	0.1	
	C658	ECUE1A104KBQ	0.1	
	C659	ECUE1A104KBQ	0.1	
	C660	ECUE1A104KBQ	0.1	
	C661	ECUE1A104KBQ	0.1	
	C662	ECUE1A104KBQ	0.1	
	C663	ECUE1A104KBQ	0.1	
	C664	ECUE1A104KBQ	0.1	
	C665	ECUE1A104KBQ	0.1	
	C666	ECUE1A104KBQ	0.1	
	C667	ECUE1A104KBQ	0.1	
	C668	ECUE1A104KBQ	0.1	
	C669	ECUE1A104KBQ	0.1	
	C670	ECUE1A104KBQ	0.1	
	C671	ECJ1VF1H104Z	0.1	
	C672	ECJ1VF1H104Z	0.1	
	C673	ECJ1VF1H104Z	0.1	
	C674	ECUE1A104KBQ	0.1	
	C675	ECUE1A104KBQ	0.1	
	C676	ECUE1A104KBQ	0.1	
	C677	ECUE1A104KBQ	0.1	
	C678	ECUE1A104KBQ	0.1	
	C679	ECUE1A104KBQ	0.1	
	C680	ECUE1A104KBQ	0.1	
	C681	ECUE1A104KBQ	0.1	
	C682	ECUE1A104KBQ	0.1	
	C683	ECUE1A104KBQ	0.1	
	C684	ECUE1A104KBQ	0.1	
	C685	ECUE1A104KBQ	0.1	
	C687	ECUE1A104KBQ	0.1	
	C688	ECUE1A104KBQ	0.1	
	C689	ECUE1A104KBQ	0.1	
	C690	ECUE1A104KBQ	0.1	
	C691	ECUE1A104KBQ	0.1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C692	ECUE1A104KBQ	0.1	
	C693	ECUE1A104KBQ	0.1	
	C695	ECUE1A104KBQ	0.1	
	C696	ECUE1A104KBQ	0.1	
	C697	ECUE1A104KBQ	0.1	
	C698	ECUE1A104KBQ	0.1	
	C699	ECUE1A104KBQ	0.1	
	C701	ECJ0EB1H102K	0.001	
	C702	ECUE0J105KBQ	1	
	C704	ECJ0EB1H102K	0.001	
	C710	ECJ0EB1H102K	0.001	
	C712	ECUE1H102KBQ	0.001	
	C800	F2H0J1010009	100	
	C801	ECUV1H104ZFB	0.1	
	C802	ECUV1A105ZFB	1	
	C803	ECUV1H104ZFB	0.1	
	C804	F1L1V1060002	35	
	C805	F1L1V1060002	35	
	C806	ECJ1VF1H104Z	0.1	
	C807	ECJ1VF1H104Z	0.1	
	C808	ECJ1VF1H104Z	0.1	
	C809	ECJ0EB1A473K	0.047	S
	C810	ECUV1H103KBV	0.01	
	C811	ECUV1A474KBV	0.47	
	C812	ECUV1H103KBV	0.01	
	C813	ECUV1A334KBV	0.33	
	C814	ECUE1A104KBQ	0.1	
	C817	F2H0J1010009	100	
	C818	ECUV1A105ZFB	1	
	C819	PQCUV1C105ZF	1	S
	C820	PQCUV1C105ZF	1	S
	C822	ECUE0J105KBQ	1	
			(CONNECTORS & JACKS)	
	CN100	K2LB1YYB0002	JACK	
	CN101	K2LB1YYB0002	JACK	
	CN200	K1KA08A00440	CONNECTOR, 8PIN	
	CN300	K1FY104B0015	CONNECTOR, 8PIN	
	CN500	K1KA07A00257	CONNECTOR, 7PIN	
	CN501	K1KA05A00364	CONNECTOR, 5PIN	
	CN502	K1KA08AA0193	CONNECTOR, 8PIN	
	CN504	K1KA08A00498	CONNECTOR, 8PIN	
	CN505	K1KA08A00440	CONNECTOR, 8PIN	
	CN506	K1KA03AA0193	CONNECTOR, 3PIN	
	CN507	K1KA02AA0193	CONNECTOR, 2PIN	
	CN508	K1KA10A00412	CONNECTOR, 10PIN	
	CN509	K1KA04A00527	CONNECTOR, 4PIN	
	CN510	K1KA13A00130	CONNECTOR, 13PIN	
	CN511	K1KA08A00440	CONNECTOR, 8PIN	
	CN514	K1KA02AA0193	CONNECTOR, 2PIN	
	CN700	K1KA04A00644	CONNECTOR, 4PIN	
	CN701	K1KA04AA0193	CONNECTOR, 4PIN	
			(FUSE)	
△	F800	K5H302Y00003	FUSE	
			(COILS)	
	L100	PQLQR2BT	COIL	S
	L101	PQLQR2BT	COIL	S
	L106	PFLE003	COIL	
	L201	J0JCC0000288	COIL	
	L205	J0JCC0000288	COIL	
	L300	G1BYCC000026	COIL	
	L502	PFVF2P221SG	COIL	S
	L800	G1C220MA0291	COIL	
	L801	G1C220MA0291	COIL	
			(IC FILTERS)	
	L202	J0JCC0000276	IC FILTER	
	L203	J0JBC0000040	IC FILTER	
	L207	J0JBC0000040	IC FILTER	
	L209	J0JCC0000276	IC FILTER	
	L221	J0JAC0000059	IC FILTER	
	L344	J0JCC0000286	IC FILTER	
	L345	J0JCC0000286	IC FILTER	
	L346	J0JCC0000286	IC FILTER	
	L347	J0JCC0000286	IC FILTER	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	L348	J0JCC0000277	IC FILTER	
	L349	J0JCC0000277	IC FILTER	
	L350	J0JCC0000277	IC FILTER	
	L351	J0JCC0000277	IC FILTER	
	L352	J0JCC0000277	IC FILTER	
	L353	J0JCC0000277	IC FILTER	
	L354	J0JCC0000277	IC FILTER	
	L355	J0JCC0000277	IC FILTER	
	L356	J0JCC0000277	IC FILTER	
	L357	J0MAB0000146	IC FILTER	
	L364	J0JCC0000274	IC FILTER	
	L500	J0JCC0000277	IC FILTER	
	L501	J0JCC0000276	IC FILTER	
	L503	J0JGC0000020	IC FILTER	
	L504	J0JGC0000020	IC FILTER	
	FLT500	J0HAAB000021	IC FILTER	
			(PHOTO ELECTRIC TRANS-DUCERS)	
△	PC103	B3PAA0000330	PHOTO ELECTRIC TRANS-DUCER	S
△	PC106	B3PAA0000352	PHOTO ELECTRIC TRANS-DUCER	
			(THERMISTOR)	
	POS100	D4DAY220A022	THERMISTOR	
			(RESISTORS)	
	R102	ERJ3GEYJ332	3. 3k	
	R103	ERJ3GEYJ105	1M	
	R104	ERJ3GEYJ684	680k	
	R105	ERJ3GEYJ154	150k	
	R106	ERJ3GEYJ333	33k	
	R107	ERJ3GEYJ822	8. 2k	
	R117	ERG1SJ151E	150	
	R123	ERG1SJ221E	220	
	R150	ERJ2GEJ822	8. 2k	
	R152	ERJ2GEJ392	3. 9k	
	R153	ERJ2GEJ331	330	
	R154	ERJ2GEJ473	47k	
	R155	ERJ2GEJ105X	1M	
	R160	ERJ2GEJ562X	5. 6k	
	R161	ERJ2GEJ472X	4. 7k	
	R162	ERJ2GEJ223	22k	
	R163	ERJ2GEJ473	47k	
	R165	ERJ2GEJ823	82k	
	R166	ERJ2GEJ823	82k	
	R167	ERJ2GEJ823	82k	
	R169	ERJ2GE0R00	0	
	R198	ERJ12YJ473	47k	
	R199	ERJ12YJ223U	22k	
	R203	ERJ2GEJ104	100k	
	R204	ERJ2GEJ683	68k	
	R206	ERJ2GEJ433	43k	
	R207	ERJ2GEJ823	82k	
	R209	ERJ2GEJ104	100k	
	R210	ERJ2GEJ182	1. 8k	
	R211	ERJ2GEJ154	150k	
	R212	ERJ2GEJ103	10k	
	R213	ERJ2GEJ102	1k	
	R214	ERJ2GE0R00	0	
	R216	ERJ2GEJ102	1k	
	R218	ERJ2GEJ220	22	
	R220	ERJ2GEJ182	1. 8k	
	R221	ERJ2GEJ154	150k	
	R223	ERJ2GEJ432	4. 3k	
	R224	ERJ2GEJ823	82k	
	R225	ERJ2GEJ105X	1M	
	R226	ERJ2GEJ473	47k	
	R227	ERJ2GEJ104	100k	
	R228	ERJ2GEJ104	100k	
	R229	ERJ2GEJ103	10k	
	R230	ERJ2GEJ823	82k	
	R231	ERJ2GEJ123	12k	
	R233	ERJ2GEJ154	150k	
	R234	ERJ2GEJ220	22	
	R235	ERJ2GEJ683	68k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R236	ERJ2GEJ184	180k	
	R237	ERJ2GEJ123	12k	
	R239	ERJ2GEJ681	680	
	R240	ERJ2GEJ823	82k	
	R241	ERJ3GEYJ221	220	
	R242	ERJ2GEJ124	120k	
	R243	ERJ2GEJ433	43k	
	R247	ERJ2GEJ222	2. 2k	
	R248	ERJ2GEJ683	68k	
	R249	ERJ2GEJ123	12k	
	R253	PQ4R18XJ100	10	S
	R255	ERJ2GEJ103	10k	
	R256	ERJ3GEYJ220	22	
	R257	ERJ3GEYJ100	10	
	R258	ERJ3GEYJ100	10	
	R271	ERJ2GEJ103	10k	
	R273	ERJ2GEJ912	9. 1k	
	R274	ERJ2GEJ473	47k	
	R275	ERJ2GEJ220	22	
	R276	ERJ2GEJ333	33k	
	R277	ERJ2GE0R00	0	
	R279	ERJ3GEY0R00	0	
	R280	ERJ3GEY0R00	0	
	R282	ERJ2GEJ473	47k	
	R285	ERJ2GEJ220	22	
	R286	ERJ2GEJ220	22	
	R289	ERJ2GEJ104	100k	
	R290	ERJ2GEJ223	22k	
	R291	ERJ2GEJ564	560k	
	R292	ERJ2GEJ103	10k	
	R293	ERJ2GEJ100	10	
	R295	ERJ2GEJ103	10k	
	R296	ERJ2GEJ103	10k	
	R297	ERJ2GEJ105X	1M	
	R302	ERJ2RKF49R9	49. 9	
	R303	ERJ2GEJ472X	4. 7k	
	R304	ERJ2GEJ101	100	
	R305	ERJ2GEJ103	10k	
	R307	ERJ2GEJ470	47	
	R308	ERJ2GEJ470	47	
	R309	ERJ2GEJ470	47	
	R315	ERJ2GEJ103	10k	
	R316	ERJ2GEJ103	10k	
	R335	ERJ2GEJ152	1. 5k	
	R336	ERJ2GE0R00	0	
	R337	ERJ2GE0R00	0	
	R338	ERJ2GEJ103	10k	
	R339	ERJ2GEJ223	22k	
	R340	ERJ2GEJ103	10k	
	R341	ERJ2GEJ103	10k	
	R342	ERJ2GEJ103	10k	
	R343	ERJ2GEJ103	10k	
