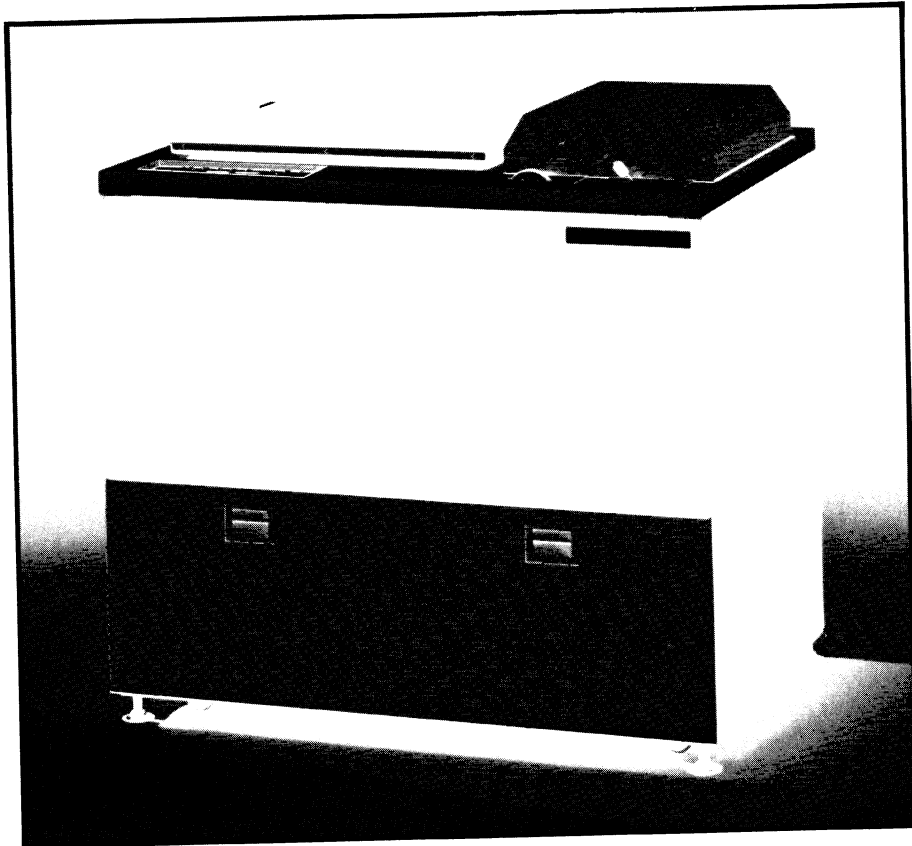


OPERATION AND MAINTENANCE MANUAL



MITSUBISHI PLATEMAKER
MODEL 150V



VISUAL GRAPHICS CORPORATION

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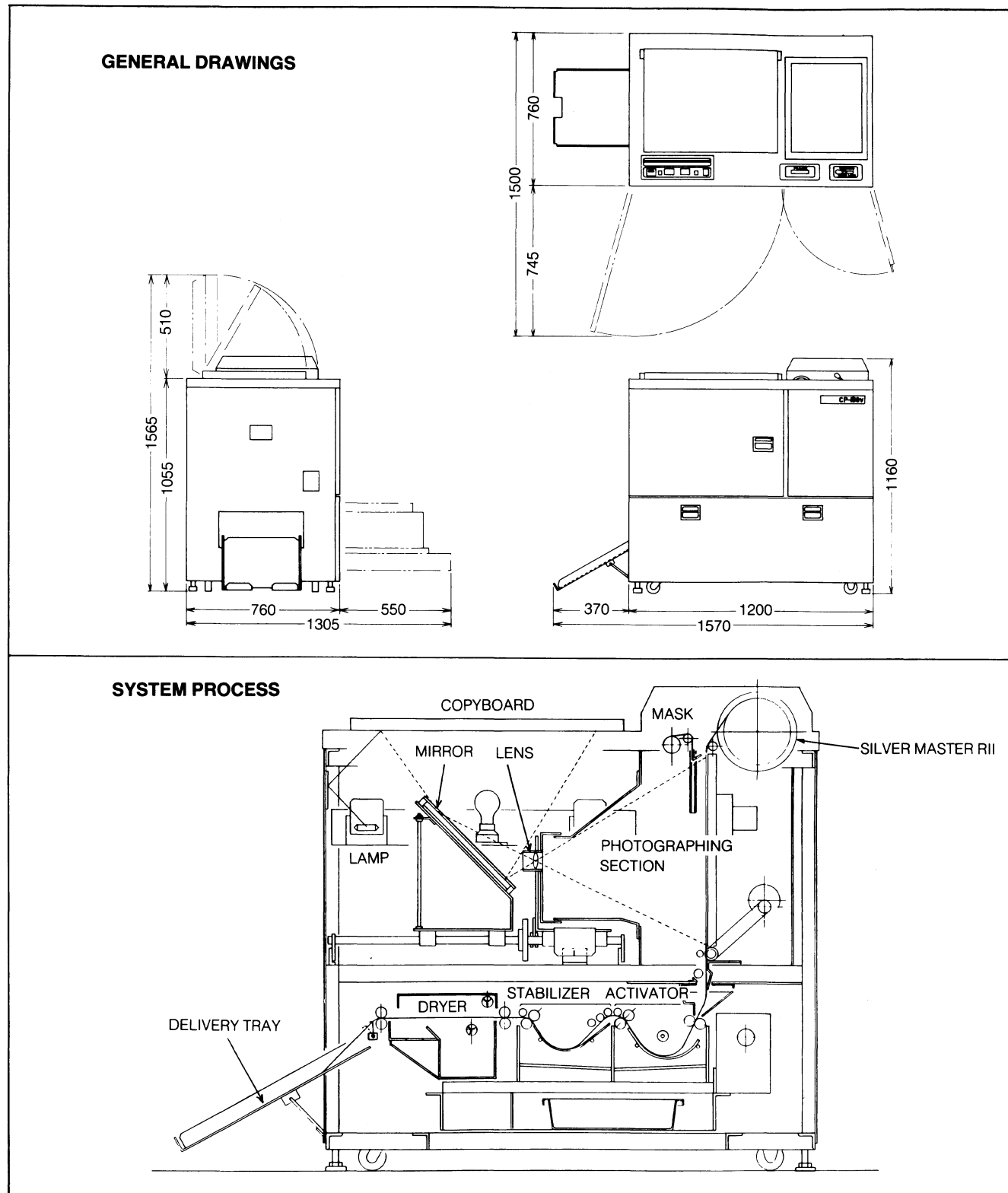
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CHAPTER 1. OUTLINE

1. Introduction

We at Mitsubishi are very grateful to you for selecting the Silver Master Platemaker CP-150V. The Silver Master Platemaker CP-150V is a completely new multi-functional platemaking system which, in combination with Silver Master RII, produces offset masters directly from the copy with a simple operation, eliminating the need for any intermediate film process.

This operation manual is intended to enable you to enjoy the system's superior features for a long time. For information on printing methods, please refer to our separate booklet, "Silver Master Technical Guide".



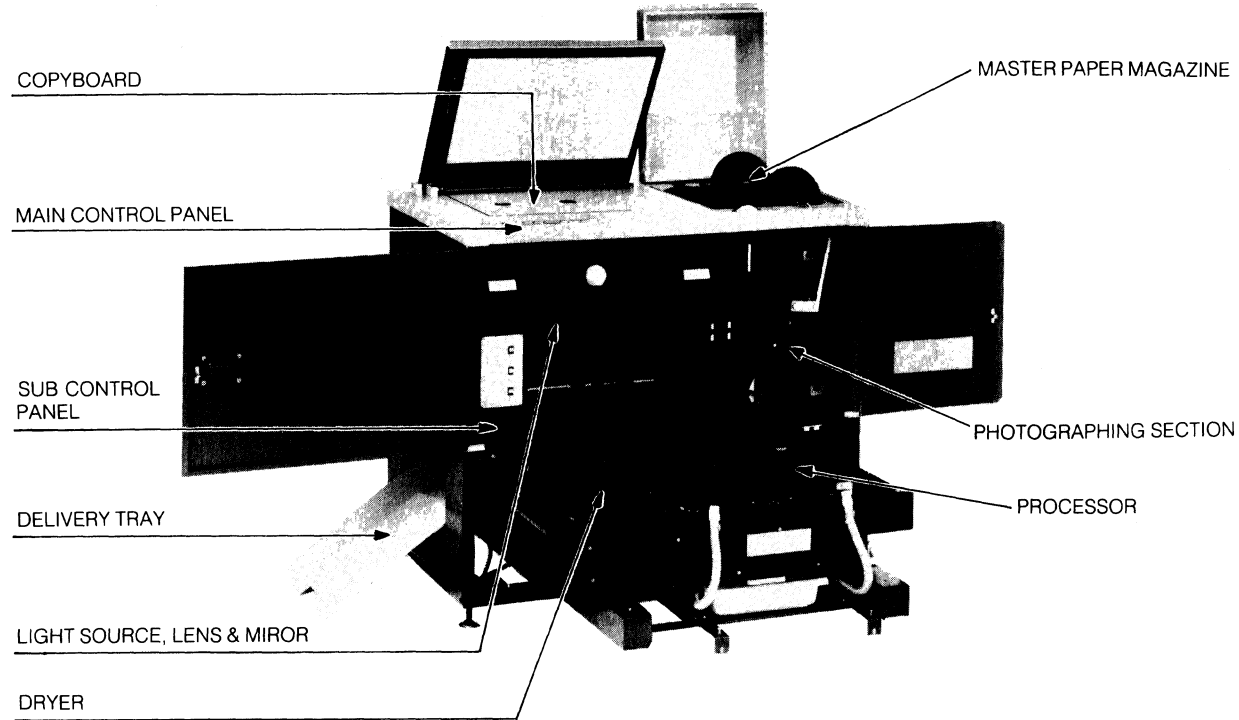
2. Specifications

Item	Specifications
Master width	254mm(10"), 279mm(11"), 305mm(12"), 310mm(12 1/4")
Master length	370mm to 480mm (digital setting)
Effective image area	310mm × 430mm (blank exposure: 310mm × 480mm)
Copy setting	Sponge press-fit frame type with copy positioning sheet
Processor tank	Activator tank: 6 liters
Capacity	Stabilizer tank: 6 liters
Replenishing bottles	Activator and stabilizer: 2 liters each (constant liquid level system)
Temperature controlling system	Activator tank: 250W panel heater with thermostat
Dryer	600W thermo-control
Lens	f = 210mm-fixed diaphragm
Magnification	Variable from 95% to 105%, 100% (1:1)
Exposure time	0 to 99.9 sec. (digital setting)
Light source	Halogen lamps: 4 × 300W (100V)
Light source for copy positioning	Tungstem lamp: 1 × 100W (100V)
Separate switches	Switch for suction fan Switch for dryer
Master splice detector	Warning buzzer
Master holding on focal plane	Vacuum back
Platemaking speed	Fisrt plate/A3: 143 to 173 sec Continuous/A3: 42 to 48 sec
Machine dimensions	1,200 (W) × 760 (D) × 1,160 (H) mm
Weight	210 kg
Electricity	1ø, 100V, 2.5KW, 50 or 60 Hz

CHAPTER 2. OPERATION

1. General Construction

General Construction



2. Sub Control Panels 1 & 2

Sub control panel 1 is located on the left side. Sub control panel 2 appears when the light source cover is opened. The panels incorporate the following switches and buzzer.

