PHASER 3200MFP
WORKCENTRE PE220

SERVICE MANUAL

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This manual is an update of the Workcentre PE220 service manual (708P88337). It is also available in hard copy format, part number 708P88745.

NOTICE

While every care has been taken in the preparation of this manual, no liability will be accepted by Xerox Europe arising out of any inaccuracies or omissions.

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Introduction

1. Service Call Procedures

2. Repair Analysis Procedures

3. Image Quality

4. Repairs/Adjustments

5. Parts List

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Introduction

How To Use This Manual

Differentiating Between Machine Variants

The Phaser 3200MFP/B and 3200MFP/N will be identified in this manual by the identifier **Phaser 3200**.

The Workcentre PE220 will be identified in this manual by the identifier **Workcentre PE220**.

When a procedure, parts list description or other reference is common to both the Phaser 3200 and Workcentre PE220, no identifier will be given. Artwork used in these procedures will show either the Phaser 3200 or Workcentre PE220, not both.

When a procedure, parts list description or other reference is unique to either Phaser 3200 or Workcentre PE220, the appropriate identifier will be quoted and any artwork will also be specific.

Precautions

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

Safety Warning

1. Only to be serviced by appropriately qualified service engineers.

High voltage and lasers inside the product are dangerous. This machine 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 machine. Do not make any unauthorized changes or additions to the machine. This could cause the machine to malfunction and create an electric shock or fire hazards.

3. Laser Safety Statement

The machine 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 in the machine is designed to never have 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 machine with the protective cover removed from the 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 person.

Caution for safety

Toxic material

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

1. If the LCD control panel is damaged, it is possible for the liquid inside to leak. This liquid is toxic. Contact with skin should be avoided, wash any splashes from eyes or skin immediately and contact your doctor. If the liquid gets into the mouth or is swallowed, see a doctor immediately.
2. Please keep toner cartridges away from children. The toner contained in the toner cartridge may be harmful.Contact a doctor if swallowed.

Electric Shock and Fire Safety Precautions

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

1. Use only the correct voltage, failure to do so could damage the machine and potentially cause a fire or electric shock.
2. Use only the power cable supplied with the machine. 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 machine, this can cause an electric shock. Do not allow paper clips, pins or other foreign objects to fall into the machine. This 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 an electric shock. When servicing the machine, 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 and 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 be 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. Exposed cables can also cause an electric shock. Replace a damaged power cable immediately, do not reuse or repair the damaged cable. Some chemicals can corrode the insulator of the power cable. Weakening of the insulator or exposing cables can cause 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 lightning storms. Xerox recommends 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 machine in a clean and 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 machine in direct sunlight. This will cause the temperature inside the machine to rise and possibly lead to the machine 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 parts of the casing, contact with a high voltage conductor could occur inside the machine and cause an electric shock.

Handling Precautions

The following instructions are for your own personal safety, to avoid injury and to prevent damage to the machine

1. Ensure the machine is installed on a level surface, capable of supporting its weight. Failure to do so could cause the machine to tip or fall.
2. The machine contains many rollers, gears and fans. Take great care to ensure 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 machine. If spilled, liquid could get into the machine and cause damage, electric shock or a potential 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 machine in such areas.
5. Do not place candles, burning cigarettes, etc. on the machine. This could potentially cause a fire.

Assembly / Disassembly Precautions

Replace parts carefully. Always use Xerox 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 machine or replacing any parts.

1. Check the contents of the machine memory and make note of any user settings. These will be erased if the main board 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 part numbers, product names, any voltage, current or temperature ratings are correct.
5. Do not use excessive force when removing or re-fitting any parts, 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 damaged if exposed to light.

   Take care not to expose the OPC Drum either to direct sunlight, fluorescent or incandescent room lighting. Exposure for as little as 5 minutes can damage the surface photoconductive properties and will result in print quality degradation. Take extra care when servicing the machine. Remove the OPC Drum and store it in a black bag or any other lightproof container. Take care when working with the covers (especially the top cover) open as light will be admitted into the OPC area and can damage the OPC Drum.

   - Take care not to scratch the surface of OPC Drum.

   If the green surface of the Drum Cartridge is scratched or touched, the print quality will be compromised.

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, gently pull the hook of the latch away from the part which it is latched on to.

Figure 1

Disregarding this warning may cause bodily injury

1. Be careful with high temperature parts. The fuser unit works at a high temperature. Use caution when working on the machine. Wait for the fuser to cool down before disassembly.
2. Do not put fingers or hair into rotating parts (paper feeding entrance, motor, fan, etc.). Doing so may cause injury.
3. This machine weighs 10.4kg (Workcentre PE220) / 11.2 (Phaser 3200) which includes the toner cartridge and cassette. Use safe lifting and handling techniques. Back injury could occur if you do not lift carefully.
4. Ensure the machine is installed safely. The machine weighs 10.4kg (Workcentre PE220) / 11.2 (Phaser 3200). Ensure the machine is installed on a level surface, capable of supporting its weight. Failure to do so could cause the machine to tip or fall and possibly causing personal injury or damaging the machine.
5. Do not install the machine on a sloping or unstable surface. After installation, ensure that the machine is stable.

ESD Precautions

Certain semiconductor devices can be easily damaged by static electricity. Such components are commonly known as “Electrostatically Sensitive (ES) Devices” or ESDs. Examples of typical ESDs are: integrated circuits, certain 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

Ensure 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 aluminium, 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 are not classified as “anti-static” and 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, aluminium 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 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 manufacturers instructions.

Toner Cartridge Service

Only toner cartridges supplied by Xerox should be used. Printing defects or set damage caused by the use of non-approved print cartridges or un-licensed toner refills are not covered by the guarantee.

Precautions on Safe-keeping of Print Cartridge

Excessive exposure to direct light for more than a few minutes may cause damage to the cartridge.

Service for the Life of Print Cartridge

If the printed image is light due to the low toner supply, you can temporarily improve the print quality by redistributing the toner (gently shake the toner cartridge). However, you should replace the toner cartridge to solve the problem permanently.

Redistributing Toner

When the print cartridge is near the end of its life, white streaks or light print occurs. The LCD displays the warning message, “Toner Low.” You can temporarily re-establish the print quality by redistributing the remaining toner in the cartridge.

Standard of guarantee for consumable parts.

Please refer to User Manual or Instructions.

Identifying a refilled cartridge

One way security screws are used in the manufacture of the cartridge – check if these are damaged.

Health and Safety Incident Reporting

I. Summary

This section defines requirements for notification of health and safety incidents involving Xerox products (equipment and materials) at customer locations.

II. Scope

Xerox Corporation and subsidiaries worldwide.

III. Objective

To enable prompt resolution of health and safety incidents involving Xerox products and to ensure Xerox regulatory compliance.

IV. Definitions

Incident:

An event or condition occurring in a customer account that has resulted in injury, illness or property damage. Examples of incidents include machine fires, smoke generation, physical injury to an operator or service representative. Alleged events and product conditions are included in this definition.

V. Requirements

Initial Report:

1. Xerox organisations shall establish a process for individuals to report product incidents to Xerox Environment Health & Safety within 24 hours of becoming aware of the event.
2. The information to be provided at the time of reporting is contained in Appendix A (Health and Safety Incident Report involving a Xerox product).
3. The initial notification may be made by any of the following methods:
   - For incidents in North America and Developing Markets West (Brazil, Mexico, Latin American North and Latin American South):
     - Phone* Xerox EH&S at: 1-800-828-6571.
     - Electronic mail Xerox EH&S at: Doris.Bush@xerox.com.
     - Fax Xerox EH&S at: 1-585-422-6449 [intelnet 8*222 6449].
   - For incidents in Europe and Developing Markets East (Middle East, Africa, India, China and Hong Kong):
     - Phone* Xerox EH&S at: +44 (0) 1707 353434.
     - Electronic mail Xerox EH&S at: Elaine.Grange@xerox.com.
     - Fax Xerox EH&S at: +44 (0) 1707 353914 [intelnet 8*668 3914].

   *Initial notification made by phone must be followed within 24 hours by a completed incident report and sent to the indicated electronic mail address or fax number.

Note: *If sending a fax, please also send the original via internal mail.*

Responsibilities for Resolution:

1. Business Groups/Product Design Teams responsible for the product involved in the incident shall:
   a. Manage field bulletins, customer correspondence, product recalls, safety retrofits.
   b. Fund all field retrofits.
1. Field Service Operations shall:
   a. Preserve the Xerox product involved and the scene of the incident inclusive of any associated equipment located in the vicinity of the incident.
   b. Return any affected equipment/part(s) to the location designated by Xerox EH&S and/or the Business Division.
   c. Implement all safety retrofits.
2. Xerox EH&S shall:
   a. Manage and report all incident investigation activities.
   b. Review and approve proposed product corrective actions and retrofits, if necessary.
   c. Manage all communications and correspondence with government agencies.
   d. Define actions to correct confirmed incidents.

VI. Appendices

The Health and Safety Incident Report involving a Xerox Product (Form # EH&S-700) is available at the end of the manual.

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1. Service Call Procedures

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SCP 1 Service Call Actions

Procedure

Throughout this manual, observe the following warnings:

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

WARNING

Do not touch the fuser while it is hot.

WARNING

Take care during this procedure. Sharp edges may be present that can cause injury.

1. Take note of symptoms or error messages.
2. Ask the operator to describe or demonstrate the problem.
3. Ensure that:
   - The power cord is connected to the wall outlet and to the machine.
   - All cables are connected correctly.
4. If available, check the machine service log book for any previous actions that may be relevant to the call.
5. Review any defective print or copy samples.
6. Perform 1 Initial Checks RAP.

SCP 2 Final Actions

Final Actions are used to evaluate the total operation of the system and to identify the actions required to complete the service call.

Procedure

- Exercise the machine in all modes.
- Make a proof copy or print of a customer document.
- If any of the customers selections were changed, return them to the customers preferred settings.
- Mark off any hardware/software options and modifications installed and/or enabled on the Service Log book.
- At the first service and at any subsequent service where changes are made or options are added, print the configuration report and store it with the machine log book. Discard any previous versions of the configuration report.
- Remove and destroy any copies of test patterns.
- Complete the machine service log book, refer to GP 12 Service Log.
- Ensure the machine and service area are clean before leaving the customer premises.
- Provide customer training if required.

2. Status Indicator RAPs

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1 Initial Checks RAP

Basic Check List

1. Check the Power.

- Does "Warming Up" appear on the display?
  --> If not, check the AC power cord, switch or SMPS.
  --> Does the wall socket work?
- Do the motors or other components initialize (listen for main motor, fan and LSU sounds)?
  --> If there are none of the normal startup sounds, check the power cord, switch or SMPS.
  --> Does the wall socket work?

2. Check the LCD Panel.

- Refer to General Procedures.
- Is there any display at all?
  --> If not check the power cord, switch or SMPS.
- Is the display a meaningful message. Are there any broken or badly formed characters?
- Is the message on the LCD Panel a standard error message?

Table 1: LCD Status Error Messages

STATUS	LCD Display	Descriptions
Document jam	Document Jam	An original document is jammed in the ADF.
Cover open	Front or Rear Cover Open	Front door or rear jam cover open.
No paper	[No Paper] Add Paper	No paper in the cassette tray.
Paper jam 0	Paper Jam 0 Open/Close Door	Jam in the paper pick up/feed area.
Paper jam 1	Paper Jam 1 Open/Close Door	Jam in the fuser or print cartridge area.
Paper jam 2	Paper Jam 2 Check Inside	Jam in the paper exit area.
Communication error	[COMM. Error]	Fax handshake communication error.
Line error	[Line Error]	Fax data reception error.
No answer	[No Answer]	No remote fax connection after designated redial attempts.
Incompatible	[Incompatible]	Remote fax does not have the requested feature, such as polling.
Line busy	Line Busy	Remote fax line is in use.
Power failure	Power Failure	When the machine user memory has not been backed up and there was power off / on. User documents, such as unprinted faxes will be lost.
Stop pressed	[Stop Pressed]	Operator pressed the stop key during transmission.
Memory full	Memory Full	Faxes received to memory failed to print.
Fuse error	CRU Fuse Error	Unable to initialize the new print cartridge.
LSU error	[Hsync Error]	Tech mode/laser failure or power loss.
LSU error	[LSU Error]	User mode/laser failure or power loss.
Toner low	[Toner Low]	Toner low warning.

Table 1: LCD Status Error Messages

STATUS	LCD Display	Descriptions
Toner empty	[Toner Empty]	Toner empty.
Bypass jam	[Bypass Jam]	Bypass paper feed failure.
Group dial blocked	Group Not Available	Only single number location may be used.
Retry redial?	Retry Redial?	Fax redial delay interval allows job cancel.
No. not assigned	Number Not Assigned	Fax speed dial location has no number assigned.
Load document	Load Document	Place original document in the ADF or on the platen glass.
Memory full and cancel the job	Cancel? 1:Yes 2:No	Press 1 to transmit scanned pages in memory.
No job created	Operation Not Assigned	Add/cancel job number not found.
Low heat error	[Low Heat Error]	Fuser has not warmed up within the time limit.
Open fuser error	Open Fuser Error	Fuser thermistor is open or disconnected.
Over heat error	[Over Heat]	Fuser temperature went over limit.
No print cartridge	[Jam 1] [No Cartridge]	Print cartridge is not installed.
Memory dial full	Memory Dial Full	Auto dial transmission limit is 15 jobs.

--> Does the wall socket work?

--> Check the main PBA and cable harness.

3. Check the Paper Path

- Is there a paper jam?
  --> Remove any paper fragments caught in the paper path, GP 7.
- Paper jam occurs repeatedly at a specific point in the paper path.
  --> Open the fuser cover and clear the jam, GP 7.
  --> Dismantle the machine and carefully inspect the region where the jam occurs.
  Check if paper fragments are caught in the fuser, refer to REP 16.

4. Print the System Data Page (Configuration).

- If internal printing is good, print a test page from a computer.
  --> If there is an error, check the cables and driver installation.

5. Check the Print Quality.

- Is there a print quality problem?
  --> Go to Section 3, Image Quality.

6. Check Consumables (toner etc.).

- Print a test pattern, GP 4.
  --> Check the status of the consumables, GP 1.
  Enter Tech mode, GP 4. Check the CRU print count. If necessary, install a new toner cartridge, PL 1.0 (Workcentre PE220) / PL1.1 (Phaser 3200).

Initial Inspection

1. Check the power.

1. The machine does not power on after a long period.
   - Is the Power Switch (machine and wall socket) turned on?
   - Is the Power Cord connected to the machine correctly?
   - Is the Power cord connected to the wall socket correctly?
   - Is the wall socket working?
   - Is the unit rated the same voltage as the supply?
2. Does the Fan work when power is turned on?
   - Check the connectors on the SMPS.
   - Check the fuses on the SMPS.

2. Check the Installation Environment.

1. Ensure the installation surface is flat, level and free from vibration.
   Move the machine if necessary.
2. Ensure that the temperature and humidity of the surroundings are within specification
   If necessary move the machine.
3. Ensure that the machine is positioned away from any air conditioning or other heating or cooling equipment. Ensure that the machine is not positioned in a direct draft from any air conditioning, fan or open window.
   Move the machine if necessary.
4. Ensure the machine is not positioned in direct sunlight.
   If it is unavoidable, use a curtain to shade the machine.
5. Ensure the machine is installed in a clean and dust free environment.
   Move the machine if necessary.
6. Certain industrial or cleaning processes which emit fumes can damage the machine.
   Move the machine if necessary

3. Check paper type.

1. Use only paper which is of a suitable quality, weight and size.
   Check the user guide.

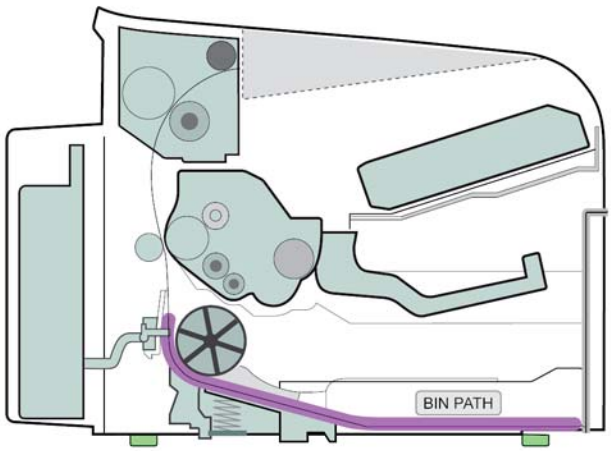
4. Check the overall condition of the machine

1. Clean the Paper Transport areas.
   Any rollers with dirt surfaces should be cleaned or replaced.

2 JAM 0 RAP

Description

Paper does not feed from the cassette.
Jam 0 occurs if the paper does not feed into the machine.



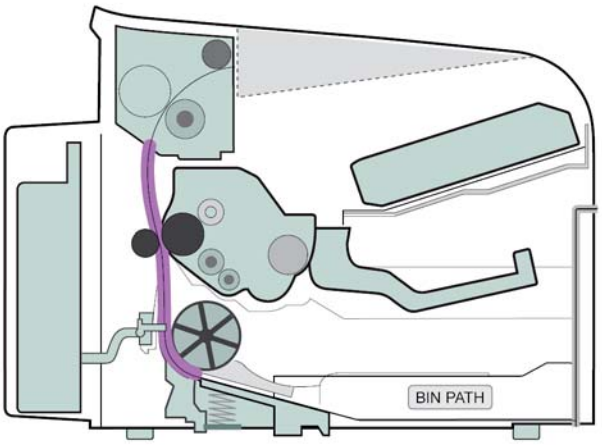
Check and Cause	Solution
1. Check the paper guides in the cassette.	1. Adjust the paper guides. Install new parts as necessary: - PL 8.0 (Workcentre PE220) - PL 8.1 (Phaser 3200)
2. The side-pad is loose due to poor sealing. (Phaser 3200 only)	2. Check the sponge, PL 1.2.
3. Check the surface of the pick up rubber: - PL 6.0 (Workcentre PE220) - PL 6.2 (Phaser 3200)	3. Clean with soft cloth dampened with IPA (Isopropyl Alcohol) or water.
4. Check the solenoid by using Engine Test Mode, GP 6 - Pick up Test.	4. Check and install a new solenoid if necessary: - PL 6.0 (Workcentre PE220) - PL 6.1 (Phaser 3200)

Check and Cause	Solution
5. If the paper feeds into the machine and Jam 0 occurs, perform Engine Test Mode, GP 6 - Feed Sensor Test.	5. Check and install new parts as necessary: • Feed sensor actuator, - PL 6.0 (Workcentre PE220) - PL 6.1 (Phaser 3200). • SMPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • HVPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

3 JAM 1 RAP

Description

Paper is jammed in front of or inside the fuser.
Paper is jammed in the discharge roller and in the fuser after passing through the Actuator-Feed.

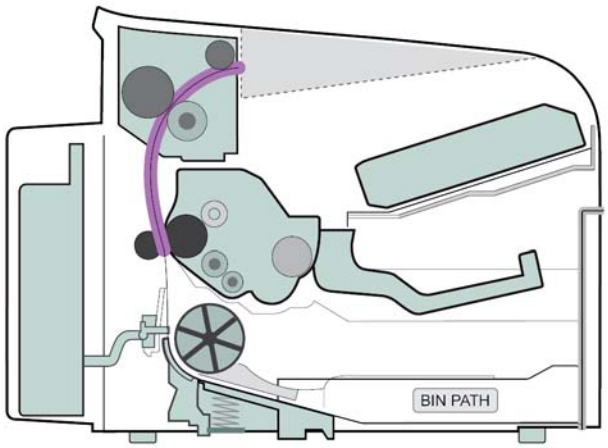


Check and Cause	Solution
1. Check for small pieces of paper jammed in the fuser.	1. Clear paper from the fuser: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200)
2. If paper is jammed in the discharge roller and the fuser just after passing through the Actuator Feed.	2. Check the feed sensor actuator for damage: - PL 6.0 (Workcentre PE220) - PL 6.1 (Phaser 3200)
3.Paper is jammed in front of or inside the fuser.	3. Check and install a new SMPS if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

4 JAM 2 RAP

Description

Paper is jammed inside the fuser.
Paper is jammed in the discharge roller and in the fuser just after passing through the Actuator-Feed.



Check and Cause	Solution
1. If the paper is completely fed out of the machine, but Jam 2 occurs, the exit sensor actuator may be defective.	1. Check the exit sensor actuator: - PL 7.0 (Workcentre PE220) - PL 1.4 (Phaser 3200).
2. Concertina jam occurs in the fuser.	2. Remove any paper jammed in the fuser: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) Clean and check the parts as necessary: • Pressure roller - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • Main Frame Assembly - PL 8.0 (Workcentre PE220) - PL 8.1 (Phaser 3200)

Check and Cause	Solution
3. Paper is rolled in the Fuser • This occurs when a stripper finger or stripper finger spring is damaged. • It occurs when the Heat-Roller or Pressure-Roller is seriously contaminated.	3. Clean the surface of the pressure roller, heat roller and the stripper fingers: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200). Check and install a new fuser if necessary: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200).

5 Multi-Feeding RAP

Description

Multiple sheets of paper are fed together.

Check and Cause	Solution
1. Bad quality paper.	1. Fan the paper. Recommend the use of good quality paper.
2. Pad-Friction is contaminated.	2. Clean the pad friction with soft cloth, dampened with IPA (Isopropyl Alcohol).
3. Solenoid malfunction (the solenoid does not work properly): Perform Engine Test Mode, GP 6 - Pick up Test.	3. Check and install a new solenoid if necessary: - PL 6.0 (Workcentre PE220) - PL 6.1 (Phaser 3200)

6 Fuser Jam RAP

Description

Constant Jam where paper is entering Fuser unit.
Fuser rollers do not turn.

Check and Cause	Solution
1. The fuser stripper fingers are misaligned	1. Check the stripper fingers: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200).
2. Check if the fuser has overheated and melted the fuser gear. Check for heat damage to the heat roller and pressure roller: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200)	2. Check the following parts: • Heat Lamp - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • Thermostat - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • Thermistor - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) Perform Engine Test Mode - THERM ADC 120, GP 6. Check and install new parts as necessary: • SMPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Fuser - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200)

7 Paper Rolled in the Print Cartridge (OPC Drum) RAP

Description

Paper is rolled up in the OPC.

Check and Cause	Solution
1. Paper is too thin.	1. Recommend use normal paper. Use paper within specification. Refer to the User Guide.
2. Paper curl.	2. Remove the paper while turning the OPC Drum against the feed direction. Turn the paper over. Recommend the use of good quality ‘long grain’ paper.

8 Control Panel RAP

8A LCD Defect

Description

Strange characters are displayed in the LCD Window and OPE Panel keys do not work.

Check and Cause	Solution
1. Clear the memory, GP 3.	1. Restart the machine and try again after clearing the memory.
2. Ensure the OPE HARNESS is connected to the Connection Board.	2. Check and install new parts as necessary: • OPE Unit, PL 5.0 • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

8B Defective OPE Keypad

Description

Pressing keys does not cause the set to respond correctly.

Check and Cause	Solution
1. Clear the memory, GP 3 and restart the machine.	1. Check and replace new parts as necessary • Membrane, PL 5.0 • Keypad assembly, PL 5.0
2. Check if there is an audible clicking sound when a key is pressed.	2. Check and install new parts as necessary: • OPE assembly, PL 5.0 • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).

9 Melting Fuser Gear RAP

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

Description

The fuser gear has melted.

Check and Cause	Solution
1. Check the following parts: • Heat lamp - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • Thermostat - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • Thermistor - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200)	1. Perform Engine Test Mode to test the Fuser - THERM ADC 120, GP 6. Check and install new parts as necessary: • Halogen lamp - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • Fuser assembly - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • SMPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

10 Paper Empty RAP

10A Paper empty with indication error RAP

Description

Paper Empty is displayed in the LCD panel even when paper is loaded in the cassette.
The paper empty message does not appear in the LCD when the paper cassette is empty.

Check and Cause	Solution
1. Faulty cables or connectors.	1. Check the cables and connectors.
2. The paper empty sensor actuator is defective.	2. Check and install a new paper empty sensor actuator: - PL 8.0 (Workcentre PE220) - PL 8.1 (Phaser 3200)
3. Memory error.	3. Perform clear all memory, GP 3.
4. The SMPS PBA or Main PBA is defective.	4. Check and install new parts as necessary: • SMPS PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

10B Paper empty with no indication error RAP

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

Description

The paper lamp on the operator panel does not come ON when the paper cassette is empty.

Check and Cause	Solution
1. The paper sensor empty actuator, PL 8.0 (Workcentre PE220) / PL 8.1 (Phaser 3200) is damaged.	1. Check and install a new paper empty sensor actuator: - PL 8.0 (Workcentre PE220) - PL 8.1 (Phaser 3200) if necessary.
2. The SMPS or main PBA may be defective.	2. Check and install new parts as necessary: • SMPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) if necessary. • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) if necessary.

11 Cover Open RAP

11A Cover Open with indication error RAP

Description

The Cover Open message appears on the LCD even when the print cover is closed.
The Cover Open message does not appear on the LCD even when the print cover is open.

Check and Cause	Solution
1. The 'Open Cover' microswitch may be faulty. ***Note:*** *The front cover microswitch is on the HVPS, PL 1.0 (Workcentre PE220) / PL 1.1 (Phaser 3200). The rear cover microswitch is on the SMPS, PL 1.0 (Workcentre PE220) / PL 1.1 (Phaser 3200).*	1. Use TECH mode ("cover sensor test"), GP 4, to check the relevant cover switch operation. Check and install a new switch if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).
2. The tab on the front cover, PL 1.0 (Workcentre PE220) / PL 1.3 (Phaser 3200) may be damaged.	2. Check and install a new front cover, - PL 1.0 (Workcentre PE220) - PL 1.3 (Phaser 3200)
3. Check the connector and cables between HVPS and Main PBA, SMPS and Main PBA.	3. Install a new harness if necessary, PL 1. Reseat the connectors. Check and install new parts as necessary: • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • HVPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • SMPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

11B Cover Open with no indication error RAP

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

Description

The ERROR lamp does not come ON even when the front cover or exit cover is open

Check and Cause	Solution
1.Check the front cover open switch and exit cover open switch. ***Note:*** *The front cover open switch is mounted on the HVPS, PL 1.0 (Workcentre PE220) / PL 1.1 (Phaser 3200) while the exit cover open switch is mounted on the SMPS, PL 1.0 (Workcentre PE220) / PL 1.1 (Phaser 3200).*	1. Use Engine Test Mode mode, GP 6 - cover sensor test to check cover switch operation. Check and install a new switch if necessary
2. Check the connector and cables between the HVPS and main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).	2. Check and install new parts as necessary: • SMPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • HVPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

12 Faulty Motor RAP

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

Description

The main motor is not working during printing. Therefore, paper does not feed into the printer, resulting 'Jam 0'.

Check and Cause	Solution
1. The main motor may be defective.	1. Check the operation using Engine Test Mode, GP 6. Check and install new parts as necessary: • Main drive assembly, - PL 8.0 (Workcentre PE220) - PL 8.1 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

13 No Power RAP

Description

When system power is turned on the LCD panel does not come on.

Check and Cause	Solution
1. Check if the power input and SMPS output are normal.	1. Check and install new parts as necessary: • Power supply cord - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • SMPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
2. LCD panel does not come on but normal start up sounds are heard.	2. Check and install a new OPE unit, PL 5.0
3. The OPE unit display does not come on and no start up sounds are heard.	3. Check and install a new Main PBA if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

14 Bad Software Environment RAP

14A The machine is not working (1)

Description

While Power turned on, the machine is not working in the printing mode.

Check and Cause	Solution
1. Ensure that the customer knows how to install the correct printer driver and to select the PE220 or Phaser 3200 as the default printer.	1. Refer the customer to the PE220 or Phaser 3200 User Guide.
2. Perform Pattern Test, GP 4.	2.Check the power of the machine and perform the Pattern Test, GP 4. If the test printing works, that means no problems in the machine itself. If the test printing does not work, that means bad functioning of the machine (not because of software).
3. Check if the PC and the machine is properly connected and the print cartridge installed.	3. Replace the printer cable. If the problems is not solved even after replacing the cable, check the amount of remaining toner.
4. Printing is not working in Windows.	4. Check if the connection between PC and printer port is correct. Uninstall the driver, then re-install new drivers. Refer to Xerox.com. Ask the customer to check the BIOS of the PC to ensure that there are no IRQ conflicts and to check that the input/output range is 0378.
5. Check if the printer cable is directly connected to peripheral devices	5. If the scanner needs to be connected to the machine, remove the scanner from the PC to see if the machine is working alone properly.

14B The machine is not working (2)

Description

After receiving the printing order, no response at all or the low speed of printing occurs due to wrong setup of the environment rather than malfunction of the machine itself.

Check and Cause	Solution
1. Ensure that the customer knows how to install the correct printer driver and to select the PE220 or Phaser 3200 as the default printer.	1. Refer the customer to the PE220 or Phaser 3200 User Guide.
2. Secure more space on the hard disk.	2. Not working with the message 'insufficient printer memory' means hard disk space problem rather than the RAM problem. Ask the customer to provide more space for the hard disk, using the disk utilities program.
3. Printing error occurs even if there is enough space in the hard disk.	3. The connection of the cable and printer port is not correct. Check if the connection is correct. Ask the customer to check the BIOS of the PC to ensure that there are no IRQ conflicts and to check that the input/output range is 0378.
4. Check the parallel-port-related items in the BIOS	4. Ask the customer to select ECP or SPP. SPP (Normal), ECP, and EPP modes (increase printing speed). SPP normal mode supports 8-bit data transfer. ECP mode supports 12-bit data transfer.
5. Reboot the system to print.	5. If the regular font is not printing, the cable or the print driver may be defective. Turn the PC and machine off, and reboot the system to print again. If not solved, double-click the printer in my computer. If the regular fonts are not printing again, the cable must be defective. Replace the cable with new one.

15 Abnormal Printing RAP

Description

The machine is not working correctly even when there is no problem with the printer cable.
If the machine will not work at all or the strange fonts are repeated, the printer driver may be defective or wrong setup in the BIOS Setup.

Check and Cause	Solution
1. Set up the parallel port in the BIOS.	1. Ask the customer to select SPP (Normal) or ECP LPT Port in the BIOS.
2. Printer Driver Error.	2. Uninstall the driver. Re-install the latest driver. Refer to Xerox.com
3. Error message from insufficient memory. (The printing job sometimes stops or due to insufficient virtual memory, but it actually comes from the insufficient space of the hard disk.)	3. Ask the customer to delete the unnecessary files to secure enough space of the hard disk and start printing job again.

16 SPOOL Error RAP

Description

Insufficient disk space to spool the document.

Check and Cause	Solution
1. Insufficient space of the hard disk in the directory assigned for the basic spool.	1. Ask the customer to delete the unnecessary files to provide more space to start printing job.
2. If the previous printing error not solved.	2. Inform the customer. There may be files from previous failed print jobs on the hard disk with the name in the form '*.jnl'. Delete these files and Reboot Windows to restart the machine.
3. There may be conflict with other drivers or programs.	3. Ask the customer to shut down all other programs except the current one, if possible.
4. When an application program or the printer driver is damaged.	4. Uninstall the print driver. Re-install the latest driver. Refer to Xerox.com.
5. When some files related to OS are damaged or virus infected.	5. After rebooting the computer ask the customer to check for viruses, restore the damaged files and reinstall the application program which is not working properly.
6. Check the print queue.	6. Ask the customer to manage the print queue.
7. Insufficient memory.	7. Ask the customer to add memory to the PC.

How to delete the data in the spool manager.

In the spool manager, the installed drivers and the list of the documents waiting to be printed are shown.

Select the document to be deleted and check delete in the menu.

If the job you are deleting is the current job, when you delete the job data that has already been transferred to the machine's memory will still be printed. If there is a problem with the machine (out of toner, off-line, out of paper etc.) the job may take a long time to delete as it must wait for a time out.

17 Fax & Phone Problems RAP

17A No Dial Tone

Description

There is no dial tone when the Manual Dial key is pressed.

Check and Cause	Solution
1. Check that the telephone line cord supplied with the set is connected to TEL LINE correctly.	1. If the telephone cord is OK but there is no dial tone, try plugging a normal telephone into the wall socket. If this is OK then replace the LIU PBA: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).
2. Listen for a CLICK sound when the Manual Dial key is pressed. ***Note**: Key sound must be set to "on" in GP 3, User Mode.*	2. If you cannot hear the Manual Dial CLICK sound, the OPE Assembly may be defective. Check and install a new OPE assembly, PL 5.0 if necessary.
3. Check the connection of the HARNESS between the LIU and the Main Board.	3. Check the Speaker connection and the harness between the LIU and the Main PBA. Install new cables as necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).
4. Ensure the speaker is connected correctly.	4. Perform Tech mode, GP 4 - Modem Test. Check and install new parts as necessary • Speaker - PL 1.0 (Workcentre PE220) - PL 1.2 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

17B Defective MF DIAL

Description

The MF DIAL is not functioning.

Check and Cause	Solution
1. Check that the telephone line cord supplied with the set is connected to TEL LINE correctly.	1. If the telephone cord is working and there is no dial tone, try plugging a normal telephone into the wall socket. If the telephone is working, then install a new LIU PBA: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
2. Listen for a CLICK sound when a key is pressed. ***Note**: Key sound must be set to "on" in GP 3, User Mode.*	2. If you cannot hear the Manual Dial CLICK sound, the OPE Assembly may be defective. Check and install a new OPE Assembly, PL 5.0 if necessary.
3. Check the connection of the HARNESS between the LIU and the Main PBA.	3. Check the Speaker connection and the harness between the LIU and the Main PBA, Install new parts as necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
4. Ensure the speaker is connected correctly.	4. Perform Tech mode, GP 4 - Modem Test. Check and install new parts as necessary: • Speaker - PL 1.0 (Workcentre PE220) - PL 1.2 (Phaser 3200). • LIU PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200). • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200). ***Note:** Product supports MF DIAL type only.*

17C Defective FAX SEND/RECEIVE

Description

FAX SEND/RECEIVE is not functioning.

Check and Cause	Solution
1. Check that you can hear a dial tone by pressing Manual Dial.	1. Check and install a new LIU PBA if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
2. Check that you can hear a RECEIVE tone when MODEM testing in TECH Mode, GP 4.	2. Check and install a new main PBA if necessary: Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

17D Defective FAX SEND

Description

RECEIVE is functioning, but FAX SEND is not functioning or received data is corrupt.

Check and Cause	Solution
1. Check for NOISE on the line. Press Manual Dial and listen.	1. If the line is noisy, inform the customer.
2. Check the cable between the set and the wall socket for damage.	2. Check the telephone line cord.
3. Check that the destination fax machine can receive forwarded faxes by using a different sending fax machine (preferably from the same wall socket).	3. Check and install a new LIU PBA: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

17E Defective FAX RECEIVE (1)

Description

FAX SEND is functioning, but RECEIVE is not functioning or the received data is corrupt.

Check and Cause	Solution
1. Check for NOISE on the line. Press Manual Dial and listen.	1. If the line is noisy, inform the customer.
2. Use a different fax machine to receive from the same sender (if possible on the same wall socket).	2. Check and install a new LIU PBA: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

17F Defective FAX RECEIVE (2)

Description

Received data is corrupted.

Check and Cause	Solution
1. Check for NOISE on the line. Press Manual Dial and listen.	1. If you can hear a noisy line when using Manual Dial, replace or repair the telephone line.
2. Ask sender to send to another fax machine (if possible connected to the same wall socket)	2. Check and install new parts as necessary: • LIU PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

17G Defective FAX RECEIVE (3)

Description

The phone is ringing continuously, but the machine does not answer the call.

Check and Cause	Solution
1. Check that the RECEIVE Mode is set to FAX MODE.	1. Check and install new parts as necessary: • LIU PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

17H Defective FAX RECEIVE (4)

Description

Received data is reduced by more than 50% in the printing.

Check and Cause	Solution
Check the FAX status of the forwarding side.	This is a problem with the sending fax machine. Inform the customer.

17I Defective Automatic Receiving

Description

The automatic receiving function is not working.

Check and Cause	Solution
1. Check that the RECEIVE Mode is set to FAX MODE.	1. If the RECEIVE Mode is set to the TEL MODE, reset it to the FAX MODE. 2. Check and install new parts as necessary: • LIU PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

18 Abnormal Noise RAP

Description

There is noise from the ADF when copying.

Check and Cause	Solution
1. Check the Scanner Motor, gearbox and rollers.	1. Check for correct assembly of gears and motor. Ensure no parts are damaged and there are no foreign objects in the mechanism or scan path. Check and install new parts as necessary, PL 2.
2. Check the Motor Driver on Driver PBA.	2. Check and install new parts as necessary: • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) and • ADF PBA, PL 2.

19 Scanning RAP

19A PC Scanning Problems

Description

Unable to scan using a PC.

Check and Cause	Solution
1. Check the Cable (USB or Parallel) is properly connected and that the machine can print correctly.	1. Reconnect the PC and machine, replace any faulty cables. If using a parallel cable, check that the parallel port is properly configured. Ask the customer to check the BIOS of the PC to ensure that there are no IRQ conflicts and to check that the input/output range is 0378.
2. Check that the driver is installed properly.	2. If printing is OK check that the Scan driver is also installed (Refer to User's Manual.)
3. Check that the copy function operates normally.	3. Check and install new parts as necessary: • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) and • CIS, PL 4

19B Poor Quality of PC Scanned images

Description

Poor quality of scanned to PC images.

Check and Cause	Solution
1. Check if the resolution is set too low in PC Scan options. (Refer to the User Manual.)	1. Teach the user about scanner resolution – refer to the User Guide.
2. Use TECH mode, GP 4, to carry out a shading test and examine the waveform printout.	2. If the CIS waveform form is abnormal, check and install a new CIS, PL 4 if necessary.

20 Print Cartridge Problems RAP

This section explains messages on the LCD that are related to the data stored in the EEPROM in the print cartridge.

Toner Low

- Explanation: The amount of toner remaining is less than 10%. The print cartridge is almost empty or at end of life.
- Solution: Replace the toner cartridge.

- PL 1.0 - Workcentre PE220
- PL 1.1 - Phaser 3200

Toner Empty

- Explanation: The print cartridge is empty
- Solution: Replace the toner cartridge.

- PL 1.0 - Workcentre PE220
- PL 1.1 - Phaser 3200

Drum Warning

- Explanation: This message appears when the OPC drum is nearing the end of its life (14,000 pages). This means that the life of the mechanical parts in the print cartridge has expired (this is not an indication of toner remaining).
- Solution: After printing about 15,000 pages, in a worst case scenario, the waste toner collector might overflow and it may cause the system to fail. Also after 15,000 pages the OPC drum surface will be becoming worn and print quality will degrade, print images will become misty. It is therefore necessary to replace the print cartridge even though there may be toner left in it. When this message occurs there are approximately 1,000 pages left.

Replace Drum

- Explanation: The print cartridge mechanical life is expired.
- Solution: Replace the toner cartridge.

- PL 1.0 - Workcentre PE220
- PL 1.1 - Phaser 3200

21 Software Problems RAP

21A The machine is not working (1)

Description

While Power turned on, the machine is not working in print mode.

Check and Cause	Solution
1. Ensure that the customer knows how to install the correct printer driver and to select the machine as the default printer.	1. Refer the customer to the User Guide.
2. Perform the test, GP 4.	2. If the test print works that means there are no problems in the machine itself. If the test printing does not work that means the machine is faulty and the problem is not due to computer software or driver settings.
3. Check that the PC and the machine are properly connected and that the print cartridge is installed correctly.	3. Replace the printer cable. If the problem is not solved even after the cable is replaced, check the amount of the remaining toner.
4. Printing is not working in Windows.	4. Check if the connection between PC and printer port is correct. Uninstall the driver, then re-install new drivers. Refer to Xerox.com. Ask the customer to check the BIOS of the PC to ensure that there are no IRQ conflicts and to check that the input/output range is 0378.
5. Check that the printer cable is directly connected to the machine.	5. If you have other devices that need to share the printer port try temporarily disconnecting these devices and perhaps even uninstalling their drivers) to ensure the machine works by itself. If you are using a USB hub try connecting directly to the back of the PC instead.

21B The machine is not working (2)

Description

After receiving the print command there is no response at all or print speed is low due to wrong setup of the environment rather than malfunction of the machine itself.

Check and Cause	Solution
1. Ensure that the customer knows how to install the correct printer driver and to select the machine as the default printer.	1. Refer the customer to the User Guide.
2. Ensure you have sufficient free hard disk space for the temporary work files created during printing.	2. The message 'insufficient printer memory' means there is a hard disk space problem on the PC, rather than a printer RAM problem. Inform the customer.
3. Printing error occurs even if there is enough space in the hard disk.	3. The connection of the cable and printer port is not correct. Check that the cable is properly connected. Ask the customer to check the BIOS of the PC to ensure that there are no IRQ conflicts and to check that the input/output range is 0378.
4. Check the parallel-port-related items in the BIOS.	4. For the printer port, select ECP. SPP and normal modes support 8-bit data transfer. ECP mode supports 12-bit data transfer.
5. Reboot the system to print.	5. If the regular font is not printing, the cable or the printer driver may be defective. Turn the PC and machine off, and reboot the system to print again. If not solved, double-click the printer in my computer. If the regular fonts are not printed this time the cable must be defective so replace the cable with new one.

21C Abnormal Printing

Description

Printing does not work – even after replacing the cable
Machine does not work at all or strange fonts are printed.

Check and Cause	Solution
1. Set up the parallel port in the BIOS.	1. Ask the customer to ensure that ECP (best) or SPP is selected in the BIOS setup.
2. Printer Driver Error.	2. Ensure that the correct driver is loaded. Use the driver supplied on the CD or down-loaded from the Xerox.com. DO NOT use the Microsoft driver supplied with the Windows operating system. If the machine is a GDI printer ensure that ALL OTHER GDI drivers are un-installed as Windows allows only 1 type of driver to be loaded.
3. Error message “insufficient memory”. (The printing job sometimes stops due to insufficient virtual memory, this is caused by insufficient space on the PC hard disk.)	3. Inform the customer.

3. Image Quality

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IQ 1 Vertical Black Line and Band

Description

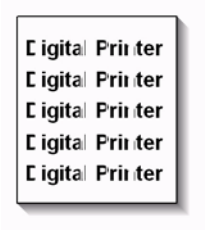
Straight thin black vertical line occurs in the printing.
Dark black vertical band occur in the printing.

	Check and Cause	Solution
	1. Dirty CVT Glass.	1. Clean the CVT Glass.
	2. Damaged develop roller in the Developer. Deformed Doctor-blade or cleaning-blade.	2. If causes 1 and 2 occur in the print cartridge. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	3. Scratched surface of the discharge roller in the toner cartridge.	3. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	4. Deformation on the surface of the transfer roller.	4. Install a new transfer roller: - PL 6.0 (Workcentre PE220) - PL 8.1 (Phaser 3200)

IQ 2 Vertical White Line

Description

White vertical voids in the image.

	Check and Cause	Solution
	1. Foreign matter stuck onto the window of internal lenses of the LSU.	1. Clean the LSU window with recommended cleaner (IPA). Clean the window with a clean cotton swab. Check and install a new LSU if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	2. The developer cartridge exposure window is contaminated.	2. Clean the developer cartridge exposure window.
	3. 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. Install new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	4. If the fuser is defective, voids occur periodically at the top of a black image.	4. Open the front cover. Clean the stripper fingers. Check and install new parts as necessary: • Fuser Assembly - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) • Toner Cartridge - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 3 Horizontal Black Band

Description

Dark or blurry horizontal stripes on print.

	Check and Cause	Solution
	1. Bad contacts of the voltage terminals to developer.	1. Check and clean the voltage terminals: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	2. The rollers used in the image development process may be contaminated. OPC Drum = 75.5mm Charge Roller = 37.7mm Supply Roller = 47.5mm Develop Roller = 35.2mm Transfer Roller = 46.2mm Heat Roller = 63.9mm Pressure Roller = 75.4mm	2. Clean the component that corresponds to the repeat interval of the defect. Check and clean new parts as necessary: • Toner cartridge - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • Fuser Assembly - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 4 Black/White Spot

Description

Dark or blurry black spots on the print.
White spots occur on the print.

	Check and Cause	Solution
	1. If faded areas or voids occur in a black image at intervals of 75.5 mm, or black spots occur elsewhere, the OPC drum surface is damaged.	1. Remove foreign substances stuck on the OPC location equivalent to black spots and white spots with a clean cloth.
	2. If dark or blurry black spots occur periodically, the rollers in the Developer may be contaminated with foreign matter or paper particles. (Charge roller: 37.7 mm interval, OPC drum: 75.5 mm interval)	2. Run Clean Drum, GP 3, and run the Engine Test Mode, GP 6, 2 or 3 times. Check and install a new toner cartridge if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	3. If a black image is partially broken, the transfer voltage is abnormal or the transfer roller's life has expired. (Approximately 50,000 sheets)	3. Clean the inside surfaces of the machine. Check and install new parts as necessary: • Transfer roller - PL 6.0 (Workcentre PE220) - PL 8.1 (Phaser 3200) • Toner cartridge - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 5 Light Image

Description

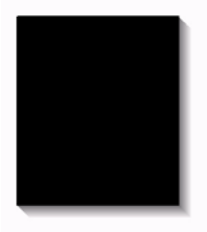
The printed image is light, with no ghost.

	Check and Cause	Solution
	1. Ambient temperature is below than 10°C.	1. Wait 30 minutes after printer is powered on before you start printing.
	2. Check shading profile.	2. Redo shading profile in the Tech mode, GP 4.
	3. Bad contact caused by the toner contamination between the high voltage terminal in the HVPS and the one in the set.	3. Clean the contaminated area.
	4. Develop roller is contaminated when the toner cartridge is almost consumed.	4. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).
	5. Abnormal output from the HVPS can be caused by contamination	5. Check and install a new HVPS If necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).

IQ 6 Dark Image or Black Image

Description

The printed image is dark.

	Check and Cause	Solution
	1. Identify if the problem is caused by the Scanner or the LSU / Xerographics.	1. Perform pattern test, GP 4. If pattern is good, check the scanner. If pattern is bad. Check the LSU: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).
	2. No charge voltage.	2. Clean the high voltage charge terminal.
	3. Check shading profile.	3. Perform the shading test, GP 4.
	4. Check for CIS problem on the Main PBA.	4. Check the CIS FFC Cable is properly connected.
	5. Charge voltage is not turned on due to bad contact between the power supply in the side of the Developer and charge terminal of HVPS.	5. Check the connections between the main PBA and HVPS. Check and install new parts as necessary: • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • HVPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 7 Uneven Density

Description

Print density is uneven.

	Check and Cause	Solution
	1. The pressure force on the left and right springs of the transfer roller is not even, the springs are damaged, the transfer roller is improperly installed, or the transfer roller bushing or holder is damaged.	1. Check and install new parts as necessary: - PL 6.0 (Workcentre PE220) - PL 6.1 (Phaser 3200)
	2. The toner level is not even on the developer roller.	2. Gently shake the toner cartridge. If Image Quality is still poor. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	3. Low toner in toner cartridge.	3. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 8 Background

Description

Light dark background on the print.

	Check and Cause	Solution
	1. Has the customer been making a lot of prints at less than 2% area coverage? ***Note**: The print cartridge is basically designed to print 3,000 sheets with 5% image.*	1. Inform the customer that low area coverage will cause background problems.
	2. Is recycled paper being used?	2. Image quality is not guaranteed if recycle paper is used.
	3. Has the life span of the developer ended?	3. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	4. Is the movement (Up and Down) of the transfer roller smooth?	4. Clean the bushings on the transfer roller: - PL 6.0 (Workcentre PE220) - PL 6.1 (Phaser 3200)
	5. The HVPS may be defective.	5. If the problem is still present, check and install new parts as necessary: • Toner cartridge - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • HVPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 9 Ghost (1)

Description

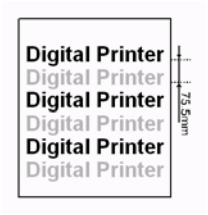
Ghost occurs at 75.5 mm intervals of the OPC drum on the print.

	Check and Cause	Solution
	1. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the electrode of the Developer.	1. Clean the terminals. - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	2. The life of developer is expired.	2. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	3. Transfer roller lifetime (50.000 sheets) has expired.	3. Check the life of the transfer roller. Check and install a new transfer roller if necessary: - PL 6.0 (Workcentre PE220) - PL 8.1 (Phaser 3200).
	4. Abnormal low temperature (below 10°C).	4. Wait about 30 minutes after power on before using the machine.
	5. Bad contacts caused by contamination from toner particles between high voltage terminal in the main body and the one in the HVPS board.	5. Check and install new parts as necessary: • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) • HVPS - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 10 Ghost (2)

Description

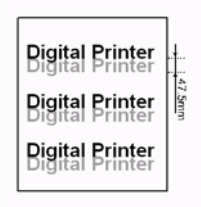
Ghost occurs at 75.5 mm intervals of the OPC drum on the print.
(When printing on card stock or transparencies using manual feeder)

	Check and Cause	Solution
	When printing on card stock thicker than normal paper or transparencies such as OHP, higher transfer voltage is required.	Inform the customer to Select 'Thick Mode' on paper type menu from the software application and after using returning to the original mode is recommended.

IQ 11 Ghost (3)

Description

White ghost occurs in the black image printing at 47.5mm intervals.

	Check and Cause	Solution
	1. The life of the developer may be expired.	1. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	2. Possible abnormal voltage and bad contact of the terminal of the supply roller in the toner cartridge.	2. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 12 Ghost (4)

Description

Ghost occurs at 47.5mm(or 63.9mm) intervals.

	Check and Cause	Solution
	1. The temperature of the fuser is too high because the thermistor is contaminated.	**CAUTION** *Take care not to bend or break the thermistor.* 1. Clean the heat roll, pressure roll and thermistor: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) Check and install a new fuser assembly if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 13 Contamination on the Face of Page

Description

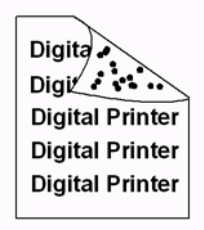
The background on the face of the printed page is contaminated.

	Check and Cause	Solution
	1. The transfer roller maybe contamInated.	1. Run DRUM Cleaning Mode, GP 3. Make 2 or 3 prints
	2. Toner leakage due to improperly sealed developer.	2. Install a new toner cartridge: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)
	3. The fuser roll may be contaminated.	3. Check and install a new fuser if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 14 Contamination on Back of Page

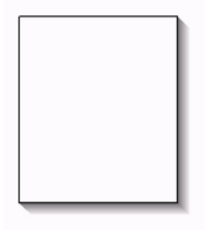
Description

The back of the page is contaminated at 47 mm intervals.

	Check and Cause	Solution
	1. Transfer roller is contaminated.	1. Run DRUM Cleaning Mode, GP 3. Make 2 or 3 prints. Check and install a new transfer roller if necessary: - PL 6.0 (Workcentre PE220) - PL 8.1 (Phaser 3200)
	2. Pressure roller is contaminated.	**CAUTION** *Take care not to bend or break the thermistor.* 2. Clean the heat roll, pressure roll and thermistor: - PL 7.0 (Workcentre PE220) - PL 7.1 (Phaser 3200) Check and install a new fuser if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 15 Blank Page Print Out (1)

Description
Blank page is printed.

	Check and Cause	Solution
	1. Bad ground contacts in OPC and/or developer.	1. Remove contamination from the terminals of the developer and the OPC unit.
	2. Check the scanner cover is properly closed.	2. Room light can pass through a thin original.
	3. Check shading profile.	3. Redo shading profile in the tech mode, refer to GP 4.
	4. Check white/black reference voltage on main PBA.	4. Check and install a new main PBA if necessary: • Main PBA - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200).

IQ 16 Blank Page Print Out (2)

Description

Blank page is printed.
One or several blank pages are printed.
When the machine turns on, several blank pages print.

	Check and Cause	Solution
	1. Bad ground contacts in OPC and/or developer.	1. Remove contamination from the terminals of the developer.
	2. Abnormal solenoid.	2. Perform the Pick Up Test using Engine Test Mode to check the solenoid, GP 6. Restart the machine. Resend the job. Check and install a new main PBA if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 17 Misregistration

Description

Printing begins at wrong position on the paper.

Check and Cause	Solution
Wrong sense time caused by defective feed sensor actuator.	Check and install a new feed sensor actuator: - PL 6.0 (Workcentre PE220) - PL 6.1 (Phaser 3200)

IQ 18 Printed Vertical Lines Not Straight

Description

When printing, vertical lines are not straight.

Check and Cause	Solution
1. Check stability of 24V supply to LSU.	1. 24V stable - check and install a new LSU if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) is necessary 24V unstable - check and install a new SMPS if necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200) If the problem persists, install a new main PBA: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

IQ 19 Blurred Image

Description

Image is blurred.

Check and Cause	Solution
1. Check the gap between original and platen glass.	1. A gap of more than 0.5 mm can cause a blurred image. Ensure rollers and cover close correctly. Check and install new parts as necessary: - PL 1.0 (Workcentre PE220) - PL 1.1 (Phaser 3200)

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4. Repairs/Adjustments

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REP 1 MP Tray

Parts list on PL 9.0

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Open the front cover, Figure 1.

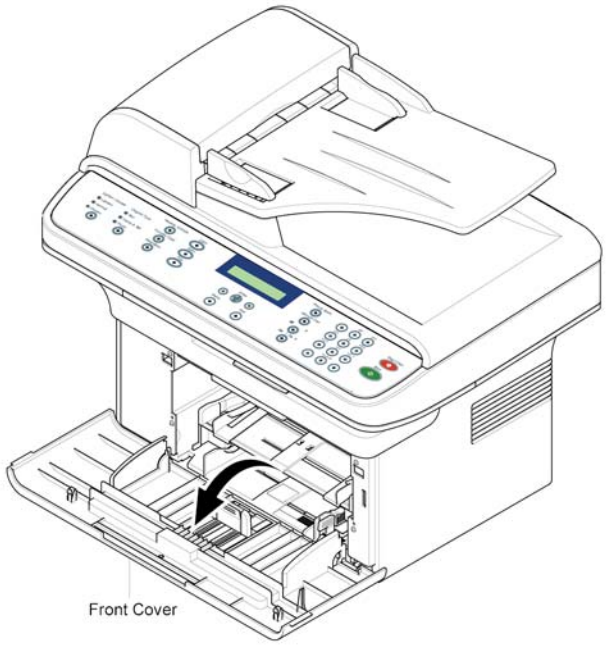

Figure 1

2. Remove the toner cartridge, Figure 2.

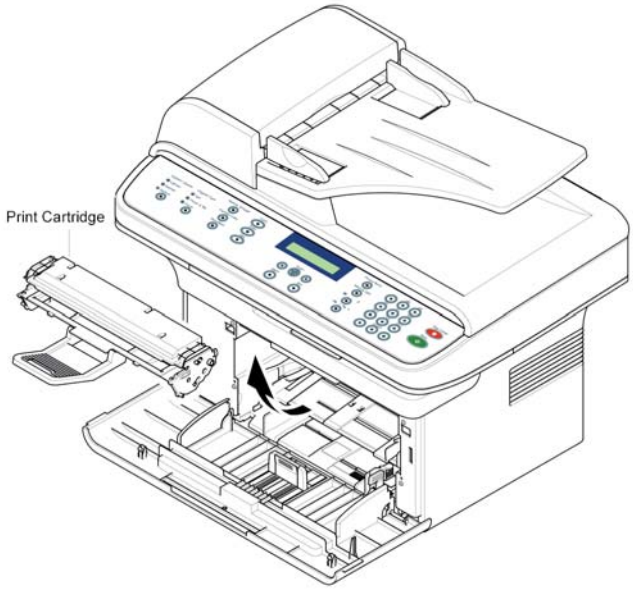

Figure 2

3. Hold the MP tray and pull it in the direction of the arrow, Figure 3.

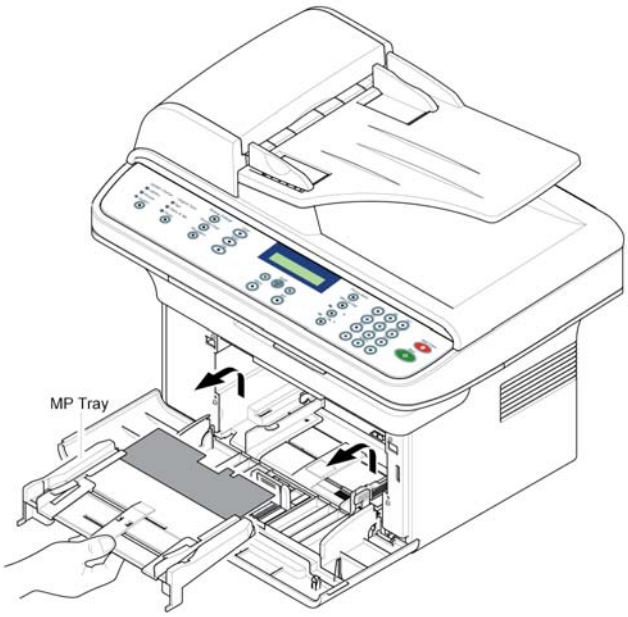

Figure 3

Replacement

Replacement is the reverse of the removal procedure.

REP 2.0 Pick Up Roller

Workcentre PE220

Parts list on PL 6.0

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the MP tray, REP 1.
2. To exchange the pick up sponge, pull apart pick up housing U while pressing the hooks on both sides of pick up Housing B, Figure 1.

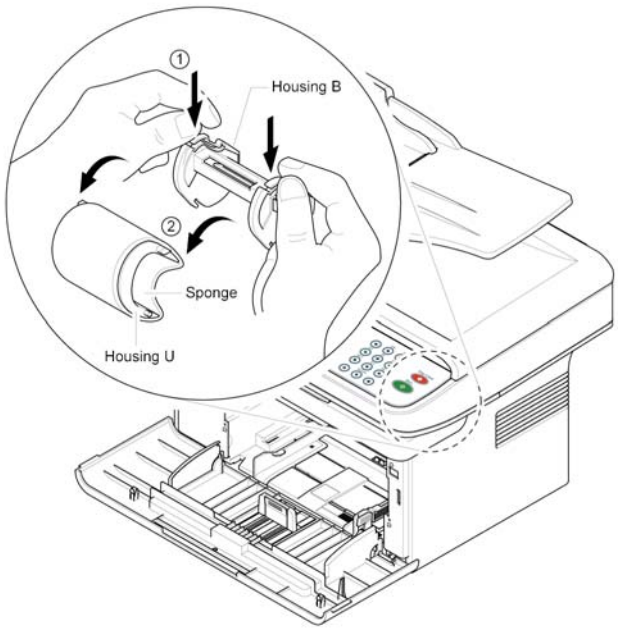

Figure 1

Replacement

Replacement is the reverse of the removal procedure.

REP 2.1 Pick Up Roller

Phaser 3200

Parts list on PL 6.2

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the MP tray, REP 1.
2. To exchange the Pick Up Sponge, pull apart the pickup stoppers.
3. Release the Pick Up Sponge in the direction of the arrow.

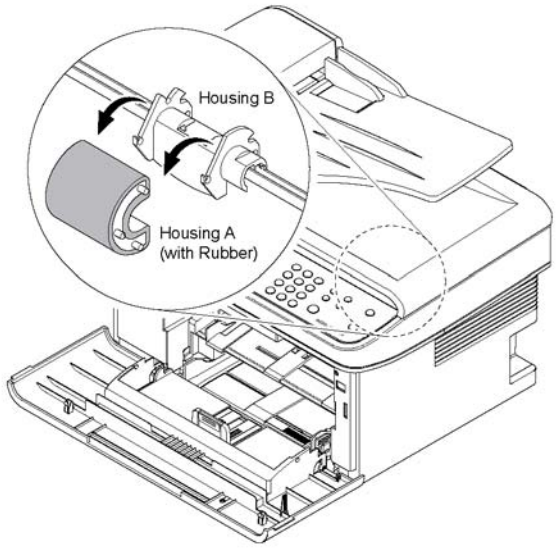

Figure 1

Replacement

Replacement is the reverse of the removal procedure.

REP 3 Front Cover

Parts list on:

- **PL 1.0 (Workcentre PE220)**
- **PL 1.3 (Phaser 3200)**

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Open the front cover, Figure 1.

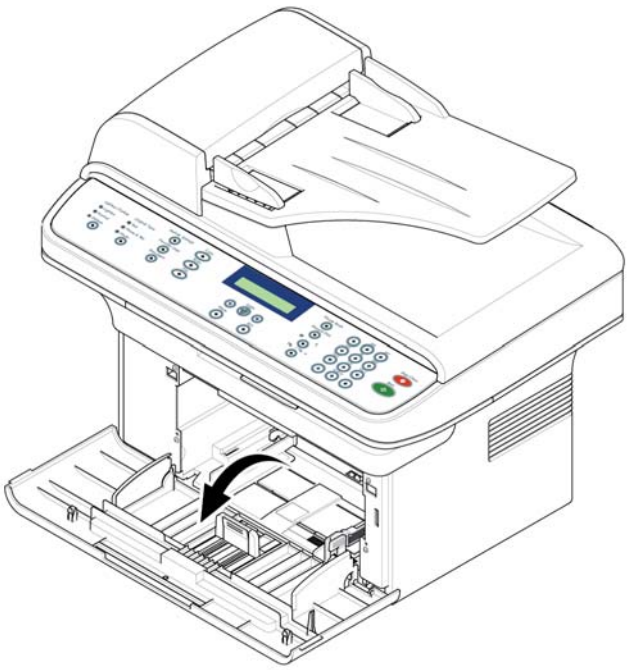

Figure 1

2. To remove the front cover, carefully pull the part below the right side of the front cover in the direction of the arrow (left), Figure 2.

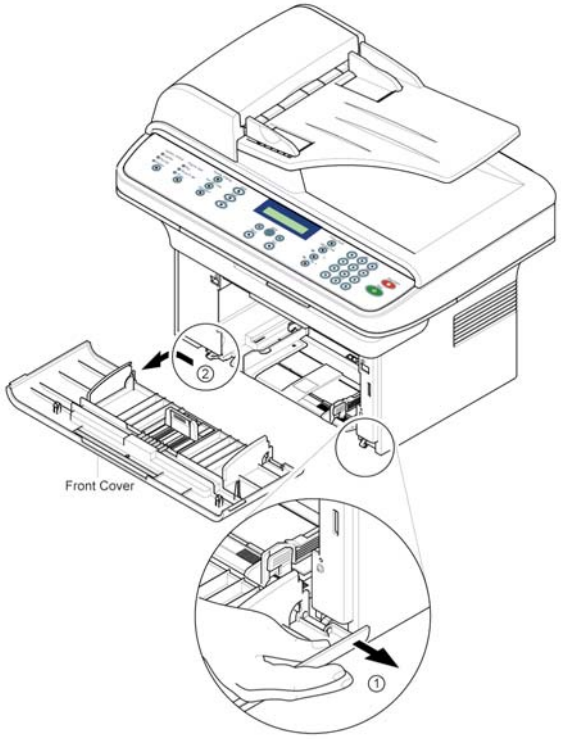

Figure 2

Replacement

Replacement is the reverse of the removal procedure.

REP 4 Cassette Tray

Parts list on:

- **PL 1.0 (Workcentre PE220)**
- **PL 1.3 (Phaser 3200)**

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Open the cassette tray, Figure 1.

Figure 1

2. To remove the cassette tray, carefully lift the knob in the direction of the arrow while holding the machine, Figure 2.

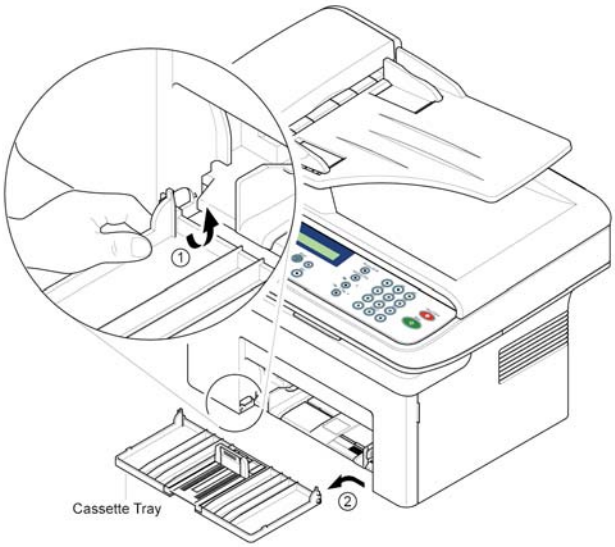

Figure 2

Replacement

Replacement is the reverse of the removal procedure.

REP 5 Rear Cover

Parts list on

- PL 1.0 **(Workcentre PE220)**
- PL 1.4 **(Phaser 3200)**

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove 4 screws securing the rear cover, Figure 1.

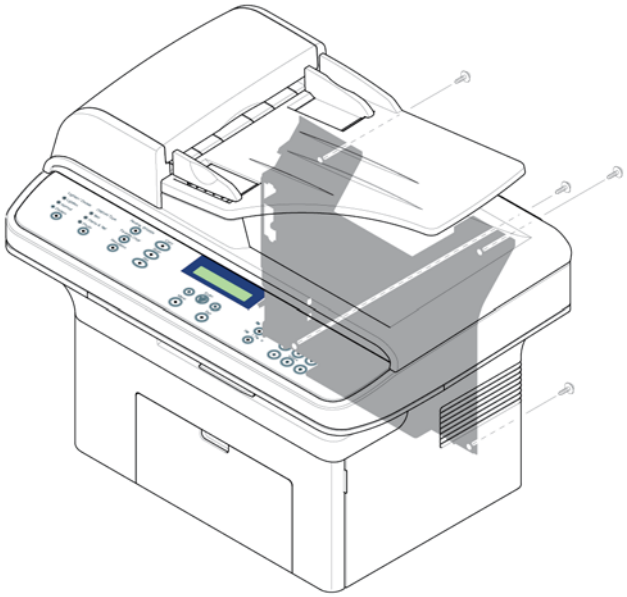

Figure 1

2. Open the jam cover, Figure 2.

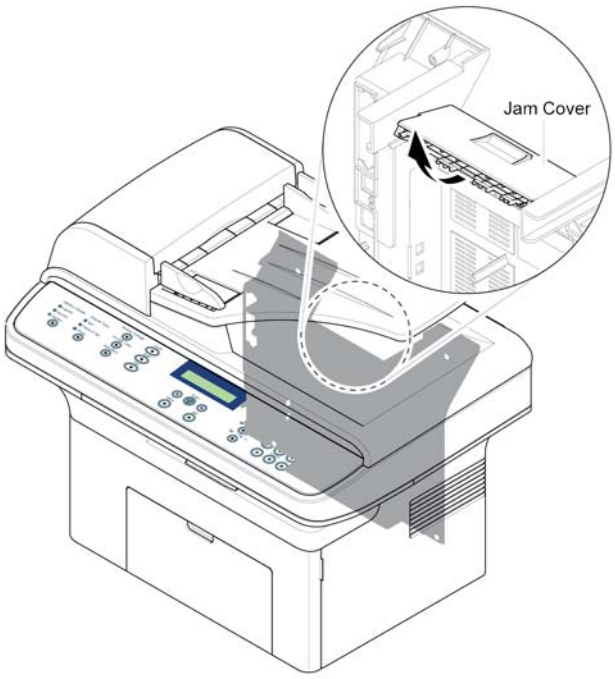

Figure 2

3. To remove the rear cover, make sure the power switch does not get jammed to the rear cover, Figure 3.

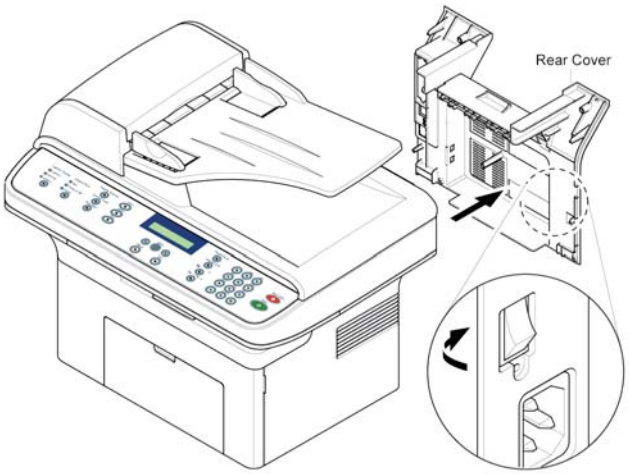

Figure 3

4. If necessary, remove the jam cover in the direction of arrow, Figure 4.

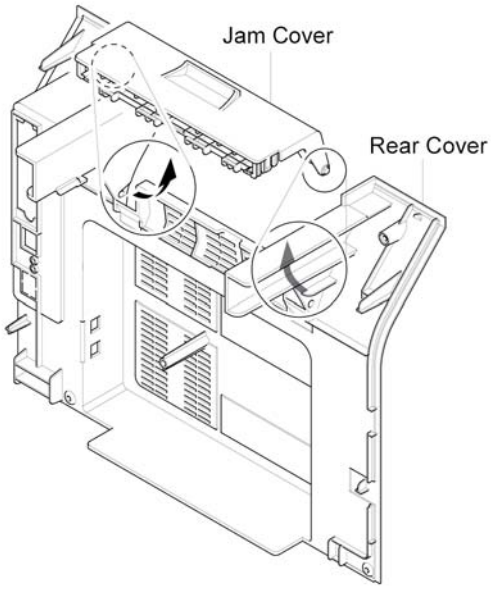

Figure 4

Replacement

Replacement is the reverse of the removal procedure.