	R344	ERJ2GEJ103	10k	
	R345	ERJ2GEJ103	10k	
	R346	ERJ2GEJ103	10k	
	R347	ERJ2GEJ103	10k	
	R348	ERJ2GEJ103	10k	
	R352	ERJ2GEJ103	10k	
	R354	ERJ2GEJ103	10k	
	R355	ERJ2GEJ103	10k	
	R360	ERJ2GEJ103	10k	
	R363	ERJ2GEJ103	10k	
	R364	ERJ2GEJ103	10k	
	R367	ERJ2GEJ470	47	
	R368	ERJ2GEJ470	47	
	R369	ERJ2GEJ470	47	
	R370	ERJ2GEJ103	10k	
	R372	ERJ2GEJ103	10k	
	R373	ERJ2GEJ103	10k	
	R374	ERJ2GEJ471	470	
	R375	ERJ2GEJ221	220	
	R376	ERJ2RKF6981	6. 98k	
	R378	ERJ2GEJ102	1k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R380	ERJ2GEJ1R0	1	
	R381	ERJ2GEJ1R0	1	
	R382	ERJ2GEJ1R0	1	
	R384	ERJ2GEJ101	100	
	R385	ERJ2GEJ1R0	1	
	R386	ERJ2GEJ221	220	
	R388	ERJ2GEJ184	180k	
	R389	ERJ2GEJ102	1k	
	R391	ERJ2GEJ103	10k	
	R394	ERJ2GEJ103	10k	
	R395	ERJ3GEY0R00	0	
	R396	ERJ3GEY0R00	0	
	R397	ERJ3GEY0R00	0	
	R398	ERJ3GEY0R00	0	
	R399	ERJ2GEJ103	10k	
	R400	ERJ2GEJ470	47	
	R401	ERJ2GEJ680	68	
	R402	ERJ2GEJ470	47	
	R403	ERJ2GEJ470	47	
	R404	ERJ2GEJ470	47	
	R405	ERJ2GEJ470	47	
	R406	ERJ2GEJ470	47	
	R407	ERJ2GEJ470	47	
	R408	ERJ2GEJ470	47	
	R409	ERJ2GEJ680	68	
	R410	ERJ2GEJ680	68	
	R449	ERJ2GEJ103	10k	
	R501	ERJ2GEJ101	100	
	R502	ERJ2GEJ101	100	
	R503	ERJ2RKF6201	6.2k	
	R504	ERJ2GEJ473	47k	
	R505	ERJ2RKF1503	150k	
	R506	ERJ2GEJ223	22k	
	R507	ERJ2RKF2202	22k	
	R508	ERJ2GEJ102	1k	
	R509	ERJ2GEJ102	1k	
	R510	ERJ2GEJ562X	5.6k	
	R511	ERJ2GEJ181	180	
	R512	ERJ2GEJ563	56k	
	R513	ERJ2GEJ103	10k	
	R514	ERJ2RKF1503	150k	
	R515	ERJ2GEJ102	1k	
	R516	ERJ2GEJ823	82k	
	R517	ERJ2GEJ332	3.3k	
	R518	ERJ2GEJ472X	4.7k	
	R519	ERJ2GEJ472X	4.7k	
	R520	ERJ2GEJ102	1k	
	R521	ERJ2GEJ563	56k	
	R522	ERJ2GEJ103	10k	
	R523	ERJ2GEJ563	56k	
	R524	ERJ2GEJ472X	4.7k	
	R525	ERJ12YJ470U	47	
	R526	ERJ2GEJ103	10k	
	R527	ERJ2GEJ562X	5.6k	
	R528	PQ4R10XJ332	3.3k	S
	R529	ERJ2GEJ473	47k	
	R530	ERJ2GEJ102	1k	
	R531	ERJ2GEJ562X	5.6k	
	R532	PQ4R18XJ472	4.7k	S
	R533	ERJ2GEJ102	1k	
	R534	ERJ2GEYJ474	470k	S
	R535	ERJ2GEJ103	10k	
	R536	ERJ8RQFR33	0.33	
	R537	ERJ8RQFR33	0.33	
	R538	ERJ2GEJ104	100k	
	R539	ERJ2GEJ223	22k	
	R540	ERJ2GEJ183	18k	
	R541	ERJ2GEJ122	1.2k	
	R542	ERJ2GEJ122	1.2k	
	R543	ERJ3GEYJ180	18	
	R544	ERJ2GEJ122	1.2k	
	R545	ERJ2GEJ123	12k	
	R546	ERJ2GEJ122	1.2k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R547	ERJ2GEJ471	470	
	R548	ERJ3GEYJ1R2	1.2	
	R549	ERJ3GEYJ330	33	
	R550	ERJ2GEJ122	1.2k	
	R551	ERJ2GEJ822	8.2k	
	R552	ERJ2GEJ102	1k	
	R553	ERJ2GEJ820	82	
	R554	ERJ2GEJ122	1.2k	
	R555	ERJ2GEJ472X	4.7k	
	R556	ERJ3GEYJ390	39	
	R557	ERJ12YJ390	39	
	R558	ERJ2GEJ470	47	
	R559	ERJ2GEJ101	100	
	R560	ERJ2GEJ181	180	
	R561	ERJ2GEJ102	1k	
	R562	ERJ2GEJ102	1k	
	R563	ERJ2GEJ101	100	
	R564	ERJ2RKF1802	18k	
	R565	ERJ2GEJ103	10k	
	R566	ERJ2GEJ123	12k	
	R567	ERJ2GEJ103	10k	
	R568	ERJ12YJ470U	47	
	R569	ERJ2GEJ563	56k	
	R570	ERJ2GEJ562X	5.6k	
	R571	ERJ2GEJ561	560	
	R572	ERJ8GEYJ2R7	2.7	
	R573	ERJ2GEJ473	47k	
	R574	ERJ2GEJ102	1k	
	R575	ERJ8GEYJ2R7	2.7	
	R576	ERJ2GEJ102	1k	
	R577	ERJ2GEJ102	1k	
	R578	ERJ2GEJ332	3.3k	
	R579	ERJ2GEJ471	470	
	R580	ERJ2GEJ562X	5.6k	
	R581	ERJ2RKF4700	470	
	R582	ERJ2GEJ223	22k	
	R583	ERJ2GEJ562X	5.6k	
	R584	ERJ2RKF6201	6.2k	
	R585	ERJ2GEJ562X	5.6k	
	R587	ERJ2GEJ223	22k	
	R588	ERJ2GEJ563	56k	
	R589	ERJ2GEJ562X	5.6k	
	R590	ERJ2GEJ223	22k	
	R591	ERJ2GEJ105X	1M	
	R592	ERJ2GEJ102	1k	
	R593	ERJ2GEJ153	15k	
	R594	ERJ2GEJ104	100k	
	R595	ERJ2GEJ274	270k	
	R596	ERJ2GEJ334	330k	
	R598	ERJ2GE0R00	0	
	R610	ERJ2GEJ332	3.3k	
	R611	ERJ2GEJ102	1k	
	R612	ERJ2GEJ473	47k	
	R613	ERJ2GEJ473	47k	
	R614	PQ4R18XJ472	4.7k	S
	R615	ERJ2GEJ473	47k	
	R700	ERJ2GEJ101	100	
	R701	ERJ2GEJ103	10k	
	R702	ERJ2GEYJ474	470k	S
	R703	ERJ2GEJ562X	5.6k	
	R704	ERJ2GEJ562X	5.6k	
	R705	ERJ2GEJ563	56k	
	R706	ERJ2GEJ563	56k	
	R709	D0GA222JA015	2.2k	S
	R710	PQ4R18XJ102	1k	S
	R800	ERJ2RKF2202	22k	
	R801	ERJ2RKF1001	1k	
	R802	ERJ2RKF1002	10k	
	R803	ERJ2RKF4701	4.7k	
	R804	ERJ2RKF9091	9.09k	
	R805	ERJ2GEJ104	100k	
	R807	ERJ2GEJ273X	27k	
	R808	ERJ2GEJ103	10k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R809	ERJ2GEJ102	1k	
	R812	ERJ2RKF2201X	2.2k	
	R813	ERJ2RKF1001	1k	
	R815	ERJ2RKF1002	10k	
	R817	ERJ2RKF2001	2k	
	R818	ERJ2RKF4701	4.7k	
	R819	PQ4R18XJ471	470	S
	R820	PQ4R18XJ471	470	S
	R821	ERJ2GEJ473	47k	
	R822	ERJ2GEJ473	47k	
	R825	PQ4R18XJ102	1k	S
	R826	PQ4R18XJ102	1k	S
	R828	ERJ2GEJ224	220k	
	R829	ERJ2GEJ223	22k	
	R830	ERJ2GEJ224	220k	
	R831	ERJ2GEJ473	47k	
	R832	ERJ2GEJ153	15k	
	R833	ERJ2GEJ222	2.2k	
	R834	ERJ2GEJ473	47k	
	R835	ERJ2GEJ223	22k	
	R836	ERJ2GEJ393X	39k	
	L156	ERJ2GE0R00	0	
	L157	ERJ2GEJ680	68	
	L206	ERJ2GE0R00	0	
	L210	ERJ2GE0R00	0	
	L211	ERJ2GE0R00	0	
	L212	ERJ3GEY0R00	0	
	L213	ERJ3GEY0R00	0	
	L214	ERJ2GE0R00	0	
	L361	ERJ2GE0R00	0	
	L363	ERJ2GEJ221	220	
	L365	ERJ2GEJ330	33	
	L366	ERJ2GEJ330	33	
	L367	ERJ2GEJ330	33	
	L368	ERJ2GEJ330	33	
	L369	ERJ2GEJ221	220	
	L370	ERJ2GEJ221	220	
	L371	ERJ2GEJ221	220	
			(COMPONENTS PARTS)	
	RA314	EXB28V470JX	RESISTOR ARRAY	
	RA315	EXB28V470JX	RESISTOR ARRAY	
	RA316	EXB28V470JX	RESISTOR ARRAY	
	RA317	EXB28V470JX	RESISTOR ARRAY	
	RA318	EXB28V470JX	RESISTOR ARRAY	
	RA319	EXB28V470JX	RESISTOR ARRAY	
	RA320	EXB28V470JX	RESISTOR ARRAY	
	RA321	EXB28V473JX	RESISTOR ARRAY	
	RA322	EXB28V473JX	RESISTOR ARRAY	
	RA323	EXB28V473JX	RESISTOR ARRAY	
	RA324	EXB28V473JX	RESISTOR ARRAY	
	RA400	EXB28V560JX	RESISTOR ARRAY	
	RA401	EXB28V560JX	RESISTOR ARRAY	
	RA402	EXB28V560JX	RESISTOR ARRAY	
	RA403	EXB28V560JX	RESISTOR ARRAY	
	RA404	EXB28V470JX	RESISTOR ARRAY	
	RA405	EXB28V470JX	RESISTOR ARRAY	
	RA406	EXB28V470JX	RESISTOR ARRAY	
	RA413	EXB28V473JX	RESISTOR ARRAY	
	RA414	EXB28V473JX	RESISTOR ARRAY	
			(RELAYS)	
△	RLY100	K6B1CYY00005	RELAY	
	RLY700	K6B4CGA00010	RELAY	
			(VARISTORS)	
	SA100	PQVDDSS301L	VARISTOR ABSORBER (SURGE)	S
△	SA102	PFRZRA102P6T	VARISTOR ABSORBER (SURGE)	S
			(TRANSFORMER)	
	T100	G4AYB0000007	TRANSFORMER	
			(CRYSTAL OSCILLATORS)	
	X300	H0J120500078	CRYSTAL OSCILLATOR	
	X301	H0J245500111	CRYSTAL OSCILLATOR	
	X302	H0J238500003	CRYSTAL OSCILLATOR	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	X303	H0A327200147	CRYSTAL OSCILLATOR	