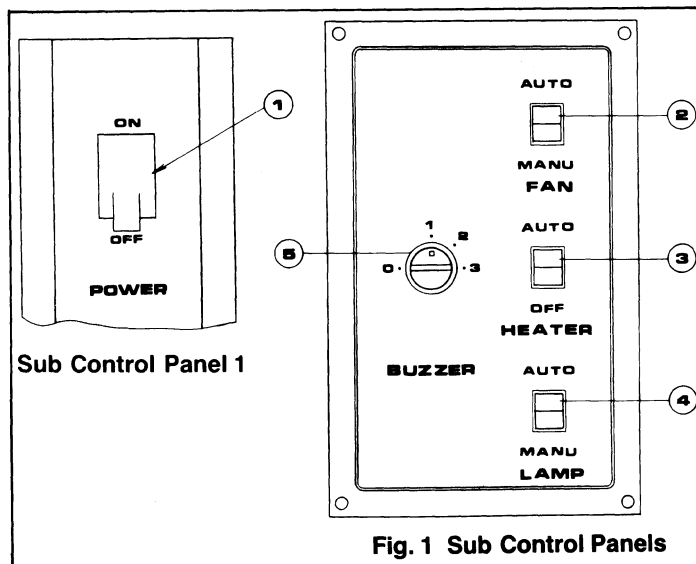


Fig. 1 Sub Control Panels

①POWER switch (camera switch)

When this switch is turned on, the operation circuit and processor begin to work and the system is ready for operation.

②FAN switch

In usual cases, set this switch to AUTO. In case that the humidity is very high and the system is going to be shut down for a long time, use the following procedures

System shut-down procedure

- Set the FAN switch to MANU

- Turn the holding roller lever to FREE.

With the above operations, the operation circuit and the processor stop but the suction fan only works as far as the POWER switch is on.

System start-up procedure

- Turn the holding roller lever to LOCK.
- Set the FAN changeover switch to AUTO.

③HEATER switch

The 250 W panel heater, built in the activator tank, controls the activator solution at proper temperature as far as this switch at AUTO. Be sure to turn this switch OFF before draining the solution for solution replacement or tank cleaning.

④LAMP AUTO/MANU changeover switch

In normal use, set the LAMP switch to AUTO. Under this condition, the given exposure can be supplied automatically by depressing START button. When the LAMP switch is set to MANU, four lamps (light source) light up continuously, but the shutter remains closed, thereby preventing the paper from being exposed. This switch is used for cleaning the copyboard glass or examining the light source.

⑤BUZZER

The buzzer warns when a master is finished or the spliced part of master paper is passing through the system. Its sound volume is adjustable depending on the environmental noise

3. Main Control Panel

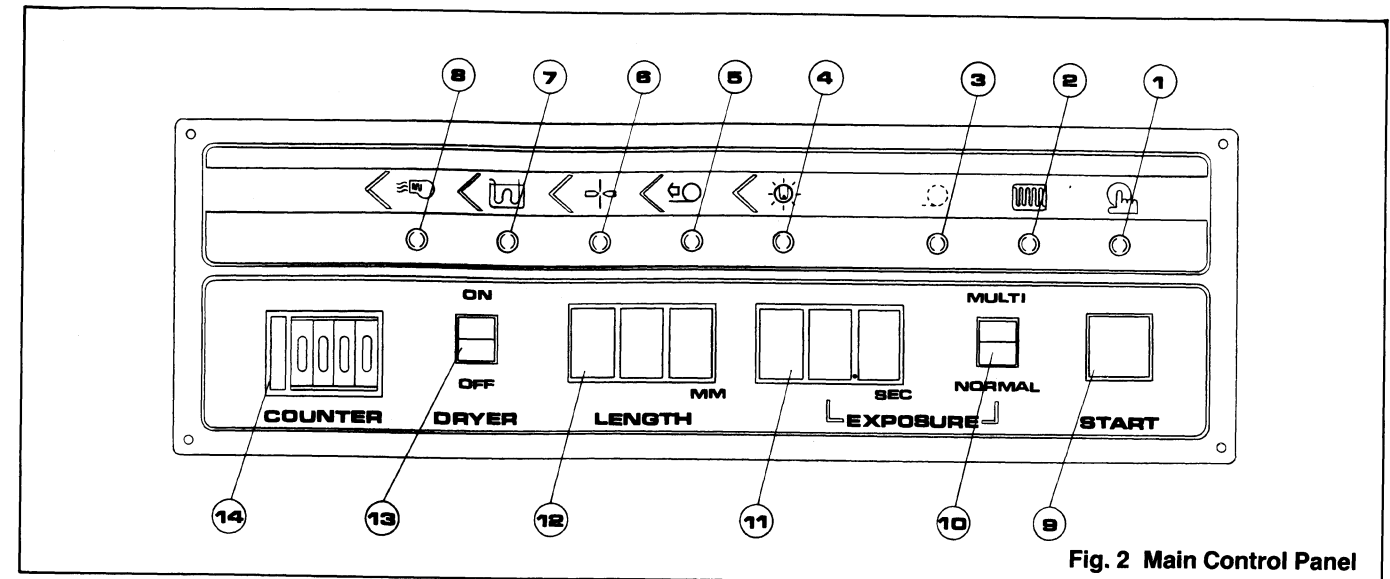


Fig. 2 Main Control Panel

①START pilot lamp (green)

This pilot lamp, when it is on, indicates that the system is ready for platemaking. This lamp is off when exposure start, and lights on again when exposure finishes.

②HEATER pilot lamp (orange)

The lamp goes on or off when the temperature drops or when it rises. Since the thermostat is working, the system can be operated, whether the lamp is on or off.

After that time, the lamp may go on or off repeatedly because of the thermostat working. The system can be operated whether the lamp is on or off under this condition.

③MASTER END pilot lamp (red)

This MASTER END pilot lamp lights and the buzzer sounds when the master paper roll runs out. The lamp also lights up when the master paper roll is improperly loaded. In such cases, reload the master paper roll properly. The START button does not work while this pilot lamp is on.

④ to ⑧ PROCESSING STAGE INDICATORS.

- ④ Exposing (red)
- ⑤ Master transportation (red)
- ⑥ Master cutting (red)
- ⑦ Developing & stabilizing (red)
- ⑧ Drying (red)

⑨START button

The START button initiates a series of operations (exposure, master transportation, master cutting, developing, stabilizing, drying and delivery). The START button does not work when the START lamp (green) is off, or when the MASTER END lamp is on and the buzzer is sounding.

⑩MULTI/NORMAL switch

Turn this switch to NORMAL for normal exposure, under this condition a series of operations will be performed.

With this switch at MULTI, the master paper just exposed is not transported but waits for further exposure. This switch is used for multiple (double, triple and so on) exposure. Be sure to turn the switch to NORMAL just before the final exposure is made.

⑪EXPOSURE timer (digital)

This timer is used for setting the exposure time. The lamps are lit for the time period set on the timer.

⑫MASTER LENGTH (digital)

Master paper is automatically fed and cut by the length set on the MASTER LENGTH. The master length can be set continuously in the range from 370 to 480 mm.

*1 If the setting is shorter than 299 mm or longer than 500 mm, the system will not start even the START lamp on.

*2 If the setting is between 300 and 369 mm, or between 481 and 499 mm, the system will operate but it may cause jamming or scratching troubles. So please avoid setting the MASTER LENGTH to those ranges.

⑬DRYER switch

When the DRYER switch is turned on, the heater actuated until the hot air reaches approximately 50°C. The thermostat works to maintain the hot air 50°C.

(The dryer fan is actuated when the POWER switch is turned on.)

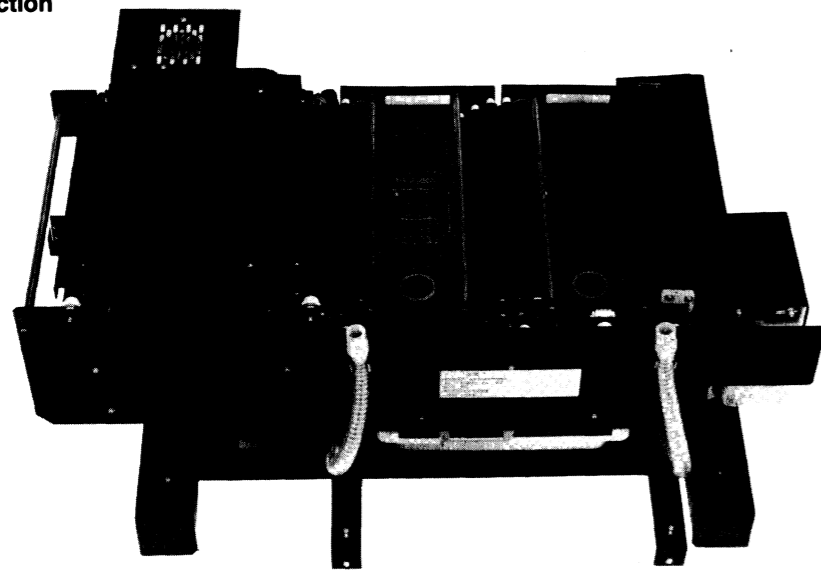
* Don't start the system just after the DRYER switch is turned on. Otherwise, the master may pass through the dryer before its temperature reaches the preset level, which can cause the master not to be dried satisfactorily.

⑭COUNTER

The COUNTER indicates the number of master plates produced. Re-set the counter (to "0") by pushing the re-set button after the activator is changed or a new roll is loaded.

4. Processor and Dryer Section

Processor and Dryer Section



A. Preparation of processing chemicals

- Take off the processor cover and remove the hook, and the processor can be pulled out of the main body.
- The processor is composed of an activator tank and a stabilizer tank, each of which is provided with an independent conveyor unit. After it is not in use for a long period of time, the rollers of the unit may not turn smoothly since they stick to each other. In such cases, turn the rollers by hand before starting the processor.
- For preparing the processing chemicals, use specially made measuring cups.
- Use 30 to 35°C hot water when tap water temperature is low in winter.
- Be sure to handle the processor gently when taking it in or out.