REP 6 Right Cover

Parts list on

- PL 1.0 (Workcentre PE220)
- PL 1.2 (Phaser 3200)

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the front cover, REP 3.
2. Remove the rear cover, REP 5.
3. Remove the screw securing the right cover, Figure 1.

Figure 1

4. Apply light pressure to the back of the right cover and pull it to the right side in the direction of the arrow, Figure 2.

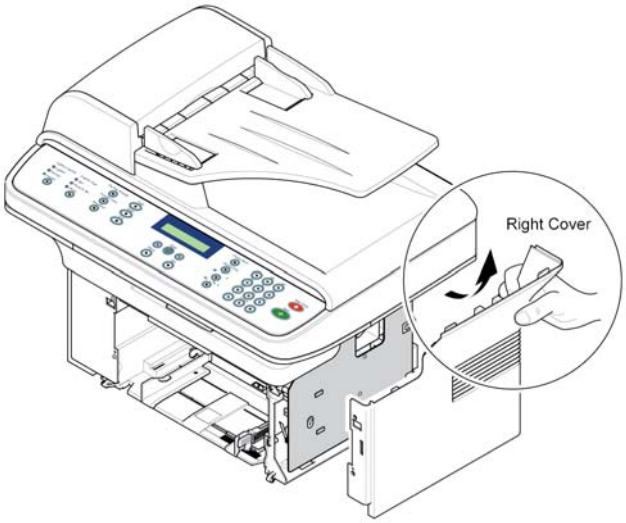

Figure 2

Replacement

Replacement is the reverse of the removal procedure.

REP 7 Left Cover

Parts list on

- PL 1.0 (Workcentre PE220)
- PL 1.2 (Phaser 3200)

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the front cover, REP 3.
2. Remove the rear cover, REP 5.
3. Remove the screw securing the left cover, Figure 1.

Figure 1

4. Apply light pressure to the back of the left cover and pull it to the left side in the direction of the arrow, Figure 2.

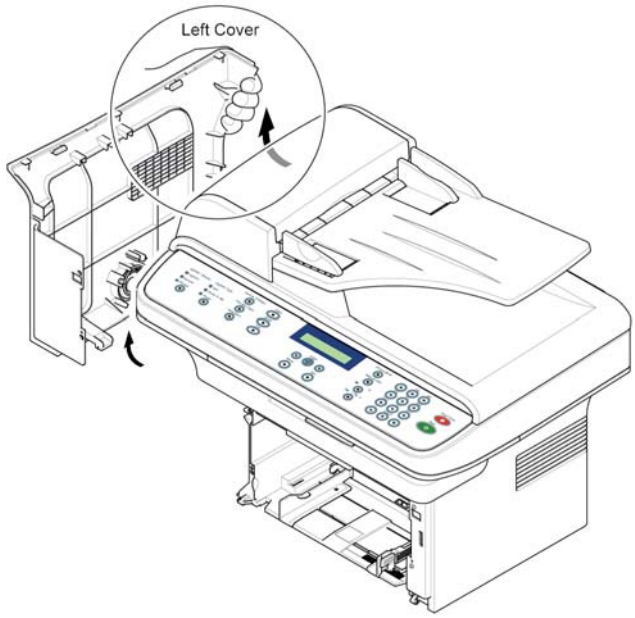

Figure 2

5. Unplug the speaker connector from the main PBA, Figure 3.

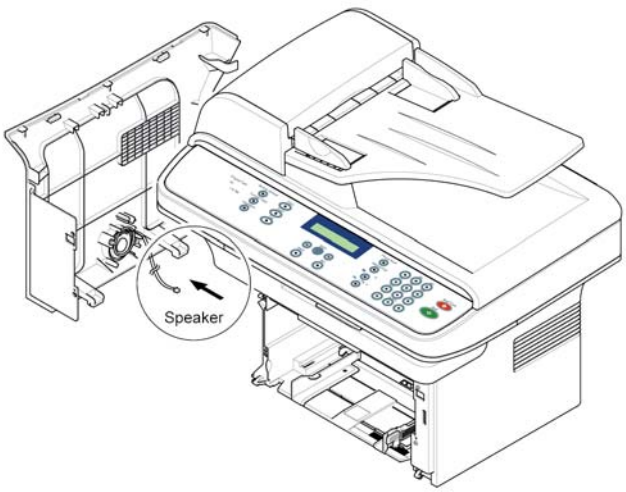

Figure 3

6. If necessary, remove the two screws securing the speaker.

7. If necessary, remove 2 screws securing the speaker, then remove it, Figure 4.

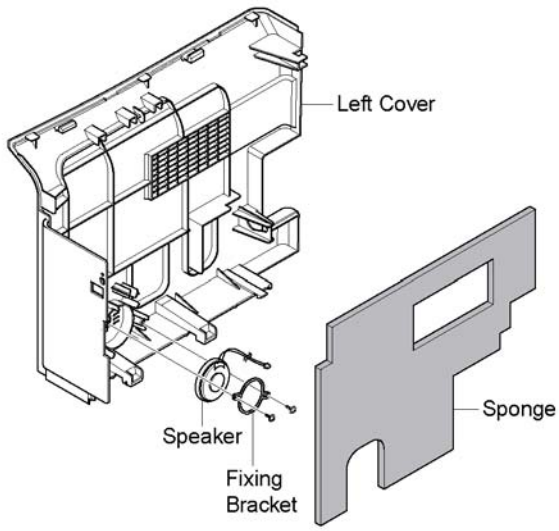

Figure 4

Replacement

Replacement is the reverse of the removal procedure.

REP 8 Scanner Assembly

Parts list on

- PL 1.0 **(Workcentre PE220)**
- PL 1.1 **(Phaser 3200)**

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the rear cover, REP 5.
2. Remove the right cover, REP 6.
3. Remove the left cover, REP 7.
4. Remove 2 screws from the middle cover and remove the screw securing the ground cable, Figure 1.

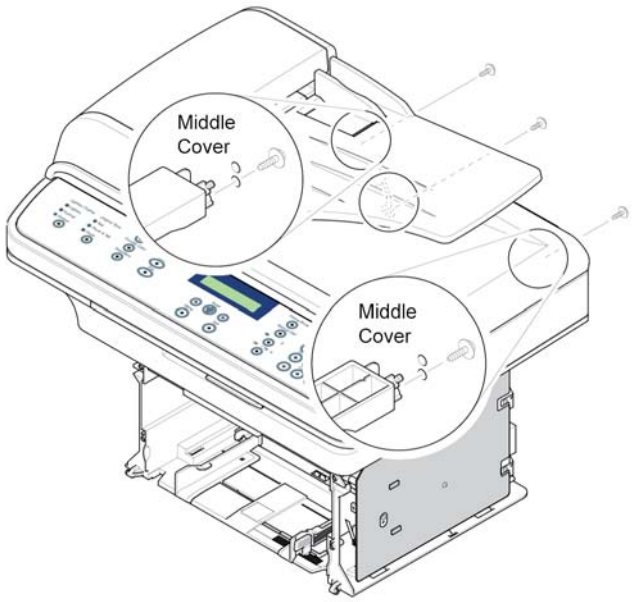

Figure 1

5. Unplug the 3 connectors (ADF, Scan Motor, OPE) and CIS cable, Figure 2.

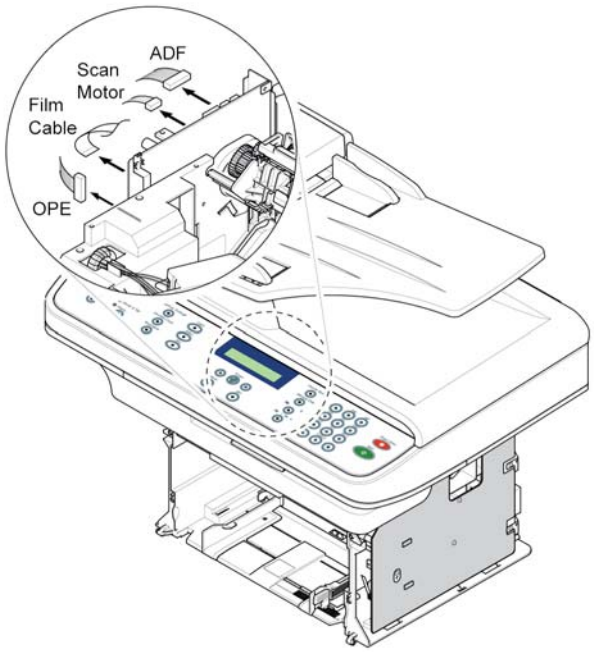

Figure 2

6. Release the scan assembly in the direction of the arrow, Figure 3.

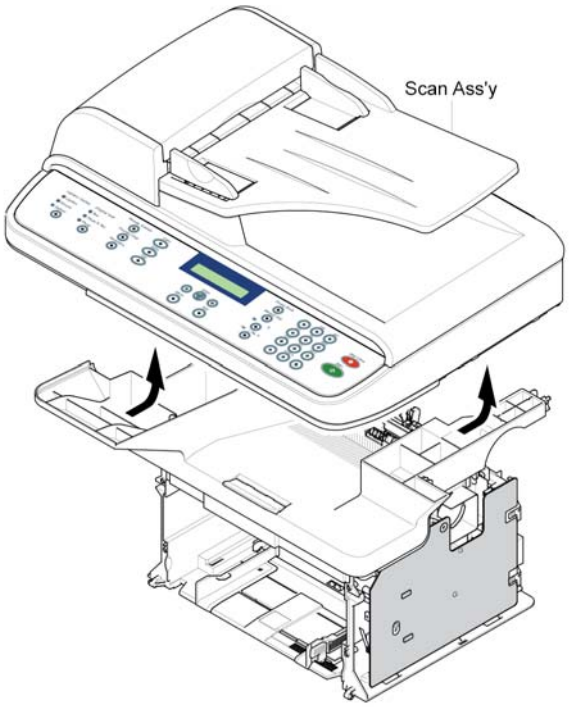

Figure 3

Replacement

Replacement is the reverse of the removal procedure.

REP 9 ADF Housing

Parts list on PL 2.0

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Open the ADF housing and insert a flat-blade screwdriver into the slot and remove the Cap-Hinge from the Platen Housing and ADF housing, Figure 1.

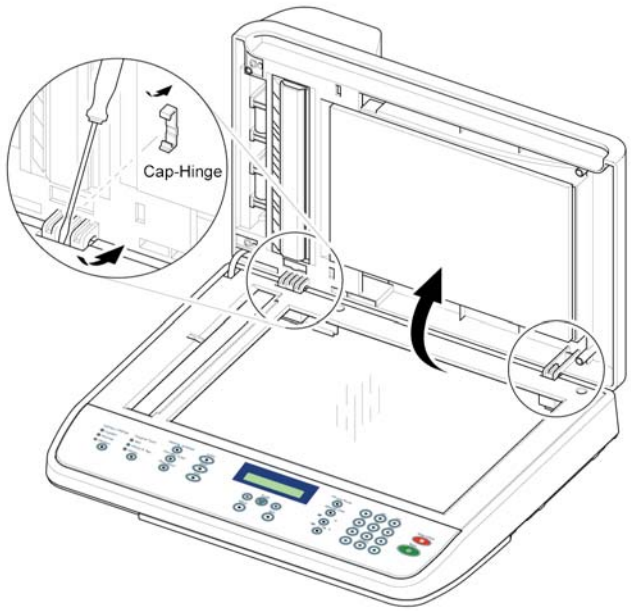

Figure 1

3. Remove the ADF housing from the platen housing, while carefully releasing the ADF motor harness and ground wire from the platen housing, Figure 2.

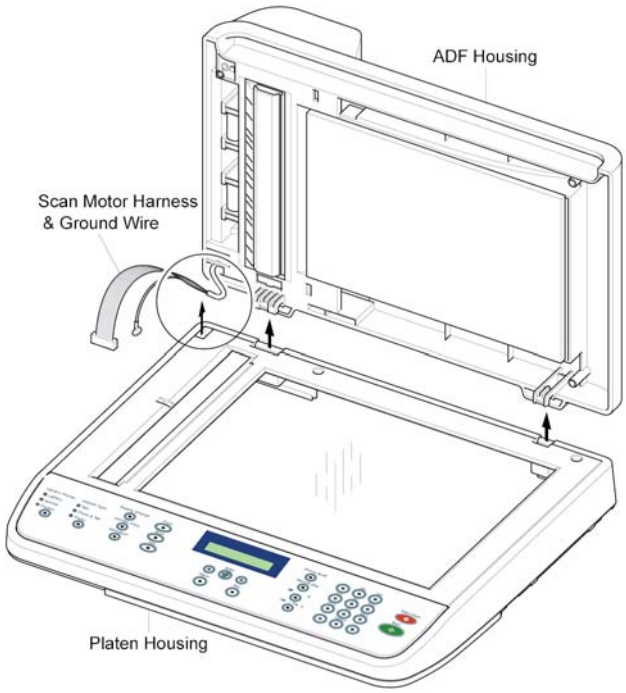

Figure 2

4. Remove 2 screws securing the ADF assembly. Carefully release the ADF motor harness and ground wire from the platen cover, Figure 3.

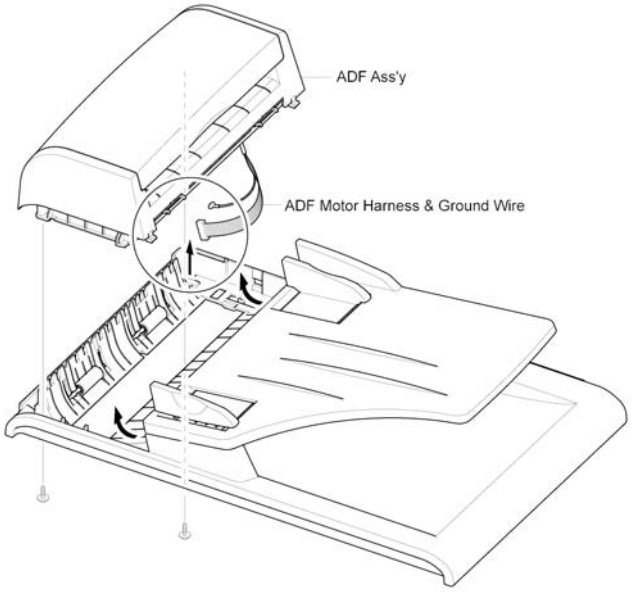

Figure 3

5. If necessary, remove 2 screws securing the TX stacker assembly, Figure 4.

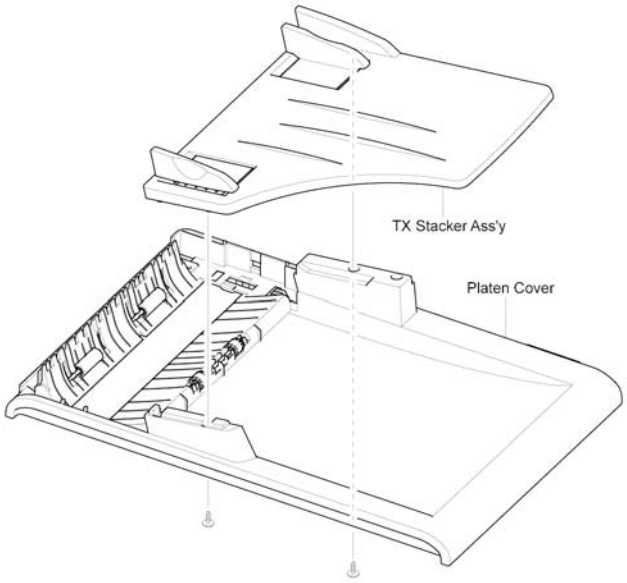

Figure 4

6. Open the open cover and remove the open cover in the direction of the arrow, Figure 5.

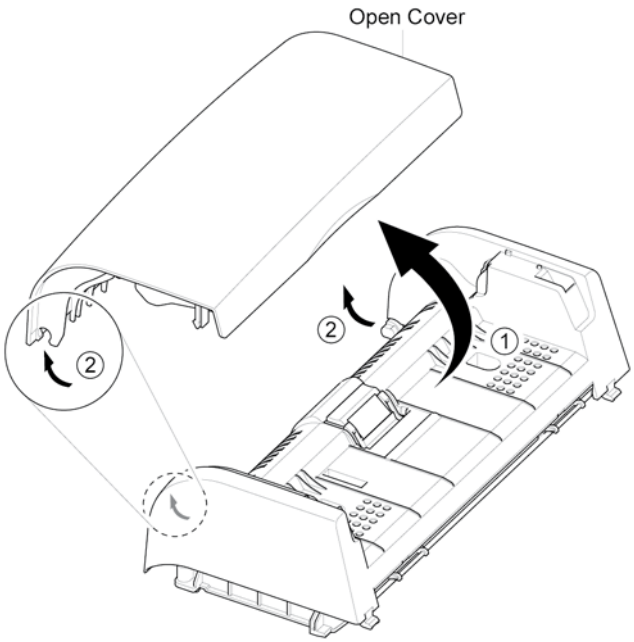

Figure 5

7. Pull and rotate the bushing until it reaches the slot, then lift the pick up unit, Figure 6.

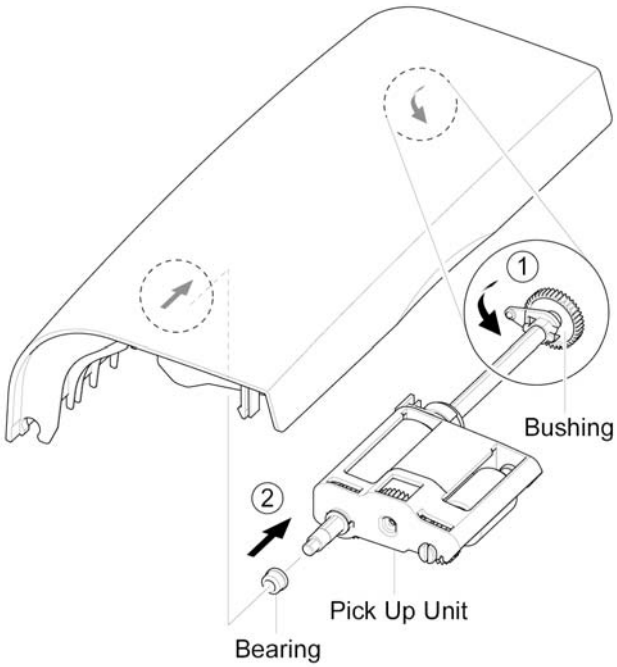

Figure 6

8. Remove 2 screws securing the ADF upper and insert a flat-blade screwdriver in to the slot and remove the ADF upper, Figure 7.

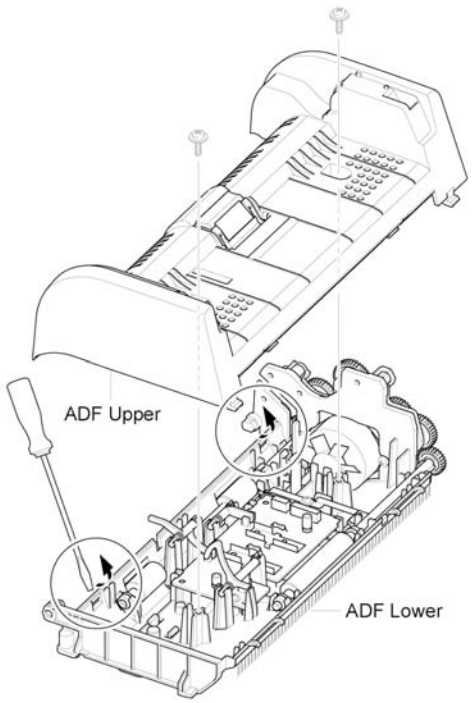

Figure 7

9. Unplug the Connector from the ADF PBA and remove 4 screws securing the ADF motor housing and remove it in the direction of the arrow, Figure 8.

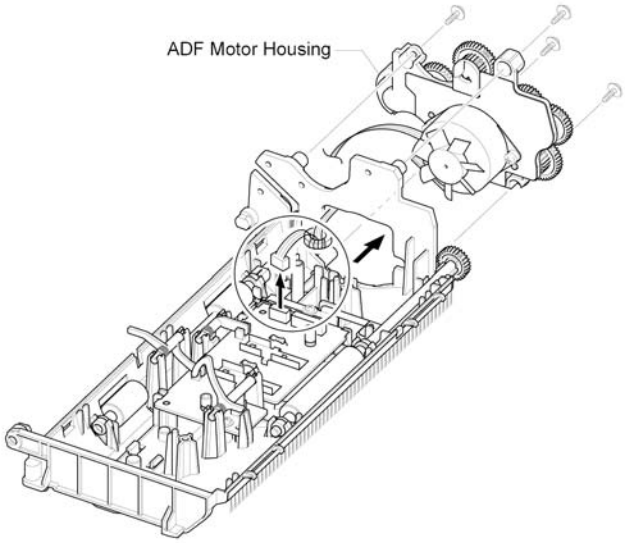

Figure 8

Replacement

Replacement is the reverse of the removal procedure.

REP 10 OPE Unit

Parts list on PL 5.0

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Open the ADF housing and insert a flat-blade screwdriver into the crack and remove the OPE Unit from the platen housing, Figure 1.

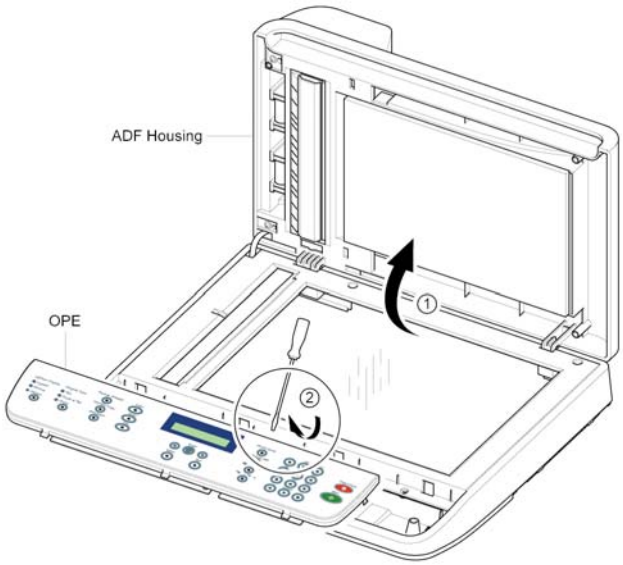

Figure 1

2. Unplug the 3 connectors (Battery, OPE, Full Sensor)., Figure 2

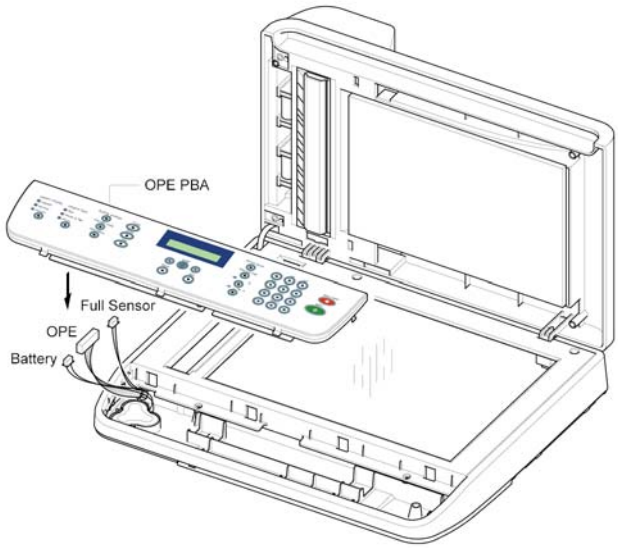

Figure 2

3. Remove the screws securing the OPE PBA and remove it.
4. Release the contact rubbers.
5. Release the keys.

Replacement

Replacement is the reverse of the removal procedure.

REP 11 Platen Assembly

Parts list on PL 4.0

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the ADF housing, REP 9.
3. Remove the OPE unit:
   - REP 10.0 (Workcentre PE220)
   - REP 10.1 (Phaser 3200)
4. Remove 5 screws from the scan upper and remove it from the scan lower, Figure 1.

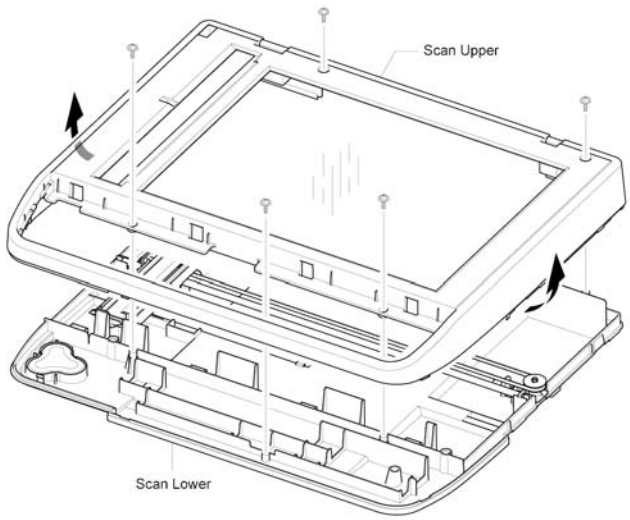

Figure 1

5. Remove the battery, Figure 2.

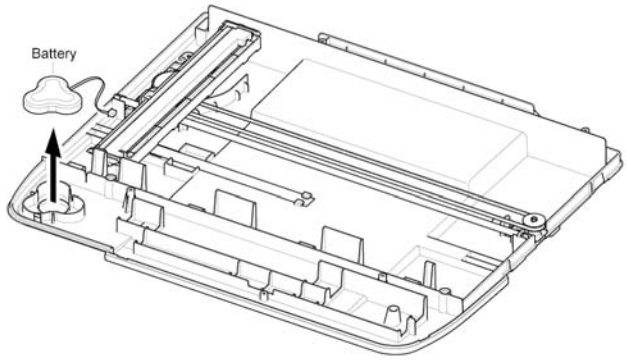

Figure 2

6. Push the holder in the direction of arrow and remove the belt, Figure 3. (The CIS will be released at the same time)

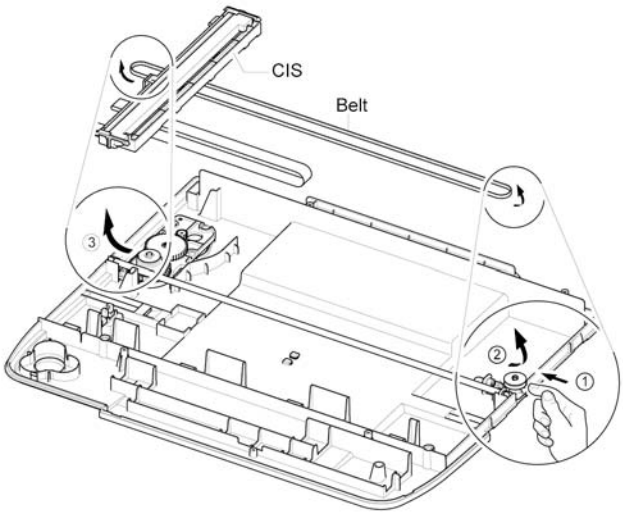

Figure 3

7. Release the belt and flat cable from the CIS, Figure 4.

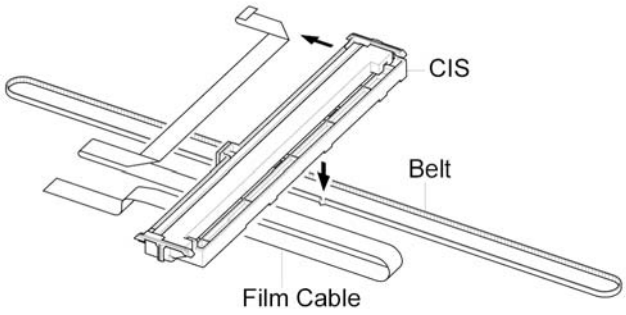

Figure 4

8. Remove 2screws securing the scan motor assembly and remove it, Figure 5.

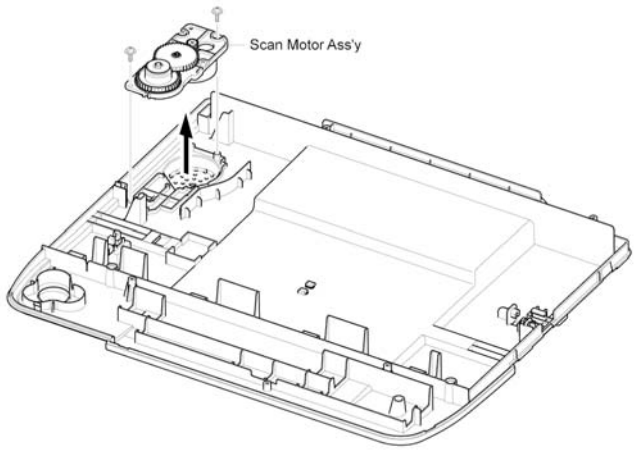

Figure 5

9. If necessary, remove 2 screws securing the scan motor and remove it, Figure 6.

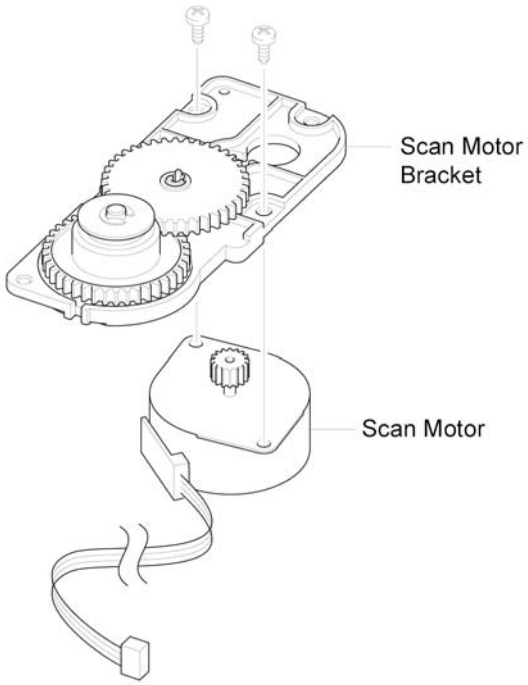

Figure 6

10. Using a flat-blade screwdriver remove the full sensor, Figure 7.

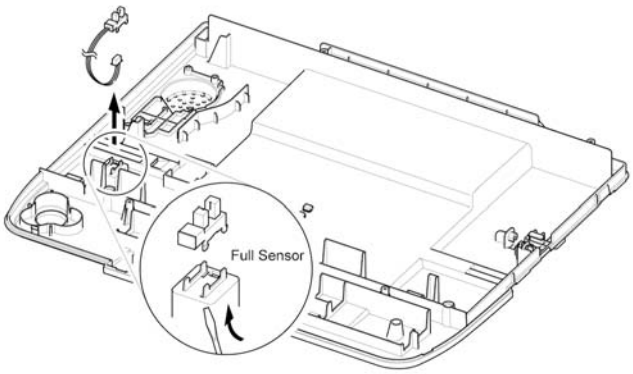

Figure 7

Replacement

Replacement is the reverse of the removal procedure.

REP 12 Middle Cover

Parts list on:

- **PL 1.0 (Workcentre PE220)**
- **PL 1.2 (Phaser 3200)**

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove 5 screws securing the middle cover, Figure 1.

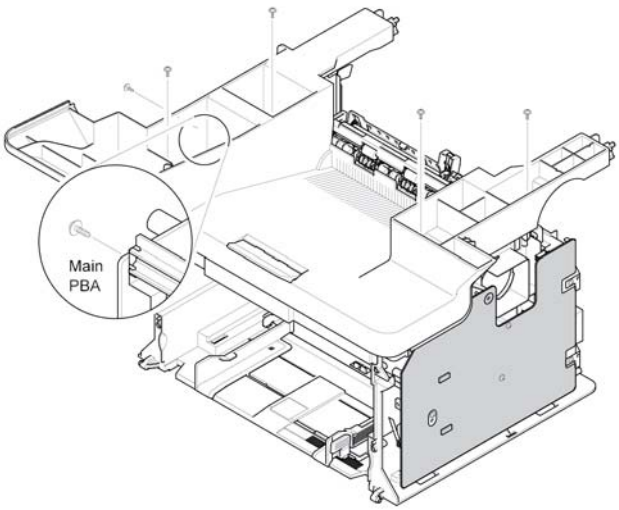

Figure 1

3. Carefully release the middle cover from the main PBA, Figure 2.

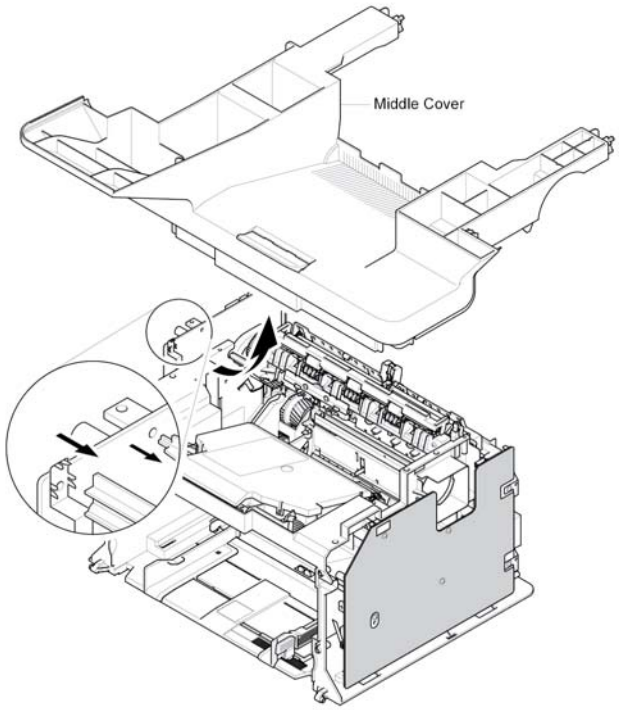

Figure 2

4. If necessary, remove the stacker, Figure 3.

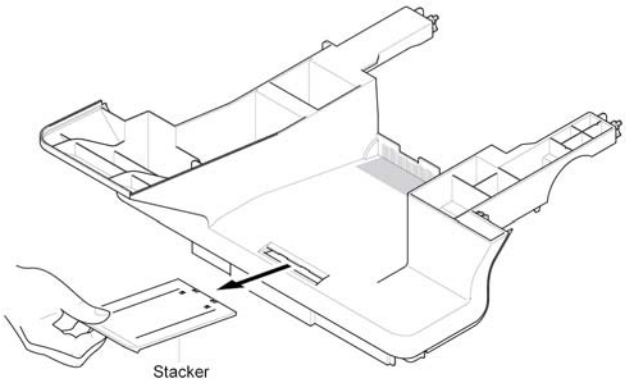

Figure 3

Replacement

Replacement is the reverse of the removal procedure.

REP 13.0 HVPS

Workcentre PE220

Parts list on PL 1.0

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove five screws securing the HVPS and remove it with the HVPS ground, Figure 1.

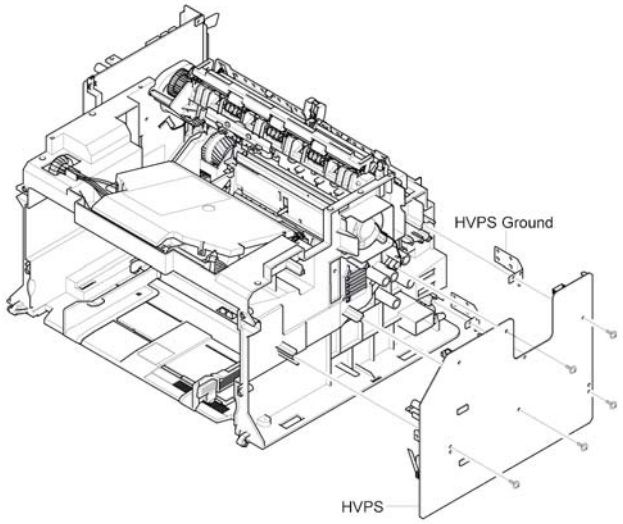

Figure 1

4. Unplug the Connector from the HVPS, Figure 2.

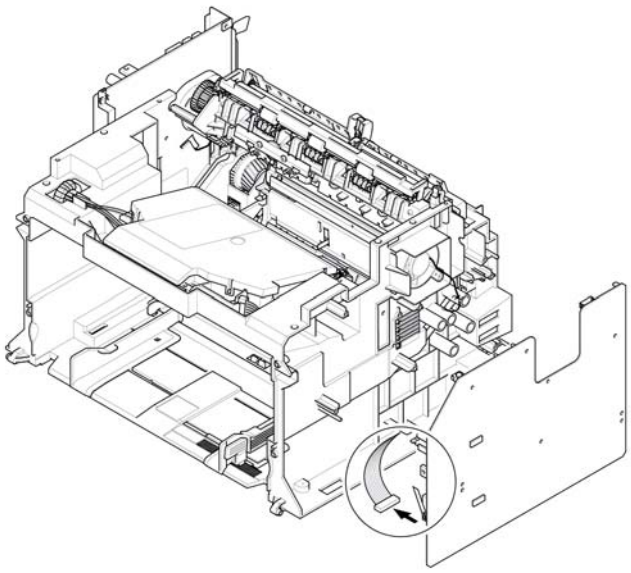

Figure 2

Replacement

Replacement is the reverse of the removal procedure.

REP 13.1 HVPS

Phaser 3200

Parts list on PL 1.1

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove 3 screws securing the Sheet and remove it, Figure 1.

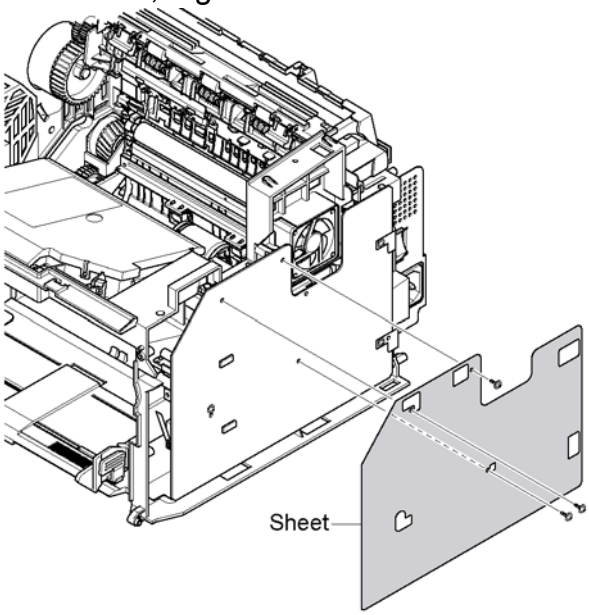

Figure 1

4. Remove 3 screws securing the HVPS then unplug the DC fan connector from the HVPS, Figure 2.

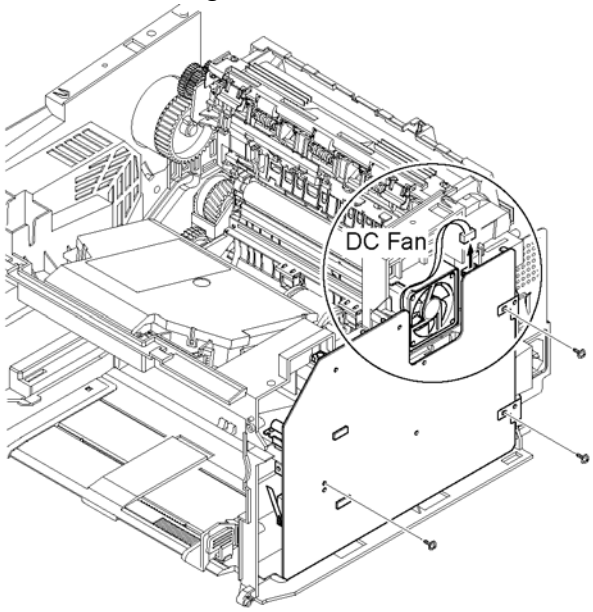

Figure 2

5. Unplug the connector from the HVPS. HVPS Ground, Figure 3

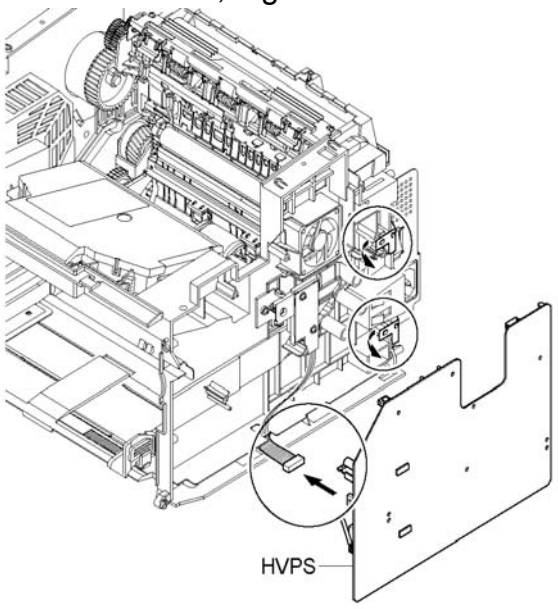

Figure 3

Note: *Ensure the terminals do not go missing.*

Replacement

Replacement is the reverse of the removal procedure.

REP 14.0 Main PBA

Workcentre PE220

Parts list on PL 1.0

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Unplug the all connectors from the main PBA, Figure 1.

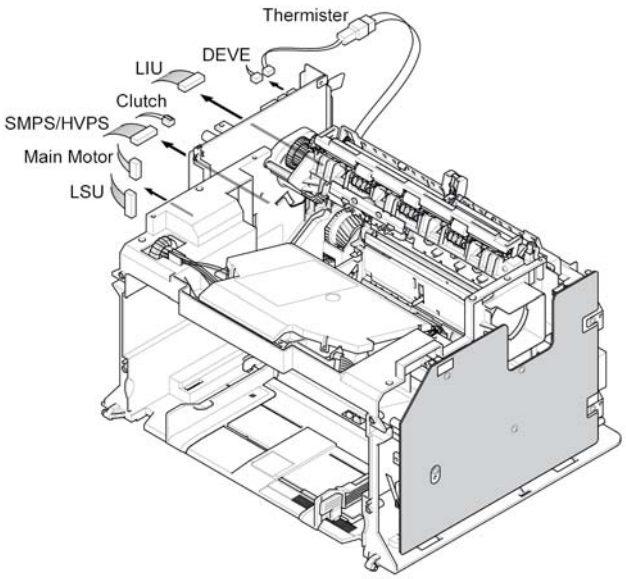

Figure 1

4. Remove 6 screws securing the main PBA and remove it, Figure 2.

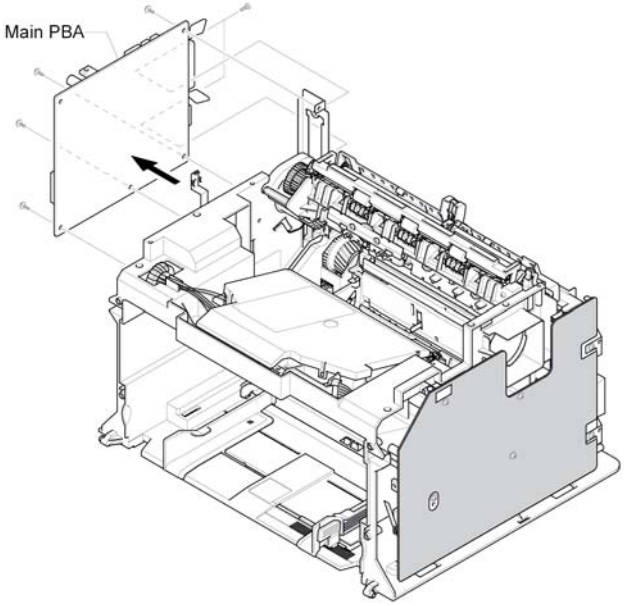

Figure 2

Replacement

Replacement is the reverse of the removal procedure.

REP 14.1 Main PBA

Phaser 3200

Parts list on PL 1.1

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Unplug the all Connectors from the main PBA, Figure 1.

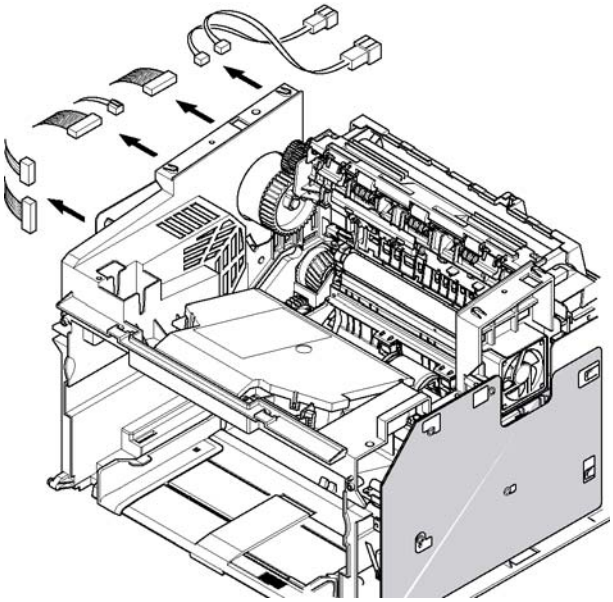

Figure 1

4. Remove 4 screws securing the main PBA and remove it, Figure 2.

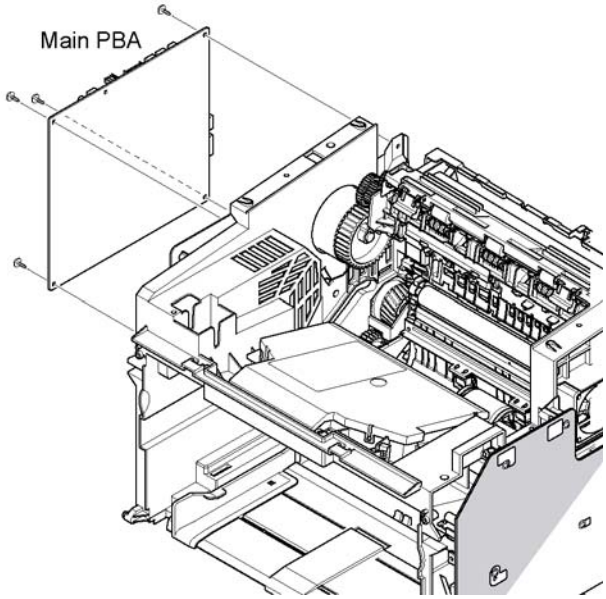

Figure 2

5. Remove 4 screws securing the shield main PBA and remove it, Figure 3.

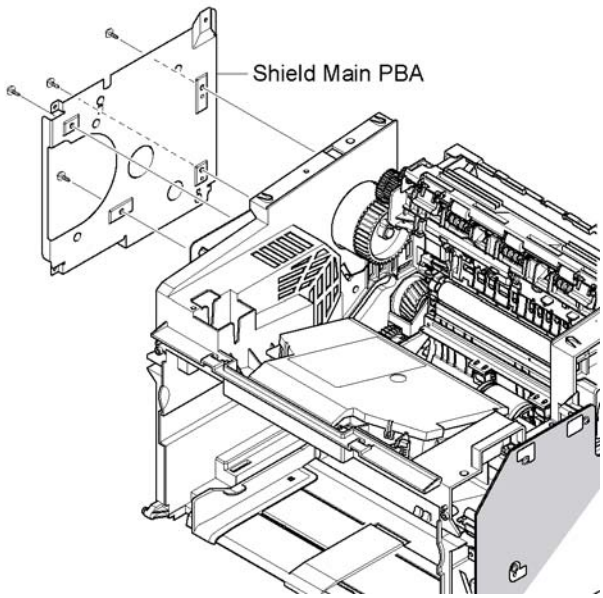

Figure 3

Replacement

Replacement is the reverse of the removal procedure.

REP 15.0 Main Drive Assembly

Workcentre PE220

Parts list on PL 8.0

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove the main PBA, REP 14.0.
4. If necessary, remove bracket port, bracket main PBA and ground, Figure 1.

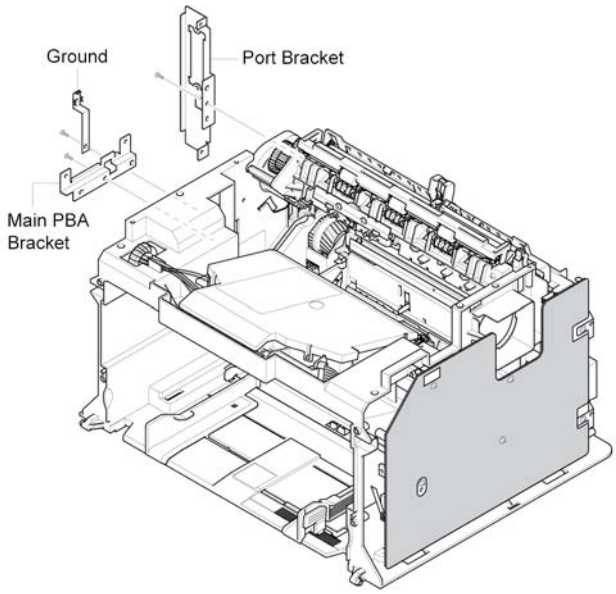

Figure 1

5. Remove 2 screws securing the engine shield and remove six screws securing the frame, then remove the main drive assembly in the direction of the arrow, Figure 2.

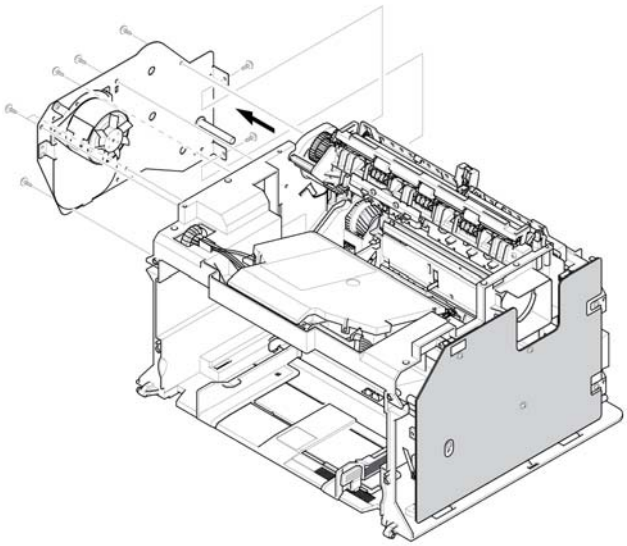

Figure 2

6. Remove the connector, Figure 3.

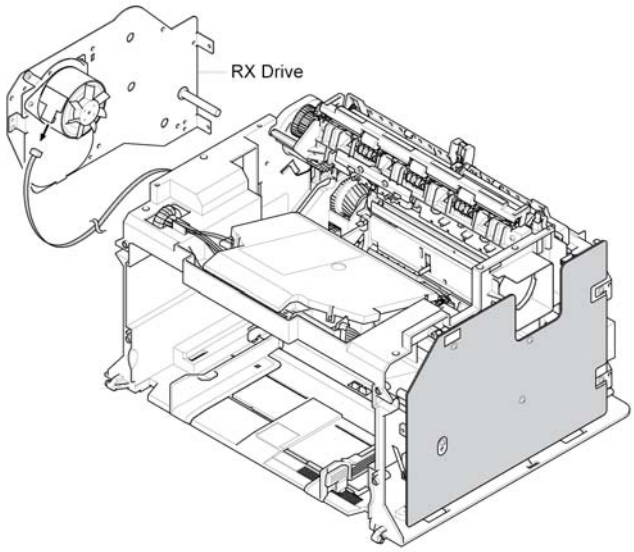

Figure 3

7. Release the 4 gears (RDCN, OPC, Fuser, Feed) from the frame, Figure 4.

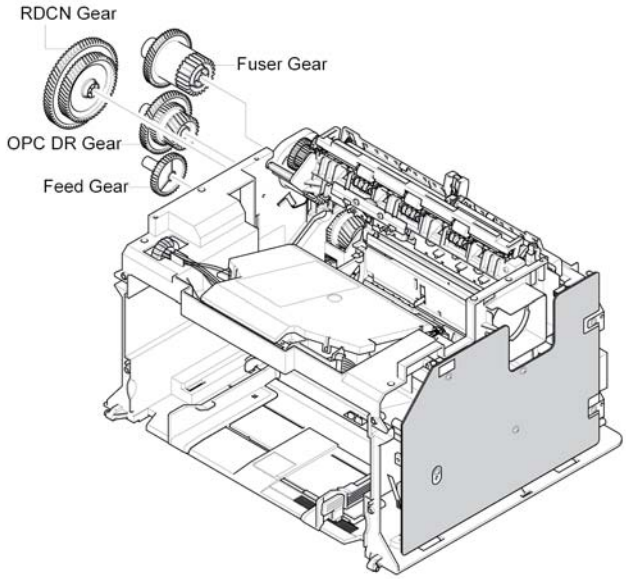

Figure 4

8. Remove 4 screws securing the motor bracket and remove it. Then remove 2 screws securing the motor and remove it, Figure 5.

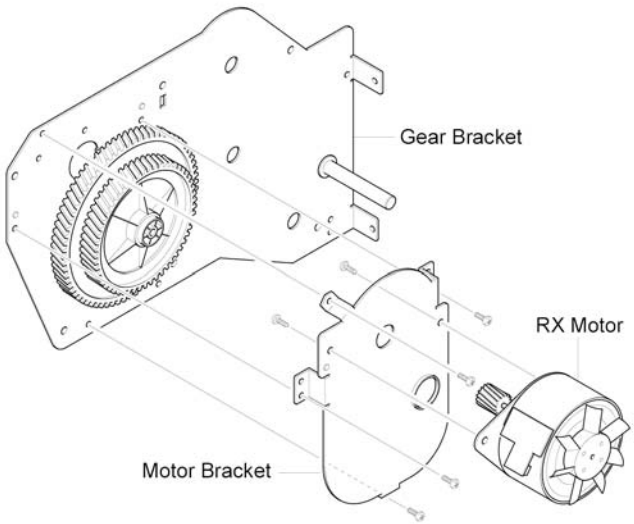

Figure 5

Replacement

Replacement is the reverse of the removal procedure.

REP 15.1 Main Drive Assembly

Phaser 3200

Parts list on PL 8.2

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove the main PBA, REP 14.1.
4. If necessary, remove bracket port, bracket main PBA and ground, Figure 1.

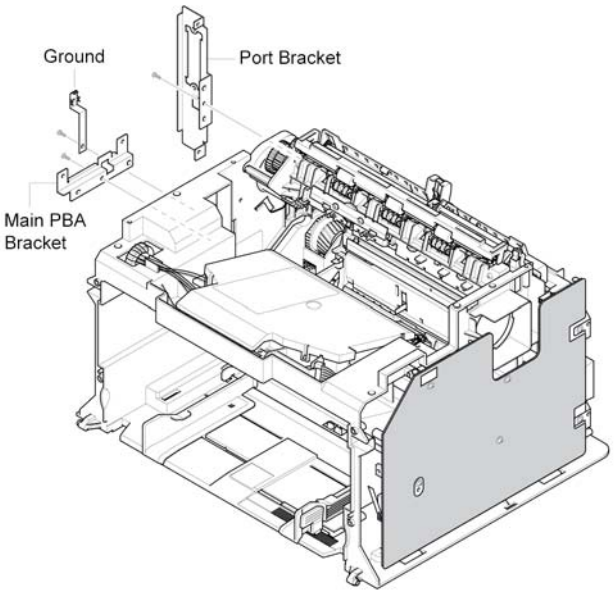

Figure 1

5. Remove 2 screws securing the engine shield and remove 6 screws securing the frame, then remove the main drive assembly in the direction of the arrow, Figure 2.

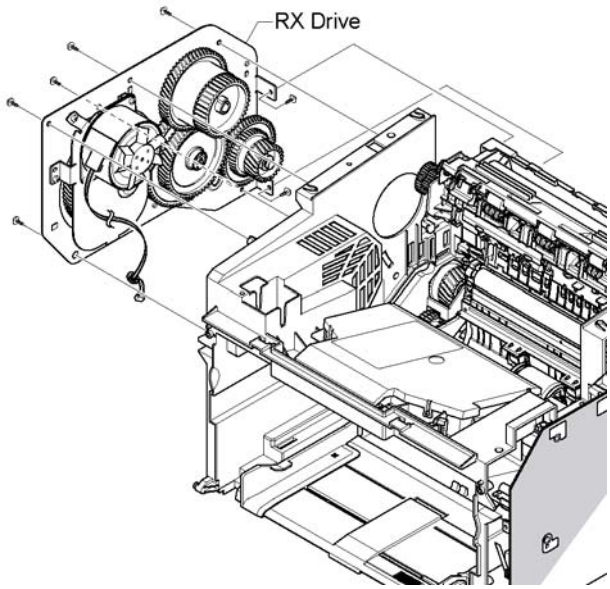

Figure 2

6. Remove the feed gear if necessary, Figure 3.

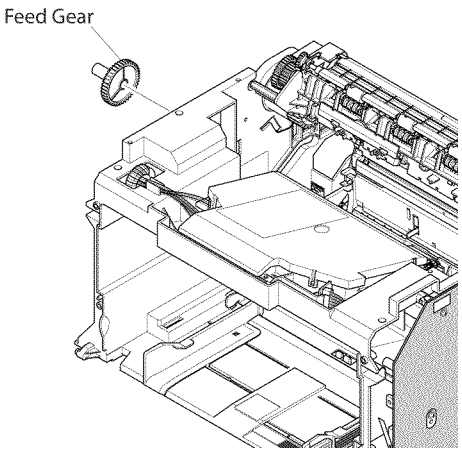

Figure 3

7. Remove the fuser drive gear, OPC drive gear, then the RDCN gear 113/83, Figure 4.

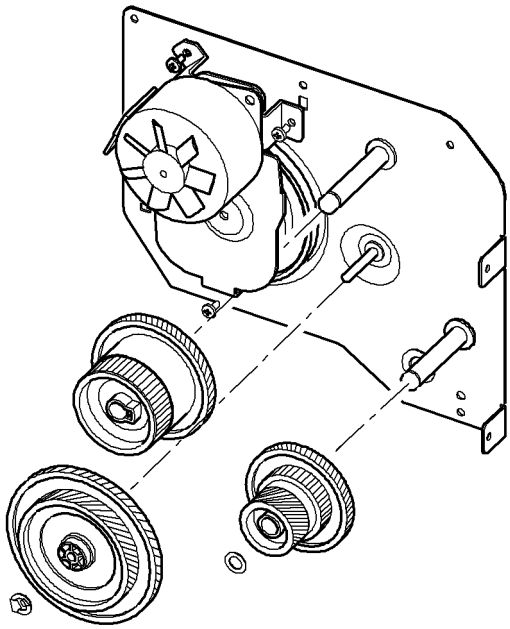

Figure 4

8. Remove the 2 screws, then the main motor, Figure 5.

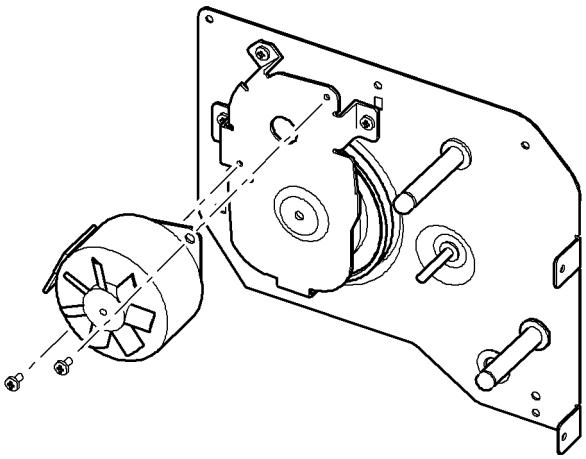

Figure 5

9. Remove 4 screws, then the motor bracket, Figure 6.

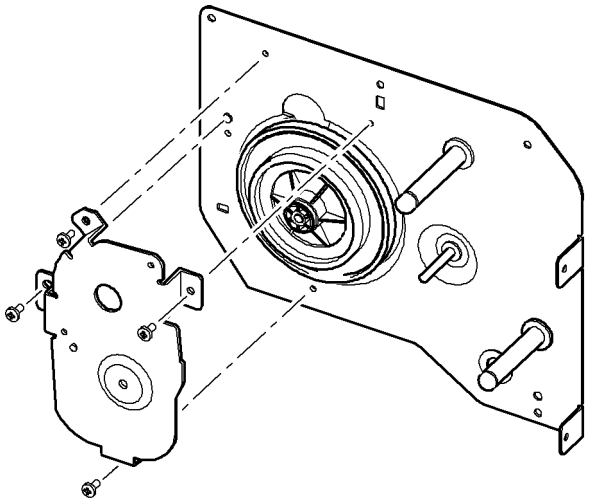

Figure 6

10. Remove the RDCN gear 139/83 gear, Figure 7.

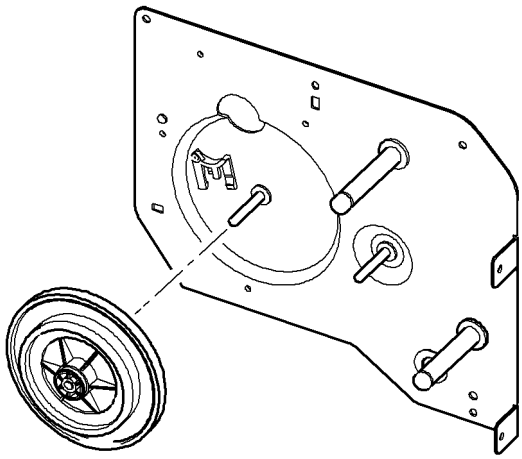

Figure 7

Replacement

1. When replacing the main drive assembly, tighten the screws in the reverse order they are numbered.

Replacement is the reverse of the removal procedure.

REP 16.0 Fuser Assembly

Workcentre PE220

Parts list on PL 7.0

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

WARNING

Do not touch the fuser while it is hot.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Unplug the 2 connectors from the SMPS and Main PBA, Figure 1.

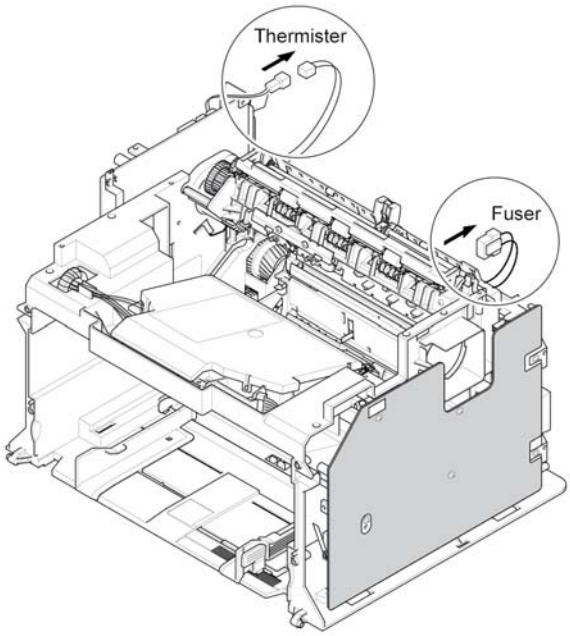

Figure 1

4. Remove 4 screws securing the fuser and remove it, Figure 2.

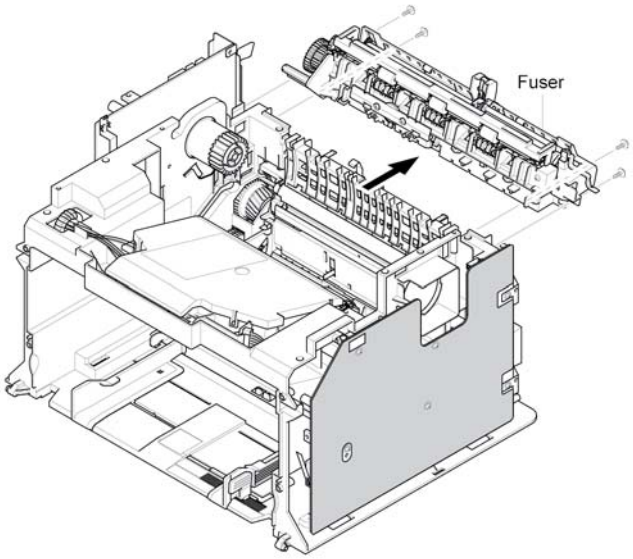

Figure 2

5. Remove the Lever-M-Act exit in the direction of arrow, Figure 3.

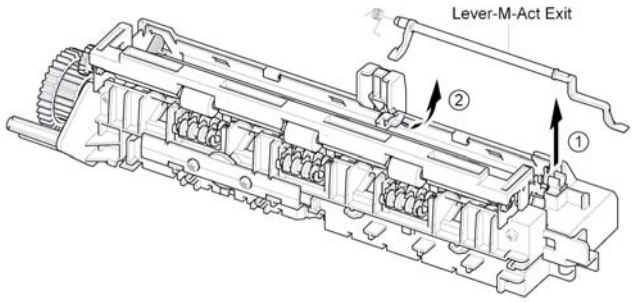

Figure 3

6. Remove the cover-M-safety, Figure 4.

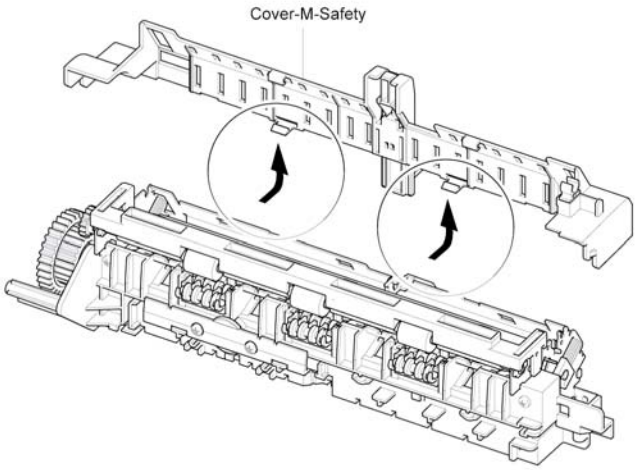

Figure 4

7. Remove the cover-M-guide Exit, Figure 5.

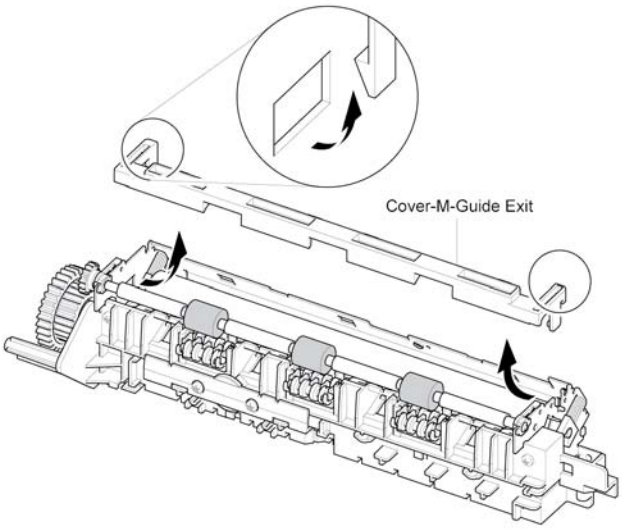

Figure 5

8. Rotate the holder in the direction of the arrow which is attached to the exit roller F/Down and exit gear (DRV17), Figure 6. (The roller_main, roller_FR, F/Down holder, spring will come out at the same time.)

