
III. DATA

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1. Test Mode

1. Operational Procedures

The Test mode program in the machine is to enable a service technician to check the operation of each electrical component.

1. [Starting Up Test Mode]

Turn on the power while pressing down on the “P/M” and “ORIGINAL” buttons on the main panel.

In Test activities, the following indication will be displayed in the LCD panel and print quantity displays.

- This is the initial condition of Test Mode. -

TEST MODE			
PANEL	Ver	○	○
SYSTEM	Ver	○	○

0		0	0
---	--	---	---

2. [Checking the Operation of A Component]

To check the operation of a component, select a test No. using panel keys and then press the “START” button to start the test.

The figures in the print quantity display mean:

- The right-side two digits: The test No. selected
- The left-side on digit: **0** for the "Test OFF" status
1 for the "Test ON" status

If the test is a one-cycle operation test, it will be automatically stopped after one check.
To stop the test, press the “START” button again.

[Example]- In selecting Test mode No. 69

[Print quantity display]

0		0	0
---	--	---	---

↓

Select test No. **69** using panel keys.

0		6	9
---	--	---	---

↓

Press the “START” button.

1		6	9
---	--	---	---

TEST MODE

1. Operational Procedures



Press the **"START"** button again.

0		6	9
---	--	---	---

3. [Selecting another Test mode and Exiting the Test mode]

To select another Test mode, clear the set Test No. by pressing the **"C"** or **"STOP"** button and select another Test No..

-To exit the Test mode, turn off the power or perform the following operations:

- 1) Press the **"START"** button to stop the test if in operation.
- 2) Press the **"C"** or **"STOP"** button to return to the initial condition.
- 3) Press the **"RESET"** button.

- 1) Press the **"START"** button.

0		6	9
---	--	---	---



- 2) Press the **"C"** or **"STOP"** button.

0		0	0
---	--	---	---

- 3) Press the **"RESET"** button.

TEST MODE			
PANEL	Ver	○	. ○ ○
SYSTEM	Ver	○	. ○ ○

0		0	0
---	--	---	---

READY			
RISOGRAPH			
R ⇒ C			

--	--	--	--

2. Test Items and Operations

1) Sensor/Sw Test

A beep sounds in two ways to tell the current condition.

Detection: 0.1 seconds interval beep

No detection: 0.5 seconds interval beep

No.	Test Component	Detection Status	No.	Test Component	Detection Status
01	Paper detection sensor	Light path is blocked.	18	Drum set switch	The actuator is depressed.
02	Elevator upper limit sensor	The actuator is raised to open the light path.	19	Paper receiving sensor 1	Light path is blocked.
03	Elevator lower limit switch	The actuator is depressed.	20	Paper receiving sensor 2	Light path is blocked.
05	Master loading button	The button is pressed.	21	Front cover set sensor	Metal plate is attached.
06	Paper sensor	Light path is blocked.	22	Vertical centering sensor	Light path is NOT blocked.
07	Pressure detection sensor	Light path is blocked.	23	Master end sensor	No reflected light
08	Magnet A detection sensor	Magnetism is detected.	25	Master detection sensor	Reflected light is detected.
09	0° Angular sensor	Magnetism is detected.	26	Original feed-table set switch	The actuator is depressed.
10	180° Angular sensor	Magnetism is detected.	29	Master loading unit switch	The actuator is depressed.
11	Magnet C detection sensor	Magnetism is detected.	31	Master removal sensor	Light path is blocked.
12	Feed-tray down button	The button is pressed.	33	Disposal box set switch	The actuator is depressed.
13	Clamp safety switch	The actuator is pressed.	34	Scanner home sensor	Light path is blocked.
14	Master sensor	Reflected light is detected.	35	Scanner limit sensor	Light path is blocked.
15	Master positioning sensor	Reflected light is detected.	36	Original detection sensor	Reflected light is detected.
16	Drum home position button	The button is pressed.	37	Ink sensor	Ink is detected.
17	Ink bottle switch	The actuator is depressed.	38	Overflow sensor	Ink is detected.

TEST MODE

2. Test Items and Operations

2) Motor/Solenoid Test

2) Motor/Solenoid Test

To start a test, select a **Test No.** and press the "**START**" button.

To stop the test, press the "**START**" button again.

No.	Test Item	No.	Test Item
40	15 rpm Drum rotation	56	Original stopper solenoid
41	30 rpm Drum rotation	57	Read pulse motor CCW (For Scanner limit sensor)
42	Variable speed Drum rotation	58	Read pulse motor CW (For Scanner home sensor)
47	Paper feed clutch	59	LED arrays in Image scanner ON
48	Pressure solenoid	60	Write pulse motor CCW (Backward)
49	Suction motor (fan)	61	Write pulse motor CW (Feed)
50	Inking motor	62	Thermal pressure motor Up and Down
51	Master removal solenoid and Vertical transport motor	63	Loading pulse motor
53	Clamp solenoid	64	Loading fan
54	Clamp motor CCW (0°)	66	Thermal power supply CTL ON and Storage fan
55	Clamp motor CW (180°)	67	Lock solenoid
		69	Separation fan

[Note]

- 1) The Variable speed Drum rotation (No. 42) can be made by pressing the Speed/Density adjust button in regardless to whether Speed or Density is selected.
- 2) The Paper feed clutch (No. 47) operates only when following all three conditions are met. → The light path of the Paper feed clutch sensor is open, the Paper buckle detection sensor is not activated and the Stack paper feed switch is not activated.
- 3) The Inking motor (No. 50) activates the Inking motor only and does not rotate the Drum and **may cause the ink to overflow**. Use the test mode **No.95** for the purpose of ink supplying.
- 4) The Thermal pressure motor (No. 62) repeats the Up and Down motion each time the START button is pressed.

3) Operation Test

To start an operation test, select a **Test No.** and then press the **"START"** button.

To stop the operation test, press the **"START"** button again.

No.	Test Item
70	<p>Elevator motor Up/Down operation</p> <p>The following operations will be repeated while pressing down the Feed-tray down button.</p> <ul style="list-style-type: none"> • When Elevator lower limit switch is ON: Go UP ⇄ Elevator upper limit sensor detection ⇄ Stop • When Elevator lower limit switch is OFF: Go DOWN ⇄ Elevator lower limit switch detection ⇄ Stop
71	<p>Print positioning motor CW/CCW rotation (one-cycle check)</p> <p>Return to vertical center position ⇄ One second halt ⇄ CW(+) direction rotation ⇄ One second halt ⇄ CCW (–) direction rotation ⇄ One second halt ⇄ Return to vertical center position ⇄ Stop</p>
72	<p>Clamp plate Open/Close operation</p> <p>Rotate Drum to Home position ⇄ Open Clamp plate (180°) ⇄ Close Clamp plate (0°) ⇄ Rotate Drum to Home position (Then go back to the first step.)</p>
73	<p>Image scanner shifting (Read pulse motor) operation</p> <p>Read pulse motor CCW direction rotation ⇄ Scanner limit sensor detection ⇄ One second halt ⇄ Read pulse motor CW direction rotation ⇄ Scanner home sensor detection ⇄ One second halt ⇄ Read pulse motor CCW direction rotation ⇄ (Go back to the first step.)</p>
75	<p>Confidential operation (Repeated by three cycles)</p> <p>Confidential operation ⇄ Pressure solenoid ON ⇄ Three times Drum rotation ⇄ Confidential operation ⇄ (This cycle will be repeated) ⇄ Three times Drum rotation ⇄ Stop</p>

TEST MODE

2. Test Items and Operations

3) Operation Test

3) Operation Test

No.	Test Items
77	Paper feed & Printing operation The Paper feed tray raises and the paper is continuously fed until paper supply runs out. Note: <ul style="list-style-type: none">• The copy counter doesn't operate and paper jam is not detected.• Paper feed tray will be automatically lowered without paper.• Ink can be supplied by Inking motor.
79	Machine aging operation 120 rpm Drum rotation ⇄ 5000 times Magnet A detection ⇄ Stop
80	Thermal print head check operation 0 Making Master of test pattern #0 memorized in the Image processing PCB.
81	Thermal print head check operation 1 Making Master of test pattern #1 memorized in the Image processing PCB.
82	Thermal print head check operation 2 Making Master of test pattern #2 memorized in the Image Processing PCB.
83	Thermal print head check operation 3 Making Master of test pattern #3 memorized in the Image processing PCB.
84	Cutter motor ON [One-cut operation]
86	ADF operation Original feed in ⇄ One second halt ⇄ Original feed out ⇄ One second halt ⇄ (Go back to the first step.) Note: <ul style="list-style-type: none">• ADF operation will be automatically finished without any originals in ADF tray or when original feed jam happens in ADF unit.• ADF operation can be restarted after opening and closing ADF unit when original feed jam happens in ADF unit.

4) Others (Auxiliary Modes)

★ Shaded number are special for RC 6300.

No.	Contents
87	Image processing PCB adjustment mode Shifts the Image scanner to the Scanner limit sensor (CCW) by 20mm after master making operation. <ul style="list-style-type: none"> In normal operation, the Master count and Copy count signals will not be output, and the Key/card counter set signal will not be checked. * The machine will be released from this condition when the power is turned off.
88	Release of Test mode No.89 (Clearing of "Remove Stopper screw." message) Clears the panel message, "Remove Stopper Screw", in an unpacking operation.
89	Release of the Image scanner for Transportation Shifts the Image scanner to the transportation fixing position to protect the Image scanner during transportation. <ul style="list-style-type: none"> Buzzer buzzes till the power is turned off.
90	Clearing of Jam/Trouble Memory RAM contents in the System Main and Panel Main PCBs on only the Jam and Trouble message will be initialized.
91	Input of Telephone No. The telephone No., which will be displayed in the LCD panel in case of the trouble messages (T#: CALL SERVICE), can be input. [Procedures for Inputting Tel. No.] <ol style="list-style-type: none"> Press the "C" button. Input Tel. No. using panel keys. Terminate the Test mode. <ul style="list-style-type: none"> * If the Test mode No.97 is selected, the telephone No. will be cleared.
92	Prevention of the Master count, Copy count, and Key/card counter set signals output <ul style="list-style-type: none"> In normal operation, the Master count and Copy count signals will not be output, allowing a service technician to print without increasing the digit of the Master and Copy counters. The Key/card counter set signal will not be checked, allowing a service technician to print without inserting a counter card into the Key/card counter. The machine will be released from this condition when the power is turned off.
95	Ink supply mode Rotates the Drum at 30 RPM and activates the Inking motor till the Ink sensor senses the ink.
97	All Memory Clear All RAM contents in the System Main and Panel Main PCBs will be initialized.

[Note]

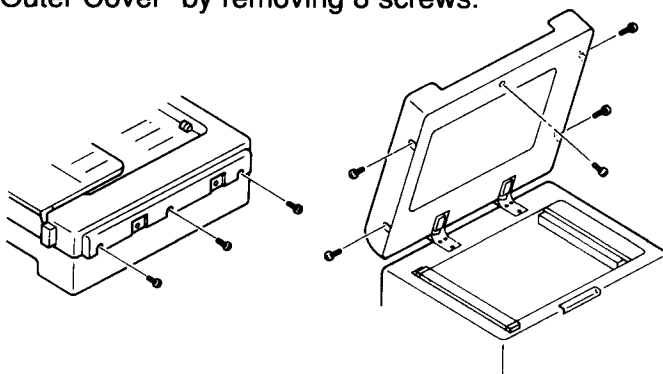
- 1) Clearing of Jam/Trouble Memory (No. 90) is same as turning the power ON while pressing All Reset Button.
- 2) All Memory Clear (No. 97) must be done each time a ROM is changed.

2. ADF 5800 Test Mode

1. Operation Procedures

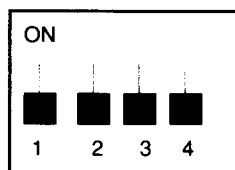
The **ADF 5800** has its own test mode, enabling service technicians to check the ADF operation independently of the machine.

- (1) Remove "ADF Outer Cover" by removing 8 screws.



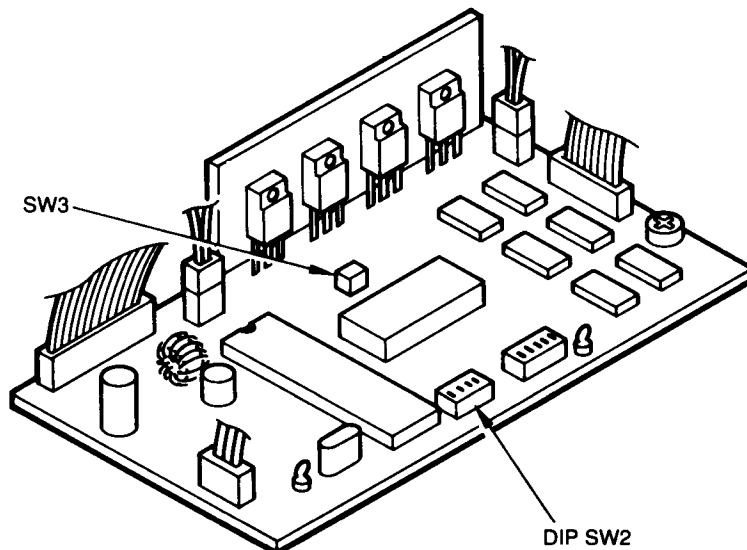
- (2) Turn on Switch #1 of DIP SW2 on the ADF PCB and turn on the power.