Activator tank (capacity: 6 liters)

DEVELOPER
Prepare activator by mixing SLM-AC and water in the ratio of 1:1

- ① Add 3 liters of water to 3 liters of SLM-AC, (exclusive activator for SILVER MASTER), and pour the mixture into the activator tank after being thoroughly stirred.
- ② Pour the activator, prepared in the same ratio (1:1), into the activator replenishing bottle (2 l) and set the bottle properly on the unit.
- ③ Equipped with the 250W panel heater and thermostat, the activator is kept at a constant temperature around 30°C for operation.
- ④ The thermo-dial is located on the right side of the processor. For correct setting, adjust the "30" dial division to the guide point. The dial reading shows the set temperature. Check the solution temperature when operating the processor. If the significant difference from the set temperature is found, correct it by the dial. (The temperature is between 28 and 30°C when the HEATER pilot lamp goes off.)

Stabilizer Tank (capacity: 6 liters)

- ① Add 4.5 liters of water to 1.5 liters of SLM-ST (exclusive stabilizer for SILVER MASTER), and pour it into the stabilizer

tank after being thoroughly stirred.

- ② Pour the stabilizer, prepared in the same ratio (1:3), into the stabilizer replenishing bottle (2 liters) and set it properly on the unit.

Replenishing

The replenishing bottle should contain considerable quantity of solution properly mixed. If the replenishing bottle is empty, the level in the tanks will be lowered. And this accelerates the oxidation of solution and results in not only shortening the solutions life but also deterioration of quality.

Replacement of the processing solution

Refer to the paragraph of general care (P.12).

Caution in handling chemicals

- ① Be careful never to drink or get into eyes processing chemicals. (In case of such accidents check with a doctor)
- ② When chemicals splash onto skin or clothes immediately wash with running water.
- ③ Use chemicals properly according to instruction.
- ④ Keep chemicals out of reach of children.

B. Dryer

When the DRYER switch is turned on with the POWER switch on, the heater and fan start working. The hot air is kept at a constant temperature around 50°C. When no photograph is taken for a long time with the POWER switch on, power can be saved with the DRYER switch off. Return the DRYER switch from OFF to ON a few minutes before restarting the system.

*1 When the START switch is turned on immediately after the DRYER switch is returned from OFF to ON, the master may pass through the dryer before its temperature reaches the set level, thus resulting in inadequate drying. Especially when the room temperature is low, turn on the START button a few minutes after the DRYER switch is turned on.

*2 If masters are stained by the DRYER, refer to the paragraph of general care. (P.13)

5. Photographing Section

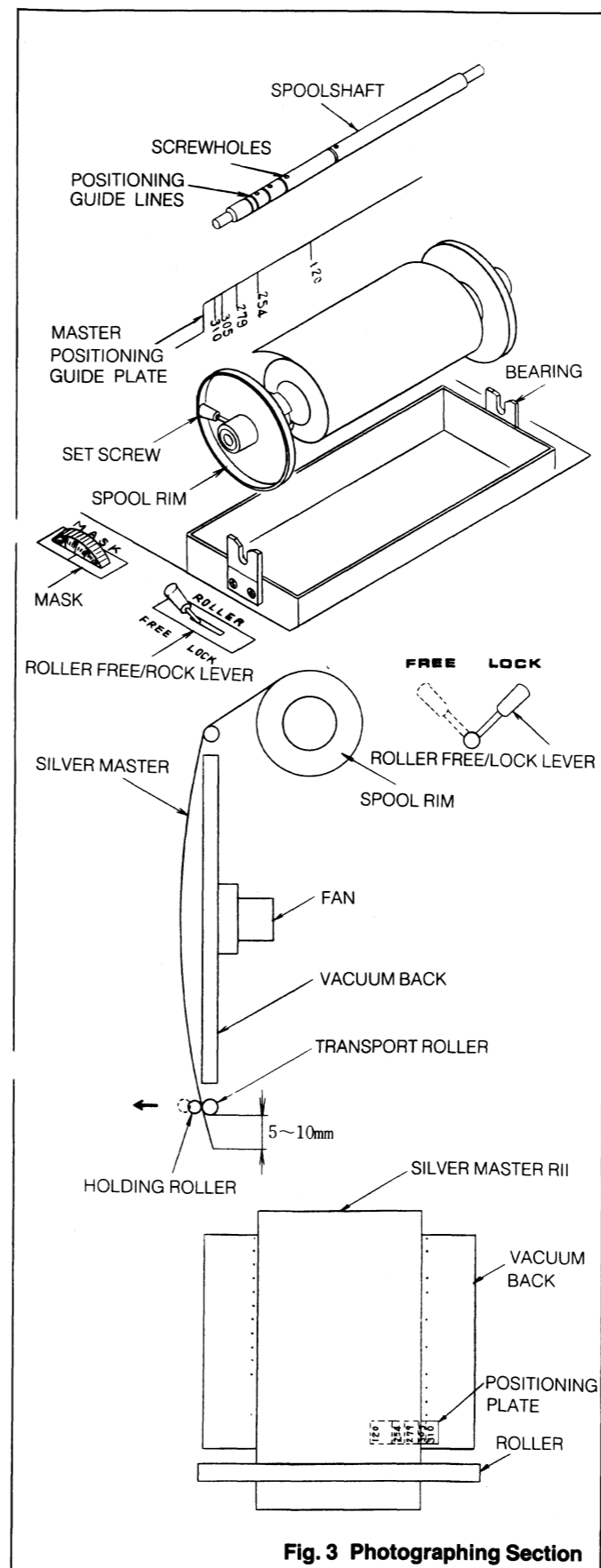


Fig. 3 Photographing Section

A. Loading master paper

- ① Fit the spool rim to the spool shaft guide line depending on the width of the master paper (254, 279, 305 or 310 mm) in use and secure it with set screw. The screw holes are provided in the spool shaft.
- ② Pass the spool shaft through the core.
- ③ Fit the other spool rim to the spool shaft and secure it with set screw.
- ④ Put the spool loaded with master paper on the spool bearings.
- ⑤ Turn the ROLLER FREE/ROCK lever to FREE, and the holding roller will open.
- ⑥ Insert the master paper between the transport roller and the holding roller. And pull it by hand until the leading end of master paper reaches 5 to 10 mm below the transport roller. The master positioning plate is located on the bottom of the vacuum back. Position the master paper on the vacuum back properly by aligning the edge of the paper with the corresponding reference line on the master positioning plate.
- ⑦ Turn the ROLLER FREE/ROCK lever to LOCK, and the holding roller will close.
- ⑧ Turn on the POWER switch, and the buzzer will sound for a short time and then the START pilot lamp (green) will light. Be sure to confirm this. Repeat the procedure from steps ⑤ to ⑦ if the buzzer continues to sound or the START lamp will not light.

CAUTION:

To start the machine after long shut-down in a highly humid room (ROLLER lever at FREE), first turn on the POWER switch (the master paper is held on the vacuum back) and then the ROLLER lever to lock.

B. Shading mask

- ① The shading mask length is set to the range from 370 to 480 mm with the dial.
 - ② The opening of the shading mask is set using the shading mask scale so that it will be equivalent to or a little (about 5 mm) longer than the master length.
- * When the shading mask is not open enough for the set master length, non exposure portion remains. And stripe pattern of silver image appears at the end of the master.
 - * When the shading mask is opened too much for the set master length, double exposure is given at the leading end of the next master, resulting in lost images.

6. Copyboard

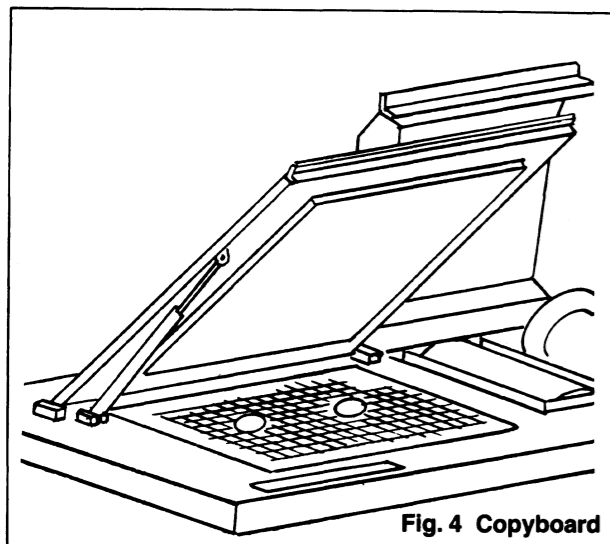


Fig. 4 Copyboard

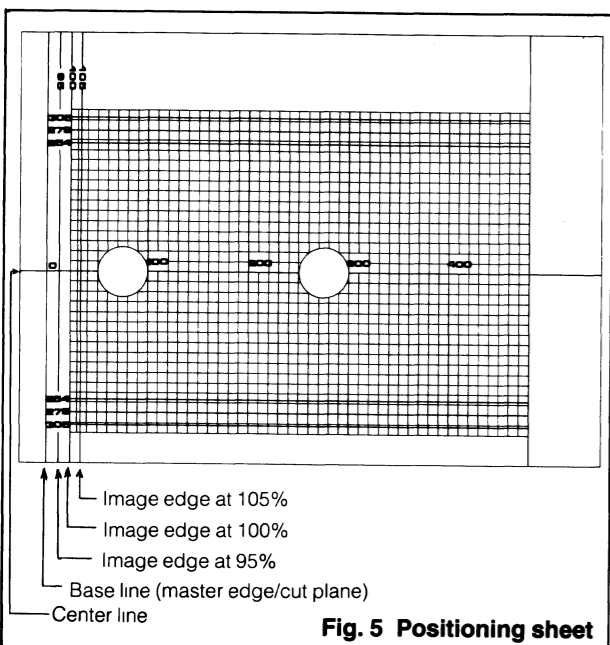


Fig. 5 Positioning sheet

A. Handling the copyboard cover

- ① Raise the copyboard cover slowly holding its handle, and it will be stopped in the given position because of gas spring effect. (Hold the handle until the frame is stopped).
- ② By raising the copyboard cover, one positioning light is turned on automatically. (When the cover is closed, the light goes off automatically).
- ③ Place the original copy between the positioning sheet and the copyboard glass. (Refer to "B. Positioning the original copy.")
- ④ Close the copyboard cover slowly.

CAUTION:

Don't handle the copyboard cover roughly especially in raising or lowering it.

B. Positioning the original copy

- Insert the copy between the positioning sheet and copyboard glass.
- Move the copy to the proper position referring to the guide lines printed on the positioning sheet. (You can move and position the copy very easily by touching it through 2 holes of positioning sheet)
- Following guide lines are printed
 - * a base line (corresponds to the leading edge of master)
 - * a center line (corresponds to the center of master width)
 - * three upper end lines of effective image for each magnification (95%, 100%, 105%)
 - * section graph lines (5 mm div.)