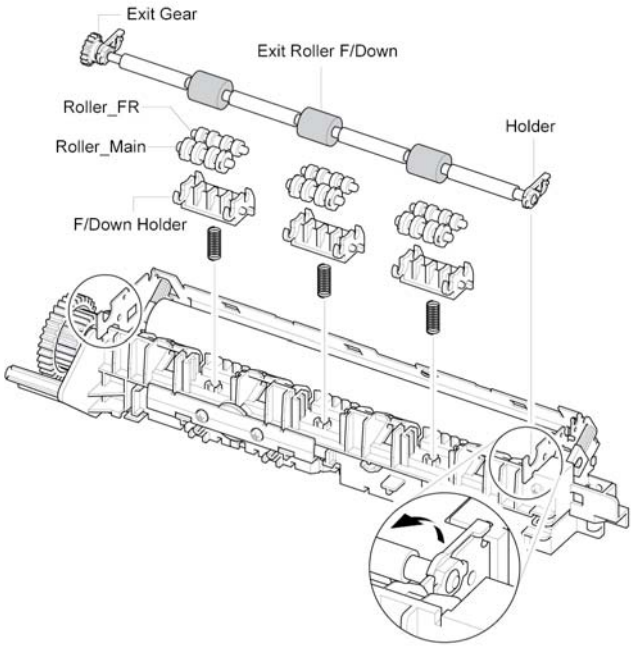

Figure 6

Note: *If you don't follow the direction above the Spring will come out forcing the Roller_Main, Roller_FR, F/Down Holder inside the Frame Assembly.*

9. Remove 2 screws securing the thermo cap and remove it, Figure 7.

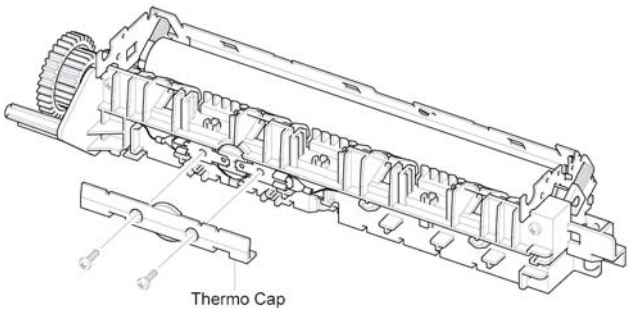

Figure 7

10. Pull out the thermostat and release the CBF harness, Figure 8.

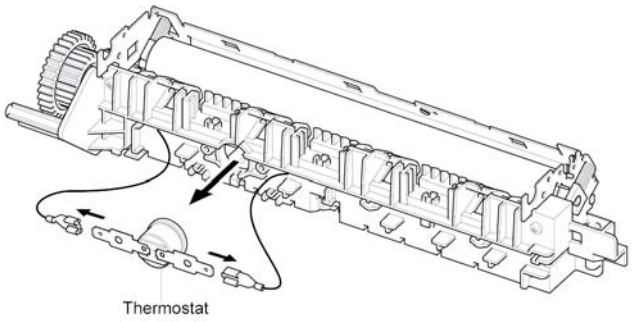

Figure 8

11. Remove the screw securing the harness then remove the thermistor, Figure 9.

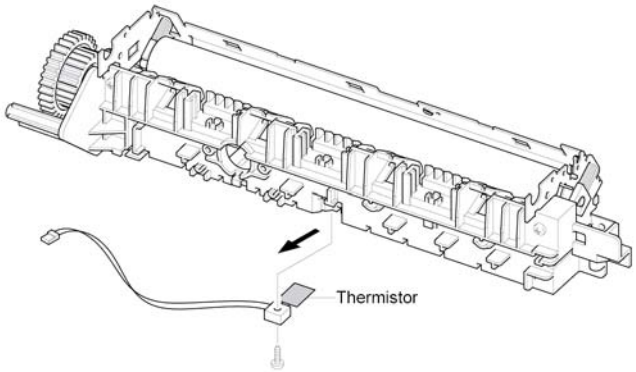

Figure 9

12. Release the CBF harness from the halogen lamp and remove 2 screws securing the halogen lamp, Figure 10.

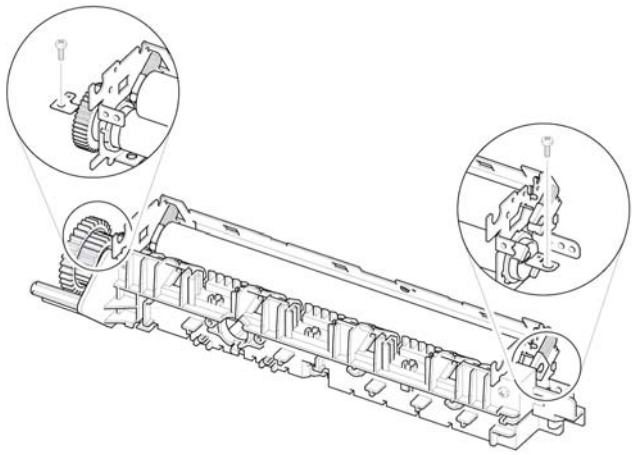

Figure 10

13. Remove 2 screws securing the cover-M and remove it, Figure 11.

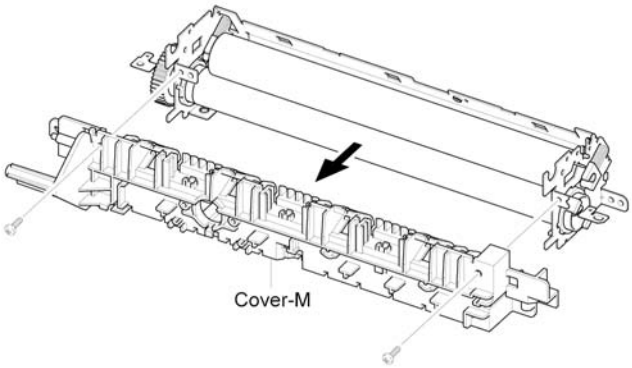

Figure 11

CAUTION

Do not touch the lamp body (glass). Contamination from your fingers can cause the lamp to fail.

14. Take out the halogen lamp in the direction of arrow, Figure 12.

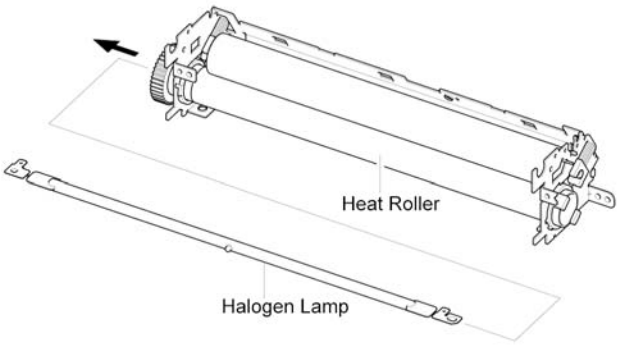

Figure 12

Replacement

Replacement is the reverse of the removal procedure.

REP 16.1 Fuser Assembly

Phaser 3200

Parts list on PL 7.1

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

WARNING

Do not touch the fuser while it is hot.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Unplug the 2 connectors from the SMPS and Main PBA, Figure 1.

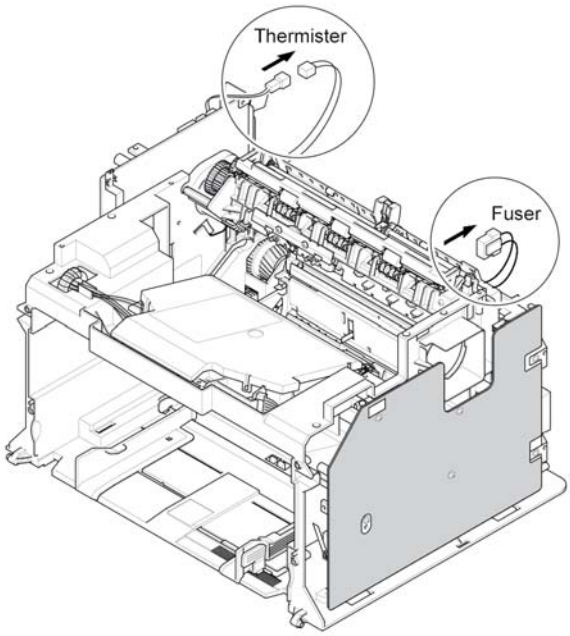

Figure 1

4. Remove 4 screws securing the fuser and remove it, Figure 2.

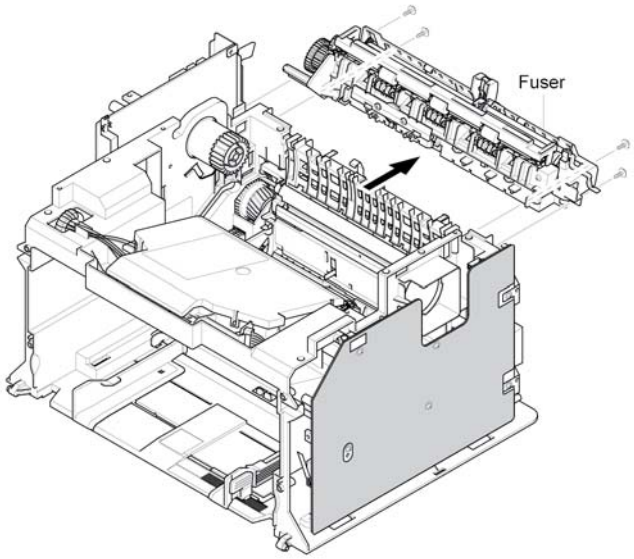

Figure 2

5. Remove the right lamp cover, left lamp cover and the fuser dummy, Figure 3.

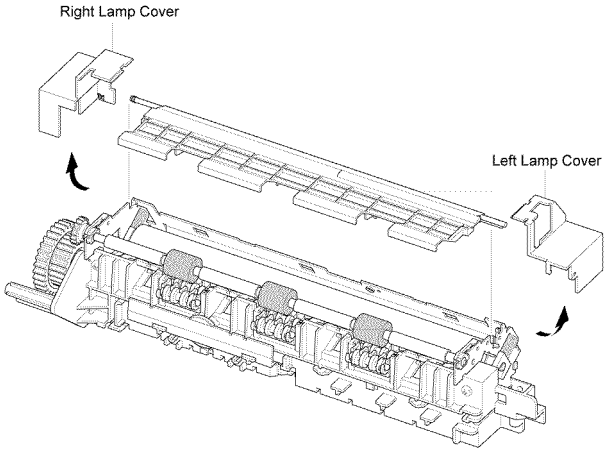

Figure 3

6. Unlatch the exit roller holders in the direction of the arrows. Remove the exit roller, Figure 4.

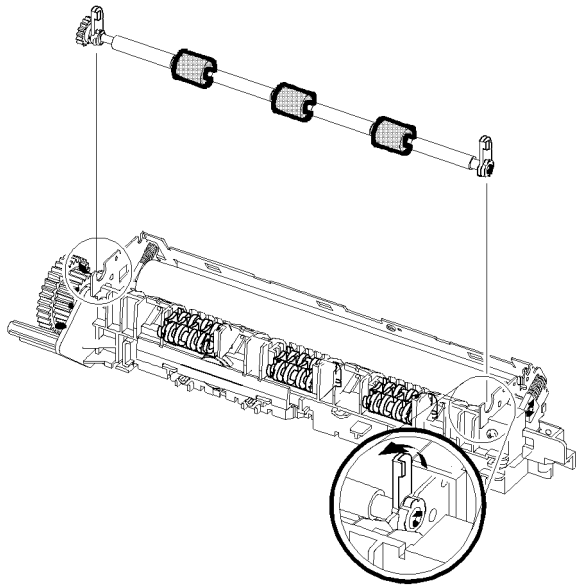

Figure 4

7. Remove the roller rack assemblies, Figure 5.

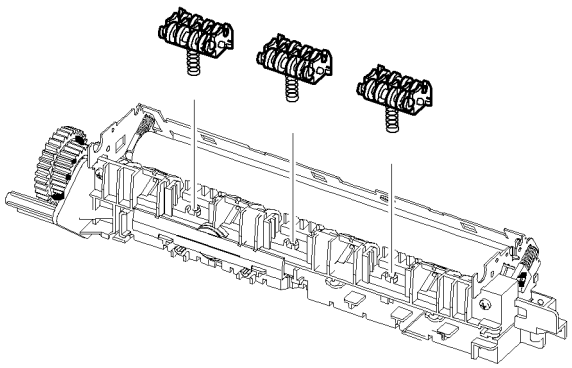

Figure 5

8. Remove the 2 spring place holders, then the thermostat cap, Figure 6

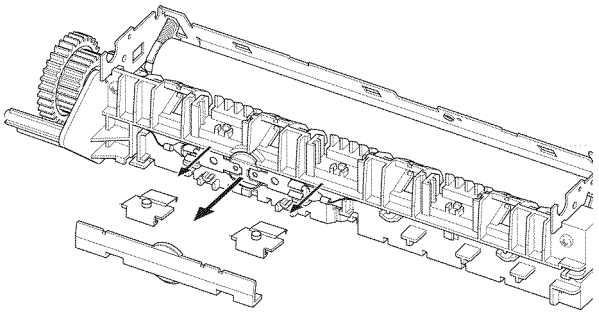

Figure 6

9. Disconnect the thermostat harnesses. Remove 2 screws, then the thermostat, Figure 7.

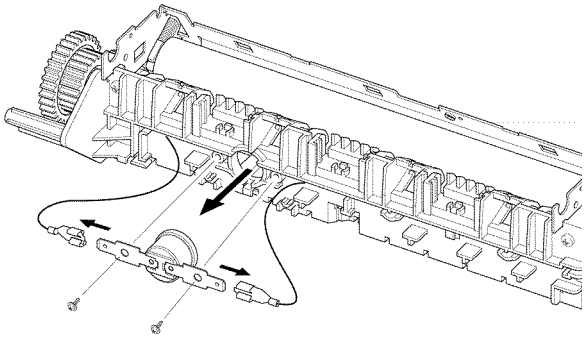

Figure 7

10. Disconnect 1 screw, then remove the thermistor, Figure 8.

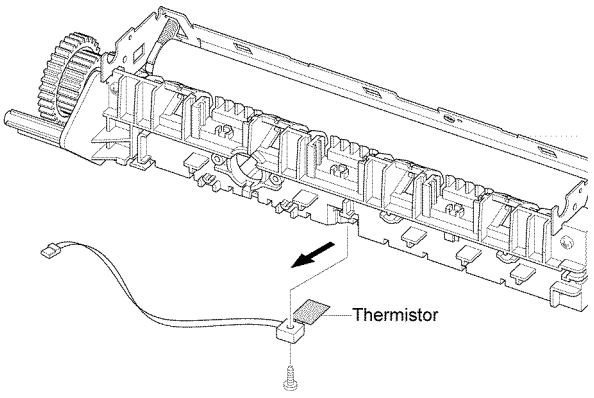

Figure 8

11. Disconnect the halogen lamp harnesses, then remove 2 screws, Figure 9.

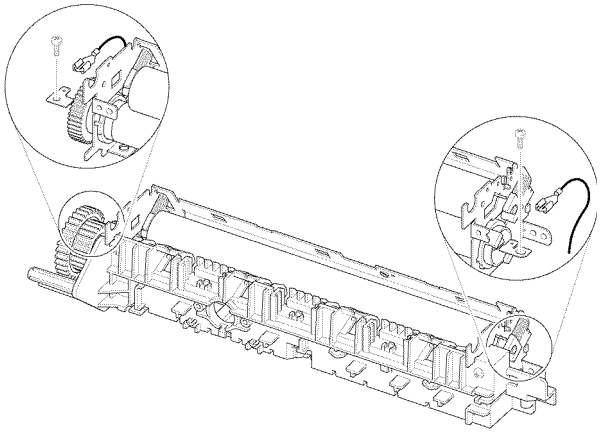

Figure 9

12. Remove 4 screws, then the fuser cover, Figure 10.

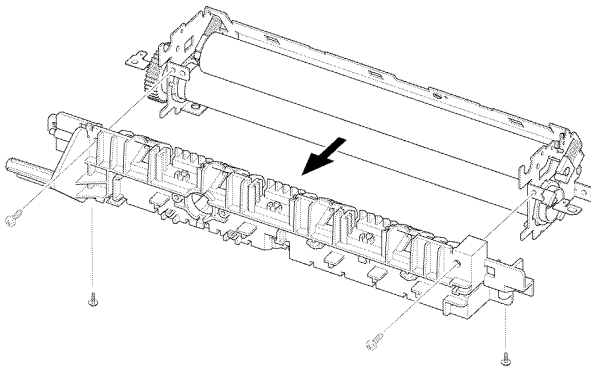

Figure 10

13. Slide the halogen lamp out of the fuser and remove the halogen lamp, Figure 11.

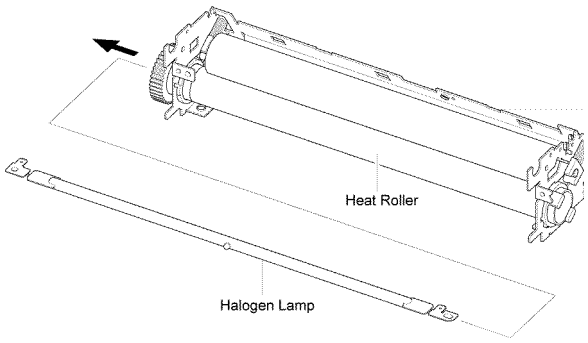

Figure 11

Replacement

Replacement is the reverse of the removal procedure.

REP 17 Engine Shield (LIU PBA, SMPS)

Parts list on:

- **PL 1.0 (Workcentre PE220)**
- **PL 1.1 (Phaser 3200)**

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Unplug all Connectors from the SMPS and LIU PBA, Figure 1.

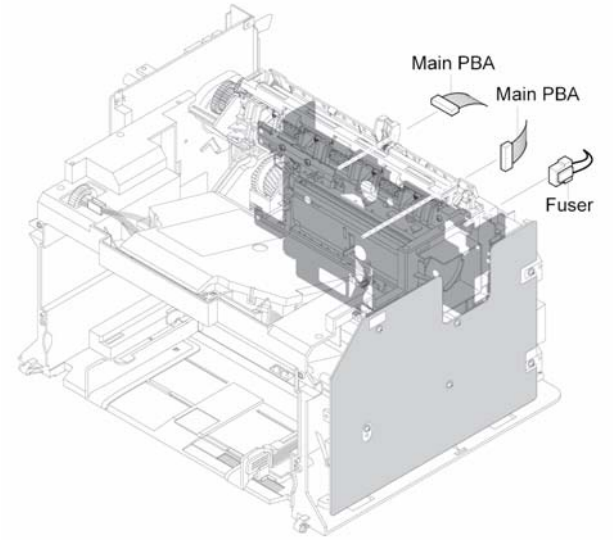

Figure 1

4. Carefully release the CRUM harness from the engine shield in the direction of the arrows, Figure 2.

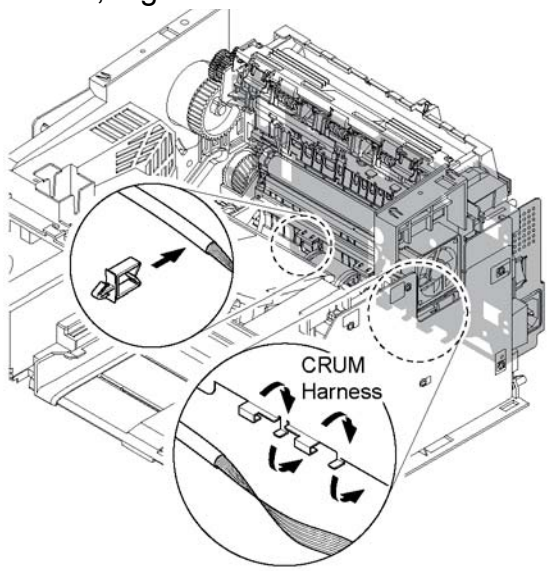

Figure 2

5. Remove 6 screws securing the engine shield and release the harness. Carefully release the engine shield from the actuator feed sensor lever, Figure 3.

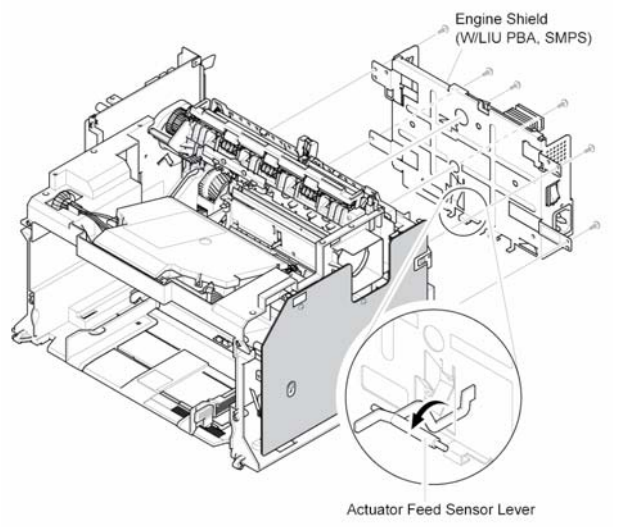

Figure 3

6. If only removing the SMPS, remove the rear cover, REP 5, and unplug the fuser connector. Remove 6 screws securing the SMPS. Unplug the connector from the main PBA and carefully release the SMPS, Figure 4.

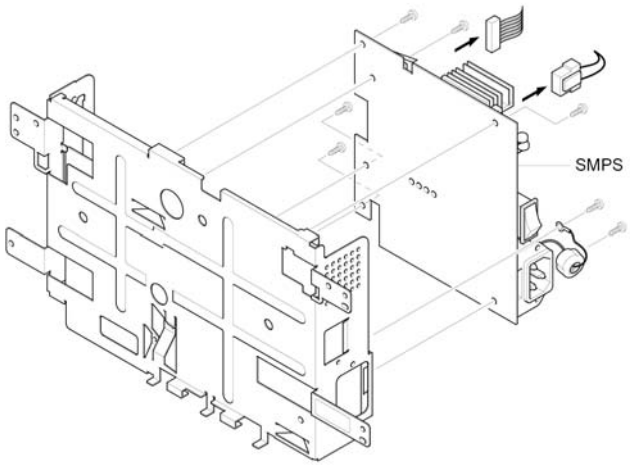

Figure 4

7. If only removing the LIU PBA, remove the rear cover, REP 5 and remove 2 screws securing the LIU PBA. Unplug the connector from the Main PBA and release the LIU PBA, Figure 5.

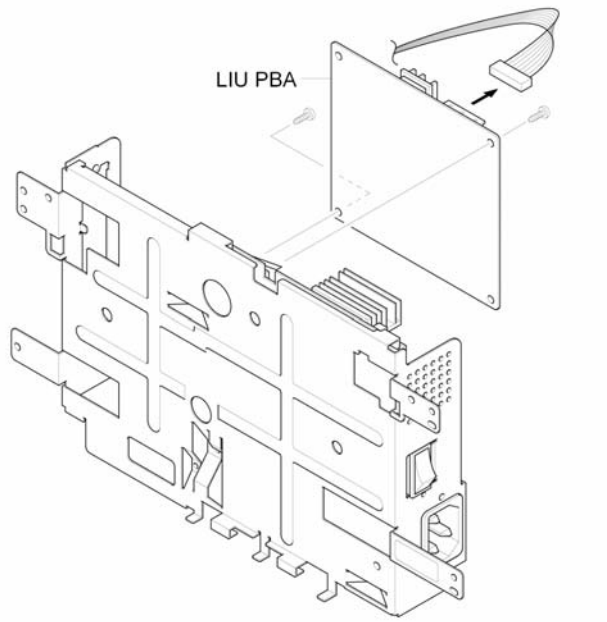

Figure 5

Replacement

Replacement is the reverse of the removal procedure.

REP 18 LSU

Parts list on:

- PL 1.0 (Workcentre PE220)
- PL 1.1 (Phaser 3200)

Note: *The illustrations show the Workcentre PE220 but the procedure is identical for the Workcentre PE220 and Phaser 3200.*

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

CAUTION

Do not touch the LSU Glass Window. Contamination on the LSU Glass Window can lead to Image Quality problems.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove 3 screws securing the LSU and remove it. Unplug the 2 connectors from the LSU, Figure 1.

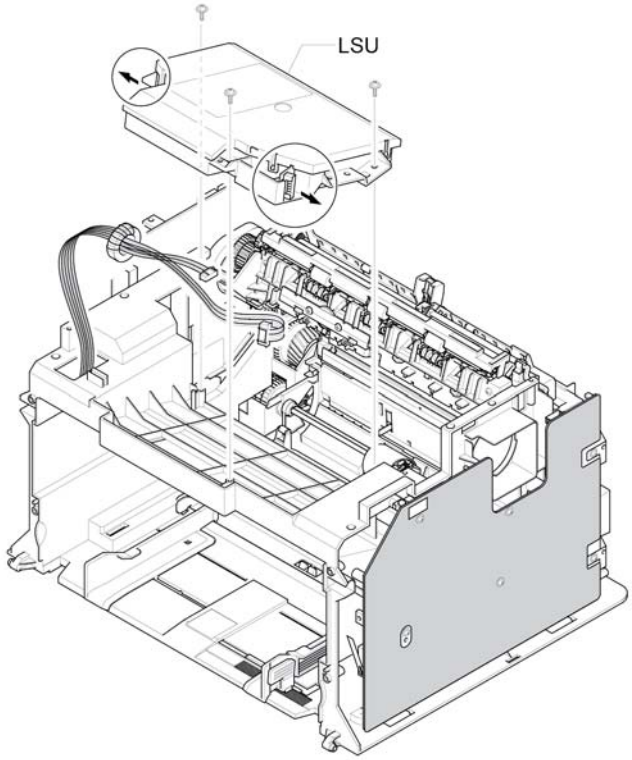

Figure 1

Replacement

Replacement is the reverse of the removal procedure.

REP 19.0 Paper Path Frame

Workcentre PE220

Parts list on PL 6.0

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove the fuser, REP 16.0.
4. Remove the engine shield, REP 17.
5. Remove 4 screws securing the paper path frame and remove it in the direction of the arrow, Figure 1.

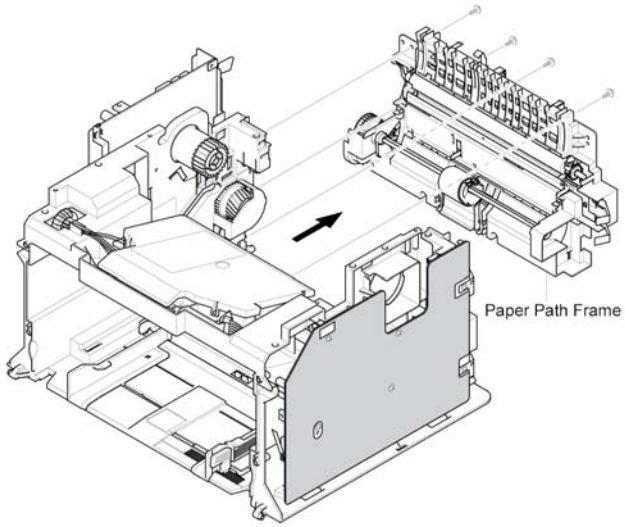

Figure 1

6. Remove the transfer roller from the frame, Figure 2.

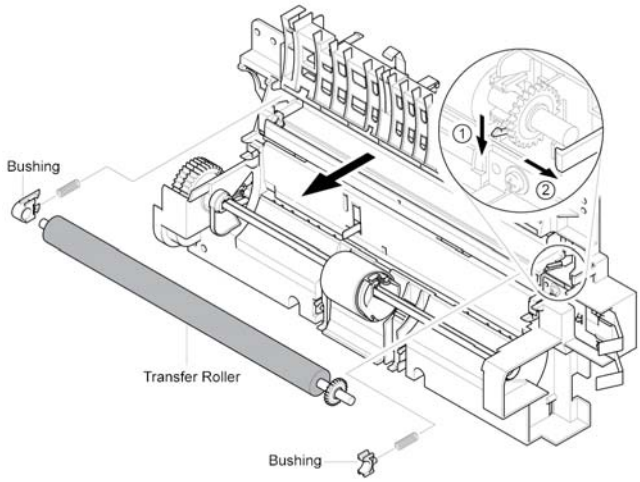

Figure 2

7. Remove the screw securing the solenoid-MP and remove it, Figure 3.

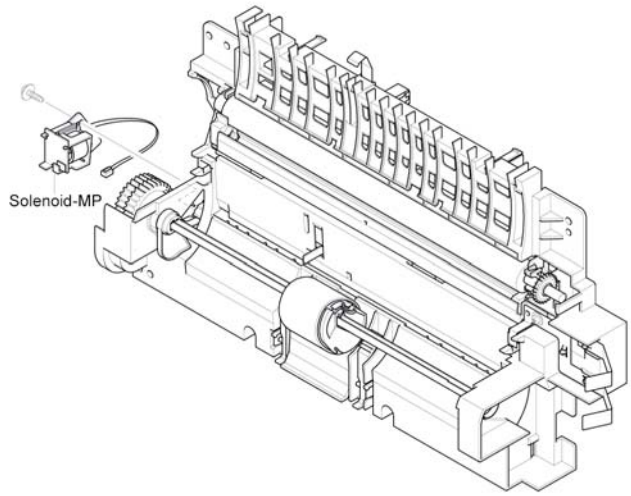

Figure 3

Replacement

Replacement is the reverse of the removal procedure.

REP 19.1 Paper Path Frame

Phaser 3200

Parts list on PL 6.1

WARNING

Switch off the electricity to the machine. Disconnect the power cord from the customer supply while performing tasks that do not need electricity. Electricity can cause death or injury. Moving parts can cause injury.

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove the fuser, REP 16.1.
4. Remove the engine shield, REP 17.
5. Remove 4 screws securing the paper path frame and remove it in the direction of the arrow, Figure 1.

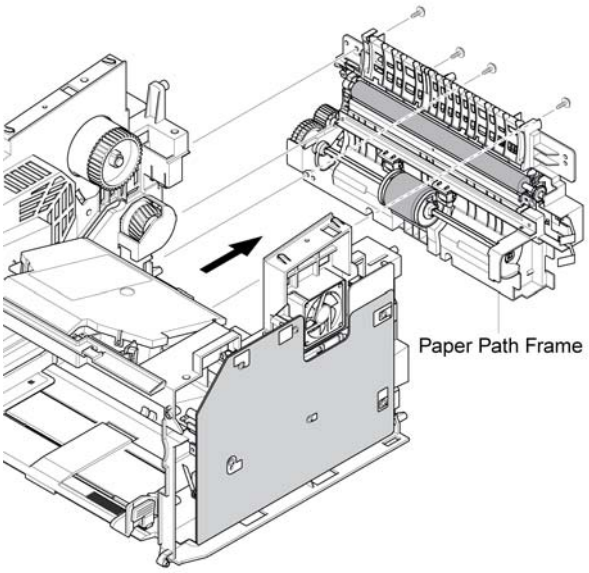

Figure 1

6. Unlatch the TR holder from the frame, then release the transfer roller in the direction of the arrow, Figure 2.

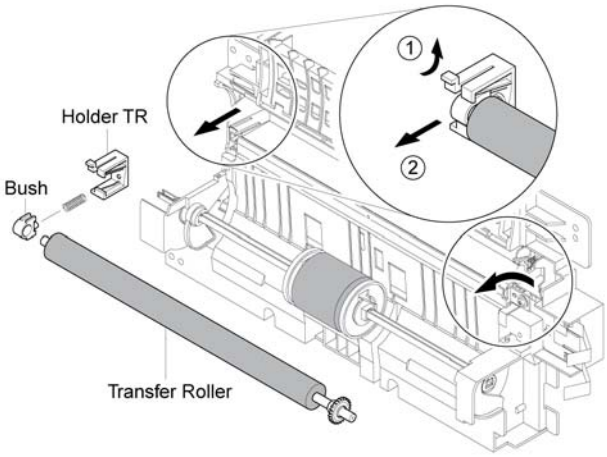

Figure 2

7. Unlatch the pick up gear and remove it, Figure 3.

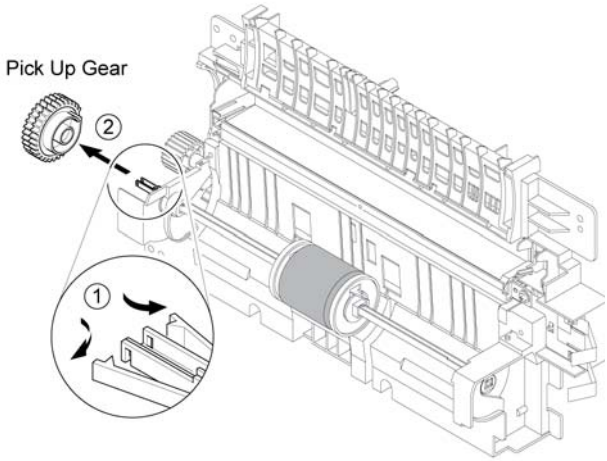

Figure 3

8. Unlatch the pick up cam by lifting the pick up cam notch and sliding it to the right.

Slide the whole pickup assembly to the left and remove it, Figure 4.

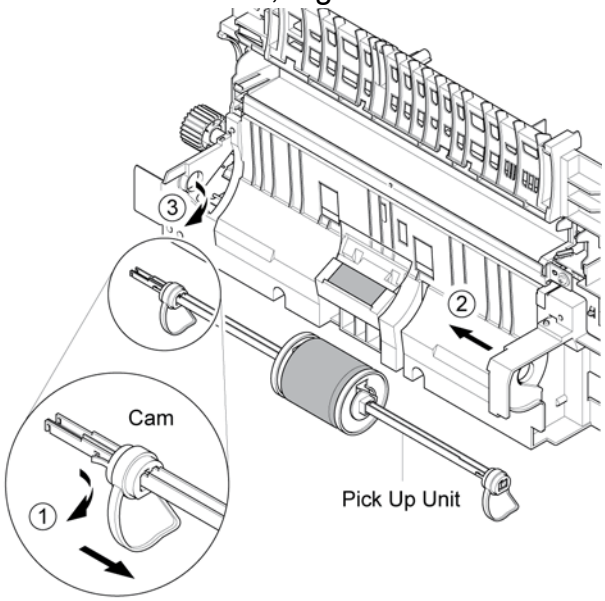

Figure 4

9. Remove the feed gear. Release the feed roller from the bush and remove it from the frame in the direction of the arrow, Figure 5.

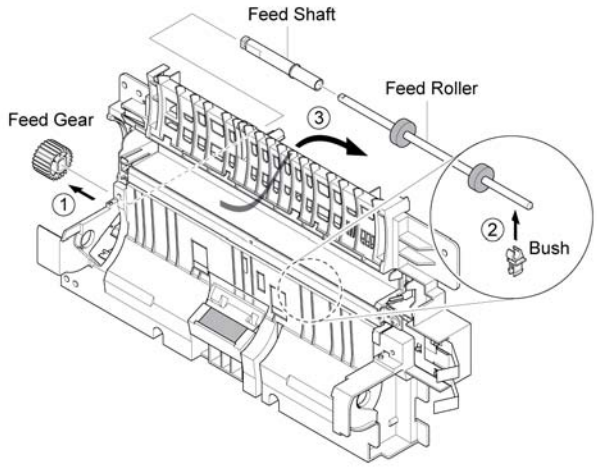

Figure 5

10. Remove the screw securing the solenoid-MP and remove it, Figure 6.

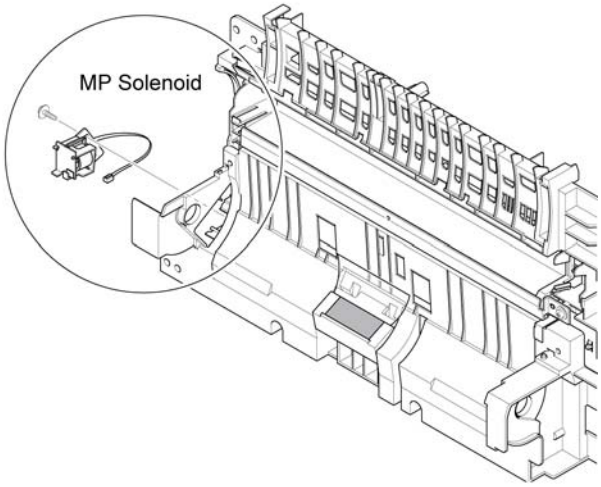

Figure 6

Replacement

Replacement is the reverse of the removal procedure.

REP 20 CRUM PBA

Phaser 3200

Parts list on PL 8.1

1. Remove the scan assembly, REP 8.
2. Remove the middle cover, REP 12.
3. Remove the HVPS, REP 13.1.
4. Remove 2 screws securing the CRUM housing and remove it, Figure 1.

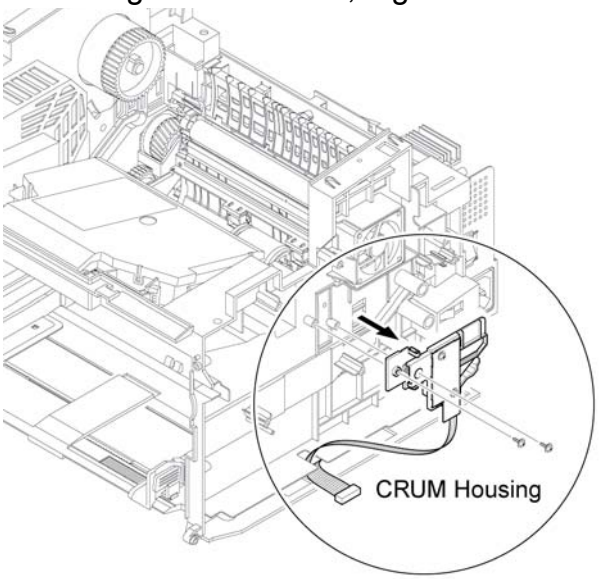

Figure 1

5. Disconnect 3 connectors from the main PBA and SMPS, Figure 2.

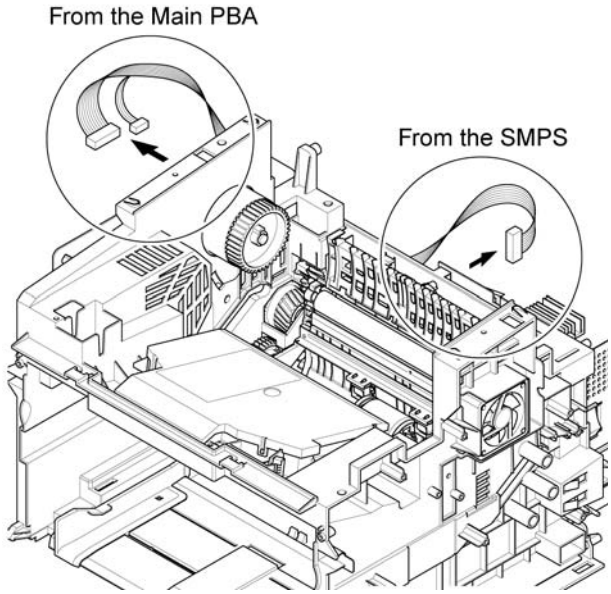

Figure 2

6. Carefully release the CRUM harness (with the CRUM PBA) below the bottom of the engine shield in the direction of the arrow, Figure 3.

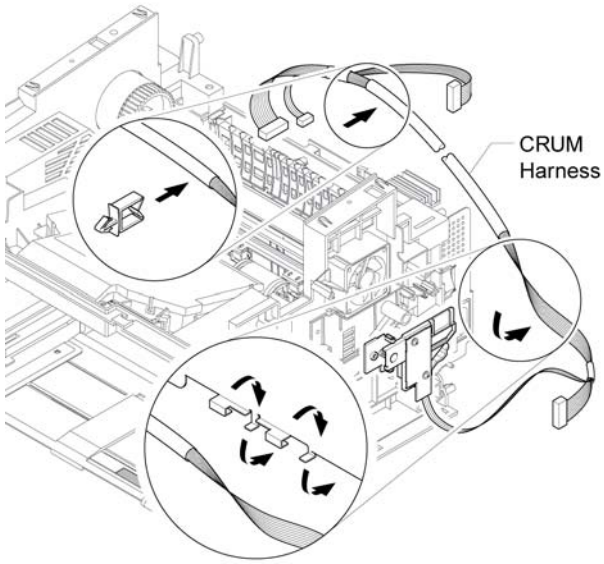

Figure 3

7. If necessary, remove 2 screws securing the CRUM PBA and remove it, Figure 4.

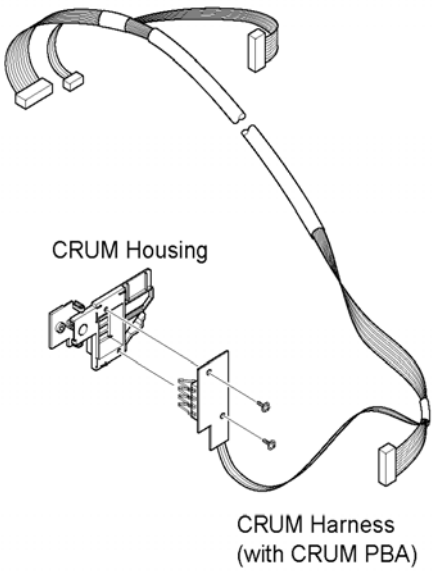

Figure 4

Replacement

Replacement is the reverse of the removal procedure.

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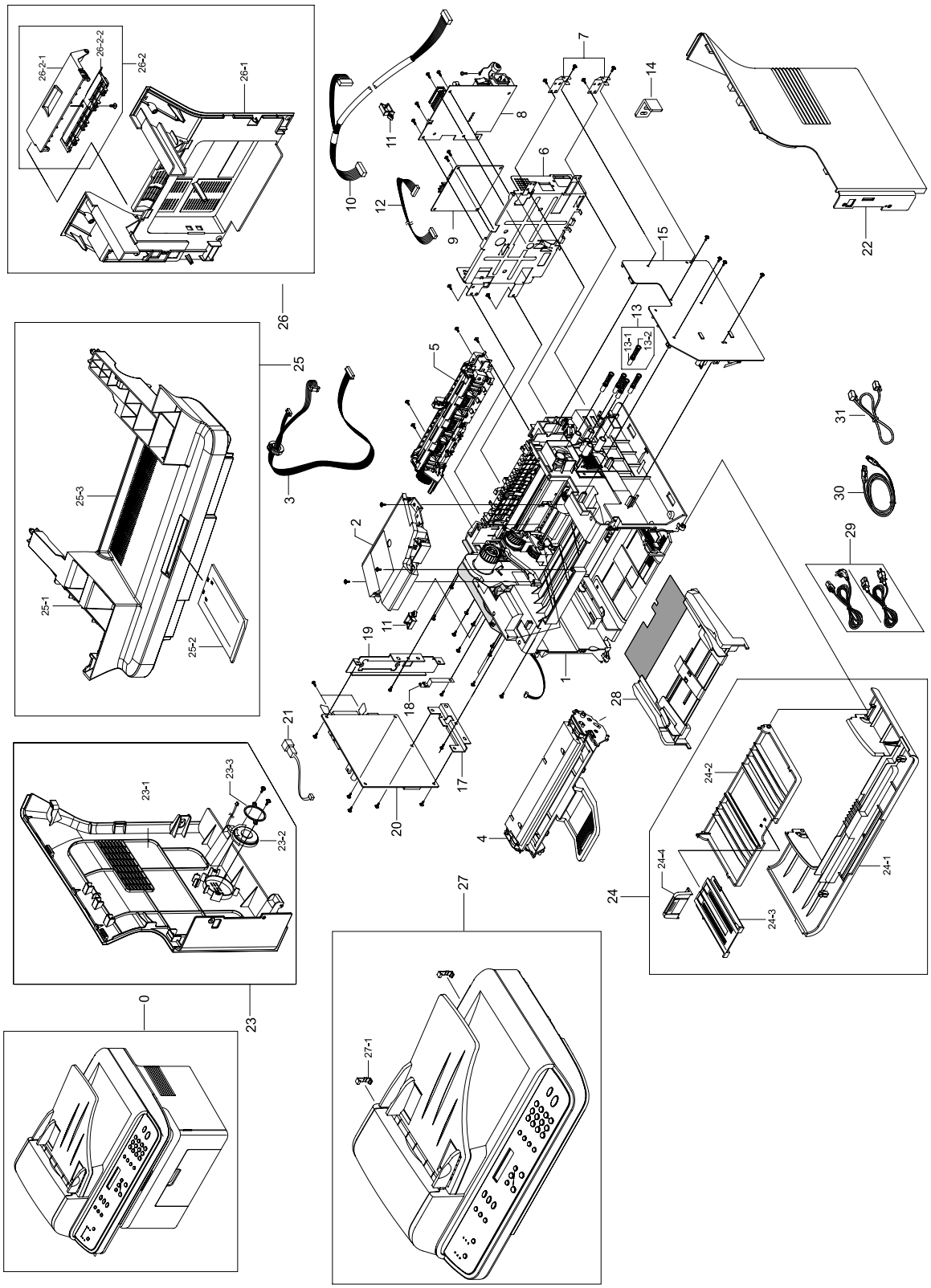
5. Spare Parts List

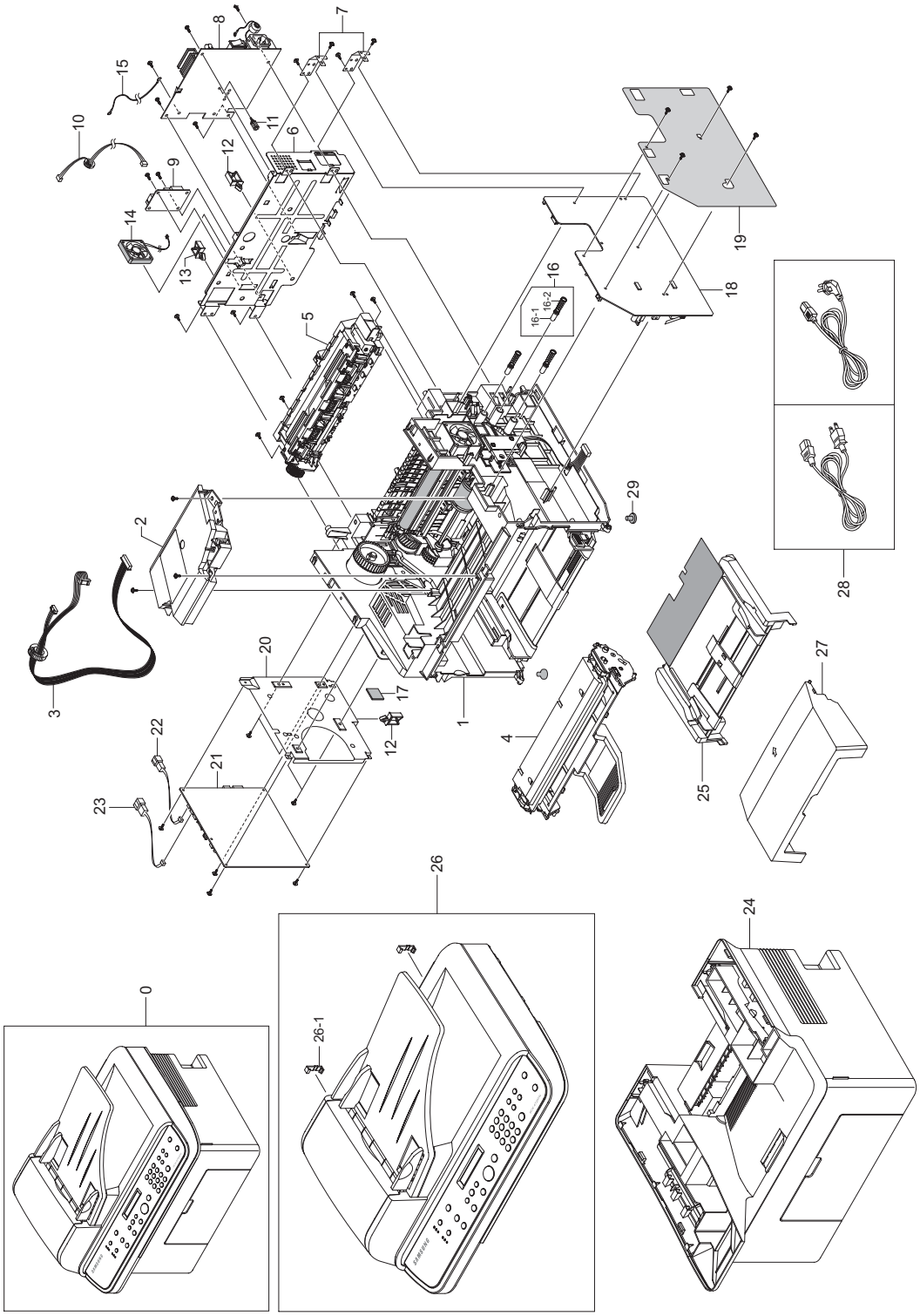
PL 1.0 Main Assembly (Workcentre PE220)



PL 1 Main Assembly (Workcentre PE220)

Item	Part Number	Description	Qt'y	Remark
0		SET		
1		ELA HOU-FRAME LOWER (REFER TO PL 8.0)	1	
2	122N00243	UNIT-LSU	1	
3		CBF HARNESS-LSU	1	
4		INITIAL(1K) TONER CARTRIDGE	1	
5	101N01380	FUSER_110V (REFER TO PL 7.0)	1	
5	101N01381	FUSER_220V (REFER TO PL 7.0)	1	
6		SHEILD-P-ENGINE	1	
7		GROUND-P-HVPS	2	
8	105N02066	SMPS 110V	1	
8	105N02067	SMPS 220V	1	
9	140N63039	PBA SUB-LIU WESTERN EUROPE	1	
9	140N63038	PBA SUB-LIU US/CANADA/SAUDI ARABIA/RUSSIA...	1	
10		CBF HARNESS HVPS	1	
11		HARNESS CLAMP	1	
12		CBF HARNESS LIU	1	
13	116N00244	ELA UNIT-TERMINAL TR L	5	
13-1		SPRING ETC-HV LARGE	1	
13-2		ICT-SHAFT HV LARGE	1	
14	015N00557	PLATE-P-CHANNEL	1	
15	105N02068	HVPS	1	
16	NOT USED			
17		BRACKET-P-MAIN BOARD	1	
18	117N01691	GROUND-P-MAIN BOARD	1	
19	030N00711	BRACKET-P-PORT	1	
20	140N63040	PBA MAIN	1	
21		ELA HOU-FULL SENSOR HARNESS	1	
22	002N02429	COVER-M-SIDE R	1	
23	002N02430	ELA HOU-COVER SIDE L	1	
23-1	002N02431	COVER-M-SIDE L	1	
23-2	130N01412	SPEAKER	1	
23-3		IPR-UNIT FIXING BRACKET	1	
24	002N02432	MEA-COVER FRONT	1	
24-1		COVER-M-FRONT	1	
24-2	050N00480	TRAY-M-CASSETTE	1	
24-3		TRAY-M-EXTENSION LARGE	1	
24-4		TRAY-M-EXTENSION SMALL	1	
25	002N02433	ELA HOU-COVER MIDDLE	1	
25-1		COVER-M-MIDDLE	1	
25-2		PMO-M-STACKER	1	
25-3		SHEET-FAN	1	
26	002N02435	MEA UNIT-COVER REAR	1	
26-1		COVER-M-REAR	1	
26-2		MEA UNIT-COVER JAM	1	
26-2-1		COVER-M-JAM	1	
26-2-2		COVER-M-JAM DUMMY	1	
27	002N02435	ELA HOU-SCAN (ALSO REFER TO PL 2.0, PL 3.0 & PL 4.0)	1	
27-1	021N02251	CAP-M-HINGE	2	
28		MEA UNIT-MP TRAY (REFER TO PL 9.0)	1	
29		AC POWER CORD (US VER.) (REFER TO PL 10.0)	1	
30		USB CABLE (REFER TO PL 10.0)	1	
31		TELEPHONE LINE CORD (US VER.) (REFER TO PL 10.0)	1	

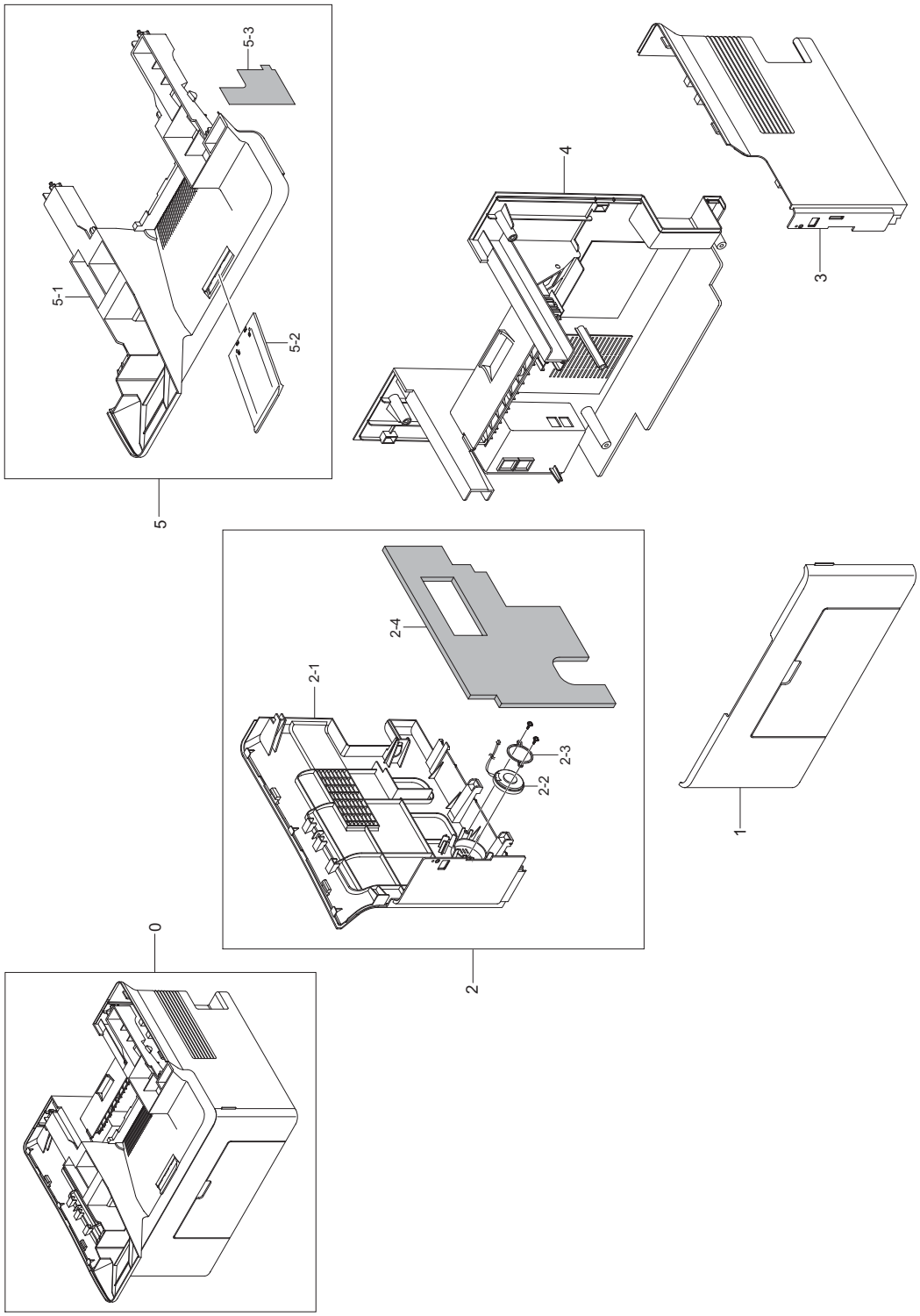
PL 1.1 Main Assembly (Phaser 3200)



PL 1.1 Main Assembly (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0		SET		
1		ELA HOU-FRAME LOWER (REFER TO PL 8.1)	1	
2	122N00272	UNIT-LSU	1	
3		CBF HARNESS-LSU	1	
4		INITIAL(1K) PRINT CARTRIDGE	1	
5	140N63272	FUSER_110V (REFER TO PL 7.1)	1	
5	140N63273	FUSER_220V (REFER TO PL 7.1)	1	
6		SHEILD-P-ENGINE	1	
7		GROUND-P-HVPS	2	
8	140N63278	SMPS 110V	1	
8	140N63273	SMPS 220V	1	
9	140N63189	PBA SUB-LIU WESTERN EUROPE	1	
9	140N63190	PBA SUB-LIU US/CANADA/SAUDI ARABIA/RUSSIA	1	
10		LIU HARNESS	1	
11		BOARD SUPPORT	1	
12		CABLE CLAMP	1	
13		CABLE CLAMP		
14		FAN-DC		
15		CBF HARNESS GROUND		
16	116N00244	ELA UNIT-TERMINAL TR L	5	
16-1		ICT-SHAFT HV LARGE	1	
16-2		SPRING ETC-HV LARGE	1	
17				
18	105N02138	HVPS	1	
19		HVPS SHEET		
20		PBA SHIELD		
21	140N63270	MAIN PBA (PHASER 3200MFP/B)		
21	140N63271	MAIN PBA (PHASER 3200MFP/N)		
22		CBF HARNESS-THERMISTOR		
23		HARNESS SENSOR-JOINT		
24		COVER ASSEMBLY (REFER TO PL 1.2)		
25		MEA UNIT-MP TRAY (REFER TO PL 9.0)		
26	002N02696	ELA HOU-SCAN (REFER TO PL 2.0, PL 3.0 & PL 4.0)		
26-1		CAP-M-HINGE		
27	002N02697	PAPER COVER		
28		CBF-POWER CORD (REFER TO PL 10.0)		
28		CBF-POWER CORD (REFER TO PL 10.0)		
29		PLASTIC FOOT		

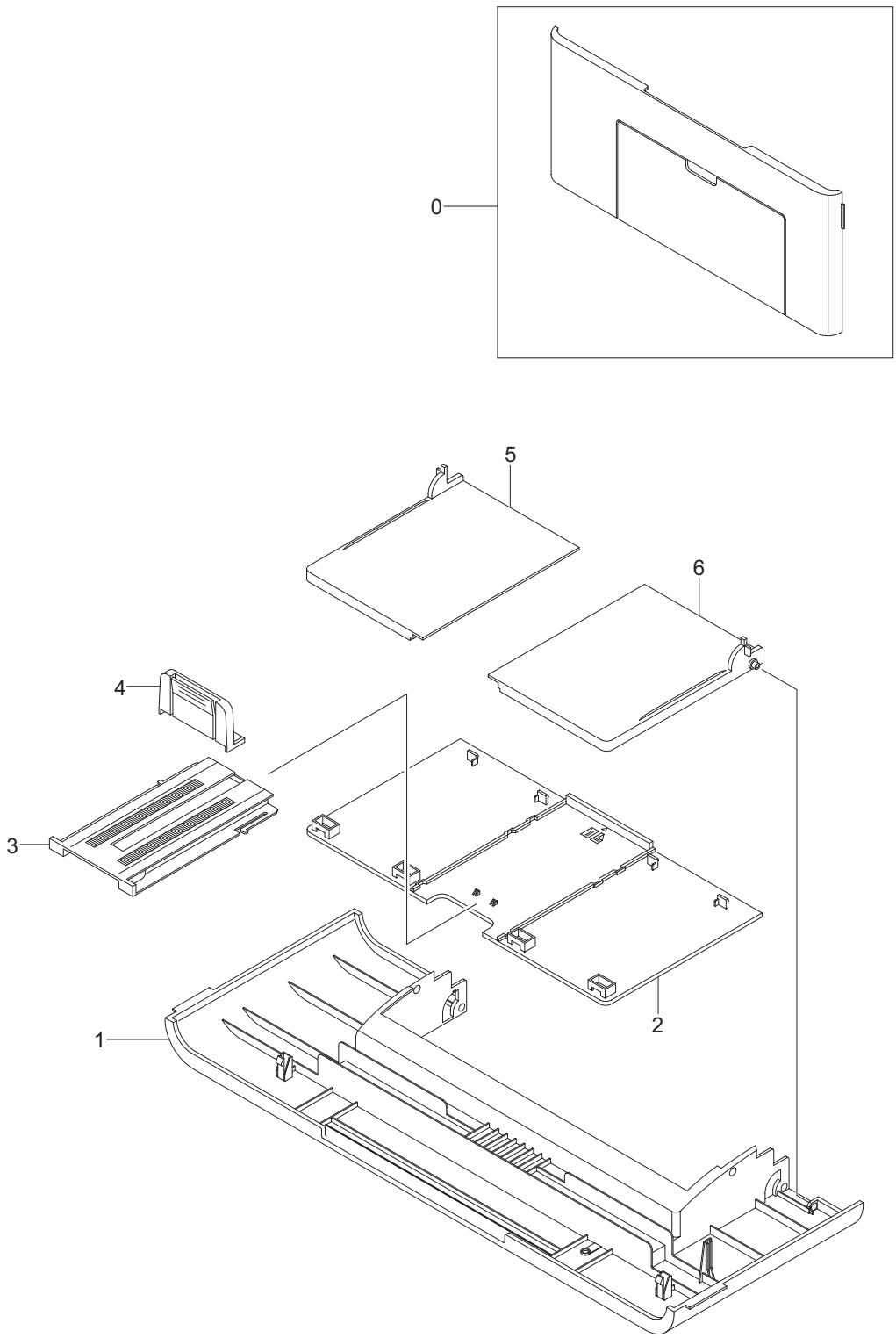
PL 1.2 Cover Assembly (Phaser 3200)



PL 1.2 Cover Assembly (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0		ELA HOU COVER		
1		FRONT COVER ASSEMBLY (REFER TO PL 1.3)		
2		ELA HOU COVER SIDE L		
2-1	002N02689	COVER-SIDE_L		
2-2	130N01412	SPEAKER		
2-3		IPR-UNIT FIXING BRACKET		
2-4		SPONGE		
3	002N02688	COVER-SIDE_R		
4		REAR COVER ASSEMBLY (REFER TO PL 1.4)		
5	002N02691	MEA-COVER_MIDDLE		
5-1		COVER-MIDDLE		
5-2		PMO-STACKER		
5-3		SHEET-FAN		

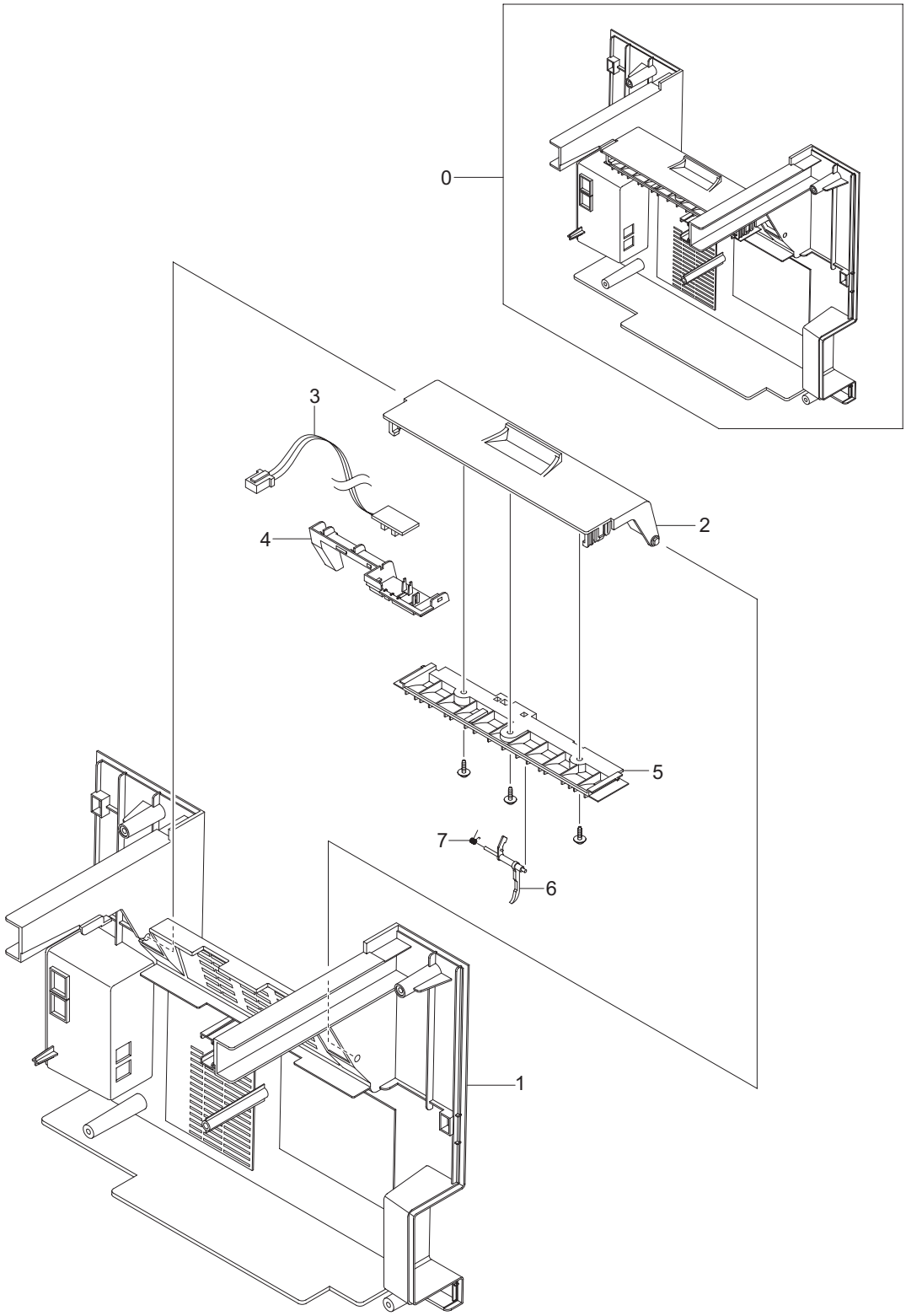
PL 1.3 Front Cover Assembly (Phaser 3200)