SW2



- #1 : For Test mode set-up
(Should be set before turning on the power.)
OFF - Normal operation
ON - Test mode
- #2 : Test mode selection (Refer to the chart.)
- #3 : Test mode selection (Refer to the chart.)
- #4 : Original paper size selection
(Should be set before turning on the power.)
OFF - A/B sizes paper
ON - Letter/Legal paper

- (3) To start up each Test mode, press SW3 on the ADF PCB.



2. Test Mode Selection

# 2	# 3	Test Item
OFF	OFF	ADF Transfer Motor Operation Check Each time pressing SW3 on the ADF PCB, the ADF transfer motor rotates in the following order. Forward (CW) ⇔ Backward-High (CCW) ⇔ Backward-Low (CCW) ⇔ Backward-Medium (CCW)
OFF	ON	Single Original Feeding Mode Each time pressing SW3 on the ADF PCB, an original is fed into and ejected out of the ADF.
ON	OFF	Multi Original Feeding Mode When pressing SW3 on the ADF PCB, originals on the ADF tray keep being fed into and ejected out of the ADF until no original remains on the tray.
ON	ON	Free Run Operation When pressing SW3 on the ADF PCB, the feeding-in and ejecting-out operation is performed without originals. NOTE: Never feed originals in this mode.

- NOTE:
1. If another Test mode is desired after one Test mode is performed, open up the ADF or turn off the power before changing DIP switch settings.
 2. In "Single original feeding mode" and "Multi original feeding mode" the Original stopper in the machine should be manually lowered because the Original stopper solenoid doesn't operate in the ADF Test mode.

3. Advice Displays & the Conditions for Display

1. "CALL SERVICE" indication

T1
CALL SERVICE

- Main Motor Lock -

Displayed to interrupt the machine operation:

- 1) If the Magnet A is still detected by the **Magnet A detection sensor 2 seconds** after the Main motor started.
- 2) If the Magnet A hasn't been detected by the **Magnet A detection sensor within 5 seconds** after the Main motor started.

T2
CALL SERVICE

- Elevator Motor Lock -

Displayed to interrupt the machine operation:

- 1) If the actuator of the **Elevator upper limit sensor** has not been raised to open the light path **within 7 seconds** after the Elevator motor started to rise.
- 2) If the actuator of the **Elevator lower limit switch** has not been depressed **within 7 seconds** after the Elevator motor started to lower.
- 3) If the actuator of the **Elevator lower limit sensor** is still depressed **2 seconds** after the Elevator motor started to rise.
- 4) If the actuator of the **Elevator upper limit sensor** is still raised to open the light path **2 seconds** after the Elevator motor started to lower.

T3
CALL SERVICE

- Clamp Error -

Displayed to interrupt the machine operation:

- 1) If the actuator of the **Clamp safety switch** is still depressed **4 seconds** after the Clamp solenoid was activated (turned on).
- 2) If the actuator of the **Clamp safety switch** has not been depressed **within 4 seconds** after the Clamp solenoid was released (turned off).
- 3) If the Angular magnet has not been detected by the **Angular sensor** (either 0° or 180°) **within 8 seconds** after the Clamp motor started rotating.

Displayed to prevent the machine operation:

- 4) If the actuator of the **Clamp safety switch** is not depressed when the Clamp solenoid is not in operation.

T4
CALL SERVICE

- Ink Overflow -

Displayed after the machine operation finished, immediately stopping the Inking motor.

- 1) If the **Overflow sensor** detects excessive ink in the Squeegee unit.

T5
CALL SERVICE

- Print Positioning Motor Lock -

Displayed after the machine operation finished, immediately stopping the Print positioning motor:

- 1) If the **Vertical centering sensor** status has not been changed from ON to OFF (or OFF to ON) **within 12 seconds** after the Print positioning motor started rotating.

T6
TURN OFF POWER
& THEN ON AGAIN

- **Communication Error between Panel and System PCBs -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the Panel and System PCBs.

T7
TURN OFF POWER
& THEN ON AGAIN

- **Communication Error between Panel and Digitizer PCBs -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the Panel and Digitizer PCBs.

T8
TURN OFF POWER
& THEN ON AGAIN

- **Communication Error between System PCBs and Interface Accessories -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the System PCBs and the interface accessories.

T9
TURN OFF POWER
& THEN ON AGAIN

- **Communication Error between System PCBs and RC Sorter -**
Displayed to interrupt the machine operation:
1) If a communication error has occurred between the System PCBs and the RC sorter.

T10
CALL SERVICE

- **Malfunction of the Magnet A Detection Sensor -**
Displayed to interrupt the machine operation:
1) If the **Magnet A detection sensor** has not detected the Magnet A by the time the Pressure detection sensor status has changed twice from OFF to ON (the light path of the sensor has been blocked twice by the Pressure Disc) after the Main motor started.

T11
CALL SERVICE

- **Pressure Control Motor Lock -**
Displayed to interrupt the machine operation:
1) If the resistance value of the **Print pressure detection potentiometer** has not changed to a specified value within **20 seconds** after the Pressure control motor started.

T13
CALL SERVICE

- **Cutter Motor Lock -**
Displayed:
1) If the error message "**MASTER CUT MALFUNCTION/PRESS RESET BUTTON**" has been displayed twice in master making operation.

ADVICE DISPLAYS

1. "CALL SERVICE"

T14
CALL SERVICE

- ADF Transfer Motor Lock -

Displayed to interrupt the ADF operation:

- 1) If no pulse signal is sent from the **ADF clock sensor 1 more than 500 ms** after the ADF transfer motor is in operation.

T15
CALL SERVICE

- Read Pulse Motor Lock -

Displayed to interrupt the machine operation:

- 1) If the light path of the **Scanner home sensor** is not blocked **within 14330 pulses** after the Read pulse motor started in the Image scanner home positioning (initializing) operation.
- 2) If the light path of the **Scanner home sensor** is not opened **within 315 pulses** after the Read pulse motor started in the pre-scanning operation.
- 3) If the Image scanner has not been returned to the home position (the **Scanner home sensor**) **14330 pulses** after the Read pulse motor started in the image scanning operation.

T16
CALL SERVICE

- Malfunction of the Trimming PCB -

Displayed to interrupt the machine operation:

- 1) If the data signals such as original size, are not output from the **Trimming PCB** at the start of the image scanning operation.

2. "JAM or ERROR" indication

PAPER JAM
CHECK PAPER FEED AREA

- Paper Jam in the Paper Feed Area -

[In Master-making]

Displayed after the master has been loaded on the Drum:

- 1) If the light path of the **Paper sensor** is blocked at the second Magnet A detection after cutting operation.

Note:

- If the light path of the **Paper receiving sensor 1** was open at the first Magnet A detection after cutting, it is judged that the first sheet is stuck in the second paper feed area.
- If the light path of the **Paper receiving sensor 1** was blocked at the first Magnet A detection after cutting, it is judged that some sheets have been fed with lead and trail edges stuck to each other.

[In Printing]

Displayed in the following cases:

- 1) If the light path of the **Paper receiving sensor 1** is open at the first Magnet A detection after the light path blocking of the Paper sensor, and if the light path of the **Paper sensor** is still blocked at the second Magnet A detection.

Note:

- At the first Magnet A detection, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that paper is stuck in the second paper feed area.

- 2) If the light path of the **Pressure detection sensor** has been blocked twice while that of **Paper sensor** is kept blocked from the first blocking after the start of printing.

The jam message will be displayed when the Drum stops after the Magnet A has been detected twice by the detection sensor following the above.

Note:

- At the light path blocking of the Pressure detection sensor, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that some sheets have been fed with lead and trail edges stuck to each other.

- 3) If the light paths of the **Paper receiving sensor 1** and **Paper sensor** are both open at a Magnet A detection, and if the light path of the **Paper sensor** has been open during the following 2 Magnet A detections.

The jam message will be displayed when the Drum stops after the Magnet A has been detected twice by the detection sensor following the above.

Note:

- At the first Magnet A detection following the above (at the fourth one counted from the beginning), the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that paper has misfed or slipped in feeding.

PAPER JAM UNDER DRUM PULL OUT DRUM

- Paper Jam under the Drum or in the Paper Receiving Area - [In Master-making]

Displayed after the master has been loaded on the Drum:

- 1) If the light path of the **Paper receiving sensor 1** is blocked at the start of the light path blocking of the **Pressure detection sensor**.

Note:

- Judged that the previous jammed paper still remains under the Drum.

- 2) If the light path of the **Paper receiving sensor 1** was open at the first Magnet A detection after cutting, and if the light path of the **Paper sensor** is also open at the second Magnet A detection.

Note:

- Judged that the first copy was not separated from the Drum and has stuck onto it.

[In Printing]

Displayed in the following cases:

- 1) If the light path of the **Paper receiving sensor 1** is blocked at the start of the light path blocking of the **Pressure detection sensor**.

The jam message will be displayed when the Drum stops after the Magnet A has been detected twice by the detection sensor following the above.

Note:

- At the start of the light path blocking of the Pressure detection sensor, the Print signal is immediately interrupted to stop the first paper feed (Paper feed clutch's operation). Judged that the printed copy has jammed around the Separator..

- 2) If the light path of the **Paper receiving sensor 1** is open at the first Magnet A detection after the light path blocking of the **Paper sensor**, and if the light path of the **Paper sensor** is open at the second Magnet A detection.

Note:

- At the first Magnet A detection, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation). Judged that the printed copy was not separated from the Drum and has stuck onto it.

- 3) If the light path of the **Paper receiving sensor 2** has been kept blocked while that of the **Paper receiving sensor 1** has been blocked twice.

The jam message will be displayed when the Drum stops after the Magnet A has been detected three times by the detection sensor following the above.

Note:

- At the first Magnet A detection following the above, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).
- Judged that the printed copy has jammed around the exit of the paper receiving side or on the Paper receiving tray.

**MASTER CLAMP ERROR
RESET MASTER**

- The Master has Not been Loaded onto the Drum -

Displayed in master-making and confidential processes after the following display message is cleared:

[MASTER CLAMP ERROR/REMOVE CUT MASTER STRIP]

Note: The above message will be displayed:

- 1) If the **Master sensor** did not detect the master on the Drum at the Magnet C-1 detection in master loading process (preventing the first paper feed-Paper feed clutch's operation), and then if the **Master positioning sensor** detects the master at the Magnet A detection after master-cutting operation at the Magnet C-2 detection. If the **Master positioning sensor** does not detect the master at the Magnet A detection after master-cutting operation, the above message **[MASTER CLAMP ERROR/REMOVE CUT MASTER STRIP]** will not be displayed.

**PULL OUT DRUM AND
CHECK MASTER ON IT**

- Master Cut Error -

Displayed to interrupt the machine operation in master-making and confidential processes:

- 1) If the **Master positioning sensor** detects the master material at the Magnet C-1 detection position after the master making, the Cutter motor is reactivated, and then if the **Master positioning sensor** does not detect the master material at Magnet C-2 detection position, the message is displayed. (If the master material is still detected by the **Master positioning sensor**, the message **"T13: CALL SERVICE"** is displayed.)

**MASTER MIS-FEED
RESET MASTER**

- Master has Not been Properly Fed or Loaded -

Displayed after the master has been loaded onto the Drum in master making or confidential process:

- 1) If the **Master positioning sensor** has not detect the master material **within 460 pulses** after the Loading pulse motor started rotating following the master cutting operation.

Note:

- The Loading and Write pulse motors are turned off following the above.

Displayed to interrupt the machine operation when the Master loading button was pressed:

- 2) If the **Master positioning sensor** has not detected the master material **within 630 pulses** after the Loading pulse motor was turned on.
- 3) If the **Master positioning sensor** has not detected the master **within 460 pulses** after the Loading pulse motor was turned on following the operation of the Cutter motor.

**USED MASTER NOT
DISCHARGED
PULL OUT DRUM
AND CHECK**

- The Used Master has Not been Removed from the Drum -

Displayed after the Image scanning and Master making operations are completed or in the confidential operation:

- 1) If the light path of the **Master removal sensor** has been open until the Magnet A detection sensor detects the Magnet A after the detection of the master by the Master sensor at the Magnet C-1 detection, during master removal.