18.2.5. Main Board (KX-MB2030)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB1	PNWP12030CXV	MAIN BOARD ASS'Y (RTL) (CX only)	
	PCB1	PNWP12030SXV	MAIN BOARD ASS'Y (RTL) (SX only)	
			(ICs)	
	IC200	C1CB00003161	IC	
	IC201	C0ABEB000023	IC	
	IC202	C0ABEB000023	IC	
	IC203	C1CB00003161	IC	
	IC204	C1AB00002556	IC	
	IC300	C1ZBZ0003801	IC	
	IC301	C0EBY0000665	IC	
	IC303	C0CBAAA00035	IC	
	IC400	C3ABRY000039	IC	
	IC402	PNWI2030CXV	IC (ROM) (CX only)	
	IC402	PNWI2030SX4	IC (ROM) (SX only)	
	IC501	C0DBGYY00330	IC	
	IC502	C0GBY0000066	IC	
	IC503	C0FBAY000092	IC	
	IC504	C0BBBA000044	IC	S
	IC750	C1CB00003527	IC	
	IC800	C0DBAGE00028	IC	
			(TRANSISTORS)	
	Q100	2SA1576R	TRANSISTOR (SI)	S
	Q102	B1ABDF000025	TRANSISTOR (SI)	
	Q150	UNR921LJ0L	TRANSISTOR (SI)	S
	Q152	B1ABDF000026	TRANSISTOR (SI)	
	Q153	UNR921LJ0L	TRANSISTOR (SI)	S
	Q201	B1GBCFYY0014	TRANSISTOR (SI)	
	Q206	UNR921LJ0L	TRANSISTOR (SI)	S
	Q209	B1ABDF000025	TRANSISTOR (SI)	
	Q210	2SC4081R	TRANSISTOR (SI)	S
	Q211	2SC4081R	TRANSISTOR (SI)	S
	Q213	UNR921LJ0L	TRANSISTOR (SI)	S
	Q500	B1GBCFGN0005	TRANSISTOR (SI)	
	Q501	B1GBCFGN0005	TRANSISTOR (SI)	
	Q502	B1GBCFGN0005	TRANSISTOR (SI)	
	Q503	B1GBCFGN0005	TRANSISTOR (SI)	
	Q504	B1GBCFGN0005	TRANSISTOR (SI)	
	Q505	B1GBCFGN0005	TRANSISTOR (SI)	
	Q506	B1GBCFGN0005	TRANSISTOR (SI)	
	Q507	UNR921LJ0L	TRANSISTOR (SI)	S
	Q508	B1ABCF000103	TRANSISTOR (SI)	S
	Q509	B1ADKE000002	TRANSISTOR (SI)	
	Q510	B1ADKE000002	TRANSISTOR (SI)	
	Q511	B1ABCF000103	TRANSISTOR (SI)	S
	Q512	B1ABCF000103	TRANSISTOR (SI)	S
	Q514	DSC7003S0L	TRANSISTOR (SI)	
	Q516	DSC7003S0L	TRANSISTOR (SI)	
	Q517	DSC7003S0L	TRANSISTOR (SI)	
	Q518	B1ADGE000012	TRANSISTOR (SI)	
	Q523	B1ABGE000011	TRANSISTOR (SI)	
	Q525	B1GBCFGN0005	TRANSISTOR (SI)	
	Q526	B1GBCFGN0005	TRANSISTOR (SI)	
	Q527	B1ABCF000103	TRANSISTOR (SI)	S
	Q529	2SA1774C3R	TRANSISTOR (SI)	S
	Q530	B1ABCF000103	TRANSISTOR (SI)	S
	Q602	B1ABCF000103	TRANSISTOR (SI)	S
	Q603	2SA1774C3R	TRANSISTOR (SI)	S
	Q604	B1ADKE000002	TRANSISTOR (SI)	
	Q700	B1ABCF000103	TRANSISTOR (SI)	S
	Q800	B1ABCF000103	TRANSISTOR (SI)	S
	Q801	UNR92A5J0L	TRANSISTOR (SI)	
	Q802	B1CHND000004	TRANSISTOR (SI)	
	Q803	B1CHND000004	TRANSISTOR (SI)	
	Q804	B1ABGE000011	TRANSISTOR (SI)	
	Q805	B1ABGE000011	TRANSISTOR (SI)	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	Q806	B1ADGE000012	TRANSISTOR (SI)	
	Q807	B1ADGE000012	TRANSISTOR (SI)	
	Q808	B1CHND000004	TRANSISTOR (SI)	
	Q809	2SA1774C3R	TRANSISTOR (SI)	S
	Q810	B1ABCF000103	TRANSISTOR (SI)	S
			(DIODES)	
	D100	BOEDER000009	DIODE (SI)	
	D101	1SS355	DIODE (SI)	S
	D102	BOADEJ000026	DIODE (SI)	
	D105	B0BC5R600003	DIODE (SI)	
	D106	B0BC5R600003	DIODE (SI)	
	D200	1SS355	DIODE (SI)	S
	D204	B0BC5R600003	DIODE (SI)	
	D205	B0BC5R600003	DIODE (SI)	
	D306	B0ZBZ0000146	DIODE (SI)	
	D501	B0ACEL000004	DIODE (SI)	
	D503	B0ACEL000004	DIODE (SI)	
	D504	B0ACEL000004	DIODE (SI)	
	D700	B0ACEL000004	DIODE (SI)	
	D701	PJVDJADAN202	DIODE (SI)	S
	D800	B0JCN0000027	DIODE (SI)	
	D803	B0JCN0000027	DIODE (SI)	
	D805	B0BC01000014	DIODE (SI)	
	D806	B0BC01000014	DIODE (SI)	
	D807	PJVDJADAN202	DIODE (SI)	S
	DA300	PJVDJADAN202	DIODE (SI)	S
	DA500	PJVDJADAN202	DIODE (SI)	S
	LED750	B3ABB0000331	DIODE (SI)	
			(BATTERY)	
	BAT300	CR-2354/GUFG	BATTERY	
			(CAPACITORS)	
	C101	F1B2H681A070	680p	
	C102	F1B2H681A070	680p	
	C103	F2A1E4700026	47	
	C104	ECUV1C105KBV	1	
	C105	50YXF33M	33	S
	C109	F0C2E474A277	0.47	
	C116	ECUV1H473KBV	0.047	
	C150	ECJ0EB0J224K	0.22	
	C151	F2G1C4700026	47	
	C152	ECUE1H472KBQ	0.0047	
	C153	ECJ0EB0J224K	0.22	
	C157	ECUE0J105KBQ	1	
	C158	ECJ0EB1H102K	0.001	
	C159	ECUE1A104KBQ	0.1	
	C160	ECUE1A104KBQ	0.1	
	C200	ECUV1H333KDV	0.033	S
	C202	ECUE1A104KBQ	0.1	
	C203	F2G1C4700026	47	
	C204	ECUE1A104KBQ	0.1	
	C207	ECUE1A104KBQ	0.1	
	C209	ECJ0EB1C223K	0.022	
	C210	ECUE1H101JCQ	100p	
	C212	ECUE1H101JCQ	100p	
	C213	ECUE1H101JCQ	100p	
	C214	ECUE0J105KBQ	1	
	C215	F2G1V1000007	10	
	C216	ECJ0EB1H222K	0.0022	
	C217	ECJ0EB1C223K	0.022	
	C218	F2G1C1000014	10	
	C219	F2G1H4R70017	4.7	S
	C220	ECUE1H100DCQ	10p	
	C221	ECUE1A104KBQ	0.1	
	C222	ECUX1C104ZFV	0.1	S
	C223	ECUE1A104KBQ	0.1	
	C224	ECJ0EB0J224K	0.22	
	C227	ECUE1H392KBQ	0.0039	
	C228	ECUE1H101JCQ	100p	
	C229	ECJ0EB1H471K	470p	
	C232	ECUE1A104KBQ	0.1	
	C233	ECUE1C103KBQ	0.01	
	C235	ECUE1A104KBQ	0.1	
	C236	F1J0J2260004	22	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C237	F1J0J1060006	10	
	C238	ECUE0J105KBQ	1	
	C239	ECJ0EB1H122K	0.0012	
	C240	F1J0J2260004	22	
	C241	ECJ0EC1H181J	180p	
	C243	ECJ0EC1H181J	180p	
	C244	ECUE1C333KBQ	0.033	
	C246	ECUE1A104KBQ	0.1	
	C247	ECUE1H392KBQ	0.0039	
	C248	ECJ0EB1H471K	470p	
	C249	ECUE1A104KBQ	0.1	
	C250	ECUE1H101JCQ	100p	
	C252	ECUE1H392KBQ	0.0039	
	C253	ECJ0EB1H122K	0.0012	
	C254	F1J0J2260004	22	
	C256	ECJ0EB1C223K	0.022	
	C258	F2G0J1010042	100	
	C267	ECUE1C103KBQ	0.01	
	C270	ECUE1A104KBQ	0.1	
	C272	ECUE1A104KBQ	0.1	
	C273	ECUE1A104KBQ	0.1	
	C275	ECUE1A104KBQ	0.1	
	C278	ECUE1A104KBQ	0.1	
	C279	ECUE1A104KBQ	0.1	
	C280	ECUE1H101JCQ	100p	
	C281	ECUE1A104KBQ	0.1	
	C282	ECUE1A104KBQ	0.1	
	C283	ECJ0EB0J224K	0.22	
	C300	ECUE1A104KBQ	0.1	
	C301	ECUE1A104KBQ	0.1	
	C304	ECJ0EB0J224K	0.22	
	C305	ECJ0EB0J224K	0.22	
	C306	ECJ0EB0J224K	0.22	
	C308	ECJ0EB0J224K	0.22	
	C309	ECJ0EB1A273K	0.027	
	C310	ECJ0EC1H220J	22p	
	C311	ECJ0EC1H270J	27p	
	C312	ECUE1A104KBQ	0.1	
	C313	ECJ0EC1H220J	22p	
	C314	ECUE1H330JCQ	33p	
	C315	ECUE1H100DCQ	10p	
	C316	ECJ0EC1H120J	12p	
	C317	ECJ0EC1H270J	27p	
	C318	ECJ0EC1H120J	12p	
	C319	ECUE0J105KBQ	1	
	C322	ECUE0J105KBQ	1	
	C325	ECUE1A104KBQ	0.1	
	C326	ECUE1C103KBQ	0.01	
	C327	ECUE1A104KBQ	0.1	
	C328	ECUE1A104KBQ	0.1	
	C329	ECUE1A104KBQ	0.1	
	C330	ECUE1A104KBQ	0.1	
	C331	ECUE1A104KBQ	0.1	
	C332	ECUE1A104KBQ	0.1	
	C333	ECUE1A104KBQ	0.1	
	C334	ECUE1A104KBQ	0.1	
	C335	ECUE1A104KBQ	0.1	
	C336	ECUE1A104KBQ	0.1	
	C337	ECUE1A104KBQ	0.1	
	C338	ECUE1A104KBQ	0.1	
	C339	ECUE1A104KBQ	0.1	
	C351	ECUE1H101JCQ	100p	
	C352	ECUE1A104KBQ	0.1	
	C353	ECUE1A104KBQ	0.1	
	C354	ECUE1A104KBQ	0.1	
	C355	ECUE1A104KBQ	0.1	
	C357	ECUE1A104KBQ	0.1	
	C358	ECUE1A104KBQ	0.1	
	C359	ECUE1A104KBQ	0.1	
	C360	ECUE1A104KBQ	0.1	
	C361	ECUE1A104KBQ	0.1	
	C362	ECUE1A104KBQ	0.1	
	C363	ECUE1A104KBQ	0.1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C364	ECUE1A104KBQ	0.1	
	C400	ECUE1A104KBQ	0.1	
	C401	ECUE1C103KBQ	0.01	
	C402	ECUE1A104KBQ	0.1	
	C403	ECUE1A104KBQ	0.1	
	C404	ECUE1A104KBQ	0.1	
	C405	ECUE1C103KBQ	0.01	
	C406	ECUE1A104KBQ	0.1	
	C412	ECUE1C103KBQ	0.01	
	C413	ECUE1A104KBQ	0.1	
	C414	ECUE1A104KBQ	0.1	
	C419	ECUE1H101JCQ	100p	
	C420	ECUE1H101JCQ	100p	
	C421	ECUE1H101JCQ	100p	
	C422	ECUE1H101JCQ	100p	
	C423	ECUE1H101JCQ	100p	
	C424	ECUE1H101JCQ	100p	
	C425	ECUE1H101JCQ	100p	
	C426	ECUE1H101JCQ	100p	
	C427	ECUE1H101JCQ	100p	
	C428	ECUE1H101JCQ	100p	
	C429	ECUE1H101JCQ	100p	
	C470	ECJOEC1H270J	27p	
	C471	ECUE1A104KBQ	0.1	
	C501	ECUX1C104ZJV	0.1	S
	C502	ECUE0J105KBQ	1	
	C503	ECUX1C104ZJV	0.1	S
	C504	ECUE1A104KBQ	0.1	
	C505	F2G1V2210014	220	
	C506	ECUE1H100DCQ	10p	
	C507	ECJOEB1H102K	0.001	
	C508	ECJOEB1A473K	0.047	S
	C509	ECUE1A104KBQ	0.1	
	C510	ECUE1A104KBQ	0.1	
	C511	ECJOEB1H102K	0.001	
	C512	F1J0J1060006	10	
	C513	ECUV1A105ZJV	1	