PL 1.3 Front Cover Assembly (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0	002N02690	MEA-COVER_FRONT		
1		COVER-FRONT		
2	050N00517	TRAY-CASSETTE_LOWER		
3		TRAY-EXTENSION_L		
4		TRAY-M_EXTENSION S		
5		TRAY-CASSETTE_R		
6		TRAY-CASSETTE_L		

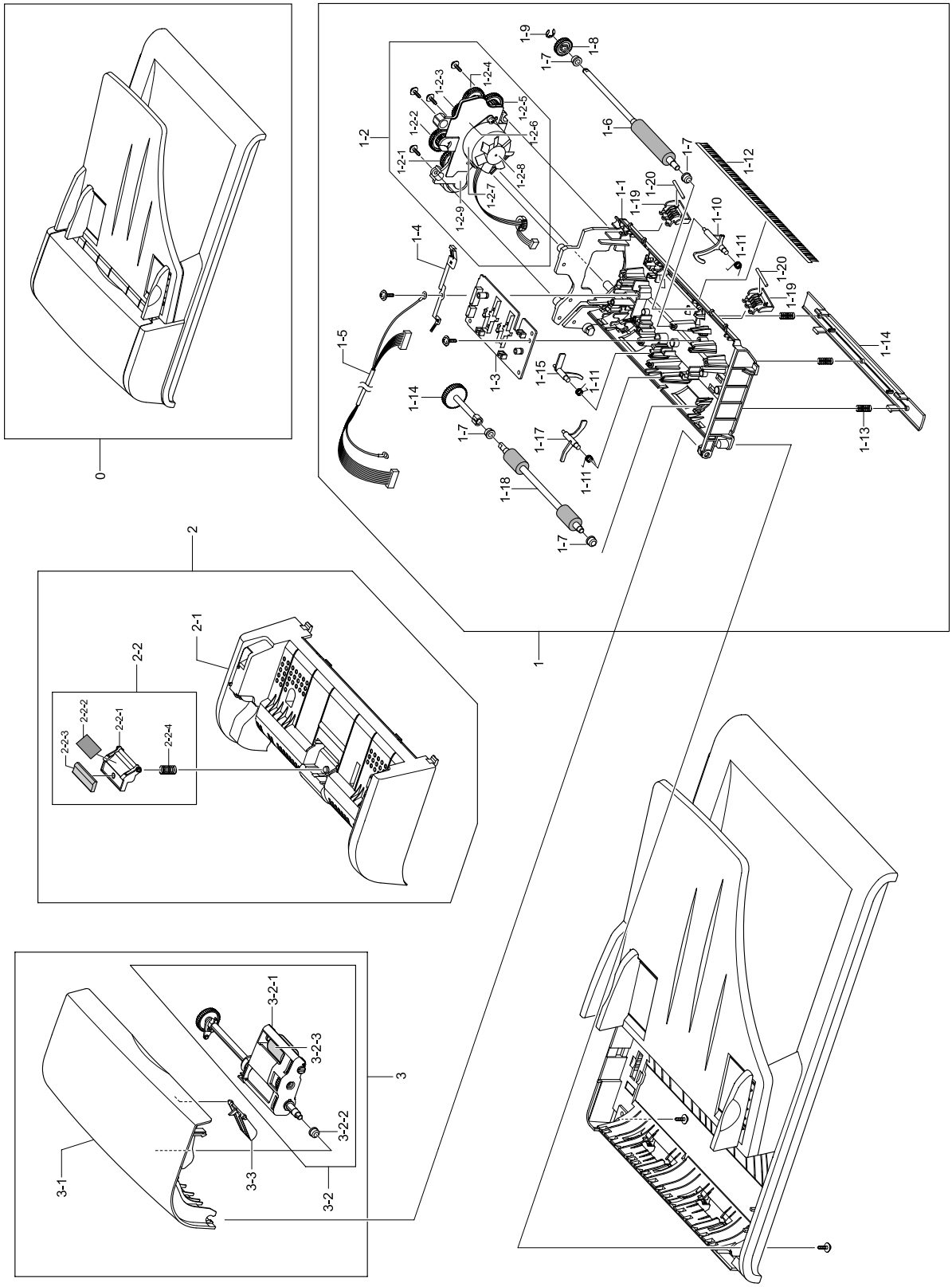
PL 1.4 Rear Cover Assembly (Phaser 3200)



PL 1.4 Rear Cover Assembly (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0	002N02692	ELA-HOU-COVER REAR		
1		COVER-REAR		
2	002N02693	COVER-JAM		
3		PBA SUB-SENSOR		
4		CAP-JAM		
5	002N02694	COVER-FUSER REAR		
6		EXIT SENSOR ACTUATOR		
7		SPRING ETC-LEVER SENSOR		

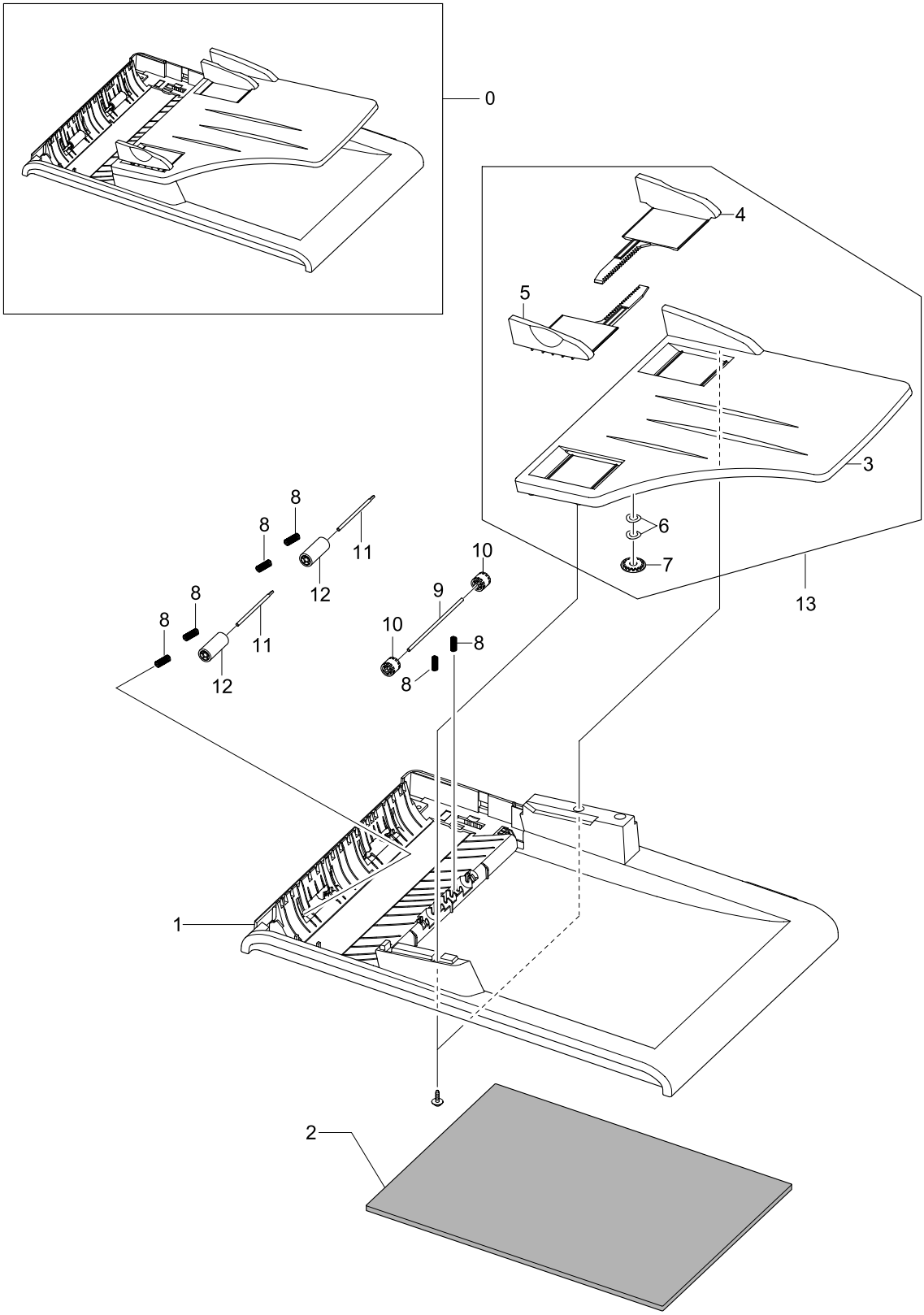
PL 2.0 ADF Assembly



PL 2.0 ADF Assembly

Item	Part Number	Description	Qt'y	Remark
0	002N02441	ELA HOU-ADF	1	
1	002N02444	ELA HOU-ADF LOWER (WORKCENTRE PE220)	1	
1	002N02695	ELA HOU-ADF LOWER (PHASER 3200)		
1-1		COVER-M-ADF LOWER	1	
1-2	002N02445	ELA HOU-ADF MOTOR	1	
1-2-1		GEAR-IDLE 35 ADF	3	
1-2-2	007N01369	GEAR-CLUTCH 39	1	
1-2-3		GEAR-SWING 31/20 ADF	1	
1-2-4		GEAR-58/25 ADF	1	
1-2-5	007N01370	GEAR-40/21 ADF	2	
1-2-6		BRACKET-P-MOTOR	1	
1-2-7		MOTOR STEP-ADF	1	
1-2-8		IMPELLER-ADF	1	
1-2-9		BRACKET-M-GEAR	1	
1-3	140N63041	PBA SUB-ADF	1	
1-4		GROUND-P-ADF	1	
1-5		CBF HARNESS-ADF	1	
1-6		ROLLER-DRIVE	1	
1-7	013N13842	PMO-BUSH	4	
1-8	007N01368	SHAFT-M-FEED GEAR 38	1	
1-9		RING-C	1	
1-10	130N01413	PMO-ACTUATOR SCAN SENSOR	1	
1-11	009N01512	SPRING-CS	3	
1-12	115N00856	MEC-BRUSH ANTISTATIC	1	
1-13	009N01513	SPRING ETC-TORSION DOC (CC2-F)	3	
1-14	015N00559	PLATE-M_WHITE BAR	1	
1-15		PMO-ACTUATOR DOC SENSOR	1	
1-16		NOT USED	1	
1-17		PMO-ACTUATOR REGI SENSOR	1	
1-18		ROLLER-EXIT	1	
1-19		GUIDE-STACKER SUB	2	
1-20		SHAFT-IDLE FEED	2	
2	002N02446	MEA-ADF UPPER	1	
2-1		COVER-M-ADF UPPER	1	
2-2	500N00107	MEA UNIT-HOLDER ADF	1	
2-2-1		HOLDER-M-ADF	1	
2-2-2	019N00842	SHEET-ADF HOLDER	1	
2-2-3	019N00566	ADF RUBBER	1	
2-2-4	019N00843	SPRING ETC-PAD	1	
3	002N02447	MEA-COVER OPEN	1	
3-1		COVER-M-ADF OPEN	1	
3-2	130N01414	MEA UNIT PICKUP ADF	1	
3-2-1	022N02190	MEC-ADF ROLLER ASSEMBLY	1	
3-2-2	013N13842	PMO-BUSH	1	
3-2-3	022N02191	MEC-PICK UP ROLLER ASSEMBLY	1	
3-3	038N00462	PMO-GUIDE PAPER	1	

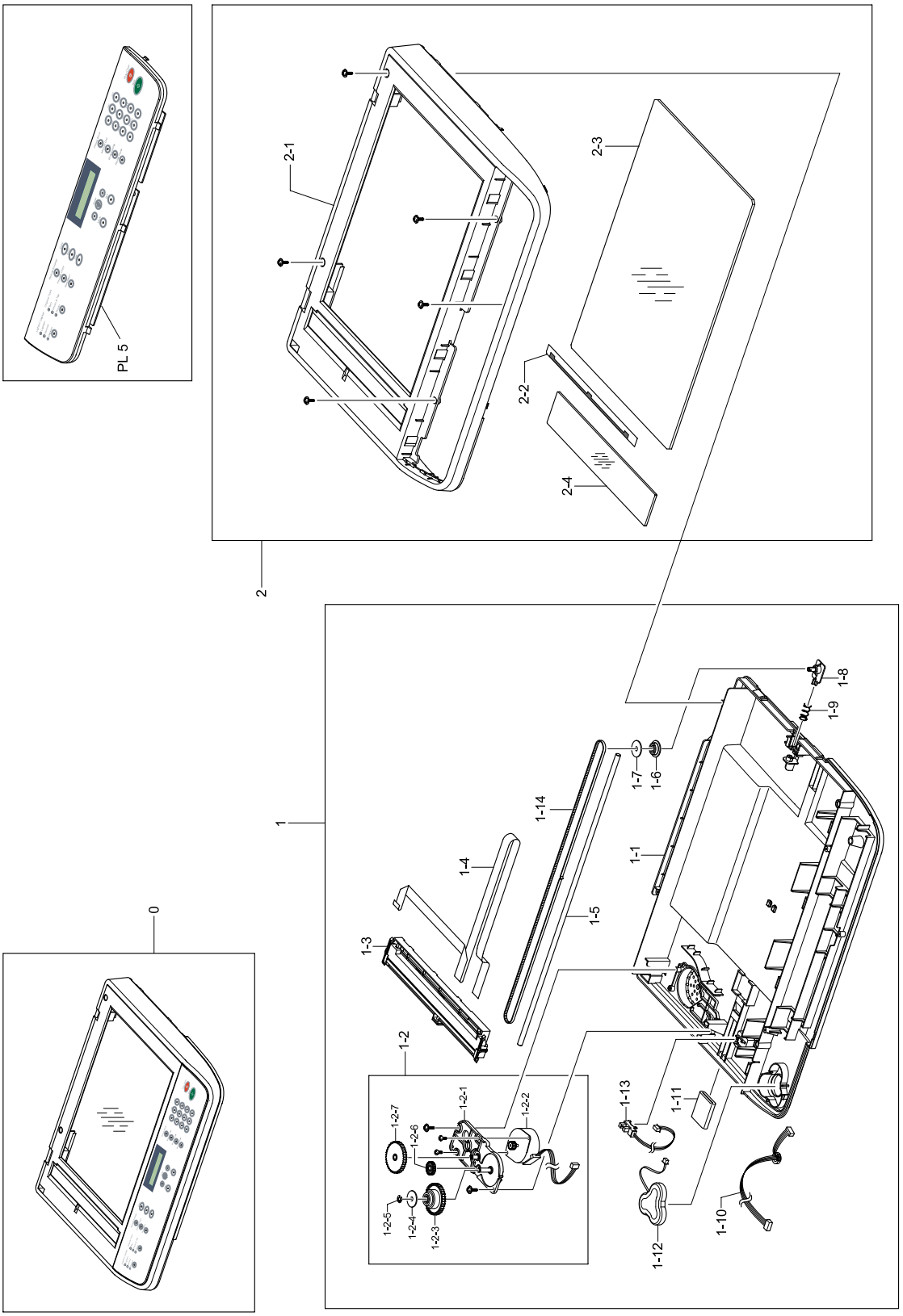
PL 3.0 Platen Cover Assembly



PL 3.0 Platen Cover Assembly

Item	Part Number	Description	Qt'y	Remark
0	002N02448	MEA-COVER PLATEN	1	
1	002N02436	COVER-M-PLATEN	1	
2	095N00274	SHEET-WHITE SPONGE	1	
3	038N00405	PMO-TX STACKER	1	
4	038N00410	PMO-DOC GUIDE (R)	1	
5	038N00406	PMO-DOC GUIDE (L)	1	
6	028N00321	IPR-WASHER SPRING CU	2	
7	007N01178	GEAR-PINION	1	
8	009N01514	SPRING ETC-FEED	6	
9		SHAFT PINCH	1	
10	022N02014	PMO-ROLL PINCH	2	
11		SHAFT-IDLE FEED	2	
12	022N02019	RPR-ROLLER EXIT IDLE	2	
13	050N00479	MEA-TX STACKER	1	

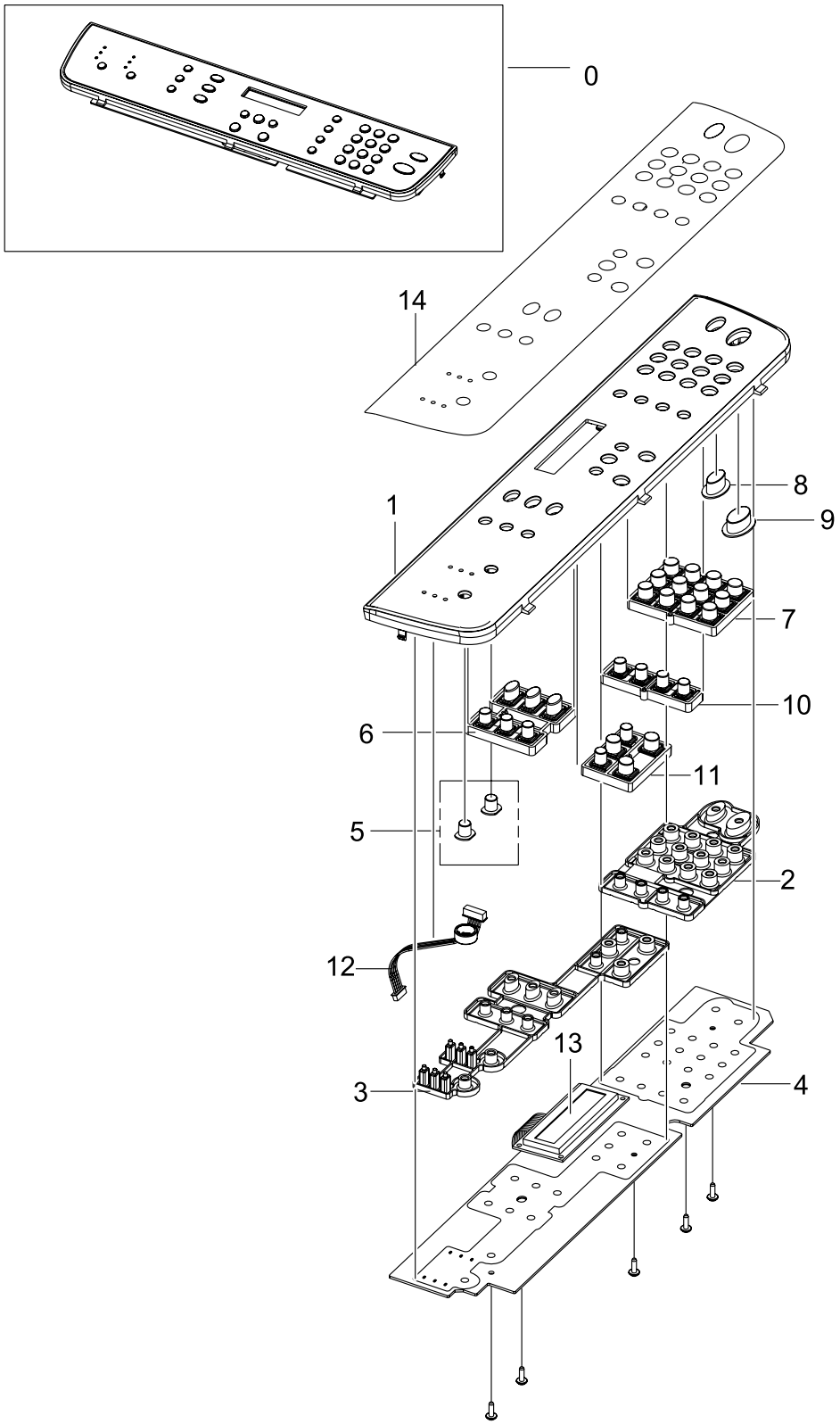
PL 4.0 Platen Assembly



PL 4.0 ADF Platen Assembly

Item	Part Number	Description	Qt'y	Remark
0	002N02443	ELA HOU-PLATEN (WORKCENTRE PE220)	1	
0	090N00165	ELA HOU-PLATEN (PHASER 3200)	1	
1	002N02449	ELA HOU-SCAN LOWER (WORKCENTRE PE220)	1	
1	002N02698	ELA HOU-SCAN LOWER (PHASER 3200)	1	
1-1	002N02450	COVER-M-SCAN LOWER	1	
1-2	101N01345	ELA HOU-SCAN MOTOR	1	
1-2-1		BRACKET-M-SCAN MOTOR	1	
1-2-2	127N07398	MOTOR STEP-SCAN	1	
1-2-3		GEAR-TIMING	1	
1-2-4		PMO-HOLDER BELT	1	
1-2-5		RING-E	1	
1-2-6		GEAR-IDLE	1	
1-2-7		GEAR-REDUCTION	1	
1-3	130N01415	CONTACT IMAGE SENSOR (CIS)	1	
1-4		CBF SIGNAL-CIS FFC	1	
1-5		SHAFT-CIS	1	
1-6	023N01140	PMO-HOLDER BELT_1	1	
1-7		PMO-HOLDER BELT_2	1	
1-8		PMO-PULLEY	1	
1-9	009N01515	SPRING ETC-BELT	1	
1-10		HARNESS	1	
1-11	121N01112	ELA UNIT-CORE	1	
1-12		BATTERY	2	
1-13	152N11632	ELA HOME-FULL SENSOR HARNESS	1	
1-14	109N00542	BELT-TIMING GEAR	1	
2	109N00650	MEA-SCAN UPPER	1	
2-1	002N02438	COVER-M-SCAN UPPER	1	
2-2	091N80223	LABEL (P) SHADING	1	
2-3	090N00161	GLASS-PLATEN	1	
2-4	062N00266	GLASS-ADF	1	

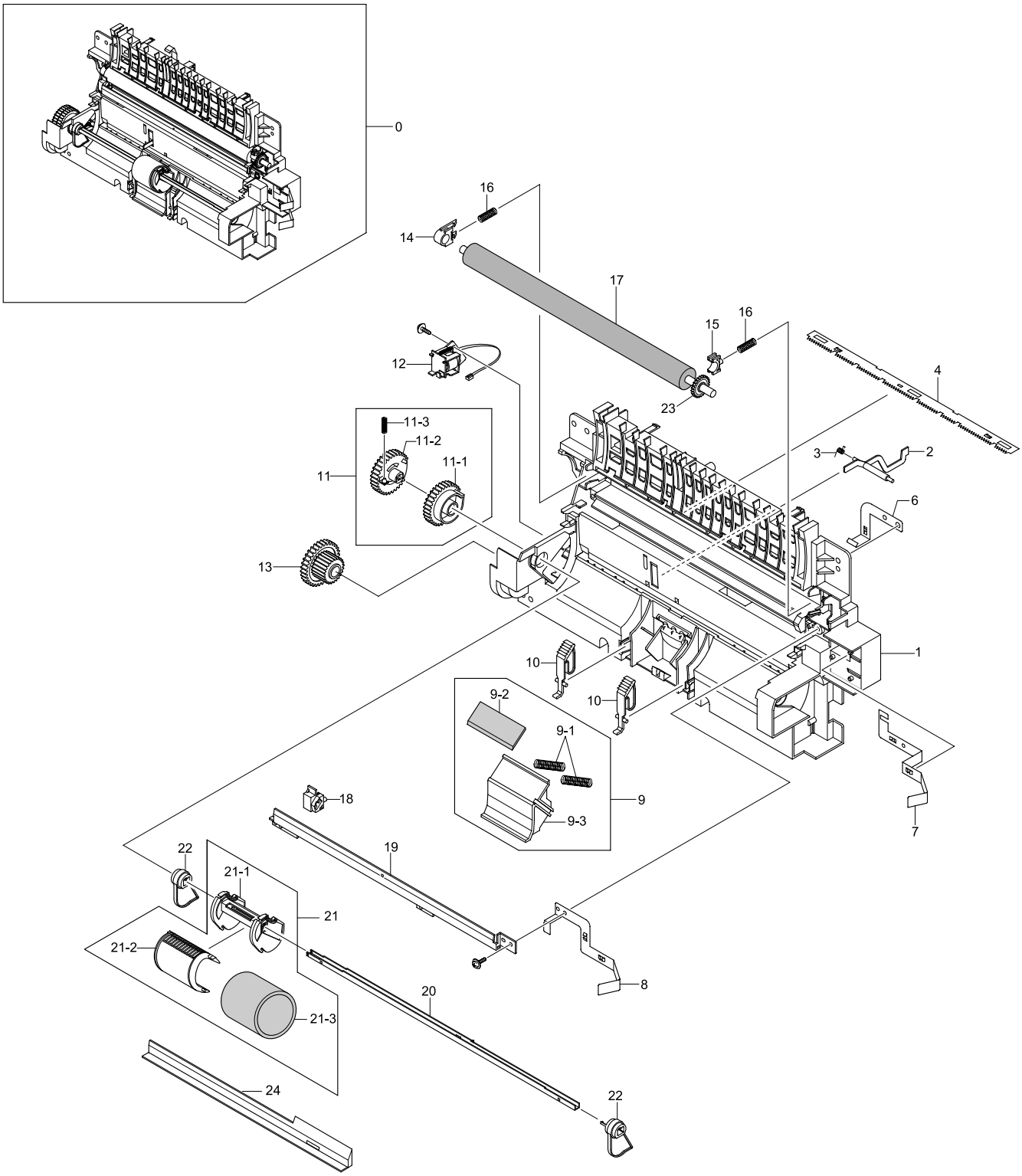
PL 5.0 OPE Unit



PL 5.0 OPE Unit

Item	Part Number	Description	Qt'y	Remark
0	002N02442	ELA HOU-OPE (WORKCENTRE PE220)	1	
0	002N02699	ELA HOU-OPE (PHASER 3200)	1	
1	002N02437	COVER-M-OPE	1	
2	110N01390	RUBBER-TEL	1	
3	110N01391	RUBBER-SCROLL	1	
4	140N63042	PBA SUB-OPE	1	
5	003N00972	KEY-M_SHIFT	1	
6	029N00367	KEY-M_STATUS	1	
7	003N00969	KEY-M_TEL_R2_XRX	1	
8	003N00893	KEY-M-STOP	1	
9	003N00970	KEY-M_START_XRX	1	
10	029N00368	KEY-M_FAX	1	
11	029N00380	KEY-M_SCROLL_R2X	1	
12	152N11627	CBF HARNESS-OPE	1	
13		LCD DISPLAY	1	
14	002N02421	SHEET-OVERLAY ENGLISH (WORKCENTRE PE220)	1	
14	002N02422	SHEET-OVERLAY SPANISH (WORKCENTRE PE220)	1	
14	002N02423	SHEET-OVERLAY BRAZILIAN PORTUGUESE (WORKCENTRE PE220)	1	
14	002N02424	SHEET-OVERLAY FRENCH (WORKCENTRE PE220)	1	
14	002N02425	SHEET-OVERLAY RUSSIAN (WORKCENTRE PE220)	1	
14		SHEET-OVERLAY ENGLISH (PHASER 3200)	1	
14		SHEET-OVERLAY SPANISH (PHASER 3200)	1	
14		SHEET-OVERLAY FRENCH (PHASER 3200)	1	

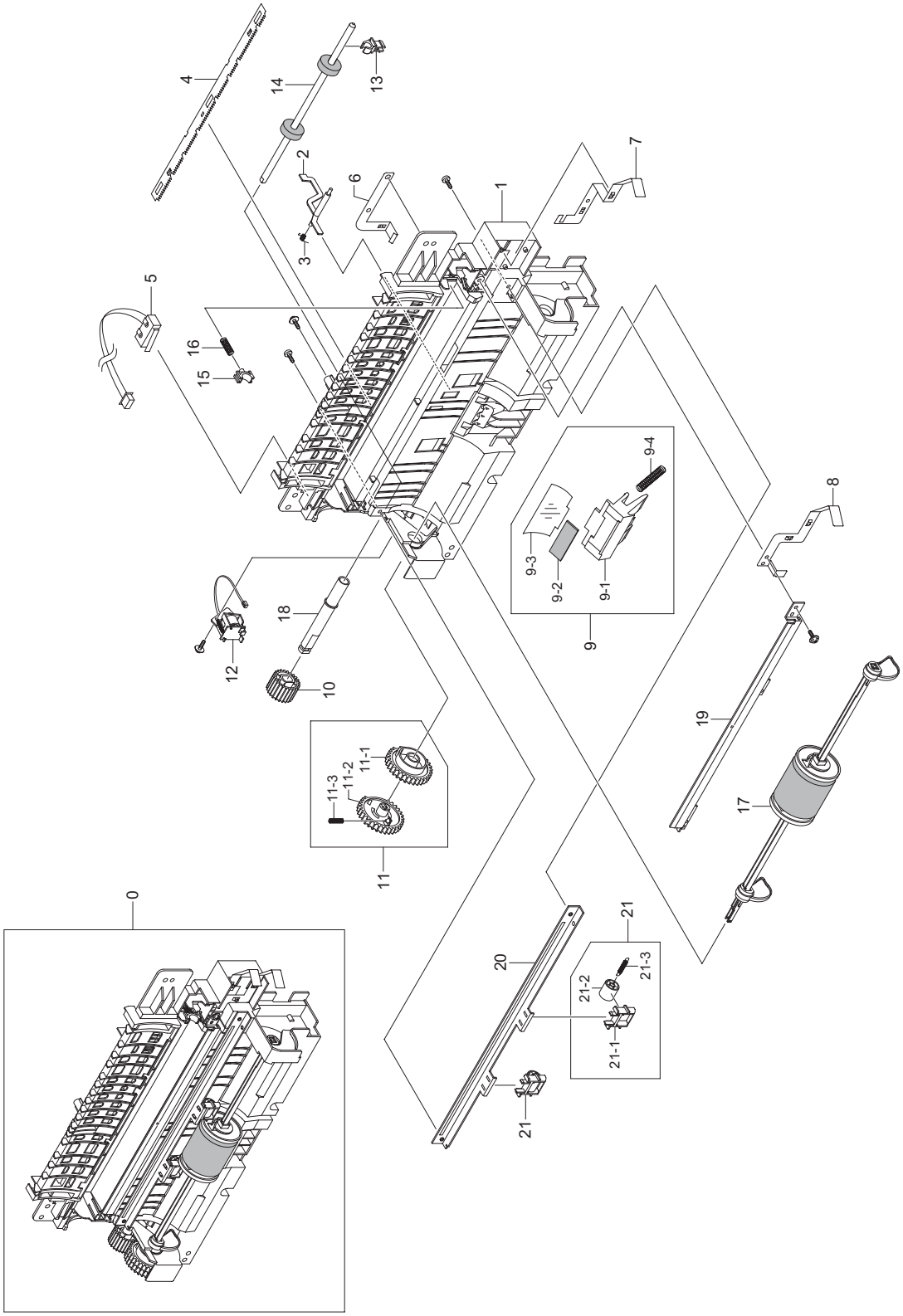
PL 6.0 Paper Path Assembly (Workcentre PE220)



PL 6.0 Paper Path Assembly (Workcentre PE220)

Item	Part Number	Description	Qt'y	Remark
0		PAPER-PATH ASSEM	1	
1	038N00463	GUIDE-M-PAPER PATH	1	
2	130N01408	FEED SENSOR ACTUATOR	1	
3	009N01519	SPRING ETC-LEVER SENSOR	1	
4	015N00558	IPR-PLATE SAW	1	
5		NOT USED		
6		GROUND-P-ZENER	1	
7		GROUND-P-THV	1	
8		GROUND-P-SAW	1	
9	019N00841	MEA UNIT-HOLDER_PAD	1	
9-1	009N01520	SPRING ETC-EXIT ROLL FD	2	
9-2	019N00836	PAD-FRICTION	1	
9-3	019N00837	HOLDER-M-PAD	1	
10		LEVER-M-KICKER P/U	2	
11	130N01419	MEA UNIT-PICK UP GEAR	1	
11-1		GEAR-PICK_UP B	1	
11-2		GEAR-PICK_UP A	1	
11-3		SPRING-CS	1	
12	121N01078	SOLENOID	1	
13	007N01375	GEAR-FEED 35/19	1	
14	016N00261	BUSH-M-TR L	1	
15	016N00281	PMO-BUSHING_TR(L)	1	
16	009N01521	SPRING ETC-TR(12)	2	
17	022N02126	TRANSFER ROLLER	1	
18	019N00838	HOLDER-PTL	1	
19		IPR-P-EARTH TRANSFER	1	
20		SHAFT-P-PICK_UP	1	
21	130N01424	MEA UNIT PICK_UP	1	
21-1		HOUSING-M-PICK_UP B	1	
21-2		HOUSING-M-PICK_U	1	
21-3	130N01416	PICK UP RUBBER	1	
22	130N01410	CAM-M-PICK_UP	2	
23	007N01376	GEAR-TRANSFER	1	
24		BRACKET-P-BAR_PICK_UP	1	

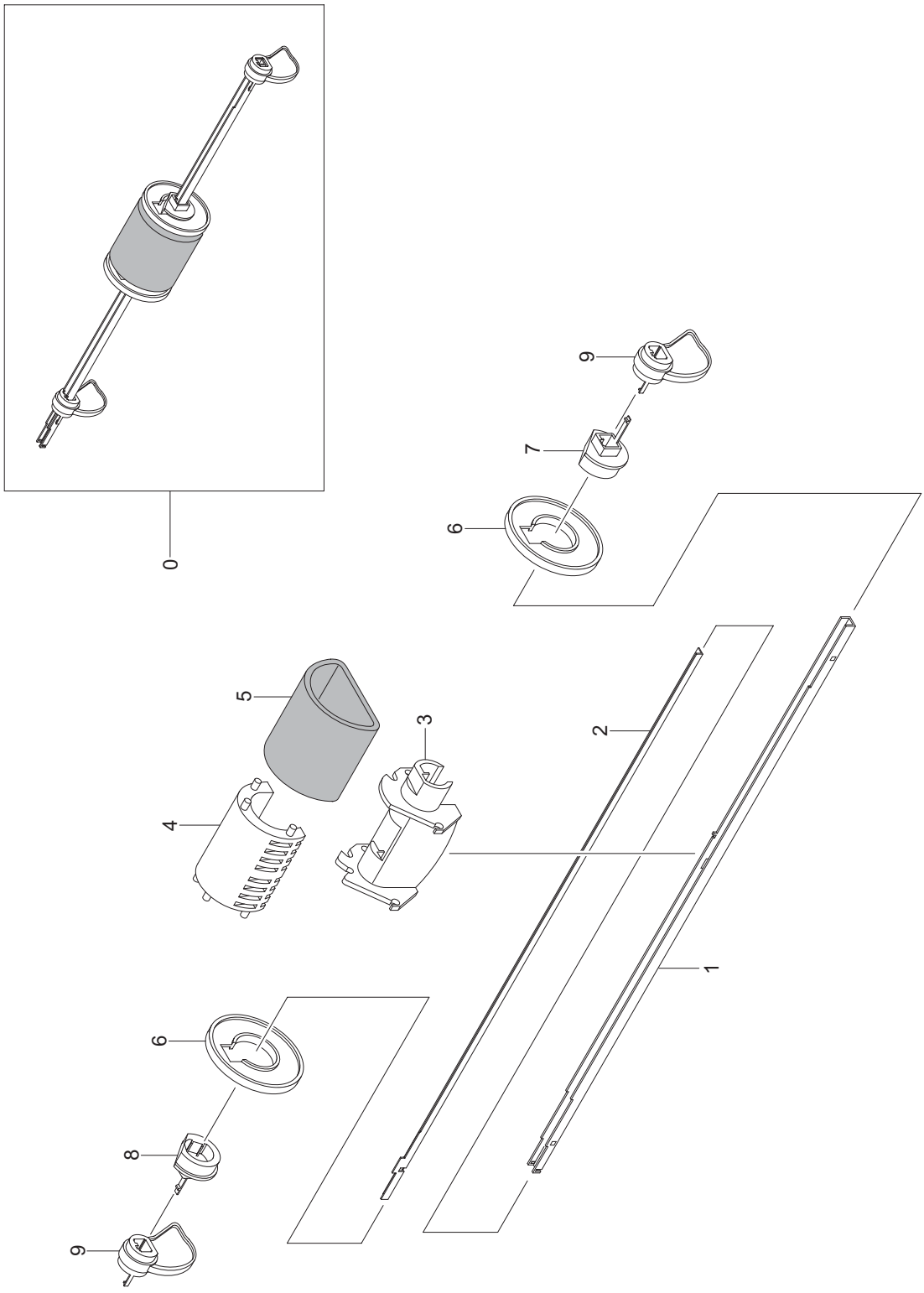
PL 6.1 Paper Path Assembly (Phaser 3200)



PL 6.1 Paper Path Assembly (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0		PAPER-PATH ASSEMBLY	1	
1	038N00463	GUIDE-M-PAPER PATH	1	
2	130N01497	FEED SENSOR ACTUATOR	1	
3	009N01519	SPRING ETC-LEVER SENSOR	1	
4	015N00558	IPR-PLATE SAW	1	
5		CBF HARNESS-MICRO SWITCH		
6		GROUND-P-SAW	1	
7		GROUND-P-THV	1	
8		GROUND-P-VARISTOR	1	
9	019N00940	MEA UNIT-HOLDER_PAD	1	
9-1	019N00837	HOLDER-M-PAD	1	
9-2	019N00836	PAD-FRICTION	1	
9-3	019N00837	HOLDER-M-PAD	1	
9-4	009N01520	SPRING ETC-EXIT ROLL FD	1	
10	007N01586	GEAR-FEED	1	
11	007N01585	MEA UNIT-PICK UP GEAR	1	
11-1		GEAR-PICK_UP A	1	
11-2		GEAR-PICK_UP B	1	
11-3		SPRING-CS	1	
12	121N01078	SOLENOID	1	
13		PMO-BUSHING FEED		
14		ROLLER FEED		
15	016N00281	PMO-BUSHING_TR(L)		
16	009N01521	SPRING ETC-TR(12)		
17		PICK UP UNIT (REFER TO PL 6.2)		
18		SHAFT FEED		
19		IPR-P-EARTH TRANSFER		
20		PLATE-P_IDLE HOLDER		
21		ROLLER HOLDER ASSEMBLY		
21-1		HOLDER-IDLE ROLLER		
21-2		ROLLER-M-IDLE FEED		
21-3		SPRING-ES		

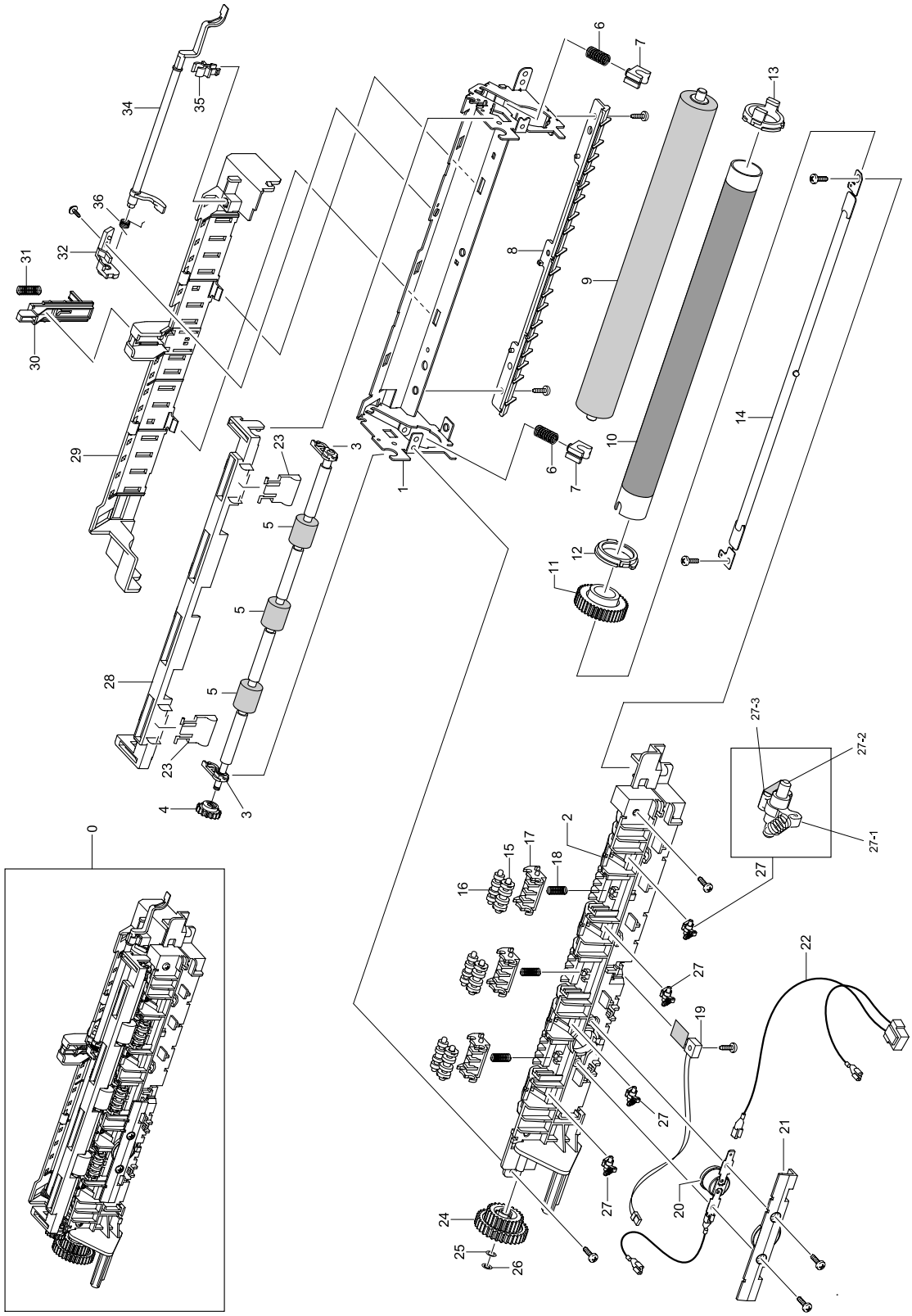
PL 6.2 Pick Up Unit (Phaser 3200)



PL 6.2 Pick Up Unit (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0	022N02191	PICK UP UNIT	1	
1		SHAFT-P-PICK UP	1	
2		BRACKET-P-BAR PICK UP	1	
3		PICK UP HOUSING B	1	
4		PICK UP HOUSING A	1	
5		PICK UP RUBBER	1	
6		IDLE ROLLER PICK UP	2	
7		PICK UP STOPPER RIGHT	1	
8		PICK UP STOPPER LEFT	1	
9	008N01762	PICK UP CAM	2	

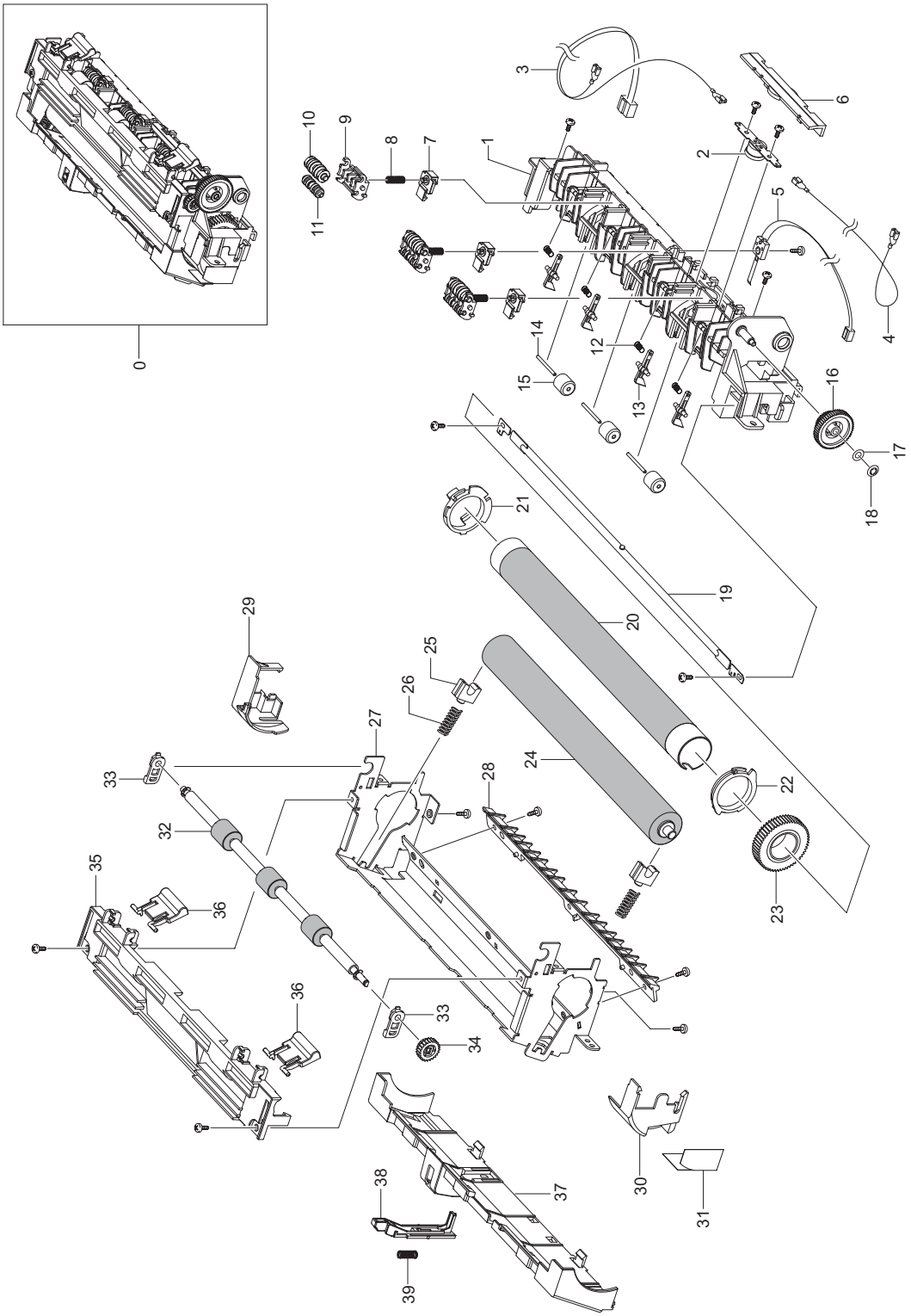
PL 7.0 Fuser Unit (Workcentre PE220)



PL 7.0 Fuser Unit (Workcentre PE220)

Item	Part Number	Description	Qt'y	Remark
0	101N01381	FUSER_220V	1	
0	101N01380	FUSER_110V	1	
1		FRAME-P-FUSER	1	
2		COVER-M_FUSER	1	
3	019N00839	HOLDER-M-EXIT R	2	
4	007N01377	GEAR-EXIT_DRV17	1	
5		HOLDER-M-EXIT F/DOWN	3	
6		SPRING-CS	2	
7	013N13843	BEARING-PRESSURE/R	2	
8		GUIDE-M-INPUT	1	
9	022N01611	ROLLER-PRESSURE	1	
10	022N01610	ROLLER-HEAT	1	
11	007N01205	GEAR-FUSER, Z37	1	
12	016N00282	BUSH-M-HR L	1	
13	016N00262	BUSH-M-HR R	1	
14	122N00245	LAMP-HALOGEN_220V	1	
14	122N00246	LAMP-HALOGEN_110V	1	
15		ROLLER-M-EXIT MAIN	3	
16		ROLLER-M_EXIT FR	3	
18	009N01522	SPRING-CS	3	
19	130N01417	THERMISTOR-NTC	1	
20	130N01411	THERMOSTAT-150	1	
21	152N11628	CBF HARNESS-FUSER JOINT	1	
22	152N11626	CBF HARNESS-FUSER (220V)	1	
22	152N11631	CBF HARNESS-FUSER (110V)	1	
23		PADDLE	2	
24		GEAR EXIT-DR38/25	1	
25		WASHER-PLAIN	1	
26		E-CLIP	1	
27		STRIPPER FINGER	4	
27-1	009N01523	SPRING ETC-STRIPPER FINGER	4	
27-2	019N00840	HOLDER_M_PLATE STRIPPER FINGER	4	
27-3		PLATE-P-STRIPPER FINGER	4	
28		COVER-M-GUIDE EXIT	1	
29		COVER-M-SAFETY FUSER	1	
30		LEVER-M_ACT EXIT	1	
31		SPRING ETC-TR(KOR)	1	
32		HOLDER-M_ACTUATOR	1	
33		NOT USED	1	
34		LEVER-M-ACTUATOR JAM	1	
35		PMO-BUSHING TX(B4)	1	
36		SPRING ETC-TORSION DOC (CC2-F)	1	

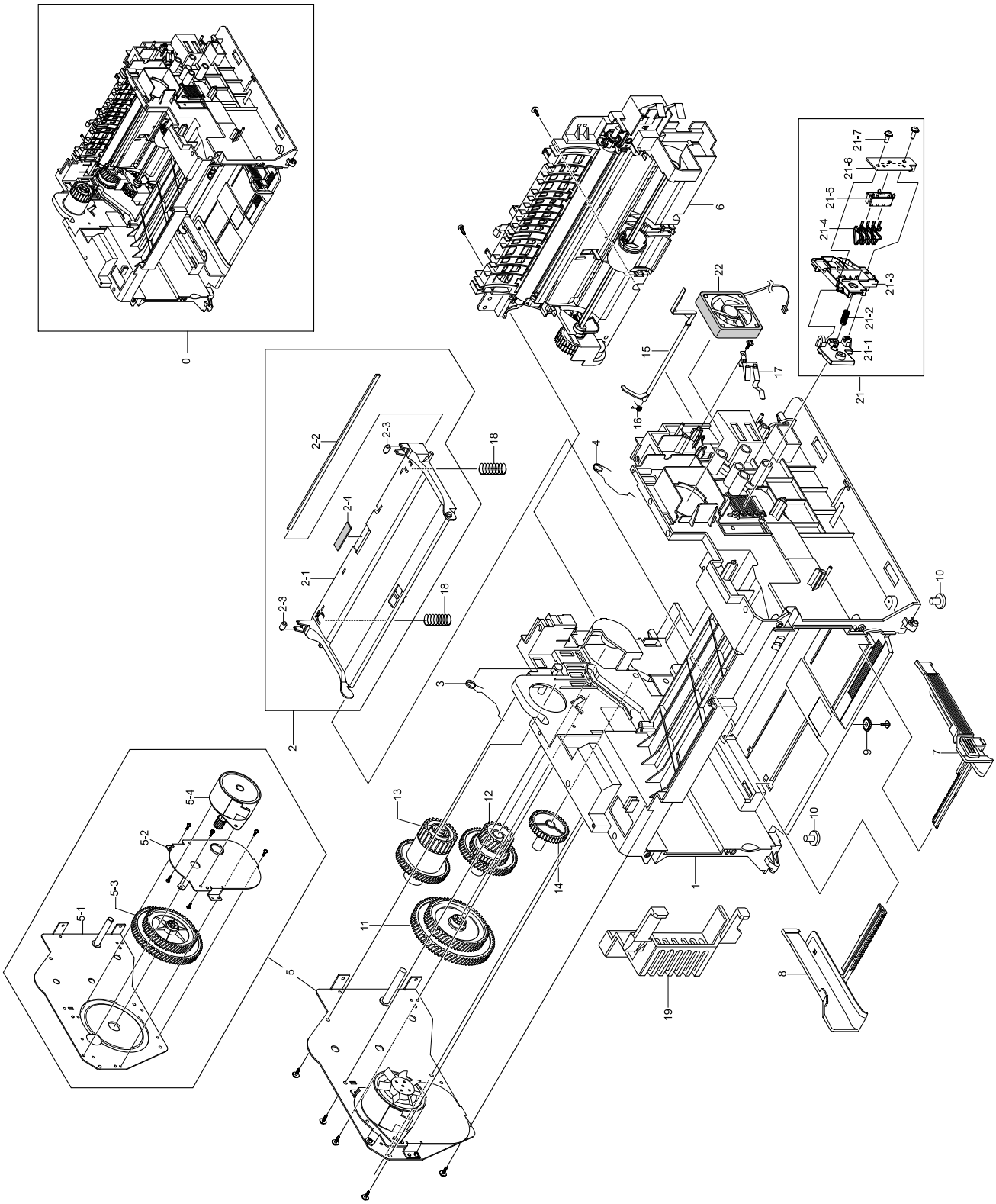
PL 7.1 Fuser Unit (Phaser 3200)



PL 7.1 Fuser Unit (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0	126N00275	FUSER_220V	1	
0	126N00274	FUSER_110V	1	
1		FUSER COVER	1	
2	130N01498	THERMOSTAT	1	
3		CBF HARNESS-FUSER 220V	1	
3		CBF HARNESS-FUSER 110V	1	
4		CBF HARNESS-FUSER JOINT	1	
5	130N01499	THERMISTOR NTC ASSY	1	
6		CAP-M-THERMO	1	
7		HOLDER SPRING	3	
8		SPRING CS	3	
9		HOLDER-M-EXIT F/DOWN	3	
10		ROLLER-M_EXIT_MAIN	3	
11		ROLLER-M_EXIT FR	3	
12		SPRING ES	4	
13	002N00941	STRIPPER FINGER	4	
14		IPR-PIN ROLLER EXIT	3	
15		PEX-ROLLER F/UP(2)	3	
16		EXIT GEAR_DR38/25	1	
17		WASHER	1	
18		CS-RING	1	
19	122N00270	HALOGEN LAMP 220V	1	
19	122N00269	HALOGEN LAMP 110V	1	
20	022N02310	HEAT ROLLER	1	
21		RIGHT BUSH	1	
22		LEFT BUSH	1	
23		FUSER GEAR	1	
24	022N01611	PRESSURE ROLLER	1	
25		PRESSURE ROLLER BUSH	2	
26		ETC SPRING-PR	2	
27		FUSER FRAME	1	
28		GUIDE-M-INPUT	1	
29		COVER LAMP RIGHT	1	
30		COVER LAMP LEFT	1	
31		FUSER SHEET	1	
32		ROLLER-EXIT F/DOWN	1	
33		HOLDER-EXIT RIGHT	2	
34		EXIT_DRV17	1	
35		FRONT FUSER COVER	1	
36		PMO-SUB STACKER	2	
37		FUSER SAFETY COVER	1	
38		JAM SENSOR ACTUATOR	1	
39		SPRING ETC-TR	1	

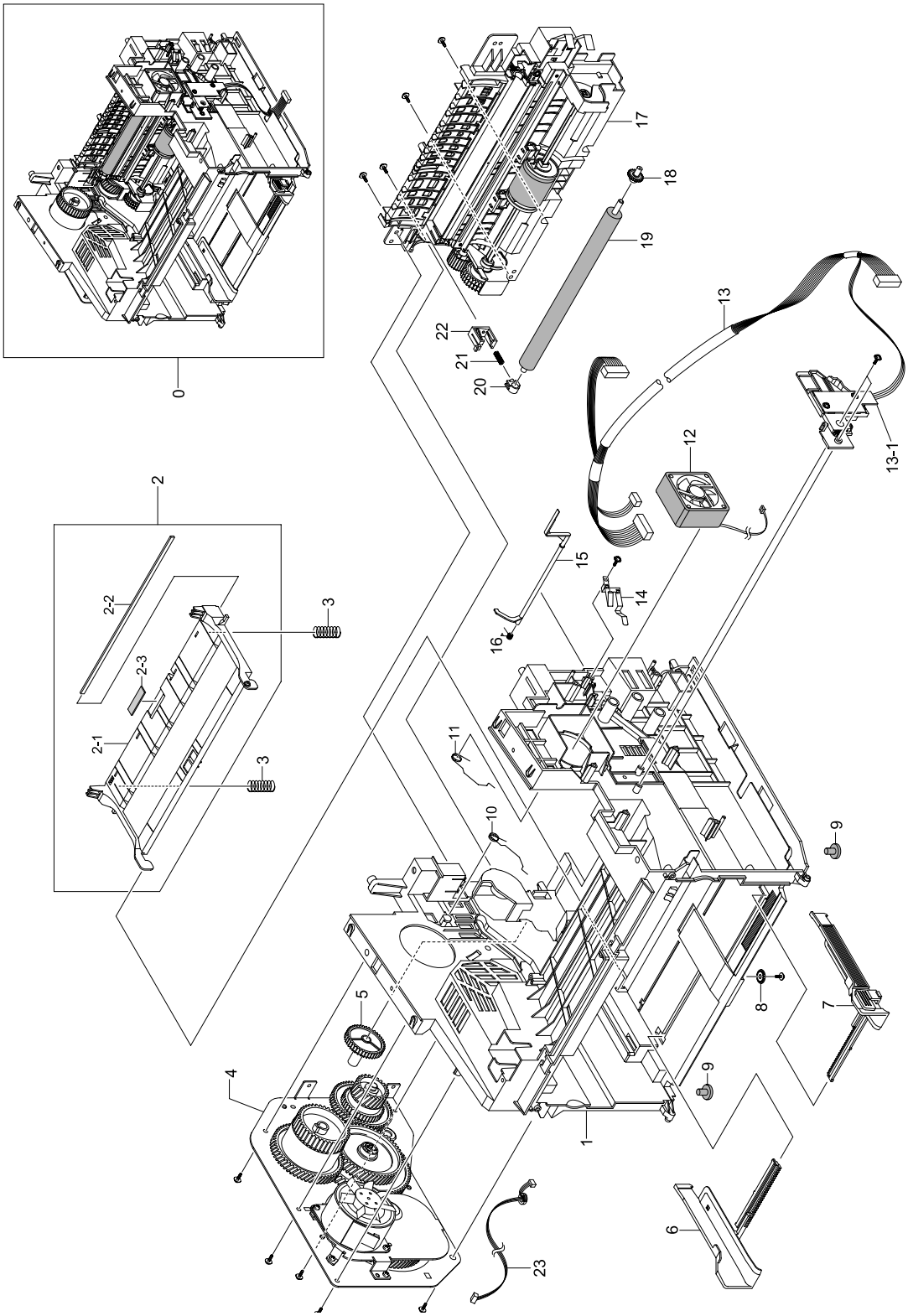
PL 8.0 Main Frame Assembly (Workcentre PE220)



PL 8.0 Main Frame Assembly (Workcentre PE220)

Item	Part Number	Description	Qt'y	Remark
0		ELA HOU-FRAME LOWER	1	
1		FRAME-M-BASE	1	
2	015N00560	MEA UNIT-PLATE KNOCK_UP	1	
2-1	015N00561	PLATE-M-KNOCK_UP	1	
2-2		SHAFT-P-CORE	1	
2-3		PMO-IDLE KNOCK UP MP	2	
2-4	019N00835	MPR-PAD KNOCK UP MR	1	
3	009N01516	SPRING ETC-TORSION DEVE_L	1	
4	009N01517	SPRING ETC-TORSION DEVE_R	1	
5	126N00247	DRIVE ASSEMBLY	1	
5-1		BRACKET-P-GEAR	1	
5-2		BRACKET-P-MOTOR	1	
5-3		GEAR-RDCN 139/83	1	
5-4	127N07405	MOTOR STEP-MAIN	1	
6		PAPER PATH ASSEMBLY (REFER TO PL 6)	1	
7	026N00764	RIGHT PAPER GUIDE	1	
8	026N00765	LEFT PAPER GUIDE	1	
9	007N01178	GEAR-PINION	1	
10	017N00251	FOOT-FRONT	2	
11	007N01371	GEAR-RDCN 113/83	1	
12	007N01372	GEAR-OPC DR 76/38/29	1	
13	007N01373	GEAR-FUSER DR 63/35	1	
14	007N01374	GEAR-FEED DR 41	1	
15	120N00481	PAPER EMPTY SENSOR ACTUATOR	1	
16	009N01513	SPRING ETC-TORSION DOC (CC2-F)	1	
17	115N00857	GROUND-P-OPC	1	
18	009N01518	SPRING CS		
19		CAP-M-MOTOR	1	
20	009N01518	NOT USED	2	
21		CRUM ASSEMBLY	1	
21-1	003N00973	PLATE-M-HINGE	1	
21-2		SPRING ETD-FEED	1	
21-3	015N00564	PLATE-M-CRUM	1	
21-4		TERMINAL-CRUM	8	
21-5		TERMINAL-M_BLOCK	1	
21-6	140N63043	PBA-CRUM_P	1	
22	127N01453	FAN-DC	1	

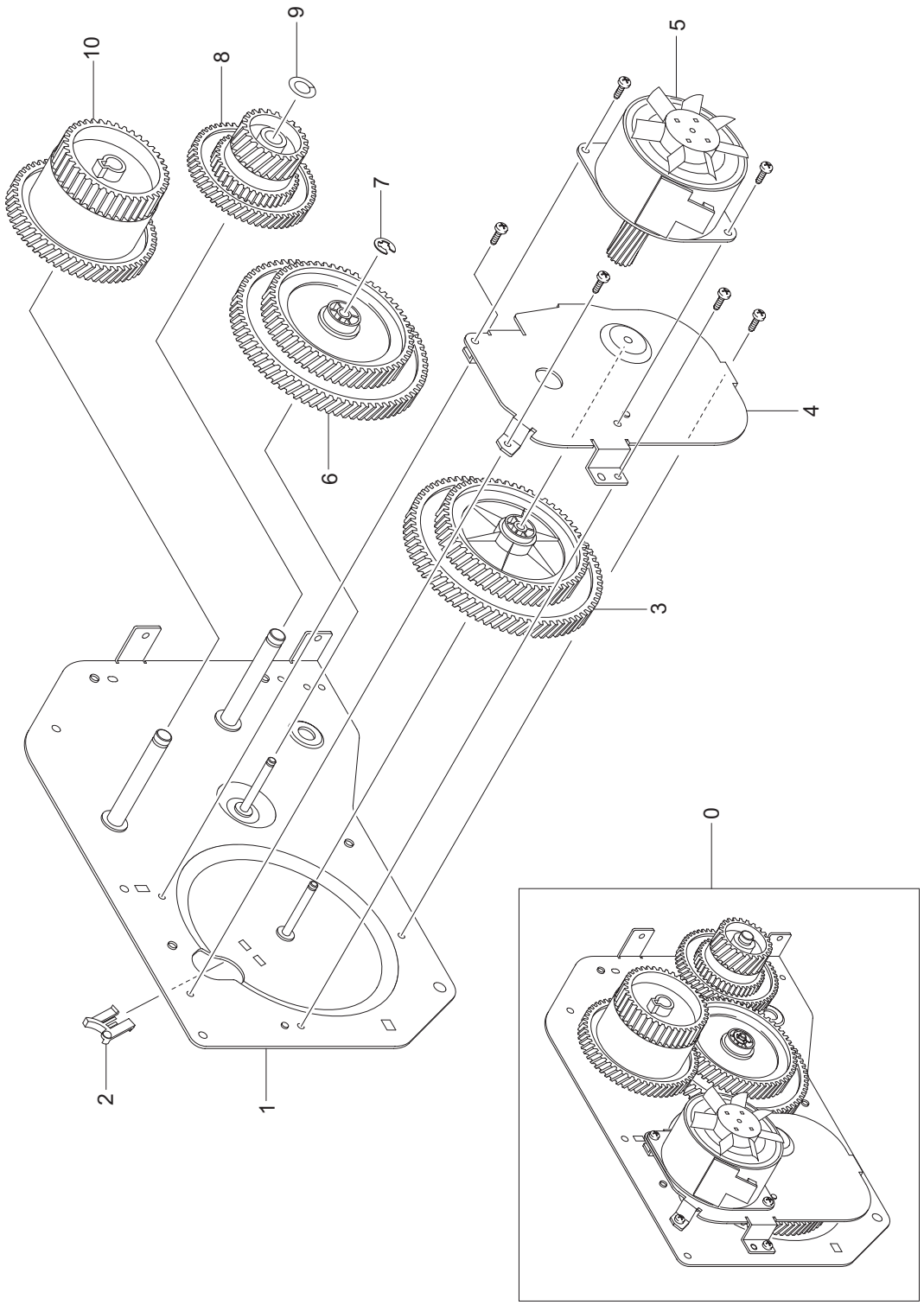
PL 8.1 Main Frame Assembly (Phaser 3200)



PL 8.1 Main Frame Assembly (Phaser 3200)

Item	Part Number	Description	Qt'y	Remark
0		ELA HOU-FRAME LOWER	1	
1		FRAME-M-BASE	1	
2	015N00560	MEA UNIT-PLATE KNOCK_UP	1	
2-1	015N00561	PLATE-M-KNOCK_UP	1	
2-2		SHAFT-P-CORE	1	
2-3	019N00835	MPR-PAD KNOCK UP MR	1	
3	009N01518	SPRING CS	2	
4		DRIVE ASSEMBLY (REFER TO PL 8.3)	1	
5		GEAR FEED DR 41	1	
6	026N00765	LEFT PAPER GUIDE	1	
7	026N00764	RIGHT PAPER GUIDE	1	
8	007N01178	GEAR PINION	1	
9	017N00251	FRONT FOOT	2	
10		SPRING ETC TORSION DEVE LEFT		
11		SPRING ETC-TORSION DEVE RIGHT		
12	127N01453	DC FAN		
13		ELA HOU-CRUM		
13-1	140N63043	PBA-CRUM_P		
14	115N00857	GROUND-P-OPC		
15	120N00504	PAPER EMPTY SENSOR ACTUATOR	1	
16	009N01513	SPRING ETC-TORSION DOC (CC2-F)		
17		PAPER PATH ASSEMBLY (REFER TO PL 6.1)		
18		TRANSFER GEAR		
19	022N02309	TRANSFER ROLLER		
20		PMO BUSHING_TR		
21		SPRING ETC-TR LEFT		
22		PMO TRANSFER HOLDER LEFT		
23		CBF HARNESS MOTOR		

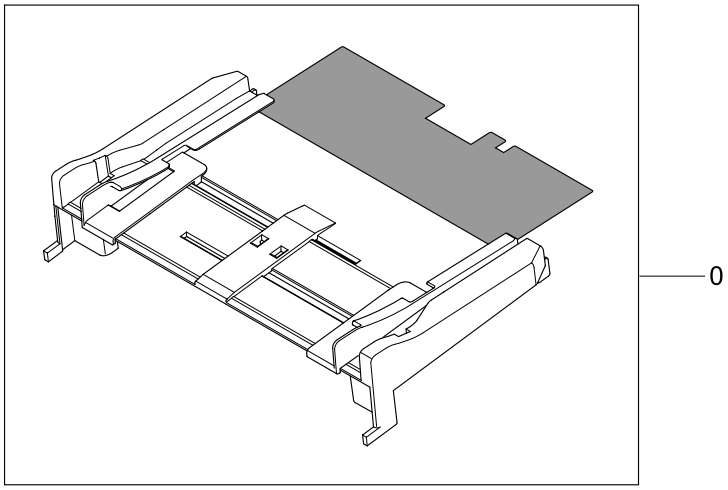
PL 8.2 Main Drive Assembly (Phaser 3200)

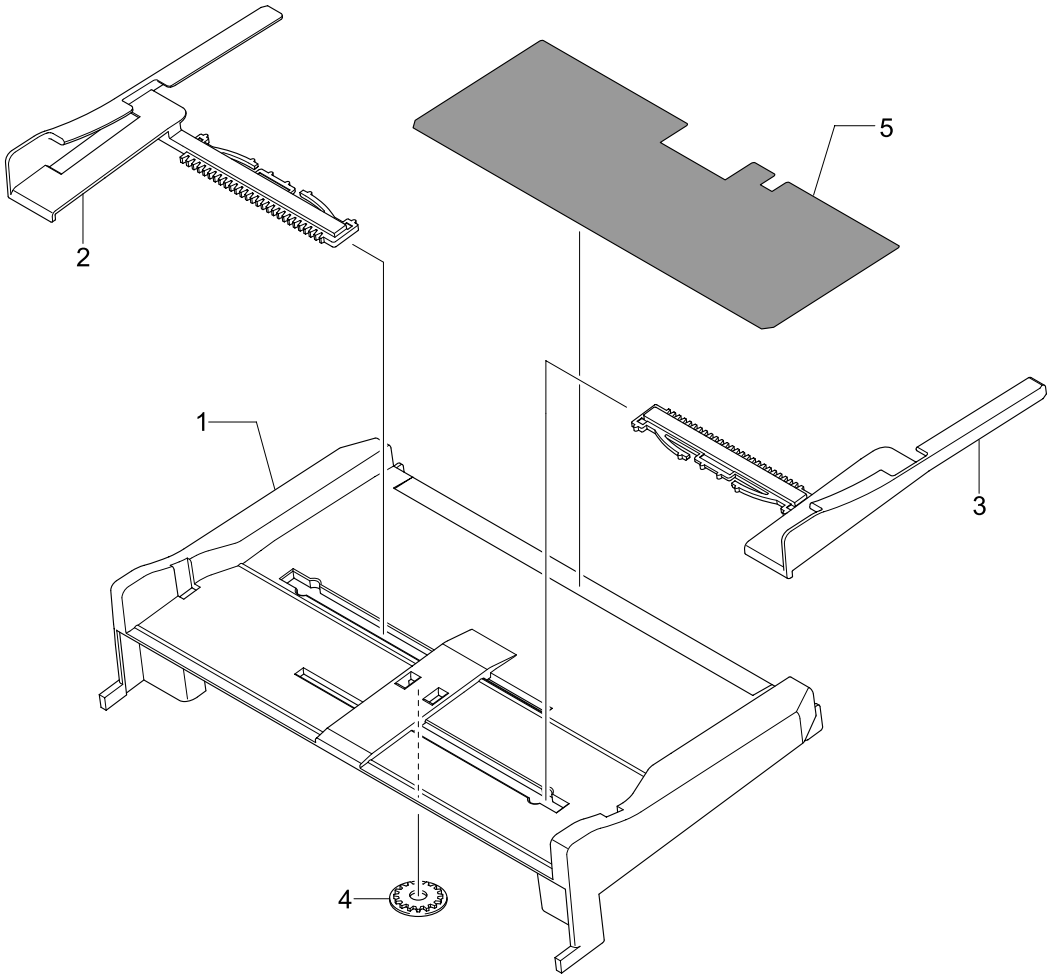


PL 8.2 Drive Assembly (Phaser 3200 only)

Item	Part Number	Description	Qt'y	Remark
0	007N01572	DRIVE ASSEMBLY	1	
1		GEAR BRACKET	1	
2		GEAR SPACER	1	
3		GEAR RDCN 139/83	1	
4		MOTOR BRACKET	1	
5	127N07546	STEP MOTOR	1	
6		GEAR RDCN 113/83	1	
7		RING-C	1	
8		GEAR OPC DR 76/38/29	1	
9		PLAIN WASHER	1	
10		FUSER GEAR	1	

PL 9.0 MP Tray Assembly





PL 9.0 MP Tray Assembly

Item	Part Number	Description	Qt'y	Remark
0	050N00478	MEA UNIT-MP TRAY	1	
1	015N00562	PLATE-M_MP	1	
2	026N00766	ADJUST-M _MP L	1	
3	026N00767	ADJUST-M_MP R	1	
4	007N01178	GEAR-PINION	1	
5	002N02451	SHEET-MP	1	

PL 10.0 Common Hardware & General Service Items

PL 10.0 Common Hardware & General Service Items

Item	Part Number	Description	Qt'y	Remark
0	026N00768	SCREW TAPTITE	3	
1	026N00769	SCREW TAPTITE	1	
2	105N02072	AC POWER CORD (US VER)	1	
3	117N01620	TELEPHONE LINE CORD (US VER)	1	
4	117N01313	USB CABLE	1	
5	004N00244	CUSHION-MAIN	1	
6	060N00030	BOX(P) MAIN	1	
7	705N00013	CD-ROM DRIVERS	1	
8	705N00012	CD-ROM EUG	1	
9	705N00014	CD-ROM SCANSOFT	1	

6. General Procedures/Information

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GP 1 Printer Specifications

Printer specifications are subject to change without notice. See below for product specifications.