Note:

- If the Master sensor does not detect the master at the Magnet C-1 detection, in the above case, the Master removal sensor is prevented from operating and the message will not be displayed.

ADVICE DISPLAYS

2. "JAM or ERROR"

ORIGINAL MISFEED IN ADF
OPEN STAGE COVER/
REMOVE ORIGINAL

- Original has Misfed or Jammed in the ADF Feed Side -

Displayed to immediately interrupt the machine operation:

- 1) If the **ADF registration sensor** is blocked when the ADF starts to operate.
- 2) If the **ADF registration sensor** is not blocked by the original **within 640ms** after the start of the ADF transfer motor (clockwise rotation) in the original feed operation.
- 3) If the **ADF registration sensor** has not been opened **within 1410ms** after the ADF transfer motor reversed the rotation direction to counter-clockwise in the original feed operation.
- 4) If the **ADF registration sensor** is blocked by the original when the original feed operation finished.

ORIGINAL JAM IN ADF
OPEN STAGE COVER/
REMOVE ORIGINAL

- Original has Misejected or Jammed in the ADF Ejection Side -

Displayed after the master has been loaded onto the Drum:

- 1) If the actuator of the **ADF ejection sensor** is held up, when the ADF starts to operate.
- 2) If the actuator of the **ADF ejection sensor** has not been pushed up, **within 1270ms** after the ADF transfer motor started rotating counter-clockwise in the original ejection operation.
- 3) If the actuator of the **ADF ejection sensor** is not released **within 1480ms** in the original ejection operation.

ORIGINAL REMAINING
ON THE STAGE

- Original Remains on the Stage Glass in ADF Operation -

Displayed immediately after originals have been placed on the Original tray:

- 1) If the **Original detection sensor** detects the original placed on the Stage glass when the **ADF original detection sensor** detects the originals placed on the Original tray.

NO MASTER ON DRUM
SET ORIGINAL IN PLACE
AND PRESS START BUTTON

- The Master is Not Attached to the Drum -

Displayed **for 2 seconds** after the Drum has stopped at the Magnet A detection:

- 1) If the **Master sensor** does not detect the master (the reflected light) when the Magnet C-1 has been detected by the Magnet C detection sensor just after the print started.

Note:

- At the Magnet C-1 detection, the Print signal is interrupted to stop the first paper feed (Paper feed clutch's operation).

REMOVE JAMMED
MASTER IN DISPOSAL
UNIT

- The Used Master is Jammed and Blocked at the entrance of Master disposal box -

Displayed immediately after used master is jammed.

- 1) If the light path of the **Master removal sensor** is blocked.

3. "CHECK SETTING" indication

SET DRUM IN PLACE

Displayed to prevent the machine operation:

- If the actuator of the **Drum set switch** is not depressed.

SET INK BOTTLE IN PLACE

Displayed to prevent the machine operation:

- If the actuator of the **Ink bottle switch** is not depressed.

ADD PAPER

Displayed to interrupt the Print signal (the first paper feed) in printing:

- 1) If the light path of the **Paper detection sensor** is open when that of the Pressure detection sensor has been opened in printing.

Displayed to prevent the machine operation:

- 2) If the light path of the **Paper detection sensor** is open.

SET LEAD EDGE OF
MASTER UNDER
GREEN FILM

Displayed to prevent the machine operation:

- If the **Master detection sensor** does not detect the master material (the reflected light).

CLOSE FRONT COVER

Displayed to prevent the machine operation:

- If the metal plate is not attached to the **Front cover set sensor**.

SET MASTER DISPOSAL
BOX IN PLACE

Displayed to prevent the machine operation:

- If the actuator of the **Disposal box set switch** is not depressed.

SET ORIGINAL FEED
TABLE IN PLACE

Displayed to prevent the machine operation:

- If the actuator of the **Original-feed table set switch** is not depressed.

CLOSE MASTER
LOADING UNIT

Displayed to prevent the machine operation:

- If the actuator of the **Master loading unit switch** is not depressed.

CLOSE STAGE COVER

Displayed to prevent the machine operation:

- If the **ADF setting sw** is not ON when the **ADF original detection sensor** detects the originals placed on the Original tray.

NO ORIGINAL
ON THE STAGE

Displayed to prevent the machine operation:

- If the Image scanner does not detect an original on the Stage glass during the pre-scanning motion when "MARGIN NORMAL" is selected.

4. Others

REPLACE INK BOTTLE

Displayed after the machine operation is finished:

- If the **Ink sensor** has not detected ink in the Squeegee unit **within 30 seconds** after the Inking motor was started rotating by the detection of scarce ink in the unit.

REPLACE MASTER ROLL

Displayed after the machine operation is finished:

- If the black tape attached at the end of the Master roll has been detected by the **Master end sensor** during master making or the confidential operation.

EMPTY DISPOSAL BOX

Displayed after the machine operation is finished:

- If the **Internal counter** for disposed masters on the **Panel PCB** has counted 30 through the detection of disposed masters by the **Master removal sensor**.

REMOVE CUT MASTER STRIP

Displayed:

- If the **Master positioning sensor** detects the master material (the reflected light) just after the master cut operation is completed.

SELECT PRINT QUANTITY

Displayed:

- If the "START" button is pressed for printing when the print quantity is set to **0**.

PRESS RESET BUTTON

Displayed:

- When jam has occurred.

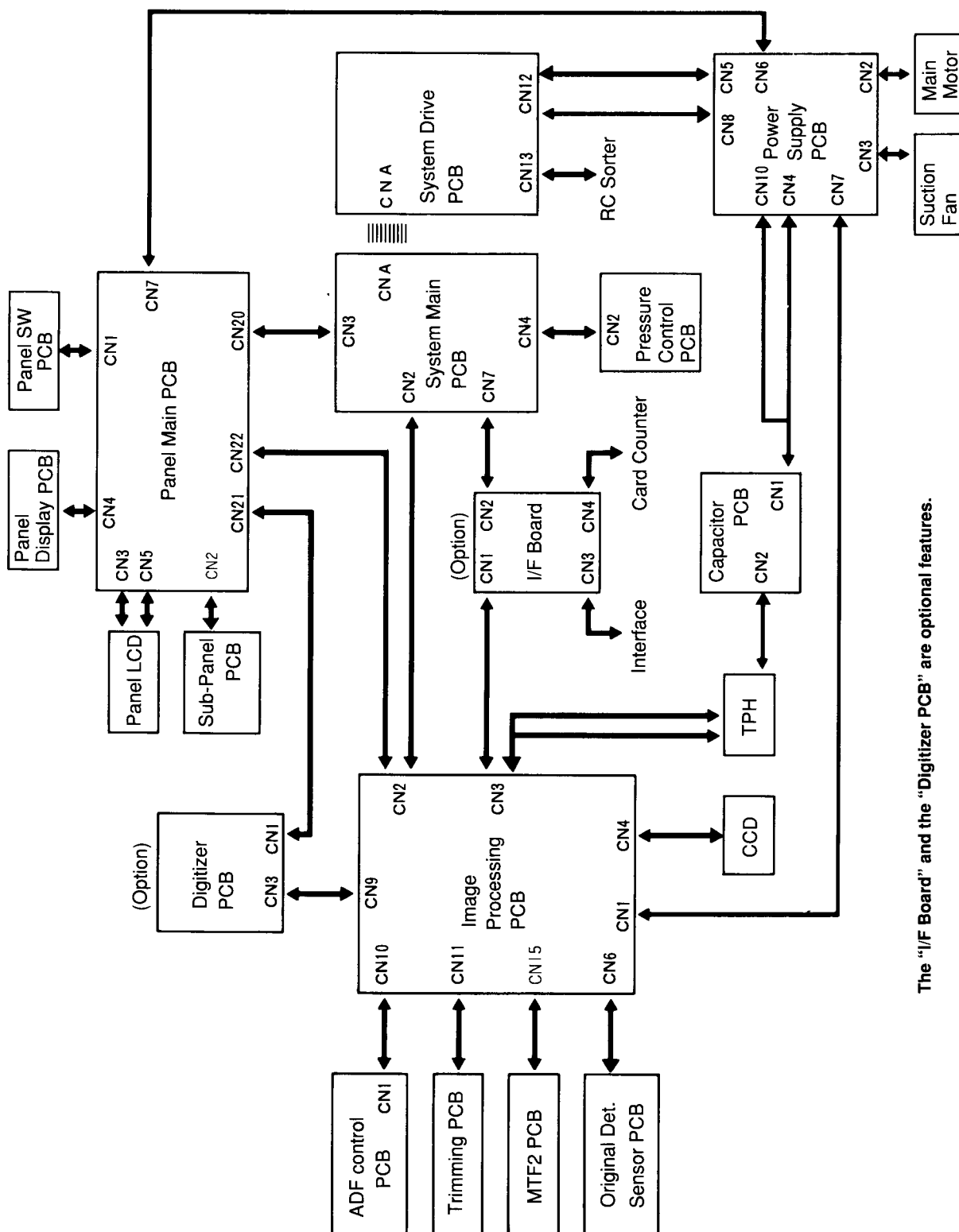
TO RESUME
PRESS START BUTTON

Displayed:

- If the "REST" button has been pressed after the error or jam occurred.

4. Description of PCBs

1. BLOCK CHART



The "I/F Board" and the "Digitizer PCB" are optional features.