7. Lens and Mirror

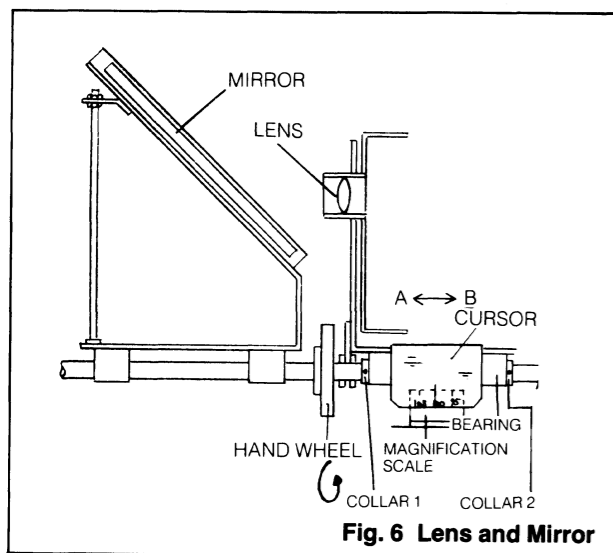


Fig. 6 Lens and Mirror

A. Adjusting the magnification

- Lens: $f=210\text{mm}$ with fixed diaphragm.
- For setting a magnification (95% - 105%), turn the hand wheel located between the lens and mirror in the light source section to move the lens assembly. When it is turned downward you, the lens assembly is moved toward 105% side, or in direction A, while when turned in the upward, the lens assembly is moved toward 95% side, or in direction B.

CAUTION:

Before changing the magnification, be sure to loosen the two fixing collars 1 and 2 at both sides of the bearings.

- When reading the magnification scale, make the two cursor lines coincide with each other to minimize parallax.
- When the camera is not used for a long time, please cover the lens with lens cap and the mirror with mirror cover for preventing from dust. (Be careful not to touch them directly with bare hands)

8. Jam Detector

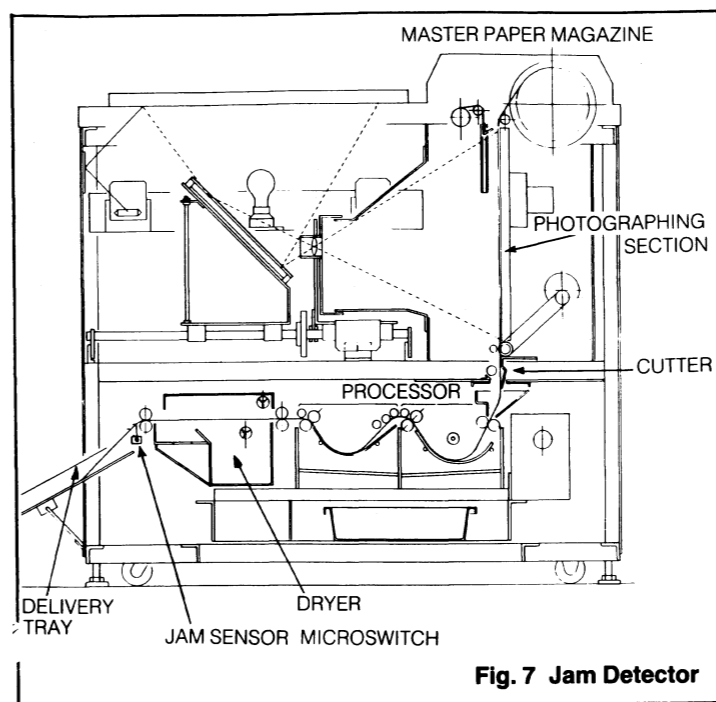


Fig. 7 Jam Detector

A. Jam detection

- When the master paper jams in the machine or master paper ends, the buzzer warns. This buzzer is located on the sub control panel in the light source section, and its sound volume is adjustable depending on the environment noise.
- This buzzer, as a jam warning, is designed to sound when the jam sensor micro-switch (see Fig. 7) does not touch the master paper within 54~64 seconds after the cutter returns to its original position.
- So, if the buzzer sounds, inspect the following sections.
 - ① MASTER PAPER MAGAZINE
 - ② PHOTOGRAPHING SECTION
 - ③ CUTTER
 - ④ PROCESSOR
 - ⑤ DRYER
 - ⑥ DELIVERY TRAY

CHAPTER 3. PHOTOGRAPHING

1. Photographing Procedure

Good plate cannot be produced unless the following conditions are met. Check the following conditions before starting the machine.

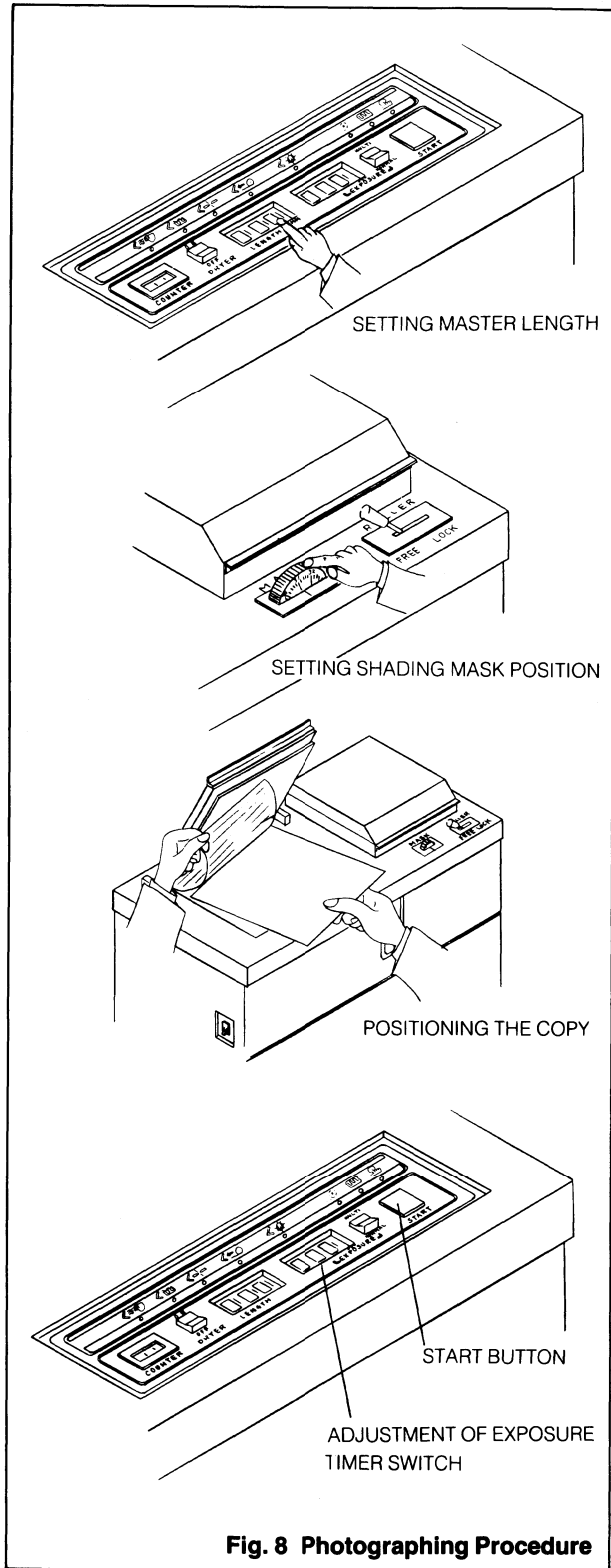


Fig. 8 Photographing Procedure

A. Conditions for photographing

- ① Processing solutions are prepared.
- ② The master end lamp (red) is out and the buzzer is not sounding.
- ③ The heater switch is at AUTO and the heater pilot lamp (orange) is out.
- ④ The MULTI/NORMAL switch is at NORMAL.
- ⑤ The LAMP (light source) switch is at AUTO.
- ⑥ The ROLLER lever is at LOCK.
- ⑦ The START lamp (green) is ON (or OFF).
- ⑧ The DRYER switch is ON (or OFF).
- ⑨ The FAN switch is at AUTO.

B. Setting the master length

Set a desired length on the LENGTH digital switch (370~480 mm)

C. Positioning the shading mask.

Set the MASK dial in the photographing section at the same value as the set master length.

D. Positioning the original copy

Place the copy with its image side down and set it in the desired position, referring to the guide lines of the positioning sheet.

E. Adjustment of the exposure timer

Set the exposure time suitable for the copy using the exposure digital switch on the main control panel.

F. Start

Push the START button and photographing will be automatically performed to produce a master.

2. Multiple Photography

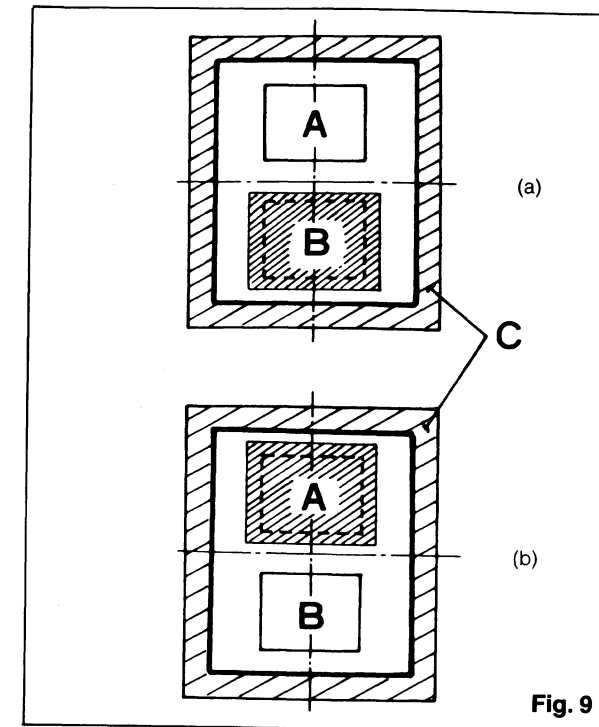


Fig. 9

The SILVER MASTER CP-150V is equipped with a multiple exposure device. This device enables you to compose several same images onto the plate by providing only one copy. Followings are basic procedure for two images composition.

- ① Determine the positions where the copy should be set at the first exposure and the second exposure in advance.
- ② Place the copy at the correct position for the first exposure. (position A in Fig. 9-(a))
- ③ Place a piece of black paper at the correct position for the second exposure. (position B in Fig. 9-(a))
The black paper must be larger than the copy and its optical density must be higher than 2.00.
- ④ Turn the switch to MULTI.
- ⑤ Set exposure time.
- ⑥ Push the START button for the first exposure.
- ⑦ Replace the copy and the black paper like Fig. 9-(b) after the first exposure.
- ⑧ Turn the switch to NORMAL.
- ⑨ Push the START button for the second exposure.