General Specifications

Table 1: General Specifications

Item		Workcentre PE220	Phaser 3200
Major Features		Copier, Print, Scan, Fax	
Net Dimension (WxDxH)		438(W)*374(D)*368mm(H) (17.2x14.7x14.5")	
Net Weight (Inc. Toner Cartridge)		10.4kg (23lbs)	11.2kg (24.7lbs)
CPU		Chorus-2 (66MHz)	Chorus-M (300Mhz)
LCD		2 Line x 16 characters	
Toner Save		Yes	
I/O Interface		USB1.1 (Compatible with USB 2.0), IEEE 1284 Parallel	USB 2.0
Network Interface		No	Yes
OS Compatibility		Windows 98/Me/NT4.0/2000/XP, Various Linux OS (via USB interface only) including Red Hat 8.0~9.0, Fedora core 1~3, Mandrake 9.0~10.2, and SuSe 8.2~9.2, Mac 10.3	
Power Requirement		110 ~ 127 VAC, 50/60 Hz, 4.5A 220 ~ 240 VAC, 50/60 Hz, 2.5A	110 ~ 127 VAC, 50/60 Hz, 5.5A 220 ~ 240 VAC, 50/60 Hz, 3A
Power Consumption		Sleep Mode: Under 10 W Standby Mode: 65W Average: 350 W (Print Mode)	Sleep Mode: Under 12 W Standby Mode: 70 W Average: 400 W (Print Mode)
Energy Star Compliant		Yes	
Power Switch		Yes	
Noise	Warm up Stand by Coping Printing	49 dBA 35 dBA 55 dBA 53 dBA	
Warm up time	from Power On Status	Less than 35 seconds	Less than 30 seconds
	from Sleep Mode (Recovery time)	Less than 30 seconds	
Max. Monthly Volume	Print	4,200 pages	10,000 pages
	Scan	ADF: 2,500 pages, PLATEN: 1,700 pages	
Average Monthly Print Volume		400 pages	700 pages
Average Monthly SCAN Volume		150 pages	
Machine Life	ENGINE SCANNER	5 years or 50,000 Pages. Whichever comes first ADF: 30,000 Pages, Platen: 20,000 Pages	
Operation conditions	Temperature Humidity	10°C ~ 32 °C (50°F ~ 89°F) 20% ~ 80% RH	

Table 1: General Specifications

Item	Workcentre PE220	Phaser 3200
Approval	Class B	
Device Memory	16MB	32MB
Page Counter	Yes	
Print Configuration Sheet (System Data)	Yes	

Print Specifications

Table 2: Print Specifications

Item		Workcentre PE220	Phaser 3200
Method		Laser Beam Printing	
Speed		Up to 20ppm in A4 (20ppm in Letter)	Up to 24ppm in A4 (24ppm in Letter)
Emulation		GDI	PCL
Power Save		Yes (Interval option: 5, 10,15, 30, 45 minute)	
Resolution	Normal	600 x 600 dpi	1200 x 1200 dpi
	RET	-	
Memory		10MB	32MB
First Print Out Time	From Stand by	Approx. 11 seconds	Approx. 10 seconds
	From Cold Status	Less than 41 seconds	Less than 30 seconds
Duplex	Print	Manual	
WHQL Compliant		Window XP	
Printable Area		A4: 201.6x288.6mm	
		LTR: 207.6x270.6mm	
		Legal: 207.6x347.6mm	
		Folio: 207.6x322.6mm	
Halftone (Gray Scale)		256 levels	

Scan Specifications

Table 3: Scan Specifications

Item		Workcentre PE220	Phaser 3200
Compatibility		Twain standard / WIA Standard (Window 2000/XP)	
Scan Method		600dpi Colour CIS (Contact Image Sensor) Module	
PC Scan Speed Lineart, Halftone		10sec Platen(13sec ADF)	
through Platen	Gray	23sec Platen (26sec ADF)	
	Color 300dpi	65sec Platen(70sec ADF)	
Resolution	Optical	600 x 600 dpi	
	Enhanced	4800 x 4800 dpi	
Halftone		256 levels	
Scan Size	Max. Document Width	Max.216mm (8.5")	
	Effective Scan Length	297 mm (11.7")	
	Effective Scan Width	Letter/Legal: 208mm(8.2")A4: 202mm	
Scan-to	Key	Yes	
	Application	Yes	
Scan Depth	Color	24 bit	
	Mono	1bit for Line art, Halftone, 8 Bit for Gray scale	

Copy Specifications

Table 4: Copy Specifications

Item		Workcentre PE220	Phaser 3200
Copy Speed		Up to 20ppm in A4 (20ppm in Letter)	Up to 22ppm in A4 (22ppm in Letter)
Resolution	Optical	600*600 dpi (Scan:600*600dpi, Print: 600*600dpi) - Text & Text/Photo mode: 600*300dpi(ADF, Platen) - Photo mode: 600*600dpi (Platen), 600*300dpi(ADF)	
	Enhanced	-	
First Copy Out Time	Stand by	Approx. 16 seconds (ADF), Approx. 11 seconds (Platen)	
	From Power Save Mode (110V only)	Approx. 46 seconds (ADF), Approx. 40 seconds (Platen)	
Original Image type selection		Text, Text/Photo, Photo	
Zoom Range		25-400%(Platen), 25-100%(ADF)	
Multi Copy		1~99 Pages	
Preset		[Original(100%)], [A4 to A5(71%)], [LGL to LTR(78%)], [LGL 4(83%)], A4 to LTR(94%)], [EXE to LTR(104%)], A5 to A4 (141%)], 25%, 50%, 150%, 200%, 400%, [Custom: 25-400%)]	
Darkness Control		3 level (Light, Normal, Dark)	
Auto return to default mode		Yes (after 1 minute)- Time out option: 15, 30, 60, 180 sec., Off	
Changeable Default mode		Darkness, Original Type, Reduce/Enlarge, No. of Copies	
ID Card Copy	2-up 4-up Collation Autofit LD Card Copy Clone Poster	Yes (ADF Only) Yes (ADF Only) Yes (ADF Only) Yes (Platen Only) Yes (Platen Only) Yes (Platen Only) Yes (Platen Only)	

Telephone Specifications

Table 5: Telephone Specifications

Item		Workcentre PE220	Phaser 3200
Handset		No	
Manual Dial		Yes	
Search		Yes (Phone Book)	
1-Touch Dial		10 (0~9)	
Speed dial		90 locations(10~99)	
TAD I/F		Yes	
Tone/Pulse		Tone - Default, Pulse - Changing in Tech Mode	
Pause		Yes	
Auto Redial		Yes	
Last Number Redial		Yes	
Distinctive Ring		Yes	
Caller ID		No	
Extension Phone Interface		Yes	
Report & List	Tx/Rx Journal	Yes	
Print out	Confirmation	Yes	
	Help List	No	
	Auto Dial List	Yes	
	System Data	List all user setting	
Sound Control	Ring Volume Key Volume Alarm Volume Speaker	Yes (Off,Low,MED,HIGH) Yes (On,Off) Yes (On,Off) Yes (On,Off, Comm)	

Fax Specifications

Table 6: Fax Specifications

Item		Workcentre PE220 / Phaser 3200
Compatibility		ITU-T G3
Modem Speed		33.6Kbps
TX Speed		3sec
Compression		MH/MR/MMR/JPEG
Color Fax		Yes (Tx Only)
ECM		Yes
Resolution	Std	203*98dpi
	Fine	203*196dpi
	S.Fine	300*300dpi
	Photo	203*196dpi
	Color	200*200dpi
	Auto Switching	Yes
Scan Speed	Standard	approx. 3sec (ADF)
		approx. 5sec (Platen)
	Fine	approx. 7sec (ADF)
		approx. 8sec (Platen)
	S.Fine	approx. 7sec (ADF)
		approx. 8sec (Platen)
Rx fax duplex print out		No
Multiple page scan speed (Memory Tx.)		7 ppm / Ltr (Standard Resolution Res.)
Receive Mode		Fax, TEL, Ans/Fax, DRPD
Memory	Capacity	2MB (When Power off Memory Back up)
	Optional Memory	No
	Max locations to store to 1 Group Dial	99 locations
	Fax Forward	Yes (On/Off)
	Broadcasting	109 locations (Max locations)
	Cover page	NO
	Delayed fax	Yes
	Memory RX	Yes
Functions	Voice Request	No
	TTI	Yes
	RTI	Yes
	Polling	No
	Earth/Recall	No
	Auto Reduction	Yes
	RDS	Yes
Junk Fax barrier		Yes
Security Receive		Yes
Memory Back-up		Max. 72hours

Paper Handling Specifications

Table 7: Paper Handling Specifications

Item	Workcentre PE220	Phaser 3200
Input Capacity and Types	150-sheet Cassette Tray (75 g/m^2,20 lbs)	250-sheet Cassette Tray (75 g/m^2,20 lbs)
Output Capacity and Types	50-sheet Face Down, (75 g/m^2, 20 lbs)	100-sheet Face Down, (75 g/m^2, 20 lbs)
Manual Tray	1 sheet	
Media size	A4, A5, A6, Letter, Legal, Folio, Executive, ISO B5, JIS B5, Monarch, Envelope, No.10, DL, C5, C6 76 x 127 mm (3" x 5") ~ 216 x 356 mm (8.5" x 14")	
Media Type	Plain Paper, Transparency, Label, Envelope, Thick, Thin, Bond, Color Paper, Card Stock, Preprinted	
Paper Weight	16~24lb (60 to 90g/m^2), Cassette Tray	
	16~43lb (60 to 165g/m^2), Manual Tray	
ADF Capacity	Up to 30 sheets of 20lb(75g/m^2) paper	
ADF Document Size	Up to Legal	

Software

Table 8: Software

Item		Workcentre PE220	Phaser 3200
Compatibility	DOS	No	
	Win 3.x	No	
	Win 95	No	
	Win 98/ME	Yes	
	Win NT 4.0	Yes	No
	Win 2000	Yes	
	Win XP	Yes	
	Mac	Yes (10.3)	
	Linux	Yes	
Driver	Printer	GDI	PCL
	TWAIN	Yes	
	WIA	Yes	
	ScanToPC	Yes	
	PC-FAX	Yes (Send only)	
Application	RCP	Yes	
	Status monitor	No	
	SmarThru4	Yes	

Accessories

Table 9: Accessories

Item	Workcentre PE220	Phaser 3200
Quick Start Guide	Yes (some countries)	
S/W CD ROM	1CD (contents: Print driver, Twain driver, RCP) 2CD (Electronic User Manual) 3CD (ScanSoft CD)	
Print Cartridge	1 EA	
Power Cable	1 EA	
Telephone Cord	1 EA	
Printer Cable	USB	
Tray Cover	Yes	

Consumables

Table 10: Consumables

Item	Workcentre PE220	Phaser 3200
Type	Single Cartridge	
How to install	Front door open and front loading	
Toner Yield	3,000 pages at ISO 19752 5% Coverage (ships with 1,000 (Workcentre PE220) / 1500 (Phaser 3200) pages Starter print cartridge)	

GP 2 System Overview

System Layout

The system comprises of the Main Controller, Operation Panel, Scanner, Line Interface and Power supply. Each component is modular with focus on common and standard designs of different products. The Main controller consists of the Fax & LBP Printer, Chorus2 CPU(ASIC) (PE220) / Chorus-M CPU(ASIC) (Phaser 3200) and 1 Board. The scanner comprises of the ADF and Platen Assembly and is connected to the Main PBA.

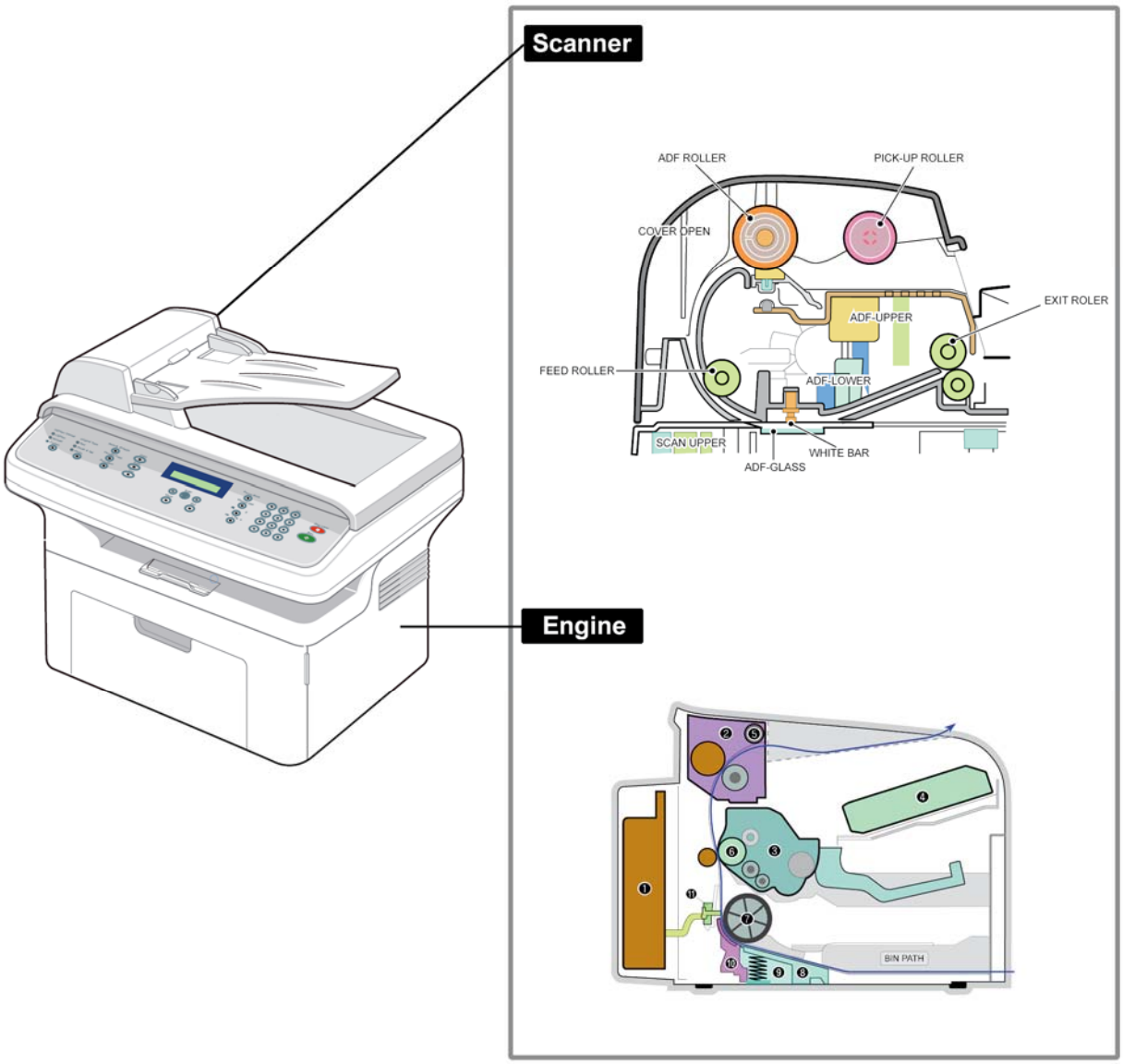


Figure 1

Feeding mechanism

The universal cassette automatically loads paper while the manual feed supplies a single sheet of paper each time. The cassette has a friction pad which separates each paper to ensure single sheet feeding. A sensor checks when the paper cassette is empty.

- Feeding Method: MP Cassette Type
- Feeding Standard: Center Loading
- Feeding Capacity: Cassette -150 sheets (75g/m2, 20lb paper standard) - PE220
  - 250 sheets (75g/m2, 20lb paper standard) - Phaser 3200
  - Manual feed -1sheet (Paper, OHP, Envelop, etc.)
- Paper detecting sensor: Photo sensor
- Paper size sensor: None

Transfer Assembly

The transfer assembly consists of the pre-transfer lamp (PTL) and the Transfer Roller. The PTL shines a light onto the OPC drum. This lowers the charge of the drum's surface and improves transfer efficiency.

The transfer roller transfers toner from the OPC drum surface to the paper.

- Life expectancy: Over 50,000 sheets (at 16~30°C)

Driver Assembly

- Gear driven power unit. The motor supplies power to the paper feed unit, the fuser unit, and the toner cartridge.

Fixing Part (Fuser)

- The fuser consists of the heat lamp, heat roller, pressure roller, thermistor, and thermostat. It adheres toner to the paper using pressure and heat.

Temperature-Intercepting Device (Thermostat)

The thermostat is a temperature sensing device, which cuts off power to the heat lamp when the heat lamp or heat roller overheats.

Temperature Detecting Sensor (Thermistor)

The thermistor detects the surface temperature of the heat roller. The information is sent to the main processor which regulates the temperature of the heat roller.

Heat Roller

The surface of the heat roller is heated by the heat lamp. As paper passes between the heat and pressure rollers, the toner is melted and adheres to the paper. The surface of the roller is coated with Teflon to ensure toner does not stick to surface of the roller.

Pressure roller

The pressure roller is mounted under the heat roller and is made of a silicon resin. The surface of the roller is coated with Teflon to ensure toner does not stick to the surface of the roller.

Safety Features

Overheating prevention measures

- 1st protection device: Machine stops when overheated
- 2nd protection device: Software shuts down when overheated
- 3rd protection device: Thermostat cuts of power to the lamp.

Safety devices

- Fuser power is cut off when the front cover is opened
- LSU power is cut off when the front cover is opened
- The temperature of the fuser cover's surface is maintained at less than 80°C to protect the user. A caution label is easily seen when the rear cover is opened.

Engine Hardware Specification

1) Printing Method: LSU (Laser Scanning Unit)
2) Printing Speed: 20ppm (PE220), 24ppm (Phaser 3200)
3) Printing Resolution: 600 dpi (PE220), 1200dpi (Phaser 3200)
4) Cassette Capacity: Cassette: 150sheets(75g/ Base) for PE220,
250 sheets (75g/ Base) for Phaser 3200
5) Manual Feed: 1 sheet
6) Paper Size: Cassette,Manual; Width = 76 ~ 216mm (2.99 ~ 8.05in), Length = 125mm ~ 356mm (4.92 ~ 14.02in)
7) Effective printing size
   - A4:202 x 291 mm (7.95 x 11.46in)
   - Letter:208 x273mm (8.19 x 10.75in)
   - Legal: 208 x 350 mm (8.19 x 13.78in)
   - Folio: 208 x 325 mm (8.19 x 12.8in)
   - Top Margin: 2.2 (0.09in)
   - Left, Right Margin: 2.2 (0.09in)
8) CRU (Print Cartridge) Life: 3,000 pages (A4, ISO 5% Pattern Printing)
9) First Print Out Time: within 11sec (Standby)
10) Warming up time: within 35sec (Ambient: 25 °C)

Main Board Control

The main controller consists of the ASIC(CPU, image processor, PC I/F, scanner interface, fax modem and printing process I/F part). The CPU handles BUS control, I/O interface, scan interface, PC interface and other miscellaneous driver circuits.

1) Main Board
   - The main PBA is responsible for sending current image video data to the LSU of the machine, controlling the motor drive circuit as well as monitoring the paper exit sensor, cover open switch and OPE panel inputs.
2) Main Controller
   - PE220 CPU: Chorus2, 16/32bit RISC architecture using ARM7TDMI core.
   - Phaser 3200 CPU: Chorus M, 32bit RISC architecture using ARM 920T core.

   The main CPU controls the whole system according to the program code which is stored on Flash-ROM memory.
   - Summary of the Key Function Block:
   - (PE220) 1.8V for internal Core, 3.3V for I/O Pad with 4KByte Cache.
   - (Phaser 3200) 1.3V for internal Core, 3.3Vfor I/O Pad with 16KB I-Cache and 16KB D-Cache.
   - Image Processor included.
   - On-Chip clock generator with PLL.
   - Memory and External Bank Control.
   - DMA Control (5-Channel for PE220, 16-Channel for Phaser 3200)

- Interrupt Control.
- 2-port USB Host/1-port USB device (ver 1.1) interface control.
- Parallel interface control.
- UART(2-Channel for PE220, 1-Channel for Phaser 3200)
- Synchronous Serial Interface Control.
- A/D Converter(10-bit, 2channel for PE220 and 8channel for Phaser 3200).
- General I/O Port control.
- Tone Generator.
- RTC with calendar function.
- S/W Assistant function (Rotator)

- Flash Memory: Stores system program and can be updated to the newer system program code through the PC interface. It stores the FAX Journal List, One Touch dial number, speed dial number, and machine configuration setup data.

- Capacity: 2 Mbyte (PE220) / 16Mbyte (Phaser 3200)
- Access Time: 70 nsec

- SDRAM: Used as a Print Buffer, Scan buffer, ECM Buffer and system working memory.

- Capacity: 16 Mbyte (PE220) 32Mbyte (Phaser 3200)
- Access Time: 66MHz based on system bus clock (PE220) 166MHz Max (Phaser 3200)
- Data Backup: 72 Hours (PE220) 48 Hours (Phaser 3200)
- Backup Battery Charging Time: 100hours when completely discharged.

Scanner

1. Image Signal Input

   - Image Signal from CIS has a level of about 1.2V and it goes to ADC of the main PBA.

   After passing through the ADC, the CIS analog signal will be converted to an 8-bit digital signal.
2. Image Processing

   - The surface of a printed paper reflects CIS LED light and is sensed by the CIS Sensor.

   The light is converted to the appropriate voltage suitable for ADC input. Analog signals from the CIS sensor is used for ADC input is then converted to 8-bit digital data. The image processor will perform a shading correction function, Gamma correction function is done next. The data then goes to different modules according to the copy or FAX resolution mode. While in Text mode, the image data goes to the LAT module. In Photo mode, the image data goes to the Error Diffusion module. In PC-Scan mode, the image data goes directly to the PC through DMA access.

- Summary of the Image sensor interface is as below:
  - Minimum Scan Line Time:1.5ms
  - Scan Resolution: 600*600 dpi
  - Scan Width: 208mm
  - Functions
    - White Shading Correction
    - Gamma Correction
    - CIS Interface
    - 256 Gray Scale

3. CIS
   - CIS Supply Voltage: +3.3V
   - CIS Max frequency: 5MHz
   - CIS Linetime
     - Fax/Copy - 1.5ms
     - PC-Scan - 4.5ms
   - White output volt.: Max 0.8V

4. ADF Drive: ADF Stepper motor - maximum motor speed is 2000PPS.
   - MOTOR DRIVER: A3978(Allegro)
   - Driving Voltage: 24V DC
   - Phase: 2-2 Phase 2000PPS at Quick Scan,
     2-2 Phase 1000PPS AT Fine Scan,
     2-2 Phase 667PPS AT Super Fine Scan

PE220 Fax Modem

1) Modem

The modem consists of FM336 (FAX Modem chip), LIU (Line Interface Unit) and modem analog front end (AFE) functional part.

- The feature of the FM336 modem chip is as below;
  - Communication Mode: Half Duplex
  - Modem Method
    - GROUP 3: ITU-T V34, V17, V29, V27ter
    - Tonal Signal: ITU-T T.30
    - Binary Signal: ITU-T V.21, T.30
  - Image Transmission Time: 3sec (ITU-T NO.1 CHART/Memory Tx/ECM)
  - Data Compress: MH, MR, MMR, JPEG
  - Modem Speed: 33600 / 28800 / 14400 / 12000 / 9600 / 7200 / 4800 / 2400 bps
  - Receive Level: 0 ~ -48dBm
  - Output Level
    - Adjustable: -6 ~ -15dBm (1dBm Step)
    - Initial Setting: -12dBm

- Receive dynamic range:
  - 0 dBmto-43 dBmfor V.17,V.29,V.27 ter and V.21
  - -9 dBm to -43 dBm for V.34 halfduplex

2) The Gain of the Line signal can be adjusted by setting the register value of the FAX modem chip, Tx and Rx path and is almost directly connected to the impedance matching transformer of the LIU.

- Adjust Tx Level within Setting Level+0,-2dB range.
- Adjust Rx Level that has the same level as the TIMS out level if possible, and must not exceed the TIMS out level.

3) Speaker Driving Unit

Analog Switch(MC14053BD) makes a path for FAX Tone, Ring, Key click sound and Analog MUX (MC14051) makes a different signal level so that the Speaker driver chip(MC34119) can drive the Speaker with different sound volume.

Phaser 3200 Fax Modem

Implemented by based on Conexant DAA (Data Access Arrangement) Solution, and is roughly composed of two kinds Chip Solution

- CX86710 (SFX336): Existing Modem Chip which adds SSD (System Side Device) for interfacing between LSD and DIB of FM336Plus Core
- CX20493 (LSD): LIU (Line Interface Unit) Chip which is controlled by SSD and satisfies each PSTN Requirements by modulating internal Configuration with connecting Tel Line.
- Modem (SFX336) specification.

- 2-wire half-duplex fax modem modes with send and receive data rates up to 33,600 bps
- V.17, V.34, V.29, V.27 ter, and V.21 Channel 2
- Short train option in V.17 and V.27 ter
- PSTN session starting
- V.8 and V.8bis signaling
- HDLC support at all speeds
- Flag generation, 0-bit stuffing, ITU CRC-16 or CRC-32 calculation and generation
- Flag detection, 0-bit deletion, ITU CRC-16 or CRC-32 check sum error detection
- FSK flag pattern detection during high-speed receiving
- Tone modes and features
- Programmable single or dual tone generation
- DTMF receiver
- Tone detection with three programmable tone detectors
- Receive dynamic range:
- 0 dBm to -43 dBm for V.17, V.29, V.27 ter and V.21 Channel 2
- 9dBm to -43 dBm for V.34 half-duplex
- Digital speaker output to monitor received signal
- Two16-byte FIFO data buffers for burst data transfer with extension up to 255 bytes
- V.21 Channel 1Flag detect
- V.21 Channel 1Flag detect
- +3.3V only operation
- Typical power consumption

- Normal mode: 264 mW

- Signal Transition of DAA Solution
    - Line Interface Signal of Tel Line and LSD is Analog Signal.
    - there is A/D, D/A Converter in LSD, so Analog Signal from Tel Line is converted in Digital through A/D Converter in DAA and transfer to SSD by DIB Capacitor Digital Signal from SSD is converted to Analog by D/A Converter in DAA and transfer to Tel Line
    - Transformer transfer Clock from SSD to LSD and Clock Frequency is 4.032MHz. LSD full wave rectifies Clock to use as inner Power supply and also use as Main Clock for DIB Protocol Sync between LSD and SSD. Transformer transfer Clock by separating Primary and Secondary, and amplifies Clock Level to LSD by Coil Turns Ratio 1:1.16.
- Clock
    - Clock is supplied by transformer from SSD to LSD, and there is PWROUT to adjust output impedance of Clock Out Driver is inside SSD and CLKSHIGH Resistor to adjust duty of HLPWR Resistor and Clock.
    - Clock from SSD to LSD has Differential structure of 180 phase difference for Noise Robustness
    - DIB Data transfer Data from SSD to LSD by Transformer, and also transfer specific data from LSD to SSD.
    - After transferring data from SSD, RSP is transferred and LSD recognizes RSP and change LSD to output Driver transfer Data to SSD.
    - DIB Data form SSD to LSD by Transformer has Differential structure of 180 phase difference between DIBP and DIBN for Noise Robustness

Printing Process

Printing Process part is made of PC-Interface part, PVC (Printer Video Controller), LSU control part, High Voltage control part and Fuser Unit control part. PC-interface core is included in the Chorus2 ASIC and controls the PC interface. LSU control part controls the LSU polygon motor, Laser diode, video data output so that the printing image can be made up on the OPC Drum.

PE220 Line Interface

Line interface part helps the machine connect to the PSTN or PABX Line and is made of almost primary circuit. Its main function is Line connection, Line state monitoring and TAD interface that enables a extension telephone or TAD machine to connect to the machine.

Phaser 3200 Line Interface

This is Connection Part between system and PSTN(Public Switched Telephone Network), and primary circuit is usually located. Main functions are Line Interface, Telephone Connection and Line Condition Monitoring.

1. Telephone Line Connection

    Modular Plug : RJ-11C
    LIU PBA Modular Type : 623 PCB4-4
    Line Code Length : 2500 50mm
    Line Code Color : Black

2. ON HOOK state Characteristic
   DC Resistance
   - DP Dial Mode (Direct Current 30mA) : 50 ~ 300ohm
   - DTMF Dial Mode (Direct Current 20mA) : 50 ~ 540ohm
3. Ring Sensitivity
   Ring detection Voltage : 40Vrms 150Vrms (condition :Current=25mA,Frequency=15Hz)
   product Margin : 30Vrms 150Vrms
   Ring detection Frequency : 15.3Hz 68Hz (condition : Voltage=45Vrms,Current=25mA)
   product Margin : 15Hz 70Hz
   Ring detection Current : 20mA 100mA (condition : Voltage=40Vrms,Frequency=20Hz)
   product Margin : over 15mA
4. False Ring Sound
   Ring Frequency : 750 Hz + 1020 Hz
   Ring interrupt Cycle : On/Off depending on input Ring Signal Cycle.

Engine Paper Feeding

1. Feeding Type: MP Cassette Type
2. Feeding Standard: Centre Loading
3. Feeding Qty:
   PE220 - Cassette 150 sheets (75g/, 20lb paper standard)
   Phaser 3200 - Cassette 250 sheets (75g/, 20lb paper standard)
   1 sheet (Paper, OHP, Envelope etc.)
4. Separating Type: Cassette - Friction Pad Type
5. Manual Tray: 1 sheet
6. Drive Type: Driving by Gearing from Main Motor
7. Pick_up Roller Driver: Solenoid
8. Pick up Roller Rubber Material: EPDM+IR =1.3 or more LD (Laser Diode)
9. Pick up Velocity: 94.8731mm/Sec (Process: 93.0667mm/sec)
10. Paper detecting Sensor: Photo Sensor
11. Paper Size Sensor: None
12. Paper Separating Pad Material: NBB 52 °, =0.8~1.2
13. Pick_up Roller RPM: 47.683 RPM
14. Feeding Pressure (Same as Transfer Roller)
15. Paper Exit Type: Face Down
16. Exit Sensor: Photo Sensor

LSU

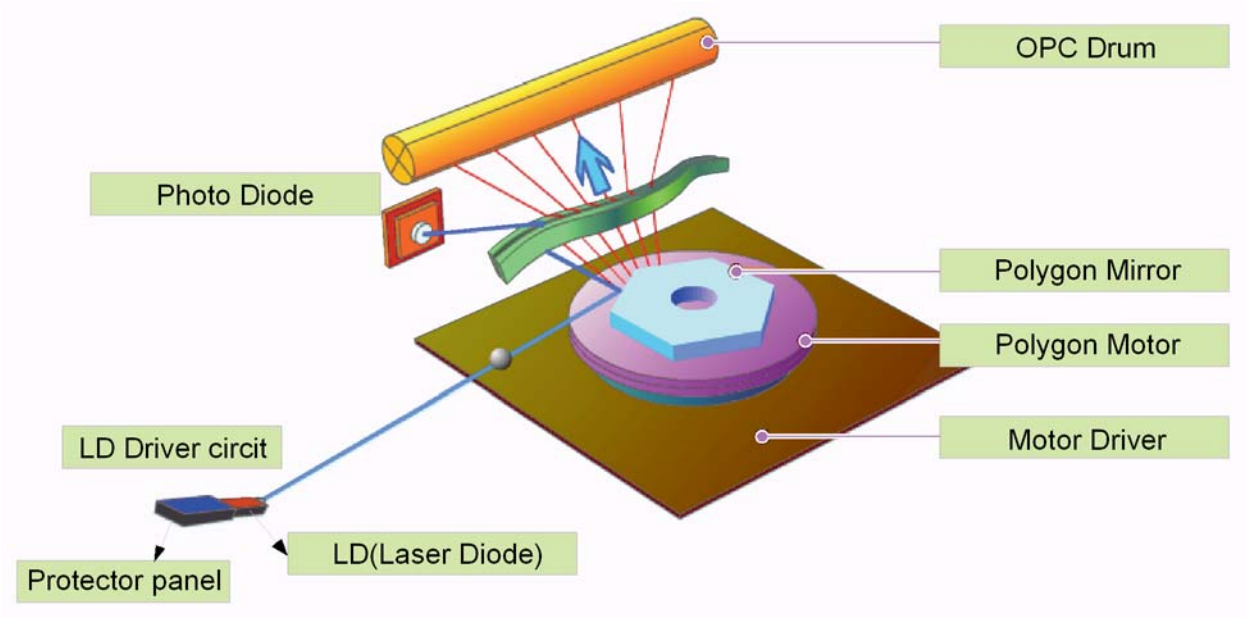


Figure 1

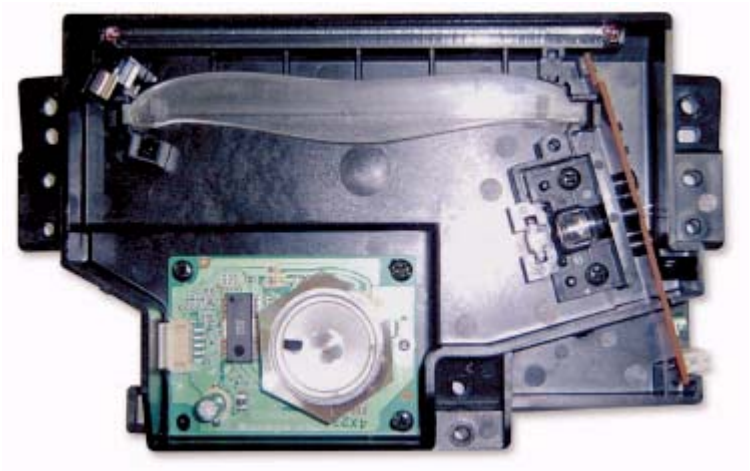


Figure 2

Developer Process

- Developing Method: Non magnetic 1 element contacting method
- Toner: Non magnetic 1 element shatter type toner
- Toner Qty:35gf /60gf (1k/3k)
- The life span of toner 3k sheets (ISO 5% Coverage)
- Toner Residual Sensor: None
- OPC Cleaning: Use the conventional cleaning blade
- OPC Drum Protecting Shutter: None
- Classifying device for print cartridge: ID is classified by interruption of the frame channel.
- Development Roller type: conductive elastic roller
- Doctor BLADE Type: Regulating toner layer by pressure
- Charge Roller Type: Conductive Roller Contact-Charge

Fuser Specification

1) Heat Lamp
   - Heat Lamp Terminal Shape: Terminal Single Type
   - Voltage 120 V: 115 ± 5 %, 220 V: 230 ± 5 %
   - Capacity: 600 Watt ± 30 W
   - Light Qty Distribution: 140%
   - Life: 3000 Hr
2) Thermostat
   - Thermostat Type: Non-Contact type THERMOSTAT
   - Control Temperature: 150°C ± 5°C
3) Thermistor
   - Thermistor Type: HF-R0060 (SEMITEC 364FL Type)
   - Temperature Resistance: 7 k Ω(180 °C)
   - SYSTEM Temperature SETTING
     - Stand by: 165 ± 5°C
     - Printing: 175 ± 5°C(5 minutes before)
       170°C ± 5°C(5 minutes before)
     - Overshoot: 200°C or less
     - Overheat:210°C or less
4) Safety Relevant Facts
   - Protection device when overheating
     - 1st protection device: H/W cuts off when detecting an overheating
     - 2nd protection device: S/W cuts off when detecting overheating
     - 3rd protection device: Thermostat cuts off the power
   - Safety device
     - The power of Fuser is cut-off after front cover is open.
     - The overheating safety device for customer
     - The surface temperature of the Fuser Cover is under 80°C

Scanner

600dpi Color CIS Module for Flat bed, uses the CIS scanning method

1) CIS SPEC
   - Scanning size: 216 mm (width for letter-size)
   - Light source: LED
   - Scanning sensor: CIS 600/300 dpi
   - Scanning mode: Color SCAN / Mono SCAN
   - MTF: 30% (300 dpi Chart)
   - CIS interface: Analog output
   - Power supply: 3.3V
   - Clock Frequency: 5.5MHz max.
   - Number of output: 1
   - LED Current: Red/Green: 50mA, Blue: 60mA
   - Clamp Level: 1.1V
   - Connection: 12 pin FFC connector (pitch 1.0mm)
2) Scan Resolution
   (a) Transmission
      - Normal: Vertical: 3.85 Line/mm, Horizontal: 8 Pels/mm:203 x 98dpi
      - Fine: Vertical: 7.7 Line/mm, Horizontal: 8 Pels/mm:203 x 196dpi
      - Super Fine: Vertical: 11.8 Line/mm, Horizontal: 11.8 Pels/mm :300 x 300dpi

   (b) When Copy: Vertical: 11.8 Line/mm, Horizontal: 23.6 Pels/mm :600x300dpi(ADF)
   Vertical: 23.6 Line/mm, Horizontal: 23.6 Pels/mm :600x600dpi(Platen)
3) Half Tone (Gray Scale): 256 Levels
4) Scan Line Time
   (a) Tx
      - Normal: 1.5 ms/Line
      - Fine: 1.5 ms/Line
      - Super Fine: 1.5 ms/Line

   (b) Copy: 1.5 ms/Line
   (c) Scan
      - Color: 4.5msec/line
      - Gray: 4.5msec/line
      - Mono: 4.5msec/line
5) Scanning Width
      - MAX SCAN WIDTH: 216 mm (8.5 inches)
      - Effective Scan Width: 208mm (8.19 inches)
6) ADF Motor
   (a) Motor Spec
      - 24VDC
      - 0.6A(Peak)

7) Motor Driver speed & method
   (a) FAX Transmission
      - Normal Mode: 2000 pps
      - Fine Mode: 1000 pps
      - Super Fine Mode: 667 pps
   (b) Copy Job: 667 pps, 2-2
      - max(30sheets): 50gf
      - min(1sheets): 20gf
8) Document Detect sensor
   (a) Type: Photo interrupt
   (b) Position: ADF PBA
   (c) LED - max current: 60mA
      - max voltage: 3.3V
   (d) Output - Logic "H": No Paper
      - Logic "L": Paper
   (e) Lever-Sensor DOC: ADF Lower Torsion Spring
9) Regi Detect sensor
   (a) Type: Photo interrupt
   (b) Position: ADF PBA
   (c) LED - max current: 50mA
      - max voltage: 3.3V
   (d) Output - Logic "H": No Paper
      - Logic "L": Paper
   (e) Lever-Sensor DOC: ADF Lower Torsion Spring
10) Document Scan sensor
   (a) Type: Photo interrupt
   (b) Position: ADF PBA
   (c) LED: - Max current: 50mA
      - Max Voltage: 3.3V
   (d) Output - Logic "H": Off (No Position), No Paper
      - Logic "L": On (Doc Position), Paper
   (e) LEVER - SENSOR SCAN: Scan Lower Torsion Spring

OPE (Operational Panel Equipment)

1) OPE Panel

OPE Panel has a MICOM Chip on it and communicates with Main CPU using Serial communication Line (SIO). OPE Panel consists of Micom, Key Matrix Part, LED Driving Part and LCD Part.

2) LCD Part

- Number of Characters: 16 Characters x 2 line
    - Clock, Date display
    - System Status display
    - Alarm, Error Message display
    - Function Dialog Message display

SMPS & HVPS

It is the power supply for the entire system. It is assembled as an independent module, so it is possible to use for common use. It is mounted at back of the machine. Power part is divided by two independent PBAs - SMPS PBA and HVPS PBA. SMPS PBA supplies the DC power for driving the system and supplies the AC power to the fuser.

SMPS has two output channels: +5V and +24V. HVPS PBA supplies High voltage to the developer part to make a printing image on the paper. High voltages applied to the MHV, THV, DEV, SUPPLY.

SMPS

1. AC Input
   - Input Rated Voltage: AC 220V ~ 240V / AC 110V ~ 127V
   - Input Voltage fluctuating range: AC 180V ~ 270V / AC 100V ~ 135V
   - Rated Frequency: 50/60 Hz
   - Frequency fluctuating range: 47 ~ 63 Hz
   - Input Current: Under 4.0Arms / 2.5Arms
2. Rated Output Power

Table 3:

NO	Items	CH1	CH2	Remarks
1	CHANNEL	+5V	+24.0V	
2	CONNECTOR PIN	CON 2 5V PIN: #5pin GND PIN: #6pin	CON 2 24V PIN: #2, #3, #4 GND PIN: #7pin	Jam cover switch included
3	Rated Output	+5V ± 5%(4.75 ~ 5.25V)	+24V -10%/+15%(21.6V ~ 27.6V)	
4	Max. Output current	0.8 A	2.5 A	
5	Peak Loading current	1.0 A	2.7 A	within 1ms Duration
6	RIPPLE NOISE	100mVp-p or less	500mVp-p or less	
7	Maximum output	2.5W	36W	
8	Peak output	4W	55.2W	1ms
9	Protection for loading shortage and overflowing current	Fuse Protection or Shut-down within 1.5A ~ 3.0A range.	Fuse Protection or Shut-down within 3.5A ~ 4.5A range.	

3. Consumption Power

Table 4:

NO	Items	CH1(+5V)	CH2(24V)	System
1	Stand-By	0.6 A	1.3 A	AVG: 65Wh (PE220) 70Wh (Phaser 3200)
2	Printing	0.8 A	1.9 A	AVG: 350Wh (PE220) 400Wh (Phaser 3200)
3	Sleep-Mode	0.5 A	0.3 A	AVG: 10Wh (PE220) 12Wh (Phaser 3200)

4. Power Cord Length: 1830 +/- 50mm
5. Power Cord Switch: Exist
6. Feature
   - Withstand Resistance: 100 or more (at DC 500V)
   - Insulating revisiting pressure: Must be no problem within 1 min. (at1000Vac,10mA)
   - Leaking Current: under 3.5mA
   - Running Current: under 40A PEAK (AT 25 °C (77 °F), COLDSTART)
     under 50A PEAK (In other conditions)
   - Rising Time: within 2Sec
   - FallingTime: over 20ms
   - Surge: Ring Wave 6KV-500A (Normal, Common)
7. Environment Conditions
   - Operating temperature range: 0 °C ~ 40 °C (32 °F ~ 104 °F)
   - Maintaining temperature range: -20 °C ~ 40 °C (68 °F ~ 104 °F)
   - Preserving Humidity Condition: 10% ~ 90% RH
   - Operating atmospheric pressure range: 1atm
8. EMI Requirement: CISPR, FCC, CE, MIC,
9. Safety Requirement: IEC950 UL1950, CSA950, C-UL, Semko, EK, CB, CCC(CCIB),GOST, EPA,

HVPS Board

The HVPS board creates the high voltage of THV/MHV/Supply/Dev and supplies them to the development system for making best quality printing image. The HVPS part takes the 24V and outputs the high voltage such as THV/MHV/Supply/Dev, and the outputted high voltage is supplied to the toner, OPC cartridge, and transfer roller.

(a) Transfer High Voltage (THV+)
- Input Voltage: 24 V DC +15% / -10% (21.6V~27.6V)
- Out Voltage: +1300KV 1.5% (200 Load)
- Out Voltage Trigger: 6.5
- Input Voltage Variation: ±5%
  Load Variation: ±5%
- Out Voltage Rising Time: 100 ms Max
- Out Voltage Falling Time: 100 ms Max
- Transfer Variation Voltage on Environment Variation: +500 V ~ +5000V
- Control Method on environment: THV-PWM ACTIVE, transfer Active signal, of environment sensing voltage is input and get feed back current, and recalculate it to resistance.
- Control method on transfer output voltage: It is controlled by changing its duty of THVPWM Signal as follows. 10% Duty: +500V, 90% Duty: +5000V

(b) Charge Voltage (MHV)
- Input Voltage: 24 V DC +15% / -10% (21.6V~27.6V)
- Out Voltage: -1300KV 50V(50 Load)
- Out Voltage Rising Time: 50 ms Max
- Out Voltage Falling Time: 50msMax
- Out Voltage Range: 30 ~ 1000
- Output Control Signal (MHV-PWM): Active Low PWM signal for controlling MHV

(c) Developing Voltage (DEV)
- Input Voltage: 24V DC +15% / -10% (21.6V~27.6V)
- Output Voltage: -350V 20V (50 Load)
- Output Voltage Fluctuation range: PWM Control
- Input contrast of the output stability degree: 5% or less
- Loading contrast: 5% or less
- Output Voltage Rising Time: 50 ms Max
- Output Voltage Falling Time: 50 ms Max
- Output Loading range: 10 ~1000
- Output Control Signal (BIAS-PWM): Active Low PWM signal for controlling MHV

(d) Supply
- Output Voltage: -550V 50V(50 Load)
- Input contrast of the output stability degree: under 5%
- Loading contrast: 5% or less
- Output Voltage Rising Time: 50 ms Max
- Output Voltage Falling Time: 50 ms Max
- Output Loading range: 10 ~ 1000
- Output Control Signal (BIAS-PWM): Active Low PWM signal for controlling MHV

Fuser AC Power Control

The Fuser (HEAT LAMP) gets heat from AC power. The AC power controls the switch with the Triac, a semiconductor switch. The 'ON/OFF control' is operated when the gate of the Triac is turned on/off by Phototriac. In other words, the AC control part is a passive circuit, so it turns the heater on/off with taking signal from engine control part.

When the 'HEATERON' signal is turned on at engine, the LED of PC102 (Photo Triac) takes the voltage and flashes. From the flashing light, the Triac part (light receiving part) takes the voltage and the voltage is supplied to the gate of Triac and flows into the Triac. As a result, the AC current flows in the heat lamp, and heat is occurred.

On the other hand, when the signal is off, the PC102 is off, the voltage is cut off at the gate of Triac, the Triac becomes off, and then the heat lamp is turned off.

1) Triac feature: 12A, 600V SWITCHING

2) Phototriac Coupler (PC102)

- Turn On If Current: 15mA~50mA(Design: 16mA)
- High Repetitive Peak Off State Voltage: Min 600V

GP 3 User Mode

Table 1 below shows the map of User settings available in User Mode. These are fully described in the User Guide and are not included here:

- Workcentre PE220 - Table 1
- Phaser 3200 - Table 2

Workcentre PE220 User Mode:.

Table 1: Workcentre PE220 User Mode

1st level	2nd level	3rd level	4th level
Paper Setting ◀ Paper Type ▶	Paper Type	Plain Paper, Bond, Transparency, Cardstock, Labels, Preprinted, Colored, Envelope, Thick, Thin	
		Letter, A4, Legal, Executive, Folio, A5, B5, A6	
Machine Setup ◀ Machine ID ▶	Machine ID	Fax: ID:	
	Date & Time	00-00-0000 00:00(AM)	
	Clock Mode	12, 24 hours	
	Language	English/Francais/Espanol/ Portuguese/Deutsch/Italiano/Nederlands/ Pycckn/Norsk/Polski/ Suomi/Magyar/ Dansk/Cestina/Svenska/Turkse - 16 language	
	Select Country	USA/Canada, India, Mexico, Colombia, Argentina, Venezuela, Chile, Peru, Brazil, Srilanka, Iraq, Russia, Ukraine	
	Power Save	On	5,15,30,60,120 min.
		Off	
	Ignore Toner	On	
		Off	
	USB Mode	Fast/Slow	

Table 1: Workcentre PE220 User Mode

1st level	2nd level	3rd level	4th level
Copy Setup ◀ Default-Change ▶	Default-Change	Lighten/Darken	Normal/Dark/Light
		Original Type	Text, Text/Photo, Photo
		Reduce/Enlarge	[Original(100%)]
			[LGL - LTR(78%)]
			[LGL - A4(83%)]
			[A4 - A5](71%)]
			[A4 - LTR(94%)]
			[EXE - LTR(104%)]
			[A5 - A4](141%)]
			25%
			50%
			150%
			200%
			400%
			[Custom:25-400]
		Copy Quantity	Copy Quantity P.[1-99]
		Copy Collate	Off/On
	Timeout	30, 60, 180, Off, 15 sec	
	Favorite feat.	Clone	
		Copy Collate	
		Auto Fit	
		ID Card Copy	
		2 Up	
		4 Up	
		Poster	
Copy Feature ◀ Off ▶	Off		
	Clone		
	Autofit		
	ID Card Copy		
	Poster		

Table 1: Workcentre PE220 User Mode

1st level	2nd level	3rd level	4th level
Fax Setup ◀ Default-Change ▶	Default-Change	Resolution	Standard/Fine/Super Fine/Photo/Color
	Ring to Answer	1~7	
	Lighten/Darken	Normal/Darken/Light	
	Redial Term	1~15Min	
	Redials	1~13times	
	MSG Confirm	On, Off, On-Error	
	Image TCR	On, Off	
	Auto Report	On, Off	
	Auto Reduction	On, Off	
	Discard Size	0~30mm	
	Receive Code	0~9	
	DRPD Mode	set	
	Receive Mode	Fax, Tel, Ans/Fax, DRPD	
Fax Feature ◀ Delay Fax ▶	Delay Fax	Fax:	
	Priority Fax	Fax:	
	Add Page	Yes, No	
	Cancel Job	Yes, No	
Advanced fax	Send Forward	On,Off	
	RCV Forward	On	Start Time/ End Time Print Local Copy
		Off	
	Junk Fax Setup	On	Fax:
		Off	
	Secure Receive	On,Off, Print	
	Prefix Dial	FAX: xxxxx (5 digits)	
	Stamp RCV Name	On,Off	
	ECM Mode	On,Off	
Reports ◀ Phone Book ▶	Phone Book		
	Sent Report		
	RCV Report		
	System Data		
	Scheduled Jobs		
	MSG Confirm		
	Junk Fax List		
Sound/Volume ◀ Speaker ▶	Speaker	On, Off, Comm.	
	Ringer	Off, Low,Med,High	
	Key Sound	On, Off	
	Alarm Sound	On, Off	

Table 1: Workcentre PE220 User Mode

1st level	2nd level	3rd level	4th level
Maintenance ◀ Clean Drum ▶	Clean Drum	On,Off	
	Notify Toner	On,Off	
	Clear Memory	Clear All Mem.	
		Paper setting	
		Machine Setup	
		Copy Setup	
		Fax Setup	
		Fax Feature	
		Advanced Fax	
		Sound/Volume	
		Sent Report	
		RCV Report	
		Phone Book	
	Remote Test	On,Off	

Phaser 3200 User Mode:

Table 2: Phaser 3200 User Mode

1st level	2nd level	3rd level	4th level
Paper Setting ◀ Paper Type ▶	Paper Type	Plain Paper, Bond, Transparency, Cardstock, Labels, Preprinted, Colored, Envelope, Thick, Thin, Archive Paper, Cotton Paper	
	Paper Size	A4, Legal, Executive, Folio, A5, B5, A6, Letter	
Machine Setup ◀ Machine ID ▶	Machine ID	Fax: ID:	
	Date & Time	00-00-0000 00:00(AM)	
	Clock Mode	12, 24 hours	
	Dial Mode	Tone, Pulse	
	Language	English/Francais/Espanol/Deutsch/ Italiano/Portugues/Svenska/Pycckn/ Polski/Magyar/Portugues Br./Norsk/ Suomi/Dask/Cestina/Turske/Slo-vencina	
	Power Save	On	5,15,30,60,120 min.
		Off	
	Ignore Toner	On	
		Off	
	Scan Timeout	Enter no:	
Copy Setup ◀ Default-Change ▶	Default-Change	Lighten/Darken	Normal/Dark/Light
		Original Type	Text, Text/Photo, Photo
		Reduce/Enlarge	[Original(100%)]
			[LGL - LTR(78%)]
			[LGL - A4(83%)]
			[A4 - A5](71%)]
			[A4 - LTR(94%)]
			[EXE - LTR(104%)]
			[A5 - A4](141%)]
			25%
			50%
			150%
			200%
			400%
			[Custom:25-400]
		Copy Quantity	Copy Quantity P.[1-99]
	Timeout	30, 60, 120, 180, Off, 15 sec	

Table 2: Phaser 3200 User Mode

1st level	2nd level	3rd level	4th level
Fax Setup ◀ Receive Mode ▶	Receive Mode	Fax, Tel, Ans/Fax, DRPD	
	Ring to Answer	1~7	
	Lighten/Darken	Normal/Darken/Light	
	Redial Term	1~15Min	
	Redials	1~13times	
	MSG Confirm	On, Off, On-Error	
	Auto Report	On, Off	
	Auto Reduction	On, Off	
	Discard Size	0~30mm	
	Receive Code	0 ~ 9	
	DRPD Mode	Set	
Fax Feature ◀ Delay Fax ▶	Delay Fax	Enter Number:	
	Priority Fax	Enter Number:	
	Add Page	Yes, No	
	Cancel Job	Yes, No	
Advanced fax ◀ Toll Save ▶	Toll Save	On, Off	
	Junk Fax Setup	On	Set, All Delete
		Off	
	Secure Receive	On, Off, Print	
	Prefix Dial	FAX: xxxxx (5 digits)	
	Stamp RCV Name	On, Off	
	ECM Mode	On, Off	
Reports ◀ Phone Book ▶	Address Book		
	Sent Report		
	RCV Report		
	System Data		
	Scheduled Jobs		
	MSG Confirm		
	Junk Fax List		
	Auth User List		
	Scan Journal		
Network Setup ◀ Reset Network ▶ (Phaser 3200MFP/N)	Reset Network	Yes, No	
	Config Network	TCP/IP	Manual, DHCP, BOOTP
		Ether Talk	Off, On
	Set to Default	Yes, No	
	Email Setup	Email Setting	
		Default-Change	Resolution
			Scan Color
			Scan Format
	Print Net CFG	Yes, No	

Table 2: Phaser 3200 User Mode

1st level	2nd level	3rd level	4th level
Sound/Volume ◀ Speaker ▶	Speaker	On, Off, Comm.	
	Ringer	Off, Low, Med, High	
	Key Sound	On, Off	
	Alarm Sound	On, Off	
Maintenance ◀ Clean Drum ▶	Clean Drum	Yes, No	
	Auto Cleaning	Off, On	
	Notify Toner	On, Off	
	Clear Memory	All Settings	
		Paper Setting	
		Copy Setup	
		Fax Setup	
		Fax Feature	
		Advanced Fax	
		Sent Report	
		RCV Report	
		Address Book	
		Scan Journal	
	Network Scan	Enable/Disable	

GP 4 Tech Mode

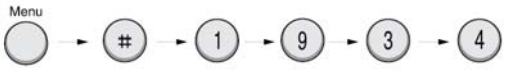
How to Enter Tech Mode

In service (tech) mode the technician can check the machine and perform various tests to help with failure diagnosis.

When in Tech mode the machine still performs all normal operations.

To enter the Tech mode

To enter the Tech mode press



in sequence and the LCD briefly displays ‘TECH’, the machine has entered service (tech) mode.

- Workcentre PE220 - Table 1
- Phaser 3200 - Table 2

Workcentre PE220 Tech Mode

Table 1: Workcentre PE220 Tech Mode

1st level	2nd level	3rd level	4th level
1 Tech Mode ◀ Data Setup▶	Data Setup	Send Level	-9~-15
		DTMF Level	
		Pause Time	
		Dial Mode	Tone, Pulse
		Modem Speed	33.6, 28.8, 14.4, 12.0, 9.6, 4.8 33.6
		Error Rate	5%, 10%
		Notify Toner	Customer No.
			Customer Name
			Service No.
			Serial No.
		Clear All Mem.	
		Clear Count	Total Page Count
			CRU Print CNT
			FLT Scan Count
			ADF Scan Count
			Used Toner CNT
			Edit Toner Dot
		Flash Upgrade	Local
			Remote
		Silence Time	Off/ 12 Sec/Unlimited
	Machine Test	Switch Test	Reduce Panel
			Complete Panel
		Modem Test Dram Test Rom Test Pattern Test Shading Test	
	Report	Protocol	
		System Data	
		Key History	
		Error Info	
	New Cartridge	Yes/No	

Phaser 3200 Tech Mode

Table 2: Phaser 3200 Tech Mode

1st level	2nd level	3rd level	4th level	Note:
1 Tech Mode ◀ Data Setup▶	Data Setup	Send Level	-9~-15	
		DTMF Level		
		Modem Speed	33.6, 28.8, 14.4, 12.0, 9.6, 4.8	
		Error Rate	5%, 10%	
		Notify Toner	Customer No.	
			Customer Name	
			Service No.	
			Serial No.	
		Clear All Mem.	Select Country [USA]	
		Clear Counts Enter Password:XXXX	Total Page Count	
			CRU Print CNT	
			FLT Scan Count	
			ADF Scan Count	
			Used Toner CNT	
			Edit Toner Dot	
		Flash Upgrade	Local	
		Ignore Toner	Off/On	
		Test Param Set	00 - 50	
	Machine Test	Switch Test	Press Below Key	
			K_Contrast	Lighten/darken key
			K_Image	Original type key
			K_Reduce	
			K_Favorite	
			K_Resolution	
			K_Copy	
			K_Scan	
			K_Fax	
			K_Left	Left scroll key
			K_Select	Enter key
			K_Right	Right scroll key
			K_Menu	
			K_Exit	
			K_Phone Book	
			K_Manual	
			K_Broadcasting	
			K_Redial	
			K_1	
			K_2	
			K_3	
			K_4	
			K_5	
			K_6	

Table 2: Phaser 3200 Tech Mode

1st level	2nd level	3rd level	4th level	Note:
1 Tech Mode ◀ Data Setup▶	Machine Test	Switch Test	K_7	
			K_8	
			K_9	
			K_Asterisk	
			K_0	
			K_Sharp	# Key
			K_Stop	
			K_Start	

Setting

Changing the Display Language

To change the language that displays on the control panel, follow these steps:

1. Press Menu until “Machine Setup” appears on the top line of the display.
2. Press the scroll key (◀ or ▶) until “Language” appears on the bottom line of the display.
3. Press Enter. The current setting appears on the bottom line of the display.
4. Press the scroll key (◀ or ▶) until the language you want appears on the display.
5. Press Enter to save the selection.
6. To return to Standby mode, press Stop/Clear.

Setting the Machine ID

In some countries, you are required by law to indicate your fax number on any fax you send. The Machine ID, containing your telephone number and name (or company name), will be printed at the top of each page sent from your machine.

1. Press Menu until “Machine Setup” appears on the top line of the display. The first available menu item, “Machine ID,” displays on the bottom line.
2. Press Enter. The display asks you to enter the fax number.
   If there is a number already set, the number appears.
3. Enter your fax number using the number keypad.

Note: *If you make a mistake while entering numbers, press the ◀ key to delete the last digit.*

4. Press Enter when the number on the display is correct. The display asks you to enter an ID.
5. Enter your name or the company name using the number keypad.
   You can enter alphanumeric characters using the number keypad, and include special symbols by pressing the 0 key.
   For details on how to use the number keypad to enter alphanumeric characters.
   If you want to enter the same letter or number in succession, enter one digit, move the cursor by pressing the ▶ key and enter the next digit.
   If you want to insert a space in the name, you can also use the ▶ key to move the cursor to skip the position.
6. Press Enter when the name on the display is correct.
7. To return to Standby mode, press Stop/Clear.

Setting the Date and Time

When you turn your machine on for the first time, the display prompts you to enter the current date and time. After entering, it will not appear anymore. All faxes will have the date and time printed on them.

Note: *If power to the machine is cut off, you need to reset the correct time and date once the power has been restored.*

1. Press Menu until “Machine Setup” appears on the top line of the display.
2. Press the scroll key (◀ or ▶) to display “Date & Time” on the bottom line and press Enter.
3. Enter the correct time and date using the number keypad.

Note: *The date format may differ from country to country.*

You can also use the scroll key (◀ or ▶) to move the cursor under the digit you want to correct and enter a new number.

4. To select “AM” or “PM” for 12-hour format, press the or # key or any number key. When the cursor is not under the AM or PM indicator, press the cursor to the indicator. Pressing will change the clock mode to 24-hour format (e.g. 01:00 PM as 13:00).
5. Press Enter when the time and date on the display is correct.

   When you enter a wrong number, the machine beeps and does not proceed to the next step. If this happens, just reenter the correct number.
6. To return to Standby mode, press Stop/Clear.

Changing the Clock Mode

You can set your machine to display the current time using either a 12-hour or 24-hour format.

1. Press Menu until “Machine Setup” appears on the top line of the display.
2. Press the scroll key (◀ or ▶) until you see “Clock Mode” on the bottom line and press Enter. The clock mode currently set for the machine displays.
3. Press the scroll key (◀ or ▶) to select the other mode and then press Enter to save the selection.
4. To return to Standby mode, press Stop/Clear.

Setting the Paper Size and Type

After loading paper in the tray, you need to set the paper size and type using the control panel keys. These settings will apply to copy and fax modes. For PC-printing, you need to select the paper size and type in the application program you use on your PC.

1. Press Menu.

   The display shows “Paper Setting” on the top line of the display.
2. Press the scroll key (◀ or ▶) to display “Paper Size” on the bottom line and press Enter to access or the menu item.
3. Use the scroll key (◀ or ▶) to find the paper size you are using and press Enter to save it.
4. Press the key to scroll to “Paper Type” and press Enter to access the menu item.
5. Use the scroll key (◀ or ▶) to find the paper type you are using and press Enter to save it.
6. To return to Standby mode, press Stop/Clear.

Setting Sounds

You can control the following sounds:

- Speaker: You can turn on or off the sounds from the telephone line through the speaker, such as the dial tone or a fax tone. With this option set to “Comm.” the speaker is on until the remote machine answers.
- Ringer: You can adjust the ringer volume.
- Key Sound: With this option set to “On” a key tone sounds each time a key is pressed.
- Alarm Sound: You can turn the alarm sound on or off. With this option set to “On” an alarm tone sounds when an error occurs or fax communication ends.
- You can adjust the volume level using the manual dial.

Speaker, Ringer, Key Sound, and Alarm Sound

1. Press Menu until “Sound/Volume” appears on the top line of the display.
2. Press the scroll key (◀ or ▶) to scroll through the options. Press Enter when you see the desired sound option.
3. Press the scroll key (◀ or ▶) to display the desired status or volume for the option you have selected. You will see the selection on the bottom line of the display. For the ringer volume, you can select “Off,” “Low,” “Med,” and “High”. Setting “Off” means that the ringer does not sound. The machine works normally even if the ringer is turned off.
4. Press Enter to save the selection. The next sound option appears.
5. If necessary, repeat steps 2 through 4.
6. To return to Standby mode, press Stop/Clear.

Speaker Volume

1. Press the Manual dial. A dial tone sounds from the speaker.
2. Press the scroll key (◀ or ▶) until you hear the volume you want. The display shows the current volume level.
3. Press the Manual dial to save the change and return to Standby mode.