2. LOCATION OF PCBs

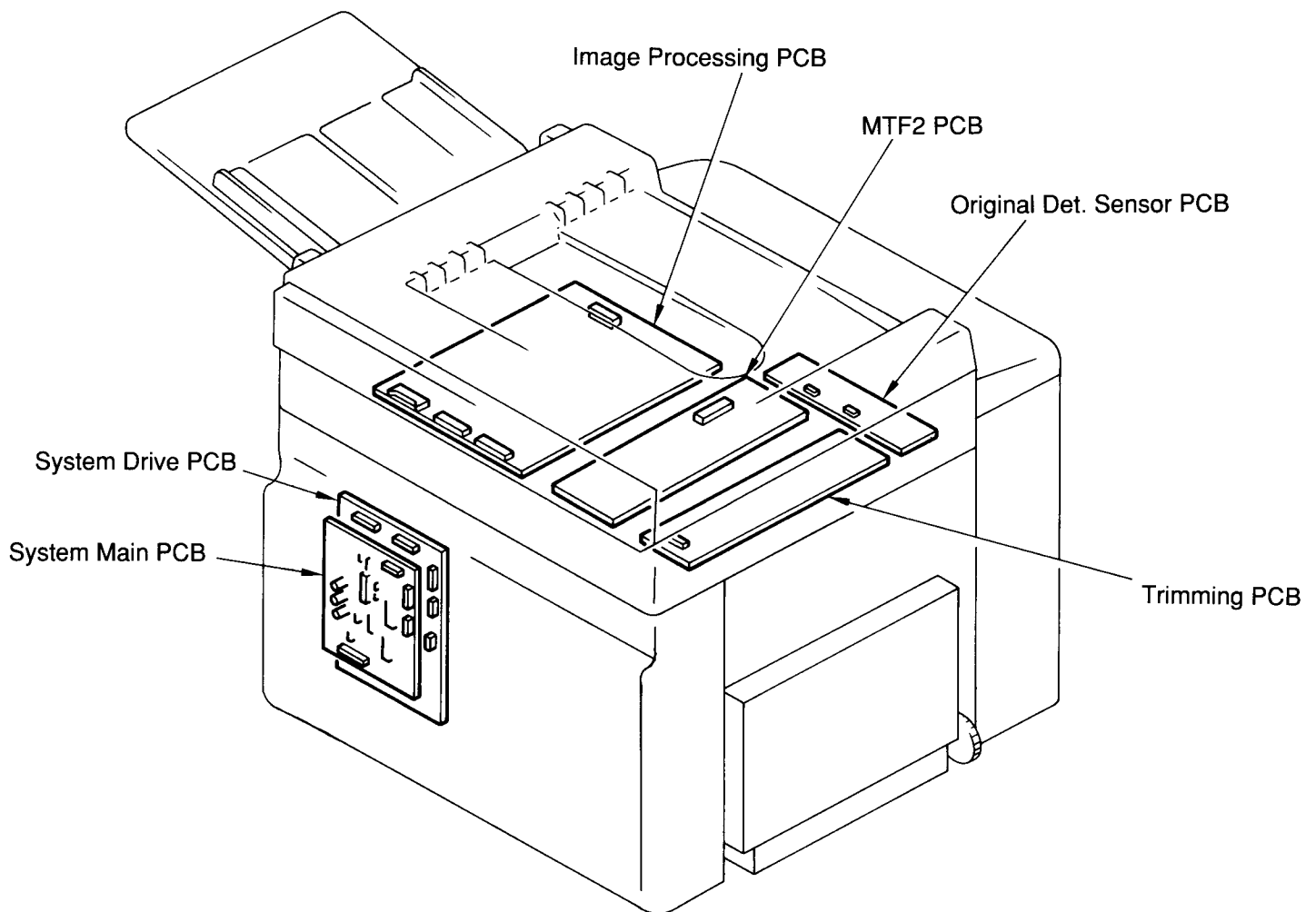
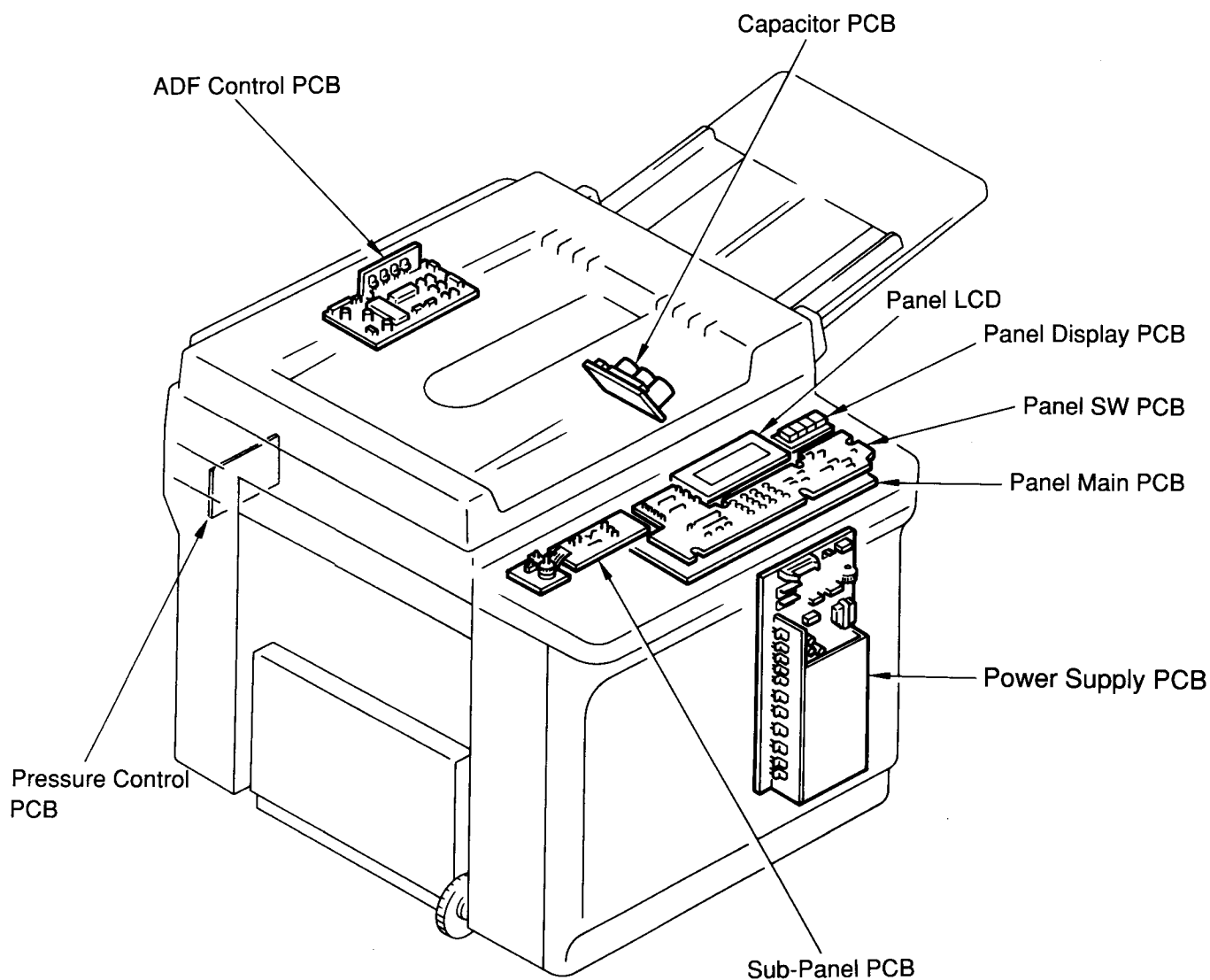
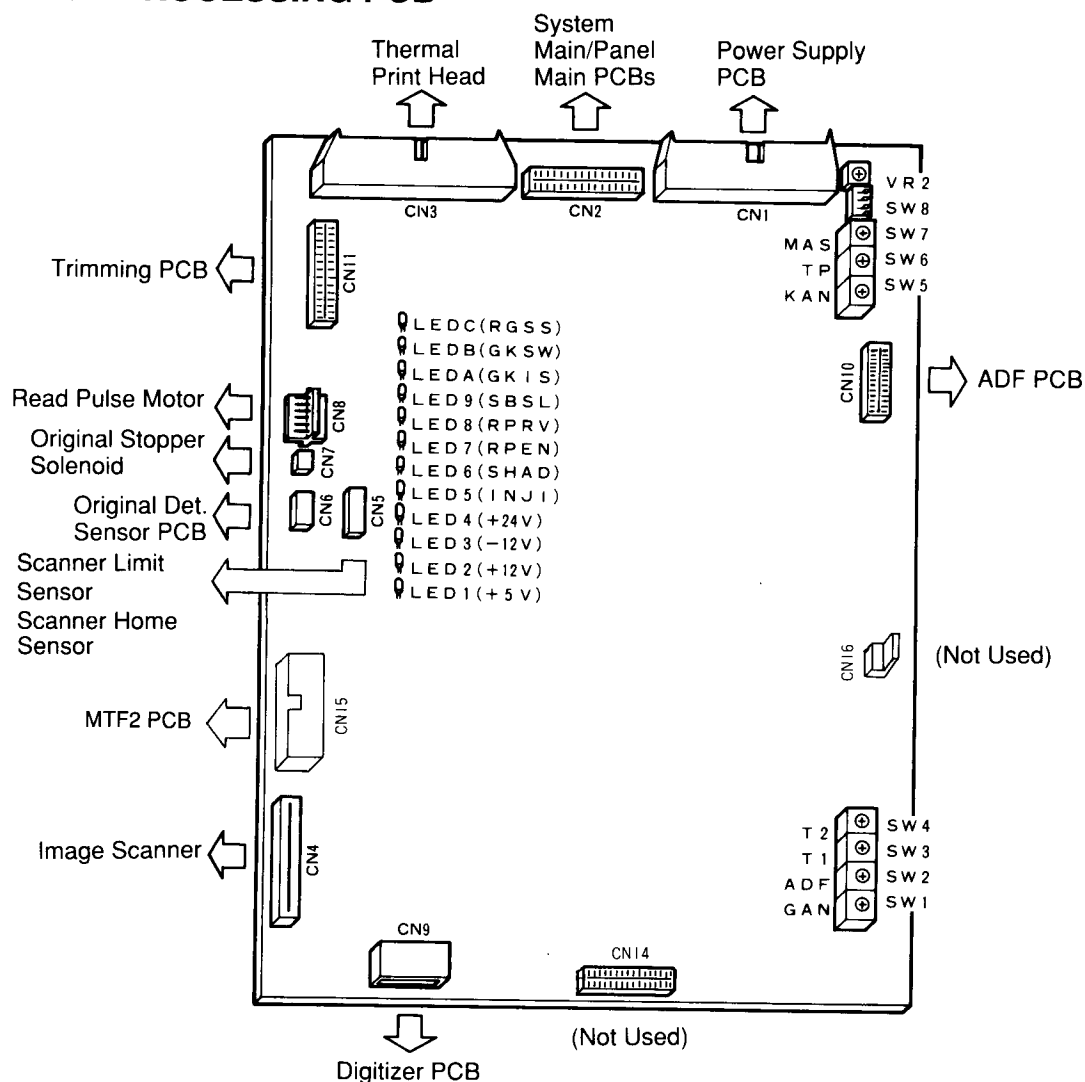


Image Processing PCB	For image processing
MTF2 PCB (for Fine Enhancement)	
Trimming PCB	
Original Det. Sensor PCB	To control and for sensivity adjustment of Orig. Det. Sensor
System Main PCB	To control the Main motor and to process the signals from sensors
System Drive PCB	To control the operation to drive the motors and solenoids



Panel Main PCB	To control the machine operations
Panel LCD	For display control
Panel Display PCB	
Sub-Panel PCB	For control input
Panel SW PCB	
Power Supply PCB	To convert the input power to 5V, 12V and 24V and supply them to circuitry
Pressure Control PCB	To control the Pressure control motor
Capacitor PCB	To stabilize the electric power to the Thermal print head
ADF Control PCB	To control the ADF operations

3. IMAGE PROCESSING PCB

**LED****- When LED is ON -**

LED1 (+5V)	: +5V is supplied into PCB.
LED2 (+12V)	: +12V is supplied into PCB.
LED3 (-12V)	: -12V is supplied into PCB.
LED4 (+24V)	: +24V is supplied into PCB.
LED5 (INJI)	: "Read/Write Start Signal" is output.
LED6 (SHAD)	: "Shading Compensation Signal" is output.
LED7 (RPEN)	: Read Pulse Motor is ON.
LED8 (RPRV)	: Read Pulse Motor is rotating CCW.
LED9 (SBSL)	: Original Stopper Solenoid is ON.
LEDA (GKIS)	: Original Det. Sensor is detecting reflected light.
LEDB (GKSW)	: Scanner Home Sensor is activated.
LEDC (RGSS)	: Scanner Limit Sensor is activated.

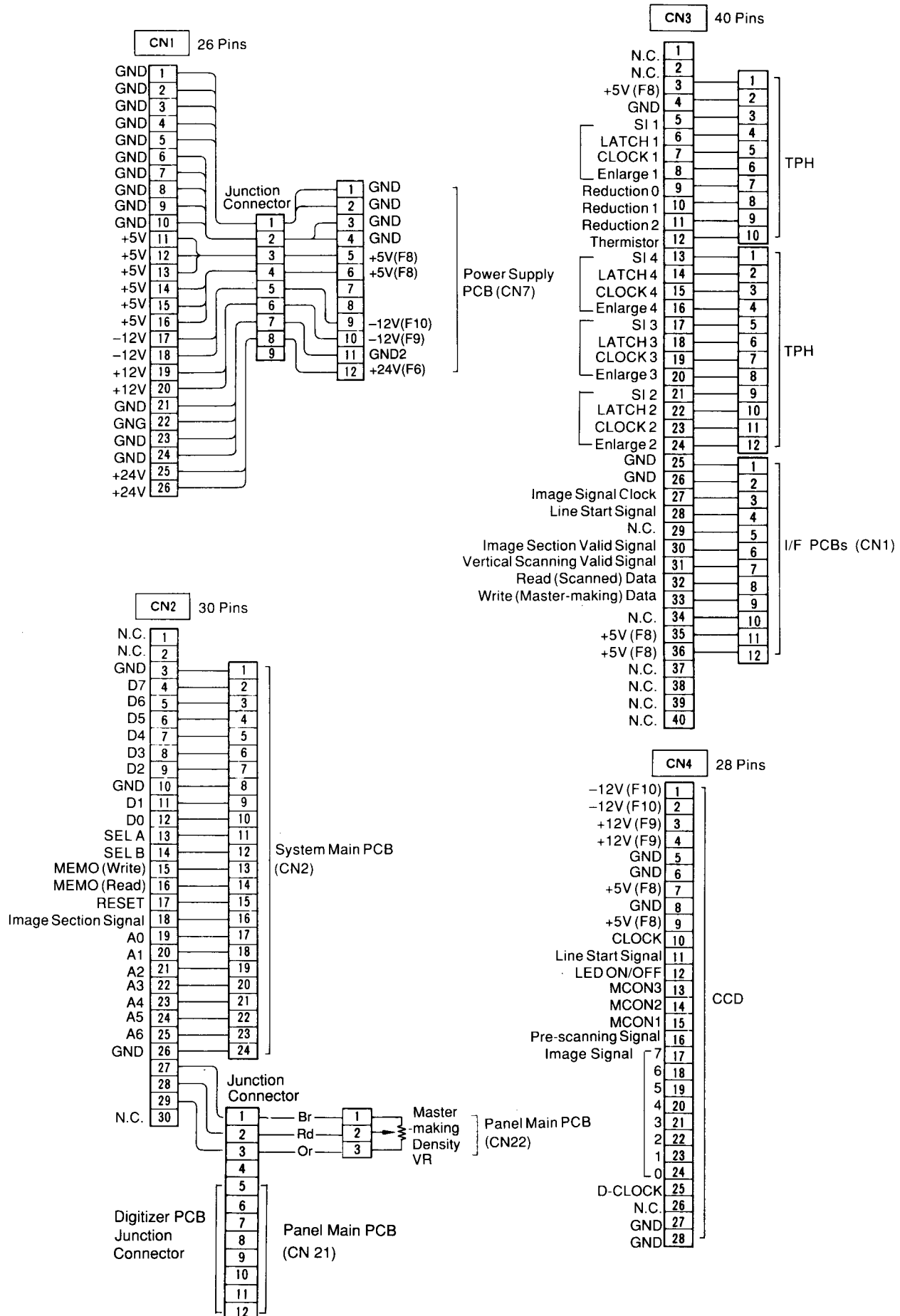
VR

VR2 (NDD)	: For contrast level adjustment in image scanning. (The contrast will be darker by turning it clockwise.)
-----------	--

