

## [9] SIMULATION, FAX SOFTWARE SWITCH, TROUBLE CODES

### 1. List of simulations

AR-151, AR-F152, AR-156

The simulations for the AR-F152 (with Fax functions) are shown in bold fonts.

Sim No.	Kind of main code	Sub code	Operation
01	Optical system	01	Mirror scan operation
02	SPF Individual load operation	02 03 04 05 06 07	<b>SPF sensor status display</b> Motor ON Paper feed solenoid ON Pressure release solenoid ON (RSPF) Resist clutch ON (RSPF) Gate solenoid ON (RSPF)
05	Lamp ON check	01 02 03	<b>Operation panel display check</b> Fusing lamp ON + Cooling fan HIGH/LOW speed Copy lamp ON
06	Machine individual load operation	01 02	Paper feed solenoid ON Resist solenoid ON
07	Aging	01 06	Warm up display and aging with jam Intermittent aging
08	High voltage output check	01 02 03 06	Developing bias Main charger (Grid high) Grid voltage (Low) Transfer charger
10	Other	None	Toner motor aging
14	Trouble reset	None	Cancel troubles other than U2
16	U2 trouble reset	None	Cancel of U2 trouble
20	Maintenance counter clear	01	Maintenance/mini-maintenance counter clear
21	Counter setup (When maintenance)	01 02	Maintenance cycle setup Mini-maintenance cycle setup
22	Counter display	01 02 04 05 06 08 12 14 17 18 20 21 22 23 24	Maintenance/mini-maintenance counter display Maintenance/mini-maintenance preset display Jam total counter display Total counter display Developer counter display SPF counter display Drum counter display P-ROM version display Copy counter display Printer counter display <b>FAX print counter display</b> Scanner counter display SPF jam total counter display <b>FAX reception counter display</b> <b>FAX transmission counter display</b>
24	Special counter clear	01 04 06 07 08 09 10 11 13 14	Jam total counter clear SPF counter clear Developer counter clear Drum counter clear Copy counter clear Printer counter clear <b>FAX transmission/reception counter clear</b> <b>FAX print counter clear</b> Scanner counter clear SPF jam total counter clear
25	Main motor ON	01 10	Main motor system ON + Cooling fan low speed (For the duplex model, the duplex motor is simultaneously turned on.) Polygon motor ON

Sim No.	Kind of main code	Sub code	Operation
26	Various setup	01 02 03 04 06 07 20 30 37 39 40 42 43 44 47 55	Manual feed setup SPF setup Second cassette setup Machine duplex setup Destination setup Machine conditions check Rear edge void setup CE mark conformity control ON/OFF setup Cancel of stop at developer over Memory capacity setup Polygon motor OFF time setup Transfer ON timing control setup Side void setup SPF document rear edge read setup FAX document rear edge scan setup CRUM destination display
30	Sensor operation check (Standard provision)	01	Paper sensor status display
43	Fusing temperature setup	01 04 05 09	Normal copy Fusing temperature setup 2 Duplex mode fusing temperature setup Postcard size paper fusing control setup
46	Exposure adjustment	01 12 13 14 15 19	Copy density adjustment <b>FAX density overall adjustment</b> <b>FAX density adjustment (Standard mode)</b> <b>FAX density adjustment (Fine character mode)</b> <b>FAX density adjustment (Super Fine mode)</b> $\gamma$ <b>Table adjustment (Copy mode)</b>
48	Magnification ratio correction	01	Front/rear scan direction
50	Lead edge adjustment	01 10 18 19	Lead edge image position adjustment Paper lead edge/rear edge void adjustment Paper center offset + OC/Document center offset + SPF document center offset Memory reverse position adjustment Duplex copy rear edge void adjustment
51	Timing adjustment	02 06	Resist quantity adjustment SPF exposure correction
61	Laser system operation	03	Polygon motor check (HSYNC output check)
63	Shading	01	Shading check
64	Self print	01	Self print only with the engine (1 by 2 mode)
66	<b>FAX PWB check</b>	None	<b>Simulation on the FAX panel (For details, refer to the FAX simulation.)</b>
67	Program Download	14	PCL PWB program download

## 2. Contents of simulations (new or revised simulations only)

Input method: Clear key Exposure Select key Clear key Exposure Select key

Main code	Sub code	Content												
01	01	<p>Mirror scan operation (Operation/Procedure)</p> <p>1. When this simulation is executed, the mirror home position is detected.</p> <table border="1"> <thead> <tr> <th>Sensor name</th> <th>Display lamp</th> </tr> </thead> <tbody> <tr> <td>Mirror home position sensor</td> <td>OPC drum cartridge replacement lamp</td> </tr> </tbody> </table> <p>2. When the _START key is pressed, scanning is executed at the speed corresponding to the currently set copy magnification ratio. The copy magnification ratio can be arbitrarily set with the magnification ratio select key/zoom key.</p>	Sensor name	Display lamp	Mirror home position sensor	OPC drum cartridge replacement lamp								
Sensor name	Display lamp													
Mirror home position sensor	OPC drum cartridge replacement lamp													
02	02	<p>SPF sensor status display ON/OFF of the sensors in the SPF can be checked with the following lamps.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Sensor</th> </tr> </thead> <tbody> <tr> <td>Toner cartridge replacement lamp</td> <td>Document set detection (SPID)</td> </tr> <tr> <td>Jam lamp</td> <td>SPF document transport detection (SPPD)</td> </tr> <tr> <td>Developer replacement lamp</td> <td>SPF cover open detection (SCOD)</td> </tr> <tr> <td>SPF jam lamp</td> <td>SPF open/close detection (SDSW) FAX document size detection Paper size detection</td> </tr> <tr> <td>SPF lamp</td> <td>FAX/SPF B4 size detection (SB4D)</td> </tr> </tbody> </table>	Display	Sensor	Toner cartridge replacement lamp	Document set detection (SPID)	Jam lamp	SPF document transport detection (SPPD)	Developer replacement lamp	SPF cover open detection (SCOD)	SPF jam lamp	SPF open/close detection (SDSW) FAX document size detection Paper size detection	SPF lamp	FAX/SPF B4 size detection (SB4D)
Display	Sensor													
Toner cartridge replacement lamp	Document set detection (SPID)													
Jam lamp	SPF document transport detection (SPPD)													
Developer replacement lamp	SPF cover open detection (SCOD)													
SPF jam lamp	SPF open/close detection (SDSW) FAX document size detection Paper size detection													
SPF lamp	FAX/SPF B4 size detection (SB4D)													
	03	<p>Motor ON (Operation/Procedure) When the start key is pressed, the SPF motor rotates for 10 sec at the speed corresponding to the currently set magnification ratio.</p>												
	04	<p>Paper feed solenoid ON (Operation/Procedure) When the start key is pressed, the SPF paper feed solenoid repeats ON (500 ms) and OFF (500 ms) 20 times.</p>												
	05	<p>Pressure release solenoid ON (RSPF) (Operation/Procedure) When the start key is pressed, the RSPF document transport solenoid (SPFS) repeats ON (500 ms) and OFF (500 ms) 20 times.</p>												
	06	<p>Resist clutch ON (RSPF) (Operation/Procedure) When the start key is pressed, the RSPF resist clutch (SRRC) repeats ON (500 ms) and OFF (500 ms) 20 times.</p>												
	07	<p>Gate solenoid ON (RSPF) (Operation/Procedure) When the start key is pressed, the RSPF gate solenoid (SGS) repeats ON (500 ms) and OFF (500 ms) 20 times.</p>												
05	01	<p>Operation panel display check When the PRINT switch is pressed, the LED on the operation panel is lighted for 5 sec. The LED on the FAX panel and the LCD black background are displayed simultaneously.</p>												
	02	<p>Fusing lamp ON + cooling fan HIGH/LOW speed (Operation/Procedure) When the START key is pressed, the fusing lamp repeats ON (500ms) and OFF (500msec) 5 times. During this period, the cooling fan rotates in the high speed mode. After completion of the operation, the cooling fan rotates in the low speed mode.</p>												
	03	<p>Copy lamp ON (Operation/Procedure) When the START key is pressed, the copy lamp is lighted for 5 sec.</p>												
06	01	<p>Paper feed solenoid ON (Operation/Procedure) When the START key is pressed, the paper feed solenoid selected by the tray select key repeats ON (500ms) and OFF (500ms) 20 times.</p>												
	02	<p>Resist solenoid ON (Operation/Procedure) When the START key is pressed, the resist solenoid (RRS) repeats ON (500ms) and OFF (500ms) 20 times.</p>												

Main code	Sub code	Content														
07	01	<p>Warm-up display and aging with jam (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When the simulation is executed, warming up is started.</li> <li>Warm-up time is counted and displayed every second on the copy quantity display.</li> <li>After completion of warm-up, the time count is stopped and the ready lamp is lighted.</li> <li>Press the clear key to clear the warm-up time display, set the copy quantity, and press the START key, and the machine will copy the set quantity repeatedly.</li> </ol>														
	06	<p>Intermittent aging (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When the simulation is executed, warming up is started.</li> <li>After completion of warm-up, the ready lamp is lighted.</li> <li>Set the copy quantity and press the START key, and the machine will copy the set quantity repeatedly.</li> <li>After 3 sec of the interval time from completion of copying the set quantity, the machine will resume copying.</li> <li>The above operation 4 is repeated.</li> </ol>														
08	01	<p>Developing bias (Operation/Procedure)</p> <p>When the START key is pressed, the developing bias is outputted for 30 sec.</p>														
	02	<p>Main charger (Grid high) (Operation/Procedure)</p> <p>When the START key is pressed, the main charger output is supplied for 30 sec in the grid voltage HIGH mode.</p>														
	03	<p>Grid voltage (Low) (Operation/Procedure)</p> <p>When the START key is pressed, the main charger output is supplied for 30 sec in the grid voltage LOW mode.</p>														
	06	<p>Transfer charger (Operation/Procedure)</p> <p>When the START key is pressed, the transfer charger output is supplied for 30 sec.</p>														
10	None	<p>Toner motor aging (Operation/Procedure)</p> <p>When the START key is pressed, the toner motor output is supplied for 30 sec.</p>														
14	None	<p>Cancel of troubles other than U2 (Operation/Procedure)</p> <p>After canceling the trouble, the simulation is also automatically canceled.</p>														
16	None	<p>Cancel of U2 trouble (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When the START key is pressed, the EEPROM total counter check sum is rewritten and the trouble is canceled.</li> <li>After canceling the trouble, the simulation is also automatically canceled.</li> </ol>														
20	01	<p>Maintenance/mini-maintenance counter clear</p> <p>When the Print switch is pressed, the maintenance counter is cleared, and 000000 is displayed. When the destination has been set to Japan AB series, the mini-maintenance counter is cleared.</p>														
21	01	<p>Maintenance cycle setup</p> <p>The currently set maintenance cycle code is displayed (initial display), and the set data is stored.</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Code</th> <th>Setup</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>3,000 sheets</td> </tr> <tr> <td>1</td> <td>6,000 sheets</td> </tr> <tr> <td>2</td> <td>9,000 sheets</td> </tr> <tr> <td>3</td> <td>13,000 sheets</td> </tr> <tr> <td>4</td> <td>25,000 sheets</td> </tr> <tr> <td>5</td> <td>Free (999,999 sheets) * Default</td> </tr> </tbody> </table>	Code	Setup	0	3,000 sheets	1	6,000 sheets	2	9,000 sheets	3	13,000 sheets	4	25,000 sheets	5	Free (999,999 sheets) * Default
	Code	Setup														
0	3,000 sheets															
1	6,000 sheets															
2	9,000 sheets															
3	13,000 sheets															
4	25,000 sheets															
5	Free (999,999 sheets) * Default															
02	<p>Mini-maintenance cycle setup (Valid only when the destination is set to Japan AB series.)</p> <p>The current set code of maintenance cycle is displayed (Initial display), and the set data is stored.</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Code</th> <th>Setup</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>5,000 sheets * Default</td> </tr> <tr> <td>1</td> <td>10,000 sheets</td> </tr> <tr> <td>2</td> <td>Free (999,999 sheets)</td> </tr> </tbody> </table>	Code	Setup	0	5,000 sheets * Default	1	10,000 sheets	2	Free (999,999 sheets)							
Code	Setup															
0	5,000 sheets * Default															
1	10,000 sheets															
2	Free (999,999 sheets)															

Main code	Sub code	Content
22	01	Maintenance/mini-maintenance counter display The display is the same as the total counter value display. When the destination is set to other than Japan AB series, the maintenance counter is displayed. When the destination is set to Japan AB series, the mini-maintenance counter is displayed. The display is the same as the total counter value display.
	02	Maintenance/mini-maintenance preset display The preset value corresponding to the code set in 21-01 and 21-02. The display is the same as the total counter value display. When the destination is set to other than Japan AB series, the maintenance preset value is displayed. When the destination is set to Japan AB series, the mini-maintenance preset value is displayed.
	04	Jam total counter display The display method is the same as the total count value display.
	05	Total counter display The total count value is displayed in 3 digits 2 times repeatedly. <Display example: 12345> 012 Blank 345 Blank 012 0.7s 0.3s 0.7s 1.0s 0.7s
	06	Developer counter display The display method is the same as the total count value display.
	08	SPF counter display The display method is the same as the total count value display.
	12	Drum counter display The display method is the same as the total count value display.
	14	P-ROM version display The P-ROM version is displayed in 3 digits on the value display section. (AR, DM, PCL models: 100% Zoom lamp display)
	17	Copy counter display The display method is the same as the total count value display.
	18	Printer counter display The display method is the same as the total count value display.
	20	Fax print counter display The display method is the same as the total count value display.
	21	Scanner counter display The display method is the same as the total count value display.
	22	SPF jam total counter display The display method is the same as the total count value display.
	23	FAX reception counter display The display method is the same as the total count value display.
24	FAX transmission counter display The display method is the same as the total count value display.	
24	01	Jam total counter clear When the PRINT switch is pressed, the jam total count value is reset to 0.
	04	SPF counter clear When the PRINT switch is pressed, the SPF count value is reset to 0.
	06	Developer counter clear When the PRINT switch is pressed, the drum count value is reset to 0.
	07	Drum counter clear When the PRINT switch is pressed, the drum count value is reset to 0.
	08	Copy counter clear When the PRINT switch is pressed, the copy count value is reset to 0.
	09	Printer counter clear When the PRINT switch is pressed, the printer count value is reset to 0.
	10	FAX transmission/reception counter clear When the PRINT switch is pressed, the FAX transmission/reception count value is reset to 0.
	11	FAX print counter clear When the PRINT switch is pressed, the Fax print-out count value is reset to 0.
13	Scanner counter clear When the PRINT switch is pressed, the scanner count value is reset to 0.	