3. How to Determine Standard Exposure

Since the SILVER MASTER RII is coated with silver-halide emulsion, its sensitivity may somewhat vary among lots. Each carton bears a lot number. Before using a new lot, check its sensitivity. Under-exposure may cause thickened images or toning on backgrounds.

Over-exposure may cause too thin images or lost images. Optimum exposure is essential for SILVER MASTER RII to deliver the best performance.

A. How to Determine Standard Exposure Time

- ① The CP-150V is supplied with test chart and standard plate sample.
Make an exposure of a test chart and compare it with the standard sample to determine standard exposure.
- ② Adjust the EXPOSURE switch so that silver deposit starts with the step marked with a circle in the test chart.
- ③ The corresponding exposure time is referred to as Standard Exposure Time for the test chart.
- ④ Using this Standard Exposure Time for the test chart as a guide, determine the optimum exposure time for each copy. For such copies as clean proof (typed) and phototyped matter, increase the exposure time by 10% to 15%. For fine line copy, decrease the exposure time.

B. Focus

The focus is thoroughly checked before shipment. However, re-check it, in accordance with the following procedure.

- Print the resolving power chart contained in the test chart and compare the print with the resolution power standard sample to judge the focus accuracy.
- Make the exposure time a little longer than the standard one.

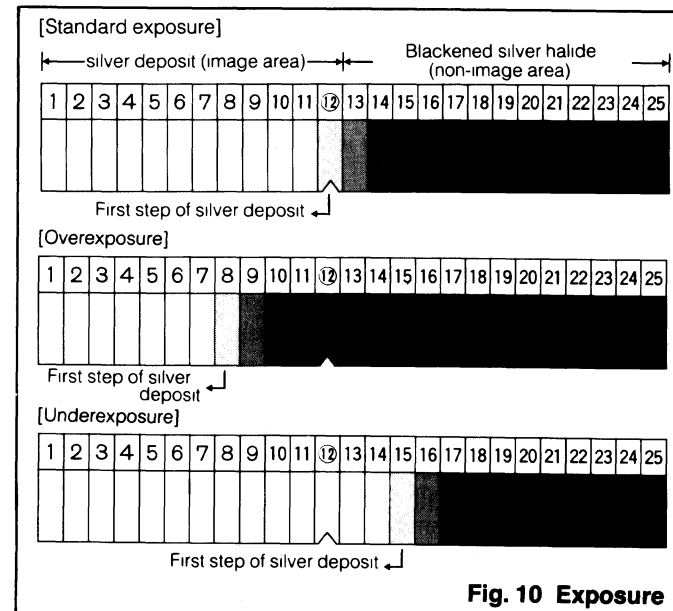


Fig. 10 Exposure

- If it is equivalent to or better than the resolving power standard sample, the focus accuracy is accepted.
- The resolving power should be 8 lines/mm. (This resolution power chart, being a duplication one, does not indicate absolute values.)

CAUTION:

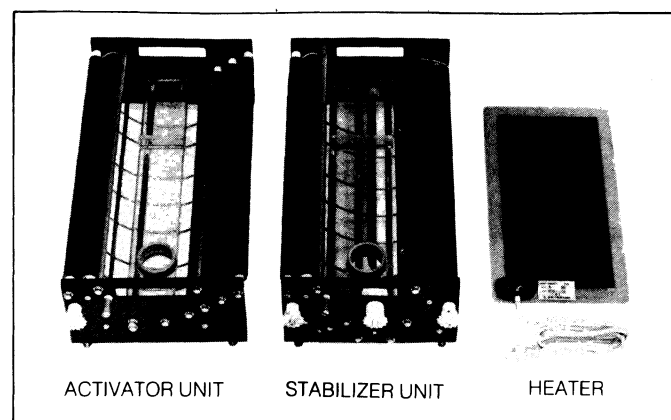
The standard print sample may become discolored if kept for a long time. So, keep it in a dark place such as a table drawer.

CHAPTER 4. MAINTENANCE

To maintain satisfactory operation of the SILVER MASTER CP- 150V, care should be taken of the following points every day.

1. Pre-operation Inspection

- ① Turn on the power supply and switch the POWER (camera switch) on the sub control panel to ON
- ② Confirm that the lens cap and mirror cover are not on
- ③ Confirm that there are no scratches or stains on the copyboard glass and mirror
Take special care to keep the glass clean since a stained glass will give bad effects on images.
- ④ Confirm that fluid tanks and replenishing bottles are filled properly
- ⑤ Confirm that the Start lamp on the main control panel is on
- ⑥ Confirm that there is no trouble in a series of automatic operations.
- ⑦ When new treating fluid has been put in or the paper roll has been replaced with a new one, it is advisable to photograph the test chart in order to check overall exposure condition.



B. Cleaning the tanks

When replacing activator and stabilizer, wash the tanks in accordance with the following procedure without fail.

- ① Remove the activator unit, stabilizer unit and heater from the fluid tanks and thoroughly clean them with water. Carefully wipe off any fluid sediment with a damp cloth or sponge.
- ② As synthetic rubber used in the rollers of the activator and stabilizer units is not heat-resistant, wash it with warm water of less than 40 °C temperature. Any detergent or polishing sand must not be used
- ③ Clean the inside of the activator and stabilizer tanks with water.
- ④ If the paper conveyor guides at the lower sections of the activator and stabilizer units are too dirty, masters may be scratched as a result. Wash them with water and then wipe dry. Then, polish them with a soft cloth holding metal polishing powder until their surfaces are clean like a mirror.

CAUTION:

- ① The care described above is basic for obtaining plates of good quality at any time. Therefore, carry it out scrupulously
- ② When the activator and stabilizer were put in mistakenly for each other, take the following measures. Be careful since the reactions of the fluids are opposite to each other.
 - 1) Switch the POWER (camera switch) on the sub-control-panel to OFF or cut off the power supply.
 - 2) Discharge the activator and stabilizer separately
 - 3) Wash the fluid tanks, activator and stabilizer units with water.
 - 4) Pour activator and stabilizer in the tanks correctly.

2. Post-operation Inspection

- ① Switch the POWER (camera switch) on the sub control panel to OFF and cut off the power supply.
- ② If the machine is to be out of use for a long time, cover it with a vinyl cover or the like to protect it from dust.

3. General Care

A. Replacement of treating fluids

Six liters of activator and stabilizer are capable of processing 400 plates of B4 size or 350 of A3. In four weeks after fluid preparation, replace the fluid even if the number of plates processed is within the above mentioned limit. The fluid tanks are located inside the machine. Keep them clean.

- ① Turn the HEATER switch on the main control panel to OFF and switch the POWER (camera switch) to OFF, or cut off the power supply. If the switch remains ON, the tank will be heated even while it is empty, which will cause the tank and heater to be damaged.
- ② Remove the front cover from the main body and pull out the processor.
- ③ Take off the replenishing bottles.
- ④ Take out the drain vat and put the drain hoses into the vat.
- ⑤ Return the drain hoses to the original position after the treating fluids are all drained.
- ⑥ For disposing of the used fluids, refer to the separate brochure, "The Silver Master System and Environmental Issues "

C. Cleaning the dryer

When masters get stained by the dryer, clean it as follows:

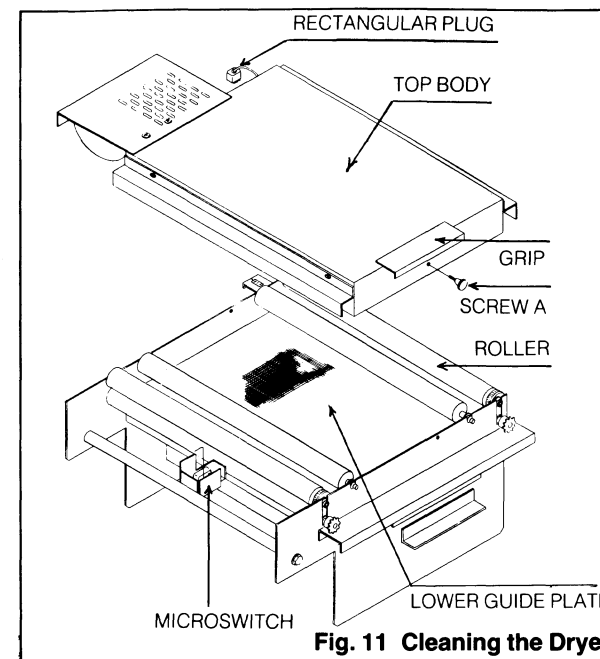


Fig. 11 Cleaning the Dryer

- ① Switch the POWER switch on the sub-control-panel to OFF.
- ② Draw out the processor dryer and disconnect the rectangular plug of the dryer
- ③ Remove two knob screws, A. Remove the top body of the dryer holding its grip
- ④ Wring out a cloth soaked with water, and wipe the upper and lower guide plates and rollers with it

CAUTION

When wiping, be sure to turn off the POWER switch. Be careful not to bend the microswitch actuator at the dryer outlet.

D. Replacement of the cutter blade

One cutter blade is capable of cutting 400 plated (approximately two 75 m rolls). Thirty days after a new blade is set, replace it regardless of the number of cuts made. Replace the cutter in the following manner

- ① Turn the POWER switch on the sub control panel to OFF
- ② Use NT cutters available on the market. Never touch the cutting edge.
- ③ Fasten up the set screw using a coin or the like

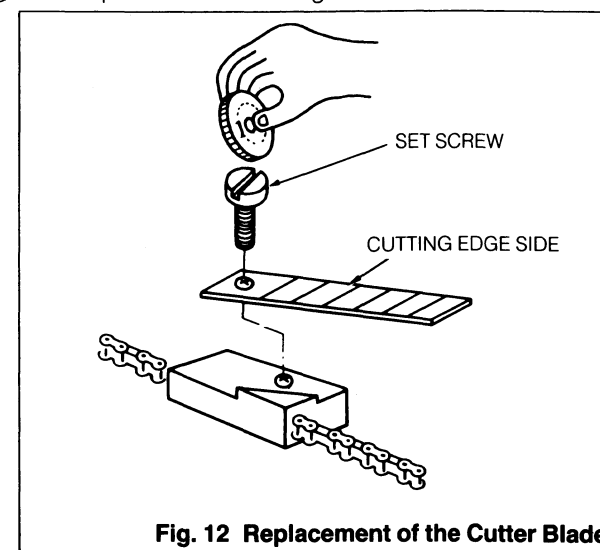


Fig. 12 Replacement of the Cutter Blade

E. Replacement of the halogen lamp

Replace the halogen lamp after the lamp and reflector have cooled down.

- ① Put the cover on the mirror for protection before replacing the lamp
- ② Hold the lamp with a dry cloth or gloves on your hand. Do not hold it with bare hands.
- ③ The contact is of the socket type. When replacing, hold the lamp holder by hand. A slanted reflector can affect illumination distribution and the service life of the lamp
- ④ The lamp, when stained with finger marks or smeared, will become opaque. Clean the stained lamp with lens paper (available at general camera stores) moistened with a small quantity of industrial ethyl alcohol
- ⑤ Halogen lamps are arranged shown below.

