Publication Information for Xerox,

Phaser 6110

Service Documentation

Product : Xerox Phaser 6110™ Service Documentation
Title: Xerox Phaser 6110 Service Documentation
Part number: 701P28450

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Precautions

In order to prevent accidents and to prevent damage to the equipment please read the precautions listed below carefully before servicing the printer and follow them closely.

Safety Warning

(1) Only to be serviced by appropriately qualified service engineers.
High voltages and lasers inside this product are dangerous. This printer should only be serviced by a suitably trained and qualified service engineer.

(2) Use only Xerox replacement parts
There are no user serviceable parts inside the printer. Do not make any unauthorized changes or additions to the printer, these could cause the printer to malfunction and create electric shock or fire haz-ards.

(3) Laser Safety Statement
The Printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class 1(1) laser products, and elsewhere, it is certified as a Class I laser product con-forming to the requirements of IEC 825. Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Warning >> Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes. When using this product, these basic safety pre-cautions should always be followed to reduce risk of fire, electric shock, and injury to persons.

CAUTION - INVISIBLE LASER RADIATION WHEN THIS COVER OPEN. DO NOT OPEN THIS COVER.

VORSICHT - UNSICHTBARE LASERSTRAHLUNG, WENN ABDECKUNG GEÖFFNET. NICHT DEM STRAHL AUSSETZEN.

ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS D'OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.

ATTENZIONE - RADIAZIONE LASER INVISIBILE IN CASO DI APERTURA. EVITARE L'ESPOSIZIONE AL FASCIO.

PRECAUCION - RADIACION LASER IVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

ADVARSEL. - USYNLIG LASERSTRÅLNING VED ÅBNING, NÅR SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDGÅ UDSAETTELSE FOR STRÅLNING.

ADVARSEL. - USYNLIG LASERSTRÅLNING NÅR DEKSEL ÅPNES. STIRR IKKE INN I STRÅLEN. UNNGÅ EKSPONERING FOR STRÅLEN.

VARNING - OSYNLIG LASERSTRÅLNING NÄR DENNA DEL ÄR ÖPPNAD OCH SPÄRREN ÄR URKOPPLAD. BETRAKTA EJ STRÅLEN. STRÅLEN ÄR FARLIG.

VARO! - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA NÄKYMÄTTÖMÄLLE LASER-SÄTEILYLLE ÄLÄ KATSO SÄTEESEEN.

Caution for safety

Toxic material

This product contains toxic materials that could cause illness if ingested.

(1) Please keep toner cartridges away from children. The toner powder contained in the toner cartridge may be harmful and if swallowed you should contact a doctor.

Electric Shock and Fire Safety Precautions

Failure to follow the following instructions could cause electric shock or potentially cause a fire.

(1) Use only the correct voltage, failure to do so could damage the printer and potentially cause a fire or electric shock.

(2) Use only the power cable supplied with the printer. Use of an incorrectly specified cable could cause the cable to overheat and potentially cause a fire.

(3) Do not overload the power socket, this could lead to overheating of the cables inside the wall and could lead to a fire.

(4) Do not allow water or other liquids to spill into the printer, this can cause electric shock. Do not allow paper clips, pins or other foreign objects to fall into the printer these could cause a short circuit leading to an electric shock or fire hazard..

(5) Never touch the plugs on either end of the power cable with wet hands, this can cause electric shock. When servicing the printer remove the power plug from the wall socket.

(6) Use caution when inserting or removing the power connector. The power connector must be inserted completely otherwise a poor contact could cause overheating possibly leading to a fire. When removing the power connector grip it firmly and pull.

(7) Take care of the power cable. Do not allow it to become twisted, bent sharply round corners or other wise damaged. Do not place objects on top of the power cable. If the power cable is damaged it could overheat and cause a fire or exposed cables could cause an electric shock. Replace a damaged power cable immediately, do not reuse or repair the damaged cable. Some chemicals can attack the coating on the power cable, weakening the cover or exposing cables causing fire and shock risks.

(8) Ensure that the power sockets and plugs are not cracked or broken in any way. Any such defects should be repaired immediately. Take care not to cut or damage the power cable or plugs when moving the machine.

(9) Use caution during thunder or lightening storms. Xerox recommend that this machine be disconnected from the power source when such weather conditions are expected. Do not touch the machine or the power cord if it is still connected to the wall socket in these weather conditions.

(10) Avoid damp or dusty areas, install the printer in a clean well ventilated location. Do not position the machine near a humidifier. Damp and dust build up inside the machine can lead to overheating and cause a fire.

(11) Do not position the printer in direct sunlight. This will cause the temperature inside the printer to rise possibly leading to the printer failing to work properly and in extreme conditions could lead to a fire.

(12) Do not insert any metal objects into the machine through the ventilator fan or other part of the casing, it could make contact with a high voltage conductor inside the machine and cause an electric shock.

Handling Precautions

The following instructions are for your own personal safety, to avoid injury and so as not to damage the printer

(1) Ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall.

(2) The printer contains many rollers, gears and fans. Take great care to ensure that you do not catch your fingers, hair or clothing in any of these rotating devices.

(3) Do not place any small metal objects, containers of water, chemicals or other liquids close to the printer which if spilled could get into the machine and cause damage or a shock or fire hazard.

(4) Do not install the machine in areas with high dust or moisture levels, beside on open window or close to a humidifier or heater. Damage could be caused to the printer in such areas.

(5) Do not place candles, burning cigarettes, etc on the printer, These could cause a fire.

Assembly / Disassembly Precautions

Replace parts carefully, always use approved parts. Take care to note the exact location of parts and also cable routing before dismantling any part of the machine. Ensure all parts and cables are replaced correctly. Please carry out the following procedures before dismantling the printer or replacing any parts.

(1) Check the contents of the machine memory and make a note of any user settings. These will be erased if the mainboard or network card is replaced.

(2) Ensure that power is disconnected before servicing or replacing any electrical parts.

(3) Disconnect printer interface cables and power cables.

(4) Only use approved spare parts. Ensure that part number, product name, any voltage, current or temperature rating are correct.

(5) When removing or re-fitting any parts do not use excessive force, especially when fitting screws into plastic.

(6) Take care not to drop any small parts into the machine.

(7) Handling of the OPC Drum

- The OPC Drum can be irreparably damaged if it exposed to light.
  Take care not to expose the OPC Drum either to direct sunlight or to fluorescent or incandescent room lighting. Exposure for as little as 5 mins can damage the surface's photoconductive properties and will result in print quality degradation. Take extra care when servicing the printer. Remove the OPC Drum and store it in a black bag or other lightproof container. Take care when working with the covers(especially the top cover) open as light is admitted to the OPC area and can damage the OPC Drum.
- Take care not to scratch the green surface of OPC Drum Unit.
  If the green surface of the Drum Cartridge is scratched or touched the print quality will be compromised.

Disregarding this warning may cause bodily injury

(1) Be careful with the high temperature part.
The fuser unit works at a high temperature. Use caution when working on the printer. Wait for the fuser to cool down before disassembly.

(2) Do not put finger or hair into the rotating parts.
When operating a printer, do not put hand or hair into the rotating parts (Paper feeding entrance, motor, fan, etc.). If do, you can get harm.

(3) When you move the printer.
This printer weighs 19.95kg including toner cartridge and cassette. Use safe lifting and handling techniques. Use the lifting handles located on each side of the machine. Back injury could be caused if you do not lift carefully.

(4) Ensure the printer is installed safely.
The printer weighs 19.95Kg, ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall possibly causing personal injury or damaging the printer.

(5) Do not install the printer on a sloping or unstable surface. After installation, double check that the printer is stable.

Section 1 Service Call Procedures

There is a smell, or smoke, or the printer is hot. NOTE: the top cover, above the Fuser, is normally very warm to the touch when printer is ready.

No **Yes**

Remove the Fuser (5.4.2) and check it for signs of overheating such as discoloration, deformed frames, or a thermostat with high electrical resistance. Remove the Covers (5.4.1). Check the PWB's and wiring for signs of overheating. Check the drives for signs of damage (5.4.7). Replace or repair any part as required.

Switch on the power. **The LED panel indicates ready.**

Yes **No**

Remove the Covers (5.4.1). Go to the Block Diagram, lower right corner, and check input power, switch, SMPS, and Main PWB power distribution voltages.
Refer to the Control Panel wiring diagram (Section 7, Level 2 Block Schematic Diagram).
Refer to Control Panel LEDs (Section 10 Product Technical Overview).
Replace or repair any part as required.

Print a Demonstration Print (Section 6 General Procedures). **The Demonstration Print is output.**

Yes **No**

Go to 7.3 Solving General Printing Problems (Section 3 User Declared Errors)

The Demonstration Print image quality is good.

Yes **No**

Go to Image Quality Problems (Section 3 User Declared Errors)

There is still a problem with the printer.

No **Yes**

Go to Section 3 User Declared Errors and attempt to find a solution.

Verify that Routine Maintenance is complete (Section 1, 5.2 Parts for Maintenance and Repair).
Ensure Printer is ready for customer service (clean covers)
Place Demonstration Print in output tray.

Parts for Maintenance and Repair

Replacement interval for parts with a limited life

Some of the parts in this printer have a limited life, shorter than that of the whole machine. These parts must be replaced periodically.
The table below shows the interval at which these parts should be replaced.
The table shows the life of each part, and is measured when using A4 paper. When servicing a machine always check the status of these parts using the control panel and ensure that parts are replaced at the appropriate times otherwise a general degradation in print quality will occur.

COMPONENT	REPLACEMENT CYCLE	REMARK
Toner Cartridge (Black)	intial (1,500 pages@5% coverage) replacement (2,000 pages@5% coverage)	User replace
Toner Cartridge (Color: C/M/Y)	intial (700 pages@5% coverage) replacement (1,000 pages@5% coverage)	User replace
Waste toner container	5K image or 1.25K pages (Full color 5% image)	User replace
T2 Roller	100K pages	
Imaging Unit	20K pages (Black) 12.5K pages (Color)	
ITB Unit(Image Transfer Unit)	Black : (60K pages@5% coverage) Color : (15K pages@5% coverage)	User replaceCo,
Pick-Up Roller	100,000 pages - MP Pick-Up Roller, - Cassette Tray1 Pick-Up Roller	Engineer
Fuser Unit	100,000 pages (B/W) Color(50,000 pages)	User replace

The life span of each of these parts is stored in memory. The amount of each 'life' used can be checked at any time using the control panel.
When a part is replaced it is necessary to reset the 'life used' that is stored in memory.

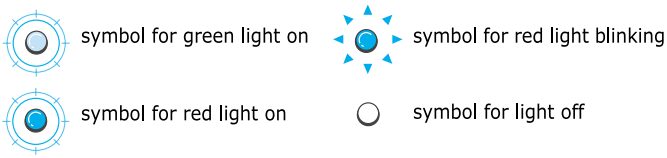
* How to initialize a the value of part's life span:
From the control panel, select the following items in order:
Menu-Setup - Maintenance - Check other - (Select a desired part) - Reset

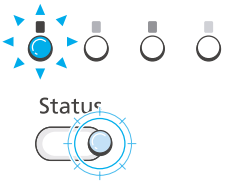
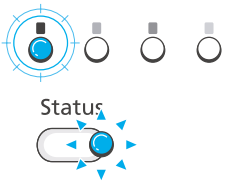
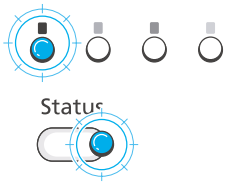
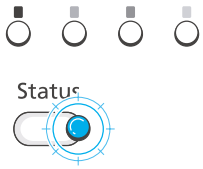
Section 2 Machine Declared Faults

Error Message

When the printer experiences an error, the control panel will indicate an error message with the indicator lights. Find the light pattern below that matches the printer light pattern and follow the solutions to clear the error.

LED status legend



LED pattern	Possible Problem and Solution
	The blinking toner cartridge is low. Order a new toner cartridge. You can temporarily improve print quality by redistributing the toner.
	The lighting toner cartridge is empty. Remove the old toner cartridge and install a new one.
	· The blinking toner cartridge is totally exhausted. Remove the old toner cartridge and install a new one. · The blinking toner cartridge is wrong. Only install a Xerox toner cartridge, designed for your printer.
	· A paper jam has occurred. To solve the problem. · The front cover is open. Close the front cover. · There is no paper in the tray. Load paper in the tray. · The waste toner container is open or full. Check the container. · Your system has some problems. If this problem occurs, contact your service representative.

JAM 0

Error	JAM 0
[Description]	1. Paper is not exited from the cassette. 2. Jam-0 occurs if the paper feeds into the printer.
[Wrong Part]	1. Sensor 2. Solenoid 3. Pick-up roller 4. Main B'D
[Check and Cause]	1. Check the Solenoid by using EDC mode. 2. Check if the pad is loose due to bad sealing of the side-pad. 3. Check the surface of the roller-pickup for foreign matter. 4. If the paper feeds into the printer rand Jam 0 occurs, perform EDC to check feed-sensor of the engine board.
[Solution]	1. Replace the solenoid. 2. Replace the side-pad Assembly L or R, if necessary. 3. Clean with soft cloth dampened with IPA(Isopropyl Alcohol) or water. 4. Replace the Main B'D and/or Sensor.

JAM 1

Error	JAM 1
[Description]	1. Recording paper is jammed in front of or inside the fuser. 2. Recording paper is stuck in the discharge roller and in the fuser just after passing through the Actuator-Feed.
[Wrong Part]	1. Sensor
[Check and Cause]	1. If the recording paper is jammed in front of or inside the fuser. 2. If the recording paper is stuck in the discharge roller and the fuser just after passing through the Actuator-Feed, Feed Actuator may be defective.
[Solution]	1. Replace the SMPS. 2. Reassemble the Actuator-Feed and Spring-Actuator if the returning is bad.

Multi-Feeding

Error	Multi-Feeding
[Description]	Multiple sheets of paper are fed at once.
[Wrong Part]	1. Sensor 2. Solenoid
[Check and Cause]	1. Solenoid malfunction(the solenoid does not work properly) 2. Pad-Friction is contaminated with foreign matter.(oil...) 3. The face of paper is blended.
[Solution]	1. Replace the solenoid if necessary. 2. Clean the pad friction with soft clothe dampened with IPA(Isopropyl Alcohol). 3. Use the smooth paper.

No Fuser drive due to overheated gear(s)

Error	No function of the gear of the fuser due to melting
[Description]	The motor breaks away from its place due to gear melting away.
[Wrong Part]	1. Fuser 2. Main PBA
[Check and Cause]	Check the operation of Fuser Erasing Lamp
[Solution]	1. Replace the Fuser. 2. Replace the Main Control board.

Paper Empty

Error	Paper Empty
[Description]	The paper lamp on the operator panel is on even when paper is loaded in the cassette.
[Wrong Part]	1. Actuator 2. Sensor
[Check and Cause]	1. Bending or deformation of the actuator of the paper sensor. 2. The function of the engine board is defective Perform
[Solution]	1. Replace the defective actuator. 2. Replace the engine board.

Cover Open

Error	Cover Open
[Description]	The ERROR lamp is on even when the print cover is closed.
[Wrong Part]	1. Hook Lever in the Front / Jam cover
[Check and Cause]	1. The Hook Lever in the top cover may be defective. 2. Check the connector (Main B' D) and circuit of the cover switch department in the Main Control board.
[Solution]	1. Replace the hook lever, if defective. 2. Check the insertion of the Cover Open S/W Connect. 3. Replace the Main Control board or Cover Open S/W.

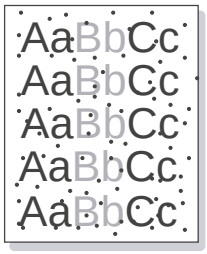
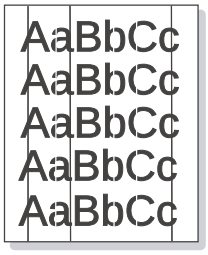
Defective motor operation

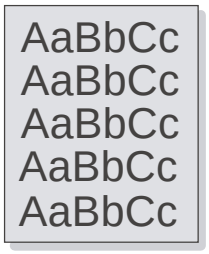
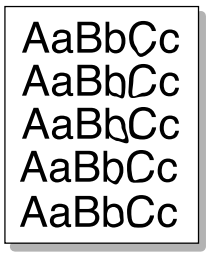
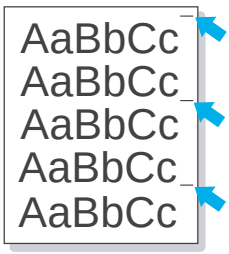
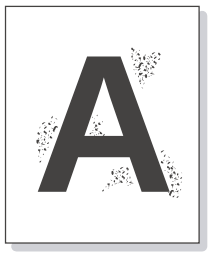
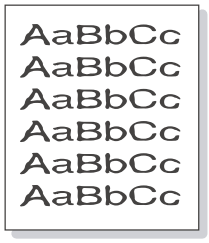
Error	Defective motor operation
[Description]	Main motor is not driving when printing, and paper does not feed into the printer, resulting 'Jam 0'.
[Wrong Part]	1. Main PBA 2. Motor Harness
[Check and Cause]	1. Motor harness or sub PCB may be defective.
[Solution]	1. Check the motor harness, replace it, if defective. 2. Check 24V in the SMPS 3. Check Front Cover or Jam cover are opened. 4. Replace the Main PBA, if necessary.

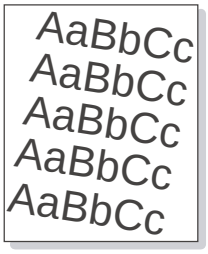
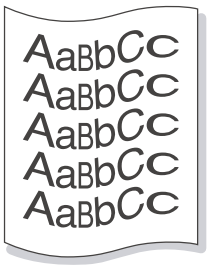
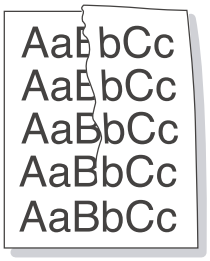
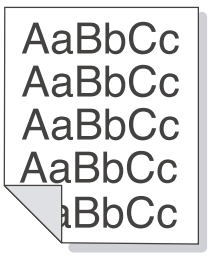
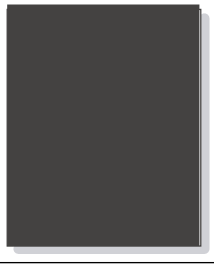
Section 3 User Declared Faults

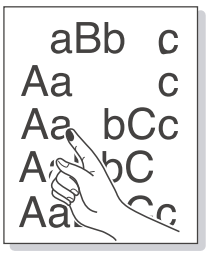
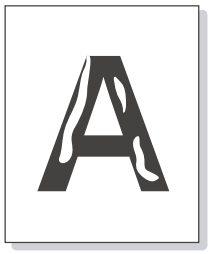
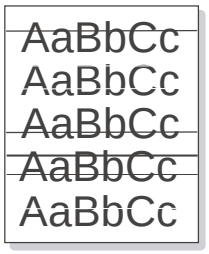
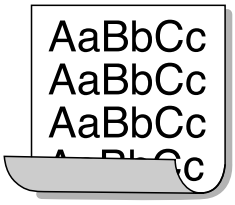
Solving Print Quality Problems

Dirt inside of the printer or improper paper loading may reduce print quality. See the table below to troubleshoot problems.

Problem	Solution
Light or faded print 	If a vertical white streak or faded area appears on the page: · The toner supply is low. You may be able to temporarily extend the toner cartridge life. If this does not improve print quality, install a new toner cartridge. · The paper may not meet paper specifications (for example, the paper is too moist or too rough). · A combination of faded or smeared defects may indicate that the printer needs cleaning.
Toner specks 	The paper may not meet specifications (for example, the paper is too moist or too rough).
Dropouts 	If generally rounded, faded areas occur randomly on the page: · A single sheet of paper may be defective. Try reprinting the job. · The moisture content of the paper is uneven or the paper has moist spots on its surface. Try a different brand of paper. · The paper lot is bad. The manufacturing process can cause some areas to reject toner. Try a different kind or brand of paper. · The toner cartridge may be defective. See "Vertical repetitive defects" on the next page. · If these steps do not correct the problems, contact a service representative.
Vertical lines 	If black vertical streaks appear on the page: · A imaging unit has probably been scratched. Remove the imaging unit and install a new one. If white vertical lines appear on the page: · Clean the inside of the printer. If you still have the same problems, replace the imaging unit with a new one.

Problem	Solution
Color or Black background 	If the amount of background shading becomes unacceptable, the procedures below may fix the problem. · Change to lighter weight paper. · heck the printer's environment; very dry (low humidity) or high humidity (higher than 80% RH) conditions can increase the amount of background shading. · Remove one of the old toner cartridges and install a new one.
Toner smear 	· Clean the inside of the printer. · Check the paper type and quality. · Remove the imaging unit and install a new one.
Vertical repetitive defects 	If marks repeatedly appear on the printed side of the page at even intervals: · Clean the inside of the printer. After cleaning the inside of the printer, if you still have the same problems, install a new toner cartridge of the problem color. · Parts of the printer may have toner on them. If the defects occur on the back of the page, the problem will likely correct itself after a few more pages. · The fusing assembly may be damaged. Contact a service representative.
Background scatter 	Background scatter results from bits of toner distributed on the printed page. · The paper may be too damp. Try printing with a different batch of paper. Do not open packages of paper until necessary so that the paper does not absorb too much moisture. · If background scatter occurs on an envelope, change the printing layout to avoid printing over areas that have overlapping seams on the reverse side. Printing on seams can cause problems. · If background scatter covers the entire surface area of a printed page, adjust the print resolution through your software application or via the printer properties window.
Misformed characters 	· If characters are improperly formed and producing hollowed images, the paper stock may be too slick. Try a different paper. · If characters are improperly formed and producing a wavy effect, the printer may need service. Verify that it also occurs on a demo page.

Problem	Solution
Page skew 	· Ensure that the paper is loaded properly. · Check the paper type and quality. · Ensure that the paper or other material is loaded correctly and the guides are not too tight or too loose against the paper stack.
Curl or wave 	· Ensure that the paper is loaded properly. · Check the paper type and quality. Both high temperature and high humidity can cause paper curl. · Turn the stack of paper over in the tray. Also try rotating the paper 180° in the tray.
Wrinkles or creases 	· Ensure that the paper is loaded properly. · Check the paper type and quality. · Turn the stack of paper over in the paper tray. Also try rotating the paper 180° in the tray.
Back of printouts aredirty 	· Check for leaking toner. Clean the inside of the printer.
Solid Color or Black pages 	· The toner cartridge may not be installed properly. Remove the toner cartridge and reinsert. · The toner cartridge may be defective and need replacing. Install a new toner cartridge. · The printer may require repair. Contact a service representative.

Problem	Solution
Loose toner 	· Clean the inside of the printer. · Check the paper type and quality. · Install a new toner cartridge. · If the problem persists, the printer may require repair. Contact a service representative.
Character Voids 	Character voids are white areas within characters that should be solid black: · You may be printing on the wrong surface of the paper. Remove the paper and turn it over. · The paper may not meet paper specifications.
Horizontal stripes 	If horizontally aligned color or black streaks or smears appear: · A toner cartridge may be installed improperly. Remove the toner cartridge and reinsert. · A toner cartridge may be defective. Install a new toner cartridge. · If the problem persists, the printer may require repair. Contact a service representative.
Curl 	If the printed paper is curled or paper does not feed into the printer: · Turn the stack of paper over in the paper tray. Also try rotating the paper 180° in the tray.

Major Problems Trouble shooting

Vertical Line and Band

Error	Vertical Line and Band
[Description]	1. Straight thin black vertical line occurs in the printing. 2. Dark black vertical band occur in the printing.
[Wrong Part]	1. LSU 2. Developer
[Check and Cause]	1. Damaged develop roller in the Developer. Deformed Doctor-blade or cleaningblade. 2. Scratched surface of the discharge roller in the developer. 3. Partly depression or deformation on the surface of the transfer roller.
[Solution]	1. If causes 1 and 2 occur in the developer unit, replace the developer and try to print out. 2. Replace the transfer roller if occurred as No. 3.
[Etc]	

Vertical White Line

Error	Vertical White Line
[Description]	White vertical voids in the image.
[Wrong Part]	1.LSU
[Check and Cause]	1. Foreign matter stuck onto the window of internal lenses of LSU mirror. 2. Foreign matter or toner particles between the developer roller and blade. (In case the life of the developer has been expired, white lines or light image occur in front of the image.) 3. It may occur when Burr and foreign substances are on the window of the developer frame. 4. If the fuser is defective, voids occur periodically at the top of a black image.
[Solution]	1. Foreign matter stuck onto the window : Clean the LSU window with recommended cleaner(IPA) Clean the window with a clean cotton swab. 2. Foreign matter in the LSU : Open the cover of LSU and clean with a cotton swab on the surface of the reflex mirror. 3. No 3. : Remove the foreign matter and burr of the exposure window. (Developer cartridge) 4. No. 4. : Open the front cover and check ribs that corresponds to the position of the voids. Remove if found. 5. If the problems are not solved, replace the developer cartridge.

Light Image

Error	Light Image
[Description]	1. The printed image is light, with no ghost.
[Wrong Part]	1. Developer 2. HVPS
[Check and Cause]	1. Develop roller is stained when the toner of developer cartridge is almost consumed. 2. Ambient temperature is below than 10°C. 3. Bad contact caused by the toner stains between the high voltage terminal in the HVPS and the one in the set. 4. Abnormal output from the HVPS.
[Solution]	1. Replace the developer cartridge and try to print out. 2. Wait 30 minutes after printer is powered on before you start printing. 3. Clean up the contaminated area by the toner. 4. Replace the HVPS if the problems are not solved by the above four directions.

Dark Image or black

Error	Dark Image or black
[Description]	The printed image is dark.
[Wrong Part]	1. HVPS
[Check and Cause]	1. No charge voltage in the HVPS board. 2. Charge voltage is not turned on due to the bad contacts between power supply in the side of the Developer and charge terminal of HVPS.
[Solution]	1. Clean the high voltage charge terminal. 2. Check the state of the connector which connects the engine board and HVPS. 3. Replace the HVPS if not solved by the above direction 1 and 2.

Background

Error	Background
[Description]	Light dark background appears in whole area of the printing.
[Wrong Part]	1. HVPS 2. Developer
[Check and Cause]	1. Does character exist less than 2% per a page, and hasn't it been used long time? 2. Does recycle paper be used? 3. Has the life span of the developer ended? 4. Is the movement(Up and Down) of the transfer roller smooth? 5. Is the HVPS normal?
[Solution]	1. The toner cartridge is basically designed to print 3,000 sheets with 5% image. If it prints more than 3,000 sheets (around 5,000 sheets) with 2% image, a background can be occurred. 2. The B/S is not guaranteed if using recycle paper. 3. Replace the developer when the life span of it has been ended. 4. Clean the bushing part of the transfer roller. 5. If the problem is still not solved, replace the developer.

Major Problems Trouble shooting

Vertical Line and Band

Error	Vertical Line and Band
[Description]	1. Straight thin black vertical line occurs in the printing. 2. Dark black vertical band occur in the printing.
[Wrong Part]	1. LSU 2. Developer
[Check and Cause]	1. Damaged develop roller in the Developer. Deformed Doctor-blade or cleaningblade. 2. Scratched surface of the discharge roller in the developer. 3. Partly depression or deformation on the surface of the transfer roller.
[Solution]	1. If causes 1 and 2 occur in the developer unit, replace the developer and try to print out. 2. Replace the transfer roller if occurred as No. 3.
[Etc]	

Vertical White Line

Error	Vertical White Line
[Description]	White vertical voids in the image.
[Wrong Part]	1.LSU
[Check and Cause]	1. Foreign matter stuck onto the window of internal lenses of LSU mirror. 2. Foreign matter or toner particles between the developer roller and blade. (In case the life of the developer has been expired, white lines or light image occur in front of the image.) 3. It may occur when Burr and foreign substances are on the window of the developer frame. 4. If the fuser is defective, voids occur periodically at the top of a black image.
[Solution]	1. Foreign matter stuck onto the window : Clean the LSU window with recommended cleaner(IPA) Clean the window with a clean cotton swab. 2. Foreign matter in the LSU : Open the cover of LSU and clean with a cotton swab on the surface of the reflex mirror. 3. No 3. : Remove the foreign matter and burr of the exposure window. (Developer cartridge) 4. No. 4. : Open the front cover and check ribs that corresponds to the position of the voids. Remove if found. 5. If the problems are not solved, replace the developer cartridge.

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[Wrong Part]	1. Developer 2. HVPS
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[Solution]	1. Replace the developer cartridge and try to print out. 2. Wait 30 minutes after printer is powered on before you start printing. 3. Clean up the contaminated area by the toner. 4. Replace the HVPS if the problems are not solved by the above four directions.

Dark Image or black

Error	Dark Image or black
[Description]	The printed image is dark.
[Wrong Part]	1. HVPS
[Check and Cause]	1. No charge voltage in the HVPS board. 2. Charge voltage is not turned on due to the bad contacts between power supply in the side of the Developer and charge terminal of HVPS.
[Solution]	1. Clean the high voltage charge terminal. 2. Check the state of the connector which connects the engine board and HVPS. 3. Replace the HVPS if not solved by the above direction 1 and 2.

Background

Error	Background
[Description]	Light dark background appears in whole area of the printing.
[Wrong Part]	1. HVPS 2. Developer
[Check and Cause]	1. Does character exist less than 2% per a page, and hasn't it been used long time? 2. Does recycle paper be used? 3. Has the life span of the developer ended? 4. Is the movement(Up and Down) of the transfer roller smooth? 5. Is the HVPS normal?
[Solution]	1. The toner cartridge is basically designed to print 3,000 sheets with 5% image. If it prints more than 3,000 sheets (around 5,000 sheets) with 2% image, a background can be occurred. 2. The B/S is not guaranteed if using recycle paper. 3. Replace the developer when the life span of it has been ended. 4. Clean the bushing part of the transfer roller. 5. If the problem is still not solved, replace the developer.

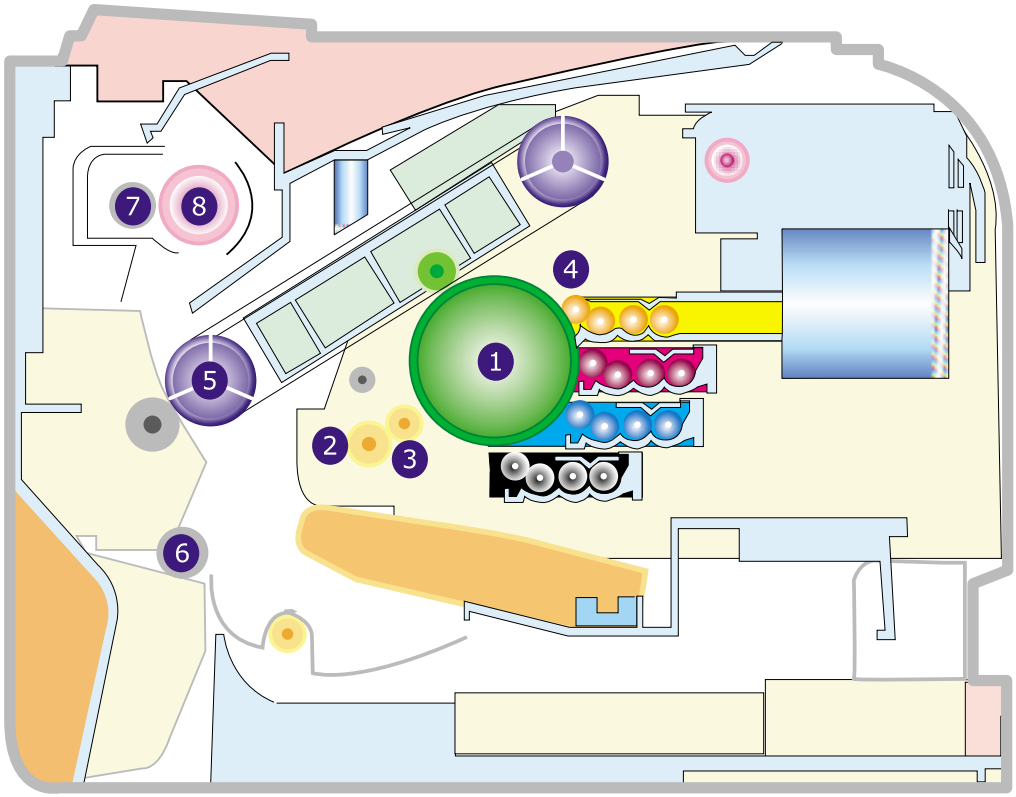
JAM 0

Error	JAM 0
[Description]	1. Paper is not exited from the cassette. 2. Jam-0 occurs if the paper feeds into the printer.
[Wrong Part]	1. Sensor 2. Solenoid 3. Pick-up roller 4. Main B'D
[Check and Cause]	1. Check the Solenoid by using EDC mode. 2. Check if the pad is loose due to bad sealing of the side-pad. 3. Check the surface of the roller-pickup for foreign matter. 4. If the paper feeds into the printer rand Jam 0 occurs, perform EDC to check feed-sensor of the engine board.
[Solution]	1. Replace the solenoid. 2. Replace the side-pad Assembly L or R, if necessary. 3. Clean with soft cloth dampened with IPA(Isopropyl Alcohol) or water. 4. Replace the Main B'D and/or Sensor.

Periodic Defective Image

If an image defects appears at regular intervals on the printed-paper, it is due to a faulty or damaged roller. Refer to the table below and check the condition of the appropriate roller.

No	Roller	Period	Phenomenon
1	OPC Drum	188.5 mm	White and Black Spots
2	Charge Roller	37.7mm	Black Spot and line and Periodic Band
3	Supply Roller	47.5mm	Periodic Band by little difference of density
4	Developing Roller	26.0mm	White Spot, Horizontal black band
5	1st Transfer Roller	32.7mm	Ghost, Damaged Image by abnormal tranfer
6	2nd Transfer Roller	57.5mm	Ghost, Damaged Image by abnormal tranfer
7	Heat Roller	86.6mm	Black Spots or Vertical Black Band
8	Pressure Roller	86.6mm	Background



Solving General Printing Problems

For problems with the operation of your printer, refer to the table for suggested solutions.

Problem	Possible Cause	Solution
The printer does not print.	The printer is not receiving power.	Check the power cord connections. Check the power switch and the power source.
	The printer is not selected as the default printer.	Select Phaser **6110** as your default printer.
	Check the printer for the following: • The printer cover is not closed. • Paper is jammed. • No paper is loaded. • A toner cartridge is not installed.	After locating the problem, clear it. If a printer system error occurs, contact your service representative. • Close the printer cover. • Clear the paper jam. • Load paper. • Install the toner cartridge.
	The printer may be in manual feed mode and out of paper.	add paper to the Tray and press the **Stop** button on the control panel.
	The connection cable between the computer and the printer is not connected properly.	Disconnect the printer cable and reconnect it.
	The connection cable between the computer and the printer is defective.	If possible, attach the cable to another computer that is working properly and try to print a document. You can also try using a different printer cable.
	The port setting is incorrect.	Check the Windows printer setting to make sure that the print job is sent to the correct port. If the computer has more than one port, make sure that the printer is attached to the correct one.
	The printer may be configured incorrectly.	Check the printer properties to ensure that all of the print settings are correct.

Problem	Possible Cause	Solution
The printer does not print. (continued)	The printer driver may be incorrectly installed.	Reinstall the printer driver; see the **Software Section**. Try printing a test page.
	The printer is malfunctioning.	Check the LEDs on the control panel to determine if the printer is indicating a system error.
Paper does not feed into the printer.	Paper has been loaded incorrectly.	Remove paper from the tray and reload it correctly. Check that the paper guides are set correctly.
	There is too much paper in the paper tray.	Remove excess paper from the tray.
	The paper is too thick.	Use only paper that meets printer specifications.
A print job is extremely slow.	The job may be very complex.	Reduce the complexity of the page(s) or try adjusting the print quality settings. Adjust the print quality settings, such as reducing the resolution. If you have set the resolution to **1200 dpi [Best]**, change it to **600 dpi [Normal]** or **600 dpi [Draft]**. See the **Software Section**. Change the port setting to the USB or network port to improve print speed. Your printer prints A4-sized paper at 16 ppm in black and white mode and 4 ppm in color mode.
	If using Windows 98/ Me, the Spooling Setting may be set incorrectly.	From the **Start** menu, choose **Settings** and **Printers**. Right-click the **Samsung CLP-300 Series** printer icon, choose **Properties**, click the **Details** tab, and then choose the **Spool Settings** button. Select the desired spool setting.
Half the page is blank.	The page orientation setting may be incorrect.	Change the page orientation in your application. For details, see the **Software Section**.
	The paper size and the paper size settings do not match.	Ensure that the paper size in the printer driver settings matches the paper in the tray. Or, ensure that the paper size in the printer driver settings matches the paper selection in the software application settings you use.

Problem	Possible Cause	Solution
The paper keeps jamming.	There is too much paper in the paper tray.	Remove excess paper from the tray. Check that the paper guides are set correctly.
	An incorrect type of paper is being used.	Use only paper that meets printer specifications.
	There may be debris inside the printer.	After opening the front cover, remove the imaging unit and then clear the debris.
The printer prints, but the text is wrong, garbled, or incomplete.	The printer cable is loose or defective.	Disconnect and reconnect the printer cable. Try a print job that you have already printed successfully. If possible, attach the cable and printer to another computer and try a print job that you know works. Finally, try a new printer cable.
	The wrong printer driver was selected.	Check the application's printer selection menu to ensure that your printer is selected.
	The software application is malfunctioning.	Try printing a job from another application.
	The operating system is malfunctioning.	Exit Windows and reboot the computer. Turn the printer off and then back on again.
Pages print, but are blank.	The toner cartridge is defective or out of toner.	Redistribute the toner. If necessary, replace the toner cartridge.
	The file may have blank pages.	Check the file to ensure that it does not contain blank pages.
	Some parts in the printer may be defective.	Contact a service representative.
When you are using Windows 98, the illustrations print incorrectly from Adobe Illustrator.	The setting in the software application is wrong.	Select **Download as Bit Image** in the **Advanced Options** window of the graphic properties window. Print the document again.

Problem	Possible Cause	Solution
The print quality of photos is not good. Images are not clear.	The resolution is set to **600 dpi [Normal]** or **600 dpi [Draft]**.	Change the resolution to **1200 dpi [Best]** and then try to print again.
	The resolution of the photo is very low.	If you increase the photo size in the software application, the resolution will be reduced. Reduce the photo size.
Your printer has an odd smell during initial use.	The oil used to protect the fuser is evaporating.	After printing about 100 color pages, there will be no more smell. It is a temporary issue.

Common Windows Problems

Problem	Possible Cause and Solution
"File in Use" message appears during installation.	Exit all software applications. Remove all software from the StartUp Group, then restart Windows. Reinstall the printer driver.
"Error Writing to LPTx" message appears.	· Ensure that all cables are connected correctly and the printer is on. · If bi-directional communication is not turned on in the driver, it will also cause this message.
"General Protection Fault", "Exception OE", "Spool32", or "Illegal Operation" messages appear.	Close all other applications, reboot Windows and try printing again.
"Fail To Print", "A printer timeout error occurred." messages appear.	These messages may appear during printing. Just keep waiting until the printer finishes printing. If the message appears in standby mode or after printing has been completed, check the connection and/or whether an error has occurred.

NOTE: *Refer to the Microsoft Windows 98/Me/NT 4.0/2000/2003/XP User's Guide that came with your PC for further information on Windows error messages.*

Common Macintosh Problems

Problem	Possible Cause and Solution
The printer does not print a document from Acrobat Reader.	You should change the Print Method option to Print as Image when you print from Acrobat Reader.
The document has printed, but the print job has not disappeared from the spooler in Mac OS 10.3.2.	Update your Mac OS to OS 10.3.3 or higher.

Common Linux Problems

Problem	Possible Cause and Solution
I can't change settings in the configuration tool.	You need to have administrator privileges to be able to change global settings.
I am using the KDE desktop but the configuration tool and LLPR won't start.	You may not have the GTK libraries installed. These usually come with most Linux distributions, but you may have to install them manually. Refer to your distribution's installation manual for more details about installing additional packages.
I just installed this package but can't find entries in the KDE/ Gnome menus.	Some versions of the KDE or GNOME desktop environments may require that you restart your session for the changes to take effect.
I get a "Some options are not selected" error message while editing the printer settings.	Some printers have conflicting settings, meaning that some settings for two options can't be selected at the same time. When you change a setting and the Printer Package detects such a conflict, the conflicting option is changed to a "No Choice" value. You have to choose an option that does not conflict before being able to submit the changes.
I can't make a printer the system default.	In some conditions, it may not be possible to change the default queue. This happens with some variants of LPRng, especially on recent RedHat systems that use the "printconf" database of queues. When using printconf, the /etc./printcap file is automatically refreshed from the database of printers managed by the system (usually through the "print-tool" command), and the queues in /etc./printcap.local are appended to the resulting file. The default queue in LPRng is defined as the first queue in /etc./printcap, and therefore it is not possible for the Linux Printer Package to change the default when some queues have otherwise been defined using printtool. LPD systems identify the default queue as the one named "lp". Thus, if there is already a queue by this name, and if it doesn't have an alias, then you won't be able to change the default. To work around this, you can either delete the queue or rename it by manually editing the /etc./printcap file.
The N-up setting does not work correctly for some of my documents.	The N-up feature is achieved through post-processing of the PostScript data that is sent to the printing system. However, such post-processing can only be adequately achieved if the PostScript data conforms to the Adobe Document Structing Conventions. Problems may arise when using N-up and other features that rely on post-processing if the document being printed isn't compliant.
I am using BSD lpr (Slackware, Debian, older distributions) and some options chosen in LLPR don't seem to take effect.	Legacy BSD lpr systems have a hard limitation on the length of the option string that can be passed to the printing system. As such, if you selected a number of different options, you may have exceeded the length of the options and some of your choices won't be passed to the programs responsible for implementing them. Try to select fewer options that deviate from the defaults, to save on memory usage.

Problem	Possible Cause and Solution
I am trying to print a document in Landscape mode, but it prints rotated and cropped.	Most Unix applications that offer a Landscape orientation option in their printing options will generate correct PostScript code that should be printed as is. In that case, you need to make sure that you leave the LLPR option set to its default Portrait setting, to avoid unwanted rotations of the page that would result in cropped output.
Some pages come out all white (nothing is printed), and I am using CUPS.	If the data being sent is in Encapsulated PostScript (EPS) format, some earlier versions of CUPS (1.1.10 and before) have a bug preventing them from being processed correctly. When going through LLPR to print, the Printer Package will work around this issue by converting the data to regular PostScript. However, if your application bypasses LLPR and feeds EPS data to CUPS, the document may not print correctly.
I can't print to an SMB (Windows) printer.	To be able to configure and use SMB-shared printers (such as printers shared on a Windows printer), you need to have a correct installation of the SAMBA package that enables that feature. The "smbclient" command should be available and usable on your system.
My application seems to be frozen while LLPR is running.	Most Unix applications will expect a command like the regular "lpr" command to be non-interactive and thus return immediately. Since LLPR is waiting for user input before passing the job on to the print spooler, very often the application will wait for the process to return, and thus will appear to be frozen (its windows won't refresh). This is normal and the application should resume functioning correctly after the user exits LLPR.
How do I specify the IP address of my SMB server?	It can be specified in the "Add Printer" dialogue of the configuration tool, if you don't use the CUPS printing system. Unfortunately, CUPS currently doesn't allow you to specify the IP address of SMB printers, so you will have to be able to browse the resource with SAMBA in order to be able to print.
Some documents come out as white pages when printing.	Some versions of CUPS, especially those shipped with Mandrake Linux before the 8.1 release, have some known bugs when processing PostScript output from some applications. Try upgrading to the latest version of CUPS (at least 1.1.14). Some RPM packages for the most popular distributions are provided as a convenience with this Linux Printing Package.
I have CUPS and some options (such as N-up) seem to be always enabled even though I don't choose them in LLPR.	There may be some local options defined in your ~/ .lpoptions file, which are manipulated by the lpoptions command. These options are always used if not overridden by LLPR settings. To get rid of all options for a printer, run the following command, replacing "printer" with the name of the queue: lpoptions -x printer
I configured a printer to print to a file, but I get "Permission denied" errors.	Most printing systems will not run as the super-user but as a special user (usually "lp"). Therefore, make sure that the file you have chosen to print to is accessible to the user owning the spooler daemon.

Problem	Possible Cause and Solution
On my PCL (or GDI) printer, I sometimes get error messages printing instead of my document.	Unfortunately, some Unix applications may generate non-compliant PostScript output that may not be supported by Ghostscript, or even the printer itself in PostScript mode. You can try to capture the output to a file and view the results with Ghostscript (gv or ghostview will allow you to do so interactively) and see if you get error messages. However, since the application is probably at fault, contact your software vendor to inform them of the issue.
Some color images come out all black.	This is a known bug in Ghostscript (until GNU Ghostscript version 7.05) when the base color space of the document is indexed color space and it is converted through CIE color space. Because Postscript uses CIE color space for Color Matching System, you should upgrade Ghostscript on your system to at least GNU Ghostscript version 7.06 or later. You can find recent Ghostscript versions at www.ghostscript.com.

LED Diagnostics:
Remove the Covers (5.4.1). Go to the Block Diagram, lower right corner, and check input power, switch, SMPS, and Main PWB power distribution voltages. Refer to the Control Panel wiring diagram (Section 7, Level 2 Block Schematic Diagram). Refer to Control Panel LEDs (Section 10 Product Technical Overview). Replace or repair any part as required.

LED Operation:
Go to next page.

LED Function

There are six LEDs present. Status led indicate the error/online status of the printer in idle mode. In error mode, the status LED glows by red color and in ready mode, it glows by green color. The other four LEDs indicate the toner status. If the black toner needs to change, the toner-low (black) LED glows and if the color (yellow, magenta, cyan) toners need to change, the toner-low (yellow, magenta, cyan) LED glows.

Functions

LED function is made up of
- Ready/Printing status display
- Error status display
- Toner low status display

Detail Description

LED control order
1) Control LED according to current printer state
  : After the panel task is received each event, the LED operation is controlled by current printer status.

2) Write LED value to GOP (General Output Port)

LED behavior

Status LED (Green/Red)		Toner-low (CMYK)LEDs	Status
Green LED ON		N/A	Ready to receive the data.
Green LEDS LOWLY BLINK		N/A	Receiving the data from the host.
Green LED FAST BLINK		N/A	Printing the page.
Red LED BLINK		N/A	Paper source is set to "MANUAL". Need to push the button to start the printing
Red LED ON		N/A	Out of paper
Red LED ON		N/A	Cover open
Red LED ON		N/A	Paper jam
Green/Red		CM	Service error (LSU or Fuser error)
N/A		Toner-low(black) ON	Black toner needs to change
N/A		Toner-low(cyan) ON	Cyan toner needs to change
N/A		Toner-low(magenta) ON	Magenta toner needs to change
N/A		Toner-low(yellow) ON	Yellow toner needs to change

Service Error LED Operation All LEDs blink the each time interval.		
Service Error		**LED operation**
Fuser Error		All LEDs (Toner low LEDs, Status (Red) LED) blink a time interval of 1 second.
		All LEDs (Toner low LEDs, Status (Red) LED) blink a time interval of 4 seconds.
		All LEDs (Toner low LEDs, Status (Green/Red) LED) blink a time interval of 1 second.
Scanner Error (=LSU Error)		All LEDs (Toner low LEDs, Status (Green) LED) blink a time interval of 1 second.
		All LEDs (Toner low LEDs, Status(Green) LED) blink a time interval of 4 seconds.