Main code	Sub code	Content								
24	14	SPF jam total counter clear When the PRINT switch is pressed, the SPF jam total count value is reset to 0.								
25	01	Main motor system ON + Cooling fan low speed (For the duplex model, the duplex motor is simultaneously turned on.) (Operation/Procedure) When the START key is pressed, the main motor is rotated for 30 sec. To save toner consumption, the different operations are executed depending on installation of the developing unit. When the developing unit is installed, the developing bias, the main charger, and the grid are also outputted. When the developing unit is not installed, only the motor is rotated. * Do not turn on the door open/close switch forcibly to execute this simulation.								
	10	Polygon motor ON (Operation/Procedure) When the START key is pressed, the polygon motor is operated for 30sec.								
26	01	Manual feed setup (Operation/Procedure) 1. When this simulation is executed, the currently set bypass code number is displayed. 2. Enter the code number corresponding to the bypass and press the START key, and the setting will be changed. <table border="1" data-bbox="409 739 826 829"> <thead> <tr> <th>Code number</th> <th>Bypass</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Single bypass</td> </tr> <tr> <td>1</td> <td>Multi bypass</td> </tr> </tbody> </table>	Code number	Bypass	0	Single bypass	1	Multi bypass		
	Code number	Bypass								
	0	Single bypass								
	1	Multi bypass								
	02	SPF setup When this simulation is executed, the currently set SPF code number is displayed. Enter the code number of the SPF to be set and press the PRINT switch. The setup is changed. <table border="1" data-bbox="409 945 1104 1062"> <thead> <tr> <th>Code No.</th> <th>SPF</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Without SPF</td> </tr> <tr> <td>1</td> <td>With SPF (Setup is required when installing FAX.)</td> </tr> <tr> <td>2</td> <td>With RSPF</td> </tr> </tbody> </table>	Code No.	SPF	0	Without SPF	1	With SPF (Setup is required when installing FAX.)	2	With RSPF
	Code No.	SPF								
0	Without SPF									
1	With SPF (Setup is required when installing FAX.)									
2	With RSPF									
03	Second cassette setup (Operation/Procedure) 1. When this simulation is executed, the currently set code number of the second cassette is displayed. 2. Enter the code number and press the start key. The setting is changed. <table border="1" data-bbox="409 1199 896 1287"> <thead> <tr> <th>Code number</th> <th>Second cassette</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Without second cassette</td> </tr> <tr> <td>1</td> <td>With second cassette</td> </tr> </tbody> </table>	Code number	Second cassette	0	Without second cassette	1	With second cassette			
Code number	Second cassette									
0	Without second cassette									
1	With second cassette									
04	Machine duplex setup (Operation/procedure) 1. When this simulation is executed, the currently set duplex code number is displayed. 2. Enter the code number corresponding to the duplex and press the ENTER key, and the setup will be changed. <table border="1" data-bbox="409 1430 826 1518"> <thead> <tr> <th>Code number</th> <th>Duplex</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Without Duplex</td> </tr> <tr> <td>1</td> <td>With Duplex</td> </tr> </tbody> </table>	Code number	Duplex	0	Without Duplex	1	With Duplex			
Code number	Duplex									
0	Without Duplex									
1	With Duplex									
06	Destination setup (Operation/Procedure) 1. When this simulation is executed, the currently set destination code number is displayed. 2. Enter the code number corresponding to the destination and press the START key, and the setting will be changed. <table border="1" data-bbox="409 1682 826 1799"> <thead> <tr> <th>Code number</th> <th>Destination</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Inch series</td> </tr> <tr> <td>1</td> <td>EX AB series</td> </tr> <tr> <td>2</td> <td>Japan AB series</td> </tr> </tbody> </table>	Code number	Destination	0	Inch series	1	EX AB series	2	Japan AB series	
Code number	Destination									
0	Inch series									
1	EX AB series									
2	Japan AB series									

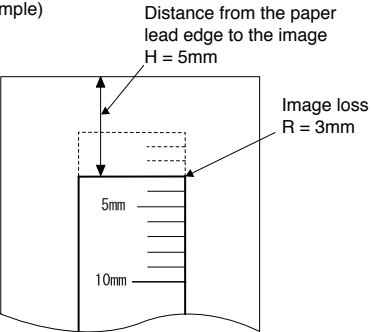
Main code	Sub code	Content									
26	07	<p>Machine conditions check (Operation/Procedure) When this simulation is executed, the current machine setting is displayed.</p> <table border="1"> <thead> <tr> <th>CPM</th> <th>Copy quantity display</th> </tr> </thead> <tbody> <tr> <td>10 cpm</td> <td>10</td> </tr> <tr> <td>12 cpm</td> <td>12</td> </tr> <tr> <td>15 cpm</td> <td>15</td> </tr> </tbody> </table> <p>The machine type is shown with the lamp display. No setup: None BTA-A: AE mode lamp ON BTA-B: TEXT mode lamp ON BTA-C: Photo mode lamp ON</p>	CPM	Copy quantity display	10 cpm	10	12 cpm	12	15 cpm	15	
	CPM	Copy quantity display									
	10 cpm	10									
	12 cpm	12									
	15 cpm	15									
	20	<p>Rear edge void setup (Operation/Procedure) 1. When this simulation is executed, the currently set code number of rear edge void setting is displayed. 2. Enter the code number of rear edge void setting and press the START key, and the setting will be changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Rear edge void setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Rear edge void allowed</td> </tr> <tr> <td>1</td> <td>Rear edge void not allowed</td> </tr> </tbody> </table>	Code number	Rear edge void setting	0	Rear edge void allowed	1	Rear edge void not allowed			
Code number	Rear edge void setting										
0	Rear edge void allowed										
1	Rear edge void not allowed										
30	<p>CE mark conformity control ON/OFF setup (Operation/Procedure) 1. When this simulation is executed, the currently set code number of CE mark application is displayed. 2. Enter the code number of CE mark application and press the START key, and the setting will be changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>CE mark application setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>CE mark application control OFF</td> </tr> <tr> <td>1</td> <td>CE mark application control ON</td> </tr> </tbody> </table>	Code number	CE mark application setting	0	CE mark application control OFF	1	CE mark application control ON				
Code number	CE mark application setting										
0	CE mark application control OFF										
1	CE mark application control ON										
37	<p>Cancel of stop at developer life over When this simulation is executed, the current set code is displayed. Enter a new code and press the PRINT switch, and the entered code is registered.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Stop at developer life over</td> </tr> <tr> <td>1</td> <td>Stop cancel at developer life over</td> </tr> </tbody> </table>	Code number	Setting	0	Stop at developer life over	1	Stop cancel at developer life over				
Code number	Setting										
0	Stop at developer life over										
1	Stop cancel at developer life over										
39	<p>Memory capacity setup (Operation/Procedure) 1. When this simulation is executed, the currently set code number is displayed. 2. Enter the code number and press the START key, and the setting will be changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>No memory</td> </tr> <tr> <td>1</td> <td>4 Mbyte</td> </tr> <tr> <td>2</td> <td>6 Mbyte</td> </tr> </tbody> </table>	Code number	Setting	0	No memory	1	4 Mbyte	2	6 Mbyte		
Code number	Setting										
0	No memory										
1	4 Mbyte										
2	6 Mbyte										
40	<p>Polygon motor OFF time setup (Operation/Procedure) 1. When this simulation is executed, the currently set code number is displayed. 2. Enter the code number and press the START key, and the setting will be changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Setting</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0 sec</td> </tr> <tr> <td>1</td> <td>30 sec</td> </tr> <tr> <td>2</td> <td>60 sec</td> </tr> <tr> <td>3</td> <td>90 sec</td> </tr> </tbody> </table>	Code number	Setting	0	0 sec	1	30 sec	2	60 sec	3	90 sec
Code number	Setting										
0	0 sec										
1	30 sec										
2	60 sec										
3	90 sec										

Main code	Sub code	Content																							
26	42	<p>Transfer ON timing control setup (Operation / Procedure)</p> <p>1. When this simulation is executed, the currently set code number is displayed. 2. Enter the code number and press the START key, and the setting will be changed. (For any number different from the following ones, the default time is automatically set.)</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Setting</th> </tr> </thead> <tbody> <tr><td>0</td><td>Default (330 msec)</td></tr> <tr><td>1</td><td>-40 msec</td></tr> <tr><td>2</td><td>-30 msec</td></tr> <tr><td>3</td><td>-20 msec</td></tr> <tr><td>4</td><td>-10 msec</td></tr> <tr><td>5</td><td>Default (330 msec)</td></tr> <tr><td>6</td><td>+10 msec</td></tr> <tr><td>7</td><td>+20 msec</td></tr> <tr><td>8</td><td>+30 msec</td></tr> <tr><td>9</td><td>+40 msec</td></tr> </tbody> </table>	Code number	Setting	0	Default (330 msec)	1	-40 msec	2	-30 msec	3	-20 msec	4	-10 msec	5	Default (330 msec)	6	+10 msec	7	+20 msec	8	+30 msec	9	+40 msec	
	Code number	Setting																							
	0	Default (330 msec)																							
	1	-40 msec																							
2	-30 msec																								
3	-20 msec																								
4	-10 msec																								
5	Default (330 msec)																								
6	+10 msec																								
7	+20 msec																								
8	+30 msec																								
9	+40 msec																								
43	<p>Side void setup (Operation/Procedure)</p> <p>1. When this simulation is executed, the currently set code number of the side void amount is displayed. 2. Enter the code number and press the start key. The setting is changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Setting</th> </tr> </thead> <tbody> <tr><td>0</td><td>0 mm</td></tr> <tr><td>1</td><td>0.5 mm</td></tr> <tr><td>2</td><td>1.0 mm</td></tr> <tr><td>3</td><td>1.5 mm</td></tr> <tr><td>4</td><td>2.0 mm *Default</td></tr> <tr><td>5</td><td>2.5 mm</td></tr> <tr><td>6</td><td>3.0 mm</td></tr> <tr><td>7</td><td>3.5 mm</td></tr> <tr><td>8</td><td>4.0 mm</td></tr> <tr><td>9</td><td>4.5 mm</td></tr> <tr><td>10</td><td>5.0 mm</td></tr> </tbody> </table>	Code number	Setting	0	0 mm	1	0.5 mm	2	1.0 mm	3	1.5 mm	4	2.0 mm *Default	5	2.5 mm	6	3.0 mm	7	3.5 mm	8	4.0 mm	9	4.5 mm	10	5.0 mm
Code number	Setting																								
0	0 mm																								
1	0.5 mm																								
2	1.0 mm																								
3	1.5 mm																								
4	2.0 mm *Default																								
5	2.5 mm																								
6	3.0 mm																								
7	3.5 mm																								
8	4.0 mm																								
9	4.5 mm																								
10	5.0 mm																								
44	<p>SPF document rear edge read setup + Fax document rear edge scan setup.</p> <p>When this simulation is executed, the currently set code number is displayed. Enter the desired code number and press the START key, and the display will be changed. The document rear edge scanning area in SPF reduction (less than 100%) copy is changed.</p> <p>The code number is changeable in the range of 0 – 8. The default value is 4, and 2 mm of the document rear edge is cut. When the value is changed by 1, the area is changed by 1 mm.</p>																								
47	<p>FAX document rear edge scan setup</p> <p>When this simulation is executed, the currently set code number is displayed. Enter the desired code number and press the print switch, and the setup is switched. The scan area at the rear edge of FAX original with SPF is changed according to the entered code number. Code number is in the range of 0 – 8. The default is 4. When set to the default, the area of about 2 mm from the rear edge of the original is cut out. When the value is changed by 1, the dimension is changed by about 1 mm.</p>																								
55	<p>CRUM destination display</p> <p>When this simulation is executed, the current setup of the CRUM destination stored in the machine is displayed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Setting</th> </tr> </thead> <tbody> <tr><td>00</td><td>No setup</td></tr> <tr><td>01</td><td>BTA-A</td></tr> <tr><td>02</td><td>BTA-B</td></tr> <tr><td>03</td><td>BTA-C</td></tr> </tbody> </table>	Code number	Setting	00	No setup	01	BTA-A	02	BTA-B	03	BTA-C														
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00	No setup																								
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Main code	Sub code	Content																					
30	01	<p>Paper sensor status display The paper sensor status is displayed with the lamps on the operation panel.</p> <table border="1"> <thead> <tr> <th>Display</th> <th>Sensor</th> </tr> </thead> <tbody> <tr> <td>Toner cartridge replacement lamp</td> <td>Paper detection before resist (PPD1)</td> </tr> <tr> <td>JAM lamp</td> <td>Fusing section paper detection (PPD2)</td> </tr> <tr> <td>Developer cartridge replacement lamp</td> <td>Paper exit paper detection (POD)</td> </tr> <tr> <td>2nd cassette lamp</td> <td>2nd CS paper detection (PPD3)</td> </tr> <tr> <td>AE lamp</td> <td>Single manual feed paper detection (MFD)</td> </tr> <tr> <td>Exposure level 1 (Light) lamp</td> <td>Main cassette A4 width detection (PSW1)</td> </tr> <tr> <td>Exposure level 5 (Dark) lamp</td> <td>2nd cassette A4 width detection (PSW2)</td> </tr> </tbody> </table>	Display	Sensor	Toner cartridge replacement lamp	Paper detection before resist (PPD1)	JAM lamp	Fusing section paper detection (PPD2)	Developer cartridge replacement lamp	Paper exit paper detection (POD)	2nd cassette lamp	2nd CS paper detection (PPD3)	AE lamp	Single manual feed paper detection (MFD)	Exposure level 1 (Light) lamp	Main cassette A4 width detection (PSW1)	Exposure level 5 (Dark) lamp	2nd cassette A4 width detection (PSW2)					
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Exposure level 5 (Dark) lamp	2nd cassette A4 width detection (PSW2)																						
43	01	<p>Fusing temperature setup (Normal copy) (Operation/Procedure) 1. When this simulation is executed, the currently set code number is displayed. 2. Enter the code number and press the START key, and the setting will be changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Set temperature (°C)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>175</td> </tr> <tr> <td>1</td> <td>180</td> </tr> <tr> <td>2</td> <td>185</td> </tr> <tr> <td>3</td> <td>190</td> </tr> <tr> <td>4</td> <td>195 (* Default)</td> </tr> <tr> <td>5</td> <td>200</td> </tr> </tbody> </table>	Code number	Set temperature (°C)	0	175	1	180	2	185	3	190	4	195 (* Default)	5	200							
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04	<p>Fusing temperature setup 2 (Operation/Procedure) 1. When this simulation is executed, the currently set code number is displayed. 2. Enter the code number and press the START key, and the setting will be changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Set temperature (°C)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>155</td> </tr> <tr> <td>1</td> <td>160</td> </tr> <tr> <td>2</td> <td>165</td> </tr> <tr> <td>3</td> <td>170 (* Default)</td> </tr> <tr> <td>4</td> <td>175</td> </tr> <tr> <td>5</td> <td>180</td> </tr> </tbody> </table>	Code number	Set temperature (°C)	0	155	1	160	2	165	3	170 (* Default)	4	175	5	180								
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05	<p>Duplex mode fusing temperature setup (Operation/Procedure) 1. When this simulation is executed, the currently set code number is displayed. 2. Enter the code number corresponding to the duplex and press the START key. The setting is changed accordingly.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Shift temperature (°C)</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>0°C</td> </tr> <tr> <td>1</td> <td>-8°C</td> </tr> <tr> <td>2</td> <td>-6°C</td> </tr> <tr> <td>3</td> <td>-4°C</td> </tr> <tr> <td>4</td> <td>-2°C</td> </tr> <tr> <td>5</td> <td>0°C</td> </tr> <tr> <td>6</td> <td>+2°C</td> </tr> <tr> <td>7</td> <td>+4°C</td> </tr> <tr> <td>8</td> <td>+6°C</td> </tr> <tr> <td>9</td> <td>+8°C</td> </tr> </tbody> </table> <p>* The above shift temperature set by this simulation is added to the fusing temperature of single copy.</p>	Code number	Shift temperature (°C)	0	0°C	1	-8°C	2	-6°C	3	-4°C	4	-2°C	5	0°C	6	+2°C	7	+4°C	8	+6°C	9	+8°C
Code number	Shift temperature (°C)																						
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8	+6°C																						
9	+8°C																						
09	<p>Postcard size paper fusing control setup</p> <table border="1"> <thead> <tr> <th>Code number</th> <th>Setup</th> </tr> </thead> <tbody> <tr> <td>0</td> <td>Cancel (Default)</td> </tr> <tr> <td>1</td> <td>Setup</td> </tr> </tbody> </table>	Code number	Setup	0	Cancel (Default)	1	Setup																
Code number	Setup																						
0	Cancel (Default)																						
1	Setup																						