	C514	ECUE1H101JCQ	100p	
	C515	F2G1V2210014	220	
	C516	ECJOEB1H102K	0.001	
	C517	ECJOEB1H102K	0.001	
	C518	ECUX1C104ZJV	0.1	S
	C520	ECJOEB1H102K	0.001	
	C522	ECJOEB1H102K	0.001	
	C523	F1J0J1060006	10	
	C524	F2G1V4700016	47	
	C525	ECUX1C104ZJV	0.1	S
	C526	ECJOEB1H102K	0.001	
	C527	ECJOEB1H102K	0.001	
	C528	ECJOEB1H102K	0.001	
	C529	ECJOEB1H102K	0.001	
	C530	F1J0J1060006	10	
	C533	ECUE1A104KBQ	0.1	
	C534	ECUE1A104KBQ	0.1	
	C536	ECUE1A104KBQ	0.1	
	C537	ECUE1A104KBQ	0.1	
	C538	F1J0J1060006	10	
	C540	ECUE1A104KBQ	0.1	
	C542	ECUE1A104KBQ	0.1	
	C543	ECUE1A104KBQ	0.1	
	C544	ECUE1C103KBQ	0.01	
	C545	ECUE0J105KBQ	1	
	C546	ECUE1C103KBQ	0.01	
	C547	ECUE1H101JCQ	100p	
	C548	ECJOEB1H102K	0.001	
	C549	F2G0J1010042	100	
	C550	F2G1C2200012	22	
	C551	ECJOEB1H102K	0.001	
	C552	ECUE1A104KBQ	0.1	
	C553	ECJOEB1H102K	0.001	
	C554	ECJOEB1H102K	0.001	
	C555	ECUE1A104KBQ	0.1	
	C556	ECUE1H101JCQ	100p	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C557	ECJOEC1H181J	180p	
	C559	ECJOEB1H102K	0.001	
	C563	ECJOEB1H102K	0.001	
	C565	ECJOEB1A473K	0.047	S
	C568	ECJOEB1H102K	0.001	
	C569	ECJOEB1A473K	0.047	S
	C570	ECUE1A104KBQ	0.1	
	C571	ECUE1A104KBQ	0.1	
	C572	ECUE0J105KBQ	1	
	C601	ECUE0J105KBQ	1	
	C645	ECUE1A104KBQ	0.1	
	C646	ECUE1A104KBQ	0.1	
	C647	ECUE1A104KBQ	0.1	
	C648	ECUE1A104KBQ	0.1	
	C649	ECUE1A104KBQ	0.1	
	C650	ECUE1A104KBQ	0.1	
	C651	ECUE1A104KBQ	0.1	
	C652	ECUE1A104KBQ	0.1	
	C653	ECUE1A104KBQ	0.1	
	C654	ECUE1A104KBQ	0.1	
	C655	ECUE1A104KBQ	0.1	
	C656	ECUE1A104KBQ	0.1	
	C657	ECUE1A104KBQ	0.1	
	C658	ECUE1A104KBQ	0.1	
	C659	ECUE1A104KBQ	0.1	
	C660	ECUE1A104KBQ	0.1	
	C661	ECUE1A104KBQ	0.1	
	C662	ECUE1A104KBQ	0.1	
	C663	ECUE1A104KBQ	0.1	
	C664	ECUE1A104KBQ	0.1	
	C665	ECUE1A104KBQ	0.1	
	C666	ECUE1A104KBQ	0.1	
	C667	ECUE1A104KBQ	0.1	
	C668	ECUE1A104KBQ	0.1	
	C669	ECUE1A104KBQ	0.1	
	C670	ECUE1A104KBQ	0.1	
	C671	ECUX1C104ZJV	0.1	S
	C672	ECUX1C104ZJV	0.1	S
	C673	ECUX1C104ZJV	0.1	S
	C674	ECUE1A104KBQ	0.1	
	C675	ECUE1A104KBQ	0.1	
	C676	ECUE1A104KBQ	0.1	
	C677	ECUE1A104KBQ	0.1	
	C678	ECUE1A104KBQ	0.1	
	C679	ECUE1A104KBQ	0.1	
	C680	ECUE1A104KBQ	0.1	
	C681	ECUE1A104KBQ	0.1	
	C682	ECUE1A104KBQ	0.1	
	C683	ECUE1A104KBQ	0.1	
	C684	ECUE1A104KBQ	0.1	
	C685	ECUE1A104KBQ	0.1	
	C687	ECUE1A104KBQ	0.1	
	C688	ECUE1A104KBQ	0.1	
	C689	ECUE1A104KBQ	0.1	
	C690	ECUE1A104KBQ	0.1	
	C691	ECUE1A104KBQ	0.1	
	C692	ECUE1A104KBQ	0.1	
	C693	ECUE1A104KBQ	0.1	
	C695	ECUE1A104KBQ	0.1	
	C696	ECUE1A104KBQ	0.1	
	C697	ECUE1A104KBQ	0.1	
	C698	ECUE1A104KBQ	0.1	
	C699	ECUE1A104KBQ	0.1	
	C701	ECJOEB1H102K	0.001	
	C702	ECUE0J105KBQ	1	
	C704	ECJOEB1H102K	0.001	
	C710	ECJOEB1H102K	0.001	
	C712	ECJOEB1H102K	0.001	
	C750	ECUE1H101JCQ	100p	
	C751	ECUE1A104KBQ	0.1	
	C752	F2G0J4700012	47	
	C753	ECUE1A104KBQ	0.1	
	C754	ECUE1C103KBQ	0.01	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	C755	ECUE1C103KBQ	0.01	
	C756	ECJ0EC1H120J	12p	
	C757	ECUE1H150JCC	15p	
	C758	ECUE1A104KBQ	0.1	
	C759	ECUE1A104KBQ	0.1	
	C760	ECUE1A104KBQ	0.1	
	C762	F2G0J4700012	47	
	C763	ECUE1A104KBQ	0.1	
	C764	ECUE1A104KBQ	0.1	
	C765	ECUE1A104KBQ	0.1	
	C766	ECUE1A104KBQ	0.1	
	C767	ECUE1A104KBQ	0.1	
	C800	F2H0J1010009	100	
	C801	ECUX1C104ZFV	0.1	S
	C802	ECUV1A105ZFV	1	
	C803	ECUX1C104ZFV	0.1	S
	C804	F1L1V1060002	35	
	C805	F1L1V1060002	35	
	C806	ECUX1C104ZFV	0.1	S
	C807	ECUX1C104ZFV	0.1	S
	C808	ECUX1C104ZFV	0.1	S
	C809	ECJ0EB1A473K	0.047	S
	C810	ECUV1A103KBV	0.01	
	C811	ECUV1A474KBV	0.47	
	C812	ECUV1H103KBV	0.01	
	C813	ECUV1A334KBV	0.33	
	C814	ECUE1A104KBQ	0.1	
	C817	F2H0J1010009	100	
	C818	ECUV1A105ZFV	1	
	C819	PQCUV1C105ZF	1	S
	C820	PQCUV1C105ZF	1	S
	C822	ECUE0J105KBQ	1	
			(CONNECTORS & JACKS)	
	CN100	K2LB1YYB0002	JACK	
	CN101	K2LB1YYB0002	JACK	
	CN200	K1KA08A00440	CONNECTOR	
	CN300	K1FY104B0015	CONNECTOR	
	CN500	K1KA07A00257	CONNECTOR	
	CN501	K1KA05A00364	CONNECTOR	
	CN502	K1KA08AA0193	CONNECTOR	
	CN504	K1KA08A00498	CONNECTOR	
	CN505	K1KA08A00440	CONNECTOR	
	CN506	K1KA03AA0193	CONNECTOR	
	CN507	K1KA02AA0193	CONNECTOR	
	CN508	K1KA10A00412	CONNECTOR	
	CN509	K1KA04A00527	CONNECTOR	
	CN510	K1KA13A00130	CONNECTOR	
	CN511	K1KA08A00440	CONNECTOR	
	CN514	K1KA02AA0193	CONNECTOR	
	CN700	K1KA04A00644	CONNECTOR	
	CN701	K1KA04AA0193	CONNECTOR	
	CN750	K2LC1YYB0040	JACK	
			(FUSE)	
△	F800	K5H302Y00003	FUSE	
			(COILS)	
	L100	PQLQR2BT	COIL	S
	L101	PQLQR2BT	COIL	S
	L106	PFLE003	COIL	
	L205	J0JCC0000288	COIL	
	L201	J0JCC0000288	COIL	
	L300	G1BYYC00026	COIL	
	L502	PFVF2P221SG	COIL	S
	L800	G1C220MA0291	COIL	
	L801	G1C220MA0291	COIL	
			(IC FILTERS)	
	L202	J0JCC0000276	IC FILTER	
	L203	J0JBC0000040	IC FILTER	
	L207	J0JBC0000040	IC FILTER	
	L209	J0JCC0000276	IC FILTER	
	L221	J0JAC0000059	IC FILTER	
	L344	J0JCC0000286	IC FILTER	
	L345	J0JCC0000286	IC FILTER	
	L346	J0JCC0000286	IC FILTER	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	L347	J0JCC0000286	IC FILTER	
	L348	J0JCC0000277	IC FILTER	
	L349	J0JCC0000277	IC FILTER	
	L350	J0JCC0000277	IC FILTER	
	L351	J0JCC0000277	IC FILTER	
	L352	J0JCC0000277	IC FILTER	
	L353	J0JCC0000277	IC FILTER	
	L354	J0JCC0000277	IC FILTER	
	L355	J0JCC0000277	IC FILTER	
	L356	J0JCC0000277	IC FILTER	
	L357	J0MAB0000146	IC FILTER	
	L364	J0JCC0000274	IC FILTER	
	L500	J0JCC0000277	IC FILTER	
	L501	J0JCC0000276	IC FILTER	
	L503	J0JGC0000020	IC FILTER	
	L504	J0JGC0000020	IC FILTER	
	L750	J0JCC0000276	IC FILTER	
	L752	J0MAB0000185	IC FILTER	
	L753	J0MAB0000185	IC FILTER	
	FLT500	J0HAB0000021	IC FILTER	
			(PHOTO ELECTRIC TRANS- DUCERS)	
△	PC103	B3PAA0000330	PHOTO ELECTRIC TRANS- DUCER	S
△	PC106	B3PAA0000352	PHOTO ELECTRIC TRANS- DUCER	
			(THERMISTOR)	
	POS100	D4DAY220A022	THERMISTOR	
			(RESISTORS)	
	R102	ERJ3GEYJ332	3.3k	
	R103	ERJ3GEYJ105	1M	
	R104	ERJ3GEYJ684	680k	
	R105	ERJ3GEYJ154	150k	
	R106	ERJ3GEYJ333	33k	
	R107	ERJ3GEYJ822	8.2k	
	R117	ERG1SJ151E	150	
	R123	ERG1SJ221E	220	
	R150	ERJ2GEJ822	8.2k	
	R152	ERJ2GEJ392	3.9k	
	R153	ERJ2GEJ331	330	
	R154	ERJ2GEJ473	47k	
	R155	ERJ2GEJ105X	1M	
	R160	ERJ2GEJ562X	5.6k	
	R161	ERJ2GEJ472X	4.7k	
	R162	ERJ2GEJ223	22k	
	R163	ERJ2GEJ473	47k	
	R165	ERJ2GEJ823	82k	
	R166	ERJ2GEJ823	82k	
	R167	ERJ2GEJ823	82k	
	R169	ERJ2GE0R00	0	
	R198	ERJ12YJ473	47k	
	R199	ERJ12YJ223U	22k	
	R203	ERJ2GEJ104	100k	
	R204	ERJ2GEJ683	68k	
	R206	ERJ2GEJ433	43k	
	R207	ERJ2GEJ823	82k	
	R209	ERJ2GEJ104	100k	
	R210	ERJ2GEJ182	1.8k	
	R211	ERJ2GEJ154	150k	
	R212	ERJ2GEJ103	10k	
	R213	ERJ2GEJ102	1k	
	R214	ERJ2GE0R00	0	
	R216	ERJ2GEJ102	1k	
	R218	ERJ2GEJ220	22	
	R220	ERJ2GEJ182	1.8k	
	R221	ERJ2GEJ154	150k	
	R223	ERJ2GEJ432	4.3k	
	R224	ERJ2GEJ823	82k	
	R225	ERJ2GEJ105X	1M	
	R226	ERJ2GEJ473	47k	
	R227	ERJ2GEJ104	100k	
	R228	ERJ2GEJ104	100k	
	R229	ERJ2GEJ103	10k	
	R230	ERJ2GEJ823	82k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R231	ERJ2GEJ123	12k	
	R233	ERJ2GEJ154	150k	
	R234	ERJ2GEJ220	22	
	R235	ERJ2GEJ683	68k	
	R236	ERJ2GEJ184	180k	
	R237	ERJ2GEJ123	12k	
	R239	ERJ2GEJ681	680	
	R240	ERJ2GEJ823	82k	
	R241	ERJ3GEYJ221	220	
	R242	ERJ2GEJ124	120k	
	R243	ERJ2GEJ433	43k	
	R247	ERJ2GEJ222	2. 2k	
	R248	ERJ2GEJ683	68k	
	R249	ERJ2GEJ123	12k	
	R253	PQ4R18XJ100	10	s
	R255	ERJ2GEJ103	10k	
	R256	ERJ3GEYJ220	22	
	R257	ERJ3GEYJ100	10	
	R258	ERJ3GEYJ100	10	
	R271	ERJ2GEJ103	10k	
	R273	ERJ2GEJ912	9. 1k	