Assert Error LED Operation The panel LED operation display the line number of assert error occurrence.	
Line number	**LED operation**
start & end	All LEDs(Toner low LEDs, Status(Red) LED, turn ON for approximately 2 seconds and then All LEDs turn OFF for approximately 3 seconds.
1	After Status (Red) LED blinks one time, Toner low LEDs blink one time.
2	After Status (Red) LED blinks two times, Toner low LEDs blink one time.
3	After Status (Red) LED blinks three times, Toner low LEDs blink one time.
4	After Status (Red) LED blinks four times, Toner low LEDs blink one time.
5	After Status (Red) LED blinks five times, Toner low LEDs blink one time.
6	After Status (Red) LED blinks six times, Toner low LEDs blink one time.
7	After Status (Red) LED blinks seven times, Toner low LEDs blink one time.
8	After Status (Red) LED blinks eight times, Toner low LEDs blink one time.
9	After Status (Red) LED blinks nine times, Toner low LEDs blink one time.

Section 4 Repairs and Adjustments

Precautions

In order to prevent accidents and to prevent damage to the equipment please read the precautions listed below carefully before servicing the printer and follow them closely.

Safety Warning

(1) Only to be serviced by appropriately qualified service engineers.
High voltages and lasers inside this product are dangerous. This printer should only be serviced by a suitably trained and qualified service engineer.

(2) Use only approved replacement parts
There are no user serviceable parts inside the printer. Do not make any unauthorized changes or additions to the printer, these could cause the printer to malfunction and create electric shock or fire hazards.

(3) Laser Safety Statement
The Printer is certified in the U.S. to conform to the requirements of DHHS 21 CFR, chapter 1 Subchapter J for Class 1(1) laser products, and elsewhere, it is certified as a Class I laser product conforming to the requirements of IEC 825. Class I laser products are not considered to be hazardous. The laser system and printer are designed so there is never any human access to laser radiation above a Class I level during normal operation, user maintenance, or prescribed service condition.

Warning >> Never operate or service the printer with the protective cover removed from Laser/Scanner assembly. The reflected beam, although invisible, can damage your eyes. When using this product, these basic safety pre-cautions should always be followed to reduce risk of fire, electric shock, and injury to persons.

CAUTION - INVISIBLE LASER RADIATION
WHEN THIS COVER OPEN.
DO NOT OPEN THIS COVER.

VORSICHT - UNSICHTBARE LASERSTRAHLUNG,
WENN ABDECKUNG GE FFNET.
NICHT DEM STRAHL AUSSETZEN.

ATTENTION - RAYONNEMENT LASER INVISIBLE EN CAS D OUVERTURE. EXPOSITION DANGEREUSE AU FAISCEAU.

ATTENZIONE - RADIAZIONE LASER INVISIBILE IN CASO DI APERTURA. EVITARE L ESPOSIZIONE AL FASCIO.

PRECAUCION - RADIACION LASER IVISIBLE CUANDO SE ABRE. EVITAR EXPONERSE AL RAYO.

ADVARSEL. - USYNLIG LASERSTR LNING VED BNING, N R SIKKERHEDSBRYDERE ER UDE AF FUNKTION. UNDG UDSAETTELSE FOR STR LNING.

ADVARSEL. - USYNLIG LASERSTR LNING N R DEKSEL PNES. STIRR IKKE INN I STR LEN. UNNG EKSPONERING FOR STR LEN.

VARNING - OSYNLIG LASERSTR LNING N R DENNA DEL R PPNAD OCH SP RREN R URKOPPLAD. BETRAKTA EJ STR LEN. STR LEN R FARLIG.

VARO! - AVATTAESSA JA SUOJALUKITUS OHITETTAESSA OLET ALTTIINA N KYM TT M LLE LASER-S TEILYLLE L KATSO S TEESEEN.

Caution for safety

Toxic material

This product contains toxic materials that could cause illness if ingested.

(1) Please keep toner cartridges away from children. The toner powder contained in the toner cartridge may be harmful and if swallowed you should contact a doctor.

Electric Shock and Fire Safety Precautions

Failure to follow the following instructions could cause electric shock or potentially cause a fire.

(1) Use only the correct voltage, failure to do so could damage the printer and potentially cause a fire or electric shock.

(2) Use only the power cable supplied with the printer. Use of an incorrectly specified cable could cause the cable to overheat and potentially cause a fire.

(3) Do not overload the power socket, this could lead to overheating of the cables inside the wall and could lead to a fire.

(4) Do not allow water or other liquids to spill into the printer, this can cause electric shock. Do not allow paper clips, pins or other foreign objects to fall into the printer these could cause a short circuit leading to an electric shock or fire hazard..

(5) Never touch the plugs on either end of the power cable with wet hands, this can cause electric shock. When servicing the printer remove the power plug from the wall socket.

(6) Use caution when inserting or removing the power connector. The power connector must be inserted completely otherwise a poor contact could cause overheating possibly leading to a fire. When removing the power connector grip it firmly and pull.

(7) Take care of the power cable. Do not allow it to become twisted, bent sharply round corners or otherwise damaged. Do not place objects on top of the power cable. If the power cable is damaged it could overheat and cause a fire or exposed cables could cause an electric shock. Replace a damaged power cable immediately, do not reuse or repair the damaged cable. Some chemicals can attack the coating on the power cable, weakening the cover or exposing cables causing fire and shock risks.

(8) Ensure that the power sockets and plugs are not cracked or broken in any way. Any such defects should be repaired immediately. Take care not to cut or damage the power cable or plugs when moving the machine.

(9) Use caution during thunder or lightening storms. Xerox recommend that this machine be disconnected from the power source when such weather conditions are expected. Do not touch the machine or the power cord if it is still connected to the wall socket in these weather conditions.

(10) Avoid damp or dusty areas, install the printer in a clean well ventilated location. Do not position the machine near a humidifier. Damp and dust build up inside the machine can lead to overheating and cause a fire.

(11) Do not position the printer in direct sunlight. This will cause the temperature inside the printer to rise possibly leading to the printer failing to work properly and in extreme conditions could lead to a fire.

(12) Do not insert any metal objects into the machine through the ventilator fan or other part of the casing, it could make contact with a high voltage conductor inside the machine and cause an electric shock.

Handling Precautions

The following instructions are for your own personal safety, to avoid injury and so as not to damage the printer

(1) Ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall.
(2) The printer contains many rollers, gears and fans. Take great care to ensure that you do not catch your fingers, hair or clothing in any of these rotating devices.
(3) Do not place any small metal objects, containers of water, chemicals or other liquids close to the printer which if spilled could get into the machine and cause damage or a shock or fire hazard.
(4) Do not install the machine in areas with high dust or moisture levels, beside on open window or close to a humidifier or heater. Damage could be caused to the printer in such areas.
(5) Do not place candles, burning cigarettes, etc. on the printer, these could cause a fire.

Assembly / Disassembly Precautions

Replace parts carefully, always use approved parts. Take care to note the exact location of parts and also cable routing before dismantling any part of the machine. Ensure all parts and cables are replaced correctly. Please carry out the following procedures before dismantling the printer or replacing any parts.

(1) Check the contents of the machine memory and make a note of any user settings. These will be erased if the mainboard is replaced.
(2) Ensure that power is disconnected before servicing or replacing any electrical parts.
(3) Disconnect printer interface cables and power cables.
(4) Only use approved spare parts. Ensure that part number, product name, any voltage, current or temperature rating are correct.
(5) When removing or re-fitting any parts do not use excessive force, especially when fitting screws into plastic.
(6) Take care not to drop any small parts into the machine.
(7) Handling of the OPC Drum
- The OPC Drum can be irreparably damaged if it exposed to light.
  Take care not to expose the OPC Drum either to direct sunlight or to fluorescent or incandescent room lighting. Exposure for as little as 5 mins can damage the surface's photoconductive properties and will result in print quality degradation. Take extra care when servicing the printer. Remove the OPC Drum and store it in a black bag or other lightproof container. Take care when working with the covers(especially the top cover) open as light is admitted to the OPC area and can damage the OPC Drum.
- Take care not to scratch the green surface of OPC Drum Unit.
  If the green surface of the Drum Cartridge is scratched or touched the print quality will be compromised.

Disregarding this warning may cause bodily injury

(1) Be careful with the high temperature part.
The fuser unit works at a high temperature. Use caution when working on the printer. Wait for the fuser to cool down before disassembly.

(2) Do not put finger or hair into the rotating parts.
When operating a printer, do not put hand or hair into the rotating parts (Paper feeding entrance, motor, fan, etc.). If do, you can get harm.

(3) When you move the printer.
This printer weighs 13.6kg including Consumables. Use safe lifting and handling techniques. Back injury could be caused if you do not lift carefully.

(4) Ensure the printer is installed safely.
The printer weighs 13.6Kg, ensure the printer is installed on a level surface, capable of supporting its weight. Failure to do so could cause the printer to tip or fall possibly causing personal injury or damaging the printer.

(5) Do not install the printer on a sloping or unstable surface. After installation, double check that the printer is stable.

Precautions when replacing parts

Precautions when assembling and disassembling

* Use only approved apporved spare parts. Ensure that part number, product name, any voltage, current or temperature rating are correct. Failure to do so could result in damage to the machine, circuit overload, fire or electric shock.

* Do not make any unauthorized changes or additions to the printer, these could cause the printer to malfunction and create electric shock or fire hazards.

* Take care when dismantling the unit to note where each screw goes. There are 19 different screws. Use of the wrong screw could lead to system failure, short circuit or electric shock.

* Do not disassemble the LSU unit. Once it is disassembled dust is admitted to the mirror chamber and will seriously degrade print quality. There are no serviceable parts inside.

* Regularly check the condition of the power cord, plug and socket. Bad contacts could lead to overheating and fire. Damaged cables could lead to electric shock or unit malfunction.

Preautions when handling PBA

Static electricity can damage a PBA, always used approved anti-static precautions when handling or storing a PBA.

>> Precautions when moving and storing PBA

1. Please keep PBA in a conductive case, anti-static bag.
2. Do not store a PBA where it is exposed to direct sunlight.

>> Precautions when replacing PBA

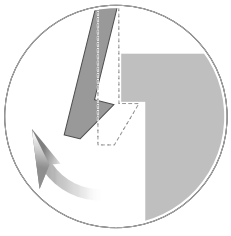
1. Disconnect power connectors first, before disconnecting other cables
2. Do not touch any soldered connections, connector terminals or other electronic parts when handling insulated parts.

>> Precautions when checking PBA

1. Before touching a PBA, please touch other grounded areas of the chassis to discharge any static electrical charge on the body.
2. Take care not to touch the PBA with your bare hands or metal objects as you could create a short circuit or get an electric shock. Take extra care when handling PBAs with moving parts fitted such as sensors, motors or lamps as they may get hot.
3. Take care when fitting, or removing, screws. Look out for hidden screws. Always ensure that the correct screw is used and always ensure that when toothed washers are removed they are refitted in their original positions.

Releasing Plastic Latches

Many of the parts are held in place with plastic latches. The latches break easily; release them carefully.
To remove such parts, press the hook end of the latch away from the part to which it is latched.



Parts for Maintenance and Repair

Replacement interval for parts with a limited life

Some of the parts in this printer have a limited life, shorter than that of the whole machine. These parts must be replaced periodically.
The table below shows the interval at which these parts should be replaced.
The table shows the life of each part, and is measured when using A4 paper. When servicing a machine always check the status of these parts using the control panel and ensure that parts are replaced at the appropriate times otherwise a general degradation in print quality will occur.

COMPONENT	REPLACEMENT CYCLE	REMARK
Toner Cartridge (Black)	intial (1,500 pages@5% coverage) replacement (2,000 pages@5% coverage)	User replace
Toner Cartridge (Color: C/M/Y)	intial (700 pages@5% coverage) replacement (1,000 pages@5% coverage)	User replace
Waste toner container	5K image or 1.25K pages (Full color 5% image)	User replace
T2 Roller	100K pages	
Imaging Unit	20K pages (Black) 12.5K pages (Color)	
ITB Unit(Image Transfer Unit)	Black : (60K pages@5% coverage) Color : (15K pages@5% coverage)	User replace
Pick-Up Roller	100,000 pages - MP Pick-Up Roller, - Cassette Tray1 Pick-Up Roller	Engineer
Fuser Unit	100,000 pages (B/W) Color(50,000 pages)	User replace

The life span of each of these parts is stored in memory. The amount of each 'life' used can be checked at any time using the control panel.
When a part is replaced it is necessary to reset the 'life used' that is stored in memory.

* How to initialize a the value of part's life span:
From the control panel, select the following items in order:
Menu-Setup - Maintenance - Check other - (Select a desired part) - Reset

Critical Service Information

Warnings, Cautions, and Notes

Warnings

Personal injury or death may occur if service personnel come into contact with AC operating voltages.
Disconnect the power cord when removing or replacing parts.
When diagnosing electrical problems use care to avoid contact with AC voltages.

Cautions

Damage to the printer can occur if service procedures aren't followed or careless service methods are practiced. To avoid damage to the printer review the intended action or procedure before actually woorking on the printer.

Notes

Notes are used to communicate helpful tips or relate conditions that may affect the service action.

Information Related to Disassembly and Assembly

Special service parts

Never disassemble or adjust the items listed on this page except the Fuser.

1) Disassembly of the Laser Scan Unit

There are no serviceable parts inside the LSU. Alignment of the mirrors is critical. Opening the LSU will allow dust into the laser and significantly reduce print quality. It is very dangerous to operate or service a machine with the LSU open or system interlocks disabled. Exposure to laser radiation can cause blindness.

2) Disassembly of the ITB unit

Do not disassemble the ITB. The alignment of the home sensor is critical and is set up in the factory on a special jig. Incorrect re-assembly will cause print quality degradation.

3) Care of the Toner cartridge

Toner cartridges contain an extremely fine powder. Please keep toner cartridges away from children. The toner powder contained in the toner cartridge may be harmful and if swallowed you should contact a doctor. Take care not to spill toner - spillages should be cleaned with a toner vacuum cleaner and washed in cold water (hot water sets the toner). Do not touch the developer roller surface as contamination will reduce print quality. Take care not to damage the roller's surface when installing or removing a toner cartridge.

4) Disassembly of DEVE drive ass'y and the main drive ass'y

The alignment of the drive mechanism is critical and it has been set up in factory using a jig and a driving gear. It is adjusted for the best gearing alignment. If the motor is disassembled alignment would not be maintained and this could cause operational noise and image problems: image alignment and toner distribution may be affected.

5) Disassembly of terminal parts

Do not adjust the variable resistors on the PBA. They have been already adjusted in the factory.

6) Disassembly of the fuser unit

- The fuser melts toner onto the paper at a high temperature: therefore, you need to take special care not to get burned by a hot fuser. When removing the fuser from a set that has recently been operating you need to take extra care.
- Do not touch an AC line (Copper contact) on a main frame even after removing the fuser.

ESD Precautions

Certain semiconductor devices can be easily damaged by static electricity. Such components are commonly called “Electrostatically Sensitive (ES) Devices”, or ESDs. Examples of typical ESDs are: integrated circuits, some field effect transistors, and semiconductor “chip” components.

The techniques outlined below should be followed to help reduce the incidence of component damage caused by static electricity.

Caution >>Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

1. Immediately before handling a semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, employ a commercially available wrist strap device, which should be removed for your personal safety reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESDs, place the assembly on a conductive surface, such as aluminum or copper foil, or conductive foam, to prevent electrostatic charge buildup in the vicinity of the assembly.
3. Use only a grounded tip soldering iron to solder or desolder ESDs.
4. Use only an “anti-static” solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
5. Do not use Freon-propelled chemicals. When sprayed, these can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective packaging until immediately before installing it. Most replacement ESDs are packaged with all leads shorted together by conductive foam, aluminum foil, or a comparable conductive material.
7. Immediately before removing the protective shorting material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
8. Maintain continuous electrical contact between the ESD and the assembly into which it will be installed, until completely plugged or soldered into the circuit.
9. Minimize bodily motions when handling unpackaged replacement ESDs. Normal motions, such as the brushing together of clothing fabric and lifting one’s foot from a carpeted floor, can generate static electricity sufficient to damage an ESD.

Super Capacitor or Lithium Battery Precautions

1. Exercise caution when replacing a super capacitor or Lithium battery. There could be a danger of explosion and subsequent operator injury and/or equipment damage if incorrectly installed.

2. Be sure to replace the battery with the same or equivalent type recommended by the manufacturer.

3. Super capacitor or Lithium batteries contain toxic substances and should not be opened, crushed, or burned for disposal.

4. Dispose of used batteries according to the manufacture’s instructions.

4 Disassembly Procedure

4.1 Covers

Top Cover

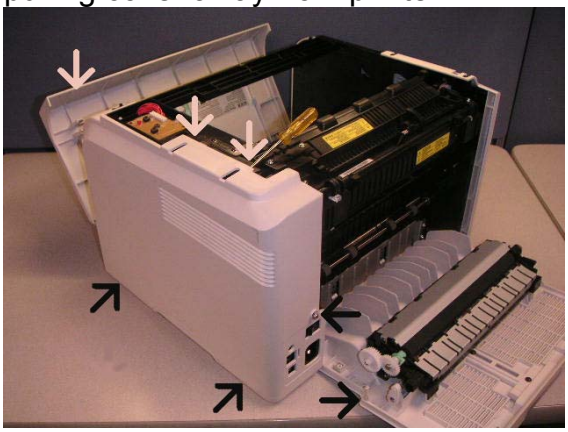
1. Open Front Cover and remove the Imager Unit). CAUTION Protect the Imager Unit from light.

2. Remove InterTransfer Belt Unit by grasping bottom of ITB and pulling out slightly until it releases, lower it slightly, and continue pulling out to remove ITB. NOTE: Observe removal path for, especially rear of ITB for reinstallation. CAUTION: Do not touch the ITB Belt. Protect it from light.

3. Remove Screws (2) and remove Top Cover by lifting the front of the cover slightly and pulling forward to release hidden clips at under rear of cover.

Right Cover

1. Perform steps for Top Cover.
2. Remove Screw (1), open Rear Cover and Front Cover, use screwdriver to disengage top cover locks, and disengage bottom cover locks after pulling cover away from printer.

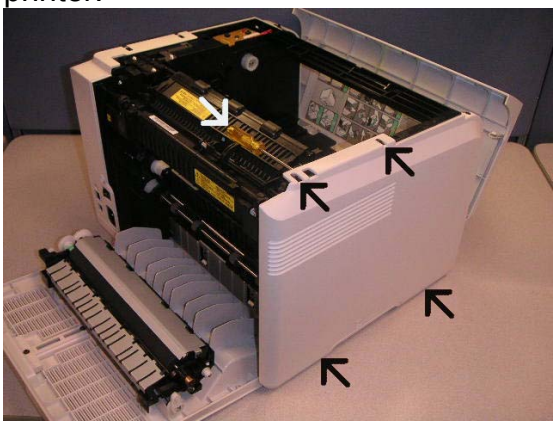


4 Disassembly Procedure

4.1 Covers

Left Cover

1. Perform steps for Top Cover.
2. Open Rear Cover and Front Cover, use screwdriver to disengage top cover locks, and disengage bottom cover locks after pulling cover away from printer.

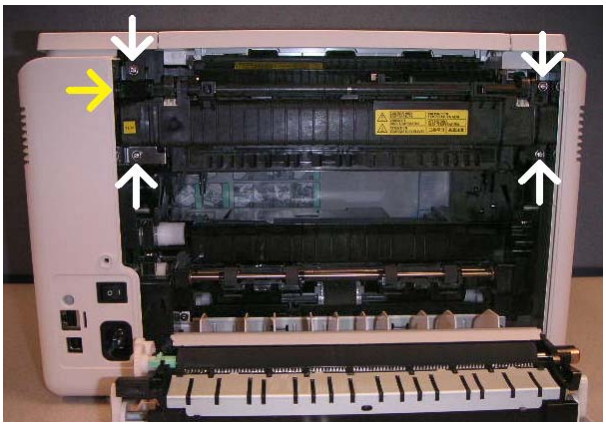


4 Disassembly Procedure

4.2 Fuser

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures. Fuser may be hot.

1. Open Rear Cover.
2. Remove Fuser by removing Screws (4) sliding the drive coupling as shown (yellow arrow), and pull out to remove Fuser.



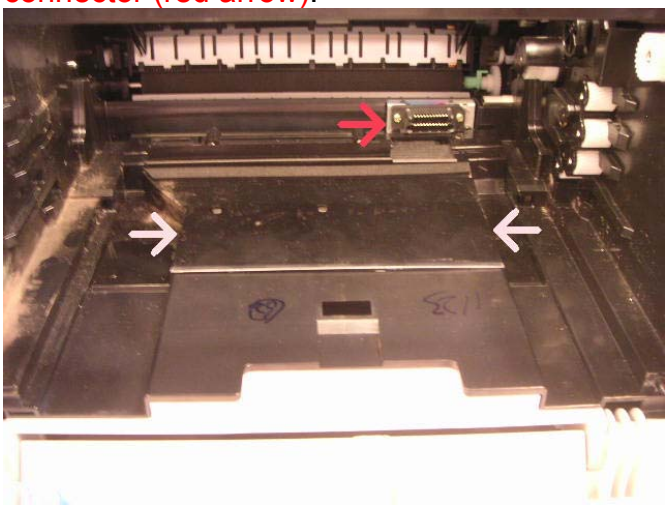
CAUTION
While replacing the Fuser ensure the electrical connectors engage correctly.

4 Disassembly Procedure

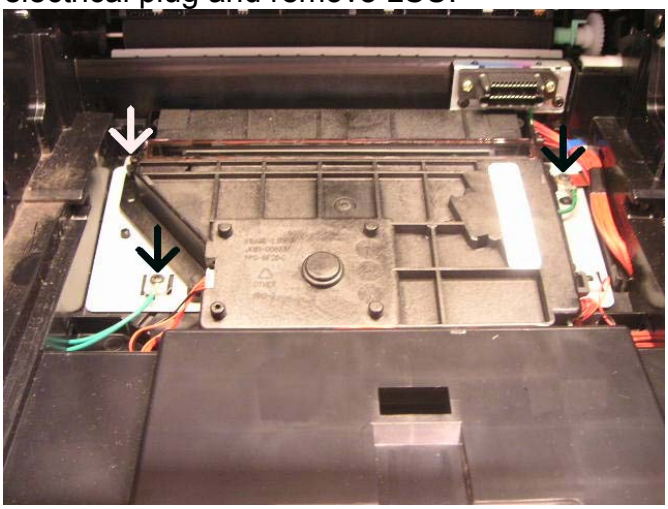
4.3 LSU

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures.

1. Remove Top Cover (including Imager Unit and ITB, 4.1). CAUTION: Protect Imager Unit and ITB from light.
2. Remove LSU Cover by grasping sides of cover and lifting. CAUTION: Use care when moving cover past connector (red arrow).

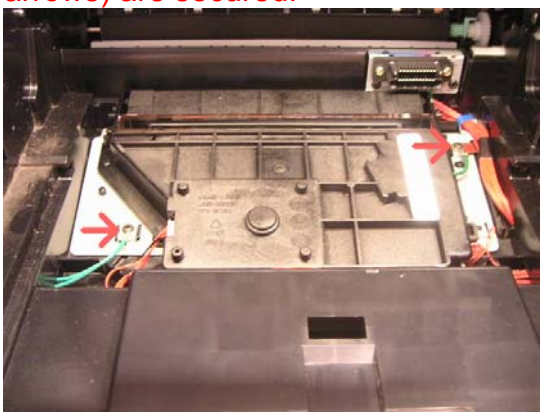


3. Disconnect left electrical plug, remove Screws (3) and lift LSU enough to access and disconnect right side electrical plug and remove LSU.



Replacement

CAUTION: Ensure ground wires (red arrows) are secured.

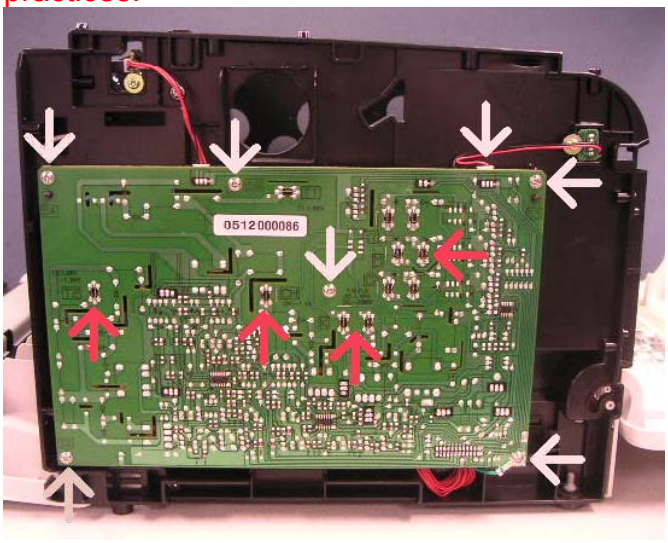


4 Disassembly Procedure

4.4 HVPS

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures.

1. Remove Top Cover and Left Cover (including Imager Unit and ITB, 4.1). CAUTION: Protect Imager Unit and ITB from light.
2. Disconnect electrical plugs (2) from top of HVPS. Remove Screws (6), remove HVPS (CAUTION: red arrows show spring contact locations behind PS) and then disconnect bottom electrical plug from rear. CAUTION Observe ESD practices.



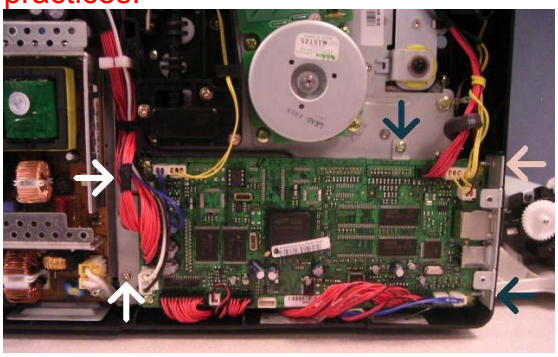
Replacement
Note: the screws are numbered on HVPS for sequential installation. Ensure ground wire is secured (lower right corner).

4 Disassembly Procedure

4.5 Main PWB

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about safe working practices.

1. Remove Right Cover, 4.1.
2. Disconnect electrical plugs from Main PWB. Remove Screws (5) and remove PWB. CAUTION: Observe ESD practices.

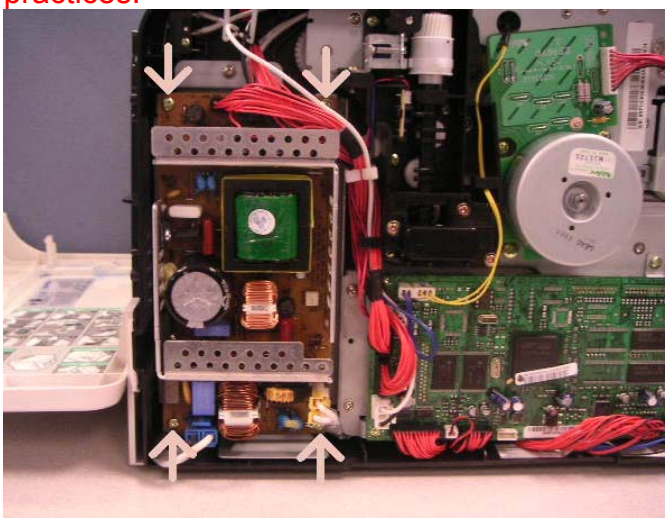


Disassembly Procedure

4.6 SMPS

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures.

1. Remove Top Cover and Right Cover (including Imager Unit and ITB, 4.1).
2. Disconnect electrical plugs from SMPS. Remove Screws (4) and remove SMPS. CAUTION Observe ESD practices.

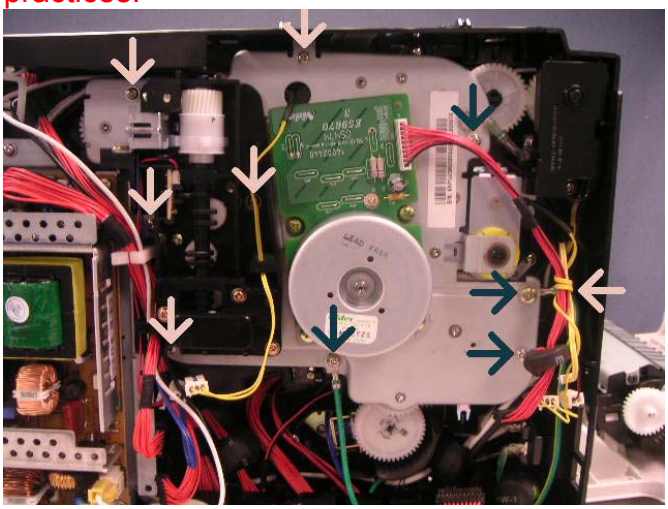


4 Disassembly Procedure

4.5 Drive Unit

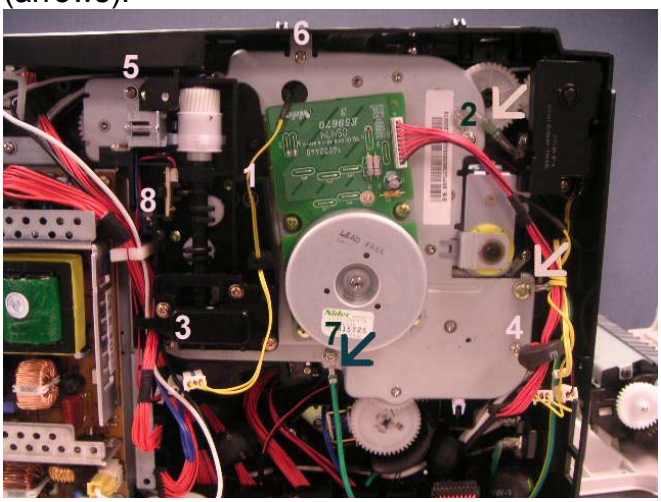
WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures.

1. Remove Top Cover and Right Cover (including Imager Unit and ITB, 4.1).
2. Remove Main PWB (5.4.5).
3. Disconnect electrical plugs from Drive Unit. Remove Screws (8) and screw from ground wire and remove Drive Unit. CAUTION Observe ESD practices.



Replacement

Note: the screws are numbered for sequential installation. Ensure ground wires and ground resistor are secured (arrows).

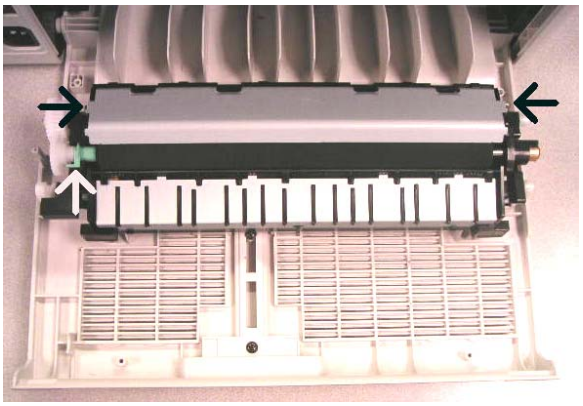


4 Disassembly Procedure

4.8 Transfer Roll

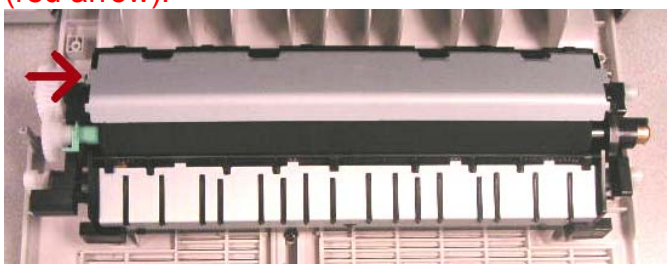
WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures.

1. Open Rear Cover.
2. Remove Transfer Roll by removing Screws (2) and guide. Then rotate green lock up to release Transfer Roll and remove it.



Replacement

CAUTION: Ensure ground wire is secure (red arrow).



4 Disassembly Procedure

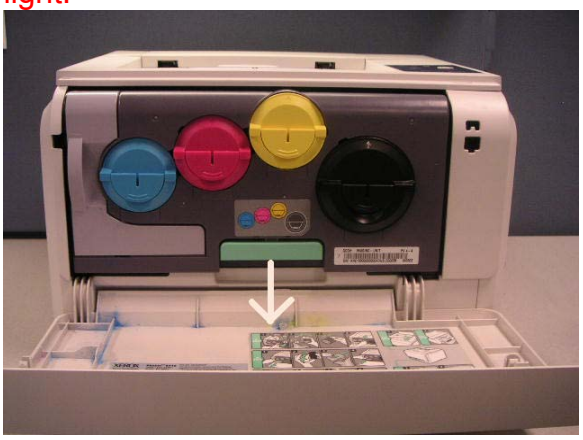
4.9 Imager

1. Open Front Cover and remove Imager Unit. CAUTION: Protect the Imager from light.

4 Disassembly Procedure

4.10 ITB

1. Open Front Cover and remove Imager. CAUTION: Protect the Imager from light.



2. Remove InterTransfer Belt Unit by grasping bottom of ITB and pulling out slightly until it releases, lower it slightly, and continue pulling out to remove ITB. NOTE: Carefully observe removal path, especially at rear of ITB, for reinstallation. CAUTION: Do not touch the ITB Belt. Protect it from light.

4.11 Printer Cleaning

A printer should be regularly cleaned, especially if it is used in a dusty environment. This will ensure that print quality remains high and failure due to contamination of printing services is less likely to occur.

* Clean the printer with a soft, lint free, cloth dipped in water.

* Do not touch the transfer roller when cleaning the inside of the printer. Grease and oils from the skin will contaminate the surface and reduce print quality.

Cleaning the Printer

During the printing process, particles of paper, toner, and dust can accumulate inside the printer. Over time, this build-up can cause print quality problems such as toner specks or smearing. Your printer has a cleaning mode that can correct and prevent these types of problems.

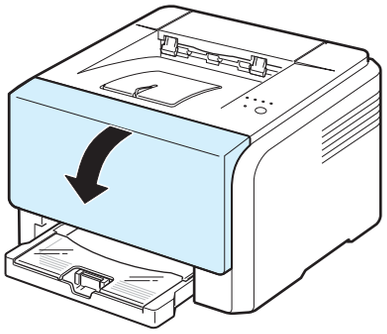
Cleaning the Outside of the Printer

Clean the printer cabinet with a soft lint-free cloth. You can dampen the cloth slightly with water, but be careful not to let any water drip onto the printer or inside of it.

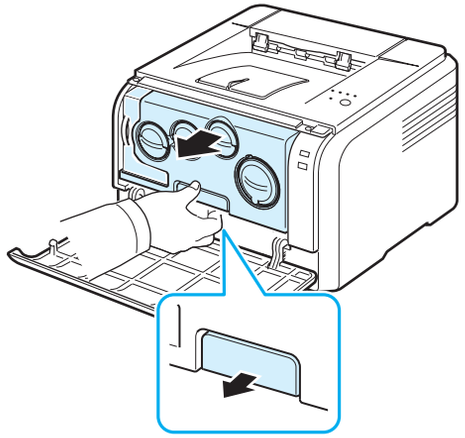
CAUTION: Cleaning the printer cabinet with cleaners containing large amounts of alcohol, solvents, or other strong substances can discolour or crack the cabinet.

Cleaning the Inside of the Printer

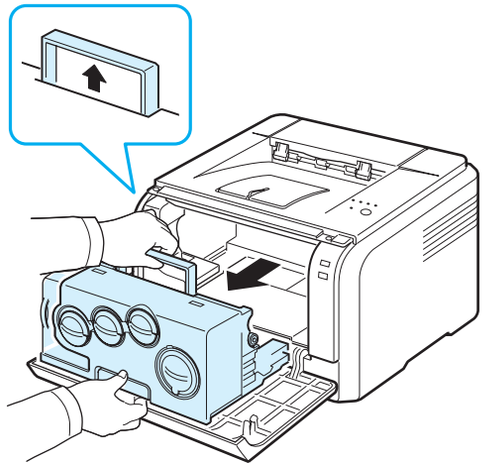
1. Turn the printer off and unplug the power cord, then wait a few minutes for the printer to cool.
2. Open the front cover.



3 Pull the imaging unit out of the printer using the handle on its bottom.

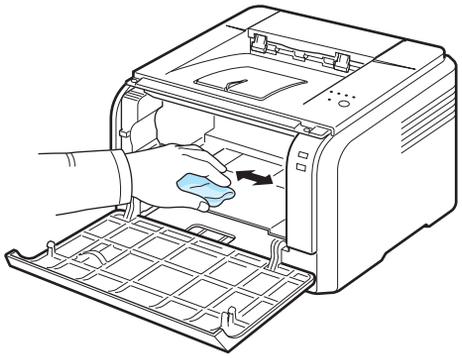


4 Extend the top handle on the imaging unit and then use it to pull the imaging unit out of the printer completely.



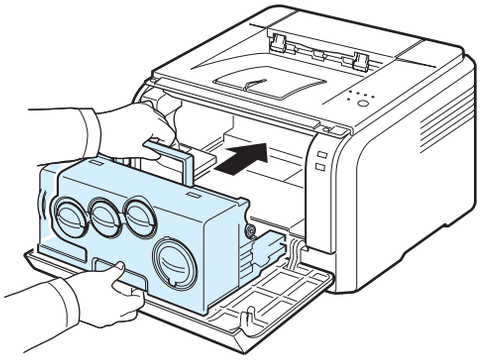
CAUTION:
- Do not touch the green surface on the imaging unit with your hands or any other material. Use the handle on it in order to avoid touching this area.
- Be careful not to scratch the surface of the imaging unit.
- To prevent damage, do not expose the imaging unit to light for more than a few minutes. Cover it with a piece of paper to protect it if necessary.

5 Look inside the printer. Remove any dust, paper particles, and spilled toner with a damp, soft lint-free cloth.

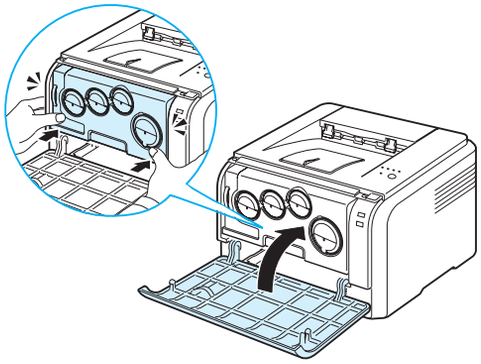


NOTE: After cleaning, let the printer to dry completely.

6 Holding the handle on the imaging unit, push the unit in to the printer.



7 Close the front cover firmly.



CAUTION: If the front cover is not completely closed, the printer will not operate.

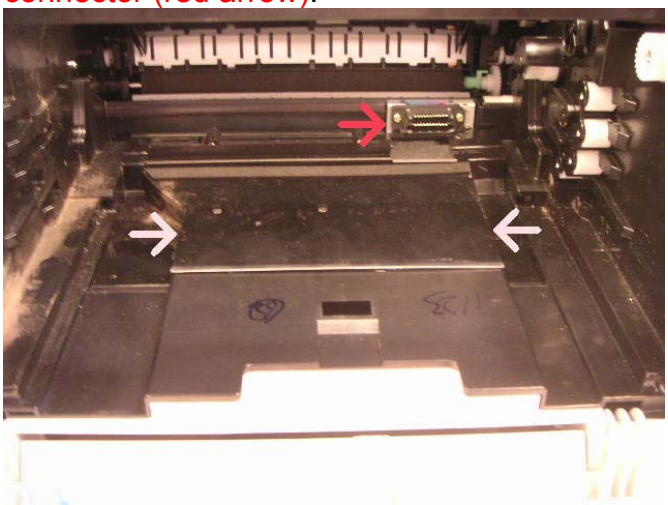
8 Plug the power cord in and turn the printer on.

4 Disassembly Procedure

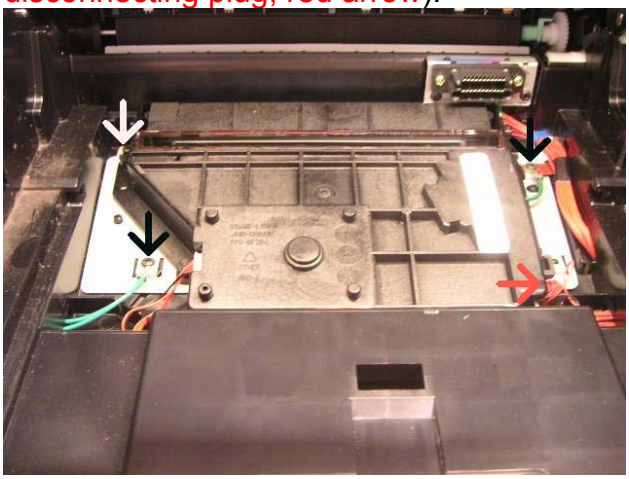
4.12 Feed Roll-Rubber Pick Up

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures.

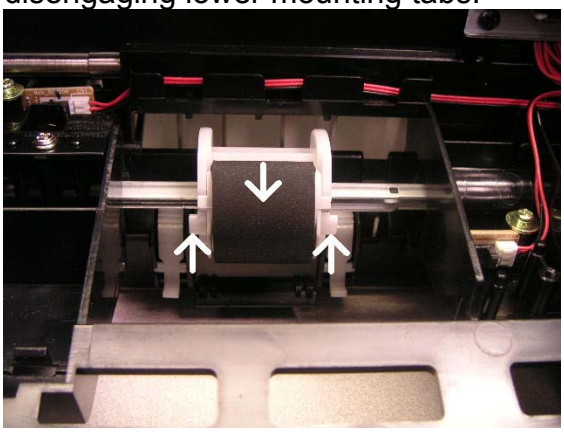
1. Remove Top Cover (including Imager Unit and ITB, 4.1). CAUTION: Protect Imager Unit and ITB from light.
2. Remove LSU Cover by grasping sides of cover and lifting. CAUTION: Use care when moving cover past connector (red arrow).



3. Remove LSU by disconnecting left electrical plug, removing Screws (3) and lifting LSU enough to access and disconnect right side electrical plug (CAUTION: Hold small PWB while disconnecting plug, red arrow).



4. Remove Feed Roll by rotating roll opposite normal feed direction so release tabs are accessible, pushing in both release tabs, pulling top of roll away form shaft, rotating it down and disengaging lower mounting tabs.

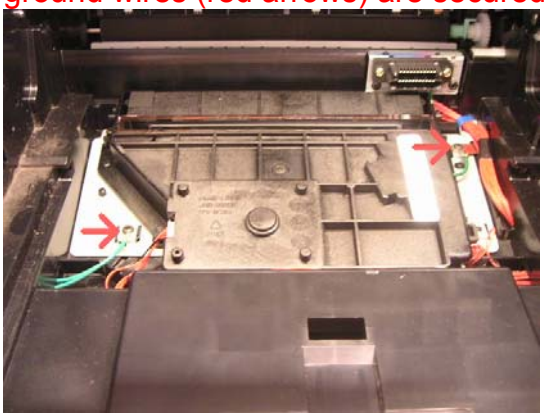


5. Remove Rubber Pick Up from support.

Replacement

NOTE: After replacing rubber pick up rotate feed roll opposite normal feed direction so the opening in feed roll faces down.

CAUTION: When replacing LSU ensure ground wires (red arrows) are secured.

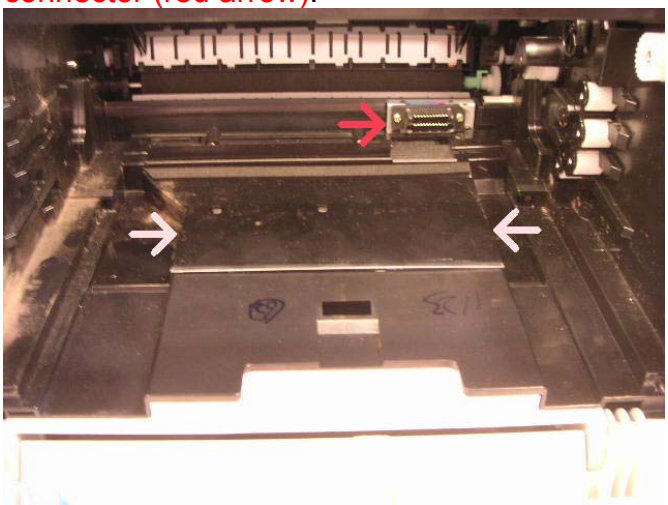


4 Disassembly Procedure

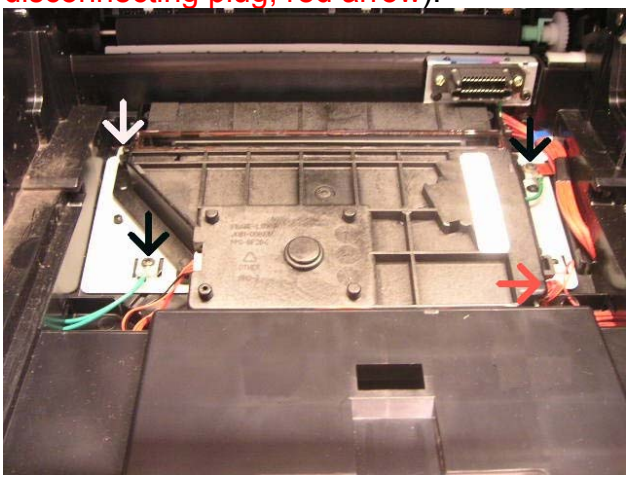
4.13 Tray Empty Actuator

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about procedures.

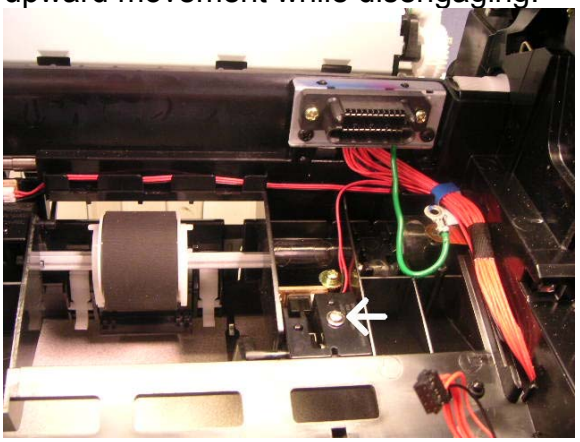
1. Remove Top Cover (including Imager Unit and ITB, 4.1). CAUTION: Protect Imager Unit and ITB from light.
2. Remove LSU Cover by grasping sides of cover and lifting. CAUTION: Use care when moving cover past connector (red arrow).



3. Remove LSU by disconnecting left electrical plug, removing Screws (3) and lifting LSU enough to access and disconnect right side electrical plug (CAUTION: Hold small PWB while disconnecting plug, red arrow).

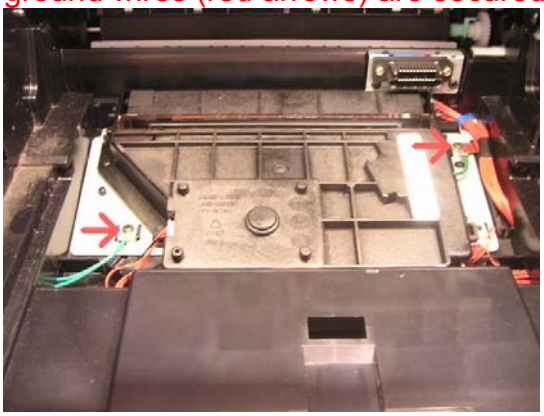


4. Remove Tray Empty Actuator by removing Screw and pulling Actuator housing up. NOTE: a small locating tab on the bottom, under arrow, will resist upward movement while disengaging.