Note: *You can adjust the speaker volume only when the telephone line is connected.*

Toner Save Mode

Toner Save mode allows your machine to use less toner on each page. Activating this mode extends the life of the print cartridge, but it reduces print quality. Toner Save is selected in the Printer Properties window.

Power Save Mode

Power Save mode allows your machine to reduce power consumption when it is not in actual use. You can turn this mode on and select a length of time for which the machine waits after a job is printed before it switches to a reduced power state.

1. Press Menu until “Machine Setup” appears on top line of the display.
2. Press the scroll key (◀ or ▶) until “Power Save” appears on the bottom line. Press Enter.
3. Press the scroll key (◀ or ▶) to display “On” on the bottom line and press Enter.
   Selecting “Off” means that the power save mode is deactivated.
4. Press the scroll key (◀ or ▶) until the time setting you want appears.
   The available options are 5, 10, 15, 30, and 45 (minutes).
5. Press Enter to save the selection.
6. To return to Standby mode, press Stop/Clear.

FLASH UPGRADE

There are 2 methods to update the Flash Rom, Local and Remote.

(1) Local Machine

• RCP (Remote Control Panel) mode

This method is for Parallel Port or USB Port. Connect the PC and activate the RCP (Remote Control Panel) to upgrade the Firmware.

< Method >

How to Update Firmware using RCP

1. Connect PC and Printer with a Parallel Cable or a USB Cable.
2. Run the RCP utility and select Firmware Update.
3. Search for the Firmware file to be used to update the set using the Browse Icon.
4. Click the Update icon. The firmware file is transmitted to the Printer automatically and the printer is initialized when the download completes.
5. Click the Refresh icon and check that the updated version numbers are displayed.

• DOS Command mode

This method is ONLY for Parallel Port. Connect the PC to the set using a Parallel Cable and enter the DOS Command to upgrade the firmware.

< Method >

1. First of all you need the following files: down.bat, down_com.bin, fprt.exe, and Rom File: (file name for upgrade). Ensure you save ALL of these files in the same folder.
2. At the DOS prompt enter the correct command (as shown below) and push the enter key. Then the upgrade will automatically take place.
3. There are two commands use the correct one depending on the condition of the set.

* When the product is in the idle condition **down "rom file"**
* When the product is in Ready condition
(TECH MODE --> DATA SETUP --> FLASH UPGRADE --> LOCAL)
copy/b "rom file" lpt1

4. Do not turn off the power during the upgrade process.

(2) Remote FAX

It is possible to use a set that already has the latest firmware to upgrade a remote set remotely using the telephone system.

1. On the set that has the latest firmware set it to transmit the upgrade:-
(TECH MODE •DATA SETUP•••• FLASH UPGRADE•••• REMOTE)
2. Enter the telephone number of the set that needs to be upgraded.
(Several faxes can be upgrade at the same time. In this case, enter each fax number.)
3. When the enter key is pressed the set sends the firmware file by calling designated fax number. (Around 10~15 minutes are needed to send the file.)

Note: *The Sending and Receiving fax machines MUST be the same model.*

Note: *The sending fax must be set up in ECM mode and the Receiving fax memory must be 100%. If not the function will not work.*

Machine Test

SWITCH TEST

Use this feature to test all keys on the operation control panel. The result is displayed on the LCD window each time you press a key.

MODEM TEST

Use this feature to hear various transmission signals to the telephone line from the modem and to check the modem, amplifier and speaker. If no transmission signal sound is heard, it means the modem part of the main board, amplifier, speaker or speaker harness is faulty.

DRAM TEST

Use this feature to test the machine's DRAM. The result appears in the LCD display.
If all memory is working normally, the LCD shows << O K >>

ROM TEST

Use this feature to test the machine's ROM. The result and the software version appear in the LCD display.

- FLASH VER: 1.00 V
- ENGINE VER:1.00V

PATTERN TEST

Using this pattern printout you can check that the printer mechanism is functioning properly.
This function is for factory manufacturing use only.

SHADING TEST

The function is used to set the optimum scan quality determined by the specific characteristics of the CIS (Contact Image Sensor). If copy image quality is poor perform this function to check the condition of the CIS unit.

Note: *Before performing the shading test, place a sheet of blank white paper on the platen glass.*

< Method >

1. Select the [Shading Test] in TECH MODE
   (Menu, #, 1934).
2. Push the ENTER key and an image will be scanned.
3. After scanning the CIS SHADING PROFILE will be print out.
4. If the printed image is different to the sample image shown the CIS is defective.

Note: *When you test the CIS, make sure that the cover is closed.*

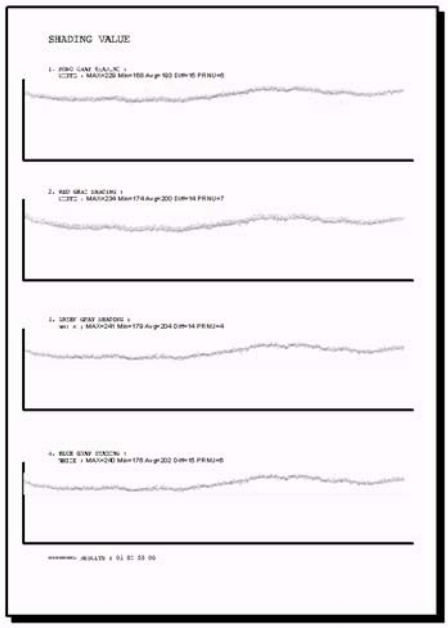


Figure 1

Report

PROTOCOL LIST
This list shows the sequence of the CCITT group 3 T.30 protocol during the most recent sending or receiving operation. Use this list to check for send and receive errors.

SYSTEM DATA
This list provides a list of the user system data settings and tech mode settings.

KEY HISTORY
This list shows the input key history.

ERROR INFO
This list display the detail machine error list.

GP 5 Control Panel

Control Panel Functions

Note: *The Workcentre PE220 is shown in Figure 1 but the functions are identical for the Workcentre PE220 and Phaser 3200.*

Figure 1

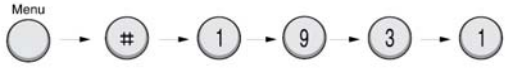
Lighten/Darken	Adjusts the brightness of the documents for the current copy job.
Original Type	Selects the document type for the current copy job.
Reduce/Enlarge	Makes a copy smaller or larger than the original.
Favourite Copy	Allows you to use one of the special copy features, such as Clone, Collation, Auto fit, 2 Sides on 1 page, 2/4 Up (multiple pages on a sheet), and Poster copying after assigning it.
	Displays the current status and prompts during an operation.
	Used to scroll through tthe available options for the selected menu item.
Enter	Confirms the selection on the display.
Menu	Enters Menu mode and scrolls through the menus available.
Exit	Sends you back to the upper menu level.
Start	Starts a job.
Stop/Clear	Stops an operation at any time. In Standby mode, clears/cancels the copy options, such as the darkness, the document type setting, the copy size and the number of copies.
Number Keypad	Dials a number or enters alphanumeric characters.
Resolution	Adjusts the resolution of the documents for the current fax job.
Broadcasting	Allows you to send a fax to multiple destinations.
Phone Book	Allows you to store frequently dialled fax numbers as one or two-digit speed dial or group dial numbers for automatic dialling and edit the stored numbers. Also allows you to print a Phone-book list.
Redial/Pause	In Standby mode, redials the last number or in Edit mode, inserts a pause into a fax number.
Manual Dial	Engages the telephone line.
Scan	Selects the scan feature software (Printer Settings Utility) provided.
Toner Save	Allows you to save on toner by using less toner to print a document.
Copy	Selects the copy feature.
Fax	Selects the Fax feature.

GP 6 Engine Test Mode

The Engine Test Mode supplies useful functions to check the condition of the print engine. It tests the condition of each device and displays the result of the test on the LCD. It is divided into 5 functions (0~4), and these are shown below.

To enter the Engine Test Mode

Press



in sequence and the LCD briefly displays

'Engine Test', the machine has entered Engine Test mode.
Press "0", "1", "2", "3" or "4" to select the Test No.

- Workcentre PE220 - Table 1
- Phaser 3200 - Table 2

Workcentre PE220 Engine Test Mode

Table 1: Workcentre PE220 Engine Test Mode

NO.	Sub No.	Engine test	Remark
0	1	Motor Test	1 : On, 2 : Off – next test selected
	2	Pick Up Test	1 : On, 2 : Off – next test selected
	3	Fan Test	1 : On, 2 : Off – next test selected
	4	Manual Clt Test	1 : On, 2 : Off – next test selected
	5	PTL Test	1 : On, 2 : Off – next test selected
1	1	LSU Motor Test	1 : On, 2 : Off – next test selected
	2	LSU Hsync Test	1 : On, 2 : Off – next test selected
	3	LD Test	1 : On, 2 : Off – next test selected
2	1	Feed Sensor Test	1. Check : read the sensor
			2. Next : Next Sensor test
	2	Exit Sensor Test	1. Check : read the sensor
			2. Next : Next Sensor test
	3	Cover Sensor Test	1. Check : read the sensor
			2. Next : Next Sensor test
	4	Empty Sensor Test	1. Check : read the sensor
			2. Next : Next Sensor test
	5	Manual Sensor Test	1. Check : read the sensor
			2. Next : Next Sensor test
3	1	Therm ADC 180	1 : On, 2 : Off (maintain the fusing temp. 80°C)
	2	Therm ADC 140	1 : On, 2 : Off (maintain the fusing temp. 135°C)
	3	Therm ADC 120	1 : On, 2 : Off (maintain the fusing temp. 160°C)
	4	Therm ADC 100	1 : On, 2 : Off (maintain the fusing temp. 191°C)
4	1	MHV Test	1 : On, 2 : Off (-1550V ± 50V)
	2	Dev Bias Test	1 : On, 2 : Off (-430V ± 20V)
	3	THV EN/NEG Test	1 : On, 2 : Off (-1200V +300V/-150V)
	4	THV ON (1300V)	1 : On, 2 : Off (+1300V ± 20V)
	5	THV ADC 1300V	1 : On, 2 : Off (ADC Value : 101 ± 5)
	6	THV ADC 600V~3500V	1 : On, 2 : Off (Compare each ADC Value)

Phaser 3200 Engine Test Mode

Table 2: Phaser 3200 Engine Test Mode

1st level	2nd level	3rd level	4th level	5th level
Engine Test	Diagnostic	MTR Fan Sol ETC	Motor Test	1 : On, 2 : Off – next test selected
			Pick Up Test	1 : On, 2 : Off – next test selected
			Main Fan Test	1 : On, 2 : Off – next test selected
			SMPS Fan Test	1 : On, 2 : Off – next test selected
		LSU	LSU ErrorTest	1 : On, 2 : Off – next test selected
			LD Test	1 : On, 2 : Off – next test selected
		Sensor	Feed Sensor Test	1. Check : read the sensor
				2. Next : Next Sensor test
			Exit Sensor Test	1. Check : read the sensor
				2. Next : Next Sensor test
			Cover Sensor Test	1. Check : read the sensor
				2. Next : Next Sensor test
			Empty Sensor Test	1. Check : read the sensor
				2. Next : Next Sensor test
		Heat Test	Therm ADC 170	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 160	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 150	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 140	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 130	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 125	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 120	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 115	1 : On, 2 : Off (maintain the fusing temp.)
			Therm ADC 110	1 : On, 2 : Off (maintain the fusing temp.)
		HVPS Test	MHV Test (1300V)	1 : On, 2 : Off
			Bias Test (350V)	1 : On, 2 : Off
			THV Test (1300V)	1 : On, 2 : Off
			THV (-)	1 : On, 2 : Off
	Engine Pat-tern	Stripe Pattern	1: On, 2: Off	
		White Pattern	1: On, 2: Off	
	Status Print	Engine Print		

Engine Test Mode Detailed Description

Table 1: Engine Test Mode Detailed Description

01.Motor Test	The main motor starts when the execution key is pressed and stops when the stop key is pressed.	Main Motor On/Off
02.Pick Up Test	Automatically stops, when the execution is chosen. stops, when the execution is chosen.	Tray 1,2 Solenoid On/Off
03.Fan Test	The fan starts when the execution key is pressed and stops when the stop key is pressed.	Fan On/Off
04.Manual Clutch Test	The tray2,3 clutch is on for 1sec and then it automatically stops, when the execution is chosen.On this function, the main motor runs before 2sec from the point of the clutch on in order to check the clutch state.	Tray 2,3 Clutch On/Off
05.PTL Test	PTL (Pre-Transfer Lamp) is lights when the execution key chosen and it stops when the stop key is chosen.	PTL On/Off
11.LSU Motor	The laser motor starts when the execution key is pressed and stops when the stop key is pressed.	Laser Motor On/Off
12.LSU Hsync Test	The LSU motor starts and "Laser Ready" is displayed if the motor spins at the correct speed, otherwise "Laser Error" is displayed.	Laser Ready On/Off
13.LD Test	"Diode On" is displayed, when the laser diode is on. Otherwise "Diode Off" is displayed.	Diode On/Off
21.Feed Sen Test	These functions allow the current state of the sensor to be displayed.	"Sensor Off" or “Sensor On”
22.Exit Sen Test		
23.Cover Sen Test	This function allows the current state of the Cover sensor to be displayed. Touch the sensor and confirm that the message changes: "Cover Open" to "Cover Close"	"Cover Open" or "Cover Close"
24.Empty Sen Test	These functions allow the current state of the sensor to be displayed.	"Sensor Off" or “Sensor On”
25.Manual Sen Test		
31.Them ADC 180	"Current value" is displayed on the upper line of the LCD, and "Target value" on the bottom line. Target value is limited from "191°C" to "80°C"	Target temperature and output temperature from thermistor and ADC.
31.Them ADC 170		
32.Them ADC 160		
33.Them ADC 150		
32.Them ADC 140		
36.Them ADC 130		
37.Them ADC 125		
33.Them ADC 120		
39.Them ADC 115		
34.Them ADC 100		

Table 1: Engine Test Mode Detailed Description

41.MHV Test	These Functions are provided to check whether the control of the HVPS is functioning correctly.	MHV On/Off
42.Dev Bias Test		Dev Bias On/Off
43.THV EN/NEG Test		THV EN/NEG On/Off
44.THV ON(1300V)		THV On/Off
45.THV ADC 1300V		ADC value displayed.
46.THV ADC 600V~3500		ADC value displayed.
THV Test (1300V)		THV EN/NEG On/Off
THV Test (-)		THV On/Off

GP 7 Paper Path and Clearing Paper Jams

Scan Document Path

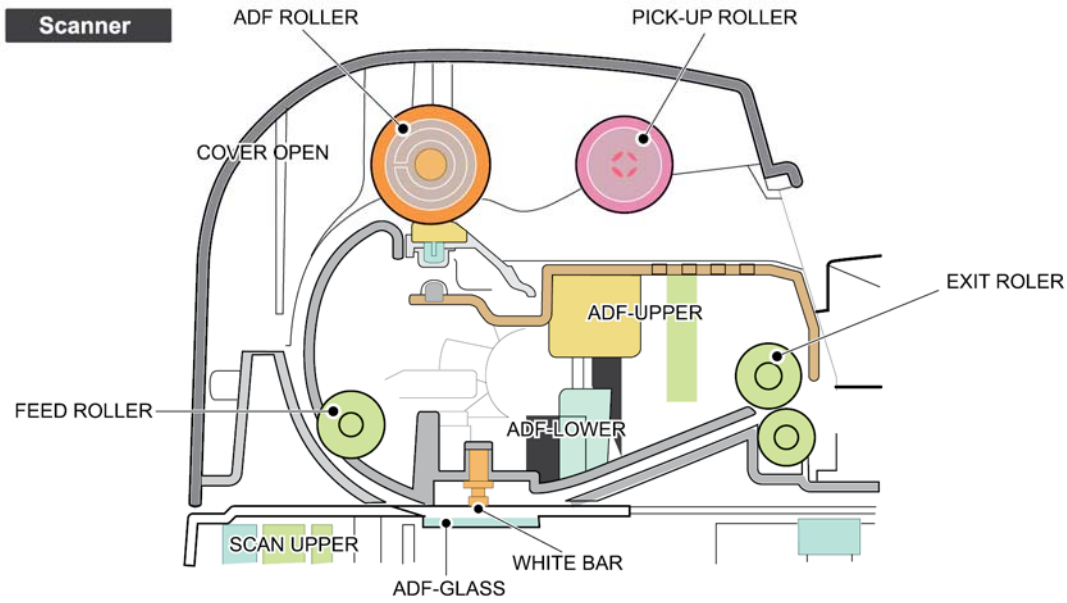


Figure 1

Printer Paper Path

1) After receiving a print command, the printer feeds paper from the main cassette or manual feeder as required.

2) The paper being fed passes the paper feed sensor. (Jam 0 occurs if the sensor is not operated within a certain time)

3) Having passed the paper feed sensor the paper moves to the paper exit sensor via printing process. (Jam 1 occurs if the sensor is not operated within a certain time)

4) The paper then passes through the paper exit sensor and out of the set. (Jam 2 occurs if the trailing edge of the

paper does not pass the exit sensor within a certain time of the paper leading edge activating the exit sensor)

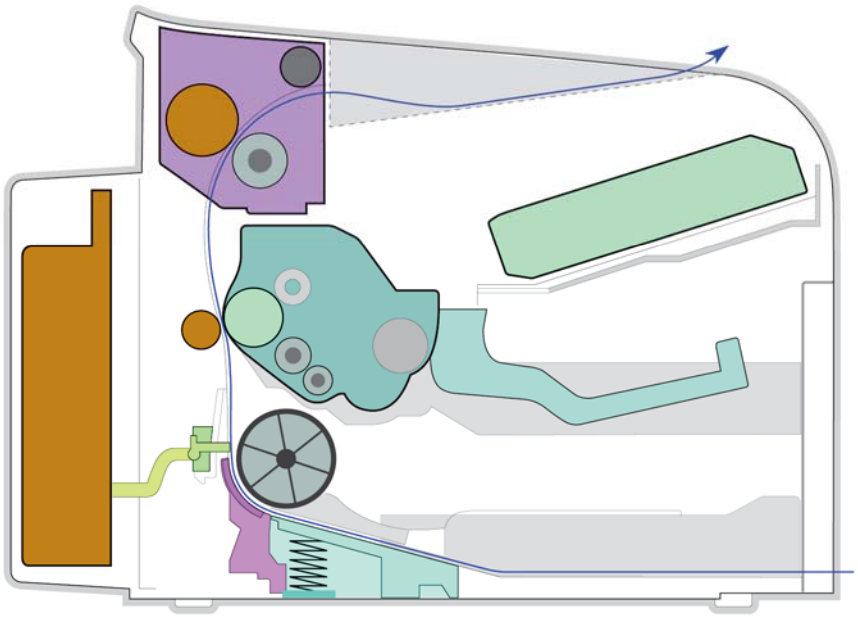


Figure 2

Clearing Paper Jams

Note: *The illustrations show the Workcentre PE220 but the procedures are identical for the Workcentre PE220 and Phaser 3200.*

When a paper jam occurs, “Paper Jam” appears on the display.
Refer to the table below to locate and clear the paper jam.

Table 1:

Message	Location of Jam
[Paper Jam 0] Open/Close Door	In the tray
[Paper Jam 1] Open/Close Door	In the fuser area or around the print cartridge.
[Paper Jam 2] Check Inside	In the paper exit area

To avoid tearing the paper, pull out the jammed paper gently and slowly. Follow the instructions in the following sections to clear the jam.

In the Tray

1. Remove the jammed paper in the tray by gently pulling it straight out.

Figure 1

2. Open and close the front door to resume printing.

In the Fuser Area or Around the Print Cartridge

WARNING

The fuser area is hot. Take care when removing paper from the machine.

1. Open the front door and pull the print cartridge out, lightly pushing it down.

Figure 1

2. Remove the jammed paper by gently pulling it straight out.

Figure 1

3. Replace the print cartridge and close the front door. Printing automatically resumes.

In the Paper Exit Area

1. Open and close the front door. The jammed paper automatically exits the machine. If the paper does not exit, continue to step 2.
2. Gently pull the paper out of the output tray.

Figure 1

3. If there is any resistance and the paper does not move when you pull, or if you cannot see the paper in the output tray, open the rear door by pulling the tab on it.

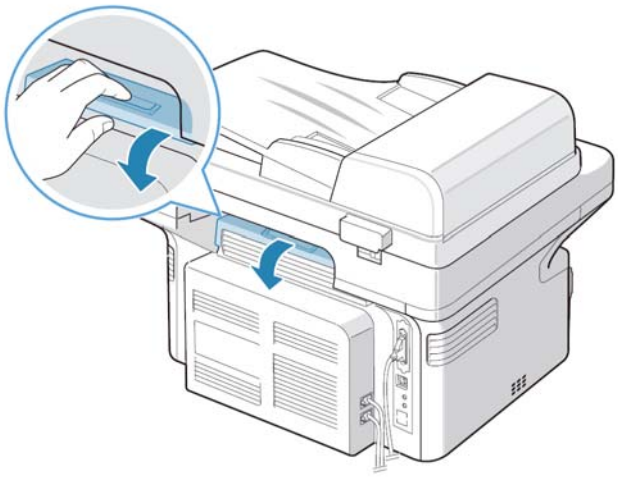


Figure 2

4. Remove the jammed paper by gently pulling it straight out.

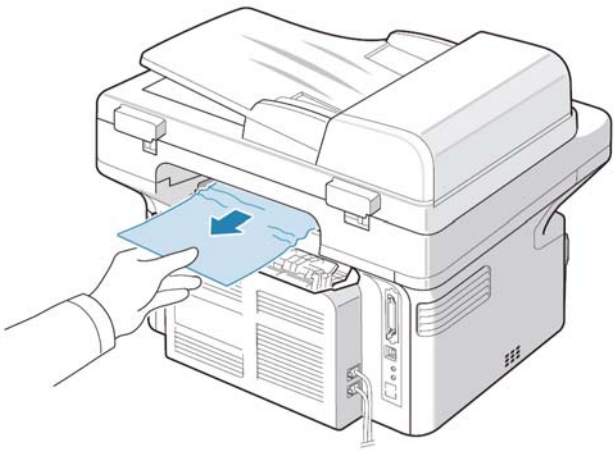


Figure 3

WARNING

The inside of the machine is hot. Take care when removing paper from the machine.

5. Close the rear door.

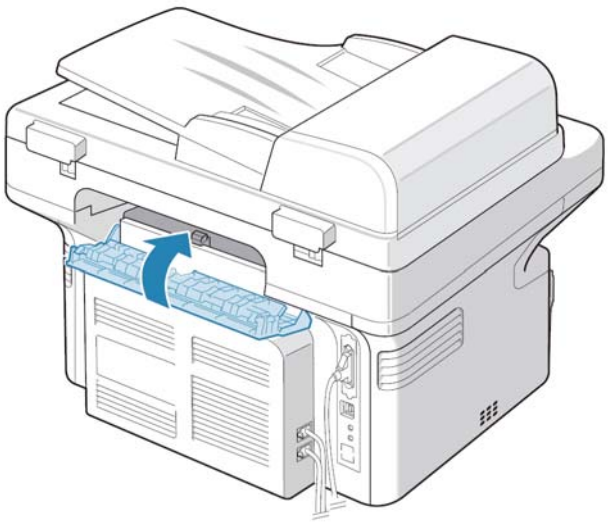


Figure 4

6. Open and close the front door to resume printing.

Tips for Avoiding Paper Jams When Printing on the A5-sized Paper

If paper jams occur frequently when you print on A5-sized paper:

1. Load the paper into the tray, as shown below.

Figure 1

2. Open the printer's properties window, set the paper size to A5 from the Paper tab.
3. From the Orientation option of the Layout tab, set the Rotate option to 90.
4. Click OK to start printing. For details, see Software User's Guide.

Tips for Avoiding Paper Jams

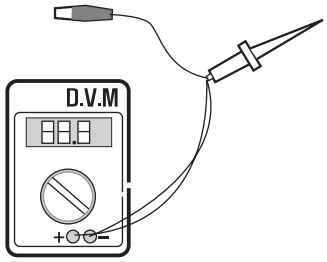
By selecting the correct paper types, most paper jams can be avoided. When a paper jam occurs.

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

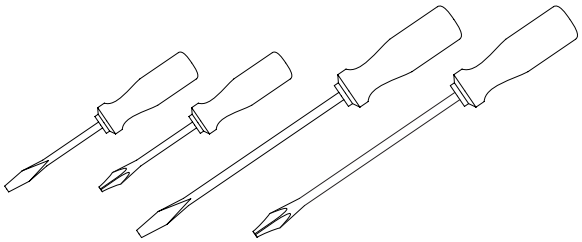
GP 8 Tools

The following tools are recommended.

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



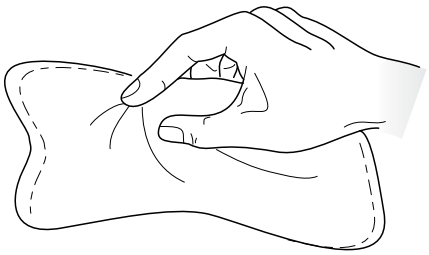
Driver
Standard: "-" type, "+" type (M3 long, M3 short, M2 long, M2 short).



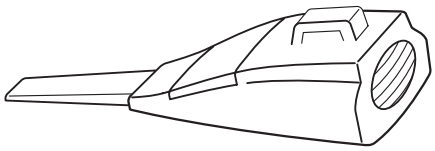
Tweezers
Standard: For general home use, small type.

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

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

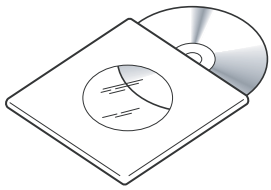


Vacuum Cleaner



Spring Hook
Standard: For general use

Software (Driver) installation CD ROM



GP 9 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.

Table 1: Acronyms and Abbreviations

Abbreviations	Explanation
AP	Access Point
AC	Alternating Current
APC	Auto Power Control
ASIC	Application Specific Integrated Circuit
BIOS	Basic Input Output System
BLDC	Brush-less Direct Current
CN	connector
CON	connector
CPU	Central Processing Unit
dB	decibel
dbA	decibel A
dBM	decibel milliwatt
DC	direct current
DCU	Diagnostic Control Unit
DPI	Dot Per Inch
DRAM	Dynamic Random Access Memory
DVM	Digital Voltmeter
ECP	Enhanced Capability Port
EDC	Embedded Diagnostic control
EEPROM	Electronically Erasable Programmable Read Only Memory
EMI	Electro Magnetic Interference
EP	electrophotographic
EPP	Enhanced Parallel Port
FPOT	First Printout Time
F/W	firmware
GDI	graphics device interface
GND	ground
HBP	Host Based Printing
HDD	Hard Disk Drive
H/H	High temperature and high humidity
HV	high voltage
HVPS	High Voltage Power Supply
I/F	interface
I/O	Input and Output
IC	integrated circuit
IDE	Intelligent Drive electronics or Embedded Drive Electronics
IEEE	Institute of Electrical and Electronics Engineers. Inc.
IPA	Isopropy Alcohol
IPM	Images Per Minute

Table 1: Acronyms and Abbreviations

Abbreviations	Explanation
LAN	local area network
lb	pound(s)
LBP	Laser Beam Printer
LCD	Liquid Crystal Display
LED	Light Emitting Diode
LIU	Line Interface Unit
L/L	Low temperature and low humidity
LSU	Laser Scanning Unit
MB	megabyte
MHz	megahertz
MPF	Multi Purpose Feeder
NIC	Network Interface Card
N/N	Normal temperature and normal humidity
NVRAM	nonvolatile random access memory
OPC	Organic Photo Conductor
OPE	Operate Panel Equipment
PBA	Printed Board Assembly
PCL	Printer Command Language, Printer Control Language
PDL	Page Discription Language
PPM	Page Per Minute
PPS	Pulse Per Second
PS	Post Script
PTL	Pre-Transfer Lamp
PWM	Pulse Width Modulation
Q-PID	Quick Printer Initiating Device
Qt'y	quantity
RAM	Random Access Memory
ROM	Read Only Memory
SCF	Second Cassette Feeder
SMPS	Switching Mode Power Supply
Spool	Simultaneous Peripheral Operation Online
SW	switch
sync	synchronous or synchronization
USB	Universal Serial Bus
WECA	Wireless Ethernet Compatibility Alliance

GP 10 Selecting printer locations

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

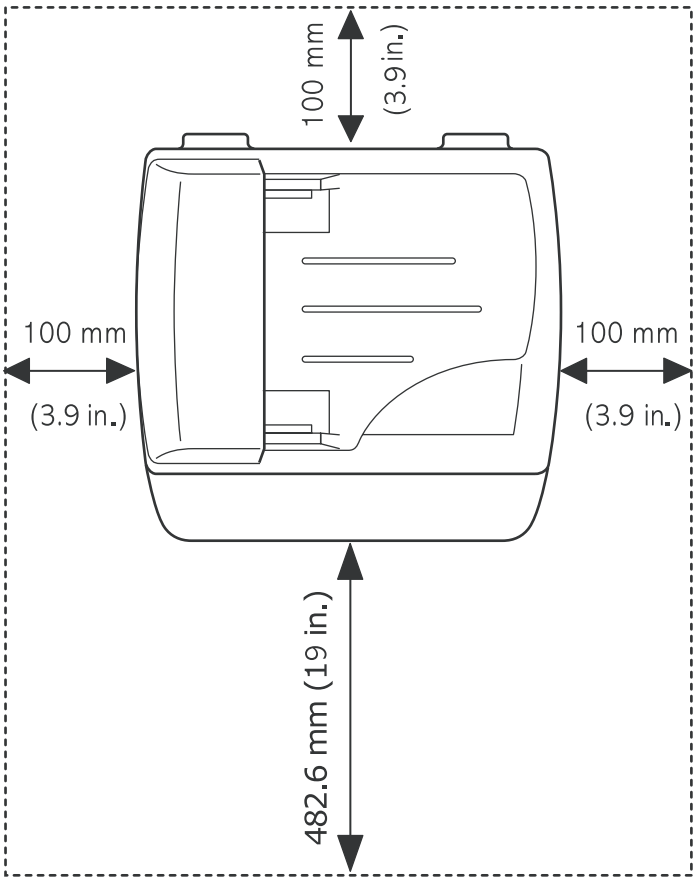


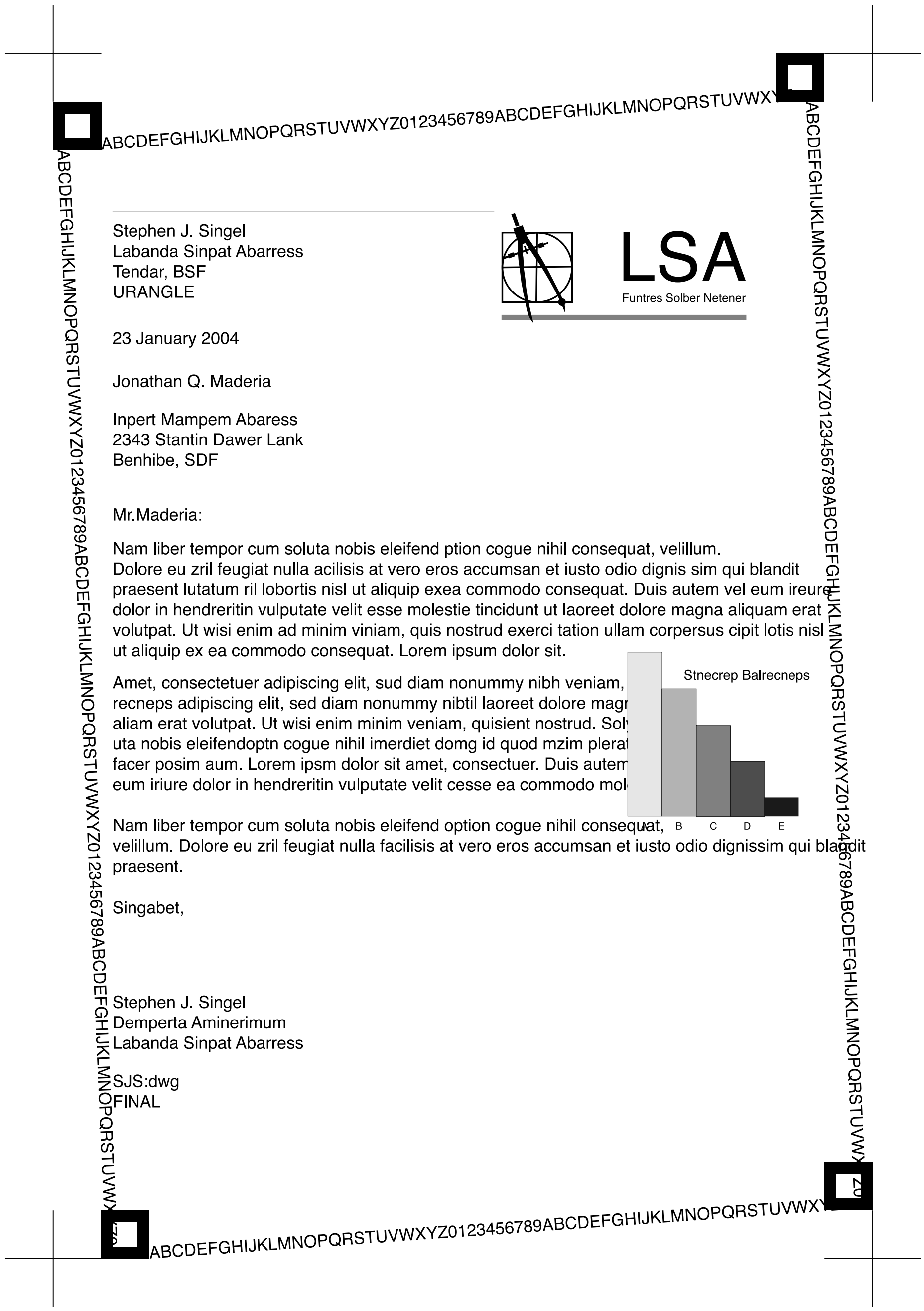
Figure 1

GP 11 Sample Test Pattern

The sample pattern shown below is the standard test pattern used in the factory.

The life of the print cartridge, developer cartridge and printing speed are measured with the pattern shown below of 5% area coverage. The pattern is shown at approximately 70% of actual size.

A4 ISO 19752 Standard Pattern


ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXY

Stephen J. Singel
Labanda Sinpat Abarress
Tendar, BSF
URANGLE

LSA
Funtres Solber Netener

23 January 2004

Jonathan Q. Maderia

Inpert Mampem Abaress
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Benhibe, SDF

Mr.Maderia:

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Stephen J. Singel
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Labanda Sinpat Abarress

SJS:dwg
FINAL

ABCDEFGHIJKLMNOPQRSTUVWXYZ0123456789ABCDEFGHIJKLMNOPQRSTUVWXY

Figure 1

GP 12 Service Log

The service log is available at the end of the manual.

7. Wiring Data

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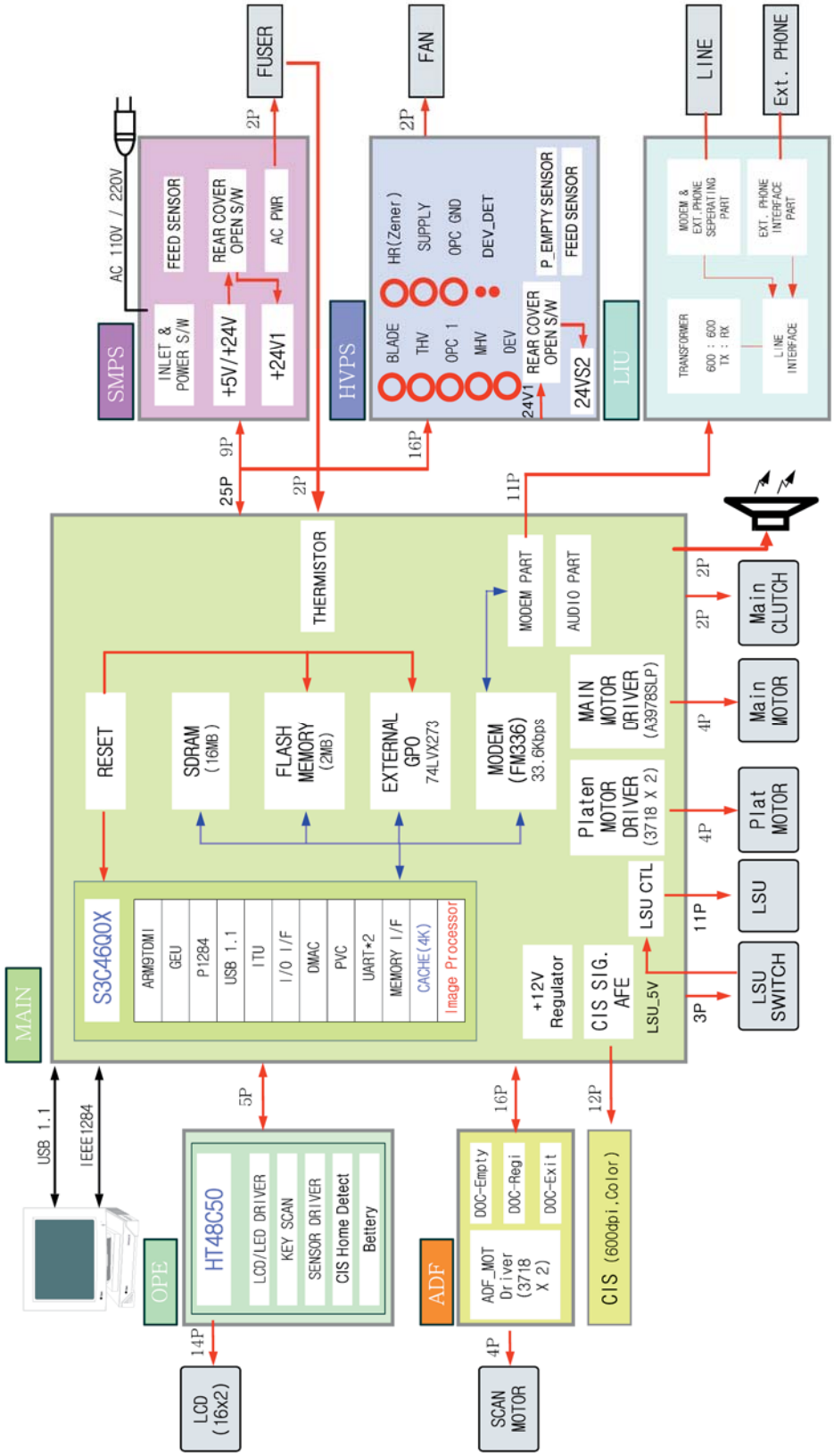
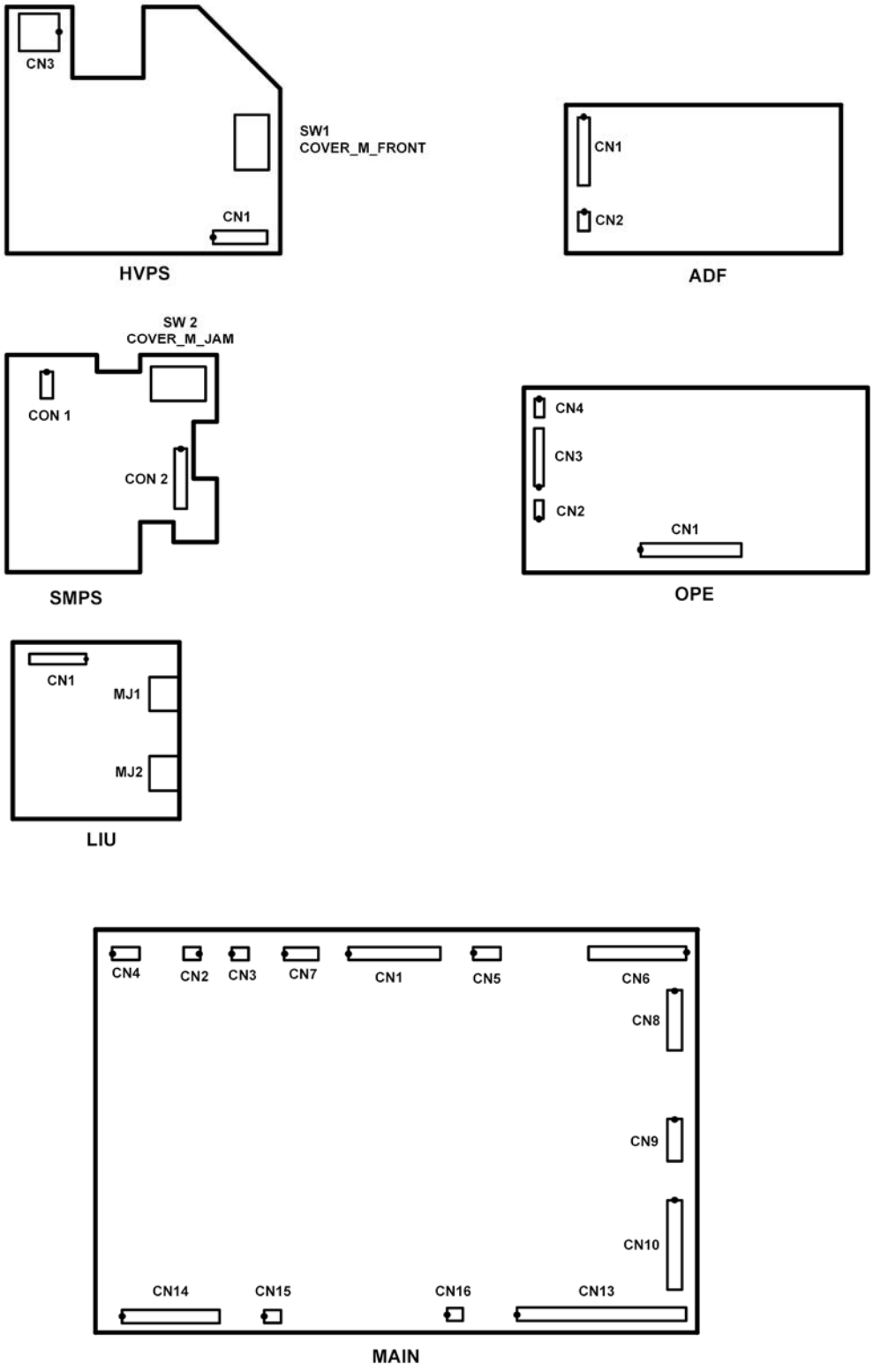
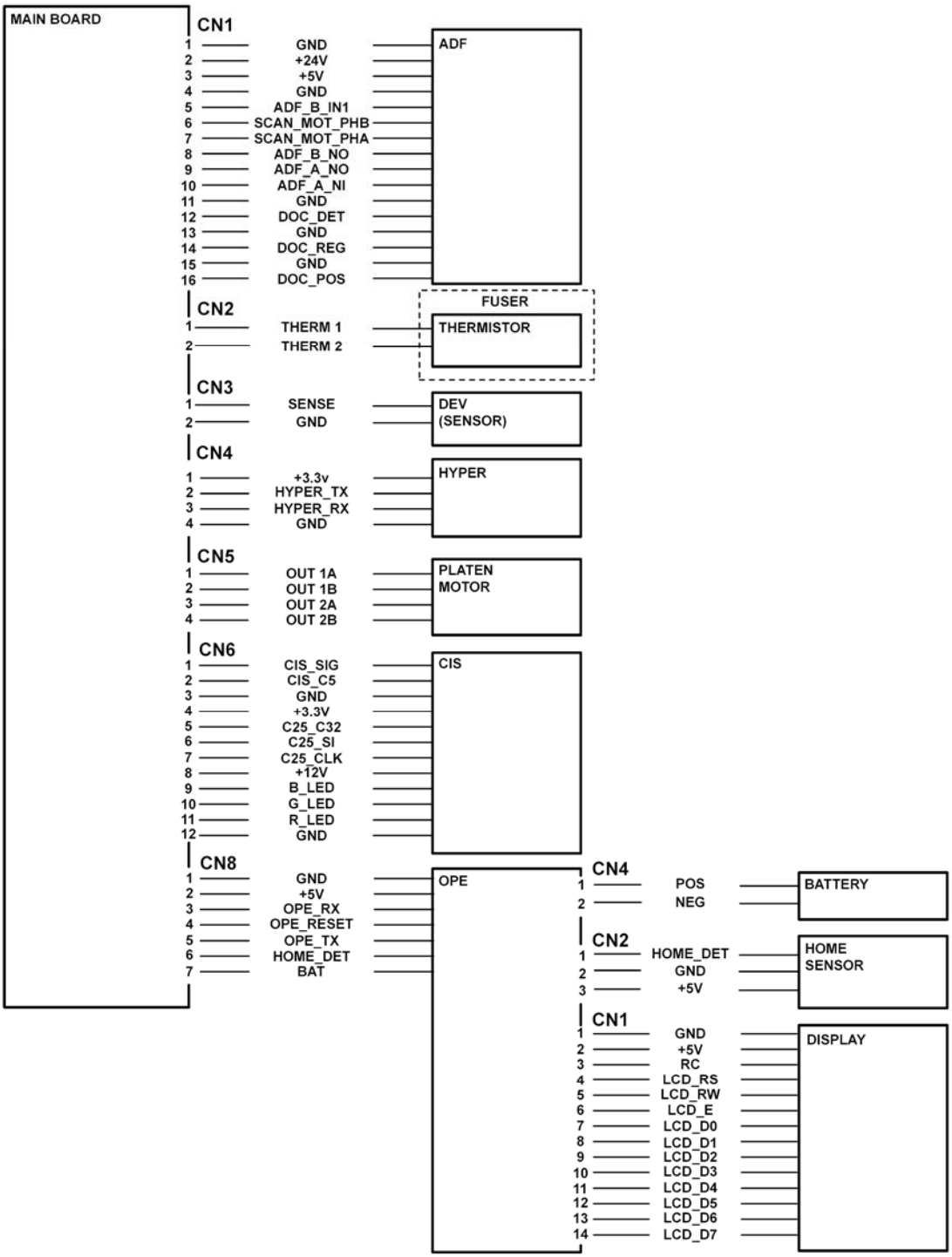
WD 1 System Block Diagram (Workcentre PE220)



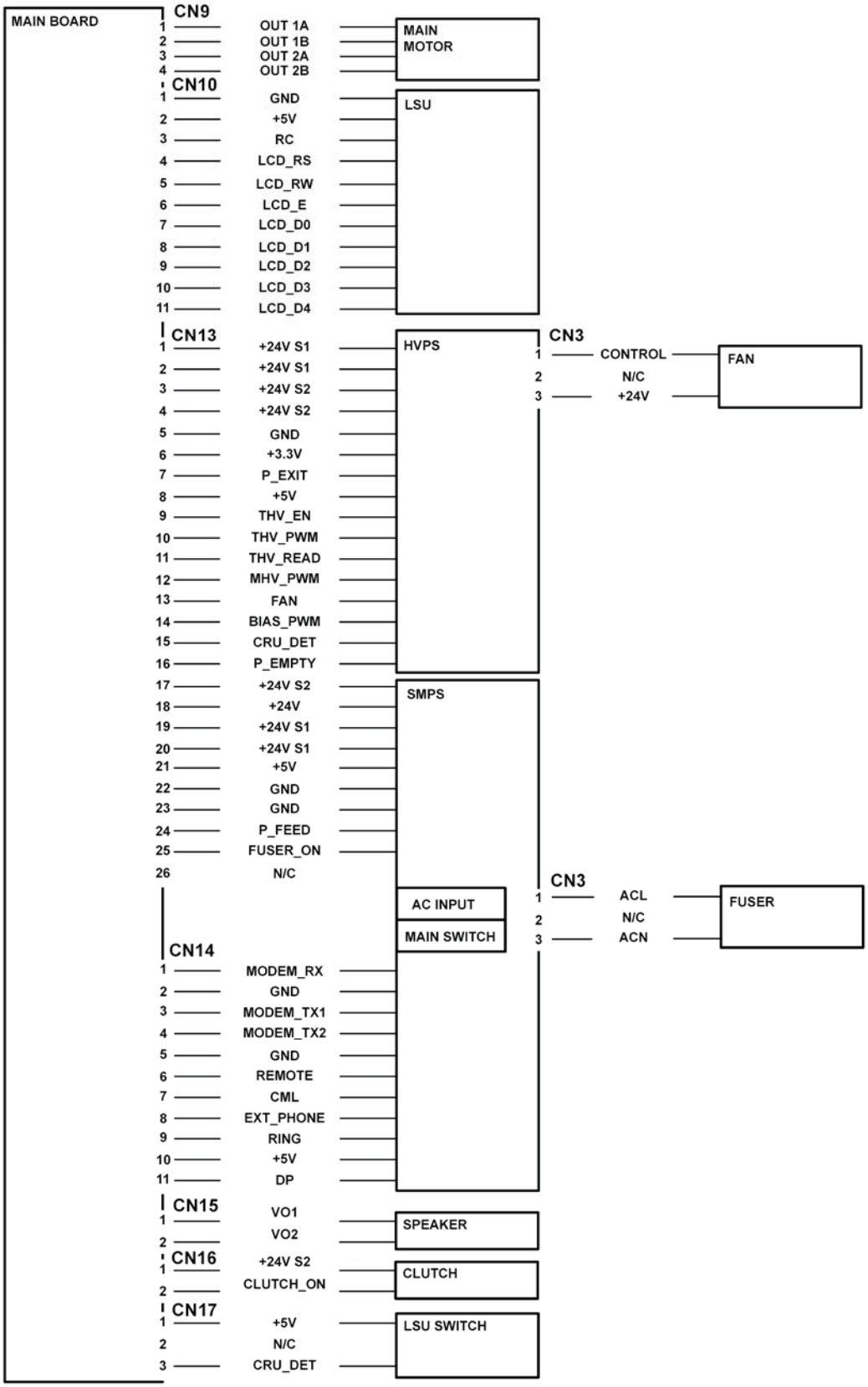
WD 2 PJ Locations (Workcentre PE220)



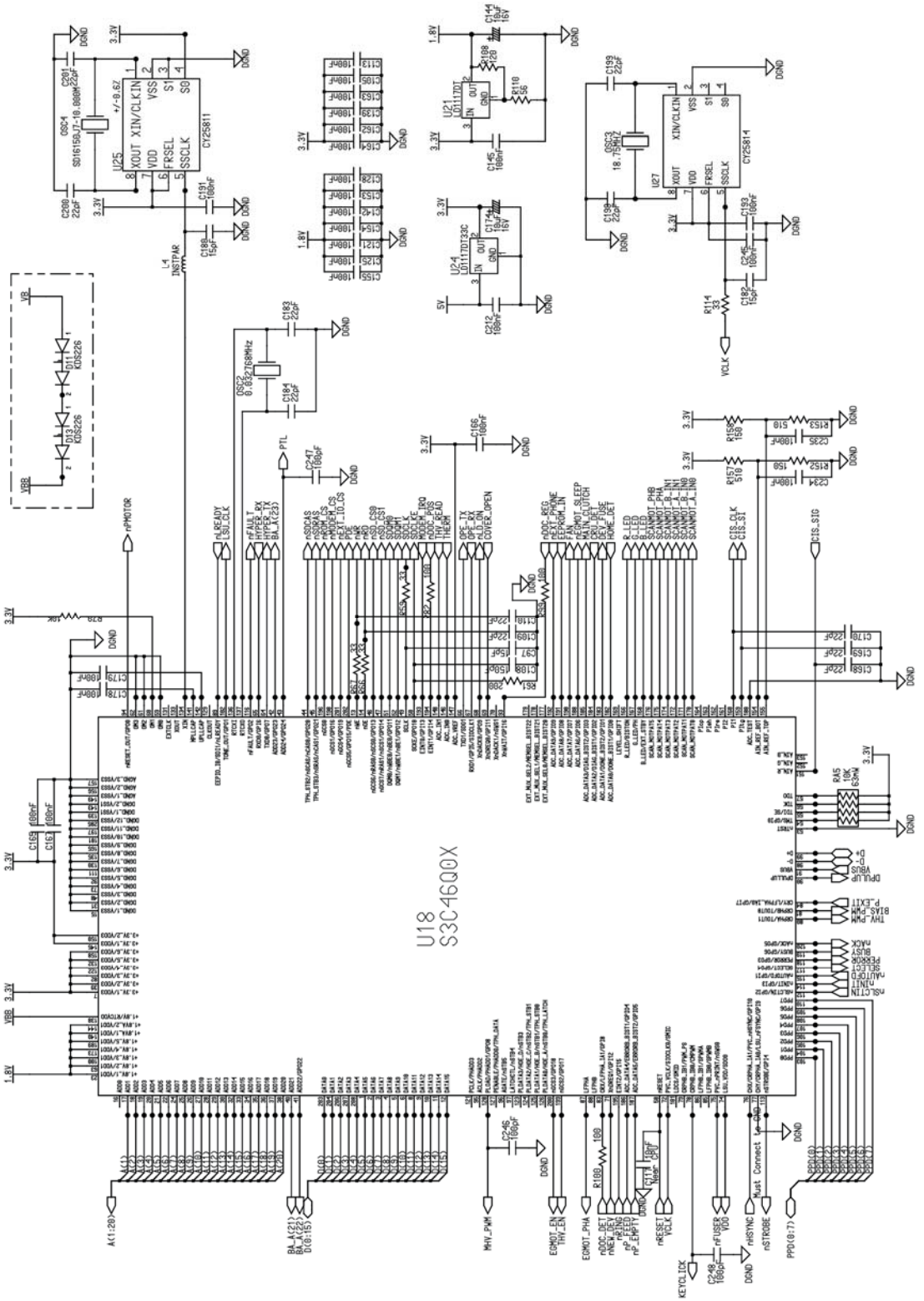
WD 3 Connection Diagram (1/2) (Workcentre PE220)



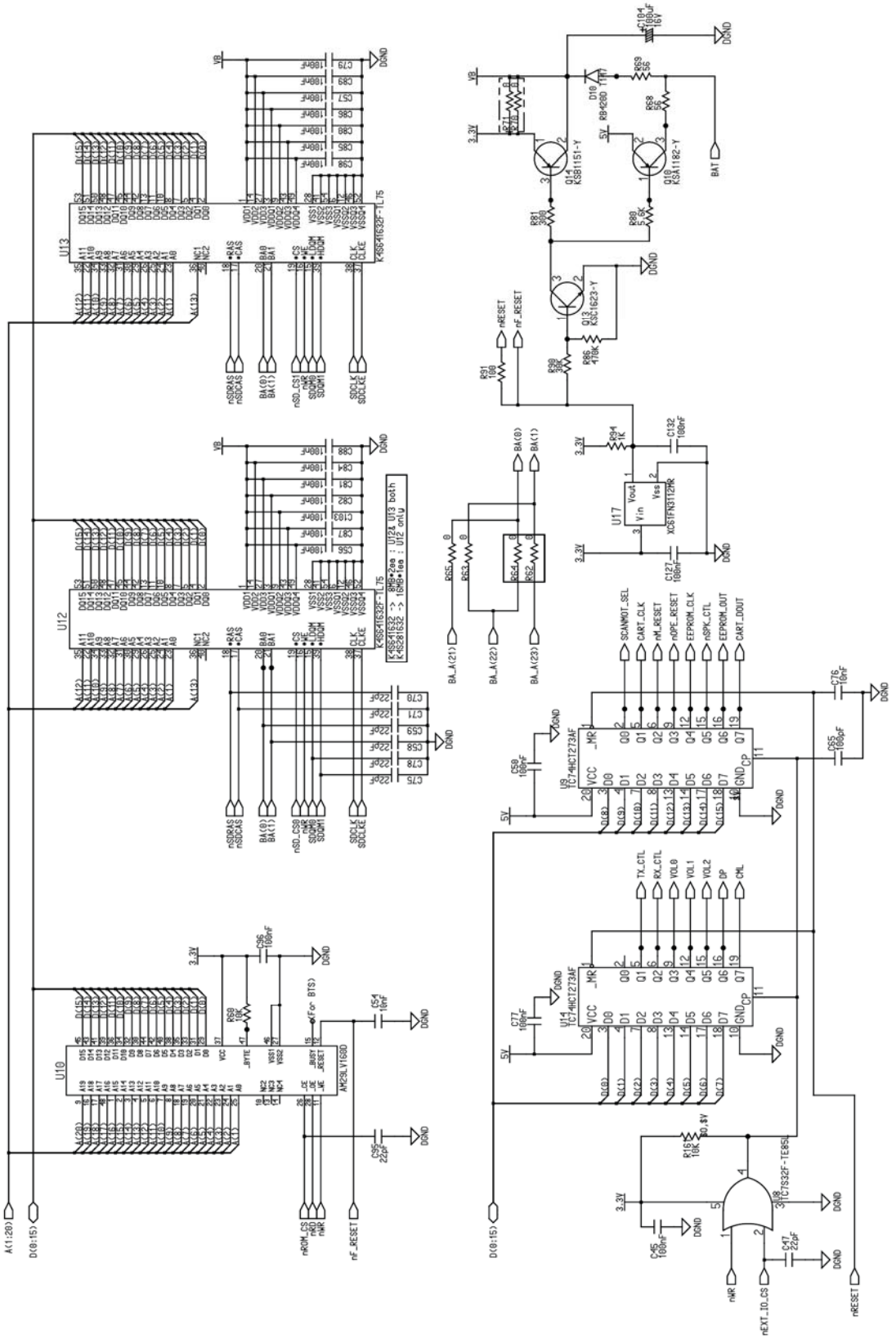
WD 4 Connection Diagram (2/2) (Workcentre PE220)



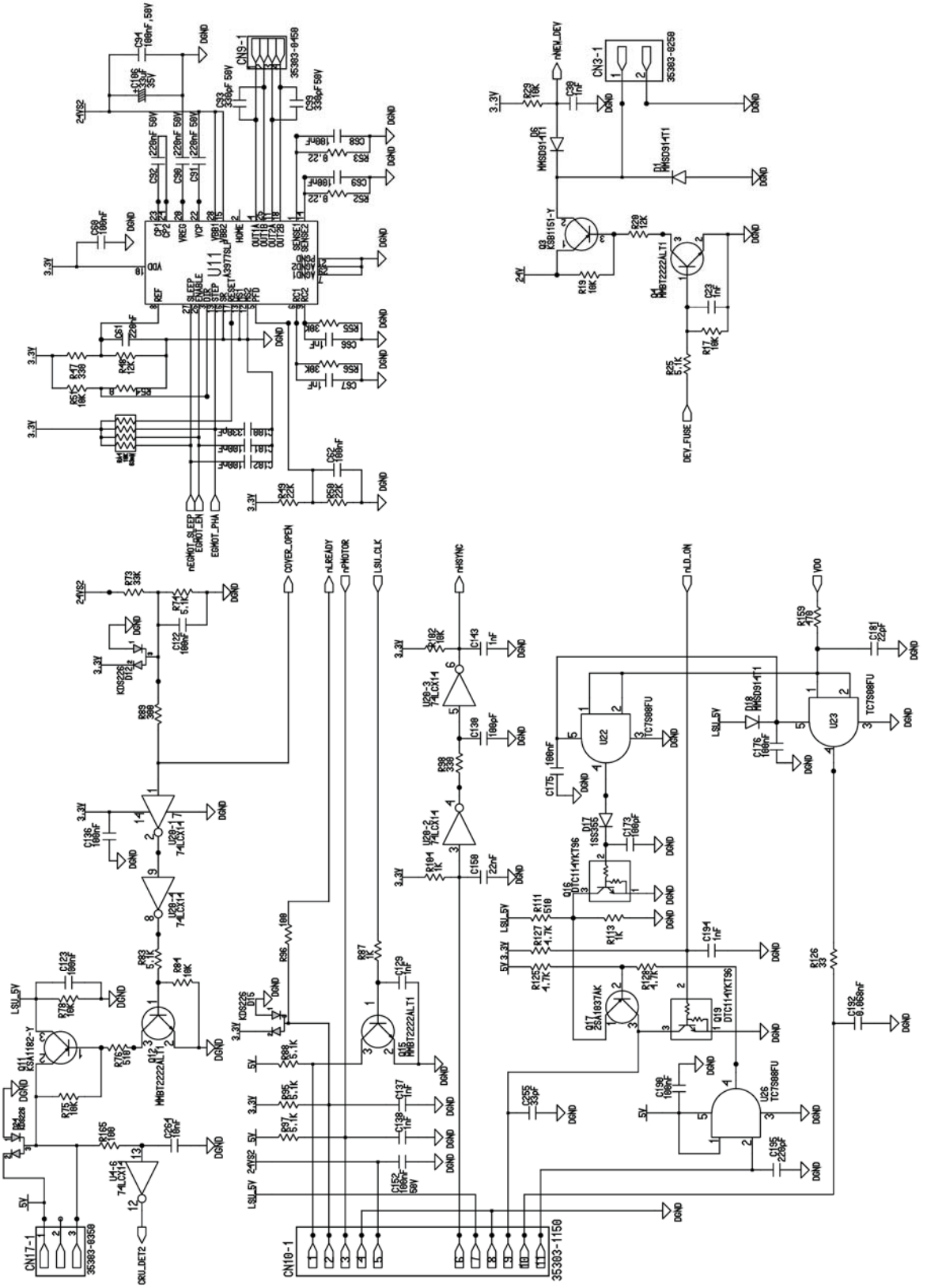
WD 5 Main Board (1/7) (Workcentre PE220)



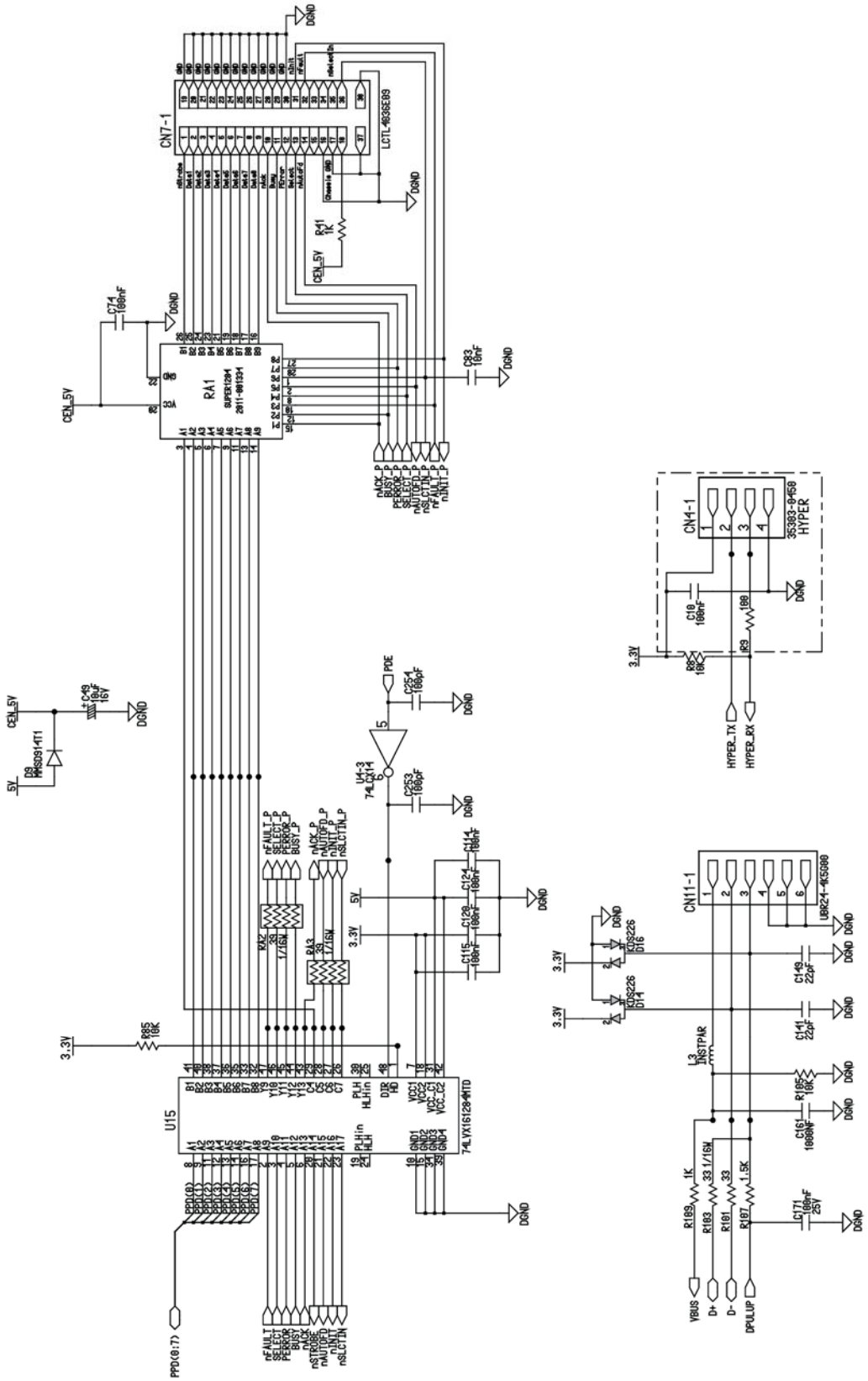
WD 6 Main Board (2/7) (Workcentre PE220)



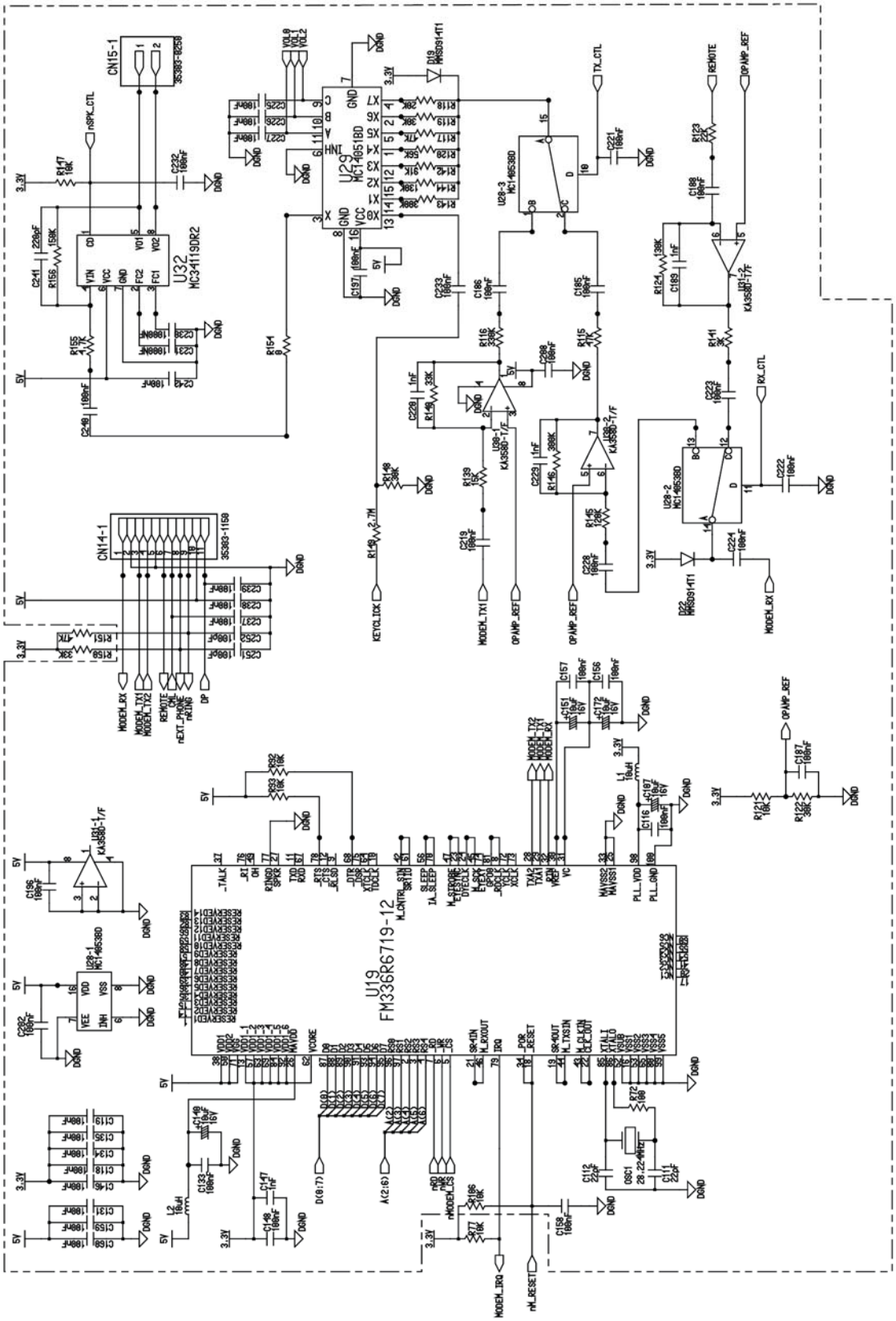
WD 7 Main Board (3/7) (Workcentre PE220)