	R274	ERJ2GEJ473	47k	
	R275	ERJ2GEJ220	22	
	R276	ERJ2GEJ333	33k	
	R277	ERJ2GE0R00	0	
	R279	ERJ3GEY0R00	0	
	R280	ERJ3GEY0R00	0	
	R282	ERJ2GEJ473	47k	
	R285	ERJ2GEJ220	22	
	R286	ERJ2GEJ220	22	
	R289	ERJ2GEJ104	100k	
	R290	ERJ2GEJ223	22k	
	R291	ERJ2GEJ564	560k	
	R292	ERJ2GEJ103	10k	
	R293	ERJ2GEJ100	10	
	R295	ERJ2GEJ103	10k	
	R296	ERJ2GEJ103	10k	
	R297	ERJ2GEJ105X	1M	
	R302	ERJ2RKF49R9	49. 9	
	R303	ERJ2GEJ472X	4. 7k	
	R304	ERJ2GEJ101	100	
	R305	ERJ2GEJ103	10k	
	R307	ERJ2GEJ470	47	
	R308	ERJ2GEJ470	47	
	R309	ERJ2GEJ470	47	
	R315	ERJ2GEJ103	10k	
	R316	ERJ2GEJ103	10k	
	R335	ERJ2GEJ152	1. 5k	
	R336	ERJ2GE0R00	0	
	R337	ERJ2GE0R00	0	
	R338	ERJ2GEJ103	10k	
	R339	ERJ2GEJ223	22k	
	R340	ECJ0EC1H220J	22p	
	R348	ECJ0EC1H220J	22p	
	R352	ERJ2GEJ103	10k	
	R354	ERJ2GEJ103	10k	
	R355	ERJ2GEJ103	10k	
	R360	ERJ2GEJ103	10k	
	R362	ERJ2GEJ103	10k	
	R364	ERJ2GEJ103	10k	
	R367	ERJ2GEJ470	47	
	R368	ERJ2GEJ470	47	
	R369	ERJ2GEJ470	47	
	R370	ERJ2GEJ103	10k	
	R372	ERJ2GEJ103	10k	
	R373	ERJ2GEJ103	10k	
	R374	ERJ2GEJ471	470	
	R375	ERJ2GEJ221	220	
	R376	ERJ2RKF6981	6. 98k	
	R378	ERJ2GEJ102	1k	
	R380	ERJ2GEJ1R0	1	
	R381	ERJ2GEJ1R0	1	
	R382	ERJ2GEJ1R0	1	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R384	ERJ2GEJ101	100	
	R385	ERJ2GEJ1R0	1	
	R386	ERJ2GEJ221	220	
	R388	ERJ2GEJ184	180k	
	R389	ERJ2GEJ102	1k	
	R391	ERJ2GEJ103	10k	
	R395	ERJ3GEY0R00	0	
	R396	ERJ3GEY0R00	0	
	R397	ERJ3GEY0R00	0	
	R398	ERJ3GEY0R00	0	
	R399	ERJ2GEJ103	10k	
	R400	ERJ2GEJ470	47	
	R401	ERJ2GEJ680	68	
	R402	ERJ2GEJ470	47	
	R403	ERJ2GEJ470	47	
	R404	ERJ2GEJ470	47	
	R405	ERJ2GEJ470	47	
	R406	ERJ2GEJ470	47	
	R407	ERJ2GEJ470	47	
	R408	ERJ2GEJ470	47	
	R409	ERJ2GEJ680	68	
	R410	ERJ2GEJ680	68	
	R449	ERJ2GEJ103	10k	
	R501	ERJ2GEJ101	100	
	R502	ERJ2GEJ101	100	
	R503	ERJ2RKF6201	6. 2k	
	R504	ERJ2GEJ473	47k	
	R505	ERJ2RKF1503	150k	
	R506	ERJ2GEJ223	22k	
	R507	ERJ2RKF2202	22k	
	R508	ERJ2GEJ102	1k	
	R509	ERJ2GEJ102	1k	
	R510	ERJ2GEJ562X	5. 6k	
	R511	ERJ2GEJ181	180	
	R512	ERJ2GEJ563	56k	
	R513	ERJ2GEJ103	10k	
	R514	ERJ2RKF1503	150k	
	R515	ERJ2GEJ102	1k	
	R516	ERJ2GEJ823	82k	
	R517	ERJ2GEJ332	3. 3k	
	R518	ERJ2GEJ472X	4. 7k	
	R519	ERJ2GEJ472X	4. 7k	
	R520	ERJ2GEJ102	1k	
	R521	ERJ2GEJ563	56k	
	R522	ERJ2GEJ103	10k	
	R523	ERJ2GEJ563	56k	
	R524	ERJ2GEJ472X	4. 7k	
	R525	ERJ12YJ470U	47	
	R526	ERJ2GEJ103	10k	
	R527	ERJ2GEJ562X	5. 6k	
	R528	PQ4R10XJ332	3. 3k	s
	R529	ERJ2GEJ473	47k	
	R530	ERJ2GEJ102	1k	
	R531	ERJ2GEJ562X	5. 6k	
	R532	PQ4R18XJ472	4. 7k	s
	R533	ERJ2GEJ102	1k	
	R534	ERJ2GEYJ474	470k	s
	R535	ERJ2GEJ103	10k	
	R536	ERJ8RQFR33	0. 33	
	R537	ERJ8RQFR33	0. 33	
	R538	ERJ2GEJ104	100k	
	R539	ERJ2GEJ223	22k	
	R540	ERJ2GEJ183	18k	
	R541	ERJ2GEJ122	1. 2k	
	R542	ERJ2GEJ122	1. 2k	
	R543	ERJ3GEYJ180	18	
	R544	ERJ2GEJ122	1. 2k	
	R545	ERJ2GEJ123	12k	
	R546	ERJ2GEJ122	1. 2k	
	R547	ERJ2GEJ471	470	
	R548	ERJ3GEYJ1R2	1. 2	
	R549	ERJ3GEYJ330	33	
	R550	ERJ2GEJ122	1. 2k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R551	ERJ2GEJ822	8. 2k	
	R552	ERJ2GEJ102	1k	
	R553	ERJ2GEJ820	82	
	R554	ERJ2GEJ122	1. 2k	
	R555	ERJ2GEJ472X	4. 7k	
	R556	ERJ3GEYJ390	39	
	R557	ERJ12YJ390	39	
	R558	ERJ2GEJ470	47	
	R559	ERJ2GEJ101	100	
	R560	ERJ2GEJ181	180	
	R561	ERJ2GEJ102	1k	
	R562	ERJ2GEJ102	1k	
	R563	ERJ2GEJ101	100	
	R564	ERJ2RKF1802	18k	
	R565	ERJ2GEJ103	10k	
	R566	ERJ2GEJ123	12k	
	R567	ERJ2GEJ103	10k	
	R568	ERJ12YJ470U	47	
	R569	ERJ2GEJ563	56k	
	R570	ERJ2GEJ562X	5. 6k	
	R571	ERJ2GEJ561	560	
	R572	ERJ8GEYJ2R7	2. 7	
	R573	ERJ2GEJ473	47k	
	R574	ERJ2GEJ102	1k	
	R575	ERJ8GEYJ2R7	2. 7	
	R576	ERJ2GEJ102	1k	
	R577	ERJ2GEJ102	1k	
	R578	ERJ2GEJ332	3. 3k	
	R579	ERJ2GEJ471	470	
	R580	ERJ2GEJ562X	5. 6k	
	R581	ERJ2RKF4700	470	
	R582	ERJ2GEJ223	22k	
	R583	ERJ2GEJ562X	5. 6k	
	R584	ERJ2RKF6201	6. 2k	
	R585	ERJ2GEJ562X	5. 6k	
	R587	ERJ2GEJ223	22k	
	R588	ERJ2GEJ563	56k	
	R589	ERJ2GEJ562X	5. 6k	
	R590	ERJ2GEJ223	22k	
	R591	ERJ2GEJ105X	1M	
	R592	ERJ2GEJ102	1k	
	R593	ERJ2GEJ153	15k	
	R594	ERJ2GEJ104	100k	
	R595	ERJ2GEJ274	270k	
	R596	ERJ2GEJ334	330k	
	R598	ERJ2GE0R00	0	
	R610	ERJ2GEJ332	3. 3k	
	R611	ERJ2GEJ102	1k	
	R612	ERJ2GEJ473	47k	
	R613	ERJ2GEJ473	47k	
	R614	PQ4R18XJ472	4. 7k	S
	R615	ERJ2GEJ473	47k	
	R700	ERJ2GEJ101	100	
	R701	ERJ2GEJ103	10k	
	R702	ERJ2GEYJ474	470k	S
	R703	ERJ2GEJ562X	5. 6k	
	R704	ERJ2GEJ562X	5. 6k	
	R705	ERJ2GEJ563	56k	
	R706	ERJ2GEJ563	56k	
	R709	D0GA222JA015	2. 2	
	R710	PQ4R18XJ102	1k	S
	R750	ERJ2GEJ331	330	
	R751	ERJ2RKF2491	2. 49k	
	R752	ERJ2GEJ472X	4. 7k	
	R753	ERJ2GEJ472X	4. 7k	
	R754	ERJ2GEJ472X	4. 7k	
	R755	ERJ2GEJ472X	4. 7k	
	R756	ERJ2GEJ221	220	
	R757	ERJ2GEJ472X	4. 7k	
	R758	ERJ2GEJ472X	4. 7k	
	R759	ERJ2GEJ103	10k	
	R760	ERJ2GEJ330	33	
	R761	ERJ2GEJ330	33	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R762	ERJ2GEJ330	33	
	R767	ERJ2GEJ330	33	
	R768	ERJ2GEJ330	33	
	R769	ERJ2GEJ330	33	
	R800	ERJ2RKF2202	22k	
	R801	ERJ2RKF1001	1k	
	R802	ERJ2RKF1002	10k	
	R803	ERJ2RKF4701	4. 7k	
	R804	ERJ2RKF9091	9. 09k	
	R805	ERJ2GEJ104	100k	
	R807	ERJ2GEJ273X	27k	
	R808	ERJ2GEJ103	10k	
	R809	ERJ2GEJ102	1k	
	R812	ERJ2RKF2201X	2. 2k	
	R813	ERJ2RKF1001	1k	
	R815	ERJ2RKF1002	10k	
	R817	ERJ2RKF2001	2k	
	R818	ERJ2RKF4701	4. 7k	
	R819	PQ4R18XJ471	470	S
	R820	PQ4R18XJ471	470	S
	R821	ERJ2GEJ473	47k	
	R822	ERJ2GEJ473	47k	
	R825	PQ4R18XJ102	1k	S
	R826	PQ4R18XJ102	1k	S
	R828	ERJ2GEJ224	220k	
	R829	ERJ2GEJ223	22k	
	R830	ERJ2GEJ224	220k	
	R831	ERJ2GEJ473	47k	
	R832	ERJ2GEJ153	15k	
	R833	ERJ2GEJ222	2. 2k	
	R834	ERJ2GEJ473	47k	
	R835	ERJ2GEJ223	22k	
	R836	ERJ2GEJ393X	39k	
	L156	ERJ2GE0R00	0	
	L157	ERJ2GEJ680	68	
	L206	ERJ2GE0R00	0	
	L210	ERJ2GE0R00	0	
	L211	ERJ2GE0R00	0	
	L212	ERJ3GEY0R00	0	
	L213	ERJ3GEY0R00	0	
	L214	ERJ2GE0R00	0	
	L361	ERJ2GE0R00	0	
	L363	ERJ2GEJ221	220	
	L365	ERJ2GEJ330	33	
	L366	ERJ2GEJ330	33	
	L367	ERJ2GEJ330	33	
	L368	ERJ2GEJ330	33	
	L369	ERJ2GEJ221	220	
	L370	ERJ2GEJ221	220	
	L371	ERJ2GEJ221	220	
			(COMPONENTS PARTS)	
	RA314	EXB28V470JX	RESISTOR ARRAY	
	RA315	EXB28V470JX	RESISTOR ARRAY	
	RA316	EXB28V470JX	RESISTOR ARRAY	
	RA317	EXB28V470JX	RESISTOR ARRAY	
	RA318	EXB28V470JX	RESISTOR ARRAY	
	RA319	EXB28V470JX	RESISTOR ARRAY	
	RA320	EXB28V470JX	RESISTOR ARRAY	
	RA321	EXB28V473JX	RESISTOR ARRAY	
	RA322	EXB28V473JX	RESISTOR ARRAY	
	RA323	EXB28V473JX	RESISTOR ARRAY	
	RA324	EXB28V473JX	RESISTOR ARRAY	
	RA400	EXB28V560JX	RESISTOR ARRAY	
	RA401	EXB28V560JX	RESISTOR ARRAY	
	RA402	EXB28V560JX	RESISTOR ARRAY	
	RA403	EXB28V560JX	RESISTOR ARRAY	
	RA404	EXB28V470JX	RESISTOR ARRAY	
	RA405	EXB28V470JX	RESISTOR ARRAY	
	RA406	EXB28V470JX	RESISTOR ARRAY	
	RA413	EXB28V473JX	RESISTOR ARRAY	
	RA414	EXB28V473JX	RESISTOR ARRAY	
	RA750	EXB28V330	RESISTOR ARRAY	
	RA751	EXB28V330	RESISTOR ARRAY	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	RA752	EXB28V330	RESISTOR ARRAY (RELAYS)	
△	RLY100	K6B1CYY00005	RELAY	
	RLY700	K6B4CGA00010	RELAY (VARISTORS)	
	SA100	PQVDDSS301L	VARIATOR (SURGE ABSORBER)	S
△	SA102	PFRZRA102P6T	VARIATOR (SURGE ABSORBER)	S
			(TRANSFORMER)	
△	T100	G4AYB0000007	TRANSFORMER (CRYSTAL OSCILLATORS)	
	X300	H0J120500078	CRYSTAL OSCILLATOR	
	X301	H0J245500111	CRYSTAL OSCILLATOR	
	X302	H0J238500003	CRYSTAL OSCILLATOR	
	X303	H0A327200147	CRYSTAL OSCILLATOR	
	X750	H0J250500097	CRYSTAL OSCILLATOR	