Main code	Sub code	Content																																										
46	01	<p>Copy density adjustment (Outline) Used to adjust the copy density in each copy mode.(The copy density can be set by changing the set value of ASIC GAMMA ADJUST register.) Setting in each copy mode is performed at exposure level 3. When the copy density (exposure) is adjusted arbitrarily, the max, and min. exposure levels are automatically calculated and set. (The change amounts (gradient, change amount) at level 1 – 5 are predetermined.) (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When this simulation is executed, warming up and shading are performed and the current set value is displayed in two digits.</li> <li>Press the copy mode select key to select each setting mode and setting display. * The copy mode setting is indicated with the following lamps as shown below.</li> <li>Change the setting with the value up-down key and press the START key, and a copy will be made with the entered set value.</li> <li>Press the clear key to store the set value and exit the simulation.</li> </ol> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th>Copy mode</th> <th>Display lamp</th> </tr> </thead> <tbody> <tr> <td>AE mode</td> <td>AE mode lamp</td> </tr> <tr> <td>TEXT mode</td> <td>TEXT mode lamp</td> </tr> <tr> <td>PHOTO mode</td> <td>PHOTO mode lamp</td> </tr> <tr> <td>TS mode (TEXT)</td> <td>TEXT mode lamp &amp; PHOTO mode lamp</td> </tr> <tr> <td>TS mode (AE)</td> <td>AE mode lamp &amp; PHOTO mode lamp</td> </tr> </tbody> </table> <p style="margin-left: 40px;">Relationship between the displayed values and the GAMMA ADJUST register</p> <table border="1" style="margin-left: 40px;"> <thead> <tr> <th></th> <th>Exp1</th> <th>Exp2</th> <th>Exp3</th> <th>Exp4</th> <th>Exp5</th> </tr> </thead> <tbody> <tr> <td>AE</td> <td>-24</td> <td>-12</td> <td>0</td> <td>+12</td> <td>+24</td> </tr> <tr> <td>TEXT</td> <td>-24</td> <td>-12</td> <td>0</td> <td>+12</td> <td>+24</td> </tr> <tr> <td>PHOTO</td> <td>-24</td> <td>-12</td> <td>0</td> <td>+12</td> <td>+24</td> </tr> <tr> <td>T/S</td> <td>-24</td> <td>-12</td> <td>0</td> <td>+12</td> <td>+24</td> </tr> </tbody> </table> <p>The value displayed after execution of this simulation can be set in the range of 0 – 99 with 50 as the center value. When the text mode set value is Gat3, for example, the GAMMA ADJUST register value set at Exp1 is: Text Exp1 = Gat3 – 50 – 24 When 40 is set to Gat3, Text Exp1 = 40 – 50 – 24 = –34 Then set the GAMMA ADJUST register set value to –34. Perform the same procedure for each mode and each Exp. * The above table may subject to change. * For the gradient, there is a similar table, though not specified here. The value set with SIM 46, however, is not reflected. * The AE mode Exp selection is not specified, but corresponds to the grades for AE exposure selection in the former models.</p>	Copy mode	Display lamp	AE mode	AE mode lamp	TEXT mode	TEXT mode lamp	PHOTO mode	PHOTO mode lamp	TS mode (TEXT)	TEXT mode lamp & PHOTO mode lamp	TS mode (AE)	AE mode lamp & PHOTO mode lamp		Exp1	Exp2	Exp3	Exp4	Exp5	AE	-24	-12	0	+12	+24	TEXT	-24	-12	0	+12	+24	PHOTO	-24	-12	0	+12	+24	T/S	-24	-12	0	+12	+24
Copy mode	Display lamp																																											
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T/S	-24	-12	0	+12	+24																																							
	12	<p>FAX density overall adjustment Used to set the normal mode density setup value added with each FAX resolution mode correction value to each FAX resolution mode collectively. (Operating procedure) When this simulation is executed, warming up and shading are performed and the currently set value is displayed in 2 digits. (Center value: 50) Change the set value with the value up-down key and press the PRINT switch. The entered value is stored and the simulation is terminated. During this mode, the resolution mode cannot be selected.</p> <p>The range of values dispalyed after execution of this simulation is 0 - 99 with 50 as the center. * when reading FAX, the AE density can be selected in three levels (Dark, Normal, Light). However, in this mode, copying is made in Normal. (There is no manual setup in reading FAX.)</p>																																										
	13	<p>FAX density adjustment (Standard mode) Used to set the density set value in the normal mode individually. (Operating procedure) Same as the FAX density overall adjustment.</p>																																										

Main code	Sub code	Content										
46	14	<p>FAX density adjustment (Fine mode) Used to set the density set value in the small character mode individually. (Operating procedure) Same as the FAX density overall adjustment. Since, however, the small character mode has the Text document mode and the Photo document mode, changeover can be made with the copy mode select key and the set value of the selected mode is displayed on the copy quantity display. The copy mode setup is made as shown below.</p> <table border="1"> <thead> <tr> <th>Mode</th> <th>Display lamp</th> </tr> </thead> <tbody> <tr> <td>Text document mode</td> <td>AE mode lamp</td> </tr> <tr> <td>Photo document mode</td> <td>Photo mode lamp</td> </tr> </tbody> </table>	Mode	Display lamp	Text document mode	AE mode lamp	Photo document mode	Photo mode lamp				
	Mode	Display lamp										
	Text document mode	AE mode lamp										
Photo document mode	Photo mode lamp											
15	<p>FAX density adjustment (Super Fine mode) Used to set the density set value in the fine mode individually. (Operating procedure) Same as the FAX density overall adjustment.</p>											
19	<p><math>\gamma</math> table setup When this simulation is executed, the currently set gamma table code number is displayed. Enter the code number corresponding to your desired gamma table and press the PRINT switch, and the setup will be changed.</p> <table border="1"> <thead> <tr> <th>Code number</th> <th><math>\gamma</math> table</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Japan</td> </tr> <tr> <td>2</td> <td>EX Japan</td> </tr> </tbody> </table>	Code number	$\gamma$ table	1	Japan	2	EX Japan					
Code number	$\gamma$ table											
1	Japan											
2	EX Japan											
48	01	<p>Front/rear scan direction (Outline)</p> <p>(1) Front/rear scanning direction magnification ratio auto correction: (Performed by changing the set value of ZOOM DATA register for ASIC.) The width of the reference line marked on the shading correction plate is scanned to perform the front/rear direction magnification ratio adjustment automatically. (Performed by changing the set value of ZOOM DATA register for ASIC.)</p> <p>(2) Front/rear scanning direction magnification ratio manual correction: Used to set the front/rear (main scanning) direction magnification ratio by key operations. (Performed by changing the set value of ZOOM DATA register for ASIC.)</p> <p>(3) Scanning direction magnification ratio correction: The scanning direction magnification ratio in the OC mode is set by key operations. (Performed by changing the scanning speed.)</p> <p>(4) SPF mode scanning direction magnification ratio correction: The scanning direction magnification ratio in the OC mode is set by key operations. (Performed by changing the scanning speed.)</p> <p>(Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When this simulation is executed, the current set value is displayed in two digits. (Center value: 50)</li> <li>When the copy mode select key is pressed, the setting mode and the setting display are changed sequentially. <ul style="list-style-type: none"> <li>* The selected adjustment mode is indicated by the lamps as follows:</li> </ul> </li> <li>In the front/rear scanning direction adjustment, when the START key is pressed, the mirror base unit moves to the white plate for shading and the width of the reference line is read and the correction value is calculated and displayed and the value is stored. In the case of the manual adjustment, enter the adjustment value with the 10-key and press the START key. Then the entered value is stored and a copy is made. (An increase of 1 in the set value corresponds to an increase of 0.1mm.)</li> <li>Press the clear key to store the set value and exit the simulation.</li> </ol> <table border="1"> <thead> <tr> <th>Adjustment mode</th> <th>Lamps ON</th> </tr> </thead> <tbody> <tr> <td>Front/rear direction magnification ratio auto correction</td> <td>AE lamp</td> </tr> <tr> <td>Front/rear direction magnification ratio manual correction</td> <td>TEXT lamp</td> </tr> <tr> <td>Scanning direction magnification ratio correction</td> <td>PHOTO lamp</td> </tr> <tr> <td>SPF mode scanning direction magnification ratio correction</td> <td>AE, TEXT, PHOTO lamps</td> </tr> </tbody> </table> <p>In the front-rear direction magnification ratio correction:</p> <ol style="list-style-type: none"> <li>The result of calculation of the scan correction value is 5% or less, "- ." is displayed. (Cause) The white plate reference position error or the lens unit installing error</li> <li>In case of a scanning error of the reference line, the JAM lamp is turned on. (Cause) CCD error or no white plate</li> </ol> <p>*) If the automatic correction of magnification ratio does not work properly, adjust and correct manually.</p>	Adjustment mode	Lamps ON	Front/rear direction magnification ratio auto correction	AE lamp	Front/rear direction magnification ratio manual correction	TEXT lamp	Scanning direction magnification ratio correction	PHOTO lamp	SPF mode scanning direction magnification ratio correction	AE, TEXT, PHOTO lamps
Adjustment mode	Lamps ON											
Front/rear direction magnification ratio auto correction	AE lamp											
Front/rear direction magnification ratio manual correction	TEXT lamp											
Scanning direction magnification ratio correction	PHOTO lamp											
SPF mode scanning direction magnification ratio correction	AE, TEXT, PHOTO lamps											