SW

SW1 (GAN)	: For contrast balance (γ compensation) adjustment in image scanning.
SW2 (ADF)	: For adjustment of scanning (read)-start position.
SW3 (T1)	: For adjustment of heating power (HP1) of Thermal Print Head
SW4 (T2)	: For adjustment of heating power (HP2) of Thermal Print Head
SW5 (KAN)	: Not Used
SW6 (TP)	: Not Used
SW7 (MAS)	: For adjustment of "Line-copy mode slice level."
SW8 (Dip SW)	: Used only for adjustment in factory

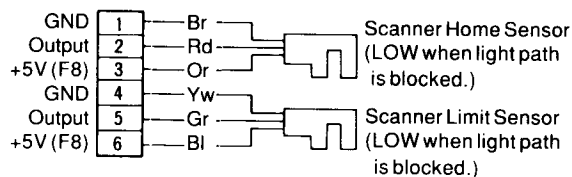
3. Image Processing PCB



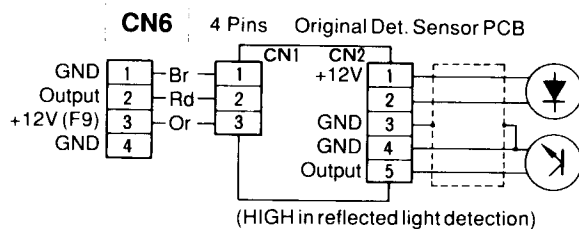
DESCRIPTION OF PCBs

3. Image Processing PCB

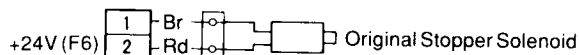
CN5 6 Pins



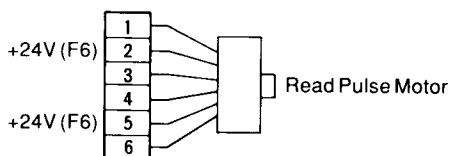
CN6 4 Pins



CN7 2 Pins

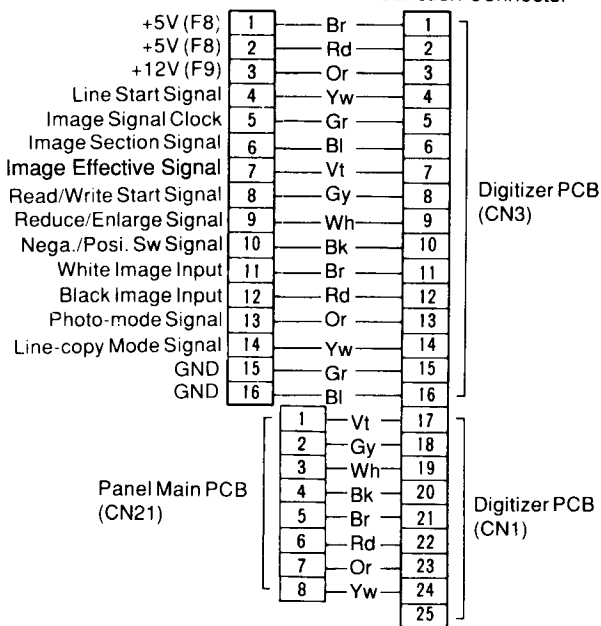


CN8 6 Pins



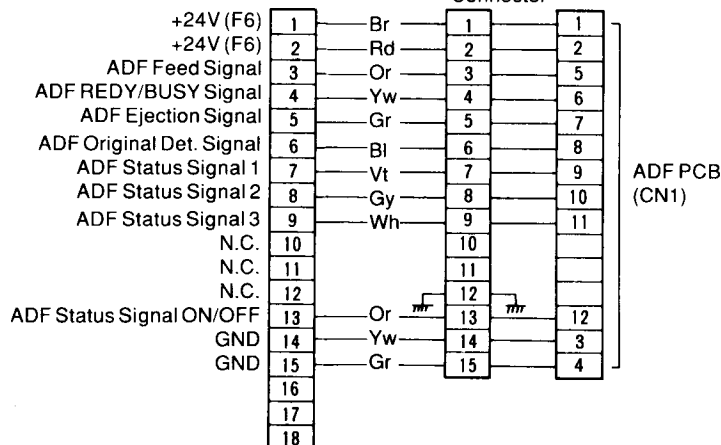
CN9 16 Pins

Junction Connector



CN10 18 Pins

Junction
Connector



3. Image Processing PCB

CN11 26 Pins

+5V (F8)	1
+5V (F8)	2
Line Start Signal	3
Image Signal Clock	4
Image Valid Signal	5
Image Data	6
White Signal	7
PS Signal	8
Read/Write Start Signal	9
Reduce/Enlarge Signal	10
READY/BUSY Signal	11
END Signal	12
SIZE Signal 1	13
SIZE Signal 2	14
SIZE Signal 3	15
MS Signal	16
CLEAR Signal	17
TOP Signal	18
N.C.	19
SM Signal	20
PHOTO Signal	21
CP Signal	22
GND	23
GND	24
GND	25
GND	26

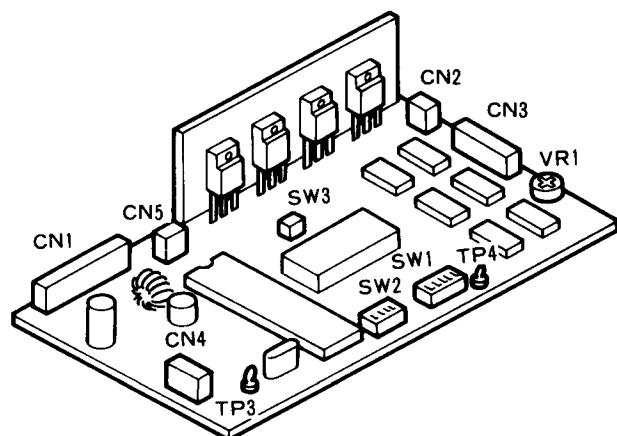
Trimming PCB
(CN1)**CN15** 50 Pins

+ 5 V	1
+ 5 V	2
+ 5 V	3
+ 5 V	4
GND	5
DOUT 7	6
GND	7
DOUT 6	8
	9
DOUT 5	10
MTF ON	11
DOUT 4	12
	13
DOUT 3	14
	15
DOUT 2	16
A12	17
DOUT 1	18
A11	19
DOUT 0	20
A10	21
GND	22
GND	23
GND	24
GND	25
CLK 8M	26
A9	27
GND	28
A8	29
	30
A7	31
DATA 7	32
A6	33
DATA 6	34
A5	35
DATA 5	36
GND	37
GND	38
A4	39
DATA 4	40
A3	41
DATA 3	42
A2	43
DATA 2	44
A1	45
DATA 1	46
A0	47
DATA 0	48
GND	49
GND	50

MTF2 PCB
(CN1)

4. ADF PCB

4. ADF PCB

**VR**

VR1 : For sensitivity adjustment of
ADF registration sensor

LED

- When LED is ON -

LED1 : +24V is supplied into PCB

TP

TP1 (+24V) : +24V

TP2 (+5V) : +5V

TP3 (0V) : GND

TP4 (REGS) : OADF registration sensor's
Output

TP5 (X4) : Clock Sensor's Output

TP6 (MCK2) : ADF clock Sensor 1's Output

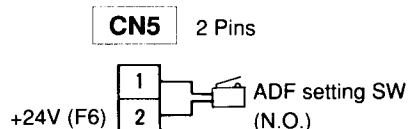
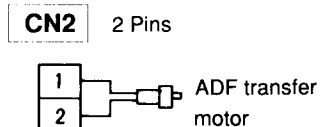
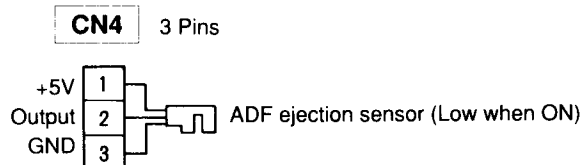
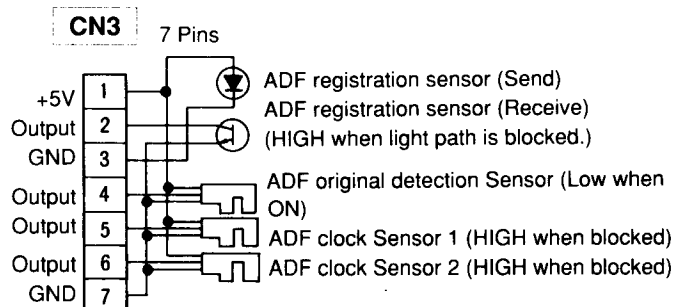
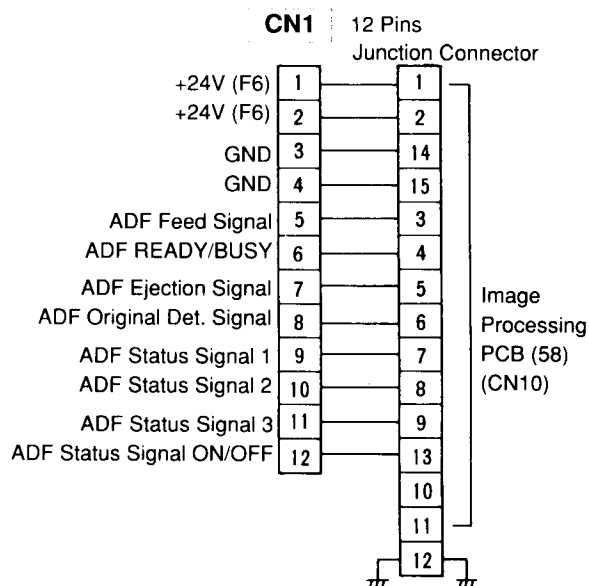
TP7 (MCK1) : ADF clock Sensor 2's Output

SW

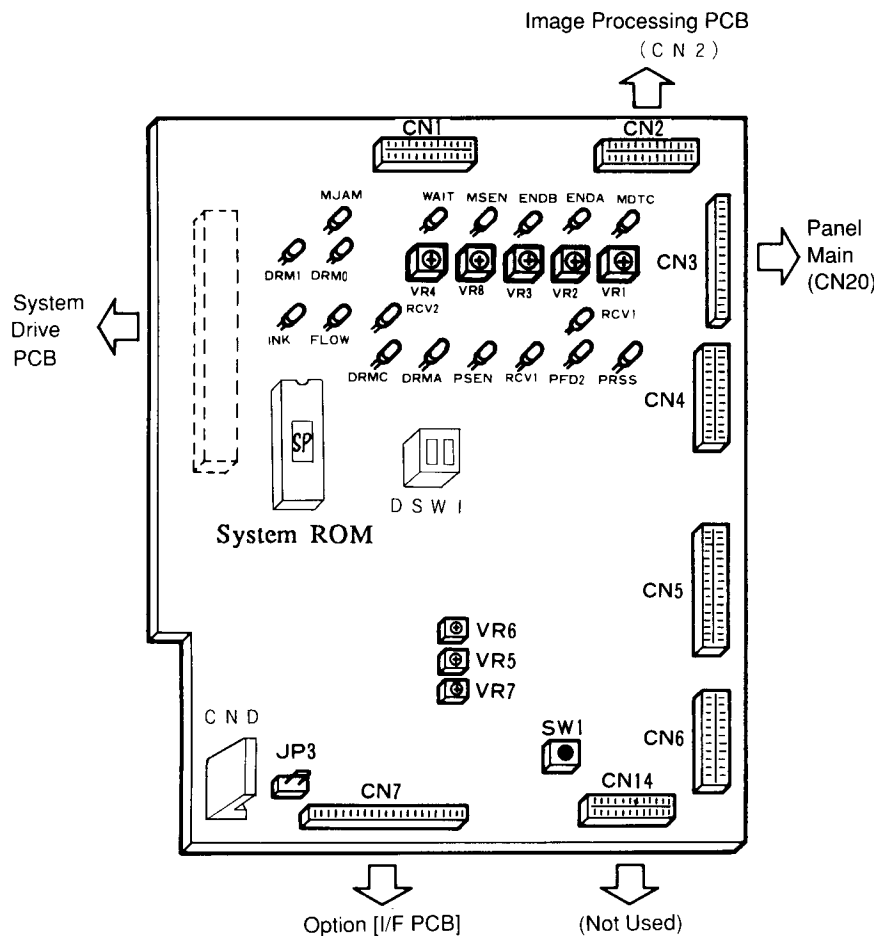
SW1 : For stop position adjustment of
original feed

SW2 : For ADF Test Mode

SW3 : For ADF Test Mode



5. SYSTEM MAIN PCB

**LED****LED – When LED is ON –**

- MDTC : Master Det. Sensor is detecting reflected light (Master).
 ENDA : Not used
 ENDB : Master End Sensor is NOT detecting reflected light.
 MSEN : Master Sensor is detecting reflected light (Master).
 WAIT : Master Positioning Sensor is detecting reflected light (Master).
 MJAM : The light path of Master Removal Sensor is blocked.
 DRM0 : 0° Angular Sensor is detecting magnetism (Angular Magnet).
 DRM1 : 180° Angular Sensor is detecting magnetism (Angular Magnet).
 PFD1 : The actuator of Paper Buckle Det. Sensor is raised to open the light path.
 RCV2 : The light path of Paper Receiving Sensor 2 is blocked.
 FLOW : Overflow Sensor is detecting ink.
 INK : Ink Sensor is NOT detecting ink.
 PRSS : The light path of Pressure Detection Sensor is blocked.
 PFD2 : The light path of Paper Feed Clutch Sensor is open.
 RCV1 : The light path of Paper Receiving Sensor 1 is blocked.
 PSEN : The light path of Paper Sensor is blocked.
 DRMA : Magnet A Detection Sensor is detecting magnetism (Magnet A).
 DRMC : Magnet C Detection Sensor is detecting magnetism (Magnet C-1 or -2).