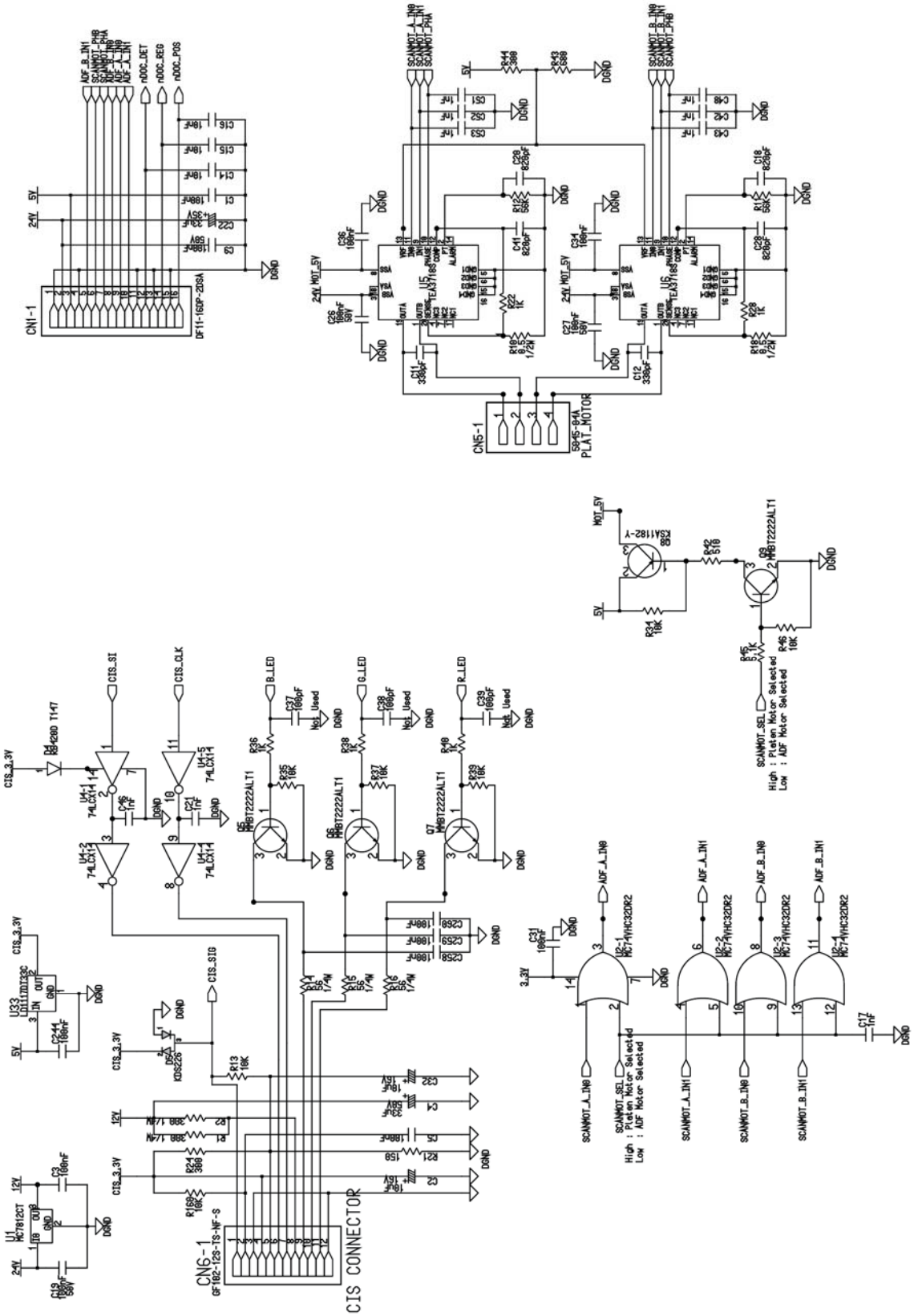
WD 8 Main Board (4/7) (Workcentre PE220)



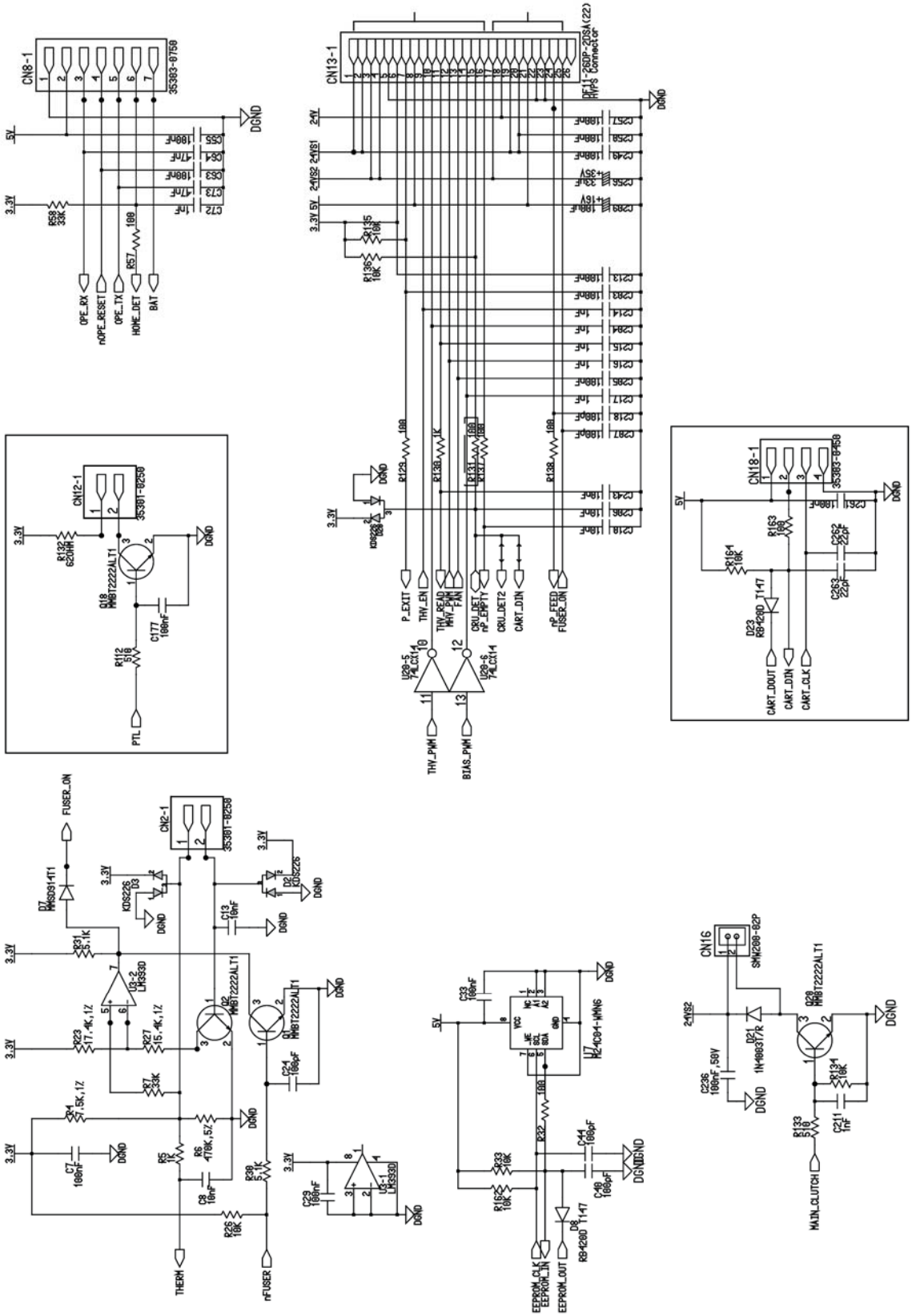
WD 9 Main Board (5/7) (Workcentre PE220)



WD 10 Main Board (6/7) (Workcentre PE220)

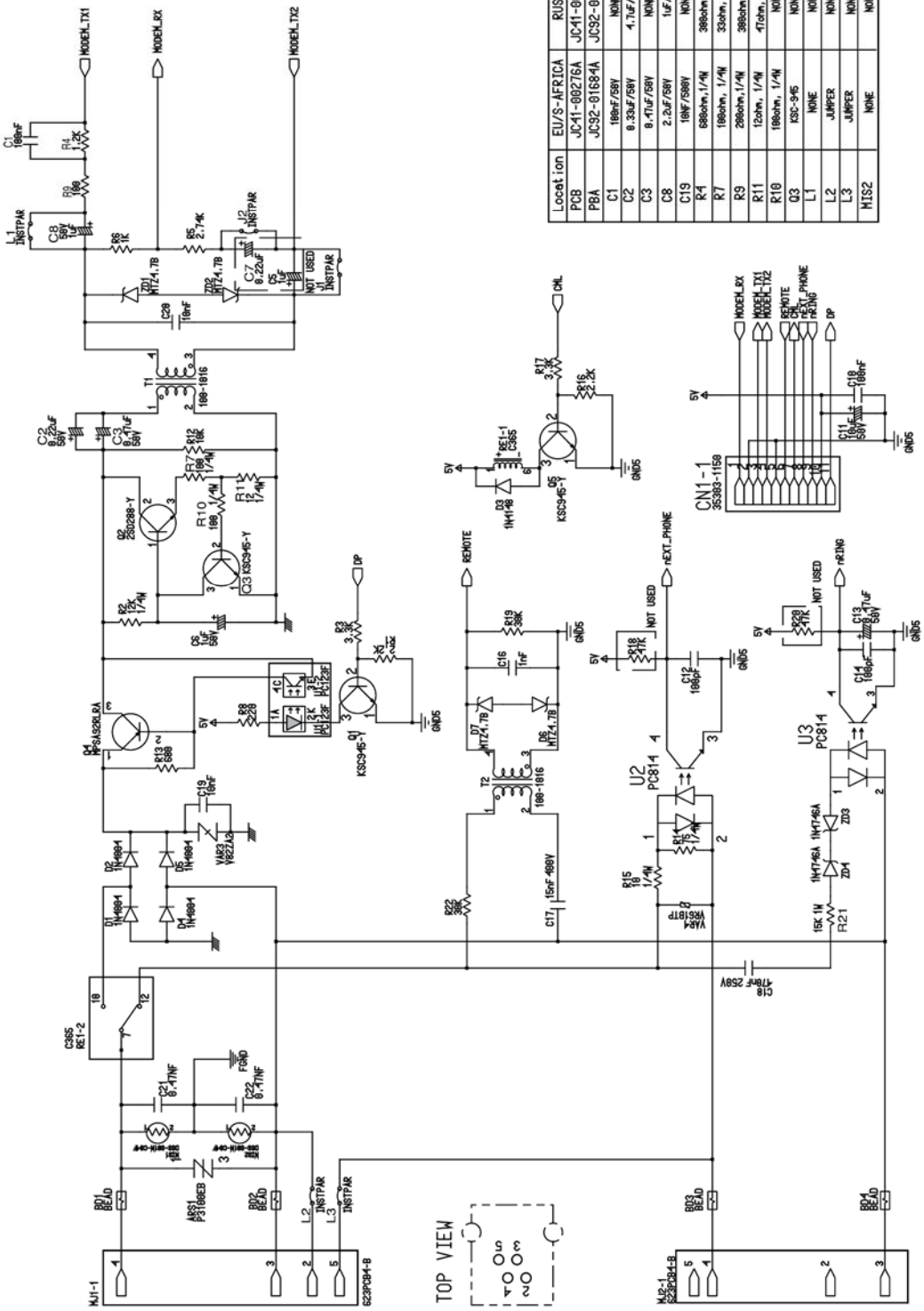


WD 11 Main Board (7/7) (Workcentre PE220)

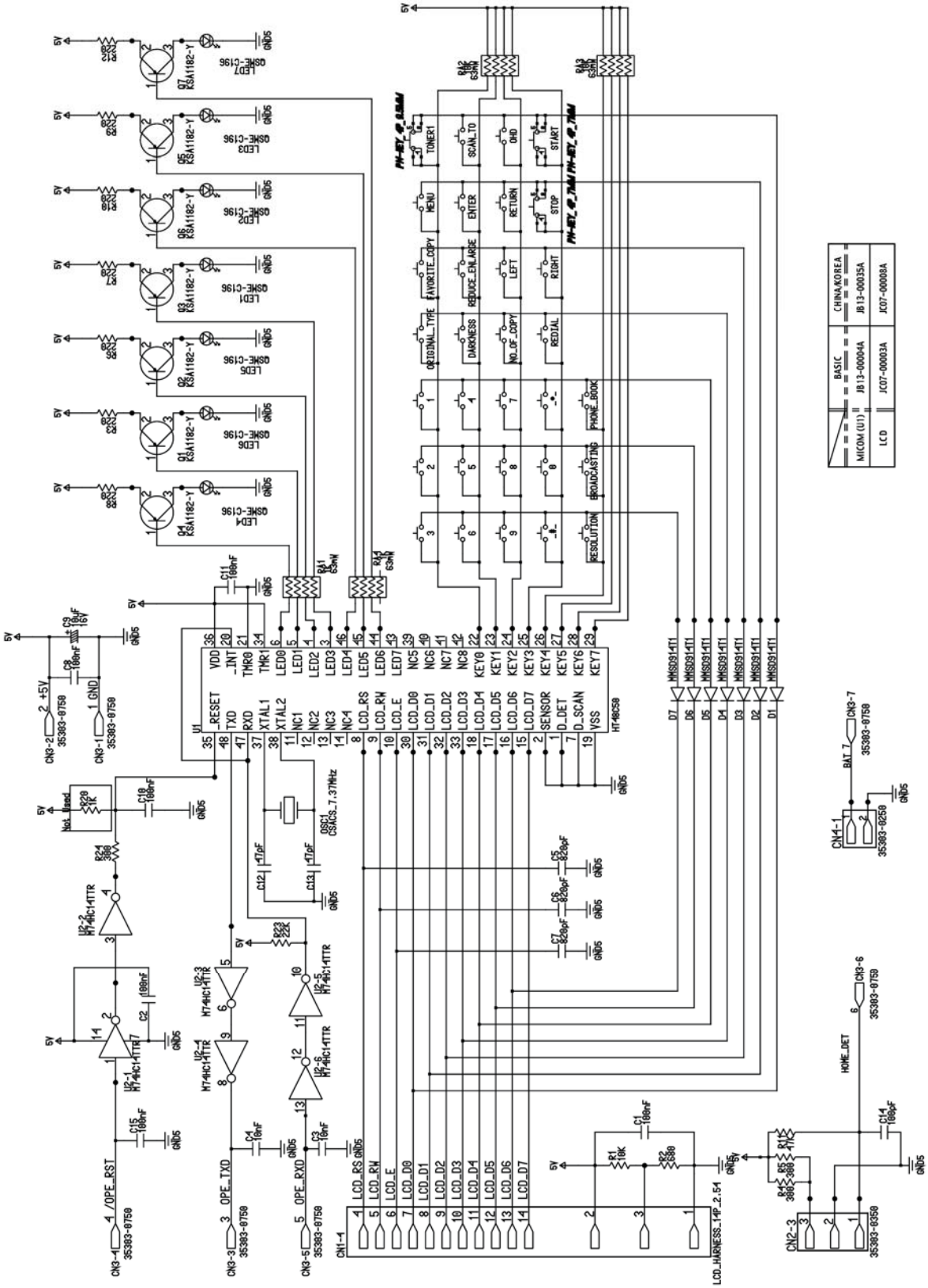


WD 12 LIU (Workcentre PE220)

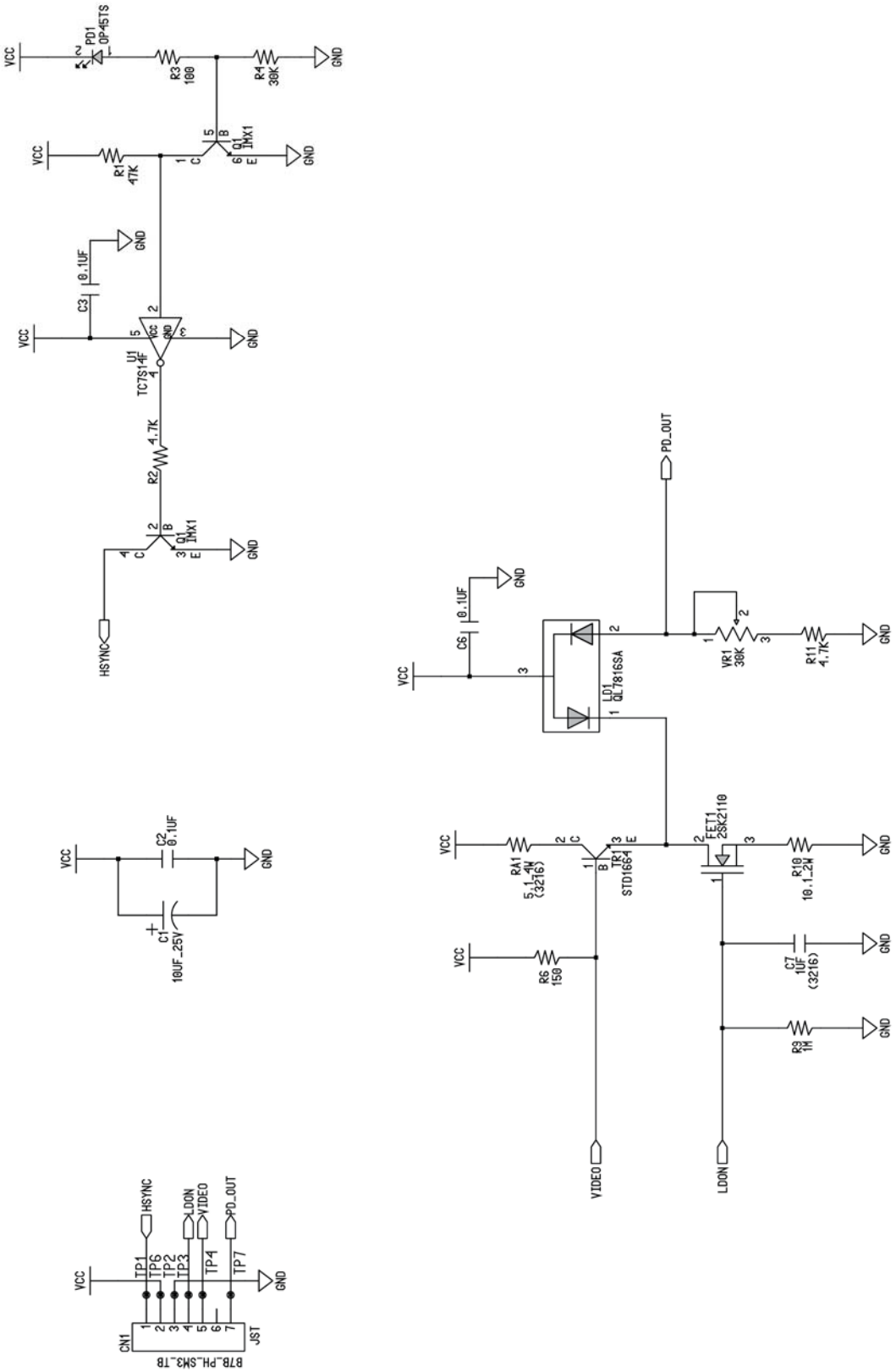
Location	EU/S-AFRICA	RUSSIA	Australia
PCB	JC41-00276A	JC41-00276A	JC41-00276A
PBA	JC92-01684A	JC92-01684B	JC92-01684C
C1	180nF/50V	NONE	180nF/50V
C2	0.33uF/50V	4.7uF/50V	0.22uF/50V
C3	0.47uF/50V	NONE	0.47uF/50V
C8	2.2uF/50V	1uF/50V	0.33uF/50V
C19	18NF/500V	NONE	NONE
R4	680ohm,1/4W	390ohm,1/4W	1.2Kohm,1/4W
R7	180ohm, 1/4W	33ohm, 1/4W	33ohm, 1/4W
R9	200ohm,1/4W	390ohm,1/4W	180ohm,1/4W
R11	12ohm, 1/4W	47ohm, 1/4W	47ohm, 1/4W
R10	180ohm, 1/4W	NONE	NONE
Q3	KSC-945	NONE	NONE
L1	NONE	NONE	NONE
L2	JUMPER	NONE	NONE
L3	JUMPER	NONE	NONE
MIS2	NONE	NONE	NONE



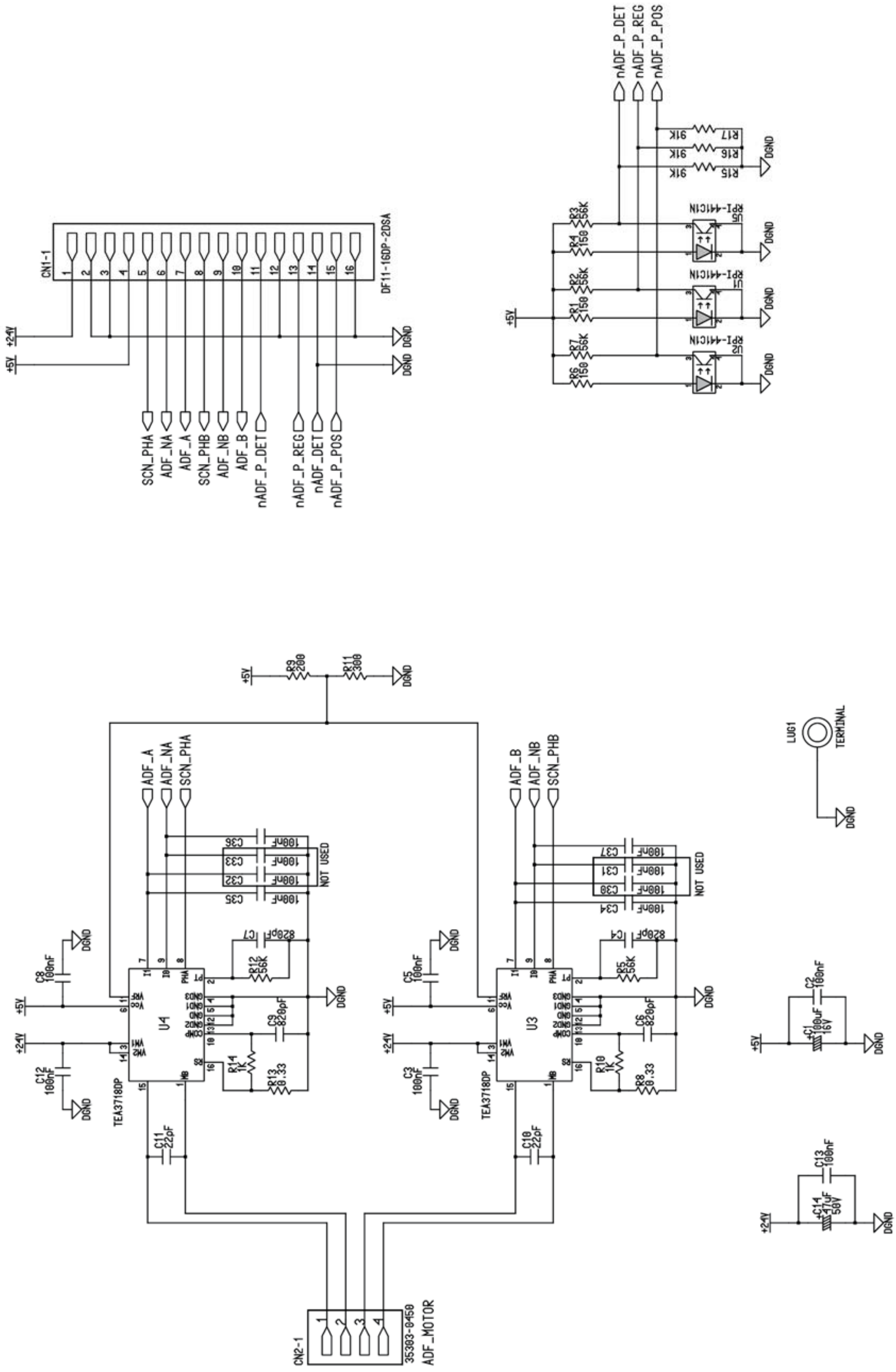
WD 13 OPE (Workcentre PE220)



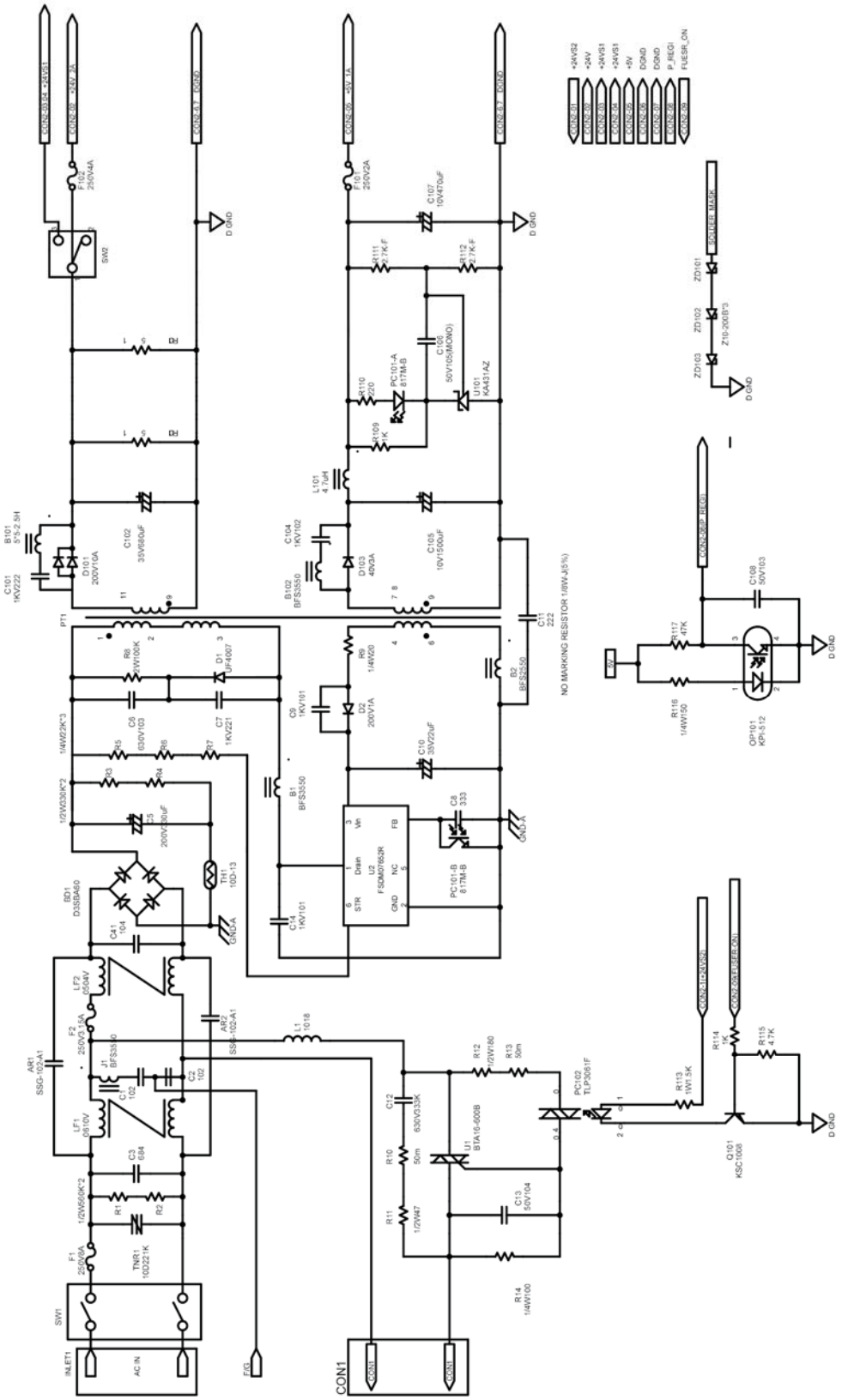
WD 14 LSU


VCC
PD1
OP45TS
R3
100
R4
39K
GND
Q1
1MX1
R1
47K
0.1UF
C3
U1
TC7S14F
4.7K
R2
HSYNC
C2
0.1UF
C1
10UF_25V
PD_OUT
C6
LD1
QL7816SA
VR1
30K
R11
4.7K
RA1
5.1_1W
(3216)
TR1
STD1664
FET1
2SK2110
R10
10.1_2W
R6
150
C7
1UF
(3216)
R9
1M
VIDEO
LDON
CN1
JST
B7B_PH_SM3_TB
TP1
TP6
TP2
TP3
TP4
TP7

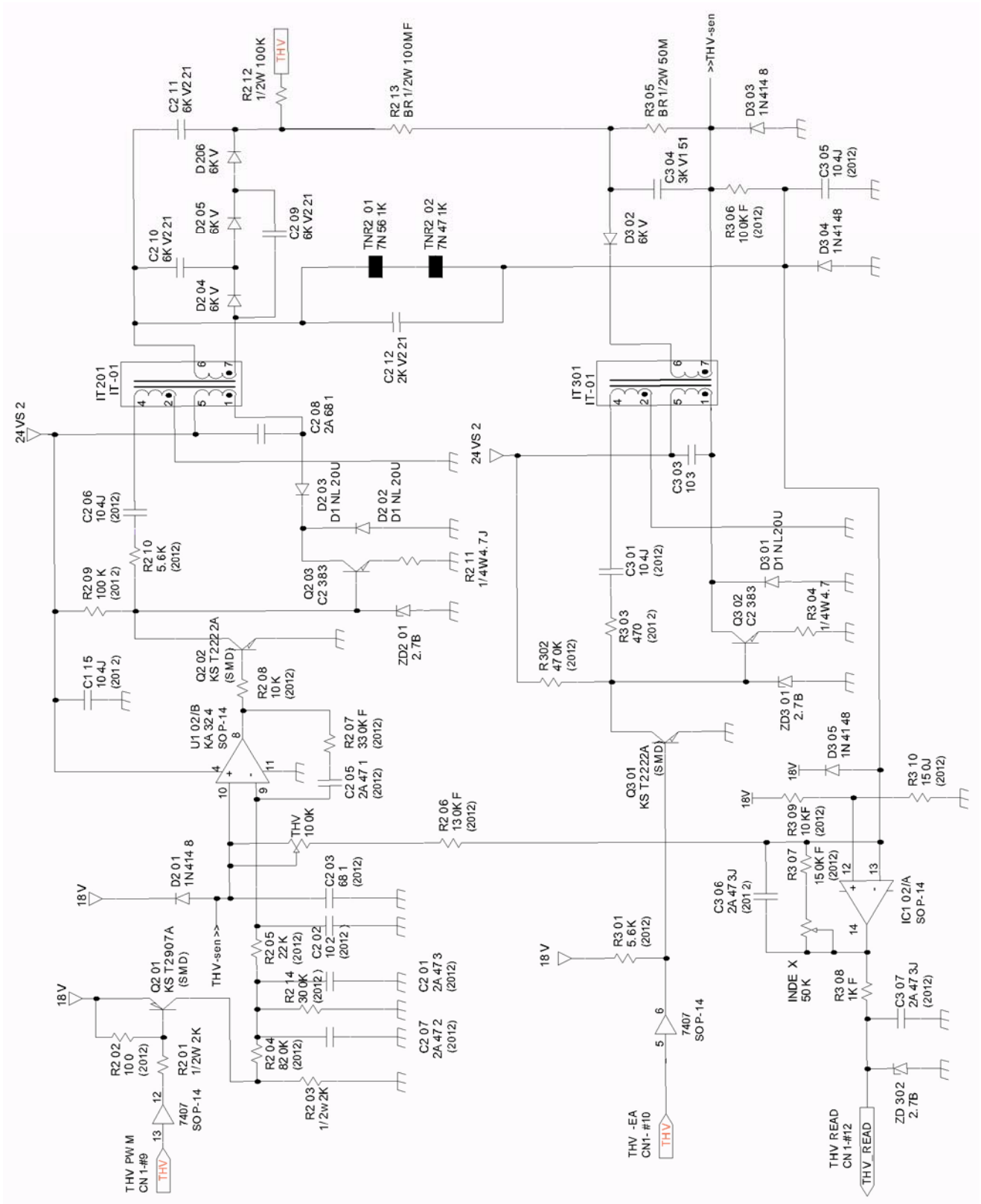
WD 15 ADF


CN1-1
DF11-16DP-2DSA
+24V
+5V
DGND
SCN_PHA
ADF_NA
ADF_A
SCN_PHB
ADF_NB
ADF_B
nADF_P_DET
nADF_P_REG
nADF_DET
nADF_P_POS
RPI-441C1N
R15 91K
R16 91K
R17 91K
TEA3718DP
U4
U3
NOT USED
LUG1
TERMINAL
CN2-1
35303-0450
ADF_MOTOR

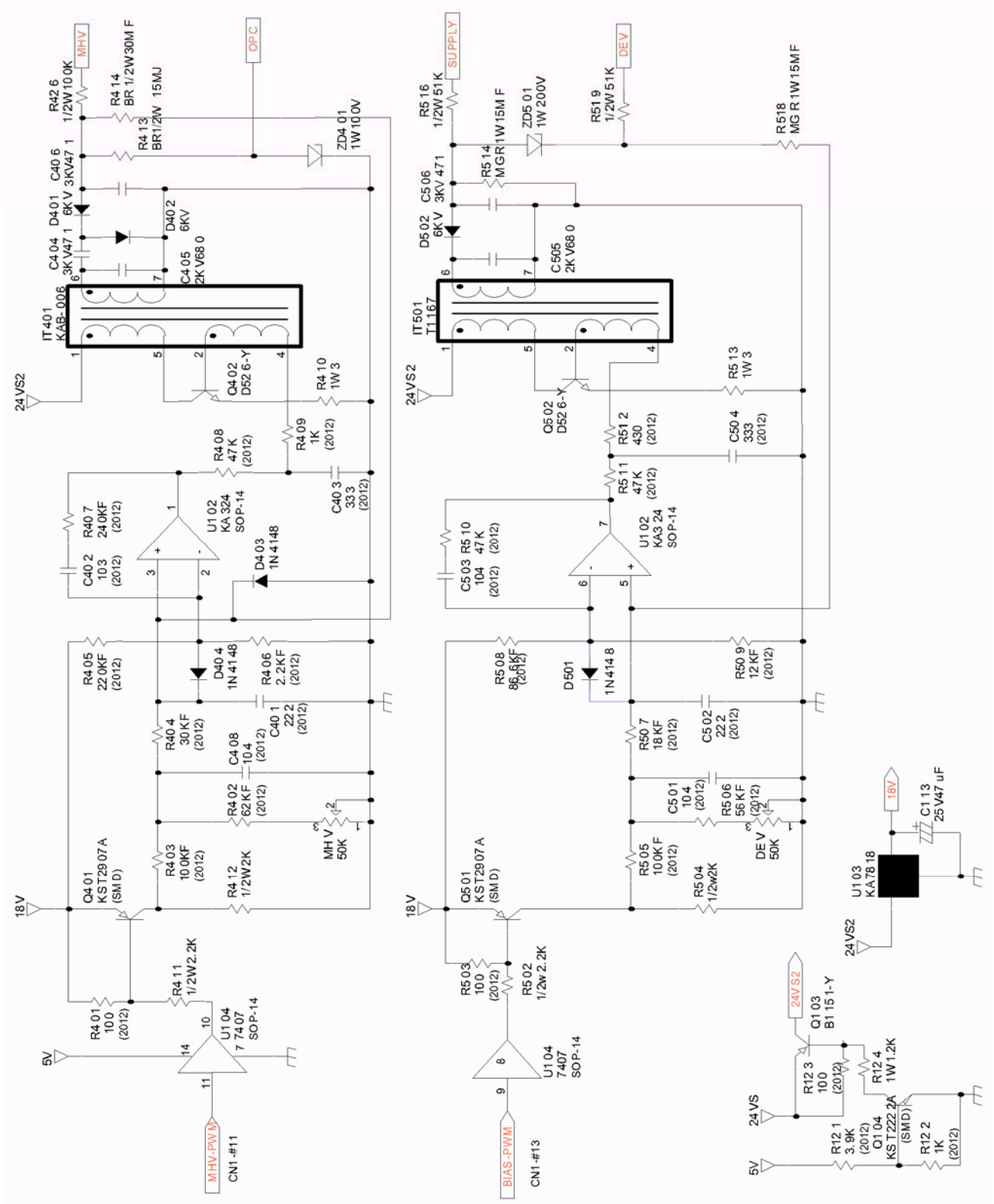
WD 16 SMPS (Workcentre PE220)



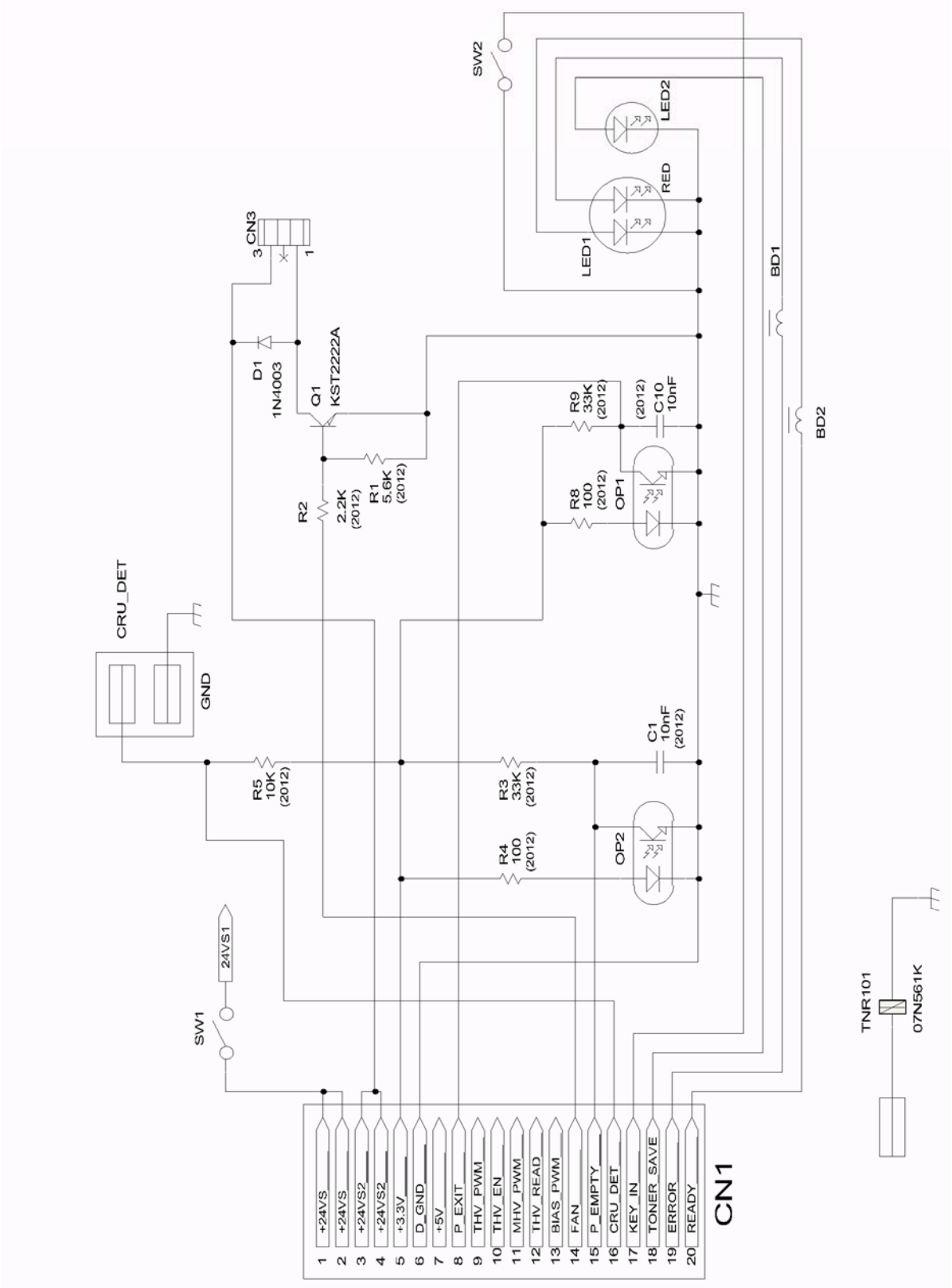
WD 17 HVPS (1/3) (Workcentre PE220)



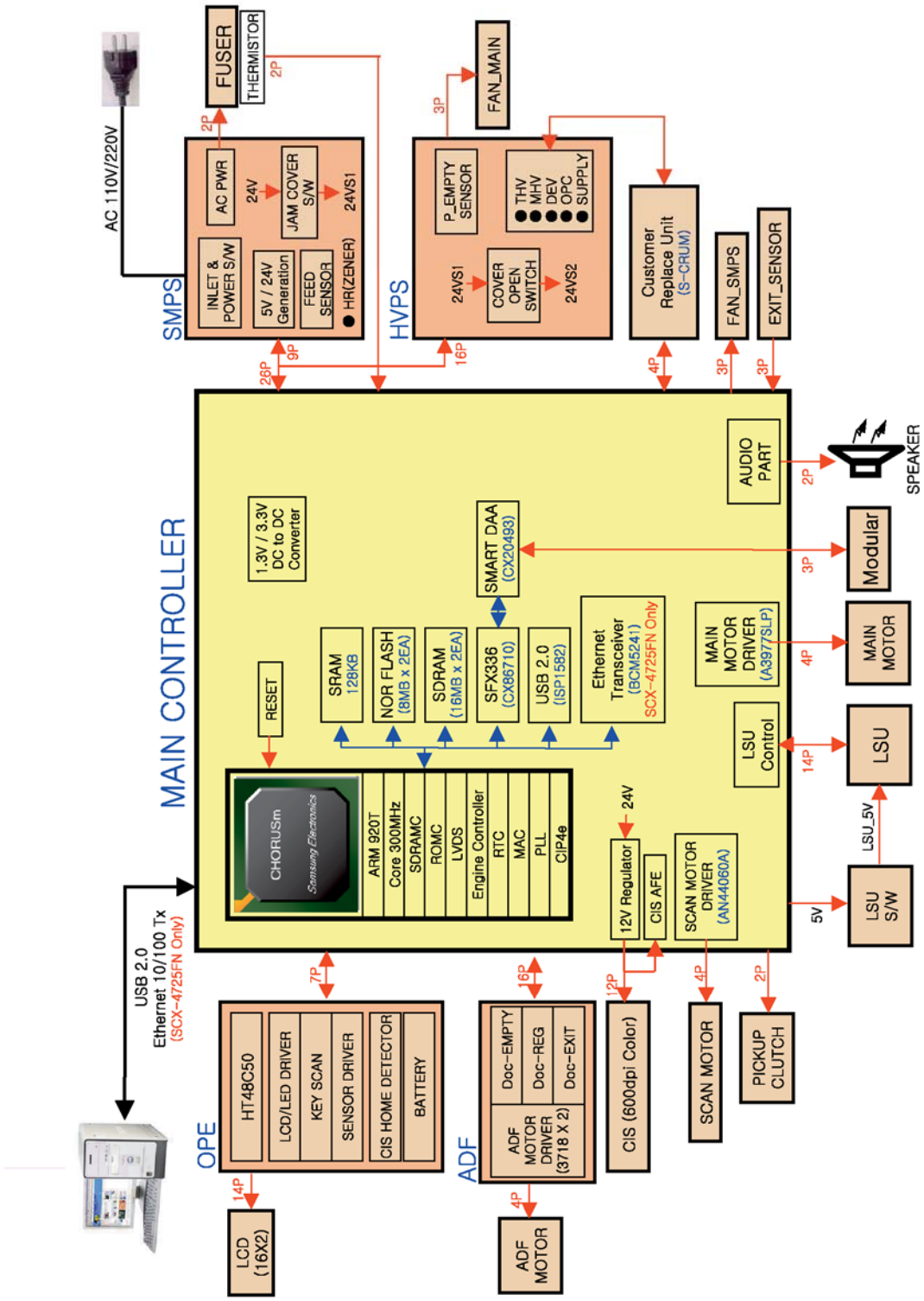
WD 18 HVPS (2/3) (Workcentre PE220)



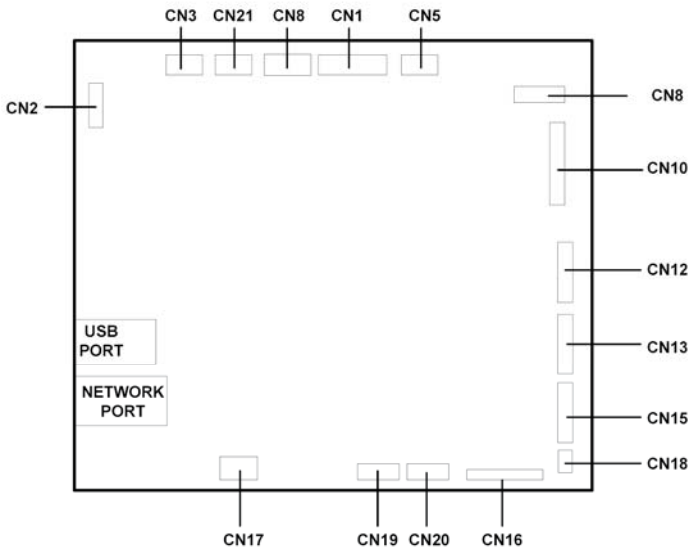
WD 19 HVPS (3/3) (Workcentre PE220)



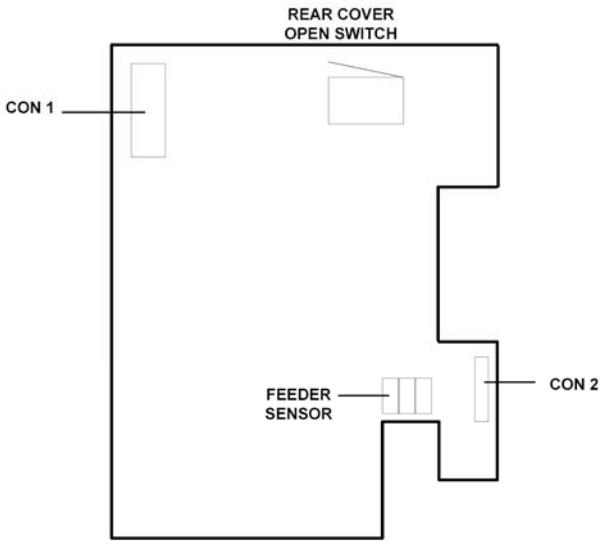
WD 20 System Block Diagram (Phaser 3200)



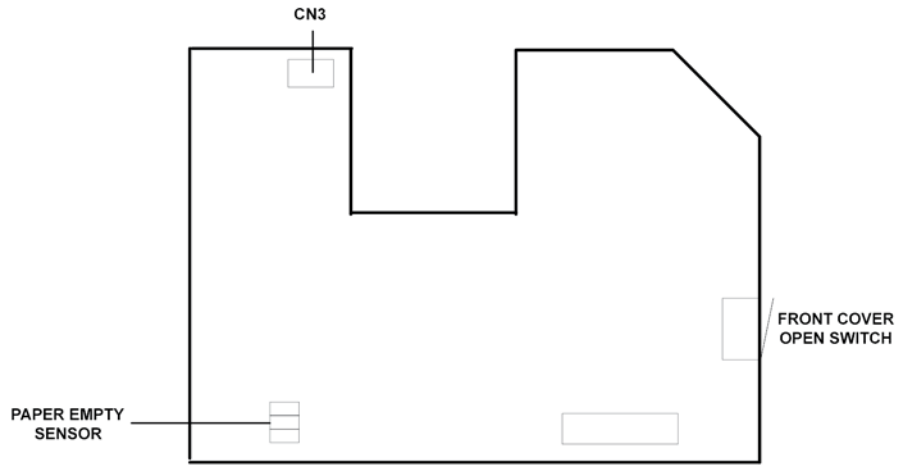
WD 21 PJ Locations (Phaser 3200)



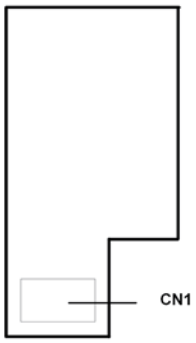
MAIN PBA



SMPS



HVPS



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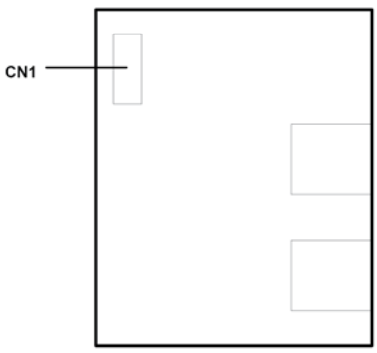
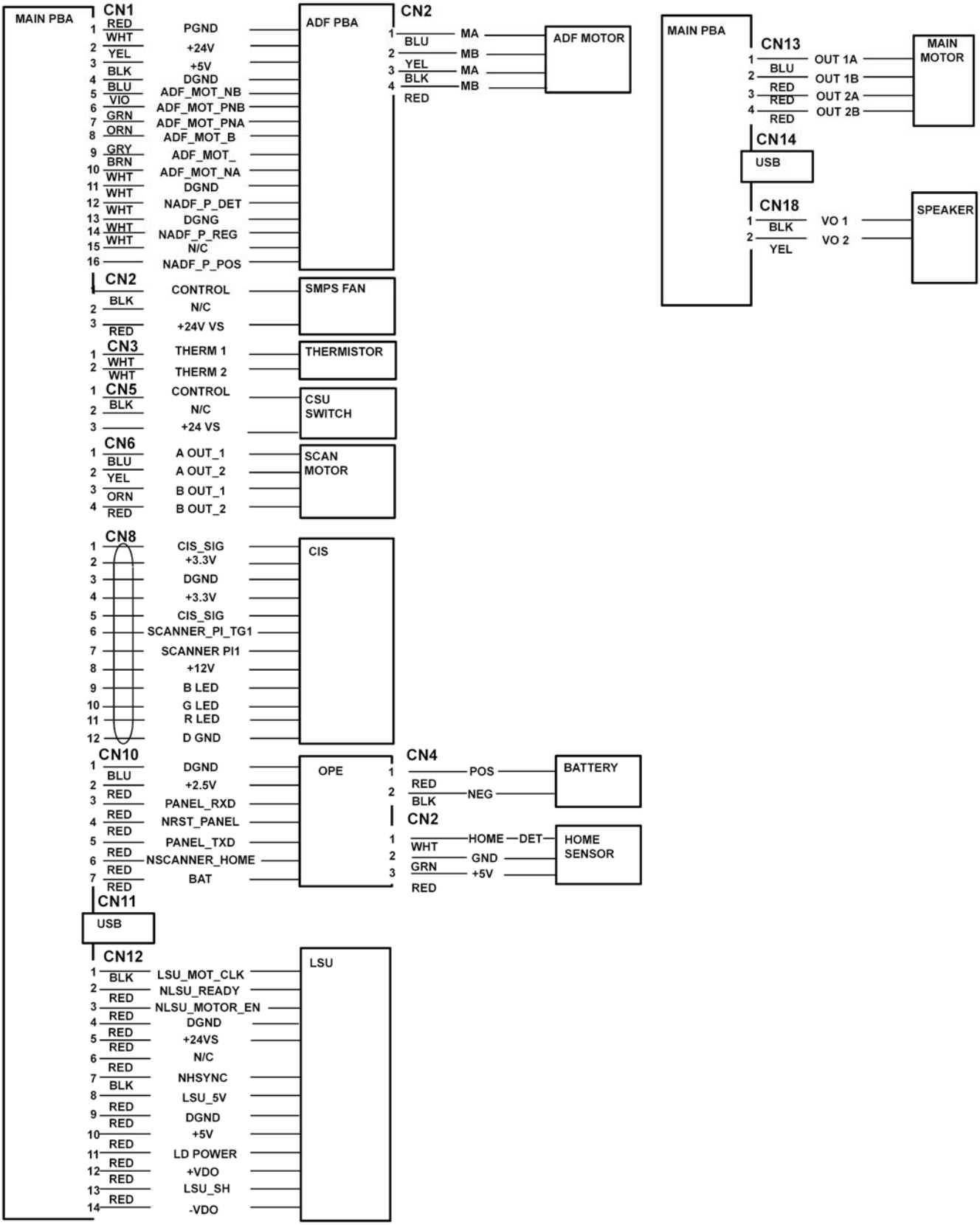


LIU PWB

WD 22 Connection Diagram (1/2) (Phaser 3200)



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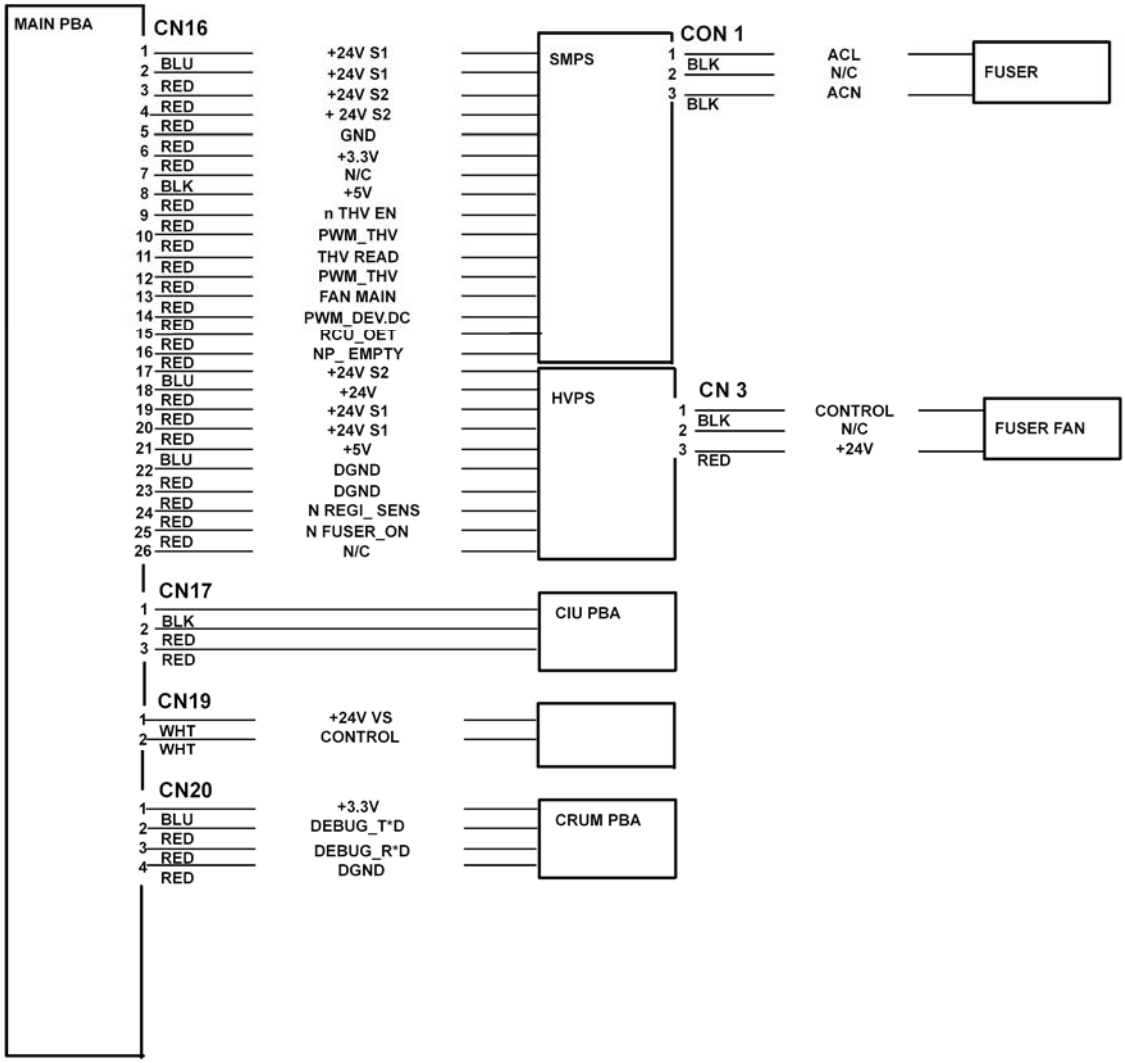
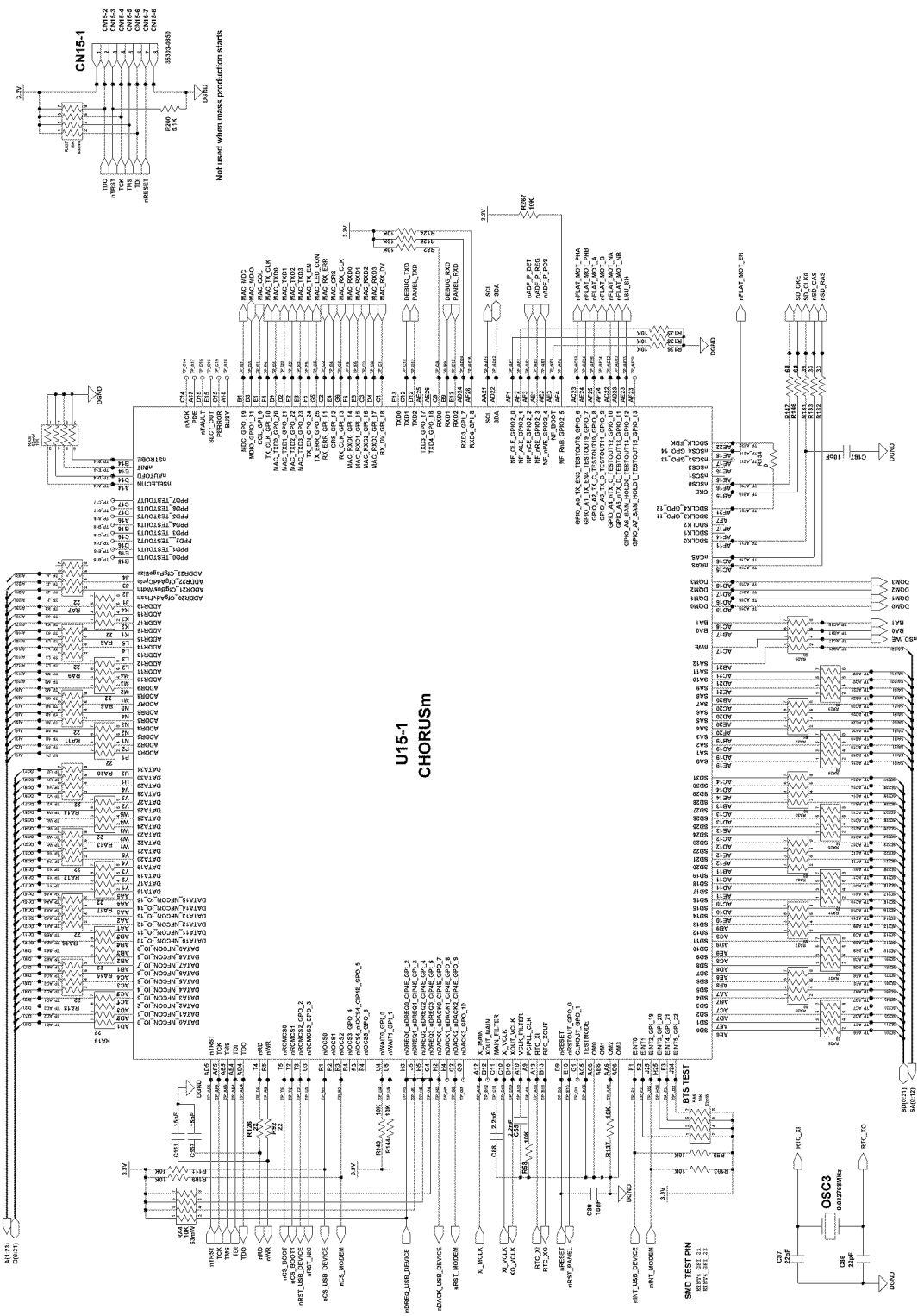


WD 24 Main Board (1/12) (Phaser 3200)



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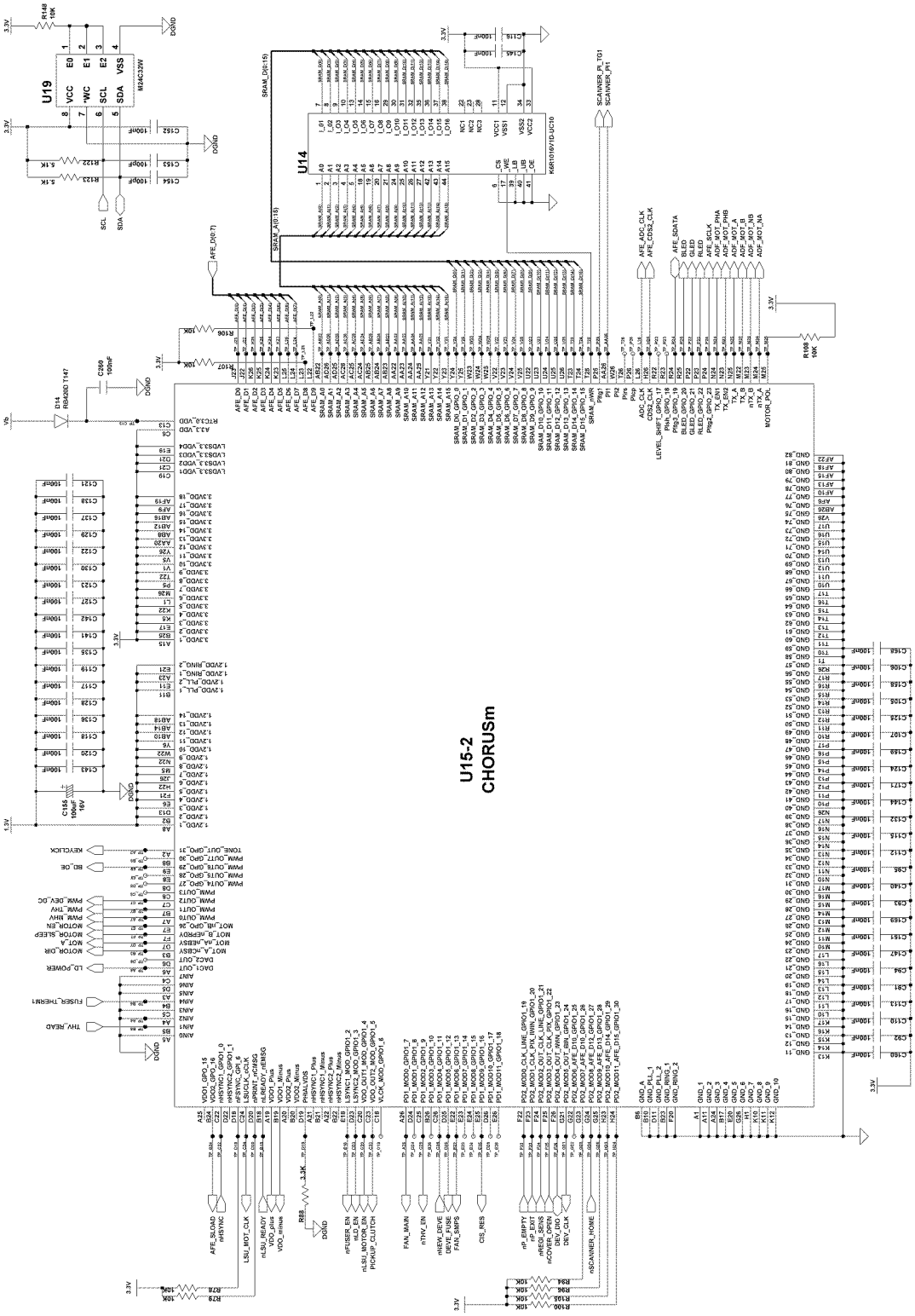