Replacement

CAUTION: When replacing LSU ensure ground wires (red arrows) are secured.



Adjustments

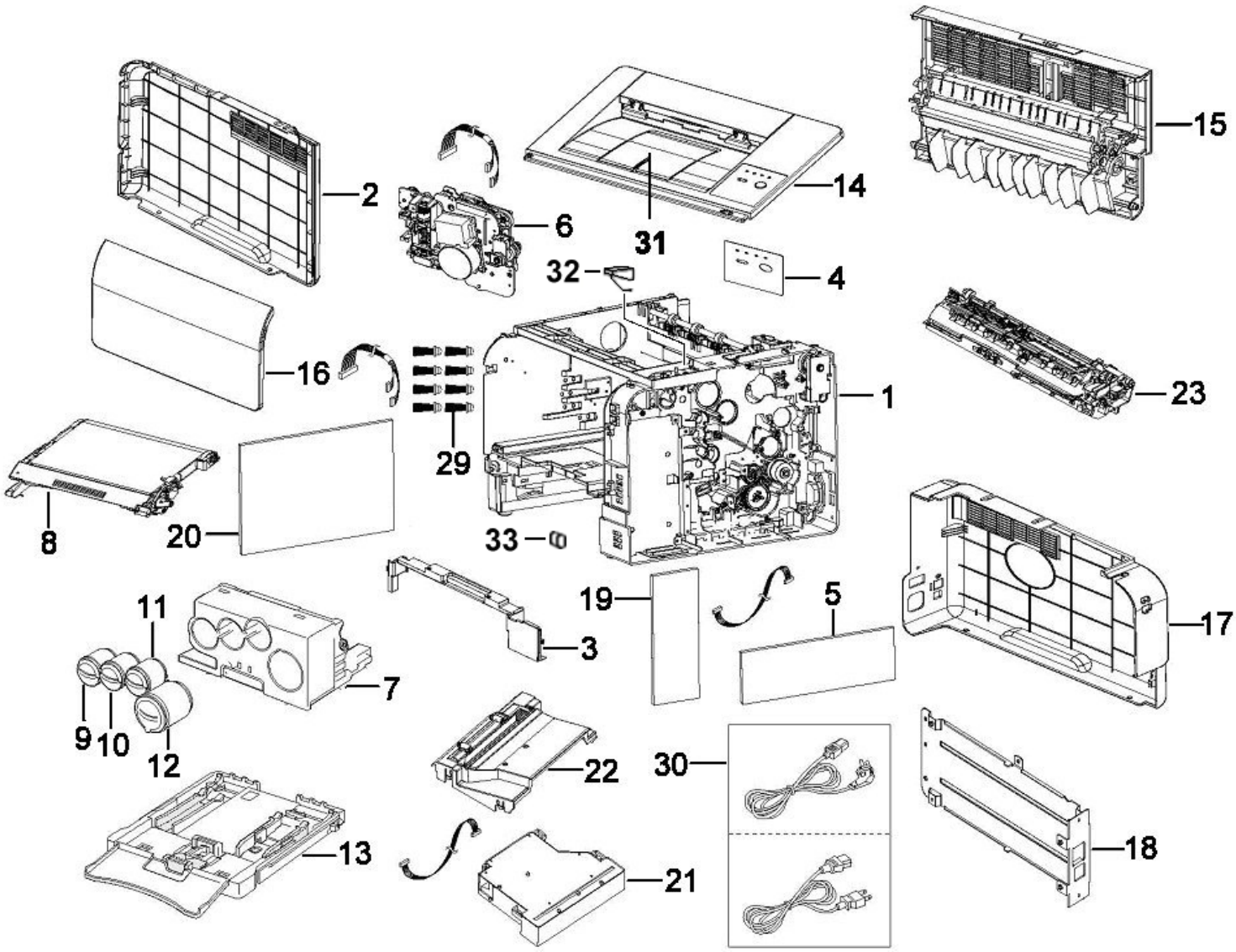
There are no adjustments in the Phaser 6110.

Section 5 Parts Lists

Printer Exploded View Parts List

Item	Description	Part Number
1	Electrical Assembly Frame 110v/220v	001N00489
2	Left Cover	002N02631
3	Cassette Surround Panel	002N02635
4	Control Panel Label	N/A
5	Printer USB PWB	140N63219
5	Printer Network PWB	140N63220
6	Main Drive	007N01563
7	Toner Dispenser/Photoreceptor Unit	064N00058
8	InterTransfer Belt Module (ITB)	023N01169
9	Yellow Toner Cartridge	NA
10	Magenta Toner Cartridge	NA
11	Cyan Toner Cartridge	NA
12	Black Toner Cartridge	NA
13	Paper Cassette	050N00506
14	Top Cover	002N02629
15	Rear Cover	002N02630
16	Front Cover	002N02633
17	Right Cover	002N02632
18	Main PWB Mounting Frame (USB)	095N00277
18	Main PWB Mounting Frame (Network)	096N00278
19	Switching Mode Power Supply (SMPS) 110v	105N02119
19	Switching Mode Power Supply (SMPS) 220v	105N02118
20	High Voltage Power Supply (HVPS)	105N02136
21	Laser Scanning Unit (LSU)	122N00263
22	Laser Scanning Unit Cover	002N02634
23	Fuser 110v	126N00279
23	Fuser 220v	126N00269
29	HVPS Contacts	116N00251
30	Power Cord 110v	N/A
30	Power Cord 220v	N/A
31	Guide Stacker	038N00503
32	Tray Empty Actuator	120N00503
33	Feed Roll-Rubber Pick Up	130N01409

N/A – Not available at time of publication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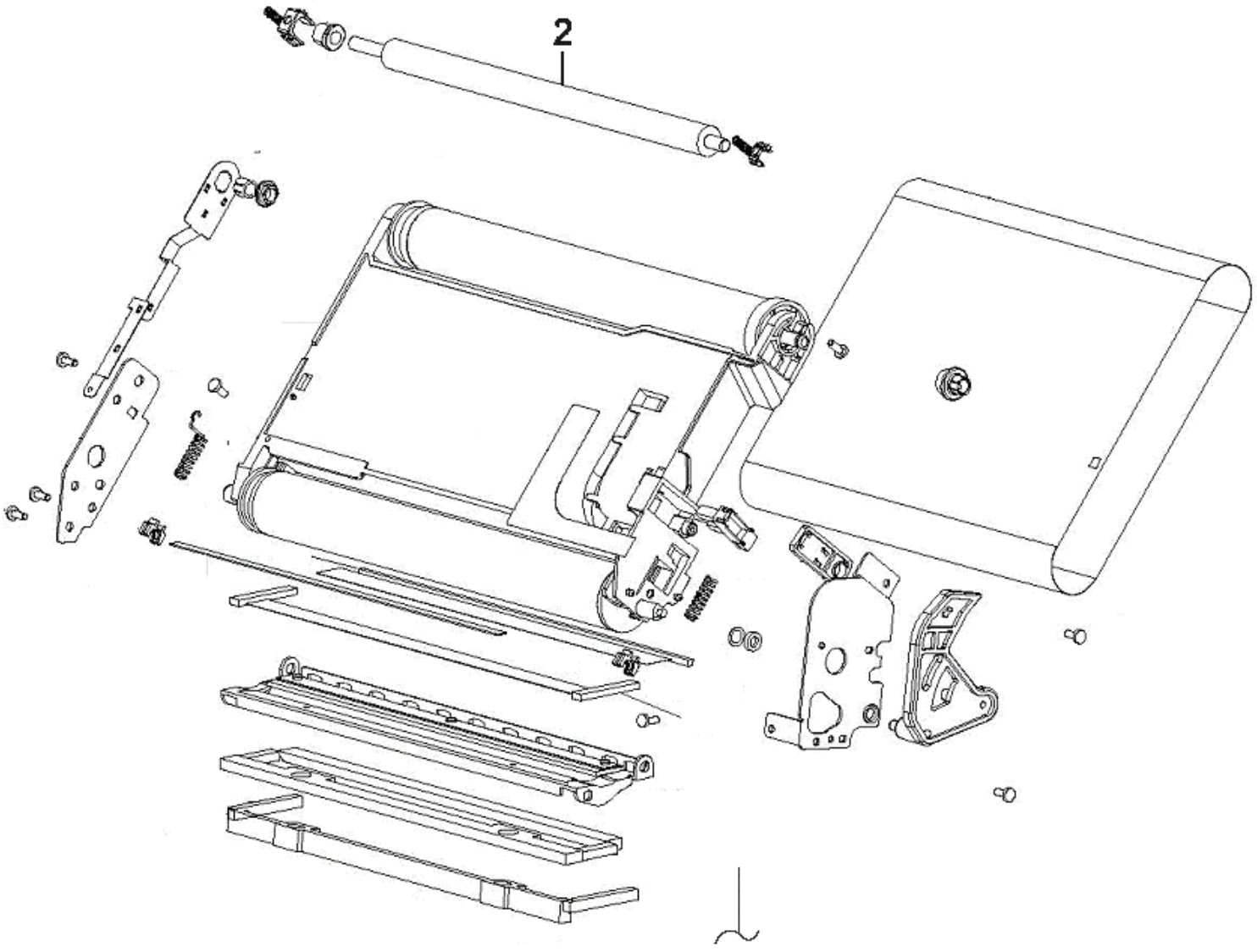
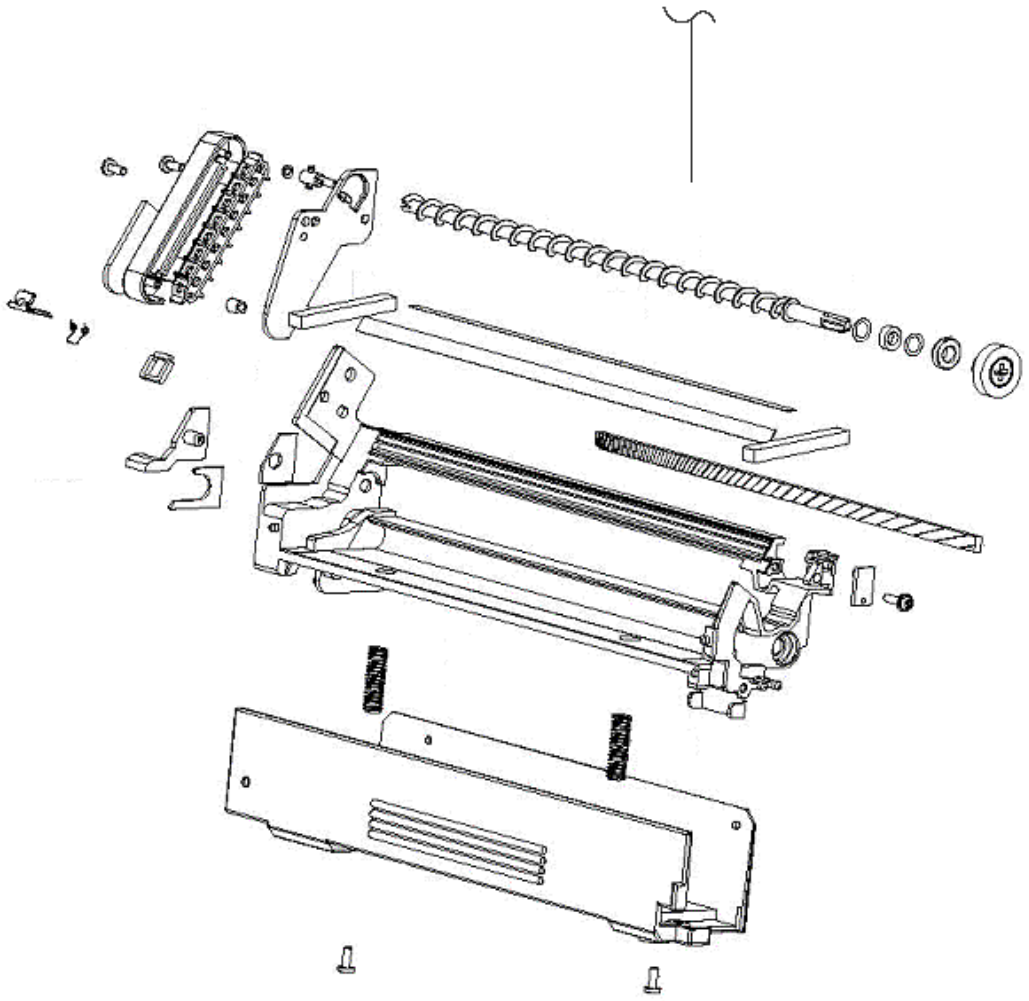
InterTransfer Belt Parts List

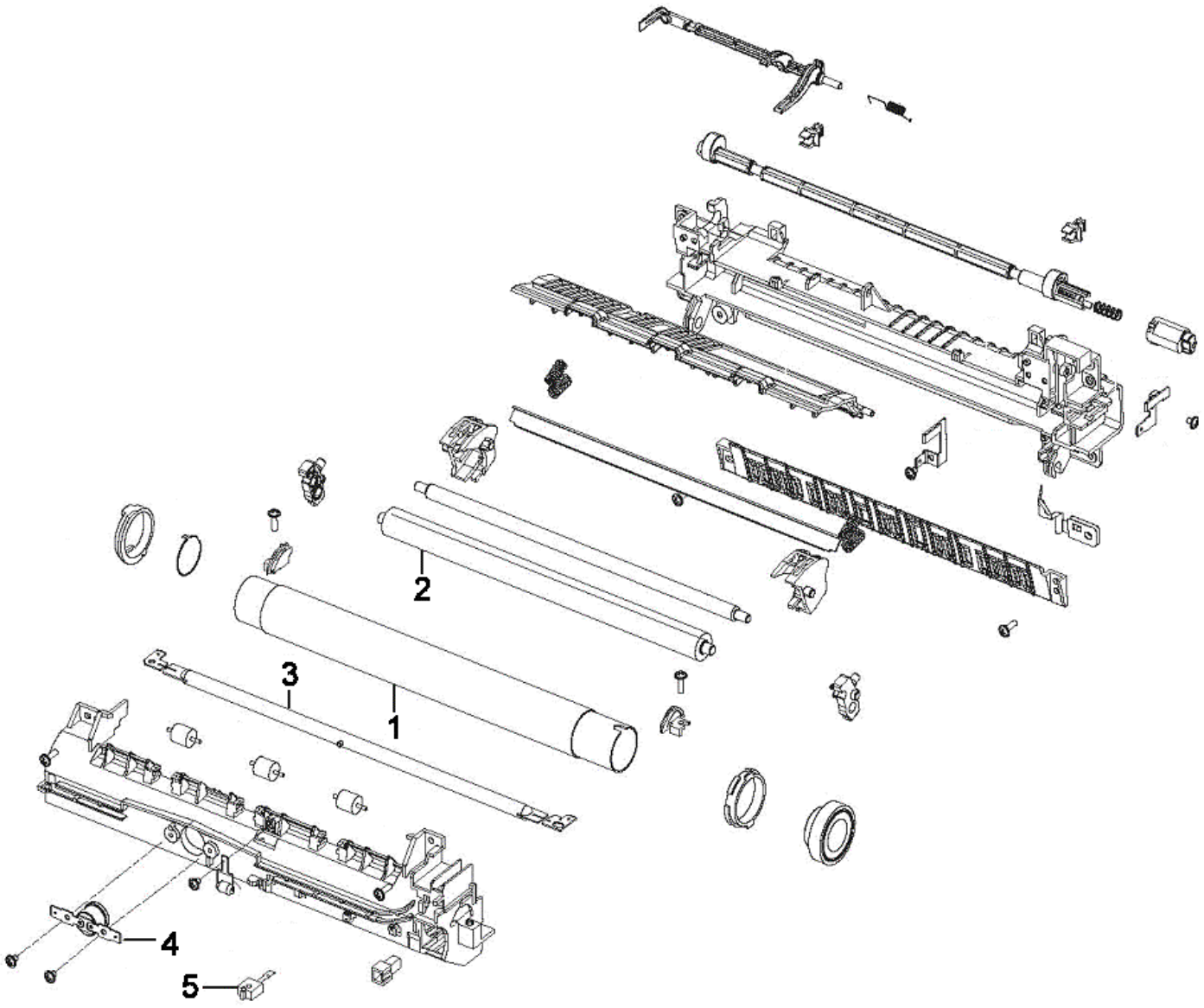
Item	Description	Part Number
2	Transfer Roller	022N02299
All except Item 2	InterTransfer Belt Module (ITB)	023N01169

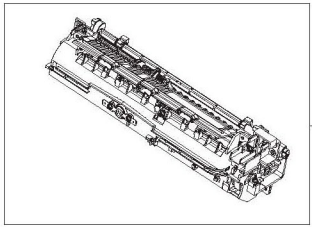




Fuser Parts List

	Description	Part Number
1	Heat Roller	022N02300
2	Pressure Roller	022N02301
3	Heat Lamp 220v	122N00264
3	Heat Lamp 110v	122N00271
4	Thermostat	130N01491
5	Thermistor	130N01492

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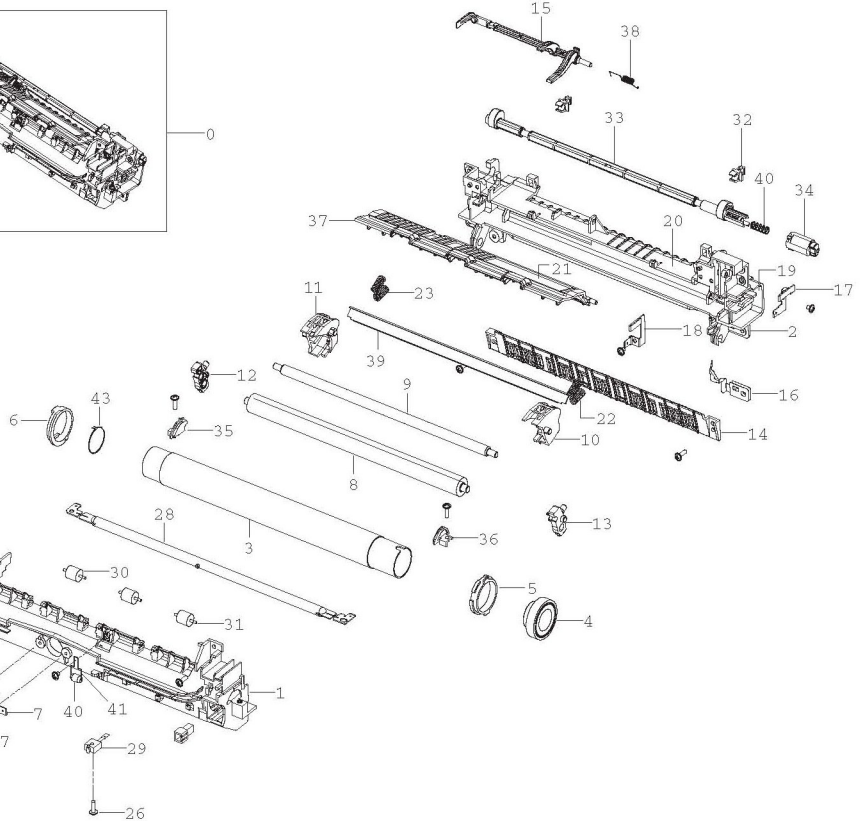
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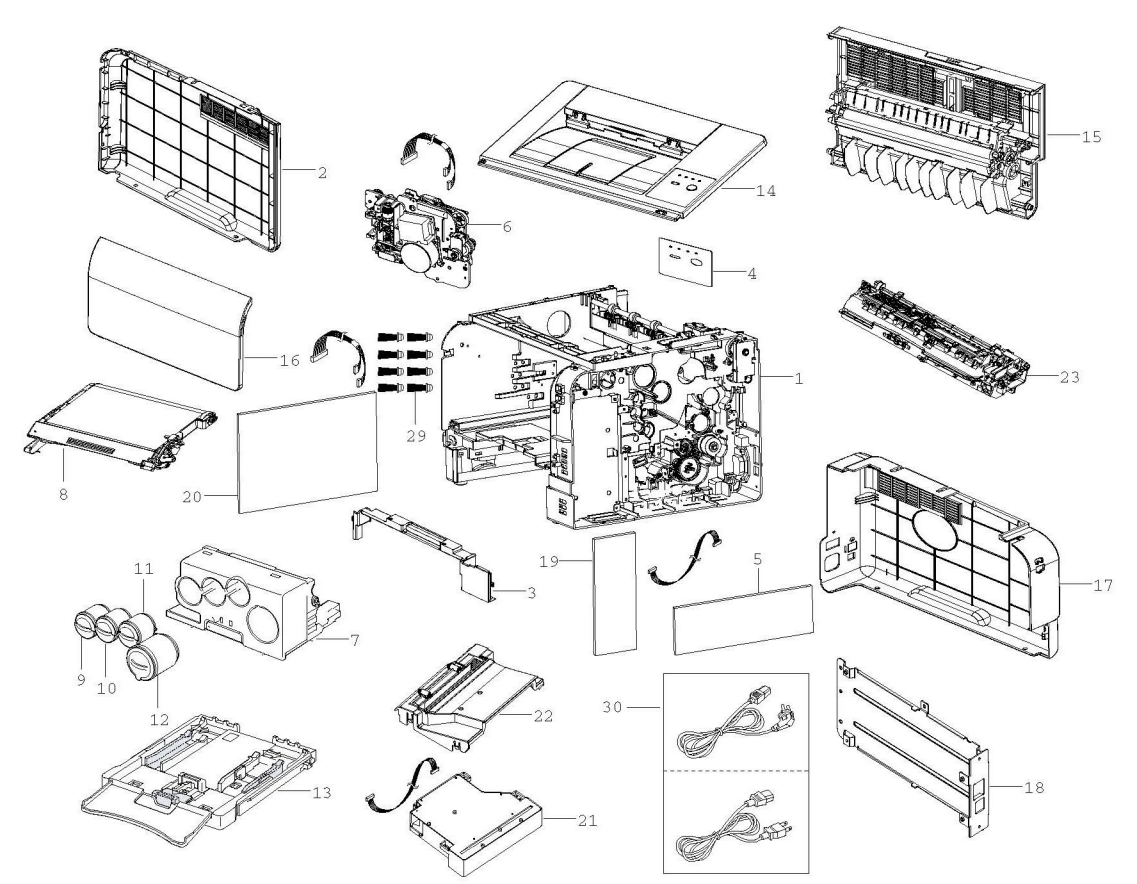
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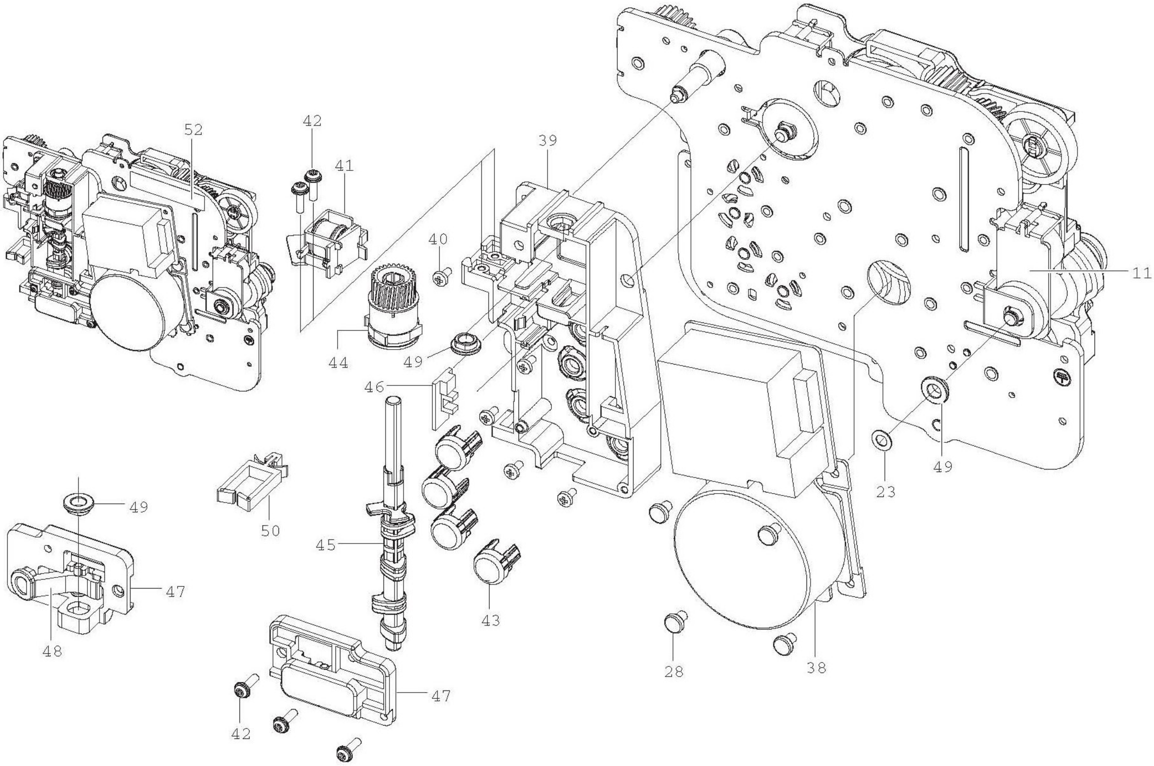
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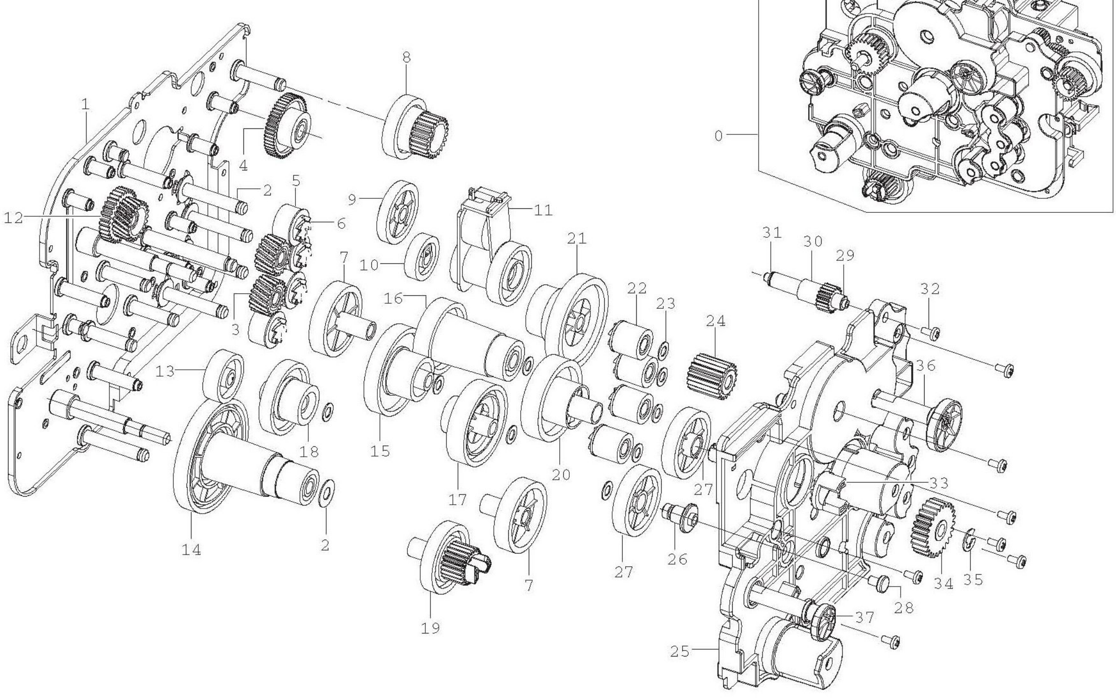
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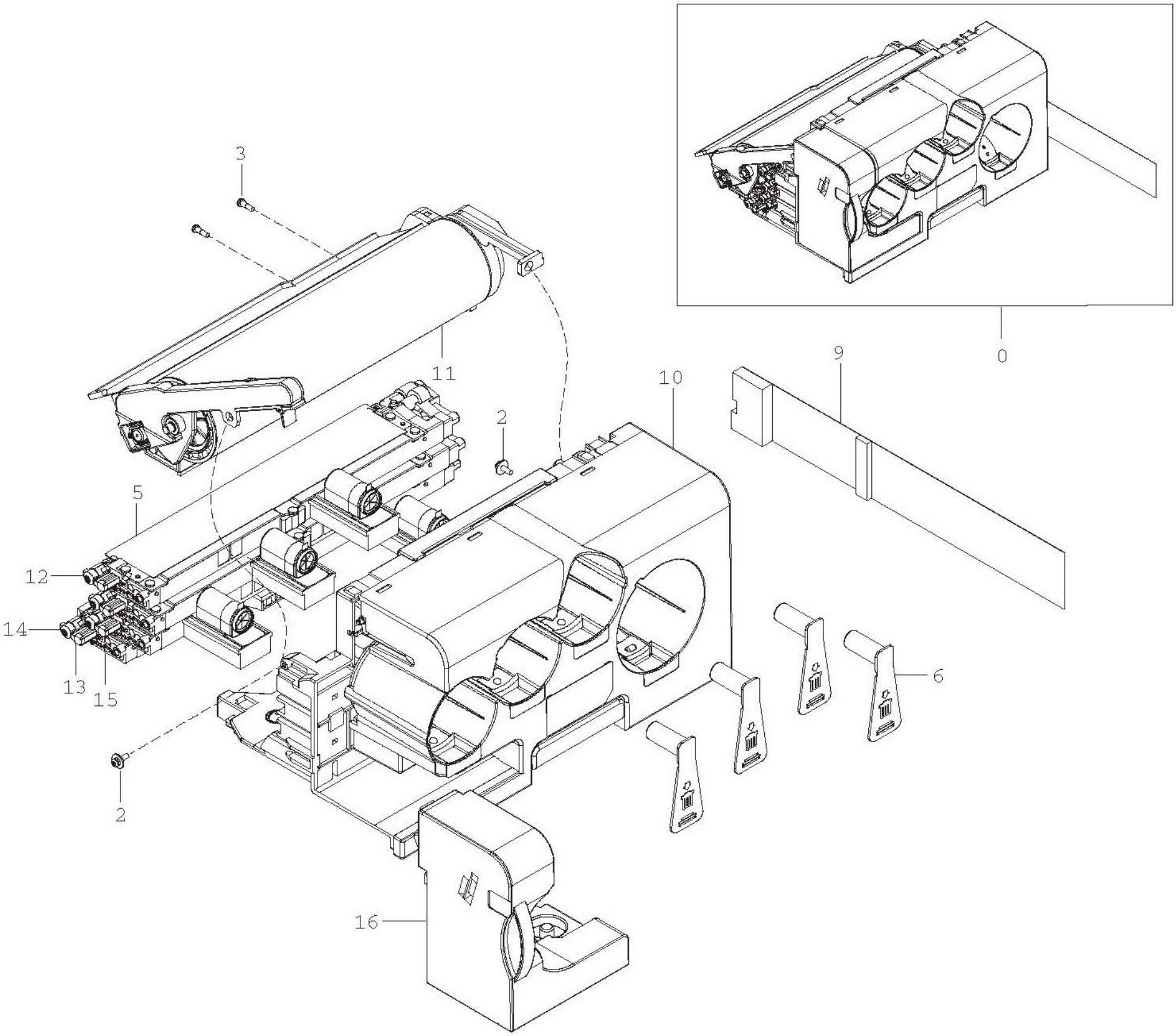
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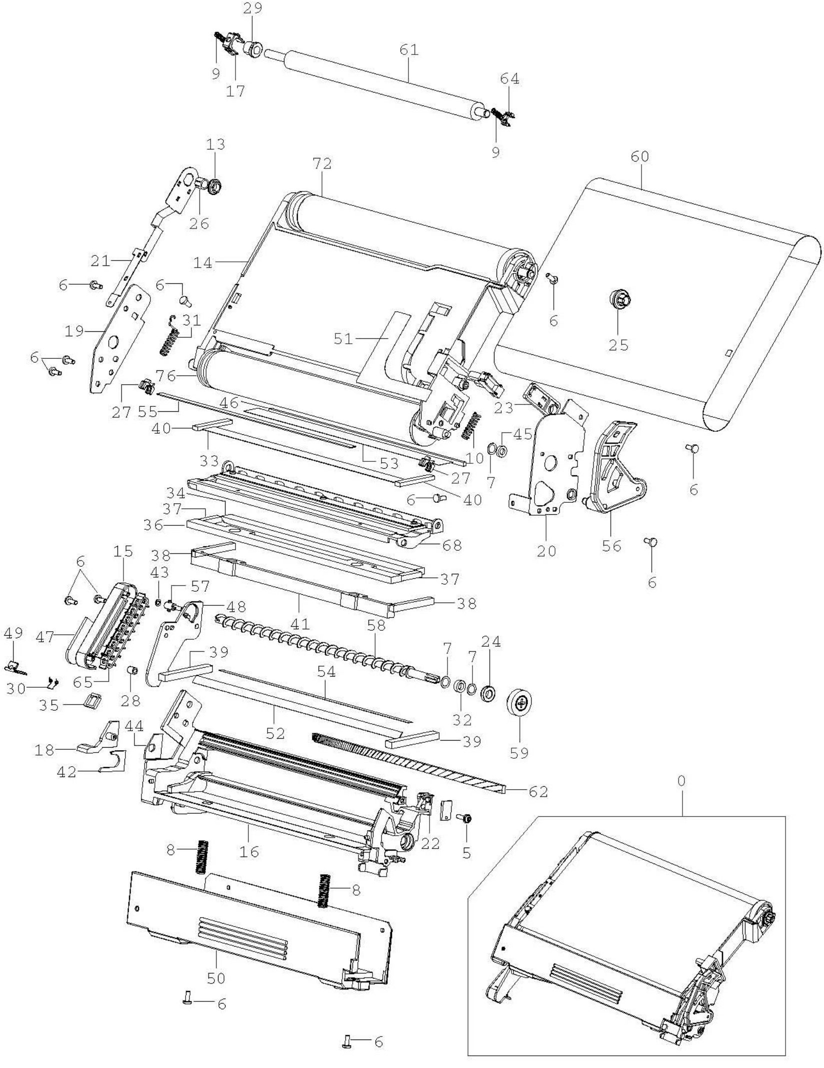

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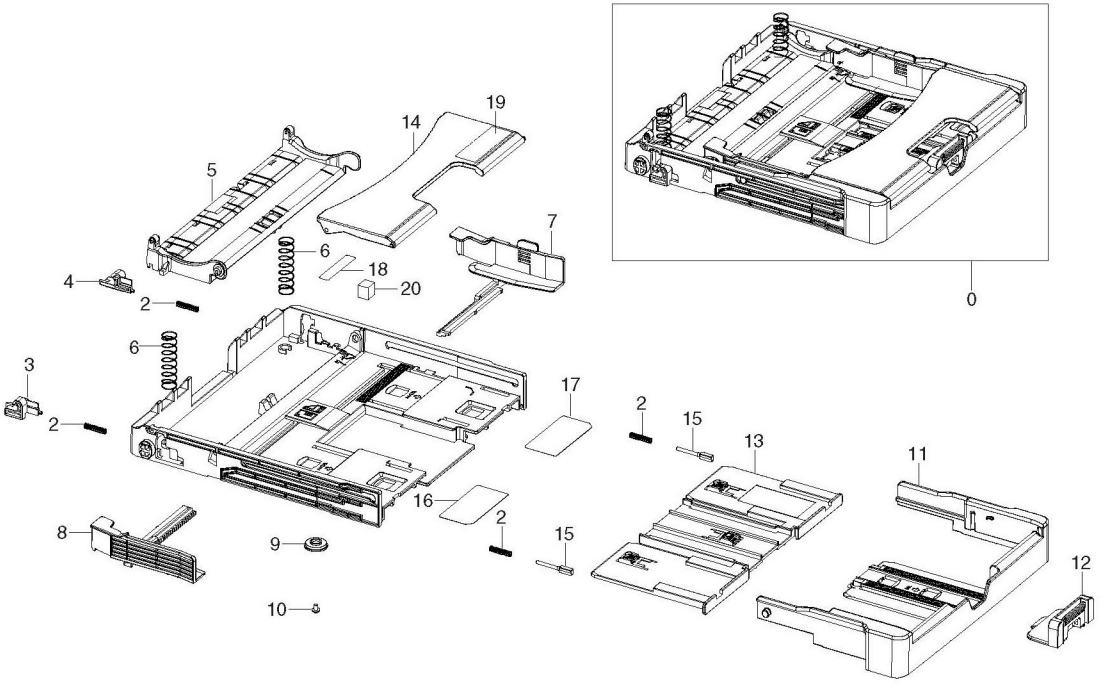
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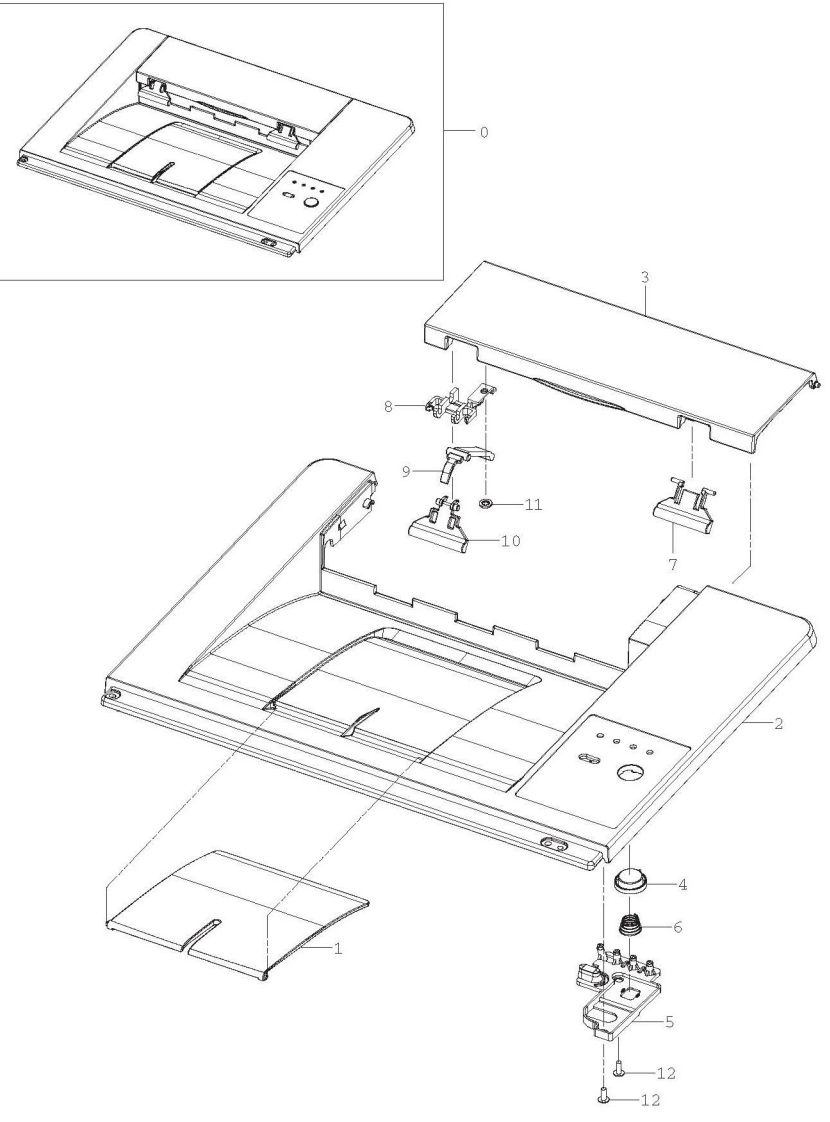
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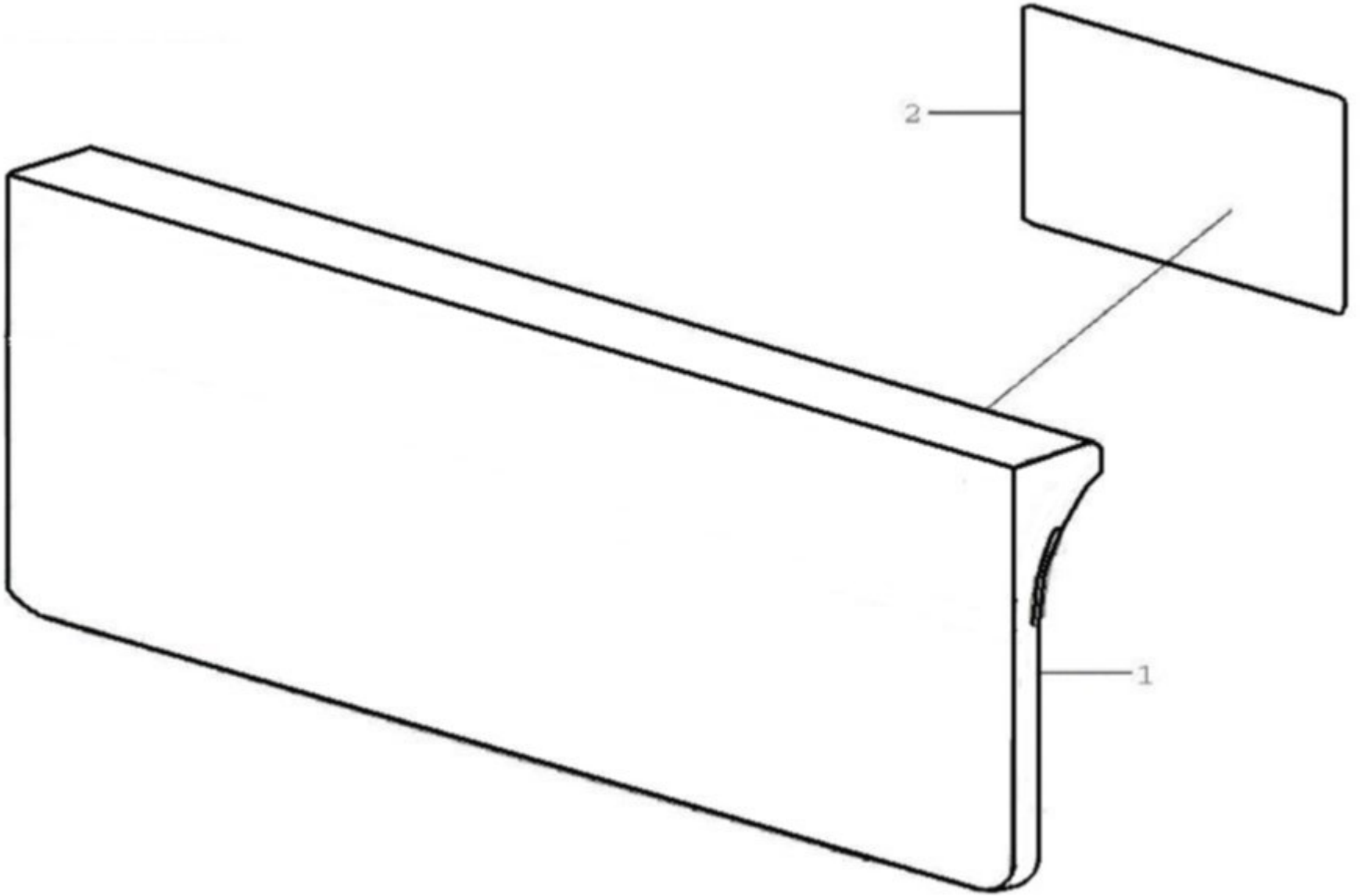
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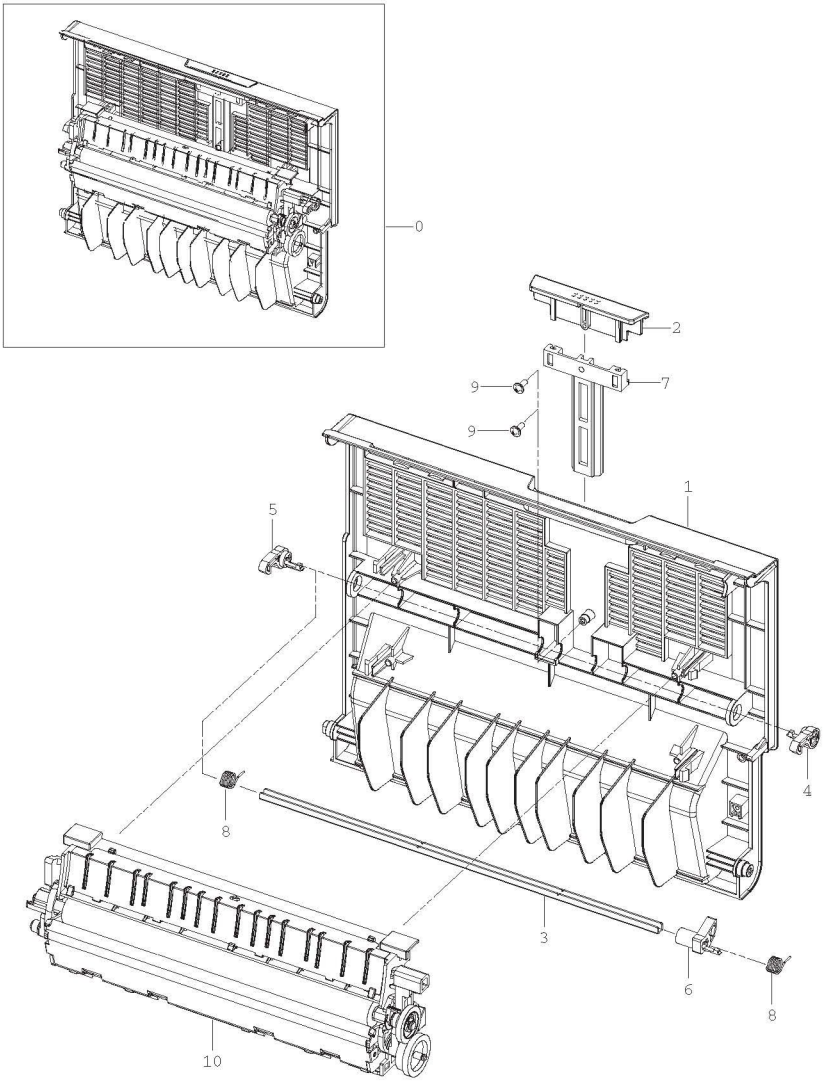
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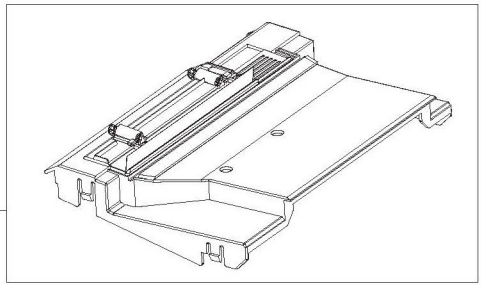
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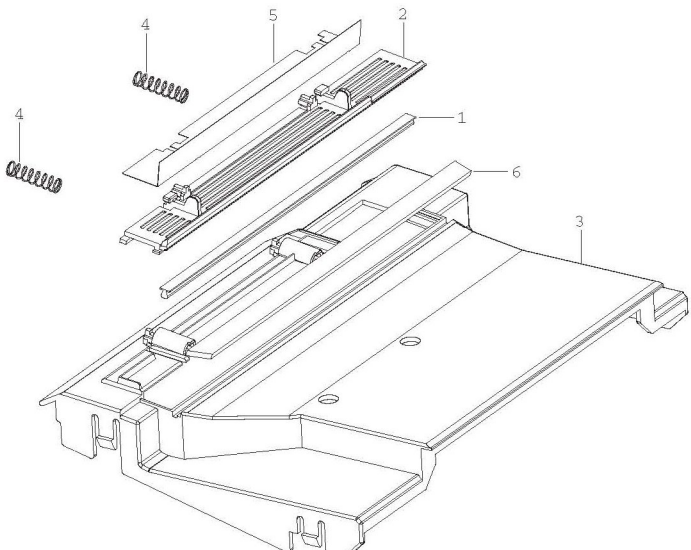
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Hardware (Screws)

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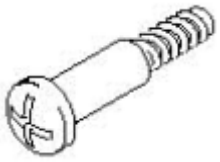
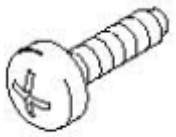
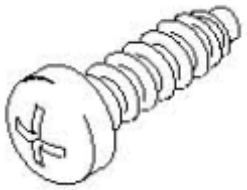
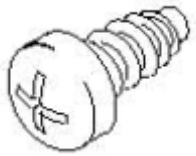
	M3 x 10
	M3 x 6
	M3 x 10
	M3 x 12
	M3 x 6
	M3 x 8

Type/Style	Size/ Length (mm)
	M4 x 10
	M4 x 6
	M2 x 6
	M3 x 10
	M3 x 6

Section 6 General Procedures and Information

Diagnostics are executed in the individual troubleshooting procedures at point of need in Sections 2 or 3, when applicable.