Main code	Sub code	Content																
50	01	<p>Lead edge image position adjustment + Paper lead edge/rear edge void adjustment (Outline) This adjustment is used to adjust the copy image position and lead edge/rear edge void amount on the copy paper by adjusting the image scan start position and the print start position (resist roller ON timing) at 100%. (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When this simulation is executed, the currently set value is displayed in two digits. (Center value: 50)</li> <li>When the copy mode select key is pressed, each setting mode and the display are changed. <ul style="list-style-type: none"> <li>* The selected adjustment mode is indicated by the lamps as shown in the table below.</li> </ul> </li> <li>Enter the adjustment value with the 10-key and press the start key. The set value is stored and a copy is made. (When the set value is increased by 1, the void amount is shifted by 0.1 mm.)</li> <li>When the clear key is pressed, the set value is stored and the simulation mode is terminated.</li> </ol> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Adjustment mode</th> <th style="text-align: center;">Lighting lamps</th> </tr> </thead> <tbody> <tr> <td>Print start position (Main cassette)</td> <td>AE, Main cassette lamps</td> </tr> <tr> <td>Print start position (2nd cassette)</td> <td>AE, 2nd lamps</td> </tr> <tr> <td>Print start position (Manual paper feed)</td> <td>AE, Manual feed lamps</td> </tr> <tr> <td>Image lead edge void quantity</td> <td>TEXT lamp</td> </tr> <tr> <td>Image scan start position</td> <td>PHOTO lamp</td> </tr> <tr> <td>Image rear edge void quantity</td> <td>AE, TEXT, PHOTO lamps</td> </tr> <tr> <td>SPF image scan start position</td> <td>AE, TEXT lamps</td> </tr> </tbody> </table> <p>(Adjustment method)</p> <ol style="list-style-type: none"> <li>Set the print start position (A: AE ON), the lead edge void amount (B: TEXT ON), the scanning start position (C: PHOTO ON) to zero and make a copy of a scale at 100%.</li> <li>Measure the image loss R (mm) of the scale. (Example) Distance from the paper lead edge to the image H = 5mm Set as C = 10 R (mm). (Example: Set to 30.) <ul style="list-style-type: none"> <li>* When C is increased by 10, the image loss is decreased by 1 mm. (Default: 5)</li> </ul> </li> <li>Measure the distance H (mm) from the paper lead edge to the image print start position. Set as A = 10 R (mm). (Example: Set to 50.) <ul style="list-style-type: none"> <li>* When the value of A is increased by 10, the image lead edge is shifted toward the paper lead edge by 1 mm. (Default: 50)</li> </ul> </li> <li>Set the lead edge void amount as B = 50 (2.5 mm). (Default: 50) <ul style="list-style-type: none"> <li>* When the value of B is increased by 10, the void is increased by about 1 mm. (For 25 or less, however, the void amount becomes zero.)</li> </ul> </li> </ol> <div style="text-align: right;">  </div> <p>☆ The SPF adjustment is made by adjusting the SPF image scan start position immediately after turning on the power.</p>	Adjustment mode	Lighting lamps	Print start position (Main cassette)	AE, Main cassette lamps	Print start position (2nd cassette)	AE, 2nd lamps	Print start position (Manual paper feed)	AE, Manual feed lamps	Image lead edge void quantity	TEXT lamp	Image scan start position	PHOTO lamp	Image rear edge void quantity	AE, TEXT, PHOTO lamps	SPF image scan start position	AE, TEXT lamps
Adjustment mode	Lighting lamps																	
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Print start position (2nd cassette)	AE, 2nd lamps																	
Print start position (Manual paper feed)	AE, Manual feed lamps																	
Image lead edge void quantity	TEXT lamp																	
Image scan start position	PHOTO lamp																	
Image rear edge void quantity	AE, TEXT, PHOTO lamps																	
SPF image scan start position	AE, TEXT lamps																	
10		<p>Paper center offset + OC/Document center offset + SPF document center offset (Outline) The center offset position of copy image on the copy paper and that of document scan are adjusted by adjusting the scan left margin of ASIC and the print left margin register set value. (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When this simulation is executed, the currently set value is displayed.</li> <li>For a machine with a multi manual paper feed unit installed, when the copy mode select key is pressed, each set mode and display are changed. For a machine with a single manual paper feed unit installed, when the copy mode select key is pressed, each set mode and display are changed.</li> </ol> <p>☆ Machine with a multi manual paper feed unit</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: center;">Adjustment mode</th> <th style="text-align: center;">Display lamp</th> </tr> </thead> <tbody> <tr> <td>Print center offset (Main cassette paper feed)</td> <td>AE, main cassette lamp</td> </tr> <tr> <td>Print center offset (2nd cassette paper feed)</td> <td>AE, 2nd cassette lamp</td> </tr> <tr> <td>Print center offset (Manual paper feed)</td> <td>AE, Manual paper feed lamp</td> </tr> <tr> <td>OC/Document center offset</td> <td>AE, TEXT lamp</td> </tr> <tr> <td>SPF/Document center offset</td> <td>AE, TEXT, PHOTO lamp</td> </tr> </tbody> </table>	Adjustment mode	Display lamp	Print center offset (Main cassette paper feed)	AE, main cassette lamp	Print center offset (2nd cassette paper feed)	AE, 2nd cassette lamp	Print center offset (Manual paper feed)	AE, Manual paper feed lamp	OC/Document center offset	AE, TEXT lamp	SPF/Document center offset	AE, TEXT, PHOTO lamp				
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Main code	Sub code	Content										
50	10	<p>☆ Machine with a single manual paper feed unit</p> <table border="1"> <thead> <tr> <th>Adjustment mode</th> <th>Display lamp</th> </tr> </thead> <tbody> <tr> <td>Print center offset (Main cassette paper feed)</td> <td>AE, Main cassette lamp</td> </tr> <tr> <td>Print center offset (Manual paper feed)</td> <td>AE lamp (Blinking)</td> </tr> <tr> <td>OC/Document center offset</td> <td>AE, TEXT lamp</td> </tr> <tr> <td>SPF/Document center offset</td> <td>AE, TEXT, PHOTO lamp</td> </tr> </tbody> </table>	Adjustment mode	Display lamp	Print center offset (Main cassette paper feed)	AE, Main cassette lamp	Print center offset (Manual paper feed)	AE lamp (Blinking)	OC/Document center offset	AE, TEXT lamp	SPF/Document center offset	AE, TEXT, PHOTO lamp
Adjustment mode	Display lamp											
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Print center offset (Manual paper feed)	AE lamp (Blinking)											
OC/Document center offset	AE, TEXT lamp											
SPF/Document center offset	AE, TEXT, PHOTO lamp											
	18	<p>Memory reverse position adjustment in duplex copy</p> <p>When this simulation is executed, the currently set correction value is displayed. Enter the desired correction value with the 10-key and press the print key. The entered value is stored. (The correction value ranges from 1 to 99. 0 or 50 for zero correction.)</p> <p>Front print in the S-D mode and even page print in the D-S mode are performed with reverse memory operation from the rear of the original. When, therefore, the print position adjustment of the output image is required, perform the adjustment as follows:</p> <p>The image direction in reverse memory copy is shown in Fig. 1. When the original scanning is made in the arrow direction, output images are printed from the rear edge of scanning.</p> <p>If, therefore, the print lead edge is shifted, set the reference chart so that the reference position is in the rear and use this simulation to change the simulation set value so that the lead edge of print images comes in the proper position.</p> <p>Printing is started at the print start position and executed from the final memory image data to the head data. By changing the position of the end data stored in memory with the simulation set value, the image lead edge position is adjusted and the read edge position of scanning is changed.</p> <p>Therefore, the end position of scanning is changed by the simulation set value to change the position of the end data stored in memory. The image lead edge is adjusted in this manner.</p>										
	19	<p>Duplex copy rear edge void adjustment</p> <p>Used to adjust the rear edge void in duplex copy.</p> <p>(Operating procedure)</p> <p>When this simulation is executed, the currently set value is displayed in 2 digits.</p> <p>When the copy mode select key is pressed, the set mode and the display are switched sequentially.</p> <p>Enter the adjustment value with the 10-key and press the print key, and the entered value is stored and a copy is made. When the clear key is pressed, the entered value is stored and the simulation mode is terminated.</p> <p>(When the set value is increased by 1, the void is increased by about 0.1mm.)</p> <table border="1"> <thead> <tr> <th>Adjustment mode</th> <th>Lamp ON</th> </tr> </thead> <tbody> <tr> <td>Image cut rear edge void (RSPF)</td> <td>AE lamp</td> </tr> <tr> <td>Paper rear edge void</td> <td>TEXT lamp</td> </tr> </tbody> </table>	Adjustment mode	Lamp ON	Image cut rear edge void (RSPF)	AE lamp	Paper rear edge void	TEXT lamp				
Adjustment mode	Lamp ON											
Image cut rear edge void (RSPF)	AE lamp											
Paper rear edge void	TEXT lamp											

Main code	Sub code	Content																										
51	02	<p>Resist quantity adjustment Used to adjust the contact pressure of paper onto the copier resist roller and the RSPF resist roller. (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When this simulation is executed, the currently set value is displayed.</li> <li>In a machine with the multi paper feed unit installed, press the copy mode select key, and each setting mode and display are changed sequentially. In a machine with the single paper feed unit installed, press the copy mode select key, and each setting mode and display are changed sequentially. * The selected adjustment mode is indicated by the lamps as follows:</li> <li>Enter the adjustment value with the 10-key and press the SORT key. Then the set value is stored and a copy is made.</li> <li>Press the clear key to store the set value and exit the simulation.</li> </ol> <p>* Machine with the multi manual paper feed</p> <table border="1"> <thead> <tr> <th>Adjustment mode</th> <th>Display lamp</th> </tr> </thead> <tbody> <tr> <td>Main cassette paper feed</td> <td>AE, Main cassette lamp</td> </tr> <tr> <td>2nd cassette paper feed</td> <td>AE, 2nd cassette lamp</td> </tr> <tr> <td>Manual paper feed</td> <td>AE, Manual paper feed lamp</td> </tr> <tr> <td>RSPF document feed (front)</td> <td>AE, TEXT, PHOTO lamp</td> </tr> <tr> <td>RSPF document feed (back)</td> <td>AE, TEXT lamp</td> </tr> <tr> <td>Duplex back</td> <td>TEXT, PHOTO lamp</td> </tr> </tbody> </table> <p>* Machine with the single manual paper feed</p> <table border="1"> <thead> <tr> <th>Adjustment mode</th> <th>Display lamp</th> </tr> </thead> <tbody> <tr> <td>Main cassette paper feed</td> <td>AE, Main cassette lamp</td> </tr> <tr> <td>Manual paper feed</td> <td>AE blinking (Main cassette lamp ON)</td> </tr> <tr> <td>RSPF document feed (front)</td> <td>AE, TEXT, PHOTO lamp</td> </tr> <tr> <td>RSPF document feed (back)</td> <td>AE, TEXT lamp</td> </tr> <tr> <td>Duplex back</td> <td>TEXT, PHOTO lamp</td> </tr> </tbody> </table>	Adjustment mode	Display lamp	Main cassette paper feed	AE, Main cassette lamp	2nd cassette paper feed	AE, 2nd cassette lamp	Manual paper feed	AE, Manual paper feed lamp	RSPF document feed (front)	AE, TEXT, PHOTO lamp	RSPF document feed (back)	AE, TEXT lamp	Duplex back	TEXT, PHOTO lamp	Adjustment mode	Display lamp	Main cassette paper feed	AE, Main cassette lamp	Manual paper feed	AE blinking (Main cassette lamp ON)	RSPF document feed (front)	AE, TEXT, PHOTO lamp	RSPF document feed (back)	AE, TEXT lamp	Duplex back	TEXT, PHOTO lamp
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RSPF document feed (back)	AE, TEXT lamp																											
Duplex back	TEXT, PHOTO lamp																											
	06	<p>SPF exposure correction (Outline) The SPF exposure correction amount is adjusted by adjusting the change in Vref voltage for the OC mode. (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When this simulation is executed, the currently set value is displayed.</li> <li>Enter the adjustment value with the 10-key and press the start key. The entered value is stored and a copy is made. * When the adjustment value is changed by 1, the D/A output is changed by +1 digit (dark) for OC exposure. When it is changed by -1, the output is changed by -1 digit (light).</li> <li>When the clear key is pressed, the entered value is stored and the simulation mode is terminated.</li> </ol>																										
61	03	<p>Polygon motor check (HSYNC output check) (Operation/Procedure) When the START key is pressed, HSYNC is performed and the polygon motor is rotated for 30 sec. At that time, the Zoom lamp is lighted for 100msec every time when HSYNC is detected.</p>																										
63	01	<p>Shading check (Outline) Used to display the detection level of the white plate for shading. (Vref of AD conversion IC is fixed.) (Operation/Procedure) When the START key is pressed, the mirror base unit moves to the white plate for shading and Vref+ voltage of AD conversion IC is set to 4.5V and Vref- voltage to 0.5V, and the copy lamp is lighted. This state is kept for 10 sec, and the level of one pixel at the center is detected every second to display on the value display section.</p>																										
64	1	<p>Self print only with the engine (1 by 2 mode) (Outline) Used to print in the 1 by 2 mode by ignoring the state of the optical system. (Operation/Procedure)</p> <ol style="list-style-type: none"> <li>When this simulation is executed, warming up is made and the ready lamp is lighted.</li> <li>Select with the cassette select key and press the start key. Paper is fed from the selected cassette and printing is performed.</li> </ol> <p>In the 1 by 2 mode, one line is printed and two lines are not printed.</p>																										

Main code	Sub code	Content
66	None	Simulation on the FAX panel (For details, refer to the FAX simulation.)
67	14	<p>PCL PWB program download Used to download the control program for PCL PWB. (Operating procedure)</p> <p>1. Download procedure</p> <ol style="list-style-type: none"> <li>1) Enter the simulation code, and the Ready LED will light up and the On-line LED will go off.</li> <li>2) Press the PRINT switch, and the Ready LED will go off and the Flash ROM data will be deleted.</li> <li>3) After completion of deletion, the On-line LED lights up.</li> <li>4) Get your PC into the DOS mode and execute "COPY /Bxxx.BIN LPT1", and downloading will be started and the On-line LED will blink.</li> <li>5) After completion of downloading, execute SUM check. If there is no problem, the On-line LED will go off and the Ready LED will light up. If there is any problem, "F9-10:PCL PWB trouble" is displayed.</li> <li>6) Turn OFF/ON the power.</li> </ol> <p>2. In case of a fail in downloading, turn OFF/ON the power and perform procedure 1.</p> <p>3. Items required for Flash downloading</p> <ol style="list-style-type: none"> <li>1) PC</li> <li>2) Parallel cable</li> <li>3) Program data file</li> </ol>

### 3. FAX simulations (AR-F152 only)

#### A. Entering the FAX simulation mode

There are following two ways of entering the Fax simulation mode. They differ only in the key sequence and the operations of the simulation are the same in either mode.