VR**VR**

- VR1 : For detection sensitivity adjustment of Master Det. Sensor (Sensitivity goes up by clockwise rotation.)
 VR2 : Not used
 VR3 : For detection sensitivity adjustment of Master End Sensor (Sensitivity goes up by clockwise rotation.)
 VR4 : For detection sensitivity adjustment of Master Positioning Sensor (Sensitivity goes up by clockwise rotation.)
 VR5 : For adjustment of "Free rotation speed" (30 rpm) (The speed goes up by clockwise rotation.)
 VR6 : For adjustment of "Master loading speed" (15 rpm) (The speed goes up by clockwise rotation.)
 VR7 : For adjustment of "Print speed" (130 rpm) (The speed goes up by clockwise rotation.)
 VR8 : For detection sensitivity adjustment of Master Sensor (Sensitivity goes up by clockwise rotation.)

SW

SW1 For Main Motor rotation (30rpm)

DSW1-1 Drum data signal

DSW1-2 Drum data signal

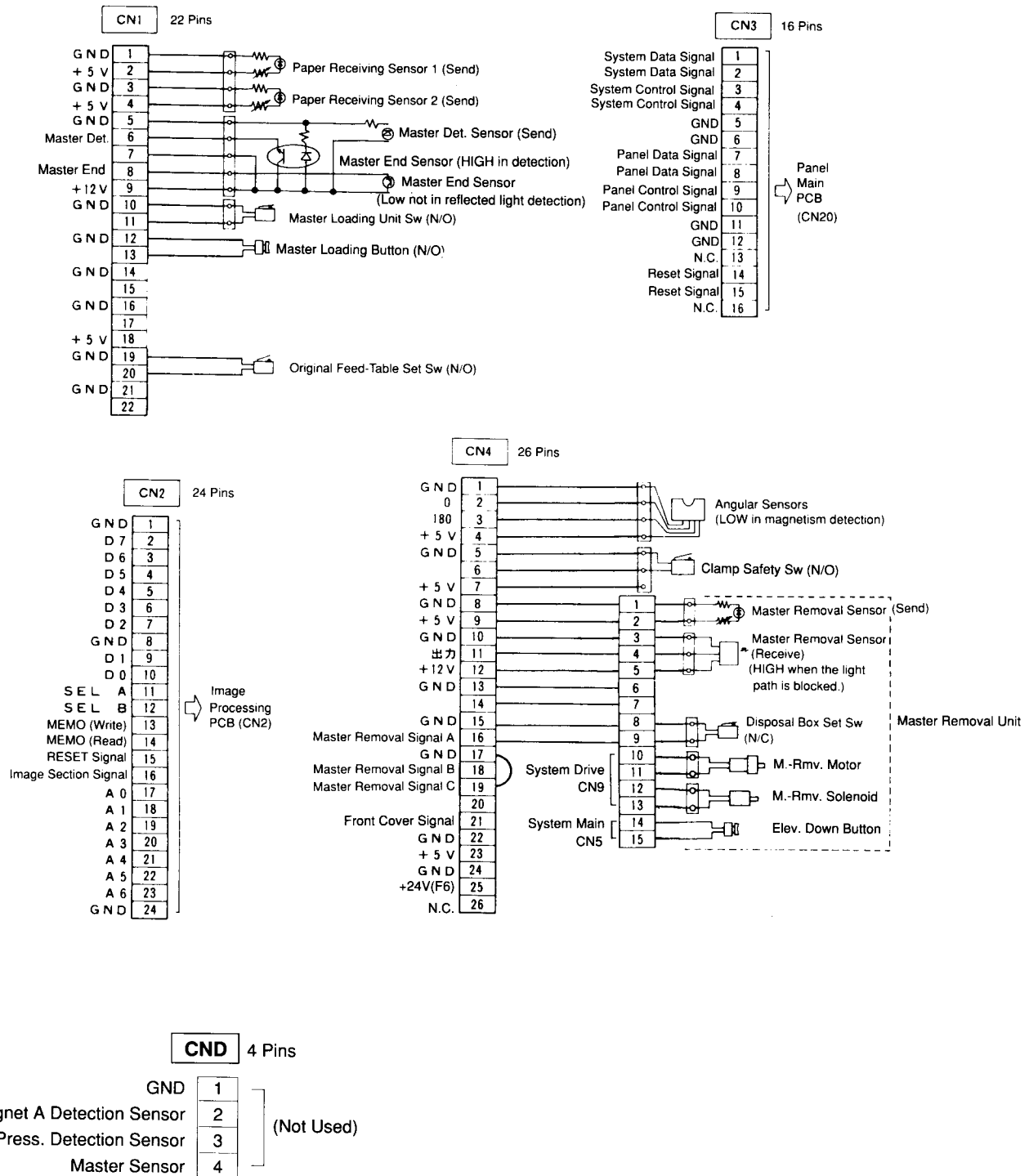
MODELS	DSW1-1	DSW1-2
RC4000/RC4500 RC5600/RC5800	ON	ON
RC6300	OFF	OFF

JP

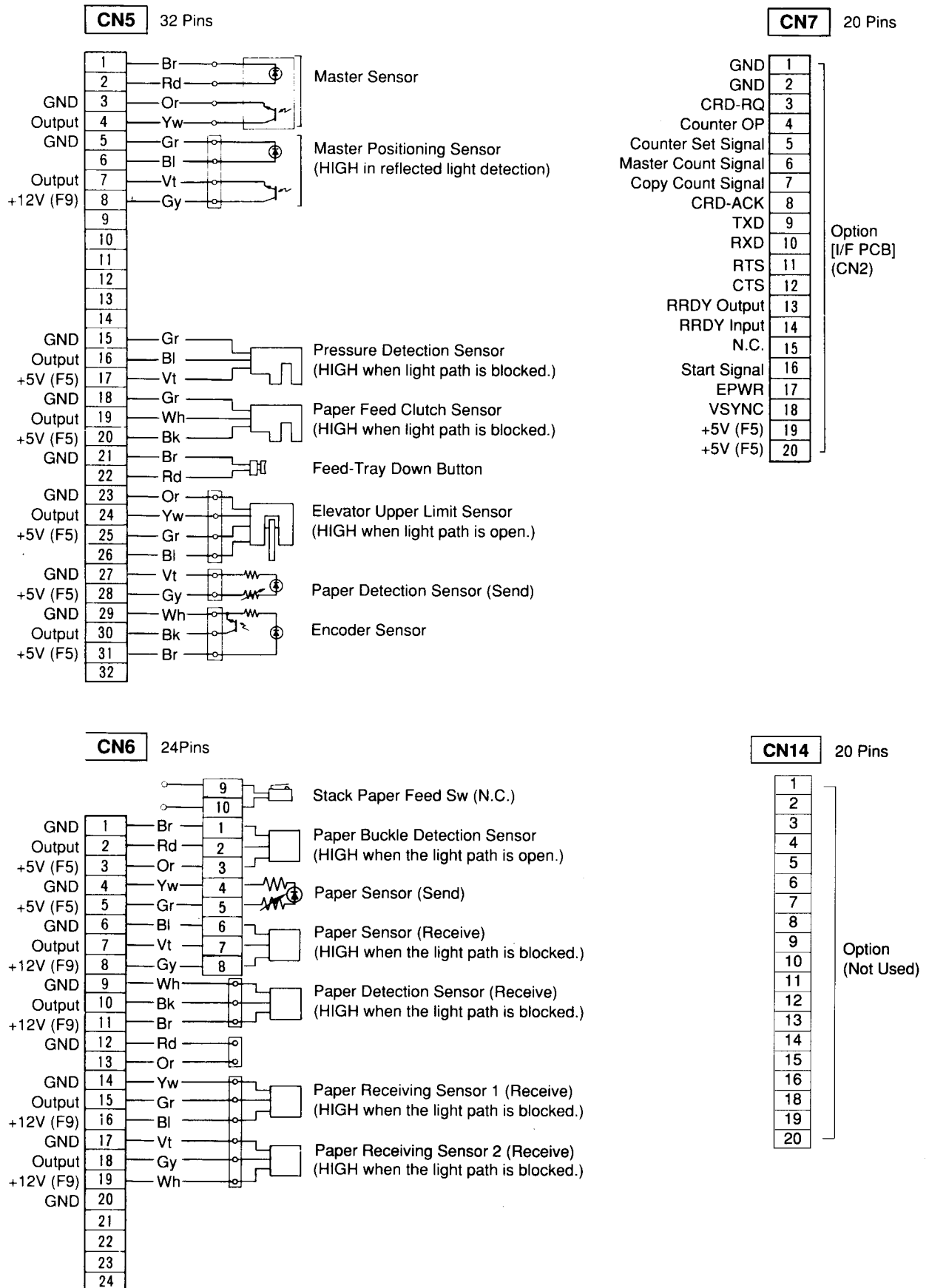
JP3: For "Key/Card Counter" installation
 (Opened in installing "Key/Card Counter")