18.2.6. Operation Board (KX-MB1900/2010)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB2	PNLP2204RUZ	OPERATION BOARD ASS'Y (RTL) (IC)	
	IC1	C1ZBZ0004019	IC (TRANSISTOR)	
	Q1	B1ABGE000011	TRANSISTOR (SI) (DIODES)	
	D1	1SS355	DIODE (SI)	S
	D2	1SS355	DIODE (SI)	S
	LED2	B3ABA0000633	DIODE (SI)	
	LED3	B3ABA0000633	DIODE (SI) (BUZZER)	
	BZ1	L0DACA000024	BUZZER (CAPACITORS)	
	C1	ECUV1C104ZFV	0.1	
	C2	ECUV1C104ZFV	0.1	
	C3	ECUV1C104ZFV	0.1	
	C7	ECUV1H101JCV	100p	
	C8	ECUV1H102KBV	0.001	
	C10	ECUV1C104ZFV	0.1	
	C11	ECUV1C104ZFV	0.1	
	C12	ECUV1H391JCV	390p	S
	C13	ECUV1H101JCV	100p	
	C14	ECUV1H101JCV	100p	
	C16	ECUV1H100JCV	10p	
	C17	ECEA1CK101	100	S
	C18	ECUV1C104ZFV	0.1	
	C20	ECUV1H272KBV	0.0027	
	C21	ECUV1H152KBV	0.0015	
	C22	ECUV1H152KBV	0.0015	
	C23	ECUV1C224ZFV	0.22	S
			(LIQUID CRYSTAL DISPLAY)	
	CN1	L5DAAYY00017	LIQUID CRYSTAL DISPLAY (CONNECTOR)	
	CN2	K1KA08B00243	CONNECTOR, 8PIN (RESISTORS)	
	R2	ERJ3GEYJ241	240	
	R3	ERJ3GEYJ241	240	
	R5	ERJ3GEYJ123	12k	
	R6	ERJ3GEYJ102	1k	
	R7	ERJ3GEYJ102	1k	
	R8	ERJ3GEYJ4R7	4.7	
	R10	ERJ3GEYJ470	47	
	R11	ERJ3GEYJ101	100	
	R12	ERJ3GEYJ101	100	
	R13	ERJ3GEYJ101	100	
	R14	ERJ3GEYJ332	3.3k	
	R15	ERJ3GEYJ123	12k	
	R16	ERJ3GEYJ151	150	
	R17	ERJ3GEYJ472	4.7k	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	R18	ERJ3GEYJ102	1k	
	R19	ERJ3GEYJ474	470k	
	R20	ERJ3GEYJ181	180	
	R21	ERJ3GEYJ181	180	
	R22	ERJ3GEYJ181	180	
	R23	ERJ3GEYJ181	180	
	R24	ERJ3GEYJ181	180	
	R25	ERJ3GEYJ181	180	
	R26	ERJ3GEYJ181	180	
	R27	ERJ3GEYJ181	180	
	R28	ERJ8GEYOR00	0 (SWITCHES)	
	SW1	K0H1BA000259	SWITCH	
	SW2	K0H1BA000259	SWITCH	
	SW3	K0H1BA000259	SWITCH	
	SW4	K0H1BA000259	SWITCH	
	SW5	K0H1BA000259	SWITCH	
	SW6	K0H1BA000259	SWITCH	
	SW7	K0H1BA000259	SWITCH	
	SW8	K0H1BA000259	SWITCH	
	SW10	K0H1BA000259	SWITCH	
	SW11	K0H1BA000259	SWITCH	
	SW12	K0H1BA000259	SWITCH	
	SW13	K0H1BA000259	SWITCH	
	SW15	K0H1BA000259	SWITCH	
	SW16	K0H1BA000259	SWITCH	
	SW17	K0H1BA000259	SWITCH	
	SW20	K0H1BA000259	SWITCH	
	SW21	K0H1BA000259	SWITCH	
	SW24	K0H1BA000259	SWITCH	
	SW27	K0H1BA000259	SWITCH	
	SW29	K0H1BA000259	SWITCH	
	SW30	K0H1BA000259	SWITCH	
	SW31	K0H1BA000259	SWITCH	
	SW32	K0H1BA000259	SWITCH	
	SW34	K0H1BA000259	SWITCH	
	SW35	K0H1BA000259	SWITCH	
	SW36	K0H1BA000259	SWITCH	
	SW37	K0H1BA000259	SWITCH (THERMISTOR)	
	TH1	D4CCY1030002	THERMISTOR	