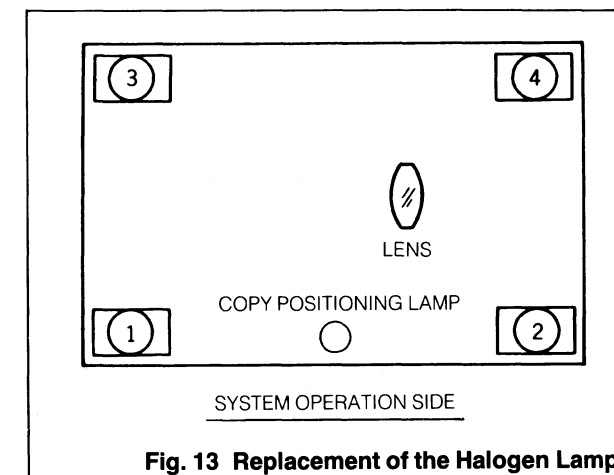


Fig. 13 Replacement of the Halogen Lamp

For replacing lamps 1 and 2, open the main control panel cover. For replacing lamps 3 and 4, open the copy frame and remove the copyboard glass. The copyboard glass is removed by opening the main control panel cover and pushing the glass up.

F. Handling and care of the lens and mirror

The lens and mirror surfaces, being soft, should be handled with the utmost care not to cause scratches or stains. Do not wipe them often.

- Lightly brush the mirror with the air brush (attached as a standard part) every month.
- If the lens is heavily dirty, wipe it gently with lens paper (available at general camera stores) moistened with a small amount of industrial ethyl alcohol (available on the market). Avoid strong rubbing or forcible removal of foreign matter so as not to cause scratches.
- When the system is not in use for long, the lens cap and mirror cover should be on.

G. Care of the copyboard glass

As the copyboard glass is liable to be stained by dust or fingermarks, inspect it daily. When stained, wipe it with a soft cloth holding a glass cleaner (available on the market), taking care not to leave the cleaning agent behind.

H. Lubrication

The required frequency of lubrication depends on the frequency of use, but generally the following frequency is recommended

- ① Processor operation chain
Draw out the processor and lubricate weekly.
- ② Cutter operation chain
Open the cover of the photographing section and lubricate monthly.
- ③ Master transport chain
Remove the side cover and lubricate monthly
- ④ Copy frame hinged part
Open the copy frame and lubricate monthly

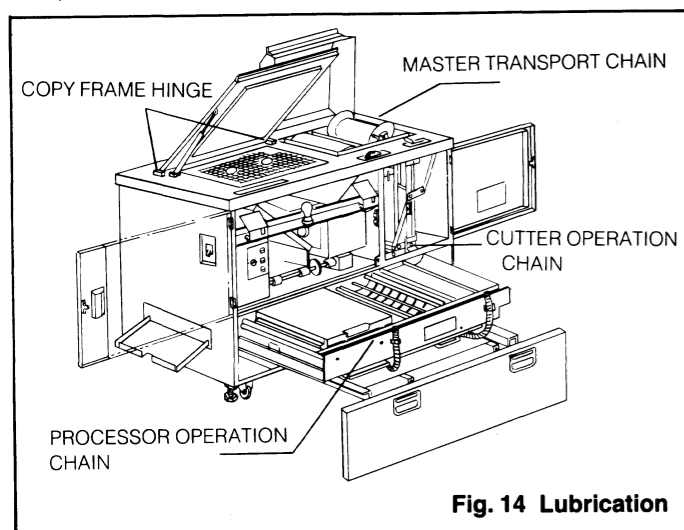


Fig. 14 Lubrication

4. Ordering and Replacement of parts

There are various constituent parts, some of them can be replaced by customers while others must be replaced by a service man. When ordering parts, let us know the following information:

- ① Whether only parts are required or both parts and installation (replacement) service are required
- ② The information given in the certificate or the nameplate of your machine
 - TYPE (CP-150V)
 - MFG. NO.
- ③ Descriptions of parts and quantities required, date of delivery.

CAUTION:

- The specifications are subject to change without notice.
- We assume no responsibility for troubles caused by any modifications made by the users or the use of another maker's equipment or parts with the system without approval

5. Troubles and Remedies

With a correct understanding of normal operations, clearly grasp the nature of the trouble. Basic remedies are listed below. Check systematically and, if not successful, contact our agent for advice.

CAUTION:

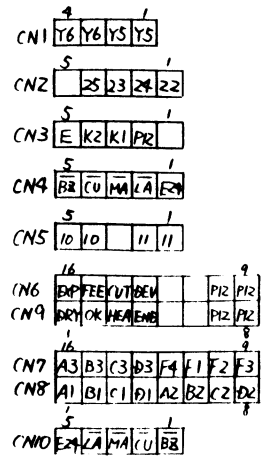
When checking the electric circuit for fuse replacement or other purposes, turn the POWER (camera switch) on the sub-control-panel to OFF.

	Trouble	Probable Cause	Remedy
1	Machine not powered up.	Power supply to camera	Turn on the power source
2	Processor won't work.	1. Blown fuses 2. Processor connector disconnected 3. Processing unit out of place	1. Replace processor motor fuses, F3 and F4 (3A) 2. Connect the connector 3. Set the unit in place
3	Machine won't start.	1. Vacuum fan switch (TS3) is at MANU. 2. Wrong master length setting 3. Paper not set properly 4. Blown fuses 5. Relay RY1 contact faulty 6. Control PCB defective	1. Set it to AUTO 2. Set the master length to 370 - 480 mm 3. Load paper properly 4. Replace operation circuit fuses F5 and F6 (5A) 5. Correct the contact or replace (LY2 100 VAC) 6. Replace the control PCB
4	The temperature of treating fluids won't rise.	1. Heater plug disconnected 2. Erroneous setting of thermo-dial	1. Connect the heater plug 2. Set the thermo-dial at 30 °C
5	Light source won't light (with LAMP switch at MANU)	1. Lamp is burned out 2. faulty contact of lamp socket 3. Magnet switch MC contact faulty	1. Replace the halogen lamp (See 4.3 E.) 2. Reinstall the lamp properly 3. Replace the MC
6	Exposure is not made	1. Faulty contact of exposure relay RY3 2. Control PCB defective	1. Replace the relay (MY2 24 VDC) 2. Replace the control PCB
7	Paper not fed	1. ROLLER unlocked 2. Master transport relay RY4 contact faulty 3. Control PCB defective	1. Set the ROLLER lever to LOCK 2. Correct the contact or replace (MY2 24 VDC) 3. Replace the control PCB
8	Cutter faulty, malfunctioning	1. Cutter blade defective 2. Cutter end limiter contact faulty 3. Mishandling 4. Cutter relay RY5 contact faulty 5. Control PCB defective	1. Replace the cutter blade (See 4.3.D.) 2. Turn off the POWER and operate the limiter (farther one) by hand to check its action 3. Don't touch NORMAL/MULTI switch during paper transport 4. Correct the RY5 contact or replace (MY2 24 VDC) 5. Replace the control PCB
9	Copy positioning lamp won't light	1. The lamp is burned out 2. Malfunction of limiter switch at hinge of copy frame	1. Replace the lamp (tungsten, 100 VAC 100 W) 2. Operate the limiter by hand to check its action
10	Partially lost image	1. Dirty copy-board glass 2. Dirty mirror 3. Light leakage	1. Clean the glass (See 4.3.G.) 2. Clean the mirror (See 4.3.F.) 3. Taping
11	Silver deposit on part of plate	1. First roller of activator unit of processor is dirty 2. Wrong mask length setting 3. Wrong master length	1. Clean the roller 2. Check the mask position 3. Measure the master length and correct it (plus 1-4mm adjustable)
12	Scratches on part of master plate	1. Master-transport rollers of processor unit are stained or have foreign matter on them 2. Master guides are stained or have foreign matter on them	1. Clean the master-transport rollers of activator and stabilizer units 2. Clean the master guides
13	Master not dried well	1. The rectangular plug of the dryer is disconnected or not connected completely 2. Blown fuses	1. Fully connect the plug 2. Replace dryer fuses, F1 and F2 (10A)

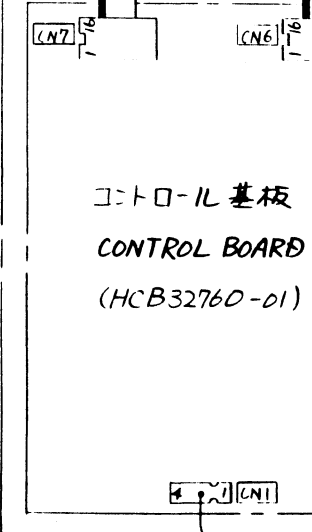
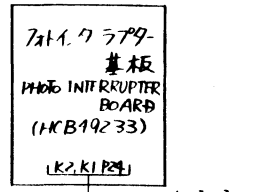
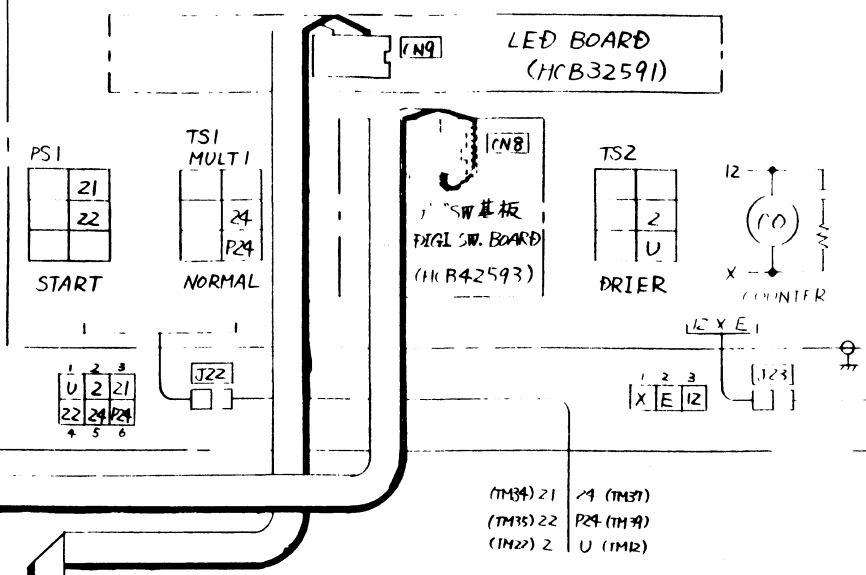
参考図面