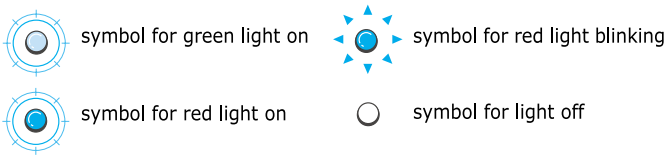
The diagnostics method for this printer is operational diagnostics. That is, during normal operation, electrical measurements can be made on electrical components to check operating signals, or mechanical operations can be observed to discover mechanical operational capability.

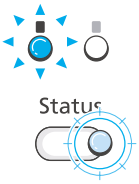
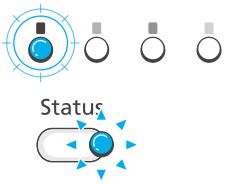
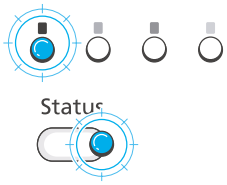
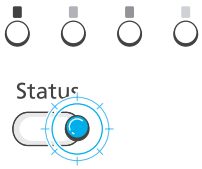
Below is a table of conditions indicated by the LEDs.

Error Message

When the printer experiences an error, the control panel will indicate an error message with the indicator lights. Find the light pattern below that matches the printer light pattern and follow the solutions to clear the error.

LED status legend



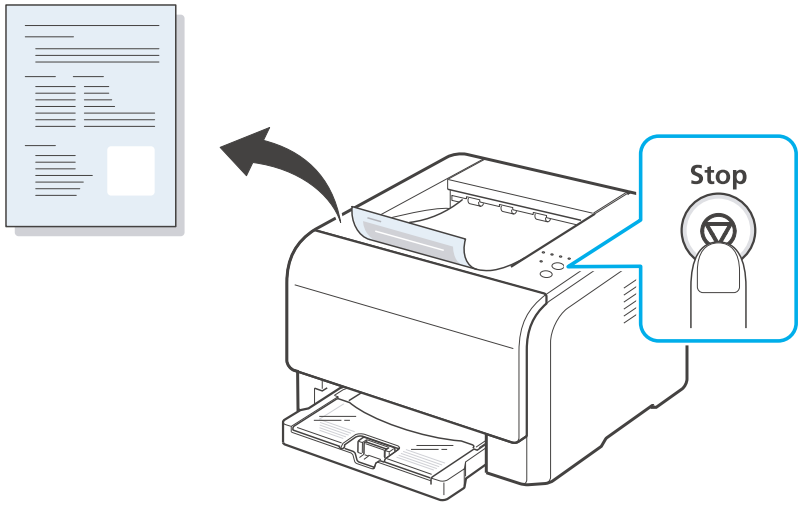
LED pattern	Possible Problem and Solution
	The blinking toner cartridge is low. Order a new toner cartridge. You can temporarily improve print quality by redistributing the toner.
	The lighting toner cartridge is empty. Remove the old toner cartridge and install a new one.
	· The blinking toner cartridge is totally exhausted. Remove the old toner cartridge and install a new one. · The blinking toner cartridge is wrong. Only install a Xerox toner cartridge, designed for your printer.
	· A paper jam has occurred. To solve the problem. · The front cover is open. Close the front cover. · There is no paper in the tray. Load paper in the tray. · The waste toner container is open or full. Check the container. · Your system has some problems. If this problem occurs, contact your service representative.

Sample Pattern

This product provides several printable test patterns for maintenance purposes. These patterns can be used to aid the diagnosis of print quality problems.

Printing a Configuration Page

You can print a configuration page from the printer's control panel. Use the configuration page to view the current settings, to help troubleshoot problems.
To print a configuration page: In ready mode, press and hold the Stop button on the control panel for 5 seconds.
A configuration page prints out.

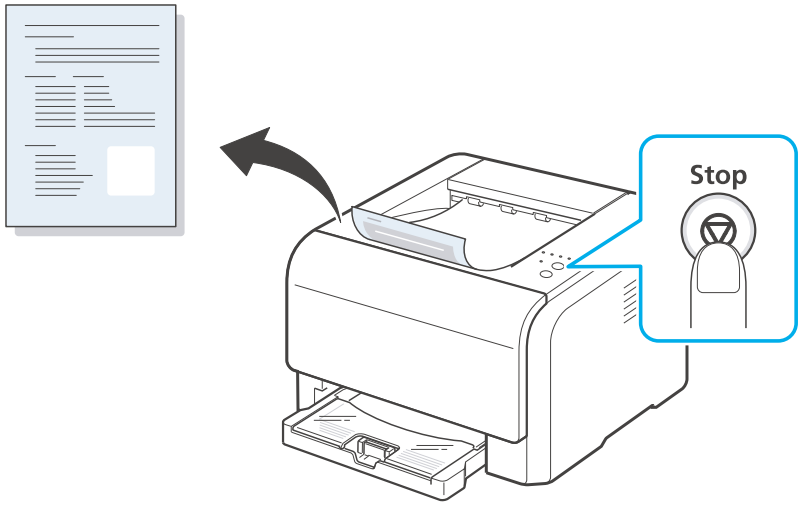


Sample Pattern

This product provides several printable test patterns for maintenance purposes. These patterns can be used to aid the diagnosis of print quality problems.

Printing a Demo Page

Print a demo page to make sure that the printer is operating correctly.
To print a demo page: In ready mode, press and hold the Stop button for 2 seconds.
A demo page showing the printer's features and capabilities is printed.



Firmware Upgrade

This procedure is used to upgrade Firnware. It requires a Firmware File and an Upgrade Tool in a folder on a PWS. A USB cable is required to connect the machine to the PWS.

PROCEDURE

Upgrade Firmware

1. Connect PC and Printer with USB Cable.
2. Switch on the machine.
3. Navigate to the folder on PWS that contains the Firmware File and the dosusb.EXE Firmware Upgrade Tool.
4. Drag and drop the Firmware File over the dosusb.EXE file and the upgrade will execute.
5. Check the DOS command window activity on the PWS. When the DOS command window activity stops and when the LEDs indicates Ready switch off the Phaser 6110.
6. Disconnect the USB cable and switch on the Phaser 6110 to complete the procedure.

Jam Removal

When a jam occurs while printing a jam message is displayed on the control panel.

*** Jam0 In Tray 1:**
Paper jam in the main cassette.
*** Jam0 In MP Tray:**
Paper jam in the MP tray
*** Jam Inside Printer:**
Jam 1, Paper is jammed inside the printer.
*** Jam In Exit Area:**
Jam2, Paper is jammed in the exit area when ejecting paper.

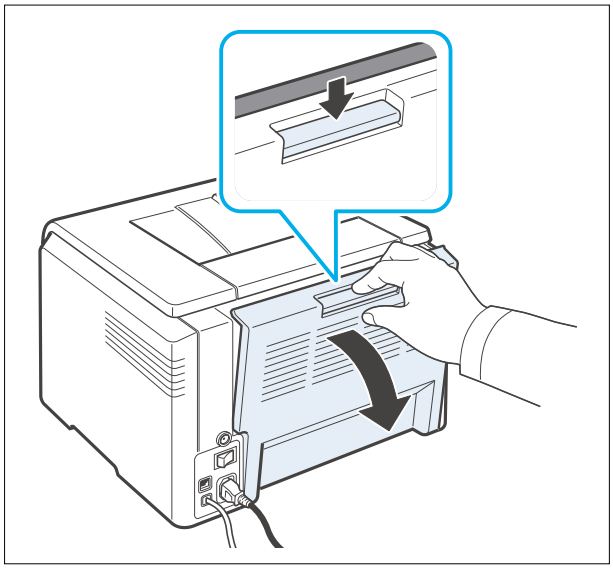
CAUTION: When removing jammed paper, always pull it firmly and evenly without any sudden jerks. If at all possible, remove the paper as a single sheet. If the paper tears ensures ALL paper fragments are removed. Any fragments left inside the machine will cause it to jam again.

Clearing Paper Jams

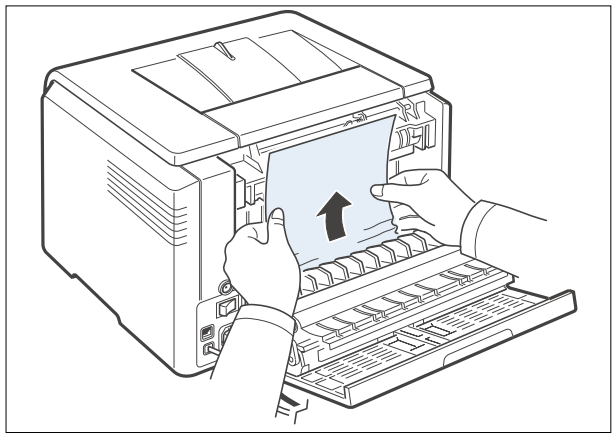
NOTE: When removing paper that is jammed in the printer, if possible always pull the paper in the direction that it normally moves so as not to damage internal components. Always pull firmly and evenly; do not jerk the paper. If the paper tears, ensure that all fragments of paper are removed; otherwise a jam will occur again.

If a paper jam occurs, the Status LED on the control panel lights red. Find and remove the jammed paper. To resume printing after clearing paper jams, you must open and close the front cover or rear cover.

1. To remove the jammed paper, open the rear cover.

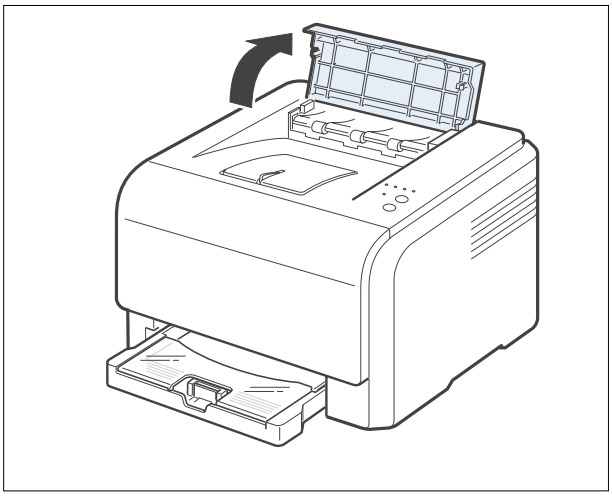


2. Carefully remove the paper by pulling in the direction as shown below. Most of the jammed paper can be removed in this step.

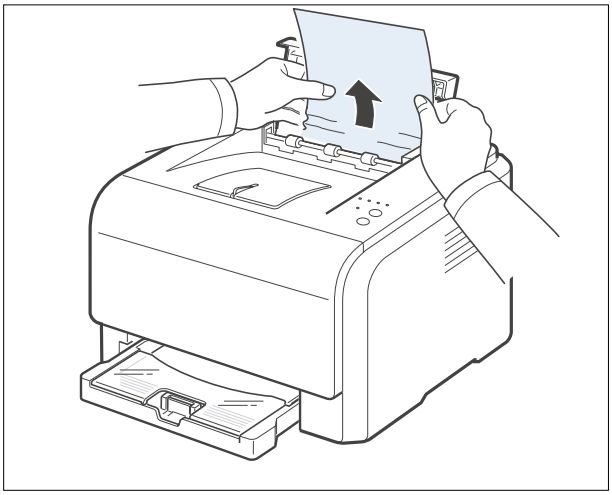


If you cannot find the jammed paper, or if there is any resistance removing the paper, stop pulling and go to the next step.

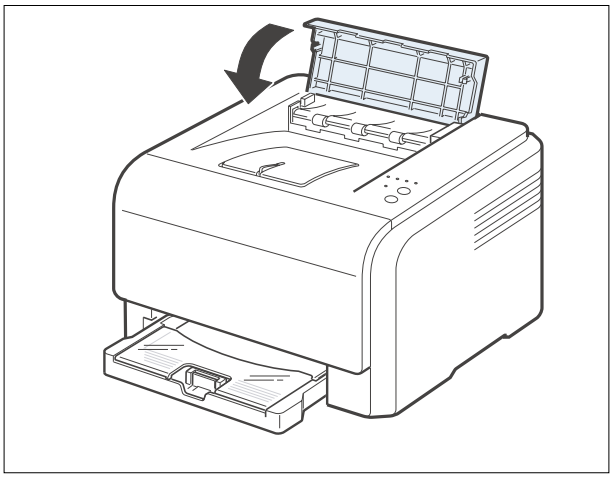
3. Close the rear cover and then open the top cover.



4. Holding the inner cover open, carefully take the jammed paper out of the printer. The inner cover will then close automatically.



5. Close the top cover. Make sure that it is securely latched.



6. Open and then close the rear cover or front cover to resume printing.

Tips for Avoiding Paper Jams

By selecting the correct paper types, most paper jams can be avoided.

- Follow the procedures Jam remove. Ensure that the adjustable guides are positioned correctly.
- Do not overload the paper tray.
- Do not remove the paper from the tray while printing.
- Flex, fan, and straighten the paper before loading.
- Do not use creased, damp, or highly curled paper.
- Do not mix paper types in a tray.
- Use only recommended print materials.
- Ensure that the recommended print side of print materials is facing up in the paper tray.

Product Specifications

Product Overview

Item	Descriptions	Remark
Maket of Sales	· Main Target : SOHO, SMB · Black only Function(Saving money)	
Main Specification	1.Speed · Up to 16 ppm in A4 (17 ppm in Letter) · Up to 4 ppm in A4 (4 ppm in Letter) 2.Printing Resolution · Native 600 x 600 dpi standard 3.Processor · CHORUSm (300Mhz), Proprietary SOC 4.Printer Language Emulations · SPL-Color 5.Memory · The controller has 32 MB SDRAM and 4 MB flash ROM on Board 6.Interfaces · One USB port · One 10/100 BaseT network connector 7.Control Panel · No LCD, 2 keys and 6LEDs 8.Consumables · 6 (C/M/Y/K toner, Imaging Unit, Waste toner container) · K toner cartridge: CLP-K300A(2,000 A4/Letter pages, at 5% Coverage, Semi glossy) · C toner cartridge: CLP-C300A(1,000 A4/Letter pages, at 5% Coverage, Semi glossy) · M toner cartridge: CLP-M300A(1,000 A4/Letter pages, at 5% Coverage, Semi glossy) · Y toner cartridge: CLP-Y300A(1,000 A4/Letter pages, at 5% Coverage, Semi glossy) · Imaging unit : CLP-R300A · Waste toner container : CLP-W300A 9.Maintenance · ITB: Approx. 100K black pages (or 25K color pages) · Fuser: 100,000 sheets B&W or 50,000 sheets Color · T2 Roller: 100,000 sheets, Replacable	

Specifications

Specifications are correct at the time of printing. Product specifications are subject to change without notice. See below for product specifications.

General Specifications

Engine Speed	Simplex	Up to 16 ppm in A4 (17 ppm in Letter) Up to 4 ppm in A4 (4 ppm in Letter)
	Duplex	N/A
Warmup time		Less than 35 sec
FPOT (B&W)	From Ready	Less than 14 sec
	From Idle	Less than 45 sec
	From Coldboot	Less than 45 sec
FPOT (Color)	From Ready	Less than 26 sec
	From Idle	Less than 57 sec
	From Coldboot	Less than 57 sec
Resolution	Optical	600 x 600 dpi
	Support	MAX: 2400 x 600 dpi effective output, 1200 x 600 dpi (default), 600 x 600 dpi(Color & B&W)

Controller & S/W

MPU		Samsung CHORUSm 300MHz	
Memory	Std.	32 MB 64 MB	
	Max.	32 MB 64 MB	
Memory Expansion		N/A	
Printer Languages		SPL-C (Samsung Printer Language Color)	
Fonts		N/A	
Driver	Supporting OS	Windows 98/Me/2000/XP/2003	
		Various Linux OS including Red Hat 8.0~9.0, Mandrake 9.0~10.1, SuSE 8.2~9.2 and Fedora Core 1~3	
		Mac OS 10.3 ,10.4	
	Default Driver	SPL-C (Samsung Printer Language Color)	
	Driver feature	Watermark Overlay N-up printing Poster printing Manual duplex Quality(1200 dpi, 1200dpi class, 600 dpi) Color mode (Color, Gray scale) Color spec. application∫∞ color matiching Device color Black only status in Status monitor	
	WHQL	Windows 2000/XP/2003	
	Language Localization	Korean, English, French, German, Italian, Spanish, Russian, Dutch, E.Portuguese, Finish, Swedish, Norwegian, Danish, S.Chinese, T.Chinese, Polish, Hungarian, Czech	
Application	RCP	USB	USB / Network
	Smart Panel	Yes(USB, Install Default)	Yes(USB / Network, Install Default)
	Network Management	N/A	Set IP, Web SyncThru3 (SWS)
	SmarThru4	N/A	
Interface			
Parallel		N/A	
USB		USB 2.0	
Network		N/A	Ethernet 10/100 Base TX
Wireless		External	
Network Interface			
Protocol		N/A	TCP/IP, DLC/LLC, IPP, SNMP
Network OS		N/A	Microsoft Windows 98/ME/2000/ XP/2003Microsoft Windows NT 4.x and aboveDriver longhorn, Mac OS 10.3 or higher (TCP/IP only)Mac OS 9 available Various Linux OS including Red Hat, Caldera, Debian, Mandrake, Slackware, SuSE and Turbo LinuxNovell not available

Paper Handling

Standard Capa.		150-sheet Semi Cassette Tray
Max. Capa.		150 sheets @75g/㎡
Printing	Max. Size	216 x 356mm (8.5" x 14")
	Min. Size	76 x 127 mm (3" x 5")
	Margin(T/B/L/R)	4 mm, 4 mm, 4 mm, 4 mm
Multi-purpose tray		
Capacity		N/A
Media sizes		N/A
Media type		N/A
Media weight		N/A
Sensing		N/A
Standard Cassette Tray - Semi cassette type		
Capacity		150 sheets @ 75g/㎡
Media sizes		76 x 127 mm (3" x 5") ~ 216 x 356 mm (8.5" x 14")
Media types		Envelopes, Labels, Card stock, TransparencyPapers(Pre-printed,Glossy,punched,recycled)
Media weight		16~43lb (60 to 163g/㎡)
Size sensor		N/A
Sensing		Paper empty sensor
Optional Cassette Tray		
Capacity		N/A
Media sizes		N/A
Media types		N/A
Media weight		N/A
Size sensor		N/A
User Interface		N/A
Sensing		N/A
Output Stacking		
Capacity	FaceUp	N/A
	FaceDown	100 sheets @ 75g/㎡
Output Full sensing		N/A
Duplex		
Supporting		Manual
Throughput		N/A
Media sizes		N/A
Media types		N/A
Media weight		N/A

Consumables

CRU		
No. of CRUs		6 (C/M/Y/K toner, Imaging Unit, Waste toner container) K toner cartridge: CLP-K300A C toner cartridge: CLP-C300A M toner cartridge: CLP-M300A Y toner cartridge: CLP-Y300A Imaging unit : CLP-R300A Waste toner container: CLP-W300A
Toner	Black	2,000 A4/Letter pages, at 5% Coverage, Semi glossy
	Color	1,000 A4/Letter pages, at 5% Coverage, Semi glossy
	Key	Unique, Electronic key(CRUM)
	Life detect	Sensor (Y)Remain % (90% : warning,100%: empty, 120% : hardstop)
Imaging Kit(OPC+Deve)	Yield	Approx. 20K black pages (or 12.5K color pages)
	Key	Unique, Electronic key(CRUM)
	Sensor	None, that would be traced via software
	Replace method	6 steps for install/replacing
Waste Toner Container	Yield	1,250 sheets (Full Color 5% Image) or 5,000 images, Ful Sensor
	Key	N/A
FRU		
No. of FRUs		4 (ITB, Fuser, T2 roller, Pick-up roller)
ITB	Yield	Approx. 100K black pages (or 25K color pages)
	Key	None
	Sensor	None
Fuser	Yield	100,000 sheets B&W or 50,000 sheets Color
	Key	None
T2 Roller	Yield	100,000 sheets, Replacable
	Key	None
Pick-up Roller	Yield	100,000 sheets, Replacable
	Key	None

Environment

Acoustic Noise Level (Sound Power/Pressure)	Printing	Less than 48.0 dBA (Color printing) Less than 49.0 dBA (B/W printing)
	Standby	Less than 35 dBA
	Sleep	Background noise level
Input Voltages		90-140 VAC, 50/60Hz
		189-264 VAC, 50/60Hz
		Power Switch
Power Consumption	Ready	Less than 160w
	AVG.	Less than 450W
	Max/Peak	700W/1KW
	Sleep/Power Off	Less than 17W /Less than
Dimension(W x D x H)	Set	390 X 344 X 265 mm (15.4" x 13.5" x 10.4")
	Set Packing	531 X 443 X 418 mm (20.9" x 17.4" x 16.5")
Weight	Set (with consumables)	13.6 kg
	Set Packing	17.0 kg
	Consumable	3.5 kg(Imaging Unit)

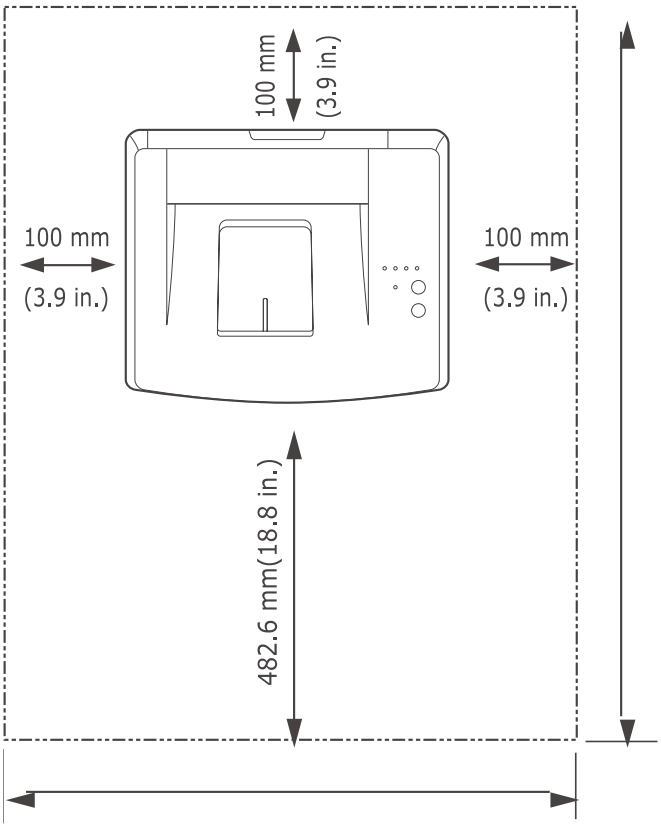
Options

Memory	N/A
Second Cassette	N/A
PostScript	N/A
Network	N/A
Wireless Network	N/A
Hard Disk	N/A
Duplex Unit	N/A

Select a location for the printer

- Leave enough room to open the printer trays, covers, and allow for proper ventilation. (see diagram below)

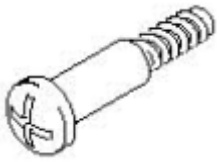
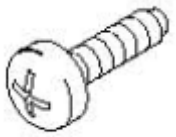
- Provide the proper environment :
  - A firm, level surface
  - Away from the direct airflow of air conditioners, heaters, or ventilators
  - Free of extreme fluctuations of temperature, sunlight, or humidity
  - Clean, dry, and free of dust

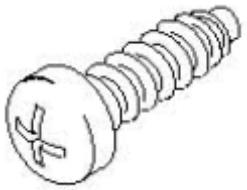
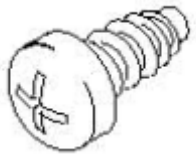


Consumables

CRU		
No. of CRUs		6 (C/M/Y/K toner, Imaging Unit, Waste toner container) K toner cartridge: C toner cartridge: M toner cartridge: Y toner cartridge: Imaging unit : Waste toner container:
Toner	Black	2,000 A4/Letter pages, at 5% Coverage, Semi glossy
	Color	1,000 A4/Letter pages, at 5% Coverage, Semi glossy
	Key	Unique, Electronic key(CRUM)
	Life detect	Sensor (Y)Remain % (90% : warning,100%: empty, 120% : hardstop)
Imaging Kit(OPC+Deve)	Yield	Approx. 20K black pages (or 12.5K color pages)
	Key	Unique, Electronic key(CRUM)
	Sensor	None, that would be traced via software
	Replace method	6 steps for install/replacing
Waste Toner Container	Yield	1,250 sheets (Full Color 5% Image) or 5,000 images, Ful Sensor
	Key	N/A
FRU		
No. of FRUs		4 (ITB, Fuser, T2 roller, Pick-up roller)
ITB	Yield	Approx. 100K black pages (or 25K color pages)
	Key	None
	Sensor	None
Fuser	Yield	100,000 sheets B&W or 50,000 sheets Color
	Key	None
T2 Roller	Yield	100,000 sheets, Replacable
	Key	None
Pick-up Roller	Yield	100,000 sheets, Replacable
	Key	None

Hardware (Screws)

Type/Style	Size/ Length (mm)
	M3 x 10
	M3 x 6
	M3 x 10
	M3 x 12
	M3 x 6
	M3 x 8

Type/Style	Size/ Length (mm)
	M4 x 10
	M4 x 6
	M2 x 6
	M3 x 10
	M3 x 6

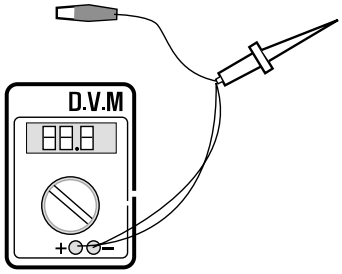
Reference Information

This chapter contains the tools list, list of abbreviations used in this manual, and a guide to the location space required when installing the printer. A definition of tests pages and Wireless Network information definition is also included.

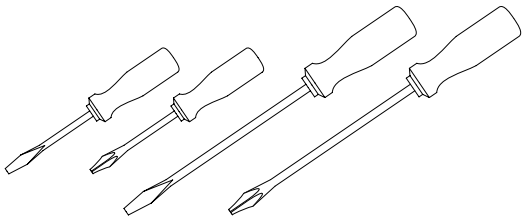
Tools for Troubleshooting

The following tools are recommended safe and easy troubleshooting as described in this service manual.

- **DVM(Digital Volt Meter)**
  Standard : Indicates more than 3 digits.



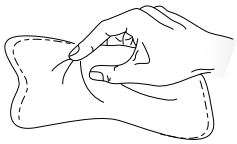
- **Driver**
  Standard : "-" type, "+" type (M3 long, M3 short, M2 long, M2 short).



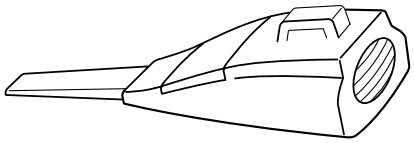
- **Tweezers**
  Standard : For general home use, small type.

- **Cotton Swab**
  Standard : For general home use, for medical service.

- **Cleaning Equipments**
  Standard : An IPA(Isopropyl Alcohol)dry wipe tissue or a gentle neutral detergent and lint-free cloth.

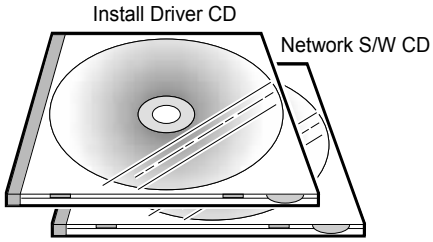


- **Vacuum Cleaner**



- **Brush**

- **Software (Driver) installation CD ROM**



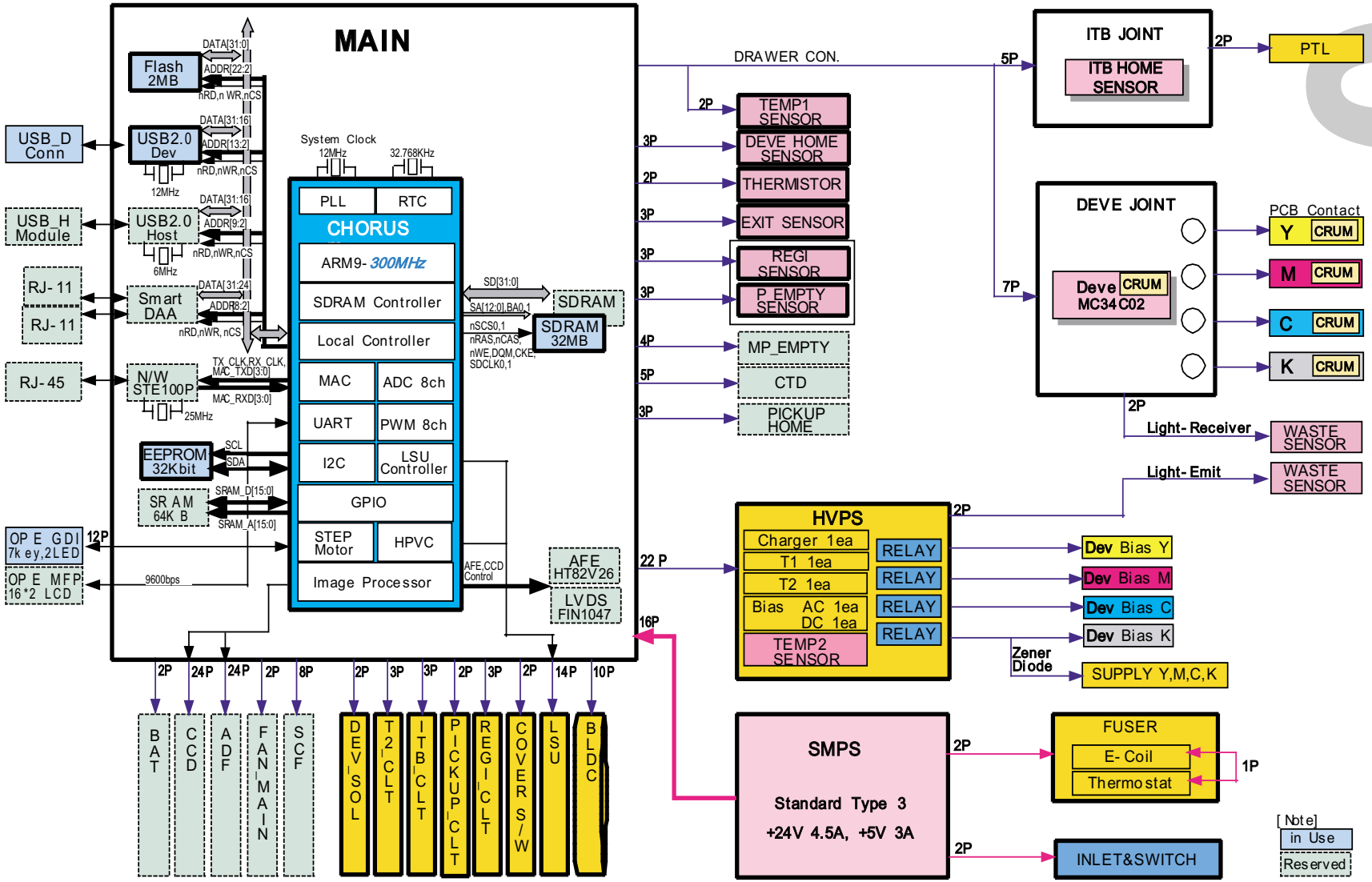
Acronyms and Abbreviations

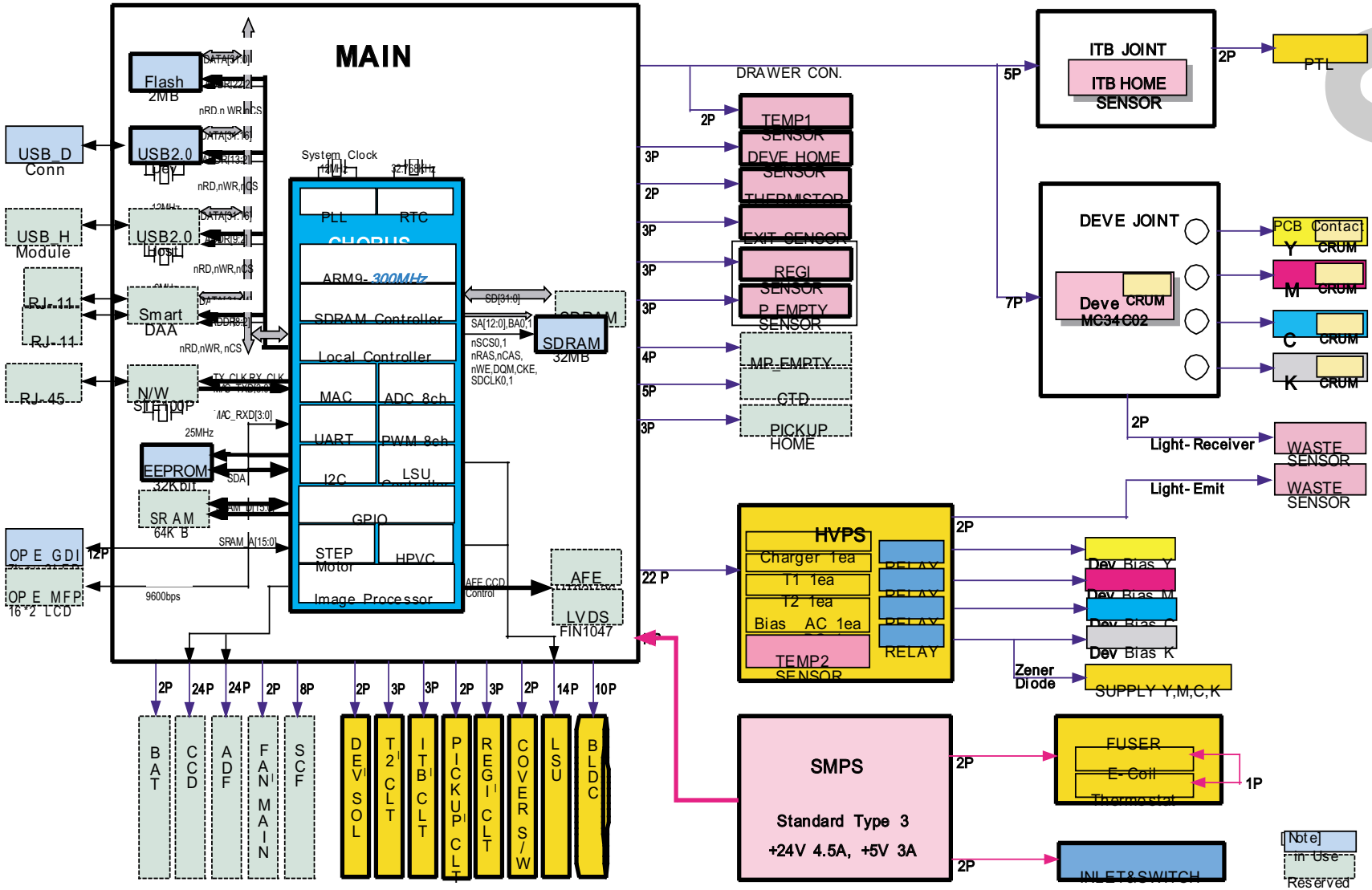
The table below explains the abbreviations and acronyms used in this service manual. Where abbreviations or acronyms are used in the text please refer to this table.

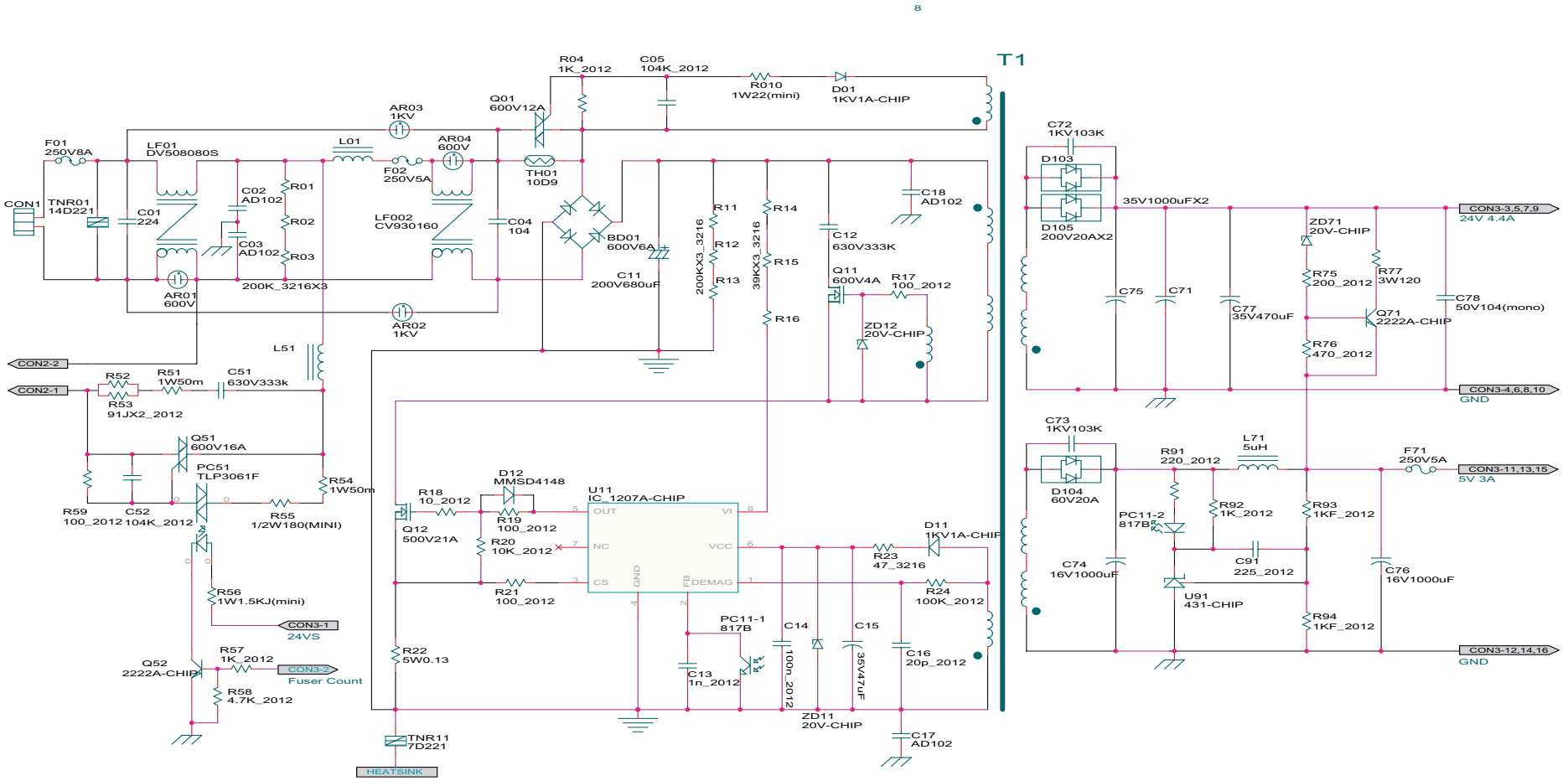
ADC	Analog-to-Digital-Conversion
AP	Access Point
AC	Alternating Current
ASIC Circuit	Application Specific Integrated
ASSY	Assembly
BIOS	Basic Input Output System
BLDC Motor	Brushless DC Motor
CLBP	Color Laser Beam Printer
CMOS	Complementary Metal Oxide Semiconductor
CMYK	Cyan, Magenta, Yellow, Black
CN	Connector
CON	Connector
CPU	Central Processing Unit
CTD Sensor	Color Toner Density Sensor
dB	Decibel
dBA	A-Weighted decibel
dBm	Decibel milliwatt
DC	Direct Current
DCU	Diagnostic Control Unit
DIMM	Dual In-line Memory Module
DPI	Dot Per Inch
DRAM	Dynamic Random Access Memory
DVM	Digital Voltmeter
ECP	Enhanced Capability Port
ECU	Engine Control Unit
EEPROM	Electronically Erasable Programmable Read Only Memory
EMI	Electro Magnetic Interference
EP	Electro photographic
EPP	Enhanced Parallel Port
F/W	Firmware
FCF/FCT	First Cassette Feeder/First Cassette Tray
FISO	Front-In, Side-Out
FPOT	First Print out Time
GDI	Windows Graphic Device Interface
GIF	Graphic Interchange Format
GND	Ground
HBP	Host Based Printing
HDD	Hard Disk Drive
HTML	Hyper Text Transfer Protocol
HV	High Voltage
HVPS	High Voltage Power Supply
I/F	Interface
I/O	Input and Output
lb	Pound(s)
IC	Integrated Circuit
ICC	International Color Consortium
IDE	Intelligent Drive Electronics or Integrated Drive Electronics
IEEE	Institute of Electrical and Electronics Engineers. Inc
IOT	Image Output Terminal (Color printer, Copier)
IPA	Isopropy Alcohol
IPC	Inter Process CommunicationEPP Enhanced parallel Port
IPM	Images Per Minute
ITB	Image Transfer Belt
LAN	local area network
LBP	Laser Beam Printer

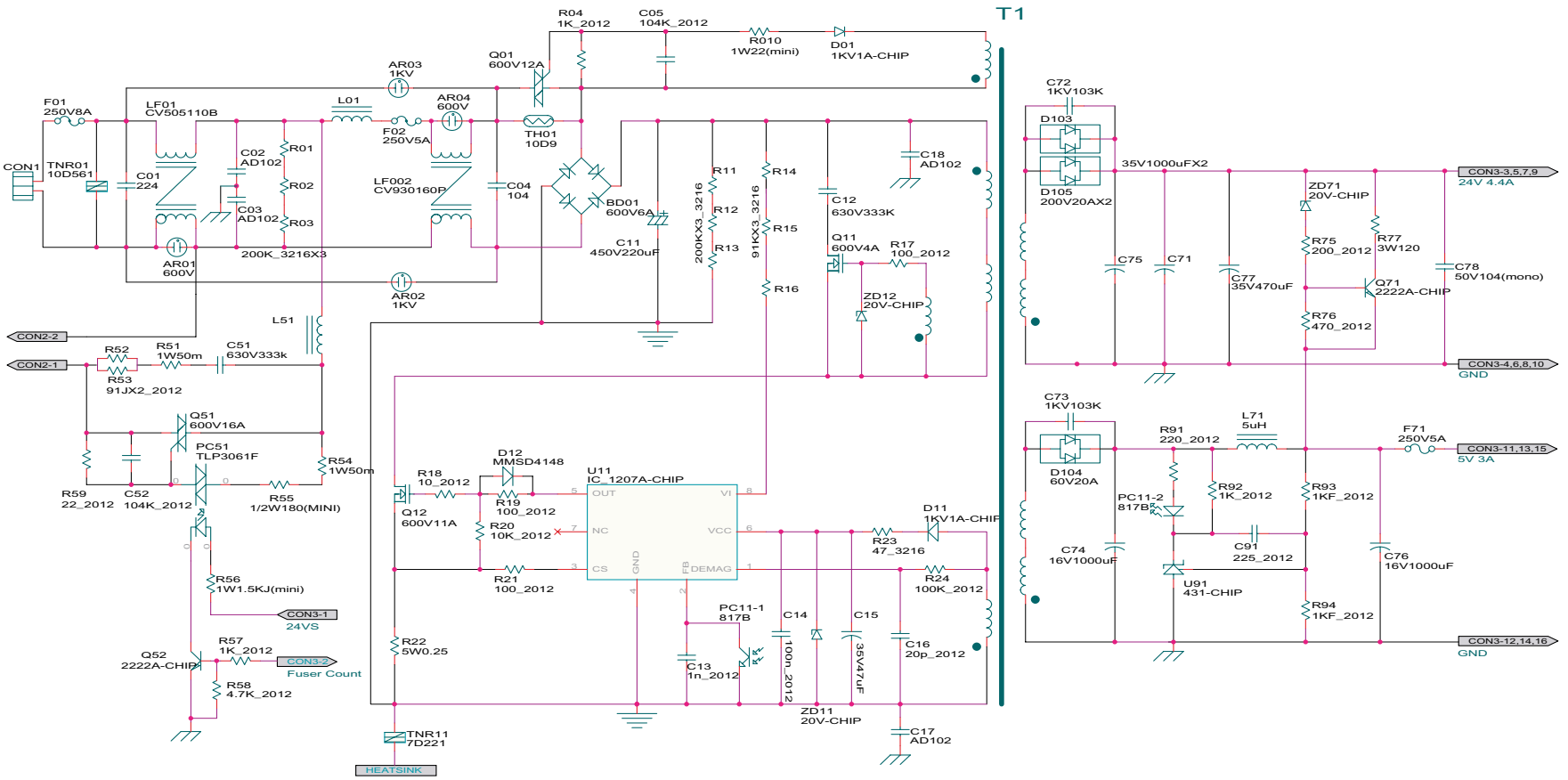
LED	Light Emitting Diode
LSU	Laser Scanning Unit
MB	Megabyte
MHz	Megahertz
MPBF	Mean Prints Between Failure
MPF/MPT	Multi Purpose Feeder/Multi Purpose Tray
NIC	Network Interface Card
NPC	Network Printer Card
NVRAM	Nonvolatile Random Access Memory
OPC	Organic Photo Conductor
PBA	Printed Board Assembly
PCL	Printer Command Language , Printer Control Language
PCI	Peripheral Component Interconnect by Intel 1992/6/22, is a local bus standard developed by Intel and introduced in April, 1993 : A60, B60 Pins
PCL5Ce	Printer Command Language 5Ce-Color
PCL6	Printer Command Language 6
PDF	Portable Document Format
PDL	Page Description Language
Ping	Packet internet or Inter-Network Groper
PPD	Postscript Printer Discription
PPM	Page Per Minute
PS	Post Script
PS3	Post Script Level3
PTL	Pre-Transfer Lamp
PTB	Paper-Transfer Belt
PWM	Pulse Width Moduration
Q'ty	Quantity
RAM	Random Access Memory
RCP	Remote Control Panel
ROM	Read Only Memory
SCF/SCT	Second Cassette Feeder/Second Cassette Tray
SMPS	Switching Mode Power Supply
SPGP	Samsung Printer Graphic Processor
SPL	Samsung Printer Language
SPL-C	Samsung Printer Language-Color
Spool	Simultaneous Peripheral Operation Online
SRS	Software Requirment Specification
SURF	Surface Rapid Fusing
SW	Switch
sync	Synchronous or Synchronization
T1	ITB
T2	Transfer Roller
TRC	Toner Reproduction Curve
PnP	Universal Plug and Play
U.I.	User Interface
URL	Uniform Resource Locator
USB	Universal Serial Bus
VCCI	Voluntary Control Council for Interference Information Technology Equipment
WECA Alliance	Wireless Ethernet Compatibility
Wi-Fi	Wireless Fidelity