DESCRIPTION OF PCBs

5. System Main PCB



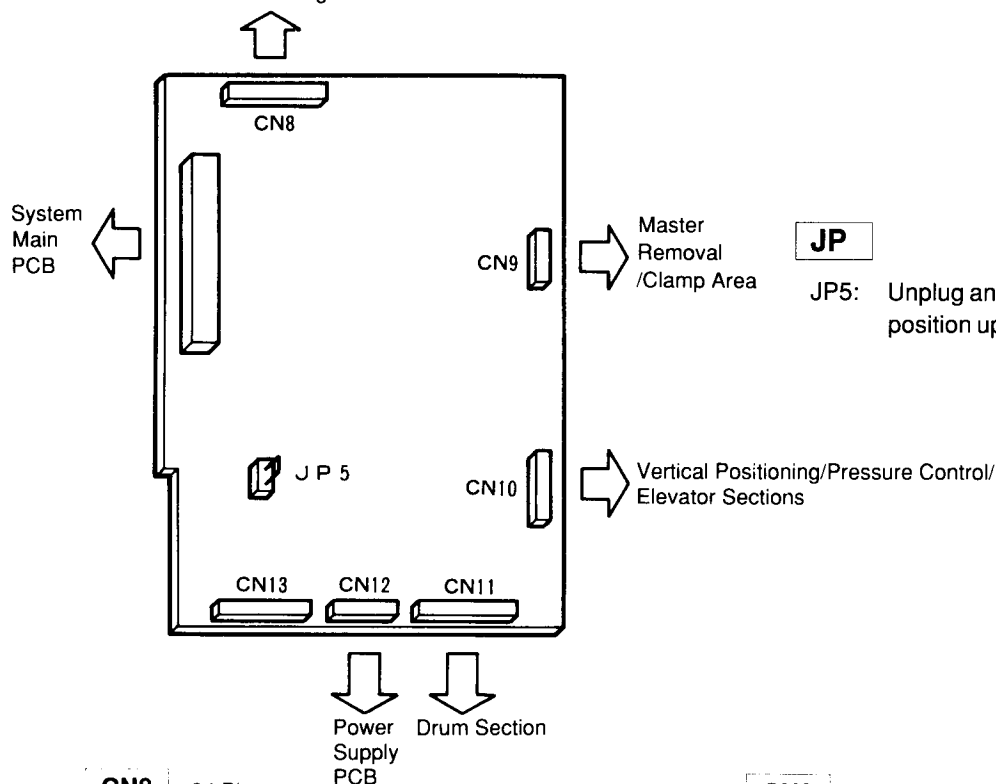
5. System Main PCB



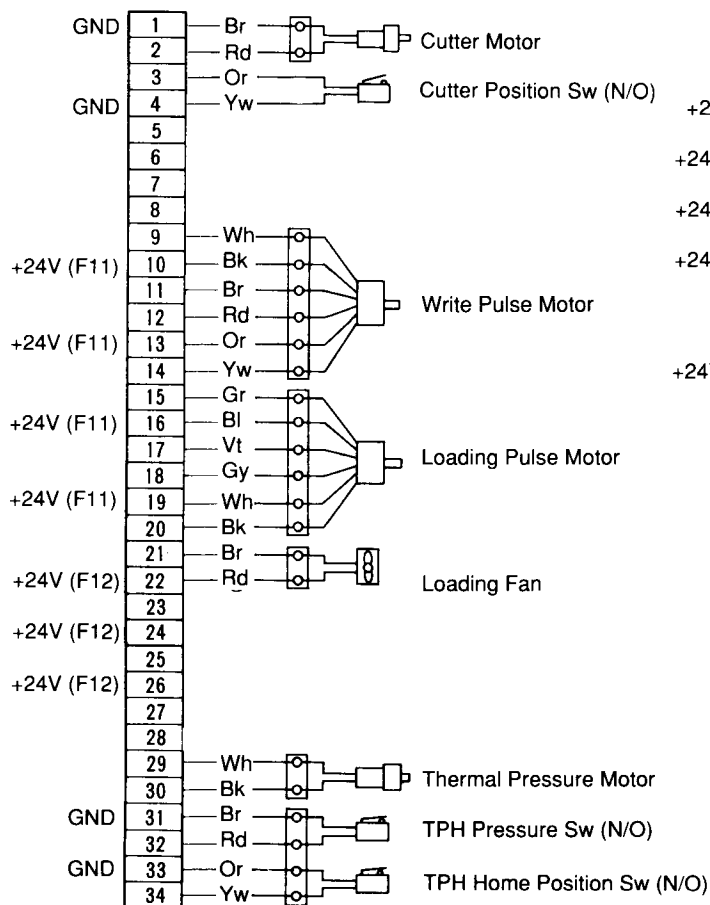
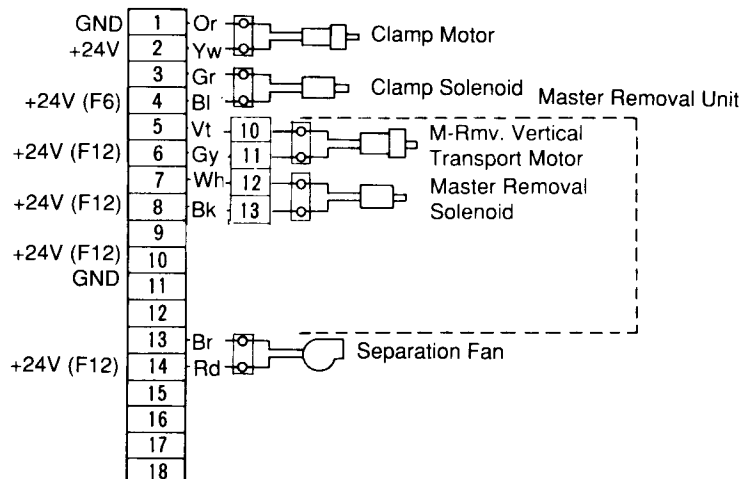
6. System Drive PCB

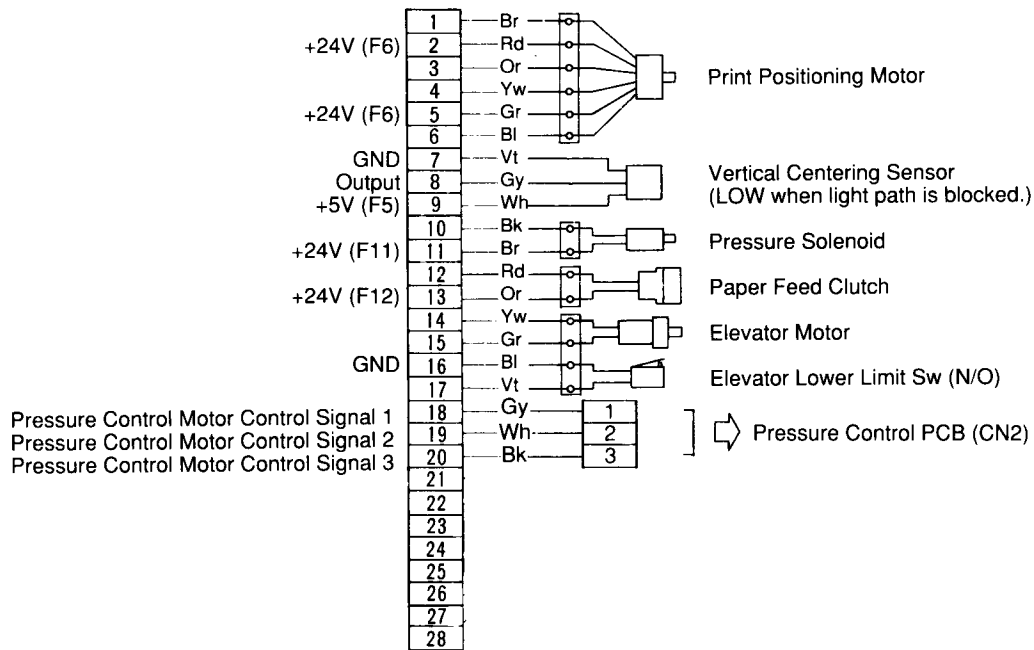
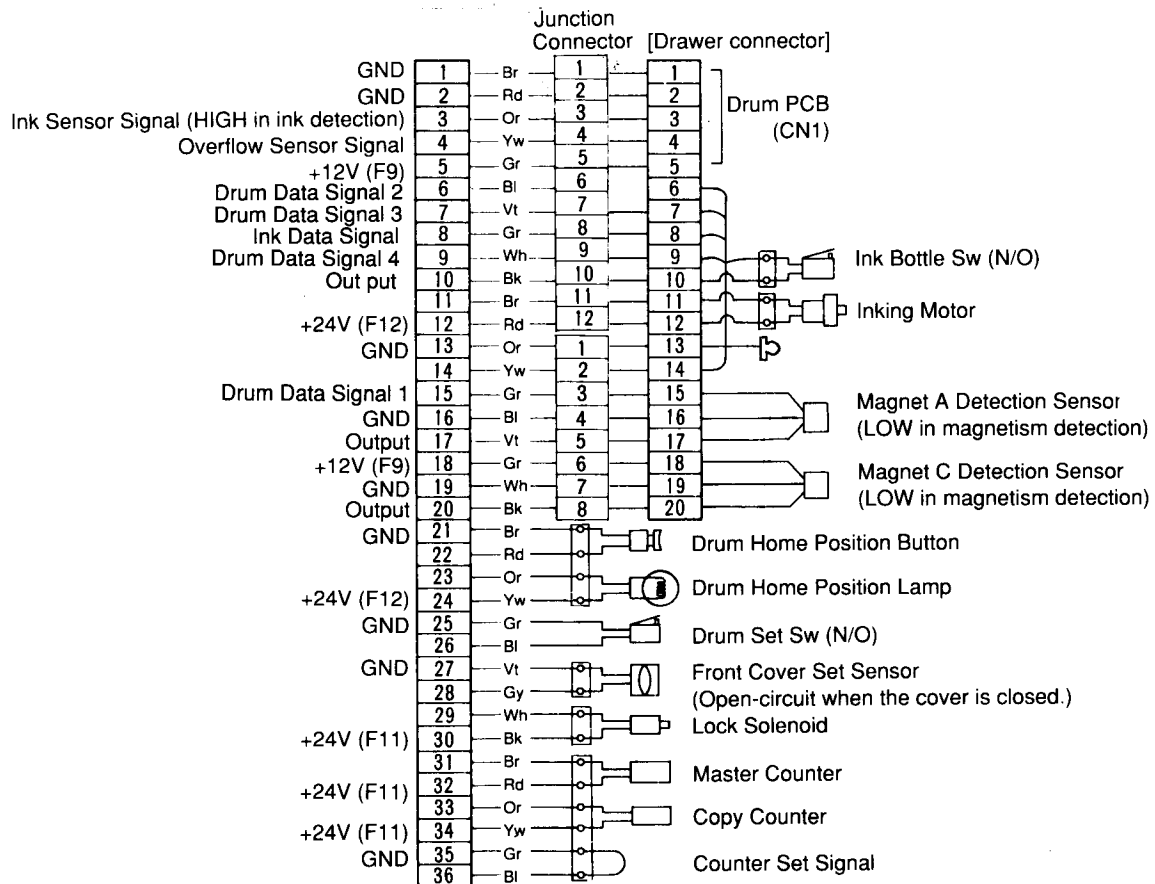
6. SYSTEM DRIVE PCB

Cutter/Master-Making Sections

**JP**

JP5: Unplug and reattach the connector one position up when connecting to Sorter.

CN8 34 Pins**CN9** 18 Pins

CN10 28 Pins**CN11** 36 Pins

DESCRIPTION OF PCBs

6. System Drive PCB

CN12 22 Pins

1	Br	1	GND	
2	Rd	2	GND	
3	Or	3	GND	
4	Yw	4	GND	
5	Gr	5	+5V (F5)	
6	Bl	6	+5V (F5)	
7	Vt	7	N.C.	
8	Gy	8	Power Fail Signal	
9	Wh	9	-12V (F10)	
10	Bk	10	+12V (F9)	
11	Br	11	GND	
12	Rd	12	+24V (F6)	
13	Or	1	Thermal Print Head Control Signal	
14	Yw	2	Suction Fan Control Signal	
15	Gr	3	Main Motor Control Signal	
16	Bl	4	Main Motor Control Signal	
17	Vt	5	Main Motor Control Signal	
18	Gy	6	Main Motor Control Signal	
19	Wh	7	+24V (F12)	
20	Bk	8	+24V (F11)	
21	Br	9	GND	
22	Rd	10	GND	

Power Supply PCB (CN8)

Power Supply PCB (CN5)

CN13 34 Pins

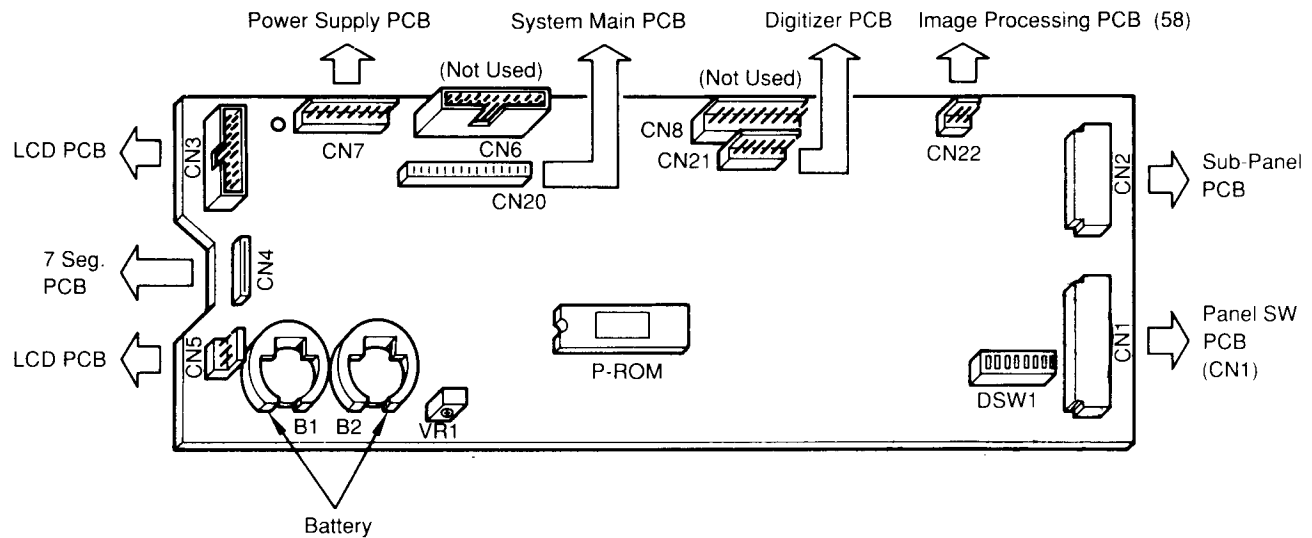
RC SORTER					
Shielded Ground	1	Br	1		
GND	2	Rd	2		
GND	3	Or	3		
TXD	4	Yw	4		
RXD	5	Gr	5		
RTS	6	Bl	6		
CTS	7	Vt	7		
Sorter Connect Signal	8	Gy	8		
+5V(F5)	9	Wh	9		
+12V(F9)	10	Bk			
-12V(F10)	11	Br			
GND	12	Rd	12		
GND	13	Or	13		
Sorter Starter (+24V) (F12)	14	Yw	14		
GND	15	Gr	15		
+5V (F5)	16	Bl		1	1
Sorter Set Signal	17	Vt	17	2	2
Cluster Signal A	18	Gy		3	
Paper Sensor Signal	19	Wh	19	4	4
Paper Rcv. Sensor 2 Signal	20	Bk	20	5	
Print Signal	21	Br		6	
Magnet A Det. Signal	22	Rd		7	
Copy Count Signal	23	Or		8	
Master Count Signal	24	Yw		9	
Print Start/Stop Signal	25	Gr		10	
GND	26	Bl	26	11	
GND	27	Vt	27	12	
+24V (F12)	28	Gy	28		13
Cluster Signal B	29	Wh	29		14
Tape End Signal	30	Bk		15	15
STATUS 1 Signal	31	Br			
STATUS 2 Signal	32	Rd			
Master-making Start/Stop Signal	33	Or			
Paper Full Stack Signal	34	Yw			

*The not-numbered pins are not used.