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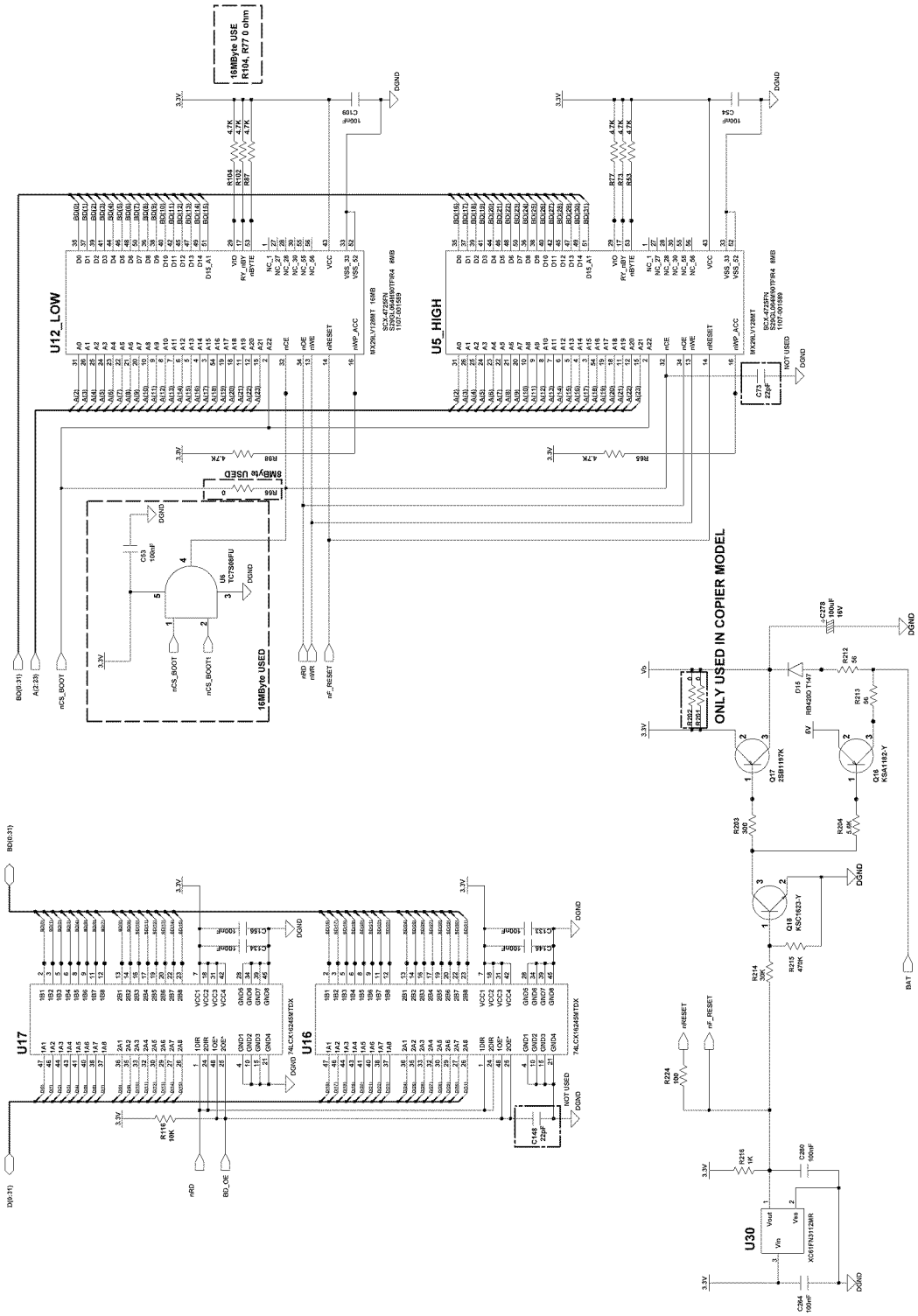
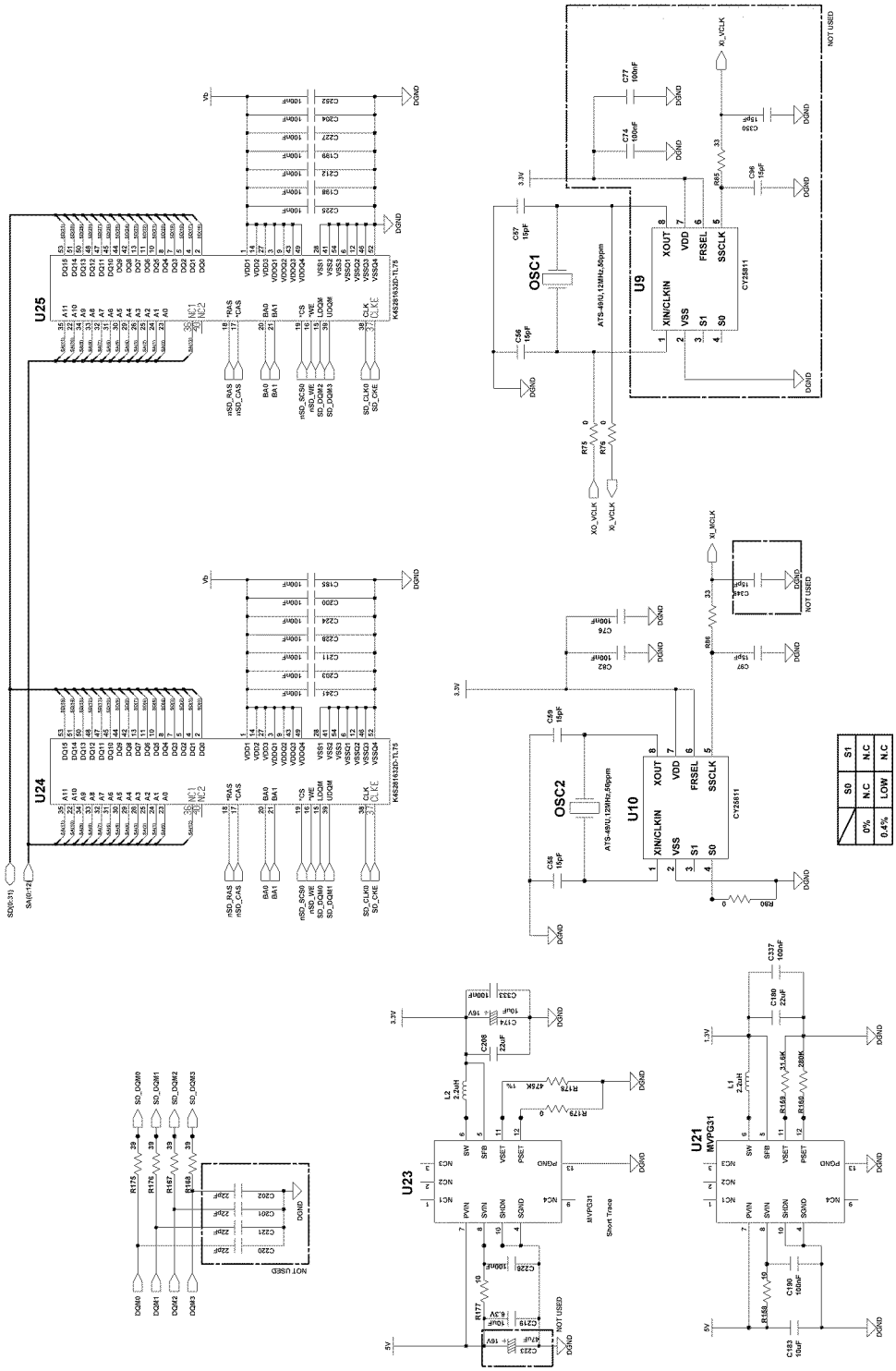


WD 27 Main Board (4/12) (Phaser 3200)



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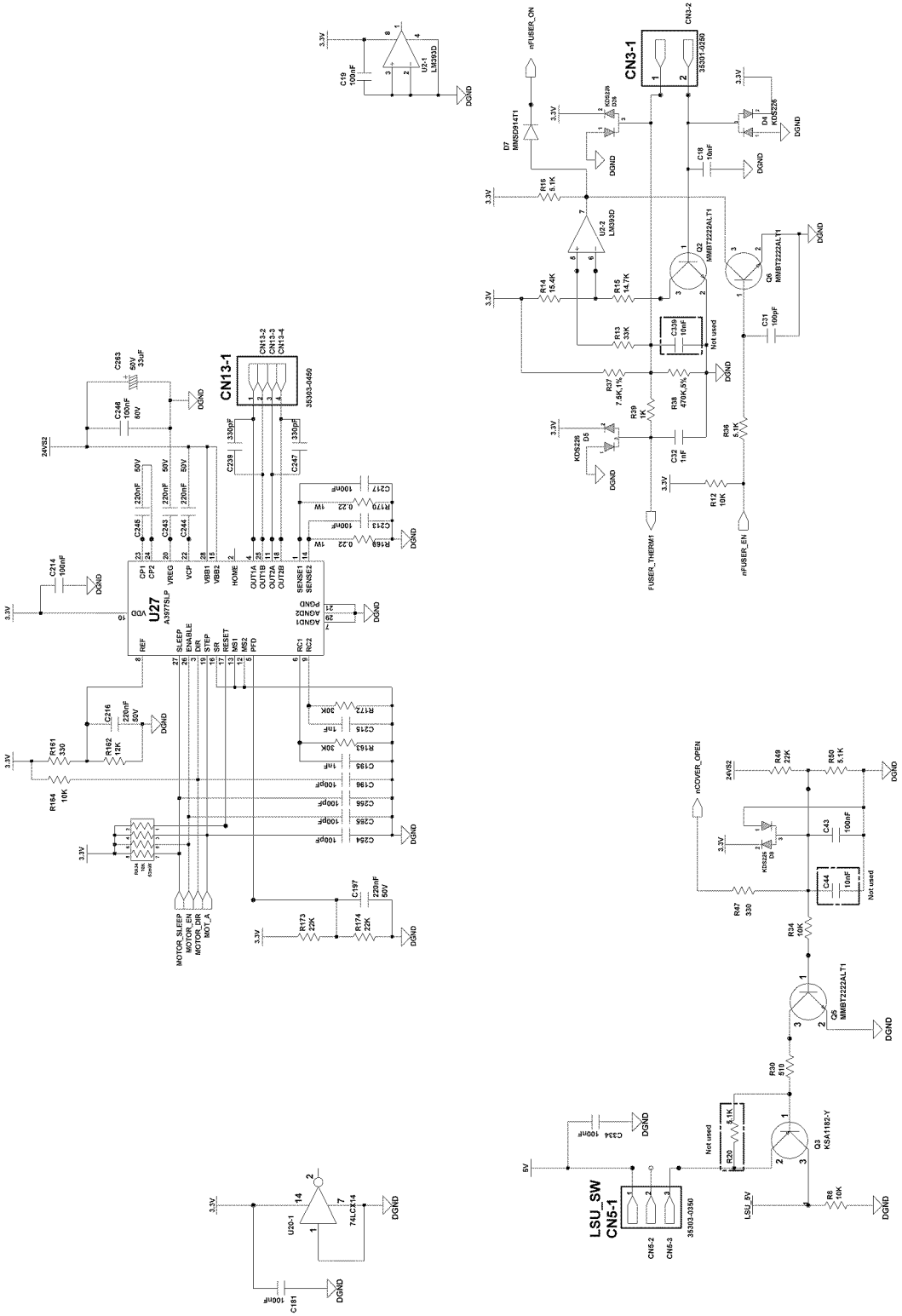

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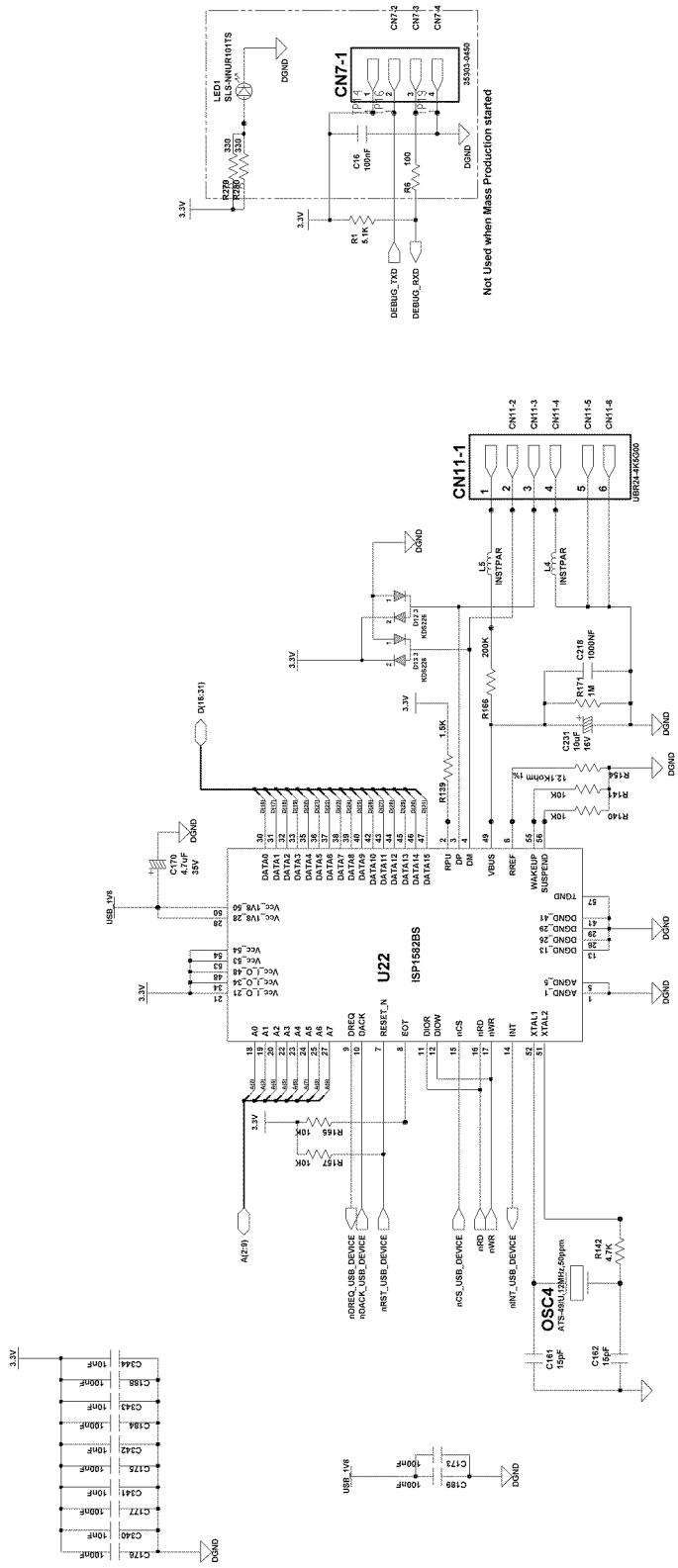

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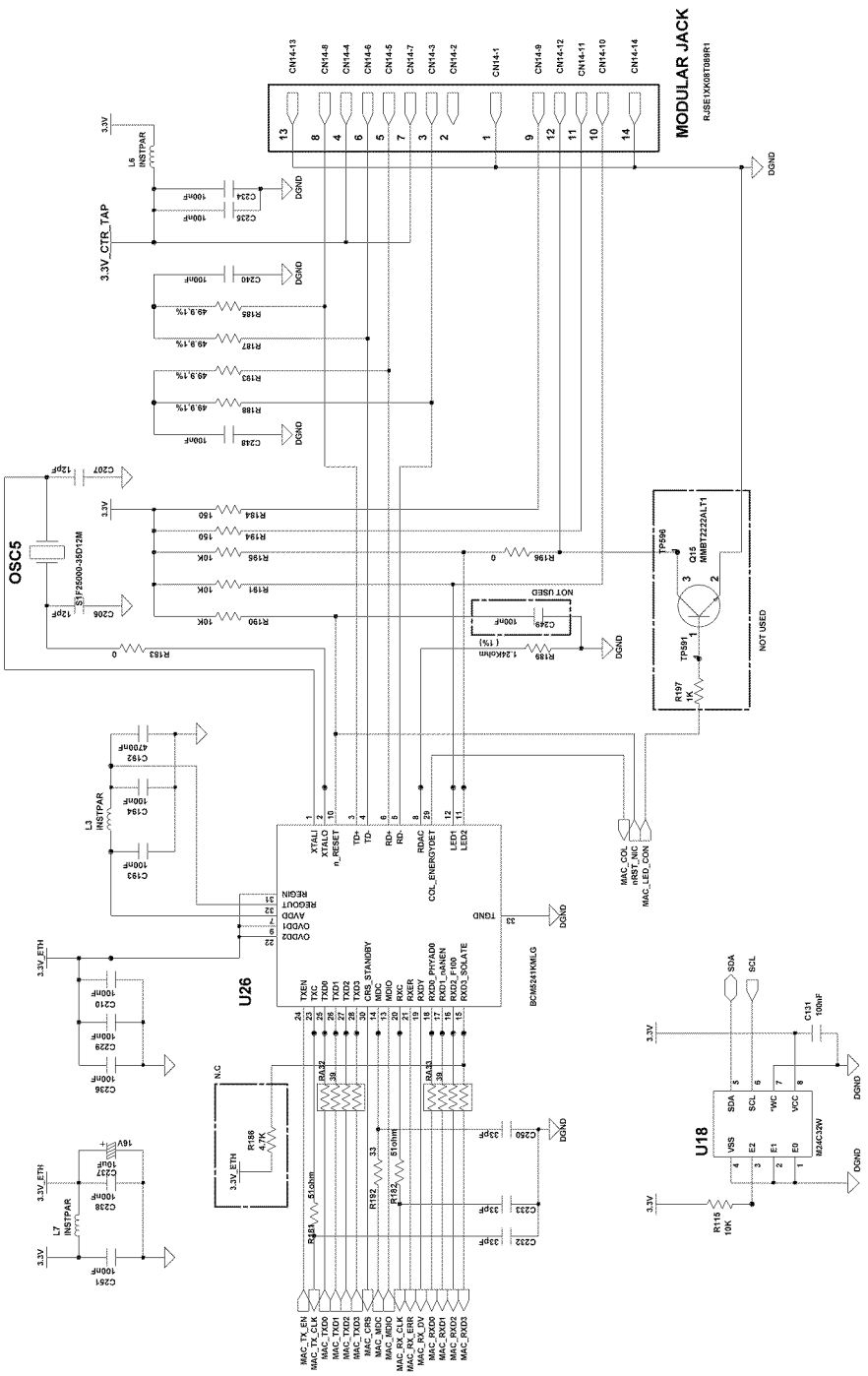

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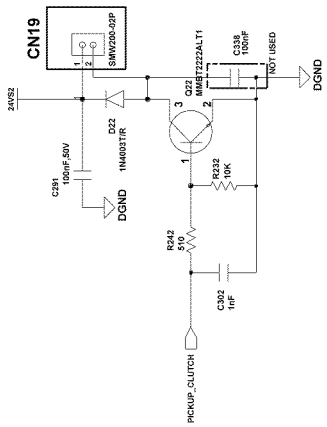
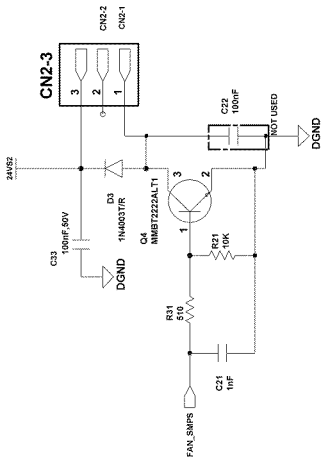
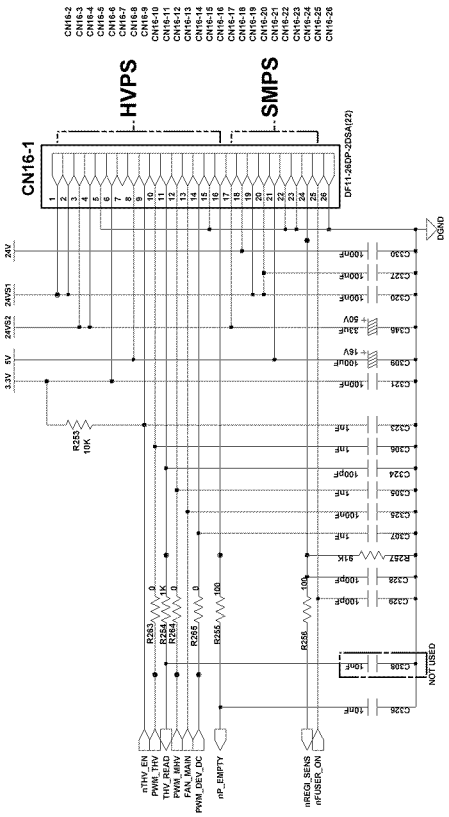
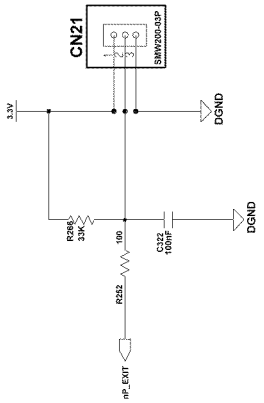
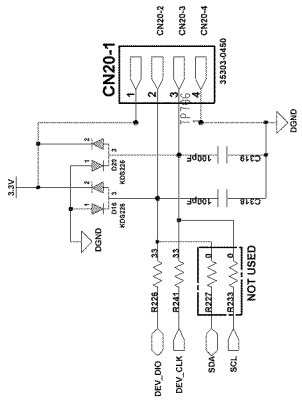


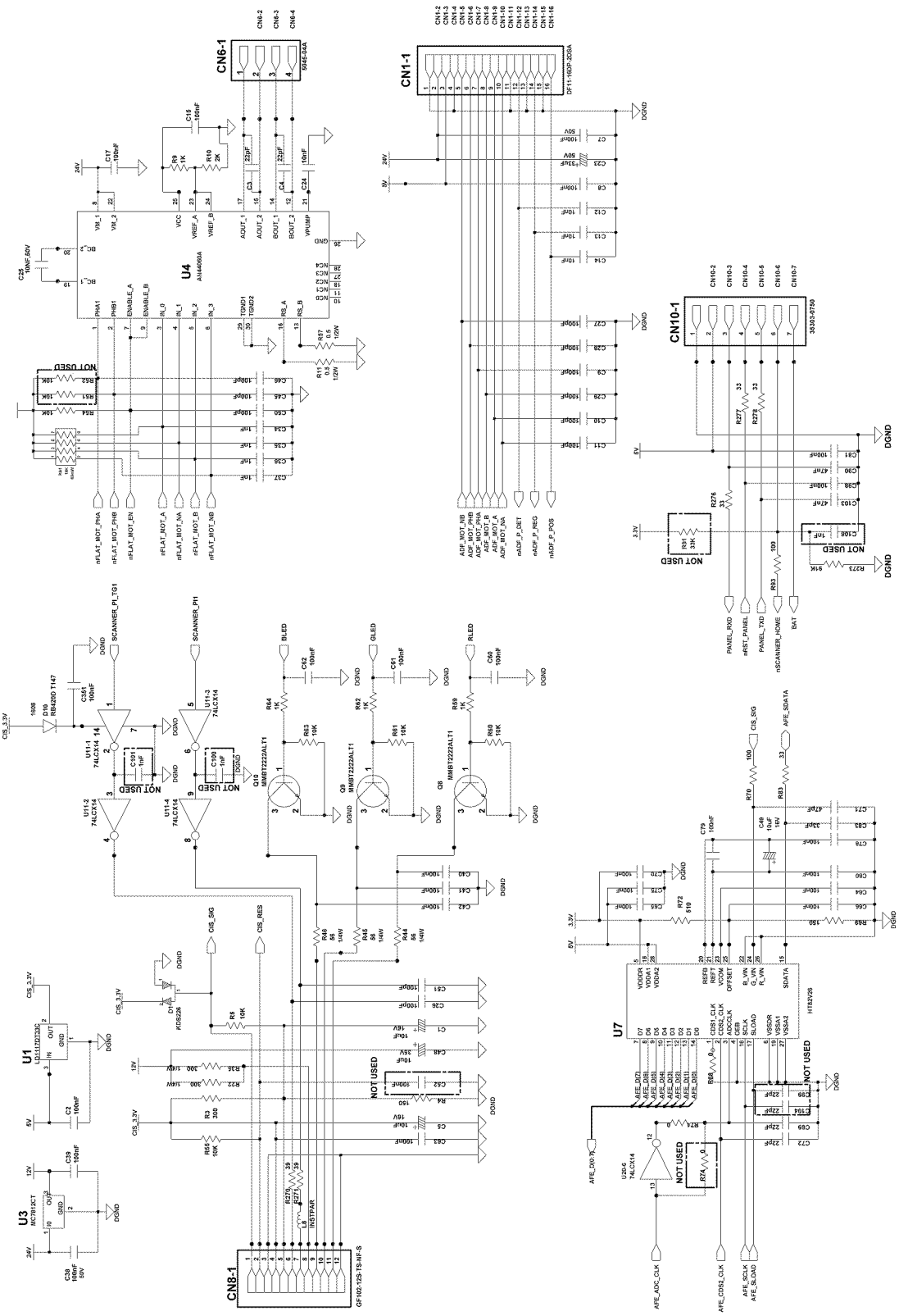








WD 32 Main Board (9/12) (Phaser 3200)



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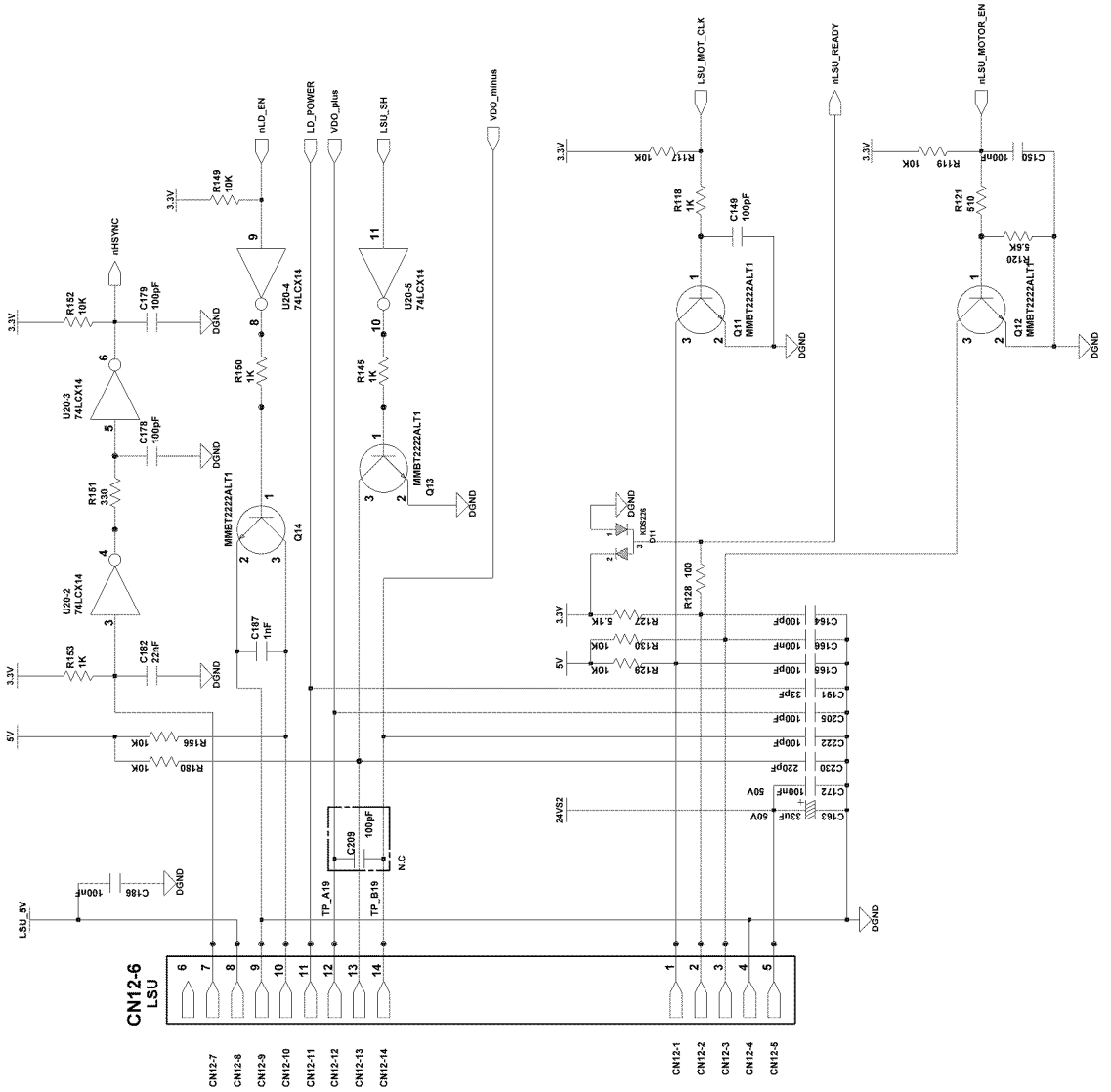

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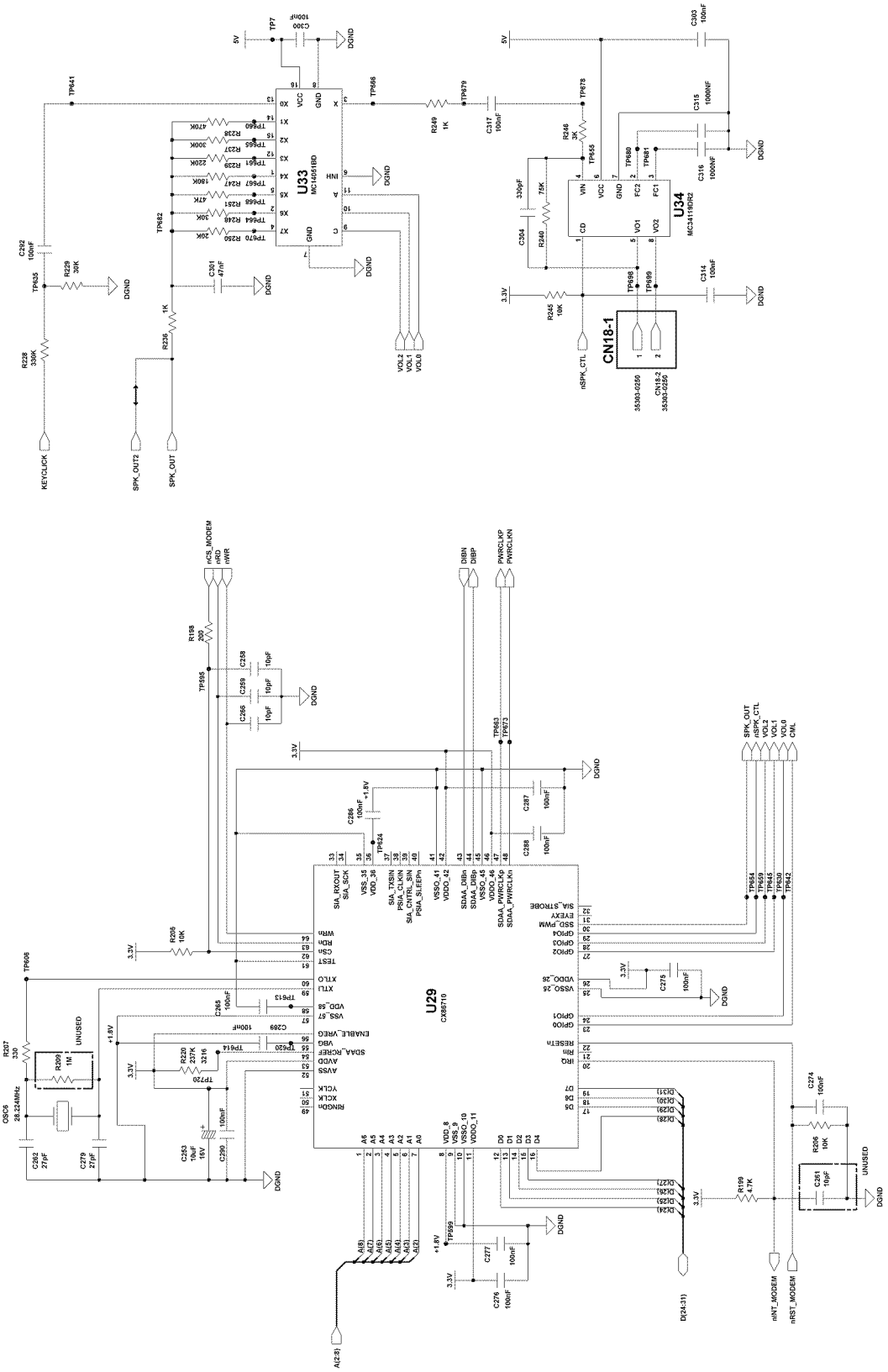

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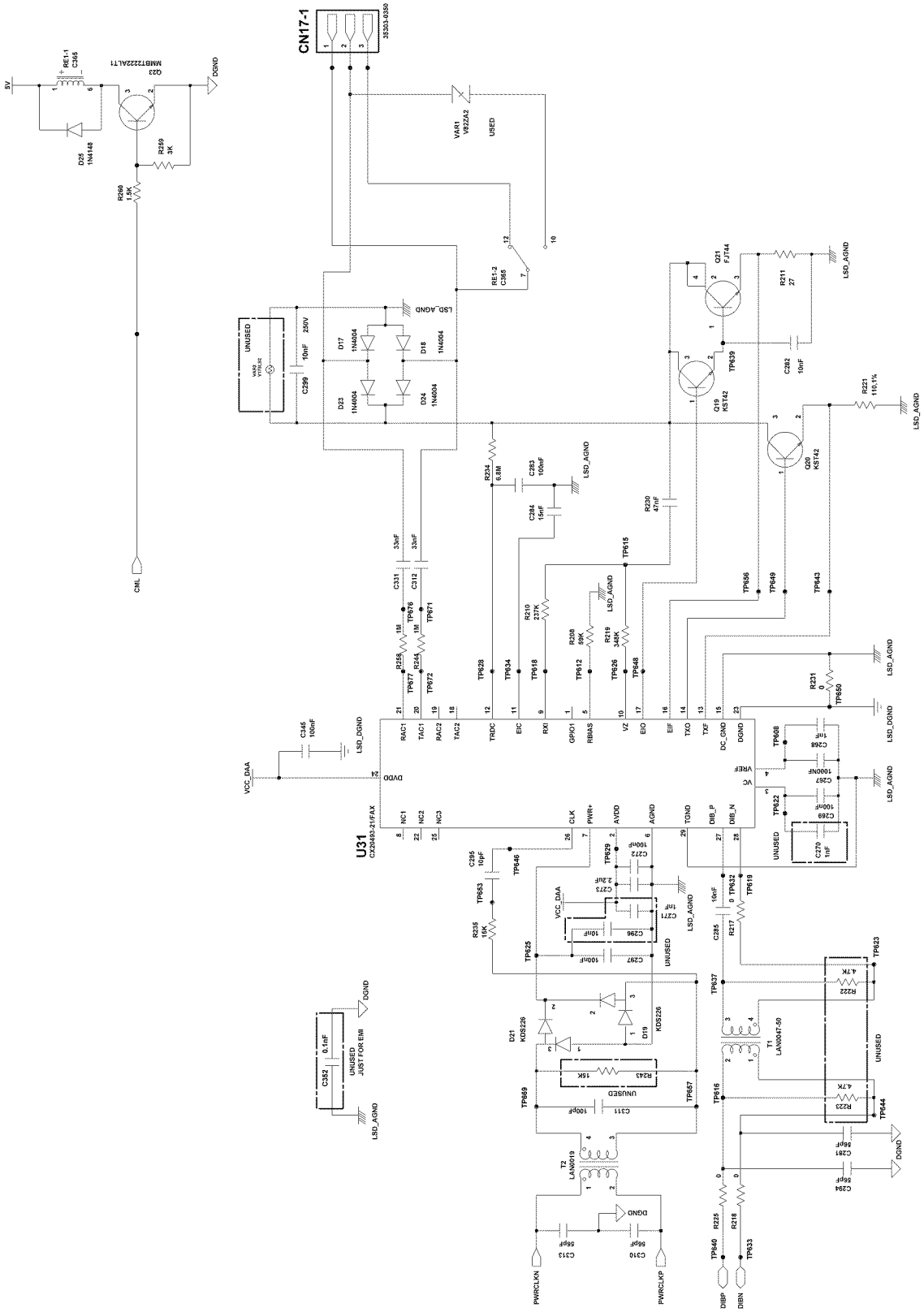
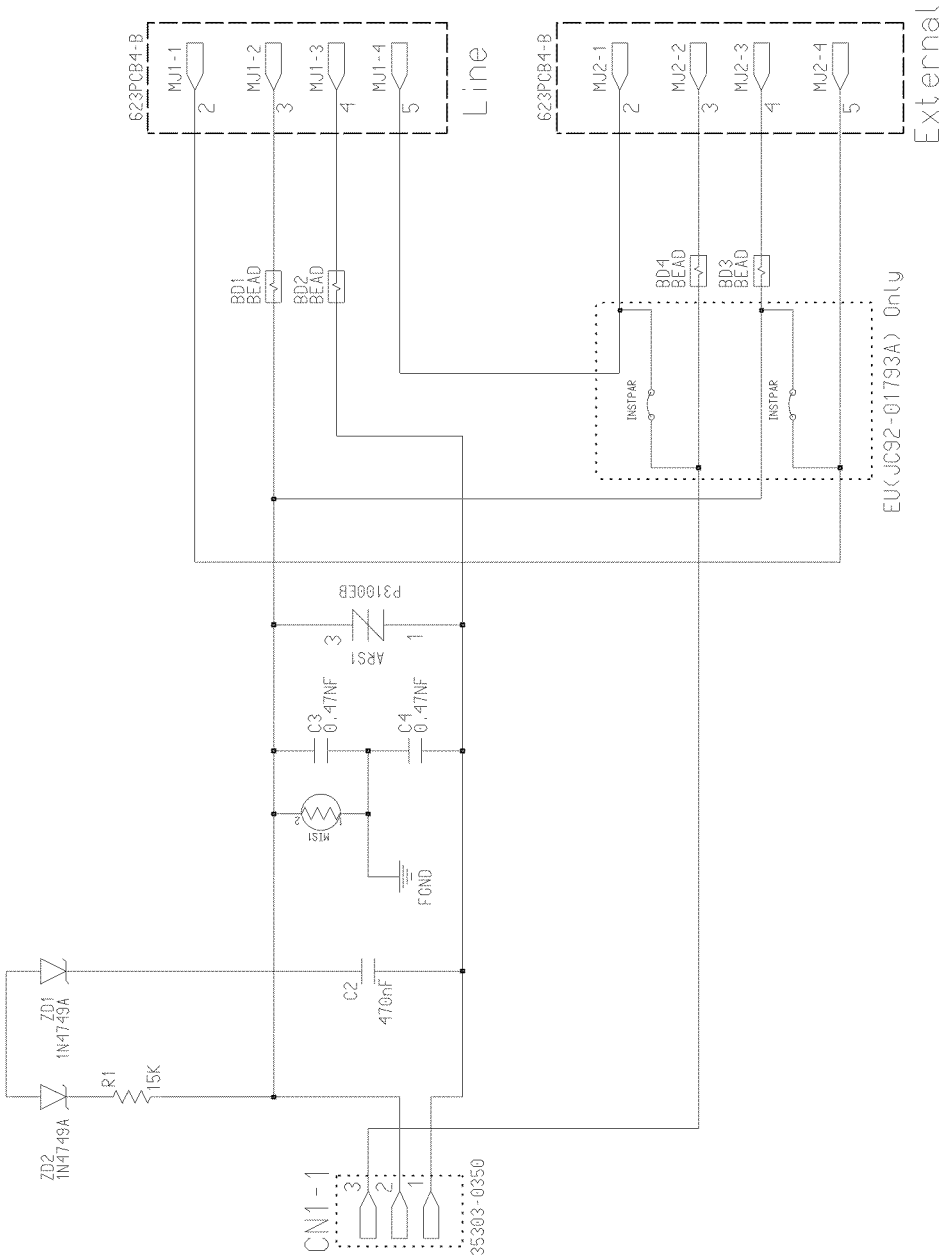


WD 36 LIU (Phaser 3200)



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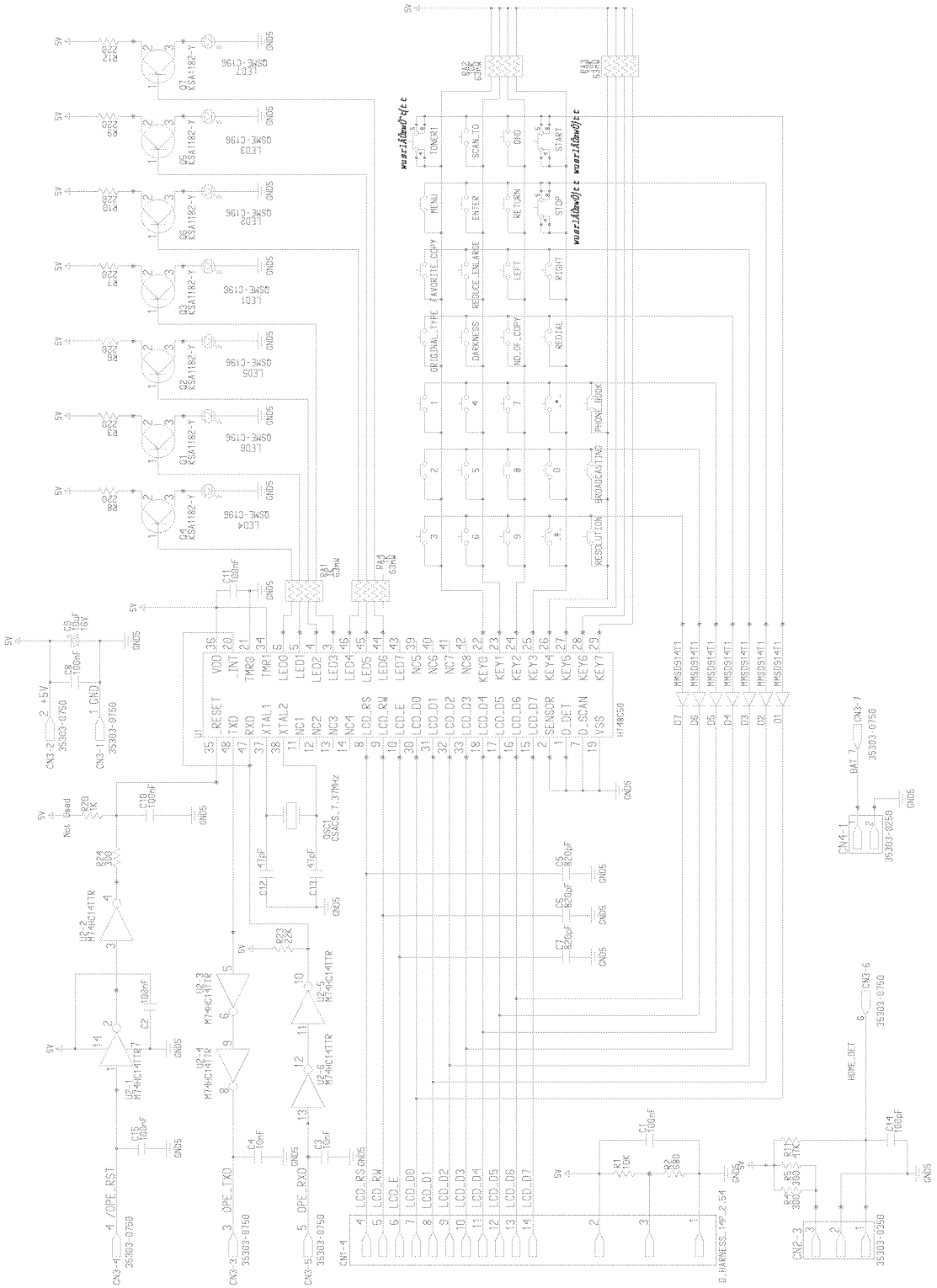

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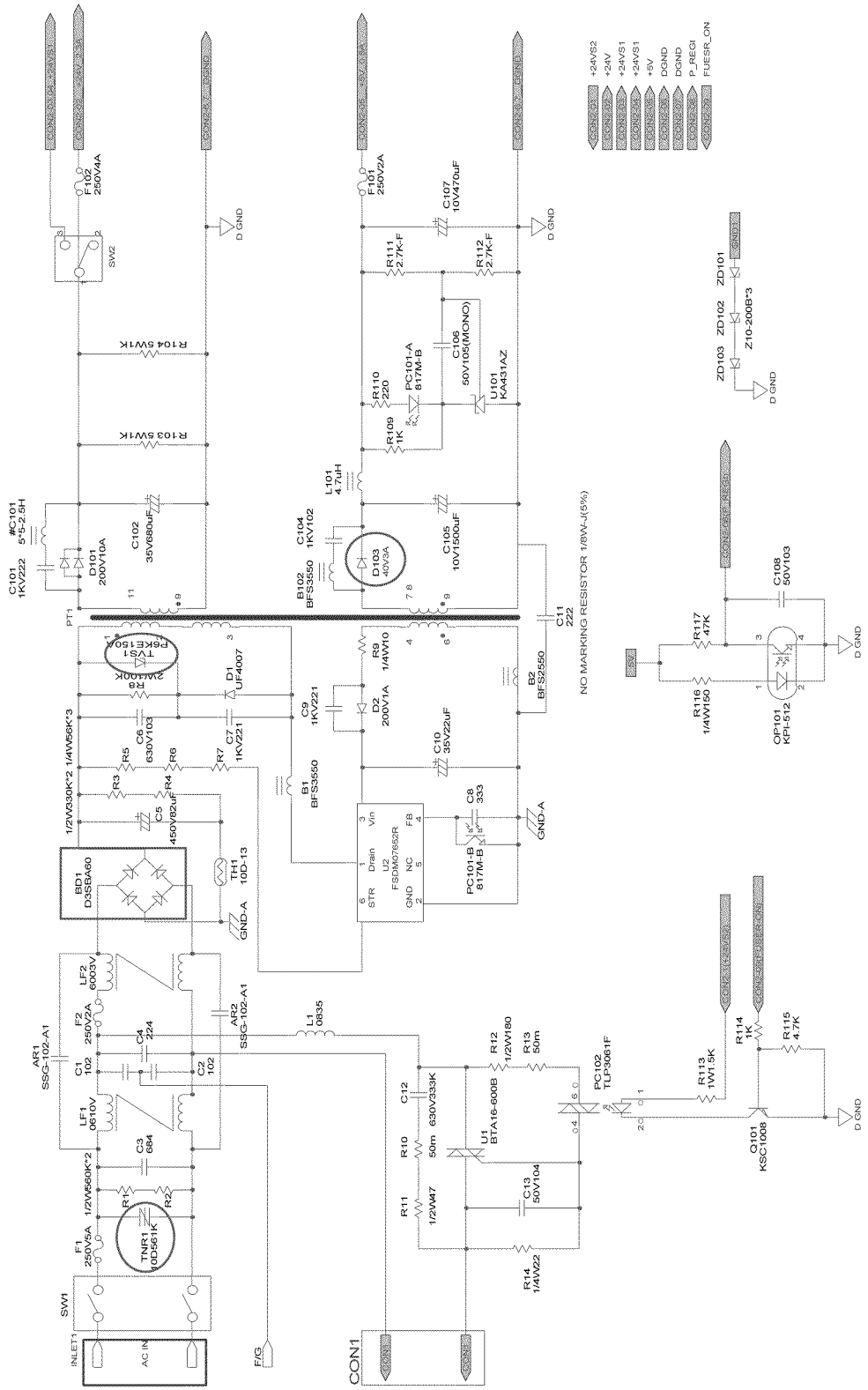

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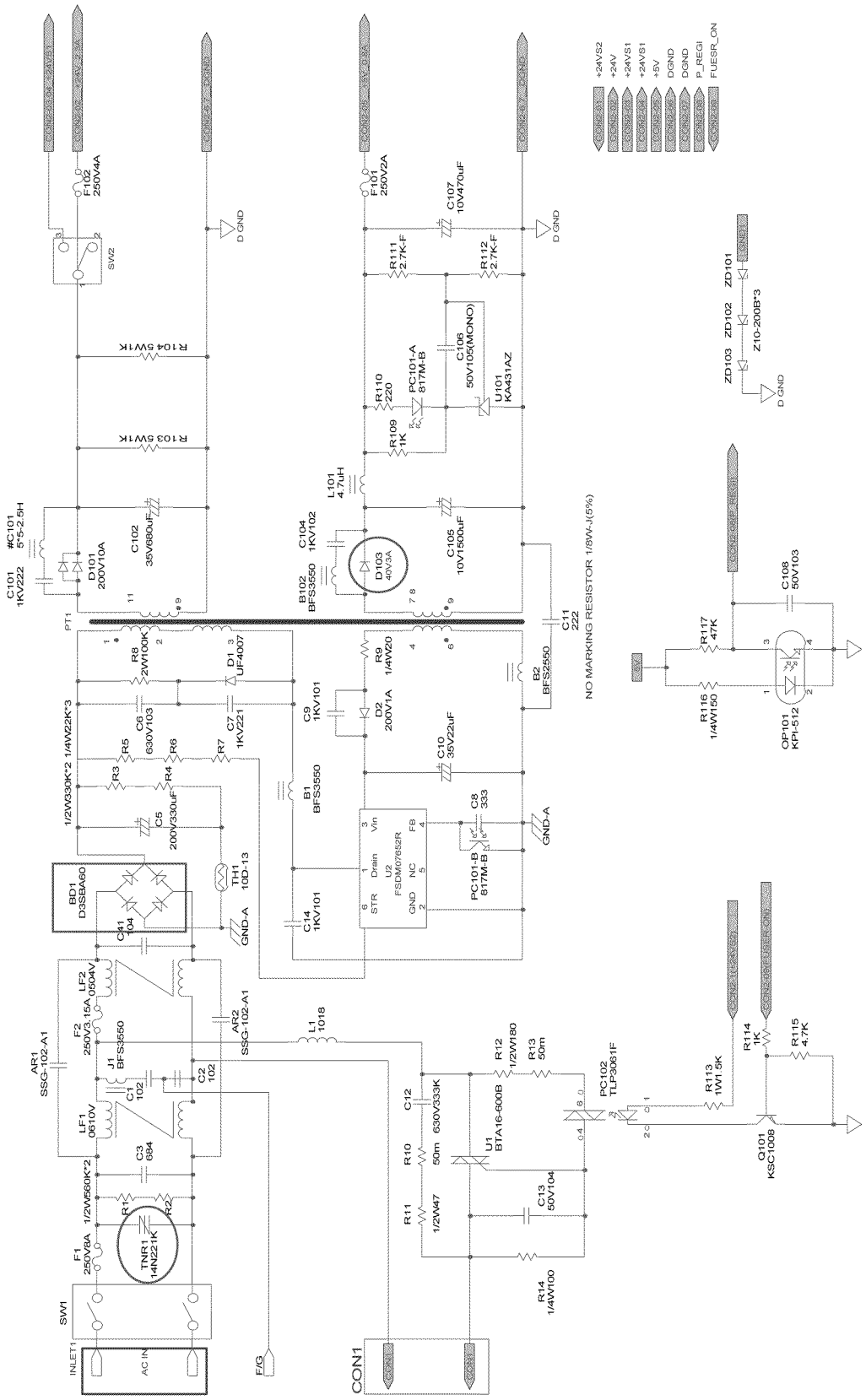
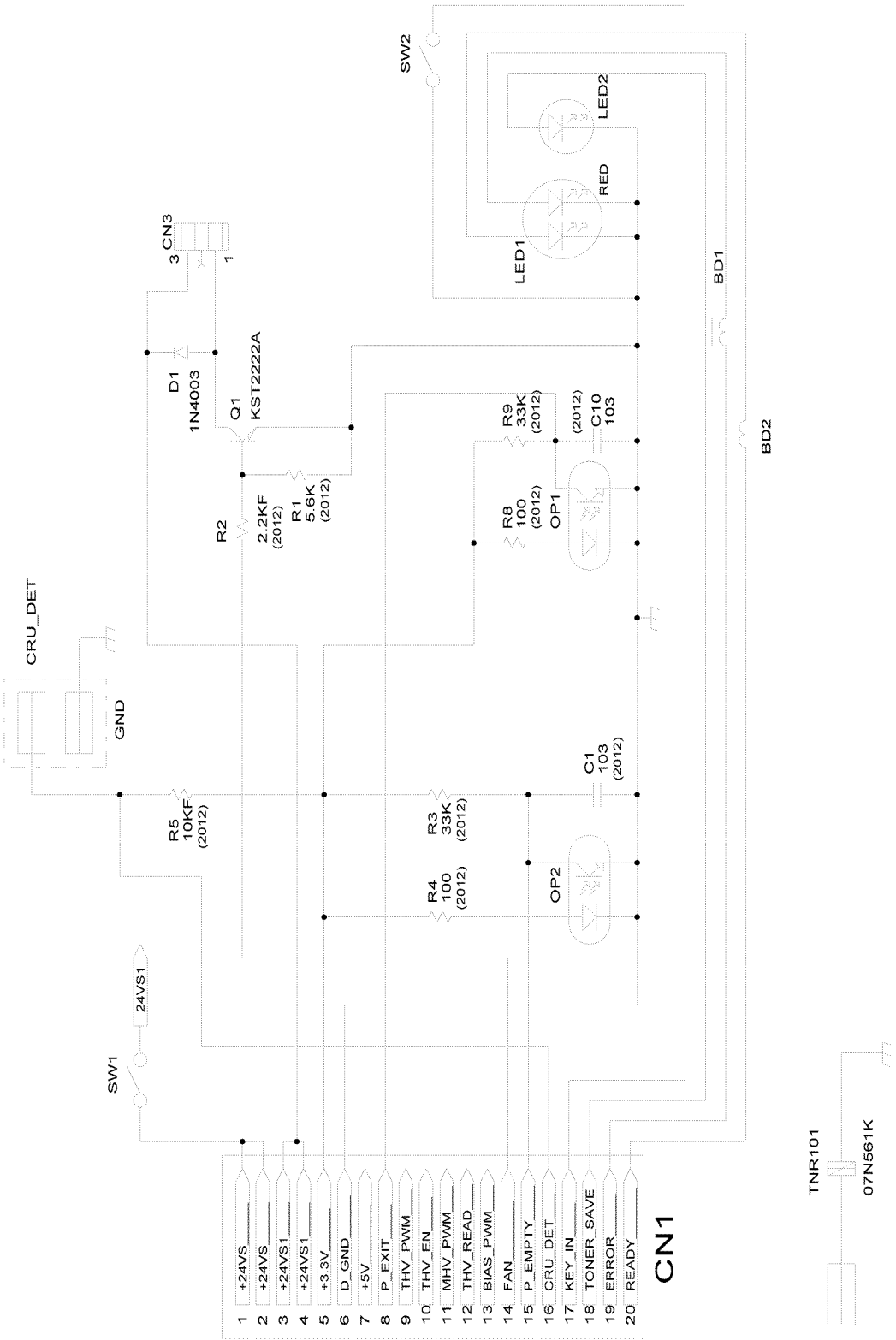


WD 40 HVPS (1/3) (Phaser 3200)



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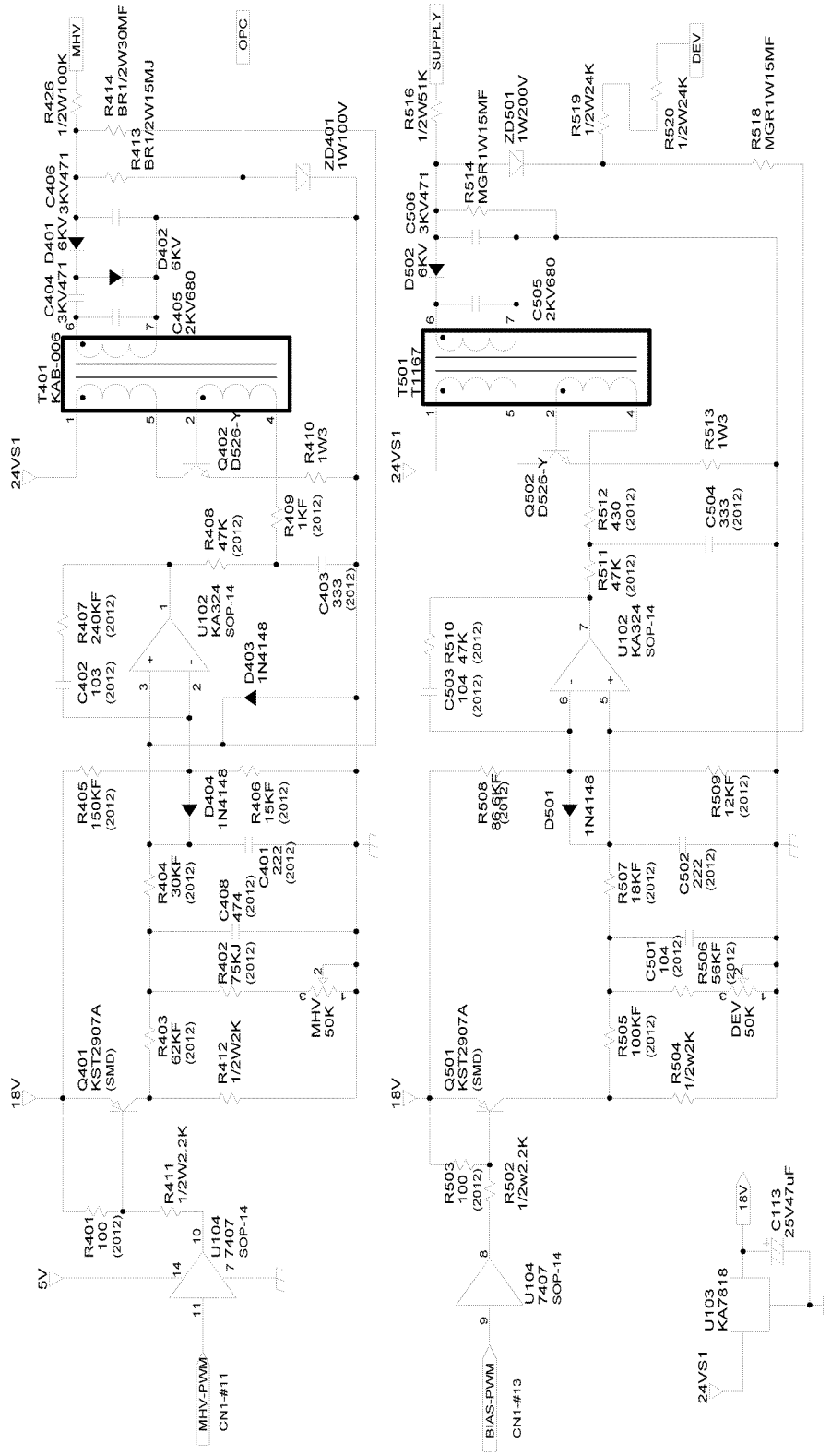
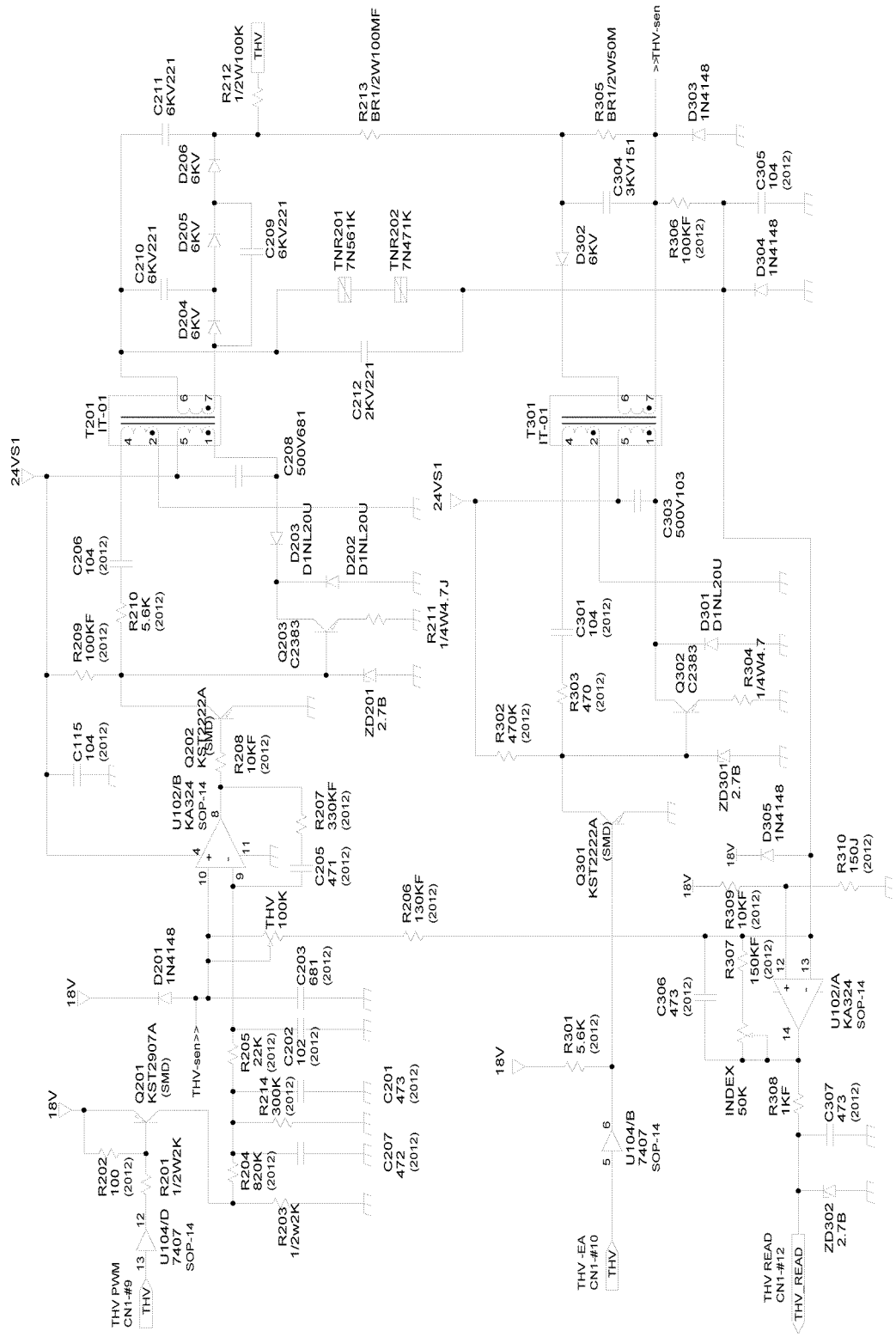
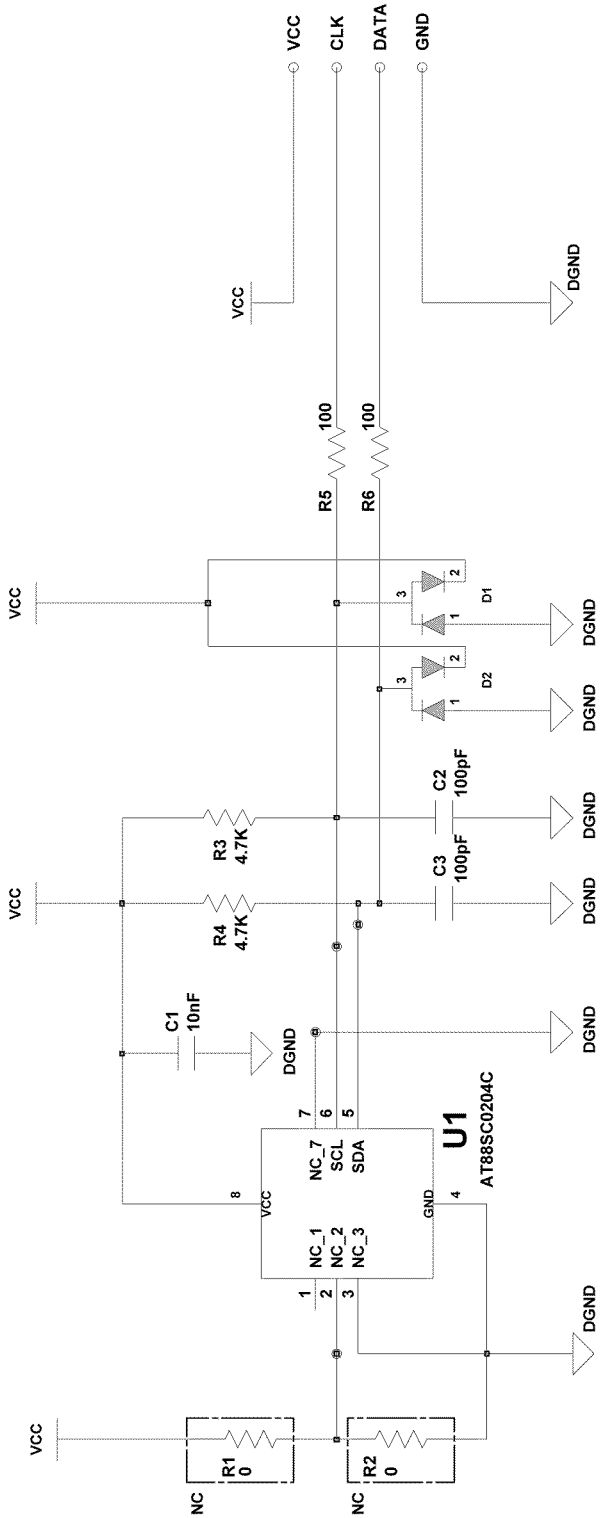


WD 42 HVPS (3/3) (Phaser 3200)



WD 43 CRUM PBA (Phaser 3200)



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APPENDIX A: Health & Safety Incident Report Involving a Xerox Product

Customer Identification		
Customer Name:	**Name of Customer Contact Person**:	
Address:	**E-mail:**	**Telephone** : **Fax** :
Customer Service Engineer Identification		
Name:	**Employee** :	**Pager** :
Location:	**Phone** :	

Details of Incident

Date Of Incident (mm / dd / yr):

Description Of Incident: (Check all that apply)

☐ Excessive Smoke

Describe quantity and duration of smoke:

☐ Fire with open flames seen

☐ Electric shock to operator or service representative

☐ Physical injury/illness to operator or service representative

Describe:

☐ Other

Describe:

Any damage to customer property? No ☐ Yes ☐ Describe:

Did external emergency response provider(s) such as fire department, ambulance, and etc. respond?

No ☐ Yes ☐ Identify: (ie, source, names of individuals)

Apparent cause of incident (identify part that is suspect to be responsible for the incident)

Preliminary actions taken to mitigate incident:

Product Description	
Model No. or Product name:	
Product Serial :	**Serial Number(s) of Accessory (ies):**
Installation Date:	**Total Copy Meter**:
Date of last service maintenance:	
List damaged and affected part(s) of the machine by description and part number:	
Description	**Part Number**
Location of product and affected part(s):	

Individual Providing Notification		
Name:	**Title**:	**Telephone Number**:
Organization:		**E-Mail:**
Mailing Address:		**Date Report Submitted**:

Instructions: E-mail or fax this completed form to EH&S:

- For incidents in **Xerox Europe** and **Developing Markets East**
  (Middle East, Africa, India, China, and Hong Kong)
  please **e-mail:** Elaine.Grange@xerox.com or **fax**: +44 (0) 1707 35 3914 [intelnet 8*668 3914]
  Note: - If you fax this form, please also send original by internal mail

- For incidents in **North America** and **Developing Markets West**
  (Brazil, Mexico, Latin American North and Latin American South)
  please **e-mail**: Doris.Bush@xerox.com or fax 585 422 6449 [Intelnet 8*222 6449]

Log Sheet

XEROX			ADF					OPTICS							FUSER							XERO						PAPER FEED							MISC					
Serial Number	Account Data	Key Op																																			Adjustment		Installed Tag
Date	Meter	CSE																																					
1																																							
Problem	Subsystem	Inc	PLEASE PRINT																																				
2																																							
Problem	Subsystem	Inc																																					
3																																							
Problem	Subsystem	Inc																																					
4																																							
Problem	Subsystem	Inc																																					
5																																							
Problem	Subsystem	Inc																																					

XEROX EUROPE

PUBLICATION COMMENT SHEET

Please copy this master sheet and use it to help us to improve this publication. We would like you to tell us about improvements to its accuracy, format and quality.
Please give specific references, i.e.: page numbers and figure numbers and attach marked up photocopies wherever possible. If you have identified a solution please include your suggestions with your reply.
Please also answer the customer satisfaction question set.
When you have completed the PCS, send it by internal mail to the address below. You will receive an acknowledgement and feedback on your comments. Please ensure that your name and CBU/District location code are fully completed.

NAME: JOB TITLE: ENGINEER NUMBER: CONTACT TELEPHONE NUMBER: DATE:	OPERATING COMPANY: CBU/DISTRICT LOCATION CODE:

PRODUCT AND PUBLICATION TITLE:	PUBLICATION REVISION DATE:	SOFTWARE REVISION LEVEL:

PAGE NUMBER:	COMMENT Please submit a marked-up photocopy of the relevant pages

CUSTOMER SATISFACTION QUESTION SET

QUESTION	NOT APPLICABLE	VERY SATISFIED	SATISFIED	NEITHER SATISFIED NOR DISSATISFIED	DISSATISFIED	VERY DISSATISFIED
DO YOU FIND THE MANUAL IS TECHNICALLY ACCURATE?						
DO YOU FIND THE FORMAT OF THE MANUAL EASY TO USE?						
WHAT IS YOUR OVERALL SATISFACTION LEVEL WITH THE MANUAL						

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PCS. NUMBER:	
MANAGER:	
DUE DATE:	