18.2.7. Operation Board (KX-MB2025/2030)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB2	PNLP2205RUZ	OPERATION BOARD ASS'Y (RTL) (IC)	
	IC1	C1ZBZ0004019	IC (DIODES)	
	LED1	B3AAA0000534	DIODE (SI)	
	LED2	B3ABA0000633	DIODE (SI)	
	LED3	B3ABA0000633	DIODE (SI)	
	LED4	B3ABA0000633	DIODE (SI) (CAPACITORS)	
	C1	ECUV1C104ZFV	0.1	
	C2	ECUV1C104ZFV	0.1	
	C3	ECUV1C104ZFV	0.1	
	C7	ECUV1H101JCV	100p	
	C8	ECUV1H102KBV	0.001	
	C10	ECUV1C104ZFV	0.1	
	C11	ECUV1C104ZFV	0.1	
	C12	ECUV1H391JCV	390p	S
	C13	ECUV1H101JCV	100p	
	C14	ECUV1H101JCV	100p	
	C17	ECEA1CK101	100	S
	C18	ECUV1C104ZFV	0.1	
	C20	ECUV1H272KBV	0.0027	
	C21	ECUV1H152KBV	0.0015	
	C22	ECUV1H152KBV	0.0015	

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
			(LIQUID CRYSTAL DISPLAY)	
	CN1	L5DAAY00017	LIQUID CRYSTAL DISPLAY	
			(CONNECTOR)	
	CN2	K1KA08B00243	CONNECTOR, 8PIN	
			(RESISTORS)	
	R1	ERJ3GEYJ391	390	
	R2	ERJ3GEYJ241	240	
	R3	ERJ3GEYJ241	240	
	R4	ERJ3GEYJ241	240	
	R5	ERJ3GEYJ123	12k	
	R6	ERJ3GEYJ102	1k	
	R7	ERJ3GEYJ102	1k	
	R8	ERJ3GEYJ4R7	4.7	
	R10	ERJ3GEYJ470	47	
	R11	ERJ3GEYJ101	100	
	R12	ERJ3GEYJ101	100	
	R13	ERJ3GEYJ101	100	
	R14	ERJ3GEYJ332	3.3k	
	R15	ERJ3GEYJ123	12k	
	R18	ERJ3GEYJ102	1k	
	R20	ERJ3GEYJ181	180	
	R21	ERJ3GEYJ181	180	
	R22	ERJ3GEYJ181	180	
	R23	ERJ3GEYJ181	180	
	R24	ERJ3GEYJ181	180	
	R25	ERJ3GEYJ181	180	
	R26	ERJ3GEYJ181	180	
	R27	ERJ3GEYJ181	180	
	R28	ERJ8GEY0R00	0	
			(SWITCHES)	
	SW1	KOH1BA000259	SWITCH	
	SW2	KOH1BA000259	SWITCH	
	SW3	KOH1BA000259	SWITCH	
	SW4	KOH1BA000259	SWITCH	
	SW5	KOH1BA000259	SWITCH	
	SW6	KOH1BA000259	SWITCH	
	SW7	KOH1BA000259	SWITCH	
	SW8	KOH1BA000259	SWITCH	
	SW10	KOH1BA000259	SWITCH	
	SW11	KOH1BA000259	SWITCH	
	SW12	KOH1BA000259	SWITCH	
	SW13	KOH1BA000259	SWITCH	
	SW14	KOH1BA000259	SWITCH	
	SW15	KOH1BA000259	SWITCH	
	SW16	KOH1BA000259	SWITCH	
	SW17	KOH1BA000259	SWITCH	
	SW18	KOH1BA000259	SWITCH	
	SW19	KOH1BA000259	SWITCH	
	SW20	KOH1BA000259	SWITCH	
	SW21	KOH1BA000259	SWITCH	
	SW22	KOH1BA000259	SWITCH	
	SW23	KOH1BA000259	SWITCH	
	SW24	KOH1BA000259	SWITCH	
	SW25	KOH1BA000259	SWITCH	
	SW26	KOH1BA000259	SWITCH	
	SW27	KOH1BA000259	SWITCH	
	SW28	KOH1BA000259	SWITCH	
	SW29	KOH1BA000259	SWITCH	
	SW30	KOH1BA000259	SWITCH	
	SW31	KOH1BA000259	SWITCH	
	SW32	KOH1BA000259	SWITCH	
	SW33	KOH1BA000259	SWITCH	
	SW34	KOH1BA000259	SWITCH	
	SW35	KOH1BA000259	SWITCH	
	SW36	KOH1BA000259	SWITCH	
	SW37	KOH1BA000259	SWITCH	
			(THERMISTOR)	
	TH1	D4CCY1030002	THERMISTOR	