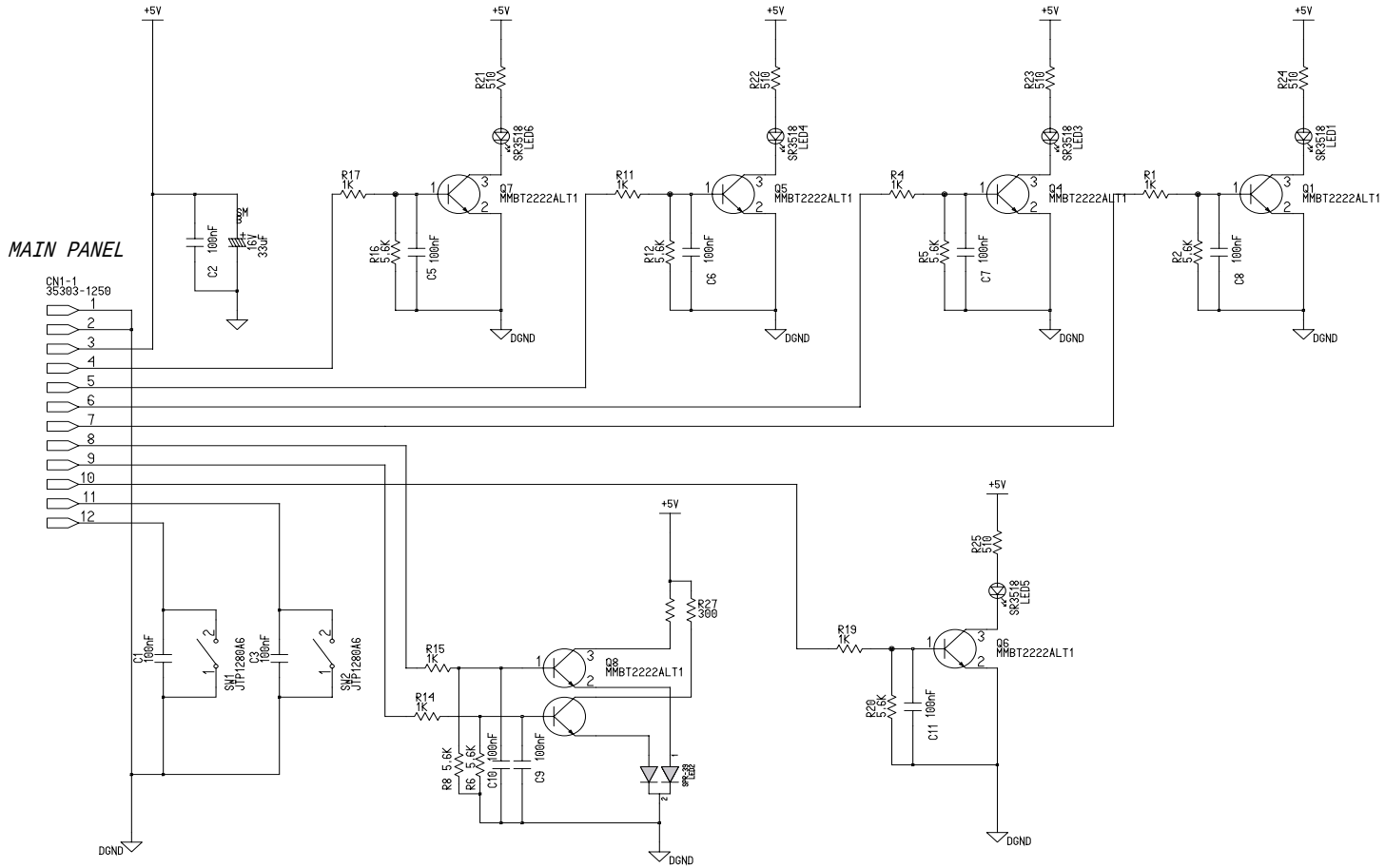
Section 7 Wiring Data

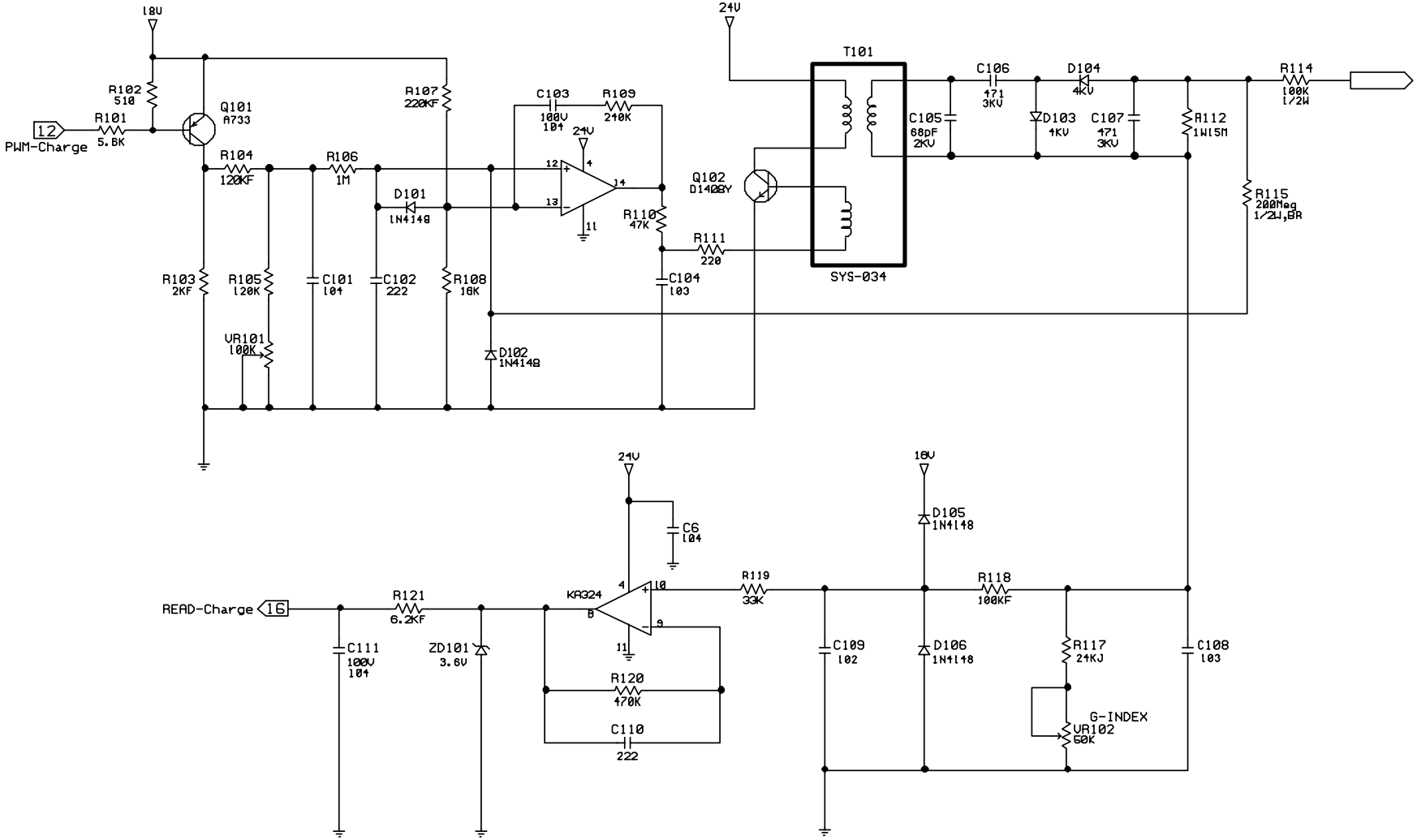

MAIN
Flash 2MB
USB_D Conn
USB2.0 Dev
USB_H Module
USB2.0 Host
RJ-11
RJ-11
Smart DAA
RJ-45
N/W STE100P
EEPROM 32Kbit
SR AM 64K B
OP E GDI 7k ey,2LED
OP E MFP 16*2 LCD
System Clock
12MHz
32.768KHz
PLL
RTC
CHORUS
ARM9-300MHz
SDRAM Controller
Local Controller
MAC
ADC 8ch
UART
PWM 8ch
I2C
LSU Controller
GPIO
STEP Motor
HPVC
Image Processor
SDRAM
SDRAM 32MB
AFE HT82V26
LVDS FIN1047
DRAWER CON.
TEMP1 SENSOR
DEVE HOME SENSOR
THERMISTOR
EXIT SENSOR
REGI SENSOR
P EMPTY SENSOR
MP_EMPTY
CTD
PICKUP HOME
ITB JOINT
ITB HOME SENSOR
PTL
DEVE JOINT
Deve CRUM MC34C02
PCB Contact
Y CRUM
M CRUM
C CRUM
K CRUM
Light-Receiver
WASTE SENSOR
Light-Emit
WASTE SENSOR
HVPS
Charger 1ea
T1 1ea
T2 1ea
Bias AC 1ea DC 1ea
TEMP2 SENSOR
RELAY
RELAY
RELAY
RELAY
Dev Bias Y
Dev Bias M
Dev Bias C
Dev Bias K
Zener Diode
SUPPLY Y,M,C,K
SMPS
Standard Type 3
+24V 4.5A, +5V 3A
FUSER
E-Coil
Thermostat
INLET&SWITCH
[Note]
in Use
Reserved
BAT
CCD
ADF
FAN_MAIN
SCF
DEV_SOL
T2_CLT
ITB_CLT
PICKUP_CLT
REGI_CLT
COVER S/W
LSU
BLDC

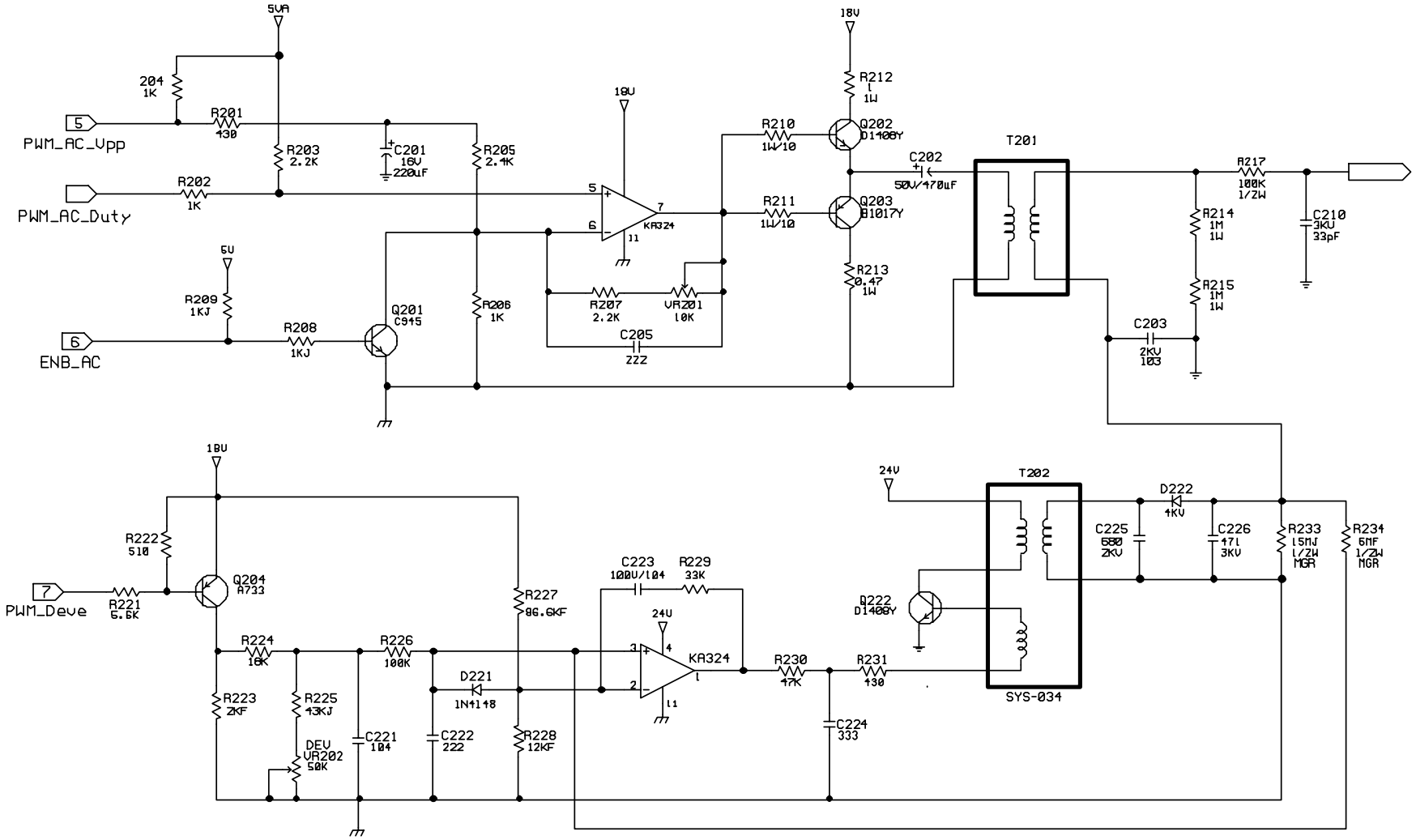

MAIN
Flash 2MB
USB_D Conn
USB2.0 Dev
USB_H Module
USB2.0 Host
RJ-11
RJ-11
Smart DAA
RJ-45
N/W
EEPROM 32Kbit
SRAM 64K B
OPE GDI
OPE MFP 16*2 LCD
System Clock
PLL
RTC
CHORUS
ARM9- 300MHz
SDRAM Controller
Local Controller
MAC
ADC 8ch
UART
PWM 8ch
I2C
LSU
GPIO
STEP Motor
HPVC
Image Processor
SDRAM 32MB
AFE
LVDS FIN1047
DRAWER CON.
TEMP1 SENSOR
DEVE HOME SENSOR
THERMISTOR
EXIT SENSOR
REGI SENSOR
P_EMPTY SENSOR
MP_EMPTY
CTD
PICKUP HOME
ITB JOINT
ITB HOME SENSOR
PTL
DEVE JOINT
Deve CRUM MC34C02
PCB Contact
Y CRUM
M CRUM
C CRUM
K CRUM
Light- Receiver
WASTE SENSOR
Light- Emit
WASTE SENSOR
HVPS
Charger 1ea
T1 1ea
T2 1ea
Bias AC 1ea
TEMP2 SENSOR
RELAY
Dev Bias Y
Dev Bias M
Dev Bias C
Dev Bias K
Zener Diode
SUPPLY Y,M,C,K
SMPS
Standard Type 3
+24V 4.5A, +5V 3A
FUSER
E-Coil
Thermostat
INLET&SWITCH
[Note]
In Use
Reserved
BAT
CCD
ADF
FAN MAIN
SCF
DEV SOL
T2 CLT
ITB CLT
PICKUP CLT
REGI CLT
COVER S/W
LSU
BLDC

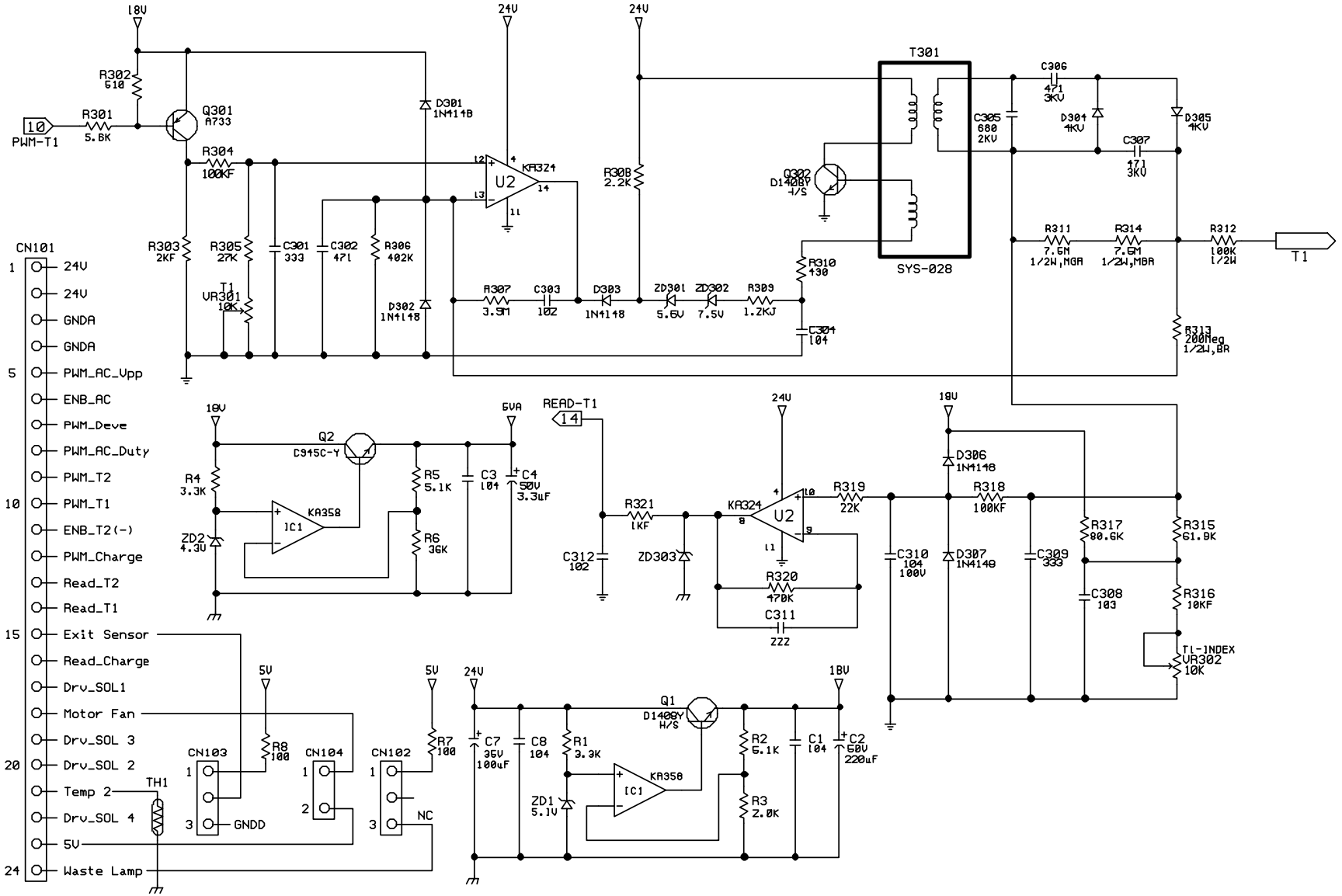

8
T1
F01
250V8A
LF01
DV508080S
L01
AR03
1KV
AR04
600V
F02
250V5A
Q01
600V12A
R04
1K_2012
C05
104K_2012
R010
1W22(mini)
D01
1KV1A-CHIP
TH01
10D9
CON1
TNR01
14D221
C01
224
C02
AD102
C03
AD102
R01
R02
R03
200K_3216X3
AR01
600V
AR02
1KV
LF002
CV930160
C04
104
BD01
600V6A
C11
200V680uF
R11
R12
R13
200KX3_3216
R14
R15
R16
39KX3_3216
C12
630V333K
C18
AD102
Q11
600V4A
R17
100_2012
ZD12
20V-CHIP
L51
CON2-2
CON2-1
R52
R53
91JX2_2012
R51
1W50m
C51
630V333k
Q51
600V16A
PC51
TLP3061F
R54
1W50m
R55
1/2W180(MINI)
R59
100_2012
C52
104K_2012
R56
1W1.5KJ(mini)
CON3-1
24VS
Q52
2222A-CHIP
R57
1K_2012
CON3-2
Fuser Count
R58
4.7K_2012
R18
10_2012
D12
MMSD4148
R19
100_2012
Q12
500V21A
R20
10K_2012
R21
100_2012
U11
IC_1207A-CHIP
OUT
VI
NC
VCC
CS
GND
FB
DEMAG
R22
5W0.13
TNR11
7D221
HEATSINK
PC11-1
817B
C14
100n_2012
C15
35V47uF
C13
1n_2012
ZD11
20V-CHIP
C16
20p_2012
C17
AD102
D11
1KV1A-CHIP
R23
47_3216
R24
100K_2012
C72
1KV103K
D103
D105
200V20AX2
35V1000uFX2
C75
C71
C77
35V470uF
ZD71
20V-CHIP
R75
200_2012
R77
3W120
Q71
2222A-CHIP
C78
50V104(mono)
R76
470_2012
CON3-3,5,7,9
24V 4.4A
CON3-4,6,8,10
GND
C73
1KV103K
D104
60V20A
R91
220_2012
L71
5uH
F71
250V5A
CON3-11,13,15
5V 3A
PC11-2
817B
R92
1K_2012
R93
1KF_2012
C74
16V1000uF
C91
225_2012
C76
16V1000uF
U91
431-CHIP
R94
1KF_2012
CON3-12,14,16
GND

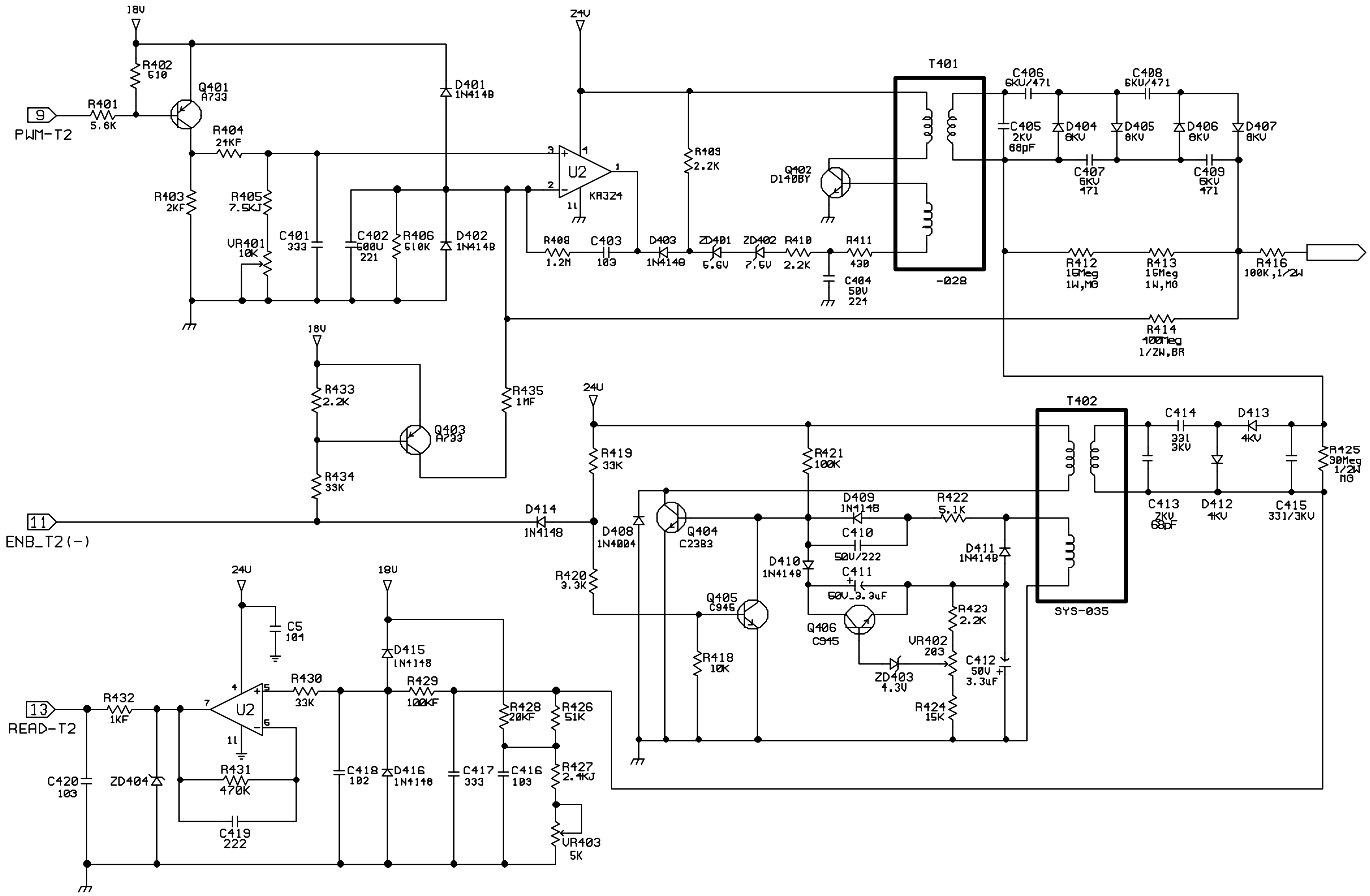

T1
F01 250V8A
LF01 CV505110B
L01
AR03 1KV
AR04 600V
Q01 600V12A
R04 1K_2012
C05 104K_2012
R010 1W22(mini)
D01 1KV1A-CHIP
F02 250V5A
TH01 10D9
CON1
TNR01 10D561
C01 224
C02 AD102
C03 AD102
R01
R02
R03
200K_3216X3
AR01 600V
AR02 1KV
LF002 CV930160P
C04 104
BD01 600V6A
C11 450V220uF
200KX3_3216
R11
R12
R13
91KX3_3216
R14
R15
R16
C12 630V333K
C18 AD102
Q11 600V4A
R17 100_2012
ZD12 20V-CHIP
L51
CON2-2
CON2-1
R52
R53 91JX2_2012
R51 1W50m
C51 630V333k
Q51 600V16A
PC51 TLP3061F
R54 1W50m
R59 22_2012
C52 104K_2012
R55 1/2W180(MINI)
R56 1W1.5KJ(mini)
CON3-1 24VS
Q52 2222A-CHIP
R57 1K_2012
CON3-2 Fuser Count
R58 4.7K_2012
D12 MMSD4148
R18 10_2012
R19 100_2012
Q12 600V11A
R20 10K_2012
R21 100_2012
U11 IC_1207A-CHIP
OUT
VI
NC
VCC
CS
GND
FB
DEMAG
R22 5W0.25
TNR11 7D221
HEATSINK
PC11-1 817B
C14
C15
C16 20p_2012
C13 1n_2012
100n_2012
35V47uF
ZD11 20V-CHIP
C17 AD102
D11 1KV1A-CHIP
R23 47_3216
R24 100K_2012
C72 1KV103K
D103
D105 200V20AX2
35V1000uFX2
C75
C71
C77 35V470uF
ZD71 20V-CHIP
R75 200_2012
R77 3W120
Q71 2222A-CHIP
R76 470_2012
C78 50V104(mono)
CON3-3,5,7,9 24V 4.4A
CON3-4,6,8,10 GND
C73 1KV103K
D104 60V20A
R91 220_2012
L71 5uH
F71 250V5A
CON3-11,13,15 5V 3A
PC11-2 817B
R92 1K_2012
R93 1KF_2012
C74 16V1000uF
C91 225_2012
C76 16V1000uF
U91 431-CHIP
R94 1KF_2012
CON3-12,14,16 GND

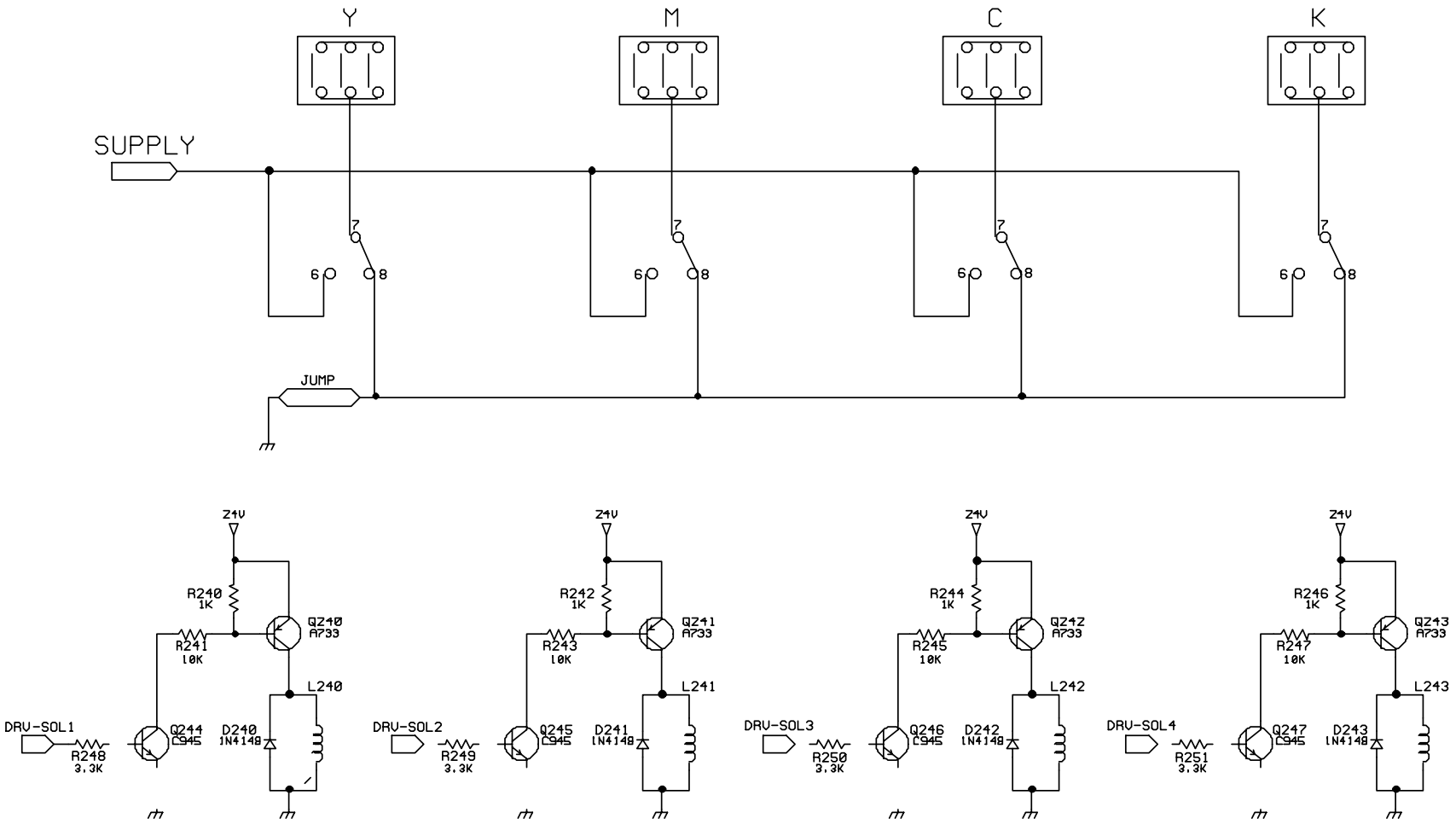

MAIN PANEL
CN1-1
35303-1250
+5V
DGND
R17 1K
R11 1K
R4 1K
R1 1K
R19 1K
R15 1K
R14 1K
R16 5.6K
R12 5.6K
R5 5.6K
R2 5.6K
R8 5.6K
R6 5.6K
R21 510
R22 510
R23 510
R24 510
R25 510
R27 300
R28 5.6K
C1 100nF
C2 100nF
C3 100nF
C5 100nF
C6 100nF
C7 100nF
C8 100nF
C9 100nF
C10 100nF
C11 100nF
SW1 JTP1280A6
SW2 JTP1280A6
Q7 MMBT2222ALT1
Q5 MMBT2222ALT1
Q4 MMBT2222ALT1
Q1 MMBT2222ALT1
Q8 MMBT2222ALT1
Q6 MMBT2222ALT1
LED6
LED4
LED3
LED1
LED5
LED8

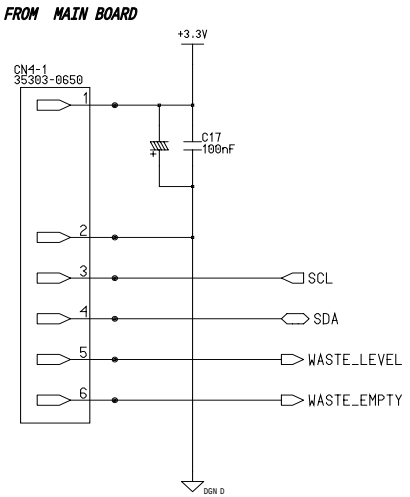

18V
24V
T101
SYS-034
R102 510
R101 5.6K
12
PWM-Charge
Q101 A733
R107 220KF
C103 100V 104
R109 240K
R104 120KF
R106 1M
D101 1N4148
R110 47K
R111 220
Q102 D1402BY
C106 471 3KV
D104 4KV
C105 68pF 2KV
D103 1KV
C107 471 3KV
R112 1W15M
R114 100K 1/2W
R115 200Meg 1/2W,BR
R103 2KF
R105 120K
C101 104
C102 222
R108 16K
C104 103
VR101 100K
D102 1N4148
C6 104
D105 1N4148
READ-Charge
16
R121 6.2KF
KA324
R119 33K
R118 100KF
C111 100V 104
ZD101 3.6V
C109 102
D106 1N4148
R117 24KJ
C108 103
R120 470K
C110 222
G-INDEX
VR102 50K

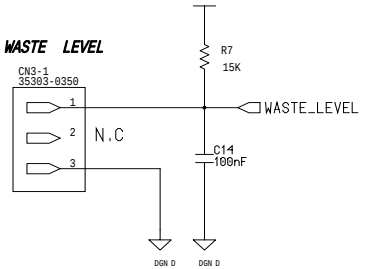

5VA
18U
R212
1W
R210
1W/10
Q202
D1408Y
T201
C202
50V/470uF
R217
100K
1/2W
R214
1M
1W
C210
3KV
33pF
R215
1M
1W
C203
2KV
103
R213
0.47
1W
R211
1W/10
Q203
B1017Y
R201
430
R203
2.2K
C201
16V
220uF
R205
2.4K
R202
1K
PWM_AC_Vpp
PWM_AC_Duty
R204
1K
KA324
R207
2.2K
VR201
10K
C205
222
5V
R209
1KJ
R208
1KJ
Q201
C945
R206
1K
ENB_AC
R222
510
Q204
A733
PWM_Deve
R221
5.6K
R227
86.6KF
C223
100U/10
R229
33K
24V
R224
10K
R226
100K
KA324
D221
1N4148
R230
47K
R231
430
Q222
D1408Y
T202
D222
1KV
C225
680
2KV
C226
47
3KV
R233
15W
1/2W
MGR
R234
6MF
1/2W
MGR
SYS-034
R223
2KF
R225
43KJ
DEV
VR202
50K
C221
104
C222
222
R228
12KF
C224
333

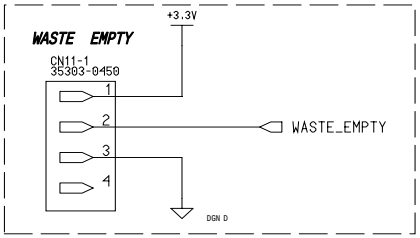

18V
24V
R302 510
R301 5.6K
10
PWM-T1
Q301 A733
D301 1N4148
R304 100KF
U2 KA3Z4
R303 2KF
R305 27K
C301 333
C302 471
R306 402K
T1 VR301 10K
D302 1N4148
R307 3.3M
C303 102
D303 1N4148
ZD301 5.6V
ZD302 7.5V
R309 1.2KJ
C304 104
R308 2.2K
R310 130
Q302 D1408Y H/S
T301
SYS-028
C306 471 3KV
C305 680 2KV
D304 4KV
D305 4KV
C307 471 3KV
R311 7.5M 1/2W,MGA
R314 7.5M 1/2W,MBA
R312 100K 1/2W
T1
R313 200Meg 1/2W,BR
CN101
1 24V
24V
GNDA
GNDA
5 PWM_AC_Vpp
ENB_AC
PWM_Deve
PWM_AC_Duty
PWM_T2
10 PWM_T1
ENB_T2(-)
PWM_Charge
Read_T2
Read_T1
15 Exit Sensor
Read_Charge
Drv_SOL1
Motor Fan
Drv_SOL 3
20 Drv_SOL 2
Temp 2
Drv_SOL 4
5V
24 Waste Lamp
TH1
18V
5VA
Q2 C945C-Y
R4 3.3K
IC1 KA358
ZD2 4.3V
R5 5.1K
R6 36K
C3 104
C4 50V 3.3uF
READ-T1
14
R321 1KF
C312 102
ZD303
KA324
R319 22K
R320 470K
C311 ZZZ
D306 1N4148
R318 100KF
C310 104 100V
D307 1N4148
C309 333
R317 80.6K
C308 103
R315 61.9K
R316 10KF
TI-INDEX VR302 10K
CN103
CN104
CN102
R8 100
R7 100
GNDD
NC
5V
Q1 D1408Y H/S
C7 35V 100uF
C8 104
R1 3.3K
ZD1 5.1V
R2 5.1K
R3 2.0K
C1 104
C2 50V 220uF

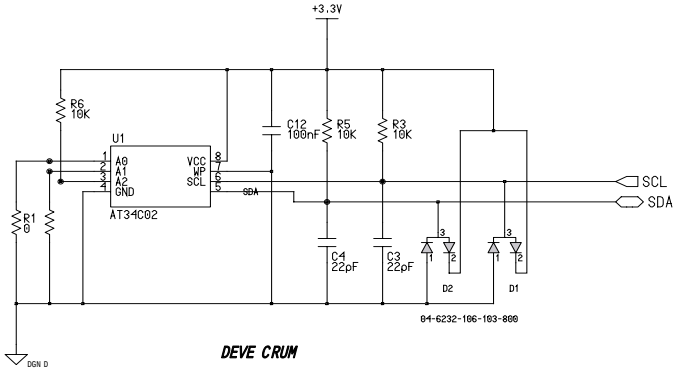

18V
R402
510
Q401
A733
R401
5.6K
9
PWM-T2
R404
24KF
R403
2KF
R405
7.5KJ
VR401
10K
C401
333
C402
500V
221
R406
510K
D401
1N4148
D402
1N4148
24V
U2
KA324
R408
1.2M
C403
103
D403
1N4148
ZD401
5.6V
ZD402
7.5V
R410
2.2K
R411
430
C404
50V
224
R409
2.2K
Q402
D1408Y
T401
-028
C406
6KV/471
C408
6KV/471
C405
2KV
68pF
D404
8KV
D405
8KV
D406
8KV
D407
8KV
C407
6KV
471
C409
6KV
471
R412
15Meg
1W,MO
R413
15Meg
1W,MO
R416
100K,1/2W
R414
400Meg
1/2W,BR
18V
R433
2.2K
Q403
A733
R434
33K
R435
1MF
11
ENB_T2(-)
D414
1N4148
24V
R419
33K
R421
100K
T402
SYS-035
C414
331
3KV
D413
4KV
R425
30Meg
1/2W
MO
C413
2KV
68pF
D412
4KV
C415
331/3KV
D408
1N4004
Q404
C2383
D409
1N4148
R422
5.1K
C410
50V/222
D410
1N4148
D411
1N4148
C411
50V_3.3uF
R420
3.3K
Q405
C945
Q406
C945
R418
10K
R423
2.2K
VR402
203
ZD403
4.3V
C412
50V
3.3uF
R424
15K
24V
C5
104
18V
D415
1N4148
13
READ-T2
R432
1KF
U2
R430
33K
R429
100KF
R428
20KF
R426
51K
C420
103
ZD404
R431
470K
C419
222
C418
102
D416
1N4148
C417
333
C416
103
R427
2.4KJ
VR403
5K


Y
M
C
K
SUPPLY
7
6
8
JUMP
Z4V
R240
1K
R241
10K
QZ40
A733
L240
DRV-SOL1
R248
3.3K
Q244
C945
D240
IN4148
R242
1K
R243
10K
QZ41
A733
L241
DRV-SOL2
R249
3.3K
Q245
C945
D241
IN4148
R244
1K
R245
10K
QZ42
A733
L242
DRV-SOL3
R250
3.3K
Q246
C945
D242
IN4148
R246
1K
R247
10K
QZ43
A733
L243
DRV-SOL4
R251
3.3K
Q247
C945
D243
IN4148



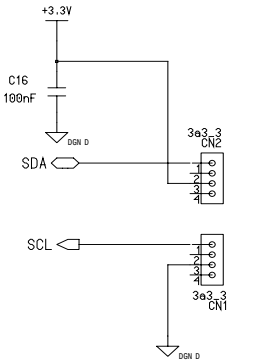


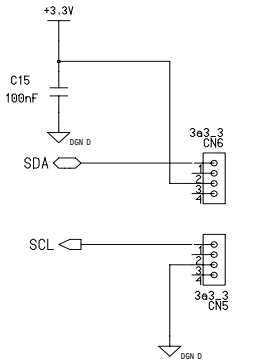


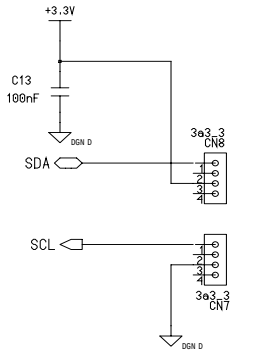


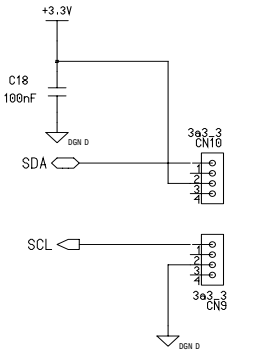
DEVE CRUM

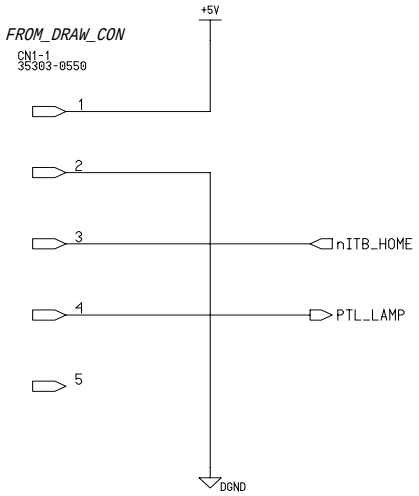
	Y	M	C	K	DEVE
A0	0	1	0	1	0
A1	0	0	1	1	0
A2	0	0	0	0	1

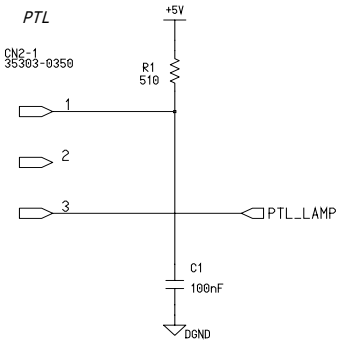


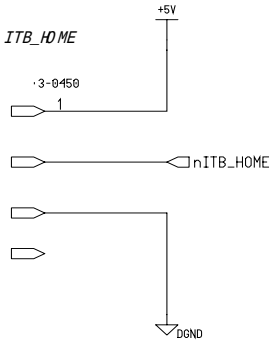







FROM_DRAW_CON
CN1-1
35303-0550
+5V
1
2
3
4
5
nITB_HOME
PTL_LAMP
DGND


PTL
CN2-1
35303-0350
+5V
R1
510
1
2
3
PTL_LAMP
C1
100nF
DGND


ITB_HOME
·3-0450
+5V
1
nITB_HOME
DGND

Section 8 Top Problems

Vapour may be seen emanating from the Fuser area. This may occur with paper with a higher moisture content or in environments with higher humidity. SURF, or Surface Rapid Fusing technology is used to optimize image quality while reducing toner consumption. The rapid temperature change during fusing may release moisture in the form of a visible vapour.

Section 9 Installation and Kits

Quick Install Guide

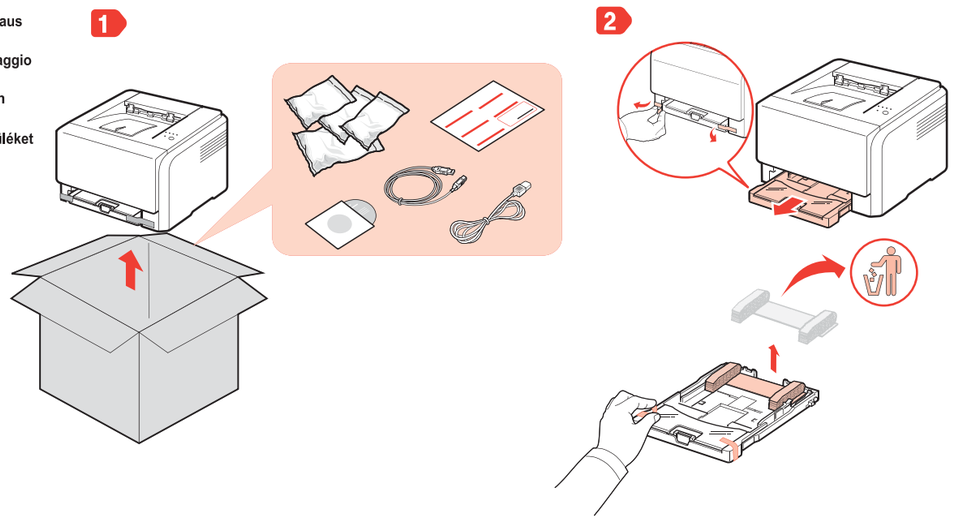
DE Kurzinstallationsanleitung
FR Guide d'installation rapide
IT Guida di installazione rapida
ES Guía rápida de instalación
BR Manual de Instalação Rápida
NL Beknopte installatiehandleiding
HU Gyors telepítési útmutató
PL Skrócona instrukcja instalacji
CZ Stručná instalační příručka
RU Краткое руководство по установке
TR Hızlı Kurulum Kılavuzu

Xerox Colour Laser Printer
Phaser 6110 Series

JC68-01777AV100

1 Unpack

DE Packen Sie das Gerät aus
FR Déballage
IT Rimozione dell'imballaggio
ES Desembalaje
BR Retire da embalagem
NL Uitpakken
HU Csomagolja ki a készüléket
PL Rozpakowanie
CZ Vybalte zařízení
RU Распаковка
TR Paketi Açma

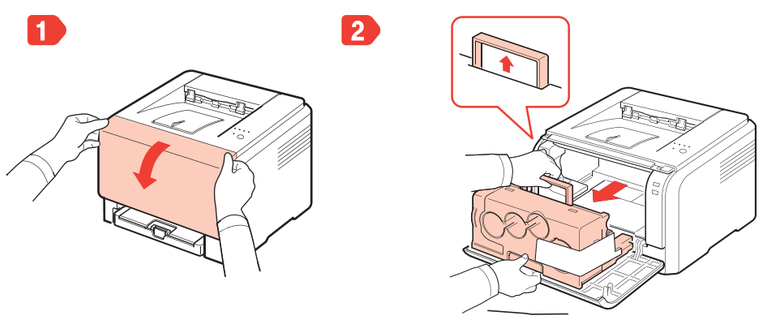


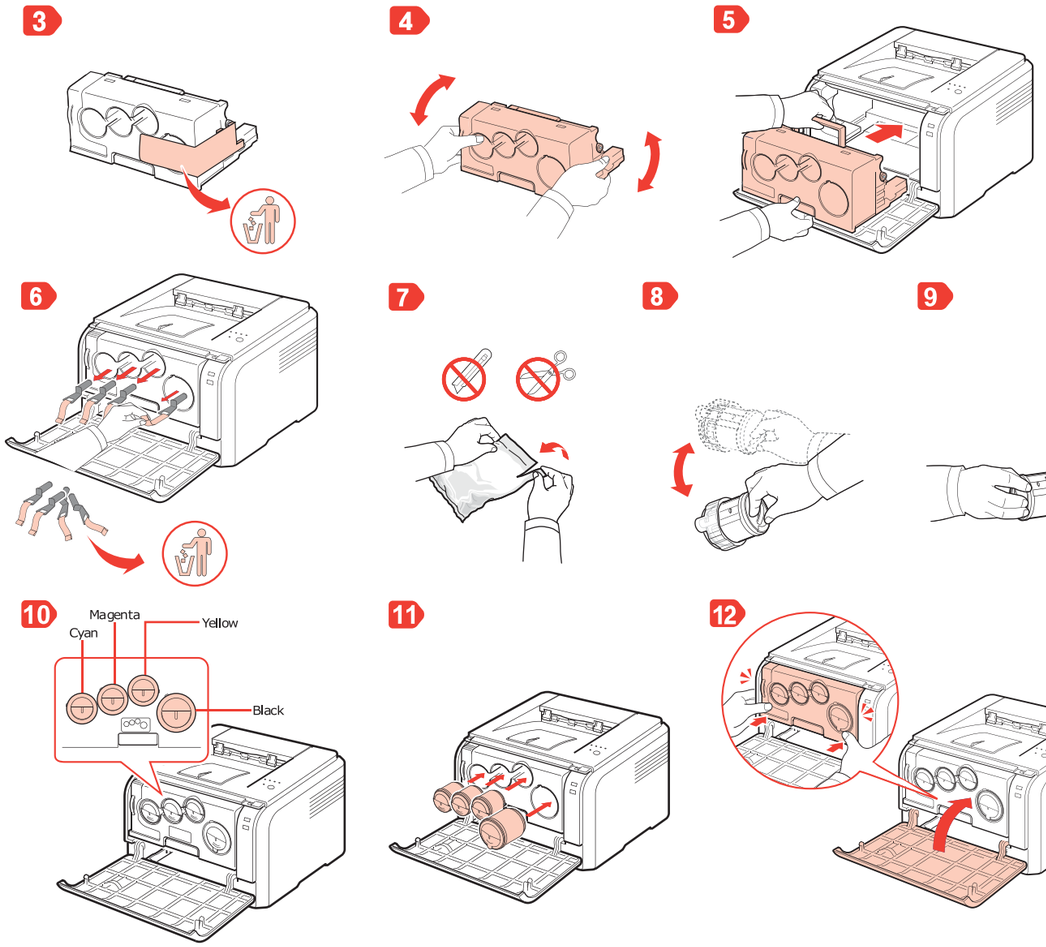
Depending on your model and country, the item(s) in the gray box may not be supplied.