For key operations in the FAX simulation mode, use the LCD display and the FAX panel.

**During Fax operations, the Fax simulation cannot be entered.**

(1) From the FAX panel

	Procedure	Procedure Position	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	Fax Panel	ROM version is displayed on the LCD.
2	Press ENTER.	Fax Panel	FAX enters the simulation mode. The machine is in the normal display.
3	Press / proper times.	Fax Panel	Each mode name is displayed on the LCD sequentially.
4	Press ENTER.	Fax Panel	The mode is determined.
5	Procedure in each mode	Fax Panel	Operations in each mode

Instead of above procedures 3 and 4, press the code (2 digits) of the target mode to enter the mode directly.

(2) From the COPIER panel

	Procedure	Procedure Position	Operation
1	Press Clear, Exposure, Clear, Exposure.	Copier Panel	Waiting for simulation code. FAX is in the normal display.
2	Enter the main code of 66 with 10Up/1Up keys.	Copier Panel	"66" is displayed on 7SEG LED.
3	Press START key.	Copier Panel	The machine exits the simulation mode, and the FAX enters the simulation mode.
4	Press / proper times.	Fax Panel	Each mode name is displayed on the LCD sequentially.
5	Press ENTER.	Fax Panel	The mode is determined.
6	Procedure in each mode	Fax Panel	Operations in each mode

Instead of above procedures 4 and 5, press the code number (2 digits) of the target mode to enter the mode directly.

#### B. List of functions

Mode #	Mode	Details of functions	LCD display (Mode name)
01	Soft switch setting mode	This mode is used to change the soft switch setup. The available soft switches are SW1 to SW30. The contents of soft switches are backed up. For details of soft switches, refer to "Software Switch for FAX."	01:SOFT SWITCH
02	Soft switch clear mode (Only the setup is cleared.)	This mode is used to reset the soft switch setup (including the user option setup) to the default. Since, however, some of soft switches have the adjustment values, the area for the adjustment values is excluded from the targets.	02:SOFT SW CLEAR

03	ROM & RAM check mode	This mode is used to perform ROM check sum and RAM read/write test. The result is shown with the buzzer and the LCD. No error: NO ERROR/ No buzzer ROM error : ROM ERROR / Buzzer once RAM error : RAM ERROR / Buzzer twice	03:ROM/RAM CHECK																																							
04	Signal send mode	This mode is used to send various signals to the line. The FAX signal is sent in the level set with the soft switch. There are the following kinds of signals: <table border="1" data-bbox="443 380 1161 743"> <tr> <td>1</td> <td>No signal ( OFF HOOK state)</td> <td></td> </tr> <tr> <td>2</td> <td>DTMF</td> <td>(0,1,2,3,4,5,6,7,8,9,*,#)</td> </tr> <tr> <td>3</td> <td>14400 bps (V.17)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>4</td> <td>12000 bps (V.17)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>5</td> <td>9600 bps (V.17)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>6</td> <td>7200 bps (V.17)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>7</td> <td>9600 bps (V.29)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>8</td> <td>7200 bps (V.29)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>9</td> <td>4800 bps (V27ter)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>10</td> <td>2400 bps (V27ter)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>11</td> <td>300 bps (FLAG)</td> <td>(00000000b, 11111111b, 01010101b)</td> </tr> <tr> <td>12</td> <td>2100 Hz (CED)</td> <td></td> </tr> <tr> <td>13</td> <td>1100 Hz (CNG)</td> <td></td> </tr> </table>	1	No signal ( OFF HOOK state)		2	DTMF	(0,1,2,3,4,5,6,7,8,9,*,#)	3	14400 bps (V.17)	(00000000b, 11111111b, 01010101b)	4	12000 bps (V.17)	(00000000b, 11111111b, 01010101b)	5	9600 bps (V.17)	(00000000b, 11111111b, 01010101b)	6	7200 bps (V.17)	(00000000b, 11111111b, 01010101b)	7	9600 bps (V.29)	(00000000b, 11111111b, 01010101b)	8	7200 bps (V.29)	(00000000b, 11111111b, 01010101b)	9	4800 bps (V27ter)	(00000000b, 11111111b, 01010101b)	10	2400 bps (V27ter)	(00000000b, 11111111b, 01010101b)	11	300 bps (FLAG)	(00000000b, 11111111b, 01010101b)	12	2100 Hz (CED)		13	1100 Hz (CNG)		04:SIGNAL SEND
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10	Image memory clear mode (Only the image data is cleared.)	This mode is used to clear the image data memory (DRAM).	10:IMAGE MEM CLEAR																																							
14	Dial test / adjustment mode (Pulse 10 pps)	This mode is used to dial in dial pulse (10PPS) and to set the pulse make ratio adjustment value. The range of make ratio variable range: -8% ~ +7% The setup is reflected on the adjustment value area of the soft switch. The dialed number is fixed to "1590."	14:DIAL TEST 10 PPS																																							
16	Dial test mode (Tone)	This mode is used to dial with DTMF. The number to be dialed is fixed to "123456789*0#".	16:DIAL TEST TONE																																							
21	Print out soft switch mode	This mode is used to print the report on the current soft switch setup.	21:PRINT SOFT SW																																							
42	FAX Panel check mode	This mode is used to check the keys and the LED on the FAX panel. When any key on the FAX panel other than the STOP key is pressed, the name of the pressed key is displayed on the LCD. The LED's on the FAX panel are lighted one by one sequentially. When any change is made on a sensor in the SPF section, the sensor name as well as its ON/OFF status is displayed on the LCD.	42:FAX PANEL TEST																																							
43	Signal detect mode	This mode is used to detect signals in the line, and the detected signal name is displayed on the LCD. The signals to be detected are CNG, DTMF, and silent. The detection conditions conform to the soft switch setup.	43:SIG. DETECT																																							
44	Long distance comm. Select mode	This mode is used to specify the other party FAX numbers registered in the one-touch/speed dial, with which communication errors occur frequently due to poor line conditions To the specified parties, the max. transmission speed is compulsorily reduced to stabilize the communication line. <b>The speed is available in 9600BPS and 4800BPS.</b>	44:LONG DIST COMM																																							

### C. Operating procedures in each mode

#### (1) Soft SW change method

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 0, 1.	SW # =	
4	Enter the SW No. (2 digits) to be changed.	SW # = 10	
5	Press / to shift the cursor to the bit to be changed. (The left edge is Bit No. 1.)	SW10 = 00010101 bit # = 12345678	

6	Press FUNCTION to highlight the bit in the cursor position.	SW10 = 10010101 bit # = 12345678	
7	Press ENTER to register.	SW # =	Return to Step 3. Press STOP to exit from the mode.

## (2) Soft switch clear mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 0, 2.	02:SOFT SW CLEAR 1:OK 2:CANCEL	
4	Press 1.	DIAGNOSTIC MODE SELECT MENU( )	The soft switches setup is reset to the default, and this mode is terminated.

## (3) ROM &amp; RAM check mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 0, 3.	03:ROM/RAM CHECK	
4	(Normal case)	ROM/RAM OK	
	(RAM error)	RAM ERROR	Two short beeps
	(ROM error)	ROM ERROR	One short beep

## (4) Signal send mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 0, 4.	04:SIGNAL SEND SELECT SIGNAL	
4	Press or repeatedly to select the target signal.	<signal type> PRESS ENTER KEY	For <signal type>, refer to TABLE-3.
5	When the target signal is displayed, press ENTER.		mode # = 1 10 mode # = 2 20 mode # = 3 ~ 6 30 mode # = 7 40
10		1:NO SIGNAL	The relay is turned ON.
11	Press STOP.	04:SIGNAL SEND SELECT SIGNAL	The relay is turned OFF. "NO SIGNAL" mode is terminated.
12	(To terminate this mode) Press STOP.		This mode is terminated.
20		2:DTMF DTMF # =	
21	Press any NUM key(0 ~ 9) or * or #.	2:DTMF DTMF # = <pressed key>	The DTMF signal corresponding to the pressed key is sent.
22	Press STOP.	2:DTMF DTMF # =	
23	(To continue) Go to 21.		
	(To change the signal kind) Press STOP.	04:SIGNAL SEND SELECT SIGNAL	
	(To terminate this mode) Press STOP twice.		This mode is terminated.

	Procedure	LCD	Operation
30		<signal type> SELECT SPEED	
31	Press or to select the target speed.	<signal speed> PRESS ENTER KEY	For <signal speed>, refer to TABLE-4.
32	When the target speed is displayed, press ENTER.	<signal speed> SELECT DATA	
33	Press or to select the target data to be sent.	<data> PRESS ENTER KEY	For <data>, refer to TABLE-5.
34	When the target data is displayed, press ENTER.	<signal speed> <data>	The selected signal is sent.
35	Press STOP.	<signal speed> SELECT DATA	Signal send stop
36	(To change data only) Go to 33.		
	(To change speed) Press STOP.	<signal type> SELECT SPEED	
	(To change the signal kind) Press STOP twice.	04:SIGNAL SEND SELECT SIGNAL	
	(To terminate this mode) Press STOP 3 times.		This mode is terminated.
40		7:TONE SELECT FREQUENCY	
41	Press or to select the target frequency.	<signal freq.> PRESS ENTER KEY	For <signal freq.>, refer to TABLE-4.
42	When the target frequency is displayed, press ENTER.	<signal freq.>	The selected signal is sent.
43	Press STOP.	7:TONE SELECT FREQUENCY	Signal send stop
44	(To change the frequency only) Go to 41.		
	(To change the signal kind) Press STOP.	04:SIGNAL SEND SELECT SIGNAL	
	(To terminate this mode) Press STOP twice.		This mode is terminated.

TABLE-3: Signals in the Signal send mode

MODE #	MENU	DISPLAY
1	No signal	1:NO SIGNAL
2	DTMF	2:DTMF
3	V.17	3:V.17
4	V.29	4:V.29
5	V27ter	5:V27ter
6	FLAG	6:FLAG
7	Tone (CED/CNG)	7:TONE

TABLE-4: Speed/Frequency in the Signal send mode

MODE #	MENU ITEM 1	MENU ITEM 2	MENU ITEM 3	MENU ITEM 4
3	1:V.17 14400BPS	2:V.17 12000BPS	3:V.17 9600BPS	4:V.17 7200BPS
4	1:V.29 9600BPS	2:V.29 7200BPS		
5	1:V27ter 4800BPS	2:V27ter 2400BPS		
6	1:FLAG 300BPS			
7	1:TONE 2100Hz	2:TONE 1100Hz		

TABLE-5: Data which is sent in the Signal send mode

MODE #	MENU (DATA)	DISPLAY
1	00000000b	1:00000000b
2	11111111b	2:11111111b
3	01010101b	3:01010101b

## (5) Image memory clear mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 1, 0.	10:IMAGE MEM CLEAR 1:OK 2:CANCEL	
4	Press 1.	DIAGNOSTIC MODE SELECT MENU( )	The image data are cleared and this mode is terminated.

## (6) Dial test / adjustment mode (Pulse 10PPS)

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 1, 4.	14:DIAL TEST 10 PPS MAKE RATIO = ##%	The current make ratio setup is displayed on ##.
4	Press    or    . (If there is no need to adjust, no need to press.)	14:DIAL TEST 10 PPS MAKE RATIO = ##%	Press    to decrease by 1%. Press    to increase by 1%.
5	Press ENTER.		"1590" is dialed.
6	(Adjustment/test end) Press STOP.		This mode is terminated.
	(To continue adjustment/test) Return to 4.		

## (7) Dial test mode (Tone)

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 1, 6.	16:DIAL TEST TONE	"123456789*0#" is dialed. This mode is terminated.

## (8) Print out soft switch mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 2, 1.	21:PRINT SOFT SW	The soft switch list is printed. This mode is terminated.

## (9) Panel check mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 4, 2.	42:FAX PANEL TEST	
4	Press any key.	42:FAX PANEL TEST <key name>	The name of the pressed key is displayed in the lower stage of the LCD.
5	Press STOP.		This mode is terminated.