WIRING SYSTEM DIA. HCS31745
SCHEMATIC DIA. HCS31459

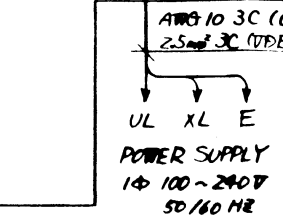
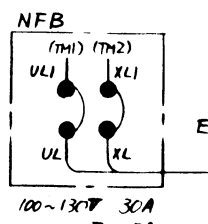
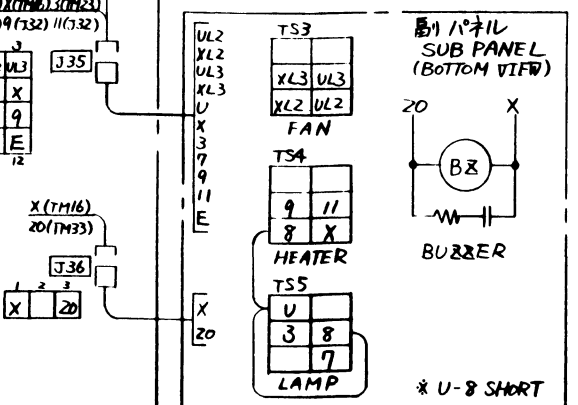
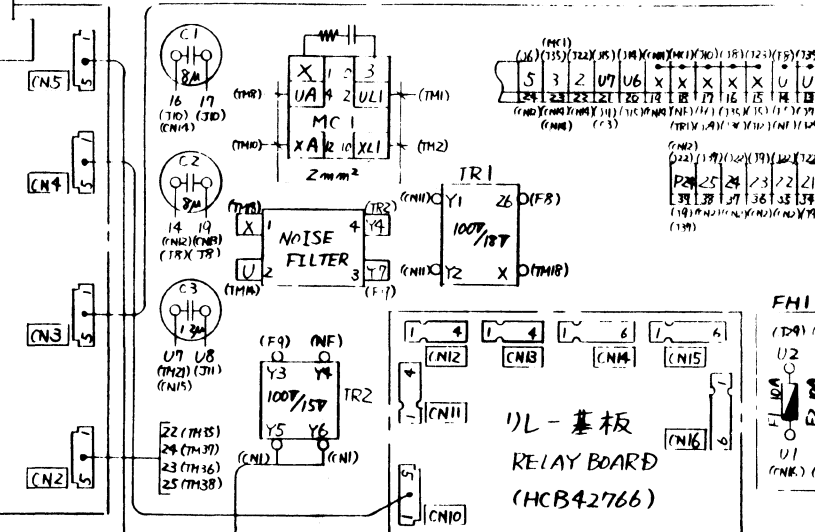
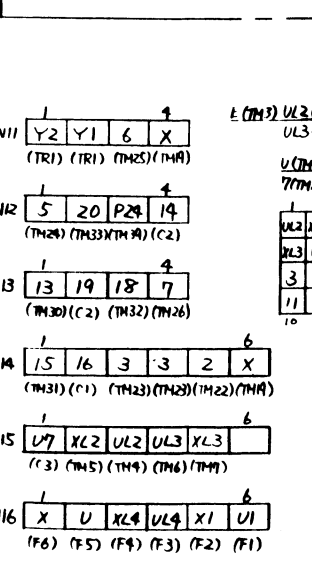
* 指定の配線は 0.75mm² とする
ALL WIRES ARE 0.75mm² UNLESS OTHERWISE SHOWN.



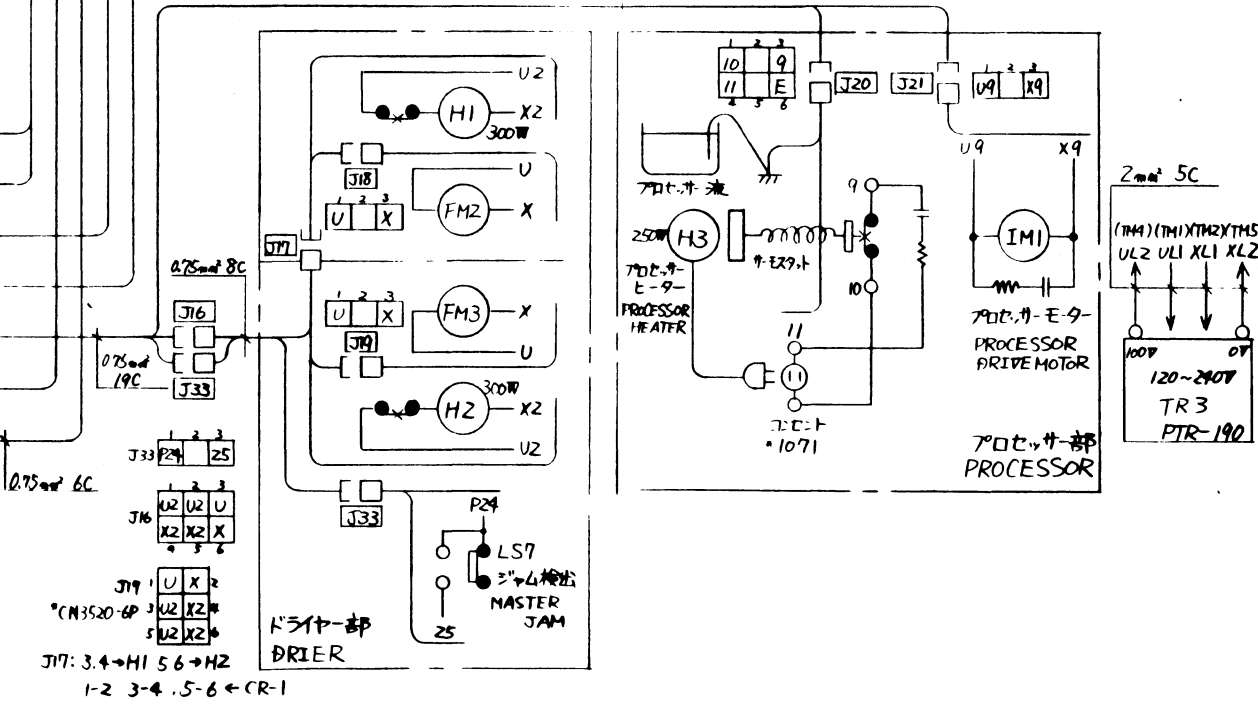
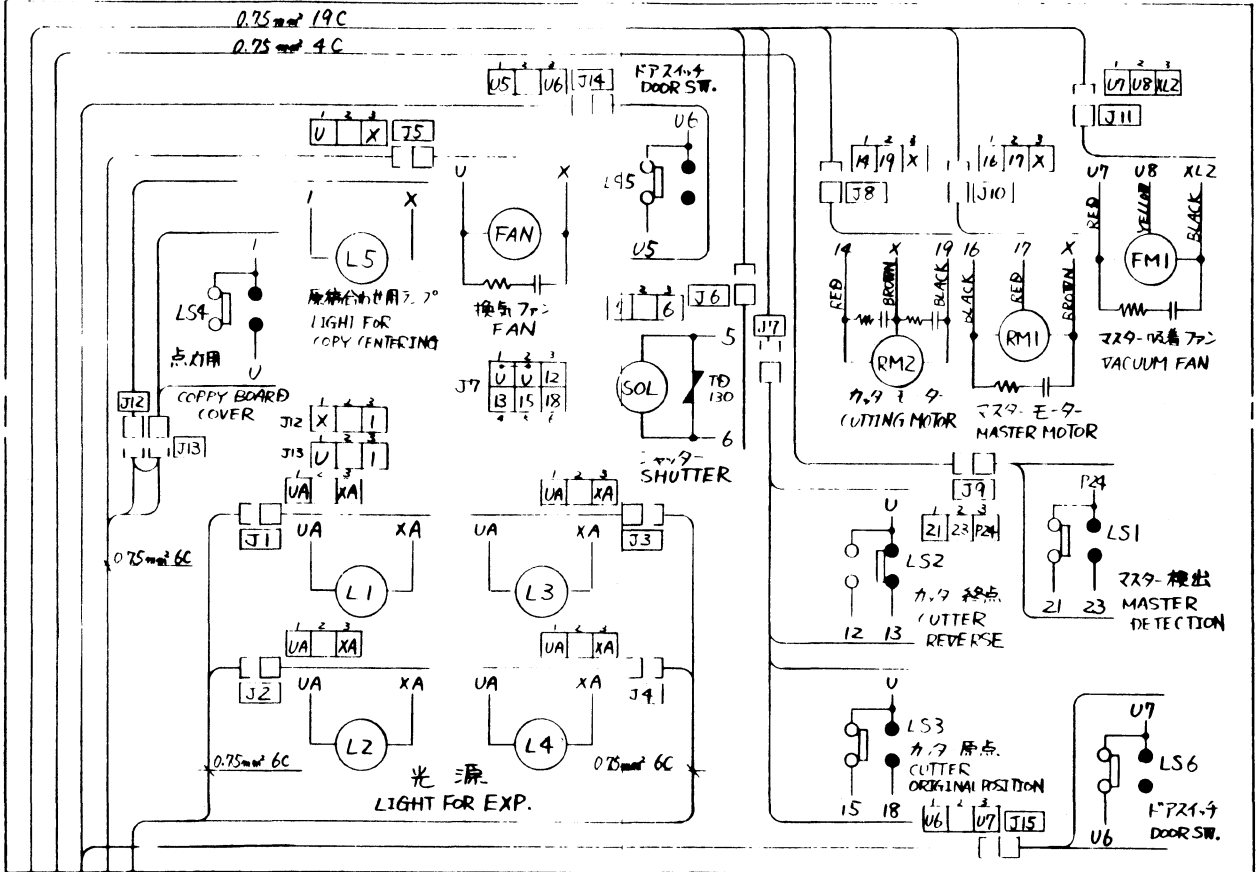
操作パネル CONTROL PANEL (BOTTOM VIEW)