DE Je nach Land sind die Teile aus dem grauen Kasten nicht im Lieferumfang enthalten.
FR Selon le pays, il est possible que les câbles d'imprimante ne soient pas fournis avec votre appareil.
IT A seconda del paese d'appartenenza, i cavi della stampante potrebbero non essere forniti con la stampante.
ES Dependiendo del país, los cables de la impresora pueden no venir incluidos con la impresora.
BR Dependendo do modelo e do país, os itens na caixa cinza podem não ser fornecidos.
NL Bij sommige modellen en in bepaalde landen worden de items in het grijze vak niet meegeleverd.
HU Egyes típusok és országok esetén a nyomtatóhoz nem adják tartozékként a szürke dobozban található tartozékokat.
PL W niektórych krajach kable drukarkowe nie są dołączane do drukarek.
CZ V některých zemích nemusí být spolu s tiskárnou dodávány díly v šedém rámečku.
RU В некоторых странах принтер может поставляться без компонентов, изображенных на сером фоне.
TR Bulunduğunuz ülkeye bağlı olarak gri kutudaki öğe(ler) yazıcıyla birlikte verilmeyebilir.

2 Install the toner cartridge

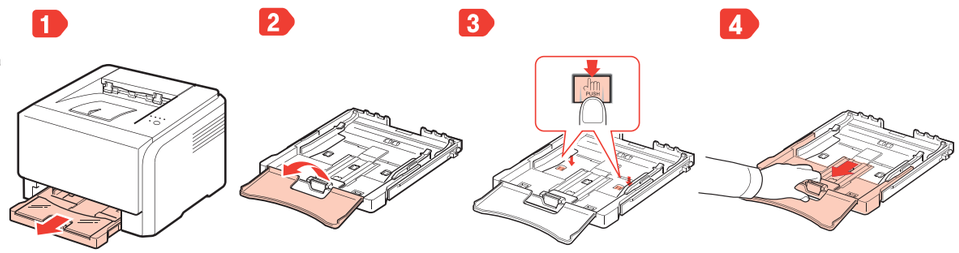
DE Installieren Sie die Tonerkartusche
FR Installation de la cartouche d'encre
IT Installazione della cartuccia del toner
ES Instalación del cartucho de tóner
BR Instale o cartucho de toner
NL Tonercassette plaatsen
HU Helyezze be a festékkazettát
PL Instalowanie kasety z tonerem
CZ Nainstalujte kazetu s tonerem
RU Установка картриджа с тонером
TR Toner kartuşunun takılması

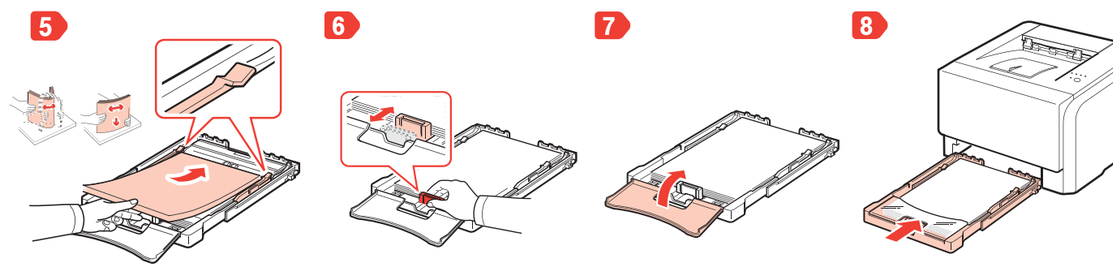




3 Load paper

DE Legen Sie Papier ein
FR Chargement du papier
IT Caricamento della carta
ES Carga de papel
BR Coloque papel
NL Papier plaatsen
HU Helyezzen be papírt
PL Ładowanie papieru
CZ Založte papír
RU Загрузка бумаги
TR Kağıt yerleştirme

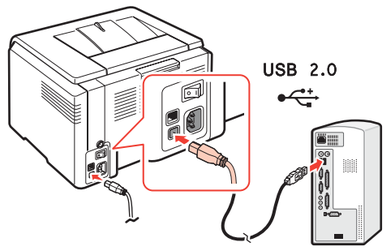




Quick Install Guide

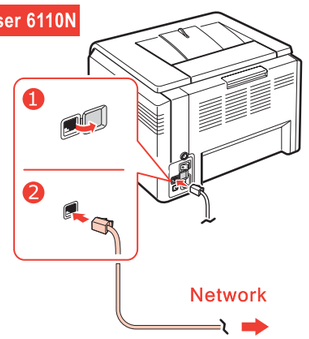
4 Make connections

DE Schließen Sie den Drucker an
FR Branchements
IT Effettuazione dei collegamenti
ES Conexiones
BR Faça as conexões
NL Aansluitingen
HU Csatlakoztassa a vezetékeket
PL Połączenie
CZ Připojte zařízení
RU Подключение
TR Bağlantı yapma



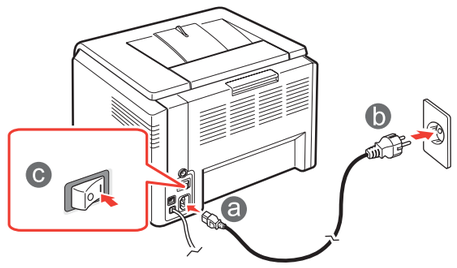
OR
DE ODER
FR OU
IT OPPURE
ES O bien
BR OU
NL OF
HU VAGY
PL LUB
CZ NEBO
RU ИЛИ
TR YA DA

Phaser 6110N



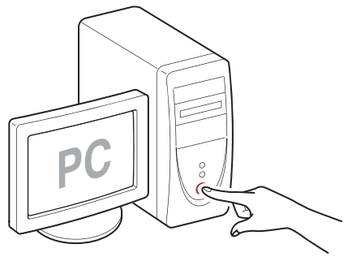
5 Turn the printer on

DE Schalten Sie den Drucker ein
FR Mise en marche de l'imprimante
IT Accensione della stampante
ES Encender la impresora
BR Ligue a impressora
NL Printer aanzetten
HU Kapcsolja be a nyomtatót
PL Włączenie drukarki
CZ Zapněte tiskárnu
RU Включение принтера
TR Yazıcının açılması



6 Turn the computer on

DE Schalten Sie den Computer ein
FR Mise en marche de l'ordinateur
IT Accensione del computer
ES Encender el Ordenador
BR Ligue o computador
NL Computer aanzetten
HU Kapcsolja be a számítógépet
PL Włączenie komputera
CZ Zapněte počítač
RU Включение компьютера
TR Bilgisayarın açılması



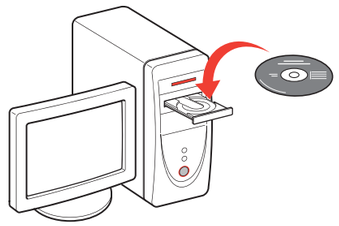
7 Install software

DE Installieren Sie die Software
FR Installation du logiciel
IT Installazione del software
ES Instalación del software
BR Instale o software
NL Software installeren
HU Telepítse a szoftvert
PL Instalacja oprogramowania
CZ Nainstalujte software
RU Установка программного обеспечения
TR Yazılımın yüklenmesi

1 If the New Hardware Found window appears, click **Cancel.**

DE Wenn das Fenster „Neue Hardware-Komponente gefunden“ angezeigt wird, klicken Sie auf **Abbrechen**.
FR En cas d'affichage de la fenêtre "Nouveau logiciel détecté", appuyez sur la touche **Annuler**.
IT Se appare la finestra Nuovo componente hardware individuato, fare clic su **Annulla**.
ES Si aparece la ventana "Se ha encontrado nuevo hardware", haga clic en **Cancelar**.
BR Se a janela de mensagem "Novo hardware encontrado" for exibida, clique em **Cancelar**.
NL Wanneer het venster Nieuwe hardware gevonden verschijnt, klikt u op **Annuleren**.
HU Ha megjelenik az "Új hardver" ablak, kattintson a **Mégse** gombra.
PL Jeżeli zostanie wyświetlone okno Znaleziono nowy sprzęt, kliknij przycisk **Anuluj**.
CZ Objeví-li se na obrazovce hlášení "Nalezen nový hardware" klikněte na **Storno**.
RU Если во время установки появится окно «Обнаружено новое устройство», нажмите на кнопку «**Отмена**».
TR "Yeni Donanım Bulundu" penceresi açılırsa **İptal**'i tıklatın.

2



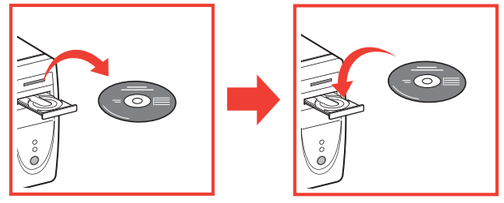
3 Follow the instructions on the screen to complete the installations.

DE Folgen Sie den Anweisungen des Installationsprogramms, um die Installation abzuschließen.
FR Suivez les instructions qui s'affichent à l'écran pour terminer l'installation.
IT Per completare l'installazione, seguire le istruzioni visualizzate nella finestra.
ES Siga las instrucciones que aparecen en la ventana para completar la instalación.
BR Siga as instruções na tela para concluir a instalação.
NL Volg de instructies op het scherm om de installatie te voltooien.
HU Kövesse a képernyőn megjelenő utasításokat a telepítés befejezéséhez.
PL Postępuj zgodnie z instrukcjami wyświetlanymi w oknie, aby zakończyć instalację.
CZ Podle pokynů na obrazovce dokončete instalaci.
RU Для завершения установки следуйте инструкциям на экране.
TR Kurulumu tamamlamak için ekranda verilen talimatları izleyin.

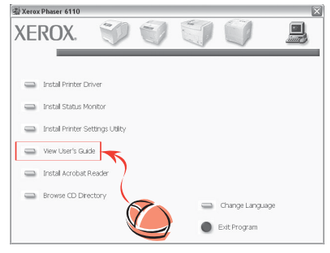
8 View User's Guide

DE Lesen Sie das Benutzerhandbuch
FR Afficher le guide d'utilisateur
IT Visualizzazione della Guida dell'utente
ES Ver el Manual de Usuario
BR Consulte o manual do usuário
NL Gebruikershandleiding weergeven
HU Olvassa el a Felhasználói útmutatót
PL Przeglądanie podręcznika użytkownika
CZ Prostudujte si uživatelskou příručku
RU Просмотр руководства пользователя
TR Kullanıcı Kılavuzunu Göster

1



2



Be sure to read the safety guidelines in the User's Guide on the supplied CD-ROM before using this product.

DE Lesen Sie unbedingt in der Bedienungsanleitung, die Sie auf der CD-ROM finden, die Sicherheitsrichtlinien, bevor Sie dieses Gerät benutzen.
FR Avant d'utiliser ce produit, lisez attentivement les normes de sécurité indiquées dans le Guide de l'utilisateur disponible sur le CD-ROM inclus.
IT Prima di utilizzare questo prodotto, leggere attentamente le linee guida sulla sicurezza riportate nel Manuale dell'utente nel CD-ROM in dotazione.
ES Antes de utilizar este producto, asegúrese de que ha leído las directrices sobre seguridad de la Guía del usuario que se encuentra en el CD-ROM suministrado.
BR Leia as diretrizes de segurança fornecidas no Manual do Usuário localizado no CD-ROM antes de utilizar este produto.
NL Lees de veiligheidsrichtlijnen in de gebruikershandleiding op de meegeleverde cd-rom voordat u de printer in gebruik neemt.
HU A termék használata előtt mindenképpen olvassa el a készülékhez adott CD-ROM-on található Felhasználói útmutatóban leírt biztonsági óvintézkedéseket.
PL Przed użyciem tego produktu należy koniecznie przeczytać wytyczne bezpieczeństwa w Przewodniku użytkownika na załączonej płycie CD-ROM.
CZ Před použitím výrobku si přečtěte bezpečnostní pokyny uvedené v uživatelské příručce na přiloženém disku CD-ROM.
RU Перед использованием этого устройства обязательно прочитайте инструкции по безопасности в Руководстве пользователя, содержащемся на компакт-диске, поставляемом с устройством.
TR Bu ürünü kullanmadan önce verilen CD'deki Kullanıcı Kılavuzunda güvenlik talimatlarını okuduğunuzdan emin olun.

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2 Setting Up Your Printer

This chapter gives you step-by-step instructions for setting up your printer.

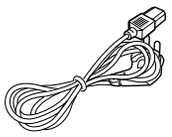
This chapter includes:

- **Unpacking**
- **Installing the Toner Cartridges**
- **Loading Paper**
- **Connecting a Printer Cable**
- **Turning the Printer On**
- **Printing a Demo Page**
- **Installing the Printer Software**

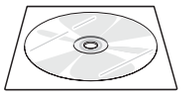
Unpacking

1 Remove the printer and all of the accessories from the packing carton. Make sure that the printer has been packed with the following items:

Toner Cartridges



Power Cord



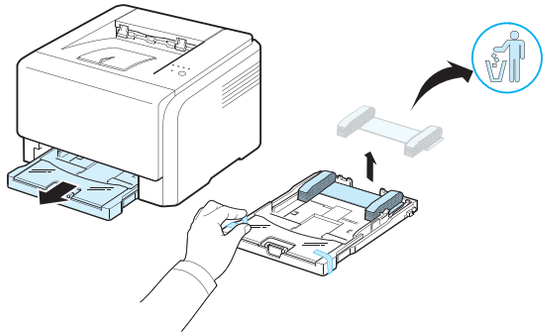
Printer software CD

Quick Install Guide

NOTES:
- If any items are missing or damaged, notify your dealer immediately.
- **Components may differ from one country to another**.
- The Printer Driver CD contains the printer driver, the SetIP, the User's Guide, and the Adobe Acrobat Reader program.
- The appearance of the power cord may differ depending on your country's specifications. The power cord must be plugged into a grounded power socket.

CAUTION: Because your printer weighs 13.6 kg including the toner cartridges and the tray, it may move when you use it; for example, when opening/closing the tray or installing/removing the toner cartridge. Be careful not to move the printer.

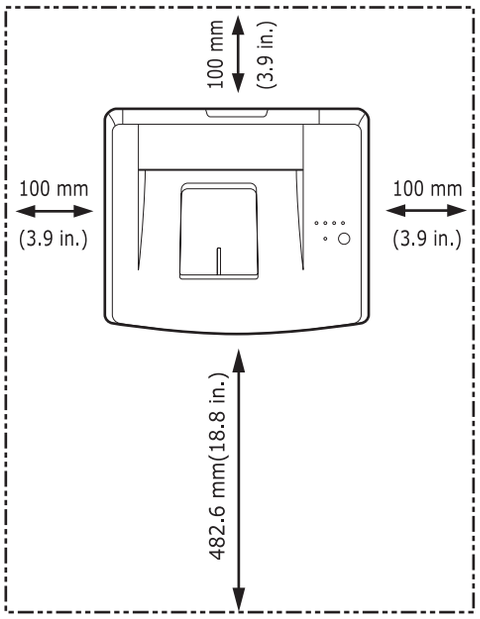
2 Pull the tray out of the printer and remove the packing tape from the tray.



3 Select a location for the printer:

- Leave enough room to open the tray and covers, and to allow for proper ventilation.
- Provide the proper environment:
  - A firm, level surface
  - Away from the direct airflow of air conditioners, heaters, or ventilators
  - Free of temperature, sunlight, and humidity extremes or fluctuations

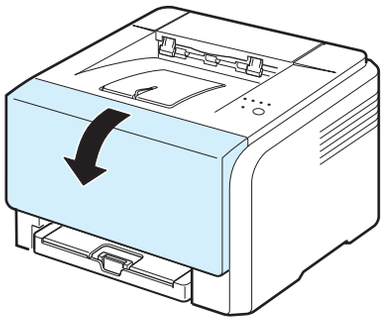
- Clean, dry, and free of dust



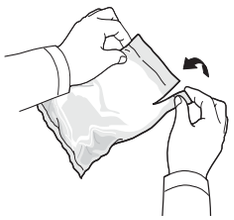
CAUTION: You must place your printer on a level surface. If you do not, print quality problems can occur.

Installing the Toner Cartridges

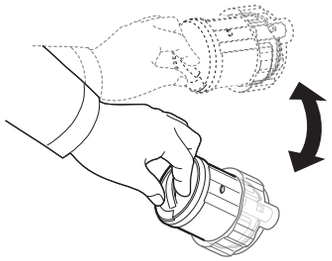
1 Open the front cover.



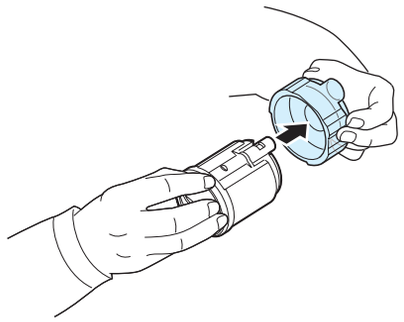
2 Remove the toner cartridges from their bags.



3 Holding the toner cartridges, shake thoroughly them from side to side to distribute the toner.

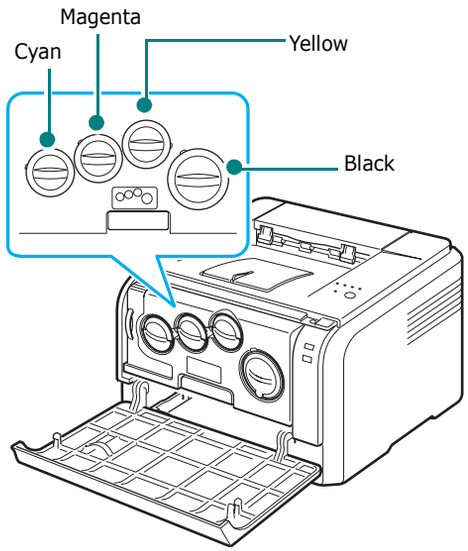


4 Remove the cartridges cap.

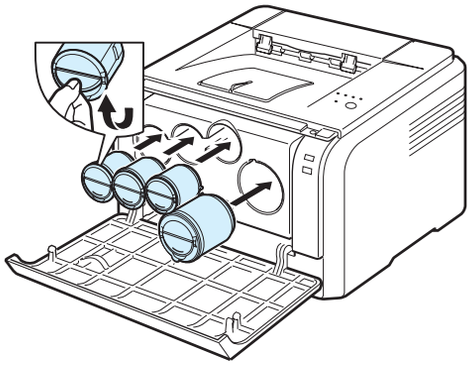


NOTE: If toner gets on your clothing, wipe it off with a dry cloth and wash it in cold water. Hot water sets toner into fabric.

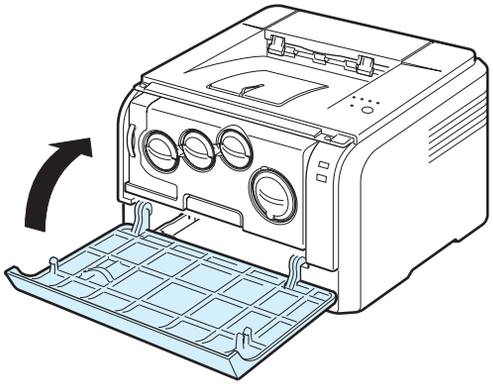
5 On the imaging unit of the printer, labels identify which colour cartridge goes into each cartridge slot.



6 Grasp the toner cartridges and align them with the slots inside the printer. Insert them into their corresponding slots until they click into place.



7 Close the front cover. Make sure that the cover is securely closed.



CAUTION: If the front cover is not completely closed, the printer will not operate.

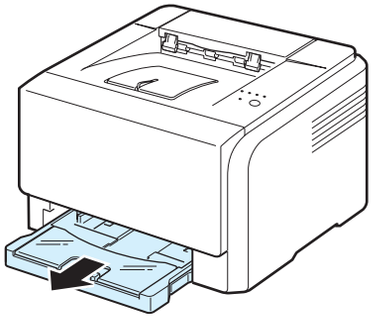
NOTE: When printing text at 5% coverage, you can expect a toner cartridge life of about 2,000 pages for black and white printing and 1,000 pages for colour printing.

Loading Paper

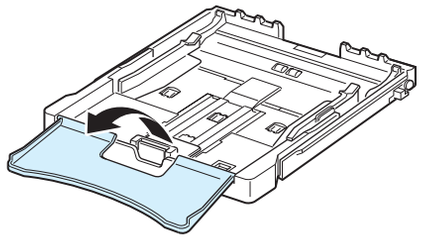
The tray can hold a maximum of 150 sheets of 20 lb (75 g/m^2) plain paper. You can use various paper including plain paper.

To load paper:

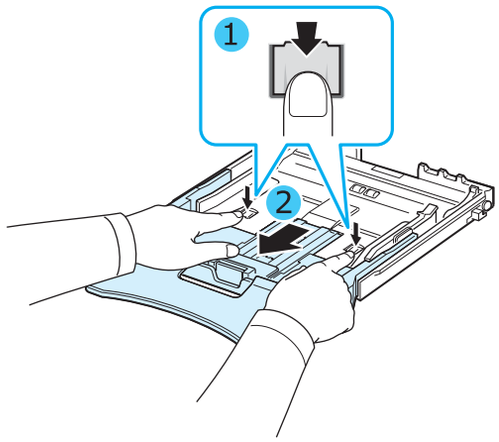
1 Pull the tray out of the printer.



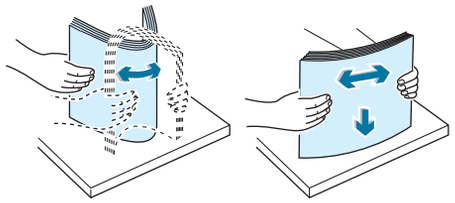
2 Open the paper cover.



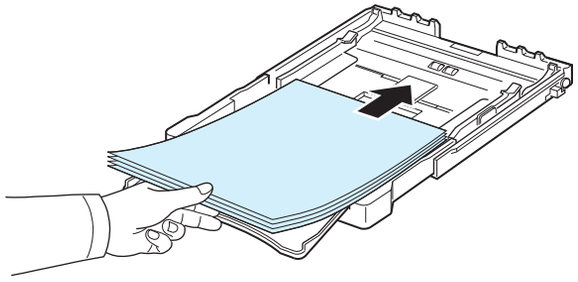
3 Unlatch the tray locks in the middle of the tray by pressing them firmly and pull the tray out to extend it.



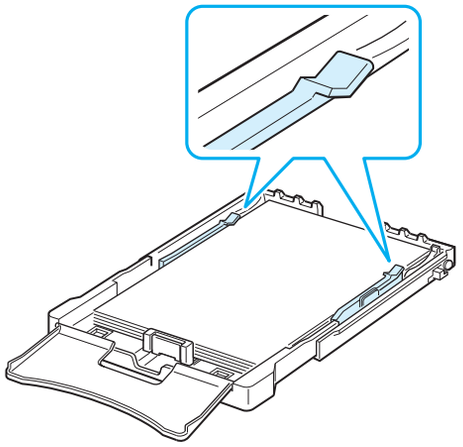
4 Flex the paper sheets back and forth to separate the pages and then fan them while holding one edge. Tap the edges of the stack on a flat surface to even it up.



5 Load paper **with the print side up**.

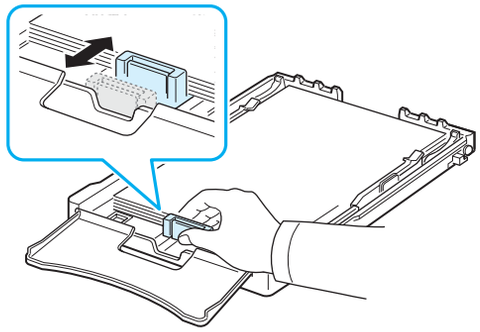


Make sure not to overfill the tray and that all four corners are flat in the tray and under the brackets, as shown below. Overfilling the tray may cause a paper jam.

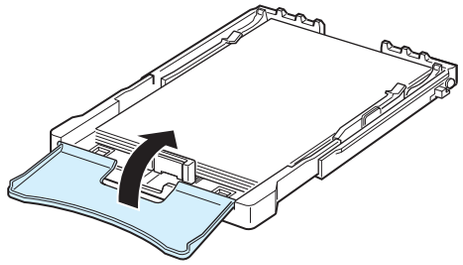


NOTE: If you want to change the size of the paper in the tray, refer to "Changing the Size of the Paper in the Tray" on page 2.5.

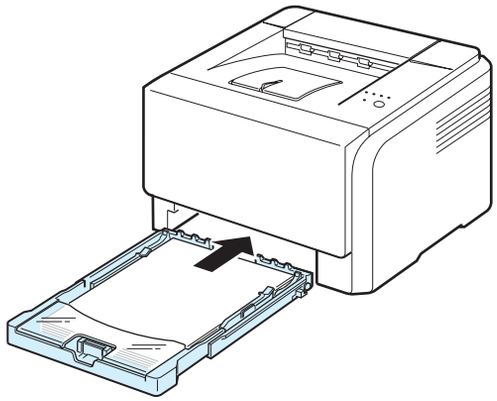
6 Squeeze the paper length guide and slide in it until it lightly touches the end of the paper stack.



7 Close the paper cover.



8 Slide the tray back into the printer.

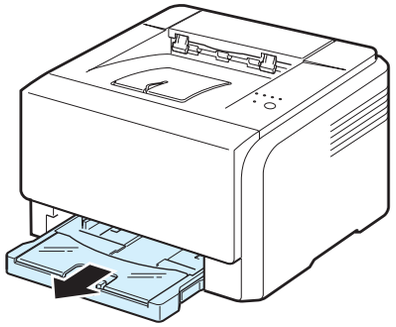


NOTE: After you load paper, you need to set up your printer for the paper type, size, and source you loaded. For details, see the **Software Section**.

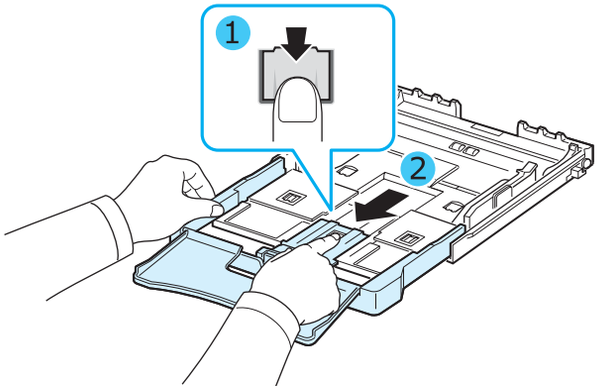
Changing the Size of the Paper in the Tray

To change the tray size to other size, you must adjust the paper length guide properly.

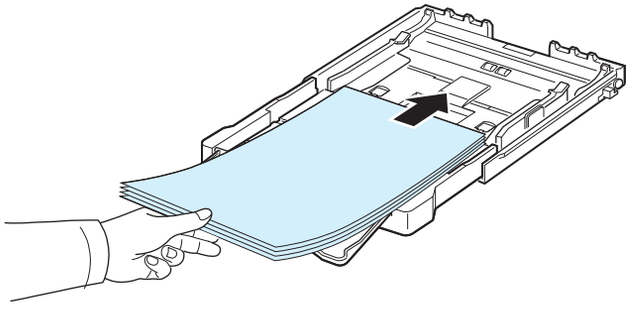
1 Pull the tray out of the printer. Open the paper cover and remove paper from the tray if necessary.



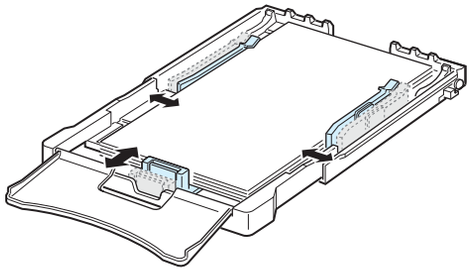
2 Pressing and unlatching the guide lock in the top of the tray, pull the tray out manually.



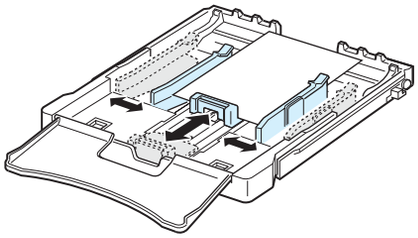
3 Load paper into the tray.



4 Slide the paper length guide until it lightly touches the end of the paper stack. Squeeze the paper width guide and slide it to the edge of the paper stack without causing it to bend.

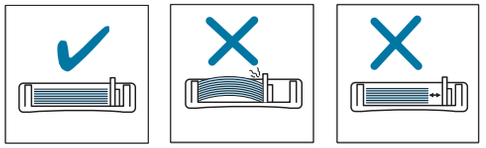


For paper smaller than Letter-sized, return the paper guides to their original positions and adjust the paper length guide and paper width guide.

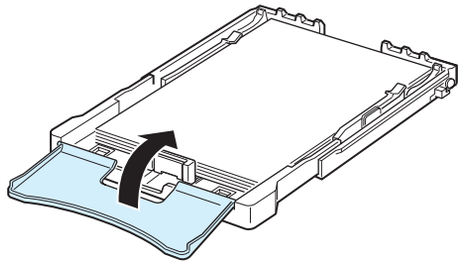


NOTES:

- Do not push the width guide far enough to cause the material to warp.
- If you do not correctly adjust the width guide, it may cause a paper jam.



5 Close the paper cover.



6 Slide the tray back into the printer.

Connecting a Printer Cable

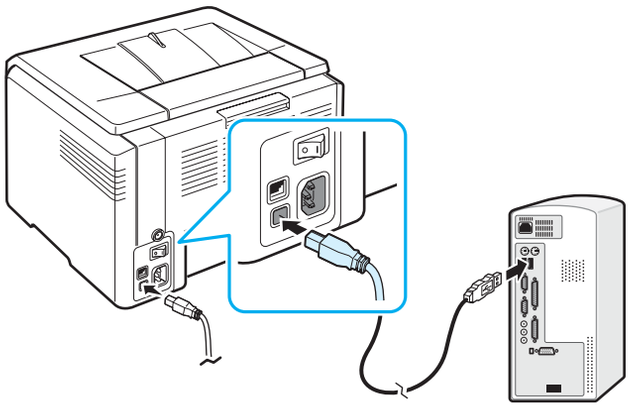
For Local Printing

To print from your computer in a local environment, you need to connect your printer to the computer with a Universal Serial Bus (USB) cable.

If you are a Macintosh user, you can use only a USB cable.

NOTE: Connecting the printer to the USB port of the computer requires a certified USB cable. You will need to buy a USB 2.0 compliant cable that is not longer than 3 m.

1. Make sure that both the printer and the computer are turned off.
2. Plug the USB cable into the connector on the rear of the printer.



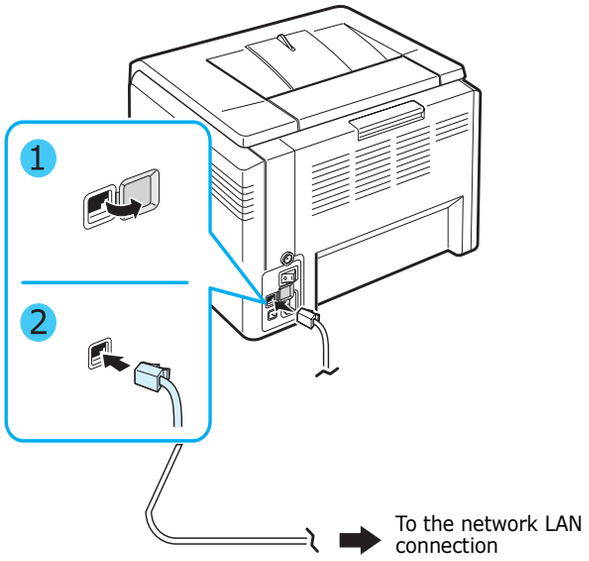
3. Connect the other end of the cable to the USB port on your computer.

NOTE: To print using the USB interface, you must run Windows 98/Me/2000/2003/XP or Macintosh with OS 10.3 ~10.4.

For Network Printing (Phaser 6110N only)

You can attach your printer to a network using an Ethernet cable (UTP cable with RJ.45 connector). The Phaser 6110N has a built-in network interface card.

1. Make sure that both the printer and the computer are turned off.
2. Plug one end of the Ethernet cable into the Ethernet network port on the rear of the printer.

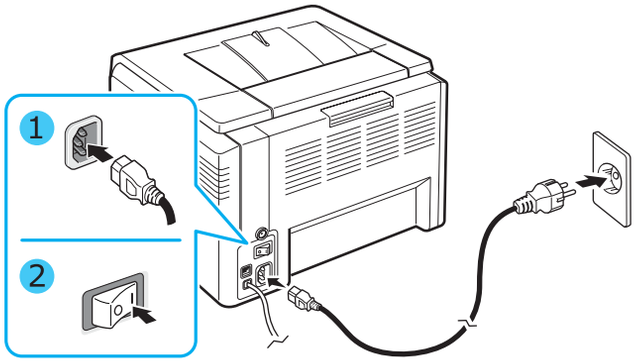


3. Plug the other end of the cable into a network LAN connection.

NOTE: After connecting the printer, you need to configure the network parameters using the software supplied with the printer.

Turning the Printer On

1. Plug the power cord into the power receptacle on the rear of the printer.
2. Plug the other end into a properly grounded AC outlet and turn on the power.



CAUTION:
- Some parts inside the printer may be hot when power is on, or after printing. Be careful not to burn yourself when working inside the printer.
- Do not disassemble the printer when it is turned on or plugged in. Doing so may give you an electric shock.

NOTE: Each LED blinks red in a repeated order. Wait for about three minutes for the printer to get ready.

Printing a Demo Page

Print a demo page to make sure that the printer is operating correctly.

To print a demo page:

In Ready mode, press and hold the ⊘/🗐 button for 2 seconds.

A demo page showing the printer's features and capabilities is printed.

Installing the Printer Software

You must install software using the supplied printer driver CD after you have set up your printer and connected it to your computer. For details, see the Software Section.

The printer driver CD provides you with the following software:

Programs for Windows

You can install the following printer software using the printer driver CD.

- **Printer driver** for Windows. Use this driver to take full advantage of your printer's features. See the **Software Section** for details about installing the Xerox printer driver.
- **Status Monitor**. Appears when printing errors occur. See the **Software Section** for details about installing the Status Monitor program.
- **Printer Settings Utility**. you can configure print settings.

Macintosh Printer Driver

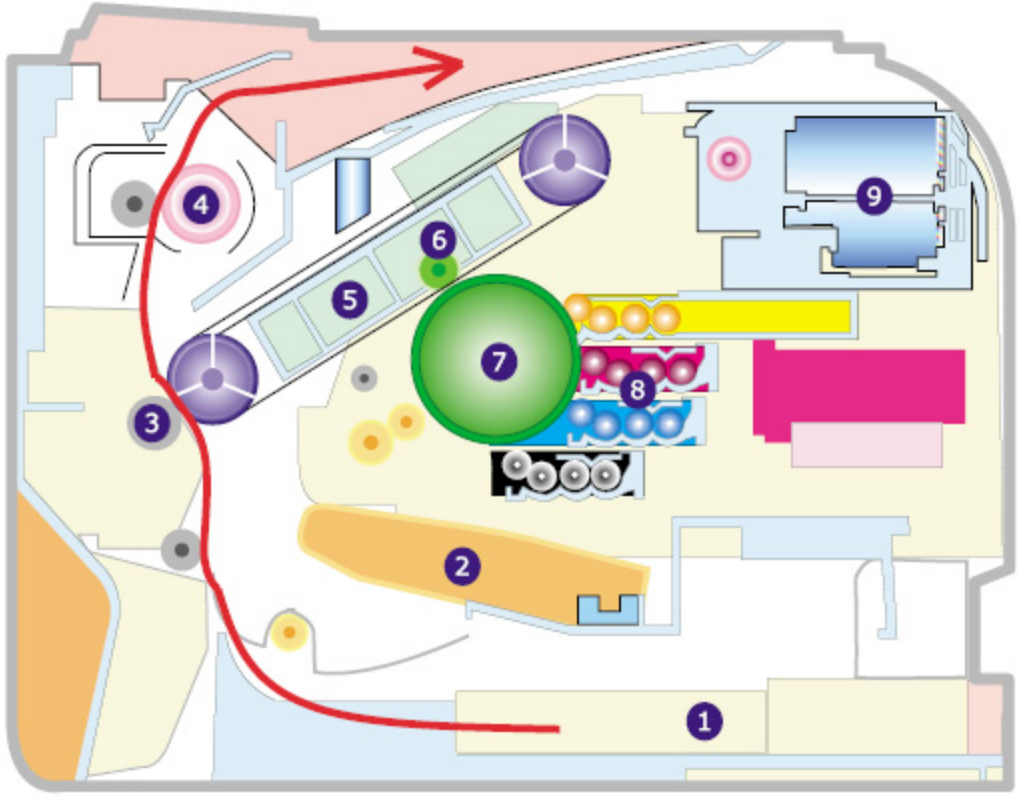
You can print from a Macintosh with your printer. Go to the **Software Section** for information about installing the print software and printing from a Macintosh.

Linux Driver

You can print from a Linux-based computer with your printer. Go to the **Software Section** for information about installing the Linux driver and printing from a Linux environment.

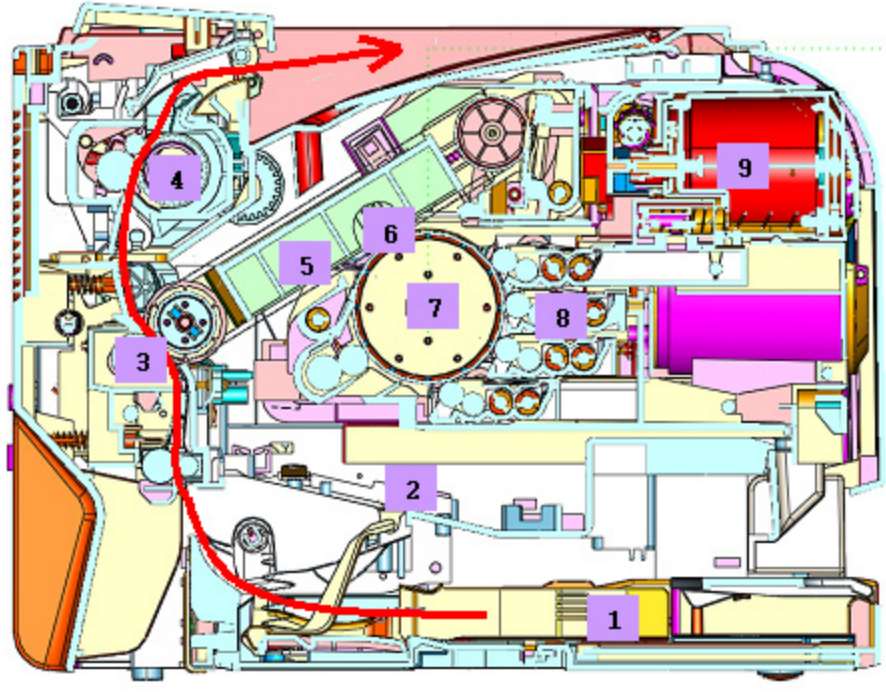
Section 10 Product Technical Overview

Block Diagram



1. Paper Input (Cassette)
2. LSU (Laser Scanning Unit)
3. 2nd Transfer Roller
4. Fuser
5. ITB (Intermediate Transfer Belt)
6. 1st Transfer Roller
7. OPC (Organic Photo Conductor)
8. Developers (Y, M, C, & K)
9. Toner Kits (Y, M, C, & K)

Component Diagram



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9. Toner Kits (Y, M, C, & K)

At this time there are no options or kits available.
The printer is purchased in a configuration that matches customer requirements.

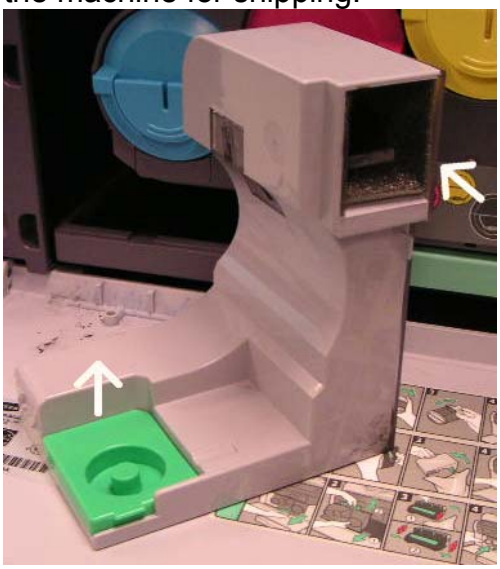
Repack Procedure

WARNING: Observe safe working practices. Click Warnings/Cautions for Safety button on Repairs and Adjustments menu if unsure about safe working practices.

CAUTION: The purpose of Repack is to prevent toner from migrating throughout the machine during the return shipment to a service center.

1. Remove the Waste Toner Cartridge.

2. Remove the Waste Toner Retainer Cap from the storage position and install the cap on the return port. Secure the Waste Toner Cartridge into the top of the machine for shipping.

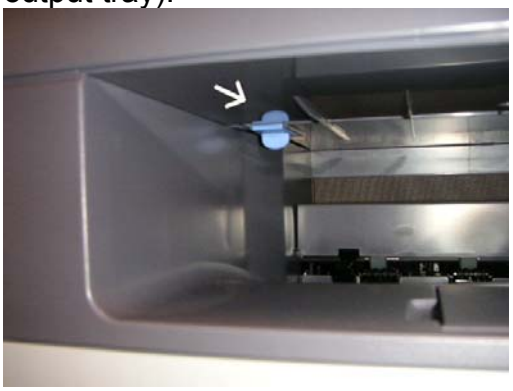


3. Remove the toner cartridges and install the clear plastic shipping cover (shipping cover is installed on all new cartridges). Secure the Cartridges into the output tray or top of the machine for shipping.

4. Close the Toner Ports by installing the Shipping Plugs into the Toner Ports. If the plugs are not available close the ports with tape, or wadded tissue or wadded paper.

Repack

5. On the Phaser 6110MFP lock the Scanner in the shipping position by moving the lock tab to the rear (top of output tray).



6. Remove the Paper Tray and secure it on the top of the machine for shipping.

7. Remove the Power Cord and secure it on the top of the machine for shipping.

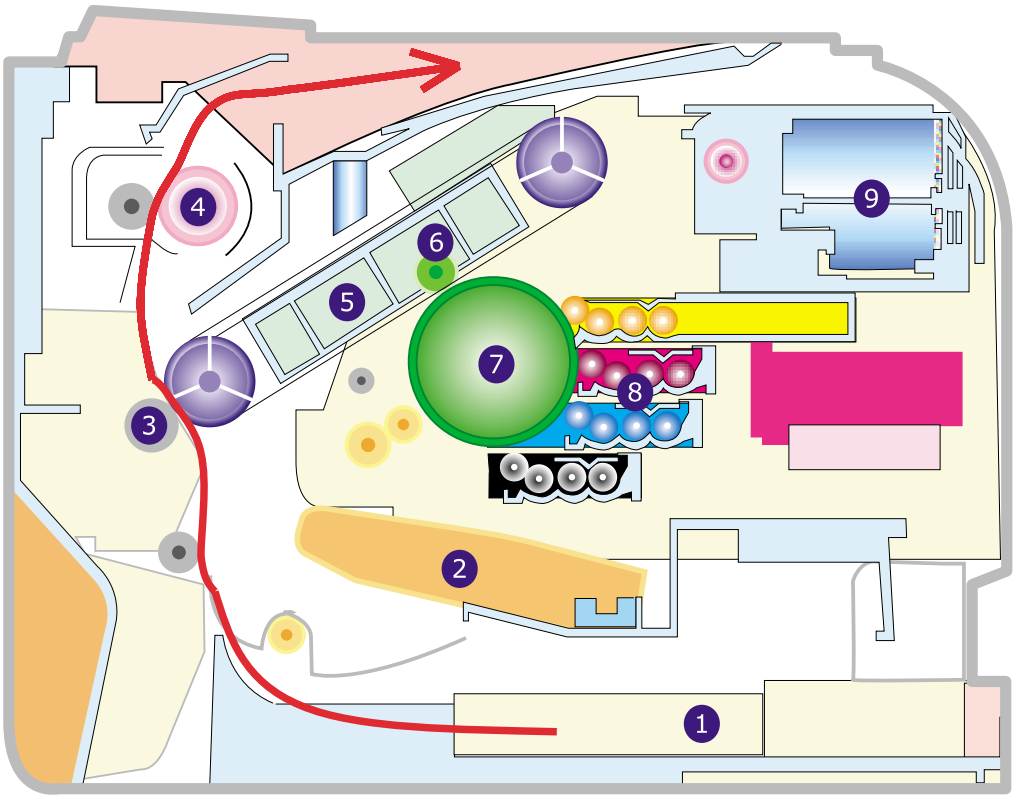
NOTE: The machine is now ready for shipping.