## (10) Signal detect mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 4, 3.	43:SIG. DETECT	
4	(When DTMF signal is detected)	43:SIG. DETECT DTMF:<number>	
	(When CNG signal is detected)	43:SIG. DETECT CNG	
	(When QUIET signal is detected)	43:SIG. DETECT QUIET	
	(To terminate this mode) Press STOP.		This mode is terminated.

## (11) Long distance comm select mode

	Procedure	LCD	Operation
1	Press FUNCTION, 9, *, 8, #, 7.	DIAGNOSTIC MODE ROM VERSION = <version>	
2	Press ENTER.	DIAGNOSTIC MODE SELECT MENU( )	
3	Press 4, 4.	44:LONG DIST COMM 1:SET 2:CLEAR	To terminate this mode, press STOP.
4	Select the mode.		To register 10 To cancel registration 20
10	Press 1.	SET ENTER # OR RAPID	
11	Press the desired one touch key or the speed dial (2 digits) to be registered.	SELECT SPEED 1:9600BPS 2:4800BPS	
12	Select the speed. (Press 1 or 2.)	<Name or Number> STORED	
13	Return to 3.		
20	Press 2.	CLEAR ENTER # OR RAPID	
21	Press the desired one-touch key or speed dial (2 digits) to be canceled.	<Name or Number> CLEARED	
22	Return to 3.		

## Note:

- One-touch keys and speed dials which are not registered cannot be designated.
- When one-touch keys and speed dials which are registered are canceled, this setup is also canceled.
- The group key and the polling key cannot be designated.

## 4. Software switch for FAX (AR-F152 only)

### A. Software Switch List

This machine is provided with the following software switches for the use by a serviceman.

The setup items of SW21 and later correspond to user setup one-to-one.

Since SW17 ~ 20 are assigned to adjustment values, they are not cleared by Memory Clear.

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting																												
1	1	300dpi reception enable	Used to set enable/disable of 300 300dpi reception. <table border="1"> <tr> <td>1 : Enable</td> <td>0 : Disable</td> </tr> </table>	1 : Enable	0 : Disable	0																										
	1 : Enable	0 : Disable																														
	2	200 400dpi reception enable	Used to set enable/disable of 200 400dpi reception. <table border="1"> <tr> <td>1 : Enable</td> <td>0 : Disable</td> </tr> </table>	1 : Enable	0 : Disable	1																										
	1 : Enable	0 : Disable																														
	3	Max. modem speed in reception	Used to limit the max. reception speed of Modem to 14400bps, 12000bps, 9600bps, 7200bps, 4800bps, 2400bps. <table border="1"> <thead> <tr> <th>Bit No.</th> <th>14400 BPS</th> <th>12000 BPS</th> <th>9600 BPS</th> <th>7200 BPS</th> <th>4800 BPS</th> <th>2400 BPS</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>4</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>5</td> <td>*</td> <td>*</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No.	14400 BPS	12000 BPS	9600 BPS	7200 BPS	4800 BPS	2400 BPS	3	1	1	0	0	0	0	4	1	0	1	1	0	0	5	*	*	1	0	1	0	1
	Bit No.			14400 BPS	12000 BPS	9600 BPS	7200 BPS	4800 BPS	2400 BPS																							
3	1			1	0	0	0	0																								
4	1	0	1	1	0	0																										
5	*	*	1	0	1	0																										
4	1			1																												
5	0			0																												
2	6	Max. modem speed in sending	Used to limit the max. sending speed of Modem to 14400bps, 12000bps, 9600bps, 7200bps, 4800bps, 2400bps. <table border="1"> <thead> <tr> <th>Bit No.</th> <th>14400 BPS</th> <th>12000 BPS</th> <th>9600 BPS</th> <th>7200 BPS</th> <th>4800 BPS</th> <th>2400 BPS</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> </tr> <tr> <td>7</td> <td>1</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>8</td> <td>*</td> <td>*</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No.	14400 BPS	12000 BPS	9600 BPS	7200 BPS	4800 BPS	2400 BPS	6	1	1	0	0	0	0	7	1	0	1	1	0	0	8	*	*	1	0	1	0	1
	Bit No.			14400 BPS	12000 BPS	9600 BPS	7200 BPS	4800 BPS	2400 BPS																							
	6			1	1	0	0	0	0																							
	7	1	0	1	1	0	0																									
	8	*	*	1	0	1	0																									
	7	1			1																											
8	0			0																												
2	1	Silent detection threshold value	Used to set the threshold value of silent detection in the answering and recording mode.  Threshold = 8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 Factory setting = 8	1																												
	2			0																												
	3			0																												
	4			0																												
	5	Silent detection start time	Used to set the silent detection start time in the answering and recording mode. The time set with this switch is that from connection of the line to silent detection start.  TIME = 8 Bit5 + 4 Bit6 + 2 Bit7 + 1 Bit8 sec Factory setting = 8 0 + 4 1 + 2 0 + 1 1 = 5 sec	0																												
	6			1																												
	7			0																												
	8			1																												
3	1	CNG detection threshold value (AUTO, MANUAL mode)	Used to set the threshold value of CNG signal detection.  Threshold = 8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 Factory setting = 7	0																												
	2			1																												
	3			1																												
	4			1																												
	5	CNG detection threshold value (A. M. mode Type 2)	Used to set the threshold value of CNG signal detection in the A.M. mode when SW4-8 is set to Type 2.  Threshold = 8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 Factory setting = 3	0																												
	6			0																												
	7			1																												
	8			1																												

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting																
4	1	Silent detection end time	Used to set the silent detection end time in the answering and recording mode. The time set with this switch is that from the last call sound to the silent detection end.	0																
	2			1																
				<table border="1"> <thead> <tr> <th>Bit No.</th> <th>No limit</th> <th>60sec</th> <th>45sec</th> <th>30sec</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>2</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No.	No limit	60sec	45sec	30sec	1	1	1	0	0	2	1	0	1	0	
	Bit No.	No limit	60sec	45sec	30sec															
	1	1	1	0	0															
	2	1	0	1	0															
	3	Number of times of CNG detection	Used to set the required number of times of CNG detection for recognition of CNG signal one time. Number of times = 2 Bit5 + 1 Bit6 + 1 Factory setting = 2 1 + 1 0 + 1 = 3 times	1																
	4			0																
5	Reserved			0																
6	Reserved			0																
7	Reserved			0																
8	A.M. mode signal detection filter	Used to select the CNG signal detection filter in the answering and recording mode.	<table border="1"> <tbody> <tr> <td>1: Type 2</td> <td>Similar to SW3-5, -6, -7, and -8.</td> </tr> <tr> <td>0: Type 1</td> <td>Same as the others. Similar to SW3-1, -2, -3, and -4.</td> </tr> </tbody> </table>	1: Type 2	Similar to SW3-5, -6, -7, and -8.	0: Type 1	Same as the others. Similar to SW3-1, -2, -3, and -4.	0												
1: Type 2	Similar to SW3-5, -6, -7, and -8.																			
0: Type 1	Same as the others. Similar to SW3-1, -2, -3, and -4.																			
5	1	Max. reception length	Used to set or not to set the max. reception length of FAX documents. When this function is enabled, a reception length of 1.5m or above is treated as a communication error.	0																
			<table border="1"> <tbody> <tr> <td>1 : No limit</td> <td>0 : 1.5 m</td> </tr> </tbody> </table>	1 : No limit	0 : 1.5 m															
	1 : No limit	0 : 1.5 m																		
	2	Reserved		0																
	3	Reserved		0																
	4	Line monitor	When this function is enabled, the sound of the line under FAX session can be heard.	0																
	5			0																
			<table border="1"> <thead> <tr> <th>Bit No.</th> <th>Always ON</th> <th>Until response</th> <th>OFF</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>5</td> <td>*</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No.	Always ON	Until response	OFF	4	1	0	0	5	*	1	0					
Bit No.	Always ON	Until response	OFF																	
4	1	0	0																	
5	*	1	0																	
6	Protocol monitor (LCD)	When this function is enabled, the signal name under FAX session is displayed on the LCD in real time.	<table border="1"> <tbody> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </tbody> </table>	1 : ON	0 : OFF	0														
1 : ON	0 : OFF																			
7	Protocol monitor (Report)	When this function is enabled, the detailed report on communication is provided after completion of FAX sending or reception.	0																	
8			0																	
		<table border="1"> <thead> <tr> <th>Bit No.</th> <th>Always ON</th> <th>Error Only</th> <th>OFF</th> </tr> </thead> <tbody> <tr> <td>7</td> <td>1</td> <td>0</td> <td>0</td> </tr> <tr> <td>8</td> <td>*</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No.	Always ON	Error Only	OFF	7	1	0	0	8	*	1	0						
Bit No.	Always ON	Error Only	OFF																	
7	1	0	0																	
8	*	1	0																	
6	1	Signal send level	This mode is used to set the FAX signal send level. The effective set range is -1 dBm to -16 dBm. The values are mere estimation figures because they are affected by DAA.  LEVEL = -8 Bit1 -4 Bit2 -2 Bit3 -0 Bit4 -1 dBm Factory setting = -9 dBm (Set for each destination) (When modem speed 7200 bps : If setting is -1 or -2 dBm , the level is forced to -3 dBm.)	1																
	2			0																
	3			0																
	4			0																
	5	Reserved		0																
6	Reserved		0																	
7	Dial tone detection	Used to set ON/OFF of dial tone detection before dialing for FAX sending. When this function is set to ON, dialing is started after detection of the dial tone. When this function is set to OFF, dialing is started after the set time of "Interval between OFF-HOOK and dial send" regardless of dial tone detection.	<table border="1"> <tbody> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </tbody> </table>	1 : ON	0 : OFF	1														
1 : ON	0 : OFF																			

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting																																												
6	8	Busy tone detection	Used to set ON/OFF of busy tone detection. When this function is set to ON, if busy tone is detected, transmission is interrupted and the machine enters the recall mode.  <table border="1"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	1																																										
1 : ON	0 : OFF																																															
7	1 2 3 4	Reception sensitivity offset	Used to set the FAX signal reception level offset. The set range is -8dBm to +7dBm. The values are mere estimation figures because they are affected by DAA. When "Auto reception sensitivity adjustment" is set to Enable, this setup is disabled.  Sensitivity offset = -8 Bit1 + 4 Bit2 + 2 Bit3 + Bit4 dBm Factory setting = 0 dBm	0 0 0 0																																												
	5	Auto reception sensitivity adjustment	When this function is set to Enable, the Modem automatically adjusts the received signal gain.  <table border="1"> <tr> <td>1 : Enable</td> <td>0 : Disable</td> </tr> </table>	1 : Enable	0 : Disable	1																																										
	1 : Enable	0 : Disable																																														
6 7	Transmission Line Equalizer	Used to select the frequency characteristics in the signal send level. This function is provided to absorb the difference in frequency characteristics between lines. When communication errors occur frequently, another equalizer must be selected. Gain (dB) for 2000Hz <table border="1"> <thead> <tr> <th>Frequency</th> <th>None</th> <th>Equalizer 1</th> <th>Equalizer 2</th> <th>Equalizer 3</th> </tr> </thead> <tbody> <tr> <td>500</td> <td>0</td> <td>+1.2</td> <td>-1.0</td> <td>-1.5</td> </tr> <tr> <td>1000</td> <td>0</td> <td>-0.4</td> <td>-1.1</td> <td>-4.1</td> </tr> <tr> <td>1500</td> <td>0</td> <td>-0.4</td> <td>-0.6</td> <td>-3.6</td> </tr> <tr> <td>2500</td> <td>0</td> <td>+0.7</td> <td>+0.9</td> <td>+2.4</td> </tr> <tr> <td>3000</td> <td>0</td> <td>+2.5</td> <td>+2.5</td> <td>+4.9</td> </tr> </tbody> </table> <table border="1"> <thead> <tr> <th>Bit No.</th> <th>None</th> <th>Equalizer 1</th> <th>Equalizer 2</th> <th>Equalizer 3</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>7</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Frequency	None	Equalizer 1	Equalizer 2	Equalizer 3	500	0	+1.2	-1.0	-1.5	1000	0	-0.4	-1.1	-4.1	1500	0	-0.4	-0.6	-3.6	2500	0	+0.7	+0.9	+2.4	3000	0	+2.5	+2.5	+4.9	Bit No.	None	Equalizer 1	Equalizer 2	Equalizer 3	6	0	0	1	1	7	0	1	0	1	0 1
Frequency	None	Equalizer 1	Equalizer 2	Equalizer 3																																												
500	0	+1.2	-1.0	-1.5																																												
1000	0	-0.4	-1.1	-4.1																																												
1500	0	-0.4	-0.6	-3.6																																												
2500	0	+0.7	+0.9	+2.4																																												
3000	0	+2.5	+2.5	+4.9																																												
Bit No.	None	Equalizer 1	Equalizer 2	Equalizer 3																																												
6	0	0	1	1																																												
7	0	1	0	1																																												
	8	Reserved		0																																												
8	1	Non-modulation carrier send in V.29	Non-modulation carriers are not required for V.29 Modem transmission in ITU-TS standards. However, non-modulation carriers can be sent in advance to image signals. This function is effective to avoid communication troubles due to echoes in oversea communication.  <table border="1"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	0																																										
	1 : ON	0 : OFF																																														
	2	CED tone signal interval	Used to set the time interval between the CED signal and the NSF signal. This function is effective to avoid communication troubles due to echoes in oversea communication.  <table border="1"> <tr> <td>1 : 500 msec</td> <td>0 : 75 msec</td> </tr> </table>	1 : 500 msec	0 : 75 msec	0																																										
	1 : 500 msec	0 : 75 msec																																														
3	Communication error process when receiving RTN	Used to set the communication error process for received RTN when there is an error in transmitted image data and RTN is returned.  <table border="1"> <tr> <td>1 : Not transmission error</td> <td>0 : Transmission error</td> </tr> </table>	1 : Not transmission error	0 : Transmission error	1																																											
1 : Not transmission error	0 : Transmission error																																															
4	NSF receive acknowledge	Used to select between DIS signal recognition at 2-time reception of DIS signal and DIS signal recognition at DIS signal reception after NSF signal. This function is effective to avoid communication troubles due to echoes in oversea communication.  <table border="1"> <tr> <td>1 : Twice</td> <td>0 : Once for NSF reception, Twice for DIS reception</td> </tr> </table>	1 : Twice	0 : Once for NSF reception, Twice for DIS reception	0																																											
1 : Twice	0 : Once for NSF reception, Twice for DIS reception																																															