18.2.8. Sensor Board Parts

18.2.8.1. Toner Sensor Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB3	PNLP2209RU-A	TONER SENSOR BOARD ASS'Y (RTL)	
			(CAPACITOR)	
	C57	ECUV1C104ZFV	0.1	
			(CONNECTORS)	
	CN64	K1KA10A00412	CONNECTOR, 10PIN	
	CN65	K1KA04A00527	CONNECTOR, 4PIN	
	CN66	K1KA04A00527	CONNECTOR, 4PIN	
	CN67	K1KA05A00364	CONNECTOR, 5PIN	
			(PHOTO ELECTRIC TRANSDUCER)	
	IC51	B4ZZ00000021	PHOTO ELECTRIC TRANSDUCER	

18.2.8.2. Fuser Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB4	PNLP2209RU-B	FUSER BOARD ASS'Y (RTL)	
			(CAPACITOR)	
	C61	ECUV1H102KBV	0.001	
			(CONNECTORS)	
	CN52	K1KA03B00201	CONNECTOR, 3PIN	
	CN53	K1KA04B00225	CONNECTOR, 4PIN	
			(PHOTO ELECTRIC TRANSDUCER)	
	PS50	B3NAA0000106	PHOTO ELECTRIC TRANSDUCER	
			(RESISTOR)	
	R54	ERJ3GEYJ181	180	S

18.2.8.3. Pickup Sensor Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB5	PNWP2B2030RU	PICKUP SENSOR BOARD ASS'Y (RTL)	
			(CONNECTORS)	
	CN51	K1KA05B00189	CONNECTOR, 5PIN	
	CN63	K1KA03BA0061	CONNECTOR, 3PIN	
			(SWITCHE)	
	SW50	PFSH1A003Z	PUSH SWITCH	

18.2.8.4. Registration Sensor Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB6	PNLP2209RU-D	RESIST SENSOR BOARD ASS'Y (RTL)	
			(CAPACITORS)	
	C50	ECUV1H102KBV	0.001	
	C51	ECUV1H102KBV	0.001	
			(CONNECTOR)	
	CN50	K1KA04B00225	CONNECTOR, 4PIN	
			(PHOTO ELECTRIC TRANSDUCERS)	
	PS51	B3NAA0000106	PHOTO ELECTRIC TRANSDUCER	
	PS52	B3NAA0000106	PHOTO ELECTRIC TRANSDUCER	
			(RESISTORS)	
	R50	ERJ3GEYJ181	180	S
	R51	ERJ3GEYJ181	180	S

18.2.8.5. Varistor Sensor Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB7	PNLP2209RU-E	VARISTOR SENSOR BOARD ASS'Y (RTL)	
			(VARISTOR)	
	ZNR50	ERZVA7D271	VARISTOR	

18.2.8.6. Flatbed Relay Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB8	PNLP2363RU-F	FLATBED RELAY BOARD ASS'Y (RTL)	
			(CAPACITORS)	
	C64	ECUV1C104ZV	0.1	
	C65	ECUV1C104ZV	0.1	
			(CONNECTORS)	
	CN59	K1KA13B00063	CONNECTOR, 13PIN	
	CN60	K1KA04B00225	CONNECTOR, 4PIN	
	CN61	K1MN12BA0222	CONNECTOR, 12PIN	
	CN62	K1KA04BA0061	CONNECTOR, 4PIN	
	CN63	K1KA03BA0061	CONNECTOR, 3PIN	
			(COIL)	
	L54	PQLQR2KB113T	COIL	S
			(RESISTORS)	
	R55	ERJ3GEYJ472	4.7k	

18.2.8.7. ADF Sensor Board (KX-MB2010/2025/2030 Only)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB9	PNLP2209RU-G	ADF SENSOR BOARD ASS'Y (RTL)	
			(CAPACITORS)	
	C55	ECUV1H102KBV	0.001	
	C56	ECUV1H102KBV	0.001	
			(CONNECTOR)	
	CN56	K1KA04B00225	CONNECTOR, 4PIN	
			(PHOTO ELECTRIC TRANSDUCERS)	
	PS53	B3NAA0000105	PHOTO ELECTRIC TRANSDUCER	
	PS54	B3NAA0000105	PHOTO ELECTRIC TRANSDUCER	
			(RESISTORS)	
	R52	ERJ3GEYJ181	180	S
	R53	ERJ3GEYJ181	180	S

18.2.8.8. Handset Relay Board (KX-MB2025/2030 Only)

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
	PCB10	PNLP2209RU-H	HANDSET RELAY BOARD ASS'Y (RTL)	
			(CONNECTORS & JACKS)	
	CN55	K2LB106B0053	JACK	
	CN57	K1KA02A00587	CONNECTOR, 2PIN	
	CN58	K1KA08AA0193	CONNECTOR, 8PIN	
			(IC FILTERS)	
	L52	J0JAC0000008	IC FILTER	
	L53	J0JAC0000008	IC FILTER	
			(RESISTORS)	
	L50	ERJ3GEY0R00	0	S
	L51	ERJ3GEY0R00	0	S

18.2.9. High Voltage Power Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
⚠	PCB12	N0GG4E000006	HIGH VOLTAGE POWER BOARD ASS'Y (RTL)	
			(IC)	
	IC1	PH1193AC001	IC	
			(TRANSISTORS)	
	Q3	PT2394DL001	TRANSISTOR (SI)	
	Q62	PT2394DL001	TRANSISTOR (SI)	
			(FUSE)	
	F1	PK7130AA001	FUSE	
			(SWITCHE)	
⚠	SW1	PFSHSS3FLP3D	PUSH SWITCH	S

18.2.10. Low Voltage Power Board

Safety	Ref. No.	Part No.	Part Name & Description	Remarks
⚠	PCB13	N0AC2GH00001	LOW VOLTAGE POWER BOARD ASS'Y (RTL)	
			(TRANSISTOR)	
⚠	Q1	PT3565KL001	TRANSISTOR (SI)	
			(DIODES)	
⚠	D1	PD1146AC001	DIODE (SI)	
	D104	PD4145AA005	DIODE (SI)	
	D503	PD4068AQ075	DIODE (SI)	
			(CAPACITOR)	
⚠	C5	PC3126YS560	ELECTROLYTIC CAPACITOR, AL	
			(FUSES)	
⚠	F1	PK7102AS001	FUSE	
⚠	F2	PK7102AS004	FUSE	
⚠	F101	PK7154AR003	FUSE	
			(THYRISTOR)	
⚠	SCR51	PD5108AL001	THYRISTOR	

K.T

KXMB1900CXBV1
KXMB1900CXWV1
KXMB1900SXWV1
KXMB2010CXBV1
KXMB2010CXWV1
KXMB2010CX2V1
KXMB2010SXWV1
KXMB2025CXWV1
KXMB2025CX4V1
KXMB2030CXBV1
KXMB2030CXWV1
KXMB2030CX2V1
KXMB2030CX4V1
KXMB2030SXBV1
KXMB2030SXWV1