3 System Overview

This chapter describes the functions and operating principles of the main components.

System Structure

Main Parts of System



1. Paper Input (Cassette)
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8. Developers (Y, M, C, & K)
9. Toner Kits (Y, M, C, & K)

❶ **Cassette**

· Feeding Method : Cassette Type
· Feeding Standard : Center Loading
· Feeding Capacity : Cassette 150 Sheets(75g/㎡, 20lb Paper Standard)
No Manual Feeder
· Paper Detecting Sensor : Photo Sensor (Empty, Registration, Exit)
· Paper Size Sensor : None

❷ **LSU(Laser Scan Unit)**

· Consisted of LD(Laser Diode) and Polygon Motor Control.

Error	Phenomenon
Polygon Motor Error	The Rotation of Polygon Motor can not reach stable
Hsync Error	Though the rotation of Polygon Motor reach stable, the signal of Hsync is not occurred

❸ **2nd Transfer Ass'y**

· The life span: Print over 100,000 sheets (in 15~30 ℃)

Fuser Ass y

❹ Heat Lamp : New Part - Knuckle Type

· 2 Pressure Roller : One is similar to HummingBird, the Other is a new added part comparing with other Fuser
Thermistor - Temperature-Measuring Device
· Thermostat - Critical Temperature-Detecting Device

& **ITB(Intermediate Transfer Belt) & 1st Transfer Roller**

❺ ❻ The life span: Print over 60K, Black; 15K Color
· The ITB unit includes 1st Transfer Roller
·

& **OPC(Organic Photo-Conductor) & Developer**

❼ ❽ The life span: Print over 44,000 Images (Both)
· Imagine Unit consists of 4 kinds of Developer , OPC, and Deve. Main Frame
·

Toner Kits

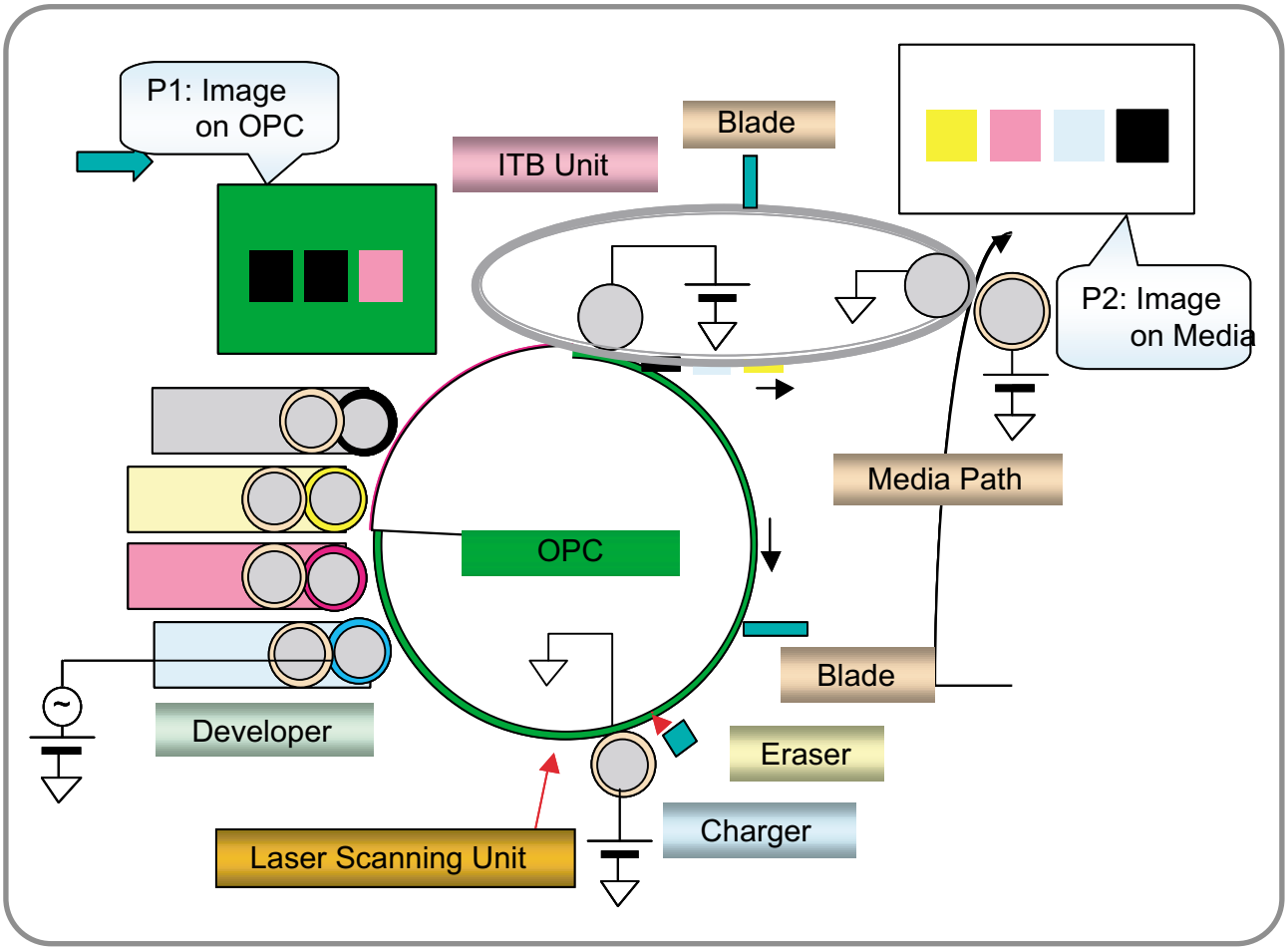
❾ The life span: Color -> 1000 images (5% Coverage Print-Out)
· Black -> 2000 images (5% Coverage Print-Out)

Driver Ass y

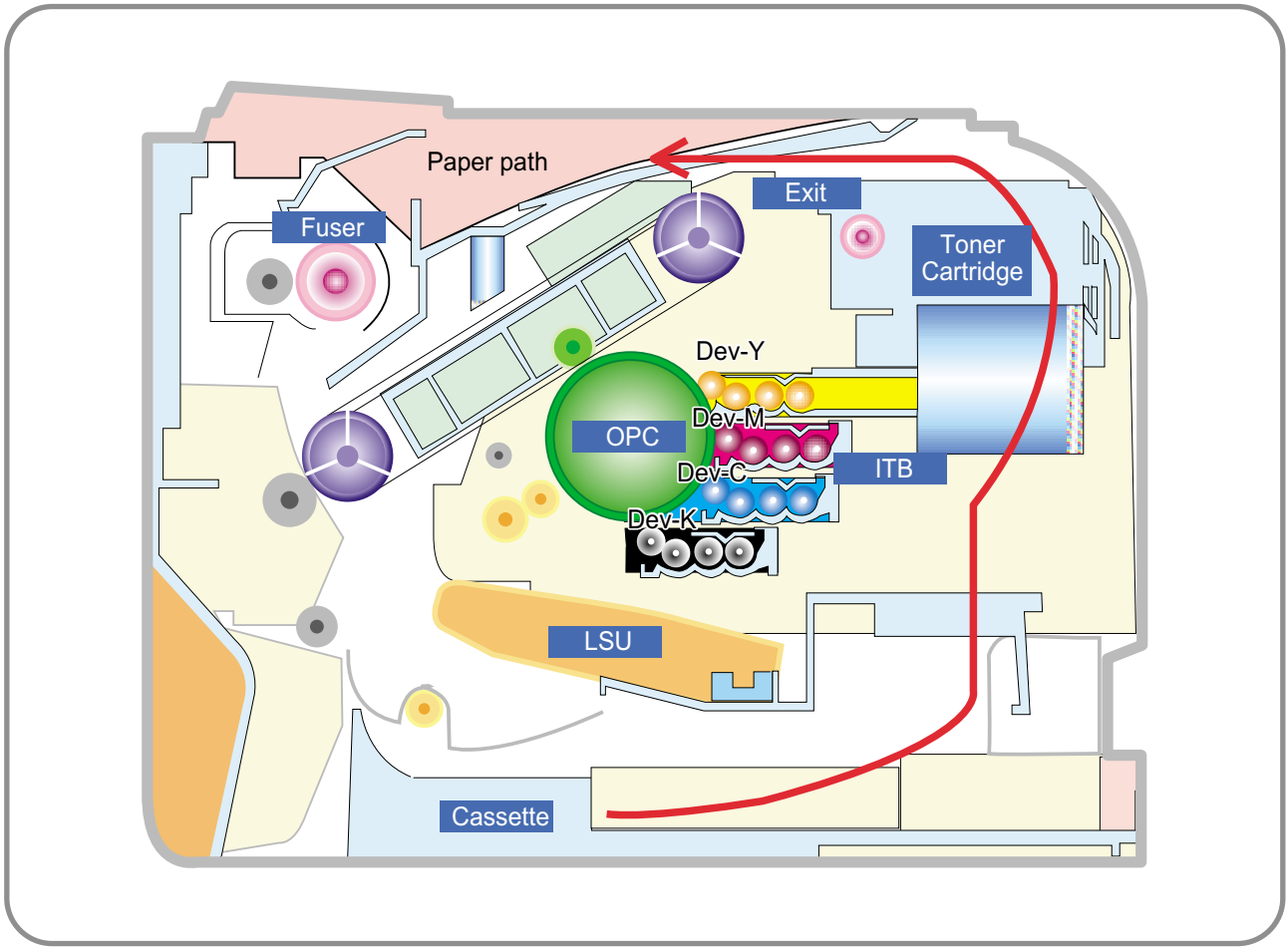
It is a power delivery unit by gearing
· By driving the motor, it supplies the power to the feeding unit, the fusing unit, and the distributing unit.

EP Process

- Structure of EP Process



- System Outline



❶ Charging

- · Conductive Roller charging
- · Roller resistivity : ~ 10^5 ohm-cm
- · Applied voltage : -1.1kV
- · Charge acceptance : -520V
- · OPC coating thickness : 21um
- · OPC diameter : ⌀60mm
- · Non eraser system

1. Organic Photoconductor is charged to uniform voltage by conductive roll charging method
2. No ozone is produced because corona is not used
3. Charger roll is cleaned with cleaning roll
4. Toner remained on OPC after T1 process is cleaned by cleaning blade and retrieved into waste toner box by auger and belt driving mechanism

❷ Exposing

- · One polygon motor (6 facet)
- · Single beam LD (1ea)
- · LD wavelength : 785nm
- · Polygon motor rpm : 23747.5
- · LSU energy : 0.25uJ/cm^2
- · OPC exposed potential : -50V

1. Exposing is implemented by laser striking on to OPC with uniform potential
2. Laser beam is modulated according to image to be printed that is from PC
3. Latent Image is formed on OPC, which is developed with toner

❸ Developing

- · Non-magnetic, mono component
- · Non-contact development
- · Developing bias : DC + AC
- · AC peak to peak : 1.5 ~ 2.0kV
- · Mass on developing roller : 550 ~ 600ug/cm^2
- · Toner coulomb : 15 ~ 20uC/g
- · Roller diameter : ϕ10mm
- · Roller resistivity : 10^5 ~ 10^6 ohm-cm
- · Process speed ratio : 1.2 (OPC=1.0)
- · Color order : Y -> M -> C -> K

1. Only latent image formed by exposing process is developed with toner
2. AC + DC Voltage is being used to develop toner into latent image on OPC because non-contact developing method is adopted
3. Y, M, C, and K Images are sequentially developed onto OPC and transferred onto Intermediate Transfer Belt (hereafter ITB) to form a color image on ITB
4. Toner Bottles are used to supply toner into developer compartment
5. Toner level is being sensed to control toner supply from toner bottle to developer

❹ Transfer 1

- · Multi-pass transfer
- · Indirect transfer
- · Transfer voltage : 0.5 ~ 2.0kV (controllable)
- · Roller diameter : ϕ14mm
- · Roller resistivity : ~ 10^7 ohm-cm
- · Belt resistivity : 10^9 ~ 10^11 ohm-cm
- · Environment sensing by Y-transfer roller
- · Transfer unit life : 50K images

1. Developed Image on OPC is transferred onto ITB by T1 Process
2. T1 Voltage is positive which attract toner to ITB
3. 4 times of T1 process is required to make a color image on ITB, which means multi-pass process
4. ITB has a hole as a fiducial mark for timing. Engine control for color image is synchronous with it, ITB Home Sensing Signal

❺ Transfer 2

· Indirect transfer
· Transfer voltage : 1 ~ 4.0kV (controllable)
· Roller diameter : ϕ18.6mm
· Roller resistivity : ~ 10^7 ohm-cm
· Belt resistivity : 10^9 ~ 10^11 ohm-cm
· Transfer unit life : 50 K images

1. Color image formed on ITB is transferred onto media by T2 process
2. T2 voltage is also positive to get color image moved onto media
3. Toner remained on ITB after T2 process is cleaning by ITB cleaning blade and collected and
4. Transported and retrieved into waste toner box by auger and belt driving system
5. T2 Roll is engaged when color image is being transferred onto media. Otherwise it is disengaged. Clutch is used for driving T2 Roll engagement and disengagement

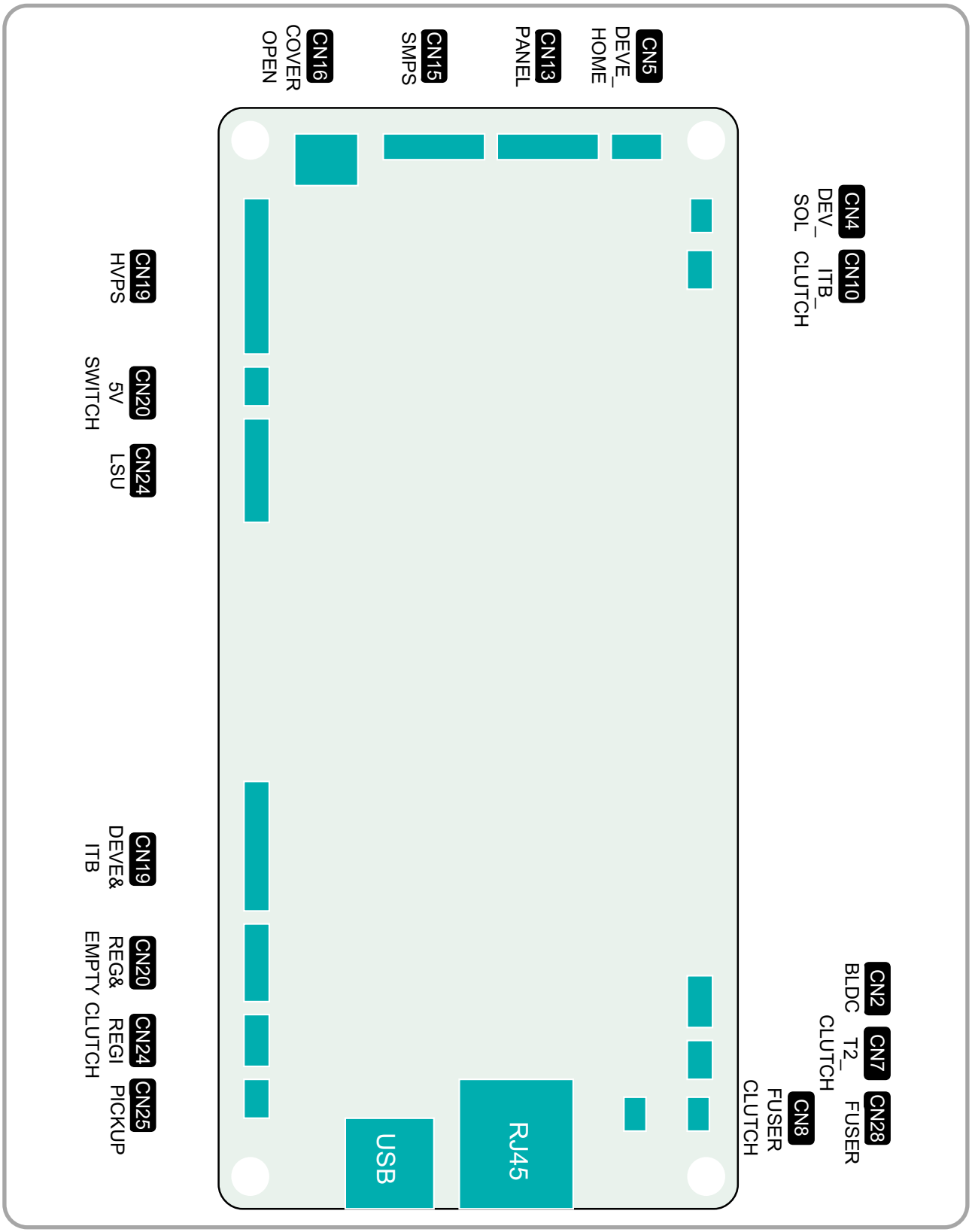
❻ Fusing

· 3 Roll system
  -> short warm-up time (45sec)
· Post Pressure Roll

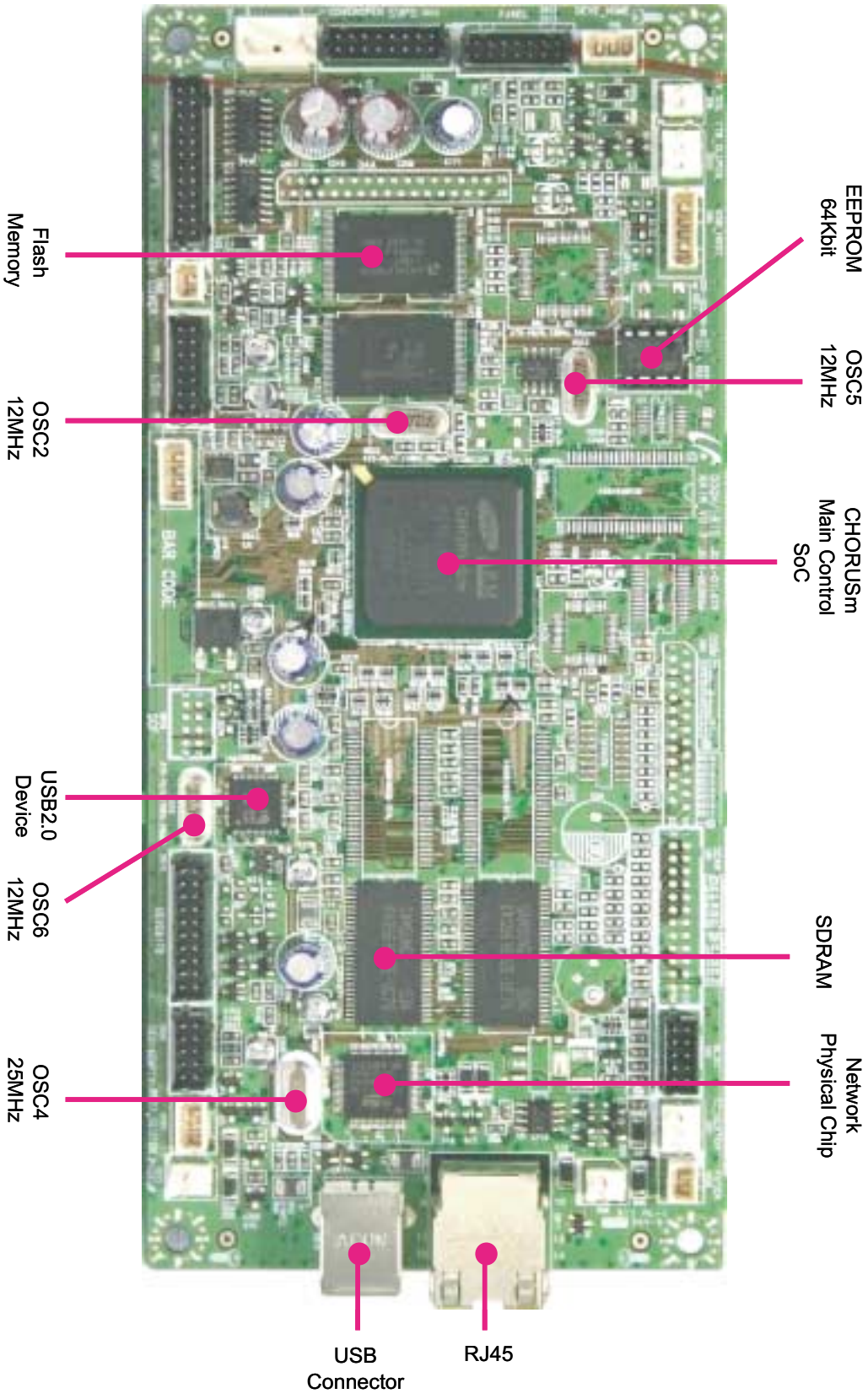
1. Color Image on media is melted down and fixed into media by fusing process

Main PBA Description

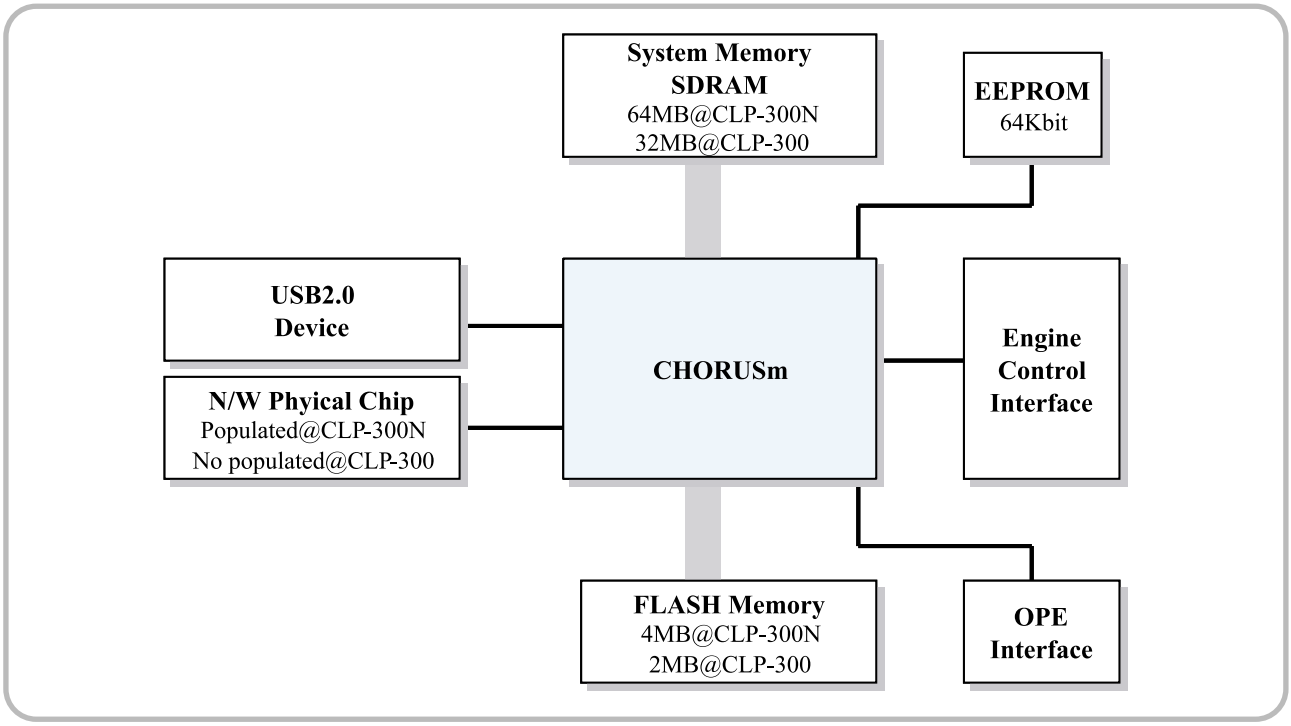
Main Controller PBA



Main PBA


Flash Memory
OSC2 12MHz
USB2.0 Device
OSC6 12MHz
OSC4 25MHz
USB Connector
RJ45
EEPROM 64Kbit
OSC5 12MHz
CHORUSm Main Control SoC
SDRAM
Network Physical Chip

Main PBA Description



1) CHORUSm

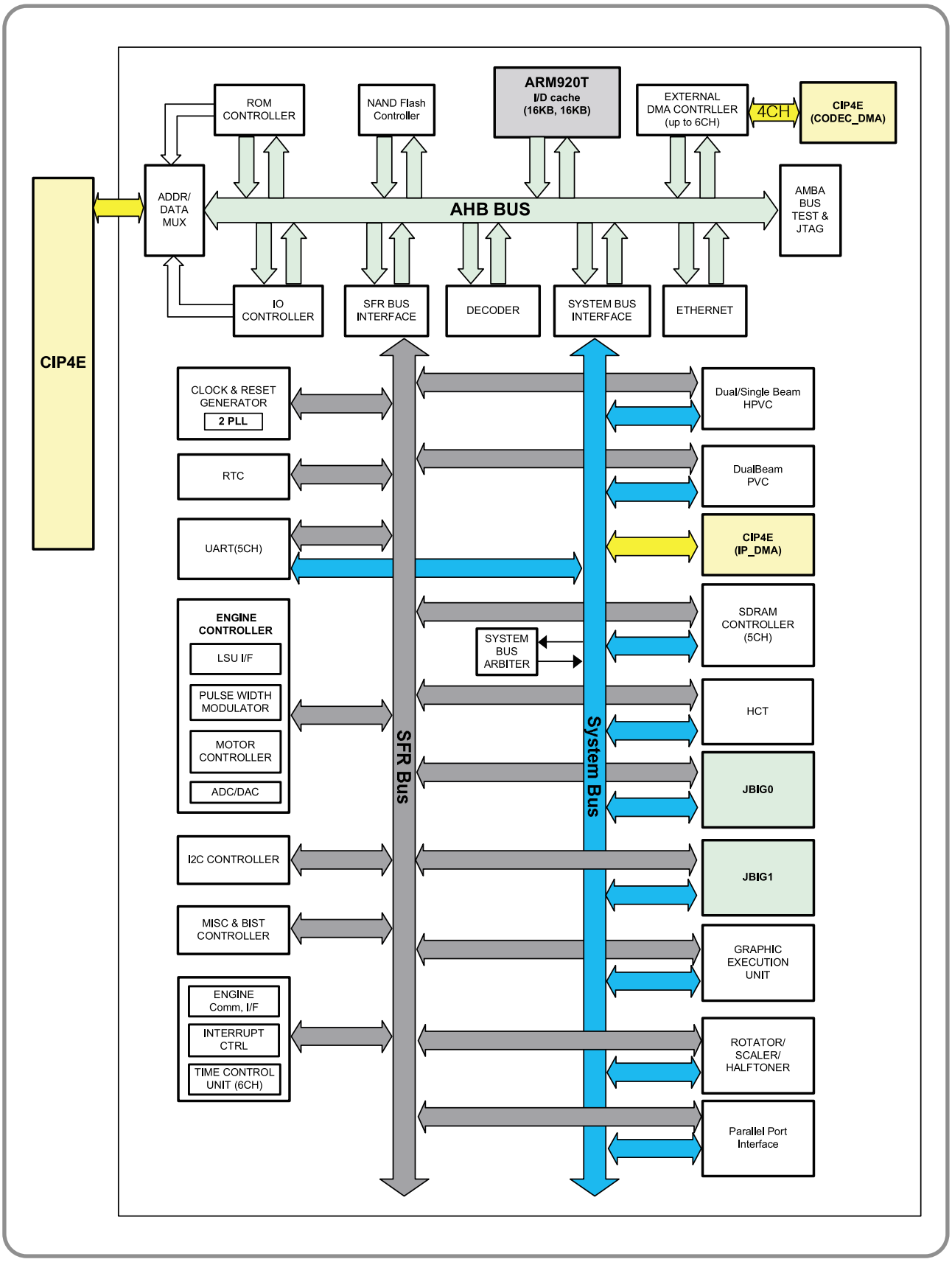
CHORUSm involves in itself the functions to control ARM Processor Core and various H/W devices. CHORUSm, therefore, controls Main PBA and all engine mechanism, processing the print job received from host and enabling the engine to print image.

≫ Function

- ▶ Process
  - · 0.13um Technology
- ▶ Package
  - · 496 PBGA
- ▶ CPU Core
  - · ARM 920T - 300MHz
  - · Cache : I-Cache 16KB, D-Cache 16KB
- ▶ System Bus
  - · 32-bit width, 100MHz
- ▶ SDRAM Controller
  - · 32-bit width, 100MHz operation
  - · 5 Banks, Up to 128MB Address space per Bank
  - · Programmable Timing to Control SDRAM A.C Characteristics
  - · Support Self Refresh for Data Retention
- ▶ ROM Controller
  - · 32-bit width, 4 Banks, Up to 16MB Address space per Bank
  - · Burst Capability
  - · Programmable Timing per Bank

- IO Controller
  - 6 Channels, Up to 16MB Address space per Bank
  - Programmable Timing per Bank
- DMA Controller
  - 6 Channels General Purpose DMA
- HPVC Controller
  - Hyper Printer Video Controller
  - High Performance DMA-based Interface to Printer Engine
  - Support Dual/Single Beam LSU, LVDS Video Output
  - Support A3, 1200dpi
- UART Controller
  - 5 Channels Indepenent Full Duplex UART
- Interrupt Controller
  - Support 6 External Interrupts
  - Support 26 Internal Interrupts
- Timer Controller
  - 6 System Timers and Watch Dog Timer for S/W Trap
- Scanner Controller
  - 300/400/600/1200dpi CIS/CCD Interface
  - Color/Mono grey image, Binary image scan support
  - 600dpi Color/Mono Copy support
  - Image Processing for High-End MFP,Digital Copier
  - MH/MR/MMR CODEC for Fax
  - Scan image : A4 1200dpi processing
  - Copy image : A4 600dpi processing
- MAC Controller
  - 10/100Mbps
  - Full IEEE 802.3 compatibility
- PPI Controller
  - IEEE1284 compliant parallel port interface
  - DMA-Based or Interrupt-Based operation
- GEU Controller
  - Graphic Engine Unit for Banding support of Printer Language
  - Scan Line Buffer, Polygon Filling
- CODEC Controller
  - 2 Channels JBIG Encoding and Decoding
- I2C Controller
  - 1 Channel, Operated at max frequency 400kHz
- RTC Controller
- Engine Controller
  - LSU Control and Interface Unit
  - 2 Channels STEP Motor Control Unit
  - 8 Channels PWM Control Unit
  - 8 Channels ADC Control Unit
  - 2 Channels DAC Control Unit

■ CHORUSm (Internal Block Diagram)



2) System Memory Block

Memory saves program and video data and print jobs received from host. Its volume is 64MB with network function and 32MB without network function. It has no separate device for extension. SDRAM is used, driven at width of 32-bit and 100MHz, and controlled by memory controller built in CHORUSm.

3) Flash Memory Block

Flash memory is the space used for saving program. Its volume is 4MB with network function and 2MB without network function. It has no separate device for extension. NOR type flash memory is used and accessed at 32-bit width burst, being controlled by the ROM controller built in CHORUSm.

4) USB2.0 Device Block

This block supports USB2.0 high speed (480Mbps). ISP1582 of Philips company is used and connected to the IO Bus of CHORUSm at 16-bit, controlled by IO controller built in CHORUSm. Through this I/O port it receives print job from host.

5) Network Block

This block has 10/100Mbps wired network function and is controlled by MAC controller built in CHORUSm. It is connected to host through physical layer chip outside, and thus receives print job from host. STE100P is used for physical layer chip.

6) EEPROM Block

System EEPROM is controlled by the I2C controller built in CHORUSm, connected to the other non-volatile memory on I2C bus. It works at the speed of 400KHz. This system EEPROM contains all drive information and production information necessary for the operation of printer. Its size is 16k-bit.

7) OPE Control

The panel is driven in the form of PIO by GPIO controller built in CHORUSm. OPE consists of one key and four monochrome LED, and one dual LED.

8) LSU Control

Laser Scanning Unit is controlled by LSU controller built in CHORUSm. It makes use of all functions such as Polygon Mirror Motor Control necessary for driving LSU and Synchronized Signal Generation Control, and helps to scan laser beam on the photosensitive drum to form latent image.

9) BLDC Control

It is controlled by BLDC controller built in CHORUSm. It controls the drive of printer mechanism and helps it to be driven at an equal speed.

10) Sensors Control

GPIO controller built in CHORUSm collects the status of all sensors. According to this status of sensors, it controls printer mechanism to help normal printing. There are sensors such as Paper Empty Sensor, Registration Sensor and Developer Home Sensor, etc.

11) Clutches Control

GPIO Controller built in CHORUSm controls all clutches, which help printer to do print job normally. There are clutches such as Paper Pick-up Clutch, Registration Clutch, Developer Home Clutch, ITB Clutch, T2 Clutch, Fuser Clutch, Developer Toner Supply Clutch, etc.

12) PWM Control

PWM Controller built in CHORUSm controls the parts that require PWM for normal printing, such as BLDC drive speed and HVPS high voltage level, etc.

13) ADC Control

It is controlled by ADC Controller built in CHORUSm, and is used for perception of charged voltage and current, 1st and 2nd transfer voltage and current, fusing temperature, used-up toner and toner amount, and interior temperature, etc.

14) DAC Control

It is controlled by DAC Controller built in CHORUSm and used to set standard level of light amount of LSU Laser Diode.

SMPS(Switching Mode Power Supply) PBA

SMPS is consisted of SMPS part which supplies DC power for driving system and AC Heat Control part which supplies power to Fuser. Standard TYPE III is used.

1) DC Output

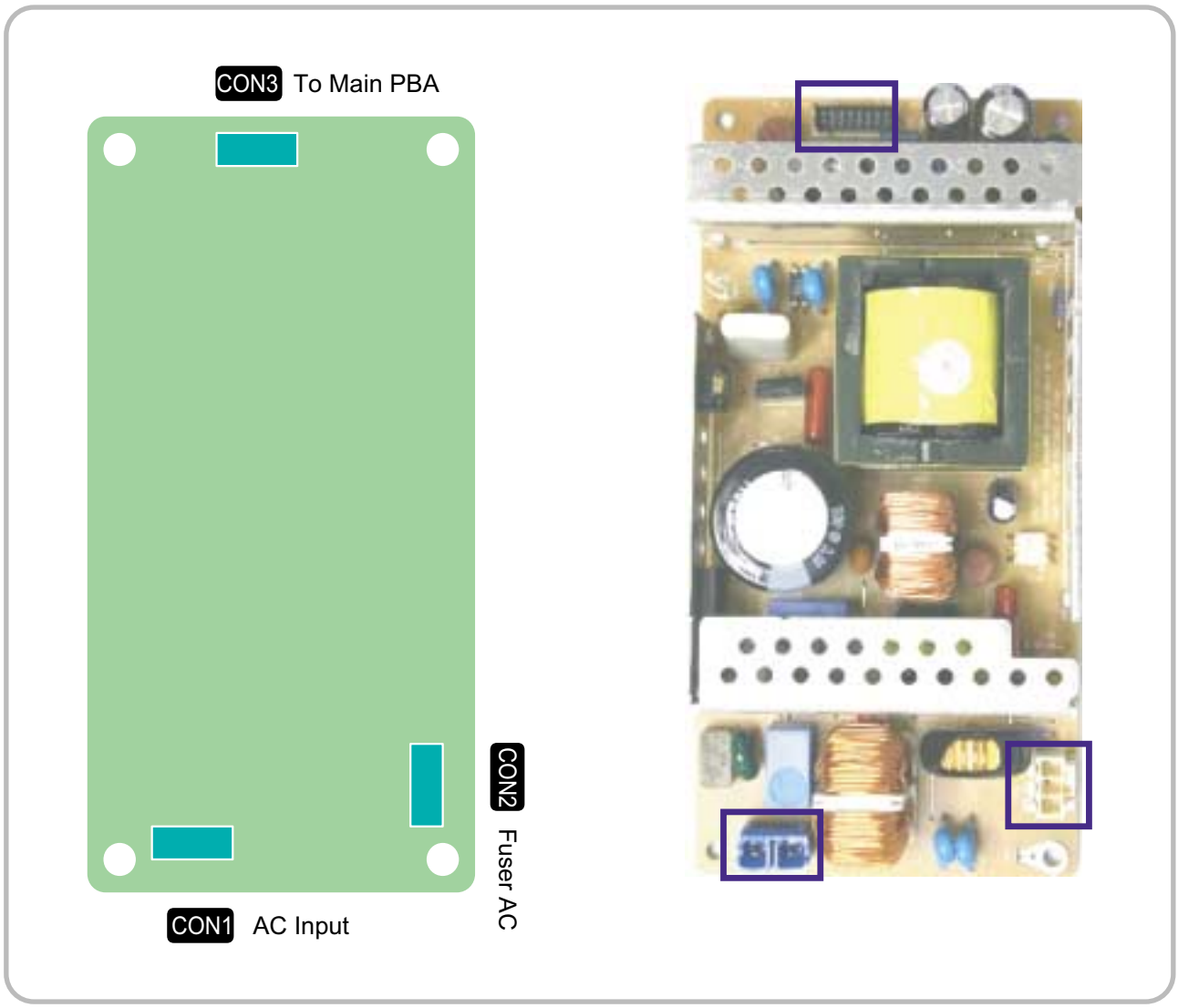
· Main Controller PBA, OP Panel, BLDC, Sensors, Clutches, Other PBAs

2) AC Output

· Fuser Unit(Heat Lamp, Thermostat)

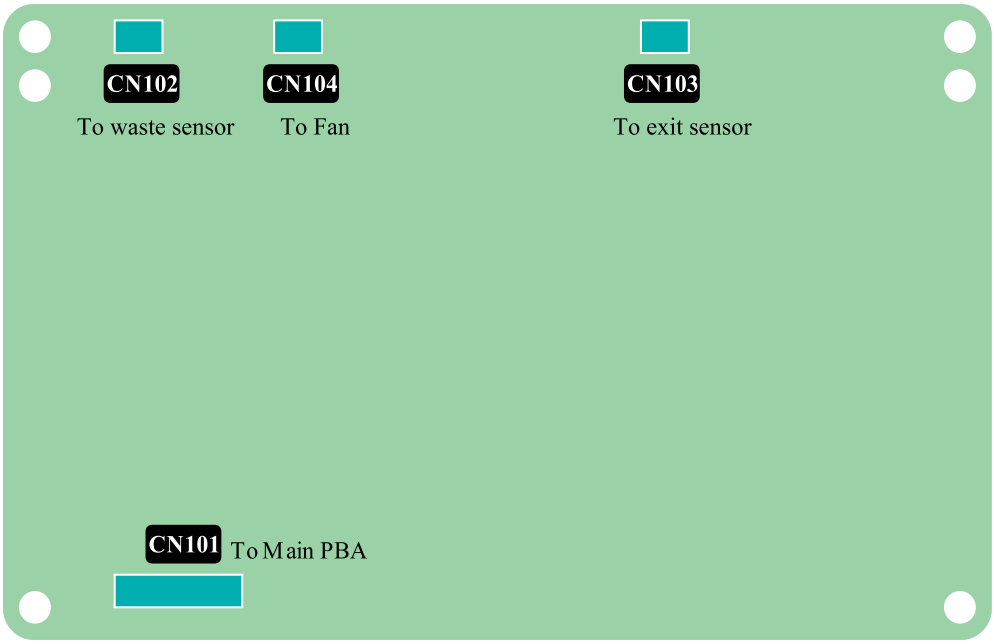
3) Output Voltage

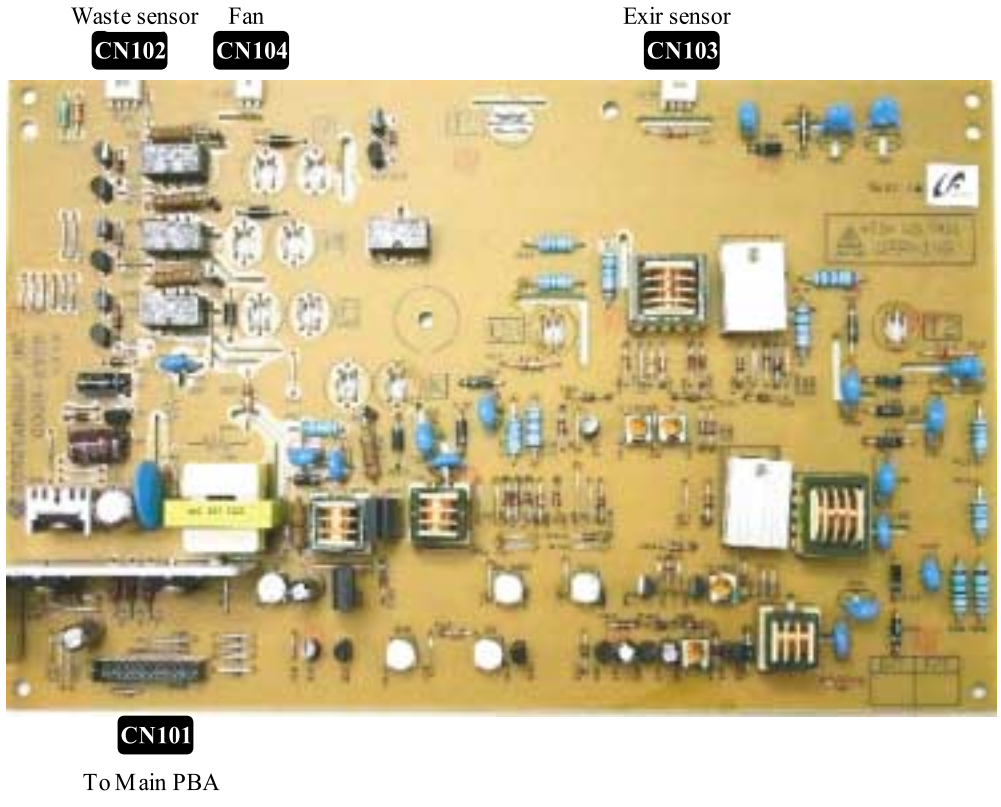
CHANNEL	+5.0V	+24V	+24VF
V_out	+5.0V +/-5%	+24.0V +15%/-10%	+24.0V +15%/-10%
Load	MicroController, CMOS, LOGIC	LSU	MOTOR, CLUTCH, HVPS



HVPS(High Voltage Power Supply) PBA

HVPS PBA generates high voltage of charger, supply, T1 and T2 which is supplied to Developer, ensuring optimum condition for image formation. HVPS receives input of 24V and generates high voltage, supplying it to Toner, OPC, Cartridge, ITB Unit and Transfer Roller.





1) Charger Voltage : Charger

- Function: voltage that charges OPC surface up to ?500V~ -800V.
- Output voltage: -1.0KV ~ -2.0KV DC ± 3%
- Error type: if the voltage fails to be output to Charger Roll, OPC surface will not be charged, and the toner on the developer roller will be transferred to OPC Drum, printing black paper.

2) 1st Transfer High Voltage : T1(+)

- Function: voltage necessary for transferring toner developed on OPC Drum surface onto ITB.
- Output voltage: Max +2.0KV ± 3%(Duty variable, no load)
- ERROR type: if T1(+) output fails, the toner on OPC drum will not be transferred to ITB normally and the image will be blurred.

3) 2nd Transfer High Voltage : T2(+)

- Function: voltage used to transfer the toner primarily transferred on ITB again onto paper.
- Output voltage: Max +5.0KV ± 3%(Duty variable, no load)
- ERROR type: if T2(+) output fails, the toner on ITB will not be transferred to paper normally and the image will be blurred.

4) T2 Cleaning Voltage : Clean : T2(-)

- Function: prevent reverse side of paper from being dirtied, by recovering the negatively charged toner remaining at Transfer Roller and sending it onto ITB.
- Output voltage: with no feedback control, output fixed voltage(-1300V +/- 15%)
- ERROR type: reverse side of paper will be dirtied.

5) Supplying Voltage : Supply AC+DC(-)

- Function: voltage that makes toner to develop on the area exposed by LSU by means of potential difference, output will be the voltage of AC+DC overlapped form.
- Output voltage: AC 600V ~ 2000V p-p +/-1.5%
  DC -50V ~ -600V DC +/- 3%
- ERROR type: 1. if supply is GND, density will be extremely low.
  2. if supply is floating (for insecure terminal contact), density will be down so slightly that it is impossible to make out with naked eyes.

6) Developing Voltage : Deve AC+DC(-)

- Function: voltage that supplies toner to Developing Roller
- Output voltage: AC 300V ~ 1700Vp-p ± 1.5% (supply voltage is connected to ZENER Diode 300V)
  DC -50V ~ -600V DC +/- 3%
- ERROR type: 1. if Deve is GND, density will be extremely down.
  2. if Deve is floating (for insecure terminal contact), density will be extremely down.

CRUM

■ In the case of Refill Toner Install

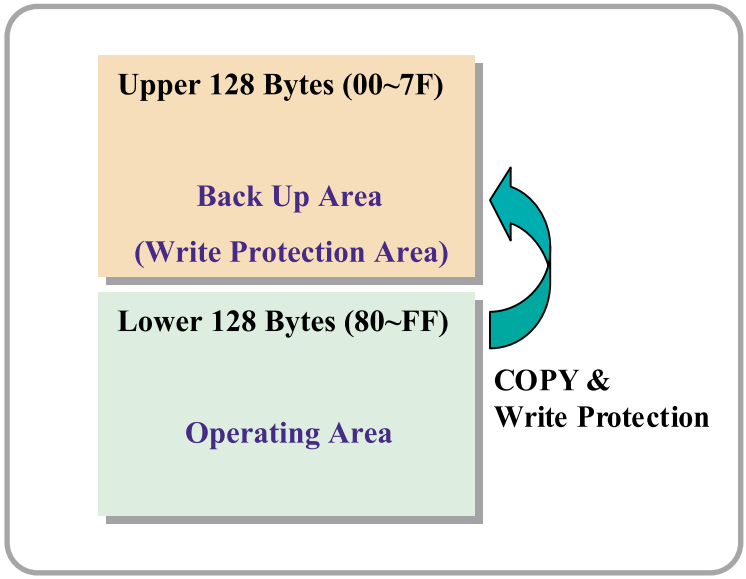
1) Perception of Refill Cartridge (when power is on or the cover is closed)
End of Life / life span data initialization -> judge to be Refill Cartridge
End of Life / life exhausted (simple refill) -> stop printing caused by life exhaustion

2) Operating

It is impossible to control appropriate development parameters, for there's no toner specification data.
It runs with the setting of default development parameter. (Image quality will be degraded, for the lack of appropriate respond to the change of time and environment.)