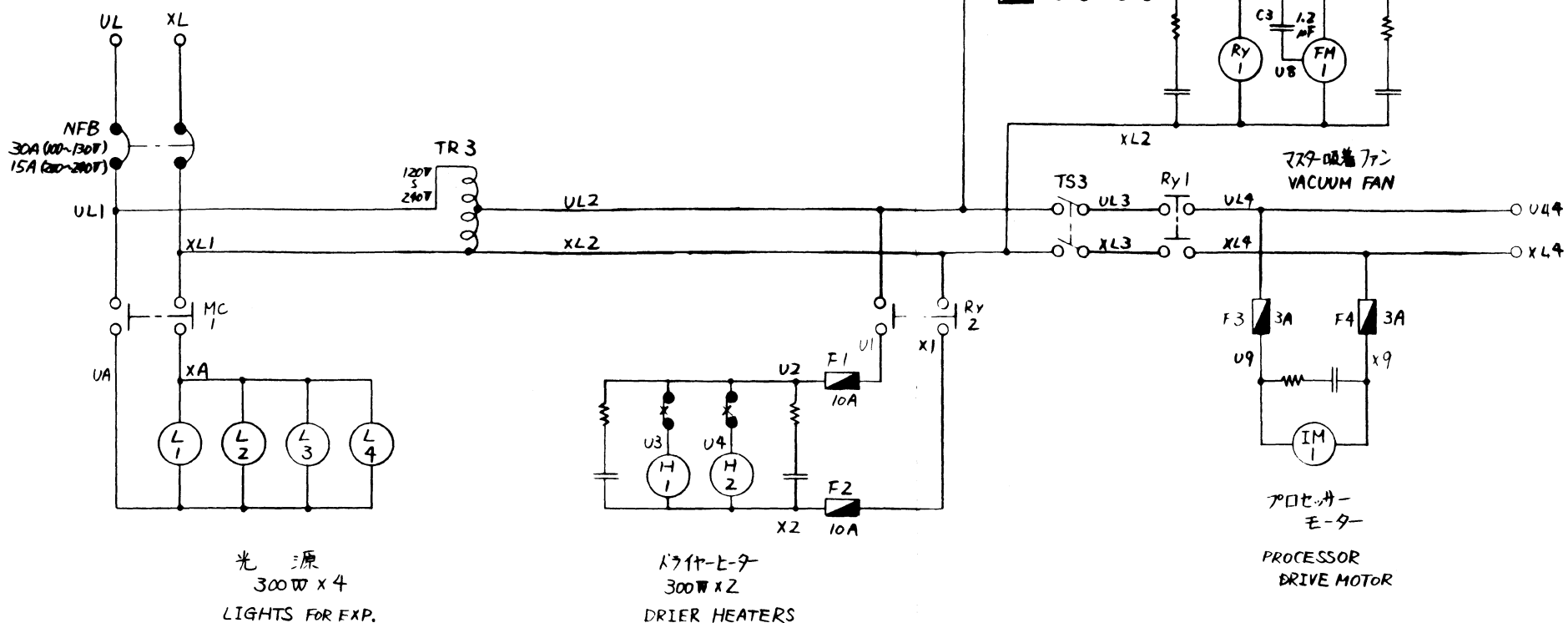
配電盤 DISTRIBUTING BOARD



NFB	FB32-30 (100~130V)	FH2	F-7111 3P	TR3	PTR-190	IMI	P340A
BZ	EA-4211	F1.2	10A 125V	CO	MCH-4X	FAN	N4506
Ry1.2	LY2 AC100V	F3.4	3A 125V	NE	ZQB22R5-01	FM2	P325-9
Ry3-6	MY2 DC24V	F5.6	5A 125V	RM1	RH8P20 8H90	FM3	J15-1 6100 CW
MC1	G2J-2212T AC100V	F7-9	0.5A 125V	C1	10 MF	SOL	60-L-95-100-DC90
PS1	DLB-2141-11W0	TM1.2	TU-30S	RM2	RH8P20 8H12.5	LS1.7	V4-14-J
TS1-5	M-2022J-K2W	TM3-39	TU-15	C2	8 MF	LS2.3	BZ-2RWB2-T4-J
I.H1	F-7111 6P	TR1	HCR4074.2	EM1	FM8SS5	IS4-6	BZ-2RWB-T4-J (LS5.6 with OFFR)
		TR2	HCR41078	C3	1.2 MF		



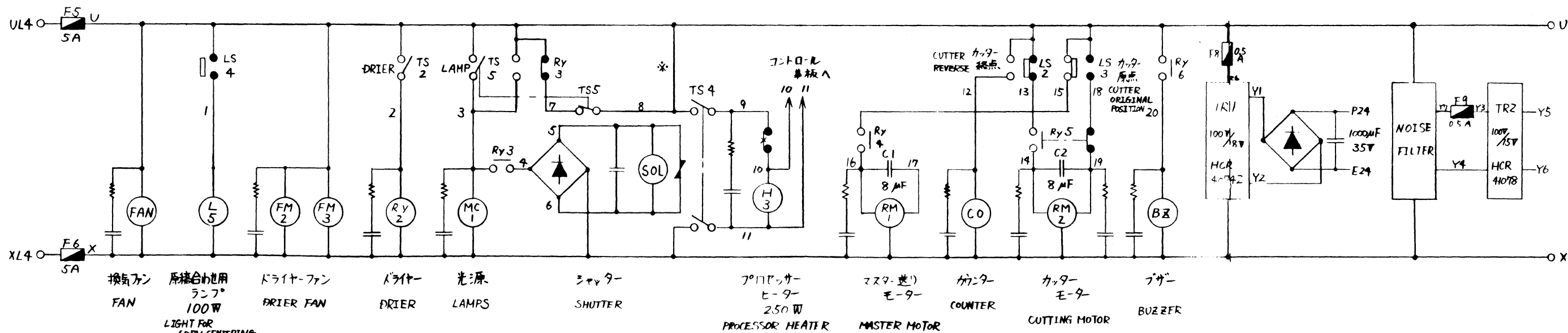
1φ 100~240V
50/60Hz
2.5kW



光源
300W x 4
LIGHTS FOR EXP.

ライターヒーター
300W x 2
DRIER HEATERS

プロセッサ
モーター
PROCESSOR
DRIVE MOTOR

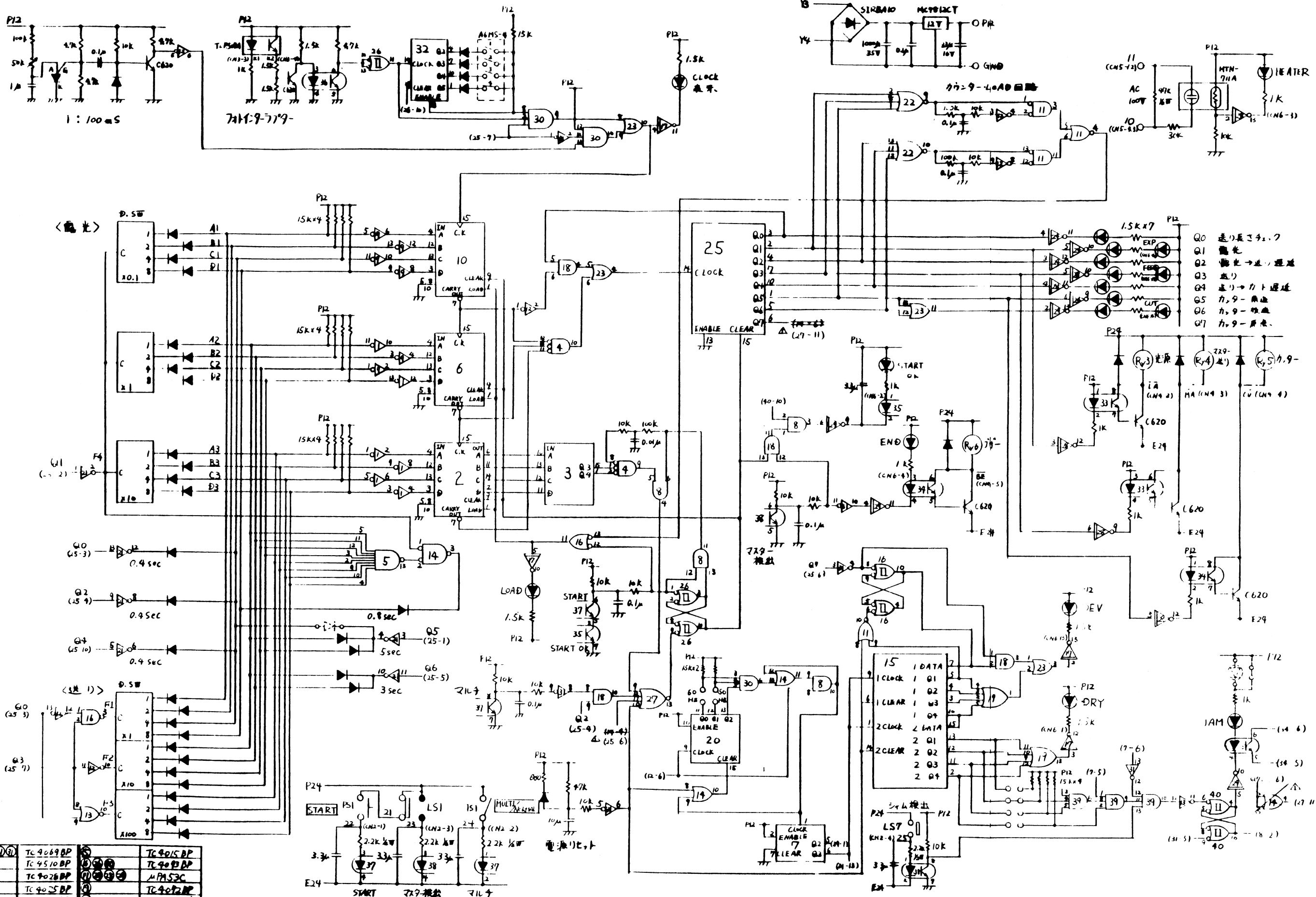


NFB	FB32-30 (100~130V) FB32-15 (200~240V)	C1	10μF	FM1	FM8555	F7~9	0.5A
BZ	EA-4211	C2	8μF	IMI	P340A		
Ry1~2	LY-2 AC100V	C3	1.2μF	FAN	N4506		
Ry3~6	MY-2 DC24V	F1~2	10A	SOL	60-L-95-100-DC90		
MC1	LK2-E	F3~4	3A	RM1	RH8P20 8H90		
TS2~5	M-2022J-K2W	F5~6	5A	RM2	RH8P20 8H12.5		
TR1	HCR40742	CO	MCH-4X	FM2	P325-9		
TR2	HCR41078	NF	ZGB22R5-01	FM3	315-1.6100CW		

* Ry3~6 の操作コイルについては
SCHEMATIC DIA. (HCS31459)
を参照.

* 光源 (L1~4) に 500W のものを使用する際は
U.8 の短絡を外し、光源 ON 時にプロセッサ
ヒーター (H3) が OFF できるようにする。

DWG NO. HCS31745



(電光)

(送)

- Q0 送り遅延
- Q1 電光
- Q2 電光→送り遅延
- Q3 送り
- Q4 送り→カト遅延
- Q5 カ9-無送
- Q6 カ9-遅送
- Q7 カ9-原送

①	TC 9069 BP	⑤	TC 9015 BP
②	TC 4510 BP	⑥	TC 9010 BP
③	TC 9026 BP	⑦	μPA53C
④	TC 9025 BP	⑧	TC 9012 BP
⑤	TC 9068 BP	⑨	TC 9018 BP
⑥	TC 4520 BP	⑩	TC 9017 BP
⑦	TC 9081 BP	⑪	TC 9002 BP
⑧	TC 9001 BP	⑫	TC 9013 BP
⑨	TC 9071 BP	⑬	TC 627

注) 1. 914-1は1S953
2. 指定のない抵抗は1/4Wとす。