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting																																										
8	5	EOL detection timer	Used to set the EOL (End of Life) detection time to 25sec or 13sec. This function is effective to avoid a communication error due to long EOL of certain models. <table border="1" style="margin-left: 20px;"><tr><td>1 : 25 sec</td><td>0 : 13 sec</td></tr></table>	1 : 25 sec	0 : 13 sec	0																																								
	1 : 25 sec	0 : 13 sec																																												
	6	Reserved		0																																										
	7	Reserved		0																																										
8	ECM	Used to set ON/OFF of ECM. <table border="1" style="margin-left: 20px;"><tr><td>1 : ON</td><td>0 : OFF</td></tr></table>	1 : ON	0 : OFF	1																																									
1 : ON	0 : OFF																																													
9	1 2	Interval between OFF-HOOK and dial send	Used to set the delay from OFF-HOOK when starting dialing to actual send start of the dial signal. If the dial tone detection function is enabled, this setup is ignored. <table border="1" style="margin-left: 20px;"><thead><tr><th>Bit No.</th><th>0.5sec</th><th>1sec</th><th>2sec</th><th>3sec</th></tr></thead><tbody><tr><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>2</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></tbody></table>	Bit No.	0.5sec	1sec	2sec	3sec	1	0	0	1	1	2	0	1	0	1	1 1																											
	Bit No.	0.5sec	1sec	2sec	3sec																																									
	1	0	0	1	1																																									
	2	0	1	0	1																																									
	3	Reserved		0																																										
	4	Reserved		0																																										
	5	Reserved		0																																										
6	Reserved		0																																											
7 8	Reserved		0 0																																											
10	1	Reserved		0																																										
	2	FAST	Used to set Enable/Disable of RMS (FAST) function. <table border="1" style="margin-left: 20px;"><tr><td>1 : Enable</td><td>0 : Disable</td></tr></table>	1 : Enable	0 : Disable	0																																								
	1 : Enable	0 : Disable																																												
	3	Reserved		1																																										
	4	Basic resolution	Used to select the basic resolution for scanning and printing. <table border="1" style="margin-left: 20px;"><tr><td>1 : Inch series</td><td>0 : Metric series</td></tr></table>	1 : Inch series	0 : Metric series	0																																								
	1 : Inch series	0 : Metric series																																												
5	Reserved		0																																											
6 7 8	Language	Used to select the language displayed on the LCD and the report. The correspondence between language N and the actual language differs depending on the destination. <table border="1" style="margin-left: 20px;"><thead><tr><th></th><th>Language 1</th><th>Language 2</th><th>Language 3</th></tr></thead><tbody><tr><td>For North America</td><td>American English</td><td>French</td><td>Spanish</td></tr></tbody></table> <table border="1" style="margin-left: 20px;"><thead><tr><th>Bit No.</th><th>Language 1</th><th>Language 2</th><th>Language 3</th><th colspan="4">Reserved</th></tr></thead><tbody><tr><td>6</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>1</td></tr><tr><td>7</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>8</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></tbody></table>		Language 1	Language 2	Language 3	For North America	American English	French	Spanish	Bit No.	Language 1	Language 2	Language 3	Reserved				6	0	0	0	0	1	1	1	1	7	0	0	1	1	0	0	1	1	8	0	1	0	1	0	1	0	1	0 0 0
	Language 1	Language 2	Language 3																																											
For North America	American English	French	Spanish																																											
Bit No.	Language 1	Language 2	Language 3	Reserved																																										
6	0	0	0	0	1	1	1	1																																						
7	0	0	1	1	0	0	1	1																																						
8	0	1	0	1	0	1	0	1																																						

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting																				
11	1	Header	Used to set the header attachment to the transmitting document. <table border="1"><tr><td>1 : Not attached</td><td>0 : Attached</td></tr></table>	1 : Not attached	0 : Attached	0																		
	1 : Not attached	0 : Attached																						
	2	Header in data transfer	Used to set the header attachment to the transferring document. <table border="1"><tr><td>1 : Not attached</td><td>0 : Attached</td></tr></table>	1 : Not attached	0 : Attached	0																		
	1 : Not attached	0 : Attached																						
	3	Training (EQM) threshold value	Used to select the threshold value to judge Success/Failure of training in reception of training. <table border="1"><tr><td>1 : Easy to fall back</td><td>0 : Normal</td></tr></table>	1 : Easy to fall back	0 : Normal	0																		
	1 : Easy to fall back	0 : Normal																						
	4	Reserved		0																				
	5	Non ECM error judgement threshold value	<table border="1"> <thead> <tr> <th>Bit 5, 6, 7</th> <th>RTP</th> <th>RTN</th> </tr> </thead> <tbody> <tr><td>000</td><td>32</td><td>64</td></tr> <tr><td>001</td><td>16</td><td>32</td></tr> <tr><td>010</td><td>12</td><td>24</td></tr> <tr><td>011</td><td>8</td><td>16</td></tr> <tr><td>100</td><td>6</td><td>12</td></tr> <tr><td>101</td><td>4</td><td>8</td></tr> </tbody> </table>	Bit 5, 6, 7	RTP	RTN	000	32	64	001	16	32	010	12	24	011	8	16	100	6	12	101	4	8
Bit 5, 6, 7	RTP			RTN																				
000	32			64																				
001	16	32																						
010	12	24																						
011	8	16																						
100	6	12																						
101	4	8																						
6	1																							
7	0																							
8	Reserved		0																					
12	1	Activity Report Auto Listing time	Used to set the start time of Activity Report. Setup is made in the unit of one hour, and setup of minutes cannot be made.  Print start time = Bit1 16 + Bit2 8 + Bit3 4 + Bit4 2 + Bit5 hour 00 min Set range = 0 ~ 23 Factory Setting = 00:00	0																				
	2			0																				
	3			0																				
	4			0																				
	5			0																				
6	Reserved		0																					
7	Reserved		0																					
8	Reserved		0																					
13	1	Auto recall in direct send	<table border="1"><tr><td>1 : Enable</td><td>0 : Disable</td></tr></table>	1 : Enable	0 : Disable	0																		
	1 : Enable	0 : Disable																						
	2	Reserved		0																				
	3	Reserved		0																				
	4	Reserved		0																				
	5	Reserved		0																				
	6	Reserved		0																				
7	Effective compression system in reception	<table border="1"> <thead> <tr> <th>Bit No.</th> <th>MH, MR, MMR</th> <th>MH, MR</th> <th>MH, MMR</th> <th>MH</th> </tr> </thead> <tbody> <tr><td>7</td><td>0</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>8</td><td>0</td><td>1</td><td>0</td><td>1</td></tr> </tbody> </table>	Bit No.	MH, MR, MMR	MH, MR	MH, MMR	MH	7	0	0	1	1	8	0	1	0	1	0						
Bit No.			MH, MR, MMR	MH, MR	MH, MMR	MH																		
7	0	0	1	1																				
8	0	1	0	1																				
8	0																							
14	1	Reserved		0																				
	2	Reserved		0																				
	3	Reserved		0																				
	4	Reserved		0																				
	5	Reserved		0																				
	6	Reserved		0																				
	7	Reserved		0																				
	8	Reserved		0																				

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting		
15	1	Reserved		0		
	2	Reserved		0		
	3	Reserved		0		
	4	Reserved		0		
	5	Reserved		0		
	6	Reserved		0		
	7	Reserved		0		
	8	Reserved		0		
16	1	RING signal frequency check	Used to select the allowable frequency range of RING signal. Used to perform a communication test by using a simple switchboard in production process. <table border="1" style="margin-left: 20px;"> <tr> <td>1 : To be checked</td> <td>0 : Not to be checked</td> </tr> </table>	1 : To be checked	0 : Not to be checked	1
	1 : To be checked	0 : Not to be checked				
	2	Reserved		0		
	3	Reserved		0		
	4	Reserved		0		
	5	Reserved		0		
	6	Reserved		0		
	7	Reserved		0		
8	Reserved		0			
17	1	Pulse dial signal make ratio adjustment (10PPS)	Used to adjust the make ratio of 10PPS pulse dial signal. The set range is -8% to +7%.  Offset = -8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 % Factory setting = 0 %	0		
	2			0		
	3			0		
	4			0		
	5	Reserved		0		
	6			0		
	7			0		
	8			0		
18	1	Reserved		0		
	2	Reserved		0		
	3	Reserved		0		
	4	Reserved		0		
	5	Reserved		0		
	6	Reserved		0		
	7	Reserved		0		
	8	Reserved		0		
19	1	Reserved		0		
	2	Reserved		0		
	3	Reserved		0		
	4	Reserved		0		
	5	Reserved		0		
	6	Reserved		0		
	7	Reserved		0		
	8	Reserved		0		
20	1	Reserved		0		
	2	Reserved		0		
	3	Reserved		0		
	4	Reserved		0		
	5	Reserved		0		
	6	Reserved		0		
	7	Reserved		0		
	8	Reserved		0		

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting																							
21	1 2	Record paper size	Used to set the reception document size and the report output paper size. When set to Auto, the paper size is automatically selected according to the data size and the reduction ratio in reception. <table border="1"> <thead> <tr> <th>Bit No.</th> <th>Letter</th> <th>Legal</th> <th>A4</th> <th>AUTO</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Bit No.	Letter	Legal	A4	AUTO	1	0	0	1	1	2	0	1	0	1	1 1								
	Bit No.	Letter	Legal	A4	AUTO																						
	1	0	0	1	1																						
	2	0	1	0	1																						
3	Picture quality priority selection	Used to set the default resolution in sending. <table border="1"> <tr> <td>1 : Fine</td> <td>0 : Standard</td> </tr> </table>	1 : Fine	0 : Standard	0																						
1 : Fine	0 : Standard																										
4	Reserved		0																								
22	5	Number of reception start calls	Used to set the number of calls before reception in the auto reception mode. The set range is 0 to 9 times.  Number = 8 Bit5 + 4 Bit6 + 2 Bit7 + 1 Bit8 rings Set range : 0 -9	0 0 1 0																							
	1 2 3 4	Number of auto reception select	Used to set the number of calls before reception in the manual reception mode. This setup is used as a backup function when the external telephone does not respond. The set range is OFF and 1 to 9 times.  Number = 8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 rings Set range : 0(= OFF), 1 -9	0 0 0 0																							
	5	Reserved		0																							
	6 7 8	Result list print	Used to set the printing conditions of the result list after completion of communication. <table border="1"> <thead> <tr> <th>Bit No.</th> <th>Always</th> <th>Err/Tim</th> <th>Send</th> <th>Never</th> <th>Error</th> </tr> </thead> <tbody> <tr> <td>6</td> <td>0</td> <td>0</td> <td>0</td> <td>0</td> <td>1</td> </tr> <tr> <td>7</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> <td>0</td> </tr> <tr> <td>8</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> <td>0</td> </tr> </tbody> </table>	Bit No.	Always	Err/Tim	Send	Never	Error	6	0	0	0	0	1	7	0	0	1	1	0	8	0	1	0	1	0
Bit No.	Always	Err/Tim	Send	Never	Error																						
6	0	0	0	0	1																						
7	0	0	1	1	0																						
8	0	1	0	1	0																						
23	1 2 3 4	Number of recall times	Used to set the number of times of recalls when sending is not normally completed due to busy status of the other party or a communication error. The set range is OFF and 1 to 14 times. For some causes of the communication error, however, the number of times of recalls must be set to a smaller level.  Recall Times = 8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 times Set range : 0(= OFF), 1 -14	0 0 1 0																							
	5 6 7 8	Recall interval	Used to set the recall interval when a transmission is not normally completed due to busy status of the other party or a communication error. The set range is 1 to 15 minutes.  Recall Interval = 8 Bit5 + 4 Bit6 + 2 Bit7 + 1 Bit8 min Set range : 1 -15	0 1 0 1																							
24	1 2 3 4	Remote select number	Used to select the first digit of the select request signal when selecting from the external telephone to FAX reception. The set range is 0 to 9.  Number = 8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 Set range : 0 - 9	0 1 0 1																							
	5	Remote reception	Used to set whether "Remote select number" + "***" from an external telephone is detected and switched to FAX reception or not. <table border="1"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	1																					
	1 : ON	0 : OFF																									
6	FAX signal reception	Used to set whether CNG signal is detected during OFF-HOOK and switched to FAX reception or not. <table border="1"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	1																						
1 : ON	0 : OFF																										