3) Service Response

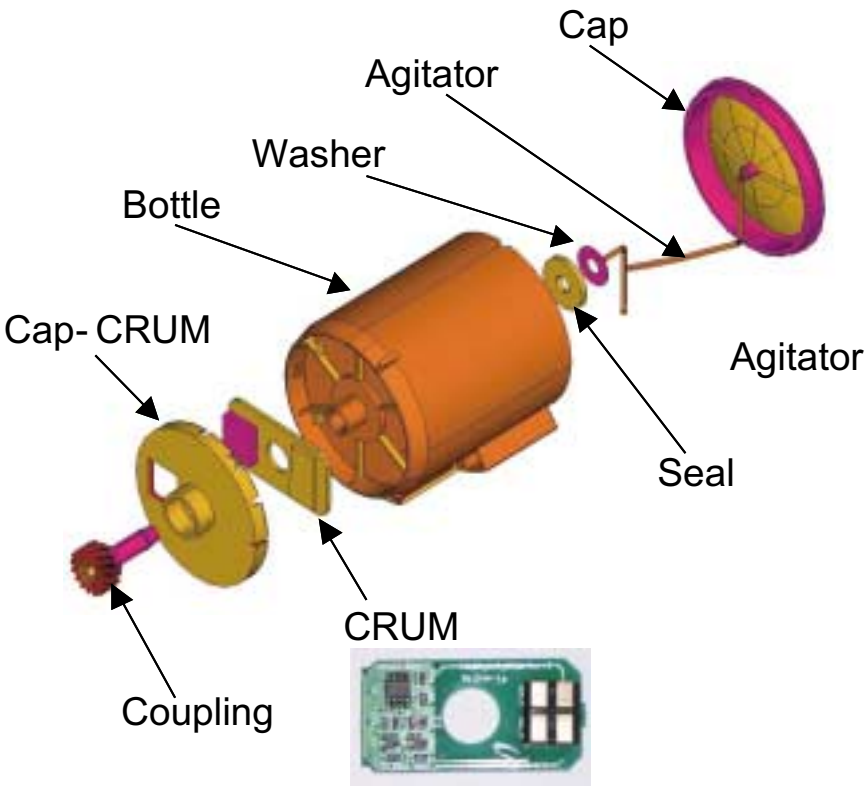
It is possible to response appropriately, for the information of cartridge life is saved at Back Up Area.



■ Process after CRU life expiration

1) Record the information of End of Life.
2) Copy the information of Operating Area into Back up Area.
3) Write-Protect Back up Area.
4) Clear some information of Operation Area.
   -> Supplier/Model Name/MFC date/Serial Number (Manufacture Information)
   -> Let cartridge refiller initialize manufacture information and life span information.

■ CRUM Position



General Description

This chapter is the product specification for the printer. The Phaser 6110 is a Color Laser Printer. The Phaser 6110 can be expanded to multi functional printer (MFP). Phaser 6110 is developed for two target users.
Those are small office users who sometimes need color printouts, and medium business users who mainly use B/W printouts. The main product concept is “the world smallest and lightest color laser printer”. This model has 16ppm B/W print-speed and 4ppm color print-speed, 2400 x 600 dpi class (optical 600 x 600 dpi) color laser printer.

Controller

-The video controller board is located on the right side of the printer.

-Basic Memory is 32 Mbytes SDRAM.

-Field F/W upgradeable FLASH ROM firmware for controller, 1024 byte EEPROM

-Printing Resolution :

Native 600 x 600 dpi standard

Resolution can be enhanced up to 2400 x 600 dpi class, 1200 x 600 dpi (default), 600 x 600 dpi

Processor

CHORUSm (300Mhz), Proprietary SOC

Printer Language Emulations

SPL-Color

Memory

The controller has 32 MB SDRAM and 4 MB flash ROM on Board.

Interfaces

The system supports the following standard interfaces:

· One USB port

- USB v.2.0 compliant
- Color-coded to meet WHQL requirements, connector must be Pantone 426C

· One 10/100 BaseT network connector

- The printer supports an internal Network Interface that can be installed pre-configured on the video controller board at the factory. This supports all of the major Network Operating Systems such as the Novell NetWare, TCP/IP, etc. Details of the network specification will be provided separately.

Control Panel

No LCD, 1 key and 5LEDs.

Periodic Replacing Parts

Xerox shall specify parts requiring replacement and the frequency of replacement. The parts identified may be deemed customer replaceable parts. Periodic replacement parts shall be recommended as follows

Toner Cartridge	1K(Color), 2K (Mono) pages	User replaceable
Imaging Kit	44K Images	User replaceable
Fusing Unit	71K page (28.6K Color/42.9K Mono)	Field replaceable
Transfer Roller	100K pages	Field replaceable
Waste Toner Container	5000 Images (3636 Color/1364 Mono)	User replaceable
Pick up	100K(Color/Mono) pages	Field replaceable

** Based on Printing Volume ratio of 40% Color and 60% B/W

Power Switch

The Switch is located at rear-side of printer and must be marked to indicate on and off.

Operator Panel

LCD: None

KEY: 1 key (Stop)

LED: 5 LEDs (C, M, Y, K Toner, Status)

Sensor

Paper empty (Cassette)

CRUMS

The Phaser 6110 engine will be equipped with electronics that can read and write data into NVRAMs otherwise known as CRUMs that reside within 1) C, M, Y, K Toner cartridges and 2) Imaging kit(Developer, OPC, ITB). The CRUM has a company ID, and electronics logo.

The toner CRUM also identifies the type of toner cartridge (Standard or High Capacity). The CRUMs contain fixed data such as the low warning point, specified life point, and hard stop point (on toner, not on IBT unit) and also store the current life count (pages count, pixels count, images count) and % of usage (gas gauge) data.

LOW / OUT Behavior for consumables

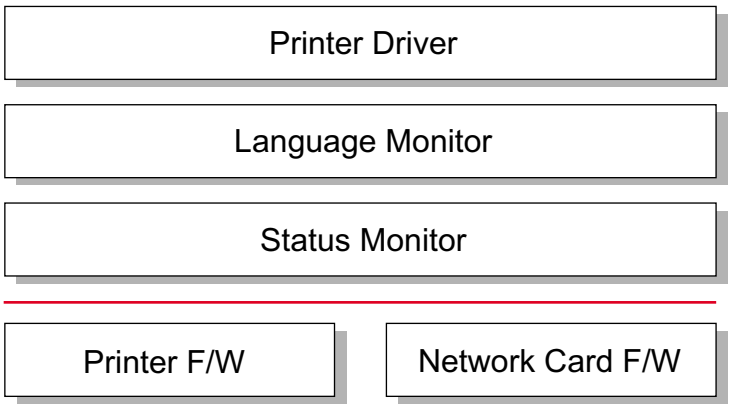
The consumable low and out behavior on Phaser 6110 engine is specified by SEC.

FP message	Device for life end detection	Law(90%)	Life(100%)	Hard stop	Reset to 0
Toner	CRUM	Yes	Yes	Yes(115%)	No
Imaging Kit	CRUM	Yes	Yes	No	No
Fuser	No	Yes	Yes	No	Yes
T2 Roller	No	Yes	Yes	No	Yes
Pick-up	No	No	No	No	No

4 S/W Structure and Descriptions

Architecture

The belt CRUM interface board is a transmission belt CRUM interface board of the photoelectric Dry Color Laser Printer, mounted on the printer body, making it possible to physically combine the body and the belt CRUM board.



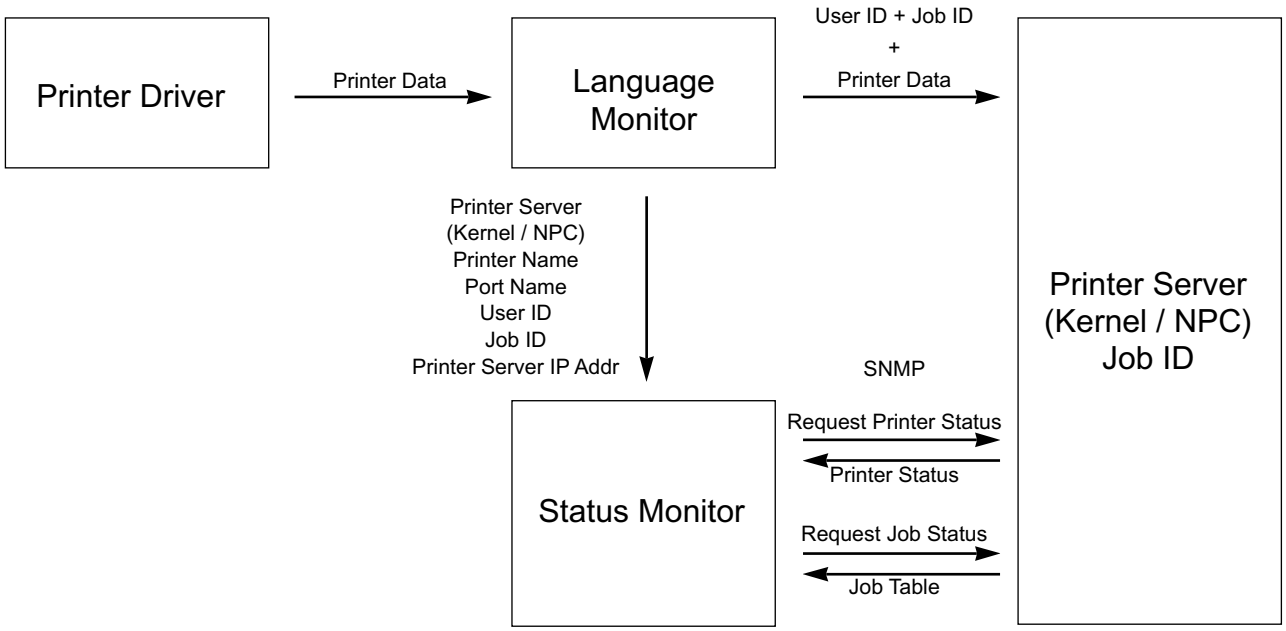
Language Monitor

Language Monitor is a part of the Printer Driver and the Windows Spool System. The main roll of the Language Monitor is that sends a job start message to the Status Monitor. Therefore the Status Monitor can start polling to get the printer status.
The second roll is that sends the job information such as User ID and Job ID to the Status Monitor and the Printer F/W. Hence the Status Monitor can stop polling because the Printer F/W informs the Status Monitor that printing job is complete.

Status Monitor

Status Monitor has no user interface. It shows only HTML help when any error occurs during printing jobs.

Network Interface

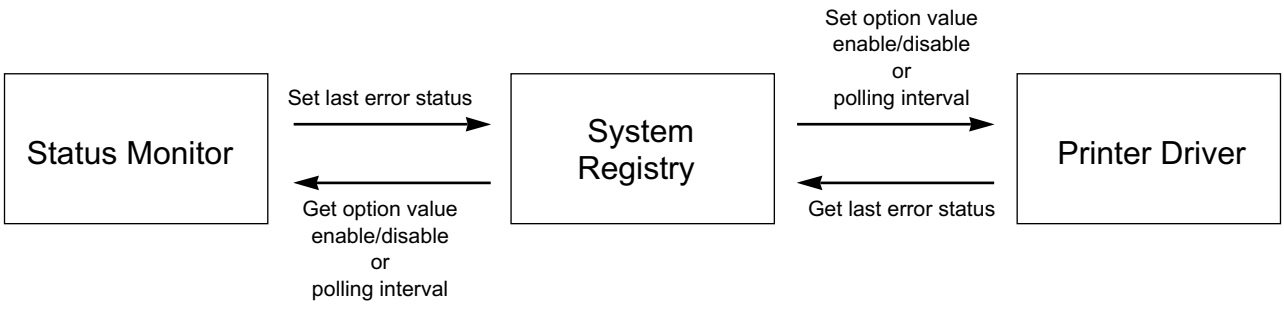


Status Monitor Data Flow

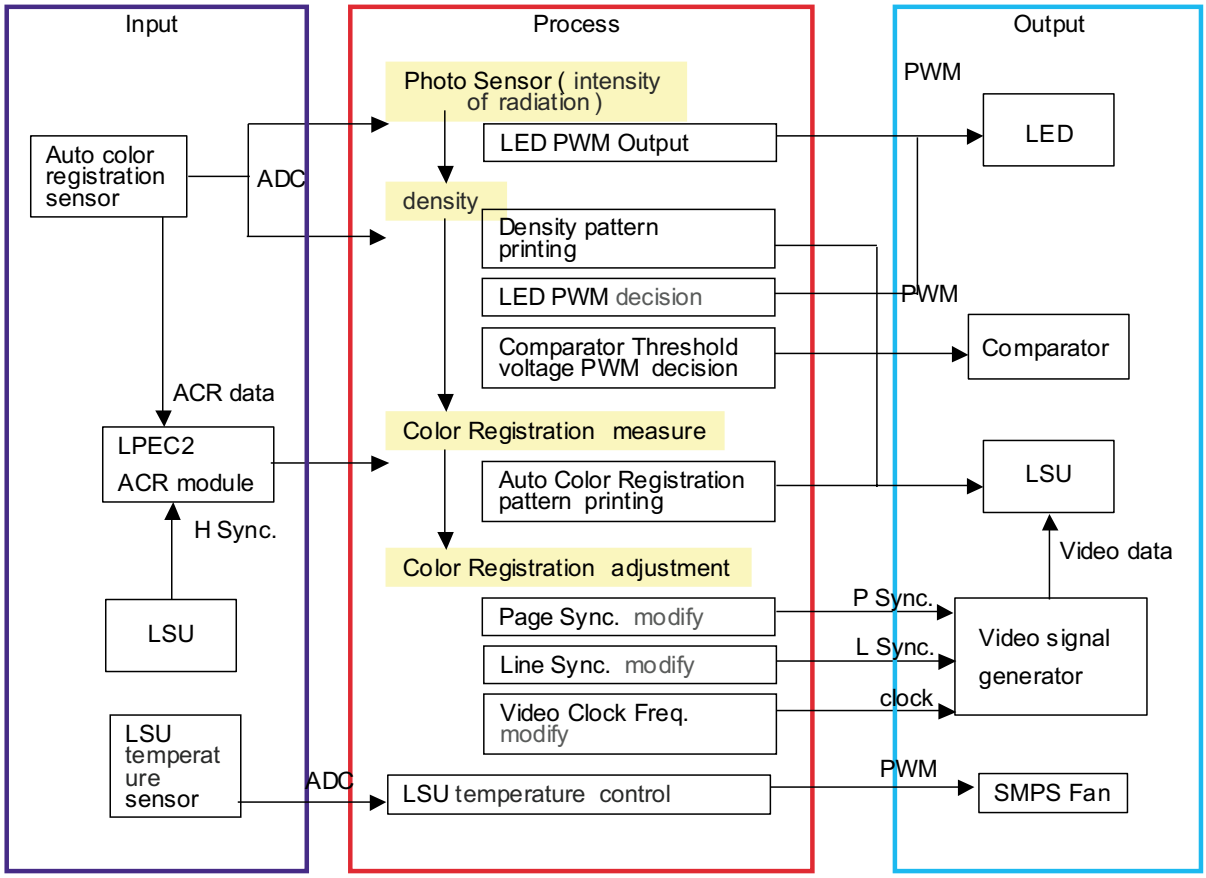
After polling is started, Status Monitor has to know when it stops the polling. For this reason, the Network Printer Server should inform of completing job when the printing job is finished.
When Status Monitor requests a job status, the Printer Server returns the job table that contains user id, job id, and job status (printing or complete or canceled).

Printer Driver <-> Status Monitor

The Printer Driver and the Status Monitor can set/get some data to the system registry to share the Status Monitor information such as the polling interval.
When the user wants to set the option of the Status Monitor manually, he or she can set it using the Printer Driver User Interface. So, if the user set option that the Status Monitor is disabled, the Status Monitor can's show HTML Help to the user although the error has occurred while printing.



System F/W Flow



Alarm Shortage

	90 ~ 100 %	100 ~ 110 %	110 %~
Toner (C,M,Y,K)	Ready Yellow Toner Low	Replace Yellow Toner	Yellow Toner Empty
Transfer Belt	Replace Transfer Belt Soon	Replace Transfer Belt	
Fuser	Replace Fuser Soon	Replace Fuser	
Pickup Rollers (MP/Tray1/Tray2)		Replace MP Pick-Roller	

Error status

1. Missing/Invalid Consumables
   - · Install Cyan (Magenta, Yellow, Black) Toner
   - · Install Transfer Belt
   - · Invalid Cyan (Magenta, Yellow, Black) Toner
   - · Invalid Transfer Belt

2. Paper Empty/Mismatch
   - · Paper Empty In MP(Tray1, Tray2)
   - · Load A4 In MP(Tray1, Tray2)

3. Paper JAM
   - · Jam 0 In MP(Tray1, Tray2)
   - · Jam Inside Printer
   - · Jam In Exit Area

4. Cover
   - · Cover Open : Message toggles between
     "Cover Open" and "Install Transfer Belt"
   - · SCF Cove Open

5. Service Call : Unrecoverable Error
   - · Engine LSU Error
   - · Main Motor Error / Dev. Motor Error
   - · Engine Fuser Over(Low) Heat Error
   - · Rear Fan Error / Left Fan Error / SMPS Fan Error

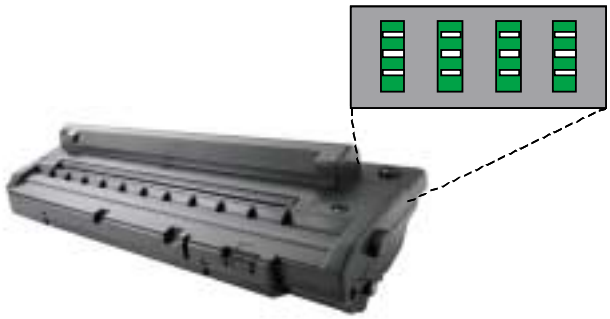
6. Others
   - · Memory Overflow Error
   - · Ready IP Conflict

CRUM Overview

- Stands for “Customer Replaceable Unit Monitor”

- EEPROM is used for CRUM Memory.

- CRUM stores various information on consumables (including consumables’ life).



CRUM stores the following information

· Model Name
· Supplier ID
· Serial Number
· Company ID
· MFG Date
· Capacity
· Page Count
  - Toner Cartridge and Transfer Belt
  - Indicates how many pages are printed by using the consumable

· Dot Count
  - Toner Cartridge Only
  - Indicates how many dots are printed by using the toner cartridge

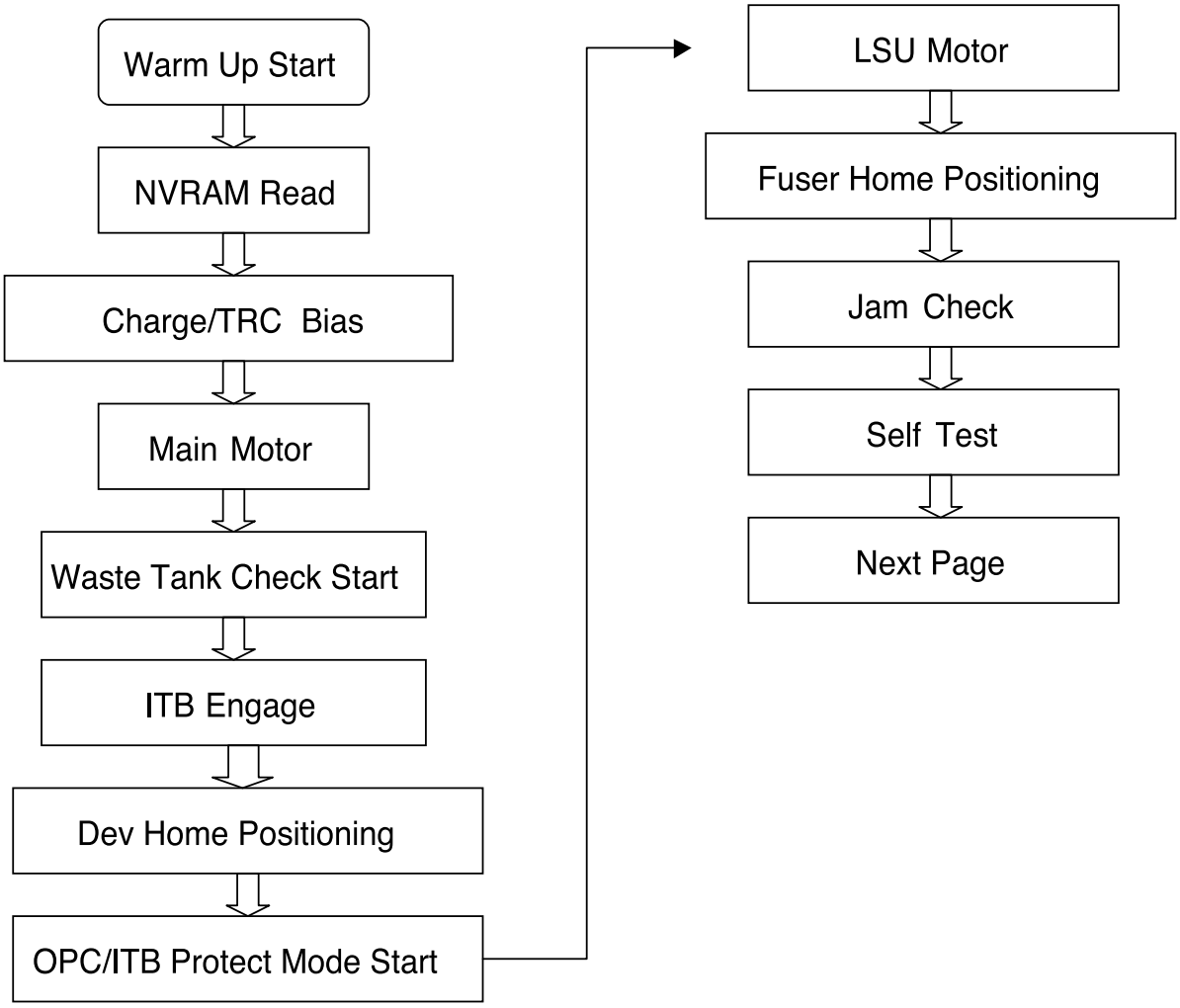
FW Upgrade

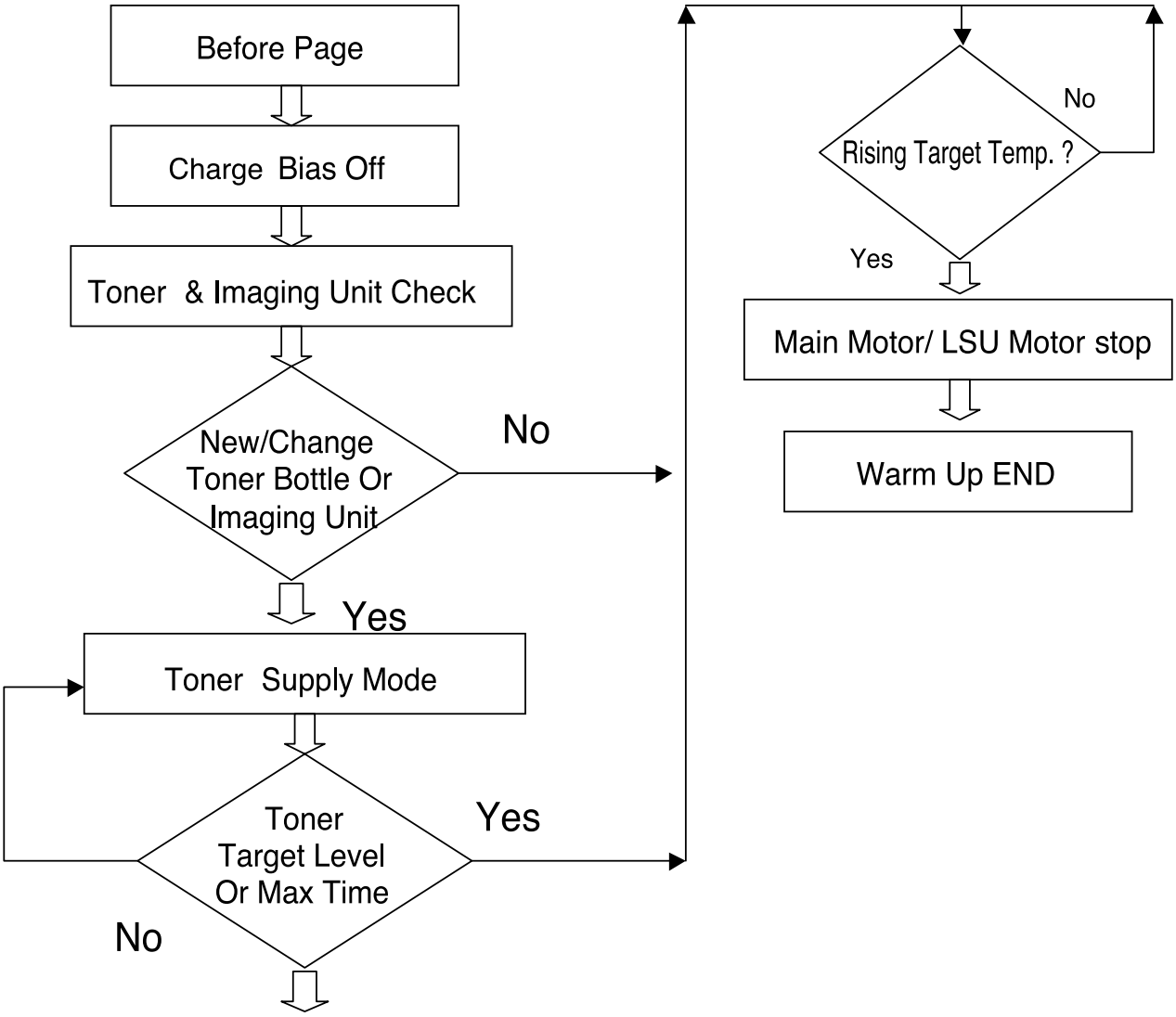
· Via USB or Network (SWS/SWAS)

· You can upgrade F/W via USB or Network whenever the printer is “Ready”

· Via Using F/W Download Mode :
  Step 1) Power on while pressing the Online Key
  Step 2) Press Online Key one more time if required.
  Step 3) Download F/W via USB

Initailize Flow




Before Page
Charge Bias Off
Toner & Imaging Unit Check
New/Change Toner Bottle Or Imaging Unit
No
Yes
Toner Supply Mode
Toner Target Level Or Max Time
Yes
No
Rising Target Temp. ?
No
Yes
Main Motor/ LSU Motor stop
Warm Up END

6 Alignment and Adjustments

This chapter describes some of the main service procedures including:
Using the EDC mode; Clearing paper jam and test patterns.
Much of this chapter is also included in the user's guide.

Control Panel

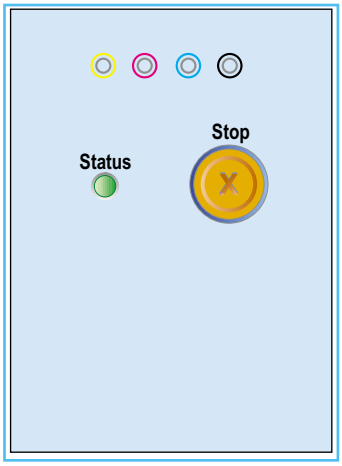
Overview

- The Phaser 6110 does not have LCD panel which is used in other color model printers. On the contrary to other models of color printers, they show the status of the printer only with their LEDs.
- The Phaser 6110 has 1 key and 5 LEDs. The ‘User Interface’ module handles the processing of the ‘Key Press’ and ‘Led control’ at different states of the machine.

Architecture

KEY (1 key): Stop key

LED (6 LEDs):
4 LED for CMYK toners : toner-low(cyan, magenta, yellow, black) LEDs
1 LED for status : ready (green) or error(red) status LED (two color LED)



Data and Control Flow

User interface (panel) is made up of
- KEY input detection & process
- LED control

The initial process to use the panel checks register°Øs values of key and LED.
If user input key value, the operation to be defined by key value is processed and the LED operation to be defined by printer status is controlled.

Function

KEY Function

There is one key present. The Stop key.
If users input key value, the key input is transferred via GIP (General Input Port) and the operation to be defined by key value is processed.

Functions

Stop key function is made up of
- Demo page/Configuration sheet printing function
- Job cancels function
- Start manual feeding function
- Firmware downloads mode function

Detail Description

KEY input detection & process order

1) User KEY input

2) KEY input detection
: If the key input is detected when the key input check per timer tick 10ms, The 10ms interrupt service routine sends the key detection event to panel task.

3) KEY input process
Stop key input process
: After the panel task is received the Stop key detection event, it checks the engine error status two times and process the operation to be defined by key value.

- Demo page/Configuration sheet function
This button will have multiple functions when the printer is in idle state.
Demo page printing
Press and hold this button for about 2 seconds until the control panel lights blink slowly to print a demo page.
Configuration sheet printing
Press and hold this button for about 6 seconds until the control panel lights blink rapidly to print a configuration sheet.

- Job cancels function
When the printer is printing an active printing job, press and holds this button until the control panel lights blink to cancel a job the printer is currently except the manual job.

- Start manual feeding function
When you select manual feed for paper source, press this button each time you feed a sheet of paper manually.
The application of manual feeding function in Phaser 6110 will be determined

- **Firmware downloads mode function**
  Turn on the printer at the same time that the button is pressed.
  If all LEDs scroll, release the button and download the firmware ROM file via USB port

LED Function

There are five LEDs present. Status led indicate the error/online status of the printer in idle mode. In error mode, the status LED glows by red color and in ready mode, it glows by green color. The other four LEDs indicate the toner status. If the black toner needs to change, the toner-low (black) LED glows and if the color (yellow, magenta, cyan) toners need to change, the toner-low (yellow, magenta, cyan) LED glows.

Functions

LED function is made up of
- Ready/Printing status display
- Error status display
- Toner low status display

Detail Description

LED control order
1) Control LED according to current printer state
  : After the panel task is received each event, the LED operation is controlled by current printer status.

2) Write LED value to GOP (General Output Port)

LED behavior

Status LED (Green/Red)		Toner-low (CMYK)LEDs	Status
Green LED ON		N/A	Ready to receive the data.
Green LEDS LOWLY BLINK		N/A	Receiving the data from the host.
Green LED FAST BLINK		N/A	Printing the page.
Red LED BLINK		N/A	Paper source is set to "MANUAL". Need to push the button to start the printing
Red LED ON		N/A	Out of paper
Red LED ON		N/A	Cover open
Red LED ON		N/A	Paper jam
Green/Red BLINK		CMYK BLINK	Service error (LSU or Fuser error)
N/A		Toner-low(black) ON	Black toner needs to change
N/A		Toner-low(cyan) ON	Cyan toner needs to change
N/A		Toner-low(magenta) ON	Magenta toner needs to change
N/A		Toner-low(yellow) ON	Yellow toner needs to change

Service Error LED Operation All LEDs blink the each time interval.		
Service Error		**LED operation**
Fuser Error		All LEDs (Toner low LEDs, Status (Red) LED) blink a time interval of 1 second.
		All LEDs (Toner low LEDs, Status (Red) LED) blink a time interval of 4 seconds.
		All LEDs (Toner low LEDs, Status (Green/Red) LED) blink a time interval of 1 second.
Scanner Error (=LSU Error)		All LEDs (Toner low LEDs, Status (Green) LED) blink a time interval of 1 second.
		All LEDs (Toner low LEDs, Status(Green) LED) blink a time interval of 4 seconds.

Assert Error LED Operation The panel LED operation display the line number of assert error occurrence.	
Line number	**LED operation**
start & end	All LEDs(Toner low LEDs, Status(Red) LED) turn ON for approximately 2 seconds and then All LEDs turn OFF for approximately 3 seconds.
1	After Status (Red) LED blinks one time, Toner low LEDs blink one time.
2	After Status (Red) LED blinks two times, Toner low LEDs blink one time.
3	After Status (Red) LED blinks three times, Toner low LEDs blink one time.
4	After Status (Red) LED blinks four times, Toner low LEDs blink one time.
5	After Status (Red) LED blinks five times, Toner low LEDs blink one time.
6	After Status (Red) LED blinks six times, Toner low LEDs blink one time.
7	After Status (Red) LED blinks seven times, Toner low LEDs blink one time.
8	After Status (Red) LED blinks eight times, Toner low LEDs blink one time.
9	After Status (Red) LED blinks nine times, Toner low LEDs blink one time.

LED Function

There are five LEDs present. Status led indicate the error/online status of the printer in idle mode. In error mode, the status LED glows by red color and in ready mode, it glows by green color. The other four LEDs indicate the toner status. If the black toner needs to change, the toner-low (black) LED glows and if the color (yellow, magenta, cyan) toners need to change, the toner-low (yellow, magenta, cyan) LED glows.

Functions

LED function is made up of
- Ready/Printing status display
- Error status display
- Toner low status display

Detail Description

LED control order
1) Control LED according to current printer state
  : After the panel task is received each event, the LED operation is controlled by current printer status.

2) Write LED value to GOP (General Output Port)

LED behavior

Status LED (Green/Red)		Toner-low (CMYK)LEDs	Status
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Green LEDS LOWLY BLINK		N/A	Receiving the data from the host.
Green LED FAST BLINK		N/A	Printing the page.
Red LED BLINK		N/A	Paper source is set to "MANUAL". Need to push the button to start the printing
Red LED ON		N/A	Out of paper
Red LED ON		N/A	Cover open
Red LED ON		N/A	Paper jam
Green/Red BLINK		CMYK BLINK	Service error (LSU or Fuser error)
N/A		Toner-low(black) ON	Black toner needs to change
N/A		Toner-low(cyan) ON	Cyan toner needs to change
N/A		Toner-low(magenta) ON	Magenta toner needs to change
N/A		Toner-low(yellow) ON	Yellow toner needs to change

Service Error LED Operation All LEDs blink the each time interval.		
Service Error		**LED operation**
Fuser Error		All LEDs (Toner low LEDs, Status (Red) LED) blink a time interval of 1 second.
		All LEDs (Toner low LEDs, Status (Red) LED) blink a time interval of 4 seconds.
		All LEDs (Toner low LEDs, Status (Green/Red) LED) blink a time interval of 1 second.
Scanner Error (=LSU Error)		All LEDs (Toner low LEDs, Status (Green) LED) blink a time interval of 1 second.
		All LEDs (Toner low LEDs, Status(Green) LED) blink a time interval of 4 seconds.

Assert Error LED Operation The panel LED operation display the line number of assert error occurrence.	
Line number	**LED operation**
start & end	All LEDs(Toner low LEDs, Status(Red) LED) turn ON for approximately 2 seconds and then All LEDs turn OFF for approximately 3 seconds.
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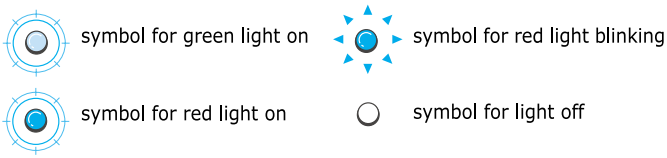
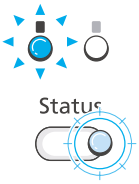
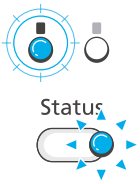
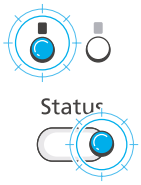
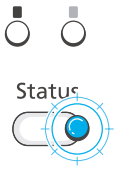
6	After Status (Red) LED blinks six times, Toner low LEDs blink one time.
7	After Status (Red) LED blinks seven times, Toner low LEDs blink one time.
8	After Status (Red) LED blinks eight times, Toner low LEDs blink one time.
9	After Status (Red) LED blinks nine times, Toner low LEDs blink one time.

Error Message

When the printer experiences an error, the control panel will indicate an error message with the indicator lights. Find the light pattern below that matches the printer light pattern and follow the solutions to clear the error.

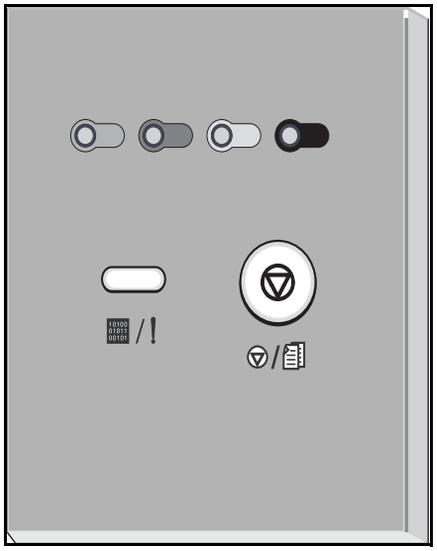
LED status legend



LED pattern	Possible Problem and Solution
	The blinking toner cartridge is low. Order a new toner cartridge. You can temporarily improve print quality by redistributing the toner.
	The lighting toner cartridge is empty. Remove the old toner cartridge and install a new one.
	· The blinking toner cartridge is totally exhausted. Remove the old toner cartridge and install a new one. · The blinking toner cartridge is wrong. Only install a Xerox toner cartridge, designed for your printer.
	· A paper jam has occurred. To solve the problem. · The front cover is open. Close the front cover. · There is no paper in the tray. Load paper in the tray. · The waste toner container is open or full. Check the container. · Your system has some problems. If this problem occurs, contact your service representative.

Section 11 Component Locator

Understanding the Control Panel



LEDs

Status LED	Toner LEDs	Description
lights green	All LEDs off	The printer is ready to print.
slowly blinks green	All LEDs off	The printer is receiving data from the computer.
fast blinks green	All LEDs off	The printer is printing data.
lights red	All LEDs off	• The printer is experiencing an error, such as jammed paper, open cover, empty paper, open waste toner container, or full waste toner container. • The printer is experiencing a service required error, such as LSU error, fuser error, or ITB error. Contact your sales or service representative.
lights green	each LED blinks red	The each colour toner cartridge is near the end of its life.
blinks red	each LED lights red	The each colour toner cartridge is empty.
lights red	each LED lights red	• The each toner cartridge is totally exhausted. • The each toner cartridge is wrong.
lights red	each LED blinks red in a repeated order	• The each toner cartridge is totally exhausted. • The each toner cartridge is wrong.

NOTE: All printing errors will be appear in the Status Monitor program window.

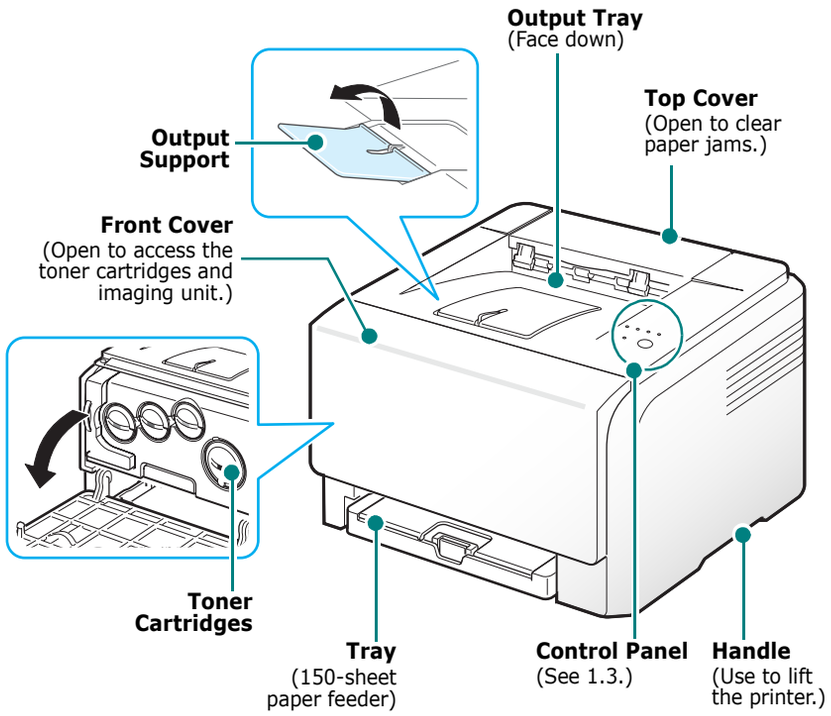
Stop( ) button

Function	Description
Printing demo page	In Ready mode, press and hold this button for about 2 seconds until the /! LED blinks fast, and release.
Printing configuration sheets	In Ready mode, press and hold this button for about 5 seconds until the /! LED blinks fast, and release.
Canceling print job	Press this button during printing. The red LED blinks while the print job is cleared from both the printer and the computer, and then the printer returns to Ready mode. This may take some time depending on the size of the print job.

Printer Components

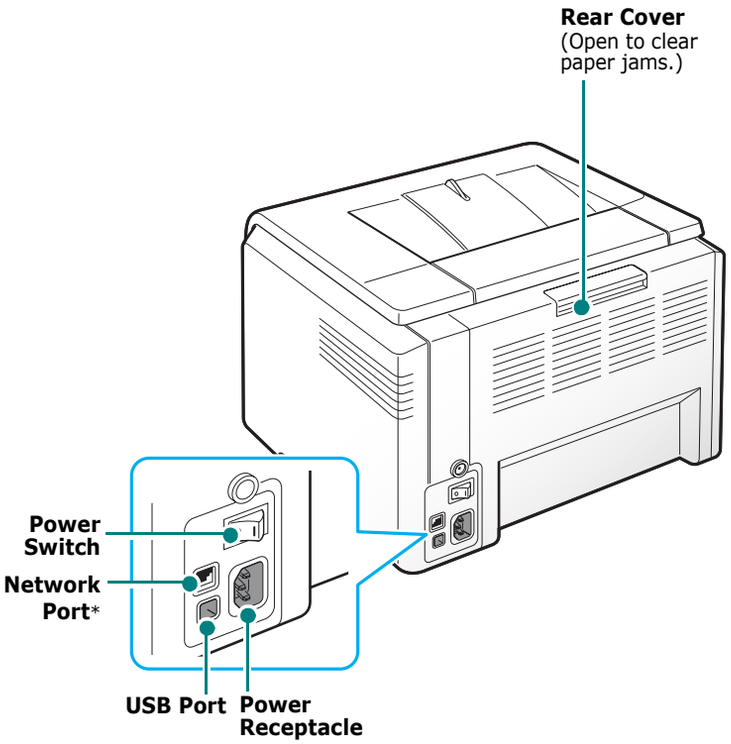
These are the main components of your printer. Note that all illustrations on this User's Guide are from the Phaser 6110N and that some parts may be different from your printer.

Front View



NOTE: The surface of the output tray may become hot if you print a large number of pages at once. Please make sure that you don't touch the surface, and prevent children from approaching it.

Rear View



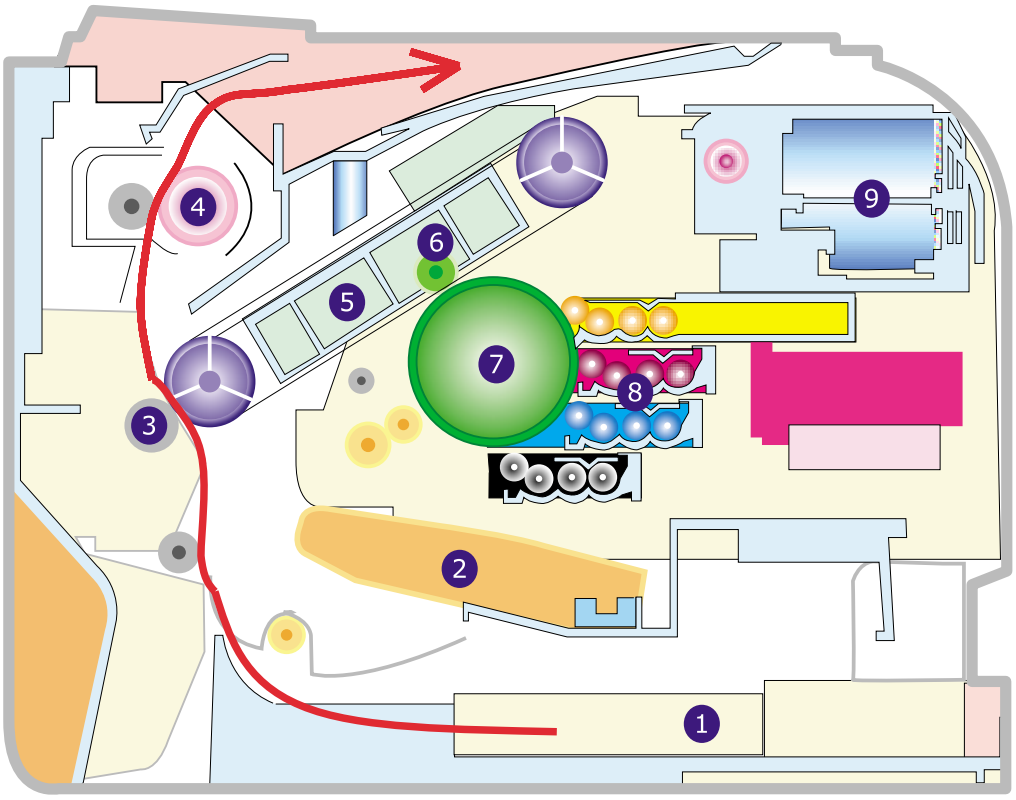
* Only the Phaser 6110N comes with a network port.

3 System Overview

This chapter describes the functions and operating principles of the main components.

System Structure

Main Parts of System



1. Paper Input (Cassette)
2. LSU (Laser Scanning Unit)
3. 2nd Transfer Roller
4. Fuser
5. ITB (Intermediate Transfer Belt)
6. 1st Transfer Roller
7. OPC (Organic Photo Conductor)
8. Developers (Y, M, C, & K)
9. Toner Kits (Y, M, C, & K)

Section 12 Reference Library

1.3 ESD Precautions

Certain semiconductor devices can be easily damaged by static electricity. Such components are commonly called “Electrostatically Sensitive (ES) Devices”, or ESDs. Examples of typical ESDs are: integrated circuits, some field effect transistors, and semiconductor “chip” components.

The techniques outlined below should be followed to help reduce the incidence of component damage caused by static electricity.

Caution >>Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.

1. Immediately before handling a semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, employ a commercially available wrist strap device, which should be removed for your personal safety reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ESDs, place the assembly on a conductive surface, such as aluminum or copper foil, or conductive foam, to prevent electrostatic charge buildup in the vicinity of the assembly.
3. Use only a grounded tip soldering iron to solder or desolder ESDs.
4. Use only an “anti-static” solder removal device. Some solder removal devices not classified as “anti-static” can generate electrical charges sufficient to damage ESDs.
5. Do not use Freon-propelled chemicals. When sprayed, these can generate electrical charges sufficient to damage ESDs.
6. Do not remove a replacement ESD from its protective packaging until immediately before installing it. Most replacement ESDs are packaged with all leads shorted together by conductive foam, aluminum foil, or a comparable conductive material.
7. Immediately before removing the protective shorting material from the leads of a replacement ESD, touch the protective material to the chassis or circuit assembly into which the device will be installed.
8. Maintain continuous electrical contact between the ESD and the assembly into which it will be installed, until completely plugged or soldered into the circuit.
9. Minimize bodily motions when handling unpackaged replacement ESDs. Normal motions, such as the brushing together of clothing fabric and lifting one’s foot from a carpeted floor, can generate static electricity sufficient to damage an ESD.

1.4 Super Capacitor or Lithium Battery Precautions

1. Exercise caution when replacing a super capacitor or Lithium battery. There could be a danger of explosion and subsequent operator injury and/or equipment damage if incorrectly installed.

2. Be sure to replace the battery with the same or equivalent type recommended by the manufacturer.

3. Super capacitor or Lithium batteries contain toxic substances and should not be opened, crushed, or burned for disposal.

4. Dispose of used batteries according to the manufacture’s instructions.

SERVICE BULLETIN

PRODUCT: Phaser 6110, Phaser 6110MFP (1)

T6140-10-19

SUBJECT: Fuser Vapour

OPERATIONAL GROUPS: Canada, DMO-W, NARs, XE, XING

PROBLEM

SURF, or Surface Rapid Fusing technology can produce a visible vapour under certain conditions of ambient low humidity, cooler office temperatures, or with paper with higher moisture content.

SOLUTION

Inform customer that the condition is not hazardous and is a characteristic of a quick fuse operation in some circumstances.

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