FRI SORTER

JOB SEPARATOR

7. PANEL MAIN PCB



VR

VR1: For luminosity adjustment of LCD panel

SW

SW	FUNCTION	OFF	ON
DSw1 - 1	The initial print speed selection ※ 1	100RPM	60RPM
DSw1 - 2	The initial paper size selection ※ 2	A4 or 8.5" x 11"	A3 or 11" x 17"
DSw1 - 3	The initial Fine enhancement setting selection	Fine enhancement ON	Fine enhancement OFF
DSw1 - 4	Priority selection between density-and Speed-Change modes	Density-Change mode	Speed-Change mode
DSw1 - 5	※ 3		
DSw1 - 6			
DSw1 - 7			
DSw1 - 8			

※ 1 Functions only in Speed-Change mode.
In Density-Change mode, the print speed is fixed at 100 rpm.

※ 2

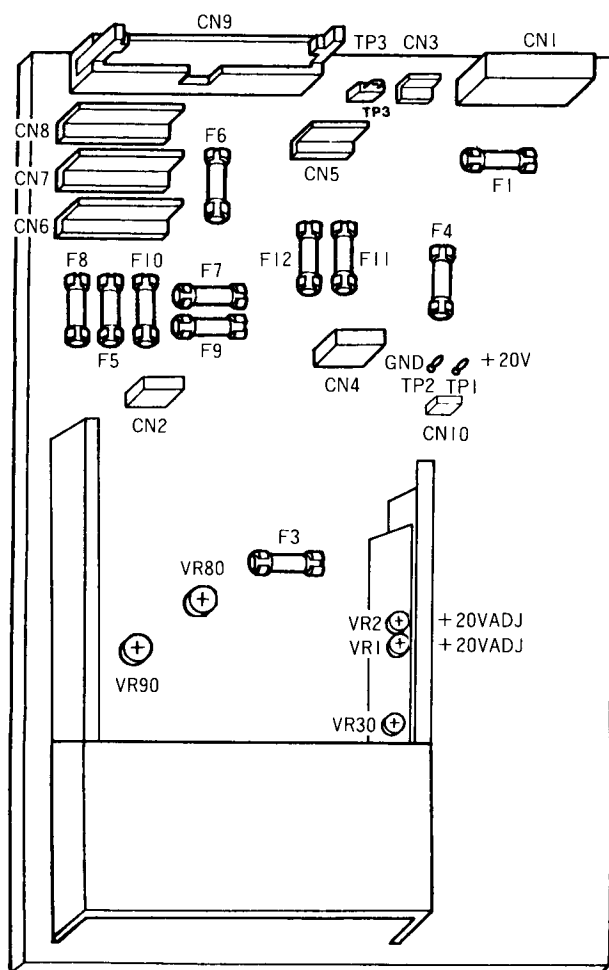
A3	Picture Panel
A3	Metric Panel
11" x 17"	Inch Panel

※ 3

	Inch Panel	Picture & Metric Panel
DSw1 - 5	OFF	ON
DSw1 - 6	OFF	OFF
DSw1 - 7	OFF	OFF
DSw1 - 8	OFF	OFF

8. Power Supply PCB

8. POWER SUPPLY PCB



A circuit protector cuts the power off when a voltage of 25V or larger is fed into CN4.

(Wait 1 minute before switching the power back on.)

TP

TP1 (+20V) } For TPH voltage check
TP2 (GNP) }

VR

VR1 (+20V): TPH voltage - fine adjustment
VR2 (+20V): TPH voltage - rough adjustment
VR30(+25V): Fixed (Do not touch)
VR80(+ 5V): Fixed (Do not touch)
VR90(+12V): Fixed (Do not touch)

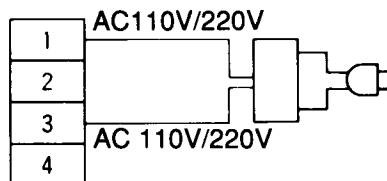
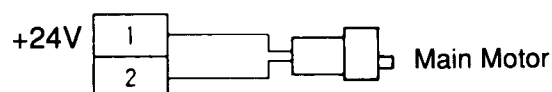
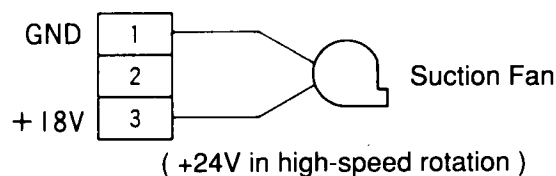
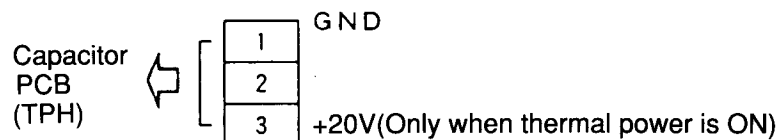
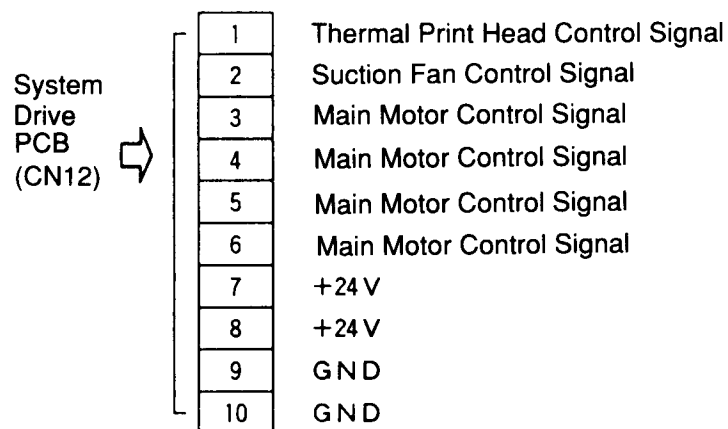
CN

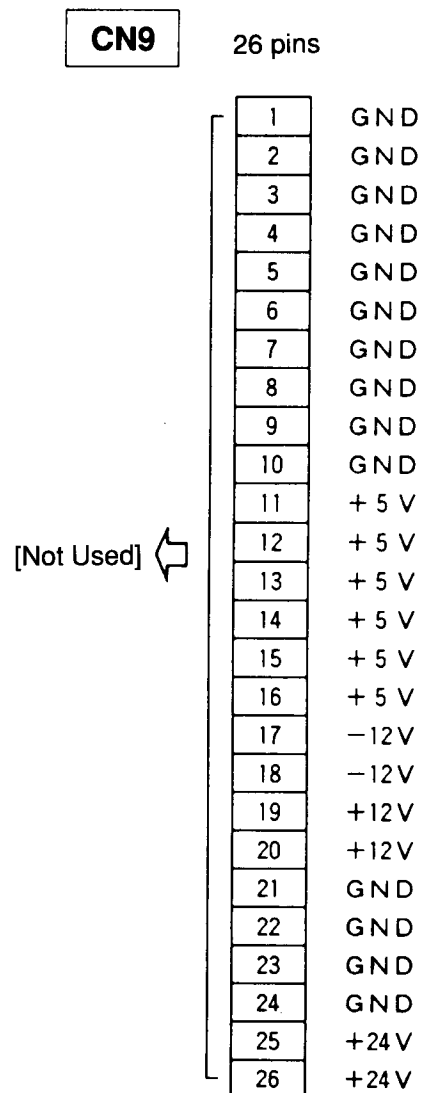
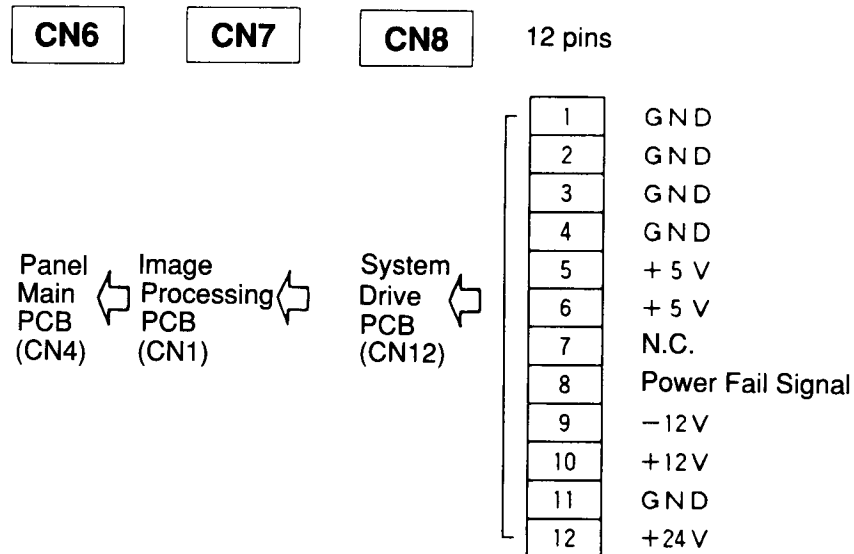
CN1: From Main Power SW
CN2: To Main Motor
CN3: To Suction Fan
CN4: To Capacitor PCB (TPH)
CN5: From System Drive PCB
CN6: To Panel Main PCB
CN7: To Image Processing PCB
CN8: To System Drive PCB
CN9: Not Used
CN10: To Capacitor PCB (TPH)

FUSE

No.	Rate	Protected line	Symptoms in case of open-circuited fuse	Relevant components
F1	10A (110V) 5A (220V)	Main Power	No Power	Main Power Sw
F11	3.15A	DC24V	[T3: Call Service] Master mis-feed in master-making or confidential operation. Paper feed jam in printing.	Loading pulse motor, Loading fan, storage fan, Thermal pressure motor, Cutter motor, Write pulse motor
F12	3.15A	DC24V	[T2: Call Service], Paper feed jam, Master removal error	M.-Rmv. vertical transport motor, Master removal solenoid, Separation fan, Pressure solenoid, Paper feed clutch, Elevator motor, Lock solenoid, Inking motor, Counters, Drum home position lamp
F4	1A	DC24 – 18V	Paper receiving jam	Suction fan
F3	8A	DC24V	[T1: Call Service]	Main Motor
F9	3.15A	DC + 12V	[T4: Call Service]	Various sensors
F10	3.15A	DC – 12V	No LCD indication	
F5	5A	DC5V	[T15 Call Service]	
F8	5A	DC5V	No power except for Suction fan	
F7	3.15A	DC24V		For optional equipments
F6	3.15A	DC24V	[T5: Call Service]	Clamp motor, Clamp solenoid, Print positioning motor, Pressure control motor, Read pulse motor, ADF Transfer motor

8. Power Supply PCB

CN1 4 pins**CN2** 2 pins**CN3** 3 pins**CN4** 3 pins**CN5** 10 pins



1. Changing the ROMs

2. Reset of Display

5. Others

1. Changing the ROMs (on RC6300)

1. Turn OFF the machine power.
2. Remove the Back cover and Front right cover.
3. Replace the System program ROM and Panel message ROM.
4. Turn ON the power and start up the Test Mode and execute mode (No. 97).

CAUTION: The test mode (No. 97) must be executed each time a ROM is changed.

Note: Test mode (No. 97) on RC6300 is equal to the Test mode (No. 90) on other RC models.

2. Compulsive reset of the Jam/Trouble Display only (common for all RC models)

1. Turn OFF the machine power.
2. Turn the power back ON while pressing the All Reset button.

Note: The above procedure is equal to executing test mode (No. 90) on RC6300.