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting																																
24	7	Auto cover paper	Used to set whether a cover is attached to the last page in every transmission or not. <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td>1 : ON</td><td>0 : OFF</td></tr></table>	1 : ON	0 : OFF	0																														
	1 : ON	0 : OFF																																		
8	Reserved		0																																	
25	1 2 3	Record list auto print	Used to set the interval of automatic printing of the record list. <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Bit No.</th><th>OFF</th><th>1 day</th><th>2 days</th><th>4 days</th><th>1 week</th></tr></thead><tbody><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td></tr><tr><td>3</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr></tbody></table>	Bit No.	OFF	1 day	2 days	4 days	1 week	1	0	0	0	0	1	2	0	0	1	1	0	3	0	1	0	1	0	0 0 0								
	Bit No.	OFF	1 day	2 days	4 days	1 week																														
	1	0	0	0	0	1																														
	2	0	0	1	1	0																														
	3	0	1	0	1	0																														
4	Reserved		0																																	
5	Reduction ratio in reception	Used to set the magnification ratio of printing received documents. When AUTO is selected, the ratio is automatically determined according to the received document size and the output paper. <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td>1 : 100%</td><td>0 : AUTO</td></tr></table>	1 : 100%	0 : AUTO	0																															
1 : 100%	0 : AUTO																																			
6	Reserved		0																																	
7 8	7 8	Communication end buzzer time	Used to set the time of buzzer sound to notify the end of communication. <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Bit No.</th><th>3 Seconds</th><th>1 Second</th><th>No Beep</th></tr></thead><tbody><tr><td>7</td><td>0</td><td>0</td><td>1</td></tr><tr><td>8</td><td>0</td><td>1</td><td>0</td></tr></tbody></table>	Bit No.	3 Seconds	1 Second	No Beep	7	0	0	1	8	0	1	0	0 0																				
	Bit No.	3 Seconds	1 Second	No Beep																																
7	0	0	1																																	
8	0	1	0																																	
26	1 2 3	Buzzer sound volume	Used to set the sound volumes of all buzzers except for call ring. <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Bit No.</th><th>MAX</th><th>HIGH</th><th>MED</th><th>LOW</th><th>MIN</th><th>OFF</th></tr></thead><tbody><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>3</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></tbody></table>	Bit No.	MAX	HIGH	MED	LOW	MIN	OFF	1	0	0	0	0	1	1	2	0	0	1	1	0	0	3	0	1	0	1	0	1	0 1 0				
	Bit No.	MAX	HIGH	MED	LOW	MIN	OFF																													
	1	0	0	0	0	1	1																													
	2	0	0	1	1	0	0																													
	3	0	1	0	1	0	1																													
4	Key click sound	Used to set whether the click sound is made or not when pressing a key on the FAX panel. <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td>1 : ON</td><td>0 : OFF</td></tr></table>	1 : ON	0 : OFF	1																															
1 : ON	0 : OFF																																			
5 6 7	Incoming Ring Volume	Used to set the sound volume of call ring. <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Bit No.</th><th>MAX</th><th>HIGH</th><th>MED</th><th>LOW</th><th>MIN</th><th>OFF</th></tr></thead><tbody><tr><td>5</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td></tr><tr><td>6</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>7</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td></tr></tbody></table>	Bit No.	MAX	HIGH	MED	LOW	MIN	OFF	5	0	0	0	0	1	1	6	0	0	1	1	0	0	7	0	1	0	1	0	1	0 1 0					
Bit No.	MAX	HIGH	MED	LOW	MIN	OFF																														
5	0	0	0	0	1	1																														
6	0	0	1	1	0	0																														
7	0	1	0	1	0	1																														
8	Reserved		0																																	
27	1 2 3	Distinctive Ring	Used to set the RING signal pattern to start FAX reception with Distinctive Ring. <table border="1" style="margin-left: auto; margin-right: auto;"><thead><tr><th>Bit No.</th><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>Standard</th><th>OFF</th></tr></thead><tbody><tr><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>2</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>3</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td><td>1</td><td>0</td></tr></tbody></table>	Bit No.	1	2	3	4	5	Standard	OFF	1	0	0	0	0	1	1	1	2	0	0	1	1	0	0	1	3	0	1	0	1	0	1	0	1 1 0
	Bit No.	1	2	3	4	5	Standard	OFF																												
	1	0	0	0	0	1	1	1																												
2	0	0	1	1	0	0	1																													
3	0	1	0	1	0	1	0																													
4	Reserved		0																																	
5	Footer	Used to set ON/OFF of the footer attached under each page data when printing received documents. <table border="1" style="margin-left: auto; margin-right: auto;"><tr><td>1 : ON</td><td>0 : OFF</td></tr></table>	1 : ON	0 : OFF	0																															
1 : ON	0 : OFF																																			

SW No.	Bit No.	ITEM	Soft SW setting and function	Factory Setting															
27	6	Reserved		0															
	7	Telephone line kind	Used to select the kind of telephone line (tone or pulse). <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>1 : TONE</td> <td>0 : PULSE</td> </tr> </table>	1 : TONE	0 : PULSE	Tone													
	1 : TONE	0 : PULSE																	
8	Reserved																		
28	1 2 3 4	A.M. mode Silent detection time	Used to set the silent detection time in the answering and recording mode. The set range is OFF and 1 to 10sec.  Time = 8 Bit1 + 4 Bit2 + 2 Bit3 + 1 Bit4 sec Effective : 0(= OFF), 1 -10	0 1 0 1															
	5	A.M. mode auto reception select	Used to set whether FAX reception is started or not after 6 call rings if the answering function does not work for some reasons in the answering and recording mode. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	0													
	1 : ON	0 : OFF																	
	6	Annoying FAX prevention function	Used to set ON/OFF of the annoying FAX prevention function. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	0													
	1 : ON	0 : OFF																	
7	Polling function	Used to set whether one-touch key "20" is used as the polling key or not. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	0														
1 : ON	0 : OFF																		
8	Reserved		0																
29	1 2	Record paper size (Main Tray)	Used to set the record paper size in the main tray. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Bit No.</th> <th>Letter</th> <th>Legal</th> <th>A4</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>2</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Bit No.	Letter	Legal	A4	Other	1	0	0	1	1	2	0	1	0	1	0 0
	Bit No.	Letter	Legal	A4	Other														
	1	0	0	1	1														
	2	0	1	0	1														
	3	Reserved		0															
	4 5	Record paper size (2nd Tray)	Used to set the record paper size in the 2nd tray. <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>Bit No.</th> <th>Letter</th> <th>Legal</th> <th>A4</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>4</td> <td>0</td> <td>0</td> <td>1</td> <td>1</td> </tr> <tr> <td>5</td> <td>0</td> <td>1</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Bit No.	Letter	Legal	A4	Other	4	0	0	1	1	5	0	1	0	1	0 0
	Bit No.	Letter	Legal	A4	Other														
	4	0	0	1	1														
5	0	1	0	1															
6	Reserved		0																
7	Reserved		0																
8	Index print	Used to set whether marking is made to the lead edge of paper or not to identify the job when printing the received data. <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td>1 : ON</td> <td>0 : OFF</td> </tr> </table>	1 : ON	0 : OFF	1														
1 : ON	0 : OFF																		
30	1	Reserved		0															
	2	Reserved		0															
	3	Reserved		0															
	4	Reserved		0															
	5	Reserved		0															
	6	Reserved		0															
	7	Reserved		0															
	8	Reserved		0															

## 5. TROUBLE CODES

### A. Trouble codes list

Main code	Sub code	Trouble content	Detail of trouble
E7	01	Duplex model memory setup error, memory not-detected error	The memory is not set properly or the memory capacity is not set to the duplex setup (6M). Cancel method: Set SIM 26-39 code number to 2.
E7	03	HSYNC not detected.	LSU (laser diode, reception element, APC circuit) trouble LSU drive circuit (ASIC) trouble
E7	04	CCD white level trouble	CCD drive circuit (CCD PWB, ASIC harness) trouble Copy lamp lighting trouble (Copy lamp, inverter PWB)
E7	05	CCD black level trouble	CCD drive circuit (CCD PWB, ASIC, harness) trouble
E7	12	Shading trouble (White correction)	Dirt on white plate for scanning white level
E7	14	ASIC connection trouble	Improper connection between CPU and ASIC (pattern cut, improper connection of lead pin)
E7	15	Copy lamp disconnection trouble	Copy lamp or copy lamp drive circuit (inverter PWB) trouble Copy lamp disconnection
E7	16	Abnormal output of laser	LSU (laser diode, reception element, APC circuit) trouble LSU drive circuit (ASIC) trouble
L1	00	Feeding is not completed within the specified time after starting feeding.	When the mirror base is returned for the specified time (6 sec) in mirror initializing after turning on the power, the mirror home position sensor (MHPS) does not turn OFF. Or when the mirror base is fed for the specified time (about 6 sec) after start of copy return, the mirror home position sensor (MHPS) does not turn OFF.
L3	00	Return is not completed within the specified time.	When the mirror base is returned for the specified time (6 sec) in mirror initializing after turning on the power, the mirror home position sensor (MHPS) does not turn ON. Or when the mirror base is returned for the specified time (about 6 sec) after start of copy return, the mirror home position sensor (MHPS) does not turn ON.
L4	01	Main motor lock	When the main motor encoder pulse is not detected for 100msec.
L6	10	Polygon motor lock	The lock signal (specified rpm signal) does not return within a certain time (about 20sec) from starting the polygon motor rotation
H2	00	Thermistor open detection	The fusing thermistor is open.
H3	00	Heat roller abnormally high temperature	The fusing temperature rises above 240°C.
H4	00	Heat roller abnormally low temperature	The fusing temperature does not reach 185°C within 27 sec of turning on the power, or the fusing temperature keeps at 140°C.
U2	01	Counter sum check error	When the counter check sum value stored in the EEPROM is abnormal.
U2	04	EEPROM serial communication error	When a communication trouble occurs with the EEPROM.
U2	40	CRUM IC	Serial communication error when a communication trouble occurs with the CRUM IC.
F2	04	Toner cartridge type error	When a toner cartridge of different type is used.
F6	80	Communication trouble with FAX PWB (Protocol)	Error in data reception from the FAX board to the MCU. Occurs when the message header of the message format is other than F. Cancel method: Turn OFF/ON the power.
F6	81	Communication trouble with FAX PWB (Parity)	Error in data reception from the FAX board to the MCU. Occurs when the odd number parity set with SMR (serial mode register) differs from the reception data. Cancel method: Turn OFF/ON the power.
F6	82	Communication trouble with FAX PWB (Overrun)	Error in data reception from the FAX board to the MCU Occurs when the next data reception is completed with RDRF (Receive Data Register Full) flag of SS (Reserial status register) set to 1. Cancel method: Turn OFF/ON the power.
F6	84	Communication trouble with FAX PWB (Framing)	Error in data reception from the FAX board to the MCU. Occurs when the stop bit is 0. (The stop bit must be 1.) Cancel method: Turn OFF/ON the power.
F6	88	Communication trouble with FAX PWB (Time-out)	Occurs when time is out without response in data communication between the FAX board and the MCU. Cancel method: Turn OFF/ON the power.
F6	10	FAX PWB trouble	Communication trouble between the MCU and the FAX board or between the FAX board and the FAX panel Cancel method: Turn OFF/ON the power. Check connections.

## B. FAX Service Error Code Table

### (1) LCD: FAX SERVICE ERROR(#)

Code #	Content	Remedy
1	ROM error	Turn OFF/ON the power. If the error is not canceled, check the ROM of the FAX PWB.
2	RAM error	Turn OFF/ON the power. If the error is not canceled, check the DRAM of the FAX PWB.
3	CTS error (Communication error)	Turn OFF/ON the power. If the error is not canceled, check connection between the FAX PWB and the MCU PWB. If no abnormality is found, check the FAX PWB and MCU PWB themselves., especially TXD, RXD, CTS, and RTS signals.
4	Panel error	Turn OFF/ON the power. If the error is not canceled, check the connector and the harness between the FAX PWB and the MCU PWB. If no abnormality is found, check the FAX PWB and MCU PWB themselves.
5	Scan data error	Turn OFF/ON the power and execute FAX scanning to check the operation. If the error is not canceled. Check connection between the FAX PWB and the MCU PWB. If no abnormality is found, check the FAX PWB and MCU PWB themselves.

Note: If some reception data is left in memory,, transfer the data with FUNCTION-0 and turn OFF the power.

### (2) Reception error

Code	Content
0	The handshake signal is detected, but the signal includes an error.
1	The handshake signal from the receiver is not recognized. (Error after reception of NSF/DIS)
2	The handshake signal from the receiver is not recognized. (Error after reception of NSC/DTC)
3	The handshake signal from the receiver is not recognized. (Error after reception of EOP)
4	The handshake signal from the receiver is not recognized. (Error after reception of EOM)
5	The handshake signal from the receiver is not recognized. (Error after reception of MPS)
6	Not defined.
7	An unexpected DCN is received.
8	Error after reception of all pages (Error after reception of PPS-EOP)
9	Error after changing the communication mode (Error after reception of PPS-EOM)
10	Error after reception of a page (Error after reception of PPS-MPS/NULL)
11	Not defined.
12	Communication error after fallback during transmission (Error after reception of CTC)
13	Error after reception of EOR & errors other than the above

## C. Communication error code table

### (1) Sending error

Code	Content
0	The handshake signal is detected, but the signal includes an error.
1	The handshake signal from the receiver is not recognized. (Error after reception of NSF/DIS)
2	The line is disconnected during data transmission.
3	The line is disconnected after fallback of training. (Error after reception of CFR)
4	The line is disconnected during transmission of two or more pages. (Error after reception of MCF)
5	Not defined.
6	Error after reception of RTN/RTP
7	An unexpected DCN is received.
8	Resend is repeated by the specified times, but the error is not canceled.
9	Not defined.
10	Not defined.
11	Not defined.
12	Error after fallback during transmission (Error after reception of CTR)
13	ERR is received, & errors other than the above.